REMOVAL ASSESSMENT REPORT
FOR
BLACKTAIL CREEK SPILL
WILLISTON, WILLIAMS COUNTY, NORTH DAKOTA

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 8
1595 Wynkoop Street
Denver, Colorado 80202

Prepared by:

WESTON SOLUTIONS, INC.
1435 Garrison Street, Suite 100
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WESTON START Project Manager	David Robinson
Telephone No.	303-729-6181
U.S. EPA On-Scene Coordinator	Steven Way

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March 2015

Prepared by: _____ Date: 15 April 2015
Eric Sandusky
WESTON START Member

Reviewed and Approved by: _____ Date: 15 April 2015
David Robinson
WESTON START Project Manager

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LIST OF ABBREVIATIONS AND ACRONYMS

bbl	barrels
coc	contaminant of concern
DRO	Diesel Range Organics
ID	identification
GRO	Gasoline Range Organics
NA	not applicable
ND DOH	North Dakota Department of Health
ND WQS	North Dakota Water Quality Standards
NRC	National Response Center
OSC	On-Scene Coordinator
PW	produced water
RSL	Regional Screening Level
SAP	Sampling and Analysis Plan
STANTEC	Stantec, Inc.
START	Superfund Technical Assessment and Response Team
SUMMIT	Summit Midstream Partners, LLC
SVOC	Semi-volatile Organic Compounds
SW	surface water
TAL	Target Analyte List
TDD	Technical Direction Document
TEC	Threshold Effect Concentration
TPH	Total Petroleum Hydrocarbons
USACE	United States Army Corps of Engineers
U.S. EPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
WESTON	Weston Solutions, Inc.

1. INTRODUCTION

The U.S. Environmental Protection Agency (U.S. EPA) tasked the Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) to assist U.S. EPA On-Scene Coordinator (OSC) Steven Way in performing a removal assessment pursuant to the NCP 40 CFR, Section 300 at the Blacktail Creek Spill Site in Williston, Williams County, North Dakota (the Site; **Figure 1**). Under Technical Direction Document (TDD) No. 0001/1501-05, U.S. EPA requested that WESTON START assist with reconnaissance of the spill area, documentation of the removal effort, and collection of samples of the spilled material, including produced water. Additional response support was provided under separate authority and tasking related to oil removal action on the Site.

From January 23-27, 2015, WESTON START performed response activities as outlined in TDD 0001/1501-05, under the direction of OSC Way.

This removal assessment report is organized into the following sections:

- **Introduction –** Provides a brief description of the objective and scope of removal activities
- **Site Background** – Details the Site description and its known history
- **Response Activities –** Discusses response observations and activities
- **Summary of Findings –** Summarizes the primary analytical results relative to water quality standards and sediment samples.

2. SITE BACKGROUND

2.1 SITE DESCRIPTION

The Site is located approximately 18 miles north of Williston, Williams County, North Dakota (48.401838° N, 103.639375° W) (**Figure 1**).

2.2 SITE HISTORY

The Site is in a rural area used for agriculture and oil and gas production. Reportedly, thirty-seven area wells feed produced water into a four inch pipeline that runs across the Site and eventually terminates at an injection well. The pipeline is operated by Summit Midstream Partners, LLC (SUMMIT). On January 6, 2015, SUMMIT discovered that the pipeline had ruptured approximately six feet below grade, approximately 300 feet from the Blacktail Creek. The rupture reportedly caused a spill of approximately 70,000 barrels (bbls) of produced water and crude oil which entered the Blacktail Creek, which is a tributary of the Little Muddy Creek (approximately 4.5 river miles downstream) and ultimately, the Missouri River (approximately 32.5 river miles downstream) (**Figure 1**).

SUMMIT submitted a report to the National Response Center (NRC) alerting authorities to the spill on January 7, 2015. SUMMIT retained remediation contractors, Clean Harbors and Stantec, Inc. (STANTEC), to conduct the response, including the oil removal action. The North Dakota Department of Health (ND DOH) responded to the scene following the initial spill report to assess the release and oversee the spill cleanup. On January 23, 2015, the EPA and START mobilized to North Dakota following the additional report to the NRC on January 22, 2015 that 70,000 bbl were estimated to have been released, including that oil was observed on the water.

3. RESPONSE ACTIVITIES

START responders Eric Sandusky and Ellie Kastner mobilized to Williston, North Dakota on January 23, 2015. Removal site evaluation activities by START were conducted between January 24 and January 27, 2015. Activities primarily involved collecting samples at the request of the OSC and documenting site conditions and SUMMIT's contractors' efforts. Photo documentation is presented in Appendix A. START demobilized on the afternoon of January 27, 2015.

Remediation at the site began before START response activities commenced and continued during and after the period START members were onsite. United States Coast Guard (USCG) Strike Team personnel arrived on site and stayed to provide the EPA with additional site services after START had departed. The response actions being performed by SUMMIT's contractors included:

- Pumping surface water at various locations in an attempt to recover the produced water that remained onsite in the first 1200 feet downstream of the release;
- One underflow / containment dam to assist with containing oil and produced water had been constructed nearest the Moline Well pad, approximately 1.5 river miles downstream of the pipeline break;
- One underflow / containment dam to assist with containing oil and produced water was being constructed approximately 0.75 river miles downstream of the pipeline break;
- Oil containment and removal operations using containment boom, vacuum trucks and absorbent material were observed between the release site and Highway 85;
- Produced water/surface water pumped from Blacktail Creek was trucked off-site reportedly to numerous deep well injection facilities;
- Surface soil impacted by the release had been removed during the initial response actions and was staged onsite pending disposal plans; and
- Additional investigation activities by SUMMIT's contractors were ongoing that included surface and ground water sampling, test pit excavations and soil sampling.

3.1 SAMPLING AND ANALYSIS

START conducted environmental sampling activities according to the *Sampling and Analysis Plan for Black Tail Creek Spill Williston, Williams County, North Dakota* (WESTON, 2015). Sampling locations and various site features are shown on (**Figure 2**). The secondary containment dams/underflow dams and station locations installed by SUMMIT's contractors were referenced

in sample location descriptions.

Surface water (SW) and produced water (PW) samples were analyzed for Volatile Organic Compounds (VOCs), Target Analyte List (TAL) Metals, Gasoline Range Organics (GRO), Diesel Range Organics (DRO), sulfate and chloride, alkalinity, ammonia, and oil and grease. Sediment samples were analyzed for Total Petroleum Hydrocarbons (TPH), cations/anions, and TAL Metals. START collected seven surface water samples, two produced water samples, and three sediment samples (**Figures 3, 4, 5, and 6**). START analytical data is included as Appendix B.

Sample data was also obtained from STANTEC, ND DOH, and the United States Army Corps of Engineers (USACE). STANTEC and ND DOH conducted sampling as a result of the pipeline break. USACE collected data in December, 2014 as part of their regular sampling schedule. STANTEC and ND DOH sampling locations span from upstream of the release location to the Little Muddy River/Missouri River confluence while USACE data only exists from the Little Muddy River/Missouri River confluence (**Figure 3**). STANTEC summary of detections is included in Appendix C while NDDOH and USACE data is included as Appendix D.

Below is a table with START sampling locations and corresponding STANTEC location identification (ID). ND DOH used the STANTEC Location IDs as their sample numbers.

START Sample ID	STANTEC Location ID	Location Description
BT-SW-01	BC 101	Surface water ~1200 ft downstream from the release
BT-SW-02	BC 111	Surface water ~8 river miles downstream from the
BT-SW-03	BC 100	Surface water - Upstream/background
BT-SW-04	BC 111	Surface water ~8 river miles downstream from the
BT-SW-05	BC 111	Surface water ~8 river miles downstream from the
BT-SW-06	BC 119	Surface water ~32 river miles downstream from the
BT-PW-01	NA	Produced water Sample port from Moline 2H and Moline 3H Wells
BT-PW-02	NA	Produced Water Sample port from State 1H Well Pad
BT-SD-01	BC 103	Sediment ~1.3 river miles downstream from the
BT-SD-02	BC 200	Sediment ~1.7 river miles downstream from the release
BT-SD-03	BC 111	Sediment ~8 river miles downstream from the

NA = Not applicable

3.1.1 Surface Water

START collected surface water samples BT-SW-01 and BT-SW-02 on January 24, 2015, samples BT-SW-03, BT-SW-04, and BT-SW-DUP (duplicate of BT-SW-04) on January 25, 2015, and sample BT-SW-06 on January 26, 2015. All samples were analyzed for Metals, TPH (DRO, GRO, and HEM Oil and Grease), VOCs, Alkalinity, Sulfate, Chloride and Ammonia as N. VOCs and TPH, specifically DRO, was determined to be sufficient analysis due to the nature and chemistry of the natural crude oil and formation waters in the Bakken formation.

Sample BT-SW-01 was collected from Blacktail Creek, approximately 1200 feet downstream of the pipeline break. Water quality measurements were not collected due to free phase hydrocarbons on the surface of the water. Samples BT-SW-02, BT-SW-04, BT-SW-DUP, and BT-SW-05 were collected from the Little Muddy Creek where it crosses under Route 2, approximately 8 stream miles downstream of the pipeline break. These four samples were collected at the same location at different times during different days to determine if stream flow had an impact on concentration of contaminants downstream. Sample BT-SW-03 was collected as a background sample from Blacktail Creek upstream of the pipeline break. Sample BT-SW-06 was collected approximately 32 river miles downstream of the pipeline break just downstream of where the Highway 1804 bridge crosses over the Little Muddy River.

The weather in Williston was unseasonably warm during the response period, reaching as high as 53°F on January 27, 2015. As a general result, the river flow increased as the week progressed, but the flow also fluctuated each day with lower flow in the morning and greater flow in the afternoon. Surface water samples were collected during various levels of stream flow, with low flow on the January 24, 2015 and increasing flow throughout the sampling event. Sample BT-SW-05 was collected on the morning of January 26, 2015, in hopes that it would be representative of a low flow sample due to the early hour in which it was collected.

Sulfate, Chloride, and Ammonia as Nitrogen (N) were the only analytes to exceed any State surface water quality standard in one or more sample. Sulfate exceeded the North Dakota Water Quality Standards (ND WQS) Chronic Standard (30 day standard) in four of the five non-background, non-duplicate surface water samples (BT-SW-01, BT-SW-02, BT-SW-04, and BT-SW-05). Chloride exceeded the ND WQS Chronic Standard (30 day standard) in one of the five non-background, non-duplicate surface water samples (BT-SW-01). Ammonia as N exceeded the ND WQS Chronic Standard (30 day standard) in two of the five non-background, non-duplicate surface water samples (BT-SW-01 and BT-SW-06. Both ammonia results are estimated values. The background sample exceeded the North Dakota Water Quality Standards (ND WQS) Chronic Standard (30 day standard) for Sulfate. Table 1 provides the analytical results for surface water and produced water samples. DRO and VOCs were determined to be sufficient analysis based on the nature of the crude oil found in the Bakken formation.

SUMMIT's environmental contractor, STANTEC, conducted surface water sampling during the period of January 14 through February 28, 2015. START compiled STANTEC surface water sampling results for the following analytes: VOCs, Semi-volatile Organic Compounds (SVOCs), metals, DRO, ORO and GRO. Exceedances were found for Barium, Manganese, Chromium, Iron, Thallium, DRO, and Benzene in various samples and on various dates. ND DOH and USACE collected routine samples from the confluence of the Little Muddy River and the Missouri River between December 10, 2014 and January 21, 2015. START compiled surface water sampling results for general chemistry parameters and cations/anions. STANTEC summary of detections is included in Appendix C while NDDOH and USACE data is included as Appendix D.

3.1.2 Produced Water

START collected produced water sample BT-PW-01 on January 24, 2015 and sample BT-PW-02 on January 25, 2015.

Sample BT-PW-01 was collected from a tap connected to tanks storing produced water from the Moline 157-100-20D-17-2H well (Moline 2H) and the Moline 157-100-20D-17-3H well (Moline 3H) (**Figure 2**). Sample BT-PW-02 was collected from a tap connected to tanks storing produced water from the State 157-100-21C-16-1H well (State 1H) (**Figure 2**). Within the pipeline system, State 1H and Moline Well pads are located "upstream" of where the pipeline break occurred. The lines from the tanks to the tap were not purged prior to collection of either of the two samples.

Produced water samples were collected from two different locations and included three different wells, both samples were collected from upstream of the pipeline break. Five analytes, Benzene, Sulfate, Chloride, Ammonia as N, and Thallium, exceeded at least one water quality standard in sample BT-PW-01. The result for Ammonia (as N) is an estimated value. In sample BT-PW-02, five analytes, Benzene, Chloride, Ammonia (as N), Thallium, and Barium, exceeded at least one water quality standard. The result for Ammonia (as N) is an estimated value. Table 1 provides the analytical results for surface water and produced water samples. Chromium and Barium were found above the Drinking Water MCL in the produced water. Analysis of a well sample collected from the nearest domestic drinking water well in January by SUMMIT does not show an exceedance of either barium or chromium.

SUMMIT's environmental contractor, STANTEC, conducted produced water sampling during the period of January 15 through January 27, 2015. START compiled STANTEC produced water sampling results for the following analyses: VOCs, SVOCs, metals, DRO, ORO and GRO. Exceedances were found for Arsenic, Barium, Manganese, Chromium, Iron, DRO, and Benzene in various samples and on various dates. A summary of detections for Stantec data is included in Appendix C.

3.1.3 Sediment

START collected three sediment samples, BT-SD-01, BT-SD-02, and BT-SD-03 on January 25, 2015. These locations are all downstream from the point of the release; access to sediment upstream of the spill was prevented due to the ice cover.

Sample BT-SD-01 was collected from Blacktail Creek, approximately 1.3 river miles downstream of the pipeline break. Sample BT-SD-02 was collected from Blacktail Creek, approximately 1.7 river miles downstream of the pipeline break, where Blacktail Creek crosses under Route 85. Sample BT-SD-03 was collected from the Little Muddy River, approximately 8 stream miles downstream from the pipeline break, where Little Muddy River crosses under Route 2.

One analyte, Barium, exceeded the Freshwater Equilibrium Sediment Benchmark Threshold Effect Concentration (TEC) (NOAA, 2008) in sample BT-SD-01. Three analytes, Barium, Manganese, and Zinc, exceeded the Freshwater Equilibrium Sediment Benchmark TEC in sample BT-SD-02. The TEC is the concentration at or below which toxicity to benthic organisms is unlikely. All other analytes were below the benchmarks. Table 2 provides the analytical results for the sediment samples.

4. SUMMARY OF FINDINGS

Analytical data generated by START was based on sampling which took place two weeks after the pipeline break was discovered.

Produced water samples collected by START exceeded standards for Thallium, Sulfate, Chloride, Ammonia (as N), and Benzene. Chromium and Barium were found above the Drinking Water MCL in the produced water. The background surface water sample exceeded standards for Sulfate. One or more non-duplicate, non-background surface water samples exceeded standards for Sulfate, Chloride, and Ammonia (as N). No surface water samples collected by START exceeded any EPA MCLs or ND Stream Class I and II HHVs.

Surface water sample analytical results from STANTEC, when compared to drinking water standards (EPA MCL and Secondary MCL), showed exceedances for Arsenic, Barium, Manganese, Chromium (Total), Iron, Thallium, and Benzene in various surface water samples on various dates. The exceedances ranged from 2 to 200 times the standard, depending on the coc and sample location. Surface water standards (ND Stream Class I and II HHV and WY Water Cleanup Levels), exceedances were found for Arsenic, Thallium, DRO, and Benzene in various surface water samples on various dates. The exceedances ranged from 2 to 10 times the standard, depending on the coc and sample location. The Arsenic, DRO and Benzene exceedances are likely associated with the Produced Water due to the high concentrations found in the produced water samples. Surface water standards (ND Stream Class I and II HHV and WY Water Cleanup Levels), exceedances were found for Barium, Manganese, Chromium (Total), Iron, DRO, and Benzene in various produced water samples on various dates. The exceedances ranged from 1.1 to 100 times the standard, depending on the contaminant of concern (coc) and sample location. Data tables showing the Stantec summary of detections and standards are provided in Appendix C.

Hydrocarbons detected in two produced water samples, as well as in the surface water sample collected 1200 feet downstream of the pipeline break, were elevated when compared to surface water samples collected upstream and farther downstream of the pipeline break. There are no federal or NDDOH surface water quality standards for hydrocarbons (GRO, DRO and ORO), however the elevated levels do not exceed Wyoming Water Cleanup Levels.

Two sediment samples from Blacktail Creek collected by START upstream of highway 85 and downstream of the spill location showed Barium, Manganese and Zinc concentrations greater than the Freshwater Equilibrium Sediment Benchmark TEC.

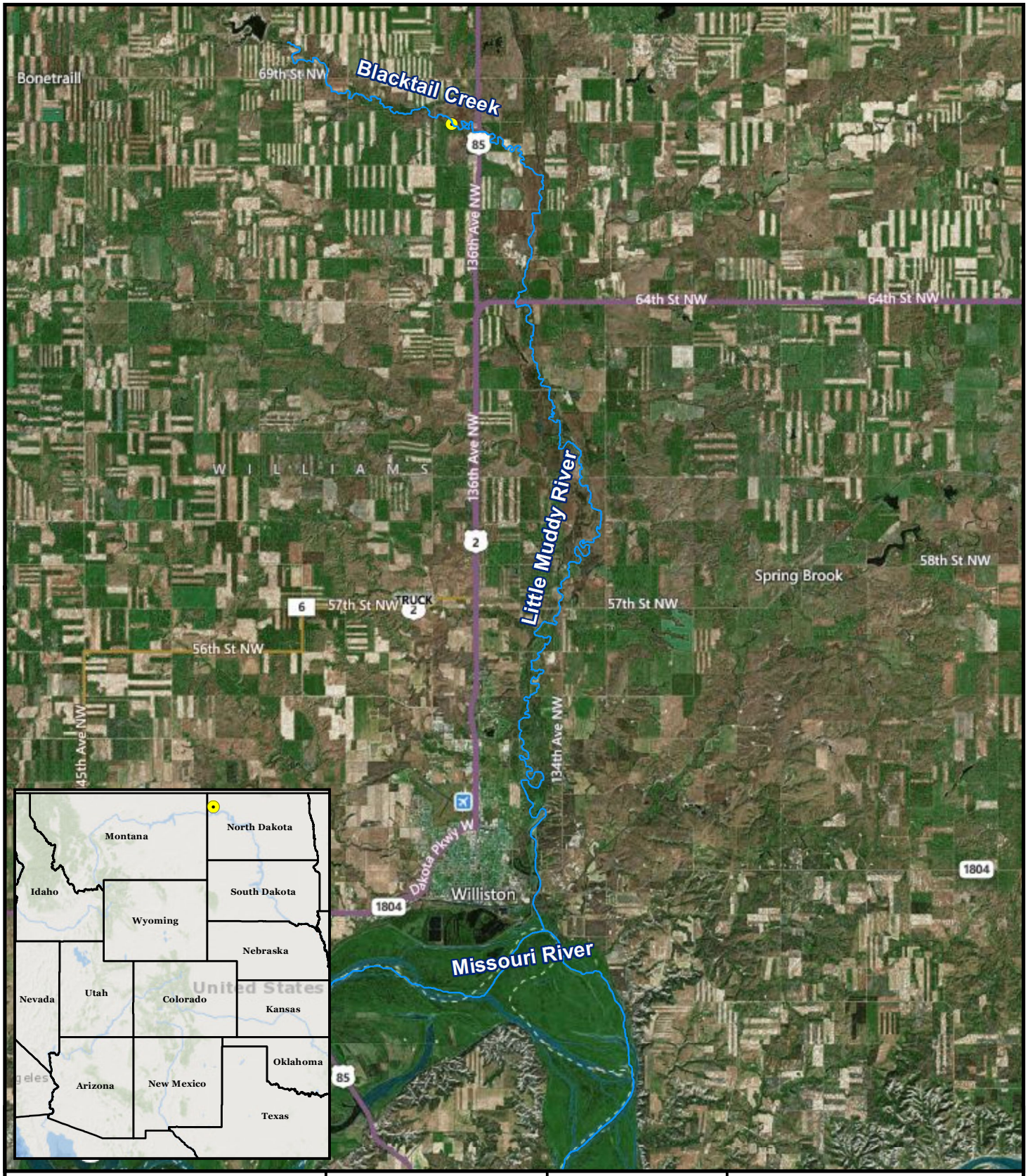
Data generated by START and data provided to START by STANTEC and ND DOH may not be directly comparable due to temporal and environmental differences such as date and flow rate at the time of sampling.

5. REFERENCES

Buchman, M. F., 2008. NOAA Screening Quick Reference Tables, NOAA OR&R Report 08-01, Seattle WA, Office of Response and Restoration Division, National Oceanic and Atmospheric Administrations, 34 pages.

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
NOAA, 2008	Screening Benchmarks	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

FIGURES



Legend

Site Location

0 1.75 3.5 7 Miles

N

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Contract No.:
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TDD:
1501-05

TO:
0001

Prepared By:
Weston Solutions, Inc.
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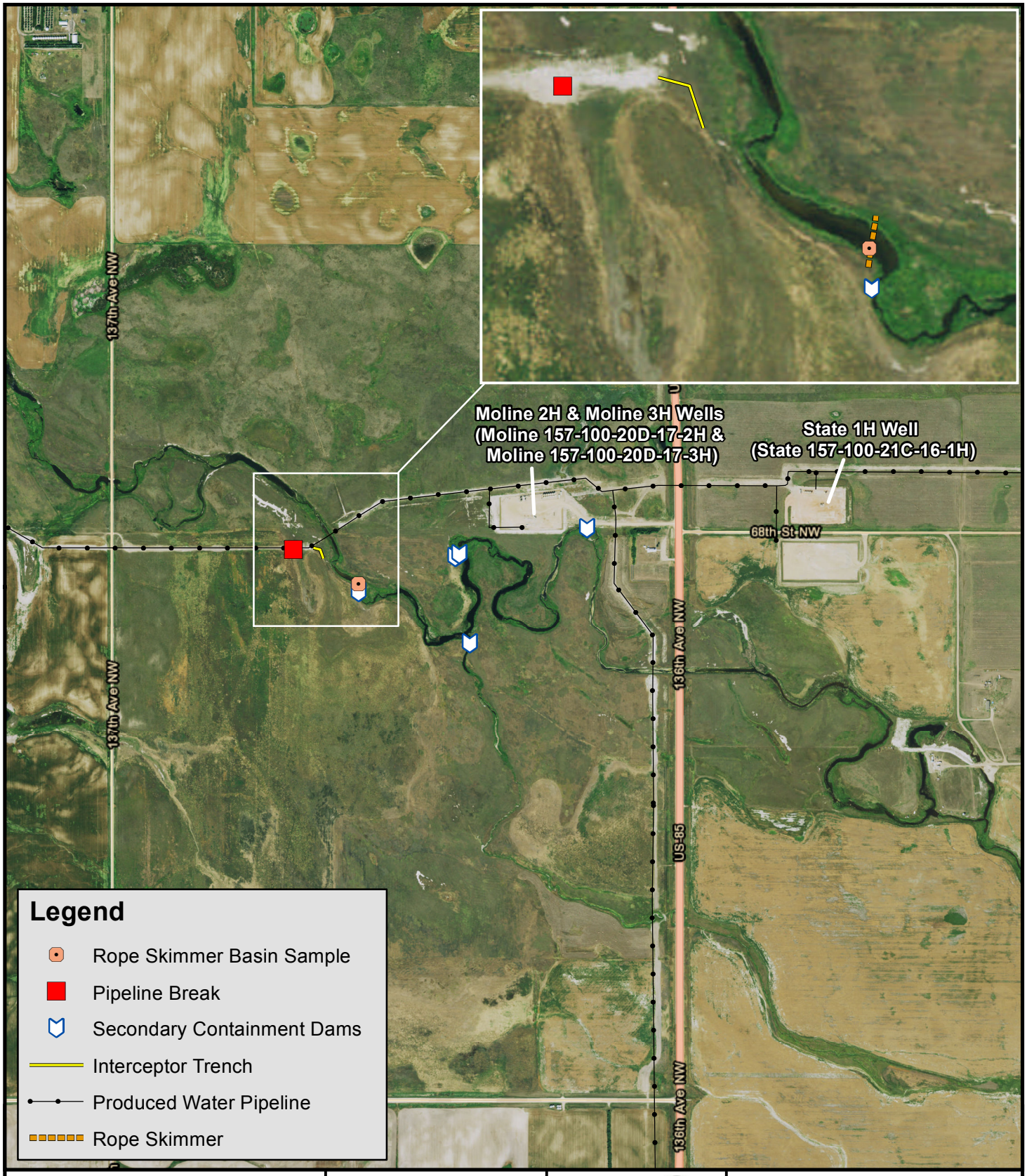
Lakewood, CO 80215

FIGURE 1
SITE LOCATION MAP
BLACKTAIL CREEK SPILL
WILLIAMS COUNTY,
NORTH DAKOTA

Date: 3/30/2015



0 650 1,300 2,600 Feet

N

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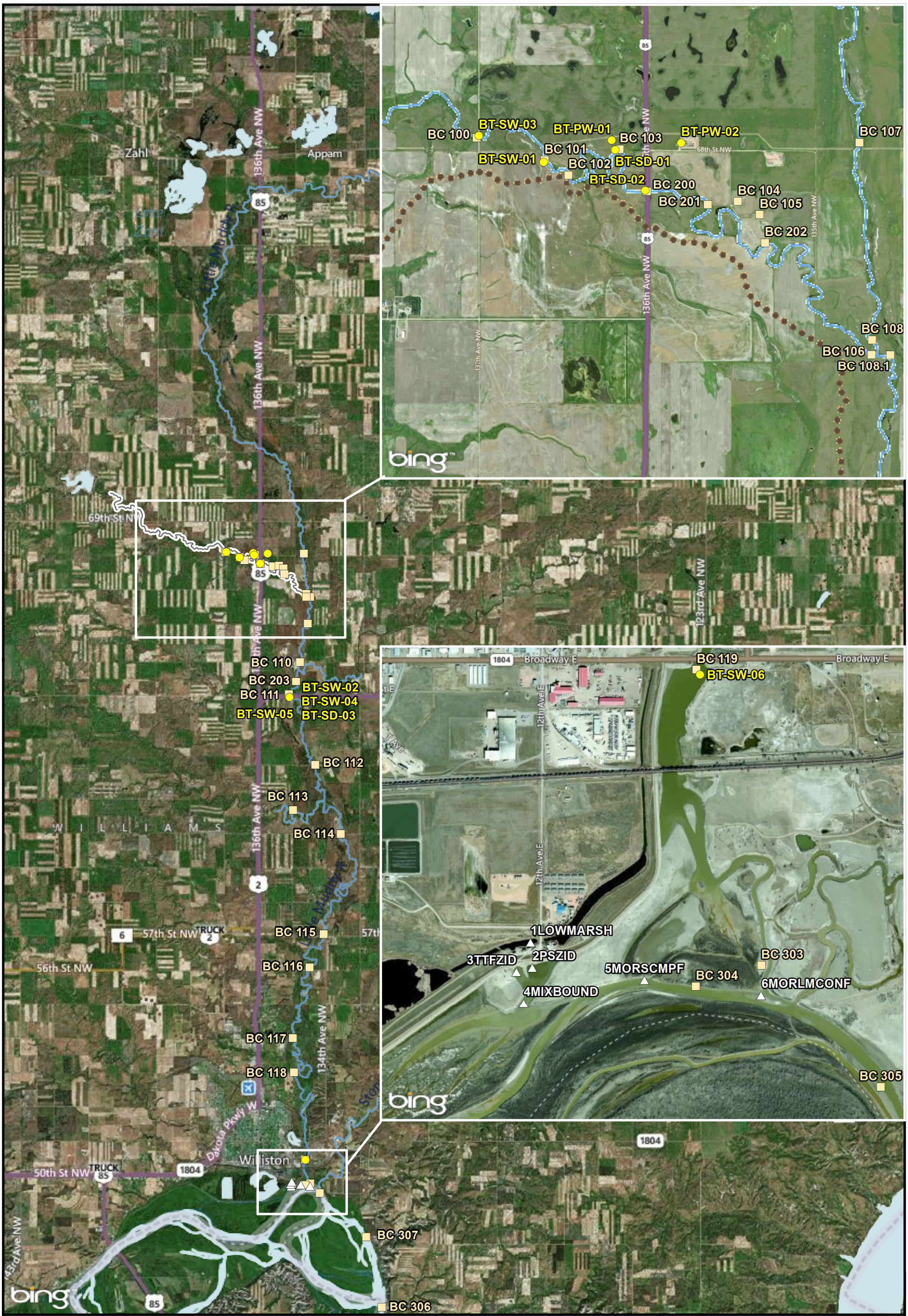
FIGURE 2
SITE FEATURES MAP
BLACKTAIL CREEK SPILL
WILLIAMS COUNTY,
NORTH DAKOTA

Date: 3/30/2015



Legend

- △ USACE Sampling Locations
- ● EPA Sampling Locations
- ▢ PRP Sampling Locations
- Blacktail Creek

0 1.25 2.5 5 Miles

N

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FIGURE 3
SITE SAMPLES MAP
BLACKTAIL CREEK SPILL
WILLIAMS COUNTY,
NORTH DAKOTA

Date: 3/31/2015

Legend

Sampling Locations

0 800 1,600 3,200 Feet

N

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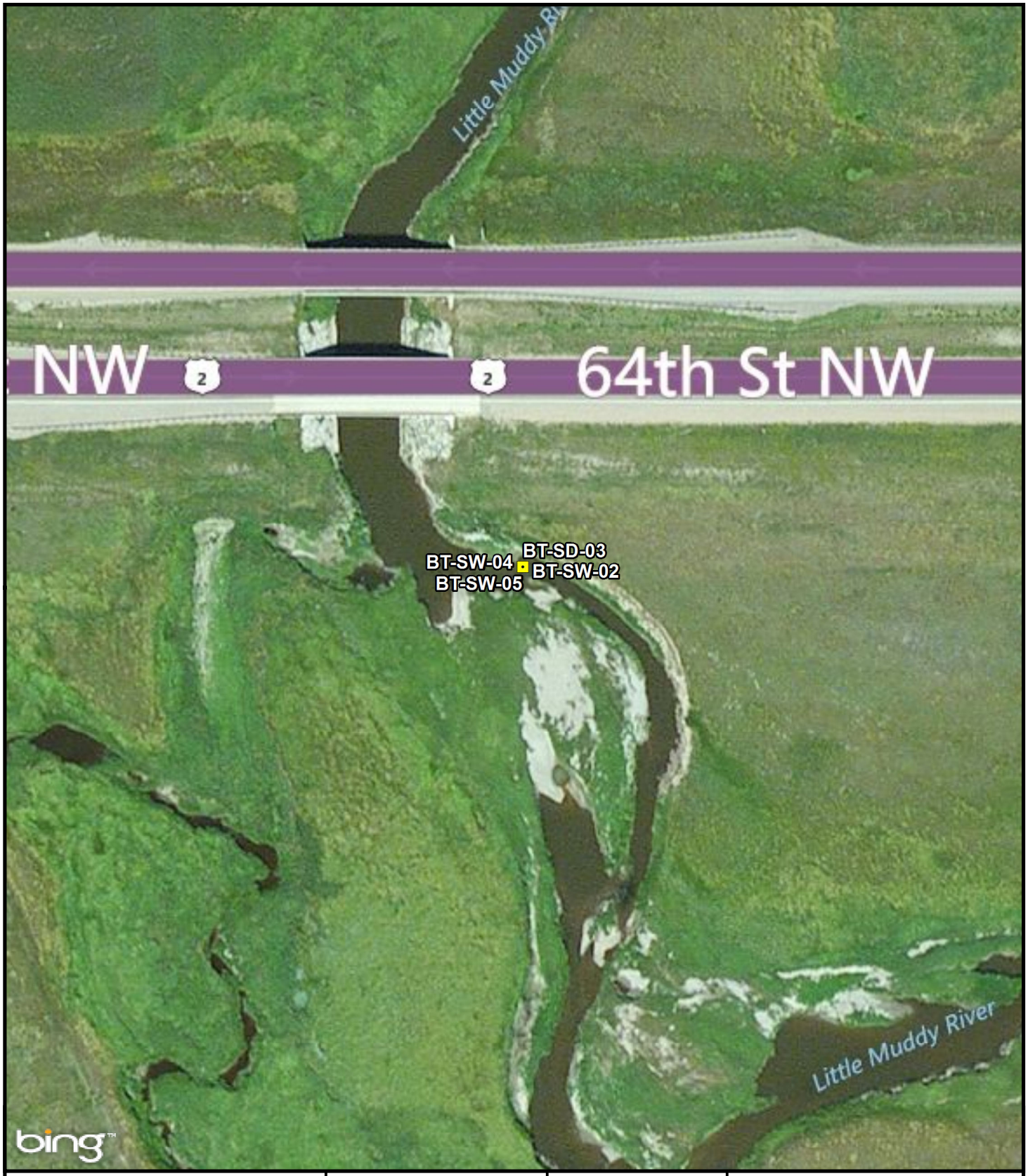
FIGURE 4
PIPELINE BREAK
SAMPLING LOCATIONS MAP
BLACKTAIL CREEK SPILL
WILLIAMS COUNTY,
NORTH DAKOTA

Date: 3/30/2015



Legend

Sampling Locations

0 55 110 220 Feet

N

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FIGURE 5
ROUTE 2
SAMPLING LOCATIONS MAP
BLACKTAIL CREEK SPILL
WILLIAMS COUNTY,
NORTH DAKOTA

Date: 3/31/2015

Legend

Sampling Locations

0 465 930 1,860 Feet

N

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FIGURE 6
ROUTE 1804
SAMPLING LOCATIONS MAP
BLACKTAIL CREEK SPILL
WILLIAMS COUNTY,
NORTH DAKOTA

Date: 3/30/2015

TABLES

Table 1

Blacktail Creek Spill Final EPA Water Sampling Results															
						SampID:	BT-PW-01	BT-PW-02	BT-SW-01	BT-SW-02	BT-SW-03	BT-SW-04	BT-SW-DUP	BT-SW-05	BT-SW-06
						SampDate:	1/24/2015	1/25/2015	1/24/2015	1/24/2015	1/25/2015	1/25/2015	1/25/2015	1/26/2015	1/26/2015
						SampTime:	14:20	10:20	13:30	16:50	11:45	17:15		9:10	11:45
Analyte	**CAS_NO**	**Units**	**EPA MCL**	**ND Stream Class I and II HHV**	**ND WQS Acute Standard[1]**	**ND WQS Chronic Standard[2]**	**Produced Water[7]: Moline 2H and Moline 3H Well Pad**	**Produced Water[7]: State 1H Well Pad**	**Surface Water: 15 ft downstream of Station #1 Oil Collection site**	**Surface Water: Downstream of Hwy 2 bridge over Little Muddy River**	**Surface Water: Upstream of pipe line break in Blacktail Creek**	**Surface Water: Downstream of Hwy 2 bridge over Little Muddy River**	**Surface Water: Downstream of Hwy 2 bridge over Little Muddy River**	**Surface Water: Downstream of Hwy 2 bridge over Little Muddy River**	**Surface Water: Downstream of Hwy 1804 bridge over Little Muddy River**
Metals															
Aluminum	7429-90-5	mg/L					1 U	1 U	0.188	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Antimony	7440-36-0	mg/L	0.006	0.0056			0.4 U	0.4 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Arsenic	7440-38-2	mg/L	0.010	0.01			0.1 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Barium	7440-39-3	mg/L	2.0				**14.4**	**15.3**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Beryllium	7440-41-7	mg/L	0.004	0.004			0.2 U	0.2 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Cadmium	7440-43-9	mg/L	0.005	0.005			0.05 U	0.05 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Calcium	7440-70-2	mg/L					20500	19700	221	119	153	113	108	109	85.9
Chromium	7440-47-3	mg/L	0.10				**0.275**	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cobalt	7440-48-4	mg/L					0.1 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Copper	7440-50-8	mg/L	1.3	1			0.1 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Iron	7439-89-6	mg/L					120	164	1.32	0.66	0.825	0.968	1.04	0.949	0.156
Lead	7439-92-1	mg/L	0.015	0.015			0.1 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Magnesium	7439-95-4	mg/L					1830	1750	192	77.3	149	74.2	67.6	72	42.5
Manganese	7439-96-5	mg/L					9.08	64	0.742	0.221	0.436	0.206	0.21	0.198	0.22
Mercury	7439-97-6	mg/L					0.00015 U	0.00015 U	0.00015 U	0.00015 U	0.00015 U	0.00015 U	0.00015 U	0.00015 U	0.00015 U
Nickel	7440-02-0	mg/L		0.1			0.1 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Potassium	9/7/7440	mg/L					13900	17200	22.8	9.7	14.2	10.2	10.6	9.16	7.82
Selenium	7782-49-2	mg/L	0.05	0.05			0.2 U	0.2 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Silver	7440-22-4	mg/L					0.1 U	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sodium	7440-23-5	mg/L					223000	209000	1130	347	903	351	335	354	181
Thallium	7440-28-0	mg/L	0.002	0.00024			**0.254**	**0.22**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium	7440-62-2	mg/L					0.5 U	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Zinc	7440-66-6	mg/L		7.4			0.529	0.201	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
General Chemistry															
Bicarbonate Alkalinity	T-005-B	mg/L					104	87.7	761	602	697	562	564	549	327
Carbonate Alkalinity	T-005-C	mg/L					25 U	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Hydroxide Alkalinity	WET-015	mg/L					25 U	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Phenolphthalein Alkalinity	WET-026	mg/L					25 U	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Total Alkalinity	000000-00-5	mg/L					104	87.7	761	602	697	562	564	549	327
Sulfate	14808-79-8	mg/L				450[3]	**500**	377	**2160**	**604**	**1940**	**565**	**581**	**538**	313
Chloride	16887-00-6	mg/L				250[4]	**214000**	**174000**	**378**	21.2	27.9	43.2	42.4	30.4	55.2
Ammonia as N	7664-41-7	mg/L			4.71 - 10.13[5]	1.43 - 2.73[6]	**96.2 J**	**99.7 J**	**4.01 J**	0.628 J	0.405 J	1.04 J	1.04	0.597 J	**3.18 J**
Total Petroleum Hydrocarbons															
Diesel Range Organics (DRO)	GCSV-00-4	mg/L					3.28	3.67	6.35	0.262 U	0.269 U	0.269 U	0.278 U	0.256 U	0.271 U
Gasoline Range Organics (GRO)	Gas	mg/L					1.98	4.15	0.162	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
HEM-Oil & Grease	C-007	mg/L					6.86	26.7	28.2		5.75	5.4 U	5.55 U	7.93	8.39
Volatile Organic Compounds															
1,1,1,2-Tetrachloroethane	630-20-6	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	71-55-6	ug/L	200	200			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Table 1

Blacktail Creek Spill Final EPA Water Sampling Results															
						SampID:	BT-PW-01	BT-PW-02	BT-SW-01	BT-SW-02	BT-SW-03	BT-SW-04	BT-SW-DUP	BT-SW-05	BT-SW-06
						SampDate:	1/24/2015	1/25/2015	1/24/2015	1/24/2015	1/25/2015	1/25/2015	1/25/2015	1/26/2015	1/26/2015
						SampTime:	14:20	10:20	13:30	16:50	11:45	17:15		9:10	11:45
Analyte	CAS_NO	Units	EPA MCL	ND Stream Class I and II HHV	ND WQS Acute Standard[1]	ND WQS Chronic Standard[2]	Produced Water[7]: Moline 2H and Moline 3H Well Pad	Produced Water[7]: State 1H Well Pad	Surface Water: 15 ft downstream of Station #1 Oil Collection site	Surface Water: Downstream of Hwy 2 bridge over Little Muddy River	Surface Water: Upstream of pipe line break in Blacktail Creek	Surface Water: Downstream of Hwy 2 bridge over Little Muddy River	Surface Water: Downstream of Hwy 2 bridge over Little Muddy River	Surface Water: Downstream of Hwy 2 bridge over Little Muddy River	Surface Water: Downstream of Hwy 1804 bridge over Little Muddy River
1,1,2,2-Tetrachloroethane	79-34-5	ug/L		0.17			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	ug/L	5	0.59			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	75-35-4	ug/L	7	7			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	563-58-6	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	87-61-6	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	96-18-4	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	120-82-1	ug/L	70				40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	95-63-6	ug/L					40 U	50 U	21.2	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	96-12-8	ug/L	0.2				200 U	250 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	106-93-4	ug/L	0.05				40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	95-50-1	ug/L		420			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	107-06-2	ug/L	5	0.38			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	78-87-5	ug/L	5	0.5			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	108-67-8	ug/L					40 U	50 U	3.15	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	541-73-1	ug/L		320			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	142-28-9	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	106-46-7	ug/L		63			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane	594-20-7	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	78-93-3	ug/L					1000 U	1250 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Chlorotoluene	95-49-8	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	591-78-6	ug/L					200 U	250 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chlorotoluene	106-43-4	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Isopropyltoluene	99-87-6	ug/L					40 U	50 U	3.22	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	108-10-1	ug/L					200 U	250 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	67-64-1	ug/L					1000 U	1250 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Benzene	71-43-2	ug/L	5	2.2			**446**	**989**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene	108-86-1	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane	74-97-5	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	75-27-4	ug/L	80				40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	75-25-2	ug/L	80	4.3			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	74-83-9	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	75-15-0	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	56-23-5	ug/L	5	0.23			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	108-90-7	ug/L	100	100			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	75-00-3	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	67-66-3	ug/L	80	5.7			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	74-87-3	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	156-59-2	ug/L	70	70			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	124-48-1	ug/L	80				40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	74-95-3	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	75-71-8	ug/L					200 U	250 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diisopropyl Ether	108-20-3	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Table 1

Blacktail Creek Spill Final EPA Water Sampling Results															
						SampID:	**BT-PW-01**	**BT-PW-02**	**BT-SW-01**	**BT-SW-02**	**BT-SW-03**	**BT-SW-04**	**BT-SW-DUP**	**BT-SW-05**	**BT-SW-06**
						SampDate:	**1/24/2015**	**1/25/2015**	**1/24/2015**	**1/24/2015**	**1/25/2015**	**1/25/2015**	**1/25/2015**	**1/26/2015**	**1/26/2015**
						SampTime:	**14:20**	**10:20**	**13:30**	**16:50**	**11:45**	**17:15**		**9:10**	**11:45**
Analyte	**CAS_NO**	**Units**	**EPA MCL**	**ND Stream Class I and II HHV**	**ND WQS Acute Standard[1]**	**ND WQS Chronic Standard[2]**	**Produced Water[7]: Moline 2H and Moline 3H Well Pad**	**Produced Water[7]: State 1H Well Pad**	**Surface Water: 15 ft downstream of Station #1 Oil Collection site**	**Surface Water: Downstream of Hwy 2 bridge over Little Muddy River**	**Surface Water: Upstream of pipe line break in Blacktail Creek**	**Surface Water: Downstream of Hwy 2 bridge over Little Muddy River**	**Surface Water: Downstream of Hwy 2 bridge over Little Muddy River**	**Surface Water: Downstream of Hwy 2 bridge over Little Muddy River**	**Surface Water: Downstream of Hwy 1804 bridge over Little Muddy River**
Ethyl Benzene	100-41-4	ug/L	700	530			40 U	50 U	1.39	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	87-68-3	ug/L		0.44			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene (Cumene)	98-82-8	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m,p-Xylene	136777-61-2	ug/L					80 U	100 U	6.36	2 U	2 U	2 U	2 U	2 U	2 U
Methyl iodide	74-88-4	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	75-09-2	ug/L	5	4.6			200 U	250 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	91-20-3	ug/L					40 U	50 U	13.3	1 U	1 U	1 U	1 U	1 U	1 U
n-Butylbenzene	104-51-8	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	103-65-1	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
o-Xylene	95-47-6	ug/L					40 U	59.5	3.86	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	135-98-8	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	100-42-5	ug/L	100	100			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butyl methyl ether (MTBE)	1634-04-4	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	98-06-6	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	127-18-4	ug/L	5	0.69			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	108-88-3	ug/L	1000	1000			208	566	3	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	156-60-5	ug/L	100				40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,4-Dichloro-2-butene	110-57-6	ug/L					200 U	250 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	79-01-6	ug/L	5	2.5			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane	75-69-4	ug/L					40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	75-01-4	ug/L	2	0.025			40 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylene (total)	1330-20-7	ug/L	10000	10000			80 U	149	10.2	2 U	2 U	2 U	2 U	2 U	2 U

U: analyte not detected at or above Method Detection Limit

J: result is estimated due to analysis outside of method holding time

Bold: result exceeds one or more benchmarks

1: one-hour average standard set at value which results should not exceed more than once every 3 years

2: 30-day average standard set at value which result should not exceed more than once every 3 years

3: standard for Class I and II Streams (Little Muddy = Class II), Class III Stream standard is 750 mg/L

4: standard for Class II and III Streams (Little Muddy = Class II), Class I Stream standard is 175 mg/L

5: standard range displayed was calculated using the ND Acute standard formula for ammonia at a pH values between 4.7 and 10.13

6: standard range displayed was calculated using the ND Chronic standard formula for ammonia at a pH values between 7.9 and 8.3

7: produced water well samples pulled from 2 out of 37 wells that are manifolded with the produced water line

Note: all results have undergone a Level II Data Validation

Table 2

Blacktail Creek Spill Final EPA Soil Sampling Results							
			SampID:		**BT-SD-01**	**BT-SD-02**	**BT-SD-03**
			SampDate:		**1/25/2015**	**1/25/2015**	**1/25/2015**
			SampTime:		**15:45**	**16:30**	**17:00**
Analyte	**CAS_NO**	**Result_Units**	**EPA Freshwater Sediment Threshold Effect Cocentration[1]**	**EPA Freshwater Sediment Probable Effect Cocentration[2]**	**Location: Upstream of underflow dam #3**	**Location: Upstream of Hwy 85 bridge over Black Tail Creek**	**Location: Downstream of Hwy 2 bridge over Blacktail Creek**
Metals							
Aluminum	7429-90-5	mg/kg			5120	5090	410
Antimony	7440-36-0	mg/kg	2	25	6 U	10.6 U	4.87 U
Arsenic	7440-38-2	mg/kg	9.79	33	1.5 U	2.65 U	1.22 U
Barium	7440-39-3	mg/kg	20	60	**1230**	**199**	12.2 U
Beryllium	7440-41-7	mg/kg			1.5 U	2.65 U	1.22 U
Cadmium	7440-43-9	mg/kg	1	5	0.75 U	1.33 U	0.609 U
Calcium	7440-70-2	mg/kg			33700	58100	29200
Chromium	7440-47-3	mg/kg	43.4	111	10.2	9.12	1.45
Cobalt	7440-48-4	mg/kg	50		3.94	3.21	1.22 U
Copper	7440-50-8	mg/kg	31.6	149	10.3	7.21	1.22 U
Iron	7439-89-6	mg/kg			9830	20500	15000
Lead	7439-92-1	mg/kg	35.8	128	5.43	6.69	1.22 U
Magnesium	7439-95-4	mg/kg			11900	9790	12200
Manganese	7439-96-5	mg/kg	460	1100	414	**470**	374
Mercury	7439-97-6	mg/kg	0.18	1.1	0.028 U	0.0458 U	0.0244 U
Nickel	7440-02-0	mg/kg	22.7	48.6	9.79	7.73	1.22 U
Potassium	7440-09-7	mg/kg			2110	3330	94.9
Selenium	7782-49-2	mg/kg	11	20	3 U	5.31 U	2.44 U
Silver	7440-22-4	mg/kg	1	2.2	1.5 U	2.65 U	1.22 U
Sodium	7440-23-5	mg/kg			8320	25000	109
Thallium	7440-28-0	mg/kg			1.5 U	22.6	1.22 U
Vanadium	7440-62-2	mg/kg			19.9	14.4	6.09 U
Zinc	7440-66-6	mg/kg	121	459	56.6	**222**	3.61
General Chemistry							
Sulfate	14808-79-8	mg/kg			479	965	75.6
Total Solids	C-008	%			60.6	37.7	76
Nitrate as N	14797-55-8N	mg/kg			0.495 U	0.796 U	0.395 U
Nitrite as N	14797-65-0N	mg/kg			0.495 U	0.796 U	0.395 U
Ortho-Phosphate as P	98059-61-1P	mg/kg			1.65 U	2.65 U	1.32 U
Chloride	16887-00-6	mg/kg			12200	18900	8

U: analyte not detected at or above Method Detection Limit

Bold: result exceeds one or more benchmarks

[1]: lower level at which toxicity to benthic organisms is unlikely

[2]: upper level at which toxicity to benthic organisms is probably

APPENDIX A
PHOTOGRAPHIC DOCUMENTATION

Blacktail Creek Spill

Photo Log

Description: Blacktail Creek and Moline Well Pad

Category: Site Photo

Latitude:

Date Taken: 1/24/2015

Longitude:

Tags:

Description: Point where the pipeline broke.

Category: Site Photo

Latitude: 48.4014916666667

Date Taken: 1/24/2015

Longitude: -103.639548333333

Tags:

Description: Point where the pipeline broke, looking North at the overland brine flow

Category: Site Photo

Latitude: 48.40129

Date Taken: 1/24/2015

Longitude: -103.639365

Tags:

Description: Looking north at the overland brine flow. The area had been excavated down to 12 inches below ground surface.

Category: Site Photo

Latitude: 48.4008983333333

Date Taken: 1/24/2015

Longitude: -103.637853333333

Tags:

Description: Looking west at contaminated soil that was excavated from the overland brine flow area.

Category: Site Photo

Latitude: 48.4012966666667

Date Taken: 1/24/2015

Longitude: -103.6388

Tags:

Blacktail Creek Spill

Photo Log

Description: Location where produced water spill entered Black Tail Creek.

Category: Site Photo

Latitude: 48.4010683333333

Date Taken: 1/24/2015

Longitude: -103.63777

Tags:

Description: Oil on the Blacktail Creek immediately down stream of where the oil initially entered the creek.

Category: Site Photo

Latitude: 48.4008983333333

Date Taken: 1/24/2015

Longitude: -103.637853333333

Tags:

Description: Oil stained ice on the Blacktail Creek down stream of where the oil initially entered the creek.

Category: Site Photo

Latitude: 48.4008983333333

Date Taken: 1/24/2015

Longitude: -103.637853333333

Tags:

Description: Oil/water recovery at location 1 (farthest upstream)

Category: Site Photo

Latitude: 48.40104

Date Taken: 1/24/2015

Longitude: -103.638133333333

Tags:

Description: Downstream of where produced water spill entered Blacktail Creek.

Category: Site Photo

Latitude: 48.4008983333333

Date Taken: 1/23/2015

Longitude: -103.637853333333

Tags:

Blacktail Creek Spill

Photo Log

Description: Clean up crew assessing the most effective way to place boom immediately downstream of oil/water recovery location 1.

Category: Site Photo

Latitude: 48.400365

Date Taken: 1/24/2015

Longitude: -103.636806666667

Tags:

Description: Containment boom placed at oil/water recovery location 1.

Category: Site Photo

Latitude: 48.400365

Date Taken: 1/24/2015

Longitude: -103.636806666667

Tags:

Description: Changing conditions cause an ice dam to form downstream of oil/water recovery location 1.

Category: Site Photo

Latitude: 48.400365

Date Taken: 1/24/2015

Longitude: -103.636806666667

Tags:

Description: Underflow dam #2 being constructed.

Category: Site Photo

Latitude: 48.4011333333333

Date Taken: 1/24/2015

Longitude: -103.633423333333

Tags:

Blacktail Creek Spill

Photo Log

Description: Containment boom immediately up stream of oil/water recovery location 1

Category: Site Photo

Latitude: 48.4010066666667

Date Taken: 1/24/2015

Longitude: -103.632903333333

Tags:

Description: Oil staining on ice.

Category: Site Photo

Latitude: 48.401

Date Taken: 1/24/2015

Longitude: -103.63272

Tags:

Description: Oil/water recovery operations at intermediate recovery station.

Category: Site Photo

Latitude: 48.4009416666667

Date Taken: 1/23/2015

Longitude: -103.632871666667

Tags:

Description: Oil/water recovery operations and work area on mud mats at intermediate recovery station.

Category: Site Photo

Latitude: 48.4011266666667

Date Taken: 1/23/2015

Longitude: -103.633106666667

Tags:

Description: Collection point of BT-PW-01

Category: Site Photo

Latitude: 48.4027933333333

Date Taken: 1/24/2015

Longitude: -103.629068333333

Tags:

Blacktail Creek Spill

Photo Log

Description: Well pad name where sample BT-PW-01 was collected.

Category: Site Photo

Latitude: 48.40272

Date Taken: 1/24/2015

Longitude: -103.62872

Tags:

Description: Oil/water recovery operations at downstream recovery station near Moline 2H and 3H well pad. Completed underflow dam.

Category: Site Photo

Latitude: 48.402325

Date Taken: 1/23/2015

Longitude: -103.627835

Tags:

Description: Oil collection station 1 nearest spill site. Containment boom poorly maintained, oil entrainment.

Category: Site Photo

Latitude: 48.40125

Date Taken: 1/25/2015

Longitude: -103.637786666667

Tags:

Description: Frozen confluence of Little Muddy Creek and Blacktail Creek.

Category: Site Photo

Latitude: 48.3840333333333

Date Taken: 1/23/2015

Longitude: -103.595043333333

Tags:

Description: Oil collection site 1. Oil recovery and boom adjustment.

Category: Site Photo

Latitude:

Date Taken: 1/25/2015

Longitude:

Tags:

Blacktail Creek Spill

Photo Log

Description: Little Muddy Creek at Route 2

Category: Site Photo

Latitude: 48.342225

Date Taken: 1/24/2015

Longitude: -103.605705

Tags:

Description: Oil collection site 1; oil recovery with rope skimmer and boom properly positioned

Category: Site Photo

Latitude:

Date Taken: 1/26/2015

Longitude:

Tags:

Description: Rope skimmer at containment boom, station 1 removing free product

Category: Site Photo

Latitude:

Date Taken:

Longitude:

Tags:

Description: Rope skimmer and adsorbent (snares) station 1 with ice blocks collecting around skimming ops

Category: Site Photo

Latitude:

Date Taken:

Longitude:

Tags:

Description: Ice containment/removed from creek adjacent to skimmer ops

Category: Site Photo

Latitude:

Date Taken:

Longitude:

Tags:

Blacktail Creek Spill

Photo Log

Description: Creek flowing over Underflow Dam #3 (downstream end of containment on Blacktail Creek).

Category: Site Photo

Latitude:

Date Taken:

Longitude:

Tags:

Description: Interceptor Trench

Category: Site Photo

Latitude: 48.2660305555556

Date Taken: 1/28/2015

Longitude: -103.620025

Tags:

Description:

Category: Site Photo

Latitude:

Date Taken:

Longitude:

Tags:

Description:

Category: Site Photo

Latitude:

Date Taken:

Longitude:

Tags:

Description: Well pad where sample BT-PW-02 was collected.

Category: Site Photo

Latitude: 48.4025516666667

Date Taken: 1/25/2015

Longitude: -103.62006

Tags:

Blacktail Creek Spill

Photo Log

Description: The hex bolt was removed and the valve was opened to collect sample BT-PW-02

Category: Site Photo

Latitude: 48.4025516666667

Date Taken: 1/25/2015

Longitude: -103.62006

Tags:

Description: START collecting sample BT-PW-02

Category: Site Photo

Latitude: 48.4025516666667

Date Taken: 1/25/2015

Longitude: -103.62006

Tags:

Description: Sample BT-SW-03 was collected as a background sample

Category: Site Photo

Latitude: 48.3872474

Date Taken: 1/25/2015

Longitude: -103.6560305

Tags:

Description: Looking South at the overland brine flow and pipe break location

Category: Site Photo

Latitude: 48.40283

Date Taken: 1/25/2015

Longitude: -103.639426666667

Tags:

Blacktail Creek Spill

Photo Log

Description: Looking south east from approximately due North of the pipeline break point. Showing the proximity of the overland brine flow to Blacktail Creek. Brine water entered the creek here.

Category: Site Photo

Latitude: 48.40283

Date Taken: 1/25/2015

Longitude: -103.639426666667

Tags:

Description: Looking south towards the pipeline break point. The overland flow of brine water to the north of the pipeline break point has been excavated.

Category: Site Photo

Latitude: 48.4033533333333

Date Taken: 1/25/2015

Longitude: -103.64018

Tags:

Description: Test pits being dug to determine subterranean oil migration pathways.

Category: Site Photo

Latitude: 48.4016166666667

Date Taken: 1/25/2015

Longitude: -103.637826666667

Tags:

Description: Test pit #1 in relation to Blacktail Creek. The creek it approximately 20 ft to the east of test pit #1.

Category: Site Photo

Latitude: 48.4012

Date Taken: 1/25/2015

Longitude: -103.637783333333

Tags:

Blacktail Creek Spill

Photo Log

Description: Test pit #6
Category: Site Photo
Date Taken: 1/25/2015
Tags:
Latitude: 48.4012
Longitude: -103.637783333333

Description: Test pit #5
Category: Site Photo
Date Taken: 1/25/2015
Tags:
Latitude: 48.40151
Longitude: -103.637965

Description: Test pit #4
Category: Site Photo
Date Taken: 1/25/2015
Tags:
Latitude: 48.40151
Longitude: -103.637965

Description: Test pit #3
Category: Site Photo
Date Taken: 1/25/2015
Tags:
Latitude: 48.40151
Longitude: -103.637965

Description: Test pit #2
Category: Site Photo
Date Taken: 1/25/2015
Tags:
Latitude: 48.4012883333333
Longitude: -103.637823333333

Blacktail Creek Spill

Photo Log

Description: Test pit #1
Category: Site Photo
Latitude: 48.40125
Date Taken: 1/25/2015
Longitude: -103.637786666667
Tags:

Description: Ineffective containment boom bellying in Blacktail Creek
Category: Site Photo
Latitude: 48.40125
Date Taken: 1/25/2015
Longitude: -103.637786666667
Tags:

Description: Cleanup crew placing pom-poms in Blacktail Creek
Category: Site Photo
Latitude: 48.40106
Date Taken: 1/25/2015
Longitude: -103.637795
Tags:

Description: Sample BT-SD-01
Category: Site Photo
Latitude: 48.4019633333333
Date Taken: 1/25/2015
Longitude: -103.628583333333
Tags:

Description: Sample BT-SD-02
Category: Site Photo
Latitude: 48.3984466666667
Date Taken: 1/25/2015
Longitude: -103.62473
Tags:

Blacktail Creek Spill

Photo Log

Description: Oil sheen on Blacktail Creek near US-85.

Category: Site Photo

Latitude: 48.3984466666667

Date Taken: 1/25/2015

Longitude: -103.62473

Tags:

Description: Samples BT-SD-03 and BT-SW-04

Category: Site Photo

Latitude: 48.3419466666667

Date Taken: 1/25/2015

Longitude: -103.606068333333

Tags:

Description: Sample BT-SW-05

Category: Site Photo

Latitude: 48.342225

Date Taken: 1/26/2015

Longitude: -103.605706

Tags:

Description: Sample BT-SW-06

Category: Site Photo

Latitude: 48.146522

Date Taken: 1/26/2015

Longitude: -103.595864

Tags:

Description: Chloride test location #1

Category: Site Photo

Latitude: 48.3872474

Date Taken: 1/26/2015

Longitude: -103.6560305

Tags:

Blacktail Creek Spill

Photo Log

Description: Chloride test location #2

Category: Site Photo

Latitude: 48.4010816666667

Date Taken: 1/26/2015

Longitude: -103.632373333333

Tags:

Description: Chloride test location #3

Category: Site Photo

Latitude: 48.3872474

Date Taken: 1/26/2015

Longitude: -103.6560305

Tags:

Description: Underflow Dam 3 over-topped by late afternoon 1-26-15.

Category: Site Photo

Latitude: 48.3872474

Date Taken: 1/26/2015

Longitude: -103.6560305

Tags:

Description: Chloride test location #4

Category: Site Photo

Latitude: 48.401965

Date Taken: 1/26/2015

Longitude: -103.62848

Tags:

Description: Chloride test location #5. Just west of US-85 bridge over Blacktail Creek

Category: Site Photo

Latitude: 48.3981566666667

Date Taken: 1/26/2015

Longitude: -103.627436666667

Tags:

Blacktail Creek Spill

Photo Log

Description: Chloride test location #6. East of US-85.

Category: Site Photo

Latitude: 48.3984616666667

Date Taken: 1/26/2015

Longitude: -103.622285

Tags:

APPENDIX B
START ANALYTICAL REPORT

Laboratory Report of Analysis

To: Eric Sandusky
Weston Solutions, Inc
1435 Garrison St
Suite 100
Lakewood, CO 80215

Report Number: **31500182**

Client Project: **Blacktail Creek**

Dear Eric Sandusky,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or services performed during this project, please call Michael D. Page at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Michael D. Page
Project Manager
michael.page@sgs.com

Date

Print Date: 02/06/2015

N.C. Certification # 481

Terms and Conditions:

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via:
http://www.sgs.com/terms_and_conditions.htm

Laboratory Qualifiers

Report Definitions

DL	Method, Instrument, or Estimated Detection Limit per Analytical Method
CL	Control Limits for the recovery result of a parameter
LOQ	Reporting Limit
DF	Dilution Factor
RPD	Relative Percent Difference
LCS(D)	Laboratory Control Spike (Duplicate)
MS(D)	Matrix Spike (Duplicate)
MB	Method Blank

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < DL)
J	Estimated Concentration.
E	Amount detected is greater than the Upper Calibration Limit
TIC	Tentatively Identified Compound
ND	Not Detected
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range

Samples requiring manual integrations for various congeners and/or standards are marked and dated by the analyst. A code definition is provided below:

M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

Note Results pages that include a value for "Solids (%)" have been adjusted for moisture content.

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
BT-SW-01	31500182001	01/24/2015 13:30	01/29/2015 10:15	Water
BT-SW-02	31500182002	01/24/2015 16:50	01/29/2015 10:15	Water
BT-SW-03	31500182003	01/25/2015 11:45	01/29/2015 10:15	Water
BT-SW-04	31500182004	01/25/2015 17:15	01/29/2015 10:15	Water
BT-SW-05	31500182005	01/26/2015 09:10	01/29/2015 10:15	Water
BT-SW-06	31500182006	01/26/2015 11:45	01/29/2015 10:15	Water
BT-SW-DUP	31500182007	01/25/2015 00:00	01/29/2015 10:15	Water
BT-SD-01	31500182008	01/25/2015 15:45	01/29/2015 10:15	Soil-Solid as dry weight
BT-SD-02	31500182009	01/25/2015 16:30	01/29/2015 10:15	Soil-Solid as dry weight
BT-SD-03	31500182010	01/25/2015 17:00	01/29/2015 10:15	Soil-Solid as dry weight
BT-PW-01	31500182011	01/24/2015 14:20	01/29/2015 10:15	Water
BT-PW-02	31500182012	01/25/2015 10:20	01/29/2015 10:15	Water
TB-01	31500182013	01/25/2015 08:00	01/29/2015 10:15	Water

Case Narrative

SGS received samples via courier on January 29, 2015 at 10:15. Samples arrived in three coolers and were received with a temperature range of 0.27 to 0.30 °C. Samples were received in good condition with the following exceptions: The 1L amber glass containers preserved with HCl for DRO arrived with a neutral pH for sample IDs BT-SW-06, BT-SW-05 and BT-SW-04. 10 mLs of 1:1 HCL (lot #R-4319) was added to the samples at time of receipt. The COC requested analyses via Method 1164; the client was contacted and it was confirmed that Method 1664 was needed for these samples. The client requested that the DRO samples receive matrix QC; due to sample volume the 1664 analyses was cancelled for sample ID BT-SW-02 in order to perform the matrix QC.

SW-846 8260B

The following sample IDs were analyzed on dilutions in order to achieve a response within the calibration range of the instrument:

BT-PW-01 – 40X

BT-PW-02 – 50X

Multiple compounds in the MS and MSD of sample ID BT-PW-02 do not meet control limits due to probable matrix interference.

SW-846 8015C GRO

The following sample IDs were analyzed on dilutions in order to achieve a response within the calibration range of the instrument:

BT-PW-01 – 10X

BT-PW-02 – 10X

SW-846 8015C DRO

The following sample IDs were analyzed on dilutions in order to achieve a response within the calibration range of the instrument:

BT-SW-01 – 2X

DRO recoveries in the MS and MSD for sample ID BT-SD-02 do not meet control limits due to probable matrix interference.

SW-846 6010C

All sample IDs had various dilutions for the following parameters: Al, Ba, Mn, Fe, Ca, Mg, K and Na. Calcium, Magnesium and Sodium recoveries in the MS and MSD for sample ID BT-SW-01 do not meet control limits due to probable matrix interference. Antimony, Barium, Manganese, Iron, Magnesium, Aluminium, Calcium, Sodium and Potassium recoveries in the MS and MSD for sample ID BT-SD-01 do not meet control limits due to probable matrix interference. Aluminium, Calcium, Chromium, Iron, Magnesium, Potassium, Sodium and Zinc RPDs in the DUP for sample ID BT-SD-03 do not meet control limits due to probable matrix interference. Batch MIP2719 does not meet control limits for Al, Na and Be in the opening CRDL. Batch MIP2719 does not meet control limits for Pb, As, Be and Co in the closing CRDL. Batch MIP2721 does not meet control limits for Pb, Be and Cd in the opening CRDL. Batch MIP2719 does not meet control limits for Al, As, Be and Cd in the closing CRDL. Batch MIP2722 does not meet control limits for Mg, Mn, Na and Be in the opening CRDL. Batch MIP2722 does not meet control limits for Al and Mn in the closing CRDL. Batch MIP2724 does not meet control limits for Pb, Ag, Be, Cd and Co in the opening CRDL. Batch MIP2724 does not meet control limits for Pb, Ag, Be, Cd and Co in the closing CRDL.

Case Narrative

SW-846 7470A

There are no QC notes for this method.

SW-846 7471B

There are no QC notes for this method.

EPA 1664A

All sample IDs have various dilution factors based on initial volumes.

EPA 300.0

All samples have various dilutions in order to obtain results within the calibration range of the instrument.

EPA300.0 modified

Samples were analyzed using a modified version of method EPA300.0. There are no QC notes for this method. Soil samples are homogenized and prepared by measuring equal parts soil to reagent water (20g of soil to 20g of reagent water). The combined solution is mixed for ten minutes and then filtered through a 0.45um membrane filter prior to analysis. Various dilutions were performed for chloride and sulphate in order to obtain results within the calibration range of the instrument. Sulfate recoveries in the MS and MSD for sample ID BT-SD-03 do not meet control limits due to probable matrix interference.

SM 2320-B

There are no QC notes for this method.

SM 4500-NH3-F

The following sample IDs were analyzed on dilutions in order to achieve a response within the calibration range of the instrument:

BT-PW-01 – 100X

BT-PW-02 – 100X

Detectable Results Summary

Client Sample ID: **BT-SW-01**
Lab Sample ID: 31500182001-G

	Parameter	Result	Units
EPA 1664A	HEM-Oil & Grease	28.2	mg/L
EPA 300.0	Sulfate	2160	mg/L
	Chloride	378	mg/L
SM 2320-B	Bicarbonate Alkalinity	761	mg/L
	Total Alkalinity	761	mg/L
SM 4500-NH3-F	Ammonia as N	4.01	mg/L
SW-846 6010C	Aluminum	0.188	mg/L
	Calcium	221	mg/L
	Iron	1.32	mg/L
	Magnesium	192	mg/L
	Manganese	0.742	mg/L
	Potassium	22.8	mg/L
	Sodium	1130	mg/L
SW-846 8015C DRO	Diesel Range Organics (DRO)	6.35	mg/L
SW-846 8015C GRO	Gasoline Range Organics (GRO)	0.162	mg/L
SW-846 8260B	1,2,4-Trimethylbenzene	21.2	ug/L
	1,3,5-Trimethylbenzene	3.15	ug/L
	4-Isopropyltoluene	3.22	ug/L
	Ethyl Benzene	1.39	ug/L
	Naphthalene	13.3	ug/L
	Toluene	3.00	ug/L
	Xylene (total)	10.2	ug/L
	m,p-Xylene	6.36	ug/L
	o-Xylene	3.86	ug/L

Client Sample ID: **BT-SW-02**
Lab Sample ID: 31500182002-A

	Parameter	Result	Units
EPA 300.0	Sulfate	604	mg/L
	Chloride	21.2	mg/L
SM 2320-B	Bicarbonate Alkalinity	602	mg/L
	Total Alkalinity	602	mg/L
SM 4500-NH3-F	Ammonia as N	0.628	mg/L
SW-846 6010C	Calcium	119	mg/L
	Iron	0.660	mg/L
	Magnesium	77.3	mg/L
	Manganese	0.221	mg/L
	Potassium	9.70	mg/L
	Sodium	347	mg/L

Detectable Results Summary

Client Sample ID: **BT-SW-03**
Lab Sample ID: 31500182003-G

	Parameter	Result	Units
EPA 1664A	HEM-Oil & Grease	5.75	mg/L
EPA 300.0	Sulfate	1940	mg/L
	Chloride	27.9	mg/L
SM 2320-B	Bicarbonate Alkalinity	697	mg/L
	Total Alkalinity	697	mg/L
SM 4500-NH3-F	Ammonia as N	0.405	mg/L
SW-846 6010C	Calcium	153	mg/L
	Iron	0.825	mg/L
	Magnesium	149	mg/L
	Manganese	0.436	mg/L
	Potassium	14.2	mg/L
	Sodium	903	mg/L

Client Sample ID: **BT-SW-04**
Lab Sample ID: 31500182004-A

	Parameter	Result	Units
EPA 300.0	Sulfate	565	mg/L
	Chloride	43.2	mg/L
SM 2320-B	Bicarbonate Alkalinity	562	mg/L
	Total Alkalinity	562	mg/L
SM 4500-NH3-F	Ammonia as N	1.04	mg/L
SW-846 6010C	Calcium	113	mg/L
	Iron	0.968	mg/L
	Magnesium	74.2	mg/L
	Manganese	0.206	mg/L
	Potassium	10.2	mg/L
	Sodium	351	mg/L

Client Sample ID: **BT-SW-05**
Lab Sample ID: 31500182005-G

	Parameter	Result	Units
EPA 1664A	HEM-Oil & Grease	7.93	mg/L
EPA 300.0	Sulfate	538	mg/L
	Chloride	30.4	mg/L
SM 2320-B	Bicarbonate Alkalinity	549	mg/L
	Total Alkalinity	549	mg/L
SM 4500-NH3-F	Ammonia as N	0.597	mg/L
SW-846 6010C	Calcium	109	mg/L
	Iron	0.949	mg/L
	Magnesium	72.0	mg/L
	Manganese	0.198	mg/L
	Potassium	9.16	mg/L
	Sodium	354	mg/L

Detectable Results Summary

Client Sample ID: **BT-SW-06**
Lab Sample ID: 31500182006-G

	Parameter	Result	Units
EPA 1664A	HEM-Oil & Grease	8.39	mg/L
EPA 300.0	Sulfate	313	mg/L
	Chloride	55.2	mg/L
SM 2320-B	Bicarbonate Alkalinity	327	mg/L
	Total Alkalinity	327	mg/L
SM 4500-NH3-F	Ammonia as N	3.18	mg/L
SW-846 6010C	Calcium	85.9	mg/L
	Iron	0.156	mg/L
	Magnesium	42.5	mg/L
	Manganese	0.220	mg/L
	Potassium	7.82	mg/L
	Sodium	181	mg/L

Client Sample ID: **BT-SW-DUP**
Lab Sample ID: 31500182007-A

	Parameter	Result	Units
EPA 300.0	Sulfate	581	mg/L
	Chloride	42.4	mg/L
SM 2320-B	Bicarbonate Alkalinity	564	mg/L
	Total Alkalinity	564	mg/L
SM 4500-NH3-F	Ammonia as N	1.04	mg/L
SW-846 6010C	Calcium	108	mg/L
	Iron	1.04	mg/L
	Magnesium	67.6	mg/L
	Manganese	0.210	mg/L
	Potassium	10.6	mg/L
	Sodium	335	mg/L

Client Sample ID: **BT-SD-01**
Lab Sample ID: 31500182008-A

	Parameter	Result	Units
EPA 300.0 Modified	Chloride	12200	mg/kg
	Sulfate	479	mg/kg
SW-846 6010C	Zinc	56.6	mg/kg
	Lead	5.43	mg/kg
	Cobalt	3.94	mg/kg
	Nickel	9.79	mg/kg
	Barium	1230	mg/kg
	Manganese	414	mg/kg
	Iron	9830	mg/kg
	Chromium	10.2	mg/kg
	Magnesium	11900	mg/kg
	Vanadium	19.9	mg/kg
	Aluminum	5120	mg/kg
	Calcium	33700	mg/kg
	Copper	10.3	mg/kg
	Sodium	8320	mg/kg
	Potassium	2110	mg/kg
SW-846 8015C DRO	Diesel Range Organics (DRO)	25.4	mg/kg

Detectable Results Summary

Client Sample ID: **BT-SD-02**
Lab Sample ID: 31500182009-A

	Parameter	Result	Units
EPA 300.0 Modified	Chloride	18900	mg/kg
	Sulfate	965	mg/kg
SW-846 6010C	Thallium	22.6	mg/kg
	Zinc	222	mg/kg
	Lead	6.69	mg/kg
	Cobalt	3.21	mg/kg
	Nickel	7.73	mg/kg
	Barium	199	mg/kg
	Manganese	470	mg/kg
	Iron	20500	mg/kg
	Chromium	9.12	mg/kg
	Magnesium	9790	mg/kg
	Vanadium	14.4	mg/kg
	Aluminum	5090	mg/kg
	Calcium	58100	mg/kg
	Copper	7.21	mg/kg
	Sodium	25000	mg/kg
	Potassium	3330	mg/kg
SW-846 8015C DRO	Diesel Range Organics (DRO)	137	mg/kg

Client Sample ID: **BT-SD-03**
Lab Sample ID: 31500182010-A

	Parameter	Result	Units
EPA 300.0 Modified	Chloride	8.00	mg/kg
	Sulfate	75.6	mg/kg
SW-846 6010C	Zinc	3.61	mg/kg
	Manganese	374	mg/kg
	Iron	15000	mg/kg
	Chromium	1.45	mg/kg
	Magnesium	12200	mg/kg
	Aluminum	410	mg/kg
	Calcium	29200	mg/kg
	Sodium	109	mg/kg
	Potassium	94.9	mg/kg

Detectable Results Summary

Client Sample ID: **BT-PW-01**
Lab Sample ID: 31500182011-G

	Parameter	Result	Units
EPA 1664A	HEM-Oil & Grease	6.86	mg/L
EPA 300.0	Sulfate	500	mg/L
	Chloride	214000	mg/L
SM 2320-B	Bicarbonate Alkalinity	104	mg/L
	Total Alkalinity	104	mg/L
SM 4500-NH3-F	Ammonia as N	96.2	mg/L
SW-846 6010C	Barium	14.4	mg/L
	Calcium	20500	mg/L
	Chromium	0.275	mg/L
	Iron	120	mg/L
	Magnesium	1830	mg/L
	Manganese	9.08	mg/L
	Potassium	13900	mg/L
	Sodium	223000	mg/L
	Thallium	0.254	mg/L
	Zinc	0.529	mg/L
SW-846 8015C DRO	Diesel Range Organics (DRO)	3.28	mg/L
SW-846 8015C GRO	Gasoline Range Organics (GRO)	1.98	mg/L
SW-846 8260B	Benzene	446	ug/L
	Toluene	208	ug/L

Client Sample ID: **BT-PW-02**
Lab Sample ID: 31500182012-G

	Parameter	Result	Units
EPA 1664A	HEM-Oil & Grease	26.7	mg/L
EPA 300.0	Sulfate	377	mg/L
	Chloride	174000	mg/L
SM 2320-B	Bicarbonate Alkalinity	87.7	mg/L
	Total Alkalinity	87.7	mg/L
SM 4500-NH3-F	Ammonia as N	99.7	mg/L
SW-846 6010C	Thallium	0.220	mg/L
	Zinc	0.201	mg/L
	Barium	15.3	mg/L
	Manganese	64.0	mg/L
	Iron	164	mg/L
	Magnesium	1750	mg/L
	Calcium	19700	mg/L
	Sodium	209000	mg/L
	Potassium	17200	mg/L
SW-846 8015C DRO	Diesel Range Organics (DRO)	3.67	mg/L
SW-846 8015C GRO	Gasoline Range Organics (GRO)	4.15	mg/L
SW-846 8260B	Benzene	989	ug/L
	Toluene	566	ug/L
	Xylene (total)	149	ug/L
	o-Xylene	59.5	ug/L

SGS CHAIN OF CUSTODY | CONVENTIONAL & SHALE

PROJECT INFO:
PROJECT: Blacktail Creek
P.O. #:
QUOTE #: 012415-EPA (Williston, ND)
SITE REF: 20408.012.001.0208.00
TURN AROUND TIME: 7 day
REPORT LEVEL: (see reverse) ☐ Level I ☒ Level II ☐ Level IV
SPECIAL DELIVERABLES: ☐ State of Origin: ☒ EDD: Scribe ☐ Other:

SEND DOCUMENTATION / RESULTS TO:
COMPANY: Weston Solutions
CONTACT: Eric Sandusky
ADDRESS: ~~35~~ 1435 Garrison St. Lakewood CO 80215 Suite 100
PHONE: 303-727-6132
EMAIL: Eric.Sandusky@Westonsolutions.com

INVOICE TO: (☒ CHECK IF SAME)
COMPANY: CONTACT:
ADDRESS:
PHONE:
EMAIL:

SPECIAL INSTRUCTIONS / COMMENTS:
31500182

LAB ID	SAMPLE ID / DESCRIPTION	DATE	TIME	QC MS	QC MSD	QC DUP	TYPE (C, G)	MATRIX	CONT. QTY	VOC (HCl)	GRO (HCl)	DRO (HCl)	TAL Metals (HNO_3)	Alk, Sulfate, Chloride (4°C)	TPH (4°C)	Cation/Anion (4°C)	TAL Metals (4°C)	Ammonia (4°C)	Method 1664 Rev A (4°C + HCl)	REMARKS
	BT-SW-01	1/24/15	1330	X			G	Aq	7	X	X	X	X	X				X	X	MS/MSD can
	BT-SW-02	1/24/15	1650		X			Aq	7	X	X	X	X	X				X	X	be run on
	BT-SW-03	1/25/15	1145					Aq	7	X	X	X	X	X				X	X	any sample
	BT-SW-04	1/25/15	1715					Aq	7	X	X	X	X	X				X	X	with enough
	BT-SW-05	1/26/15	0910					Aq	7	X	X	X	X	X				X	X	Volume.
	BT-SW-06	1/26/15	01145					Aq	7	X	X	X	X	X				X	X	
	BT-SW-DUP	1/25/15	0000					Aq	7	X	X	X	X	X				X	X	Run Method 1664
	BT-SD-01	1/25/15	1545					SED	4						X	X	X			with extra DRO
	BT-SD-02	1/25/15	1630					SED	4						X	X	X			bottle if available
	BT-SD-03	1/25/15	1700					SED	4						X	X	X			

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY:	DATE:	TIME:
[signature]	1/28/15	PM	~~FedEx~~ R. Maes	[signature]	1/29/15	10:15
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:	COC SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT		
R Maes	1/28/15	P 3:30		SAMPLE RECEIPT TEMP: °C 0.30, 0.27, 0.27		
				CARRIER:	TRACKING #:	
				NOTES:		

SGS NORTH AMERICA INC. ENVIRONMENTAL SERVICES 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 910 794 1613 www.sgs.com

SGS CHAIN OF CUSTODY | CONVENTIONAL & SHALE

PROJECT INFO:

PROJECT:

P.O. #:

QUOTE #:

SITE REF:

TURN AROUND TIME:

REPORT LEVEL: (see reverse) ☐ Level I ☐ Level II ☐ Level IV

SPECIAL DELIVERABLES: ☐ State of Origin: ☐ EDD: ☐ Other:

SEND DOCUMENTATION / RESULTS TO:

COMPANY:

CONTACT:

ADDRESS:

PHONE:

EMAIL:

INVOICE TO: (☐ CHECK IF SAME)

COMPANY: CONTACT:

ADDRESS:

PHONE:

EMAIL:

SPECIAL INSTRUCTIONS / COMMENTS:

31500182

LAB ID	SAMPLE ID / DESCRIPTION	DATE	TIME	QC MS	QC MSD	QC DUP	TYPE (C, G)	MATRIX	CONT. QTY	VOC	GRO	DRO	TAL Metals	Alk. Chloride, Sulfate	Ammonia	Method 1664 Rev A				REMARKS
PRESERVATIVE										HCl	HCl	HCl	HNO_3	4°C						
	BT-PW-01	1/24/15	1420				G	Aq	7	X	X	X	X	X	X	X				H_2O reacted
	BT-PW-02	1/25/15	1020				G	Aq	7	X	X	X	X	X	X	X				with HCl
	TB-01	1/25/15	0800				G	Aq	2	X										in Vials to
																				create bubbles.
																				Multiple attempts
																				tried.

COLLECTED/RELINQUISHED BY (1):	DATE:	TIME:	RECEIVED BY:	RECEIVED BY LABORATORY:	DATE:	TIME:
[signature]	1/28/15	PM	~~FedEx~~ E3 R. Maes	[signature]	1/29/15	10:15
RELINQUISHED BY (2):	DATE:	TIME:	RECEIVED BY:	COC SEAL: ☐ INTACT ☐ BROKEN ☒ ABSENT		
R. Maes	1/28/15	P 3:30		SAMPLE RECEIPT TEMP: °C 0.30, 0.27, 0.27		
				CARRIER:	TRACKING #:	
				NOTES:		

SGS NORTH AMERICA INC. ENVIRONMENTAL SERVICES 5500 Business Drive Wilmington, NC 28405 910 350 1903 | 910 794 1613 www.sgs.com

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: Weston Solutions Work Order No.: 31500182

1. X Shipped
   ___ Hand Delivered

2. X COC Present on Receipt
   ___ No COC
   ___ Additional Transmittal Forms

3. ___ Custody Tape on Container
   X No Custody Tape

4. X Samples Intact
   ___ Samples Broken / Leaking

5. X Chilled on Receipt Actual Temp.(s) in °C: 0.30, 0.27, 0.27 Thermometer ID#: Login ID
   ___ Ambient on Receipt
   ___ Walk-in on Ice; Coming down to temp.
   ___ Temperature Blank Present

6. X Sufficient Sample Submitted
   ___ Insufficient Sample Submitted

7. ___ Chlorine absent
   X HNO3 < 2
   X HCL < 2
   ___ Additional Preservatives verified (see notes)

8. X Received Within Holding Time
   ___ Not Received Within Holding Time

9. ___ No Discrepancies Noted
   X Discrepancies Noted
   ___ NCDENR notified of Discrepancies*

10. X No Headspace present in VOC vials
    ___ Headspace present in VOC vials >6mm

Notes:

Comments: 1L amber glass preserved containers for samples BT-SW-06, BT-SW-05, and BT-SW-04 for DRO analysis contained neutral pHs. Added 10mLs HCl to the containers. HCl lot number is R-4319.

Inspected and Logged in by: Amalie Walker
Date: 1/29/15

*NCDENR must be notified when collection, holding time or preservation requirements are not met.

MI_11.9

Data Sheet

Workorder	31500182	**Created**	1/29/2015 11:29
Work ID	Blacktail Creek	**Status**	CO
Client	Weston Solutions, Inc - CO	**Report**	REVLET_RPT
Profile	Eric Sandusky [2591]	**PO**	

31500182001 BT-SW-01

Sample Type	Paying sample	**Status**	RP	**Collected**	1/24/2015 13:30
Matrix	Water			**Received**	1/29/2015 10:15

Billable Acodes

SM2320B	Alkalinity as CaCO3 titration
E300.0-SO4	Anions by IC, Sulfate
E300.0-Cl	Anions by IC, Chloride
SW8015-WDR	DRO, SVOC, SW8015, W
SW8015-WGR	VOA, SW8015, GRO, W
SW6010WTAL	Metals, SW6010, TAL, W
SW7470-W	Hg, Mercury, SW7470, CVAA, W
SW8260-W	VOA, SW8260, Standard List W
SM4500-NH	Total Ammonia, W
E1664	Oil & Grease

Container ID	Type	Preservative	CC	Container Utilization
31500182001-E	40MLCG	HCl	OK	
31500182001-D	40MLCG	HCl	OK	SW5030-GRO, SW5030-W, SW8015-GR, SW8260B-W
31500182001-F	40MLCG	HCl	OK	
31500182001-C	1LAG	HCL	OK	
31500182001-B	1LAG	HCL	OK	SW3520C-DR, SW8015C-SV
31500182001-A	500MLP	NONE	OK	E300.0, SM2320B
31500182001-G	500MLP	HNO3	OK	E1664, SM4500-NH, SM4500-NHP, SW3010A, SW6010C, SW7470A-W, SW7470A-WP

31500182002 BT-SW-02

Sample Type	Paying sample	**Status**	RP	**Collected**	1/24/2015 16:50
Matrix	Water			**Received**	1/29/2015 10:15

Billable Acodes

SM2320B	Alkalinity as CaCO3 titration
E300.0-SO4	Anions by IC, Sulfate
E300.0-Cl	Anions by IC, Chloride
SW8015-WDR	DRO, SVOC, SW8015, W
SW8015-WGR	VOA, SW8015, GRO, W
SW6010WTAL	Metals, SW6010, TAL, W
SW7470-W	Hg, Mercury, SW7470, CVAA, W
SW8260-W	VOA, SW8260, Standard List W
SM4500-NH	Total Ammonia, W

Data Sheet

Workorder	31500182	**Created**	1/29/2015 11:29
Work ID	Blacktail Creek	**Status**	CO
Client	Weston Solutions, Inc - CO	**Report**	REVLET_RPT
Profile	Eric Sandusky [2591]	**PO**	

31500182002 BT-SW-02

Sample Type	Paying sample	**Status**	RP	**Collected**	1/24/2015 16:50
Matrix	Water			**Received**	1/29/2015 10:15

Container ID	Type	Preservative	CC	Container Utilization
31500182002-D	40MLCG	HCl	OK	SW5030-GRO, SW5030-W, SW8015-GR, SW8260B-W
31500182002-B	1LAG	HCL	OK	SW3520C-DR, SW8015C-SV
31500182002-G	500MLP	HNO3	OK	SM4500-NH, SM4500-NHP, SW3010A, SW6010C, SW7470A-W, SW7470A-WP
31500182002-A	500MLP	NONE	OK	E300.0, SM2320B
31500182002-F	40MLCG	HCl	OK	
31500182002-E	40MLCG	HCl	OK	
31500182002-C	1LAG	HCL	OK	

31500182003 BT-SW-03

Sample Type	Paying sample	**Status**	RP	**Collected**	1/25/2015 11:45
Matrix	Water			**Received**	1/29/2015 10:15

Billable Acodes

SM2320B	Alkalinity as CaCO3 titration
E300.0-SO4	Anions by IC, Sulfate
E300.0-Cl	Anions by IC, Chloride
SW8015-WDR	DRO, SVOC, SW8015, W
SW8015-WGR	VOA, SW8015, GRO, W
SW6010WTAL	Metals, SW6010, TAL, W
SW7470-W	Hg, Mercury, SW7470, CVAA, W
SW8260-W	VOA, SW8260, Standard List W
SM4500-NH	Total Ammonia, W
E1664	Oil & Grease

Container ID	Type	Preservative	CC	Container Utilization
31500182003-C	1LAG	HCL	OK	
31500182003-D	40MLCG	HCl	OK	SW5030-GRO, SW5030-W, SW8015-GR, SW8260B-W
31500182003-E	40MLCG	HCl	OK	
31500182003-G	500MLP	HNO3	OK	E1664, SM4500-NH, SM4500-NHP, SW3010A, SW6010C, SW7470A-W, SW7470A-WP
31500182003-A	500MLP	NONE	OK	E300.0, SM2320B
31500182003-B	1LAG	HCL	OK	SW3520C-DR, SW8015C-SV
31500182003-F	40MLCG	HCl	OK	

Data Sheet

Workorder	31500182	**Created**	1/29/2015 11:29
Work ID	Blacktail Creek	**Status**	CO
Client	Weston Solutions, Inc - CO	**Report**	REVLET_RPT
Profile	Eric Sandusky [2591]	**PO**	

31500182004 BT-SW-04

Sample Type	Paying sample	**Status**	RP	**Collected**	1/25/2015 17:15
Matrix	Water			**Received**	1/29/2015 10:15

Billable Acodes

SM2320B	Alkalinity as CaCO3 titration
E300.0-SO4	Anions by IC, Sulfate
E300.0-Cl	Anions by IC, Chloride
SW8015-WDR	DRO, SVOC, SW8015, W
SW8015-WGR	VOA, SW8015, GRO, W
SW6010WTAL	Metals, SW6010, TAL, W
SW7470-W	Hg, Mercury, SW7470, CVAA, W
SW8260-W	VOA, SW8260, Standard List W
SM4500-NH	Total Ammonia, W
E1664	Oil & Grease

Container ID	Type	Preservative	CC	Container Utilization
31500182004-B	1LAG	HCL	OK	SW3520C-DR, SW8015C-SV
31500182004-G	500MLP	HNO3	OK	E1664, SM4500-NH, SM4500-NHP, SW3010A, SW6010C, SW7470A-W, SW7470A-WP
31500182004-F	40MLCG	HCl	OK	
31500182004-A	500MLP	NONE	OK	E300.0, SM2320B
31500182004-C	1LAG	HCL	OK	
31500182004-E	40MLCG	HCl	OK	
31500182004-D	40MLCG	HCl	OK	SW5030-GRO, SW5030-W, SW8015-GR, SW8260B-W

31500182005 BT-SW-05

Sample Type	Paying sample	**Status**	RP	**Collected**	1/26/2015 09:10
Matrix	Water			**Received**	1/29/2015 10:15

Billable Acodes

SM2320B	Alkalinity as CaCO3 titration
E300.0-SO4	Anions by IC, Sulfate
E300.0-Cl	Anions by IC, Chloride
SW8015-WDR	DRO, SVOC, SW8015, W
SW8015-WGR	VOA, SW8015, GRO, W
SW6010WTAL	Metals, SW6010, TAL, W
SW7470-W	Hg, Mercury, SW7470, CVAA, W
SW8260-W	VOA, SW8260, Standard List W
SM4500-NH	Total Ammonia, W

Data Sheet

Workorder	31500182	**Created**	1/29/2015 11:29
Work ID	Blacktail Creek	**Status**	CO
Client	Weston Solutions, Inc - CO	**Report**	REVLET_RPT
Profile	Eric Sandusky [2591]	**PO**	

31500182005 BT-SW-05

Sample Type	Paying sample	**Status**	RP	**Collected**	1/26/2015 09:10
Matrix	Water			**Received**	1/29/2015 10:15

Billable Acodes

E1664	Oil & Grease

Container ID	Type	Preservative	CC	Container Utilization
31500182005-C	1LAG	HCL	OK	
31500182005-E	40MLCG	HCl	OK	
31500182005-F	40MLCG	HCl	OK	
31500182005-B	1LAG	HCL	OK	SW3520C-DR, SW8015C-SV
31500182005-G	500MLP	HNO3	OK	E1664, SM4500-NH, SM4500-NHP, SW3010A, SW6010C, SW7470A-W, SW7470A-WP
31500182005-D	40MLCG	HCl	OK	SW5030-GRO, SW5030-W, SW8015-GR, SW8260B-W
31500182005-A	500MLP	NONE	OK	E300.0, SM2320B

31500182006 BT-SW-06

Sample Type	Paying sample	**Status**	RP	**Collected**	1/26/2015 11:45
Matrix	Water			**Received**	1/29/2015 10:15

Billable Acodes

SM2320B	Alkalinity as CaCO3 titration
E300.0-SO4	Anions by IC, Sulfate
E300.0-Cl	Anions by IC, Chloride
SW8015-WDR	DRO, SVOC, SW8015, W
SW8015-WGR	VOA, SW8015, GRO, W
SW6010WTAL	Metals, SW6010, TAL, W
SW7470-W	Hg, Mercury, SW7470, CVAA, W
SW8260-W	VOA, SW8260, Standard List W
SM4500-NH	Total Ammonia, W
E1664	Oil & Grease

Container ID	Type	Preservative	CC	Container Utilization
31500182006-C	1LAG	HCL	OK	
31500182006-F	40MLCG	HCl	OK	
31500182006-A	500MLP	NONE	OK	E300.0, SM2320B
31500182006-B	1LAG	HCL	OK	SW3520C-DR, SW8015C-SV
31500182006-D	40MLCG	HCl	OK	SW5030-GRO, SW5030-W, SW8015-GR, SW8260B-W

Data Sheet

Workorder	31500182	**Created**	1/29/2015 11:29
Work ID	Blacktail Creek	**Status**	CO
Client	Weston Solutions, Inc - CO	**Report**	REVLET_RPT
Profile	Eric Sandusky [2591]	**PO**	

31500182006 BT-SW-06

Sample Type	Paying sample	**Status**	RP	**Collected**	1/26/2015 11:45
Matrix	Water			**Received**	1/29/2015 10:15

Container ID	Type	Preservative	CC	Container Utilization
31500182006-E	40MLCG	HCl	OK	
31500182006-G	500MLP	HNO3	OK	E1664, SM4500-NH, SM4500-NHP, SW3010A, SW6010C, SW7470A-W, SW7470A-WP

31500182007 BT-SW-DUP

Sample Type	Paying sample	**Status**	RP	**Collected**	1/25/2015 00:00
Matrix	Water			**Received**	1/29/2015 10:15

Billable Acodes

SM2320B	Alkalinity as CaCO3 titration
E300.0-SO4	Anions by IC, Sulfate
E300.0-Cl	Anions by IC, Chloride
SW8015-WDR	DRO, SVOC, SW8015, W
SW8015-WGR	VOA, SW8015, GRO, W
SW6010WTAL	Metals, SW6010, TAL, W
SW7470-W	Hg, Mercury, SW7470, CVAA, W
SW8260-W	VOA, SW8260, Standard List W
SM4500-NH	Total Ammonia, W
E1664	Oil & Grease

Container ID	Type	Preservative	CC	Container Utilization
31500182007-B	1LAG	HCL	OK	SW3520C-DR, SW8015C-SV
31500182007-E	40MLCG	HCl	OK	
31500182007-A	500MLP	NONE	OK	E300.0, SM2320B
31500182007-C	1LAG	HCL	OK	
31500182007-G	500MLP	HNO3	OK	E1664, SM4500-NH, SM4500-NHP, SW3010A, SW6010C, SW7470A-W, SW7470A-WP
31500182007-F	40MLCG	HCl	OK	
31500182007-D	40MLCG	HCl	OK	SW5030-GRO, SW5030-W, SW8015-GR, SW8260B-W

Data Sheet

Workorder	31500182	**Created**	1/29/2015 11:29
Work ID	Blacktail Creek	**Status**	CO
Client	Weston Solutions, Inc - CO	**Report**	REVLET_RPT
Profile	Eric Sandusky [2591]	**PO**	

31500182008 BT-SD-01

Sample Type	Paying sample	**Status**	RP	**Collected**	1/25/2015 15:45
Matrix	Soil-Solid as dry weight			**Received**	1/29/2015 10:15

Billable Acodes

SW8015-SDR	DRO, SVOC, SW8015, S
SW8015-SGR	VOA, SW8015, GRO w/5035 prep
SW6010STAL	Metals, SW6010, TAL, S
SW7471-S	Hg, Mercury, SW7471, S/D/T/L
DRY WEIGHT	DRY WEIGHT
E300-CL-S	Anions by IC, Chloride, soil
E300-NO2-S	Anions by IC, Nitrite, soil
E300-NO3-S	Anions by IC, Nitrate, soil
E300-PO4-S	Anions by IC, ortho-PO4, soil
E300-SO4-S	Anions by IC, Sulfate, soil

Container ID	Type	Preservative	CC	Container Utilization
31500182008-A	4OZAG	0-4° C	OK	E300.0-IXX, E300.0-S, SW3050B, SW3541-DRO, SW6010C, SW8015C-SV
31500182008-B	4OZAG	0-4° C	OK	
31500182008-D	4OZCG	0-4° C	OK	SW7471B-S, SW7471B-SP

31500182009 BT-SD-02

Sample Type	Paying sample	**Status**	RP	**Collected**	1/25/2015 16:30
Matrix	Soil-Solid as dry weight			**Received**	1/29/2015 10:15

Billable Acodes

SW8015-SDR	DRO, SVOC, SW8015, S
SW8015-SGR	VOA, SW8015, GRO w/5035 prep
SW6010STAL	Metals, SW6010, TAL, S
SW7471-S	Hg, Mercury, SW7471, S/D/T/L
DRY WEIGHT	DRY WEIGHT
E300-CL-S	Anions by IC, Chloride, soil
E300-NO2-S	Anions by IC, Nitrite, soil
E300-NO3-S	Anions by IC, Nitrate, soil
E300-PO4-S	Anions by IC, ortho-PO4, soil
E300-SO4-S	Anions by IC, Sulfate, soil

Container ID	Type	Preservative	CC	Container Utilization
31500182009-D	4OZCG	0-4° C	OK	SW7471B-S, SW7471B-SP
31500182009-B	4OZAG	0-4° C	OK	

Data Sheet

Workorder	31500182	**Created**	1/29/2015 11:29
Work ID	Blacktail Creek	**Status**	CO
Client	Weston Solutions, Inc - CO	**Report**	REVLET_RPT
Profile	Eric Sandusky [2591]	**PO**	

31500182009 BT-SD-02

Sample Type	Paying sample	**Status**	RP	**Collected**	1/25/2015 16:30
Matrix	Soil-Solid as dry weight			**Received**	1/29/2015 10:15

Container ID	Type	Preservative	CC	Container Utilization
31500182009-C	4OZAG	NONE	OK	SW5035-GRO, SW8015-SGR
31500182009-A	4OZAG	0-4° C	OK	E300.0-IXX, E300.0-S, SW3050B, SW3541-DRO, SW6010C, SW8015C-SV

31500182010 BT-SD-03

Sample Type	Paying sample	**Status**	RP	**Collected**	1/25/2015 17:00
Matrix	Soil-Solid as dry weight			**Received**	1/29/2015 10:15

Billable Acodes

SW8015-SDR	DRO, SVOC, SW8015, S
SW8015-SGR	VOA, SW8015, GRO w/5035 prep
SW6010STAL	Metals, SW6010, TAL, S
SW7471-S	Hg, Mercury, SW7471, S/D/T/L
DRY WEIGHT	DRY WEIGHT
E300-CL-S	Anions by IC, Chloride, soil
E300-NO2-S	Anions by IC, Nitrite, soil
E300-NO3-S	Anions by IC, Nitrate, soil
E300-PO4-S	Anions by IC, ortho-PO4, soil
E300-SO4-S	Anions by IC, Sulfate, soil

Container ID	Type	Preservative	CC	Container Utilization
31500182010-A	4OZAG	0-4° C	OK	E300.0-IXX, E300.0-S, SW3050B, SW3541-DRO, SW6010C, SW8015C-SV
31500182010-B	4OZAG	0-4° C	OK	
31500182010-C	4OZAG	NONE	OK	SW5035-GRO, SW8015-SGR
31500182010-D	4OZCG	0-4° C	OK	SW7471B-S, SW7471B-SP

31500182011 BT-PW-01

Sample Type	Paying sample	**Status**	RP	**Collected**	1/24/2015 14:20
Matrix	Water			**Received**	1/29/2015 10:15

Billable Acodes

SM2320B	Alkalinity as CaCO3 titration
E300.0-SO4	Anions by IC, Sulfate
E300.0-Cl	Anions by IC, Chloride
SW8015-WDR	DRO, SVOC, SW8015, W

Data Sheet

Workorder	31500182	**Created**	1/29/2015 11:29
Work ID	Blacktail Creek	**Status**	CO
Client	Weston Solutions, Inc - CO	**Report**	REVLET_RPT
Profile	Eric Sandusky [2591]	**PO**	

31500182011 BT-PW-01

Sample Type	Paying sample	**Status**	RP	**Collected**	1/24/2015 14:20
Matrix	Water			**Received**	1/29/2015 10:15

Billable Acodes

SW8015-WGR	VOA, SW8015, GRO, W
SW6010WTAL	Metals, SW6010, TAL, W
SW7470-W	Hg, Mercury, SW7470, CVAA, W
SW8260-W	VOA, SW8260, Standard List W
SM4500-NH	Total Ammonia, W
E1664	Oil & Grease

Container ID	Type	Preservative	CC	Container Utilization
31500182011-E	40MLCG	HCl	OK	
31500182011-D	40MLCG	HCl	OK	SW5030-GRO, SW5030-W, SW8015-GR, SW8260B-W
31500182011-A	500MLP	NONE	OK	E300.0, SM2320B
31500182011-C	1LAG	HCL	OK	
31500182011-G	500MLP	HNO3	OK	E1664, SM4500-NH, SM4500-NHP, SW3010A, SW6010C, SW7470A-W, SW7470A-WP
31500182011-B	1LAG	HCL	OK	SW3520C-DR, SW8015C-SV
31500182011-F	40MLCG	HCl	OK	

31500182012 BT-PW-02

Sample Type	Paying sample	**Status**	RP	**Collected**	1/25/2015 10:20
Matrix	Water			**Received**	1/29/2015 10:15

Billable Acodes

SM2320B	Alkalinity as CaCO3 titration
E300.0-SO4	Anions by IC, Sulfate
E300.0-Cl	Anions by IC, Chloride
SW8015-WDR	DRO, SVOC, SW8015, W
SW8015-WGR	VOA, SW8015, GRO, W
SW6010WTAL	Metals, SW6010, TAL, W
SW7470-W	Hg, Mercury, SW7470, CVAA, W
SW8260-W	VOA, SW8260, Standard List W
SM4500-NH	Total Ammonia, W
E1664	Oil & Grease

Container ID	Type	Preservative	CC	Container Utilization
31500182012-A	500MLP	NONE	OK	E300.0, SM2320B

Data Sheet

Workorder	31500182	**Created**	1/29/2015 11:29
Work ID	Blacktail Creek	**Status**	CO
Client	Weston Solutions, Inc - CO	**Report**	REVLET_RPT
Profile	Eric Sandusky [2591]	**PO**	

31500182012 BT-PW-02

Sample Type	Paying sample	**Status**	RP	**Collected**	1/25/2015 10:20
Matrix	Water			**Received**	1/29/2015 10:15

Container ID	Type	Preservative	CC	Container Utilization
31500182012-F	40MLCG	HCl	OK	
31500182012-C	1LAG	HCL	OK	
31500182012-D	40MLCG	HCl	OK	SW5030-GRO, SW5030-W, SW8015-GR, SW8260B-W
31500182012-B	1LAG	HCL	OK	SW3520C-DR, SW8015C-SV
31500182012-E	40MLCG	HCl	OK	
31500182012-G	500MLP	HNO3	OK	E1664, SM4500-NH, SM4500-NHP, SW3010A, SW6010C, SW7470A-W, SW7470A-WP

31500182013 TB-01

Sample Type	Paying sample	**Status**	RP	**Collected**	1/25/2015 08:00
Matrix	Water			**Received**	1/29/2015 10:15

Billable Acodes

SW8260-W	VOA, SW8260, Standard List W

Container ID	Type	Preservative	CC	Container Utilization
31500182013-B	40MLCG	HCl	OK	
31500182013-A	40MLCG	HCl	OK	SW5030-W, SW8260B-W

SW-846 8260B

Sample Data

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-01**

Client Sample ID: **BT-SW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182001-D
Lab Project ID: 31500182

Collection Date: 01/24/2015 13:30
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 10:48
1,1,1-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 10:48
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 10:48
1,1,2-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 10:48
1,1-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 10:48
1,1-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 10:48
1,1-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 10:48
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 10:48
1,2,3-Trichloropropane	ND		1.00	ug/L	1	01/30/2015 10:48
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 10:48
1,2,4-Trimethylbenzene	**21.2**		1.00	ug/L	1	01/30/2015 10:48
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	01/30/2015 10:48
1,2-Dibromoethane	ND		1.00	ug/L	1	01/30/2015 10:48
1,2-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 10:48
1,2-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 10:48
1,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 10:48
1,3,5-Trimethylbenzene	**3.15**		1.00	ug/L	1	01/30/2015 10:48
1,3-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 10:48
1,3-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 10:48
1,4-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 10:48
2,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 10:48
2-Butanone	ND		25.0	ug/L	1	01/30/2015 10:48
2-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 10:48
2-Hexanone	ND		5.00	ug/L	1	01/30/2015 10:48
4-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 10:48
4-Isopropyltoluene	**3.22**		1.00	ug/L	1	01/30/2015 10:48
4-Methyl-2-pentanone	ND		5.00	ug/L	1	01/30/2015 10:48
Acetone	ND		25.0	ug/L	1	01/30/2015 10:48
Benzene	ND		1.00	ug/L	1	01/30/2015 10:48
Bromobenzene	ND		1.00	ug/L	1	01/30/2015 10:48
Bromochloromethane	ND		1.00	ug/L	1	01/30/2015 10:48
Bromodichloromethane	ND		1.00	ug/L	1	01/30/2015 10:48
Bromoform	ND		1.00	ug/L	1	01/30/2015 10:48
Bromomethane	ND		1.00	ug/L	1	01/30/2015 10:48
n-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 10:48
Carbon disulfide	ND		1.00	ug/L	1	01/30/2015 10:48
Carbon tetrachloride	ND		1.00	ug/L	1	01/30/2015 10:48
Chlorobenzene	ND		1.00	ug/L	1	01/30/2015 10:48
Chloroethane	ND		1.00	ug/L	1	01/30/2015 10:48
Chloroform	ND		1.00	ug/L	1	01/30/2015 10:48
Chloromethane	ND		1.00	ug/L	1	01/30/2015 10:48
Dibromochloromethane	ND		1.00	ug/L	1	01/30/2015 10:48

Results of **BT-SW-01**

Client Sample ID: **BT-SW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182001-D
Lab Project ID: 31500182

Collection Date: 01/24/2015 13:30
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dibromomethane	ND		1.00	ug/L	1	01/30/2015 10:48
Dichlorodifluoromethane	ND		5.00	ug/L	1	01/30/2015 10:48
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 10:48
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 10:48
Diisopropyl Ether	ND		1.00	ug/L	1	01/30/2015 10:48
Ethyl Benzene	**1.39**		1.00	ug/L	1	01/30/2015 10:48
Hexachlorobutadiene	ND		1.00	ug/L	1	01/30/2015 10:48
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	01/30/2015 10:48
Methyl iodide	ND		1.00	ug/L	1	01/30/2015 10:48
Methylene chloride	ND		5.00	ug/L	1	01/30/2015 10:48
Naphthalene	**13.3**		1.00	ug/L	1	01/30/2015 10:48
Styrene	ND		1.00	ug/L	1	01/30/2015 10:48
Tetrachloroethene	ND		1.00	ug/L	1	01/30/2015 10:48
Toluene	**3.00**		1.00	ug/L	1	01/30/2015 10:48
Trichloroethene	ND		1.00	ug/L	1	01/30/2015 10:48
Trichlorofluoromethane	ND		1.00	ug/L	1	01/30/2015 10:48
Vinyl chloride	ND		1.00	ug/L	1	01/30/2015 10:48
Xylene (total)	**10.2**		2.00	ug/L	1	01/30/2015 10:48
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 10:48
m,p-Xylene	**6.36**		2.00	ug/L	1	01/30/2015 10:48
n-Propylbenzene	ND		1.00	ug/L	1	01/30/2015 10:48
o-Xylene	**3.86**		1.00	ug/L	1	01/30/2015 10:48
sec-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 10:48
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	01/30/2015 10:48
tert-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 10:48
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 10:48
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	01/30/2015 10:48
Surrogates						
1,2-Dichloroethane-d4	104		64.0-140	%	1	01/30/2015 10:48
4-Bromofluorobenzene	91.0		85.0-115	%	1	01/30/2015 10:48
Toluene d8	100		82.0-117	%	1	01/30/2015 10:48

Batch Information

Analytical Batch: **VMS3496**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX5481**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 15:04**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130808.D Vial: 8
Acq On : 30 Jan 2015 10:48 am Operator: BWS
Sample : 0182_1 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12:11 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

BWS 1.30.15

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	263832	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	401830	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	571989	30.00 ppb	0.00
System Monitoring Compounds					
25) 1,2-dichloroethane-d4	4.10	65	408951	31.17 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 103.90%		
35) toluene-d8	6.19	98	1272431	29.92 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 99.73%		
51) 4-bromofluorobenzene	8.38	95	464115	27.41 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 91.37%		

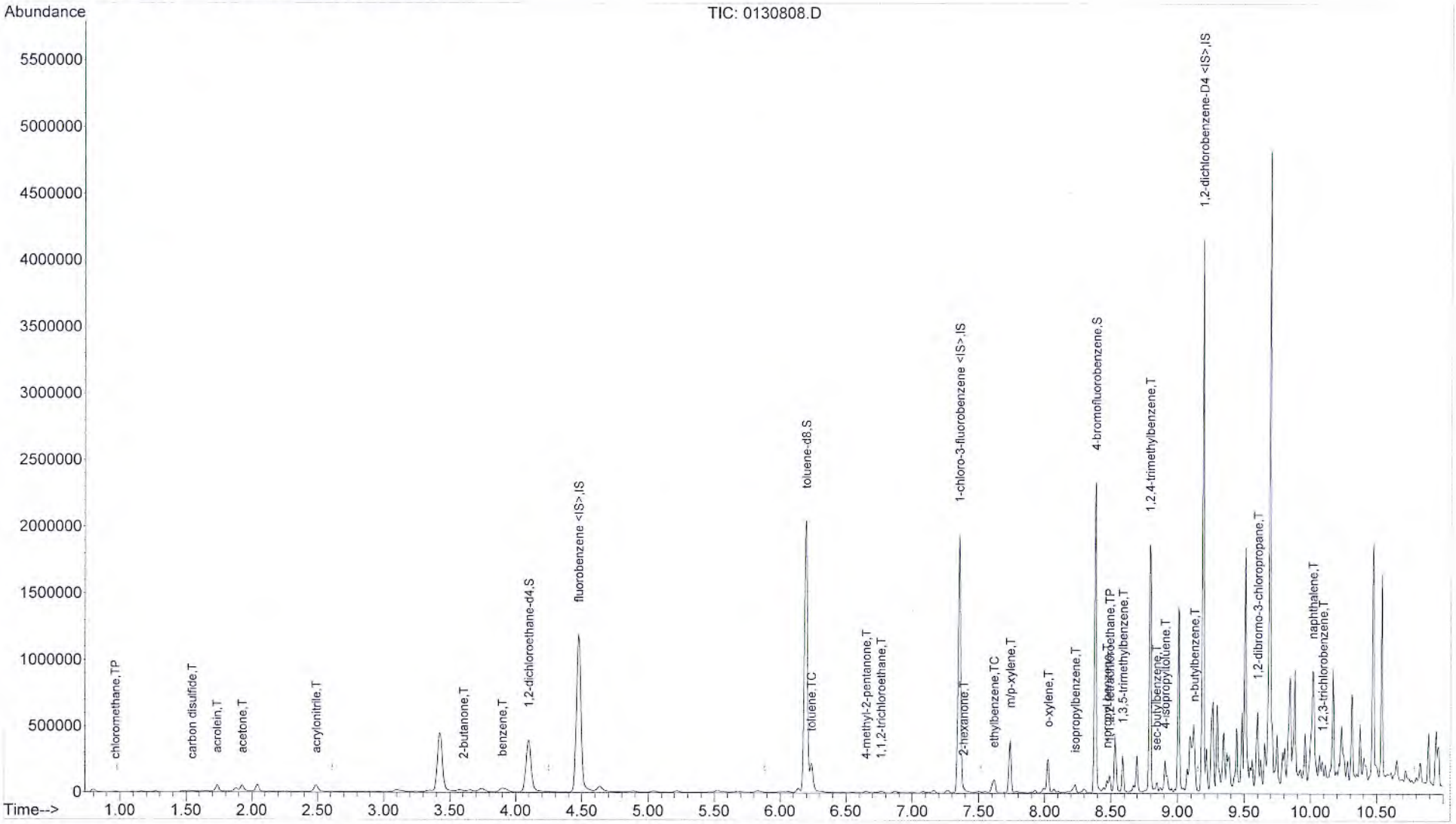
Target Compounds						Qvalue
3) chloromethane	0.96	50	774	~~0.07~~ ppb	#	42
5) bromomethane	1.13	94	647	Below Cal	#	3
8) acrolein	1.74	56	2008	~~2.27~~ ppb	#	1
10) acetone	1.93	43	60558	24.48 ppb		99
13) acrylonitrile	2.49	53	2158	~~1.04~~ ppb	#	47
19) 2-butanone	3.61	43	3563	~~1.28~~ ppb	#	45
26) benzene	3.89	78	31134	0.81 ppb		97
34) 4-methyl-2-pentanone	6.65	43	5255	~~0.97~~ ppb	#	53
36) toluene	6.24	92	70091	3.00 ppb		98
40) carbon disulfide	1.54	76	3301	~~0.11~~ ppb	#	84
42) 1,1,2-trichloroethane	6.76	83	3165	~~0.64~~ ppb	#	2
45) 2-hexanone	7.39	43	670	~~0.17~~ ppb	#	33
53) 1,1,2,2-tetrachloroethane	8.48	83	1638	~~0.25~~ ppb	#	1
56) ethylbenzene	7.62	106	13567	1.39 ppb		86
57) m/p-xylene	7.74	106	79817	6.38 ppb		99
59) o-xylene	8.03	106	45306	3.86 ppb		96
60) isopropylbenzene	8.23	105	17689	0.56 ppb		99
61) n-propyl benzene	8.47	91	37418	0.90 ppb		98
64) 1,3,5-trimethylbenzene	8.59	105	87920	3.15 ppb		97
66) 1,2,4-trimethylbenzene	8.79	105	599516	21.15 ppb		96
67) sec-butylbenzene	8.85	105	23123	0.61 ppb	#	87
69) 4-isopropyltoluene	8.91	119	101694	3.22 ppb		96
72) n-butylbenzene	9.13	91	61606	~~2.03~~ ppb	#	52
73) 1,2-dibromo-3-chloropropan	9.60	75	1516	~~9.05~~ ppb	#	3
76) naphthalene	10.02	128	243769	13.26 ppb		98
78) 1,2,3-trichlorobenzene	10.10	180	928	~~0.10~~ ppb		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130808.D Vial: 8
Acq On : 30 Jan 2015 10:48 am Operator: BWS
Sample : 0182_1 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Results of **BT-SW-02**

Client Sample ID: **BT-SW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182002-D
Lab Project ID: 31500182

Collection Date: 01/24/2015 16:50
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 11:13
1,1,1-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 11:13
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 11:13
1,1,2-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 11:13
1,1-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 11:13
1,1-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 11:13
1,1-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 11:13
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 11:13
1,2,3-Trichloropropane	ND		1.00	ug/L	1	01/30/2015 11:13
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 11:13
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 11:13
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	01/30/2015 11:13
1,2-Dibromoethane	ND		1.00	ug/L	1	01/30/2015 11:13
1,2-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 11:13
1,2-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 11:13
1,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 11:13
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 11:13
1,3-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 11:13
1,3-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 11:13
1,4-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 11:13
2,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 11:13
2-Butanone	ND		25.0	ug/L	1	01/30/2015 11:13
2-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 11:13
2-Hexanone	ND		5.00	ug/L	1	01/30/2015 11:13
4-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 11:13
4-Isopropyltoluene	ND		1.00	ug/L	1	01/30/2015 11:13
4-Methyl-2-pentanone	ND		5.00	ug/L	1	01/30/2015 11:13
Acetone	ND		25.0	ug/L	1	01/30/2015 11:13
Benzene	ND		1.00	ug/L	1	01/30/2015 11:13
Bromobenzene	ND		1.00	ug/L	1	01/30/2015 11:13
Bromochloromethane	ND		1.00	ug/L	1	01/30/2015 11:13
Bromodichloromethane	ND		1.00	ug/L	1	01/30/2015 11:13
Bromoform	ND		1.00	ug/L	1	01/30/2015 11:13
Bromomethane	ND		1.00	ug/L	1	01/30/2015 11:13
n-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 11:13
Carbon disulfide	ND		1.00	ug/L	1	01/30/2015 11:13
Carbon tetrachloride	ND		1.00	ug/L	1	01/30/2015 11:13
Chlorobenzene	ND		1.00	ug/L	1	01/30/2015 11:13
Chloroethane	ND		1.00	ug/L	1	01/30/2015 11:13
Chloroform	ND		1.00	ug/L	1	01/30/2015 11:13
Chloromethane	ND		1.00	ug/L	1	01/30/2015 11:13
Dibromochloromethane	ND		1.00	ug/L	1	01/30/2015 11:13

Results of **BT-SW-02**

Client Sample ID: **BT-SW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182002-D
Lab Project ID: 31500182

Collection Date: 01/24/2015 16:50
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dibromomethane	ND		1.00	ug/L	1	01/30/2015 11:13
Dichlorodifluoromethane	ND		5.00	ug/L	1	01/30/2015 11:13
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 11:13
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 11:13
Diisopropyl Ether	ND		1.00	ug/L	1	01/30/2015 11:13
Ethyl Benzene	ND		1.00	ug/L	1	01/30/2015 11:13
Hexachlorobutadiene	ND		1.00	ug/L	1	01/30/2015 11:13
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	01/30/2015 11:13
Methyl iodide	ND		1.00	ug/L	1	01/30/2015 11:13
Methylene chloride	ND		5.00	ug/L	1	01/30/2015 11:13
Naphthalene	ND		1.00	ug/L	1	01/30/2015 11:13
Styrene	ND		1.00	ug/L	1	01/30/2015 11:13
Tetrachloroethene	ND		1.00	ug/L	1	01/30/2015 11:13
Toluene	ND		1.00	ug/L	1	01/30/2015 11:13
Trichloroethene	ND		1.00	ug/L	1	01/30/2015 11:13
Trichlorofluoromethane	ND		1.00	ug/L	1	01/30/2015 11:13
Vinyl chloride	ND		1.00	ug/L	1	01/30/2015 11:13
Xylene (total)	ND		2.00	ug/L	1	01/30/2015 11:13
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 11:13
m,p-Xylene	ND		2.00	ug/L	1	01/30/2015 11:13
n-Propylbenzene	ND		1.00	ug/L	1	01/30/2015 11:13
o-Xylene	ND		1.00	ug/L	1	01/30/2015 11:13
sec-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 11:13
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	01/30/2015 11:13
tert-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 11:13
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 11:13
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	01/30/2015 11:13
Surrogates						
1,2-Dichloroethane-d4	102		64.0-140	%	1	01/30/2015 11:13
4-Bromofluorobenzene	89.0		85.0-115	%	1	01/30/2015 11:13
Toluene d8	98.0		82.0-117	%	1	01/30/2015 11:13

Batch Information

Analytical Batch: **VMS3496**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX5481**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 15:04**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130809.D Vial: 9
Acq On : 30 Jan 2015 11:13 am Operator: BWS
Sample : 0182_2 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12:12 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

BWS
1.30.15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	279721	30.00	ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	413651	30.00	ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	562397	30.00	ppb	0.00
System Monitoring Compounds						
25) 1,2-dichloroethane-d4	4.10	65	424370	30.51	ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 101.70%			
35) toluene-d8	6.19	98	1323841	29.36	ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 97.87%			
51) 4-bromofluorobenzene	8.38	95	465911	26.73	ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 89.10%			

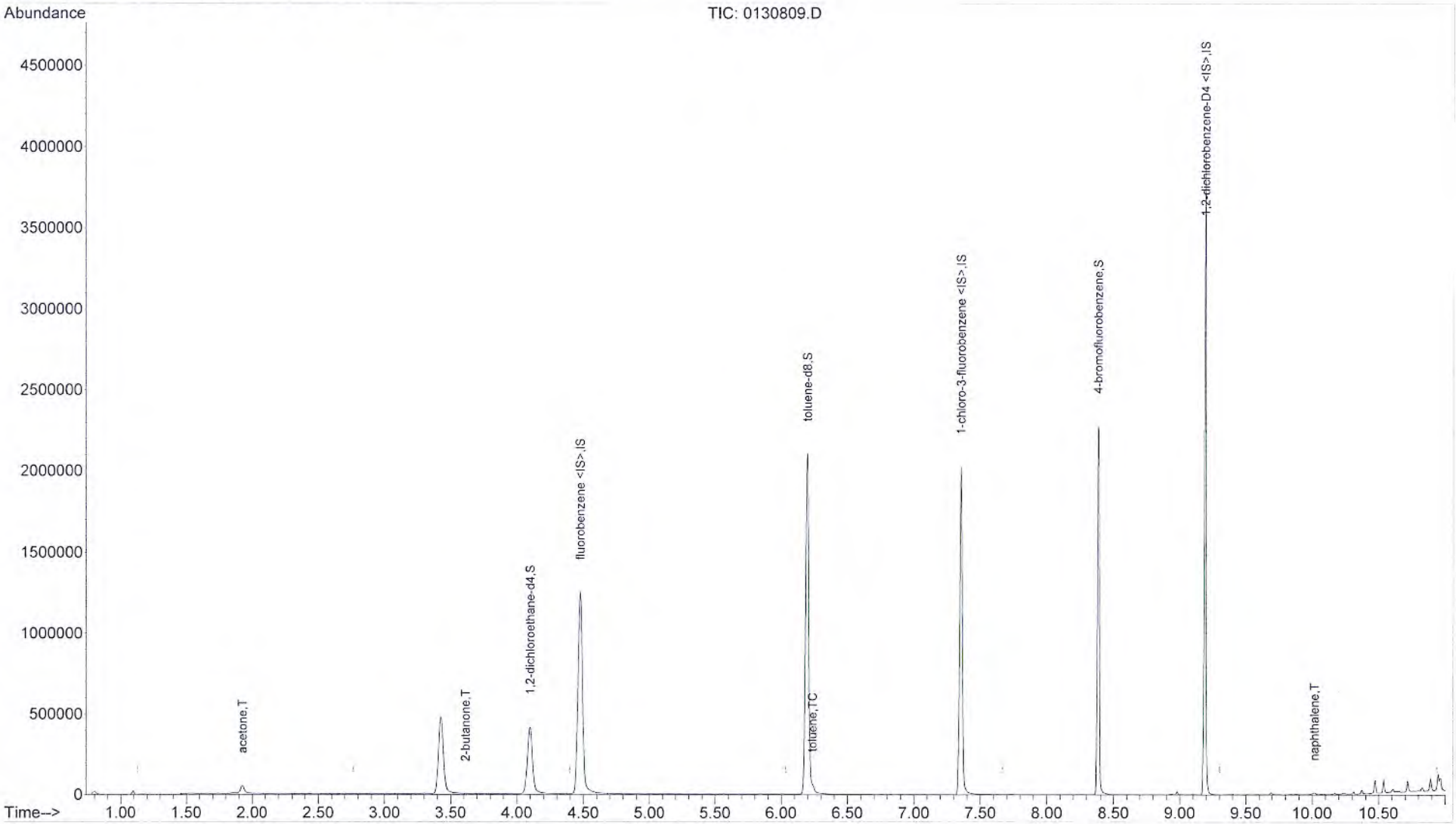
Target Compounds						Qvalue
10) acetone	1.92	43	52439	20.00	ppb	100
19) 2-butanone	3.62	43	841	~~0.28~~	ppb	98
36) toluene	6.24	92	9505	0.38	ppb	91
76) naphthalene	10.02	128	5257	~~0.29~~	ppb	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130809.D Vial: 9
Acq On : 30 Jan 2015 11:13 am Operator: BWS
Sample : 0182_2 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Results of **BT-SW-03**

Client Sample ID: **BT-SW-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182003-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 11:37
1,1,1-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 11:37
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 11:37
1,1,2-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 11:37
1,1-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 11:37
1,1-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 11:37
1,1-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 11:37
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 11:37
1,2,3-Trichloropropane	ND		1.00	ug/L	1	01/30/2015 11:37
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 11:37
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 11:37
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	01/30/2015 11:37
1,2-Dibromoethane	ND		1.00	ug/L	1	01/30/2015 11:37
1,2-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 11:37
1,2-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 11:37
1,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 11:37
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 11:37
1,3-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 11:37
1,3-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 11:37
1,4-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 11:37
2,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 11:37
2-Butanone	ND		25.0	ug/L	1	01/30/2015 11:37
2-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 11:37
2-Hexanone	ND		5.00	ug/L	1	01/30/2015 11:37
4-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 11:37
4-Isopropyltoluene	ND		1.00	ug/L	1	01/30/2015 11:37
4-Methyl-2-pentanone	ND		5.00	ug/L	1	01/30/2015 11:37
Acetone	ND		25.0	ug/L	1	01/30/2015 11:37
Benzene	ND		1.00	ug/L	1	01/30/2015 11:37
Bromobenzene	ND		1.00	ug/L	1	01/30/2015 11:37
Bromochloromethane	ND		1.00	ug/L	1	01/30/2015 11:37
Bromodichloromethane	ND		1.00	ug/L	1	01/30/2015 11:37
Bromoform	ND		1.00	ug/L	1	01/30/2015 11:37
Bromomethane	ND		1.00	ug/L	1	01/30/2015 11:37
n-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 11:37
Carbon disulfide	ND		1.00	ug/L	1	01/30/2015 11:37
Carbon tetrachloride	ND		1.00	ug/L	1	01/30/2015 11:37
Chlorobenzene	ND		1.00	ug/L	1	01/30/2015 11:37
Chloroethane	ND		1.00	ug/L	1	01/30/2015 11:37
Chloroform	ND		1.00	ug/L	1	01/30/2015 11:37
Chloromethane	ND		1.00	ug/L	1	01/30/2015 11:37
Dibromochloromethane	ND		1.00	ug/L	1	01/30/2015 11:37

Results of **BT-SW-03**

Client Sample ID: **BT-SW-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182003-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dibromomethane	ND		1.00	ug/L	1	01/30/2015 11:37
Dichlorodifluoromethane	ND		5.00	ug/L	1	01/30/2015 11:37
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 11:37
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 11:37
Diisopropyl Ether	ND		1.00	ug/L	1	01/30/2015 11:37
Ethyl Benzene	ND		1.00	ug/L	1	01/30/2015 11:37
Hexachlorobutadiene	ND		1.00	ug/L	1	01/30/2015 11:37
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	01/30/2015 11:37
Methyl iodide	ND		1.00	ug/L	1	01/30/2015 11:37
Methylene chloride	ND		5.00	ug/L	1	01/30/2015 11:37
Naphthalene	ND		1.00	ug/L	1	01/30/2015 11:37
Styrene	ND		1.00	ug/L	1	01/30/2015 11:37
Tetrachloroethene	ND		1.00	ug/L	1	01/30/2015 11:37
Toluene	ND		1.00	ug/L	1	01/30/2015 11:37
Trichloroethene	ND		1.00	ug/L	1	01/30/2015 11:37
Trichlorofluoromethane	ND		1.00	ug/L	1	01/30/2015 11:37
Vinyl chloride	ND		1.00	ug/L	1	01/30/2015 11:37
Xylene (total)	ND		2.00	ug/L	1	01/30/2015 11:37
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 11:37
m,p-Xylene	ND		2.00	ug/L	1	01/30/2015 11:37
n-Propylbenzene	ND		1.00	ug/L	1	01/30/2015 11:37
o-Xylene	ND		1.00	ug/L	1	01/30/2015 11:37
sec-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 11:37
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	01/30/2015 11:37
tert-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 11:37
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 11:37
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	01/30/2015 11:37
Surrogates						
1,2-Dichloroethane-d4	105		64.0-140	%	1	01/30/2015 11:37
4-Bromofluorobenzene	89.0		85.0-115	%	1	01/30/2015 11:37
Toluene d8	100		82.0-117	%	1	01/30/2015 11:37

Batch Information

Analytical Batch: **VMS3496**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX5481**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 15:04**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130810.D Vial: 10
Acq On : 30 Jan 2015 11:37 am Operator: BWS
Sample : 0182_3 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12:13 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

BWS
1.30.15

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	265094	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	404828	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	546353	30.00 ppb	0.00
System Monitoring Compounds					
25) 1,2-dichloroethane-d4	4.09	65	413795	31.39 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 104.63%		
35) toluene-d8	6.19	98	1285488	30.09 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 100.30%		
51) 4-bromofluorobenzene	8.38	95	454370	26.64 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 88.80%		

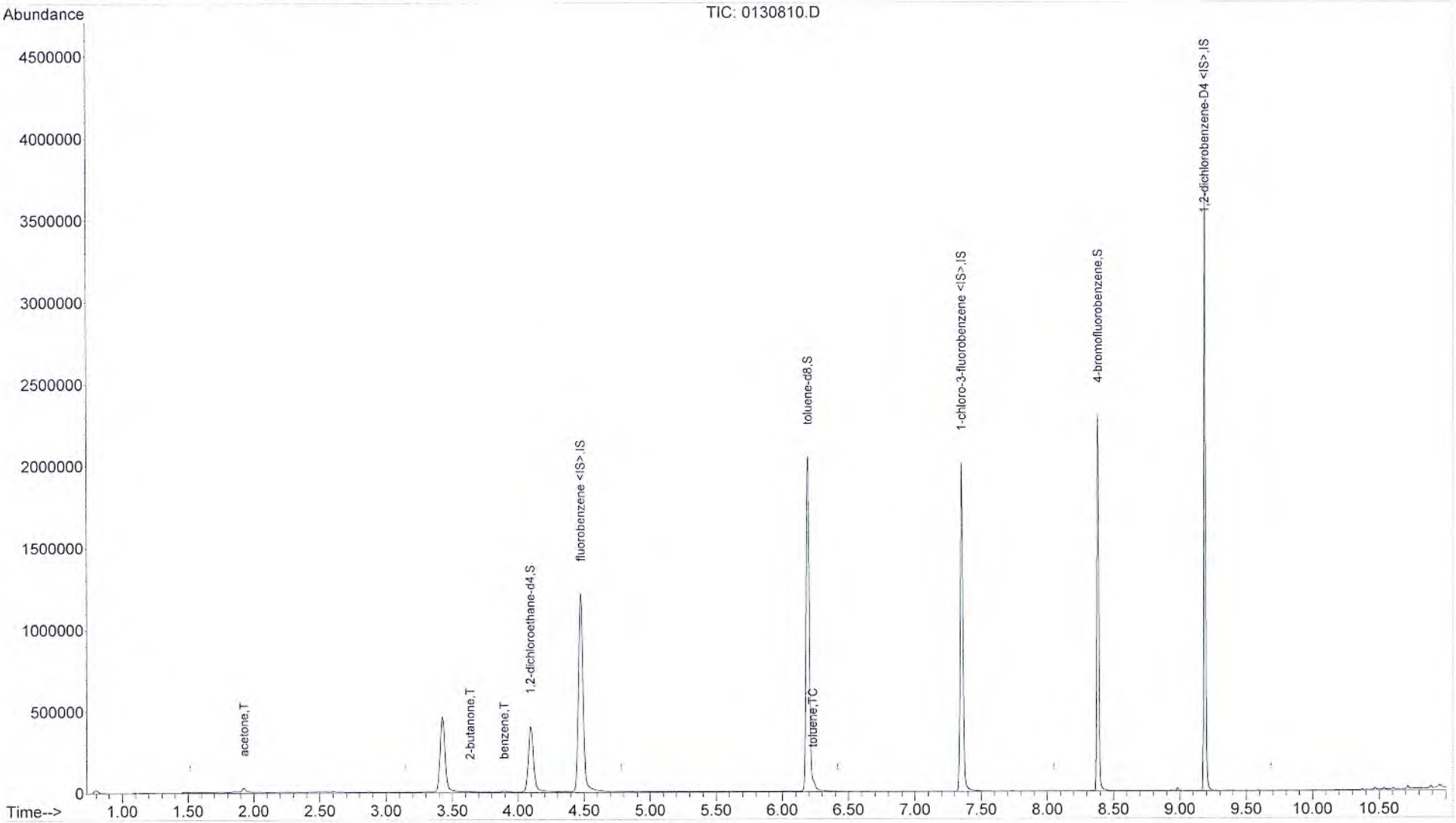
Target Compounds					Qvalue
10) acetone	1.92	43	29272	11.78 ppb	98
19) 2-butanone	3.64	43	1841	0.66 ppb #	45
26) benzene	3.90	78	5761	0.15 ppb	99
36) toluene	6.24	92	9750	0.42 ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130810.D Vial: 10
Acq On : 30 Jan 2015 11:37 am Operator: BWS
Sample : 0182_3 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Results of **BT-SW-04**

Client Sample ID: **BT-SW-04**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182004-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:15
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 12:02
1,1,1-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 12:02
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 12:02
1,1,2-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 12:02
1,1-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 12:02
1,1-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 12:02
1,1-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 12:02
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:02
1,2,3-Trichloropropane	ND		1.00	ug/L	1	01/30/2015 12:02
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:02
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 12:02
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	01/30/2015 12:02
1,2-Dibromoethane	ND		1.00	ug/L	1	01/30/2015 12:02
1,2-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:02
1,2-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 12:02
1,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 12:02
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 12:02
1,3-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:02
1,3-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 12:02
1,4-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:02
2,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 12:02
2-Butanone	ND		25.0	ug/L	1	01/30/2015 12:02
2-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 12:02
2-Hexanone	ND		5.00	ug/L	1	01/30/2015 12:02
4-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 12:02
4-Isopropyltoluene	ND		1.00	ug/L	1	01/30/2015 12:02
4-Methyl-2-pentanone	ND		5.00	ug/L	1	01/30/2015 12:02
Acetone	ND		25.0	ug/L	1	01/30/2015 12:02
Benzene	ND		1.00	ug/L	1	01/30/2015 12:02
Bromobenzene	ND		1.00	ug/L	1	01/30/2015 12:02
Bromochloromethane	ND		1.00	ug/L	1	01/30/2015 12:02
Bromodichloromethane	ND		1.00	ug/L	1	01/30/2015 12:02
Bromoform	ND		1.00	ug/L	1	01/30/2015 12:02
Bromomethane	ND		1.00	ug/L	1	01/30/2015 12:02
n-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 12:02
Carbon disulfide	ND		1.00	ug/L	1	01/30/2015 12:02
Carbon tetrachloride	ND		1.00	ug/L	1	01/30/2015 12:02
Chlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:02
Chloroethane	ND		1.00	ug/L	1	01/30/2015 12:02
Chloroform	ND		1.00	ug/L	1	01/30/2015 12:02
Chloromethane	ND		1.00	ug/L	1	01/30/2015 12:02
Dibromochloromethane	ND		1.00	ug/L	1	01/30/2015 12:02

Results of **BT-SW-04**

Client Sample ID: **BT-SW-04**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182004-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:15
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dibromomethane	ND		1.00	ug/L	1	01/30/2015 12:02
Dichlorodifluoromethane	ND		5.00	ug/L	1	01/30/2015 12:02
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 12:02
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 12:02
Diisopropyl Ether	ND		1.00	ug/L	1	01/30/2015 12:02
Ethyl Benzene	ND		1.00	ug/L	1	01/30/2015 12:02
Hexachlorobutadiene	ND		1.00	ug/L	1	01/30/2015 12:02
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	01/30/2015 12:02
Methyl iodide	ND		1.00	ug/L	1	01/30/2015 12:02
Methylene chloride	ND		5.00	ug/L	1	01/30/2015 12:02
Naphthalene	ND		1.00	ug/L	1	01/30/2015 12:02
Styrene	ND		1.00	ug/L	1	01/30/2015 12:02
Tetrachloroethene	ND		1.00	ug/L	1	01/30/2015 12:02
Toluene	ND		1.00	ug/L	1	01/30/2015 12:02
Trichloroethene	ND		1.00	ug/L	1	01/30/2015 12:02
Trichlorofluoromethane	ND		1.00	ug/L	1	01/30/2015 12:02
Vinyl chloride	ND		1.00	ug/L	1	01/30/2015 12:02
Xylene (total)	ND		2.00	ug/L	1	01/30/2015 12:02
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 12:02
m,p-Xylene	ND		2.00	ug/L	1	01/30/2015 12:02
n-Propylbenzene	ND		1.00	ug/L	1	01/30/2015 12:02
o-Xylene	ND		1.00	ug/L	1	01/30/2015 12:02
sec-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 12:02
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	01/30/2015 12:02
tert-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 12:02
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 12:02
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	01/30/2015 12:02
Surrogates						
1,2-Dichloroethane-d4	104		64.0-140	%	1	01/30/2015 12:02
4-Bromofluorobenzene	89.0		85.0-115	%	1	01/30/2015 12:02
Toluene d8	96.0		82.0-117	%	1	01/30/2015 12:02

Batch Information

Analytical Batch: **VMS3496**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX5481**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 15:04**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130811.D Vial: 11
Acq On : 30 Jan 2015 12:02 pm Operator: BWS
Sample : 0182_4 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12:14 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

BWS 1-30-15

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	262104	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	397200	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	538571	30.00 ppb	0.00

System Monitoring Compounds

25) 1,2-dichloroethane-d4	4.10	65	408506	31.34 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 104.47%		
35) toluene-d8	6.19	98	1219019	28.86 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 96.20%		
51) 4-bromofluorobenzene	8.38	95	446920	26.70 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 89.00%		

Target Compounds

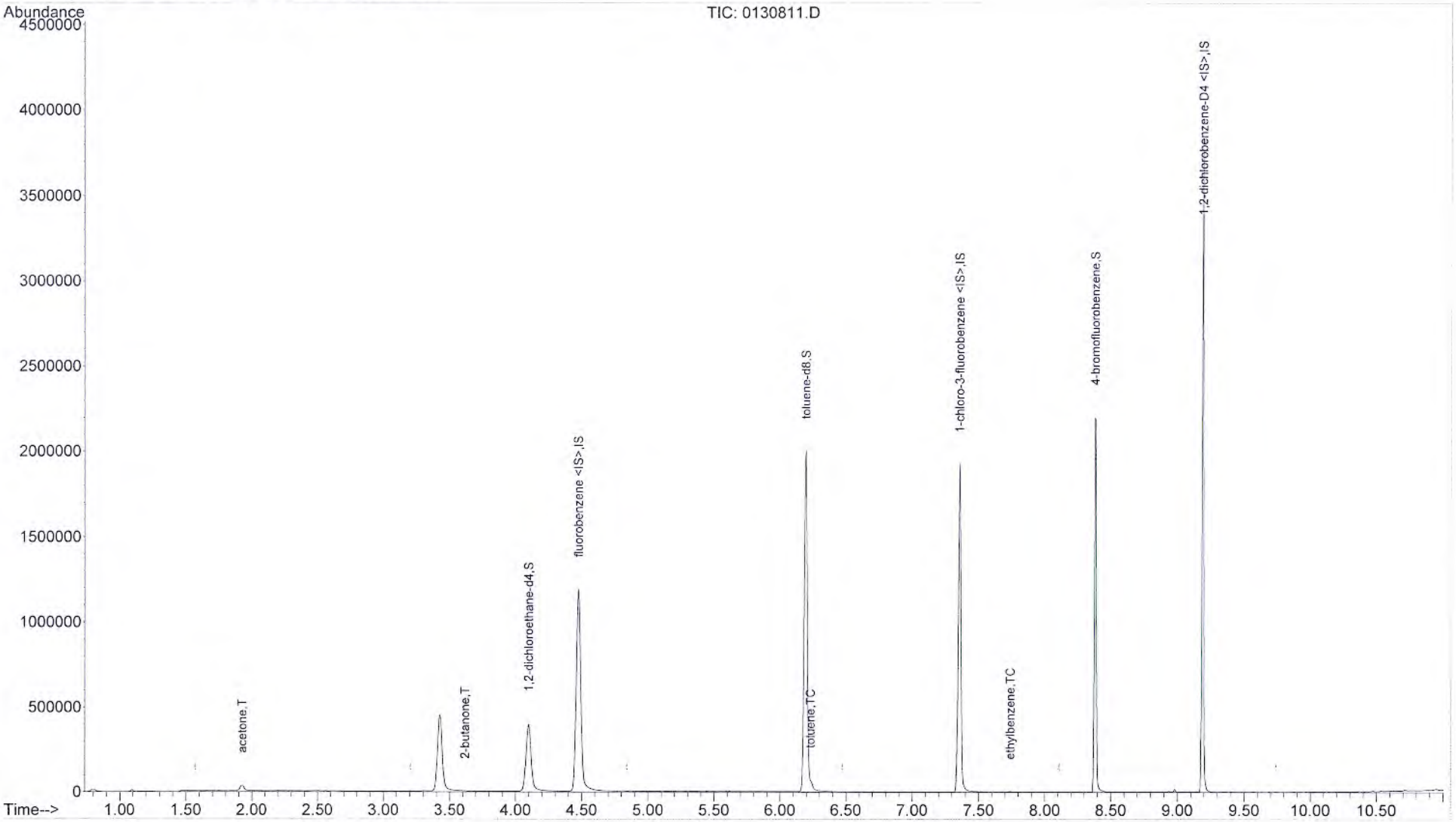
						Qvalue
10) acetone	1.92	43	41341	16.82 ppb		100
19) 2-butanone	3.62	43	2014	~~0.73~~ ppb	#	45
36) toluene	6.24	92	9609	0.41 ppb		87
56) ethylbenzene	7.74	106	800	~~0.09~~ ppb	#	43

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130811.D Vial: 11
Acq On : 30 Jan 2015 12:02 pm Operator: BWS
Sample : 0182_4 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Results of **BT-SW-05**

Client Sample ID: **BT-SW-05**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182005-D
Lab Project ID: 31500182

Collection Date: 01/26/2015 09:10
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 12:27
1,1,1-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 12:27
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 12:27
1,1,2-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 12:27
1,1-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 12:27
1,1-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 12:27
1,1-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 12:27
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:27
1,2,3-Trichloropropane	ND		1.00	ug/L	1	01/30/2015 12:27
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:27
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 12:27
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	01/30/2015 12:27
1,2-Dibromoethane	ND		1.00	ug/L	1	01/30/2015 12:27
1,2-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:27
1,2-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 12:27
1,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 12:27
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 12:27
1,3-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:27
1,3-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 12:27
1,4-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:27
2,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 12:27
2-Butanone	ND		25.0	ug/L	1	01/30/2015 12:27
2-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 12:27
2-Hexanone	ND		5.00	ug/L	1	01/30/2015 12:27
4-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 12:27
4-Isopropyltoluene	ND		1.00	ug/L	1	01/30/2015 12:27
4-Methyl-2-pentanone	ND		5.00	ug/L	1	01/30/2015 12:27
Acetone	ND		25.0	ug/L	1	01/30/2015 12:27
Benzene	ND		1.00	ug/L	1	01/30/2015 12:27
Bromobenzene	ND		1.00	ug/L	1	01/30/2015 12:27
Bromochloromethane	ND		1.00	ug/L	1	01/30/2015 12:27
Bromodichloromethane	ND		1.00	ug/L	1	01/30/2015 12:27
Bromoform	ND		1.00	ug/L	1	01/30/2015 12:27
Bromomethane	ND		1.00	ug/L	1	01/30/2015 12:27
n-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 12:27
Carbon disulfide	ND		1.00	ug/L	1	01/30/2015 12:27
Carbon tetrachloride	ND		1.00	ug/L	1	01/30/2015 12:27
Chlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:27
Chloroethane	ND		1.00	ug/L	1	01/30/2015 12:27
Chloroform	ND		1.00	ug/L	1	01/30/2015 12:27
Chloromethane	ND		1.00	ug/L	1	01/30/2015 12:27
Dibromochloromethane	ND		1.00	ug/L	1	01/30/2015 12:27

Results of **BT-SW-05**

Client Sample ID: **BT-SW-05**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182005-D
Lab Project ID: 31500182

Collection Date: 01/26/2015 09:10
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dibromomethane	ND		1.00	ug/L	1	01/30/2015 12:27
Dichlorodifluoromethane	ND		5.00	ug/L	1	01/30/2015 12:27
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 12:27
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 12:27
Diisopropyl Ether	ND		1.00	ug/L	1	01/30/2015 12:27
Ethyl Benzene	ND		1.00	ug/L	1	01/30/2015 12:27
Hexachlorobutadiene	ND		1.00	ug/L	1	01/30/2015 12:27
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	01/30/2015 12:27
Methyl iodide	ND		1.00	ug/L	1	01/30/2015 12:27
Methylene chloride	ND		5.00	ug/L	1	01/30/2015 12:27
Naphthalene	ND		1.00	ug/L	1	01/30/2015 12:27
Styrene	ND		1.00	ug/L	1	01/30/2015 12:27
Tetrachloroethene	ND		1.00	ug/L	1	01/30/2015 12:27
Toluene	ND		1.00	ug/L	1	01/30/2015 12:27
Trichloroethene	ND		1.00	ug/L	1	01/30/2015 12:27
Trichlorofluoromethane	ND		1.00	ug/L	1	01/30/2015 12:27
Vinyl chloride	ND		1.00	ug/L	1	01/30/2015 12:27
Xylene (total)	ND		2.00	ug/L	1	01/30/2015 12:27
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 12:27
m,p-Xylene	ND		2.00	ug/L	1	01/30/2015 12:27
n-Propylbenzene	ND		1.00	ug/L	1	01/30/2015 12:27
o-Xylene	ND		1.00	ug/L	1	01/30/2015 12:27
sec-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 12:27
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	01/30/2015 12:27
tert-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 12:27
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 12:27
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	01/30/2015 12:27
Surrogates						
1,2-Dichloroethane-d4	105		64.0-140	%	1	01/30/2015 12:27
4-Bromofluorobenzene	88.0		85.0-115	%	1	01/30/2015 12:27
Toluene d8	100		82.0-117	%	1	01/30/2015 12:27

Batch Information

Analytical Batch: **VMS3496**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX5481**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 15:04**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130812.D Vial: 12
Acq On : 30 Jan 2015 12:27 pm Operator: BWS
Sample : 0182_5 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12:15 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

JWS
1-30-15

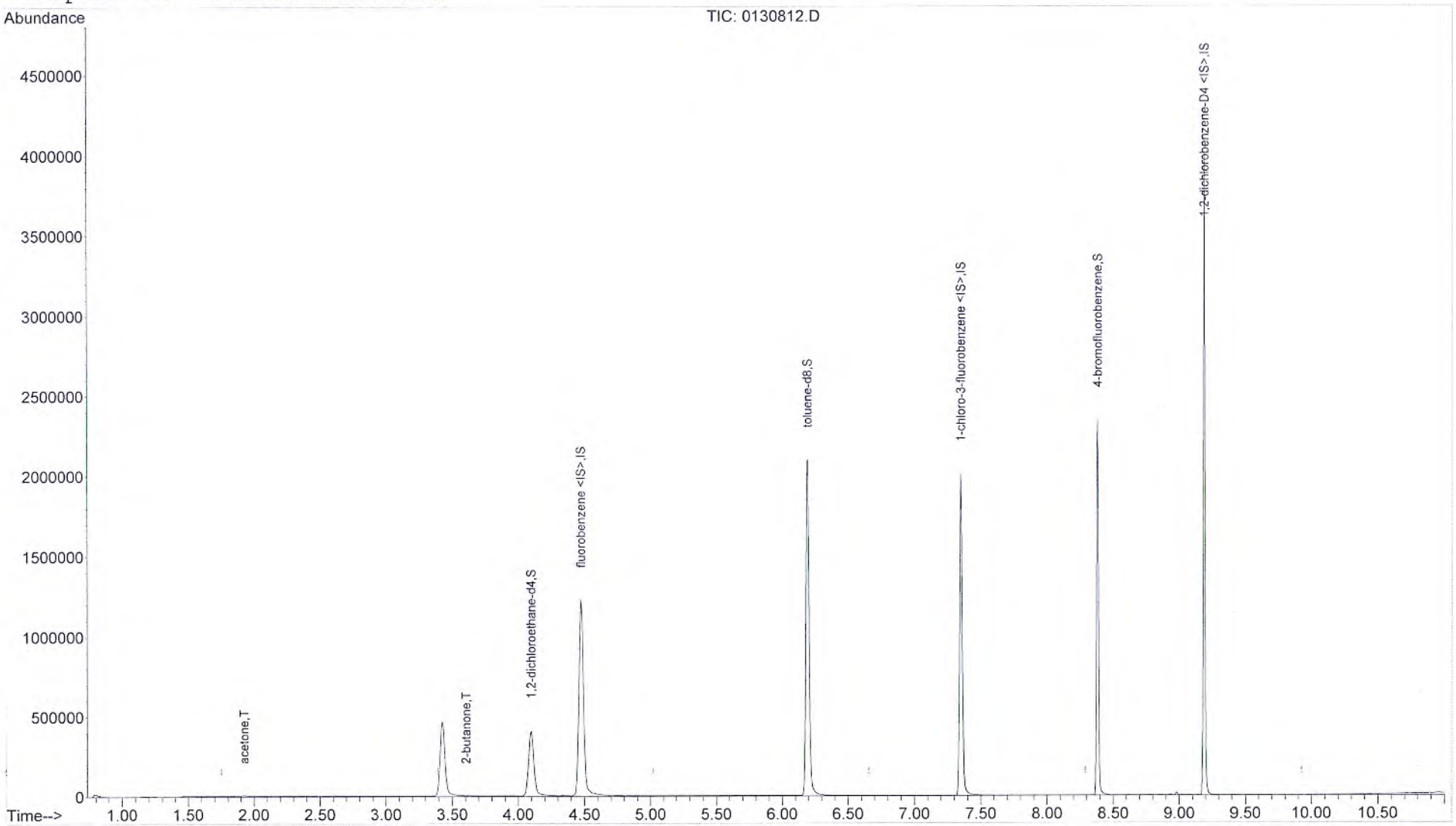
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	269941	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	411237	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	554329	30.00 ppb	0.00
System Monitoring Compounds					
25) 1,2-dichloroethane-d4	4.10	65	421336	31.38 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 104.60%		
35) toluene-d8	6.19	98	1308878	30.08 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 100.27%		
51) 4-bromofluorobenzene	8.38	95	459573	26.52 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 88.40%		
Target Compounds					Qvalue
10) acetone	1.93	43	4553	1.80 ppb	94
19) 2-butanone	3.61	43	955	0.34 ppb #	45

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130812.D Vial: 12
Acq On : 30 Jan 2015 12:27 pm Operator: BWS
Sample : 0182_5 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Results of **BT-SW-06**

Client Sample ID: **BT-SW-06**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182006-D
Lab Project ID: 31500182

Collection Date: 01/26/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 12:51
1,1,1-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 12:51
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 12:51
1,1,2-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 12:51
1,1-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 12:51
1,1-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 12:51
1,1-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 12:51
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:51
1,2,3-Trichloropropane	ND		1.00	ug/L	1	01/30/2015 12:51
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:51
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 12:51
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	01/30/2015 12:51
1,2-Dibromoethane	ND		1.00	ug/L	1	01/30/2015 12:51
1,2-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:51
1,2-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 12:51
1,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 12:51
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 12:51
1,3-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:51
1,3-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 12:51
1,4-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:51
2,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 12:51
2-Butanone	ND		25.0	ug/L	1	01/30/2015 12:51
2-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 12:51
2-Hexanone	ND		5.00	ug/L	1	01/30/2015 12:51
4-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 12:51
4-Isopropyltoluene	ND		1.00	ug/L	1	01/30/2015 12:51
4-Methyl-2-pentanone	ND		5.00	ug/L	1	01/30/2015 12:51
Acetone	ND		25.0	ug/L	1	01/30/2015 12:51
Benzene	ND		1.00	ug/L	1	01/30/2015 12:51
Bromobenzene	ND		1.00	ug/L	1	01/30/2015 12:51
Bromochloromethane	ND		1.00	ug/L	1	01/30/2015 12:51
Bromodichloromethane	ND		1.00	ug/L	1	01/30/2015 12:51
Bromoform	ND		1.00	ug/L	1	01/30/2015 12:51
Bromomethane	ND		1.00	ug/L	1	01/30/2015 12:51
n-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 12:51
Carbon disulfide	ND		1.00	ug/L	1	01/30/2015 12:51
Carbon tetrachloride	ND		1.00	ug/L	1	01/30/2015 12:51
Chlorobenzene	ND		1.00	ug/L	1	01/30/2015 12:51
Chloroethane	ND		1.00	ug/L	1	01/30/2015 12:51
Chloroform	ND		1.00	ug/L	1	01/30/2015 12:51
Chloromethane	ND		1.00	ug/L	1	01/30/2015 12:51
Dibromochloromethane	ND		1.00	ug/L	1	01/30/2015 12:51

Results of **BT-SW-06**

Client Sample ID: **BT-SW-06**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182006-D
Lab Project ID: 31500182

Collection Date: 01/26/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dibromomethane	ND		1.00	ug/L	1	01/30/2015 12:51
Dichlorodifluoromethane	ND		5.00	ug/L	1	01/30/2015 12:51
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 12:51
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 12:51
Diisopropyl Ether	ND		1.00	ug/L	1	01/30/2015 12:51
Ethyl Benzene	ND		1.00	ug/L	1	01/30/2015 12:51
Hexachlorobutadiene	ND		1.00	ug/L	1	01/30/2015 12:51
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	01/30/2015 12:51
Methyl iodide	ND		1.00	ug/L	1	01/30/2015 12:51
Methylene chloride	ND		5.00	ug/L	1	01/30/2015 12:51
Naphthalene	ND		1.00	ug/L	1	01/30/2015 12:51
Styrene	ND		1.00	ug/L	1	01/30/2015 12:51
Tetrachloroethene	ND		1.00	ug/L	1	01/30/2015 12:51
Toluene	ND		1.00	ug/L	1	01/30/2015 12:51
Trichloroethene	ND		1.00	ug/L	1	01/30/2015 12:51
Trichlorofluoromethane	ND		1.00	ug/L	1	01/30/2015 12:51
Vinyl chloride	ND		1.00	ug/L	1	01/30/2015 12:51
Xylene (total)	ND		2.00	ug/L	1	01/30/2015 12:51
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 12:51
m,p-Xylene	ND		2.00	ug/L	1	01/30/2015 12:51
n-Propylbenzene	ND		1.00	ug/L	1	01/30/2015 12:51
o-Xylene	ND		1.00	ug/L	1	01/30/2015 12:51
sec-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 12:51
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	01/30/2015 12:51
tert-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 12:51
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 12:51
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	01/30/2015 12:51
Surrogates						
1,2-Dichloroethane-d4	109		64.0-140	%	1	01/30/2015 12:51
4-Bromofluorobenzene	89.0		85.0-115	%	1	01/30/2015 12:51
Toluene d8	105		82.0-117	%	1	01/30/2015 12:51

Batch Information

Analytical Batch: **VMS3496**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX5481**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 15:04**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130813.D Vial: 13
Acq On : 30 Jan 2015 12:51 pm Operator: BWS
Sample : 0182_6 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12:16 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

JWS
1.30.15

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	251510	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	400013	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	544928	30.00 ppb	0.00
System Monitoring Compounds					
25) 1,2-dichloroethane-d4	4.10	65	410007	32.78 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 109.27%		
35) toluene-d8	6.19	98	1281675	31.62 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 105.40%		
51) 4-bromofluorobenzene	8.38	95	450125	26.71 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 89.03%		

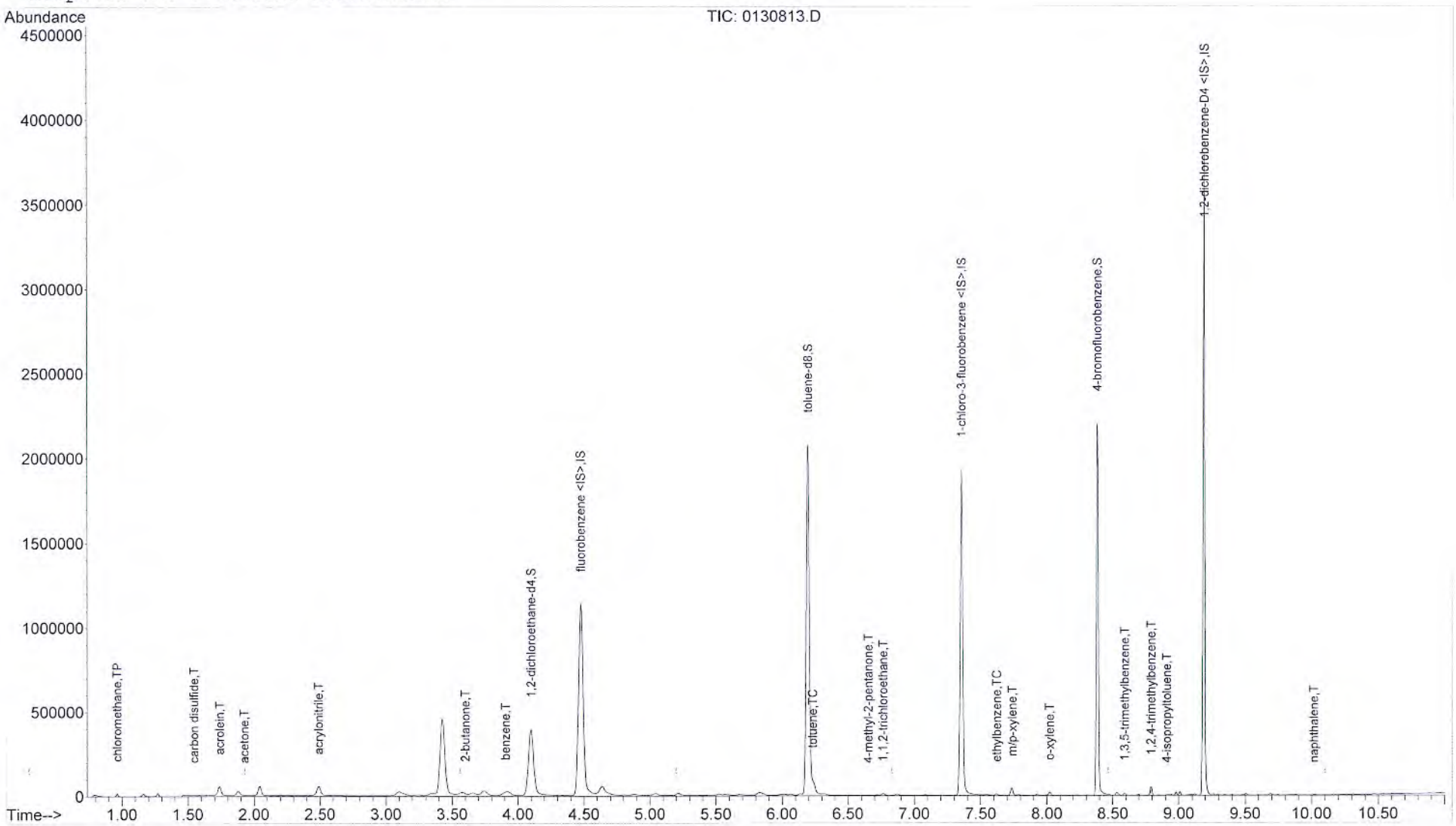
Target Compounds						Qvalue
3) chloromethane	0.96	50	1663	~~0.16~~ ppb	#	70
8) acrolein	1.74	56	1720	~~2.04~~ ppb	#	1
10) acetone	1.93	43	2127	~~0.90~~ ppb		95
13) acrylonitrile	2.50	53	2081	~~1.05~~ ppb	#	58
19) 2-butanone	3.61	43	1660	~~0.63~~ ppb	#	45
26) benzene	3.90	78	15240	0.41 ppb		91
34) 4-methyl-2-pentanone	6.65	43	843	~~0.16~~ ppb	#	45
36) toluene	6.24	92	14889	0.67 ppb		100
40) carbon disulfide	1.55	76	3563	~~0.13~~ ppb	#	92
42) 1,1,2-trichloroethane	6.76	83	3780	~~0.77~~ ppb	#	2
56) ethylbenzene	7.62	106	1503	0.16 ppb		87
57) m/p-xylene	7.74	106	9303	0.78 ppb		88
59) o-xylene	8.02	106	3598	0.32 ppb		91
64) 1,3,5-trimethylbenzene	8.59	105	4506	0.17 ppb		92
66) 1,2,4-trimethylbenzene	8.79	105	15895	0.58 ppb		96
69) 4-isopropyltoluene	8.91	119	2267	0.08 ppb	#	94
76) naphthalene	10.02	128	1424	~~0.08~~ ppb	#	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130813.D Vial: 13
Acq On : 30 Jan 2015 12:51 pm Operator: BWS
Sample : 0182_6 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Results of **BT-SW-DUP**

Client Sample ID: **BT-SW-DUP**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182007-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 00:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 13:16
1,1,1-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 13:16
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 13:16
1,1,2-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 13:16
1,1-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 13:16
1,1-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 13:16
1,1-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 13:16
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 13:16
1,2,3-Trichloropropane	ND		1.00	ug/L	1	01/30/2015 13:16
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 13:16
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 13:16
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	01/30/2015 13:16
1,2-Dibromoethane	ND		1.00	ug/L	1	01/30/2015 13:16
1,2-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 13:16
1,2-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 13:16
1,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 13:16
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 13:16
1,3-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 13:16
1,3-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 13:16
1,4-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 13:16
2,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 13:16
2-Butanone	ND		25.0	ug/L	1	01/30/2015 13:16
2-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 13:16
2-Hexanone	ND		5.00	ug/L	1	01/30/2015 13:16
4-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 13:16
4-Isopropyltoluene	ND		1.00	ug/L	1	01/30/2015 13:16
4-Methyl-2-pentanone	ND		5.00	ug/L	1	01/30/2015 13:16
Acetone	ND		25.0	ug/L	1	01/30/2015 13:16
Benzene	ND		1.00	ug/L	1	01/30/2015 13:16
Bromobenzene	ND		1.00	ug/L	1	01/30/2015 13:16
Bromochloromethane	ND		1.00	ug/L	1	01/30/2015 13:16
Bromodichloromethane	ND		1.00	ug/L	1	01/30/2015 13:16
Bromoform	ND		1.00	ug/L	1	01/30/2015 13:16
Bromomethane	ND		1.00	ug/L	1	01/30/2015 13:16
n-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 13:16
Carbon disulfide	ND		1.00	ug/L	1	01/30/2015 13:16
Carbon tetrachloride	ND		1.00	ug/L	1	01/30/2015 13:16
Chlorobenzene	ND		1.00	ug/L	1	01/30/2015 13:16
Chloroethane	ND		1.00	ug/L	1	01/30/2015 13:16
Chloroform	ND		1.00	ug/L	1	01/30/2015 13:16
Chloromethane	ND		1.00	ug/L	1	01/30/2015 13:16
Dibromochloromethane	ND		1.00	ug/L	1	01/30/2015 13:16

Results of **BT-SW-DUP**

Client Sample ID: **BT-SW-DUP**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182007-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 00:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dibromomethane	ND		1.00	ug/L	1	01/30/2015 13:16
Dichlorodifluoromethane	ND		5.00	ug/L	1	01/30/2015 13:16
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 13:16
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 13:16
Diisopropyl Ether	ND		1.00	ug/L	1	01/30/2015 13:16
Ethyl Benzene	ND		1.00	ug/L	1	01/30/2015 13:16
Hexachlorobutadiene	ND		1.00	ug/L	1	01/30/2015 13:16
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	01/30/2015 13:16
Methyl iodide	ND		1.00	ug/L	1	01/30/2015 13:16
Methylene chloride	ND		5.00	ug/L	1	01/30/2015 13:16
Naphthalene	ND		1.00	ug/L	1	01/30/2015 13:16
Styrene	ND		1.00	ug/L	1	01/30/2015 13:16
Tetrachloroethene	ND		1.00	ug/L	1	01/30/2015 13:16
Toluene	ND		1.00	ug/L	1	01/30/2015 13:16
Trichloroethene	ND		1.00	ug/L	1	01/30/2015 13:16
Trichlorofluoromethane	ND		1.00	ug/L	1	01/30/2015 13:16
Vinyl chloride	ND		1.00	ug/L	1	01/30/2015 13:16
Xylene (total)	ND		2.00	ug/L	1	01/30/2015 13:16
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 13:16
m,p-Xylene	ND		2.00	ug/L	1	01/30/2015 13:16
n-Propylbenzene	ND		1.00	ug/L	1	01/30/2015 13:16
o-Xylene	ND		1.00	ug/L	1	01/30/2015 13:16
sec-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 13:16
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	01/30/2015 13:16
tert-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 13:16
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 13:16
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	01/30/2015 13:16
Surrogates						
1,2-Dichloroethane-d4	104		64.0-140	%	1	01/30/2015 13:16
4-Bromofluorobenzene	87.0		85.0-115	%	1	01/30/2015 13:16
Toluene d8	100		82.0-117	%	1	01/30/2015 13:16

Batch Information

Analytical Batch: **VMS3496**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX5481**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 15:04**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130814.D Vial: 14
Acq On : 30 Jan 2015 1:16 pm Operator: BWS
Sample : 0182_7 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12:17 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

BWS 1.30.15

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	267372	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	404695	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	544016	30.00 ppb	0.00
System Monitoring Compounds					
25) 1,2-dichloroethane-d4	4.09	65	413073	31.07 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 103.57%		
35) toluene-d8	6.19	98	1292131	29.98 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 99.93%		
51) 4-bromofluorobenzene	8.38	95	444491	26.07 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 86.90%		

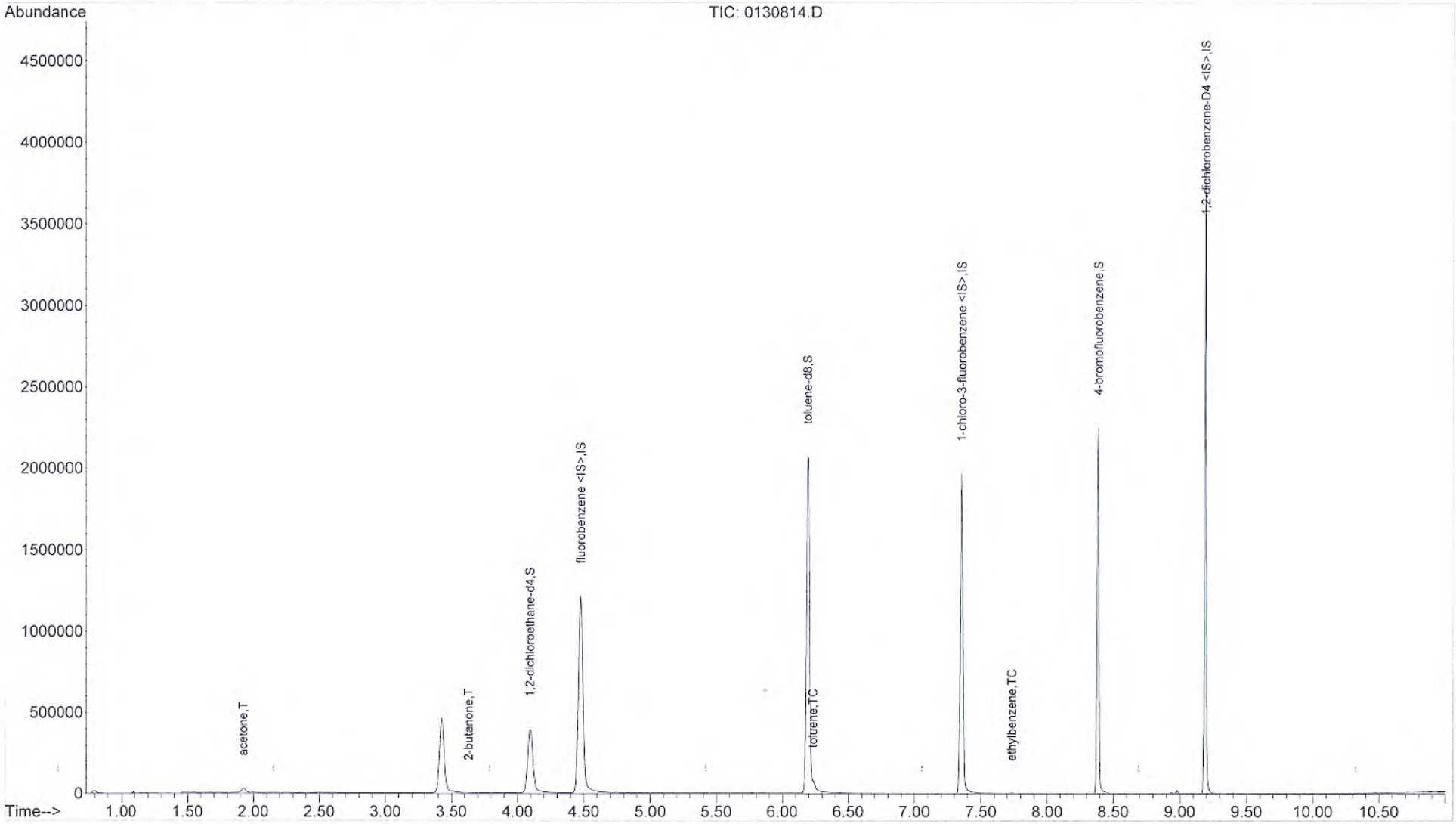
Target Compounds					Qvalue
5) bromomethane	1.14	94	558	Below Cal #	3
10) acetone	1.92	43	33533	13.38 ppb	97
19) 2-butanone	3.62	43	1587	0.56 ppb #	45
36) toluene	6.24	92	11649	0.49 ppb	98
56) ethylbenzene	7.73	106	757	0.08 ppb #	31

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130814.D Vial: 14
Acq On : 30 Jan 2015 1:16 pm Operator: BWS
Sample : 0182_7 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Results of **BT-PW-01**

Client Sample ID: **BT-PW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182011-D
Lab Project ID: 31500182

Collection Date: 01/24/2015 14:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		40.0	ug/L	40	01/30/2015 18:13
1,1,1-Trichloroethane	ND		40.0	ug/L	40	01/30/2015 18:13
1,1,2,2-Tetrachloroethane	ND		40.0	ug/L	40	01/30/2015 18:13
1,1,2-Trichloroethane	ND		40.0	ug/L	40	01/30/2015 18:13
1,1-Dichloroethane	ND		40.0	ug/L	40	01/30/2015 18:13
1,1-Dichloroethene	ND		40.0	ug/L	40	01/30/2015 18:13
1,1-Dichloropropene	ND		40.0	ug/L	40	01/30/2015 18:13
1,2,3-Trichlorobenzene	ND		40.0	ug/L	40	01/30/2015 18:13
1,2,3-Trichloropropane	ND		40.0	ug/L	40	01/30/2015 18:13
1,2,4-Trichlorobenzene	ND		40.0	ug/L	40	01/30/2015 18:13
1,2,4-Trimethylbenzene	ND		40.0	ug/L	40	01/30/2015 18:13
1,2-Dibromo-3-chloropropane	ND		200	ug/L	40	01/30/2015 18:13
1,2-Dibromoethane	ND		40.0	ug/L	40	01/30/2015 18:13
1,2-Dichlorobenzene	ND		40.0	ug/L	40	01/30/2015 18:13
1,2-Dichloroethane	ND		40.0	ug/L	40	01/30/2015 18:13
1,2-Dichloropropane	ND		40.0	ug/L	40	01/30/2015 18:13
1,3,5-Trimethylbenzene	ND		40.0	ug/L	40	01/30/2015 18:13
1,3-Dichlorobenzene	ND		40.0	ug/L	40	01/30/2015 18:13
1,3-Dichloropropane	ND		40.0	ug/L	40	01/30/2015 18:13
1,4-Dichlorobenzene	ND		40.0	ug/L	40	01/30/2015 18:13
2,2-Dichloropropane	ND		40.0	ug/L	40	01/30/2015 18:13
2-Butanone	ND		1000	ug/L	40	01/30/2015 18:13
2-Chlorotoluene	ND		40.0	ug/L	40	01/30/2015 18:13
2-Hexanone	ND		200	ug/L	40	01/30/2015 18:13
4-Chlorotoluene	ND		40.0	ug/L	40	01/30/2015 18:13
4-Isopropyltoluene	ND		40.0	ug/L	40	01/30/2015 18:13
4-Methyl-2-pentanone	ND		200	ug/L	40	01/30/2015 18:13
Acetone	ND		1000	ug/L	40	01/30/2015 18:13
Benzene	**446**		40.0	ug/L	40	01/30/2015 18:13
Bromobenzene	ND		40.0	ug/L	40	01/30/2015 18:13
Bromochloromethane	ND		40.0	ug/L	40	01/30/2015 18:13
Bromodichloromethane	ND		40.0	ug/L	40	01/30/2015 18:13
Bromoform	ND		40.0	ug/L	40	01/30/2015 18:13
Bromomethane	ND		40.0	ug/L	40	01/30/2015 18:13
n-Butylbenzene	ND		40.0	ug/L	40	01/30/2015 18:13
Carbon disulfide	ND		40.0	ug/L	40	01/30/2015 18:13
Carbon tetrachloride	ND		40.0	ug/L	40	01/30/2015 18:13
Chlorobenzene	ND		40.0	ug/L	40	01/30/2015 18:13
Chloroethane	ND		40.0	ug/L	40	01/30/2015 18:13
Chloroform	ND		40.0	ug/L	40	01/30/2015 18:13
Chloromethane	ND		40.0	ug/L	40	01/30/2015 18:13
Dibromochloromethane	ND		40.0	ug/L	40	01/30/2015 18:13

Results of **BT-PW-01**

Client Sample ID: **BT-PW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182011-D
Lab Project ID: 31500182

Collection Date: 01/24/2015 14:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dibromomethane	ND		40.0	ug/L	40	01/30/2015 18:13
Dichlorodifluoromethane	ND		200	ug/L	40	01/30/2015 18:13
cis-1,3-Dichloropropene	ND		40.0	ug/L	40	01/30/2015 18:13
trans-1,3-Dichloropropene	ND		40.0	ug/L	40	01/30/2015 18:13
Diisopropyl Ether	ND		40.0	ug/L	40	01/30/2015 18:13
Ethyl Benzene	ND		40.0	ug/L	40	01/30/2015 18:13
Hexachlorobutadiene	ND		40.0	ug/L	40	01/30/2015 18:13
Isopropylbenzene (Cumene)	ND		40.0	ug/L	40	01/30/2015 18:13
Methyl iodide	ND		40.0	ug/L	40	01/30/2015 18:13
Methylene chloride	ND		200	ug/L	40	01/30/2015 18:13
Naphthalene	ND		40.0	ug/L	40	01/30/2015 18:13
Styrene	ND		40.0	ug/L	40	01/30/2015 18:13
Tetrachloroethene	ND		40.0	ug/L	40	01/30/2015 18:13
Toluene	**208**		40.0	ug/L	40	01/30/2015 18:13
Trichloroethene	ND		40.0	ug/L	40	01/30/2015 18:13
Trichlorofluoromethane	ND		40.0	ug/L	40	01/30/2015 18:13
Vinyl chloride	ND		40.0	ug/L	40	01/30/2015 18:13
Xylene (total)	ND		80.0	ug/L	40	01/30/2015 18:13
cis-1,2-Dichloroethene	ND		40.0	ug/L	40	01/30/2015 18:13
m,p-Xylene	ND		80.0	ug/L	40	01/30/2015 18:13
n-Propylbenzene	ND		40.0	ug/L	40	01/30/2015 18:13
o-Xylene	ND		40.0	ug/L	40	01/30/2015 18:13
sec-Butylbenzene	ND		40.0	ug/L	40	01/30/2015 18:13
tert-Butyl methyl ether (MTBE)	ND		40.0	ug/L	40	01/30/2015 18:13
tert-Butylbenzene	ND		40.0	ug/L	40	01/30/2015 18:13
trans-1,2-Dichloroethene	ND		40.0	ug/L	40	01/30/2015 18:13
trans-1,4-Dichloro-2-butene	ND		200	ug/L	40	01/30/2015 18:13
Surrogates						
1,2-Dichloroethane-d4	105		64.0-140	%	40	01/30/2015 18:13
4-Bromofluorobenzene	89.0		85.0-115	%	40	01/30/2015 18:13
Toluene d8	100		82.0-117	%	40	01/30/2015 18:13

Batch Information

Analytical Batch: **VMS3496**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX5481**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 15:04**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130826.D Vial: 26
Acq On : 30 Jan 2015 6:13 pm Operator: BWS
Sample : 0182_11 x40 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 02 07:39:50 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

BWS
2-2-15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	266464	30.00	ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	399554	30.00	ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	543060	30.00	ppb	0.00
System Monitoring Compounds						
25) 1,2-dichloroethane-d4	4.10	65	415899	31.38	ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 104.60%			
35) toluene-d8	6.19	98	1290921	30.06	ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 100.20%			
51) 4-bromofluorobenzene	8.38	95	449948	26.73	ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 89.10%			

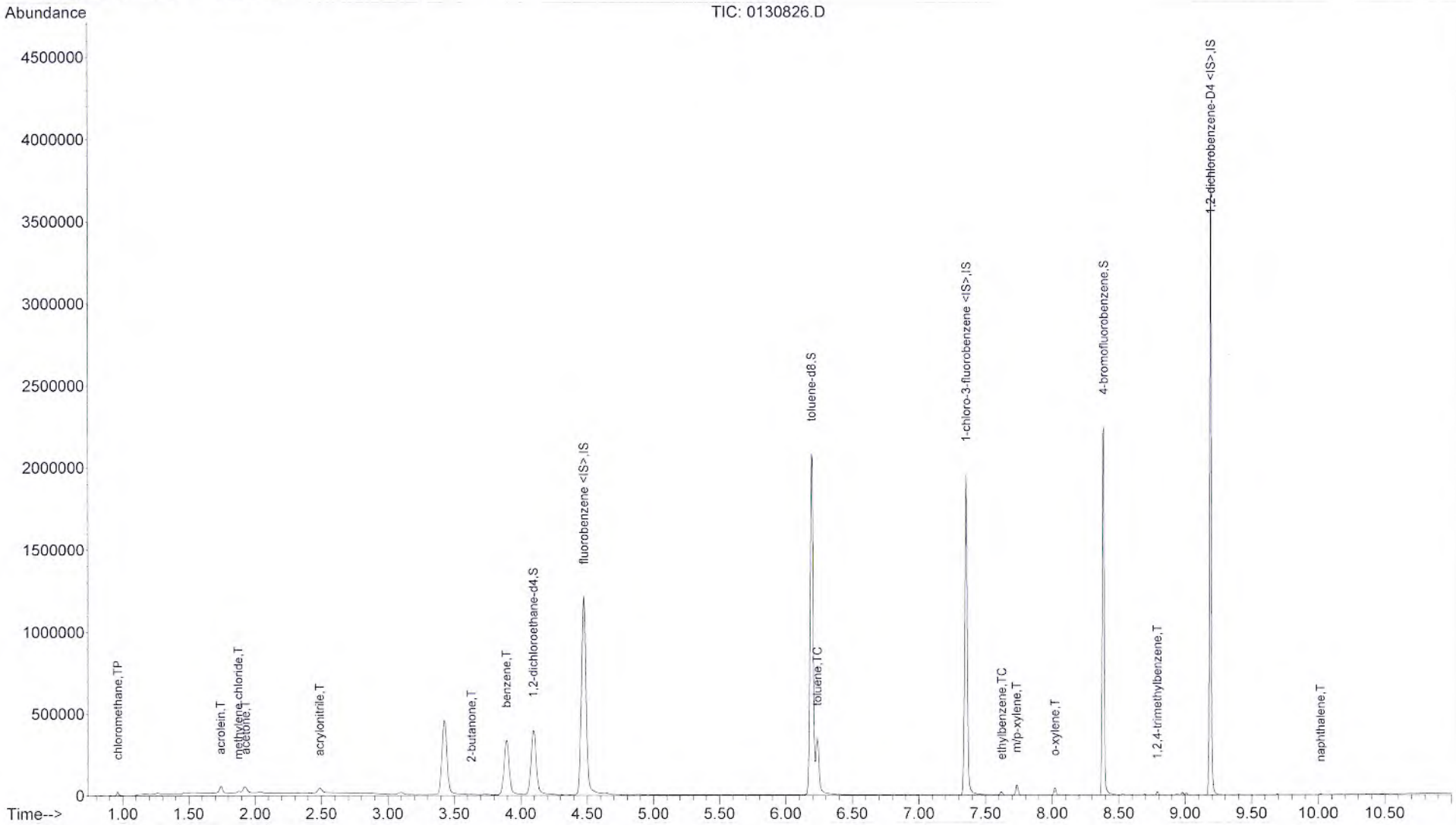
Target Compounds						Qvalue
3) chloromethane	0.96	50	2462	0.22	ppb #	69
5) bromomethane	1.13	94	566	Below Cal	#	3
8) acrolein	1.74	56	948	1.06	ppb #	1
10) acetone	1.93	43	51650	20.67	ppb	97
11) methylene chloride	1.88	84	2259	0.23	ppb	87
13) acrylonitrile	2.48	53	1029	0.49	ppb #	47
19) 2-butanone	3.63	43	2841	1.01	ppb #	82
26) benzene	3.89	78	434355	11.16	ppb	98
36) toluene	6.24	92	122915	5.21	ppb	98
56) ethylbenzene	7.62	106	3097	0.33	ppb	90
57) m/p-xylene	7.73	106	12479	1.05	ppb	91
59) o-xylene	8.02	106	7799	0.70	ppb	100
66) 1,2,4-trimethylbenzene	8.79	105	6026	0.22	ppb	99
76) naphthalene	10.02	128	1799	0.10	ppb #	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130826.D Vial: 26
Acq On : 30 Jan 2015 6:13 pm Operator: BWS
Sample : 0182_11 x40 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 2 7:39 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Results of **BT-PW-02**

Client Sample ID: **BT-PW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182012-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 10:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		50.0	ug/L	50	01/30/2015 18:38
1,1,1-Trichloroethane	ND		50.0	ug/L	50	01/30/2015 18:38
1,1,2,2-Tetrachloroethane	ND		50.0	ug/L	50	01/30/2015 18:38
1,1,2-Trichloroethane	ND		50.0	ug/L	50	01/30/2015 18:38
1,1-Dichloroethane	ND		50.0	ug/L	50	01/30/2015 18:38
1,1-Dichloroethene	ND		50.0	ug/L	50	01/30/2015 18:38
1,1-Dichloropropene	ND		50.0	ug/L	50	01/30/2015 18:38
1,2,3-Trichlorobenzene	ND		50.0	ug/L	50	01/30/2015 18:38
1,2,3-Trichloropropane	ND		50.0	ug/L	50	01/30/2015 18:38
1,2,4-Trichlorobenzene	ND		50.0	ug/L	50	01/30/2015 18:38
1,2,4-Trimethylbenzene	ND		50.0	ug/L	50	01/30/2015 18:38
1,2-Dibromo-3-chloropropane	ND		250	ug/L	50	01/30/2015 18:38
1,2-Dibromoethane	ND		50.0	ug/L	50	01/30/2015 18:38
1,2-Dichlorobenzene	ND		50.0	ug/L	50	01/30/2015 18:38
1,2-Dichloroethane	ND		50.0	ug/L	50	01/30/2015 18:38
1,2-Dichloropropane	ND		50.0	ug/L	50	01/30/2015 18:38
1,3,5-Trimethylbenzene	ND		50.0	ug/L	50	01/30/2015 18:38
1,3-Dichlorobenzene	ND		50.0	ug/L	50	01/30/2015 18:38
1,3-Dichloropropane	ND		50.0	ug/L	50	01/30/2015 18:38
1,4-Dichlorobenzene	ND		50.0	ug/L	50	01/30/2015 18:38
2,2-Dichloropropane	ND		50.0	ug/L	50	01/30/2015 18:38
2-Butanone	ND		1250	ug/L	50	01/30/2015 18:38
2-Chlorotoluene	ND		50.0	ug/L	50	01/30/2015 18:38
2-Hexanone	ND		250	ug/L	50	01/30/2015 18:38
4-Chlorotoluene	ND		50.0	ug/L	50	01/30/2015 18:38
4-Isopropyltoluene	ND		50.0	ug/L	50	01/30/2015 18:38
4-Methyl-2-pentanone	ND		250	ug/L	50	01/30/2015 18:38
Acetone	ND		1250	ug/L	50	01/30/2015 18:38
Benzene	**989**		50.0	ug/L	50	01/30/2015 18:38
Bromobenzene	ND		50.0	ug/L	50	01/30/2015 18:38
Bromochloromethane	ND		50.0	ug/L	50	01/30/2015 18:38
Bromodichloromethane	ND		50.0	ug/L	50	01/30/2015 18:38
Bromoform	ND		50.0	ug/L	50	01/30/2015 18:38
Bromomethane	ND		50.0	ug/L	50	01/30/2015 18:38
n-Butylbenzene	ND		50.0	ug/L	50	01/30/2015 18:38
Carbon disulfide	ND		50.0	ug/L	50	01/30/2015 18:38
Carbon tetrachloride	ND		50.0	ug/L	50	01/30/2015 18:38
Chlorobenzene	ND		50.0	ug/L	50	01/30/2015 18:38
Chloroethane	ND		50.0	ug/L	50	01/30/2015 18:38
Chloroform	ND		50.0	ug/L	50	01/30/2015 18:38
Chloromethane	ND		50.0	ug/L	50	01/30/2015 18:38
Dibromochloromethane	ND		50.0	ug/L	50	01/30/2015 18:38

Results of **BT-PW-02**

Client Sample ID: **BT-PW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182012-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 10:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dibromomethane	ND		50.0	ug/L	50	01/30/2015 18:38
Dichlorodifluoromethane	ND		250	ug/L	50	01/30/2015 18:38
cis-1,3-Dichloropropene	ND		50.0	ug/L	50	01/30/2015 18:38
trans-1,3-Dichloropropene	ND		50.0	ug/L	50	01/30/2015 18:38
Diisopropyl Ether	ND		50.0	ug/L	50	01/30/2015 18:38
Ethyl Benzene	ND		50.0	ug/L	50	01/30/2015 18:38
Hexachlorobutadiene	ND		50.0	ug/L	50	01/30/2015 18:38
Isopropylbenzene (Cumene)	ND		50.0	ug/L	50	01/30/2015 18:38
Methyl iodide	ND		50.0	ug/L	50	01/30/2015 18:38
Methylene chloride	ND		250	ug/L	50	01/30/2015 18:38
Naphthalene	ND		50.0	ug/L	50	01/30/2015 18:38
Styrene	ND		50.0	ug/L	50	01/30/2015 18:38
Tetrachloroethene	ND		50.0	ug/L	50	01/30/2015 18:38
Toluene	**566**		50.0	ug/L	50	01/30/2015 18:38
Trichloroethene	ND		50.0	ug/L	50	01/30/2015 18:38
Trichlorofluoromethane	ND		50.0	ug/L	50	01/30/2015 18:38
Vinyl chloride	ND		50.0	ug/L	50	01/30/2015 18:38
Xylene (total)	**149**		100	ug/L	50	01/30/2015 18:38
cis-1,2-Dichloroethene	ND		50.0	ug/L	50	01/30/2015 18:38
m,p-Xylene	ND		100	ug/L	50	01/30/2015 18:38
n-Propylbenzene	ND		50.0	ug/L	50	01/30/2015 18:38
o-Xylene	**59.5**		50.0	ug/L	50	01/30/2015 18:38
sec-Butylbenzene	ND		50.0	ug/L	50	01/30/2015 18:38
tert-Butyl methyl ether (MTBE)	ND		50.0	ug/L	50	01/30/2015 18:38
tert-Butylbenzene	ND		50.0	ug/L	50	01/30/2015 18:38
trans-1,2-Dichloroethene	ND		50.0	ug/L	50	01/30/2015 18:38
trans-1,4-Dichloro-2-butene	ND		250	ug/L	50	01/30/2015 18:38
Surrogates						
1,2-Dichloroethane-d4	107		64.0-140	%	50	01/30/2015 18:38
4-Bromofluorobenzene	90.0		85.0-115	%	50	01/30/2015 18:38
Toluene d8	102		82.0-117	%	50	01/30/2015 18:38

Batch Information

Analytical Batch: **VMS3496**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX5481**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 15:04**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130827.D Vial: 27
Acq On : 30 Jan 2015 6:38 pm Operator: BWS
Sample : 0182_12 x50 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 02 07:39:51 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

BWS
2-2-15

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	274999	30.00	ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	422186	30.00	ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	576367	30.00	ppb	0.00
System Monitoring Compounds						
25) 1,2-dichloroethane-d4	4.09	65	437203	31.97	ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 106.57%			
35) toluene-d8	6.19	98	1361587	30.72	ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 102.40%			
51) 4-bromofluorobenzene	8.38	95	479401	26.95	ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 89.83%			

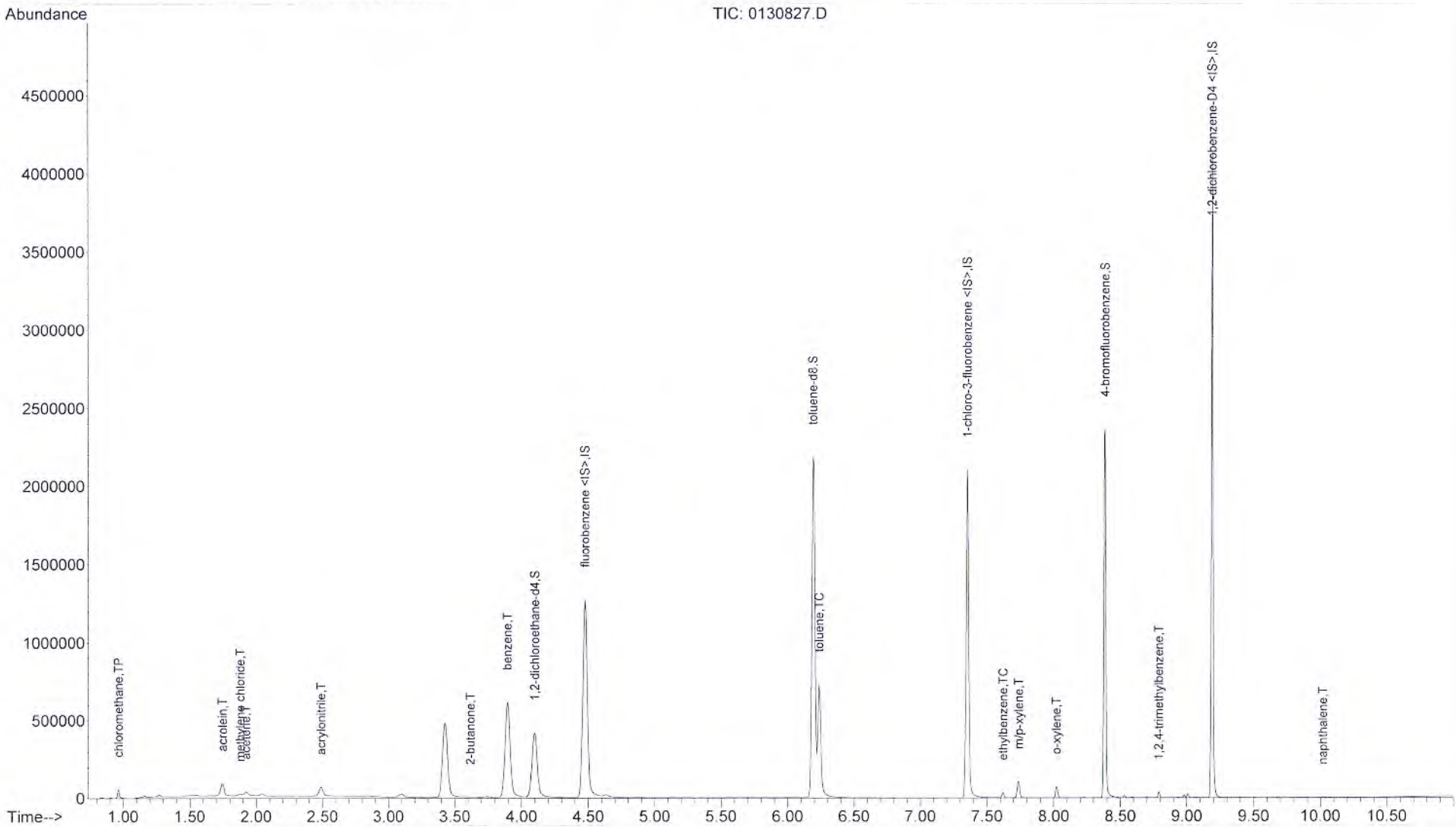
Target Compounds						Qvalue
3) chloromethane	0.96	50	5033	0.44	ppb #	79
5) bromomethane	1.13	94	620	Below Cal	#	3
8) acrolein	1.74	56	1391	1.51	ppb #	1
10) acetone	1.93	43	37993	14.74	ppb	94
11) methylene chloride	1.88	84	1111	0.11	ppb #	82
13) acrylonitrile	2.48	53	2144	0.99	ppb #	33
19) 2-butanone	3.62	43	7370	2.54	ppb #	79
26) benzene	3.89	78	794321	19.77	ppb	98
36) toluene	6.24	92	275422	11.31	ppb	99
56) ethylbenzene	7.62	106	5261	0.53	ppb	99
57) m/p-xylene	7.74	106	22622	1.79	ppb	94
59) o-xylene	8.02	106	14026	1.19	ppb	97
66) 1,2,4-trimethylbenzene	8.79	105	11421	0.40	ppb	97
76) naphthalene	10.02	128	2607	0.14	ppb	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130827.D Vial: 27
Acq On : 30 Jan 2015 6:38 pm Operator: BWS
Sample : 0182_12 x50 D Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 2 7:39 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Results of **TB-01**

Client Sample ID: **TB-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182013-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 08:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 13:41
1,1,1-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 13:41
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1	01/30/2015 13:41
1,1,2-Trichloroethane	ND		1.00	ug/L	1	01/30/2015 13:41
1,1-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 13:41
1,1-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 13:41
1,1-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 13:41
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 13:41
1,2,3-Trichloropropane	ND		1.00	ug/L	1	01/30/2015 13:41
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1	01/30/2015 13:41
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 13:41
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1	01/30/2015 13:41
1,2-Dibromoethane	ND		1.00	ug/L	1	01/30/2015 13:41
1,2-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 13:41
1,2-Dichloroethane	ND		1.00	ug/L	1	01/30/2015 13:41
1,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 13:41
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1	01/30/2015 13:41
1,3-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 13:41
1,3-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 13:41
1,4-Dichlorobenzene	ND		1.00	ug/L	1	01/30/2015 13:41
2,2-Dichloropropane	ND		1.00	ug/L	1	01/30/2015 13:41
2-Butanone	ND		25.0	ug/L	1	01/30/2015 13:41
2-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 13:41
2-Hexanone	ND		5.00	ug/L	1	01/30/2015 13:41
4-Chlorotoluene	ND		1.00	ug/L	1	01/30/2015 13:41
4-Isopropyltoluene	ND		1.00	ug/L	1	01/30/2015 13:41
4-Methyl-2-pentanone	ND		5.00	ug/L	1	01/30/2015 13:41
Acetone	ND		25.0	ug/L	1	01/30/2015 13:41
Benzene	ND		1.00	ug/L	1	01/30/2015 13:41
Bromobenzene	ND		1.00	ug/L	1	01/30/2015 13:41
Bromochloromethane	ND		1.00	ug/L	1	01/30/2015 13:41
Bromodichloromethane	ND		1.00	ug/L	1	01/30/2015 13:41
Bromoform	ND		1.00	ug/L	1	01/30/2015 13:41
Bromomethane	ND		1.00	ug/L	1	01/30/2015 13:41
n-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 13:41
Carbon disulfide	ND		1.00	ug/L	1	01/30/2015 13:41
Carbon tetrachloride	ND		1.00	ug/L	1	01/30/2015 13:41
Chlorobenzene	ND		1.00	ug/L	1	01/30/2015 13:41
Chloroethane	ND		1.00	ug/L	1	01/30/2015 13:41
Chloroform	ND		1.00	ug/L	1	01/30/2015 13:41
Chloromethane	ND		1.00	ug/L	1	01/30/2015 13:41
Dibromochloromethane	ND		1.00	ug/L	1	01/30/2015 13:41

Results of **TB-01**

Client Sample ID: **TB-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182013-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 08:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Dibromomethane	ND		1.00	ug/L	1	01/30/2015 13:41
Dichlorodifluoromethane	ND		5.00	ug/L	1	01/30/2015 13:41
cis-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 13:41
trans-1,3-Dichloropropene	ND		1.00	ug/L	1	01/30/2015 13:41
Diisopropyl Ether	ND		1.00	ug/L	1	01/30/2015 13:41
Ethyl Benzene	ND		1.00	ug/L	1	01/30/2015 13:41
Hexachlorobutadiene	ND		1.00	ug/L	1	01/30/2015 13:41
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1	01/30/2015 13:41
Methyl iodide	ND		1.00	ug/L	1	01/30/2015 13:41
Methylene chloride	ND		5.00	ug/L	1	01/30/2015 13:41
Naphthalene	ND		1.00	ug/L	1	01/30/2015 13:41
Styrene	ND		1.00	ug/L	1	01/30/2015 13:41
Tetrachloroethene	ND		1.00	ug/L	1	01/30/2015 13:41
Toluene	ND		1.00	ug/L	1	01/30/2015 13:41
Trichloroethene	ND		1.00	ug/L	1	01/30/2015 13:41
Trichlorofluoromethane	ND		1.00	ug/L	1	01/30/2015 13:41
Vinyl chloride	ND		1.00	ug/L	1	01/30/2015 13:41
Xylene (total)	ND		2.00	ug/L	1	01/30/2015 13:41
cis-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 13:41
m,p-Xylene	ND		2.00	ug/L	1	01/30/2015 13:41
n-Propylbenzene	ND		1.00	ug/L	1	01/30/2015 13:41
o-Xylene	ND		1.00	ug/L	1	01/30/2015 13:41
sec-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 13:41
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1	01/30/2015 13:41
tert-Butylbenzene	ND		1.00	ug/L	1	01/30/2015 13:41
trans-1,2-Dichloroethene	ND		1.00	ug/L	1	01/30/2015 13:41
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1	01/30/2015 13:41
Surrogates						
1,2-Dichloroethane-d4	105		64.0-140	%	1	01/30/2015 13:41
4-Bromofluorobenzene	89.0		85.0-115	%	1	01/30/2015 13:41
Toluene d8	100		82.0-117	%	1	01/30/2015 13:41

Batch Information

Analytical Batch: **VMS3496**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX5481**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 15:04**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130815.D
Acq On : 30 Jan 2015 1:41 pm
Sample : 0182_13 A
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12:18 2015

Vial: 15
Operator: BWS
Inst : MSD8
Multiplr: 1.00
Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

BWS 1.30.15

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	265474	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	404316	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	544939	30.00 ppb	0.00

System Monitoring Compounds

25) 1,2-dichloroethane-d4	4.10	65	415695	31.49 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 104.97%		
35) toluene-d8	6.19	98	1286572	30.07 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 100.23%		
51) 4-bromofluorobenzene	8.38	95	453627	26.63 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 88.77%		

Target Compounds

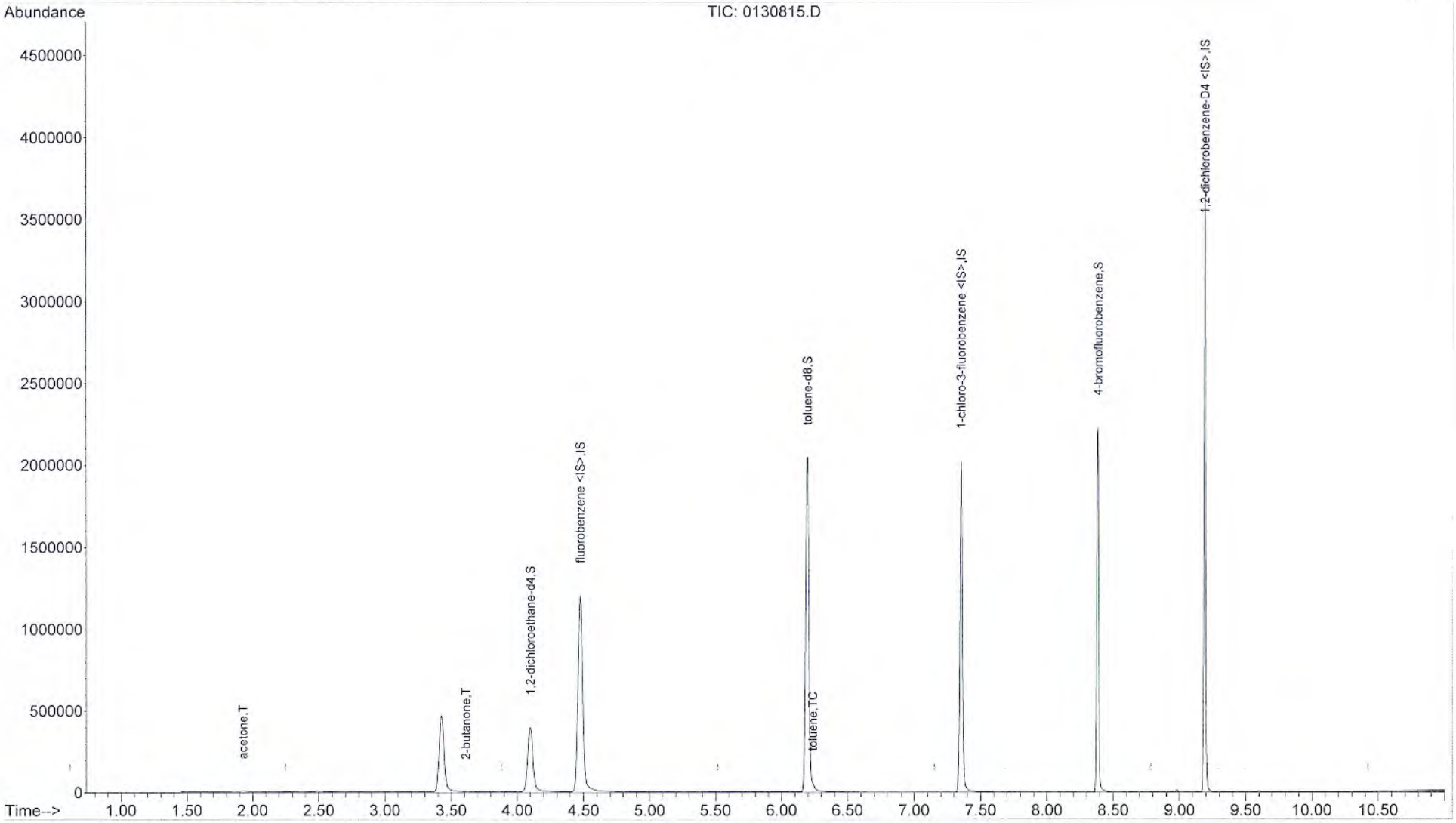
					Qvalue
5) bromomethane	1.16	94	746	Below Cal #	3
10) acetone	1.93	43	4671	1.88 ppb	94
19) 2-butanone	3.61	43	1290	0.46 ppb #	45
36) toluene	6.24	92	6977	0.30 ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130815.D Vial: 15
Acq On : 30 Jan 2015 1:41 pm Operator: BWS
Sample : 0182_13 A Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



SW-846 8260B
QC, Blanks Data

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 8260B

Prep Method: SW-846 5030B
Prep Batch: VXX5481
Prep Date: 01/30/2015 07:24

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
LCS for HBN 63748 [VXX/5481]	158127	01/30/2015 08:44	VMS3496	MSD8	BWS
LCSD for HBN 63748 [VXX/5481]	158128	01/30/2015 09:09	VMS3496	MSD8	BWS
MB for HBN 63748 [VXX/5481]	158129	01/30/2015 10:23	VMS3496	MSD8	BWS
BT-SW-01	31500182001	01/30/2015 10:48	VMS3496	MSD8	BWS
BT-SW-02	31500182002	01/30/2015 11:13	VMS3496	MSD8	BWS
BT-SW-03	31500182003	01/30/2015 11:37	VMS3496	MSD8	BWS
BT-SW-04	31500182004	01/30/2015 12:02	VMS3496	MSD8	BWS
BT-SW-05	31500182005	01/30/2015 12:27	VMS3496	MSD8	BWS
BT-SW-06	31500182006	01/30/2015 12:51	VMS3496	MSD8	BWS
BT-SW-DUP	31500182007	01/30/2015 13:16	VMS3496	MSD8	BWS
TB-01	31500182013	01/30/2015 13:41	VMS3496	MSD8	BWS
BT-PW-01	31500182011	01/30/2015 18:13	VMS3496	MSD8	BWS
BT-PW-02	31500182012	01/30/2015 18:38	VMS3496	MSD8	BWS
BT-PW-02(157969MS)	158226	01/30/2015 19:03	VMS3496	MSD8	BWS
BT-PW-02(157969MSD)	158227	01/30/2015 19:27	VMS3496	MSD8	BWS

Surrogate Summary Form 2

Analytical Method: SW-846 8260B
Analytical Batch: VMS3496
Work Order: 31500182
Matrix: Water

Results by **SW-846 8260B**

	12-DCE-D4	4-BFB	TOL-D8
BT-PW-01	105	89	100
BT-PW-02	107	90	102
BT-PW-02(157969MS)	108	94	95
BT-PW-02(157969MSD)	106	92	101
BT-SW-01	104	91	100
BT-SW-02	102	89	98
BT-SW-03	105	89	100
BT-SW-04	104	89	96
BT-SW-05	105	88	100
BT-SW-06	109	89	105
BT-SW-DUP	104	87	100
LCS for HBN 63748 [VXX/5481]	102	93	99
LCSD for HBN 63748 [VXX/5481]	104	93	100
MB for HBN 63748 [VXX/5481]	88	88	100
TB-01	105	89	100

Control Limits

1,2-Dichloroethane-d4	12-DCE-D4	64.0-140
4-Bromofluorobenzene	4-BFB	85.0-115
Toluene d8	TOL-D8	82.0-117

Print Date: 02/06/2015

N.C. Certification # 481

Internal Standard/Retention Time Window Summary — Form 8

Analytical Batch: VMS3496
Analyst: BWS
Analytical Date/Time: 01/30/2015 08:20
Instrument: MSD8
Filename: 0130802.D

SW-846 8260B

PARAMETER	RT	RT High	RT Low	Area	Area High	Area Low
1,2-Dichlorobenzene-d4	9.19	9.69	8.69	623218	1246436	311609
Fluorobenzene	4.47	4.97	3.97	280117	560234	140059
1-Chloro-3-fluorobenzene	7.35	7.85	6.85	428024	856048	214012

	IS1		IS2		IS3	
CUSTOMER SAMPLE	RT	Area	RT	Area	RT	Area
BT-PW-01	4.47	266464	7.35	399554	9.19	543060
BT-PW-02	4.47	274999	7.35	422186	9.19	576367
BT-PW-02(157969MS)	4.47	266049	7.35	407787	9.19	593411
BT-PW-02(157969MSD)	4.47	265906	7.35	404989	9.19	582389
BT-SW-01	4.47	263832	7.35	401830	9.19	571989
BT-SW-02	4.47	279721	7.35	413651	9.19	562397
BT-SW-03	4.47	265094	7.35	404828	9.19	546353
BT-SW-04	4.47	262104	7.35	397200	9.19	538571
BT-SW-05	4.47	269941	7.35	411237	9.19	554329
BT-SW-06	4.47	251510	7.35	400013	9.19	544928
BT-SW-DUP	4.47	267372	7.35	404695	9.19	544016
LCS for HBN 63748 [VXX/5481]	4.47	282565	7.35	423050	9.19	607375
LCSD for HBN 63748 [VXX/5481]	4.47	277938	7.35	420384	9.19	599982
MB for HBN 63748 [VXX/5481]	4.47	265972	7.35	401633	9.19	538550
TB-01	4.47	265474	7.35	404316	9.19	544939
TCLP-B for HBN 63856 [LCH/1554	4.47	261082	7.35	390483	9.19	530644

GC/MS QA-QC Check Report

Tune File : C:\MSDCHEM\1\DATA\VMS3496\0130801.D
Tune Time : 30 Jan 2015 7:55 am

Daily Calibration File : C:\MSDCHEM\1\DATA\8012815\0128916.D

					254070	418094	691238
File	Sample	Surrogate Recovery %			Internal Standard Responses		
0130801.D	TUNE	101	99	90	291898	434791	584708
0130802.D	QCK010	104	95	93	280117	428024	623218
0130803.D	158127 L	102	99	93	282565	423050	607375
0130804.D	158128 L	104	100	93	277938	420384	599982
No Quant Results for C:\MSDCHEM\1\DATA\VMS3496\0130805.D							
0130806.D	R	104	100	88	275029	415704	558993
0130807.D	158129 M	88	100	88	265972	401633	538550
0130808.D	0182_1	104	100	91	263832	401830	571989
0130809.D	0182_2	102	98	89	279721	413651	562397
0130810.D	0182_3	105	100	89	265094	404828	546353
0130811.D	0182_4	104	96	89	262104	397200	538571
0130812.D	0182_5	105	100	88	269941	411237	554329
0130813.D	0182_6	109	105	89	251510	400013	544928
0130814.D	0182_7	104	100	87	267372	404695	544016
0130815.D	0182_13	105	100	89	265474	404316	544939
0130816.D	0186_1	104	101	89	290267	441075	601085
0130817.D	0186_2	104	103	90	290493	447088	623454
0130818.D	0186_3	105	93	91	288891	442455	608773
0130819.D	0186_7	106	102	89	288346	442083	600479
0130820.D	0186_8	106	103	89	254095	388145	529769
0130821.D	0186_11	105	96	90	278680	426495	586174
0130822.D	0186_12	105	92	90	279231	429393	588036
0130823.D	158189 x	104	95	89	261082	390483	530644
0130824.D	0088_1 x	105	92	90	262039	392692	534311
0130825.D	0089_1 x	105	100	90	265977	399554	541810
0130826.D	0182_11	105	100	89	266464	399554	543060
0130827.D	0182_12	107	102	90	274999	422186	576367
0130828.D	0182_12	108	95	94	266049	407787	593411
0130829.D	0182_12	106	101	92	265906	404989	582389

t - fails 12hr time check * - fails criteria

Created: Mon Feb 02 07:48:42 2015 MSD8

Method Blank Summary **Form 4**

Blank ID: MB for HBN 63748 [VXX/5481]
Blank Lab ID: 158129
Prep Batch: VXX5481

Matrix: Water
Analysis Date/Time: 01/30/2015 10:23

Results by **SW-846 8260B**

Client Sample ID	Lab Sample ID	Filename	Date Analyzed	Analyst
LCS for HBN 63748 [VXX/5481]	158127	0130803.D	01/30/2015 08:44	BWS
LCSD for HBN 63748 [VXX/5481]	158128	0130804.D	01/30/2015 09:09	BWS
BT-SW-01	31500182001	0130808.D	01/30/2015 10:48	BWS
BT-SW-02	31500182002	0130809.D	01/30/2015 11:13	BWS
BT-SW-03	31500182003	0130810.D	01/30/2015 11:37	BWS
BT-SW-04	31500182004	0130811.D	01/30/2015 12:02	BWS
BT-SW-05	31500182005	0130812.D	01/30/2015 12:27	BWS
BT-SW-06	31500182006	0130813.D	01/30/2015 12:51	BWS
BT-SW-DUP	31500182007	0130814.D	01/30/2015 13:16	BWS
TB-01	31500182013	0130815.D	01/30/2015 13:41	BWS
BT-PW-01	31500182011	0130826.D	01/30/2015 18:13	BWS
BT-PW-02	31500182012	0130827.D	01/30/2015 18:38	BWS
BT-PW-02(157969MS)	158226	0130828.D	01/30/2015 19:03	BWS
BT-PW-02(157969MSD)	158227	0130829.D	01/30/2015 19:27	BWS

Method Blank

Blank ID: MB for HBN 63748 [VXX/5481] Matrix: Water
Blank Lab ID: 158129
QC for Samples:
31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012, 31500182013

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF
Dichlorodifluoromethane	ND		5.00	ug/L	1
Chloromethane	ND		1.00	ug/L	1
Vinyl chloride	ND		1.00	ug/L	1
Bromomethane	ND		1.00	ug/L	1
Chloroethane	ND		1.00	ug/L	1
Trichlorofluoromethane	ND		1.00	ug/L	1
1,1-Dichloroethene	ND		1.00	ug/L	1
Acetone	ND		25.0	ug/L	1
Methylene chloride	ND		5.00	ug/L	1
trans-1,2-Dichloroethene	ND		1.00	ug/L	1
tert-Butyl methyl ether (MTBE)	ND		1.00	ug/L	1
1,1-Dichloroethane	ND		1.00	ug/L	1
Diisopropyl Ether	ND		1.00	ug/L	1
2,2-Dichloropropane	ND		1.00	ug/L	1
cis-1,2-Dichloroethene	ND		1.00	ug/L	1
2-Butanone	ND		25.0	ug/L	1
Bromochloromethane	ND		1.00	ug/L	1
Chloroform	ND		1.00	ug/L	1
1,1,1-Trichloroethane	ND		1.00	ug/L	1
Carbon tetrachloride	ND		1.00	ug/L	1
1,1-Dichloropropene	ND		1.00	ug/L	1
Benzene	ND		1.00	ug/L	1
1,2-Dichloroethane	ND		1.00	ug/L	1
Trichloroethene	ND		1.00	ug/L	1
1,2-Dichloropropane	ND		1.00	ug/L	1
Dibromomethane	ND		1.00	ug/L	1
Bromodichloromethane	ND		1.00	ug/L	1
cis-1,3-Dichloropropene	ND		1.00	ug/L	1
4-Methyl-2-pentanone	ND		5.00	ug/L	1
Toluene	ND		1.00	ug/L	1
Methyl iodide	ND		1.00	ug/L	1
trans-1,3-Dichloropropene	ND		1.00	ug/L	1
Carbon disulfide	ND		1.00	ug/L	1
1,1,2-Trichloroethane	ND		1.00	ug/L	1
Tetrachloroethene	ND		1.00	ug/L	1
1,3-Dichloropropane	ND		1.00	ug/L	1
2-Hexanone	ND		5.00	ug/L	1
Dibromochloromethane	ND		1.00	ug/L	1
1,2-Dibromoethane	ND		1.00	ug/L	1
Chlorobenzene	ND		1.00	ug/L	1
1,1,1,2-Tetrachloroethane	ND		1.00	ug/L	1

Method Blank

Blank ID: MB for HBN 63748 [VXX/5481]
Matrix: Water
Blank Lab ID: 158129
QC for Samples:
31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012, 31500182013

Results by **SW-846 8260B**

Parameter	Result	Qual	LOQ/CL	Units	DF
Bromoform	ND		1.00	ug/L	1
Bromobenzene	ND		1.00	ug/L	1
1,1,2,2-Tetrachloroethane	ND		1.00	ug/L	1
1,2,3-Trichloropropane	ND		1.00	ug/L	1
Ethyl Benzene	ND		1.00	ug/L	1
m,p-Xylene	ND		2.00	ug/L	1
Styrene	ND		1.00	ug/L	1
o-Xylene	ND		1.00	ug/L	1
Xylene (total)	ND		2.00	ug/L	1
Isopropylbenzene (Cumene)	ND		1.00	ug/L	1
n-Propylbenzene	ND		1.00	ug/L	1
2-Chlorotoluene	ND		1.00	ug/L	1
4-Chlorotoluene	ND		1.00	ug/L	1
1,3,5-Trimethylbenzene	ND		1.00	ug/L	1
tert-Butylbenzene	ND		1.00	ug/L	1
1,2,4-Trimethylbenzene	ND		1.00	ug/L	1
sec-Butylbenzene	ND		1.00	ug/L	1
1,3-Dichlorobenzene	ND		1.00	ug/L	1
4-Isopropyltoluene	ND		1.00	ug/L	1
1,4-Dichlorobenzene	ND		1.00	ug/L	1
1,2-Dichlorobenzene	ND		1.00	ug/L	1
n-Butylbenzene	ND		1.00	ug/L	1
1,2-Dibromo-3-chloropropane	ND		5.00	ug/L	1
1,2,4-Trichlorobenzene	ND		1.00	ug/L	1
Hexachlorobutadiene	ND		1.00	ug/L	1
Naphthalene	ND		1.00	ug/L	1
trans-1,4-Dichloro-2-butene	ND		5.00	ug/L	1
1,2,3-Trichlorobenzene	ND		1.00	ug/L	1
Surrogates					
1,2-Dichloroethane-d4	88.0		64.0-140	%	1
Toluene d8	100		82.0-117	%	1
4-Bromofluorobenzene	88.0		85.0-115	%	1

Batch Information

Analytical Batch: VMS3496
Analytical Method: SW-846 8260B
Instrument: MSD8
Analyst: BWS

Prep Batch: VXX5481
Prep Method: SW-846 5030B
Prep Date/Time: 1/30/2015 7:24:37AM
Prep Initial Wt./Vol.: 40 mL
Prep Extract Vol: 40 mL

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130807.D Vial: 7
Acq On : 30 Jan 2015 10:23 am Operator: BWS
Sample : 158129 MB Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12:10 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

BWS
1.30.15

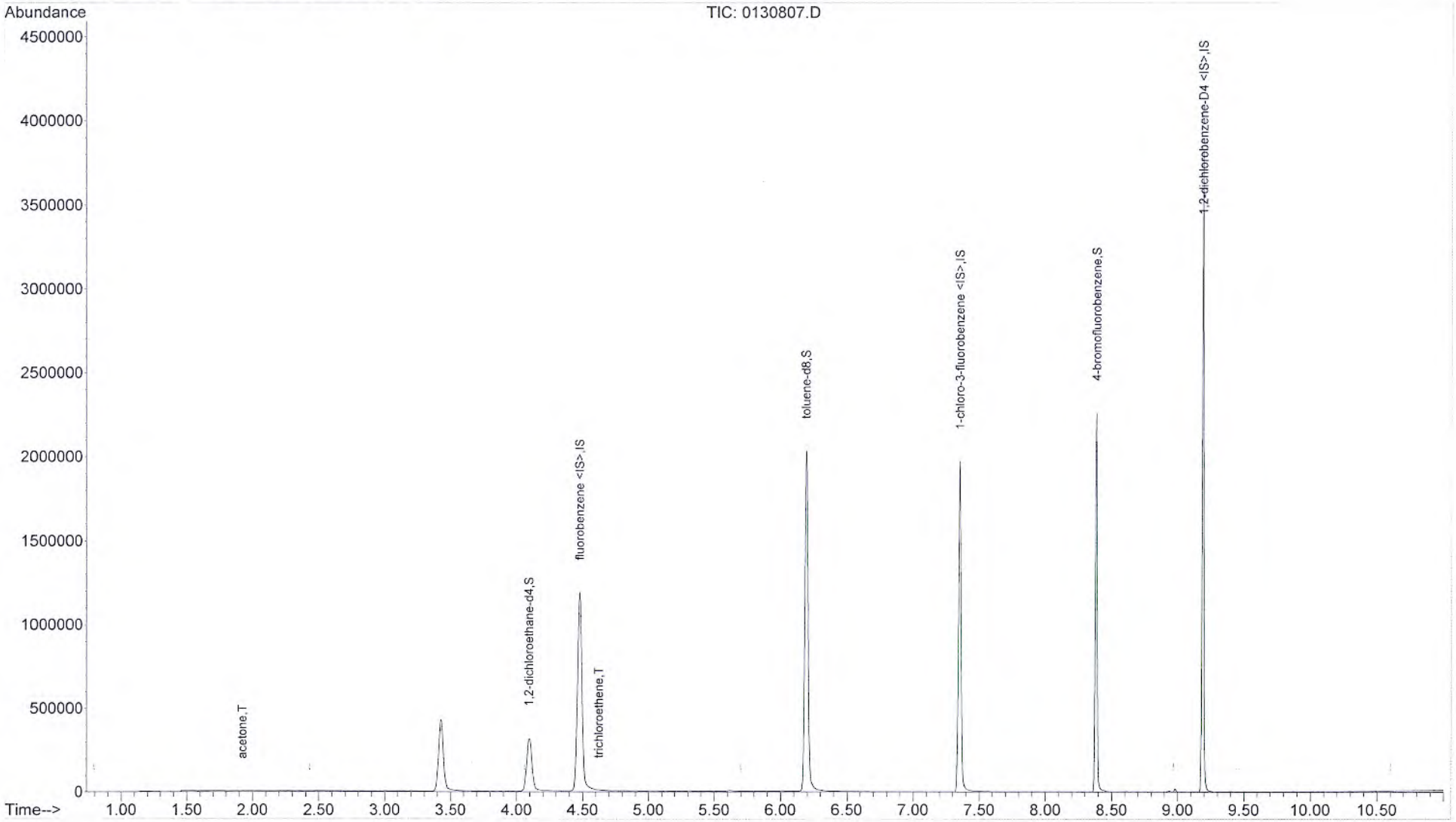
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	265972	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	401633	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	538550	30.00 ppb	0.00
System Monitoring Compounds					
25) 1,2-dichloroethane-d4	4.09	65	350170	26.47 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 88.23%		
35) toluene-d8	6.19	98	1282743	29.92 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 99.73%		
51) 4-bromofluorobenzene	8.38	95	445021	26.30 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 87.67%		
Target Compounds					Qvalue
10) acetone	1.92	43	759	~~0.30~~ ppb	# 44
28) trichloroethene	4.62	95	1038	~~0.10~~ ppb	# 1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130807.D Vial: 7
Acq On : 30 Jan 2015 10:23 am Operator: BWS
Sample : 158129 MB Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 14:12 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Blank Spike Summary

Blank Spike ID: LCS for HBN 63748 [VXX/5481]
Blank Spike Lab ID: 158127
Date Analyzed: 01/30/2015 08:44

Spike Duplicate ID: LCSD for HBN 63748 [VXX/5481]
Spike Duplicate Lab ID: 158128
Date Analyzed: 01/30/2015 09:09
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012, 31500182013

Results by **SW-846 8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Dichlorodifluoromethane	5.00	5.57	111	5.00	5.51	110	33.0-170	1.1	30.00
Chloromethane	5.00	4.93	99	5.00	4.92	98	57.0-132	0.20	30.00
Vinyl chloride	5.00	5.13	103	5.00	5.08	102	59.0-138	0.98	30.00
Bromomethane	5.00	4.32	86	5.00	4.50	90	51.0-134	4.1	30.00
Chloroethane	5.00	3.69	74	5.00	4.27	85	64.0-145	15	30.00
Trichlorofluoromethane	5.00	4.90	98	5.00	4.99	100	64.0-133	1.8	30.00
1,1-Dichloroethene	5.00	4.35	87	5.00	4.10	82	71.0-128	5.9	30.00
Acetone	25.0	26.5	106	25.0	ND	93	52.0-140	13	30.00
Methylene chloride	5.00	ND	85	5.00	ND	81	70.0-113	4.3	30.00
trans-1,2-Dichloroethene	5.00	4.37	87	5.00	3.96	79	57.0-138	9.8	30.00
tert-Butyl methyl ether (MTBE)	5.00	4.39	88	5.00	4.07	81	47.0-142	7.6	30.00
1,1-Dichloroethane	5.00	4.36	87	5.00	4.05	81	68.0-133	7.4	30.00
Diisopropyl Ether	5.00	4.06	81	5.00	3.82	76	66.0-132	6.1	30.00
2,2-Dichloropropane	5.00	4.59	92	5.00	3.91	78	74.0-125	16	30.00
cis-1,2-Dichloroethene	5.00	4.59	92	5.00	4.17	83	73.0-128	9.6	30.00
2-Butanone	25.0	27.2	109	25.0	ND	98	58.0-134	11	30.00
Bromochloromethane	5.00	4.65	93	5.00	3.92	78	73.0-128	17	30.00
Chloroform	5.00	4.54	91	5.00	3.92	78	74.0-124	15	30.00
1,1,1-Trichloroethane	5.00	4.64	93	5.00	4.29	86	76.0-119	7.8	30.00
Carbon tetrachloride	5.00	4.84	97	5.00	3.97	79	75.0-120	20	30.00
1,1-Dichloropropene	5.00	4.54	91	5.00	4.28	86	76.0-124	5.9	30.00
Benzene	5.00	4.39	88	5.00	4.14	83	76.0-124	5.9	30.00
1,2-Dichloroethane	5.00	4.51	90	5.00	4.20	84	76.0-119	7.1	30.00
Trichloroethene	5.00	4.21	84	5.00	4.17	83	74.0-121	0.95	30.00
1,2-Dichloropropane	5.00	4.40	88	5.00	4.15	83	74.0-124	5.8	30.00
Dibromomethane	5.00	4.42	88	5.00	4.13	83	71.0-128	6.8	30.00
Bromodichloromethane	5.00	4.66	93	5.00	4.35	87	72.0-120	6.9	30.00
cis-1,3-Dichloropropene	5.00	4.93	99	5.00	4.51	90	73.0-122	8.9	30.00
4-Methyl-2-pentanone	25.0	22.2	89	25.0	21.0	84	65.0-124	5.6	30.00
Toluene	5.00	4.36	87	5.00	4.14	83	75.0-123	5.2	30.00
Methyl iodide	5.00	4.03	81	5.00	3.70	74	55.0-123	8.5	30.00
trans-1,3-Dichloropropene	5.00	4.70	94	5.00	4.31	86	70.0-125	8.7	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 63748 [VXX/5481]
Blank Spike Lab ID: 158127
Date Analyzed: 01/30/2015 08:44

Spike Duplicate ID: LCSD for HBN 63748 [VXX/5481]
Spike Duplicate Lab ID: 158128
Date Analyzed: 01/30/2015 09:09
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012, 31500182013

Results by **SW-846 8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon disulfide	5.00	3.95	79	5.00	3.61	72	65.0-132	9.0	30.00
1,1,2-Trichloroethane	5.00	4.80	96	5.00	4.46	89	76.0-121	7.3	30.00
Tetrachloroethene	5.00	4.76	95	5.00	4.38	88	59.0-112	8.3	30.00
1,3-Dichloropropane	5.00	4.69	94	5.00	4.43	89	74.0-120	5.7	30.00
2-Hexanone	25.0	27.1	108	25.0	24.4	98	56.0-133	10	30.00
Dibromochloromethane	5.00	5.15	103	5.00	4.58	92	67.0-122	12	30.00
1,2-Dibromoethane	5.00	4.77	95	5.00	4.43	89	74.0-119	7.4	30.00
Chlorobenzene	5.00	4.69	94	5.00	4.25	85	74.0-120	9.8	30.00
1,1,1,2-Tetrachloroethane	5.00	5.06	101	5.00	4.55	91	73.0-119	11	30.00
Bromoform	5.00	5.29	106	5.00	4.72	94	62.0-127	11	30.00
Bromobenzene	5.00	4.73	95	5.00	4.32	86	75.0-120	9.1	30.00
1,1,2,2-Tetrachloroethane	5.00	4.94	99	5.00	4.63	93	68.0-129	6.5	30.00
1,2,3-Trichloropropane	5.00	4.82	96	5.00	4.67	93	67.0-126	3.2	30.00
Ethyl Benzene	5.00	5.30	106	5.00	4.90	98	76.0-123	7.8	30.00
m,p-Xylene	10.0	10.7	107	10.0	9.88	99	76.0-124	8.0	30.00
Styrene	5.00	5.33	107	5.00	4.82	96	76.0-121	10	30.00
o-Xylene	5.00	5.23	105	5.00	4.77	95	75.0-124	9.2	30.00
Isopropylbenzene (Cumene)	5.00	5.26	105	5.00	4.70	94	77.0-120	11	30.00
n-Propylbenzene	5.00	5.20	104	5.00	4.76	95	77.0-123	8.8	30.00
2-Chlorotoluene	5.00	5.23	105	5.00	4.97	99	74.0-127	5.1	30.00
4-Chlorotoluene	5.00	5.14	103	5.00	4.95	99	77.0-123	3.8	30.00
1,3,5-Trimethylbenzene	5.00	5.31	106	5.00	4.94	99	76.0-122	7.2	30.00
tert-Butylbenzene	5.00	5.19	104	5.00	4.81	96	67.0-122	7.6	30.00
1,2,4-Trimethylbenzene	5.00	5.35	107	5.00	5.01	100	76.0-124	6.6	30.00
sec-Butylbenzene	5.00	5.34	107	5.00	4.90	98	78.0-121	8.6	30.00
1,3-Dichlorobenzene	5.00	5.22	104	5.00	4.82	96	75.0-120	8.0	30.00
4-Isopropyltoluene	5.00	5.32	106	5.00	4.92	98	77.0-120	7.8	30.00
1,4-Dichlorobenzene	5.00	5.30	106	5.00	4.81	96	70.0-125	9.7	30.00
1,2-Dichlorobenzene	5.00	5.35	107	5.00	4.94	99	76.0-118	8.0	30.00
n-Butylbenzene	5.00	5.34	107	5.00	4.87	97	78.0-118	9.2	30.00
1,2-Dibromo-3-chloropropane	30.0	32.7	109	30.0	29.6	99	62.0-130	10	30.00
1,2,4-Trichlorobenzene	5.00	5.22	104	5.00	4.95	99	72.0-119	5.3	30.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 63748 [VXX/5481]
Blank Spike Lab ID: 158127
Date Analyzed: 01/30/2015 08:44

Spike Duplicate ID: LCSD for HBN 63748 [VXX/5481]
Spike Duplicate Lab ID: 158128
Date Analyzed: 01/30/2015 09:09
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012, 31500182013

Results by **SW-846 8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Hexachlorobutadiene	5.00	5.27	105	5.00	4.85	97	69.0-121	8.3	30.00
Naphthalene	5.00	5.40	108	5.00	4.99	100	67.0-122	7.9	30.00
trans-1,4-Dichloro-2-butene	25.0	26.8	107	25.0	24.6	98	61.0-132	8.6	30.00
1,2,3-Trichlorobenzene	5.00	5.46	109	5.00	4.99	100	68.0-123	9.0	30.00
Surrogates									
1,2-Dichloroethane-d4			102			104	64.0-140		
Toluene d8			99			100	82.0-117		
4-Bromofluorobenzene			93			93	85.0-115		

Batch Information

Analytical Batch: **VMS3496**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX5481**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 07:24**
Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130803.D Vial: 3
Acq On : 30 Jan 2015 8:44 am Operator: BWS
Sample : 158127 LCS Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 09:21:41 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

BJ 1-30-15

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	282565	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	423050	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	607375	30.00 ppb	0.00
System Monitoring Compounds					
25) 1,2-dichloroethane-d4	4.09	65	430313	30.62 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 102.07%		
35) toluene-d8	6.19	98	1356608	29.79 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 99.30%		
51) 4-bromofluorobenzene	8.38	95	494964	27.77 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 92.57%		

Target Compounds					Qvalue
2) dichlorodifluoromethane	0.86	85	55368	5.57 ppb	99
3) chloromethane	0.95	50	58056	4.93 ppb	99
4) vinyl chloride	0.99	62	59439	5.13 ppb	96
5) bromomethane	1.14	94	22910	4.32 ppb	99
6) chloroethane	1.20	64	12913	3.69 ppb	90
7) trichlorofluoromethane	1.27	101	74673	4.90 ppb	98
8) acrolein	1.73	56	151334	160.05 ppb	99
9) 1,1-dichloroethene	1.54	96	42443	4.35 ppb	97
10) acetone	1.93	43	70173	26.49 ppb	100
11) methylene chloride	1.88	84	44755	4.25 ppb	98
12) trans-1,2-dichloroethene	1.99	96	45766	4.37 ppb	97
13) acrylonitrile	2.49	53	270997	122.07 ppb	98
14) MTBE	2.07	73	95649	4.39 ppb	99
15) 1,1-dichloroethane	2.44	63	84016	4.36 ppb	98
16) DIPE	2.37	45	120667	4.06 ppb	97
17) 2,2-dichloropropane	3.02	77	65921	4.59 ppb	100
18) cis-1,2-dichloroethene	2.92	96	48896	4.59 ppb	98
19) 2-butanone	3.62	43	81148	27.21 ppb	97
20) bromochloromethane	3.12	130	30279	4.65 ppb	88
21) chloroform	3.22	83	81456	4.54 ppb	99
22) 1,1,1-trichloroethane	3.42	97	67550	4.64 ppb	95
23) carbon tetrachloride	3.33	117	48651	4.84 ppb	98
24) 1,1-dichloropropene	3.58	75	63114	4.54 ppb	95
26) benzene	3.89	78	181393	4.39 ppb	100
27) 1,2-dichloroethane	4.19	62	56614	4.51 ppb	99
28) trichloroethene	4.68	95	45488	4.21 ppb	96
29) 1,2-dichloropropane	5.27	63	43095	4.40 ppb #	95
30) dibromomethane	5.15	93	23242	4.42 ppb	98
31) bromodichloromethane	5.37	83	49132	4.66 ppb	92
32) 2-chloroethyl vinyl ether	6.02	106	197616	122.38 ppb	100
33) cis-1,3-dichloropropene	6.02	75	58676	4.93 ppb	98
34) 4-methyl-2-pentanone	6.65	43	128556	22.17 ppb	98
36) toluene	6.24	92	109087	4.36 ppb	99
37) iodomethane	1.62	142	56676	4.03 ppb	95
38) trans-1,3-dichloropropene	6.66	75	36881	4.70 ppb	99
39) Vinyl acetate	2.68	43	167664	11.73 ppb	98
40) carbon disulfide	1.55	76	126282	3.95 ppb	98
42) 1,1,2-trichloroethane	6.79	83	25074	4.80 ppb	96
43) tetrachloroethene	6.58	166	46754	4.76 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130803.D Vial: 3
Acq On : 30 Jan 2015 8:44 am Operator: BWS
Sample : 158127 LCS Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 09:21:41 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

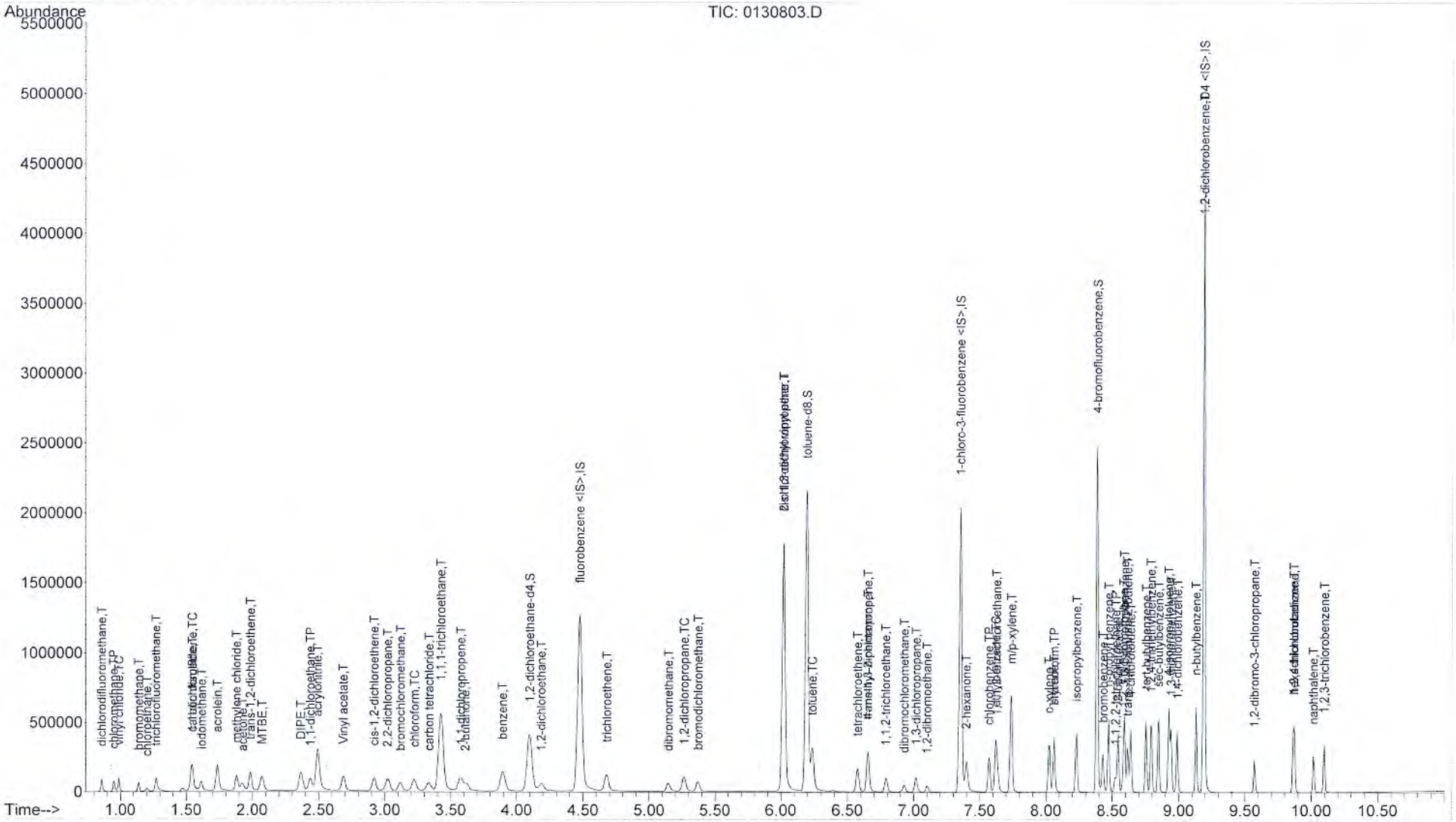
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,3-dichloropropane	7.02	76	49837	4.69	ppb		98
45)	2-hexanone	7.40	43	112848	27.07	ppb		98
46)	dibromochloromethane	6.93	129	22846	5.15	ppb		92
47)	1,2-dibromoethane	7.10	107	26204	4.77	ppb	#	100
48)	chlorobenzene	7.57	112	104384	4.69	ppb		97
49)	1,1,1,2-tetrachloroethane	7.63	131	23310	5.06	ppb		97
50)	bromoform	8.06	173	11705	5.29	ppb		92
52)	bromobenzene	8.43	156	48470	4.73	ppb		97
53)	1,1,2,2-tetrachloroethane	8.52	83	34146	4.94	ppb		100
54)	1,2,3-trichloropropane	8.58	110	9648	4.82	ppb	#	51
56)	ethylbenzene	7.62	106	55078	5.30	ppb		94
57)	m/p-xylene	7.74	106	141937	10.65	ppb		99
58)	styrene	8.06	104	107475	5.33	ppb		97
59)	o-xylene	8.03	106	65099	5.23	ppb		94
60)	isopropylbenzene	8.23	105	177766	5.26	ppb		99
61)	n-propyl benzene	8.47	91	229831	5.20	ppb		100
62)	2-chlorotoluene	8.54	126	44281	5.23	ppb		97
63)	4-chlorotoluene	8.64	126	46572	5.14	ppb		90
64)	1,3,5-trimethylbenzene	8.59	105	157322	5.31	ppb		100
65)	tert-butylbenzene	8.75	119	133163	5.19	ppb		97
66)	1,2,4-trimethylbenzene	8.79	105	161030	5.35	ppb		99
67)	sec-butylbenzene	8.85	105	214309	5.34	ppb		100
68)	1,3-dichlorobenzene	8.94	146	98198	5.22	ppb		99
69)	4-isopropyltoluene	8.92	119	178699	5.32	ppb		98
70)	1,4-dichlorobenzene	8.99	146	96360	5.30	ppb		98
71)	1,2-dichlorobenzene	9.19	146	99647	5.35	ppb		97
72)	n-butylbenzene	9.13	91	172209	5.34	ppb		99
73)	1,2-dibromo-3-chloropropan	9.57	75	26902	32.74	ppb		97
74)	1,2,4-trichlorobenzene	9.88	180	58678	5.22	ppb		97
75)	hexachlorobutadiene	9.86	225	37204	5.27	ppb		96
76)	naphthalene	10.02	128	105441	5.40	ppb		98
77)	trans-1,4-Dichloro-2-buten	8.61	53	43450	26.78	ppb		98
78)	1,2,3-trichlorobenzene	10.10	180	53303	5.46	ppb		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130803.D Vial: 3
Acq On : 30 Jan 2015 8:44 am Operator: BWS
Sample : 158127 LCS Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 9:21 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130804.D Vial: 4
Acq On : 30 Jan 2015 9:09 am Operator: BWS
Sample : 158128 LCSD Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 09:21:43 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

BWS
1-30-15

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	277938	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	420384	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	599982	30.00 ppb	0.00
System Monitoring Compounds					
25) 1,2-dichloroethane-d4	4.10	65	431509	31.22 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 104.07%		
35) toluene-d8	6.19	98	1346456	30.06 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 100.20%		
51) 4-bromofluorobenzene	8.38	95	492268	27.79 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 92.63%		

Target Compounds					Qvalue
2) dichlorodifluoromethane	0.86	85	53820	5.51 ppb	99
3) chloromethane	0.95	50	56895	4.92 ppb	100
4) vinyl chloride	0.99	62	57925	5.08 ppb	97
5) bromomethane	1.14	94	23434	4.50 ppb	97
6) chloroethane	1.20	64	14346	4.27 ppb	95
7) trichlorofluoromethane	1.27	101	74693	4.99 ppb	98
8) acrolein	1.73	56	148785	159.98 ppb	98
9) 1,1-dichloroethene	1.54	96	39318	4.10 ppb	96
10) acetone	1.92	43	60550	23.24 ppb	100
11) methylene chloride	1.88	84	42143	4.07 ppb	93
12) trans-1,2-dichloroethene	1.99	96	40789	3.96 ppb	97
13) acrylonitrile	2.49	53	268467	122.94 ppb	99
14) MTBE	2.07	73	87119	4.07 ppb	99
15) 1,1-dichloroethane	2.44	63	76609	4.05 ppb	99
16) DIPE	2.37	45	111493	3.82 ppb	97
17) 2,2-dichloropropane	3.02	77	55136	3.91 ppb	99
18) cis-1,2-dichloroethene	2.92	96	43624	4.17 ppb	97
19) 2-butanone	3.62	43	71626	24.42 ppb	99
20) bromochloromethane	3.12	130	25107	3.92 ppb	88
21) chloroform	3.22	83	69219	3.92 ppb	98
22) 1,1,1-trichloroethane	3.42	97	61432	4.29 ppb	99
23) carbon tetrachloride	3.34	117	39227	3.97 ppb	99
24) 1,1-dichloropropene	3.57	75	58483	4.28 ppb	98
26) benzene	3.89	78	168118	4.14 ppb	97
27) 1,2-dichloroethane	4.19	62	51925	4.20 ppb	100
28) trichloroethene	4.68	95	44409	4.17 ppb	98
29) 1,2-dichloropropane	5.27	63	40025	4.15 ppb #	95
30) dibromomethane	5.15	93	21348	4.13 ppb	92
31) bromodichloromethane	5.37	83	45101	4.35 ppb	92
32) 2-chloroethyl vinyl ether	6.02	106	195310	122.96 ppb	98
33) cis-1,3-dichloropropene	6.02	75	52731	4.51 ppb	97
34) 4-methyl-2-pentanone	6.65	43	119892	21.02 ppb	100
36) toluene	6.24	92	101874	4.14 ppb	96
37) iodomethane	1.62	142	51152	3.70 ppb	99
38) trans-1,3-dichloropropene	6.66	75	32690	4.31 ppb	99
39) Vinyl acetate	2.68	43	154022	10.96 ppb	99
40) carbon disulfide	1.55	76	113663	3.61 ppb	99
42) 1,1,2-trichloroethane	6.79	83	23162	4.46 ppb	98
43) tetrachloroethene	6.58	166	42835	4.38 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130804.D Vial: 4
Acq On : 30 Jan 2015 9:09 am Operator: BWS
Sample : 158128 LCSD Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 09:21:43 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

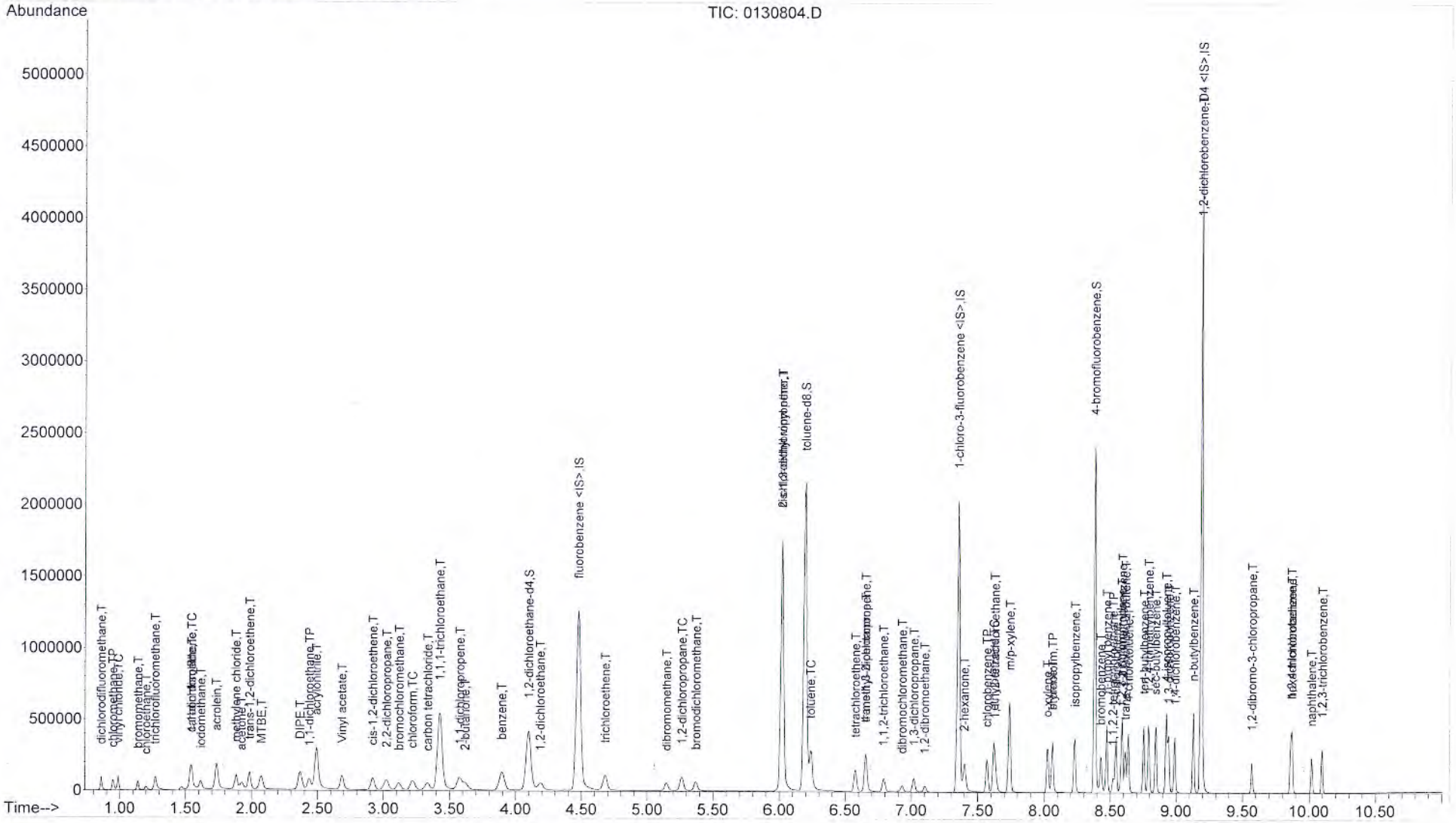
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,3-dichloropropane	7.02	76	46804	4.43	ppb		99
45)	2-hexanone	7.40	43	101098	24.40	ppb		97
46)	dibromochloromethane	6.93	129	19857	4.58	ppb		97
47)	1,2-dibromoethane	7.10	107	24196	4.43	ppb	#	99
48)	chlorobenzene	7.57	112	94024	4.25	ppb		99
49)	1,1,1,2-tetrachloroethane	7.63	131	20350	4.55	ppb		97
50)	bromoform	8.06	173	10116	4.72	ppb		95
52)	bromobenzene	8.43	156	44025	4.32	ppb		98
53)	1,1,2,2-tetrachloroethane	8.52	83	31819	4.63	ppb		99
54)	1,2,3-trichloropropane	8.58	110	9286	4.67	ppb	#	59
56)	ethylbenzene	7.62	106	50268	4.90	ppb		93
57)	m/p-xylene	7.74	106	130048	9.88	ppb		100
58)	styrene	8.06	104	96178	4.82	ppb		94
59)	o-xylene	8.03	106	58658	4.77	ppb		98
60)	isopropylbenzene	8.23	105	156853	4.70	ppb		100
61)	n-propyl benzene	8.47	91	207628	4.76	ppb		100
62)	2-chlorotoluene	8.54	126	41570	4.97	ppb		94
63)	4-chlorotoluene	8.64	126	44285	4.95	ppb		93
64)	1,3,5-trimethylbenzene	8.59	105	144780	4.94	ppb		100
65)	tert-butylbenzene	8.75	119	121903	4.81	ppb		98
66)	1,2,4-trimethylbenzene	8.79	105	149030	5.01	ppb		98
67)	sec-butylbenzene	8.84	105	194365	4.90	ppb		95
68)	1,3-dichlorobenzene	8.94	146	89673	4.82	ppb		99
69)	4-isopropyltoluene	8.92	119	163183	4.92	ppb		100
70)	1,4-dichlorobenzene	8.99	146	86371	4.81	ppb		99
71)	1,2-dichlorobenzene	9.19	146	90774	4.94	ppb		97
72)	n-butylbenzene	9.13	91	155248	4.87	ppb		99
73)	1,2-dibromo-3-chloropropan	9.57	75	23272	29.60	ppb		97
74)	1,2,4-trichlorobenzene	9.87	180	54978	4.95	ppb		97
75)	hexachlorobutadiene	9.86	225	33872	4.85	ppb		94
76)	naphthalene	10.02	128	96165	4.99	ppb		99
77)	trans-1,4-Dichloro-2-buten	8.61	53	39444	24.61	ppb		95
78)	1,2,3-trichlorobenzene	10.10	180	48081	4.99	ppb		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130804.D Vial: 4
Acq On : 30 Jan 2015 9:09 am Operator: BWS
Sample : 158128 LCSD Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 9:21 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



0130804.D VMS3494.M Fri Jan 30 09:21:43 2015

Matrix Spike Summary

Original Sample ID: 31500182012 (BT-PW-02)
MS Sample ID: 158226
MSD Sample ID: 158227

Analysis Date: 01/30/2015 18:38
Analysis Date: 01/30/2015 19:03
Analysis Date: 01/30/2015 19:27
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012, 31500182013

Results by **SW-846 8260B**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	ND	250	232	93	250	225	90	69.0-120	3.1	30.00
1,1,1-Trichloroethane	ND	250	261	104	250	247	99	78.0-121	5.5	30.00
1,1,2,2-Tetrachloroethane	ND	250	274	109	250	257	103	76.0-136	6.4	30.00
1,1,2-Trichloroethane	ND	250	285	114	250	266	106	65.0-128	6.9	30.00
1,1-Dichloroethane	ND	250	262	105	250	246	98	76.0-128	6.3	30.00
1,1-Dichloroethene	ND	250	260	104	250	243	97	64.0-130	6.8	30.00
1,1-Dichloropropene	ND	250	262	105	250	246	98	73.0-120	6.3	30.00
1,2,3-Trichlorobenzene	ND	250	299	120	250	289	115	61.0-126	3.4	30.00
1,2,3-Trichloropropane	ND	250	293	117	250	279	112	10.0-218	4.9	30.00
1,2,4-Trichlorobenzene	ND	250	288	115	250	280	112	61.0-125	2.8	30.00
1,2,4-Trimethylbenzene	ND	250	333	133	250	316	126	31.0-172	5.2	30.00
1,2-Dibromo-3-chloropropane	ND	1500	1450	97	1500	1440	96	20.0-171	0.69	30.00
1,2-Dibromoethane	ND	250	263	105	250	251	100	79.0-123	4.7	30.00
1,2-Dichlorobenzene	ND	250	311	124 *	250	297	119	75.0-120	4.6	30.00
1,2-Dichloroethane	ND	250	264	105	250	260	104	71.0-127	1.5	30.00
1,2-Dichloropropane	ND	250	255	102	250	239	95	77.0-129	6.5	30.00
1,3,5-Trimethylbenzene	ND	250	313	125	250	298	119	68.0-132	4.9	30.00
1,3-Dichlorobenzene	ND	250	316	126 *	250	286	114	73.0-121	10	30.00
1,3-Dichloropropane	ND	250	273	109	250	260	104	79.0-121	4.9	30.00
1,4-Dichlorobenzene	ND	250	312	125 *	250	296	118	75.0-118	5.3	30.00
2,2-Dichloropropane	ND	250	227	91	250	211	84	32.0-157	7.3	30.00
2-Butanone	ND	1250	ND	94	1250	ND	91	36.0-107		30.00
2-Chlorotoluene	ND	250	311	124 *	250	287	115	79.0-118	8.0	30.00
2-Hexanone	ND	1250	1090	87	1250	1050	84	42.0-111	3.7	30.00
4-Chlorotoluene	ND	250	314	125 *	250	291	116	77.0-120	7.6	30.00
4-Isopropyltoluene	ND	250	310	124 *	250	286	114	75.0-122	8.1	30.00
4-Methyl-2-pentanone	ND	1250	1290	103	1250	1210	97	6.90-166	6.4	30.00
Acetone	ND	1250	1260	100 *	1250	1310	105 *	18.0-85.0	3.9	30.00
Benzene	989	250	1030	17 *	250	1010	10 *	62.0-135	2.0	30.00
Bromobenzene	ND	250	270	108	250	257	103	65.0-125	4.9	30.00
Bromochloromethane	ND	250	270	108	250	257	103	76.0-126	4.9	30.00
Bromodichloromethane	ND	250	245	98	250	237	95	74.0-123	3.3	30.00
Bromoform	ND	250	247	99	250	238	95	52.0-122	3.7	30.00
Bromomethane	ND	250	126	50	250	153	61	10.0-284	19	30.00
n-Butylbenzene	ND	250	303	121	250	284	113	70.0-124	6.5	30.00
Carbon disulfide	ND	250	262	105	250	242	97	69.0-129	7.9	30.00

Print Date: 02/06/2015

N.C. Certification # 481

Matrix Spike Summary

Original Sample ID: 31500182012 (BT-PW-02) — Analysis Date: 01/30/2015 18:38
MS Sample ID: 158226 — Analysis Date: 01/30/2015 19:03
MSD Sample ID: 158227 — Analysis Date: 01/30/2015 19:27
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012, 31500182013

Results by **SW-846 8260B**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	ND	250	231	92	250	222	89	72.0-122	4.0	30.00
Chlorobenzene	ND	250	271	108	250	248	99	77.0-118	8.9	30.00
Chloroethane	ND	250	296	118	250	329	132	10.0-233	11	30.00
Chloroform	ND	250	270	108	250	253	101	74.0-128	6.5	30.00
Chloromethane	ND	250	226	90	250	228	91	72.0-138	0.88	30.00
Dibromochloromethane	ND	250	239	96	250	237	95	69.0-117	0.84	30.00
Dibromomethane	ND	250	267	107	250	252	101	71.0-137	5.8	30.00
Dichlorodifluoromethane	ND	250	ND	93	250	ND	94	42.0-166		30.00
cis-1,3-Dichloropropene	ND	250	238	95	250	224	89	67.0-132	6.1	30.00
trans-1,3-Dichloropropene	ND	250	219	88	250	213	85	45.0-144	2.8	30.00
Diisopropyl Ether	ND	250	251	100	250	232	93	79.0-122	7.9	30.00
Ethyl Benzene	ND	250	332	133 *	250	310	124	74.0-126	6.9	30.00
Hexachlorobutadiene	ND	250	274	110	250	261	104	52.0-134	4.9	30.00
Isopropylbenzene (Cumene)	ND	250	311	124 *	250	292	117	74.0-123	6.3	30.00
Methyl iodide	ND	250	126	50	250	138	55	41.0-126	9.1	30.00
Methylene chloride	ND	250	264	106	250	ND	99	49.0-155		30.00
Naphthalene	ND	250	307	123	250	305	122	55.0-140	0.65	30.00
Styrene	ND	250	312	125 *	250	294	117	73.0-123	5.9	30.00
Tetrachloroethene	ND	250	272	109	250	252	101	46.0-153	7.6	30.00
Toluene	566	250	654	35 *	250	698	53 *	66.0-128	6.5	30.00
Trichloroethene	ND	250	245	98	250	227	91	85.0-136	7.6	30.00
Trichlorofluoromethane	ND	250	249	99	250	268	107	77.0-132	7.4	30.00
Vinyl chloride	ND	250	220	88	250	244	98	68.0-137	10	30.00
cis-1,2-Dichloroethene	ND	250	274	109	250	260	104	73.0-134	5.2	30.00
m,p-Xylene	ND	500	708	142 *	500	664	133 *	80.0-118	6.4	30.00
n-Propylbenzene	ND	250	309	123	250	291	116	72.0-128	6.0	30.00
o-Xylene	59.5	250	361	120	250	342	113	80.0-121	5.4	30.00
sec-Butylbenzene	ND	250	310	124	250	291	116	62.0-133	6.3	30.00
tert-Butyl methyl ether (MTBE)	ND	250	260	104	250	248	99	67.0-136	4.7	30.00
tert-Butylbenzene	ND	250	308	123 *	250	288	115	74.0-121	6.7	30.00
trans-1,2-Dichloroethene	ND	250	255	102	250	240	96	75.0-124	6.1	30.00
trans-1,4-Dichloro-2-butene	ND	1250	1380	110	1250	1350	108	26.0-149	2.2	30.00
Surrogates										
1,2-Dichloroethane-d4				108			106	64.0-140		
4-Bromofluorobenzene				94			92	85.0-115		
Toluene d8				95			101	82.0-117		

Print Date: 02/06/2015 — N.C. Certification # 481

Matrix Spike Summary

Original Sample ID: 31500182012 (BT-PW-02)
MS Sample ID: 158226
MSD Sample ID: 158227

Analysis Date: 01/30/2015 18:38
Analysis Date: 01/30/2015 19:03
Analysis Date: 01/30/2015 19:27
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012, 31500182013

Results by **SW-846 8260B**

		Matrix Spike (%)			Spike Duplicate (%)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: **VMS3496**
Analytical Method: **SW-846 8260B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX5481**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 15:04**
MS Init Wt./Vol.: **40 mL** Extract Vol.: **40 mL**
MSD Init Wt./Vol.: **40 mL** Extract Vol.: **40 mL**

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130828.D Vial: 28
Acq On : 30 Jan 2015 7:03 pm Operator: BWS
Sample : 0182_12 x50 MS-D 15826 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 02 07:39:52 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

Bwf 2.2.15

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	266049	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	407787	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	593411	30.00 ppb	0.00
System Monitoring Compounds					
25) 1,2-dichloroethane-d4	4.10	65	427777	32.33 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 107.77%		
35) toluene-d8	6.19	98	1223335	28.53 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 95.10%		
51) 4-bromofluorobenzene	8.38	95	484592	28.20 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 94.00%		

Target Compounds					Qvalue
2) dichlorodifluoromethane	0.86	85	43404	4.64 ppb	99
3) chloromethane	0.95	50	50106	4.52 ppb	98
4) vinyl chloride	0.99	62	48054	4.40 ppb	99
5) bromomethane	1.14	94	13014	2.52 ppb	98
6) chloroethane	1.20	64	18082	5.91 ppb	91
7) trichlorofluoromethane	1.27	101	71286	4.97 ppb	100
8) acrolein	1.73	56	127458	143.17 ppb	92
9) 1,1-dichloroethene	1.54	96	47643	5.19 ppb	96
10) acetone	1.92	43	62612	25.10 ppb	97
11) methylene chloride	1.88	84	52368	5.28 ppb	97
12) trans-1,2-dichloroethene	1.99	96	50298	5.10 ppb	94
13) acrylonitrile	2.49	53	240000	114.82 ppb	98
14) MTBE	2.07	73	106505	5.19 ppb	97
15) 1,1-dichloroethane	2.44	63	94973	5.24 ppb	98
16) DIPE	2.37	45	140399	5.02 ppb	98
17) 2,2-dichloropropane	3.02	77	61254	4.53 ppb	99
18) cis-1,2-dichloroethene	2.92	96	54871	5.47 ppb	96
19) 2-butanone	3.62	43	66175	23.57 ppb	93
20) bromochloromethane	3.11	130	33032	5.39 ppb	99
21) chloroform	3.22	83	91257	5.40 ppb	98
22) 1,1,1-trichloroethane	3.42	97	71614	5.22 ppb	97
23) carbon tetrachloride	3.33	117	43698	4.62 ppb	93
24) 1,1-dichloropropene	3.58	75	68484	5.23 ppb	95
26) benzene	3.89	78	801810	20.63 ppb	97
27) 1,2-dichloroethane	4.19	62	62326	5.27 ppb	99
28) trichloroethene	4.67	95	49913	4.90 ppb	99
29) 1,2-dichloropropane	5.27	63	46998	5.09 ppb	92
30) dibromomethane	5.15	93	26407	5.33 ppb	99
31) bromodichloromethane	5.37	83	48669	4.90 ppb	91
32) 2-chloroethyl vinyl ether	6.02	106	9081	5.97 ppb	99
33) cis-1,3-dichloropropene	6.02	75	53280	4.76 ppb	96
34) 4-methyl-2-pentanone	6.65	43	140803	25.79 ppb	99
36) toluene	6.24	92	308123	13.08 ppb	96
37) iodomethane	1.62	142	33357	2.52 ppb	95
38) trans-1,3-dichloropropene	6.66	75	31883	4.38 ppb	97
39) Vinyl acetate	2.68	43	181129	13.46 ppb	98
40) carbon disulfide	1.55	76	157722	5.24 ppb	99
42) 1,1,2-trichloroethane	6.79	83	28654	5.69 ppb	97
43) tetrachloroethene	6.58	166	51564	5.44 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130828.D Vial: 28
Acq On : 30 Jan 2015 7:03 pm Operator: BWS
Sample : 0182_12 x50 MS-D 158226 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 02 07:39:52 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

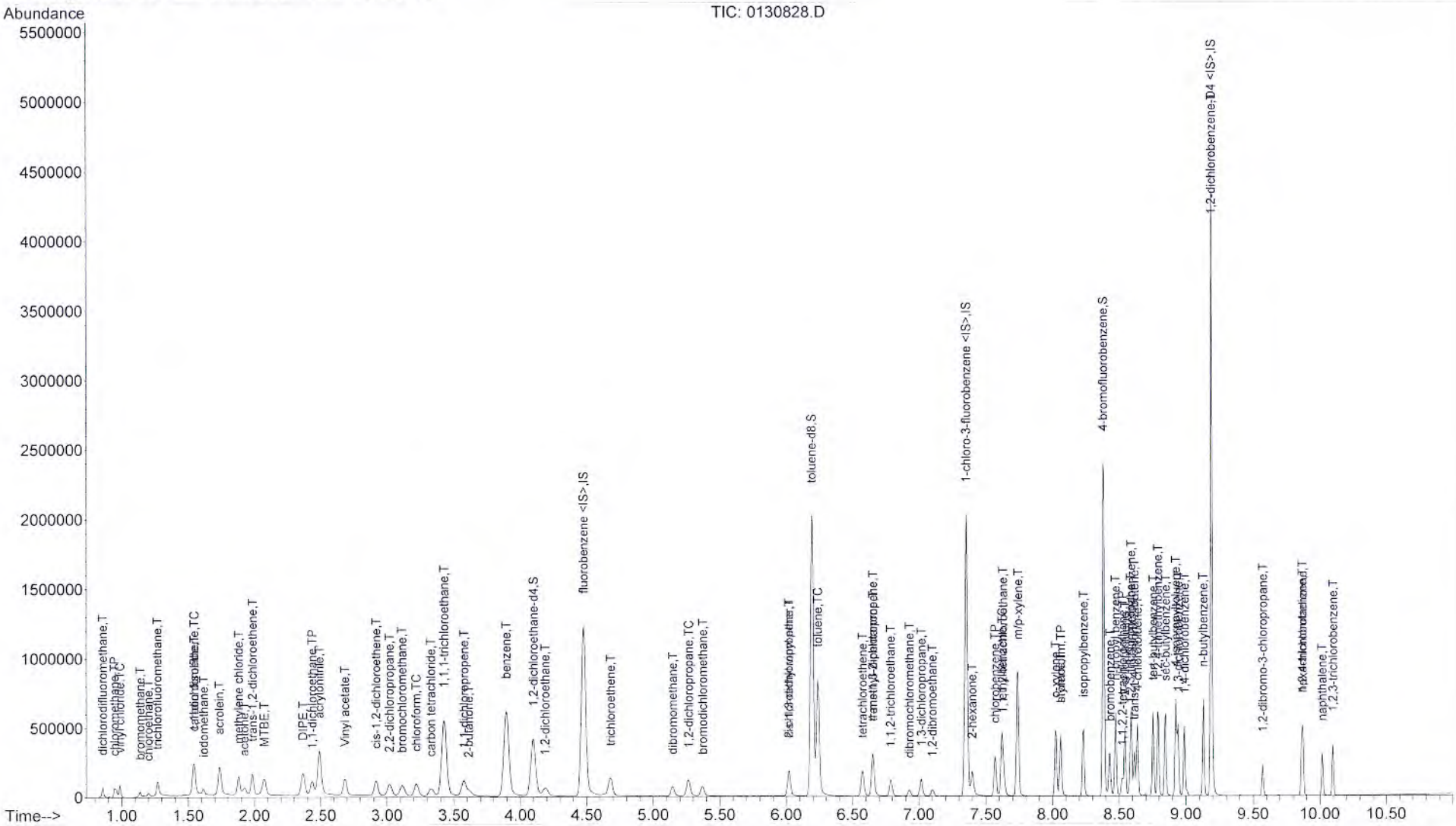
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,3-dichloropropane	7.02	76	55979	5.46	ppb		99
45)	2-hexanone	7.40	43	87581	21.79	ppb		97
46)	dibromochloromethane	6.93	129	20246	4.78	ppb		96
47)	1,2-dibromoethane	7.10	107	27890	5.26	ppb		93
48)	chlorobenzene	7.57	112	116419	5.42	ppb		97
49)	1,1,1,2-tetrachloroethane	7.63	131	20184	4.63	ppb		98
50)	bromoform	8.06	173	10385	4.94	ppb		95
52)	bromobenzene	8.43	156	53341	5.40	ppb		97
53)	1,1,2,2-tetrachloroethane	8.52	83	36433	5.47	ppb		99
54)	1,2,3-trichloropropane	8.58	110	11312	5.86	ppb	#	53
56)	ethylbenzene	7.62	106	67458	6.64	ppb		98
57)	m/p-xylene	7.74	106	184398	14.16	ppb		99
58)	styrene	8.06	104	122878	6.23	ppb		97
59)	o-xylene	8.03	106	87717	7.21	ppb		98
60)	isopropylbenzene	8.23	105	205008	6.21	ppb		100
61)	n-propyl benzene	8.47	91	266490	6.17	ppb		99
62)	2-chlorotoluene	8.54	126	51388	6.21	ppb		99
63)	4-chlorotoluene	8.64	126	55425	6.27	ppb		95
64)	1,3,5-trimethylbenzene	8.59	105	181268	6.26	ppb		99
65)	tert-butylbenzene	8.75	119	154225	6.15	ppb		99
66)	1,2,4-trimethylbenzene	8.79	105	195802	6.66	ppb		98
67)	sec-butylbenzene	8.85	105	242593	6.19	ppb		100
68)	1,3-dichlorobenzene	8.94	146	116104	6.31	ppb		95
69)	4-isopropyltoluene	8.92	119	203307	6.20	ppb		99
70)	1,4-dichlorobenzene	8.99	146	110599	6.23	ppb		99
71)	1,2-dichlorobenzene	9.19	146	113013	6.22	ppb		98
72)	n-butylbenzene	9.13	91	190712	6.05	ppb		100
73)	1,2-dibromo-3-chloropropan	9.57	75	22371	28.99	ppb		95
74)	1,2,4-trichlorobenzene	9.88	180	63186	5.76	ppb		98
75)	hexachlorobutadiene	9.86	225	37857	5.48	ppb		99
76)	naphthalene	10.02	128	116995	6.13	ppb		100
77)	trans-1,4-Dichloro-2-buten	8.61	53	43696	27.56	ppb	#	85
78)	1,2,3-trichlorobenzene	10.10	180	56991	5.98	ppb		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130828.D Vial: 28
Acq On : 30 Jan 2015 7:03 pm Operator: BWS
Sample : 0182_12 x50 MS-D 158226 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 2 7:39 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130829.D Vial: 29
Acq On : 30 Jan 2015 7:27 pm Operator: BWS
Sample : 0182_12 x50 MSD-D 158227 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 02 07:39:54 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

BWS 2-2-15

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	265906	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	404989	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	582389	30.00 ppb	0.00
System Monitoring Compounds					
25) 1,2-dichloroethane-d4	4.09	65	420287	31.78 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 105.93%		
35) toluene-d8	6.19	98	1299436	30.32 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 101.07%		
51) 4-bromofluorobenzene	8.38	95	471931	27.66 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 92.20%		

Target Compounds					Qvalue
2) dichlorodifluoromethane	0.86	85	44013	4.71 ppb	96
3) chloromethane	0.95	50	50336	4.55 ppb	98
4) vinyl chloride	0.99	62	53286	4.88 ppb	99
5) bromomethane	1.14	94	15581	3.06 ppb	98
6) chloroethane	1.20	64	19809	6.58 ppb	90
7) trichlorofluoromethane	1.27	101	76692	5.35 ppb	98
8) acrolein	1.73	56	143305	161.06 ppb	91
9) 1,1-dichloroethene	1.54	96	44630	4.86 ppb	88
10) acetone	1.92	43	65249	26.17 ppb	99
11) methylene chloride	1.88	84	49165	4.96 ppb	93
12) trans-1,2-dichloroethene	1.99	96	47245	4.80 ppb	99
13) acrylonitrile	2.49	53	264419	126.57 ppb	100
14) MTBE	2.07	73	101388	4.95 ppb	99
15) 1,1-dichloroethane	2.44	63	88918	4.91 ppb	98
16) DIPE	2.37	45	129594	4.64 ppb	97
17) 2,2-dichloropropane	3.02	77	57011	4.22 ppb	99
18) cis-1,2-dichloroethene	2.92	96	52059	5.20 ppb	99
19) 2-butanone	3.62	43	64010	22.81 ppb	93
20) bromochloromethane	3.12	130	31506	5.14 ppb	94
21) chloroform	3.22	83	85409	5.06 ppb	98
22) 1,1,1-trichloroethane	3.42	97	67576	4.93 ppb	99
23) carbon tetrachloride	3.34	117	42034	4.44 ppb	99
24) 1,1-dichloropropene	3.58	75	64282	4.91 ppb	94
26) benzene	3.89	78	788073	20.28 ppb	99
27) 1,2-dichloroethane	4.19	62	61432	5.20 ppb	96
28) trichloroethene	4.68	95	46219	4.54 ppb	97
29) 1,2-dichloropropane	5.27	63	43988	4.77 ppb	92
30) dibromomethane	5.15	93	24898	5.03 ppb	94
31) bromodichloromethane	5.37	83	46964	4.73 ppb	98
32) 2-chloroethyl vinyl ether	6.02	106	8114	5.34 ppb	93
33) cis-1,3-dichloropropene	6.02	75	50017	4.47 ppb	95
34) 4-methyl-2-pentanone	6.65	43	132360	24.25 ppb	98
36) toluene	6.24	92	328459	13.95 ppb	97
37) iodomethane	1.62	142	36359	2.75 ppb	95
38) trans-1,3-dichloropropene	6.66	75	30720	4.25 ppb	93
39) Vinyl acetate	2.68	43	171769	12.77 ppb	99
40) carbon disulfide	1.55	76	145574	4.84 ppb	99
42) 1,1,2-trichloroethane	6.79	83	26577	5.31 ppb	98
43) tetrachloroethene	6.58	166	47413	5.04 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130829.D Vial: 29
Acq On : 30 Jan 2015 7:27 pm Operator: BWS
Sample : 0182_12 x50 MSD-D 158227 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 02 07:39:54 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,3-dichloropropane	7.02	76	52883	5.20	ppb		99
45)	2-hexanone	7.40	43	84069	21.06	ppb		96
46)	dibromochloromethane	6.93	129	19835	4.73	ppb		95
47)	1,2-dibromoethane	7.10	107	26431	5.02	ppb		98
48)	chlorobenzene	7.57	112	105754	4.96	ppb		97
49)	1,1,1,2-tetrachloroethane	7.63	131	19359	4.50	ppb		97
50)	bromoform	8.06	173	9808	4.75	ppb		91
52)	bromobenzene	8.43	156	50377	5.13	ppb		98
53)	1,1,2,2-tetrachloroethane	8.52	83	34061	5.14	ppb		99
54)	1,2,3-trichloropropane	8.58	110	10697	5.58	ppb	#	56
56)	ethylbenzene	7.62	106	61750	6.20	ppb		91
57)	m/p-xylene	7.74	106	169625	13.27	ppb		99
58)	styrene	8.06	104	113506	5.87	ppb		100
59)	o-xylene	8.03	106	81588	6.83	ppb		99
60)	isopropylbenzene	8.23	105	188986	5.83	ppb		98
61)	n-propyl benzene	8.47	91	246190	5.81	ppb		100
62)	2-chlorotoluene	8.54	126	46539	5.73	ppb		93
63)	4-chlorotoluene	8.64	126	50409	5.81	ppb		98
64)	1,3,5-trimethylbenzene	8.59	105	169408	5.96	ppb		98
65)	tert-butylbenzene	8.75	119	141608	5.76	ppb		99
66)	1,2,4-trimethylbenzene	8.79	105	182067	6.31	ppb		100
67)	sec-butylbenzene	8.84	105	223845	5.82	ppb		94
68)	1,3-dichlorobenzene	8.94	146	103005	5.71	ppb		99
69)	4-isopropyltoluene	8.92	119	183784	5.71	ppb		99
70)	1,4-dichlorobenzene	8.99	146	102935	5.91	ppb		99
71)	1,2-dichlorobenzene	9.19	146	106043	5.94	ppb		97
72)	n-butylbenzene	9.13	91	175459	5.67	ppb		99
73)	1,2-dibromo-3-chloropropan	9.57	75	21781	28.81	ppb		96
74)	1,2,4-trichlorobenzene	9.87	180	60176	5.59	ppb		98
75)	hexachlorobutadiene	9.86	225	35314	5.21	ppb		96
76)	naphthalene	10.02	128	114030	6.09	ppb		100
77)	trans-1,4-Dichloro-2-buten	8.61	53	41883	26.92	ppb	#	83
78)	1,2,3-trichlorobenzene	10.10	180	54028	5.77	ppb		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

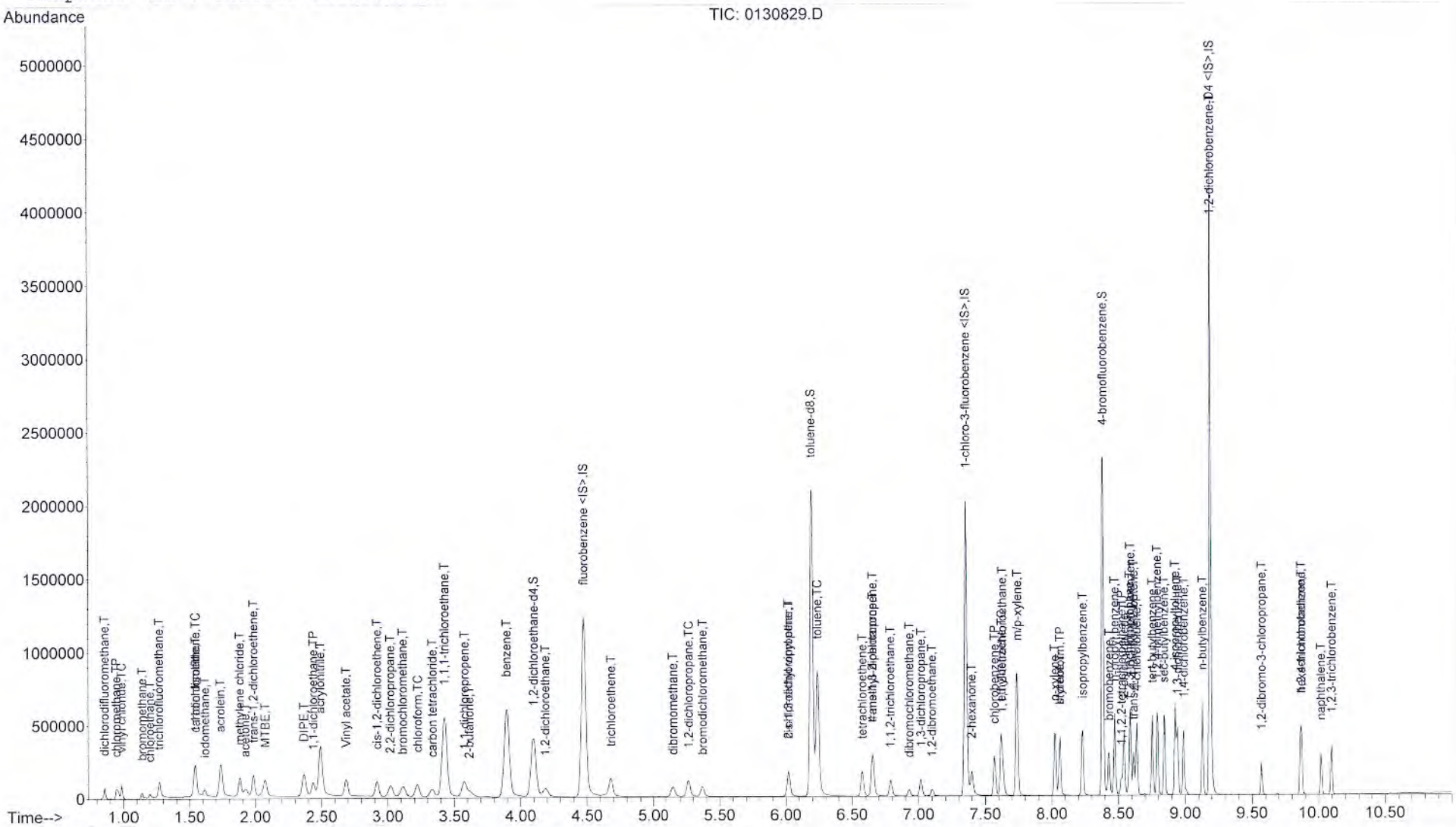
Data File : C:\MSDCHEM\1\DATA\VMS3496\0130829.D
Acq On : 30 Jan 2015 7:27 pm
Sample : 0182_12 x50 MSD-D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 2 7:39 2015

Vial: 29
Operator: BWS
Inst : MSD8
Multiplr: 1.00

158227

Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



0130829.D VMS3494.M Mon Feb 02 07:39:54 2015

SW-846 8260B
Prep, Standard, Run Logs

Print Date: 02/06/2015

N.C. Certification # 481

MSD8 Runlog

SGS Environmental Services, Inc.

Method: APX9/8260-W/ADDS/EtOH

Initial Cal. Curve: 3495/VMS3494/VMS3435/VMS

Matrix: Water

V XX 5481

Batch: **VMS3496**

FILENAME	SAMPLE ID / DILUTION	DATE / TIME	COMMENTS	pH	METHOD	OPER
0130801.D	TUNE	1/30/2015 7:55	✓			BWS
0130802.D	QCK010	1/30/2015 8:20	✓			BWS
0130803.D	158127 LCS	1/30/2015 8:44	All Pass ✓			BWS
0130804.D	158128 LCSD	1/30/2015 9:09	↓ ✓			BWS
0130805.D	CCAPX9	1/30/2015 9:34	Did not use this run			BWS
0130806.D	R	1/30/2015 9:58				BWS
0130807.D	158129 MB	1/30/2015 10:23	✓			BWS
0130808.D	0182_1 D	1/30/2015 10:48	✓		8260	BWS
0130809.D	0182_2 D	1/30/2015 11:13	✓		↓	BWS
0130810.D	0182_3 D	1/30/2015 11:37	✓			BWS
0130811.D	0182_4 D	1/30/2015 12:02	✓			BWS
0130812.D	0182_5 D	1/30/2015 12:27	✓			BWS
0130813.D	0182_6 D	1/30/2015 12:51	✓			BWS
0130814.D	0182_7 D	1/30/2015 13:16	✓			BWS
0130815.D	0182_13 A	1/30/2015 13:41	✓			BWS
0130816.D	0186_1 A	1/30/2015 14:06	✓			BWS
0130817.D	0186_2 A	1/30/2015 14:30	✓			BWS
0130818.D	0186_3 A	1/30/2015 14:55	✓			BWS
0130819.D	0186_7 A	1/30/2015 15:20	✓			BWS
0130820.D	0186_8 A	1/30/2015 15:45	✓			BWS
0130821.D	0186_11 A	1/30/2015 16:10	✓			BWS
0130822.D	0186_12 A	1/30/2015 16:34	✓		↓	BWS

Water Stds: Curve=V12-202C/V12-202D-III QC=V12-204C/V12-204D-III

Page Number: 2067

Review Analyst: JHL

VO24.112202.1

MSD8 Runlog

SGS Environmental Services, Inc.

Method: APX9/8260-W/ADDS/EtOH

Initial Cal. Curve: 3495/VMS3494/VMS3435/VMS

Matrix: Water

Batch: **VMS3496**

FILENAME	SAMPLE ID / DILUTION	DATE / TIME	COMMENTS	pH	METHOD	OPER
0130823.D	158189 x10 TBLK	1/30/2015 16:59	✓	N/A	TCLP	BWS
0130824.D	0088_1 x10 A	1/30/2015 17:24	✓	↓	↓	BWS
0130825.D	0089_1 x10 A	1/30/2015 17:48	✓	↓	↓	BWS
0130826.D	0182_11 x40 D	1/30/2015 18:13	✓	✓	8260	BWS
0130827.D	0182_12 x50 D	1/30/2015 18:38	✓	✓	↓	BWS
0130828.D	158226 0182_12 x50 MS-D	1/30/2015 19:03	✓ Multiple flags	✓		BWS
0130829.D	158227 0182_12 x50 MSD-D	1/30/2015 19:27	✓ ↓	✓		BWS
0130830.D	R	1/30/2015 19:52				BWS
0130831.D	R	1/30/2015 20:16				BWS
0130832.D	R	1/30/2015 20:40				BWS

Water Stds: Curve=V12-202C/V12-202D-III QC=V12-204C/V12-204D-III

Page Number: 2068

VO24.112202.1

Review Analyst: JHL

V XX 5481

Vms 3496

Sequence Pullsheet

SGS Environmental Laboratories, Inc.

Instrument: 8 Date: 013015

LOC	#	Sample ID	EXT	Dilution	Comment	pH
	1	Tune			✓	
	2	QCC010			✓	
	3	158127	LCS	All Pass	✓	
	4	158128	LCSD	↓	✓	
	5	CCAPX9				
	6	R				
	7	158129	MB			
	8	0182 -1D			8260	
	9	-2D				
	10	-3D				
	11	-4D				
	12	-5D				
	13	-6D				
	14	-7D				
	15	-13A				
	16	0186 -1A				
	17	-2A				
	18	-3A				
	19	-7A				
	20	-8A				
	21	-11A				
	22	-12A				
	23	158189 TBK		X10	TCLP	
	24	0088-1A		X10		
	25	0089-1A		X10		

LOC	#	Sample ID	EXT	Dilution	Comment	pH
	26	0182 -11D		X40	8260	
	27	-12D		X50		
	28		MS		158226	
	29		MSD		158227	
	30	R				
	31	R				
	32	R				
	33					
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VO45.082007.2

SW-846 8260B
Initial Calibration Data

Print Date: 02/06/2015

N.C. Certification # 481

MSD8 Runlog

SGS Environmental Services, Inc.

Method: APX9/8260-W/ADDS/EtOH

Initial Cal. Curve: 3495/VMS3494/VMS3435/VMS

Matrix: Water

Batch: **VMS3494**

FILENAME	SAMPLE ID / DILUTION	DATE / TIME	COMMENTS	pH	METHOD	OPER
0128901.D	R	1/28/2015 11:33	✓	✓	8260W/6200/624	JHL
0128902.D	R	1/28/2015 11:58	✓	✓	8260W/6200/624	JHL
0128903.D	R	1/28/2015 12:22	✓	✓	8260W/6200/624	JHL
0128904.D	R	1/28/2015 12:47	✓	✓	8260W/6200/624	JHL
0128905.D	R	1/28/2015 13:12	✓	✓	8260W/6200/624	JHL
0128906.D	R	1/28/2015 13:37	✓	✓	8260W/6200/624	JHL
0128907.D	R	1/28/2015 14:01	✓	✓	8260W/6200/624	JHL
0128908.D	R	1/28/2015 14:26	✓	✓	8260W/6200/624	JHL
0128909.D	R	1/28/2015 17:17	✓	✓	8260W/6200/624	JHL
0128910.D	TUNE	1/28/2015 17:42	TUNE Pass	✓	8260W/6200/624	JHL
0128911.D	ICAL1	1/28/2015 18:06	✓	✓	8260W/6200/624	JHL
0128912.D	ICAL2	1/28/2015 18:31	✓	✓	8260W/6200/624	JHL
0128913.D	ICAL3	1/28/2015 18:56	✓	✓	8260W/6200/624	JHL
0128914.D	ICAL4	1/28/2015 19:20	✓	✓	8260W/6200/624	JHL
0128915.D	ICAL5	1/28/2015 19:45	✓	✓	8260W/6200/624	JHL
0128916.D	ICAL6	1/28/2015 20:10	✓	✓	8260W/6200/624	JHL
0128917.D	ICAL7	1/28/2015 20:35	✓	✓	8260W/6200/624	JHL
0128918.D	ICAL8	1/28/2015 20:59	✓	✓	8260W/6200/624	JHL
0128919.D	R	1/28/2015 21:24	✓	✓	8260W/6200/624	JHL
0128920.D	QCK010	1/28/2015 21:49	ICV Pass	✓	8260W/6200/624	JHL

Soil Stds: Curve=V12-202 A/B/V12-202 A/B QC=V12-204A/B/V12-204A/B
Water Stds: Curve=V12-202C/V12-202D-III QC=V12-204C/V12-204D-III
Air Stds: Primary= Secondary=

Review Analyst: BWS

HK 1/30/15

Page Number: ~~2064~~ 2065

VO24.112202.1

VMS - 3494
B260-W ICAL

Sequence Pullsheet

SGS Environmental Laboratories, Inc.

Instrument: MSD 8

Date: 01282015

LOC	#	Sample ID	EXT	Dilution	Comment	pH
	1	R				
	2					
	3					
	4					
	5					
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	7					
	8					
	9					
	10	TUNE				
	11	ICAL 1				
	12	2				
	13	3				
	14	4				
	15	5				
	16	6				
	17	7				
	18	8				
	19	R				
	20	ICV				
	21					
	22					
	23					
	24					
	25					

LOC	#	Sample ID	EXT	Dilution	Comment	pH
	26					
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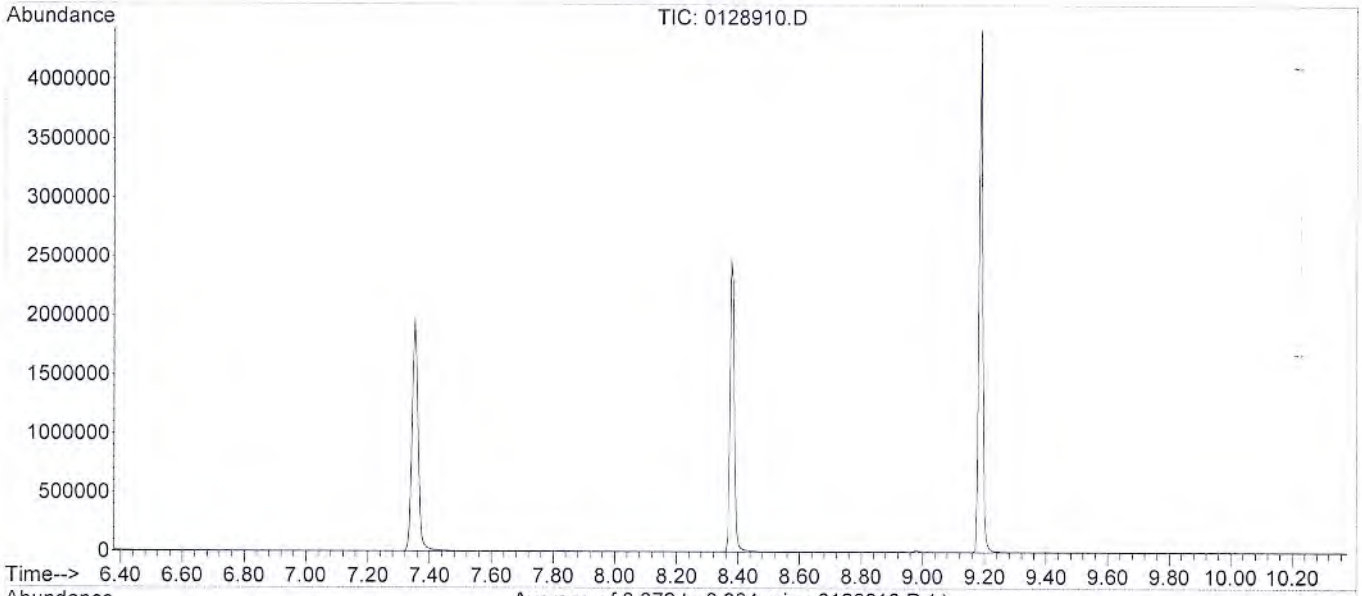
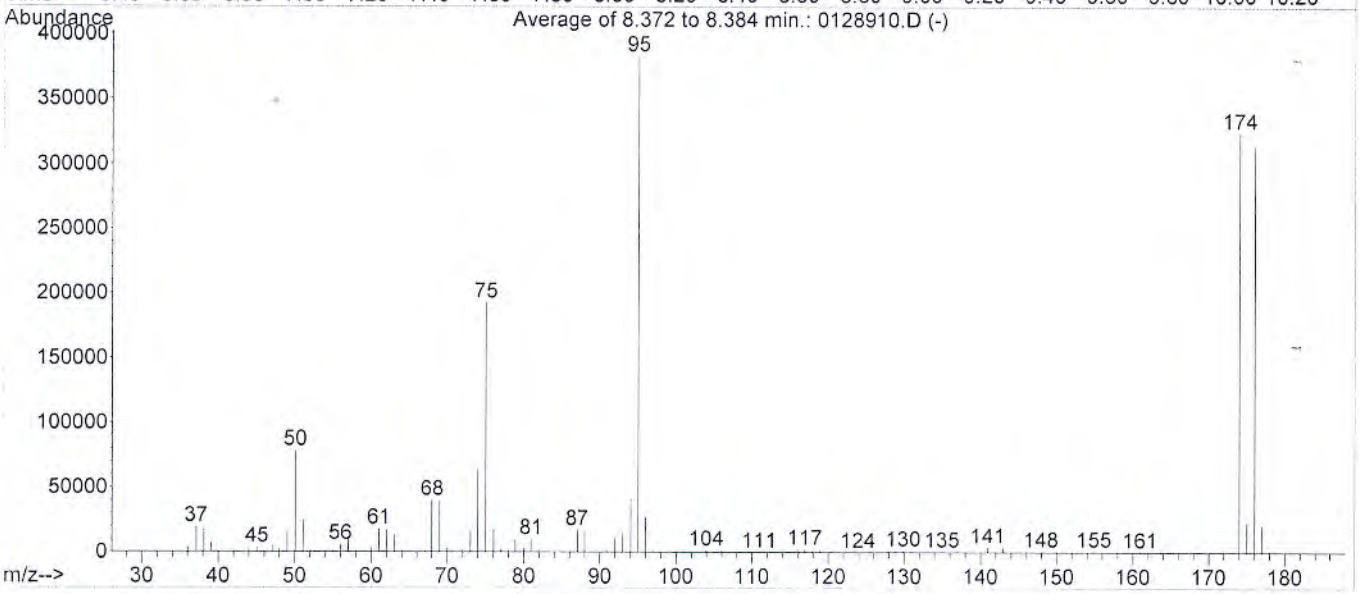
VO45.082007.2

BFB

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128910.D Vial: 10
Acq On : 28 Jan 2015 5:42 pm Operator: JHL
Sample : TUNE Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200





AutoFind: Scans 1302, 1303, 1304; Background Corrected with Scan 1297

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.5	78426	PASS
75	95	30	60	50.3	192704	PASS
95	95	100	100	100.0	382762	PASS
96	95	5	9	7.0	26659	PASS
173	174	0.00	2	0.1	240	PASS
174	95	50	100	84.7	324234	PASS
175	174	5	9	7.2	23301	PASS
176	174	95	101	96.7	313562	PASS
177	176	5	9	6.6	20778	PASS

HH 1/29/15

0128910.D VMS3494.M Thu Jan 29 11:26:30 2015

GC/MS QA-QC Check Report

Tune File : C:\MSDCHEM\1\DATA\8012815\0128910.D
Tune Time : 28 Jan 2015 5:42 pm

Daily Calibration File : C:\MSDCHEM\1\DATA\8012815\0128916.D

File	Sample	Surrogate Recovery %			Internal Standard Responses		
					254070	418094	691238
0128910.D	TUNE	100	102	96	249043	404398	627306
0128911.D	ICAL1	99	100	98	246678	398955	634265
0128912.D	ICAL2	100	101	97	246704	403052	636688
0128913.D	ICAL3	100	95	98	251796	407165	647698
0128914.D	ICAL4	100	93	99	252572	406215	650872
0128915.D	ICAL5	100	100	100	255322	411296	667425
0128916.D	ICAL6	98	96	99	254070	418094	691238
0128917.D	ICAL7	97	101	102	252151	420178	721710
0128918.D	ICAL8	95	100	102	262790	430964	755686
0128920.D	QCK010	99	102	99	258489	417022	656821

t - fails 12hr time check * - fails criteria

Created: Thu Jan 29 10:37:54 2015 MSD8

pk
1/29/15

Initial Calibration Report
Paradigm Analytical Labs

Instrument ; MSD8
Method ; 8260-NEW.M
Matrix ; Water
Cal. Date ; 28 Jan 2015 6:06 pm
Last Modified ; Thu Jan 29 10:28:42 2015
Number of levels ; 8

Cal Files by ID
0.5 ; C:\MSDCHEM\1\DATA\8012815\0128911.D
5 ; C:\MSDCHEM\1\DATA\8012815\0128914.D
1.0 ; C:\MSDCHEM\1\DATA\8012815\0128912.D
2.0 ; C:\MSDCHEM\1\DATA\8012815\0128913.D
10 ; C:\MSDCHEM\1\DATA\8012815\0128915.D
20 ; C:\MSDCHEM\1\DATA\8012815\0128916.D
50 ; C:\MSDCHEM\1\DATA\8012815\0128917.D
70 ; C:\MSDCHEM\1\DATA\8012815\0128918.D

1/29/15

Calibration Level ID	0.5	5	1.0	2.0	10	20	50	70		
Concentration (ppb)	0.5	5.0	1.0	2.0	10.0	20.0	50.0	70.0	AvgRF	%RSD
dichlorodifluoromethane	1.046	1.039	1.029	1.070	1.036	1.081	1.082	1.054	1.055	1.955
chloromethane	1.381	1.245	1.286	1.252	1.194	1.244	1.213	1.179	1.249	5.069
vinyl chloride	1.339	1.200	1.249	1.222	1.179	1.233	1.230	1.198	1.231	3.970
bromomethane	0.659	0.574	0.782	0.601	0.533	0.509	0.477	0.439	0.572	19.220 - QUADRATIC
chloroethane	0.457	0.394	0.428	0.443	0.327	0.274	0.186		0.359	28.059 - 50 PPB (QUADRATIC)
trichlorofluoromethane	1.752	1.678	1.662	1.717	1.647	1.668	1.558	1.254	1.617	9.712
acrolein	0.111	0.098	0.100	0.098	0.098	0.103	0.099	0.097	0.100	4.731
1,1-dichloroethene	1.216	0.988	1.039	0.949	1.009	1.029	1.054	1.001	1.036	7.712
acetone	0.290	0.288	0.260	0.280	0.299	0.278	0.282	0.273	0.281	4.195
methylene chloride	1.349	1.067	1.135	1.084	1.085	1.064	1.105	1.055	1.118	8.658
trans-1,2-dichloroethene	1.197	1.059	1.101	1.075	1.109	1.089	1.155	1.108	1.112	4.023
acrylonitrile	0.250	0.232	0.236	0.230	0.232	0.243	0.234	0.229	0.236	3.079
MTBE	2.443	2.182	2.218	2.195	2.318	2.311	2.434	2.395	2.312	4.568
1,1-dichloroethane	2.321	1.986	2.033	2.020	2.017	1.984	2.044	1.947	2.044	5.683
DIPE	3.638	2.965	3.164	3.057	3.069	3.067	3.187	3.084	3.154	6.568
2,2-dichloropropane	1.963	1.455	1.289	1.502	1.414	1.518	1.518	1.529	1.523	12.782
cis-1,2-dichloroethene	1.253	1.159	0.921	1.132	1.052	1.160	1.206	1.161	1.130	9.054
2-butanone	0.396	0.316	0.293	0.315	0.330	0.323	0.238	0.322	0.317	13.797
bromochloromethane	0.833	0.696	0.572	0.676	0.715	0.703	0.652	0.680	0.691	10.532
chloroform	2.222	1.845	1.881	1.851	1.890	1.862	1.825	1.869	1.906	6.790
1,1,1-trichloroethane	1.645	1.491	1.507	1.493	1.567	1.610	1.404	1.655	1.547	5.679
carbon tetrachloride	1.121	0.946	1.007	0.995	1.042	1.075	1.141	1.211	1.067	8.173
1,1-dichloropropene	1.760	1.415	1.555	1.425	1.458	1.475	1.209	1.513	1.476	10.431
1,2-dichloroethane-d4	1.497	1.511	1.515	1.505	1.512	1.489	1.470	1.437	1.492	1.802
benzene	4.968	4.201	4.387	4.327	4.264	4.249	4.435	4.235	4.383	5.686
1,2-dichloroethane	1.461	1.312	1.310	1.341	1.330	1.311	1.341	1.263	1.334	4.284
trichloroethene	1.359	1.061	1.211	1.115	1.081	1.096	1.158	1.105	1.148	8.461
1,2-dichloropropane	1.210	1.009	1.015	1.032	1.014	1.011	1.048	0.988	1.041	6.772
dibromomethane	0.615	0.544	0.545	0.553	0.558	0.547	0.564	0.540	0.558	4.330
bromodichloromethane	1.167	1.051	1.074	1.022	1.099	1.131	1.234	1.183	1.120	6.411
2-chloroethyl vinyl ether	0.171	0.178	0.166	0.168	0.181	0.191	0.168	0.147	0.171	7.489
cis-1,3-dichloropropene	1.341	1.273	1.262	1.247	1.323	1.308	1.250	1.096	1.263	5.985

4-methyl-2-pentanone	0.624	0.585	0.576	0.567	0.629	0.641	0.661	0.642	0.616	5.677	
toluene-d8	4.932	4.594	4.956	4.690	4.915	4.702	4.978	4.915	4.835	3.068	
toluene	2.949	2.376	2.747	2.368	2.716	2.531	2.831	2.728	2.656	7.930	
iodomethane	1.364	1.429	1.351	1.295	1.531	1.576	1.744	1.641	1.491	10.557	
trans-1,3-dichloropropene	0.823	0.775	0.709	0.699	0.861	0.923	1.084	1.093	0.871	17.617	- QUADRATIC ✓
Vinyl acetate	1.697	1.482	1.475	1.444	1.469	1.588	1.534	1.450	1.517	5.730	
carbon disulfide	3.945	3.235	3.420	3.245	3.287	3.299	3.467	3.274	3.397	6.965	
1,1,2-trichloroethane	0.421	0.362	0.340	0.350	0.373	0.366	0.379	0.372	0.370	6.468	
tetrachloroethene	0.722	0.671	0.663	0.662	0.696	0.681	0.742	0.740	0.697	4.814	
1,3-dichloropropane	0.829	0.723	0.738	0.698	0.755	0.743	0.778	0.766	0.754	5.193	
2-hexanone	0.299	0.290	0.262	0.274	0.302	0.304	0.319	0.315	0.296	6.652	
dibromochloromethane	0.318	0.287	0.281	0.271	0.325	0.348	0.414	0.432	0.334	18.008	- QUADRATIC ✓
1,2-dibromoethane	0.409	0.368	0.355	0.349	0.394	0.400	0.422	0.422	0.390	7.428	
chlorobenzene	1.659	1.501	1.474	1.458	1.584	1.572	1.695	1.688	1.579	6.038	
1,1,1,2-tetrachloroethane	0.312	0.293	0.276	0.273	0.343	0.368	0.465	0.484	0.352	23.469	- QUADRATIC ✓
bromoform	0.143	0.138	0.136	0.129	0.164	0.184	0.248	0.269	0.177	30.524	- QUADRATIC ✓
4-bromofluorobenzene	1.242	1.256	1.236	1.241	1.273	1.265	1.299	1.299	1.264	1.981	
bromobenzene	0.742	0.691	0.674	0.675	0.719	0.725	0.792	0.800	0.727	6.690	
1,1,2,2-tetrachloroethane	0.525	0.468	0.445	0.452	0.497	0.494	0.525	0.518	0.490	6.549	
1,2,3-trichloropropane	0.136	0.132	0.133	0.136	0.143	0.147	0.154	0.155	0.142	6.415	
ethylbenzene	0.518	0.499	0.460	0.479	0.531	0.523	0.554	0.544	0.513	6.265	
m/p-xylene	0.621	0.653	0.583	0.595	0.680	0.677	0.737	0.720	0.658	8.517	
styrene	0.931	0.949	0.867	0.884	1.049	1.049	1.128	1.118	0.997	10.279	
o-xylene	0.597	0.599	0.537	0.547	0.634	0.645	0.688	0.672	0.615	8.950	
isopropylbenzene	1.511	1.639	1.481	1.511	1.723	1.764	1.882	1.849	1.670	9.502	
n-propyl benzene	2.212	2.101	2.022	2.009	2.254	2.213	2.350	2.295	2.182	5.753	
2-chlorotoluene	0.426	0.417	0.380	0.384	0.425	0.421	0.451	0.441	0.418	5.972	
4-chlorotoluene	0.449	0.438	0.418	0.417	0.468	0.457	0.467	0.464	0.447	4.683	
1,3,5-trimethylbenzene	1.377	1.427	1.279	1.329	1.528	1.528	1.639	1.610	1.465	9.002	
tert-butylbenzene	1.198	1.227	1.129	1.157	1.303	1.311	1.418	1.392	1.267	8.401	
1,2,4-trimethylbenzene	1.365	1.460	1.301	1.343	1.555	1.549	1.677	1.646	1.487	9.533	
sec-butylbenzene	1.861	1.941	1.769	1.827	2.042	2.045	2.208	2.163	1.982	8.033	
1,3-dichlorobenzene	0.973	0.886	0.914	0.854	0.919	0.925	0.988	0.980	0.930	5.120	
4-isopropyltoluene	1.492	1.614	1.379	1.470	1.727	1.757	1.943	1.887	1.659	12.284	
1,4-dichlorobenzene	0.889	0.859	0.825	0.815	0.919	0.916	0.992	0.968	0.898	7.079	
1,2-dichlorobenzene	0.991	0.889	0.899	0.869	0.923	0.907	0.947	0.928	0.919	4.126	
n-butylbenzene	1.489	1.568	1.359	1.369	1.667	1.695	1.822	1.782	1.594	11.131	
1,2-dibromo-3-chloropropane	0.033	0.034	0.030	0.029	0.041	0.046	0.052	0.052	0.040	23.764	- LINEAR ✓
1,2,4-trichlorobenzene	0.514	0.512	0.475	0.472	0.563	0.582	0.657	0.665	0.555	13.655	
hexachlorobutadiene	0.357	0.326	0.304	0.298	0.347	0.351	0.399	0.408	0.349	11.456	
naphthalene	0.875	0.891	0.807	0.844	1.017	1.046	1.122	1.114	0.964	12.946	
trans-1,4-Dichloro-2-butene	0.081	0.075	0.070	0.072	0.081	0.084	0.090	0.089	0.080	9.255	
1,2,3-trichlorobenzene	0.472	0.458	0.418	0.418	0.499	0.508	0.547	0.539	0.482	10.337	

Linear Regression
Correlation Coefficient Results

Method : 8260-NEW.M

Cal Files
0.5 : C:\MSDCHEM\1\DATA\8012815\0128911.D
5 : C:\MSDCHEM\1\DATA\8012815\0128914.D
1.0 : C:\MSDCHEM\1\DATA\8012815\0128912.D
2.0 : C:\MSDCHEM\1\DATA\8012815\0128913.D
10 : C:\MSDCHEM\1\DATA\8012815\0128915.D
20 : C:\MSDCHEM\1\DATA\8012815\0128916.D
50 : C:\MSDCHEM\1\DATA\8012815\0128917.D
70 : C:\MSDCHEM\1\DATA\8012815\0128918.D

1/29/15

Compound	Formula or RF	Method	Correlation Coefficient (r^2)
dichlorodifluoromethane	RF=1.055	Avg RF	
chloromethane	RF=1.249	Avg RF	
vinyl chloride	RF=1.231	Avg RF	
bromomethane	y=-0.04580x2+ 0.54609x+ 0.00345	Quadratic	1.000
chloroethane	y=-0.08878x2+ 0.32998x+ 0.00640	Quadratic	0.999
trichlorofluoromethane	RF=1.617	Avg RF	
acrolein	RF=0.100	Avg RF	
1,1-dichloroethene	RF=1.036	Avg RF	
acetone	RF=0.281	Avg RF	
methylene chloride	RF=1.118	Avg RF	
trans-1,2-dichloroethene	RF=1.112	Avg RF	
acrylonitrile	RF=0.236	Avg RF	
MTBE	RF=2.312	Avg RF	
1,1-dichloroethane	RF=2.044	Avg RF	
DIPE	RF=3.154	Avg RF	
2,2-dichloropropane	RF=1.523	Avg RF	
cis-1,2-dichloroethene	RF=1.130	Avg RF	
2-butanone	RF=0.317	Avg RF	
bromochloromethane	RF=0.691	Avg RF	
chloroform	RF=1.906	Avg RF	
1,1,1-trichloroethane	RF=1.547	Avg RF	
carbon tetrachloride	RF=1.067	Avg RF	
1,1-dichloropropene	RF=1.476	Avg RF	
1,2-dichloroethane-d4	RF=1.492	Avg RF	
benzene	RF=4.383	Avg RF	
1,2-dichloroethane	RF=1.334	Avg RF	
trichloroethene	RF=1.148	Avg RF	
1,2-dichloropropane	RF=1.041	Avg RF	
dibromomethane	RF=0.558	Avg RF	
bromodichloromethane	RF=1.120	Avg RF	
2-chloroethyl vinyl ether	RF=0.171	Avg RF	
cis-1,3-dichloropropene	RF=1.263	Avg RF	
4-methyl-2-pentanone	RF=0.616	Avg RF	
toluene-d8	RF=4.835	Avg RF	
toluene	RF=2.656	Avg RF	
iodomethane	RF=1.491	Avg RF	
trans-1,3-dichloropropene	y=0.06210x2+ 0.96616x- 0.02246	Quadratic	0.999
Vinyl acetate	RF=1.517	Avg RF	
carbon disulfide	RF=3.397	Avg RF	
1,1,2-trichloroethane	RF=0.370	Avg RF	
tetrachloroethene	RF=0.697	Avg RF	
1,3-dichloropropane	RF=0.754	Avg RF	
2-hexanone	RF=0.296	Avg RF	
dibromochloromethane	y=0.04021x2+ 0.34303x- 0.00606	Quadratic	1.000
1,2-dibromoethane	RF=0.390	Avg RF	
chlorobenzene	RF=1.579	Avg RF	
1,1,1,2-tetrachloroethane	y=0.05092x2+ 0.37296x- 0.00927	Quadratic	0.999
bromoform	y=0.04158x2+ 0.17555x- 0.00460	Quadratic	0.999
4-bromofluorobenzene	RF=1.264	Avg RF	
bromobenzene	RF=0.727	Avg RF	
1,1,2,2-tetrachloroethane	RF=0.490	Avg RF	
1,2,3-trichloropropane	RF=0.142	Avg RF	
ethylbenzene	RF=0.513	Avg RF	
m/p-xylene	RF=0.658	Avg RF	
styrene	RF=0.997	Avg RF	
o-xylene	RF=0.615	Avg RF	

isopropylbenzene	RF=1.670	Avg RF	
n-propyl benzene	RF=2.182	Avg RF	
2-chlorotoluene	RF=0.418	Avg RF	
4-chlorotoluene	RF=0.447	Avg RF	
1,3,5-trimethylbenzene	RF=1.465	Avg RF	
tert-butylbenzene	RF=1.267	Avg RF	
1,2,4-trimethylbenzene	RF=1.487	Avg RF	
sec-butylbenzene	RF=1.982	Avg RF	
1,3-dichlorobenzene	RF=0.930	Avg RF	
4-isopropyltoluene	RF=1.659	Avg RF	
1,4-dichlorobenzene	RF=0.898	Avg RF	
1,2-dichlorobenzene	RF=0.919	Avg RF	
n-butylbenzene	RF=1.594	Avg RF	
1,2-dibromo-3-chloropropane	y=0.05274 x- 0.01326	Linear	0.999
1,2,4-trichlorobenzene	RF=0.555	Avg RF	
hexachlorobutadiene	RF=0.349	Avg RF	
naphthalene	RF=0.964	Avg RF	
trans-1,4-Dichloro-2-butene	RF=0.080	Avg RF	
1,2,3-trichlorobenzene	RF=0.482	Avg RF	

* Correlation Coefficent is < 0.990

1/29/15

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128911.D Vial: 11
Acq On : 28 Jan 2015 6:06 pm Operator: JHL
Sample : ICAL1 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:10 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	246678	30.00	ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	398955	30.00	ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	634265	30.00	ppb	0.00
System Monitoring Compounds						
25) 1,2-dichloroethane-d4	4.09	65	369303	30.10	ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 100.33%			
35) toluene-d8	6.19	98	1216737	30.60	ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 102.00%			
51) 4-bromofluorobenzene	8.38	95	495643	29.49	ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 98.30%			

HV 1/29/15

Target Compounds							Qvalue
2) dichlorodifluoromethane	0.86	85	4300	0.50	ppb		97
3) chloromethane	0.95	50	5678	0.55	ppb		99
4) vinyl chloride	0.99	62	5503	0.54	ppb		93
5) bromomethane	1.14	94	2709	0.41	ppb		91
6) chloroethane	1.20	64	1879	0.11	ppb	#	68
7) trichlorofluoromethane	1.28	101	7204	0.54	ppb		92
8) acrolein	1.73	56	11417	13.83	ppb		99
9) 1,1-dichloroethene	1.53	96	5000	0.59	ppb		85
10) acetone	1.92	43	5967	2.58	ppb		96
11) methylene chloride	1.88	84	5547	0.60	ppb		93
12) trans-1,2-dichloroethene	1.99	96	4921	0.54	ppb		90
13) acrylonitrile	2.49	53	25680	13.25	ppb		96
14) MTBE	2.07	73	10042	0.53	ppb	#	92
15) 1,1-dichloroethane	2.44	63	9541	0.57	ppb		97
16) DIPE	2.37	45	14958	0.58	ppb		96
17) 2,2-dichloropropane	3.02	77	8070	0.64	ppb		94
18) cis-1,2-dichloroethene	2.92	96	5152	0.55	ppb		94
19) 2-butanone	3.62	43	8141	3.13	ppb		96
20) bromochloromethane	3.12	130	3426	0.60	ppb		96
21) chloroform	3.22	83	9134	0.58	ppb		99
22) 1,1,1-trichloroethane	3.42	97	6763	0.53	ppb		97
23) carbon tetrachloride	3.34	117	4610	0.53	ppb		92
24) 1,1-dichloropropene	3.57	75	7237	0.60	ppb		94
26) benzene	3.89	78	20424	0.57	ppb		100
27) 1,2-dichloroethane	4.19	62	6006	0.55	ppb		99
28) trichloroethene	4.68	95	5587	0.59	ppb		89
29) 1,2-dichloropropane	5.27	63	4974	0.58	ppb		90
30) dibromomethane	5.15	93	2529	0.55	ppb		90
31) bromodichloromethane	5.37	83	4796	0.52	ppb	#	95
32) 2-chloroethyl vinyl ether	6.02	106	17580	12.47	ppb		90
33) cis-1,3-dichloropropene	6.02	75	5513	0.53	ppb		91
34) 4-methyl-2-pentanone	6.65	43	12835	2.54	ppb		96
36) toluene	6.24	92	12125	0.56	ppb		94
37) iodomethane	1.62	142	5606	0.46	ppb		91
38) trans-1,3-dichloropropene	6.65	75	3383	1.12	ppb		94
39) Vinyl acetate	2.68	43	17439	1.40	ppb		99
40) carbon disulfide	1.55	76	16219	0.58	ppb	#	98
42) 1,1,2-trichloroethane	6.79	83	2797	0.57	ppb		90
43) tetrachloroethene	6.58	166	4802	0.52	ppb		90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128911.D Vial: 11
Acq On : 28 Jan 2015 6:06 pm Operator: JHL
Sample : ICAL1 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:10 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,3-dichloropropane	7.02	76	5512	0.55	ppb		99
45)	2-hexanone	7.40	43	9935	2.53	ppb	#	85
46)	dibromochloromethane	6.93	129	2114	0.99	ppb		97
47)	1,2-dibromoethane	7.10	107	2721	0.52	ppb	#	98
48)	chlorobenzene	7.57	112	11031	0.53	ppb		96
49)	1,1,1,2-tetrachloroethane	7.63	131	2072	1.16	ppb		87
50)	bromoform	8.06	173	951	1.18	ppb		89
52)	bromobenzene	8.43	156	4934	0.51	ppb		95
53)	1,1,2,2-tetrachloroethane	8.52	83	3489	0.53	ppb	#	92
54)	1,2,3-trichloropropane	8.58	110	907	0.48	ppb	#	49
56)	ethylbenzene	7.62	106	5473	0.50	ppb		93
57)	m/p-xylene	7.74	106	13132	0.94	ppb		97
58)	styrene	8.06	104	9837	0.47	ppb		97
59)	o-xylene	8.02	106	6308	0.49	ppb		98
60)	isopropylbenzene	8.23	105	15968	0.45	ppb		99
61)	n-propyl benzene	8.47	91	23386	0.51	ppb		98
62)	2-chlorotoluene	8.54	126	4505	0.51	ppb		99
63)	4-chlorotoluene	8.64	126	4742	0.50	ppb		90
64)	1,3,5-trimethylbenzene	8.59	105	14554	0.47	ppb		97
65)	tert-butylbenzene	8.75	119	12664	0.47	ppb		99
66)	1,2,4-trimethylbenzene	8.79	105	14425	0.46	ppb		97
67)	sec-butylbenzene	8.85	105	19670	0.47	ppb		99
68)	1,3-dichlorobenzene	8.94	146	10283	0.52	ppb		95
69)	4-isopropyltoluene	8.92	119	15770	0.45	ppb		96
70)	1,4-dichlorobenzene	8.99	146	9399	0.50	ppb		98
71)	1,2-dichlorobenzene	9.19	146	10477	0.54	ppb	#	67
72)	n-butylbenzene	9.13	91	15742	0.47	ppb		93
73)	1,2-dibromo-3-chloropropan	9.57	75	2090	9.41	ppb		95
74)	1,2,4-trichlorobenzene	9.88	180	5438	0.46	ppb		93
75)	hexachlorobutadiene	9.86	225	3779	0.51	ppb		98
76)	naphthalene	10.02	128	9248	0.45	ppb		98
77)	trans-1,4-Dichloro-2-buten	8.61	53	4277	2.52	ppb		86
78)	1,2,3-trichlorobenzene	10.10	180	4988	0.49	ppb		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

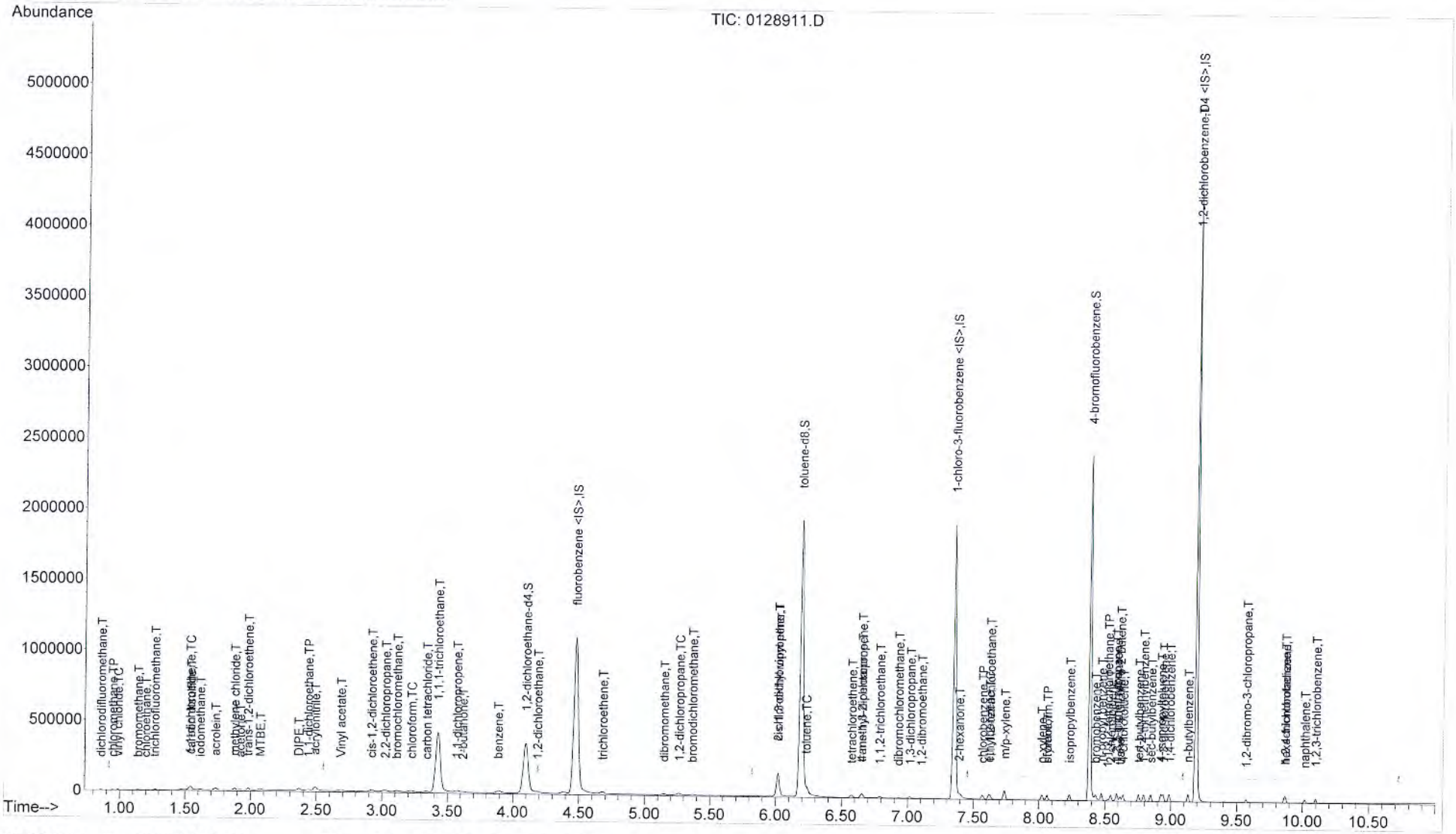
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128911.D
Acq On : 28 Jan 2015 6:06 pm
Sample : ICAL1
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17 2015

Vial: 11
Operator: JHL
Inst : MSD8
Multiplr: 1.00

Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



0128911.D VMS3494.M Thu Jan 29 11:17:10 2015

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128912.D Vial: 12
Acq On : 28 Jan 2015 6:31 pm Operator: JHL
Sample : ICAL2 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:12 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	246704	30.00	ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	403052	30.00	ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	636688	30.00	ppb	0.00
System Monitoring Compounds						
25) 1,2-dichloroethane-d4	4.10	65	373763	30.46	ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 101.53%			
35) toluene-d8	6.19	98	1222607	30.75	ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 102.50%			
51) 4-bromofluorobenzene	8.38	95	498162	29.33	ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 97.77%			

Target Compounds							Qvalue
2) dichlorodifluoromethane	0.86	85	8466	0.98	ppb		98
3) chloromethane	0.95	50	10578	1.03	ppb		99
4) vinyl chloride	0.99	62	10267	1.01	ppb		91
5) bromomethane	1.14	94	6427	1.25	ppb		89
6) chloroethane	1.20	64	3518	0.72	ppb		93
7) trichlorofluoromethane	1.27	101	13669	1.03	ppb		95
8) acrolein	1.73	56	20581	24.93	ppb		90
9) 1,1-dichloroethene	1.54	96	8546	1.00	ppb	#	95
10) acetone	1.92	43	10697	4.62	ppb		95
11) methylene chloride	1.89	84	9335	1.02	ppb		92
12) trans-1,2-dichloroethene	1.99	96	9051	0.99	ppb		93
13) acrylonitrile	2.49	53	48510	25.03	ppb		96
14) MTBE	2.08	73	18243	0.96	ppb		98
15) 1,1-dichloroethane	2.44	63	16717	0.99	ppb		94
16) DIPE	2.37	45	26018	1.00	ppb		94
17) 2,2-dichloropropane	3.02	77	10597	0.85	ppb		97
18) cis-1,2-dichloroethene	2.92	96	7575	0.81	ppb		99
19) 2-butanone	3.62	43	12028	4.62	ppb		97
20) bromochloromethane	3.11	130	4702	0.83	ppb		97
21) chloroform	3.22	83	15466	0.99	ppb		98
22) 1,1,1-trichloroethane	3.42	97	12396	0.97	ppb		99
23) carbon tetrachloride	3.34	117	8279	0.94	ppb		87
24) 1,1-dichloropropene	3.58	75	12784	1.05	ppb		91
26) benzene	3.89	78	36076	1.00	ppb		100
27) 1,2-dichloroethane	4.19	62	10775	0.98	ppb	#	95
28) trichloroethene	4.68	95	9956	1.05	ppb		98
29) 1,2-dichloropropane	5.27	63	8348	0.98	ppb		99
30) dibromomethane	5.14	93	4485	0.98	ppb		88
31) bromodichloromethane	5.37	83	8833	0.96	ppb		88
32) 2-chloroethyl vinyl ether	6.02	106	34158	24.23	ppb		99
33) cis-1,3-dichloropropene	6.02	75	10374	1.00	ppb		100
34) 4-methyl-2-pentanone	6.65	43	23679	4.68	ppb		100
36) toluene	6.24	92	22588	1.03	ppb		92
37) iodomethane	1.62	142	11110	0.91	ppb		99
38) trans-1,3-dichloropropene	6.66	75	5831	1.43	ppb		99
39) Vinyl acetate	2.68	43	30323	2.43	ppb		98
40) carbon disulfide	1.55	76	28126	1.01	ppb	#	99
42) 1,1,2-trichloroethane	6.79	83	4571	0.92	ppb		97
43) tetrachloroethene	6.58	166	8911	0.95	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128912.D
Acq On : 28 Jan 2015 6:31 pm
Sample : ICAL2
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:12 2015

Vial: 12
Operator: JHL
Inst : MSD8
Multiplr: 1.00

Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

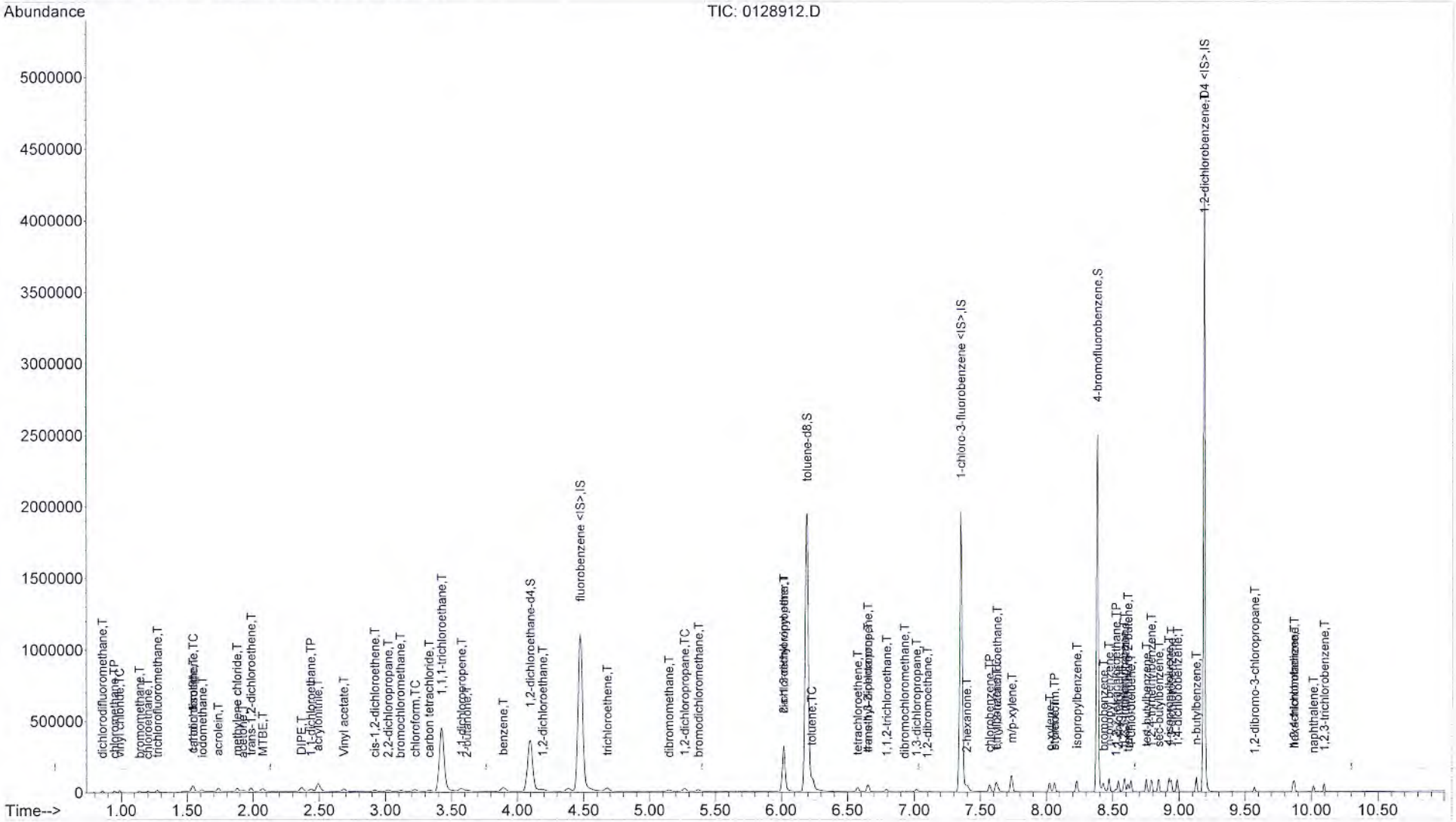
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44) 1,3-dichloropropane	7.02	76	9910	0.98 ppb		99
45) 2-hexanone	7.40	43	17589	4.43 ppb		97
46) dibromochloromethane	6.93	129	3779	1.34 ppb		91
47) 1,2-dibromoethane	7.10	107	4771	0.91 ppb	#	97
48) chlorobenzene	7.57	112	19801	0.93 ppb		97
49) 1,1,1,2-tetrachloroethane	7.63	131	3709	1.48 ppb		96
50) bromoform	8.06	173	1823	1.54 ppb		98
52) bromobenzene	8.43	156	9052	0.93 ppb		97
53) 1,1,2,2-tetrachloroethane	8.52	83	5982	0.91 ppb		98
54) 1,2,3-trichloropropane	8.58	110	1787	0.94 ppb	#	49
56) ethylbenzene	7.62	106	9757	0.90 ppb		95
57) m/p-xylene	7.73	106	24727	1.77 ppb		93
58) styrene	8.06	104	18403	0.87 ppb		96
59) o-xylene	8.03	106	11390	0.87 ppb		87
60) isopropylbenzene	8.23	105	31430	0.89 ppb		96
61) n-propyl benzene	8.47	91	42912	0.93 ppb		98
62) 2-chlorotoluene	8.54	126	8057	0.91 ppb		94
63) 4-chlorotoluene	8.64	126	8861	0.93 ppb		91
64) 1,3,5-trimethylbenzene	8.59	105	27135	0.87 ppb		94
65) tert-butylbenzene	8.75	119	23960	0.89 ppb		97
66) 1,2,4-trimethylbenzene	8.79	105	27619	0.88 ppb		97
67) sec-butylbenzene	8.85	105	37547	0.89 ppb		100
68) 1,3-dichlorobenzene	8.94	146	19397	0.98 ppb		97
69) 4-isopropyltoluene	8.92	119	29276	0.83 ppb		97
70) 1,4-dichlorobenzene	8.99	146	17502	0.92 ppb		98
71) 1,2-dichlorobenzene	9.19	146	19081	0.98 ppb	#	79
72) n-butylbenzene	9.13	91	28842	0.85 ppb		98
73) 1,2-dibromo-3-chloropropan	9.57	75	3881	11.01 ppb		93
74) 1,2,4-trichlorobenzene	9.87	180	10077	0.86 ppb		95
75) hexachlorobutadiene	9.86	225	6459	0.87 ppb		92
76) naphthalene	10.02	128	17130	0.84 ppb		99
77) trans-1,4-Dichloro-2-buten	8.61	53	7396	4.35 ppb	#	84
78) 1,2,3-trichlorobenzene	10.10	180	8861	0.87 ppb		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128912.D Vial: 12
Acq On : 28 Jan 2015 6:31 pm Operator: JHL
Sample : ICAL2 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128913.D Vial: 13
Acq On : 28 Jan 2015 6:56 pm Operator: JHL
Sample : ICAL3 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:14 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	251796	30.00	ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	407165	30.00	ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	647698	30.00	ppb	0.00
System Monitoring Compounds						
25) 1,2-dichloroethane-d4	4.10	65	378946	30.26	ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 100.87%			
35) toluene-d8	6.19	98	1180842	29.10	ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 97.00%			
51) 4-bromofluorobenzene	8.38	95	505375	29.46	ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 98.20%			

Target Compounds						Qvalue
2) dichlorodifluoromethane	0.86	85	17955	2.03	ppb	98
3) chloromethane	0.95	50	21024	2.01	ppb	96
4) vinyl chloride	0.99	62	20509	1.98	ppb	98
5) bromomethane	1.14	94	10095	2.02	ppb	95
6) chloroethane	1.20	64	7259	2.08	ppb	95
7) trichlorofluoromethane	1.27	101	28823	2.12	ppb	90
8) acrolein	1.73	56	41068	48.74	ppb	99
9) 1,1-dichloroethene	1.53	96	15930	1.83	ppb	98
10) acetone	1.93	43	23516	9.96	ppb	99
11) methylene chloride	1.88	84	18189	1.94	ppb	96
12) trans-1,2-dichloroethene	1.99	96	18042	1.93	ppb	91
13) acrylonitrile	2.49	53	96722	48.89	ppb	99
14) MTBE	2.07	73	36842	1.90	ppb	97
15) 1,1-dichloroethane	2.44	63	33901	1.98	ppb	98
16) DIPE	2.37	45	51316	1.94	ppb	97
17) 2,2-dichloropropane	3.02	77	25207	1.97	ppb	98
18) cis-1,2-dichloroethene	2.92	96	19001	2.00	ppb	99
19) 2-butanone	3.62	43	26401	9.94	ppb	96
20) bromochloromethane	3.12	130	11345	1.96	ppb	98
21) chloroform	3.22	83	31071	1.94	ppb	96
22) 1,1,1-trichloroethane	3.42	97	25057	1.93	ppb	97
23) carbon tetrachloride	3.33	117	16705	1.86	ppb	98
24) 1,1-dichloropropene	3.57	75	23920	1.93	ppb	95
26) benzene	3.89	78	72633	1.97	ppb	98
27) 1,2-dichloroethane	4.19	62	22512	2.01	ppb #	95
28) trichloroethene	4.68	95	18718	1.94	ppb	96
29) 1,2-dichloropropane	5.27	63	17327	1.98	ppb	96
30) dibromomethane	5.15	93	9289	1.98	ppb	85
31) bromodichloromethane	5.37	83	17158	1.82	ppb	94
32) 2-chloroethyl vinyl ether	6.02	106	70586	49.05	ppb	93
33) cis-1,3-dichloropropene	6.02	75	20929	1.98	ppb	96
34) 4-methyl-2-pentanone	6.65	43	47575	9.21	ppb	98
36) toluene	6.24	92	39758	1.78	ppb	92
37) iodomethane	1.62	142	21741	1.74	ppb	100
38) trans-1,3-dichloropropene	6.65	75	11734	2.13	ppb	96
39) Vinyl acetate	2.68	43	60591	4.76	ppb	99
40) carbon disulfide	1.55	76	54478	1.91	ppb	99
42) 1,1,2-trichloroethane	6.79	83	9510	1.89	ppb	94
43) tetrachloroethene	6.58	166	17970	1.90	ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128913.D Vial: 13
Acq On : 28 Jan 2015 6:56 pm Operator: JHL
Sample : ICAL3 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:14 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

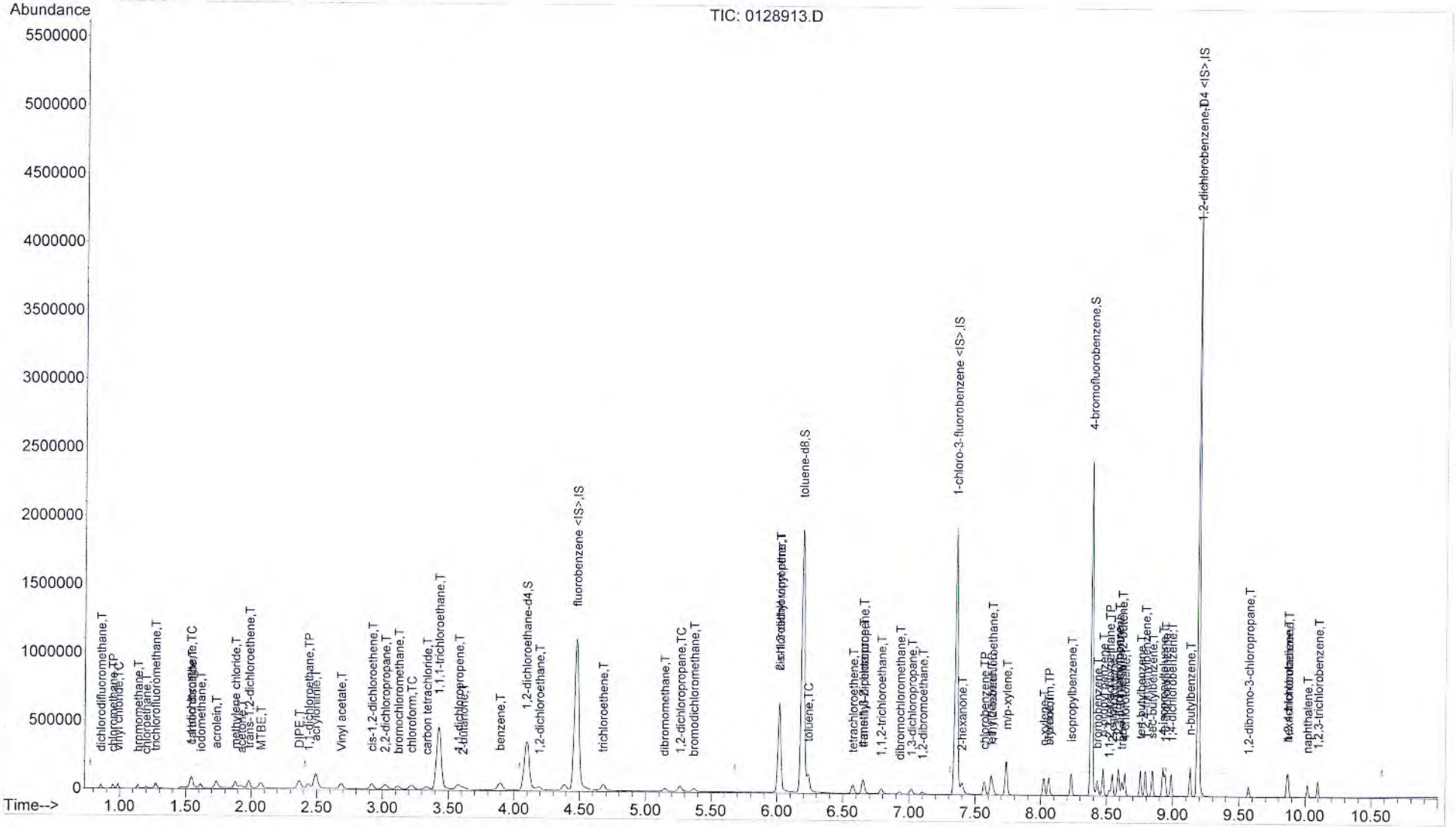
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44)	1,3-dichloropropane	7.02	76	18956	1.85 ppb		97
45)	2-hexanone	7.40	43	37168	9.26 ppb		96
46)	dibromochloromethane	6.93	129	7367	2.10 ppb		88
47)	1,2-dibromoethane	7.10	107	9479	1.79 ppb		91
48)	chlorobenzene	7.57	112	39576	1.85 ppb		96
49)	1,1,1,2-tetrachloroethane	7.63	131	7403	2.19 ppb		93
50)	bromoform	8.06	173	3514	2.22 ppb		93
52)	bromobenzene	8.43	156	18329	1.86 ppb		94
53)	1,1,2,2-tetrachloroethane	8.52	83	12263	1.84 ppb		98
54)	1,2,3-trichloropropane	8.58	110	3682	1.91 ppb	#	62
56)	ethylbenzene	7.62	106	20680	1.87 ppb		97
57)	m/p-xylene	7.74	106	51412	3.62 ppb		99
58)	styrene	8.06	104	38160	1.77 ppb		99
59)	o-xylene	8.02	106	23632	1.78 ppb		90
60)	isopropylbenzene	8.23	105	65240	1.81 ppb		97
61)	n-propyl benzene	8.47	91	86731	1.84 ppb		99
62)	2-chlorotoluene	8.54	126	16588	1.84 ppb		98
63)	4-chlorotoluene	8.64	126	18012	1.87 ppb		94
64)	1,3,5-trimethylbenzene	8.59	105	57393	1.82 ppb		97
65)	tert-butylbenzene	8.75	119	49955	1.83 ppb		97
66)	1,2,4-trimethylbenzene	8.79	105	57989	1.81 ppb		98
67)	sec-butylbenzene	8.85	105	78876	1.84 ppb		96
68)	1,3-dichlorobenzene	8.94	146	36873	1.84 ppb		99
69)	4-isopropyltoluene	8.92	119	63484	1.77 ppb		98
70)	1,4-dichlorobenzene	8.99	146	35196	1.82 ppb		97
71)	1,2-dichlorobenzene	9.19	146	37526	1.89 ppb	#	92
72)	n-butylbenzene	9.13	91	59125	1.72 ppb		99
73)	1,2-dibromo-3-chloropropan	9.57	75	7410	14.05 ppb		90
74)	1,2,4-trichlorobenzene	9.87	180	20366	1.70 ppb		96
75)	hexachlorobutadiene	9.86	225	12874	1.71 ppb		99
76)	naphthalene	10.02	128	36452	1.75 ppb		98
77)	trans-1,4-Dichloro-2-buten	8.61	53	15486	8.95 ppb		86
78)	1,2,3-trichlorobenzene	10.10	180	18034	1.73 ppb		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128913.D Vial: 13
Acq On : 28 Jan 2015 6:56 pm Operator: JHL
Sample : ICAL3 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



0128913.D VMS3494.M Thu Jan 29 11:17:14 2015

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128914.D Vial: 14
Acq On : 28 Jan 2015 7:20 pm Operator: JHL
Sample : ICAL4 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:16 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	252572	30.00	ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	406215	30.00	ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	650872	30.00	ppb	0.00
System Monitoring Compounds						
25) 1,2-dichloroethane-d4	4.10	65	381604	30.38	ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 101.27%			
35) toluene-d8	6.19	98	1160400	28.50	ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 95.00%			
51) 4-bromofluorobenzene	8.38	95	510402	29.82	ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 99.40%			

JH 1/29/15

Target Compounds						Qvalue
2) dichlorodifluoromethane	0.86	85	43757	4.93	ppb	96
3) chloromethane	0.95	50	52394	4.98	ppb	98
4) vinyl chloride	0.99	62	50534	4.88	ppb	98
5) bromomethane	1.14	94	24148	5.14	ppb	96
6) chloroethane	1.20	64	16604	5.68	ppb	99
7) trichlorofluoromethane	1.27	101	70651	5.19	ppb	98
8) acrolein	1.73	56	102634	121.44	ppb	96
9) 1,1-dichloroethene	1.54	96	41585	4.77	ppb	93
10) acetone	1.93	43	60669	25.62	ppb	100
11) methylene chloride	1.88	84	44923	4.77	ppb	98
12) trans-1,2-dichloroethene	1.99	96	44565	4.76	ppb	96
13) acrylonitrile	2.49	53	244186	123.05	ppb	98
14) MTBE	2.07	73	91862	4.72	ppb	98
15) 1,1-dichloroethane	2.44	63	83586	4.86	ppb	97
16) DIPE	2.37	45	124826	4.70	ppb	97
17) 2,2-dichloropropane	3.02	77	61241	4.77	ppb	97
18) cis-1,2-dichloroethene	2.92	96	48782	5.13	ppb	97
19) 2-butanone	3.62	43	66614	24.99	ppb	100
20) bromochloromethane	3.12	130	29293	5.04	ppb	95
21) chloroform	3.22	83	77650	4.84	ppb	97
22) 1,1,1-trichloroethane	3.42	97	62749	4.82	ppb	93
23) carbon tetrachloride	3.34	117	39834	4.43	ppb	100
24) 1,1-dichloropropene	3.57	75	59568	4.79	ppb	96
26) benzene	3.89	78	176834	4.79	ppb	99
27) 1,2-dichloroethane	4.19	62	55234	4.92	ppb	95
28) trichloroethene	4.68	95	44679	4.62	ppb	98
29) 1,2-dichloropropane	5.27	63	42457	4.84	ppb #	95
30) dibromomethane	5.15	93	22915	4.87	ppb	98
31) bromodichloromethane	5.37	83	44258	4.69	ppb	96
32) 2-chloroethyl vinyl ether	6.02	106	187119	129.64	ppb	98
33) cis-1,3-dichloropropene	6.02	75	53601	5.04	ppb	100
34) 4-methyl-2-pentanone	6.65	43	123226	23.77	ppb	99
36) toluene	6.24	92	100006	4.47	ppb	100
37) iodomethane	1.62	142	60160	4.79	ppb	98
38) trans-1,3-dichloropropene	6.66	75	32615	4.66	ppb	98
39) Vinyl acetate	2.68	43	155963	12.21	ppb	97
40) carbon disulfide	1.55	76	136185	4.76	ppb	99
42) 1,1,2-trichloroethane	6.79	83	24515	4.89	ppb	92
43) tetrachloroethene	6.58	166	45395	4.81	ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128914.D Vial: 14
Acq On : 28 Jan 2015 7:20 pm Operator: JHL
Sample : ICAL4 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:16 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,3-dichloropropane	7.02	76	48980	4.80	ppb		97
45)	2-hexanone	7.40	43	98221	24.53	ppb		98
46)	dibromochloromethane	6.93	129	19419	4.63	ppb		96
47)	1,2-dibromoethane	7.10	107	24948	4.73	ppb	#	98
48)	chlorobenzene	7.57	112	101595	4.75	ppb		99
49)	1,1,1,2-tetrachloroethane	7.63	131	19819	4.57	ppb		97
50)	bromoform	8.06	173	9375	4.57	ppb		97
52)	bromobenzene	8.43	156	46776	4.75	ppb		98
53)	1,1,2,2-tetrachloroethane	8.52	83	31697	4.77	ppb		100
54)	1,2,3-trichloropropane	8.58	110	8962	4.66	ppb	#	58
56)	ethylbenzene	7.62	106	54115	4.86	ppb		98
57)	m/p-xylene	7.74	106	141750	9.92	ppb		97
58)	styrene	8.06	104	102978	4.76	ppb		97
59)	o-xylene	8.02	106	64963	4.87	ppb		98
60)	isopropylbenzene	8.23	105	177820	4.91	ppb		99
61)	n-propyl benzene	8.47	91	227942	4.81	ppb		99
62)	2-chlorotoluene	8.54	126	45240	4.99	ppb		95
63)	4-chlorotoluene	8.64	126	47512	4.90	ppb		93
64)	1,3,5-trimethylbenzene	8.59	105	154830	4.87	ppb		99
65)	tert-butylbenzene	8.75	119	133123	4.84	ppb		99
66)	1,2,4-trimethylbenzene	8.79	105	158364	4.91	ppb		99
67)	sec-butylbenzene	8.85	105	210554	4.90	ppb		100
68)	1,3-dichlorobenzene	8.94	146	96075	4.76	ppb		99
69)	4-isopropyltoluene	8.92	119	175043	4.86	ppb		100
70)	1,4-dichlorobenzene	8.99	146	93205	4.78	ppb		98
71)	1,2-dichlorobenzene	9.19	146	96389	4.83	ppb		95
72)	n-butylbenzene	9.13	91	170109	4.92	ppb		100
73)	1,2-dibromo-3-chloropropan	9.57	75	22166	26.91	ppb		99
74)	1,2,4-trichlorobenzene	9.87	180	55535	4.61	ppb		98
75)	hexachlorobutadiene	9.86	225	35402	4.68	ppb		97
76)	naphthalene	10.02	128	96623	4.62	ppb		98
77)	trans-1,4-Dichloro-2-buten	8.61	53	40759	23.44	ppb		88
78)	1,2,3-trichlorobenzene	10.10	180	49678	4.75	ppb		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

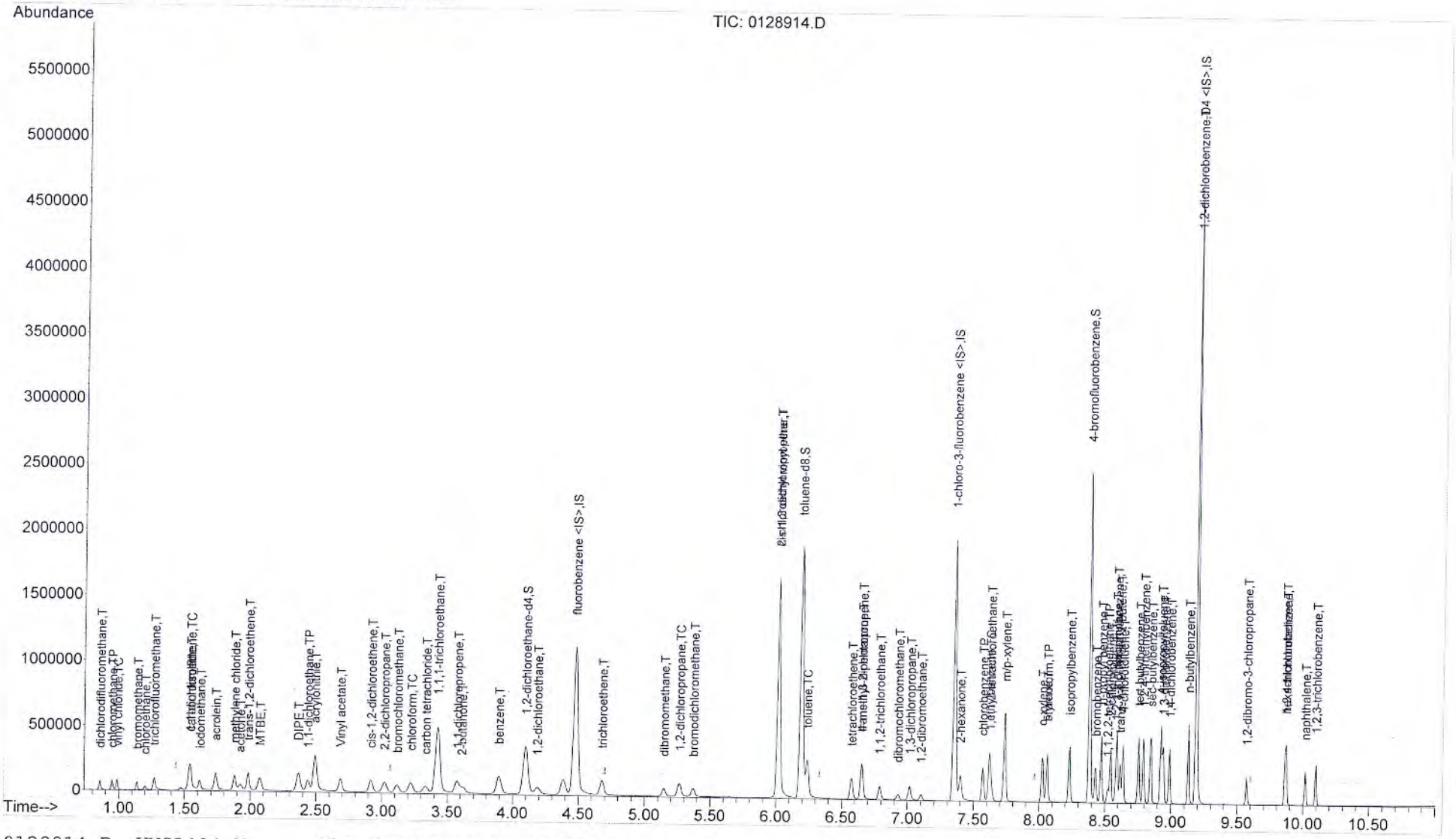
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128914.D
Acq On : 28 Jan 2015 7:20 pm
Sample : ICAL4
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17 2015

Vial: 14
Operator: JHL
Inst : MSD8
Multiplr: 1.00

Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



0128914.D VMS3494.M Thu Jan 29 11:17:16 2015

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128915.D Vial: 15
Acq On : 28 Jan 2015 7:45 pm Operator: JHL
Sample : ICAL5 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:18 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	255322	30.00	ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	411296	30.00	ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	667425	30.00	ppb	0.00
System Monitoring Compounds						
25) 1,2-dichloroethane-d4	4.10	65	386149	30.41	ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 101.37%			
35) toluene-d8	6.19	98	1255002	30.50	ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 101.67%			
51) 4-bromofluorobenzene	8.38	95	523565	30.21	ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 100.70%			

Target Compounds						Qvalue
2) dichlorodifluoromethane	0.86	85	88129	9.82	ppb	100
3) chloromethane	0.95	50	101602	9.56	ppb	100
4) vinyl chloride	0.99	62	100303	9.57	ppb	100
5) bromomethane	1.14	94	45335	9.84	ppb	100
6) chloroethane	1.20	64	27268	10.03	ppb	100
7) trichlorofluoromethane	1.27	101	140156	10.18	ppb	100
8) acrolein	1.73	56	207667	243.07	ppb	100
9) 1,1-dichloroethene	1.53	96	85856	9.74	ppb	100
10) acetone	1.92	43	127211	53.14	ppb	100
11) methylene chloride	1.88	84	92344	9.70	ppb	100
12) trans-1,2-dichloroethene	1.99	96	94366	9.98	ppb	100
13) acrylonitrile	2.49	53	492834	245.68	ppb	100
14) MTBE	2.07	73	197309	10.03	ppb	100
15) 1,1-dichloroethane	2.44	63	171625	9.87	ppb	100
16) DIPE	2.37	45	261181	9.73	ppb	100
17) 2,2-dichloropropane	3.02	77	120368	9.28	ppb	100
18) cis-1,2-dichloroethene	2.92	96	89515	9.30	ppb	100
19) 2-butanone	3.62	43	140396	52.11	ppb	100
20) bromochloromethane	3.12	130	60845	10.35	ppb	100
21) chloroform	3.22	83	160880	9.92	ppb	100
22) 1,1,1-trichloroethane	3.42	97	133375	10.13	ppb	100
23) carbon tetrachloride	3.33	117	88655	9.76	ppb	100
24) 1,1-dichloropropene	3.58	75	124107	9.88	ppb	100
26) benzene	3.89	78	362937	9.73	ppb	100
27) 1,2-dichloroethane	4.19	62	113201	9.97	ppb	100
28) trichloroethene	4.68	95	92025	9.42	ppb	100
29) 1,2-dichloropropane	5.27	63	86262	9.74	ppb	100
30) dibromomethane	5.15	93	47485	9.99	ppb	100
31) bromodichloromethane	5.37	83	93547	9.81	ppb	100
32) 2-chloroethyl vinyl ether	6.02	106	385663	264.31	ppb	100
33) cis-1,3-dichloropropene	6.02	75	112608	10.48	ppb	100
34) 4-methyl-2-pentanone	6.65	43	267466	51.04	ppb	100
36) toluene	6.24	92	231141	10.23	ppb	100
37) iodomethane	1.62	142	130341	10.27	ppb	100
38) trans-1,3-dichloropropene	6.66	75	73319	9.42	ppb	100
39) Vinyl acetate	2.68	43	312456	24.20	ppb	100
40) carbon disulfide	1.55	76	279750	9.68	ppb	100
42) 1,1,2-trichloroethane	6.79	83	51124	10.07	ppb	100
43) tetrachloroethene	6.58	166	95459	9.99	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128915.D Vial: 15
Acq On : 28 Jan 2015 7:45 pm Operator: JHL
Sample : ICAL5 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:18 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,3-dichloropropane	7.02	76	103467	10.01 ppb	100
45)	2-hexanone	7.40	43	207352	51.15 ppb	100
46)	dibromochloromethane	6.93	129	44529	9.64 ppb	100
47)	1,2-dibromoethane	7.10	107	53970	10.10 ppb	100
48)	chlorobenzene	7.57	112	217183	10.03 ppb	100
49)	1,1,1,2-tetrachloroethane	7.63	131	46992	9.52 ppb	100
50)	bromoform	8.06	173	22494	9.43 ppb	100
52)	bromobenzene	8.43	156	98528	9.88 ppb	100
53)	1,1,2,2-tetrachloroethane	8.52	83	68106	10.13 ppb	100
54)	1,2,3-trichloropropane	8.58	110	19606	10.07 ppb	100
56)	ethylbenzene	7.62	106	118177	10.35 ppb	100
57)	m/p-xylene	7.74	106	302616	20.66 ppb	100
58)	styrene	8.06	104	233451	10.53 ppb	100
59)	o-xylene	8.03	106	141121	10.32 ppb	100
60)	isopropylbenzene	8.23	105	383435	10.32 ppb	100
61)	n-propyl benzene	8.47	91	501559	10.33 ppb	100
62)	2-chlorotoluene	8.54	126	94572	10.17 ppb	100
63)	4-chlorotoluene	8.64	126	104081	10.46 ppb	100
64)	1,3,5-trimethylbenzene	8.59	105	339846	10.43 ppb	100
65)	tert-butylbenzene	8.75	119	289876	10.28 ppb	100
66)	1,2,4-trimethylbenzene	8.79	105	345917	10.46 ppb	100
67)	sec-butylbenzene	8.85	105	454361	10.30 ppb	100
68)	1,3-dichlorobenzene	8.94	146	204550	9.89 ppb	100
69)	4-isopropyltoluene	8.92	119	384201	10.41 ppb	100
70)	1,4-dichlorobenzene	8.99	146	204489	10.24 ppb	100
71)	1,2-dichlorobenzene	9.19	146	205279	10.04 ppb	100
72)	n-butylbenzene	9.13	91	370872	10.46 ppb	100
73)	1,2-dibromo-3-chloropropan	9.57	75	55178	54.57 ppb	100
74)	1,2,4-trichlorobenzene	9.88	180	125252	10.14 ppb	100
75)	hexachlorobutadiene	9.86	225	77199	9.94 ppb	100
76)	naphthalene	10.02	128	226148	10.54 ppb	100
77)	trans-1,4-Dichloro-2-buten	8.61	53	90299	50.64 ppb	100
78)	1,2,3-trichlorobenzene	10.10	180	110951	10.34 ppb	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

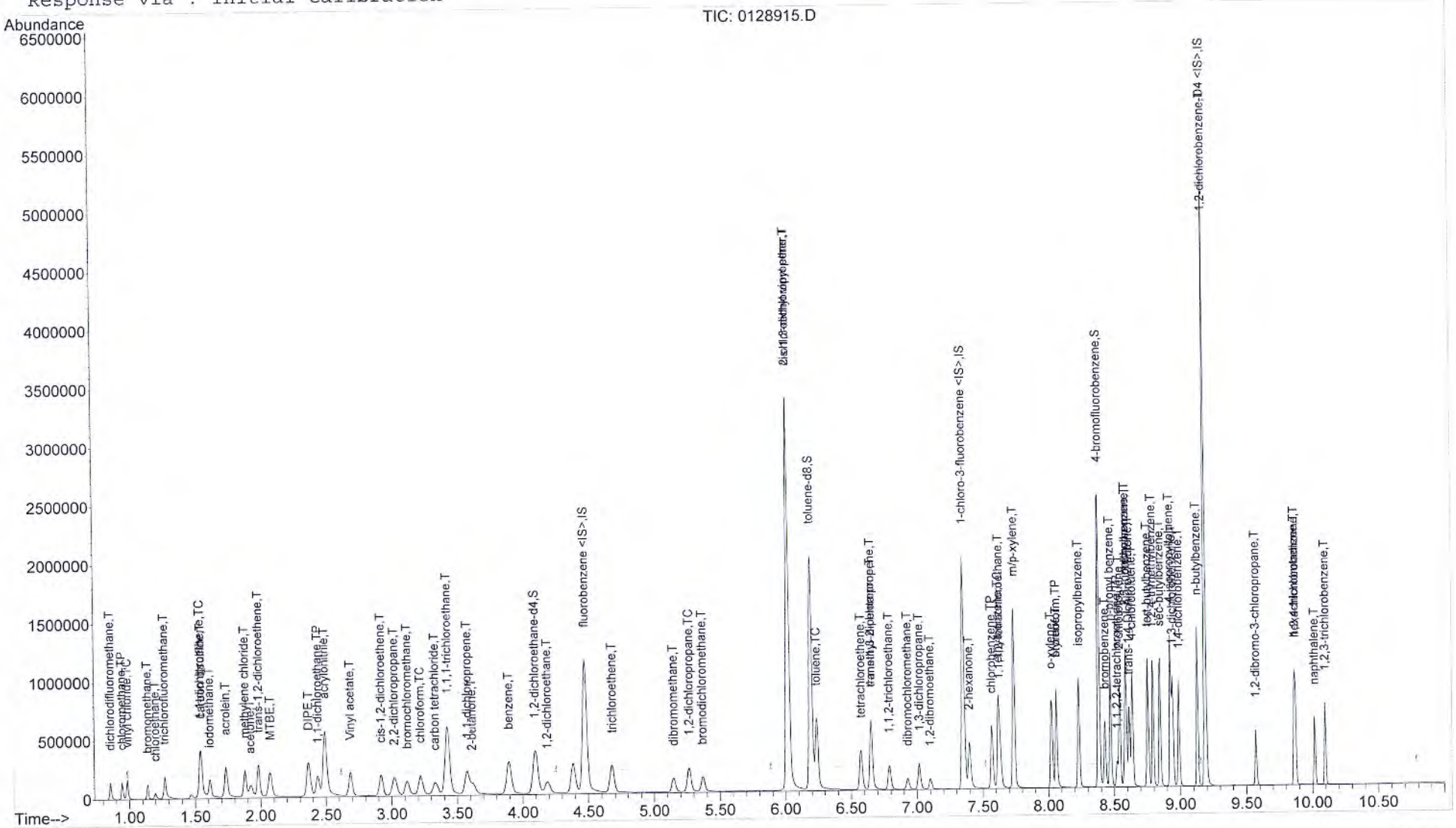
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128915.D
Acq On : 28 Jan 2015 7:45 pm
Sample : ICAL5
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17 2015

Vial: 15
Operator: JHL
Inst : MSD8
Multiplr: 1.00

Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128916.D Vial: 16
Acq On : 28 Jan 2015 8:10 pm Operator: JHL
Sample : ICAL6 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:20 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	254070	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	418094	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	691238	30.00 ppb	0.00
System Monitoring Compounds					
25) 1,2-dichloroethane-d4	4.09	65	378211	29.93 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 99.77%		
35) toluene-d8	6.19	98	1194757	29.18 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 97.27%		
51) 4-bromofluorobenzene	8.38	95	528843	30.02 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 100.07%		
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.86	85	183118	20.50 ppb	99
3) chloromethane	0.95	50	210642	19.91 ppb	98
4) vinyl chloride	0.99	62	208849	20.03 ppb	98
5) bromomethane	1.14	94	86266	19.53 ppb	96
6) chloroethane	1.20	64	46020	19.19 ppb	98
7) trichlorofluoromethane	1.27	101	282552	20.63 ppb	98
8) acrolein	1.73	56	436361	513.26 ppb	99
9) 1,1-dichloroethene	1.53	96	174370	19.88 ppb	98
10) acetone	1.92	43	235119	98.71 ppb	98
11) methylene chloride	1.88	84	180231	19.03 ppb	93
12) trans-1,2-dichloroethene	1.99	96	184430	19.59 ppb	97
13) acrylonitrile	2.49	53	1030125	516.06 ppb	99
14) MTBE	2.07	73	391451	19.99 ppb	98
15) 1,1-dichloroethane	2.44	63	336015	19.41 ppb	99
16) DIPE	2.37	45	519517	19.45 ppb	100
17) 2,2-dichloropropane	3.02	77	257147	19.93 ppb	99
18) cis-1,2-dichloroethene	2.92	96	196485	20.52 ppb	100
19) 2-butanone	3.62	43	273576	102.04 ppb	98
20) bromochloromethane	3.12	130	119100	20.35 ppb	99
21) chloroform	3.22	83	315470	19.55 ppb	95
22) 1,1,1-trichloroethane	3.42	97	272748	20.82 ppb	97
23) carbon tetrachloride	3.34	117	182072	20.14 ppb	97
24) 1,1-dichloropropene	3.57	75	249892	19.99 ppb	98
26) benzene	3.89	78	719769	19.39 ppb	98
27) 1,2-dichloroethane	4.19	62	222136	19.67 ppb	98
28) trichloroethene	4.68	95	185630	19.09 ppb	98
29) 1,2-dichloropropane	5.27	63	171326	19.44 ppb #	97
30) dibromomethane	5.14	93	92638	19.59 ppb	98
31) bromodichloromethane	5.37	83	191625	20.20 ppb	98
32) 2-chloroethyl vinyl ether	6.02	106	809857	557.77 ppb	90
33) cis-1,3-dichloropropene	6.02	75	221485	20.71 ppb	98
34) 4-methyl-2-pentanone	6.65	43	543286	104.19 ppb	99
36) toluene	6.24	92	428676	19.06 ppb	98
37) iodomethane	1.62	142	266875	21.13 ppb	100
38) trans-1,3-dichloropropene	6.66	75	156314	19.03 ppb	97
39) Vinyl acetate	2.68	43	672590	52.34 ppb	98
40) carbon disulfide	1.55	76	558821	19.43 ppb	100
42) 1,1,2-trichloroethane	6.79	83	101953	19.75 ppb	98
43) tetrachloroethene	6.58	166	189759	19.53 ppb	99

(#) = qualifier out of range (m) = manual integration

HL 1/29/15

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128916.D Vial: 16
Acq On : 28 Jan 2015 8:10 pm Operator: JHL
Sample : ICAL6 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:20 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

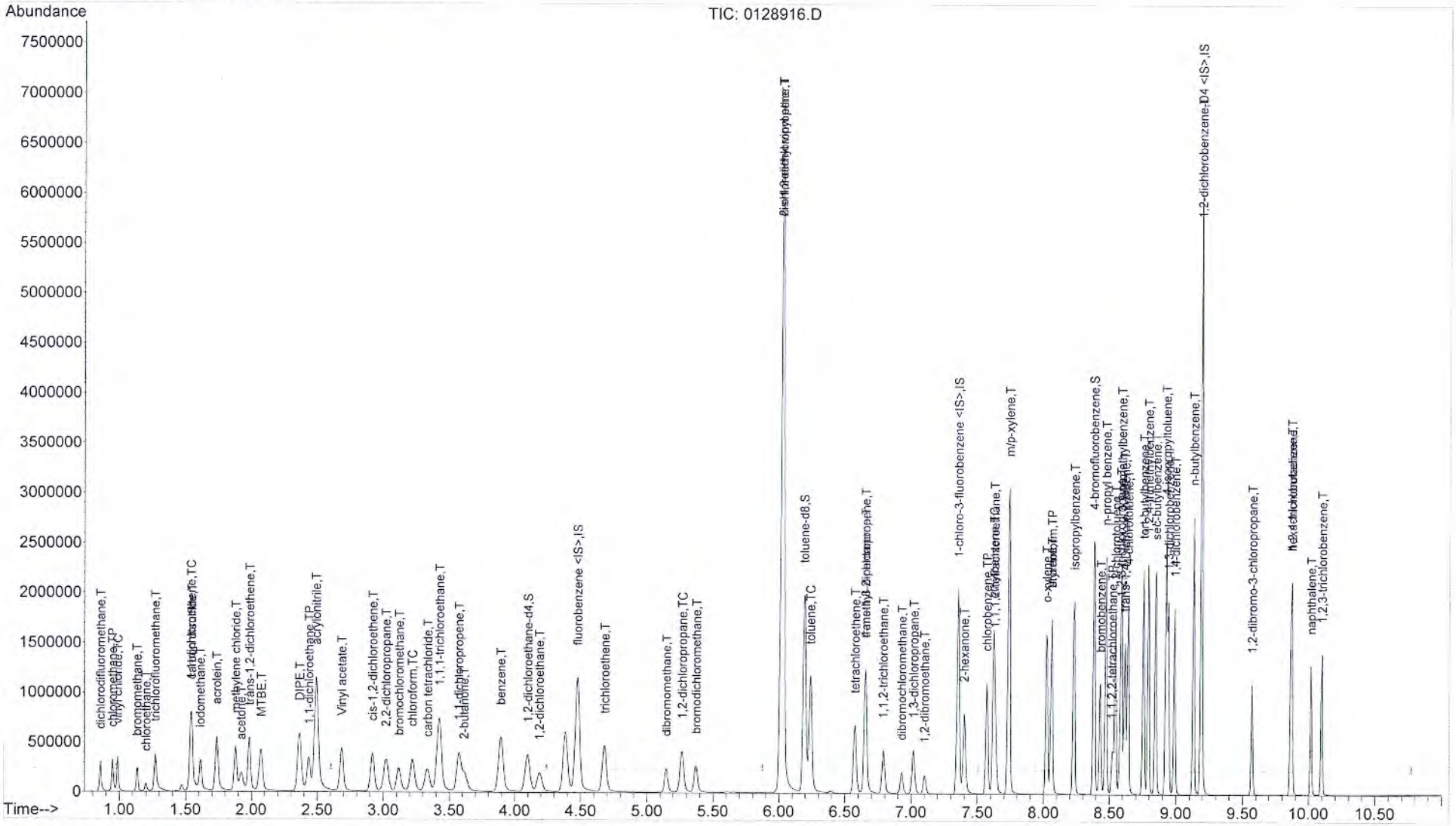
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,3-dichloropropane	7.02	76	207223	19.73	ppb		100
45)	2-hexanone	7.40	43	423483	102.77	ppb		99
46)	dibromochloromethane	6.93	129	97023	19.36	ppb		98
47)	1,2-dibromoethane	7.10	107	111435	20.51	ppb		95
48)	chlorobenzene	7.57	112	438301	19.92	ppb		99
49)	1,1,1,2-tetrachloroethane	7.63	131	102689	18.88	ppb		97
50)	bromoform	8.06	173	51405	18.96	ppb		96
52)	bromobenzene	8.43	156	202008	19.94	ppb		98
53)	1,1,2,2-tetrachloroethane	8.52	83	137610	20.13	ppb		98
54)	1,2,3-trichloropropane	8.58	110	40984	20.70	ppb	#	59
56)	ethylbenzene	7.62	106	241063	20.38	ppb		99
57)	m/p-xylene	7.74	106	623549	41.11	ppb		99
58)	styrene	8.06	104	483544	21.05	ppb		100
59)	o-xylene	8.03	106	297335	20.99	ppb		100
60)	isopropylbenzene	8.23	105	812716	21.12	ppb		99
61)	n-propyl benzene	8.47	91	1019911	20.29	ppb		99
62)	2-chlorotoluene	8.54	126	193879	20.12	ppb		99
63)	4-chlorotoluene	8.64	126	210484	20.43	ppb		92
64)	1,3,5-trimethylbenzene	8.59	105	703992	20.86	ppb		100
65)	tert-butylbenzene	8.75	119	604183	20.70	ppb		99
66)	1,2,4-trimethylbenzene	8.79	105	713682	20.83	ppb		99
67)	sec-butylbenzene	8.85	105	942343	20.63	ppb		100
68)	1,3-dichlorobenzene	8.94	146	426076	19.89	ppb		99
69)	4-isopropyltoluene	8.92	119	809846	21.19	ppb		99
70)	1,4-dichlorobenzene	8.99	146	422302	20.41	ppb		99
71)	1,2-dichlorobenzene	9.19	146	417931	19.73	ppb		98
72)	n-butylbenzene	9.13	91	781151	21.27	ppb		99
73)	1,2-dibromo-3-chloropropan	9.57	75	125908	111.16	ppb		95
74)	1,2,4-trichlorobenzene	9.87	180	268152	20.97	ppb		100
75)	hexachlorobutadiene	9.86	225	161940	20.14	ppb		99
76)	naphthalene	10.02	128	481868	21.69	ppb		100
77)	trans-1,4-Dichloro-2-buten	8.61	53	194134	105.13	ppb	#	86
78)	1,2,3-trichlorobenzene	10.10	180	233992	21.06	ppb		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128916.D Vial: 16
Acq On : 28 Jan 2015 8:10 pm Operator: JHL
Sample : ICAL6 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



0128916.D VMS3494.M Thu Jan 29 11:17:20 2015

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128917.D Vial: 17
Acq On : 28 Jan 2015 8:35 pm Operator: JHL
Sample : ICAL7 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:22 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	252151	30.00	ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	420178	30.00	ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	721710	30.00	ppb	0.00
System Monitoring Compounds						
25) 1,2-dichloroethane-d4	4.09	65	370722	29.56	ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 98.53%			
35) toluene-d8	6.19	98	1255253	30.89	ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 102.97%			
51) 4-bromofluorobenzene	8.38	95	545938	30.84	ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 102.80%			

rk 1/29/15

Target Compounds						Qvalue
2) dichlorodifluoromethane	0.86	85	454674	51.30	ppb	99
3) chloromethane	0.95	50	509746	48.55	ppb	99
4) vinyl chloride	0.99	62	516788	49.94	ppb	98
5) bromomethane	1.13	94	200359	50.63	ppb	99
6) chloroethane	1.19	64	77388	47.88	ppb	96
7) trichlorofluoromethane	1.27	101	654749	48.17	ppb	100
8) acrolein	1.73	56	1039573	1232.08	ppb	99
9) 1,1-dichloroethene	1.53	96	442888	50.88	ppb	98
10) acetone	1.92	43	592330	250.56	ppb	100
11) methylene chloride	1.88	84	464555	49.43	ppb	98
12) trans-1,2-dichloroethene	1.98	96	485464	51.96	ppb	99
13) acrylonitrile	2.50	53	2455928	1239.70	ppb	100
14) MTBE	2.07	73	1022757	52.63	ppb	99
15) 1,1-dichloroethane	2.44	63	859047	50.01	ppb	99
16) DIPE	2.37	45	1339391	50.53	ppb	99
17) 2,2-dichloropropane	3.02	77	637951	49.82	ppb	98
18) cis-1,2-dichloroethene	2.92	96	506677	53.32	ppb	99
19) 2-butanone	3.62	43	499665	187.78	ppb	98
20) bromochloromethane	3.12	130	274044	47.19	ppb	95
21) chloroform	3.22	83	766919	47.88	ppb	98
22) 1,1,1-trichloroethane	3.42	97	589910	45.38	ppb	98
23) carbon tetrachloride	3.33	117	479471	53.45	ppb	100
24) 1,1-dichloropropene	3.57	75	508277	40.96	ppb	98
26) benzene	3.89	78	1863939	50.59	ppb	97
27) 1,2-dichloroethane	4.19	62	563434	50.26	ppb	99
28) trichloroethene	4.67	95	486669	50.42	ppb	98
29) 1,2-dichloropropane	5.27	63	440462	50.35	ppb	98
30) dibromomethane	5.15	93	236915	50.48	ppb	97
31) bromodichloromethane	5.37	83	518686	55.09	ppb	97
32) 2-chloroethyl vinyl ether	6.03	106	1769444	1227.94	ppb	86
33) cis-1,3-dichloropropene	6.02	75	525482	49.52	ppb	100
34) 4-methyl-2-pentanone	6.65	43	1389783	268.56	ppb	98
36) toluene	6.24	92	1189772	53.30	ppb	100
37) iodomethane	1.61	142	733060	58.48	ppb	99
38) trans-1,3-dichloropropene	6.66	75	455711	51.20	ppb	99
39) Vinyl acetate	2.68	43	1611700	126.38	ppb	98
40) carbon disulfide	1.55	76	1457217	51.04	ppb	100
42) 1,1,2-trichloroethane	6.79	83	265709	51.22	ppb	99
43) tetrachloroethene	6.58	166	519777	53.23	ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128917.D Vial: 17
Acq On : 28 Jan 2015 8:35 pm Operator: JHL
Sample : ICAL7 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:22 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,3-dichloropropane	7.02	76	544529	51.58	ppb		100
45)	2-hexanone	7.40	43	1117332	269.81	ppb		99
46)	dibromochloromethane	6.93	129	289631	50.75	ppb		100
47)	1,2-dibromoethane	7.10	107	295316	54.07	ppb		95
48)	chlorobenzene	7.57	112	1187147	53.68	ppb		100
49)	1,1,1,2-tetrachloroethane	7.63	131	325175	51.11	ppb		98
50)	bromoform	8.06	173	173999	51.01	ppb		97
52)	bromobenzene	8.43	156	554336	54.44	ppb		97
53)	1,1,2,2-tetrachloroethane	8.52	83	367618	53.52	ppb		99
54)	1,2,3-trichloropropane	8.58	110	107630	54.10	ppb		95
56)	ethylbenzene	7.62	106	665803	53.91	ppb		98
57)	m/p-xylene	7.74	106	1774089	112.02	ppb		97
58)	styrene	8.06	104	1356384	56.56	ppb		100
59)	o-xylene	8.03	106	828108	55.98	ppb		99
60)	isopropylbenzene	8.23	105	2264187	56.36	ppb		100
61)	n-propyl benzene	8.47	91	2826961	53.85	ppb		98
62)	2-chlorotoluene	8.54	126	542336	53.92	ppb		97
63)	4-chlorotoluene	8.64	126	561433	52.19	ppb		95
64)	1,3,5-trimethylbenzene	8.59	105	1971706	55.96	ppb		100
65)	tert-butylbenzene	8.75	119	1705637	55.96	ppb		98
66)	1,2,4-trimethylbenzene	8.79	105	2016674	56.38	ppb		98
67)	sec-butylbenzene	8.85	105	2656346	55.71	ppb		99
68)	1,3-dichlorobenzene	8.94	146	1188214	53.12	ppb		99
69)	4-isopropyltoluene	8.92	119	2336544	58.56	ppb		98
70)	1,4-dichlorobenzene	8.99	146	1192800	55.22	ppb		99
71)	1,2-dichlorobenzene	9.19	146	1139548	51.54	ppb		97
72)	n-butylbenzene	9.13	91	2191900	57.16	ppb		98
73)	1,2-dibromo-3-chloropropan	9.57	75	373464	301.90	ppb		86
74)	1,2,4-trichlorobenzene	9.88	180	790429	59.20	ppb		99
75)	hexachlorobutadiene	9.86	225	480480	57.23	ppb		99
76)	naphthalene	10.02	128	1349308	58.16	ppb		99
77)	trans-1,4-Dichloro-2-buten	8.61	53	538680	279.39	ppb	#	72
78)	1,2,3-trichlorobenzene	10.10	180	657814	56.71	ppb		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

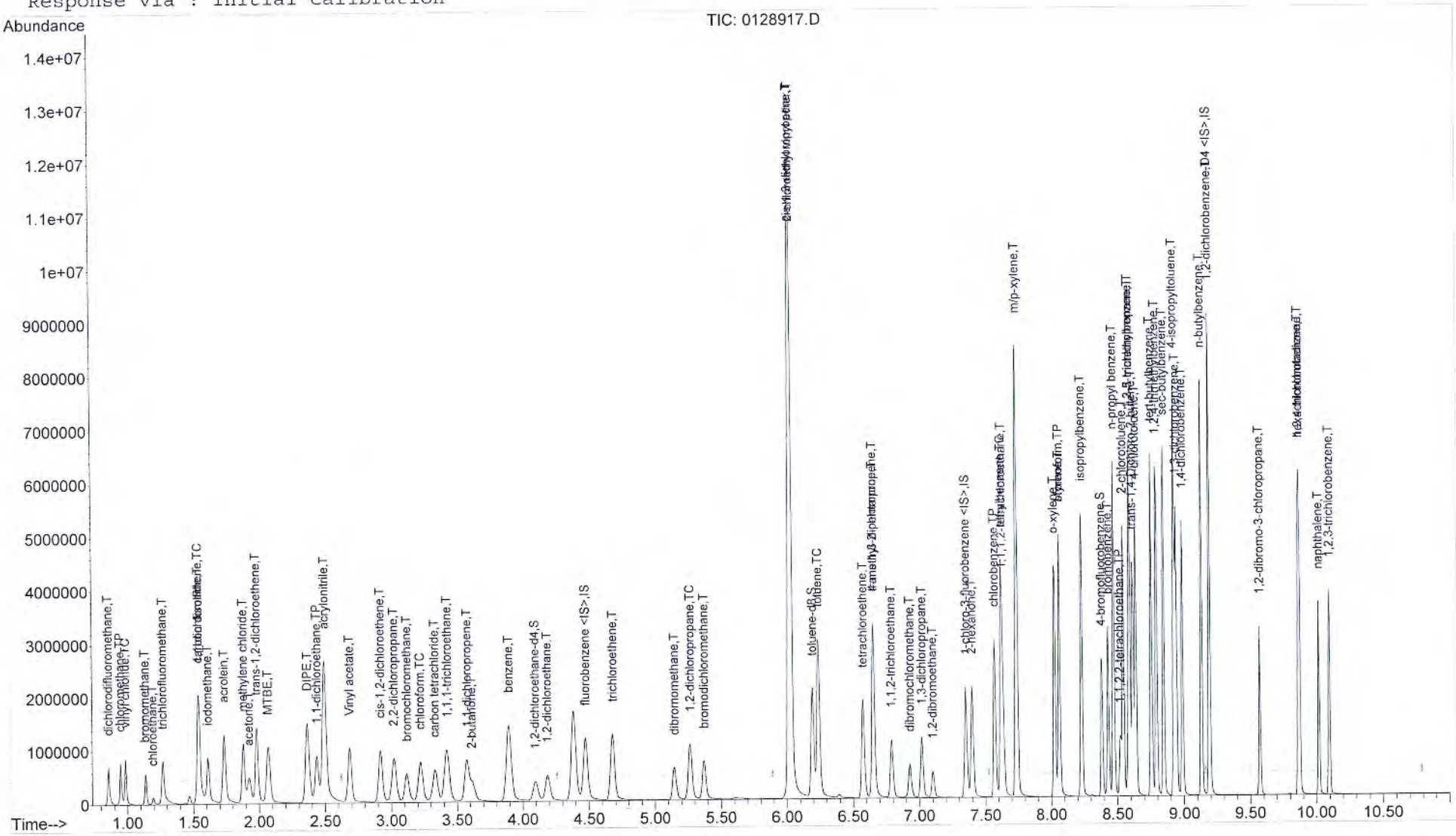
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128917.D
Acq On : 28 Jan 2015 8:35 pm
Sample : ICAL7
Misc :
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17 2015

Vial: 17
Operator: JHL
Inst : MSD8
Multiplr: 1.00

Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



0128917.D VMS3494.M Thu Jan 29 11:17:22 2015

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128918.D Vial: 18
Acq On : 28 Jan 2015 8:59 pm Operator: JHL
Sample : ICAL8 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:24 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	262790	30.00	ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	430964	30.00	ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	755686	30.00	ppb	0.00
System Monitoring Compounds						
25) 1,2-dichloroethane-d4	4.09	65	377502	28.88	ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 96.27%			
35) toluene-d8	6.19	98	1291589	30.49	ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 101.63%			
51) 4-bromofluorobenzene	8.38	95	559857	30.83	ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 102.77%			
Target Compounds						Qvalue
2) dichlorodifluoromethane	0.86	85	646123	69.94	ppb	99
3) chloromethane	0.95	50	723238	66.09	ppb	99
4) vinyl chloride	0.99	62	734679	68.13	ppb	99
5) bromomethane	1.13	94	269305	69.68	ppb	99
6) chloroethane	1.19	64	75554	39.67	ppb	96
7) trichlorofluoromethane	1.26	101	769100	54.29	ppb	99
8) acrolein	1.73	56	1485752	1689.59	ppb	99
9) 1,1-dichloroethene	1.53	96	613958	67.67	ppb	94
10) acetone	1.93	43	836314	339.45	ppb	99
11) methylene chloride	1.88	84	647113	66.07	ppb	99
12) trans-1,2-dichloroethene	1.98	96	679592	69.80	ppb	100
13) acrylonitrile	2.50	53	3504651	1697.46	ppb	99
14) MTBE	2.07	73	1468414	72.51	ppb	99
15) 1,1-dichloroethane	2.44	63	1193946	66.69	ppb	100
16) DIPE	2.37	45	1891153	68.45	ppb	98
17) 2,2-dichloropropane	3.02	77	937398	70.25	ppb	98
18) cis-1,2-dichloroethene	2.92	96	712099	71.91	ppb	98
19) 2-butanone	3.62	43	988314	356.38	ppb	98
20) bromochloromethane	3.12	130	417203	68.93	ppb	95
21) chloroform	3.22	83	1145852	68.65	ppb	97
22) 1,1,1-trichloroethane	3.42	97	1015112	74.93	ppb	98
23) carbon tetrachloride	3.33	117	742665	79.44	ppb	98
24) 1,1-dichloropropene	3.57	75	927543	71.72	ppb	100
26) benzene	3.89	78	2596801	67.63	ppb	98
27) 1,2-dichloroethane	4.19	62	774207	66.27	ppb	97
28) trichloroethene	4.68	95	677842	67.39	ppb	97
29) 1,2-dichloropropane	5.27	63	605855	66.45	ppb	98
30) dibromomethane	5.15	93	331415	67.75	ppb	96
31) bromodichloromethane	5.37	83	725229	73.91	ppb	98
32) 2-chloroethyl vinyl ether	6.04	106	2259980	1504.86	ppb	87
33) cis-1,3-dichloropropene	6.02	75	672274	60.79	ppb	100
34) 4-methyl-2-pentanone	6.65	43	1966941	364.70	ppb	98
36) toluene	6.24	92	1672482	71.89	ppb	98
37) iodomethane	1.61	142	1006299	77.03	ppb	98
38) trans-1,3-dichloropropene	6.66	75	669151	69.43	ppb	98
39) Vinyl acetate	2.68	43	2222259	167.20	ppb	98
40) carbon disulfide	1.55	76	2007554	67.47	ppb	100
42) 1,1,2-trichloroethane	6.79	83	374024	70.29	ppb	99
43) tetrachloroethene	6.58	166	744467	74.33	ppb	99

(#) = qualifier out of range (m) = manual integration

JHL 1/29/15

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128918.D Vial: 18
Acq On : 28 Jan 2015 8:59 pm Operator: JHL
Sample : ICAL8 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17:24 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

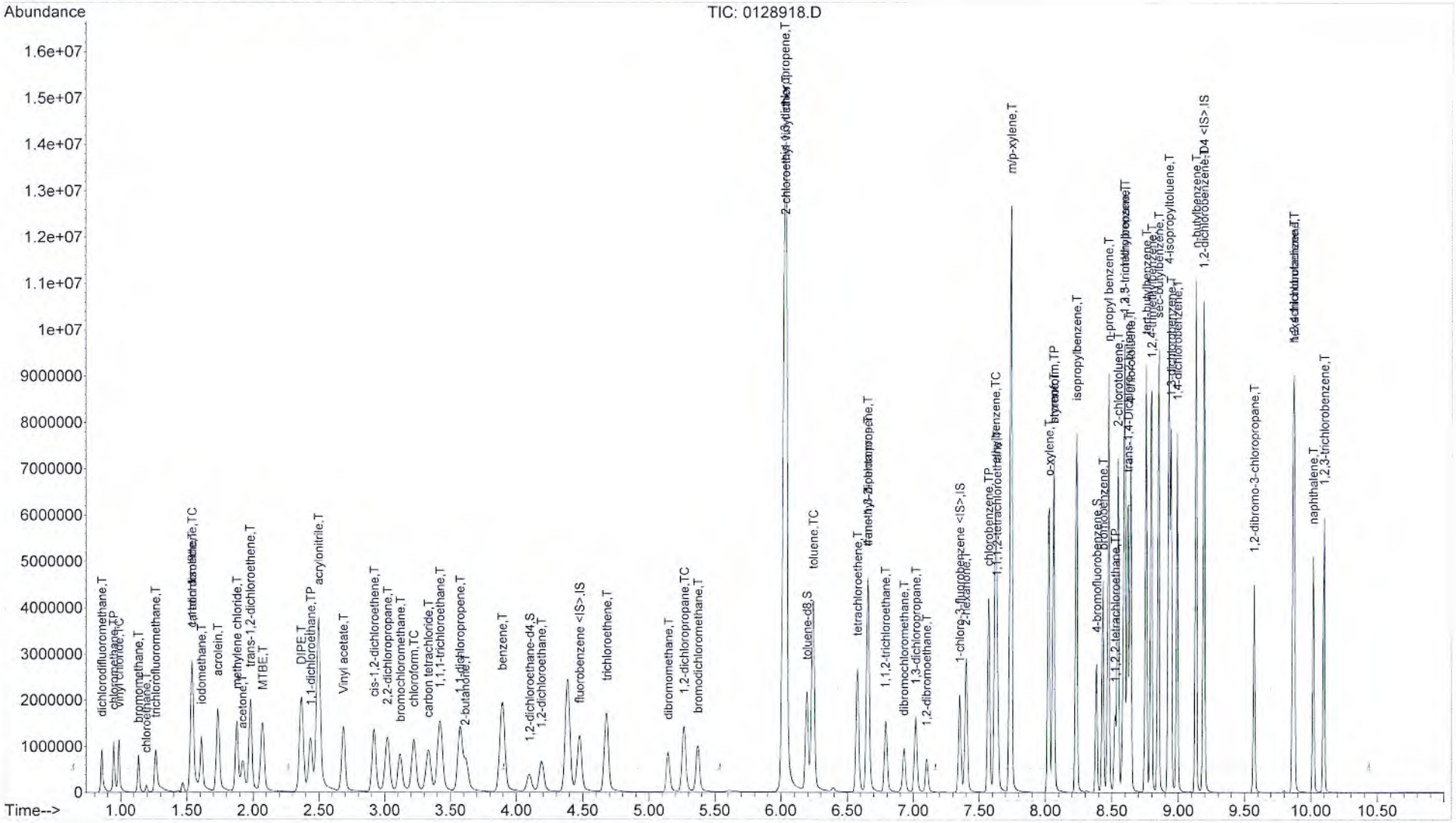
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,3-dichloropropane	7.02	76	770103	71.12	ppb		100
45)	2-hexanone	7.40	43	1585147	373.19	ppb		100
46)	dibromochloromethane	6.93	129	434403	69.70	ppb		98
47)	1,2-dibromoethane	7.10	107	424683	75.81	ppb		96
48)	chlorobenzene	7.57	112	1697034	74.82	ppb		100
49)	1,1,1,2-tetrachloroethane	7.64	131	486270	69.51	ppb		99
50)	bromoform	8.06	173	270102	69.62	ppb		97
52)	bromobenzene	8.43	156	804109	76.99	ppb		95
53)	1,1,2,2-tetrachloroethane	8.52	83	521123	73.97	ppb	#	99
54)	1,2,3-trichloropropane	8.58	110	156017	76.46	ppb		89
56)	ethylbenzene	7.62	106	958759	74.14	ppb		98
57)	m/p-xylene	7.74	106	2539491	153.14	ppb		95
58)	styrene	8.06	104	1970809	78.49	ppb		98
59)	o-xylene	8.03	106	1184206	76.46	ppb		100
60)	isopropylbenzene	8.23	105	3260749	77.51	ppb		100
61)	n-propyl benzene	8.47	91	4046121	73.61	ppb		98
62)	2-chlorotoluene	8.54	126	778093	73.88	ppb		98
63)	4-chlorotoluene	8.64	126	819023	72.72	ppb		95
64)	1,3,5-trimethylbenzene	8.59	105	2839191	76.96	ppb		99
65)	tert-butylbenzene	8.75	119	2455288	76.94	ppb		97
66)	1,2,4-trimethylbenzene	8.79	105	2902777	77.50	ppb		93
67)	sec-butylbenzene	8.85	105	3814149	76.40	ppb		100
68)	1,3-dichlorobenzene	8.94	146	1728806	73.81	ppb		99
69)	4-isopropyltoluene	8.92	119	3327820	79.65	ppb		99
70)	1,4-dichlorobenzene	8.99	146	1706731	75.46	ppb		99
71)	1,2-dichlorobenzene	9.19	146	1636635	70.69	ppb		98
72)	n-butylbenzene	9.13	91	3142028	78.25	ppb		98
73)	1,2-dibromo-3-chloropropan	9.57	75	550568	421.99	ppb		92
74)	1,2,4-trichlorobenzene	9.87	180	1172623	83.88	ppb		100
75)	hexachlorobutadiene	9.86	225	719256	81.81	ppb		99
76)	naphthalene	10.02	128	1964372	80.87	ppb		100
77)	trans-1,4-Dichloro-2-buten	8.61	53	781829	387.27	ppb	#	69
78)	1,2,3-trichlorobenzene	10.10	180	950513	78.26	ppb		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128918.D Vial: 18
Acq On : 28 Jan 2015 8:59 pm Operator: JHL
Sample : ICAL8 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:17 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\8012815\0128920.D Vial: 20
Acq On : 28 Jan 2015 9:49 pm Operator: JHL
Sample : QCK010 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\DATA\VMS3434\8260-NEW.M (RTE Integrator)
Title : Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Multiple Level Calibration

ICV PASS
AL 1/29/15

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IS	fluorobenzene <IS>	1.000	1.000	0.0	101	0.00
2	T	dichlorodifluoromethane	1.055	1.019	3.4	100	0.00
3	TP	chloromethane	1.249	1.124	10.0	95	0.00
4	TC	vinyl chloride	1.231	1.158	5.9	100	0.00
5	T	bromomethane	0.572	0.527	7.9	100	0.00
6	T	chloroethane	0.359	0.230	35.9#	71	0.00
7	T	trichlorofluoromethane	1.617	1.541	4.7	95	0.00
8	T	acrolein	0.100	0.095	5.0	99	0.00
9	TC	1,1-dichloroethene	1.036	1.005	3.0	101	0.00
10	T	acetone	0.281	0.285	-1.4	96	0.00
11	T	methylene chloride	1.118	1.077	3.7	101	0.00
12	T	trans-1,2-dichloroethene	1.112	1.104	0.7	101	0.00
13	T	acrylonitrile	0.236	0.228	3.4	100	0.00
14	T	MTBE	2.312	2.299	0.6	100	0.00
15	TP	1,1-dichloroethane	2.044	1.967	3.8	99	0.00
16	T	DIPE	3.154	3.067	2.8	101	0.00
17	T	2,2-dichloropropane	1.523	1.438	5.6	103	0.00
18	T	cis-1,2-dichloroethene	1.130	1.170	-3.5	113	0.00
19	T	2-butanone	0.317	0.322	-1.6	99	0.00
20	T	bromochloromethane	0.691	0.701	-1.4	99	0.00
21	TC	chloroform	1.906	1.883	1.2	101	0.00
22	T	1,1,1-trichloroethane	1.547	1.548	-0.1	100	0.00
23	T	carbon tetrachloride	1.067	1.000	6.3	97	0.00
24	T	1,1-dichloropropene	1.476	1.475	0.1	102	0.00
25	S	1,2-dichloroethane-d4	1.492	1.483	0.6	99	0.00
26	T	benzene	4.383	4.276	2.4	102	0.00
27	T	1,2-dichloroethane	1.334	1.307	2.0	99	0.00
28	T	trichloroethene	1.148	1.098	4.4	103	0.00
29	TC	1,2-dichloropropane	1.041	1.010	3.0	101	0.00
30	T	dibromomethane	0.558	0.554	0.7	101	0.00
31	T	bromodichloromethane	1.120	1.074	4.1	99	0.00
32	T	2-chloroethyl vinyl ether	0.171	0.178	-4.1	99	0.00
33	T	cis-1,3-dichloropropene	1.263	1.284	-1.7	98	0.00
34	T	4-methyl-2-pentanone	0.616	0.629	-2.1	101	0.00
35	S	toluene-d8	4.835	4.923	-1.8	101	0.00
36	TC	toluene	2.656	2.683	-1.0	100	0.00
37	T	iodomethane	1.491	1.380	7.4	91	0.00
38	T	trans-1,3-dichloropropene	0.871	0.845	3.0	99	0.00
39	T	Vinyl acetate	1.517	1.370	9.7	94	0.00
40	T	carbon disulfide	3.397	3.320	2.3	102	0.00
41	IS	1-chloro-3-fluorobenzene <I	1.000	1.000	0.0	101	0.00
42	T	1,1,2-trichloroethane	0.370	0.365	1.4	99	0.00
43	T	tetrachloroethene	0.697	0.688	1.3	100	0.00
44	T	1,3-dichloropropane	0.754	0.747	0.9	100	0.00
45	T	2-hexanone	0.296	0.307	-3.7	103	0.00
46	T	dibromochloromethane	0.334	0.315	5.7	98	0.00
47	T	1,2-dibromoethane	0.390	0.395	-1.3	102	0.00
48	TP	chlorobenzene	1.579	1.585	-0.4	101	0.00
49	T	1,1,1,2-tetrachloroethane	0.352	0.324	8.0	96	0.00
50	TP	bromoform	0.177	0.159	10.2	98	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\8012815\0128920.D Vial: 20
Acq On : 28 Jan 2015 9:49 pm Operator: JHL
Sample : QCK010 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\DATA\VMS3434\8260-NEW.M (RTE Integrator)
Title : Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	S	4-bromofluorobenzene	1.264	1.245	1.5	99	0.00
52	T	bromobenzene	0.727	0.717	1.4	101	0.00
53	TP	1,1,2,2-tetrachloroethane	0.490	0.475	3.1	97	0.00
54	T	1,2,3-trichloropropane	0.142	0.145	-2.1	103	0.00
55	IS	1,2-dichlorobenzene-D4 <IS>	1.000	1.000	0.0	98	0.00
56	TC	ethylbenzene	0.513	0.546	-6.4	101	0.00
57	T	m/p-xylene	0.658	0.700	-6.4	101	0.00
58	T	styrene	0.997	1.072	-7.5	101	0.00
59	T	o-xylene	0.615	0.665	-8.1	103	0.00
60	T	isopropylbenzene	1.670	1.811	-8.4	103	0.00
61	T	n-propyl benzene	2.182	2.305	-5.6	101	0.00
62	T	2-chlorotoluene	0.418	0.448	-7.2	104	0.00
63	T	4-chlorotoluene	0.447	0.471	-5.4	99	0.00
64	T	1,3,5-trimethylbenzene	1.465	1.572	-7.3	101	0.00
65	T	tert-butylbenzene	1.267	1.334	-5.3	101	0.00
66	T	1,2,4-trimethylbenzene	1.487	1.606	-8.0	102	0.00
67	T	sec-butylbenzene	1.982	2.120	-7.0	102	0.00
68	T	1,3-dichlorobenzene	0.930	0.961	-3.3	103	0.00
69	T	4-isopropyltoluene	1.659	1.796	-8.3	102	0.00
70	T	1,4-dichlorobenzene	0.898	0.950	-5.8	102	0.00
71	T	1,2-dichlorobenzene	0.919	0.955	-3.9	102	0.00
72	T	n-butylbenzene	1.594	1.703	-6.8	101	0.00
73	T	1,2-dibromo-3-chloropropane	0.040	0.040	0.0	95	0.00
74	T	1,2,4-trichlorobenzene	0.555	0.596	-7.4	104	0.00
75	T	hexachlorobutadiene	0.349	0.362	-3.7	103	0.00
76	T	naphthalene	0.964	1.080	-12.0	105	0.00
77	T	trans-1,4-Dichloro-2-butene	0.080	0.082	-2.5	100	0.00
78	T	1,2,3-trichlorobenzene	0.482	0.523	-8.5	103	0.00

dh 1/29/15

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128920.D Vial: 20
Acq On : 28 Jan 2015 9:49 pm Operator: JHL
Sample : QCK010 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:21:12 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

ICV PASS
JH
1/29/15

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) fluorobenzene <IS>	4.47	70	258489	30.00 ppb	0.00
41) 1-chloro-3-fluorobenzene <	7.35	95	417022	30.00 ppb	0.00
55) 1,2-dichlorobenzene-D4 <IS	9.19	152	656821	30.00 ppb	0.00
System Monitoring Compounds					
25) 1,2-dichloroethane-d4	4.10	65	383243	29.81 ppb	0.00
Spiked Amount 30.000	Range 64 - 140		Recovery = 99.37%		
35) toluene-d8	6.19	98	1272561	30.54 ppb	0.00
Spiked Amount 30.000	Range 82 - 117		Recovery = 101.80%		
51) 4-bromofluorobenzene	8.38	95	519380	29.56 ppb	0.00
Spiked Amount 30.000	Range 85 - 115		Recovery = 98.53%		

Target Compounds					Qvalue
2) dichlorodifluoromethane	0.86	85	87775	9.66 ppb	98
3) chloromethane	0.95	50	96880	9.00 ppb	98
4) vinyl chloride	0.99	62	99805	9.41 ppb	98
5) bromomethane	1.13	94	45434	9.73 ppb	98
6) chloroethane	1.20	64	19802	6.80 ppb	96
7) trichlorofluoromethane	1.27	101	132750	9.53 ppb	100
8) acrolein	1.73	56	205302	237.35 ppb	99
9) 1,1-dichloroethene	1.53	96	86619	9.71 ppb	98
10) acetone	1.92	43	122720	50.64 ppb	100
11) methylene chloride	1.88	84	92815	9.63 ppb	96
12) trans-1,2-dichloroethene	1.99	96	95138	9.93 ppb	98
13) acrylonitrile	2.49	53	490553	241.55 ppb	99
14) MTBE	2.07	73	198121	9.95 ppb	99
15) 1,1-dichloroethane	2.44	63	169487	9.62 ppb	100
16) DIPE	2.37	45	264285	9.73 ppb	99
17) 2,2-dichloropropane	3.02	77	123861	9.44 ppb	98
18) cis-1,2-dichloroethene	2.92	96	100780	10.35 ppb	100
19) 2-butanone	3.62	43	138606	50.81 ppb	96
20) bromochloromethane	3.12	130	60400	10.15 ppb	95
21) chloroform	3.22	83	162264	9.88 ppb	100
22) 1,1,1-trichloroethane	3.42	97	133397	10.01 ppb	98
23) carbon tetrachloride	3.33	117	86171	9.37 ppb	96
24) 1,1-dichloropropene	3.57	75	127092	9.99 ppb	98
26) benzene	3.89	78	368430	9.76 ppb	98
27) 1,2-dichloroethane	4.19	62	112593	9.80 ppb	97
28) trichloroethene	4.68	95	94608	9.56 ppb	99
29) 1,2-dichloropropane	5.27	63	87055	9.71 ppb	98
30) dibromomethane	5.14	93	47768	9.93 ppb	97
31) bromodichloromethane	5.37	83	92553	9.59 ppb	97
32) 2-chloroethyl vinyl ether	6.02	106	383575	259.66 ppb	98
33) cis-1,3-dichloropropene	6.02	75	110603	10.17 ppb	100
34) 4-methyl-2-pentanone	6.65	43	270944	51.07 ppb	100
36) toluene	6.24	92	231192	10.10 ppb	96
37) iodomethane	1.61	142	118895	9.25 ppb	100
38) trans-1,3-dichloropropene	6.66	75	72786	9.26 ppb	100
39) Vinyl acetate	2.68	43	295147	22.58 ppb	99
40) carbon disulfide	1.55	76	286020	9.77 ppb	100
42) 1,1,2-trichloroethane	6.79	83	50796	9.86 ppb	99
43) tetrachloroethene	6.58	166	95594	9.86 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128920.D Vial: 20
Acq On : 28 Jan 2015 9:49 pm Operator: JHL
Sample : QCK010 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:21:12 2015 Quant Results File: VMS3494.RES

Quant Method : C:\MSDCHEM\1...\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration
DataAcq Meth : MSD8_AC4

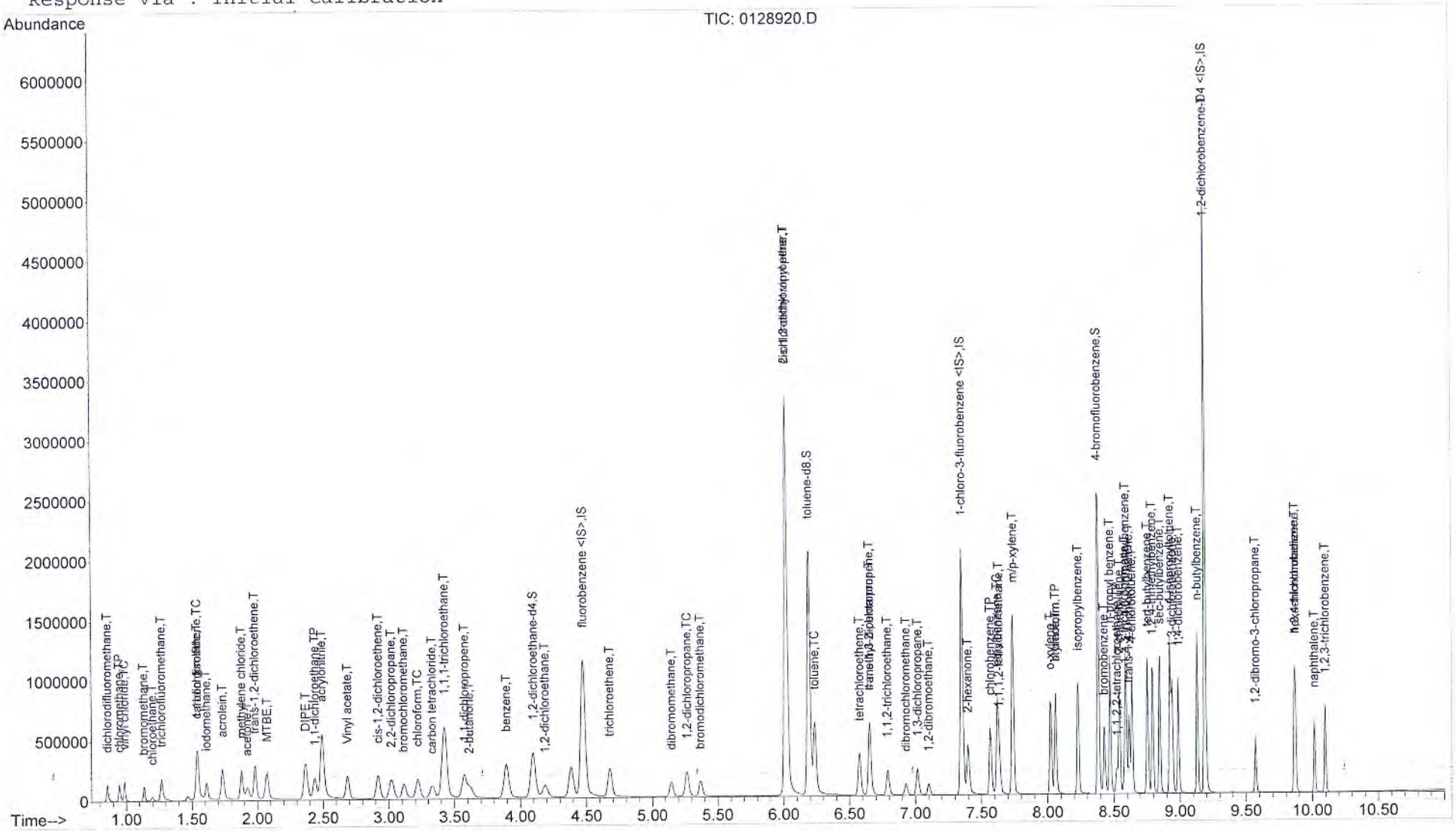
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,3-dichloropropane	7.02	76	103801	9.91	ppb		100
45)	2-hexanone	7.40	43	213602	51.97	ppb		98
46)	dibromochloromethane	6.93	129	43721	9.36	ppb		99
47)	1,2-dibromoethane	7.10	107	54917	10.13	ppb		97
48)	chlorobenzene	7.57	112	220268	10.04	ppb		99
49)	1,1,1,2-tetrachloroethane	7.64	131	45070	9.06	ppb		94
50)	bromoform	8.06	173	22102	9.18	ppb		99
52)	bromobenzene	8.43	156	99614	9.86	ppb		98
53)	1,1,2,2-tetrachloroethane	8.52	83	66039	9.69	ppb		99
54)	1,2,3-trichloropropane	8.58	110	20106	10.18	ppb	#	59
56)	ethylbenzene	7.62	106	119615	10.64	ppb		98
57)	m/p-xylene	7.74	106	306501	21.27	ppb		100
58)	styrene	8.06	104	234729	10.76	ppb		99
59)	o-xylene	8.02	106	145610	10.82	ppb		97
60)	isopropylbenzene	8.23	105	396507	10.84	ppb		98
61)	n-propyl benzene	8.47	91	504575	10.56	ppb		100
62)	2-chlorotoluene	8.54	126	98054	10.71	ppb		97
63)	4-chlorotoluene	8.64	126	103075	10.53	ppb		91
64)	1,3,5-trimethylbenzene	8.59	105	344099	10.73	ppb		100
65)	tert-butylbenzene	8.75	119	292010	10.53	ppb		98
66)	1,2,4-trimethylbenzene	8.79	105	351615	10.80	ppb		100
67)	sec-butylbenzene	8.85	105	464082	10.69	ppb		98
68)	1,3-dichlorobenzene	8.94	146	210300	10.33	ppb		99
69)	4-isopropyltoluene	8.92	119	393181	10.83	ppb		100
70)	1,4-dichlorobenzene	8.99	146	207891	10.57	ppb		99
71)	1,2-dichlorobenzene	9.19	146	209048	10.39	ppb		98
72)	n-butylbenzene	9.13	91	372919	10.69	ppb		99
73)	1,2-dibromo-3-chloropropan	9.57	75	52222	52.77	ppb		97
74)	1,2,4-trichlorobenzene	9.87	180	130423	10.73	ppb		100
75)	hexachlorobutadiene	9.86	225	79232	10.37	ppb		97
76)	naphthalene	10.02	128	236426	11.20	ppb		99
77)	trans-1,4-Dichloro-2-buten	8.61	53	90046	51.32	ppb		97
78)	1,2,3-trichlorobenzene	10.10	180	114547	10.85	ppb		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3494\0128920.D Vial: 20
Acq On : 28 Jan 2015 9:49 pm Operator: JHL
Sample : QCK010 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 29 11:21 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Initial Calibration



SW-846 8260B
Tune Data

Print Date: 02/06/2015

N.C. Certification # 481

Volatile Organic Instrument Performance Check Form 5

Analytical Batch: VMS3496
Analyst: BWS
Analytical Date/Time: 01/30/2015 07:55
Instrument: MSD8
Filename: 0130801.D

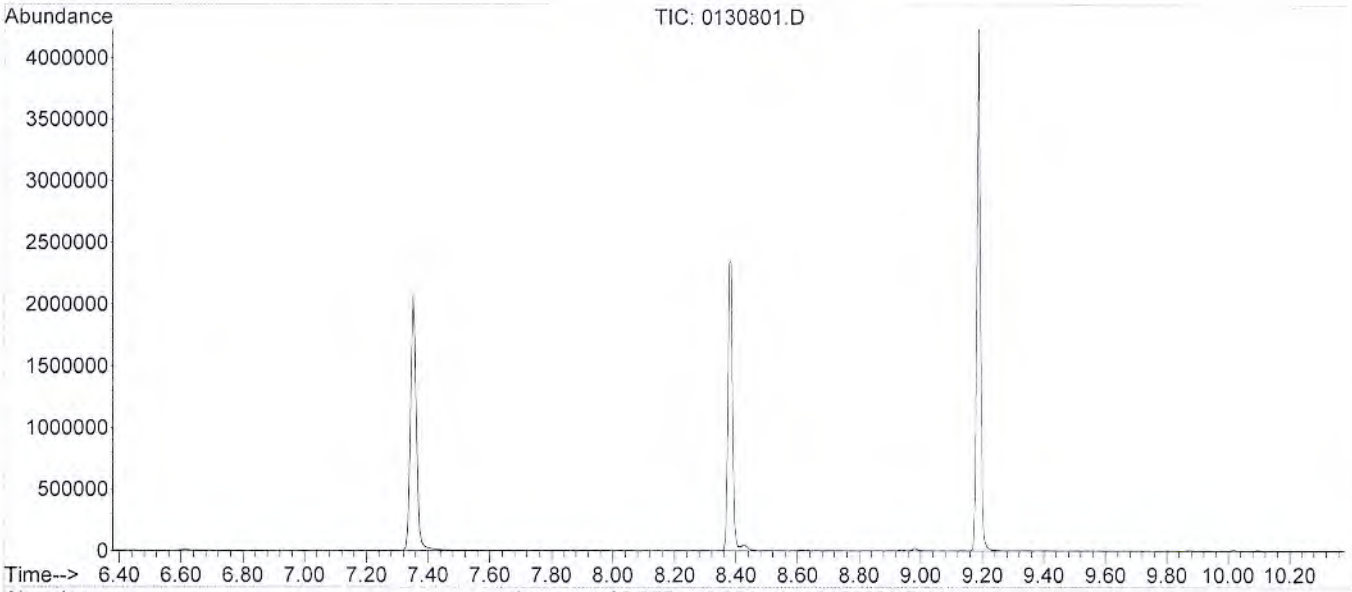
Bromofluorobenzene (BFB)

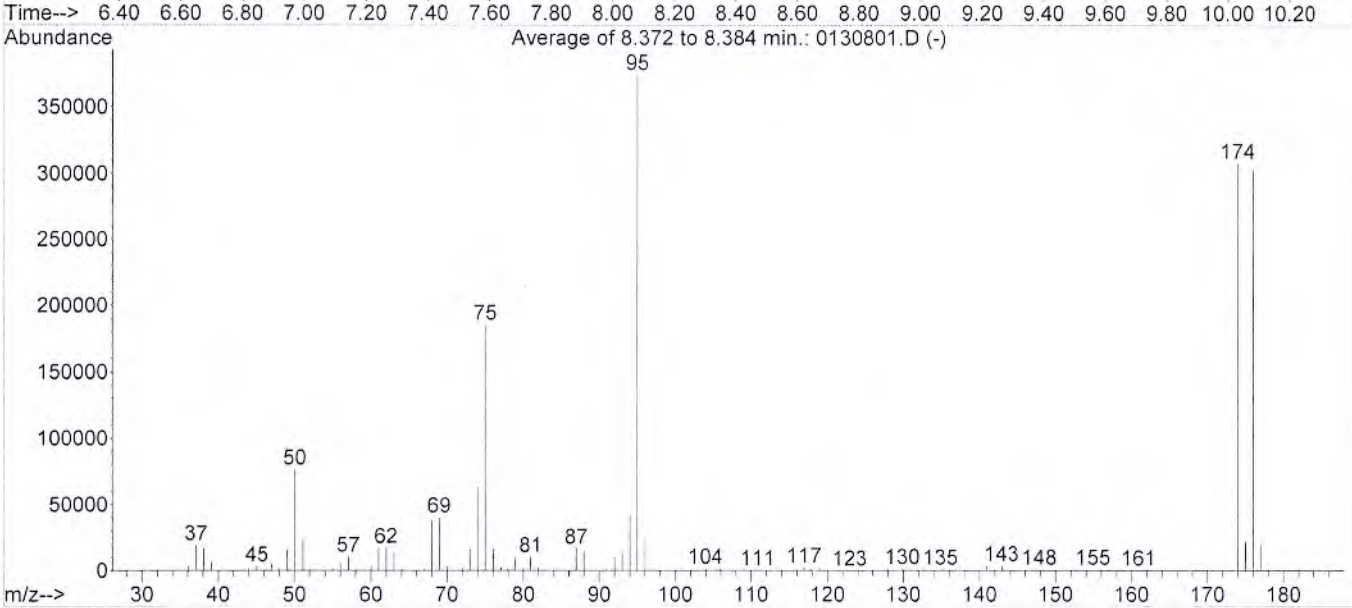
m/e	Ion Abundance Criteria	% Relative Abundance
50	15.0 - 40.0% of mass 95	20.40
75	30.0 - 60.0% of mass 95	49.60
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0 of mass 95	6.90
173	Less than 2.0% of mass 174	0.10
174	50.0 - 100% of mass 95	82.30
175	5.0 - 9.0% of mass 174	7.20
176	95.0 - 101% of mass 174	98.40
177	5.0 - 9.0% of mass 176	6.60

Client Sample ID	Lab Sample ID	Analysis Date
LCS for HBN 63748 [VXX/5481]	158127	01/30/15 8:44
LCSD for HBN 63748 [VXX/5481]	158128	01/30/15 9:09
MB for HBN 63748 [VXX/5481]	158129	01/30/15 10:23
BT-SW-01	31500182001	01/30/15 10:48
BT-SW-02	31500182002	01/30/15 11:13
BT-SW-03	31500182003	01/30/15 11:37
BT-SW-04	31500182004	01/30/15 12:02
BT-SW-05	31500182005	01/30/15 12:27
BT-SW-06	31500182006	01/30/15 12:51
BT-SW-DUP	31500182007	01/30/15 13:16
TB-01	31500182013	01/30/15 13:41
BT-PW-01	31500182011	01/30/15 18:13
BT-PW-02	31500182012	01/30/15 18:38
BT-PW-02(157969MS)	158226	01/30/15 19:03
BT-PW-02(157969MSD)	158227	01/30/15 19:27

BFB

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130801.D Vial: 1
Acq On : 30 Jan 2015 7:55 am Operator: BWS
Sample : TUNE Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200





AutoFind: Scans 1302, 1303, 1304; Background Corrected with Scan 1297

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.4	76456	PASS
75	95	30	60	49.6	185466	PASS
95	95	100	100	100.0	374080	PASS
96	95	5	9	6.9	25677	PASS
173	174	0.00	2	0.1	206	PASS
174	95	50	100	82.3	307704	PASS
175	174	5	9	7.2	22188	PASS
176	174	95	101	98.4	302928	PASS
177	176	5	9	6.6	20107	PASS

BWS
1.30.15

0130801.D VMS3494.M Fri Jan 30 09:21:18 2015

SW-846 8260B
Continuing Calibration Data

Print Date: 02/06/2015

N.C. Certification # 481

Continuing Calibration

Analyst: BWS

Analytical Batch: VMS3496
Analytical Date/Time: 1/30/2015 8:20:00AM
Instrument: MSD8
Filename: 0130802.D

SW-846 8260B

Parameter	Spike	Result	Units	Rec (%)	CL
1,2-Dichloroethane-d4	30.00	31.30	ug/L	104	64.00-140.00
Toluene d8	30.00	28.40	ug/L	95	82.00-117.00
4-Bromofluorobenzene	30.00	28.00	ug/L	93	85.00-115.00
Dichlorodifluoromethane	10.00	10.20	ug/L	102	-
Chloromethane	10.00	8.99	ug/L	90	-
Vinyl chloride	10.00	9.10	ug/L	91	80.00-120.00
Bromomethane	10.00	7.94	ug/L	79	-
Chloroethane	10.00	9.12	ug/L	91	-
Trichlorofluoromethane	10.00	9.16	ug/L	92	-
Acrolein	250.00	293.00	ug/L	117	-
1,1-Dichloroethene	10.00	8.88	ug/L	89	80.00-120.00
Acetone	50.00	53.50	ug/L	107	-
Methylene chloride	10.00	8.83	ug/L	88	-
trans-1,2-Dichloroethene	10.00	8.87	ug/L	89	-
Acrylonitrile	250.00	223.00	ug/L	89	-
tert-Butyl methyl ether (MTBE)	10.00	8.78	ug/L	88	-
1,1-Dichloroethane	10.00	9.01	ug/L	90	-
Diisopropyl Ether	10.00	8.41	ug/L	84	-
2,2-Dichloropropane	10.00	9.60	ug/L	96	-
cis-1,2-Dichloroethene	10.00	9.35	ug/L	94	-
2-Butanone	50.00	53.80	ug/L	108	-
Bromochloromethane	10.00	9.31	ug/L	93	-
Chloroform	10.00	9.31	ug/L	93	80.00-120.00
1,1,1-Trichloroethane	10.00	9.71	ug/L	97	-
Carbon tetrachloride	10.00	10.00	ug/L	100	-
1,1-Dichloropropene	10.00	9.38	ug/L	94	-
Benzene	10.00	9.08	ug/L	91	-
1,2-Dichloroethane	10.00	9.40	ug/L	94	-
Trichloroethene	10.00	8.74	ug/L	87	-
1,2-Dichloropropane	10.00	9.22	ug/L	92	80.00-120.00
Dibromomethane	10.00	9.17	ug/L	92	-
Bromodichloromethane	10.00	9.91	ug/L	99	-
2-Chloroethylvinyl ether	250.00	232.00	ug/L	93	-
cis-1,3-Dichloropropene	10.00	10.40	ug/L	104	-
4-Methyl-2-pentanone	50.00	47.80	ug/L	96	-
Toluene	10.00	8.49	ug/L	85	80.00-120.00
Methyl iodide	10.00	8.79	ug/L	88	-
trans-1,3-Dichloropropene	10.00	9.49	ug/L	95	-
Vinyl acetate	25.00	24.90	ug/L	99	-
Carbon disulfide	10.00	8.11	ug/L	81	-

Continuing Calibration

Analyst: BWS

Analytical Batch: VMS3496
Analytical Date/Time: 1/30/2015 8:20:00AM
Instrument: MSD8
Filename: 0130802.D

SW-846 8260B

Parameter	Spike	Result	Units	Rec (%)	CL
1,1,2-Trichloroethane	10.00	9.81	ug/L	98	-
Tetrachloroethene	10.00	9.48	ug/L	95	-
1,3-Dichloropropane	10.00	9.80	ug/L	98	-
2-Hexanone	50.00	56.00	ug/L	112	-
Dibromochloromethane	10.00	10.50	ug/L	105	-
1,2-Dibromoethane	10.00	9.88	ug/L	99	-
Chlorobenzene	10.00	9.55	ug/L	96	-
1,1,1,2-Tetrachloroethane	10.00	10.40	ug/L	104	-
Bromoform	10.00	11.10	ug/L	111	-
Bromobenzene	10.00	9.71	ug/L	97	-
1,1,2,2-Tetrachloroethane	10.00	10.10	ug/L	101	-
1,2,3-Trichloropropane	10.00	10.10	ug/L	101	-
Ethyl Benzene	10.00	11.20	ug/L	112	80.00-120.00
m,p-Xylene	20.00	22.30	ug/L	112	-
Styrene	10.00	11.40	ug/L	114	-
o-Xylene	10.00	10.90	ug/L	109	-
Isopropylbenzene (Cumene)	10.00	11.00	ug/L	110	-
n-Propylbenzene	10.00	11.00	ug/L	110	-
2-Chlorotoluene	10.00	11.20	ug/L	112	-
4-Chlorotoluene	10.00	11.00	ug/L	110	-
1,3,5-Trimethylbenzene	10.00	11.30	ug/L	113	-
tert-Butylbenzene	10.00	11.00	ug/L	110	-
1,2,4-Trimethylbenzene	10.00	11.30	ug/L	113	-
sec-Butylbenzene	10.00	11.30	ug/L	113	-
1,3-Dichlorobenzene	10.00	10.60	ug/L	106	-
4-Isopropyltoluene	10.00	11.40	ug/L	114	-
1,4-Dichlorobenzene	10.00	10.90	ug/L	109	-
1,2-Dichlorobenzene	10.00	10.90	ug/L	109	-
n-Butylbenzene	10.00	11.50	ug/L	115	-
1,2-Dibromo-3-chloropropane	60.00	64.20	ug/L	107	-
1,2,4-Trichlorobenzene	10.00	11.30	ug/L	113	-
Hexachlorobutadiene	10.00	11.10	ug/L	111	-
Naphthalene	10.00	11.30	ug/L	113	-
trans-1,4-Dichloro-2-butene	50.00	57.80	ug/L	116	-
1,2,3-Trichlorobenzene	10.00	11.10	ug/L	111	-

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130802.D Vial: 2
Acq On : 30 Jan 2015 8:20 am Operator: BWS
Sample : QCK010 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IS	fluorobenzene <IS>	1.000	1.000	0.0	110	0.00
2	T	dichlorodifluoromethane	1.055	1.078	-2.2	114	0.00
3	TP	chloromethane	1.249	1.124	10.0	103	0.00
4	TC	vinyl chloride	1.231	1.120	9.0	104	0.00
5	T	bromomethane	0.572	0.434	24.1#	89	0.00
6	T	chloroethane	0.359	0.296	17.5	99	0.00
7	T	trichlorofluoromethane	1.617	1.482	8.3	99	0.00
8	T	acrolein	0.100	0.118	-18.0	132	0.00
9	TC	1,1-dichloroethene	1.036	0.920	11.2	100	0.00
10	T	acetone	0.281	0.301	-7.1	110	0.00
11	T	methylene chloride	1.118	0.987	11.7	100	0.00
12	T	trans-1,2-dichloroethene	1.112	0.986	11.3	98	0.00
13	T	acrylonitrile	0.236	0.210	11.0	99	0.00
14	T	MTBE	2.312	2.029	12.2	96	0.00
15	TP	1,1-dichloroethane	2.044	1.841	9.9	100	0.00
16	T	DIPE	3.154	2.653	15.9	95	0.00
17	T	2,2-dichloropropane	1.523	1.463	3.9	113	0.00
18	T	cis-1,2-dichloroethene	1.130	1.057	6.5	110	0.00
19	T	2-butanone	0.317	0.341	-7.6	113	0.00
20	T	bromochloromethane	0.691	0.643	6.9	99	0.00
21	TC	chloroform	1.906	1.773	7.0	103	0.00
22	T	1,1,1-trichloroethane	1.547	1.502	2.9	105	0.00
23	T	carbon tetrachloride	1.067	1.070	-0.3	113	0.00
24	T	1,1-dichloropropene	1.476	1.384	6.2	104	0.00
25	S	1,2-dichloroethane-d4	1.492	1.555	-4.2	113	0.00
26	T	benzene	4.383	3.981	9.2	102	0.00
27	T	1,2-dichloroethane	1.334	1.253	6.1	103	0.00
28	T	trichloroethene	1.148	1.004	12.5	102	0.00
29	TC	1,2-dichloropropane	1.041	0.960	7.8	104	0.00
30	T	dibromomethane	0.558	0.512	8.2	101	0.00
31	T	bromodichloromethane	1.120	1.111	0.8	111	0.00
32	T	2-chloroethyl vinyl ether	0.171	0.159	7.0	96	0.00
33	T	cis-1,3-dichloropropene	1.263	1.318	-4.4	109	0.00
34	T	4-methyl-2-pentanone	0.616	0.589	4.4	103	0.00
35	S	toluene-d8	4.835	4.571	5.5	102	0.00
36	TC	toluene	2.656	2.254	15.1	91	0.00
37	T	iodomethane	1.491	1.311	12.1	94	0.00
38	T	trans-1,3-dichloropropene	0.871	0.869	0.2	111	0.00
39	T	Vinyl acetate	1.517	1.509	0.5	113	0.00
40	T	carbon disulfide	3.397	2.756	18.9	92	0.00
41	IS	1-chloro-3-fluorobenzene <I	1.000	1.000	0.0	104	0.00
42	T	1,1,2-trichloroethane	0.370	0.363	1.9	101	0.00
43	T	tetrachloroethene	0.697	0.661	5.2	99	0.00
44	T	1,3-dichloropropane	0.754	0.739	2.0	102	0.00
45	T	2-hexanone	0.296	0.331	-11.8	114	0.00
46	T	dibromochloromethane	0.334	0.358	-7.2	115	0.00
47	T	1,2-dibromoethane	0.390	0.385	1.3	102	0.00
48	TP	chlorobenzene	1.579	1.508	4.5	99	0.00
49	T	1,1,1,2-tetrachloroethane	0.352	0.380	-8.0	115	0.00
50	TP	bromoform	0.177	0.198	-11.9	125	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130802.D Vial: 2
Acq On : 30 Jan 2015 8:20 am Operator: BWS
Sample : QCK010 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260W\VMS3494.M (RTE Integrator)
Title : VMS3494 Water ICAL 8260\624\6200
Last Update : Thu Jan 29 10:28:42 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

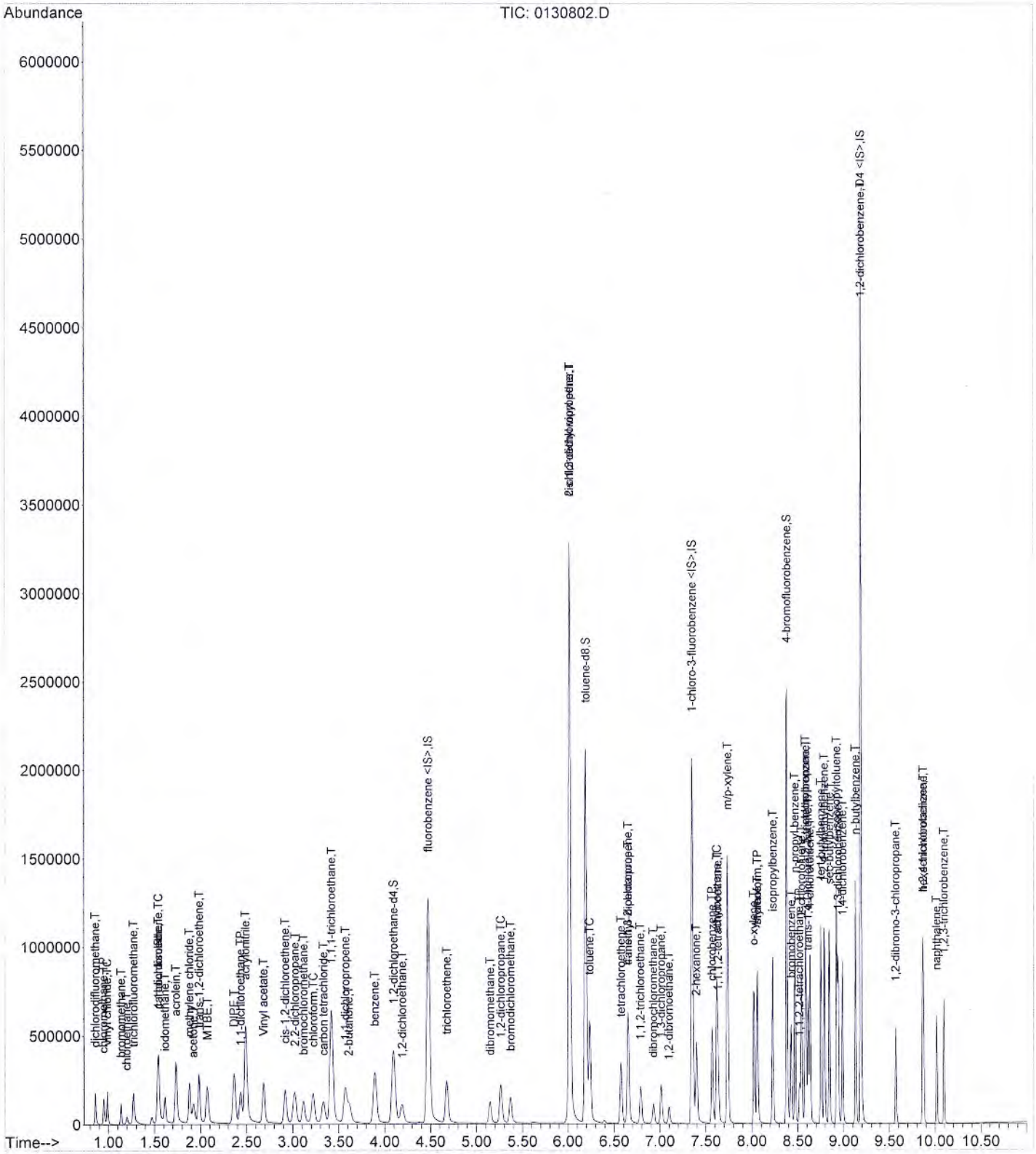
		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	S	4-bromofluorobenzene	1.264	1.181	6.6	97	0.00
52	T	bromobenzene	0.727	0.706	2.9	102	0.00
53	TP	1,1,2,2-tetrachloroethane	0.490	0.496	-1.2	104	0.00
54	T	1,2,3-trichloropropane	0.142	0.144	-1.4	105	0.00
55	IS	1,2-dichlorobenzene-D4 <IS>	1.000	1.000	0.0	93	0.00
56	TC	ethylbenzene	0.513	0.574	-11.9	101	0.00
57	T	m/p-xylene	0.658	0.734	-11.6	101	0.00
58	T	styrene	0.997	1.137	-14.0	101	0.00
59	T	o-xylene	0.615	0.670	-8.9	99	0.00
60	T	isopropylbenzene	1.670	1.844	-10.4	100	0.00
61	T	n-propyl benzene	2.182	2.392	-9.6	99	0.00
62	T	2-chlorotoluene	0.418	0.467	-11.7	102	0.00
63	T	4-chlorotoluene	0.447	0.490	-9.6	98	0.00
64	T	1,3,5-trimethylbenzene	1.465	1.650	-12.6	101	0.00
65	T	tert-butylbenzene	1.267	1.393	-9.9	100	0.00
66	T	1,2,4-trimethylbenzene	1.487	1.680	-13.0	101	0.00
67	T	sec-butylbenzene	1.982	2.248	-13.4	103	0.00
68	T	1,3-dichlorobenzene	0.930	0.982	-5.6	100	0.00
69	T	4-isopropyltoluene	1.659	1.888	-13.8	102	0.00
70	T	1,4-dichlorobenzene	0.898	0.978	-8.9	99	0.00
71	T	1,2-dichlorobenzene	0.919	1.004	-9.2	102	0.00
72	T	n-butylbenzene	1.594	1.826	-14.6	102	0.00
73	T	1,2-dibromo-3-chloropropane	0.040	0.050	-25.0#	112	0.00
74	T	1,2,4-trichlorobenzene	0.555	0.625	-12.6	104	0.00
75	T	hexachlorobutadiene	0.349	0.389	-11.5	105	0.00
76	T	naphthalene	0.964	1.084	-12.4	100	0.00
77	T	trans-1,4-Dichloro-2-butene	0.080	0.093	-16.2	106	0.00
78	T	1,2,3-trichlorobenzene	0.482	0.535	-11.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\VMS3496\0130802.D Vial: 2
Acq On : 30 Jan 2015 8:20 am Operator: BWS
Sample : QCK010 Inst : MSD8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 30 9:21 2015 Quant Results File: VMS3494.RES

Method : C:\MSDCHEM\1\METHODS\APIX-W\VMS3495.M (RTE Integrator)
Title : VMS3495 APIX Water ICAL
Last Update : Thu Jan 29 16:59:06 2015
Response via : Initial Calibration



SW-846 8015C GRO

Sample Data

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-01**

Client Sample ID: **BT-SW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182001-D
Lab Project ID: 31500182

Collection Date: 01/24/2015 13:30
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	**0.162**		0.0900	mg/L	1	01/30/2015 15:43
Surrogates						
4-Bromofluorobenzene	102		70.0-130	%	1	01/30/2015 15:43

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

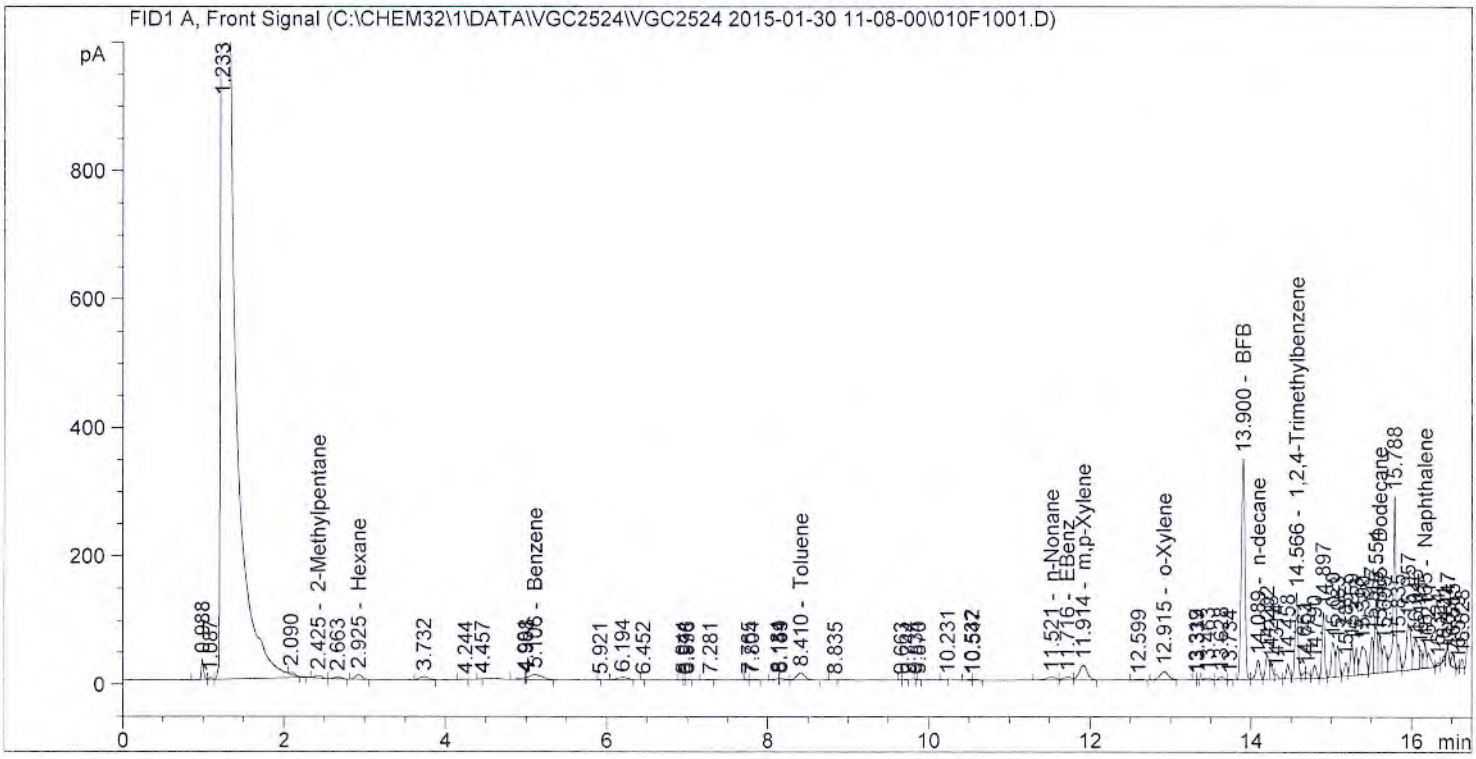
Prep Batch: **VXX5486**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 16:13**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\010F1001.D
Sample Name: 0182_1 E

==========

Acq. Operator : BWS
Seq. Line : 10
Acq. Instrument : GC7
Location : Vial 10
Injection Date : 1/30/2015 3:43:38 PM
Inj : 1
Inj Volume : Manually
Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 1·30·15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.988	VV	62.53109	1.00000	62.53109		?
1.087	VV	9.07576	1.00000	9.07576		?
1.233	VB S	2.56528e4	1.00000	2.56528e4		?
1.706		-	-	-		n-Pentane
2.090	BB X	16.14545	1.00000	16.14545		?
2.425	BV	23.96572	1.78673e-1	4.28202		2-Methylpentane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\010F1001.D
Sample Name: 0182_1 5

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.663	VV	25.76942	1.00000	25.76942		?
2.726		-	-	-		MTBE
2.925	VV	49.02220	7.24472e-2	3.55152		Hexane
3.732	VV	44.30365	1.00000	44.30365		?
4.244	VV	5.02325	1.00000	5.02325		?
4.457	VV	1.26291	1.00000	1.26291		?
4.713		-	-	-		2,2,4-Trimethylpentane
4.981	BV	17.92177	1.00000	17.92177		?
4.998	VV	3.74693	1.00000	3.74693		?
5.106	VV	100.37050	3.57883e-2	3.59209		Benzene
5.921	VV	1.12887	1.00000	1.12887		?
6.194	BV	35.92440	1.00000	35.92440		?
6.452	VV	1.45301	1.00000	1.45301		?
6.944	VV	1.86124	1.00000	1.86124		?
6.978	VV	1.54885	1.00000	1.54885		?
6.996	VB	2.49291	1.00000	2.49291		?
7.281	BV	5.30234	1.00000	5.30234		?
7.765	VV	3.48827	1.00000	3.48827		?
7.804	VV	10.48594	1.00000	10.48594		?
8.131	VV	11.29072	1.00000	11.29072		?
8.144	VV	1.66895	1.00000	1.66895		?
8.159	VV	14.06936	1.00000	14.06936		?
8.410	VV	93.78969	1.14377e-1	10.72743		Toluene
8.835	VV	1.68997	1.00000	1.68997		?
9.663	VV	1.10479	1.00000	1.10479		?
9.744	VV	4.30442	1.00000	4.30442		?
9.834	BV	1.34233	1.00000	1.34233		?
9.870	BB	1.24030	1.00000	1.24030		?
10.231	VV	1.67806	1.00000	1.67806		?
10.532	VV	5.10189	1.00000	5.10189		?
10.547	VV	6.56560	1.00000	6.56560		?
11.521	VV	45.77194	8.38627e-2	3.83856		n-Nonane
11.716	VV	41.43568	5.62778e-2	2.33191		EBenz
11.914	VV	173.22908	2.66861e-2	4.62282		m,p-Xylene
12.599	VV	10.54986	1.00000	10.54986		?
12.915	BV	105.24093	5.70214e-2	6.00099		o-Xylene
13.319	BV	1.90696	1.00000	1.90696		?
13.337	VV	1.57610	1.00000	1.57610		?
13.463	VV	21.90214	1.00000	21.90214		?
13.628	VV	24.16274	1.00000	24.16274		?
13.734	VV	3.83344	1.00000	3.83344		?
13.900	VV	1082.87415	6.50430e-2	70.43337		BFB
14.089	VV	104.65243	7.81858e-3	8.18234e-1		n-decane
14.202	VV	119.21462	1.00000	119.21462		?
14.248	VV	49.42870	1.00000	49.42870		?
14.314	VV	23.66074	1.00000	23.66074		?
14.458	VV	63.07548	1.00000	63.07548		?
14.566	VV	337.58490	3.12727e-2	10.55718		1,2,4-Trimethylbenzene
14.661	VV	31.86535	1.00000	31.86535		?
14.704	VV	29.70938	1.00000	29.70938		?
14.790	VV	62.66573	1.00000	62.66573		?
14.897	VV	225.37460	1.00000	225.37460		?
15.020	VV	181.17122	1.00000	181.17122		?
15.083	VV	121.15186	1.00000	121.15186		?
15.185	VV	53.49536	1.00000	53.49536		?
15.259	VV	125.32504	1.00000	125.32504		?

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\010F1001.D
Sample Name: 0182_1 E

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
15.313	VV	87.38875	1.00000	87.38875		?
15.390	VV	211.48235	1.00000	211.48235		?
15.507	VV	134.52074	1.00000	134.52074		?
15.554	VV	235.43530	1.00000	235.43530		?
15.605	VV	120.37565	0.00000	0.00000		Dodecane
15.659	VV	133.96524	1.00000	133.96524		?
15.788	VV	632.03815	1.00000	632.03815		?
15.835	VV	86.30137	1.00000	86.30137		?
15.957	VV	284.24881	1.00000	284.24881		?
16.046	VV	183.86476	1.00000	183.86476		?
16.111	VV	51.59850	1.00000	51.59850		?
16.165	VV	82.65147	3.71711e-2	3.07225		Naphthalene
16.211	VV	64.71562	1.00000	64.71562		?
16.324	VV	10.61248	1.00000	10.61248		?
16.401	VV	11.36399	1.00000	11.36399		?
16.447	VBA	4.93031	1.00000	4.93031		?
16.515	BV	45.70999	1.00000	45.70999		?
16.579	VV	6.54014	1.00000	6.54014		?
16.628	VV	25.53979	1.00000	25.53979		?
Totals :				2.94365e4		

3 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)

==========

*** End of Report ***

$\frac{162.22473}{1000} = .162222473$

CN 2-2-15

Results of **BT-SW-02**

Client Sample ID: **BT-SW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182002-D
Lab Project ID: 31500182

Collection Date: 01/24/2015 16:50
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		0.0900	mg/L	1	01/30/2015 16:12
Surrogates						
4-Bromofluorobenzene	92.8		70.0-130	%	1	01/30/2015 16:12

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

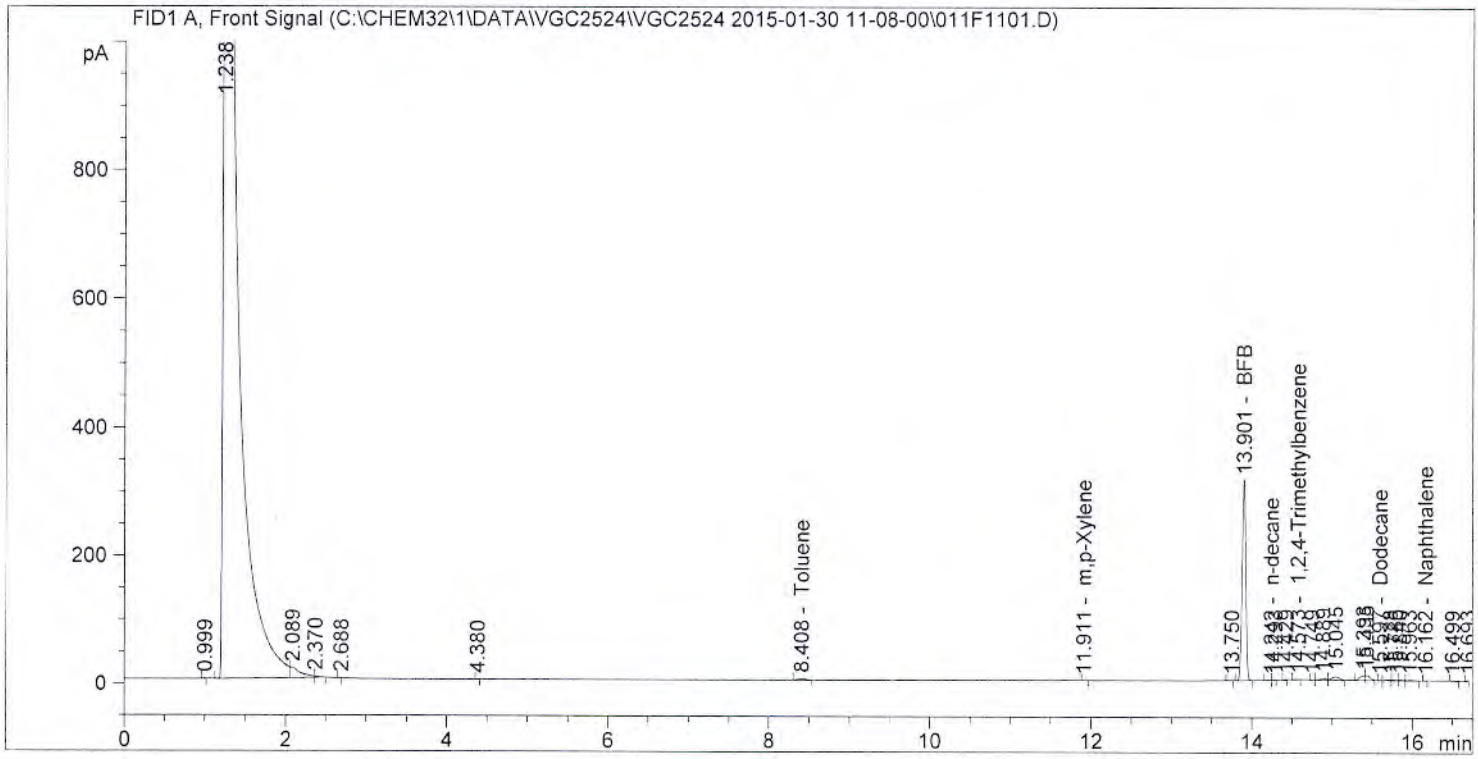
Prep Batch: **VXX5486**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 16:13**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\011F1101.D
Sample Name: 0182_2 E

==========

Acq. Operator : BWS
Seq. Line : 11
Acq. Instrument : GC7
Location : Vial 11
Injection Date : 1/30/2015 4:12:11 PM
Inj : 1
Inj Volume : Manually
Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 1-30.15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.999	VV	1.80292	1.00000	1.80292		?
1.238	VV	2.41948e4	1.00000	2.41948e4		?
1.706		-	-	-		n-Pentane
2.089	VV	133.94595	1.00000	133.94595		?
2.370	VB	7.52775	1.00000	7.52775		?
2.420		-	-	-		2-Methylpentane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\011F1101.D
Sample Name: 0182_2 E

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.688	VV	1.56376	1.00000	1.56376		?
2.726		-	-	-		MTBE
2.914		-	-	-		Hexane
4.380	VV	1.13162	1.00000	1.13162		?
4.713		-	-	-		2,2,4-Trimethylpentane
5.199		-	-	-		Benzene
8.408	VV	18.89525	4.65114e-1	8.78845		Toluene
11.520		-	-	-		n-Nonane
11.722		-	-	-		EBenz
11.911	VV	1.70858	1.31007	2.23837		m,p-Xylene
12.913		-	-	-		o-Xylene
13.750	VV	1.57420	1.00000	1.57420		?
13.901	VB	990.05469	6.50430e-2	64.39612		BFB
14.242	VV	1.65339	0.00000	0.00000		n-decane
14.293	VV	1.82390	1.00000	1.82390		?
14.429	VV	1.67698	1.00000	1.67698		?
14.573	BV	3.01105	3.77705e-1	1.13729		1,2,4-Trimethylbenzene
14.749	BV	1.04073	1.00000	1.04073		?
14.889	VV	13.26684	1.00000	13.26684		?
15.045	VV	37.24162	1.00000	37.24162		?
15.393	VV	34.45555	1.00000	34.45555		?
15.435	VV	33.07755	1.00000	33.07755		?
15.597	VV	1.69329	0.00000	0.00000		Dodecane
15.728	VV	5.21017	1.00000	5.21017		?
15.786	VV	9.08501	1.00000	9.08501		?
15.840	VV	6.13975	1.00000	6.13975		?
15.963	VV	8.19454	1.00000	8.19454		?
16.162	VV	1.90271	0.00000	0.00000		Naphthalene
16.499	BV	1.65239	1.00000	1.65239		?
16.693	BBA	2.32431	1.00000	2.32431		?

Totals : 2.45741e4

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

==========

*** End of Report ***

Results of **BT-SW-03**

Client Sample ID: **BT-SW-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182003-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		0.0900	mg/L	1	01/30/2015 16:40
Surrogates						
4-Bromofluorobenzene	99.3		70.0-130	%	1	01/30/2015 16:40

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

Prep Batch: **VXX5486**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 16:13**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\012F1201.D
Sample Name: 0182_3 E

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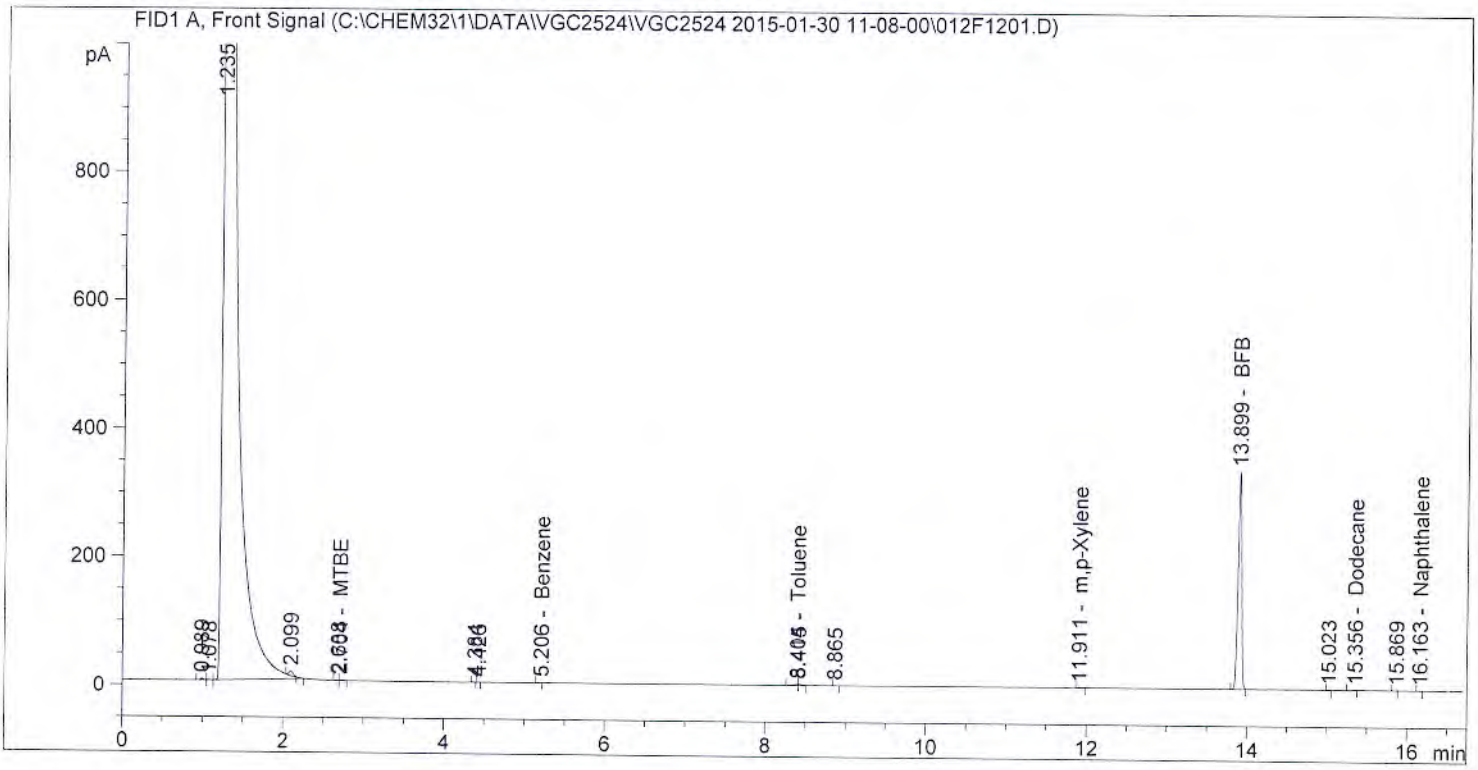
Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 1/30/2015 4:40:34 PM

Seq. Line : 12
Location : Vial 12
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS ✓
2-2-15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.989	VV	6.41106	1.00000	6.41106		?
1.078	VV	1.89691	1.00000	1.89691		?
1.235	VB S	2.95194e4	1.00000	2.95194e4		?
1.706		-	-	-		n-Pentane
2.099	BB X	25.76429	1.00000	25.76429		?
2.420		-	-	-		2-Methylpentane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\012F1201.D
Sample Name: 0182_3 E

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.688	VV	2.44001	1.00000	2.44001		?
2.704	VV	3.28585	3.81761e-1	1.25441		MTBE
2.914		-	-	-		Hexane
4.384	VV	1.77633	1.00000	1.77633		?
4.426	VV	1.01608	1.00000	1.01608		?
4.713		-	-	-		2,2,4-Trimethylpentane
5.206	VV	1.54731	6.01012e-1	9.29952e-1		Benzene
8.404	BV	6.85065	1.23734	8.47662		Toluene
8.415	VV	6.74287	1.00000	6.74287		?
8.865	VV	1.20204	1.00000	1.20204		?
11.520		-	-	-		n-Nonane
11.722		-	-	-		EBenz
11.911	VV	2.15950	1.03942	2.24464		m,p-Xylene
12.913		-	-	-		o-Xylene
13.899	VV	1059.23962	6.50430e-2	68.89611		BFB
14.091		-	-	-		n-decane
14.568		-	-	-		1,2,4-Trimethylbenzene
15.023	VV	1.75431	1.00000	1.75431		?
15.356	VV	2.59420	0.00000	0.00000		Dodecane
15.869	VV	1.03561	1.00000	1.03561		?
16.163	VV	1.33784	0.00000	0.00000		Naphthalene

Totals : 2.96513e4

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

==========

*** End of Report ***

Results of **BT-SW-04**

Client Sample ID: **BT-SW-04**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182004-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:15
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		0.0900	mg/L	1	01/30/2015 17:09
Surrogates						
4-Bromofluorobenzene	97.3		70.0-130	%	1	01/30/2015 17:09

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

Prep Batch: **VXX5486**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 16:13**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\013F1301.D
Sample Name: 0182_4 E

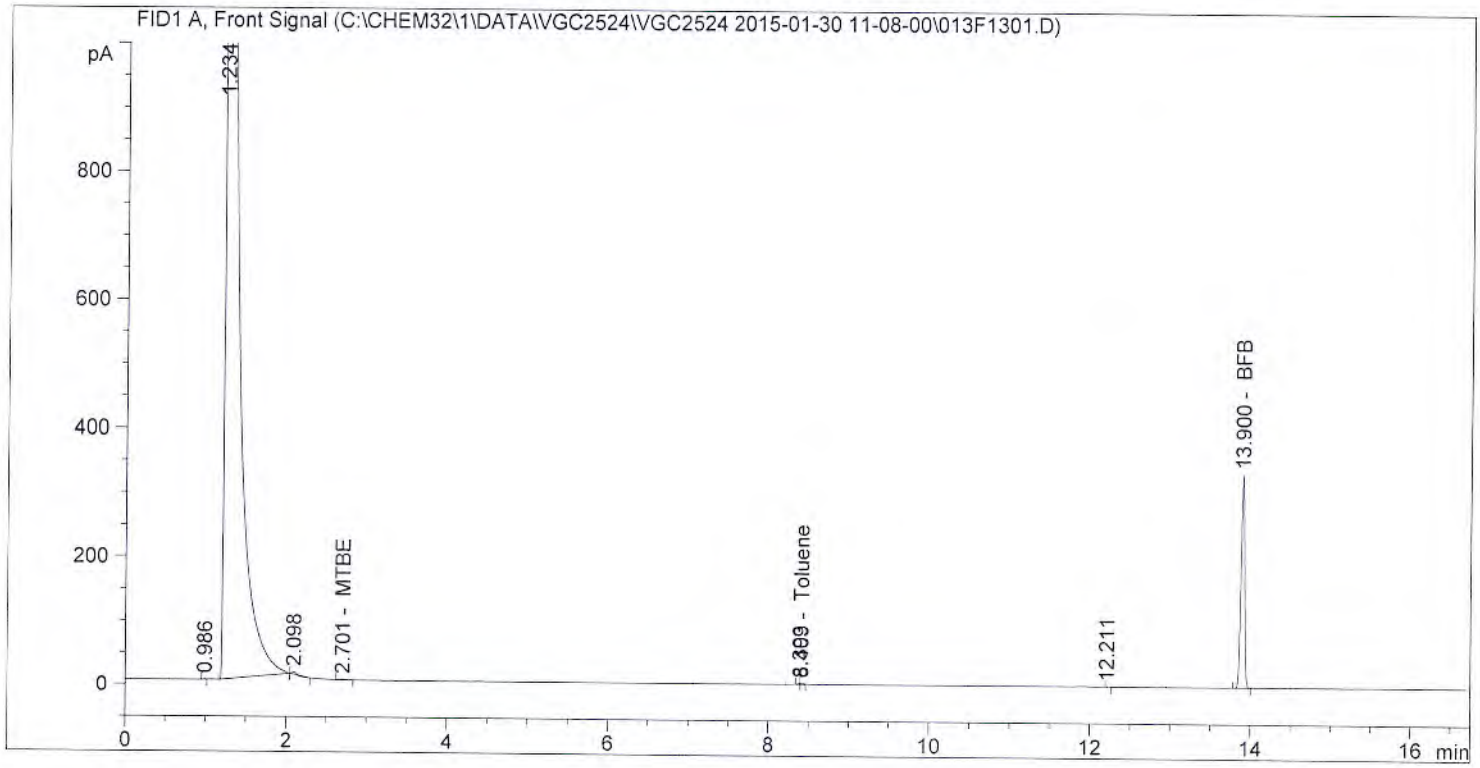
==========

Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 1/30/2015 5:09:01 PM

Seq. Line : 13
Location : Vial 13
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS ✓
2-2-15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.986	VV	1.55082	1.00000	1.55082		?
1.234	VB S	2.52604e4	1.00000	2.52604e4		?
1.706		-	-	-		n-Pentane
2.098	BB	5.73770	1.00000	5.73770		?
2.420		-	-	-		2-Methylpentane
2.701	BB	5.85505	2.36598e-1	1.38529		MTBE

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\013F1301.D
Sample Name: 0182_4 E

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.914		-	-	-		Hexane
4.713		-	-	-		2,2,4-Trimethylpentane
5.199		-	-	-		Benzene
8.393	VV	4.09800	1.00000	4.09800		?
8.409	VV	5.51947	1.52952	8.44215		Toluene
11.520		-	-	-		n-Nonane
11.722		-	-	-		EBenz
11.913		-	-	-		m,p-Xylene
12.211	VV	1.03334	1.00000	1.03334		?
12.913		-	-	-		o-Xylene
13.900	VB	1037.61853	6.50430e-2	67.48981		BFB
14.091		-	-	-		n-decane
14.568		-	-	-		1,2,4-Trimethylbenzene
15.609		-	-	-		Dodecane
16.173		-	-	-		Naphthalene

Totals : 2.53502e4

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Results of **BT-SW-05**

Client Sample ID: **BT-SW-05**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182005-D
Lab Project ID: 31500182

Collection Date: 01/26/2015 09:10
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		0.0900	mg/L	1	01/30/2015 17:37
Surrogates						
4-Bromofluorobenzene	98.1		70.0-130	%	1	01/30/2015 17:37

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

Prep Batch: **VXX5486**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 16:13**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\014F1401.D
Sample Name: 0182_5 E

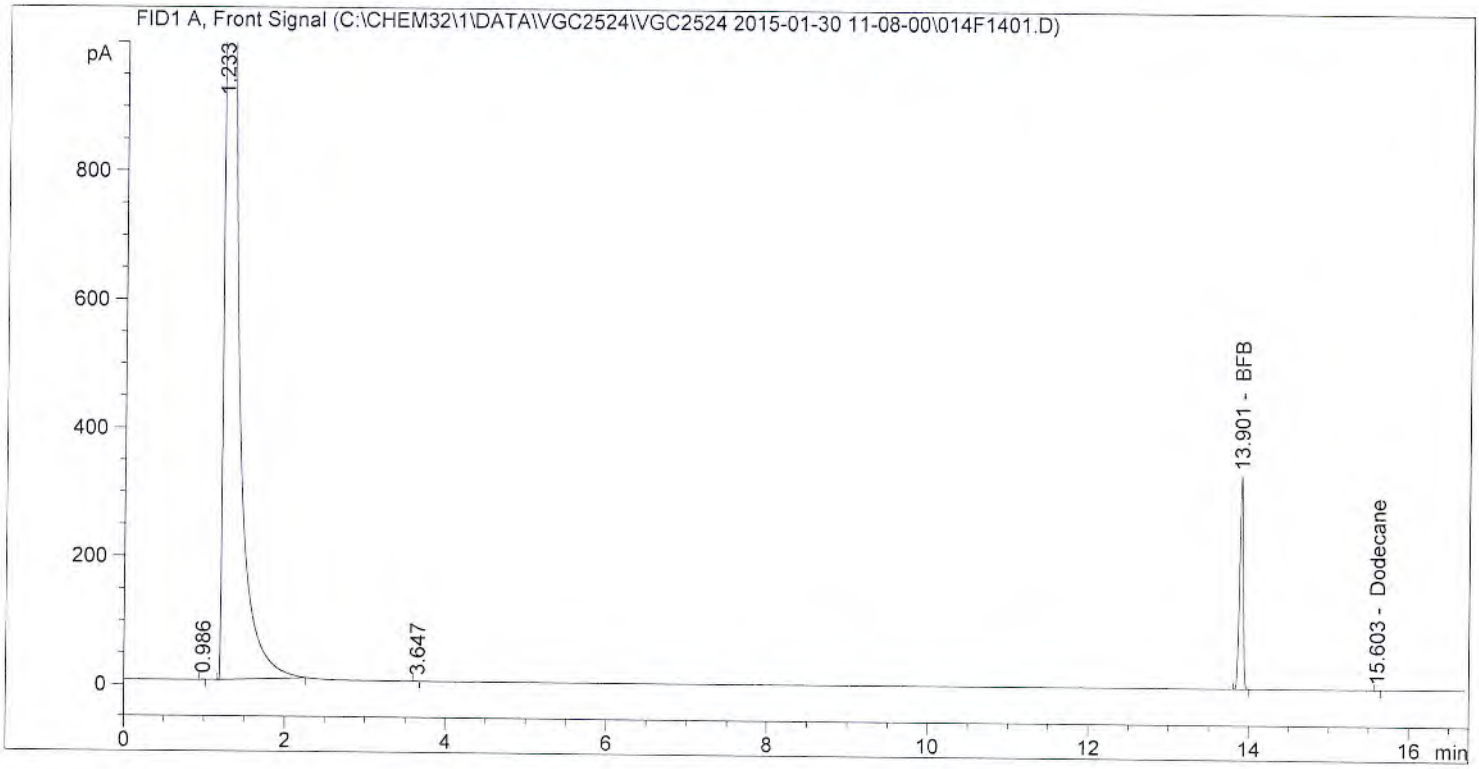
==========

Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 1/30/2015 5:37:19 PM

Seq. Line : 14
Location : Vial 14
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 2.2.15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.986	VV	1.73507	1.00000	1.73507		?
1.233	VB S	2.75826e4	1.00000	2.75826e4		?
1.706		-	-	-		n-Pentane
2.420		-	-	-		2-Methylpentane
2.726		-	-	-		MTBE
2.914		-	-	-		Hexane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\014F1401.D
Sample Name: 0182_5 E

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
3.647	VV	1.34103	1.00000	1.34103		?
4.713		-	-	-		2,2,4-Trimethylpentane
5.199		-	-	-		Benzene
8.406		-	-	-		Toluene
11.520		-	-	-		n-Nonane
11.722		-	-	-		EBenz
11.913		-	-	-		m,p-Xylene
12.913		-	-	-		o-Xylene
13.901	VV	1046.37085	6.50430e-2	68.05909		BFB
14.091		-	-	-		n-decane
14.568		-	-	-		1,2,4-Trimethylbenzene
15.603	BV	1.15074	0.00000	0.00000		Dodecane
16.173		-	-	-		Naphthalene

Totals : 2.76538e4

3 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)

==========

*** End of Report ***

Results of **BT-SW-06**

Client Sample ID: **BT-SW-06**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182006-D
Lab Project ID: 31500182

Collection Date: 01/26/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		0.0900	mg/L	1	01/30/2015 18:05
Surrogates						
4-Bromofluorobenzene	98.0		70.0-130	%	1	01/30/2015 18:05

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

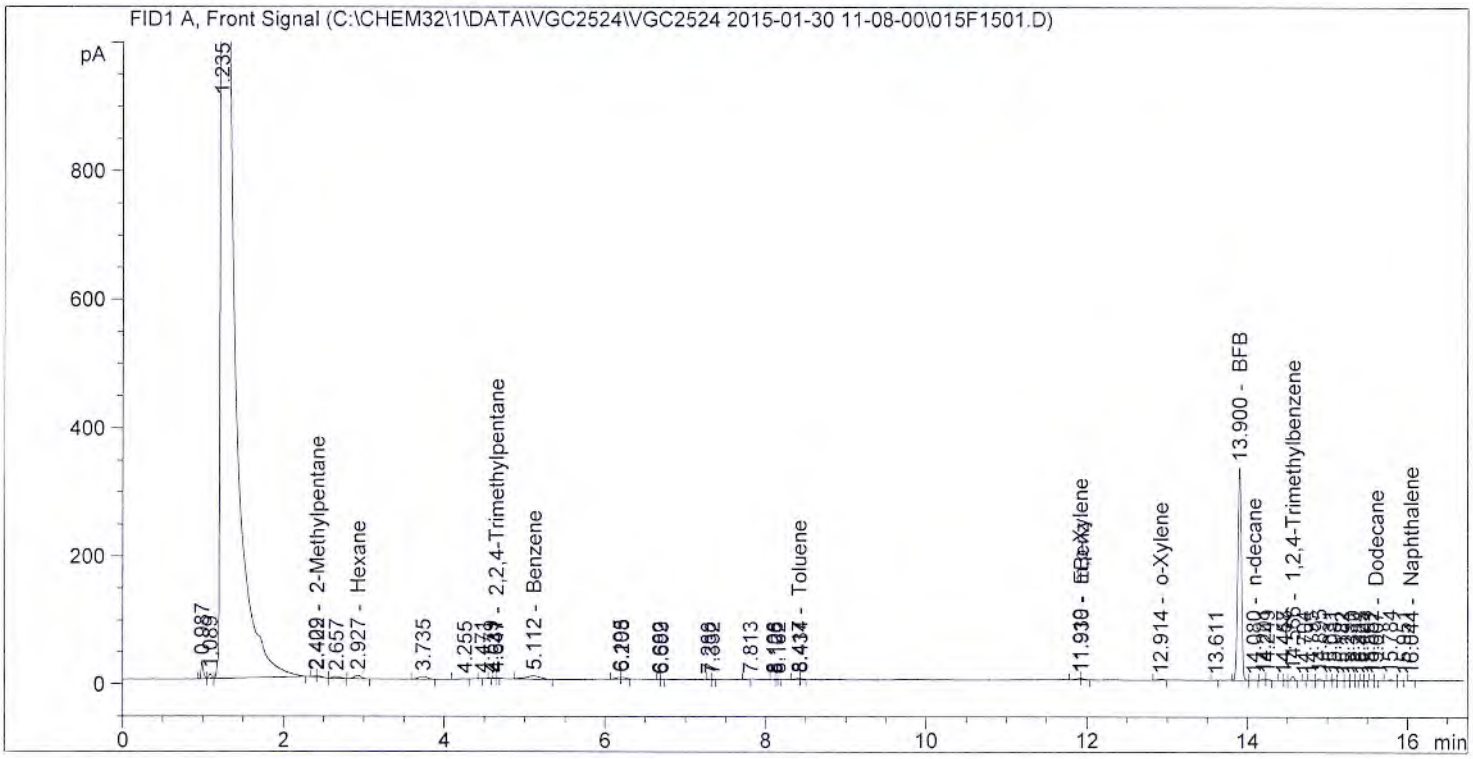
Prep Batch: **VXX5486**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 16:13**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\015F1501.D
Sample Name: 0182_6 E

==========

Acq. Operator : BWS Seq. Line : 15
Acq. Instrument : GC7 Location : Vial 15
Injection Date : 1/30/2015 6:05:45 PM Inj : 1
Inj Volume : Manually
Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 2-2-15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.987	VV	55.56308	1.00000	55.56308		?
1.089	VV	18.80287	1.00000	18.80287		?
1.235	VB S	2.66813e4	1.00000	2.66813e4		?
1.706		-	-	-		n-Pentane
2.409	BV	5.66735	1.00000	5.66735		?
2.422	VB	10.06849	3.74764e-1	3.77330		2-Methylpentane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\015F1501.D
Sample Name: 0182_6 E

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.657	BV	19.93847	1.00000	19.93847		?
2.726		-	-	-		MTBE
2.927	VV	33.56919	8.79916e-2	2.95381		Hexane
3.735	VV	35.12751	1.00000	35.12751		?
4.255	VV	4.01784	1.00000	4.01784		?
4.471	VV	1.40431	1.00000	1.40431		?
4.579	VV	1.03025	1.00000	1.03025		?
4.631	VV	2.04767	1.00000	2.04767		?
4.647	VB	1.32290	7.36449	9.74248		2,2,4-Trimethylpentane
5.112	VV	73.39105	3.90416e-2	2.86531		Benzene
6.195	VV	14.60424	1.00000	14.60424		?
6.208	VV	13.78854	1.00000	13.78854		?
6.682	VV	1.32960	1.00000	1.32960		?
6.699	VV	1.68257	1.00000	1.68257		?
7.288	VV	1.67736	1.00000	1.67736		?
7.332	VV	1.37124	1.00000	1.37124		?
7.813	VV	1.88404	1.00000	1.88404		?
8.108	VV	1.74168	1.00000	1.74168		?
8.126	VV	1.26492	1.00000	1.26492		?
8.162	VB	1.22962	1.00000	1.22962		?
8.417	VV	8.61866	9.88830e-1	8.52239		Toluene
8.434	VV	4.77223	1.00000	4.77223		?
11.520		-	-	-		n-Nonane
11.919	BV	10.95637	2.16032e-1	2.36693		m,p-Xylene
11.930	VV	7.94792	1.69981e-1	1.35100		EBenz
12.914	VV	7.88750	4.25125e-1	3.35317		o-Xylene
13.611	VV	1.33427	1.00000	1.33427		?
13.900	VV	1045.34131	6.50430e-2	67.99213		BFB
14.080	VV	3.46915	0.00000	0.00000		n-decane
14.201	VV	8.42701	1.00000	8.42701		?
14.249	VV	5.71765	1.00000	5.71765		?
14.447	VV	2.59427	1.00000	2.59427		?
14.458	VV	2.00561	1.00000	2.00561		?
14.566	VV	18.33078	8.55727e-2	1.56861		1,2,4-Trimethylbenzene
14.704	VV	1.12548	1.00000	1.12548		?
14.795	VV	2.91488	1.00000	2.91488		?
14.895	VV	7.70855	1.00000	7.70855		?
15.031	VV	3.91128	1.00000	3.91128		?
15.081	VV	3.93365	1.00000	3.93365		?
15.182	VV	1.39657	1.00000	1.39657		?
15.251	VV	2.54765	1.00000	2.54765		?
15.310	VV	2.38489	1.00000	2.38489		?
15.384	VV	1.45184	1.00000	1.45184		?
15.423	VV	1.08637	1.00000	1.08637		?
15.501	VV	1.44782	1.00000	1.44782		?
15.552	VV	3.20513	1.00000	3.20513		?
15.607	VV	1.25090	0.00000	0.00000		Dodecane
15.784	VV	6.18265	1.00000	6.18265		?
15.951	VV	1.33905	1.00000	1.33905		?
16.044	VV	1.33570	0.00000	0.00000		Naphthalene

Totals : 2.70354e4

6 Warnings or Errors :

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\015F1501.D
Sample Name: 0182_6 6

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Elution order of calibrated compounds may have changed
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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*** End of Report ***

Results of **BT-SW-DUP**

Client Sample ID: **BT-SW-DUP**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182007-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 00:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		0.0900	mg/L	1	01/30/2015 18:34
Surrogates						
4-Bromofluorobenzene	100		70.0-130	%	1	01/30/2015 18:34

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

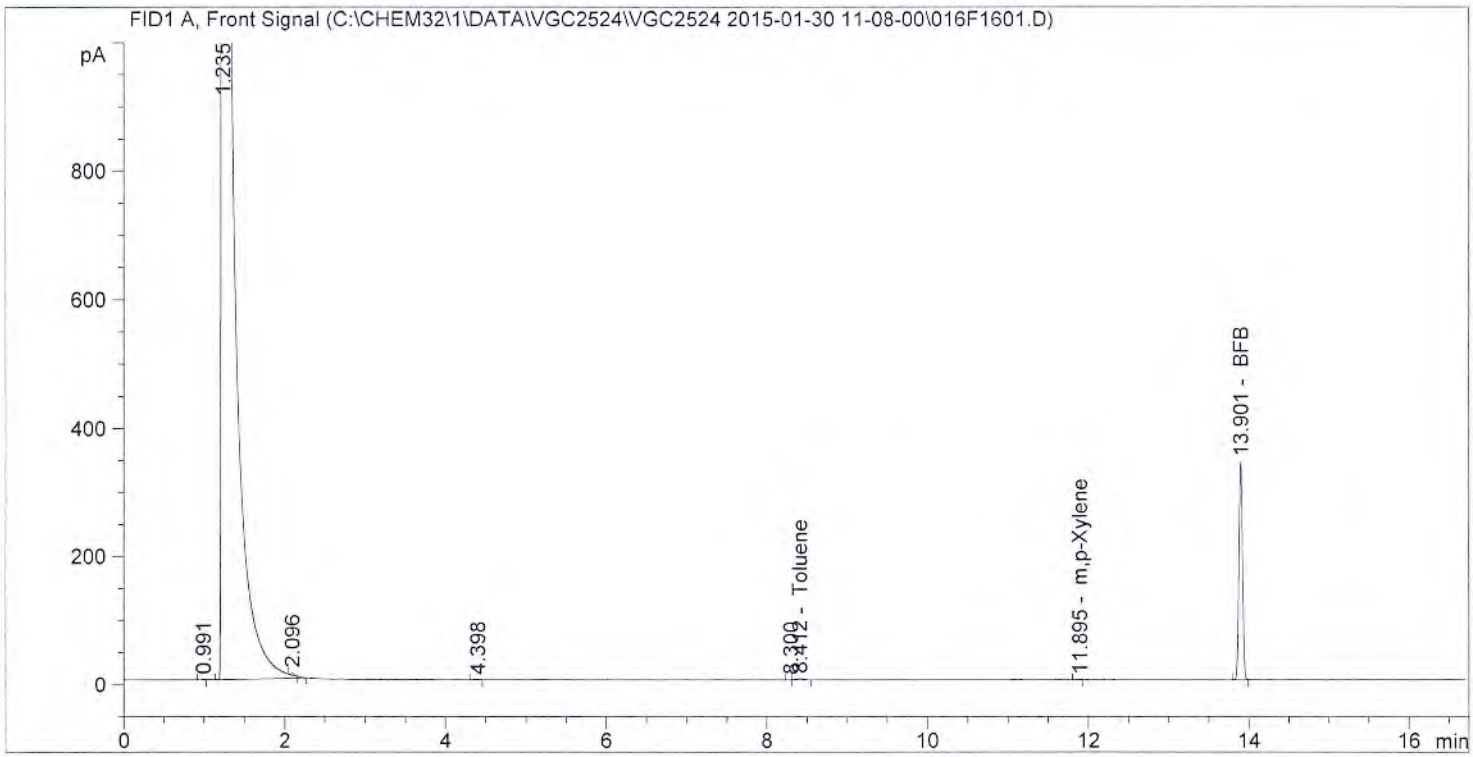
Prep Batch: **VXX5486**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 16:13**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\016F1601.D
Sample Name: 0182_7 E

==========

Acq. Operator : BWS
Seq. Line : 16
Acq. Instrument : GC7
Location : Vial 16
Injection Date : 1/30/2015 6:34:02 PM
Inj : 1
Inj Volume : Manually
Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 2.2.15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.991	VV	1.91577	1.00000	1.91577		?
1.235	VB S	2.78225e4	1.00000	2.78225e4		?
1.706		-	-	-		n-Pentane
2.096	BB X	13.05553	1.00000	13.05553		?
2.420		-	-	-		2-Methylpentane
2.726		-	-	-		MTBE

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\016F1601.D
Sample Name: 0182_7 E

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.914		-	-	-		Hexane
4.398	VV	2.58751	1.00000	2.58751		?
4.713		-	-	-		2,2,4-Trimethylpentane
5.199		-	-	-		Benzene
8.300	BV	1.20408	1.00000	1.20408		?
8.412	VV	19.21222	4.57867e-1	8.79665		Toluene
11.520		-	-	-		n-Nonane
11.722		-	-	-		EBenz
11.895	VV	2.39906	9.37020e-1	2.24797		m,p-Xylene
12.913		-	-	-		o-Xylene
13.901	VV	1067.34802	6.50430e-2	69.42351		BFB
14.091		-	-	-		n-decane
14.568		-	-	-		1,2,4-Trimethylbenzene
15.609		-	-	-		Dodecane
16.173		-	-	-		Naphthalene
Totals :				2.79217e4		

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

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*** End of Report ***

Results of **BT-SD-01**

Client Sample ID: **BT-SD-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182008-C
Lab Project ID: 31500182

Collection Date: 01/25/2015 15:45
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 60.60

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		5.64	mg/kg	1	01/30/2015 19:02
Surrogates						
4-Bromofluorobenzene	98.6		70.0-130	%	1	01/30/2015 19:02

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

Prep Batch: **VXX5488**
Prep Method: **SW-846 5035**
Prep Date/Time: **01/30/2015 16:18**
Prep Initial Wt./Vol.: **5.85 g**
Prep Extract Vol: **5 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\017F1701.D
Sample Name: 0182_8 L

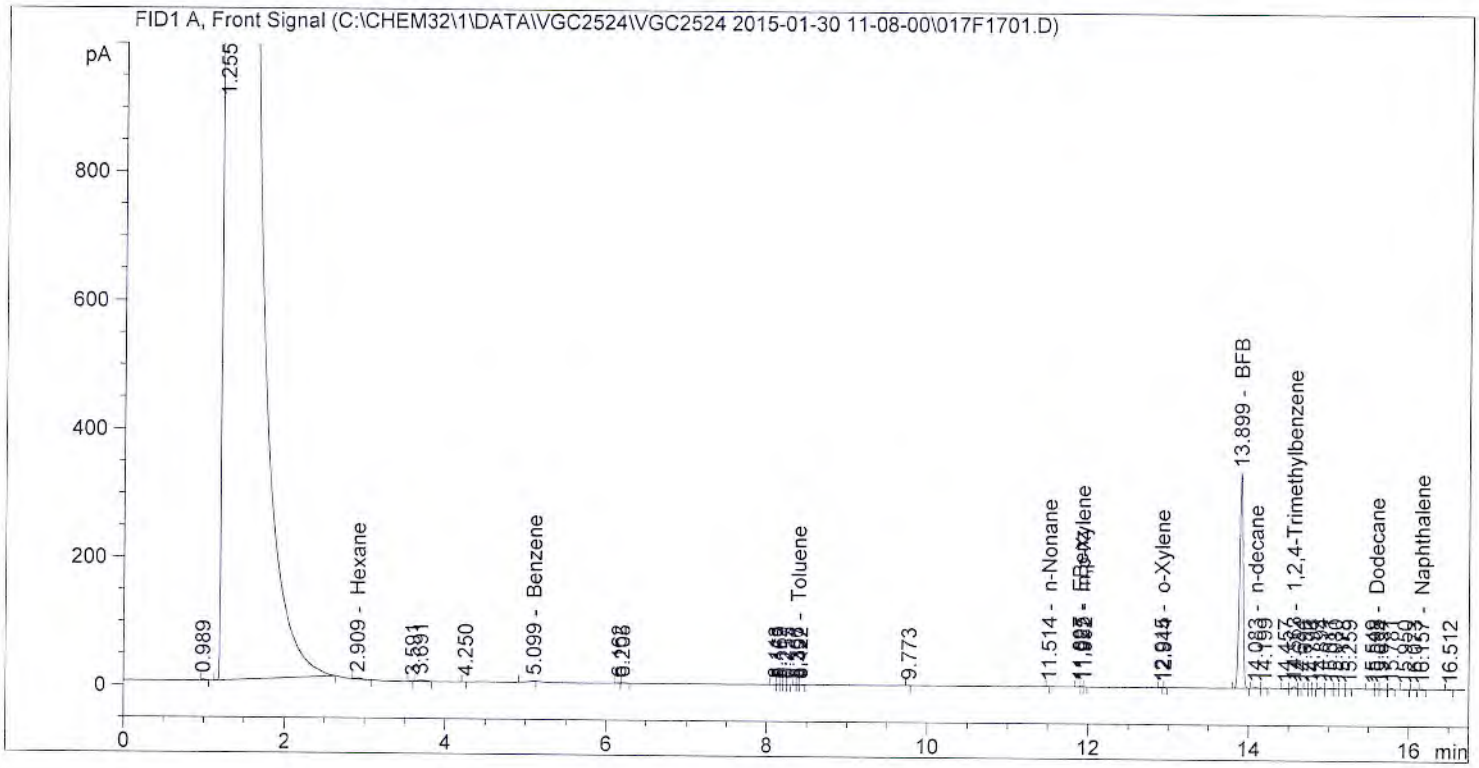
==========

Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 1/30/2015 7:02:18 PM

Seq. Line : 17
Location : Vial 17
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS
2-2-15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.989	VB	5.92183	1.00000	5.92183		?
1.255	VB S	2.61448e5	1.00000	2.61448e5		?
1.706		-	-	-		n-Pentane
2.420		-	-	-		2-Methylpentane
2.726		-	-	-		MTBE
2.909	VV	11.20744	1.86383e-1	2.08887		Hexane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\017F1701.D
Sample Name: 0182_8 L

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
3.591	VV	1.62748	1.00000	1.62748		?
3.691	VV	18.77606	1.00000	18.77606		?
4.250	VV	1.04537	1.00000	1.04537		?
4.713		-	-	-		2,2,4-Trimethylpentane
5.099	VB	1.30816	7.05962e-1	9.23510e-1		Benzene
6.162	VV	3.49775	1.00000	3.49775		?
6.205	VB	3.05151	1.00000	3.05151		?
8.113	VV	3.03068	1.00000	3.03068		?
8.152	VV	2.73636	1.00000	2.73636		?
8.169	VV	2.50716	1.00000	2.50716		?
8.217	VV	2.01201	1.00000	2.01201		?
8.255	VB	1.31653	1.00000	1.31653		?
8.366	VV	1.69749	1.00000	1.69749		?
8.397	VV	1.92188	4.34419	8.34901		Toluene
8.422	VV	3.61732	1.00000	3.61732		?
9.773	VV	1.14409	1.00000	1.14409		?
11.514	VV	1.00813	2.41580	2.43544		n-Nonane
11.897	VV	2.63002	4.54454e-1	1.19523		EBenz
11.925	VV	1.88361	1.18963	2.24080		m,p-Xylene
11.952	VB	1.05159	1.00000	1.05159		?
12.915	VV	2.31788	1.38130	3.20169		o-Xylene
12.944	VV	1.28488	1.00000	1.28488		?
13.899	BV	1052.14929	6.50430e-2	68.43494		BFB
14.083	VV	6.44311	0.00000	0.00000		n-decane
14.199	VV	4.71066	1.00000	4.71066		?
14.457	VV	3.09838	1.00000	3.09838		?
14.563	VV	11.88142	1.16740e-1	1.38703		1,2,4-Trimethylbenzene
14.644	VV	1.19769	1.00000	1.19769		?
14.696	VV	1.46568	1.00000	1.46568		?
14.776	VV	1.56880	1.00000	1.56880		?
14.794	VV	1.27135	1.00000	1.27135		?
14.894	VV	6.03977	1.00000	6.03977		?
15.011	VV	5.93827	1.00000	5.93827		?
15.080	VV	3.03066	1.00000	3.03066		?
15.178	VV	1.37178	1.00000	1.37178		?
15.259	VV	1.40930	1.00000	1.40930		?
15.549	BV	3.15042	1.00000	3.15042		?
15.595	VV	2.90432	0.00000	0.00000		Dodecane
15.654	VV	2.40890	1.00000	2.40890		?
15.781	VV	4.85518	1.00000	4.85518		?
15.950	VV	3.16715	1.00000	3.16715		?
16.073	VV	2.77482	1.00000	2.77482		?
16.157	VV	2.16225	0.00000	0.00000		Naphthalene
16.512	BV	1.28872	1.00000	1.28872		?

Totals : 2.61642e5

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\017F1701.D
Sample Name: 0182_8

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*** End of Report ***

Results of **BT-SD-02**

Client Sample ID: **BT-SD-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182009-C
Lab Project ID: 31500182

Collection Date: 01/25/2015 16:30
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 37.70

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		8.66	mg/kg	1	01/30/2015 19:30
Surrogates						
4-Bromofluorobenzene	101		70.0-130	%	1	01/30/2015 19:30

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

Prep Batch: **VXX5488**
Prep Method: **SW-846 5035**
Prep Date/Time: **01/30/2015 16:18**
Prep Initial Wt./Vol.: **6.13 g**
Prep Extract Vol: **5 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\018F1801.D
Sample Name: 0182_9

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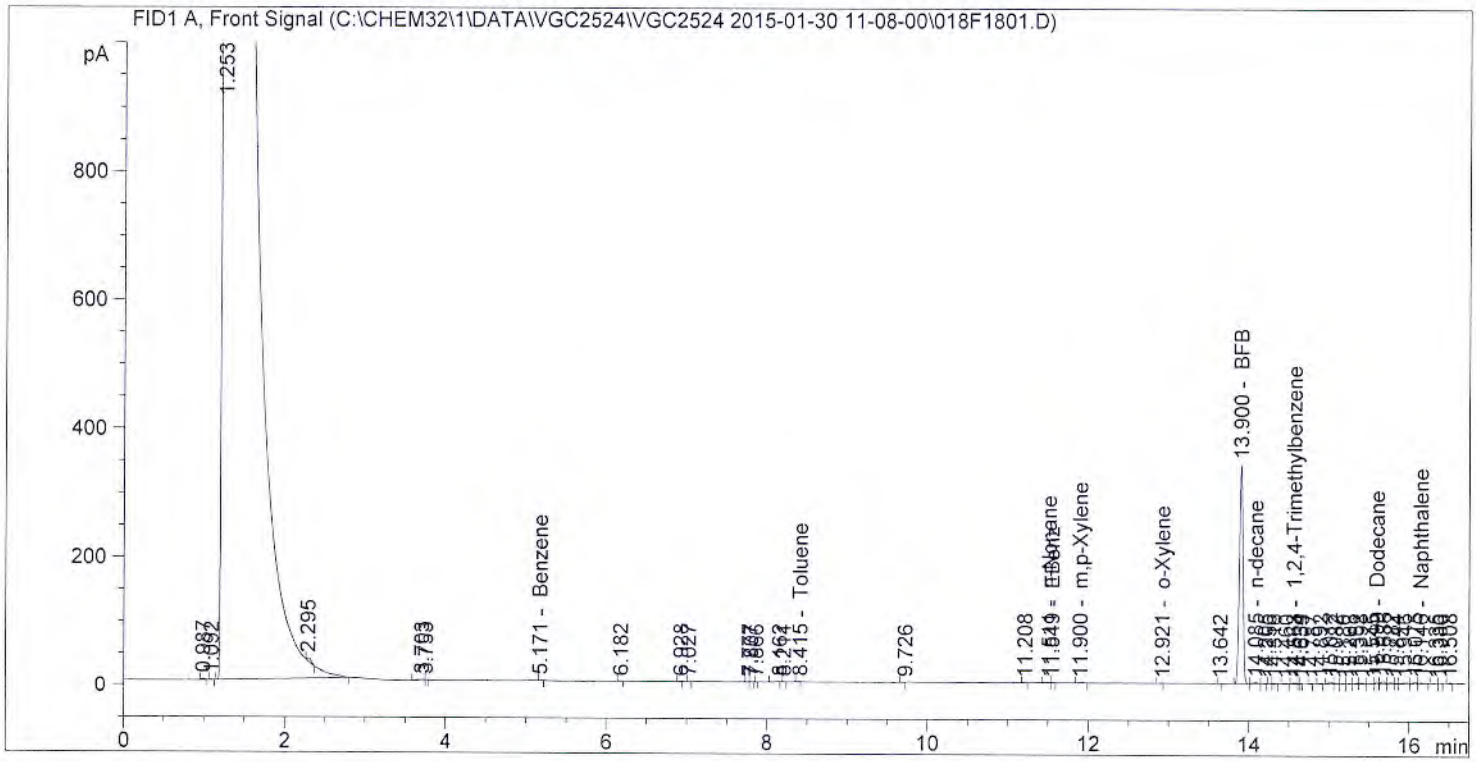
Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 1/30/2015 7:30:42 PM

Seq. Line : 18
Location : Vial 18
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS
2-2-15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.987	VV	5.32257	1.00000	5.32257		?
1.092	VV	1.67858	1.00000	1.67858		?
1.253	VB S	2.39040e5	1.00000	2.39040e5		?
1.706		-	-	-		n-Pentane
2.295	BB X	20.86193	1.00000	20.86193		?
2.420		-	-	-		2-Methylpentane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\018F1801.D
Sample Name: 0182_9

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.726		-	-	-		MTBE
2.914		-	-	-		Hexane
3.703	BV	7.62966	1.00000	7.62966		?
3.753	VB	1.07361	1.00000	1.07361		?
4.713		-	-	-		2,2,4-Trimethylpentane
5.171	BV	1.00896	9.07323e-1	9.15450e-1		Benzene
6.182	VV	1.88052	1.00000	1.88052		?
6.928	VV	1.59983	1.00000	1.59983		?
7.027	VV	1.40346	1.00000	1.40346		?
7.777	VV	1.73951	1.00000	1.73951		?
7.807	VV	2.00801	1.00000	2.00801		?
7.866	VV	1.05502	1.00000	1.05502		?
8.162	VV	3.26318	1.00000	3.26318		?
8.211	VV	1.15017	1.00000	1.15017		?
8.415	VV	1.51833	5.49194	8.33857		Toluene
9.726	VV	1.17286	1.00000	1.17286		?
11.208	VV	1.08217	1.00000	1.08217		?
11.511	VV	2.44445	1.01473	2.48046		n-Nonane
11.549	VV	1.25658	9.19159e-1	1.15500		EBenz
11.900	VV	3.91166	5.80060e-1	2.26900		m,p-Xylene
12.921	BV	1.20354	2.63503	3.17138		o-Xylene
13.642	VV	1.02252	1.00000	1.02252		?
13.900	BV	1073.83594	6.50430e-2	69.84550		BFB
14.085	VV	9.91338	0.00000	0.00000		n-decane
14.205	VV	2.06741	1.00000	2.06741		?
14.256	VV	2.96432	1.00000	2.96432		?
14.316	VV	2.92241	1.00000	2.92241		?
14.460	VV	2.35971	1.00000	2.35971		?
14.563	VV	6.06753	2.01621e-1	1.22334		1,2,4-Trimethylbenzene
14.634	VV	1.08735	1.00000	1.08735		?
14.659	VV	1.60804	1.00000	1.60804		?
14.787	VV	1.91505	1.00000	1.91505		?
14.892	BV	2.34268	1.00000	2.34268		?
15.012	VV	11.48900	1.00000	11.48900		?
15.082	VV	4.27183	1.00000	4.27183		?
15.180	VV	2.13116	1.00000	2.13116		?
15.263	VV	1.63721	1.00000	1.63721		?
15.352	VV	4.46801	1.00000	4.46801		?
15.398	VV	6.74595	1.00000	6.74595		?
15.545	VV	4.11984	1.00000	4.11984		?
15.599	VV	8.31675	0.00000	0.00000		Dodecane
15.686	VV	14.18875	1.00000	14.18875		?
15.782	VV	8.94593	1.00000	8.94593		?
15.844	VV	2.35307	1.00000	2.35307		?
15.946	VV	9.80954	1.00000	9.80954		?
16.075	VV	9.42130	1.00000	9.42130		?
16.146	VV	7.46669	0.00000	0.00000		Naphthalene
16.335	VV	2.49637	1.00000	2.49637		?
16.386	VV	1.04500	1.00000	1.04500		?
16.508	BV	3.42746	1.00000	3.42746		?

Totals : 2.39287e5

5 Warnings or Errors :

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\018F1801.D
Sample Name: 0182_9

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

==========

*** End of Report ***

Results of **BT-SD-03**

Client Sample ID: **BT-SD-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182010-C
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:00
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 76.00

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	ND		4.55	mg/kg	1	01/30/2015 19:59
Surrogates						
4-Bromofluorobenzene	95.1		70.0-130	%	1	01/30/2015 19:59

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

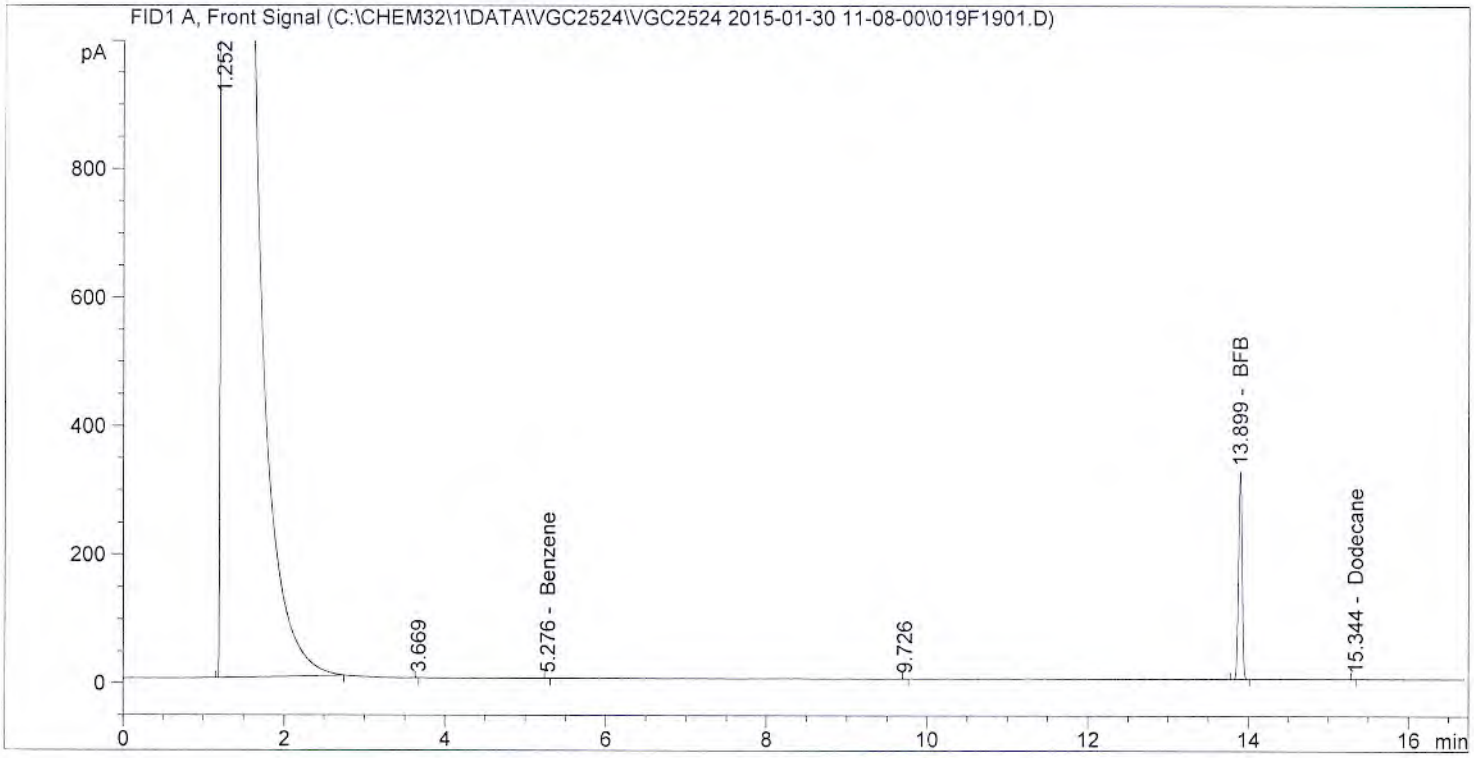
Prep Batch: **VXX5488**
Prep Method: **SW-846 5035**
Prep Date/Time: **01/30/2015 16:18**
Prep Initial Wt./Vol.: **5.79 g**
Prep Extract Vol: **5 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\019F1901.D
Sample Name: 0182_10

==========

Acq. Operator : BWS
Seq. Line : 19
Acq. Instrument : GC7
Location : Vial 19
Injection Date : 1/30/2015 7:59:36 PM
Inj : 1
Inj Volume : Manually
Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS
2-2-15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.252	VB S	2.27324e5	1.00000	2.27324e5		?
1.706		-	-	-		n-Pentane
2.420		-	-	-		2-Methylpentane
2.726		-	-	-		MTBE
2.914		-	-	-		Hexane
3.669	VV	1.09311	1.00000	1.09311		?

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\019F1901.D
Sample Name: 0182_10

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
4.713		-	-	-		2,2,4-Trimethylpentane
5.276	VV	1.02027	8.97564e-1	9.15755e-1		Benzene
8.406		-	-	-		Toluene
9.726	VV	1.17561	1.00000	1.17561		?
11.520		-	-	-		n-Nonane
11.722		-	-	-		EBenz
11.913		-	-	-		m,p-Xylene
12.913		-	-	-		o-Xylene
13.899	BB	1014.87360	6.50430e-2	66.01041		BFB
14.091		-	-	-		n-decane
14.568		-	-	-		1,2,4-Trimethylbenzene
15.344	VV	1.28738	0.00000	0.00000		Dodecane
16.173		-	-	-		Naphthalene

Totals : 2.27393e5

3 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)

==========

*** End of Report ***

Results of **BT-PW-01**

Client Sample ID: **BT-PW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182011-D
Lab Project ID: 31500182

Collection Date: 01/24/2015 14:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	**1.98**		0.900	mg/L	10	01/30/2015 14:46
Surrogates						
4-Bromofluorobenzene	101		70.0-130	%	10	01/30/2015 14:46

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

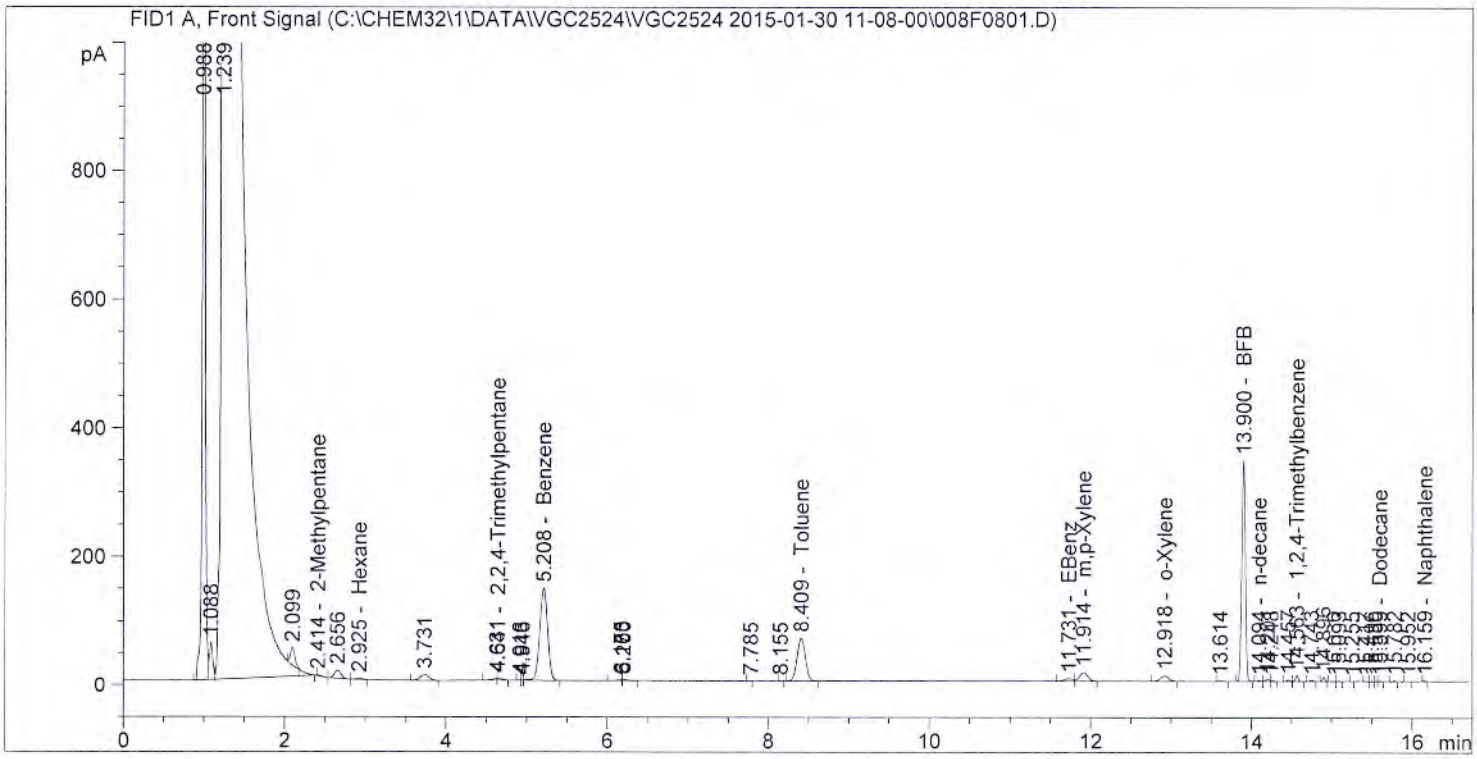
Prep Batch: **VXX5486**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 16:13**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\008F0801.D
Sample Name: 0182_11 x10 F

==========

Acq. Operator : BWS
Seq. Line : 8
Acq. Instrument : GC7
Location : Vial 8
Injection Date : 1/30/2015 2:46:56 PM
Inj : 1
Inj Volume : Manually
Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 1.30.15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.988	VV	3951.55786	1.00000	3951.55786		?
1.088	VV	164.41661	1.00000	164.41661		?
1.239	VB S	8.98810e4	1.00000	8.98810e4		?
1.706		-	-	-		n-Pentane
2.099	BB X	107.68184	1.00000	107.68184		?
2.414	BV	1.53647	2.25256	3.46098		2-Methylpentane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\008F0801.D
Sample Name: 0182_11 x10 F

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.656	VV	74.45700	1.00000	74.45700		?
2.726		-	-	-		MTBE
2.925	VV	14.03263	1.56645e-1	2.19815		Hexane
3.731	VV	73.72311	1.00000	73.72311		?
4.631	VV	17.55742	1.00000	17.55742		?
4.641	VB	14.64721	6.91495e-1	10.12847		2,2,4-Trimethylpentane
4.916	VV	1.33487	1.00000	1.33487		?
4.946	VV	1.40257	1.00000	1.40257		?
5.208	VB	977.77307	2.78469e-2	27.22790		Benzene
6.175	VV	8.54197	1.00000	8.54197		?
6.183	VV	1.17517	1.00000	1.17517		?
6.200	VV	9.47758	1.00000	9.47758		?
7.785	VV	1.24131	1.00000	1.24131		?
8.155	VB	1.00699	1.00000	1.00699		?
8.409	VB	475.22614	4.33533e-2	20.60264		Toluene
11.520		-	-	-		n-Nonane
11.731	VV	31.67518	6.45934e-2	2.04601		EBenz
11.914	VV	103.32739	3.53348e-2	3.65106		m,p-Xylene
12.918	VV	68.07782	7.33018e-2	4.99023		o-Xylene
13.614	VV	3.88051	1.00000	3.88051		?
13.900	BV	1073.57178	6.50430e-2	69.82832		BFB
14.094	VV	3.98733	0.00000	0.00000		n-decane
14.201	VV	12.19958	1.00000	12.19958		?
14.248	VB	2.91106	1.00000	2.91106		?
14.457	VV	7.56036	1.00000	7.56036		?
14.563	VV	25.20382	6.99150e-2	1.76212		1,2,4-Trimethylbenzene
14.743	VV	5.51701	1.00000	5.51701		?
14.896	BV	17.10665	1.00000	17.10665		?
15.030	VV	2.43020	1.00000	2.43020		?
15.093	VV	2.43215	1.00000	2.43215		?
15.255	VV	1.22528	1.00000	1.22528		?
15.417	VV	1.63965	1.00000	1.63965		?
15.496	VV	1.33793	1.00000	1.33793		?
15.550	VV	1.48719	1.00000	1.48719		?
15.599	VV	2.08785	0.00000	0.00000		Dodecane
15.782	VV	3.47754	1.00000	3.47754		?
15.952	VV	1.14204	1.00000	1.14204		?
16.159	VV	2.64000	0.00000	0.00000		Naphthalene

Totals : 9.45048e4

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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*** End of Report ***

Results of **BT-PW-02**

Client Sample ID: **BT-PW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182012-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 10:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Gasoline Range Organics (GRO)	**4.15**		0.900	mg/L	10	01/30/2015 15:15
Surrogates						
4-Bromofluorobenzene	101		70.0-130	%	10	01/30/2015 15:15

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

Prep Batch: **VXX5486**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 16:13**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\009F0901.D
Sample Name: 0182_12 x10 E

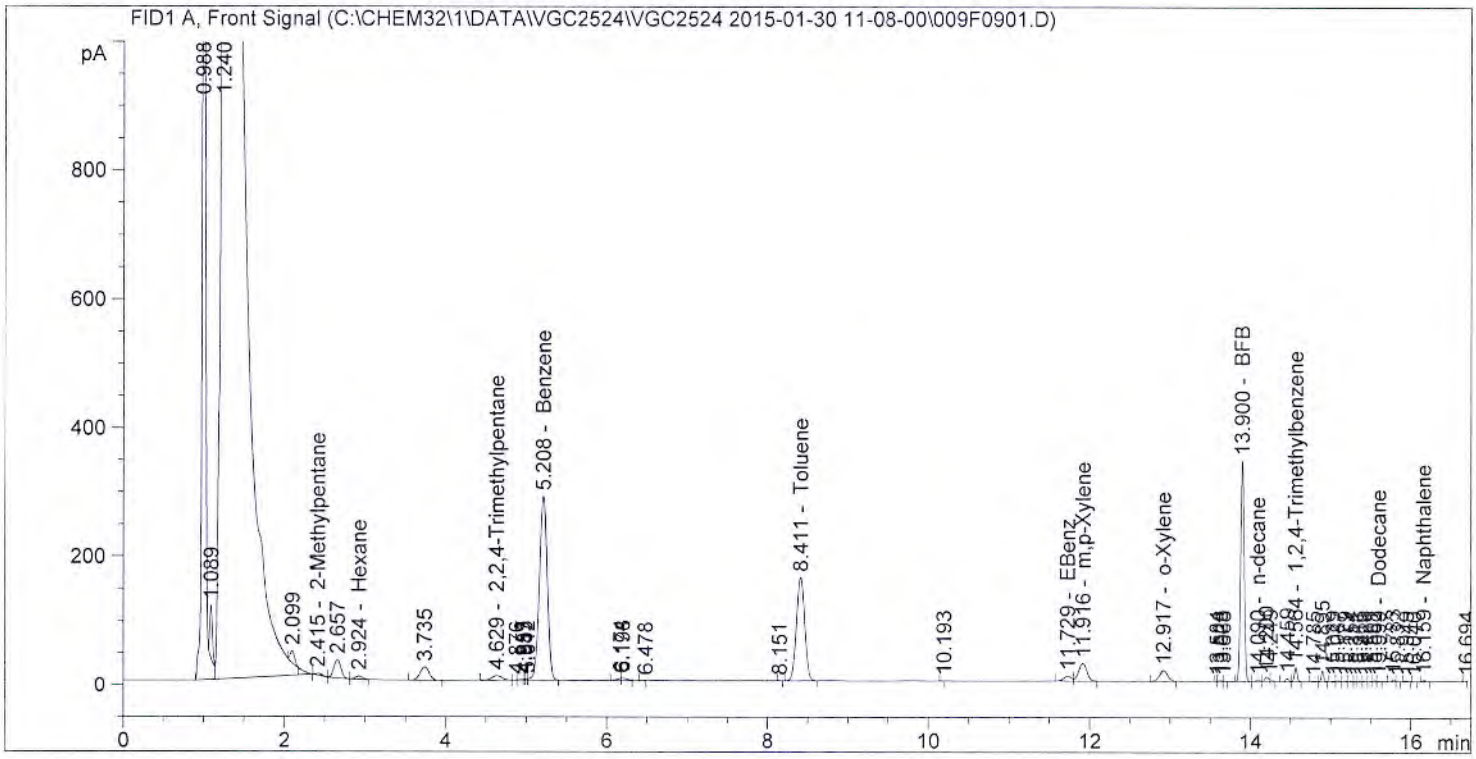
==========

Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 1/30/2015 3:15:13 PM

Seq. Line : 9
Location : Vial 9
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BW 1.30.15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.988	VV S	6416.40479	1.00000	6416.40479		?
1.089	BV X	181.31885	1.00000	181.31885		?
1.240	VB S	1.00080e5	1.00000	1.00080e5		?
1.706		-	-	-		n-Pentane
2.099	BB X	71.96040	1.00000	71.96040		?
2.415	BV	15.50562	2.56187e-1	3.97233		2-Methylpentane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\009F0901.D
Sample Name: 0182_12 x10 E

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.657	VV	167.69020	1.00000	167.69020		?
2.726		-	-	-		MTBE
2.924	VV	32.28555	8.99523e-2	2.90416		Hexane
3.735	VB	165.98553	1.00000	165.98553		?
4.629	VV	71.24842	1.65170e-1	11.76812		2,2,4-Trimethylpentane
4.876	VV	1.89656	1.00000	1.89656		?
4.957	VV	6.37468	1.00000	6.37468		?
4.983	VV	2.84132	1.00000	2.84132		?
5.012	VV	4.23143	1.00000	4.23143		?
5.208	VB	1937.05017	2.73970e-2	53.06928		Benzene
6.174	VV	15.20907	1.00000	15.20907		?
6.198	VV	18.79127	1.00000	18.79127		?
6.478	VV	1.25398	1.00000	1.25398		?
8.151	VV	1.36043	1.00000	1.36043		?
8.411	BB	1145.33521	3.31357e-2	37.95145		Toluene
10.193	VV	1.62500	1.00000	1.62500		?
11.520		-	-	-		n-Nonane
11.729	BV	57.48735	4.87427e-2	2.80209		EBenz
11.916	VV	201.12132	2.49132e-2	5.01057		m,p-Xylene
12.917	VV	128.27081	5.16669e-2	6.62736		o-Xylene
13.584	VV	1.03124	1.00000	1.03124		?
13.628	VV	5.55562	1.00000	5.55562		?
13.668	VB	1.04367	1.00000	1.04367		?
13.900	BV	1072.52307	6.50430e-2	69.76011		BFB
14.090	VV	7.35459	0.00000	0.00000		n-decane
14.200	VV	27.28046	1.00000	27.28046		?
14.249	VV	6.37288	1.00000	6.37288		?
14.459	BV	14.74357	1.00000	14.74357		?
14.564	VV	53.74009	4.77402e-2	2.56556		1,2,4-Trimethylbenzene
14.785	VV	3.46508	1.00000	3.46508		?
14.895	VV	37.56160	1.00000	37.56160		?
15.029	VV	3.25055	1.00000	3.25055		?
15.087	VV	5.12433	1.00000	5.12433		?
15.179	VV	1.60720	1.00000	1.60720		?
15.254	VV	3.25727	1.00000	3.25727		?
15.311	VV	1.97816	1.00000	1.97816		?
15.366	VV	2.96599	1.00000	2.96599		?
15.418	VV	2.49517	1.00000	2.49517		?
15.501	VV	2.79314	1.00000	2.79314		?
15.552	VV	3.24639	1.00000	3.24639		?
15.599	VV	2.60709	0.00000	0.00000		Dodecane
15.783	BV	8.60281	1.00000	8.60281		?
15.832	VV	1.64708	1.00000	1.64708		?
15.949	VV	3.26201	1.00000	3.26201		?
16.040	VV	1.14222	1.00000	1.14222		?
16.159	BV	6.93106	0.00000	0.00000		Naphthalene
16.694	VBA	1.56544	1.00000	1.56544		?

Totals : 1.07473e5

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)

SW-846 8015C GRO
QC, Blanks Data

Print Date: 02/06/2015

N.C. Certification # 481

Batch VGC2524
Curve VGC2442

Start

filename	labid	GRO Area	BFB Area	GRO ug/L occ	BFB %
002F0201.D	RTCHK	55917.35	1103.442	5677.592	103.4365
004F0401.D	ICV	2585.386	1053.211	264.0567	98.72795
005F0501.D	158193	2146.183	1053.314	219.4749	98.73753
006F0601.D	158194	2088.49	1064.819	213.6186	99.81608
007F0701.D	158195	1.11616	1107.58	1.736824	103.8245
008F0801.D	0182_11	1930.42	1073.572	197.5735	100.6365
009F0901.D	0182_12	4077.18	1072.523	415.4834	100.5382
010F1001.D	0182_1	1582.178	1082.874	162.2247	101.5085
011F1101.D	0182_2	30.02768	990.0547	4.671528	92.80764
012F1201.D	0182_3	27.02064	1059.24	4.366295	99.29303
013F1301.D	0182_4	16.50586	1037.619	3.298977	97.26628
014F1401.D	0182_5	1.34103	1046.371	1.75965	98.08672
015F1501.D	0182_6	294.4844	1045.341	31.51558	97.99021
016F1601.D	0182_7	25.40287	1067.348	4.202081	100.0531
017F1701.D	0182_8	96.80697	1052.149	11.45005	98.62839
018F1801.D	0182_9	63.7188	1073.836	8.091392	100.6613
019F1901.D	0182_10	3.28899	1014.874	1.957381	95.13417
020F2001.D	0172_1	3.26201	1054.435	1.954642	98.84269
021F2101.D	0178_1	70.82567	1069.493	8.812785	100.2542
022F2201.D	MS	2336.793	1080.838	238.823	101.3177
023F2301.D	MSD	2152.467	1076.449	220.1127	100.9063
024F2401.D	ICV	2337.858	1078.641	238.9311	101.1118

2-2-15

SW-846 8015C GRO
Batch VXX5486

Batch Summary

Analytical Method: SW-846 8015C GRO

Prep Method: SW-846 5030B
Prep Batch: VXX5486
Prep Date: 01/30/2015 11:05

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
LCS for HBN 63857 [VXX/5486]	158193	01/30/2015 13:20	VGC2524	GC7	BWS
LCSD for HBN 63857 [VXX/5486]	158194	01/30/2015 13:49	VGC2524	GC7	BWS
MB for HBN 63857 [VXX/5486]	158195	01/30/2015 14:17	VGC2524	GC7	BWS
BT-PW-01	31500182011	01/30/2015 14:46	VGC2524	GC7	BWS
BT-PW-02	31500182012	01/30/2015 15:15	VGC2524	GC7	BWS
BT-SW-01	31500182001	01/30/2015 15:43	VGC2524	GC7	BWS
BT-SW-02	31500182002	01/30/2015 16:12	VGC2524	GC7	BWS
BT-SW-03	31500182003	01/30/2015 16:40	VGC2524	GC7	BWS
BT-SW-04	31500182004	01/30/2015 17:09	VGC2524	GC7	BWS
BT-SW-05	31500182005	01/30/2015 17:37	VGC2524	GC7	BWS
BT-SW-06	31500182006	01/30/2015 18:05	VGC2524	GC7	BWS
BT-SW-DUP	31500182007	01/30/2015 18:34	VGC2524	GC7	BWS

Surrogate Summary Form 2

Analytical Method: SW-846 8015C GRO
Analytical Batch: VGC2524
Work Order: 31500182
Matrix: Water

Results by **SW-846 8015C GRO**

	4-BFB
BT-PW-01	101
BT-PW-02	101
BT-SW-01	102
BT-SW-02	92.8
BT-SW-03	99.3
BT-SW-04	97.3
BT-SW-05	98.1
BT-SW-06	98
BT-SW-DUP	100
LCS for HBN 63857 [VXX/5486]	98.7
LCSD for HBN 63857 [VXX/5486]	99.8
MB for HBN 63857 [VXX/5486]	104

Control Limits

4-Bromofluorobenzene	4-BFB	70.0-130

Print Date: 02/06/2015

N.C. Certification # 481

Method Blank Summary **Form 4**

Blank ID: MB for HBN 63857 [VXX/5486]
Blank Lab ID: 158195
Prep Batch: VXX5486

Matrix: Water
Analysis Date/Time: 01/30/2015 14:17

Results by **SW-846 8015C GRO**

Client Sample ID	Lab Sample ID	Filename	Date Analyzed	Analyst
LCS for HBN 63857 [VXX/5486]	158193	005F0501.D	01/30/2015 13:20	BWS
LCSD for HBN 63857 [VXX/5486]	158194	006F0601.D	01/30/2015 13:49	BWS
BT-PW-01	31500182011	008F0801.D	01/30/2015 14:46	BWS
BT-PW-02	31500182012	009F0901.D	01/30/2015 15:15	BWS
BT-SW-01	31500182001	010F1001.D	01/30/2015 15:43	BWS
BT-SW-02	31500182002	011F1101.D	01/30/2015 16:12	BWS
BT-SW-03	31500182003	012F1201.D	01/30/2015 16:40	BWS
BT-SW-04	31500182004	013F1301.D	01/30/2015 17:09	BWS
BT-SW-05	31500182005	014F1401.D	01/30/2015 17:37	BWS
BT-SW-06	31500182006	015F1501.D	01/30/2015 18:05	BWS
BT-SW-DUP	31500182007	016F1601.D	01/30/2015 18:34	BWS

Method Blank

Blank ID: MB for HBN 63857 [VXX/5486]
Matrix: Water
Blank Lab ID: 158195
QC for Samples:
31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF
Gasoline Range Organics (GRO)	ND		0.0900	mg/L	1
Surrogates					
4-Bromofluorobenzene	104		70.0-130	%	1

Batch Information

Analytical Batch: VGC2524
Analytical Method: SW-846 8015C GRO
Instrument: GC7
Analyst: BWS

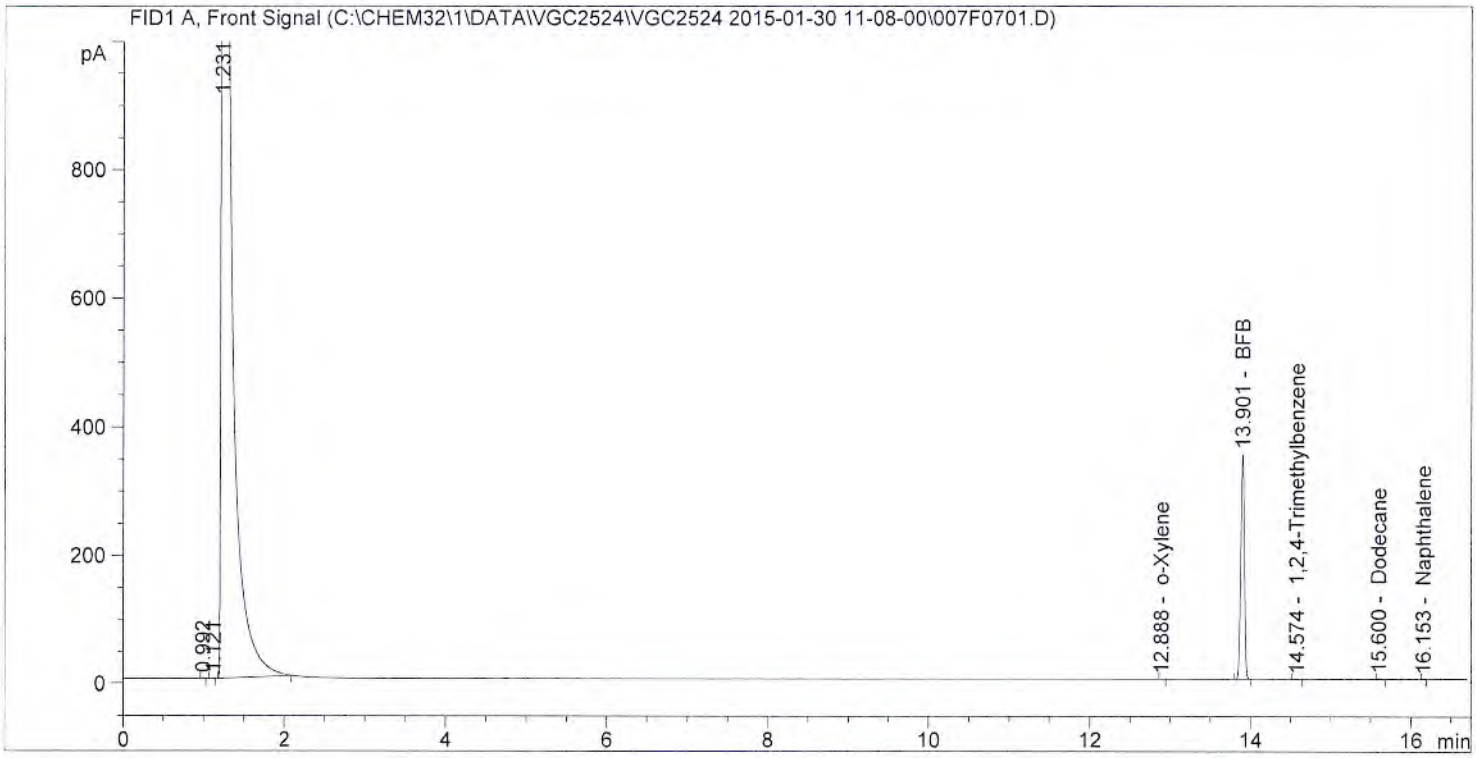
Prep Batch: VXX5486
Prep Method: SW-846 5030B
Prep Date/Time: 1/30/2015 11:05:47AM
Prep Initial Wt./Vol.: 40 mL
Prep Extract Vol: 40 mL

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\007F0701.D
Sample Name: 158195 MB 158236 158241

==========

Acq. Operator : BWS Seq. Line : 7
Acq. Instrument : GC7 Location : Vial 7
Injection Date : 1/30/2015 2:17:30 PM Inj : 1
Inj Volume : Manually
Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 1.30.15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.992	VV	1.88969	1.00000	1.88969		?
1.121	VV	1.07266	1.00000	1.07266		?
1.231	VB S	2.24615e4	1.00000	2.24615e4		?
1.706		-	-	-		n-Pentane
2.420		-	-	-		2-Methylpentane
2.726		-	-	-		MTBE

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\007F0701.D
Sample Name: 158195 MB 158236 158241

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.914		-	-	-		Hexane
4.713		-	-	-		2,2,4-Trimethylpentane
5.199		-	-	-		Benzene
8.406		-	-	-		Toluene
11.520		-	-	-		n-Nonane
11.722		-	-	-		EBenz
11.913		-	-	-		m,p-Xylene
12.888	VV	1.11616	2.83921	3.16900		o-Xylene
13.901	VV	1107.58008	6.50430e-2	72.04032		BFB
14.091		-	-	-		n-decane
14.574	VB	1.36476	7.99363e-1	1.09094		1,2,4-Trimethylbenzene
15.600	VV	4.80263	0.00000	0.00000		Dodecane
16.153	VV	1.45078	0.00000	0.00000		Naphthalene

Totals : 2.25408e4

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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*** End of Report ***

Blank Spike Summary

Blank Spike ID: LCS for HBN 63857 [VXX/5486]
Blank Spike Lab ID: 158193
Date Analyzed: 01/30/2015 13:20

Spike Duplicate ID: LCSD for HBN 63857 [VXX/5486]
Spike Duplicate Lab ID: 158194
Date Analyzed: 01/30/2015 13:49
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 8015C GRO**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics (GRO)	0.200	0.219	110	0.200	0.214	107	70.0-130	2.3	30.00
Surrogates									
4-Bromofluorobenzene			98.7			99.8	70.0-130		

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

Prep Batch: **VXX5486**
Prep Method: **SW-846 5030B**
Prep Date/Time: **01/30/2015 11:05**
Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\005F0501.D
Sample Name: 158193 LCS 158234 158239

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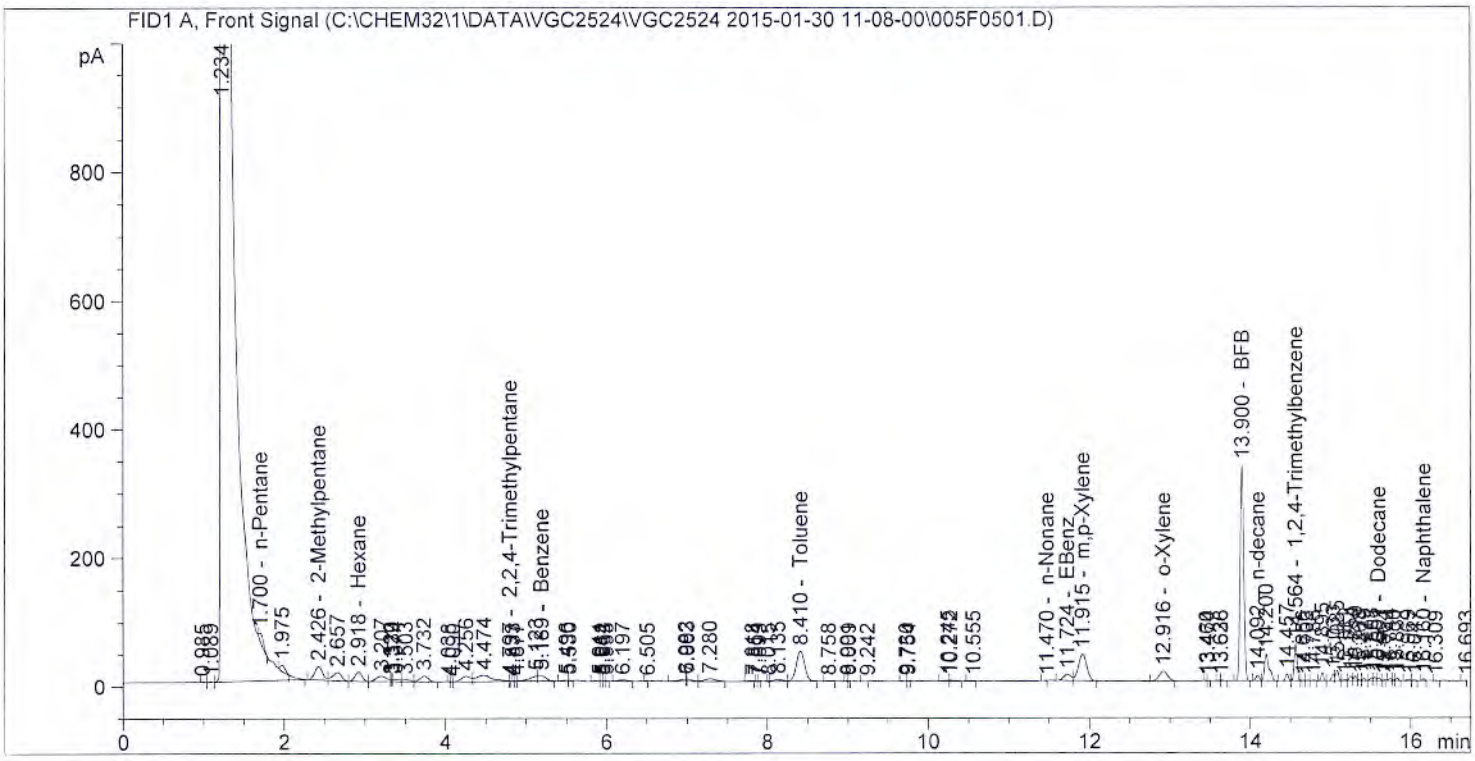
Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 1/30/2015 1:20:56 PM

Seq. Line : 5
Location : Vial 5
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 1-30-15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.985	VV	1.66250	1.00000	1.66250		?
1.089	VV	2.84542	1.00000	2.84542		?
1.234	VB S	3.24056e4	1.00000	3.24056e4		?
1.700	BB X	55.45621	8.18849e-2	4.54102		n-Pentane
1.975	BB X	42.75853	1.00000	42.75853		?
2.426	BV	149.10278	5.94405e-2	8.86275		2-Methylpentane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\005F0501.D
Sample Name: 158193 LCS 158234 158239

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.657	VV	103.01945	1.00000	103.01945		?
2.726		-	-	-		MTBE
2.918	VV	92.23881	5.66259e-2	5.22311		Hexane
3.207	VV	80.77275	1.00000	80.77275		?
3.320	VV	2.23916	1.00000	2.23916		?
3.339	VV	3.46436	1.00000	3.46436		?
3.374	VV	20.16655	1.00000	20.16655		?
3.503	VV	22.72071	1.00000	22.72071		?
3.732	VV	71.65450	1.00000	71.65450		?
4.038	VV	1.43756	1.00000	1.43756		?
4.090	VV	1.07948	1.00000	1.07948		?
4.256	VV	74.03405	1.00000	74.03405		?
4.474	VV	144.93120	1.00000	144.93120		?
4.797	VV	1.27086	7.66488	9.74097		2,2,4-Trimethylpentane
4.833	VB	1.49348	1.00000	1.49348		?
4.877	BV	1.85617	1.00000	1.85617		?
5.123	VV	60.23997	1.00000	60.23997		?
5.189	VV	59.23701	4.19336e-2	2.48402		Benzene
5.496	VV	6.06621	1.00000	6.06621		?
5.530	VB	2.57018	1.00000	2.57018		?
5.911	VV	3.64984	1.00000	3.64984		?
5.944	VV	1.88866	1.00000	1.88866		?
5.962	VV	2.15956	1.00000	2.15956		?
5.995	VB	1.11142	1.00000	1.11142		?
6.197	VV	20.78206	1.00000	20.78206		?
6.505	VV	1.63982	1.00000	1.63982		?
6.982	VV	25.21301	1.00000	25.21301		?
6.993	VV	2.51724	1.00000	2.51724		?
7.003	VV	17.53789	1.00000	17.53789		?
7.280	VV	47.77417	1.00000	47.77417		?
7.818	VV	6.18251	1.00000	6.18251		?
7.854	VV	1.77446	1.00000	1.77446		?
7.895	VB	1.46723	1.00000	1.46723		?
8.015	VV	1.27028	1.00000	1.27028		?
8.135	VV	26.53969	1.00000	26.53969		?
8.410	VV	342.09430	5.01497e-2	17.15592		Toluene
8.758	VV	2.18594	1.00000	2.18594		?
8.991	VV	1.41303	1.00000	1.41303		?
9.009	VB	1.02510	1.00000	1.02510		?
9.242	VV	1.15681	1.00000	1.15681		?
9.730	VV	2.05658	1.00000	2.05658		?
9.754	VV	1.04659	1.00000	1.04659		?
10.245	VV	8.27628	1.00000	8.27628		?
10.272	VV	6.63745	1.00000	6.63745		?
10.555	VV	5.41511	1.00000	5.41511		?
11.470	VV	1.21581	2.00850	2.44195		n-Nonane
11.724	BV	67.85126	4.57717e-2	3.10567		EBenz
11.915	VV	302.37839	2.12258e-2	6.41823		m,p-Xylene
12.916	VV	116.08052	5.42365e-2	6.29580		o-Xylene
13.460	VV	1.33214	1.00000	1.33214		?
13.474	VV	1.82161	1.00000	1.82161		?
13.628	VV	3.87145	1.00000	3.87145		?
13.636	VV	3.51503	1.00000	3.51503		?
13.900	BB	1053.31360	6.50430e-2	68.51067		BFB
14.092	BV	27.31816	0.00000	0.00000		n-decane
14.200	VV	167.38589	1.00000	167.38589		?

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\005F0501.D
Sample Name: 158193

LCS 158234 158239

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
14.457	VV	29.12807	1.00000	29.12807		?
14.564	VV	140.97758	3.56207e-2	5.02172		1,2,4-Trimethylbenzene
14.656	VV	3.54651	1.00000	3.54651		?
14.703	VV	3.06465	1.00000	3.06465		?
14.786	VV	4.34863	1.00000	4.34863		?
14.895	VV	28.32450	1.00000	28.32450		?
15.033	VV	24.00175	1.00000	24.00175		?
15.085	VV	44.22081	1.00000	44.22081		?
15.181	VV	5.48489	1.00000	5.48489		?
15.254	VV	19.14079	1.00000	19.14079		?
15.310	VV	16.57644	1.00000	16.57644		?
15.368	VV	5.49343	1.00000	5.49343		?
15.419	VV	8.71523	1.00000	8.71523		?
15.508	VV	11.55796	1.00000	11.55796		?
15.551	VV	11.96609	1.00000	11.96609		?
15.601	VV	10.48135	0.00000	0.00000		Dodecane
15.664	VV	2.95977	1.00000	2.95977		?
15.744	VV	10.24719	1.00000	10.24719		?
15.780	VV	3.67851	1.00000	3.67851		?
15.831	VV	10.07390	1.00000	10.07390		?
15.969	VV	7.81530	1.00000	7.81530		?
16.047	VV	3.02676	1.00000	3.02676		?
16.160	VV	5.78205	0.00000	0.00000		Naphthalene
16.309	BV	1.00650	1.00000	1.00650		?
16.693	VBA	1.38683	1.00000	1.38683		?

Totals : 3.38148e4

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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*** End of Report ***

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\006F0601.D
Sample Name: 158194 LCS 158235 158240

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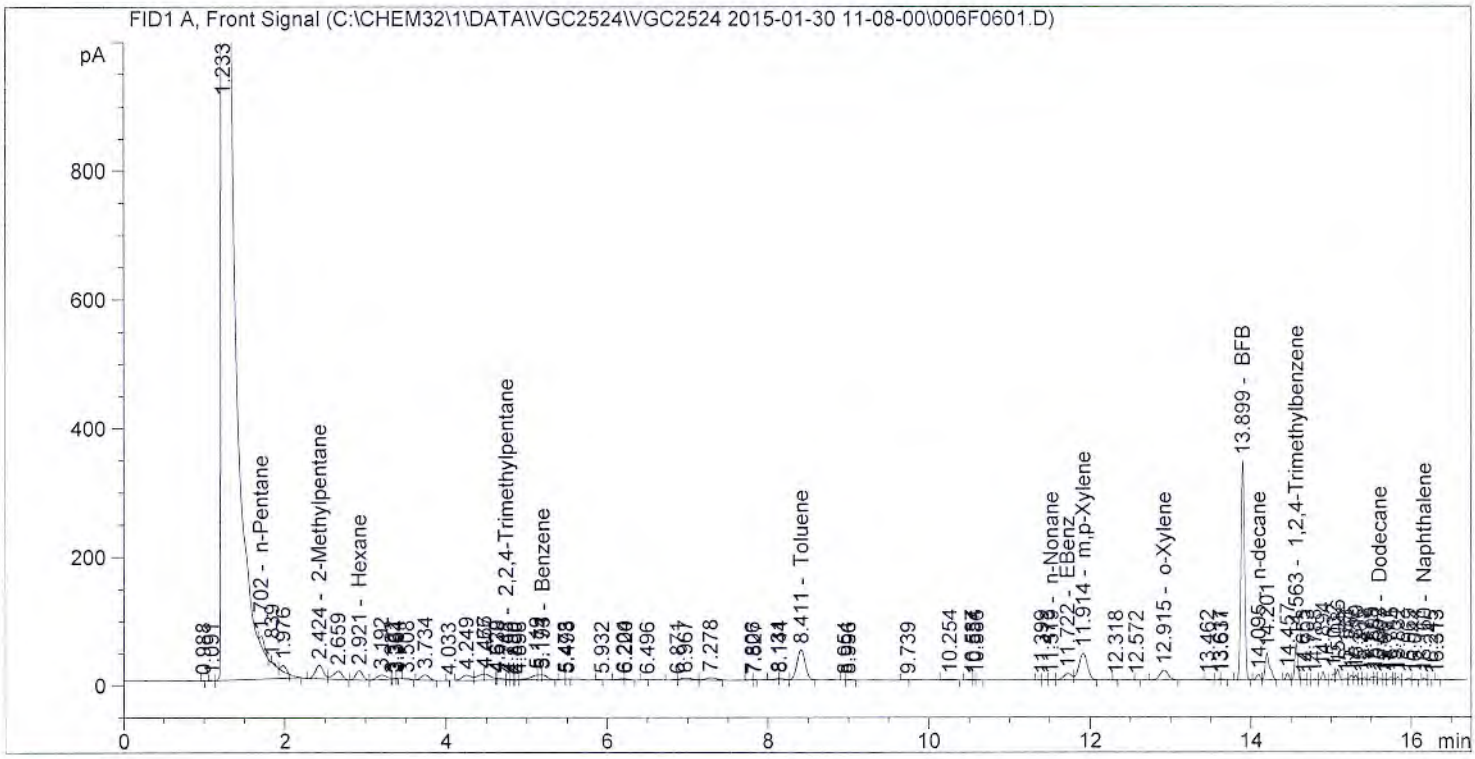
Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 1/30/2015 1:49:06 PM

Seq. Line : 6
Location : Vial 6
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 1-30-15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.988	BV	1.16337	1.00000	1.16337		?
1.091	VV	2.68298	1.00000	2.68298		?
1.233	VB S	2.99568e4	1.00000	2.99568e4		?
1.702	BB X	61.30750	7.80870e-2	4.78732		n-Pentane
1.839	BV X	6.35240	1.00000	6.35240		?
1.976	VB X	44.26519	1.00000	44.26519		?

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\006F0601.D
Sample Name: 158194 LCSD 158235 158240

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.424	BV	149.22073	5.94225e-2	8.86707		2-Methylpentane
2.659	VV	107.42527	1.00000	107.42527		?
2.726		-	-	-		MTBE
2.921	VV	92.19266	5.66349e-2	5.22132		Hexane
3.192	VV	66.67456	1.00000	66.67456		?
3.322	VV	1.15215	1.00000	1.15215		?
3.361	VV	3.35802	1.00000	3.35802		?
3.384	VV	1.78805	1.00000	1.78805		?
3.508	BV	7.43008	1.00000	7.43008		?
3.734	VV	64.65138	1.00000	64.65138		?
4.033	VV	1.08292	1.00000	1.08292		?
4.249	BV	72.83209	1.00000	72.83209		?
4.466	VV	61.26942	1.00000	61.26942		?
4.477	VV	58.16017	1.00000	58.16017		?
4.620	VV	3.20775	1.00000	3.20775		?
4.638	VV	15.11006	1.00000	15.11006		?
4.742	VV	4.41900	2.22497	9.83217		2,2,4-Trimethylpentane
4.799	VB	2.05787	1.00000	2.05787		?
4.850	BV	1.24748	1.00000	1.24748		?
4.898	VV	2.93929	1.00000	2.93929		?
5.119	VV	52.77477	1.00000	52.77477		?
5.174	VV	24.06302	1.00000	24.06302		?
5.193	VV	38.53497	4.99894e-2	1.92634		Benzene
5.473	BV	2.07967	1.00000	2.07967		?
5.498	VB	1.52283	1.00000	1.52283		?
5.932	VV	2.69474	1.00000	2.69474		?
6.204	BV	12.27504	1.00000	12.27504		?
6.220	VB	7.96452	1.00000	7.96452		?
6.496	VV	1.86890	1.00000	1.86890		?
6.871	VV	6.28213	1.00000	6.28213		?
6.967	VV	38.91164	1.00000	38.91164		?
7.278	VV	44.20182	1.00000	44.20182		?
7.806	VV	2.37531	1.00000	2.37531		?
7.827	VV	1.80468	1.00000	1.80468		?
8.131	BV	10.62616	1.00000	10.62616		?
8.144	VB	10.95873	1.00000	10.95873		?
8.411	BV	337.62061	5.04711e-2	17.04010		Toluene
8.954	BV	1.40117	1.00000	1.40117		?
8.996	VV	4.80419	1.00000	4.80419		?
9.739	VV	2.02961	1.00000	2.02961		?
10.254	VV	15.47628	1.00000	15.47628		?
10.537	VV	4.70386	1.00000	4.70386		?
10.554	VV	2.39775	1.00000	2.39775		?
10.586	VV	2.40511	1.00000	2.40511		?
11.399	VV	2.27275	1.00000	2.27275		?
11.473	VV	4.19803	1.00000	4.19803		?
11.519	VV	6.14365	4.22617e-1	2.59641		n-Nonane
11.722	VV	77.32890	4.37519e-2	3.38328		EBenz
11.914	VV	308.98346	2.10693e-2	6.51005		m,p-Xylene
12.318	VV	1.36790	1.00000	1.36790		?
12.572	VB	1.07427	1.00000	1.07427		?
12.915	VV	116.59335	5.41176e-2	6.30975		o-Xylene
13.462	VV	2.68964	1.00000	2.68964		?
13.617	VV	3.04827	1.00000	3.04827		?
13.631	VB	4.30566	1.00000	4.30566		?
13.899	BV	1064.81934	6.50430e-2	69.25903		BFB

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\006F0601.D
Sample Name: 158194 LISD 158235 158240

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
14.095	VV	27.37554	0.00000	0.00000		n-decane
14.201	VV	167.51431	1.00000	167.51431		?
14.457	VV	28.07733	1.00000	28.07733		?
14.563	VV	140.74162	3.56332e-2	5.01508		1,2,4-Trimethylbenzene
14.653	VV	3.94845	1.00000	3.94845		?
14.703	VV	2.04485	1.00000	2.04485		?
14.788	VV	3.97605	1.00000	3.97605		?
14.894	VV	28.45678	1.00000	28.45678		?
15.032	VV	23.78119	1.00000	23.78119		?
15.086	VV	43.63340	1.00000	43.63340		?
15.188	VV	5.49850	1.00000	5.49850		?
15.255	VV	19.46721	1.00000	19.46721		?
15.310	VV	16.63749	1.00000	16.63749		?
15.365	VV	5.14340	1.00000	5.14340		?
15.418	VV	9.11207	1.00000	9.11207		?
15.508	VV	11.60403	1.00000	11.60403		?
15.552	VV	12.14525	1.00000	12.14525		?
15.603	VV	8.91239	0.00000	0.00000		Dodecane
15.667	VV	2.77984	1.00000	2.77984		?
15.745	VV	11.36437	1.00000	11.36437		?
15.784	VV	3.77088	1.00000	3.77088		?
15.832	VV	10.22915	1.00000	10.22915		?
15.969	VV	8.19831	1.00000	8.19831		?
16.044	VV	3.56993	1.00000	3.56993		?
16.160	VV	5.88530	0.00000	0.00000		Naphthalene
16.245	VV	1.01700	1.00000	1.01700		?
16.313	BB	1.37557	1.00000	1.37557		?

Totals : 3.13184e4

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

==========

*** End of Report ***

SW-846 8015C GRO
Batch VXX5488

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 8015C GRO

Prep Method: SW-846 5035
Prep Batch: VXX5488
Prep Date: 01/30/2015 16:18

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
LCS for HBN 63869 [VXX/5488]	158234	01/30/2015 13:20	VGC2524	GC7	BWS
LCSD for HBN 63869 [VXX/5488]	158235	01/30/2015 13:49	VGC2524	GC7	BWS
MB for HBN 63869 [VXX/5488]	158236	01/30/2015 14:17	VGC2524	GC7	BWS
BT-SD-01	31500182008	01/30/2015 19:02	VGC2524	GC7	BWS
BT-SD-02	31500182009	01/30/2015 19:30	VGC2524	GC7	BWS
BT-SD-03	31500182010	01/30/2015 19:59	VGC2524	GC7	BWS
BT-SD-01(157965MS)	158237	01/30/2015 21:26	VGC2524	GC7	BWS
BT-SD-01(157965MSD)	158238	01/30/2015 21:55	VGC2524	GC7	BWS

Surrogate Summary Form 2

Analytical Method: SW-846 8015C GRO
Work Order: 31500182
Matrix: Soil

Analytical Batch: VGC2524

Results by **SW-846 8015C GRO**

BT-SD-01	98.6
BT-SD-01(157965MS)	101
BT-SD-01(157965MSD)	101
BT-SD-02	101
BT-SD-03	95.1
LCS for HBN 63869 [VXX/5488]	98.7
LCSD for HBN 63869 [VXX/5488]	99.8
MB for HBN 63869 [VXX/5488]	104

Control Limits

4-Bromofluorobenzene	70.0-130

Method Blank Summary **Form 4**

Blank ID: MB for HBN 63869 [VXX/5488]
Blank Lab ID: 158236
Prep Batch: VXX5488

Matrix: Soil-Solid as dry weight
Analysis Date/Time: 01/30/2015 14:17

Results by **SW-846 8015C GRO**

Client Sample ID	Lab Sample ID	Filename	Date Analyzed	Analyst
LCS for HBN 63869 [VXX/5488]	158234	005F0501.D	01/30/2015 13:20	BWS
LCSD for HBN 63869 [VXX/5488]	158235	006F0601.D	01/30/2015 13:49	BWS
BT-SD-01	31500182008	017F1701.D	01/30/2015 19:02	BWS
BT-SD-02	31500182009	018F1801.D	01/30/2015 19:30	BWS
BT-SD-03	31500182010	019F1901.D	01/30/2015 19:59	BWS
BT-SD-01(157965MS)	158237	022F2201.D	01/30/2015 21:26	BWS
BT-SD-01(157965MSD)	158238	023F2301.D	01/30/2015 21:55	BWS

Method Blank

Blank ID: MB for HBN 63869 [VXX/5488]
Blank Lab ID: 158236
QC for Samples:
31500182008, 31500182009, 31500182010

Matrix: Soil-Solid as dry weight

Results by **SW-846 8015C GRO**

Parameter	Result	Qual	LOQ/CL	Units	DF
Gasoline Range Organics (GRO)	ND		4.00	mg/kg	1
Surrogates					
4-Bromofluorobenzene	104		70.0-130	%	1

Batch Information

Analytical Batch: VGC2524
Analytical Method: SW-846 8015C GRO
Instrument: GC7
Analyst: BWS

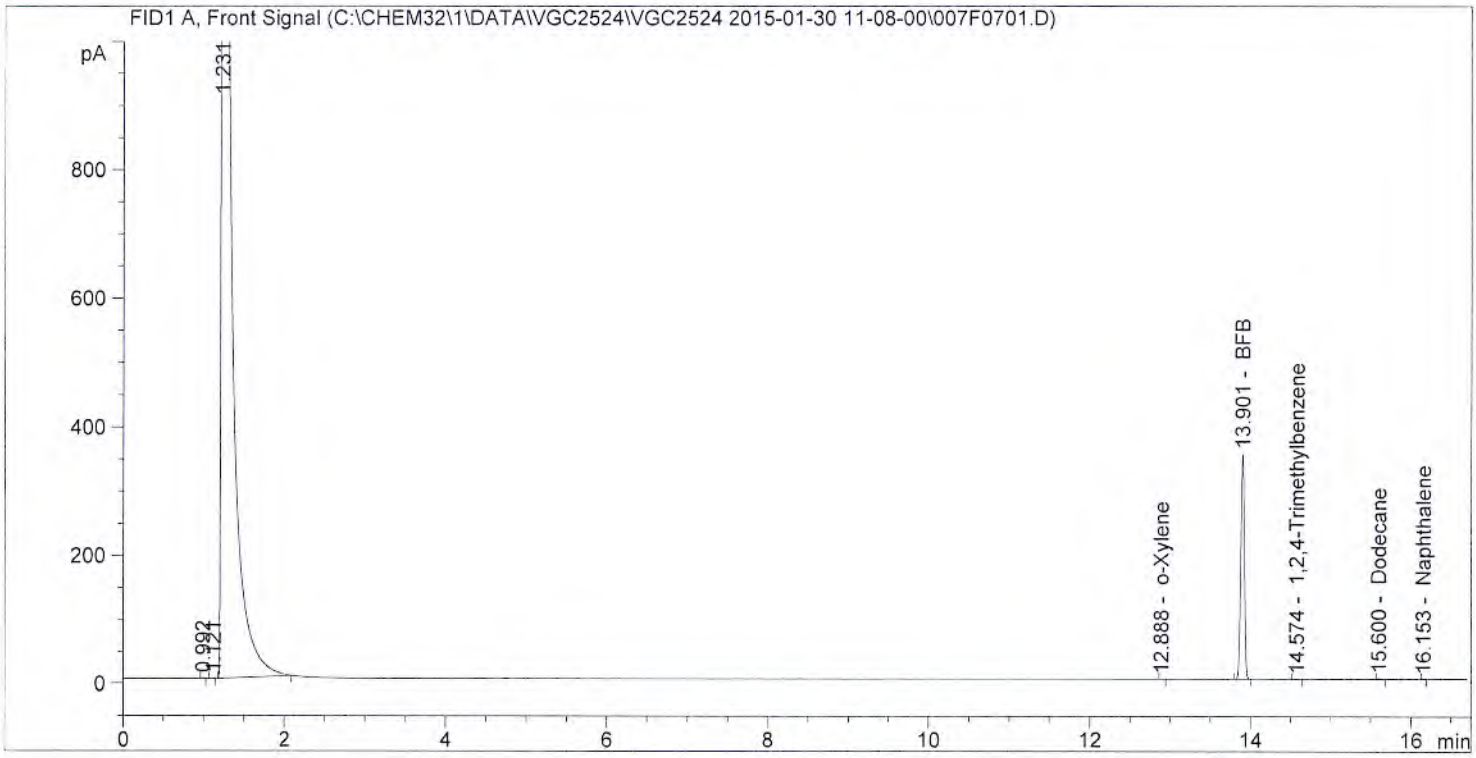
Prep Batch: VXX5488
Prep Method: SW-846 5035
Prep Date/Time: 1/30/2015 4:18:55PM
Prep Initial Wt./Vol.: 5 g
Prep Extract Vol: 5 mL

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\007F0701.D
Sample Name: 158195 MB 158236 158241

==========

Acq. Operator : BWS Seq. Line : 7
Acq. Instrument : GC7 Location : Vial 7
Injection Date : 1/30/2015 2:17:30 PM Inj : 1
Inj Volume : Manually
Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 1.30.15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.992	VV	1.88969	1.00000	1.88969		?
1.121	VV	1.07266	1.00000	1.07266		?
1.231	VB S	2.24615e4	1.00000	2.24615e4		?
1.706		-	-	-		n-Pentane
2.420		-	-	-		2-Methylpentane
2.726		-	-	-		MTBE

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\007F0701.D
Sample Name: 158195 MB 158236 158241

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.914		-	-	-		Hexane
4.713		-	-	-		2,2,4-Trimethylpentane
5.199		-	-	-		Benzene
8.406		-	-	-		Toluene
11.520		-	-	-		n-Nonane
11.722		-	-	-		EBenz
11.913		-	-	-		m,p-Xylene
12.888	VV	1.11616	2.83921	3.16900		o-Xylene
13.901	VV	1107.58008	6.50430e-2	72.04032		BFB
14.091		-	-	-		n-decane
14.574	VB	1.36476	7.99363e-1	1.09094		1,2,4-Trimethylbenzene
15.600	VV	4.80263	0.00000	0.00000		Dodecane
16.153	VV	1.45078	0.00000	0.00000		Naphthalene

Totals : 2.25408e4

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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*** End of Report ***

Blank Spike Summary

Blank Spike ID: LCS for HBN 63869 [VXX/5488]
Blank Spike Lab ID: 158234
Date Analyzed: 01/30/2015 13:20

QC for Samples: 31500182008, 31500182009, 31500182010

Spike Duplicate ID: LCSD for HBN 63869 [VXX/5488]
Spike Duplicate Lab ID: 158235
Date Analyzed: 01/30/2015 13:49
Matrix: Soil-Solid as dry weight

Results by **SW-846 8015C GRO**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics (GRO)	16.0	17.6	110	16.0	17.1	107	70.0-130	2.9	30.00
Surrogates									
4-Bromofluorobenzene			98.7			99.8	70.0-130		

Batch Information

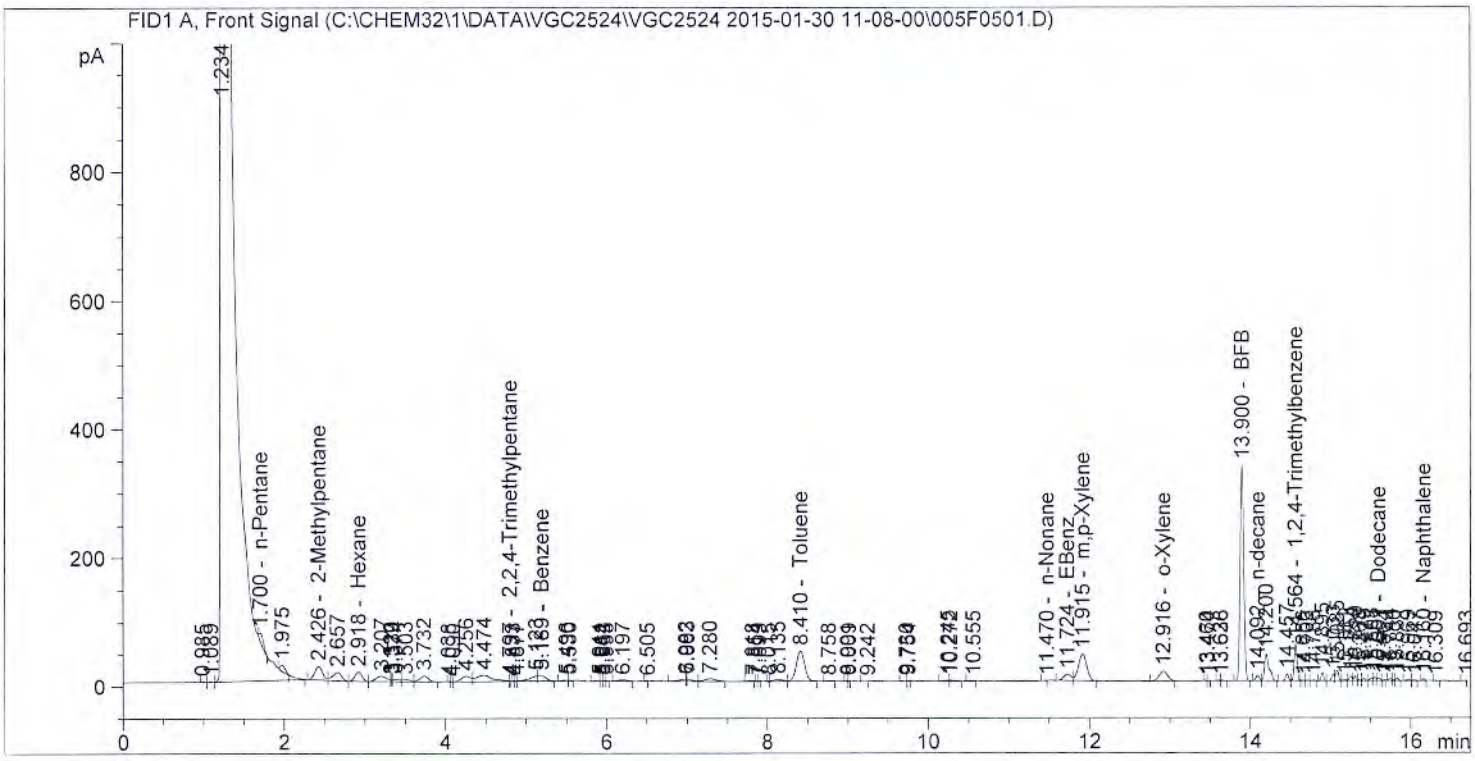
Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

Prep Batch: **VXX5488**
Prep Method: **SW-846 5035**
Prep Date/Time: **01/30/2015 16:18**
Spike Init Wt./Vol.: **5 g** Extract Vol: **5 mL**
Dupe Init Wt./Vol.: **5 g** Extract Vol: **5 mL**

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\005F0501.D
Sample Name: 158193 LCS 158234 158239

Acq. Operator	: BWS	Seq. Line :	5
Acq. Instrument	: GC7	Location :	Vial 5
Injection Date	: 1/30/2015 1:20:56 PM	Inj :	1
		Inj Volume :	Manually
Acq. Method	: C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M		
Last changed	: 11/26/2013 9:55:21 AM by BWS		
Analysis Method	: C:\CHEM32\1\DATA\VGC2524\VPH_FID.M		
Last changed	: 10/25/2013 8:39:51 AM by BWS		
Method Info	: VPH/5030 purge and trap analysis		

BWS 1-30-15



External Standard Report

Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.985	VV	1.66250	1.00000	1.66250		?
1.089	VV	2.84542	1.00000	2.84542		?
1.234	VB S	3.24056e4	1.00000	3.24056e4		?
1.700	BB X	55.45621	8.18849e-2	4.54102		n-Pentane
1.975	BB X	42.75853	1.00000	42.75853		?
2.426	BV	149.10278	5.94405e-2	8.86275		2-Methylpentane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\005F0501.D
Sample Name: 158193 LCS 158234 158239

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.657	VV	103.01945	1.00000	103.01945		?
2.726		-	-	-		MTBE
2.918	VV	92.23881	5.66259e-2	5.22311		Hexane
3.207	VV	80.77275	1.00000	80.77275		?
3.320	VV	2.23916	1.00000	2.23916		?
3.339	VV	3.46436	1.00000	3.46436		?
3.374	VV	20.16655	1.00000	20.16655		?
3.503	VV	22.72071	1.00000	22.72071		?
3.732	VV	71.65450	1.00000	71.65450		?
4.038	VV	1.43756	1.00000	1.43756		?
4.090	VV	1.07948	1.00000	1.07948		?
4.256	VV	74.03405	1.00000	74.03405		?
4.474	VV	144.93120	1.00000	144.93120		?
4.797	VV	1.27086	7.66488	9.74097		2,2,4-Trimethylpentane
4.833	VB	1.49348	1.00000	1.49348		?
4.877	BV	1.85617	1.00000	1.85617		?
5.123	VV	60.23997	1.00000	60.23997		?
5.189	VV	59.23701	4.19336e-2	2.48402		Benzene
5.496	VV	6.06621	1.00000	6.06621		?
5.530	VB	2.57018	1.00000	2.57018		?
5.911	VV	3.64984	1.00000	3.64984		?
5.944	VV	1.88866	1.00000	1.88866		?
5.962	VV	2.15956	1.00000	2.15956		?
5.995	VB	1.11142	1.00000	1.11142		?
6.197	VV	20.78206	1.00000	20.78206		?
6.505	VV	1.63982	1.00000	1.63982		?
6.982	VV	25.21301	1.00000	25.21301		?
6.993	VV	2.51724	1.00000	2.51724		?
7.003	VV	17.53789	1.00000	17.53789		?
7.280	VV	47.77417	1.00000	47.77417		?
7.818	VV	6.18251	1.00000	6.18251		?
7.854	VV	1.77446	1.00000	1.77446		?
7.895	VB	1.46723	1.00000	1.46723		?
8.015	VV	1.27028	1.00000	1.27028		?
8.135	VV	26.53969	1.00000	26.53969		?
8.410	VV	342.09430	5.01497e-2	17.15592		Toluene
8.758	VV	2.18594	1.00000	2.18594		?
8.991	VV	1.41303	1.00000	1.41303		?
9.009	VB	1.02510	1.00000	1.02510		?
9.242	VV	1.15681	1.00000	1.15681		?
9.730	VV	2.05658	1.00000	2.05658		?
9.754	VV	1.04659	1.00000	1.04659		?
10.245	VV	8.27628	1.00000	8.27628		?
10.272	VV	6.63745	1.00000	6.63745		?
10.555	VV	5.41511	1.00000	5.41511		?
11.470	VV	1.21581	2.00850	2.44195		n-Nonane
11.724	BV	67.85126	4.57717e-2	3.10567		EBenz
11.915	VV	302.37839	2.12258e-2	6.41823		m,p-Xylene
12.916	VV	116.08052	5.42365e-2	6.29580		o-Xylene
13.460	VV	1.33214	1.00000	1.33214		?
13.474	VV	1.82161	1.00000	1.82161		?
13.628	VV	3.87145	1.00000	3.87145		?
13.636	VV	3.51503	1.00000	3.51503		?
13.900	BB	1053.31360	6.50430e-2	68.51067		BFB
14.092	BV	27.31816	0.00000	0.00000		n-decane
14.200	VV	167.38589	1.00000	167.38589		?

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\005F0501.D
Sample Name: 158193

LCS 158234 158239

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
14.457	VV	29.12807	1.00000	29.12807		?
14.564	VV	140.97758	3.56207e-2	5.02172		1,2,4-Trimethylbenzene
14.656	VV	3.54651	1.00000	3.54651		?
14.703	VV	3.06465	1.00000	3.06465		?
14.786	VV	4.34863	1.00000	4.34863		?
14.895	VV	28.32450	1.00000	28.32450		?
15.033	VV	24.00175	1.00000	24.00175		?
15.085	VV	44.22081	1.00000	44.22081		?
15.181	VV	5.48489	1.00000	5.48489		?
15.254	VV	19.14079	1.00000	19.14079		?
15.310	VV	16.57644	1.00000	16.57644		?
15.368	VV	5.49343	1.00000	5.49343		?
15.419	VV	8.71523	1.00000	8.71523		?
15.508	VV	11.55796	1.00000	11.55796		?
15.551	VV	11.96609	1.00000	11.96609		?
15.601	VV	10.48135	0.00000	0.00000		Dodecane
15.664	VV	2.95977	1.00000	2.95977		?
15.744	VV	10.24719	1.00000	10.24719		?
15.780	VV	3.67851	1.00000	3.67851		?
15.831	VV	10.07390	1.00000	10.07390		?
15.969	VV	7.81530	1.00000	7.81530		?
16.047	VV	3.02676	1.00000	3.02676		?
16.160	VV	5.78205	0.00000	0.00000		Naphthalene
16.309	BV	1.00650	1.00000	1.00650		?
16.693	VBA	1.38683	1.00000	1.38683		?

Totals : 3.38148e4

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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*** End of Report ***

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\006F0601.D
Sample Name: 158194 LCS 158235 158240

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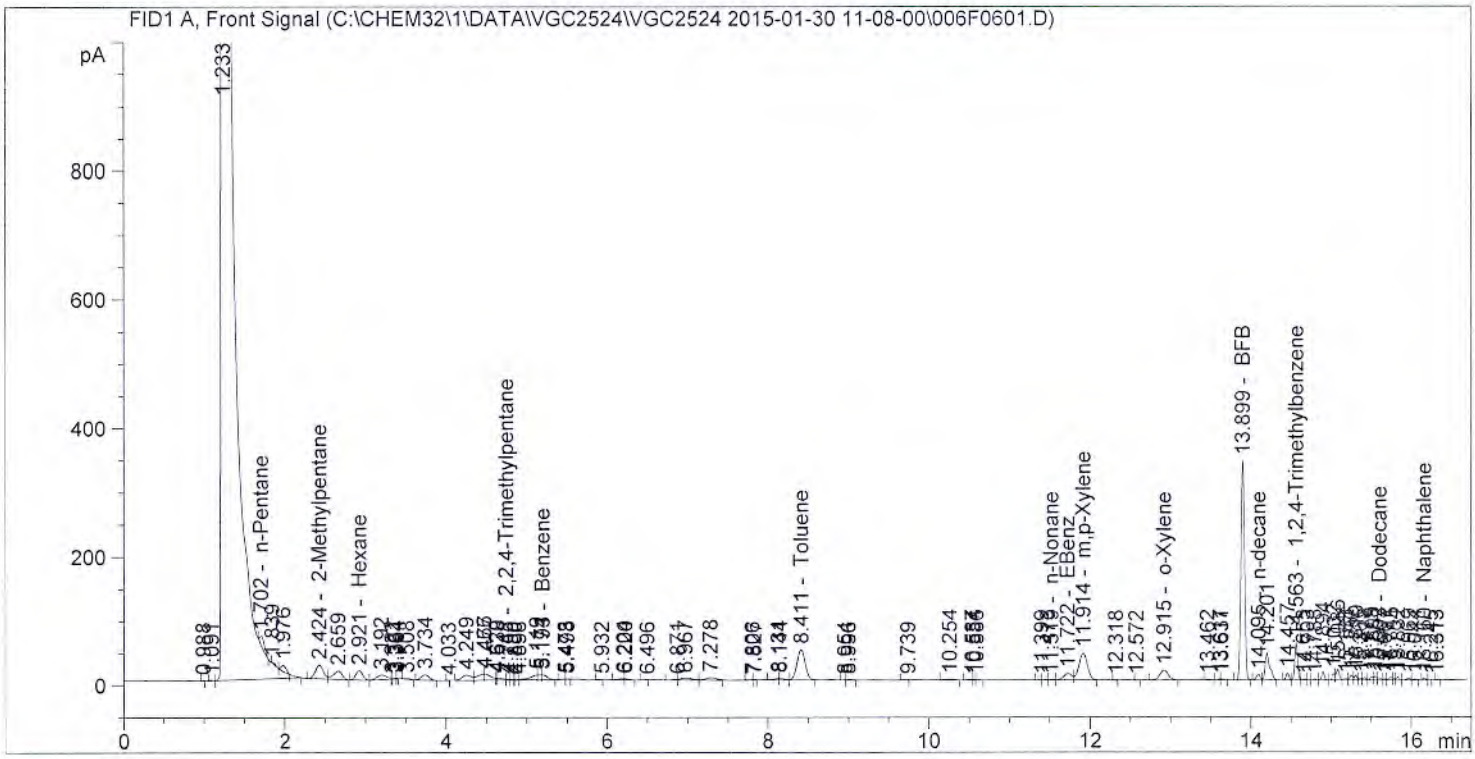
Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 1/30/2015 1:49:06 PM

Seq. Line : 6
Location : Vial 6
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 1-30-15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.988	BV	1.16337	1.00000	1.16337		?
1.091	VV	2.68298	1.00000	2.68298		?
1.233	VB S	2.99568e4	1.00000	2.99568e4		?
1.702	BB X	61.30750	7.80870e-2	4.78732		n-Pentane
1.839	BV X	6.35240	1.00000	6.35240		?
1.976	VB X	44.26519	1.00000	44.26519		?

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\006F0601.D
Sample Name: 158194 LCSD 158235 158240

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.424	BV	149.22073	5.94225e-2	8.86707		2-Methylpentane
2.659	VV	107.42527	1.00000	107.42527		?
2.726		-	-	-		MTBE
2.921	VV	92.19266	5.66349e-2	5.22132		Hexane
3.192	VV	66.67456	1.00000	66.67456		?
3.322	VV	1.15215	1.00000	1.15215		?
3.361	VV	3.35802	1.00000	3.35802		?
3.384	VV	1.78805	1.00000	1.78805		?
3.508	BV	7.43008	1.00000	7.43008		?
3.734	VV	64.65138	1.00000	64.65138		?
4.033	VV	1.08292	1.00000	1.08292		?
4.249	BV	72.83209	1.00000	72.83209		?
4.466	VV	61.26942	1.00000	61.26942		?
4.477	VV	58.16017	1.00000	58.16017		?
4.620	VV	3.20775	1.00000	3.20775		?
4.638	VV	15.11006	1.00000	15.11006		?
4.742	VV	4.41900	2.22497	9.83217		2,2,4-Trimethylpentane
4.799	VB	2.05787	1.00000	2.05787		?
4.850	BV	1.24748	1.00000	1.24748		?
4.898	VV	2.93929	1.00000	2.93929		?
5.119	VV	52.77477	1.00000	52.77477		?
5.174	VV	24.06302	1.00000	24.06302		?
5.193	VV	38.53497	4.99894e-2	1.92634		Benzene
5.473	BV	2.07967	1.00000	2.07967		?
5.498	VB	1.52283	1.00000	1.52283		?
5.932	VV	2.69474	1.00000	2.69474		?
6.204	BV	12.27504	1.00000	12.27504		?
6.220	VB	7.96452	1.00000	7.96452		?
6.496	VV	1.86890	1.00000	1.86890		?
6.871	VV	6.28213	1.00000	6.28213		?
6.967	VV	38.91164	1.00000	38.91164		?
7.278	VV	44.20182	1.00000	44.20182		?
7.806	VV	2.37531	1.00000	2.37531		?
7.827	VV	1.80468	1.00000	1.80468		?
8.131	BV	10.62616	1.00000	10.62616		?
8.144	VB	10.95873	1.00000	10.95873		?
8.411	BV	337.62061	5.04711e-2	17.04010		Toluene
8.954	BV	1.40117	1.00000	1.40117		?
8.996	VV	4.80419	1.00000	4.80419		?
9.739	VV	2.02961	1.00000	2.02961		?
10.254	VV	15.47628	1.00000	15.47628		?
10.537	VV	4.70386	1.00000	4.70386		?
10.554	VV	2.39775	1.00000	2.39775		?
10.586	VV	2.40511	1.00000	2.40511		?
11.399	VV	2.27275	1.00000	2.27275		?
11.473	VV	4.19803	1.00000	4.19803		?
11.519	VV	6.14365	4.22617e-1	2.59641		n-Nonane
11.722	VV	77.32890	4.37519e-2	3.38328		EBenz
11.914	VV	308.98346	2.10693e-2	6.51005		m,p-Xylene
12.318	VV	1.36790	1.00000	1.36790		?
12.572	VB	1.07427	1.00000	1.07427		?
12.915	VV	116.59335	5.41176e-2	6.30975		o-Xylene
13.462	VV	2.68964	1.00000	2.68964		?
13.617	VV	3.04827	1.00000	3.04827		?
13.631	VB	4.30566	1.00000	4.30566		?
13.899	BV	1064.81934	6.50430e-2	69.25903		BFB

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\006F0601.D
Sample Name: 158194 LISD 158235 158240

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
14.095	VV	27.37554	0.00000	0.00000		n-decane
14.201	VV	167.51431	1.00000	167.51431		?
14.457	VV	28.07733	1.00000	28.07733		?
14.563	VV	140.74162	3.56332e-2	5.01508		1,2,4-Trimethylbenzene
14.653	VV	3.94845	1.00000	3.94845		?
14.703	VV	2.04485	1.00000	2.04485		?
14.788	VV	3.97605	1.00000	3.97605		?
14.894	VV	28.45678	1.00000	28.45678		?
15.032	VV	23.78119	1.00000	23.78119		?
15.086	VV	43.63340	1.00000	43.63340		?
15.188	VV	5.49850	1.00000	5.49850		?
15.255	VV	19.46721	1.00000	19.46721		?
15.310	VV	16.63749	1.00000	16.63749		?
15.365	VV	5.14340	1.00000	5.14340		?
15.418	VV	9.11207	1.00000	9.11207		?
15.508	VV	11.60403	1.00000	11.60403		?
15.552	VV	12.14525	1.00000	12.14525		?
15.603	VV	8.91239	0.00000	0.00000		Dodecane
15.667	VV	2.77984	1.00000	2.77984		?
15.745	VV	11.36437	1.00000	11.36437		?
15.784	VV	3.77088	1.00000	3.77088		?
15.832	VV	10.22915	1.00000	10.22915		?
15.969	VV	8.19831	1.00000	8.19831		?
16.044	VV	3.56993	1.00000	3.56993		?
16.160	VV	5.88530	0.00000	0.00000		Naphthalene
16.245	VV	1.01700	1.00000	1.01700		?
16.313	BB	1.37557	1.00000	1.37557		?

Totals : 3.13184e4

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

==========

*** End of Report ***

Matrix Spike Summary

Original Sample ID: 31500182008 (BT-SD-01)
MS Sample ID: 158237
MSD Sample ID: 158238

QC for Samples: 31500182008, 31500182009, 31500182010

Analysis Date: 01/30/2015 19:02
Analysis Date: 01/30/2015 21:26
Analysis Date: 01/30/2015 21:55
Matrix: Soil-Solid as dry weight

Results by **SW-846 8015C GRO**

		Matrix Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics (GRO)	ND	22.6	26.9	119	22.6	24.8	110	70.0-130	7.6	30.00

Batch Information

Analytical Batch: **VGC2524**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **BWS**

Prep Batch: **VXX5488**
Prep Method: **SW-846 5035**
Prep Date/Time: **01/30/2015 16:18**
MS Init Wt./Vol.: **5.85 g** Extract Vol.: **5 mL**
MSD Init Wt./Vol.: **5.85 g** Extract Vol.: **5 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\022F2201.D
Sample Name: MS 158237 0182-8C

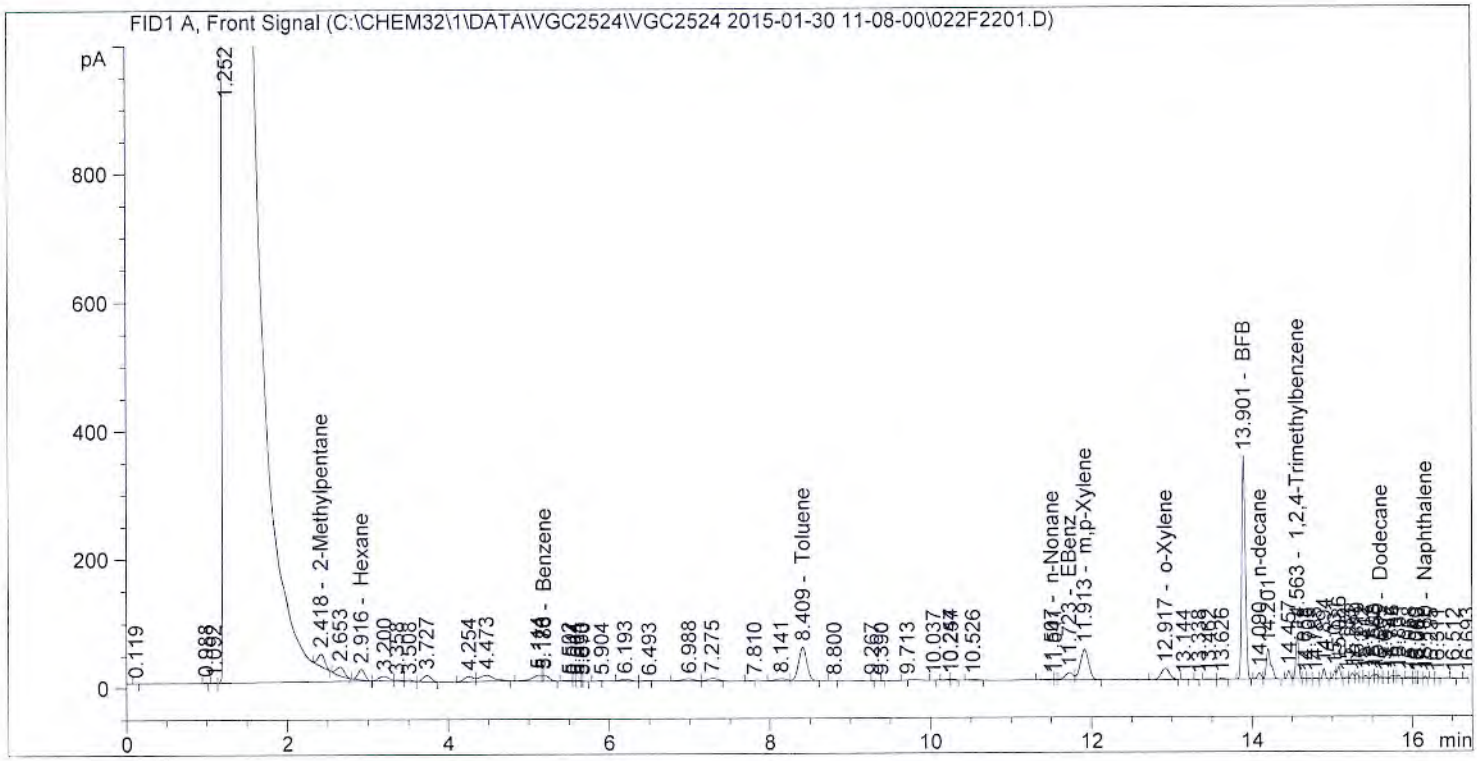
==========

Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 1/30/2015 9:26:23 PM

Seq. Line : 22
Location : Vial 22
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 2-2-15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.119	VV	1.00688	1.00000	1.00688		?
0.988	VV	3.83621	1.00000	3.83621		?
1.092	VV	3.46660	1.00000	3.46660		?
1.252	VB S	2.39269e5	1.00000	2.39269e5		?
1.706		-	-	-		n-Pentane
2.418	BB X	115.87563	6.59884e-2	7.64645		2-Methylpentane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\022F2201.D
Sample Name: MS 158237 0182-8C

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.653	BB X	92.40430	1.00000	92.40430		?
2.726		-	-	-		MTBE
2.916	BB T	100.06151	5.52229e-2	5.52569		Hexane
3.200	BV	70.13464	1.00000	70.13464		?
3.358	VV	16.76049	1.00000	16.76049		?
3.508	VV	16.43753	1.00000	16.43753		?
3.727	VV	81.01315	1.00000	81.01315		?
4.254	BV	70.82041	1.00000	70.82041		?
4.473	VB	128.10593	1.00000	128.10593		?
4.713		-	-	-		2,2,4-Trimethylpentane
5.114	BV	80.14668	1.00000	80.14668		?
5.170	VV	13.48717	1.00000	13.48717		?
5.186	VB	45.22722	4.65786e-2	2.10662		Benzene
5.502	BV	11.09939	1.00000	11.09939		?
5.544	VB	2.94976	1.00000	2.94976		?
5.604	BV	5.70747	1.00000	5.70747		?
5.650	VV	1.39908	1.00000	1.39908		?
5.670	VV	2.52382	1.00000	2.52382		?
5.904	VV	2.08749	1.00000	2.08749		?
6.193	VV	27.97815	1.00000	27.97815		?
6.493	VV	3.12613	1.00000	3.12613		?
6.988	VV	44.52347	1.00000	44.52347		?
7.275	VV	40.34140	1.00000	40.34140		?
7.810	BV	2.15826	1.00000	2.15826		?
8.141	VV	31.25908	1.00000	31.25908		?
8.409	VV	376.28955	4.79450e-2	18.04122		Toluene
8.800	VV	2.00376	1.00000	2.00376		?
9.267	VV	1.29576	1.00000	1.29576		?
9.390	VV	1.06436	1.00000	1.06436		?
9.713	VV	1.87361	1.00000	1.87361		?
10.037	BV	1.01584	1.00000	1.01584		?
10.244	VV	8.14862	1.00000	8.14862		?
10.257	VV	8.09330	1.00000	8.09330		?
10.526	BV	10.82798	1.00000	10.82798		?
11.507	VV	14.35431	1.98810e-1	2.85377		n-Nonane
11.541	VV	3.35168	1.00000	3.35168		?
11.723	VV	86.06255	4.22844e-2	3.63911		EBenz
11.913	VV	350.15152	2.02266e-2	7.08236		m,p-Xylene
12.917	VV	136.19337	5.02435e-2	6.84283		o-Xylene
13.144	BB	3.08420	1.00000	3.08420		?
13.338	VV	1.54544	1.00000	1.54544		?
13.462	VV	6.79068	1.00000	6.79068		?
13.626	VV	10.37680	1.00000	10.37680		?
13.901	BV	1080.83826	6.50430e-2	70.30095		BFB
14.090	VV	34.72192	0.00000	0.00000		n-decane
14.201	VB	191.51686	1.00000	191.51686		?
14.457	VV	33.53953	1.00000	33.53953		?
14.563	VV	164.73898	3.45439e-2	5.69072		1,2,4-Trimethylbenzene
14.658	VV	5.58213	1.00000	5.58213		?
14.705	VV	4.73778	1.00000	4.73778		?
14.785	VV	6.17174	1.00000	6.17174		?
14.894	VV	36.94857	1.00000	36.94857		?
15.031	VV	31.71137	1.00000	31.71137		?
15.086	VV	51.15547	1.00000	51.15547		?
15.184	VV	7.55300	1.00000	7.55300		?
15.252	VV	23.07183	1.00000	23.07183		?

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\022F2201.D
Sample Name: MS 158237 0182-8C

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
15.310	VV	19.47235	1.00000	19.47235		?
15.372	VV	8.21531	1.00000	8.21531		?
15.417	VV	12.78917	1.00000	12.78917		?
15.508	VV	14.38024	1.00000	14.38024		?
15.550	VV	15.80499	1.00000	15.80499		?
15.605	VV	8.69434	0.00000	0.00000		Dodecane
15.657	VV	7.44478	1.00000	7.44478		?
15.746	VV	11.99395	1.00000	11.99395		?
15.784	VV	9.40289	1.00000	9.40289		?
15.831	VV	13.01120	1.00000	13.01120		?
15.958	VV	12.41366	1.00000	12.41366		?
16.040	VV	2.91473	1.00000	2.91473		?
16.050	VV	1.98154	1.00000	1.98154		?
16.069	VB	2.94720	1.00000	2.94720		?
16.160	BV	6.74579	0.00000	0.00000		Naphthalene
16.235	VV	1.61630	1.00000	1.61630		?
16.311	VV	1.41484	1.00000	1.41484		?
16.512	BV	1.50801	1.00000	1.50801		?
16.693	BBA	1.70851	1.00000	1.70851		?

Totals : 2.40742e5

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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*** End of Report ***

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\023F2301.D
Sample Name: MSD 158238 0182-8C

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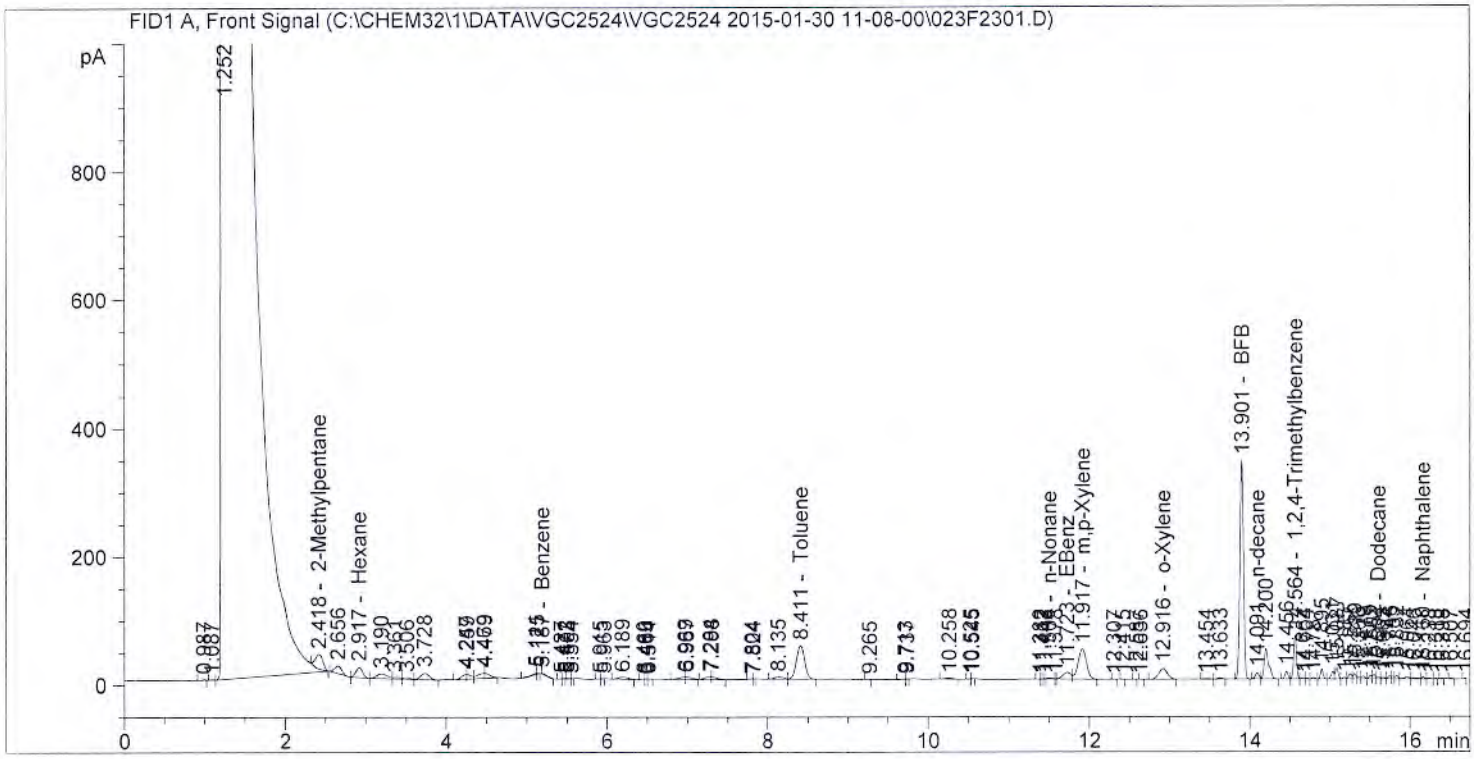
Acq. Operator : BWS
Seq. Line : 23
Acq. Instrument : GC7
Location : Vial 23
Injection Date : 1/30/2015 9:55:06 PM
Inj : 1
Inj Volume : Manually
Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS 2.2.15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.987	VV	3.59644	1.00000	3.59644		?
1.087	VV	3.25412	1.00000	3.25412		?
1.252	VB S	2.33599e5	1.00000	2.33599e5		?
1.706		-	-	-		n-Pentane
2.418	BB X	138.74593	6.11451e-2	8.48363		2-Methylpentane
2.656	BV	69.89146	1.00000	69.89146		?

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\023F2301.D
Sample Name: MSD 158238 0182-8C

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.726		-	-	-		MTBE
2.917	VV	100.72918	5.51132e-2	5.55151		Hexane
3.190	VV	76.80634	1.00000	76.80634		?
3.361	VV	18.21703	1.00000	18.21703		?
3.506	VV	19.29537	1.00000	19.29537		?
3.728	VV	83.86350	1.00000	83.86350		?
4.247	VV	32.41345	1.00000	32.41345		?
4.259	VV	31.32934	1.00000	31.32934		?
4.469	VV	53.52753	1.00000	53.52753		?
4.479	VV	40.86881	1.00000	40.86881		?
4.713		-	-	-		2,2,4-Trimethylpentane
5.111	VV	3.06843	1.00000	3.06843		?
5.125	VB	3.23334	1.00000	3.23334		?
5.187	BB	1.79317	5.22302e-1	9.36575e-1		Benzene
5.427	BV	1.21743	1.00000	1.21743		?
5.472	VV	2.61369	1.00000	2.61369		?
5.503	VV	3.52312	1.00000	3.52312		?
5.554	VB	1.02075	1.00000	1.02075		?
5.915	VV	2.15998	1.00000	2.15998		?
5.963	VV	2.02380	1.00000	2.02380		?
6.189	VV	29.12494	1.00000	29.12494		?
6.460	VV	1.43344	1.00000	1.43344		?
6.485	VV	1.41279	1.00000	1.41279		?
6.514	VB	1.49063	1.00000	1.49063		?
6.969	VV	22.72769	1.00000	22.72769		?
6.987	VV	24.03839	1.00000	24.03839		?
7.284	VV	27.39285	1.00000	27.39285		?
7.298	VV	23.13601	1.00000	23.13601		?
7.804	VV	2.87744	1.00000	2.87744		?
7.824	VV	1.09767	1.00000	1.09767		?
8.135	VV	33.05912	1.00000	33.05912		?
8.411	VV	382.85968	4.75666e-2	18.21132		Toluene
9.265	VV	1.09200	1.00000	1.09200		?
9.713	VV	2.88945	1.00000	2.88945		?
9.737	VV	1.89107	1.00000	1.89107		?
10.258	VV	14.94156	1.00000	14.94156		?
10.525	VV	1.39418	1.00000	1.39418		?
10.545	VB	1.04192	1.00000	1.04192		?
11.382	BV	1.06611	1.00000	1.06611		?
11.412	VV	1.08416	1.00000	1.08416		?
11.442	VV	1.74940	1.00000	1.74940		?
11.504	VV	11.71716	2.36500e-1	2.77111		n-Nonane
11.578	VB	1.14707	1.00000	1.14707		?
11.723	BV	82.92160	4.27766e-2	3.54710		EBenz
11.917	VB	348.96628	2.02480e-2	7.06588		m,p-Xylene
12.307	VV	1.54915	1.00000	1.54915		?
12.415	VV	1.19892	1.00000	1.19892		?
12.587	VV	1.09289	1.00000	1.09289		?
12.636	VV	1.03854	1.00000	1.03854		?
12.916	VV	135.80382	5.03096e-2	6.83224		o-Xylene
13.454	VV	6.92181	1.00000	6.92181		?
13.633	VV	8.80457	1.00000	8.80457		?
13.901	BB	1076.44934	6.50430e-2	70.01548		BFB
14.091	BV	32.96293	0.00000	0.00000		n-decane
14.200	VV	192.44835	1.00000	192.44835		?
14.456	VV	34.25781	1.00000	34.25781		?

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\023F2301.D
Sample Name: MSD 158238 0182-8<

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
14.564	VV	166.23982	3.44862e-2	5.73298		1,2,4-Trimethylbenzene
14.664	VV	6.12679	1.00000	6.12679		?
14.704	VV	4.31174	1.00000	4.31174		?
14.787	VV	6.36590	1.00000	6.36590		?
14.895	VV	37.64880	1.00000	37.64880		?
15.031	VV	32.61655	1.00000	32.61655		?
15.087	VV	51.56019	1.00000	51.56019		?
15.185	VV	7.52150	1.00000	7.52150		?
15.255	VV	23.00379	1.00000	23.00379		?
15.310	VV	19.69953	1.00000	19.69953		?
15.366	VV	8.71442	1.00000	8.71442		?
15.419	VV	12.70639	1.00000	12.70639		?
15.509	VV	14.19209	1.00000	14.19209		?
15.552	VV	16.33289	1.00000	16.33289		?
15.604	VV	9.39086	0.00000	0.00000		Dodecane
15.662	VV	7.42328	1.00000	7.42328		?
15.746	VV	11.91980	1.00000	11.91980		?
15.785	VV	9.02066	1.00000	9.02066		?
15.832	VV	12.76024	1.00000	12.76024		?
15.964	VV	14.14717	1.00000	14.14717		?
16.046	VV	8.08841	1.00000	8.08841		?
16.160	VV	7.77500	0.00000	0.00000		Naphthalene
16.238	VV	2.26261	1.00000	2.26261		?
16.318	VV	1.50795	1.00000	1.50795		?
16.398	VV	1.17272	1.00000	1.17272		?
16.507	BV	1.65441	1.00000	1.65441		?
16.694	VBA	1.27177	1.00000	1.27177		?

Totals : 2.34936e5

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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*** End of Report ***

SW-846 8015C GRO
Prep, Standard, Run Logs

Print Date: 02/06/2015

N.C. Certification # 481

SGS North America - Wilmington

GC7 Runlog

Method: 8015-GRO

Matrix: Soil/Water

Initial Cal. Curve: VGC2442

Batch: VGC2524 / VGC2525 DoD

Vxx 5486 (w)
Vxx 5488 (s) Vxx 5489 (DoD)

FILENAME	SAMPLE ID / DILUTION	DATE / TIME	COMMENTS	FNT	BACK	SR QC	OPER	RERUN
001F0101.D	R	30-Jan-15, 11:28:19					BWS	
002F0201.D	RTCHK	30-Jan-15, 11:56:31	✓				BWS	
003F0301.D	R	30-Jan-15, 12:24:31					BWS	
004F0401.D	ICV	30-Jan-15, 12:52:44	✓				BWS	
005F0501.D (D)	158239 158193 LCS	30-Jan-15, 13:20:56	✓				BWS	
006F0601.D	158240 158194 LCSD	30-Jan-15, 13:49:06	✓				BWS	
007F0701.D	158241 158195 MB	30-Jan-15, 14:17:30	✓	pH			BWS	
008F0801.D	0182_11 x10 E	30-Jan-15, 14:46:56	✓ GRO-W	✓			BWS	
009F0901.D	0182_12 x10 E	30-Jan-15, 15:15:13	✓	✓			BWS	
010F1001.D	0182_1 E	30-Jan-15, 15:43:38	✓	✓			BWS	
011F1101.D	0182_2 E	30-Jan-15, 16:12:11	✓	✓			BWS	
012F1201.D	0182_3 E	30-Jan-15, 16:40:34	✓	✓			BWS	
013F1301.D	0182_4 E	30-Jan-15, 17:09:01	✓	✓			BWS	
014F1401.D	0182_5 E	30-Jan-15, 17:37:19	✓	✓			BWS	
015F1501.D	0182_6 E	30-Jan-15, 18:05:45	✓	✓			BWS	
016F1601.D	0182_7 E	30-Jan-15, 18:34:02	✓	✓			BWS	
017F1701.D	0182_8 ~~E~~ C	30-Jan-15, 19:02:18	✓ GRO-S	N/A			BWS	
018F1801.D	0182_9 ~~E~~ C	30-Jan-15, 19:30:42	✓				BWS	
019F1901.D	0182_10 ~~E~~ C	30-Jan-15, 19:59:36	✓				BWS	
020F2001.D	0172_1 D	30-Jan-15, 20:28:18	✓ GRO-W	✓			BWS	
021F2101.D	0178_1 B	30-Jan-15, 20:57:24	✓ DoD GRO-S	N/A			BWS	
022F2201.D	0182-8c MS 158237	30-Jan-15, 21:26:23	✓	N/A			BWS	
023F2301.D	MSD 158238	30-Jan-15, 21:55:06	✓				BWS	

Review Analyst: JHL

Standards: Curve =GRO-v11-63A VPH-v11-57A QC = GRO-v11-63B
VPH-v11-57B

Page Number: 1/5

SGS North America - Wilmington

GC7 Runlog

Method: **8015-GRO**

Initial Cal. Curve: VGC2442

Matrix: Soil/Water

Batch: **VGC2524**

FILENAME	SAMPLE ID / DILUTION	DATE / TIME	COMMENTS	FNT	BACK	SR QC	OPER	RERUN
024F2401.D	ICV	30-Jan-15, 22:23:40	✓				BWS	
025F2501.D	ICV	30-Jan-15, 22:52:22	Did not use this run				BWS	

BWS 2-2-15

Review Analyst: JHL

Standards: Curve =GRO-v11-63A VPH-v11-57A QC = GRO-v11-63B VPH-v11-57B

Page Number: 116

VXX 5486 (GRO-W) VXX 5488 (S)
VGC 2524

VXX 5489] DOD SOIL
VGC 2525

Sequence Pullsheet

SGS Environmental Laboratories, Inc.

Instrument: GC 7 Date: 013015

LOC	#	Sample ID	EXT	Dilution	Comment	pH
	1	R				
	2	RTCHK			✓	
	3	R				
	4	ICV			✓	
158234 (S)	5	(W) 158193	LCS	158239	(D) ✓	
158235	6	158194	LCSD	158240	✓	
158236	7	158195	MB	158241		
	8	0182-11 E		X10	GRO-W	
	9	-12 E		X10		
	10	0182-1 E				
	11	-2 E				
	12	-3 E				
	13	-4 E				
	14	-5 E				
	15	-6 E				
	16	-7 E				
	17	-8 C	5.85		GRO-S	
	18	-9 C	6.13			
	19	-10 C	5.79			
	20	0172-1 D			GRO-W	
	21	0178-1 B	5.14		DOD GRO-S	
	22	0182-8C	MS		158237	
	23		MSD		158238	
	24	ICV				
	25	ICV				

LOC	#	Sample ID	EXT	Dilution	Comment	pH
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					
	45					
	46					
	47					
	48					
	49					
	50					
	51					

VO45.082007.3

Weekend Refridgerator Check:_____
Weekend Balance Check:_____

SW-846 8015C GRO
Initial Calibration Data

Print Date: 02/06/2015

N.C. Certification # 481

SGS North America - Wilmington

GC7 Runlog

Method: 8015-GRO

Matrix: Soil/Water

Initial Cal. Curve: VGC2308

Batch: **VGC2442**

FILENAME	SAMPLE ID / DILUTION	DATE / TIME	COMMENTS	FNT	BACK	SR QC	OPER	RERUN
001F0101.D	R	11-Sep-14, 17:29:38					BWS	
002F0201.D	RTCHK	11-Sep-14, 17:58:09	✓				BWS	
003F0301.D	R	11-Sep-14, 18:26:11					BWS	
004F0401.D	G50	11-Sep-14, 18:53:53	Curve Pass				BWS	
005F0501.D	G125	11-Sep-14, 19:21:43					BWS	
006F0601.D	G200	11-Sep-14, 19:49:08					BWS	
007F0701.D	G350	11-Sep-14, 20:16:58					BWS	
008F0801.D	G500	11-Sep-14, 20:45:20	✓				BWS	
009F0901.D	R	11-Sep-14, 21:13:40					BWS	
010F1001.D	ICV	11-Sep-14, 21:41:25	✓				BWS	

BWS 9.15.14

Standards: Curve =GRO-v11-63A VPH-v11-57A QC = GRO-v11-63B
VPH-v11-57B

Analyst: BWS

Page Number: 39

~~VXX~~

VGC 2442

Sequence Pullsheet

SGS Environmental Laboratories, Inc.

Instrument: GC7 Date: 091114

LOC	#	Sample ID	EXT	Dilution	Comment	pH
	1	R				
	2	RTCHK				
	3	R				
	4	G 50			GRO ICAL	
	5	G 125				
	6	G 200				
	7	G 350				
	8	G 500				
	9	R				
	10	ICV	200			
	11					
	12					
	13					
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					

LOC	#	Sample ID	EXT	Dilution	Comment	pH
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39					
	40					
	41					
	42					
	43					
	44					
	45					
	46					
	47					
	48					
	49					
	50					
	51					

Weekend Refridgerator Check:_____

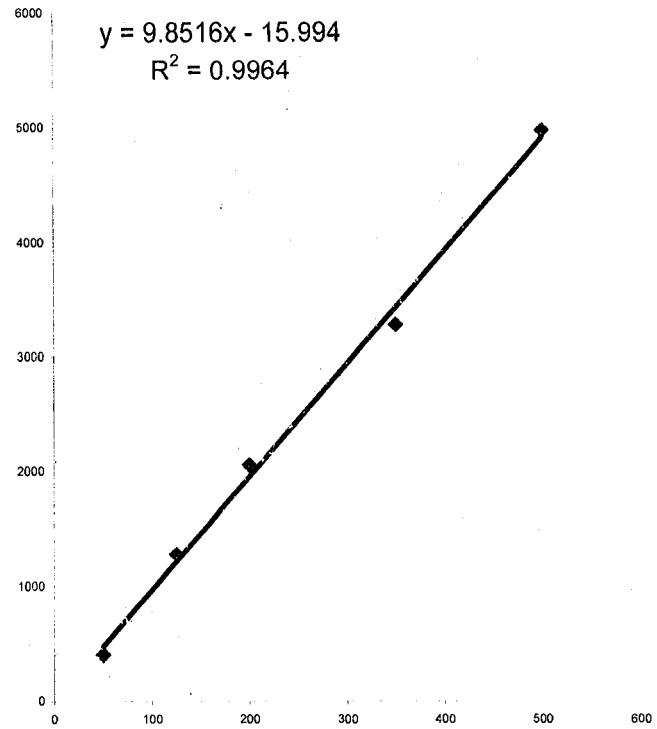
Weekend Balance Check:_____

VO45.082007.3

Batch VGC2442
Curve VGC2442

Start

filename	labid	GRO Area	BFB Area	GRO ug/L occ	BFB %
002F0201.D	RTCHK	43961.02	1065.837	4463.947	99.91149
004F0401.D	G50	406.1094	1049.887	42.84622	98.41633
005F0501.D	G125	1279.99	1132.369	131.5507	106.1482
006F0601.D	G200	2056.032	1061.456	210.3239	99.50083
007F0701.D	G350	3278.743	1036.462	334.4369	97.15785
008F0801.D	G500	4967.36	1053.733	505.8423	98.77681
010F1001.D	ICV	2382.067	1070.486	243.4185	100.3472



Curve Calculations

TYPE							
GRO	VGC2442	50	125	200	350	500	
		406.10936	1279.98971	2056.0318	3278.74314	4967.36	

GRO-M	9.851596626
GRO-B	-15.99433348
GRO-R^2	0.996

GRO_SS	VGC2442	1049.86708	1132.33902	1061.4563	1036.46191	1053.733	

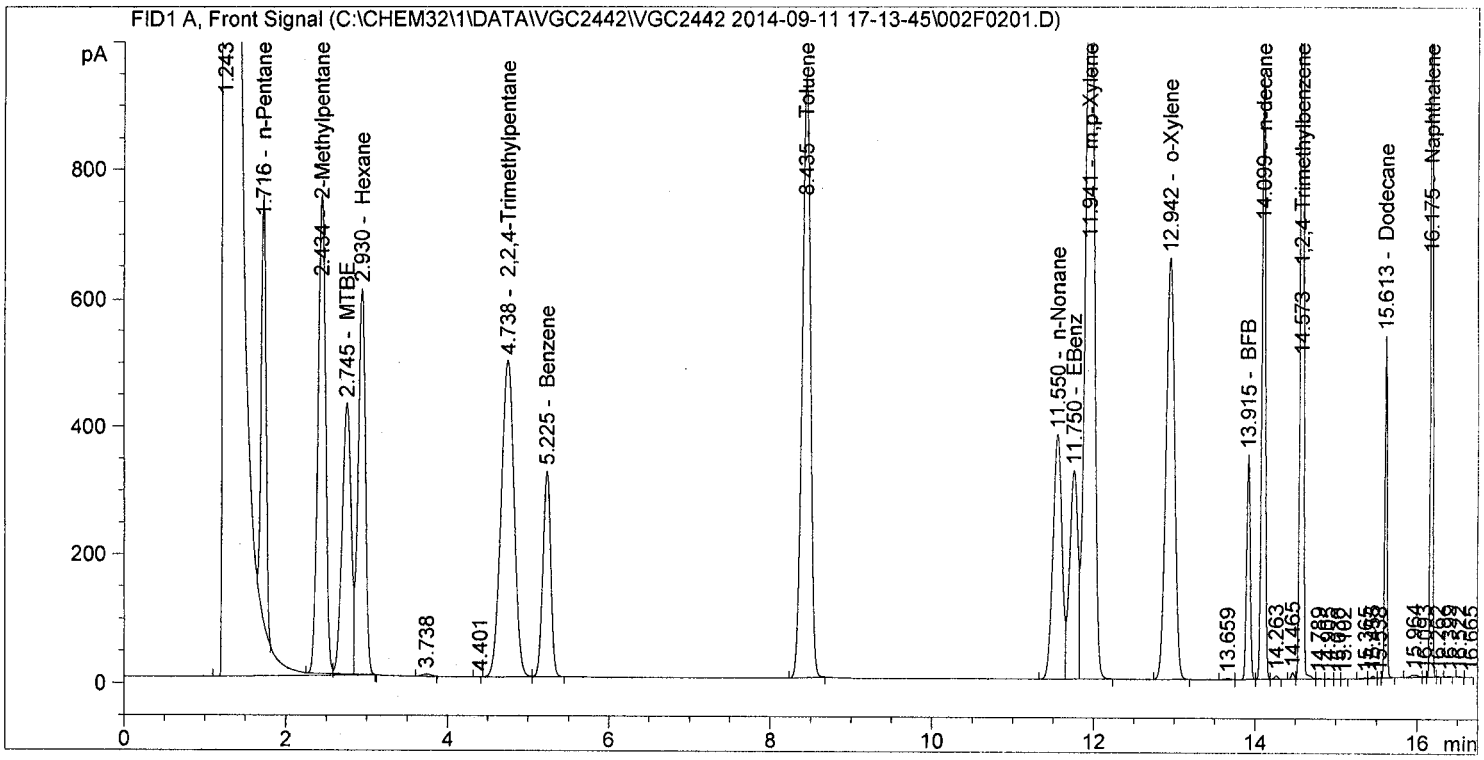
AVG_RF	10.66781396	
SURR Conc	100	ug/L

prepunits g

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\002F0201.D
Sample Name: RTCHK

Acq. Operator	: BWS	Seq. Line :	2
Acq. Instrument	: GC7	Location :	Vial 2
Injection Date	: 9/11/2014 5:58:09 PM	Inj :	1
		Inj Volume :	Manually
Acq. Method	: C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\GAS6.M		
Last changed	: 11/26/2013 9:55:21 AM by BWS		
Analysis Method	: C:\CHEM32\1\DATA\VGC2443\VPH_FID.M		
Last changed	: 10/25/2013 8:39:51 AM by BWS		
Method Info	: VPH/5030 purge and trap analysis		

BWS
9.15.14



External Standard Report

Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.243	VB S	1.03944e5	1.00000	1.03944e5		?
1.716	BB X	2705.30542	4.29084e-2	116.08038		n-Pentane
2.434	BV X	4882.63916	3.73030e-2	182.13705		2-Methylpentane
2.745	VV X	3220.80835	5.12815e-2	165.16791		MTBE
2.930	VB X	3782.82373	3.91169e-2	147.97242		Hexane
3.738	BV	28.04067	1.00000	28.04067		?

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\002F0201.D
Sample Name: RTCHK

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
4.401	BV	1.30522	1.00000	1.30522		?
4.738	VV	5497.86182	3.07337e-2	168.96937		2,2,4-Trimethylpentane
5.225	VB	2146.43091	2.73522e-2	58.70966		Benzene
8.435	VB	6645.92285	2.71383e-2	180.35912		Toluene
11.550	BV	2911.48242	3.21706e-2	93.66402		n-Nonane
11.750	VV	2264.66626	2.97855e-2	67.45414		EBenz
11.941	VB	9693.62012	1.41303e-2	136.97364		m,p-Xylene
12.942	BB	4857.04492	2.78442e-2	135.24056		o-Xylene
13.659	VV	10.15291	1.00000	10.15291		?
13.915	VV	1065.83716	6.50430e-2	69.32524		BFB
14.099	VV	2858.78662	3.52767e-2	100.84847		n-decane
14.263	VV	17.58199	1.00000	17.58199		?
14.465	BV	24.48638	1.00000	24.48638		?
14.573	VV	5282.52734	2.83542e-2	149.78157		1,2,4-Trimethylbenzene
14.789	VV	4.65489	1.00000	4.65489		?
14.905	VV	3.44083	1.00000	3.44083		?
15.030	VV	1.21906	1.00000	1.21906		?
15.102	VV	1.33941	1.00000	1.33941		?
15.365	BV	3.88876	1.00000	3.88876		?
15.455	VV	9.68517	1.00000	9.68517		?
15.538	VV	1.40209	1.00000	1.40209		?
15.613	VB	1027.68958	2.56129e-1	263.22060		Dodecane
15.964	VV	25.25790	1.00000	25.25790		?
16.093	VV	4.06962	1.00000	4.06962		?
16.175	VV	2794.31494	7.33273e-2	204.89957		Naphthalene
16.262	VV	2.13792	1.00000	2.13792		?
16.399	VV	4.72522	1.00000	4.72522		?
16.522	BB	1.76057	1.00000	1.76057		?
16.665	BBA	1.85303	1.00000	1.85303		?

Totals : 1.06332e5

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

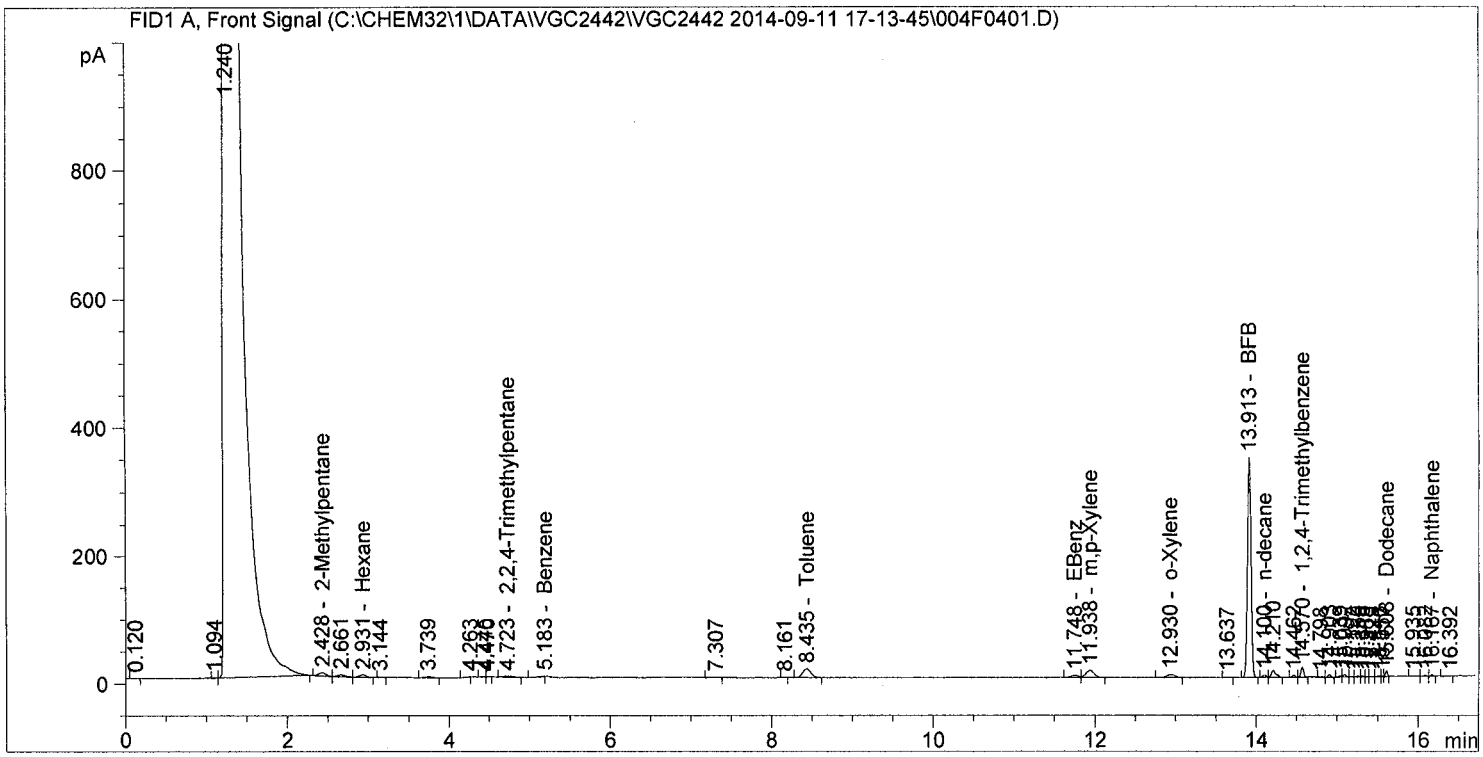
==========

*** End of Report ***

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\004F0401.D
Sample Name: G50

Acq. Operator	: BWS	Seq. Line :	4
Acq. Instrument	: GC7	Location :	Vial 4
Injection Date	: 9/11/2014 6:53:53 PM	Inj :	1
		Inj Volume :	Manually
Acq. Method	: C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\GAS6.M		
Last changed	: 11/26/2013 9:55:21 AM by BWS		
Analysis Method	: C:\CHEM32\1\DATA\VGC2443\VPH_FID.M		
Last changed	: 10/25/2013 8:39:51 AM by BWS		
Method Info	: VPH/5030 purge and trap analysis		

BWS
9.15.14



External Standard Report

Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.120	VV	1.32233	1.00000	1.32233		?
1.094	VV	1.52554	1.00000	1.52554		?
1.240	VB S	8.40478e4	1.00000	8.40478e4		?
1.706		-	-	-		n-Pentane
2.428	BV	30.08408	1.49780e-1	4.50599		2-Methylpentane
2.661	VV	19.64998	1.00000	19.64998		?

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\004F0401.D
Sample Name: G50

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.726		-	-	-		MTBE
2.931	VV	24.07675	1.07433e-1	2.58665		Hexane
3.144	VB	2.02268	1.00000	2.02268		?
3.739	BV	12.60677	1.00000	12.60677		?
4.263	BV	1.71167	1.00000	1.71167		?
4.445	BV	2.02414	1.00000	2.02414		?
4.470	VB	1.39237	1.00000	1.39237		?
4.723	BV	12.59735	7.99302e-1	10.06908		2,2,4-Trimethylpentane
5.183	BV	2.97959	3.25057e-1	9.68535e-1		Benzene
7.307	BV	4.88827	1.00000	4.88827		?
8.161	VV	1.78639	1.00000	1.78639		?
8.435	BV	93.52764	1.14625e-1	10.72064		Toluene
11.520		-	-	-		n-Nonane
11.748	VV	21.70238	8.08155e-2	1.75389		EBenz
11.938	VB	76.38299	4.28954e-2	3.27648		m,p-Xylene
12.930	VV	33.55642	1.20731e-1	4.05131		o-Xylene
13.637	BB	2.07495	1.00000	2.07495		?
13.913	BB	1049.88708	6.50430e-2	68.28780		BFB ✓
14.100	BV	10.35128	0.00000	0.00000		n-decane
14.210	VB	38.83250	1.00000	38.83250		?
14.462	BV	7.96970	1.00000	7.96970		?
14.570	VB	35.97554	5.74113e-2	2.06540		1,2,4-Trimethylbenzene
14.798	BV	1.65084	1.00000	1.65084		?
14.903	VB	8.25343	1.00000	8.25343		?
15.039	BV	5.51900	1.00000	5.51900		?
15.092	VV	9.14187	1.00000	9.14187		?
15.192	VV	1.12856	1.00000	1.12856		?
15.259	VV	4.73601	1.00000	4.73601		?
15.316	VV	3.71418	1.00000	3.71418		?
15.368	VV	1.07861	1.00000	1.07861		?
15.429	VV	1.74318	1.00000	1.74318		?
15.516	VV	2.29192	1.00000	2.29192		?
15.557	VV	1.85927	1.00000	1.85927		?
15.608	VV	15.15760	0.00000	0.00000		Dodecane
15.935	BV	3.28978	1.00000	3.28978		?
16.082	VV	3.53614	1.00000	3.53614		?
16.167	VV	4.21841	0.00000	0.00000		Naphthalene
16.392	VV	2.02969	1.00000	2.02969		?

Totals : 8.43039e4

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

==========

*** End of Report ***

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\005F0501.D
Sample Name: G125

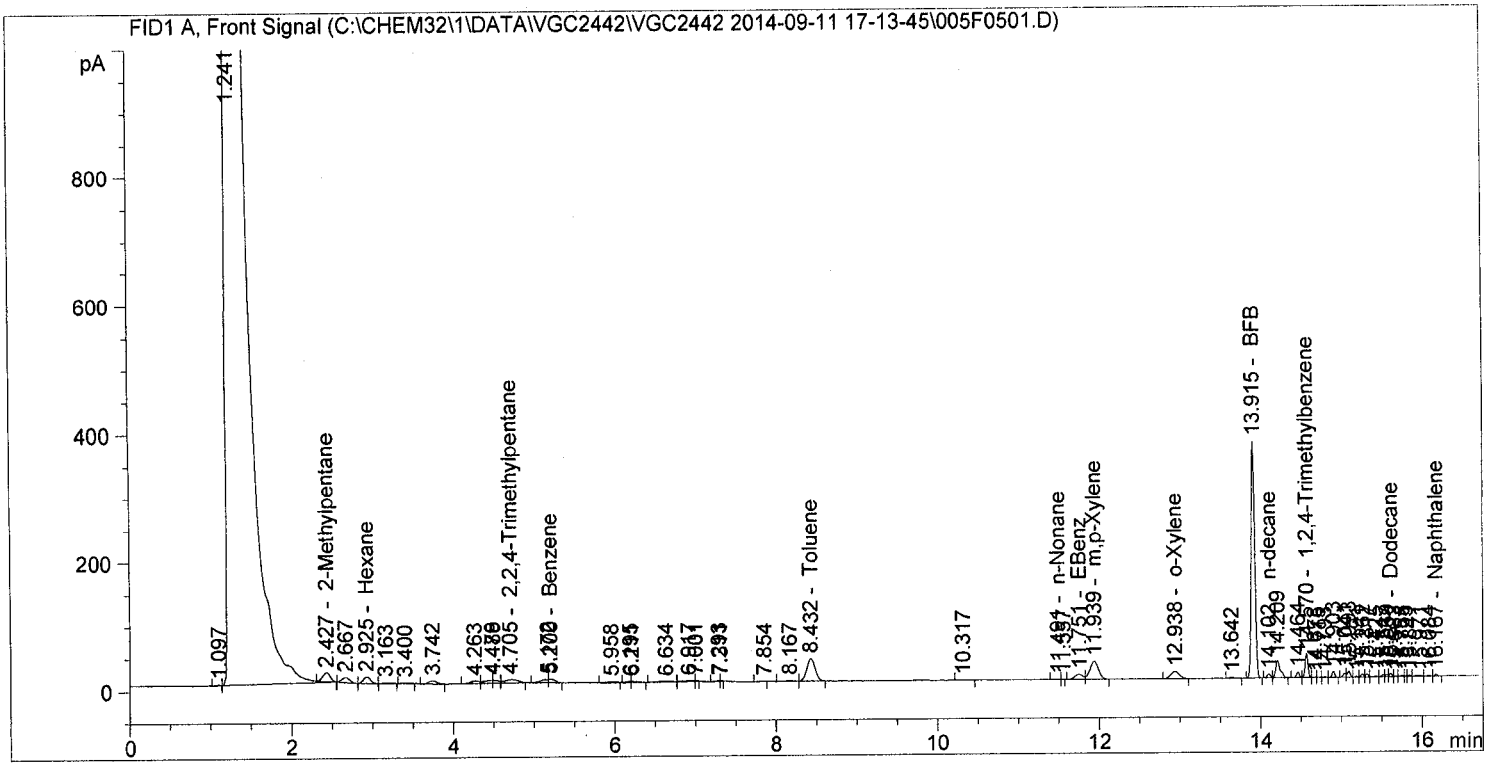
==========

Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 9/11/2014 7:21:43 PM

Seq. Line : 5
Location : Vial 5
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2443\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS
9.15.14



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External Standard Report

==========

Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.097	VV	3.71700	1.00000	3.71700		?
1.241	VB S	1.03692e5	1.00000	1.03692e5		?
1.706		-	-	-		n-Pentane
2.427	VB T	86.32165	7.60482e-2	6.56460		2-Methylpentane
2.667	BV	50.17249	1.00000	50.17249		?
2.726		-	-	-		MTBE

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\005F0501.D
Sample Name: G125

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.925	VV	63.53999	6.47318e-2	4.11306		Hexane
3.163	VV	10.70051	1.00000	10.70051		?
3.400	VV	6.74451	1.00000	6.74451		?
3.742	BV	34.41223	1.00000	34.41223		?
4.263	BV	30.00360	1.00000	30.00360		?
4.478	VV	31.14749	1.00000	31.14749		?
4.489	VV	21.19959	1.00000	21.19959		?
4.705	VV	58.04710	1.96146e-1	11.38570		2,2,4-Trimethylpentane
5.172	BV	31.22673	1.00000	31.22673		?
5.200	VB	29.63660	5.69105e-2	1.68663		Benzene
5.958	VV	14.23429	1.00000	14.23429		?
6.195	BV	7.08445	1.00000	7.08445		?
6.211	VB	9.13126	1.00000	9.13126		?
6.634	VV	14.18235	1.00000	14.18235		?
6.917	VV	9.99352	1.00000	9.99352		?
7.001	VB	1.26214	1.00000	1.26214		?
7.293	VV	4.20802	1.00000	4.20802		?
7.311	VV	1.99899	1.00000	1.99899		?
7.854	BV	2.60924	1.00000	2.60924		?
8.167	BV	10.45680	1.00000	10.45680		?
8.432	VV	250.20674	5.90591e-2	14.77699		Toluene
10.317	BB	2.91868	1.00000	2.91868		?
11.491	VV	3.03971	8.22158e-1	2.49912		n-Nonane
11.557	VV	1.55288	1.00000	1.55288		?
11.751	VV	54.48193	4.98157e-2	2.71406		EBenz
11.939	VB	201.82846	2.48746e-2	5.02040		m,p-Xylene
12.938	BV	82.91153	6.50534e-2	5.39367		o-Xylene
13.642	BB	5.97805	1.00000	5.97805		?
13.915	BB	1132.36902	6.50430e-2	73.65267		BFB ✓
14.102	BV	17.87346	0.00000	0.00000		n-decane
14.209	VB	103.52087	1.00000	103.52087		?
14.464	BV	22.00587	1.00000	22.00587		?
14.570	VV	91.67963	3.96352e-2	3.63374		1,2,4-Trimethylbenzene
14.673	VV	2.46259	1.00000	2.46259		?
14.715	VV	1.94189	1.00000	1.94189		?
14.793	VV	2.80499	1.00000	2.80499		?
14.903	VB	20.32883	1.00000	20.32883		?
15.041	VV	14.75454	1.00000	14.75454		?
15.093	VV	23.23868	1.00000	23.23868		?
15.191	VV	3.62943	1.00000	3.62943		?
15.262	VV	11.77007	1.00000	11.77007		?
15.317	VV	9.80936	1.00000	9.80936		?
15.425	VV	6.01315	1.00000	6.01315		?
15.517	VV	7.12857	1.00000	7.12857		?
15.560	VV	7.35507	1.00000	7.35507		?
15.611	VV	10.62348	0.00000	0.00000		Dodecane
15.663	VV	2.23200	1.00000	2.23200		?
15.755	VV	4.87013	1.00000	4.87013		?
15.795	VV	2.81611	1.00000	2.81611		?
15.841	VV	4.39734	1.00000	4.39734		?
15.971	VV	6.33628	1.00000	6.33628		?
16.084	VV	3.82494	1.00000	3.82494		?
16.167	VB	4.41247	0.00000	0.00000		Naphthalene

Totals : 1.04390e5

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\005F0501.D
Sample Name: G125

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

==========

*** End of Report ***

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\006F0601.D
Sample Name: G200

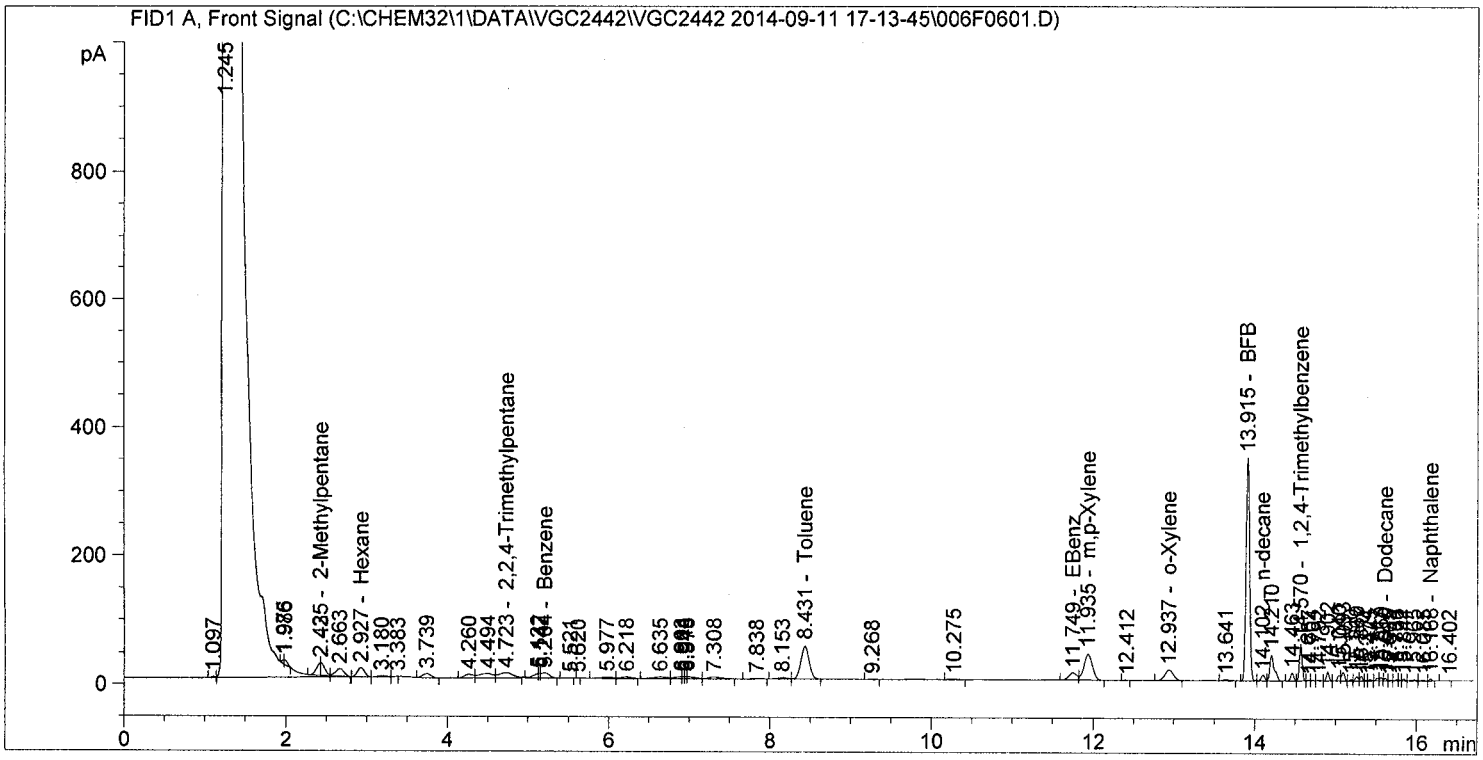
==========

Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 9/11/2014 7:49:08 PM

Seq. Line : 6
Location : Vial 6
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2443\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS
9.15.14



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.097	VV	6.85826	1.00000	6.85826		?
1.245	VB S	1.23068e5	1.00000	1.23068e5		?
1.706		-	-	-		n-Pentane
1.975	BV X	12.84698	1.00000	12.84698		?
1.986	VB X	19.85435	1.00000	19.85435		?
2.425	BV X	70.43879	8.49418e-2	5.98320		2-Methylpentane

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\006F0601.D
Sample Name: G200

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.435	VV X	71.79920	1.00000	71.79920		?
2.663	VB T	87.76600	1.00000	87.76600		?
2.726		-	-	-		MTBE
2.927	BV	88.03071	5.74838e-2	5.06034		Hexane
3.180	VB	12.94892	1.00000	12.94892		?
3.383	BV	1.25904	1.00000	1.25904		?
3.739	BV	46.40079	1.00000	46.40079		?
4.260	BV	42.22853	1.00000	42.22853		?
4.494	VV	80.57389	1.00000	80.57389		?
4.723	VV	97.74965	1.28244e-1	12.53582		2,2,4-Trimethylpentane
5.122	BV	32.03610	1.00000	32.03610		?
5.147	VV	12.09914	1.00000	12.09914		?
5.204	VB	54.94571	4.31047e-2	2.36842		Benzene
5.521	BV	3.44842	1.00000	3.44842		?
5.620	VV	1.05204	1.00000	1.05204		?
5.977	BV	23.92842	1.00000	23.92842		?
6.218	VV	25.50516	1.00000	25.50516		?
6.635	BV	35.57634	1.00000	35.57634		?
6.903	VV	19.33144	1.00000	19.33144		?
6.914	VV	7.06350	1.00000	7.06350		?
6.948	VV	4.90272	1.00000	4.90272		?
6.975	VV	22.05902	1.00000	22.05902		?
7.308	VV	34.69000	1.00000	34.69000		?
7.838	VB	5.91353	1.00000	5.91353		?
8.153	BV	15.63721	1.00000	15.63721		?
8.431	VV	364.71738	4.86448e-2	17.74162		Toluene
9.268	VB	2.08633	1.00000	2.08633		?
10.275	BB	5.82194	1.00000	5.82194		?
11.520		-	-	-		n-Nonane
11.749	BV	75.42301	4.41173e-2	3.32746		EBenz
11.935	VB	296.72415	2.13654e-2	6.33962		m,p-Xylene
12.412	VV	1.27369	1.00000	1.27369		?
12.937	BV	122.41600	5.28372e-2	6.46812		o-Xylene
13.641	BV	8.92181	1.00000	8.92181		?
13.915	BV	1061.45630	6.50430e-2	69.04029		BFB ✓
14.102	VV	26.72249	0.00000	0.00000		n-decane
14.210	VV	156.64465	1.00000	156.64465		?
14.463	VV	32.46001	1.00000	32.46001		?
14.570	VV	135.87485	3.59011e-2	4.87806		1,2,4-Trimethylbenzene
14.667	VV	3.05267	1.00000	3.05267		?
14.704	VV	2.69777	1.00000	2.69777		?
14.792	VV	4.28128	1.00000	4.28128		?
14.902	VV	30.10717	1.00000	30.10717		?
15.040	VV	21.03283	1.00000	21.03283		?
15.093	VV	34.55892	1.00000	34.55892		?
15.190	VV	4.73375	1.00000	4.73375		?
15.260	VV	17.27881	1.00000	17.27881		?
15.317	VV	15.05678	1.00000	15.05678		?
15.374	VV	2.56899	1.00000	2.56899		?
15.425	VV	5.20704	1.00000	5.20704		?
15.517	VV	10.37014	1.00000	10.37014		?
15.560	VV	11.23210	1.00000	11.23210		?
15.610	VV	8.99210	0.00000	0.00000		Dodecane
15.665	VV	2.12894	1.00000	2.12894		?
15.756	VV	5.74134	1.00000	5.74134		?
15.792	VV	3.65109	1.00000	3.65109		?

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\006F0601.D
Sample Name: G200

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
15.841	VV	5.94151	1.00000	5.94151		?
15.965	VV	7.37746	1.00000	7.37746		?
16.085	VV	3.81800	1.00000	3.81800		?
16.168	VV	6.00073	0.00000	0.00000		Naphthalene
16.402	BV	1.34637	1.00000	1.34637		?

Totals : 1.24227e5

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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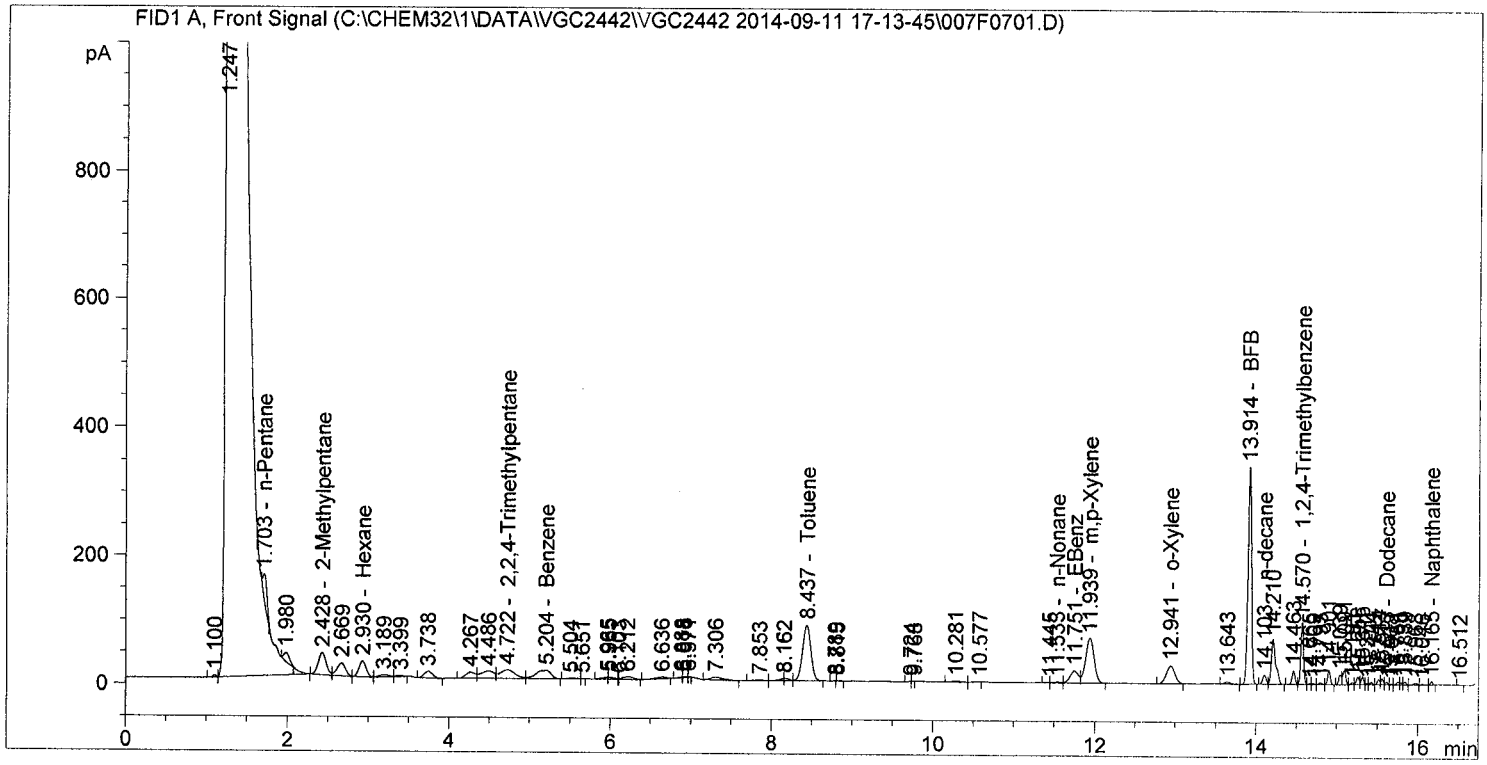
*** End of Report ***

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\007F0701.D
Sample Name: G350

Acq. Operator	: BWS	Seq. Line :	7
Acq. Instrument	: GC7	Location :	Vial 7
Injection Date	: 9/11/2014 8:16:58 PM	Inj :	1
		Inj Volume :	Manually
Acq. Method	: C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\GAS6.M		
Last changed	: 11/26/2013 9:55:21 AM by BWS		
Analysis Method	: C:\CHEM32\1\DATA\VGC2443\VPH_FID.M		
Last changed	: 10/25/2013 8:39:51 AM by BWS		
Method Info	: VPH/5030 purge and trap analysis		

BWS
9.15.14



External Standard Report

Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.100	VV	9.63799	1.00000	9.63799		?
1.247	VB S	1.37375e5	1.00000	1.37375e5		?
1.703	BB X	146.51801	5.71538e-2	8.37406		n-Pentane
1.980	BB X	67.45715	1.00000	67.45715		?
2.428	BV	232.91975	5.12233e-2	11.93093		2-Methylpentane
2.669	VV	144.31699	1.00000	144.31699		?

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\007F0701.D
Sample Name: G350

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.726		-	-	-		MTBE
2.930	VV	149.48766	4.97530e-2	7.43746		Hexane
3.189	VV	28.69146	1.00000	28.69146		?
3.399	VV	11.81242	1.00000	11.81242		?
3.738	BV	76.55874	1.00000	76.55874		?
4.267	BV	77.24679	1.00000	77.24679		?
4.486	VV	131.04416	1.00000	131.04416		?
4.722	VV	176.85297	8.38399e-2	14.82734		2,2,4-Trimethylpentane
5.204	VV	170.93468	3.21349e-2	5.49297		Benzene
5.504	VV	7.74173	1.00000	7.74173		?
5.651	VB	1.06073	1.00000	1.06073		?
5.965	BV	17.43678	1.00000	17.43678		?
5.985	VV	16.01451	1.00000	16.01451		?
6.103	VV	1.20049	1.00000	1.20049		?
6.212	VV	36.74771	1.00000	36.74771		?
6.636	VV	26.53355	1.00000	26.53355		?
6.888	BV	4.31374	1.00000	4.31374		?
6.918	VV	5.71892	1.00000	5.71892		?
6.971	VB	1.54163	1.00000	1.54163		?
7.306	BV	45.05120	1.00000	45.05120		?
7.853	VV	12.86277	1.00000	12.86277		?
8.152	VV	17.31564	1.00000	17.31564		?
8.162	VV	16.57579	1.00000	16.57579		?
8.437	VV	619.03479	3.92963e-2	24.32578		Toluene
8.789	VV	1.03423	1.00000	1.03423		?
8.815	VV	1.85939	1.00000	1.85939		?
9.724	BV	1.35801	1.00000	1.35801		?
9.768	VV	1.52329	1.00000	1.52329		?
10.281	BV	11.45957	1.00000	11.45957		?
10.577	VV	3.96375	1.00000	3.96375		?
11.445	BV	1.32108	1.00000	1.32108		?
11.533	VV	8.91505	3.00983e-1	2.68328		n-Nonane
11.751	VV	133.79730	3.76490e-2	5.03734		EBenz
11.939	VB	504.26471	1.82936e-2	9.22482		m,p-Xylene
12.941	BV	204.98854	4.25093e-2	8.71392		o-Xylene
13.643	BB	16.06685	1.00000	16.06685		?
13.914	BB	1036.46191	6.50430e-2	67.41458		BFB ✓
14.103	BV	42.86102	0.00000	0.00000		n-decane
14.210	VB	265.21310	1.00000	265.21310		?
14.463	BV	54.30219	1.00000	54.30219		?
14.570	VV	229.71921	3.27366e-2	7.52024		1,2,4-Trimethylbenzene
14.665	VV	4.47458	1.00000	4.47458		?
14.709	VV	4.71294	1.00000	4.71294		?
14.795	VV	6.92896	1.00000	6.92896		?
14.901	VB	50.73772	1.00000	50.73772		?
15.039	BV	35.36916	1.00000	35.36916		?
15.091	VV	58.52619	1.00000	58.52619		?
15.191	VV	8.01797	1.00000	8.01797		?
15.258	VV	29.40649	1.00000	29.40649		?
15.315	VV	25.32968	1.00000	25.32968		?
15.370	VV	4.56237	1.00000	4.56237		?
15.424	VV	8.72260	1.00000	8.72260		?
15.514	VV	17.90624	1.00000	17.90624		?
15.557	VV	19.40343	1.00000	19.40343		?
15.613	VV	8.69314	0.00000	0.00000		Dodecane
15.668	VV	2.99982	1.00000	2.99982		?

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\007F0701.D
Sample Name: G350

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
15.751	VV	10.46663	1.00000	10.46663		?
15.790	VV	6.58224	1.00000	6.58224		?
15.839	VV	10.27687	1.00000	10.27687		?
15.968	VV	9.45038	1.00000	9.45038		?
16.046	VV	4.26182	1.00000	4.26182		?
16.165	VB	8.88955	0.00000	0.00000		Naphthalene
16.512	BV	1.24380	1.00000	1.24380		?

Totals : 1.38982e5

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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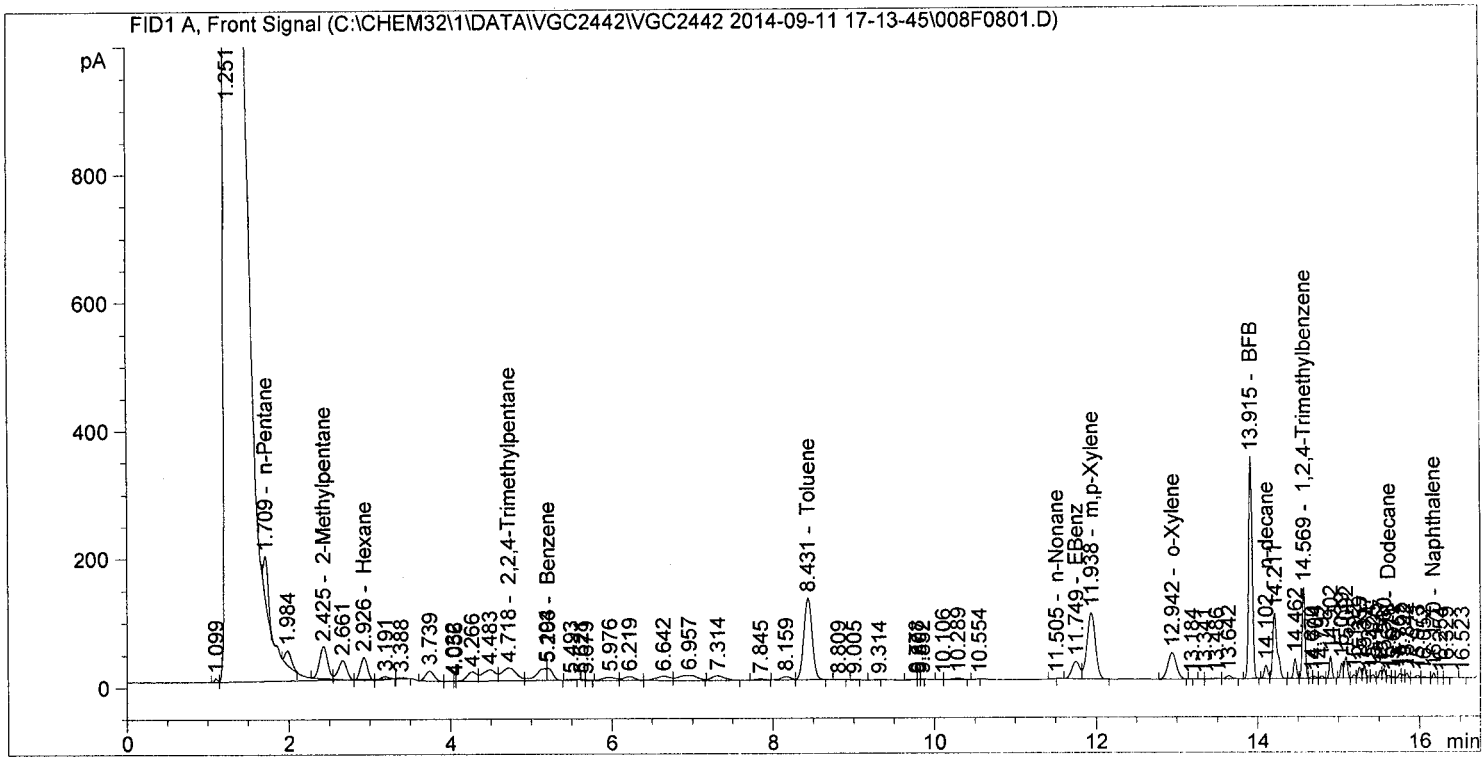
*** End of Report ***

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\008F0801.D
Sample Name: G500

Acq. Operator	: BWS	Seq. Line :	8
Acq. Instrument	: GC7	Location :	Vial 8
Injection Date	: 9/11/2014 8:45:20 PM	Inj :	1
		Inj Volume :	Manually
Acq. Method	: C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\GAS6.M		
Last changed	: 11/26/2013 9:55:21 AM by BWS		
Analysis Method	: C:\CHEM32\1\DATA\VGC2443\VPH_FID.M		
Last changed	: 10/25/2013 8:39:51 AM by BWS		
Method Info	: VPH/5030 purge and trap analysis		

BWS
9.15.14



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	2/14/2013 2:31:42 PM
Multiplier:	:	1.0000
Dilution:	:	1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.099	VV	15.62880	1.00000	15.62880		?
1.251	VB S	1.64985e5	1.00000	1.64985e5		?
1.709	BB X	249.61098	5.09334e-2	12.71353		n-Pentane
1.984	BB X	121.00921	1.00000	121.00921		?
2.425	BV X	345.92490	4.64481e-2	16.06755		2-Methylpentane
2.661	VV T	213.89630	1.00000	213.89630		?

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\008F0801.D
Sample Name: G500

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.726		-	-	-		MTBE
2.926	VV T	214.41493	4.63997e-2	9.94880		Hexane
3.191	VB T	31.84482	1.00000	31.84482		?
3.388	BB	8.05383	1.00000	8.05383		?
3.739	BV	112.62194	1.00000	112.62194		?
4.032	VV	2.42659	1.00000	2.42659		?
4.056	VV	1.06773	1.00000	1.06773		?
4.266	VV	121.67565	1.00000	121.67565		?
4.483	VV	202.36517	1.00000	202.36517		?
4.718	VV	251.43845	6.75631e-2	16.98797		2,2,4-Trimethylpentane
5.194	VV	167.87849	1.00000	167.87849		?
5.203	VB	86.74905	3.71779e-2	3.22515		Benzene
5.493	BV	10.47363	1.00000	10.47363		?
5.621	BV	4.79284	1.00000	4.79284		?
5.679	VV	3.68165	1.00000	3.68165		?
5.976	VV	54.21395	1.00000	54.21395		?
6.219	VV	59.32842	1.00000	59.32842		?
6.642	VV	81.37191	1.00000	81.37191		?
6.957	VV	127.89664	1.00000	127.89664		?
7.314	VV	83.16552	1.00000	83.16552		?
7.845	VV	16.11731	1.00000	16.11731		?
8.159	VV	43.58879	1.00000	43.58879		?
8.431	VB	898.36768	3.51277e-2	31.55758		Toluene
8.809	BV	3.77272	1.00000	3.77272		?
9.005	VV	4.52705	1.00000	4.52705		?
9.314	BV	2.35748	1.00000	2.35748		?
9.778	BV	5.65649	1.00000	5.65649		?
9.807	VV	2.31384	1.00000	2.31384		?
9.852	VV	2.25642	1.00000	2.25642		?
10.106	BV	2.19271	1.00000	2.19271		?
10.289	VV	19.85564	1.00000	19.85564		?
10.554	BV	1.53937	1.00000	1.53937		?
11.505	VV	1.54795	1.58426	2.45236		n-Nonane
11.749	BV	183.22212	3.53946e-2	6.48508		EBenz
11.938	VB	737.38837	1.69052e-2	12.46566		m,p-Xylene
12.942	BV	304.06027	3.75204e-2	11.40848		o-Xylene
13.184	VV	1.30490	1.00000	1.30490		?
13.341	BV	1.20712	1.00000	1.20712		?
13.486	VV	8.12197	1.00000	8.12197		?
13.642	VV	22.80996	1.00000	22.80996		?
13.915	BB	1053.73267	6.50430e-2	68.53792		BFB ✓
14.102	BV	62.24459	0.00000	0.00000		n-decane
14.211	VB	387.56808	1.00000	387.56808		?
14.462	BV	79.08260	1.00000	79.08260		?
14.569	VV	336.89926	3.12790e-2	10.53788		1,2,4-Trimethylbenzene
14.670	VV	6.09022	1.00000	6.09022		?
14.704	VV	7.40113	1.00000	7.40113		?
14.792	VV	10.02224	1.00000	10.02224		?
14.902	VB	75.14222	1.00000	75.14222		?
15.039	BV	53.08666	1.00000	53.08666		?
15.092	VV	86.71801	1.00000	86.71801		?
15.192	VV	12.60304	1.00000	12.60304		?
15.259	VV	43.86722	1.00000	43.86722		?
15.317	VV	37.84430	1.00000	37.84430		?
15.374	VV	7.01924	1.00000	7.01924		?
15.425	VV	13.72336	1.00000	13.72336		?

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\008F0801.D
Sample Name: G500

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
15.517	VV	27.73986	1.00000	27.73986		?
15.560	VV	29.51789	1.00000	29.51789		?
15.616	VV	10.35548	0.00000	0.00000		Dodecane
15.671	VV	4.60553	1.00000	4.60553		?
15.755	VV	16.50996	1.00000	16.50996		?
15.792	VV	10.38856	1.00000	10.38856		?
15.842	VV	15.93391	1.00000	15.93391		?
15.973	VV	14.61998	1.00000	14.61998		?
16.052	VV	6.60674	1.00000	6.60674		?
16.170	VB	13.32254	0.00000	0.00000		Naphthalene
16.254	BV	1.51335	1.00000	1.51335		?
16.329	VV	1.61382	1.00000	1.61382		?
16.523	BV	1.13337	1.00000	1.13337		?

Totals : 1.67699e5

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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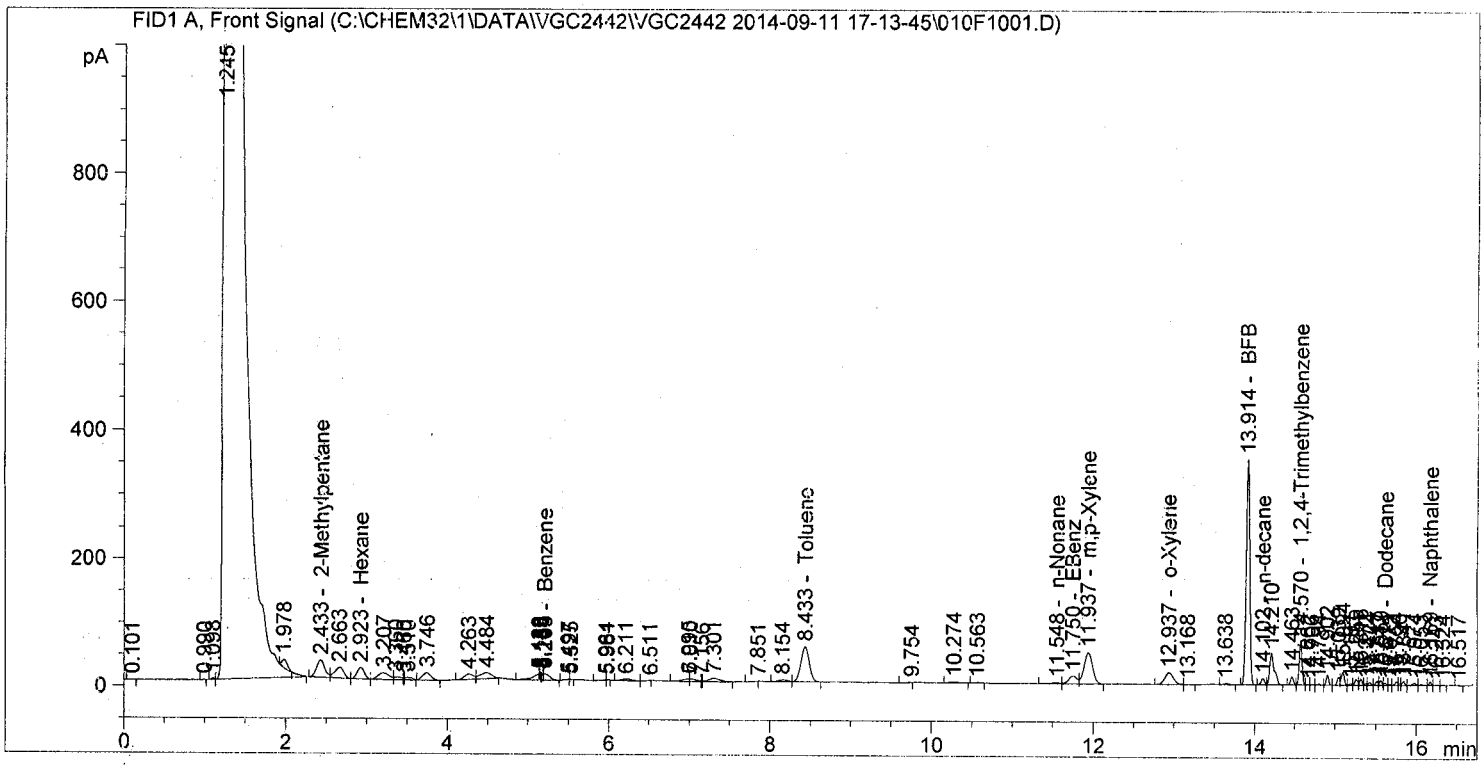
*** End of Report ***

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\010F1001.D
Sample Name: ICV

Acq. Operator	: BWS	Seq. Line	: 10
Acq. Instrument	: GC7	Location	: Vial 10
Injection Date	: 9/11/2014 9:41:25 PM	Inj	: 1
		Inj Volume	: Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2443\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS
9.15.14



External Standard Report

Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.101	VV	1.45667	1.00000	1.45667		?
0.990	VV	1.03717	1.00000	1.03717		?
1.098	VV	6.23277	1.00000	6.23277		?
1.245	VB S	1.21508e5	1.00000	1.21508e5		?
1.706		-	-	-		n-Pentane
1.978	BB X	63.00701	1.00000	63.00701		?

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\010F1001.D
Sample Name: ICV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.433	BV	191.07423	5.44246e-2	10.39914		2-Methylpentane
2.663	VV	133.11278	1.00000	133.11278		?
2.726		-	-	-		MTBE
2.923	VV	111.09151	5.35803e-2	5.95232		Hexane
3.207	VV	98.31318	1.00000	98.31318		?
3.360	VV	25.68948	1.00000	25.68948		?
3.460	VV	2.20227	1.00000	2.20227		?
3.510	VV	23.94894	1.00000	23.94894		?
3.746	VV	85.60419	1.00000	85.60419		?
4.263	VV	67.55557	1.00000	67.55557		?
4.484	VV	98.62769	1.00000	98.62769		?
4.713		-	-	-		2,2,4-Trimethylpentane
5.133	VV	52.19532	1.00000	52.19532		?
5.143	VV	5.54670	1.00000	5.54670		?
5.156	VV	7.52123	1.00000	7.52123		?
5.165	VV	4.53429	1.00000	4.53429		?
5.184	VV	10.13900	1.00000	10.13900		?
5.205	VV	50.45987	4.45419e-2	2.24758		Benzene
5.497	VV	4.49696	1.00000	4.49696		?
5.525	VB	1.38633	1.00000	1.38633		?
5.964	VV	4.65780	1.00000	4.65780		?
5.981	VB	1.61094	1.00000	1.61094		?
6.211	BV	24.05848	1.00000	24.05848		?
6.511	VV	2.56792	1.00000	2.56792		?
6.995	BV	25.30379	1.00000	25.30379		?
7.010	VV	22.82208	1.00000	22.82208		?
7.156	VV	1.30863	1.00000	1.30863		?
7.301	VV	54.73034	1.00000	54.73034		?
7.851	BV	1.48135	1.00000	1.48135		?
8.154	VV	22.10024	1.00000	22.10024		?
8.433	VB	391.91574	4.70657e-2	18.44577		Toluene
9.754	BV	1.72434	1.00000	1.72434		?
10.274	BB	12.39449	1.00000	12.39449		?
10.563	VB	6.58307	1.00000	6.58307		?
11.548	BV	12.95798	2.16855e-1	2.81001		n-Nonane
11.750	VV	88.30682	4.19542e-2	3.70485		EBenz
11.937	VB	356.89612	2.01070e-2	7.17612		m,p-Xylene
12.937	BV	136.78239	5.01443e-2	6.85885		o-Xylene
13.168	VB	2.16042	1.00000	2.16042		?
13.638	BB	8.06451	1.00000	8.06451		?
13.914	BB	1070.48572	6.50430e-2	69.62759		BFB
14.102	BV	29.08126	0.00000	0.00000		n-decane
14.210	VB	194.71924	1.00000	194.71924		?
14.463	BV	32.34095	1.00000	32.34095		?
14.570	VV	165.07277	3.45310e-2	5.70012		1,2,4-Trimethylbenzene
14.662	VV	3.43738	1.00000	3.43738		?
14.706	VV	3.11984	1.00000	3.11984		?
14.794	VV	4.70123	1.00000	4.70123		?
14.902	VV	33.87195	1.00000	33.87195		?
15.039	VV	28.81455	1.00000	28.81455		?
15.094	VV	52.27454	1.00000	52.27454		?
15.191	VV	6.09198	1.00000	6.09198		?
15.259	VV	23.78797	1.00000	23.78797		?
15.316	VV	20.48221	1.00000	20.48221		?
15.372	VV	6.54572	1.00000	6.54572		?
15.424	VV	10.76899	1.00000	10.76899		?

Data File C:\CHEM32\1\DATA\VGC2442\VGC2442 2014-09-11 17-13-45\010F1001.D
Sample Name: ICV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
15.517	VV	14.06687	1.00000	14.06687		?
15.559	VV	15.40070	1.00000	15.40070		?
15.614	VV	7.52046	0.00000	0.00000		Dodecane
15.672	VV	3.89520	1.00000	3.89520		?
15.754	VV	13.36282	1.00000	13.36282		?
15.790	VV	4.94134	1.00000	4.94134		?
15.841	VV	13.04118	1.00000	13.04118		?
15.974	VV	11.66681	1.00000	11.66681		?
16.053	VV	5.90304	1.00000	5.90304		?
16.169	VV	9.84926	0.00000	0.00000		Naphthalene
16.243	VV	2.09677	1.00000	2.09677		?
16.324	VV	1.54747	1.00000	1.54747		?
16.517	BV	1.32285	1.00000	1.32285		?

Totals : 1.23033e5

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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*** End of Report ***

SW-846 8015C GRO
Continuing Calibration Data

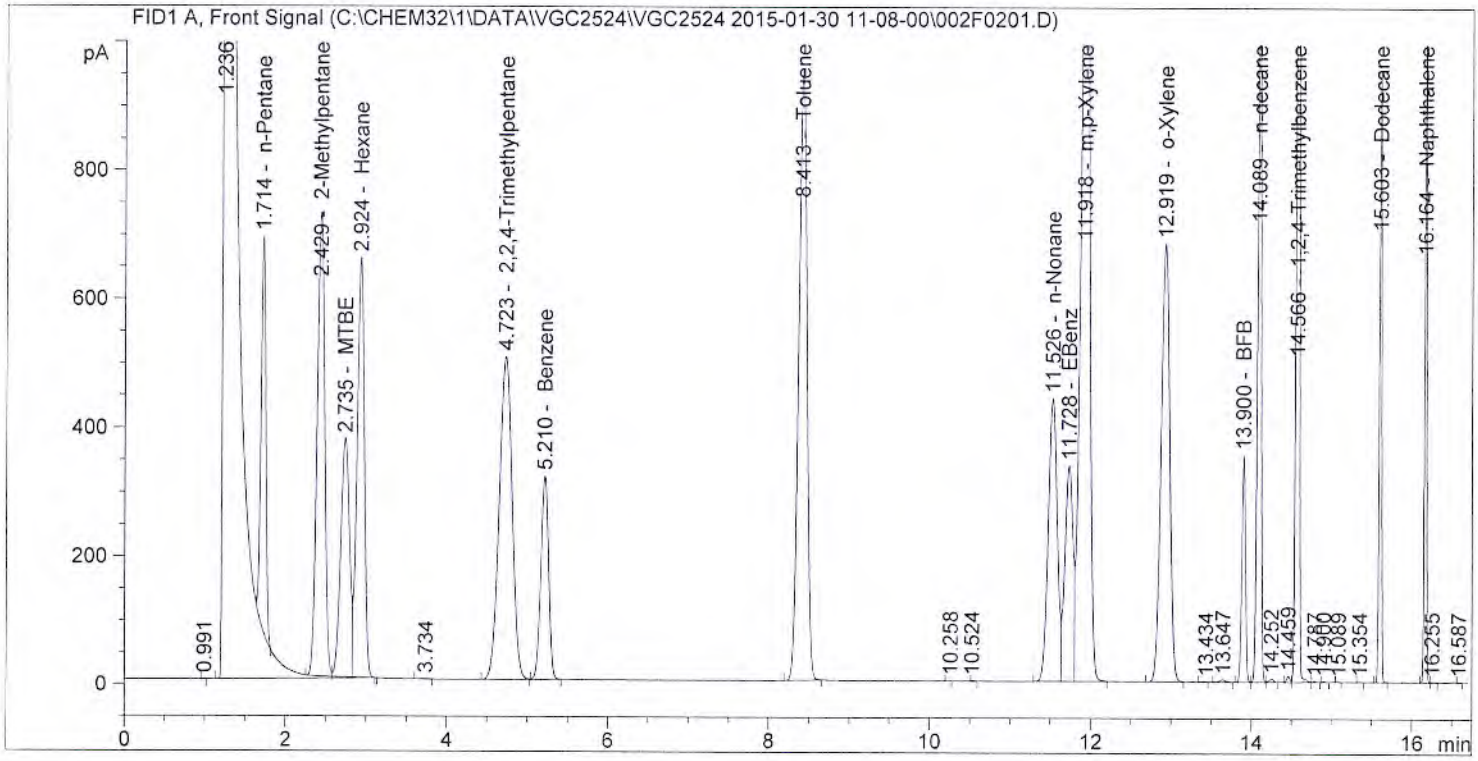
Print Date: 02/06/2015

N.C. Certification # 481

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\002F0201.D
Sample Name: RTCHK

Acq. Operator	: BWS	Seq. Line :	2
Acq. Instrument	: GC7	Location :	Vial 2
Injection Date	: 1/30/2015 11:56:31 AM	Inj :	1
		Inj Volume :	Manually
Acq. Method	: C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M		
Last changed	: 11/26/2013 9:55:21 AM by BWS		
Analysis Method	: C:\CHEM32\1\DATA\VGC2524\VPH_FID.M		
Last changed	: 10/25/2013 8:39:51 AM by BWS		
Method Info	: VPH/5030 purge and trap analysis		

BWS 1.30.15



External Standard Report

Sorted By	:	Signal
Calib. Data Modified	:	2/14/2013 2:31:42 PM
Multiplier:	:	1.0000
Dilution:	:	1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.991	VV	1.46658	1.00000	1.46658		?
1.236	VB S	3.51254e4	1.00000	3.51254e4		?
1.714	BB X	2515.06152	4.29701e-2	108.07250		n-Pentane
2.429	BV X	4712.71143	3.73281e-2	175.91673		2-Methylpentane
2.735	VV X	2821.65308	5.13293e-2	144.83334		MTBE
2.924	VB X	4085.27100	3.90845e-2	159.67087		Hexane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\002F0201.D
Sample Name: RTCHK

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
3.734	VV	7.48746	1.00000	7.48746		?
4.723	VB	5599.06152	3.07017e-2	171.90098		2,2,4-Trimethylpentane
5.210	BB	2129.54712	2.73555e-2	58.25484		Benzene
8.413	BB	6778.03076	2.71140e-2	183.77933		Toluene
10.258	VV	1.14530	1.00000	1.14530		?
10.524	VV	2.68914	1.00000	2.68914		?
11.526	BV	3398.00146	3.20523e-2	108.91392		n-Nonane
11.728	VV	2357.86304	2.97659e-2	70.18403		EBenz
11.918	VB	1.00917e4	1.41213e-2	142.50742		m,p-Xylene
12.919	VV	5067.20264	2.78174e-2	140.95643		o-Xylene
13.434	VV	2.33818	1.00000	2.33818		?
13.647	VV	19.39855	1.00000	19.39855		?
13.900	VV	1103.44165	6.50430e-2	71.77115		BFB
14.089	VV	3349.70825	3.54296e-2	118.67876		n-decane
14.252	VV	20.43589	1.00000	20.43589		?
14.459	VV	25.03581	1.00000	25.03581		?
14.566	VV	5448.06738	2.83481e-2	154.44234		1,2,4-Trimethylbenzene
14.787	VV	3.18207	1.00000	3.18207		?
14.900	VV	2.84077	1.00000	2.84077		?
15.089	VV	1.52788	1.00000	1.52788		?
15.354	VV	1.45597	1.00000	1.45597		?
15.603	VB	1829.09583	3.02402e-1	553.12241		Dodecane
16.164	VV	1772.31702	7.26918e-2	128.83294		Naphthalene
16.255	VV	2.94000	1.00000	2.94000		?
16.587	VB	1.17593	1.00000	1.17593		?

Totals : 3.77103e4

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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*** End of Report ***

Continuing Calibration Verification Summary Form
Gasoline Range Organics by 8015

CVS Information

Batch ID: VGC2524
Filename: 004f0401 .D
Date / Time Acquired: 01/30/2015 12:52
Initial Calibration Batch ID: VGC2442

Analyte	Expected Amount ug/L	Measured Amount ug/L	Recovery %	#	Limits lower %	upper %
GRO	250	264	106		80	120
BFB	100	98.7	98.7		40	140

Laboratory Use Only

		m	b	cf
GRO_SUM	2585.4	9.8516	-15.994	
BFB	1053.2114			10.66781

Analyst: _____ Reviewed By: _____

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\004F0401.D
Sample Name: ICV

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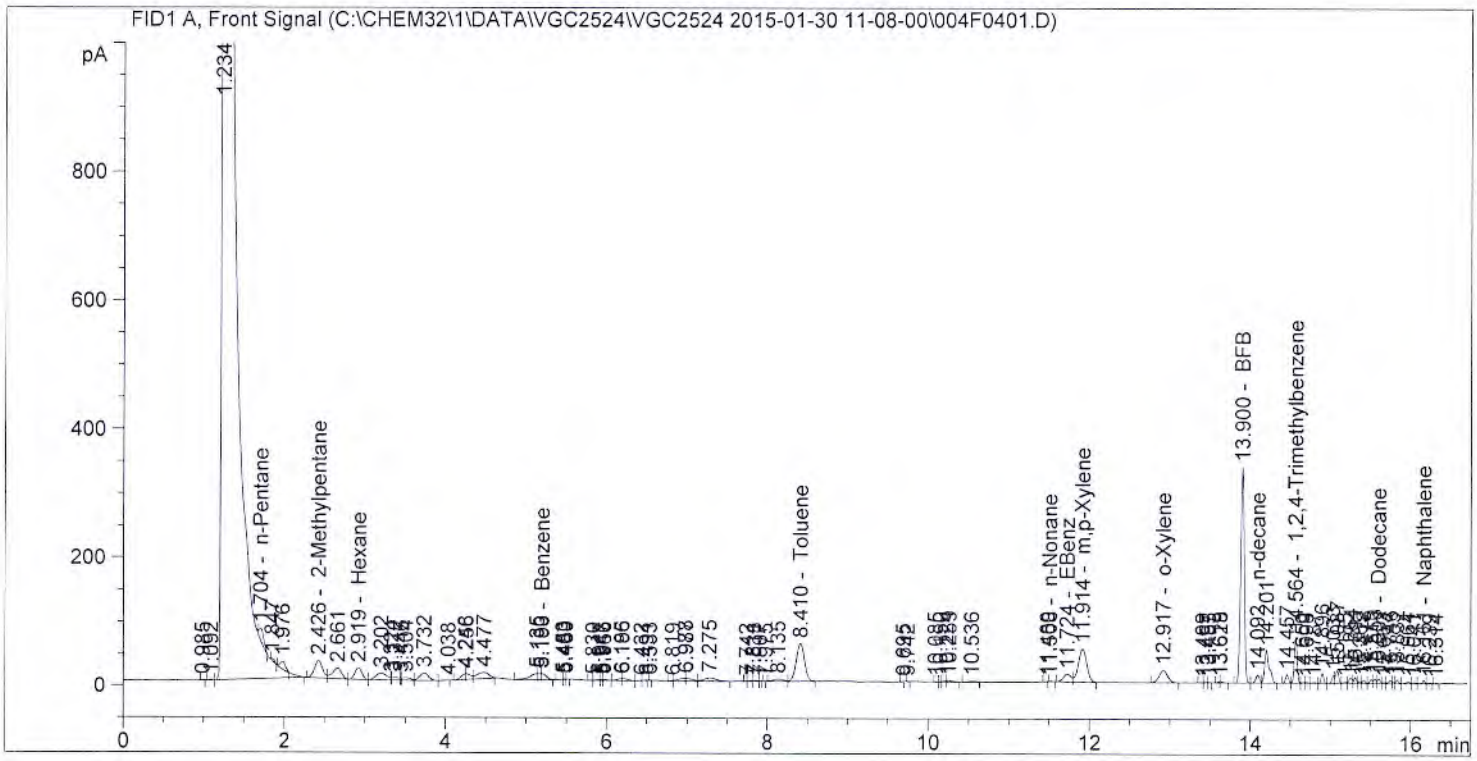
Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 1/30/2015 12:52:44 PM

Seq. Line : 4
Location : Vial 4
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS
1.30.15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.985	VV	1.36142	1.00000	1.36142		?
1.092	VV	3.11608	1.00000	3.11608		?
1.234	VB S	3.42348e4	1.00000	3.42348e4		?
1.704	BB X	79.29640	6.99215e-2	5.54452		n-Pentane
1.847	BB X	9.29781	1.00000	9.29781		?
1.976	BB X	59.00604	1.00000	59.00604		?

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\004F0401.D
Sample Name: ICV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.426	VV	189.26482	5.45950e-2	10.33291		2-Methylpentane
2.661	VV	133.60944	1.00000	133.60944		?
2.726		-	-	-		MTBE
2.919	VV	116.00317	5.29494e-2	6.14230		Hexane
3.202	VV	102.45372	1.00000	102.45372		?
3.324	VV	3.40481	1.00000	3.40481		?
3.372	VV	25.65250	1.00000	25.65250		?
3.446	VV	3.67978	1.00000	3.67978		?
3.504	VV	28.03091	1.00000	28.03091		?
3.732	VV	90.27802	1.00000	90.27802		?
4.038	VV	1.50343	1.00000	1.50343		?
4.248	VV	37.49714	1.00000	37.49714		?
4.256	VV	37.47616	1.00000	37.47616		?
4.477	VV	104.15629	1.00000	104.15629		?
4.713		-	-	-		2,2,4-Trimethylpentane
5.135	VV	68.43770	1.00000	68.43770		?
5.180	VV	23.46355	1.00000	23.46355		?
5.193	VV	42.64487	4.77679e-2	2.03705		Benzene
5.453	VV	1.40783	1.00000	1.40783		?
5.463	VB	1.37486	1.00000	1.37486		?
5.489	BB	1.74369	1.00000	1.74369		?
5.830	VV	1.27979	1.00000	1.27979		?
5.917	VV	5.73363	1.00000	5.73363		?
5.943	VV	2.66783	1.00000	2.66783		?
5.966	VV	7.95971	1.00000	7.95971		?
6.185	VV	14.71701	1.00000	14.71701		?
6.196	VV	17.20552	1.00000	17.20552		?
6.432	VV	1.21449	1.00000	1.21449		?
6.491	VV	3.02663	1.00000	3.02663		?
6.533	VV	1.21581	1.00000	1.21581		?
6.819	VV	2.28233	1.00000	2.28233		?
6.978	VV	27.68507	1.00000	27.68507		?
6.987	VV	25.47143	1.00000	25.47143		?
7.275	VV	60.31399	1.00000	60.31399		?
7.742	VV	1.15335	1.00000	1.15335		?
7.811	VV	4.59223	1.00000	4.59223		?
7.838	VV	5.73548	1.00000	5.73548		?
7.907	VV	1.75777	1.00000	1.75777		?
7.975	VV	1.26627	1.00000	1.26627		?
8.135	VV	33.89672	1.00000	33.89672		?
8.410	VV	424.57465	4.54368e-2	19.29130		Toluene
9.695	VV	1.44330	1.00000	1.44330		?
9.742	VV	1.77121	1.00000	1.77121		?
10.085	VV	1.52430	1.00000	1.52430		?
10.150	VV	1.45602	1.00000	1.45602		?
10.224	VV	5.03575	1.00000	5.03575		?
10.259	VV	12.07230	1.00000	12.07230		?
10.536	VV	11.07722	1.00000	11.07722		?
11.480	VV	2.28092	1.00000	2.28092		?
11.508	VB	2.79808	8.90450e-1	2.49155		n-Nonane
11.724	BV	82.55537	4.28364e-2	3.53638		EBenz
11.914	VV	378.55182	1.97521e-2	7.47718		m,p-Xylene
12.917	VV	145.29277	4.88002e-2	7.09032		o-Xylene
13.409	VV	1.60690	1.00000	1.60690		?
13.457	VV	2.47221	1.00000	2.47221		?
13.485	VV	2.14980	1.00000	2.14980		?

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\004F0401.D
Sample Name: ICV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
13.619	VV	4.26178	1.00000	4.26178		?
13.628	VV	5.79766	1.00000	5.79766		?
13.900	BV	1053.21143	6.50430e-2	68.50402		BFB
14.092	VV	40.37051	0.00000	0.00000		n-decane
14.201	VB	206.44104	1.00000	206.44104		?
14.457	VV	34.83057	1.00000	34.83057		?
14.564	VV	175.02895	3.41683e-2	5.98044		1,2,4-Trimethylbenzene
14.650	VV	4.47795	1.00000	4.47795		?
14.698	VV	3.29917	1.00000	3.29917		?
14.787	VV	5.00222	1.00000	5.00222		?
14.896	VV	35.06431	1.00000	35.06431		?
15.033	VV	28.96237	1.00000	28.96237		?
15.087	VV	54.36927	1.00000	54.36927		?
15.185	VV	6.81740	1.00000	6.81740		?
15.254	VV	23.64041	1.00000	23.64041		?
15.311	VV	20.50286	1.00000	20.50286		?
15.369	VV	6.25025	1.00000	6.25025		?
15.418	VV	11.35703	1.00000	11.35703		?
15.510	VV	14.29977	1.00000	14.29977		?
15.553	VV	15.07075	1.00000	15.07075		?
15.601	VV	16.61311	0.00000	0.00000		Dodecane
15.663	VV	3.97052	1.00000	3.97052		?
15.746	VV	13.54769	1.00000	13.54769		?
15.783	VV	5.21628	1.00000	5.21628		?
15.832	VV	12.92000	1.00000	12.92000		?
15.964	VV	10.99250	1.00000	10.99250		?
16.041	VV	4.68463	1.00000	4.68463		?
16.161	VV	10.33266	0.00000	0.00000		Naphthalene
16.239	VV	2.92411	1.00000	2.92411		?
16.314	VV	1.50816	1.00000	1.50816		?
Totals :				3.59084e4		

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

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*** End of Report ***

Continuing Calibration Verification Summary Form
Gasoline Range Organics by 8015

CVS Information

Batch ID: VGC2524
Filename: 024f2401 .D
Date / Time Acquired: 01/30/2015 22:23
Initial Calibration Batch ID: VGC2442

Analyte	Expected Amount ug/L	Measured Amount ug/L	Recovery % #	Limits lower %	Limits upper %
GRO	250	239	95.6	80	120
BFB	100	101	101	40	140

Laboratory Use Only

		m	b	cf
GRO_SUM	2337.9	9.8516	-15.994	
BFB	1078.6414			10.66781

Analyst: _____ Reviewed By: _____

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\024F2401.D
Sample Name: ICV

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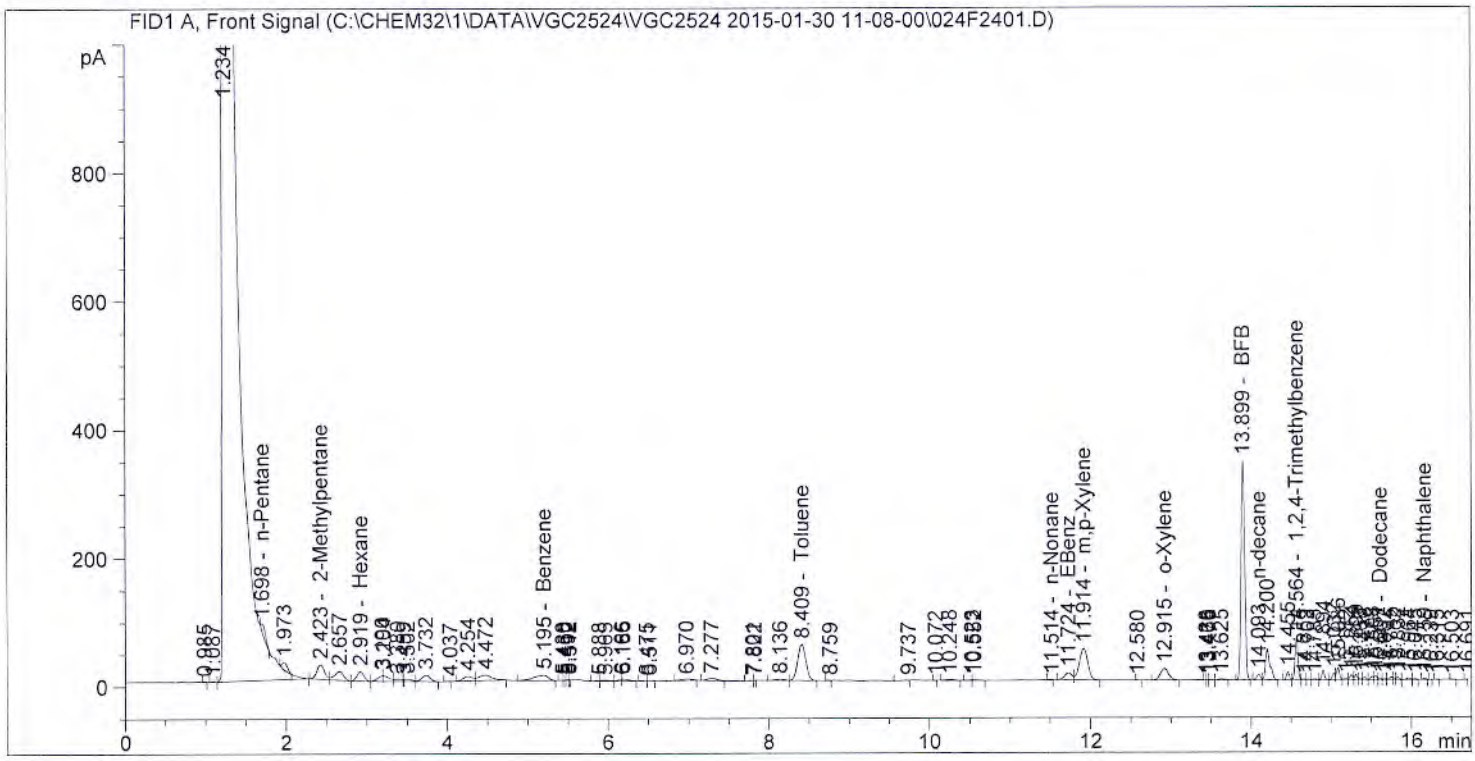
Acq. Operator : BWS
Acq. Instrument : GC7
Injection Date : 1/30/2015 10:23:40 PM

Seq. Line : 24
Location : Vial 24
Inj : 1
Inj Volume : Manually

Acq. Method : C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\GAS6.M
Last changed : 11/26/2013 9:55:21 AM by BWS
Analysis Method : C:\CHEM32\1\DATA\VGC2524\VPH_FID.M
Last changed : 10/25/2013 8:39:51 AM by BWS
Method Info : VPH/5030 purge and trap analysis

BWS
2-2-15



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/14/2013 2:31:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A, Front Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.985	VV	1.23654	1.00000	1.23654		?
1.087	VV	3.47107	1.00000	3.47107		?
1.234	VB S	3.97610e4	1.00000	3.97610e4		?
1.698	BB X	57.25068	8.06376e-2	4.61656		n-Pentane
1.973	BB X	53.85981	1.00000	53.85981		?
2.423	VV	158.58862	5.80747e-2	9.20998		2-Methylpentane

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\024F2401.D
Sample Name: ICV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.657	VV	114.05765	1.00000	114.05765		?
2.726		-	-	-		MTBE
2.919	VV	95.77921	5.59626e-2	5.36005		Hexane
3.190	VV	43.05066	1.00000	43.05066		?
3.204	VB	49.92025	1.00000	49.92025		?
3.380	BV	23.57802	1.00000	23.57802		?
3.459	VV	3.37513	1.00000	3.37513		?
3.502	VV	23.82414	1.00000	23.82414		?
3.732	VV	81.52870	1.00000	81.52870		?
4.037	VV	1.16403	1.00000	1.16403		?
4.254	VV	66.12665	1.00000	66.12665		?
4.472	VB	112.55235	1.00000	112.55235		?
4.713		-	-	-		2,2,4-Trimethylpentane
5.195	VV	118.12098	3.44584e-2	4.07026		Benzene
5.430	BV	1.05178	1.00000	1.05178		?
5.460	VV	1.82687	1.00000	1.82687		?
5.492	VV	2.18929	1.00000	2.18929		?
5.512	VV	1.04968	1.00000	1.04968		?
5.888	VV	3.47721	1.00000	3.47721		?
5.965	VV	11.68484	1.00000	11.68484		?
6.166	VV	8.80468	1.00000	8.80468		?
6.185	VV	17.51439	1.00000	17.51439		?
6.475	VV	2.46968	1.00000	2.46968		?
6.511	VV	3.52199	1.00000	3.52199		?
6.970	VV	30.24740	1.00000	30.24740		?
7.277	BV	35.15089	1.00000	35.15089		?
7.801	VV	2.60086	1.00000	2.60086		?
7.822	VV	1.46736	1.00000	1.46736		?
8.136	VV	22.22130	1.00000	22.22130		?
8.409	VV	405.82336	4.63400e-2	18.80584		Toluene
8.759	VV	1.15985	1.00000	1.15985		?
9.737	VV	2.61230	1.00000	2.61230		?
10.072	VV	1.16941	1.00000	1.16941		?
10.248	VV	15.14864	1.00000	15.14864		?
10.523	VV	4.01863	1.00000	4.01863		?
10.552	VV	7.03966	1.00000	7.03966		?
11.514	VV	1.68221	1.46032	2.45657		n-Nonane
11.724	BV	79.52991	4.33517e-2	3.44776		EBenz
11.914	VB	362.02246	2.00192e-2	7.24739		m,p-Xylene
12.580	VV	1.24871	1.00000	1.24871		?
12.915	BV	140.10419	4.96002e-2	6.94920		o-Xylene
13.438	VV	1.36808	1.00000	1.36808		?
13.466	VV	1.34109	1.00000	1.34109		?
13.479	VV	2.79309	1.00000	2.79309		?
13.625	VV	10.14538	1.00000	10.14538		?
13.899	VV	1078.64136	6.50430e-2	70.15806		BFB
14.093	BV	30.84626	0.00000	0.00000		n-decane
14.200	VV	194.32355	1.00000	194.32355		?
14.455	VV	34.43534	1.00000	34.43534		?
14.564	VV	162.69037	3.46243e-2	5.63305		1,2,4-Trimethylbenzene
14.659	VV	4.55121	1.00000	4.55121		?
14.703	VV	3.19804	1.00000	3.19804		?
14.785	VV	5.56231	1.00000	5.56231		?
14.894	VV	34.54501	1.00000	34.54501		?
15.032	VV	26.32783	1.00000	26.32783		?
15.086	VV	50.20201	1.00000	50.20201		?

Data File C:\CHEM32\1\DATA\VGC2524\VGC2524 2015-01-30 11-08-00\024F2401.D
Sample Name: ICV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
15.182	VV	6.49699	1.00000	6.49699		?
15.254	VV	21.72755	1.00000	21.72755		?
15.309	VV	18.40867	1.00000	18.40867		?
15.366	VV	6.75410	1.00000	6.75410		?
15.418	VV	10.67937	1.00000	10.67937		?
15.508	VV	13.53665	1.00000	13.53665		?
15.551	VV	14.25508	1.00000	14.25508		?
15.607	VV	5.56554	0.00000	0.00000		Dodecane
15.662	VV	3.86435	1.00000	3.86435		?
15.745	VV	12.43680	1.00000	12.43680		?
15.782	VV	4.44953	1.00000	4.44953		?
15.832	VV	12.28374	1.00000	12.28374		?
15.964	VV	10.57917	1.00000	10.57917		?
16.045	VV	4.62284	1.00000	4.62284		?
16.159	VV	6.44023	0.00000	0.00000		Naphthalene
16.239	VV	1.19557	1.00000	1.19557		?
16.315	VV	1.64890	1.00000	1.64890		?
16.503	VV	1.12006	1.00000	1.12006		?
16.691	VBA	1.62593	1.00000	1.62593		?
Totals :				4.11689e4		

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (n-decane)
Warning : Negative results set to zero (cal. curve intercept), (Dodecane)
Warning : Negative results set to zero (cal. curve intercept), (Naphthalene)

==========

*** End of Report ***

SW-846 8015C DRO

Sample Data

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-01**

Client Sample ID: **BT-SW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182001-B
Lab Project ID: 31500182

Collection Date: 01/24/2015 13:30
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**6.35**		0.510	mg/L	2	02/1/2015 18:48
Surrogates						
o-Terphenyl	103		40.0-140	%	2	02/1/2015 18:48

Batch Information

Analytical Batch: **XGC3665**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4517**
Prep Method: **SW-846 3520C**
Prep Date/Time: **01/29/2015 15:00**
Prep Initial Wt./Vol.: **981 mL**
Prep Extract Vol: **5 mL**

Data File C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\083B0301.D
Sample Name: 0182_1 x2

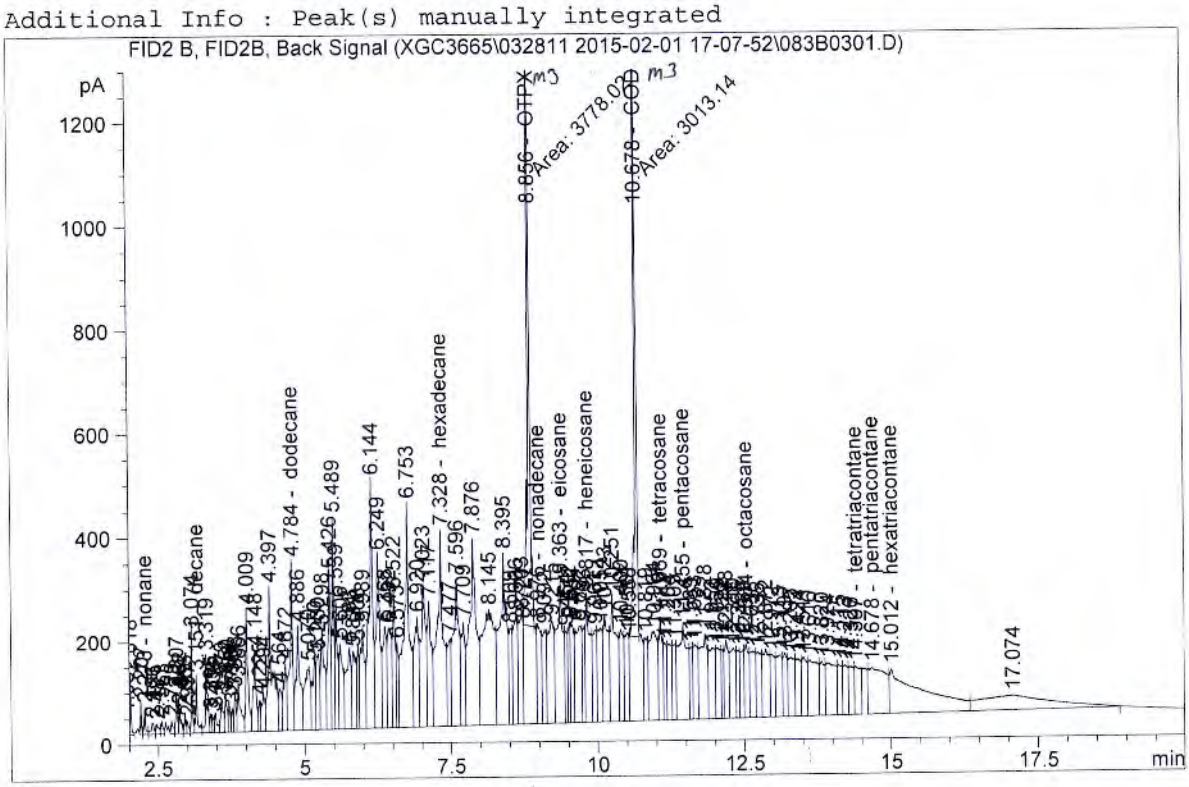
==========

Acq. Operator : VS
Acq. Instrument : GC08
Injection Date : 2/1/2015 6:48:22 PM

Seq. Line : 3
Location : Vial 83
Inj : 1
Inj Volume : 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3665\DRO-K_B.M
Last changed : 2/2/2015 12:51:07 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



VS
2-2-15

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.390	VV	98.23804	1.00000	98.23804	?	
1.152	VV	3.15240e7	1.00000	3.15240e7	?	
1.597	VV	1.38434e4	1.00000	1.38434e4	?	
1.766	VV	6656.94678	1.00000	6656.94678	?	

Data File C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\083B0301.D
Sample Name: 0182_1 x2

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.957	VV	64.52333	1.00000	64.52333		?
2.018	VB	161.02785	1.00000	161.02785		?
2.207	VV	78.49571	1.00000	78.49571		?
2.273	VV	90.54923	1.73487e-2	1.57091		nonane
2.406	VV	74.40525	1.00000	74.40525		?
2.481	VV	56.64510	1.00000	56.64510		?
2.563	VV	57.16609	1.00000	57.16609		?
2.729	VV	62.16514	1.00000	62.16514		?
2.807	VV	150.77432	1.00000	150.77432		?
2.862	VV	117.05688	1.00000	117.05688		?
2.956	VV	66.50961	1.00000	66.50961		?
2.997	VV	55.43441	1.00000	55.43441		?
3.074	VV	282.54959	1.00000	282.54959		?
3.151	VV	232.46272	1.90669e-2	4.43234		decane
3.319	VV	367.34897	1.00000	367.34897		?
3.395	VV	70.39259	1.00000	70.39259		?
3.438	VV	57.97171	1.00000	57.97171		?
3.476	VV	110.47678	1.00000	110.47678		?
3.579	VV	193.74391	1.00000	193.74391		?
3.650	VV	183.04095	1.00000	183.04095		?
3.709	VV	112.95259	1.00000	112.95259		?
3.758	VV	93.83309	1.00000	93.83309		?
3.808	VV	180.37468	1.00000	180.37468		?
3.866	VV	364.10254	1.00000	364.10254		?
4.009	VV	644.42749	1.00000	644.42749		?
4.148	VV	535.47107	1.00000	535.47107		?
4.225	VV	127.69796	1.00000	127.69796		?
4.294	VV	279.45435	1.00000	279.45435		?
4.397	VV	1416.50098	1.00000	1416.50098		?
4.564	VV	293.76236	1.00000	293.76236		?
4.672	VV	533.41833	1.00000	533.41833		?
4.784	VV	1091.63586	1.94670e-2	21.25090		dodecane
4.886	VV	964.35339	1.00000	964.35339		?
5.070	VV	829.22009	1.00000	829.22009		?
5.170	VV	525.16650	1.00000	525.16650		?
5.230	VV	563.77460	1.00000	563.77460		?
5.298	VV	878.52606	1.00000	878.52606		?
5.426	VV	1036.04736	1.00000	1036.04736		?
5.489	VV	922.18610	1.00000	922.18610		?
5.539	VV	642.57159	1.00000	642.57159		?
5.606	VV	730.14294	1.00000	730.14294		?
5.763	VV	928.72467	1.00000	928.72467		?
5.831	VV	715.66016	1.00000	715.66016		?
5.908	VV	374.37082	1.00000	374.37082		?
5.989	VV	994.11005	1.00000	994.11005		?
6.144	VV	2146.90942	1.00000	2146.90942		?
6.249	VV	1581.94885	1.00000	1581.94885		?
6.368	VV	917.99438	1.00000	917.99438		?
6.432	VV	970.30597	1.00000	970.30597		?
6.522	VV	806.54376	1.00000	806.54376		?
6.573	VV	389.58124	1.00000	389.58124		?
6.753	VV	2890.25415	1.00000	2890.25415		?
6.920	VV	1075.24243	1.00000	1075.24243		?
7.023	VV	1612.72559	1.00000	1612.72559		?
7.117	VV	1176.26941	1.00000	1176.26941		?
7.328	VV	2871.37354	1.87901e-2	53.95349		hexadecane

Data File C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\083B0301.D
Sample Name: 0182_1 x2

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
7.477	VV	665.38422	1.00000	665.38422		?
7.596	VV	1918.88306	1.00000	1918.88306		?
7.709	VV	906.62421	1.00000	906.62421		?
7.876	VV	3057.22046	1.00000	3057.22046		?
8.145	VV	3267.43701	1.00000	3267.43701		?
8.395	VV	2761.70093	1.00000	2761.70093		?
8.509	VV	725.24786	1.00000	725.24786		?
8.606	VV	1044.54431	1.00000	1044.54431		?
8.703	VV	1148.47302	1.00000	1148.47302		?
8.727	VV R	2609.00244	1.00000	2609.00244		?
8.856	MM T	3778.01514	0.00000	0.00000		OTPX
8.976	VV	987.28851	1.58832e-2	15.68131		nonadecane
9.092	VV	850.96460	1.00000	850.96460		?
9.215	VV	1460.56116	1.00000	1460.56116		?
9.363	VV	2051.45825	1.54620e-2	31.71960		eicosane
9.454	VV	506.70300	1.00000	506.70300		?
9.512	VV	532.13824	1.00000	532.13824		?
9.551	VV	774.75562	1.00000	774.75562		?
9.692	VV	1406.28003	1.00000	1406.28003		?
9.766	VV	627.06384	1.00000	627.06384		?
9.817	VV	1352.85950	1.85493e-2	25.09460		heneicosane
9.961	VV	866.07678	1.00000	866.07678		?
10.054	VV	1080.96179	1.00000	1080.96179		?
10.123	VV	1284.17358	1.00000	1284.17358		?
10.251	VV	1723.83337	1.00000	1723.83337		?
10.400	VV	902.72974	1.00000	902.72974		?
10.507	VV	865.60876	1.00000	865.60876		?
10.538	VV R	2426.42139	1.00000	2426.42139		?
10.678	MM T	3013.14404	0.00000	0.00000		COD
10.819	VV	701.72021	1.00000	701.72021		?
10.964	VV	1692.58704	1.00000	1692.58704		?
11.069	VV	883.74689	1.18753e-2	10.49475		tetracosane
11.142	VV	488.71915	1.00000	488.71915		?
11.204	VV	797.39532	1.00000	797.39532		?
11.309	VV	610.20941	1.00000	610.20941		?
11.455	VV	1984.91077	1.16961e-2	23.21569		pentacosane
11.589	VV	487.52115	1.00000	487.52115		?
11.653	VV	787.85010	1.00000	787.85010		?
11.828	VV	1454.23962	1.00000	1454.23962		?
11.952	VV	1014.94635	1.00000	1014.94635		?
12.039	VV	780.01257	1.00000	780.01257		?
12.122	VV	339.11975	1.00000	339.11975		?
12.188	VV	746.03412	1.00000	746.03412		?
12.310	VV	976.38477	1.00000	976.38477		?
12.396	VV	477.93530	1.00000	477.93530		?
12.485	VV	601.66919	1.00000	601.66919		?
12.534	VV	721.10736	1.89816e-2	13.68779		octacosane
12.635	VV	814.38190	1.00000	814.38190		?
12.735	VV	785.95575	1.00000	785.95575		?
12.872	VV	1006.43713	1.00000	1006.43713		?
12.972	VV	635.99481	1.00000	635.99481		?
13.113	VV	883.78882	1.00000	883.78882		?
13.197	VV	592.02087	1.00000	592.02087		?
13.295	VV	832.04199	1.00000	832.04199		?
13.424	VV	666.50513	1.00000	666.50513		?
13.511	VV	717.85132	1.00000	717.85132		?

Data File C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\083B0301.D
Sample Name: 0182_1 x2

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
13.616	VV	1222.90479	1.00000	1222.90479		?
13.820	VV	598.10455	1.00000	598.10455		?
13.924	VV	1201.49438	1.00000	1201.49438		?
14.115	VV	540.69397	1.00000	540.69397		?
14.213	VV	529.44940	1.00000	529.44940		?
14.320	VV	572.00977	1.00000	572.00977		?
14.397	VB	695.20154	1.44738e-2	10.06219		tetratriacontane
14.678	PV	1889.62915	1.85685e-2	35.08754		pentatriacontane
15.012	VV	3414.50684	1.85740e-2	63.42101		hexatriacontane
16.602		-	-	-		tetracontane
17.074	VB	2376.35474	1.00000	2376.35474		?
Totals :				3.16347e7		

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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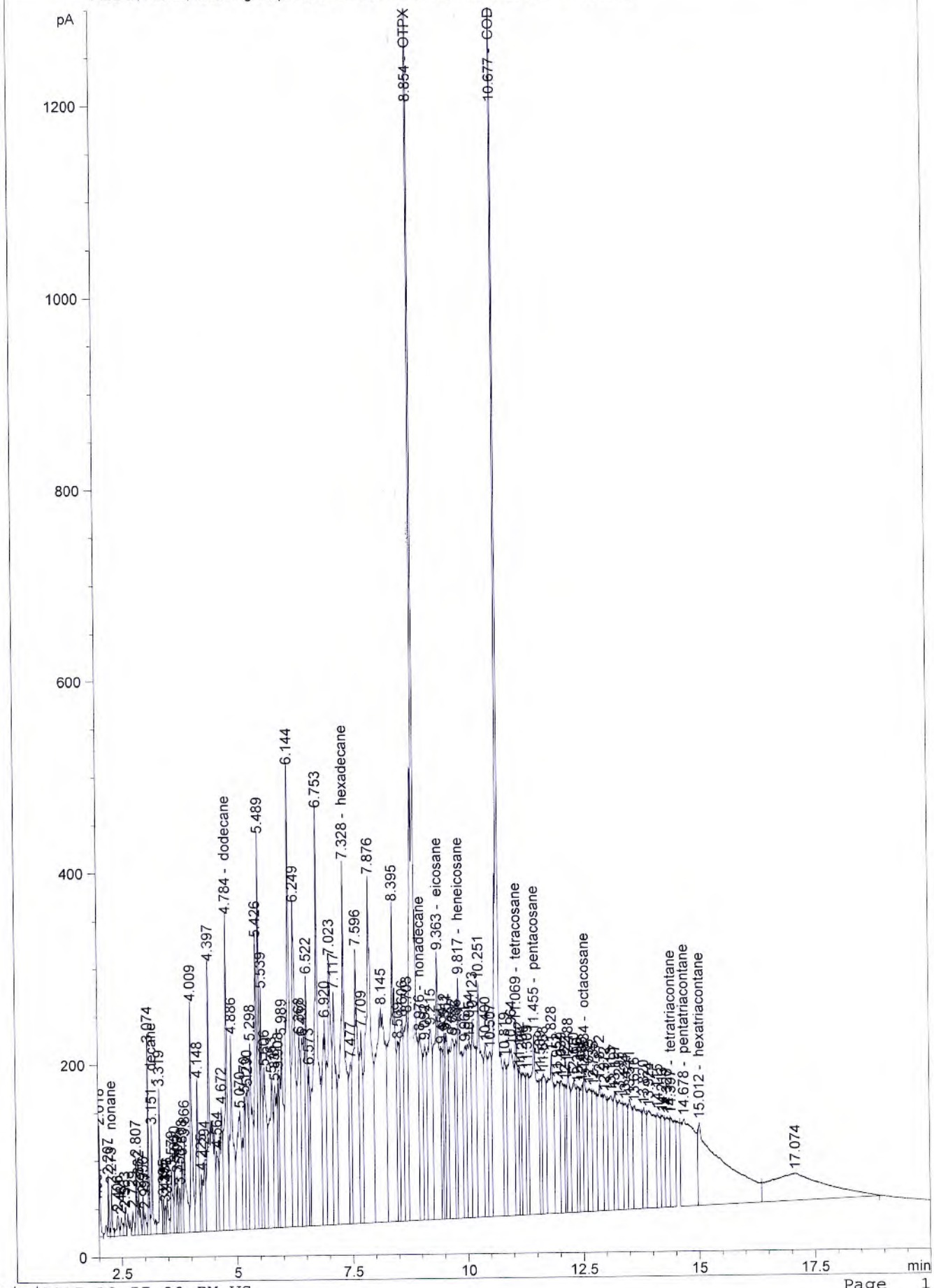
*** End of Report ***

Current Chromatogram(s)

FID2 B, FID2B, Back Signal (XGC3665\032811 2015-02-01 17-07-52\083B0301.D)



Results of **BT-SW-02**

Client Sample ID: **BT-SW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182002-B
Lab Project ID: 31500182

Collection Date: 01/24/2015 16:50
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		0.262	mg/L	1	02/1/2015 4:13
Surrogates						
o-Terphenyl	82.2		40.0-140	%	1	02/1/2015 4:13

Batch Information

Analytical Batch: **XGC3668**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4517**
Prep Method: **SW-846 3520C**
Prep Date/Time: **01/29/2015 15:00**
Prep Initial Wt./Vol.: **956 mL**
Prep Extract Vol: **5 mL**

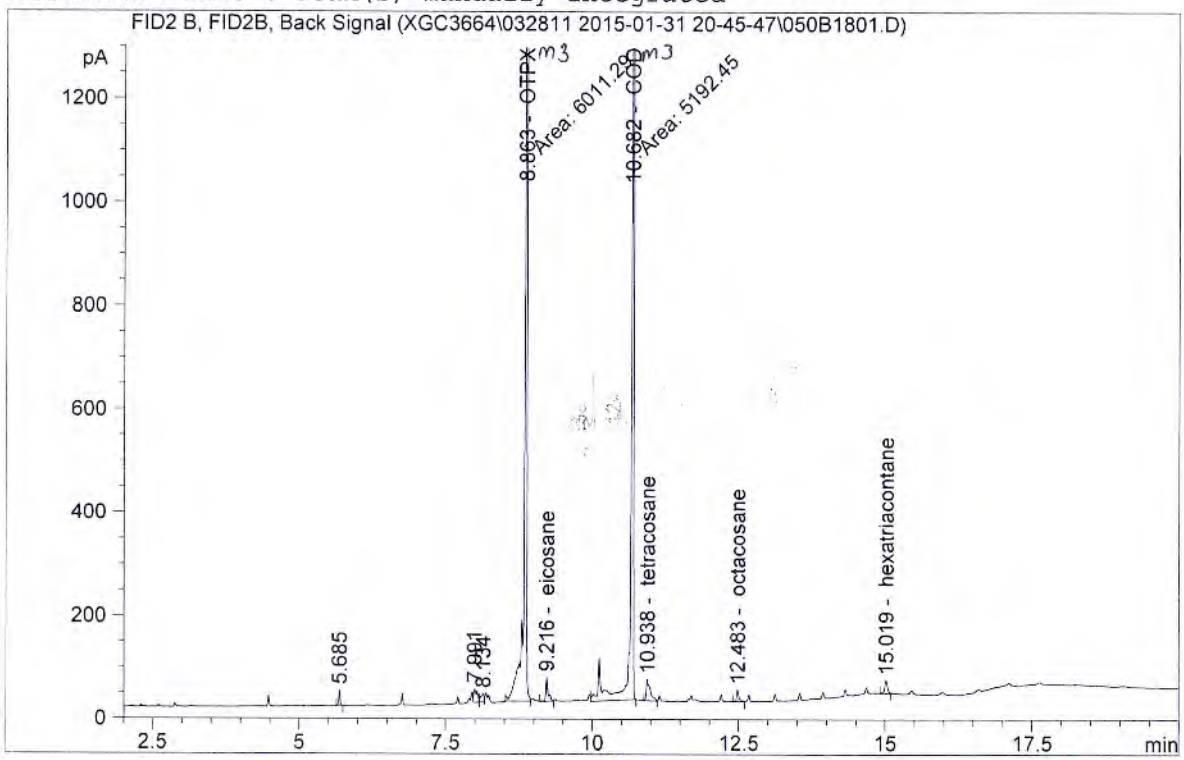
Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\050B1801.D
Sample Name: 0182_2

==========

Acq. Operator	: VS	Seq. Line :	18
Acq. Instrument	: GC08	Location :	Vial 50
Injection Date	: 2/1/2015 4:13:24 AM	Inj :	1
		Inj Volume :	10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/2/2015 12:02:17 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



VS
2-2-15

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.994	PB	2.47584e7	1.00000	2.47584e7		?
2.258		-	-	-		nonane
3.170		-	-	-		decane
4.801		-	-	-		dodecane

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\050B1801.D
Sample Name: 0182_2

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
5.685	BB	51.29980	1.00000	51.29980		?
7.341		-	-	-		hexadecane
7.991	VV	106.32735	1.00000	106.32735		?
8.134	VV	65.99207	1.00000	65.99207		?
8.863	MM T	6011.28662	0.00000	0.00000		OTPX
8.894		-	-	-		nonadecane
9.216	VV	136.69382	1.54620e-2	2.11356		eicosane
9.829		-	-	-		heneicosane
10.682	MM T	5192.44678	0.00000	0.00000		COD
10.938	BV	193.12323	1.18753e-2	2.29339		tetracosane
11.468		-	-	-		pentacosane
12.483	PBA	60.09938	1.89816e-2	1.14078		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
15.019	BP	81.55710	1.85740e-2	1.51484		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 2.47586e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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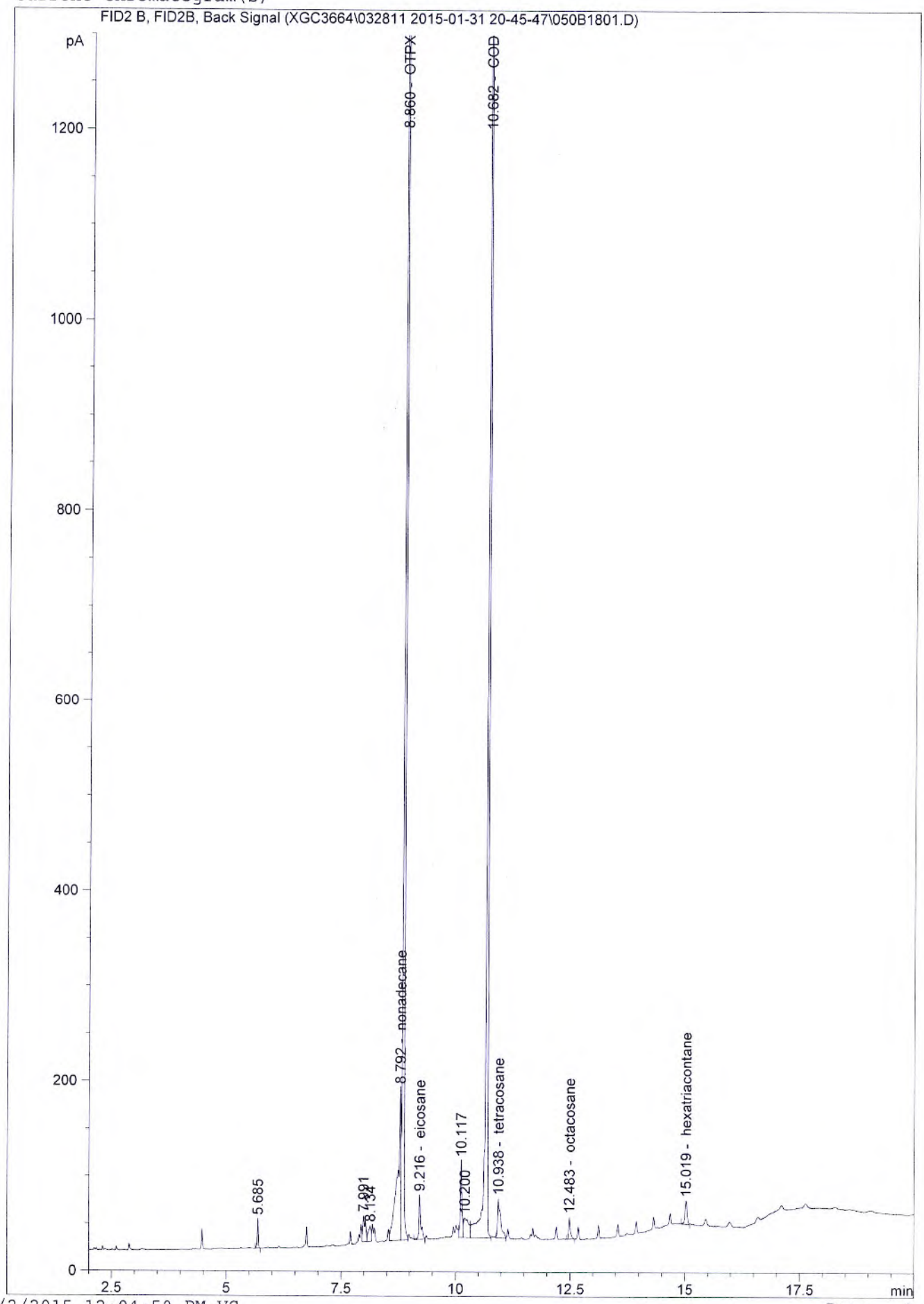
*** End of Report ***

Current Chromatogram(s)



Results of **BT-SW-03**

Client Sample ID: **BT-SW-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182003-B
Lab Project ID: 31500182

Collection Date: 01/25/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		0.269	mg/L	1	02/1/2015 5:03
Surrogates						
o-Terphenyl	79.5		40.0-140	%	1	02/1/2015 5:03

Batch Information

Analytical Batch: **XGC3668**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4517**
Prep Method: **SW-846 3520C**
Prep Date/Time: **01/29/2015 15:00**
Prep Initial Wt./Vol.: **931 mL**
Prep Extract Vol: **5 mL**

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\052B2001.D
Sample Name: 0182_3

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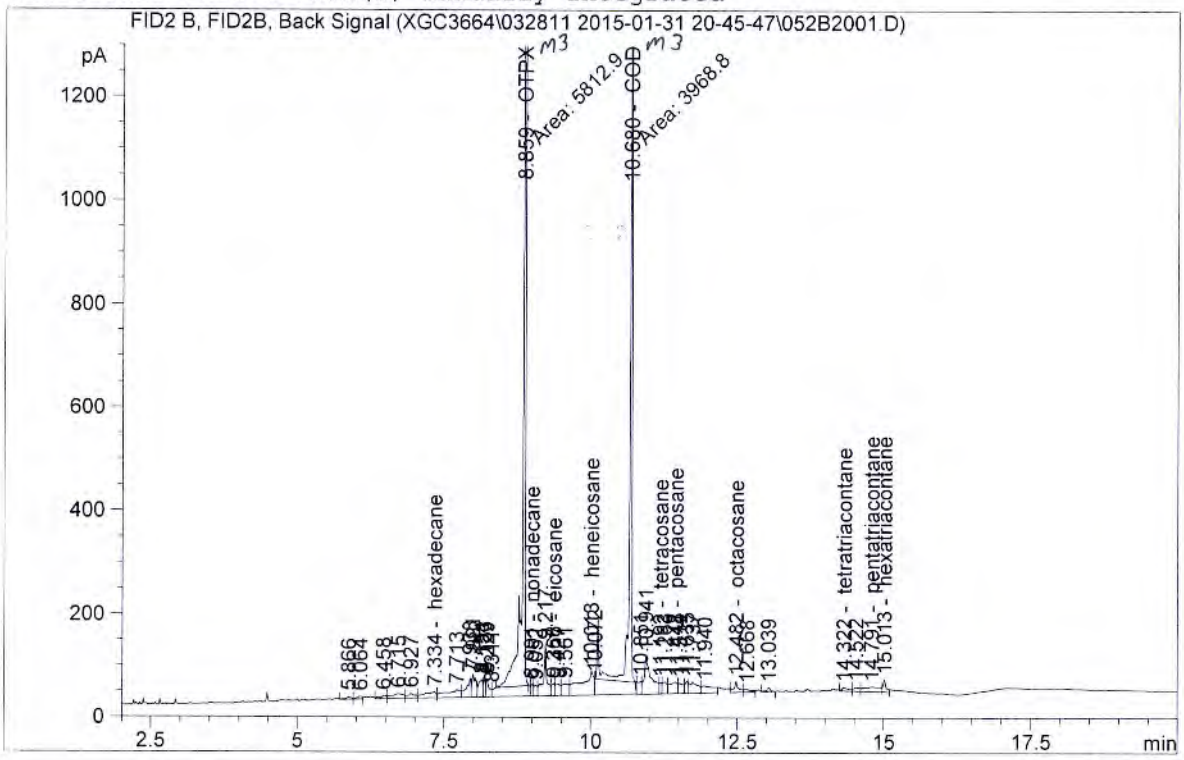
Acq. Operator	: VS	Seq. Line :	20
Acq. Instrument	: GC08	Location :	Vial 52
Injection Date	: 2/1/2015 5:03:07 AM	Inj :	1
		Inj Volume :	10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/2/2015 12:15:59 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-2-15

Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.298	BV N	29.52800	1.00000	29.52800		?
1.113	PV	2.98774e7	1.00000	2.98774e7		?
1.731	VV	7489.22803	1.00000	7489.22803		?
2.258		-	-	-		nonane

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\052B2001.D
Sample Name: 0182_3

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
3.170		-	-	-		decane
4.801		-	-	-		dodecane
5.866	VV	35.17196	1.00000	35.17196		?
6.064	VV	34.95109	1.00000	34.95109		?
6.458	VV	50.69323	1.00000	50.69323		?
6.715	VV	132.42439	1.00000	132.42439		?
6.927	VV	77.39834	1.00000	77.39834		?
7.334	VV	169.56972	1.87901e-2	3.18624		hexadecane
7.713	VV	263.42368	1.00000	263.42368		?
7.938	VV	196.55219	1.00000	196.55219		?
7.991	VV	198.97679	1.00000	198.97679		?
8.134	VV	158.86403	1.00000	158.86403		?
8.183	VV	77.38025	1.00000	77.38025		?
8.229	VV	131.56602	1.00000	131.56602		?
8.311	VV R	719.08240	1.00000	719.08240		?
8.859	MM T	5812.89502	0.00000	0.00000		OTPX
8.991	VV	64.21564	1.58832e-2	1.01995		nonadecane
9.052	VV	78.09695	1.00000	78.09695		?
9.217	VV	415.04883	1.00000	415.04883		?
9.366	VV	100.16955	1.54620e-2	1.54882		eicosane
9.427	VV	117.96154	1.00000	117.96154		?
9.561	VV	186.35803	1.00000	186.35803		?
10.013	VV	691.84698	1.85493e-2	12.83328		heneicosane
10.072	VM R	1091.16418	1.00000	1091.16418		?
10.680	MM T	3968.80371	0.00000	0.00000		COD
10.851	PV	119.34744	1.00000	119.34744		?
10.941	VV	603.95111	1.00000	603.95111		?
11.192	VV	58.38164	1.18753e-2	6.93299e-1		tetracosane
11.263	VV	121.11642	1.00000	121.11642		?
11.448	VV	196.96460	1.16961e-2	2.30371		pentacosane
11.514	VB	112.25968	1.00000	112.25968		?
11.635	BV	85.29089	1.00000	85.29089		?
11.737	VV	195.63562	1.00000	195.63562		?
11.940	VB	195.39580	1.00000	195.39580		?
12.482	PV	111.48471	1.89816e-2	2.11616		octacosane
12.668	VV	45.62331	1.00000	45.62331		?
13.039	VV	35.45356	1.00000	35.45356		?
14.322	BB	54.49879	1.44738e-2	7.88804e-1		tetratriacontane
14.522	BV	53.45049	1.00000	53.45049		?
14.791	VV	162.28961	1.85685e-2	3.01347		pentatriacontane
15.013	VB	92.88481	1.85740e-2	1.72524		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 2.98905e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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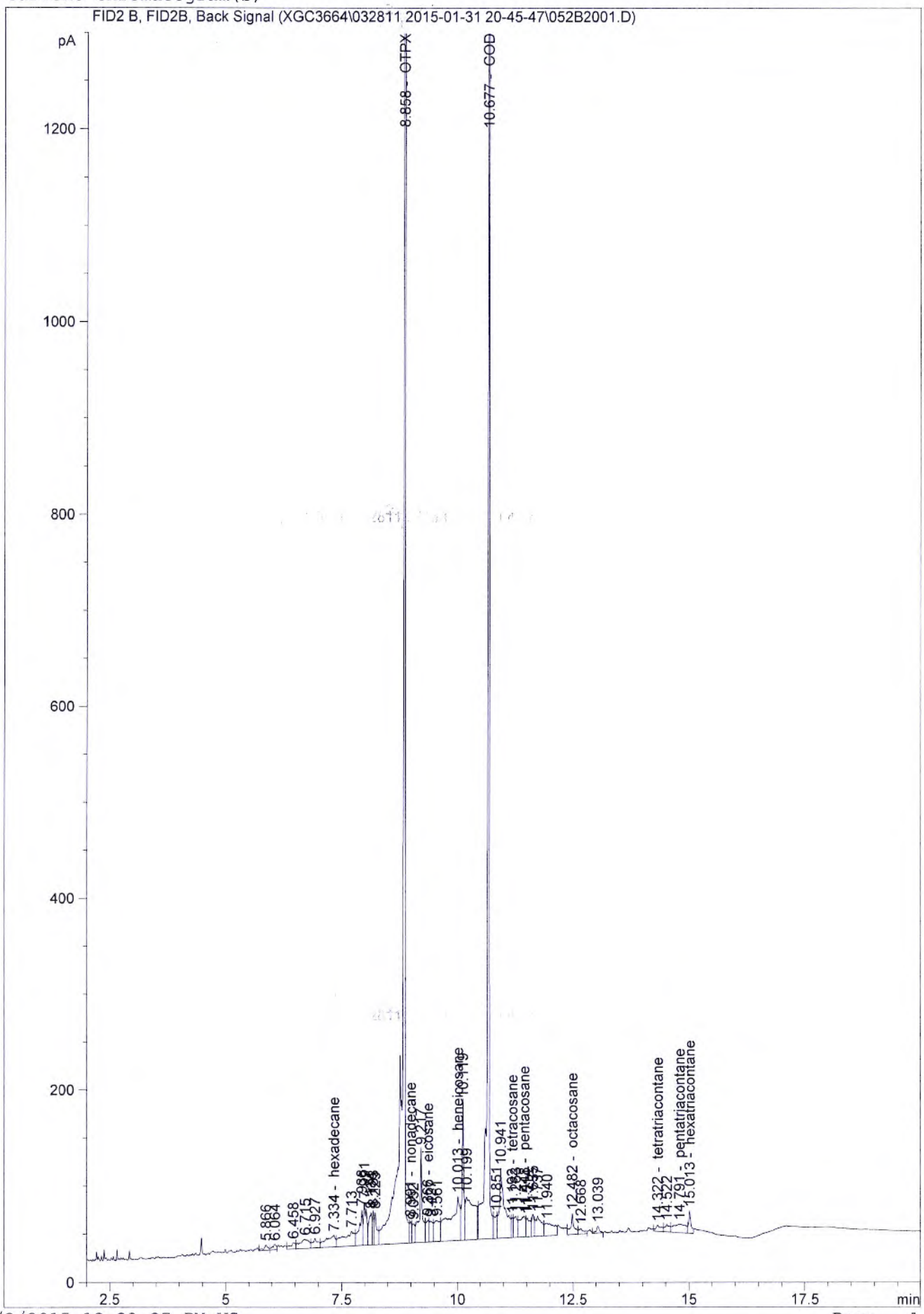
*** End of Report ***

Current Chromatogram(s)



Results of **BT-SW-04**

Client Sample ID: **BT-SW-04**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182004-B
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:15
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		0.269	mg/L	1	02/1/2015 5:27
Surrogates						
o-Terphenyl	102		40.0-140	%	1	02/1/2015 5:27

Batch Information

Analytical Batch: **XGC3668**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4517**
Prep Method: **SW-846 3520C**
Prep Date/Time: **01/29/2015 15:00**
Prep Initial Wt./Vol.: **930 mL**
Prep Extract Vol: **5 mL**

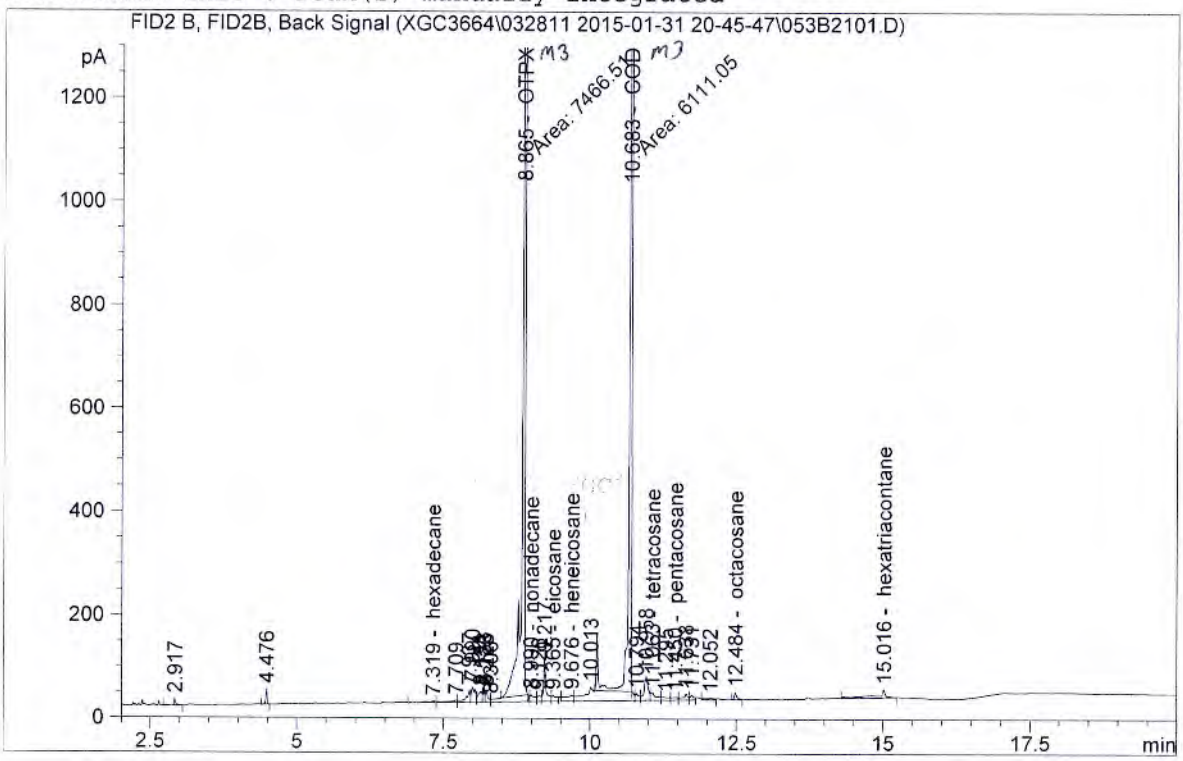
Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\053B2101.D
Sample Name: 0182_4

==========

Acq. Operator	: VS	Seq. Line	: 21
Acq. Instrument	: GC08	Location	: Vial 53
Injection Date	: 2/1/2015 5:27:54 AM	Inj	: 1
		Inj Volume	: 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/2/2015 12:15:59 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-2-15

Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.361	BP N	36.71210	1.00000	36.71210		?
1.101	PV	2.93894e7	1.00000	2.93894e7		?
1.549	VV	1.18889e4	1.00000	1.18889e4		?
1.720	VV	8309.79297	1.00000	8309.79297		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\053B2101.D
Sample Name: 0182_4

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.258		-	-	-		nonane
2.917	VV	25.10308	1.00000	25.10308		?
3.170		-	-	-		decane
4.476	PB	50.13398	1.00000	50.13398		?
4.801		-	-	-		dodecane
7.319	VV	28.84712	1.87901e-2	5.42041e-1		hexadecane
7.709	VV	41.04613	1.00000	41.04613		?
7.937	VV	104.18056	1.00000	104.18056		?
7.990	VV	130.38870	1.00000	130.38870		?
8.134	VV	91.56345	1.00000	91.56345		?
8.183	VV	46.83657	1.00000	46.83657		?
8.228	VV	63.80363	1.00000	63.80363		?
8.306	VM R	370.26303	1.00000	370.26303		?
8.865	MM T	7466.51318	0.00000	0.00000		OTPX
8.990	VV	72.01420	1.58832e-2	1.14382		nonadecane
9.126	VV	47.76667	1.00000	47.76667		?
9.217	VV	249.27278	1.00000	249.27278		?
9.365	VB	66.23946	1.54620e-2	1.02419		eicosane
9.676	BV	119.66170	1.85493e-2	2.21964		heneicosane
10.013	VM R	1062.82971	1.00000	1062.82971		?
10.683	MM T	6111.05322	0.00000	0.00000		COD
10.794	VV	62.09872	1.00000	62.09872		?
10.958	VV	224.86589	1.00000	224.86589		?
11.063	VB	101.87362	1.18753e-2	1.20978		tetracosane
11.295	BP	55.53561	1.00000	55.53561		?
11.450	PV	41.23271	1.16961e-2	4.82261e-1		pentacosane
11.638	VV	69.41006	1.00000	69.41006		?
11.731	VV	40.19428	1.00000	40.19428		?
12.052	VV	41.01620	1.00000	41.01620		?
12.484	VV	40.85946	1.89816e-2	7.75579e-1		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
15.016	BB	180.97127	1.85740e-2	3.36136		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 2.94124e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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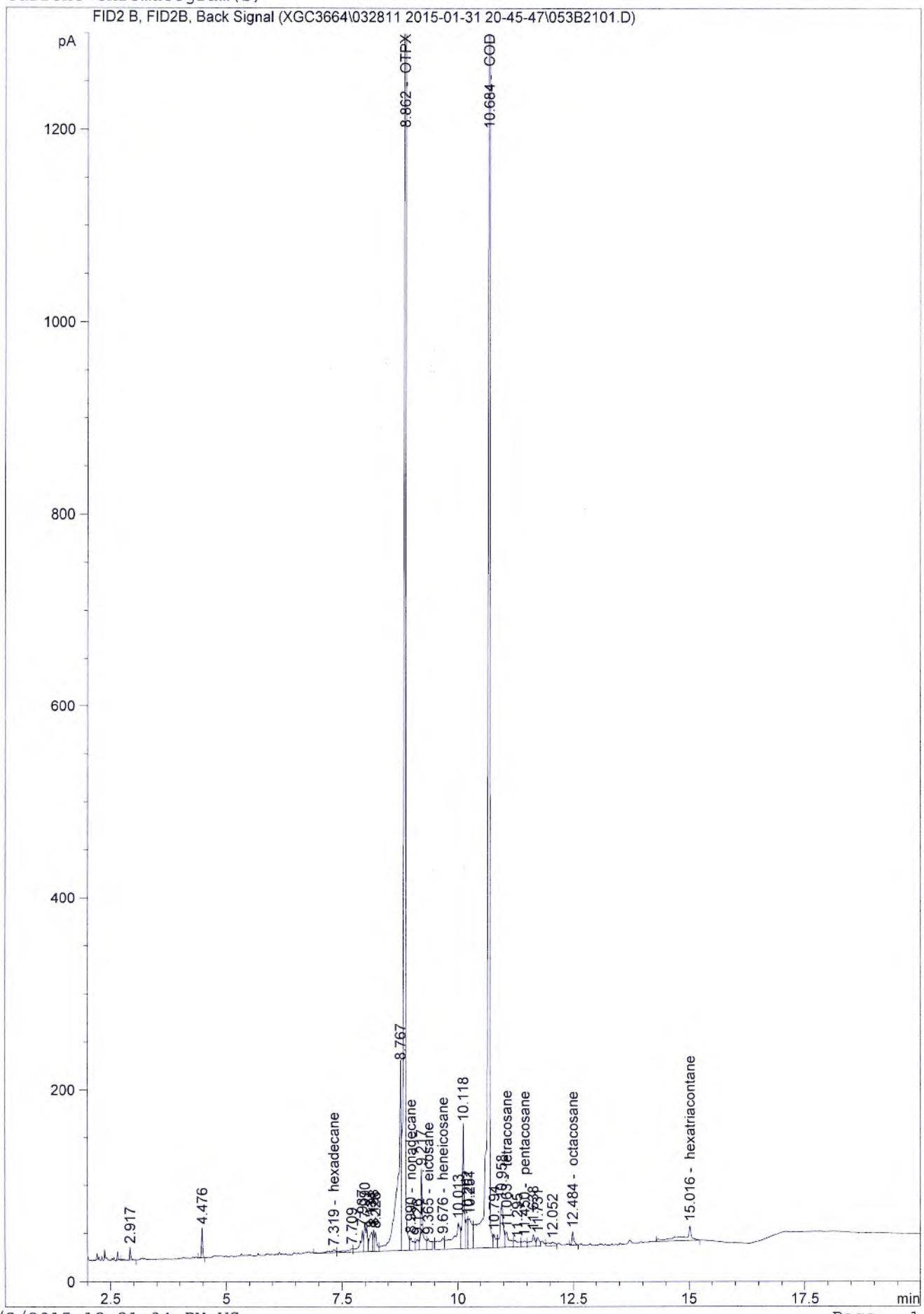
*** End of Report ***

Current Chromatogram(s)



Results of **BT-SW-05**

Client Sample ID: **BT-SW-05**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182005-B
Lab Project ID: 31500182

Collection Date: 01/26/2015 09:10
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		0.256	mg/L	1	02/1/2015 5:52
Surrogates						
o-Terphenyl	103		40.0-140	%	1	02/1/2015 5:52

Batch Information

Analytical Batch: **XGC3668**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4517**
Prep Method: **SW-846 3520C**
Prep Date/Time: **01/29/2015 15:00**
Prep Initial Wt./Vol.: **975 mL**
Prep Extract Vol: **5 mL**

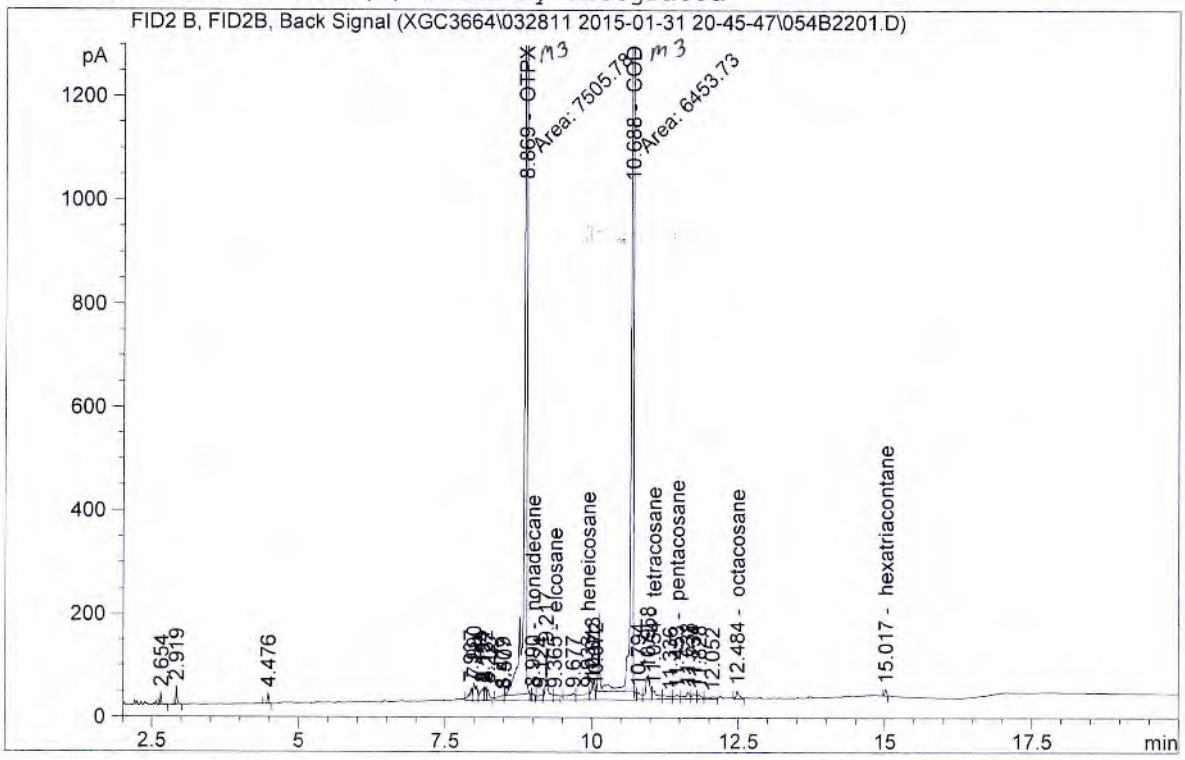
Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\054B2201.D
Sample Name: 0182_5

==========

Acq. Operator	: VS	Seq. Line :	22
Acq. Instrument	: GC08	Location :	Vial 54
Injection Date	: 2/1/2015 5:52:39 AM	Inj :	1
		Inj Volume :	10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/2/2015 12:27:47 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-2-15

Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.392	BV	66.34464	1.00000	66.34464		?
1.115	VV	2.99987e7	1.00000	2.99987e7		?
1.561	VV	1.09755e4	1.00000	1.09755e4		?
1.732	VV	7202.87891	1.00000	7202.87891		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\054B2201.D
Sample Name: 0182_5

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.258		-	-	-		nonane
2.654	VB	29.79860	1.00000	29.79860		?
2.919	BBA	52.48154	1.00000	52.48154		?
3.170		-	-	-		decane
4.476	PB	34.00492	1.00000	34.00492		?
4.801		-	-	-		dodecane
7.341		-	-	-		hexadecane
7.937	BV	85.60829	1.00000	85.60829		?
7.990	VV	139.10535	1.00000	139.10535		?
8.134	VV	95.93901	1.00000	95.93901		?
8.182	VV	50.41294	1.00000	50.41294		?
8.227	VB	64.27348	1.00000	64.27348		?
8.479	BV	70.88028	1.00000	70.88028		?
8.507	VM R	293.72656	1.00000	293.72656		?
8.869	MM T	7505.77734	0.00000	0.00000		OTPX
8.990	VB	41.84753	1.58832e-2	6.64673e-1		nonadecane
9.124	PV	61.57664	1.00000	61.57664		?
9.217	VV	276.54996	1.00000	276.54996		?
9.365	VB	67.73186	1.54620e-2	1.04727		eicosane
9.677	BV	119.16673	1.00000	119.16673		?
9.933	VV	151.66733	1.85493e-2	2.81332		heneicosane
10.013	VV	118.12724	1.00000	118.12724		?
10.072	VM R	668.15869	1.00000	668.15869		?
10.688	MM T	6453.73438	0.00000	0.00000		COD
10.794	VV	65.51933	1.00000	65.51933		?
10.958	VV	236.57903	1.00000	236.57903		?
11.054	VB	107.34098	1.18753e-2	1.27471		tetracosane
11.336	BP	64.35838	1.00000	64.35838		?
11.453	PV	52.13654	1.16961e-2	6.09793e-1		pentacosane
11.638	VV	75.93802	1.00000	75.93802		?
11.734	VV	45.72659	1.00000	45.72659		?
11.828	VV	35.51232	1.00000	35.51232		?
12.052	VV	48.96513	1.00000	48.96513		?
12.484	VV	55.88369	1.89816e-2	1.06076		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
15.017	BP	33.79821	1.85740e-2	6.27768e-1		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 3.00197e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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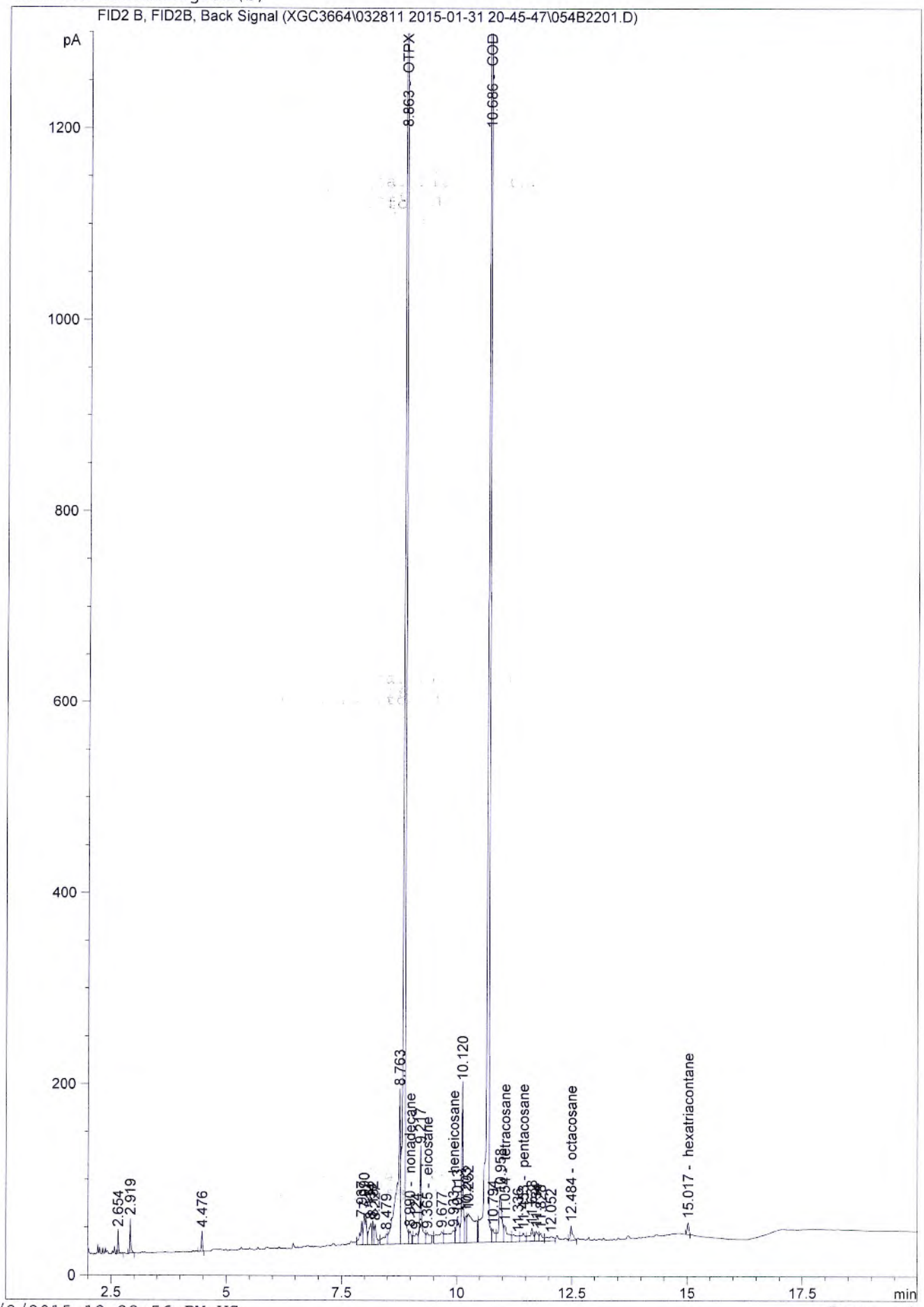
*** End of Report ***

Current Chromatogram(s)



Results of **BT-SW-06**

Client Sample ID: **BT-SW-06**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182006-B
Lab Project ID: 31500182

Collection Date: 01/26/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		0.271	mg/L	1	02/1/2015 6:17
Surrogates						
o-Terphenyl	96.7		40.0-140	%	1	02/1/2015 6:17

Batch Information

Analytical Batch: **XGC3668**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

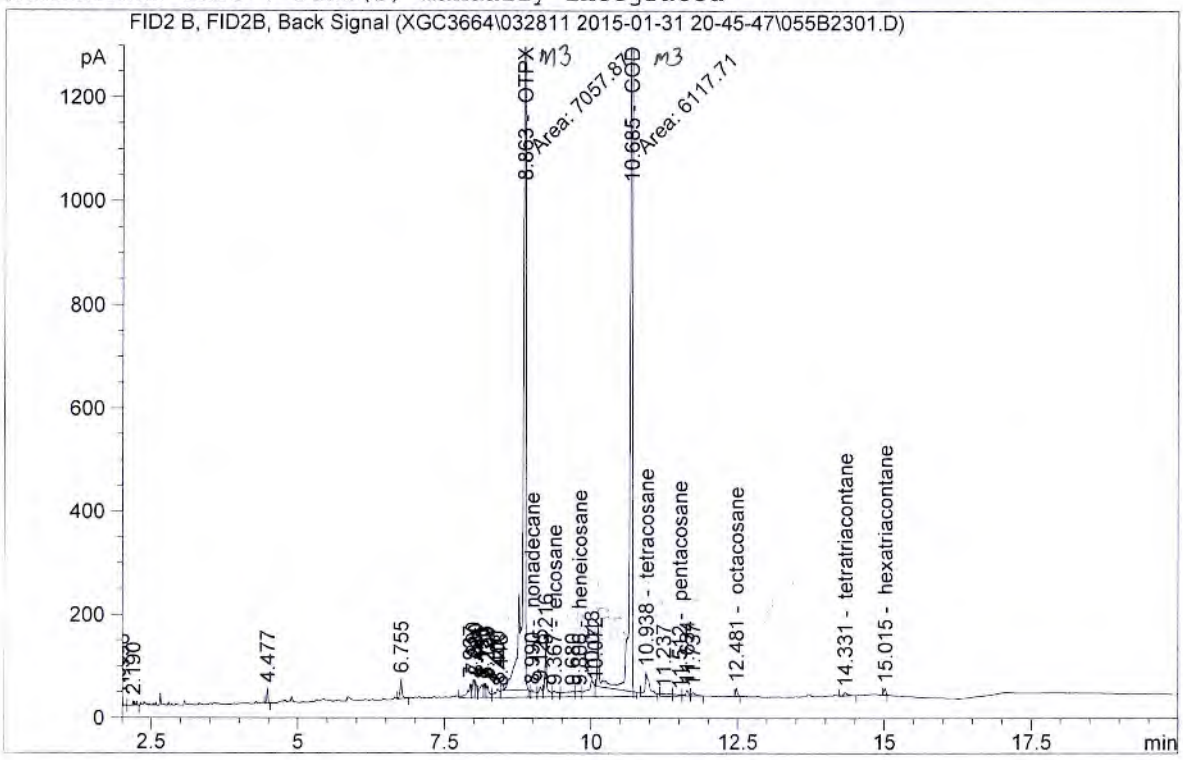
Prep Batch: **XXX4517**
Prep Method: **SW-846 3520C**
Prep Date/Time: **01/29/2015 15:00**
Prep Initial Wt./Vol.: **924 mL**
Prep Extract Vol: **5 mL**

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\055B2301.D
Sample Name: 0182_6

==========

Acq. Operator : VS
Seq. Line : 23
Acq. Instrument : GC08
Location : Vial 55
Injection Date : 2/1/2015 6:17:22 AM
Inj : 1
Inj Volume : 10 µl
Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/2/2015 12:30:55 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-2-15

Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.362	BP N	40.22215	1.00000	40.22215		?
1.121	PV	3.02456e7	1.00000	3.02456e7		?
1.569	VV	1.77480e4	1.00000	1.77480e4		?
1.931	VV	25.21054	1.00000	25.21054		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\055B2301.D
Sample Name: 0182_6

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.996	VB	35.39967	1.00000	35.39967		?
2.190	BV	26.32961	1.00000	26.32961		?
2.258		-	-	-		nonane
3.170		-	-	-		decane
4.477	VBA	46.91967	1.00000	46.91967		?
4.801		-	-	-		dodecane
6.755	VV	90.02837	1.00000	90.02837		?
7.341		-	-	-		hexadecane
7.937	VV	115.08211	1.00000	115.08211		?
7.990	VV	82.04633	1.00000	82.04633		?
8.030	VV	66.91752	1.00000	66.91752		?
8.135	VV	105.82060	1.00000	105.82060		?
8.183	VV	53.49699	1.00000	53.49699		?
8.228	VV	72.49616	1.00000	72.49616		?
8.400	VV	88.73673	1.00000	88.73673		?
8.448	VM R	410.20380	1.00000	410.20380		?
8.863	MM T	7057.87158	0.00000	0.00000		OTPX
8.990	VV	69.76743	1.58832e-2	1.10813		nonadecane
9.125	VV	78.14656	1.00000	78.14656		?
9.216	VV	240.92514	1.00000	240.92514		?
9.367	VB	71.44516	1.54620e-2	1.10468		eicosane
9.680	BV	133.27962	1.00000	133.27962		?
9.806	VV	73.45939	1.85493e-2	1.36262		heneicosane
10.013	VV	234.92126	1.00000	234.92126		?
10.072	VM R	608.29083	1.00000	608.29083		?
10.685	MM T	6117.71484	0.00000	0.00000		COD
10.938	PB	274.64111	1.18753e-2	3.26144		tetracosane
11.237	PB	57.90179	1.00000	57.90179		?
11.512	BP	28.07050	1.16961e-2	3.28315e-1		pentacosane
11.634	PV	41.18872	1.00000	41.18872		?
11.737	VB	33.17340	1.00000	33.17340		?
12.481	PP	37.75385	1.89816e-2	7.16630e-1		octacosane
14.331	VB	31.40858	1.44738e-2	4.54601e-1		tetratriacontane
14.700		-	-	-		pentatriacontane
15.015	PP	33.14813	1.85740e-2	6.15693e-1		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 3.02660e7

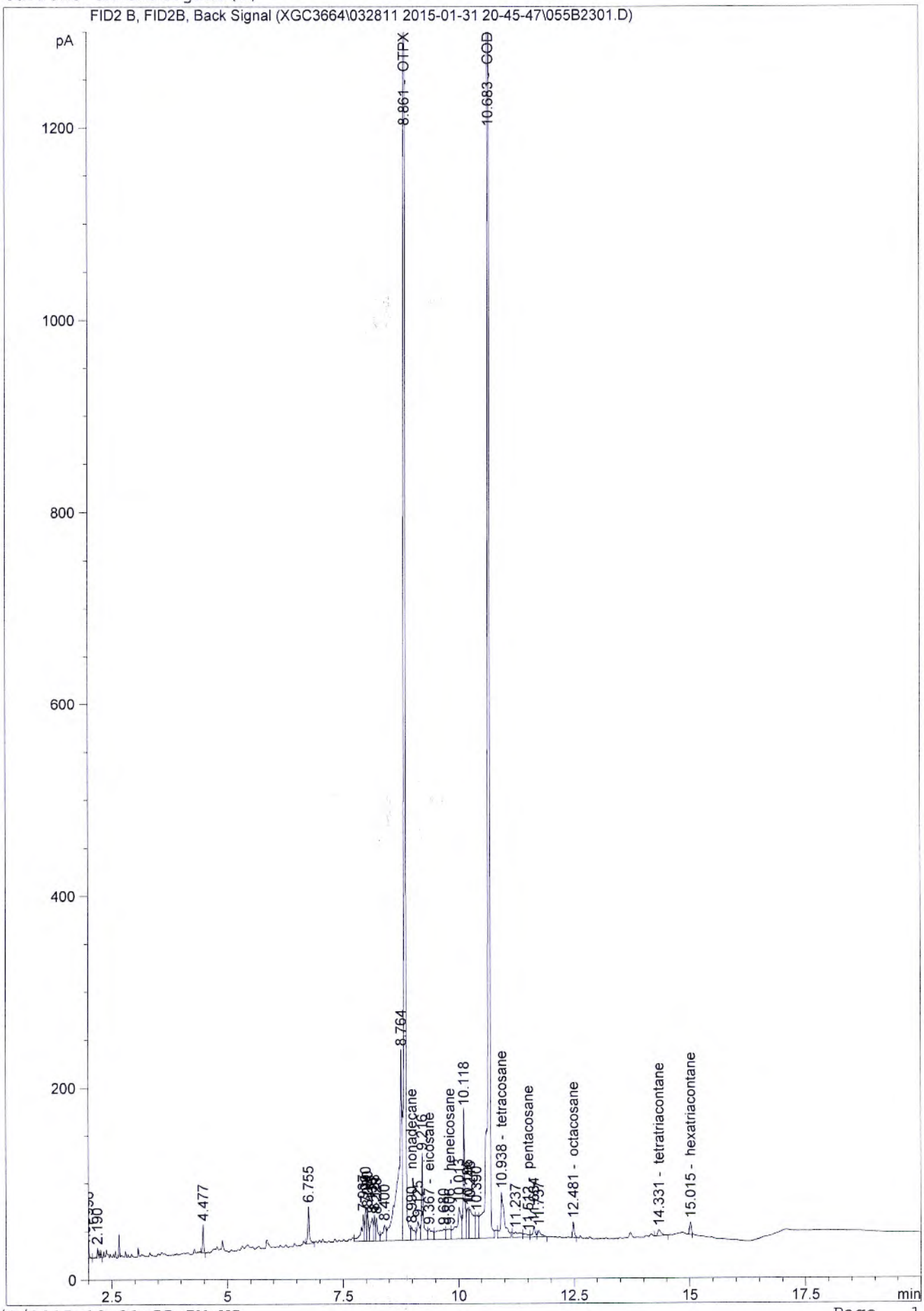
4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

==========

*** End of Report ***

Current Chromatogram(s)



Results of **BT-SW-DUP**

Client Sample ID: **BT-SW-DUP**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182007-B
Lab Project ID: 31500182

Collection Date: 01/25/2015 00:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		0.278	mg/L	1	02/1/2015 6:42
Surrogates						
o-Terphenyl	47.6		40.0-140	%	1	02/1/2015 6:42

Batch Information

Analytical Batch: **XGC3668**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

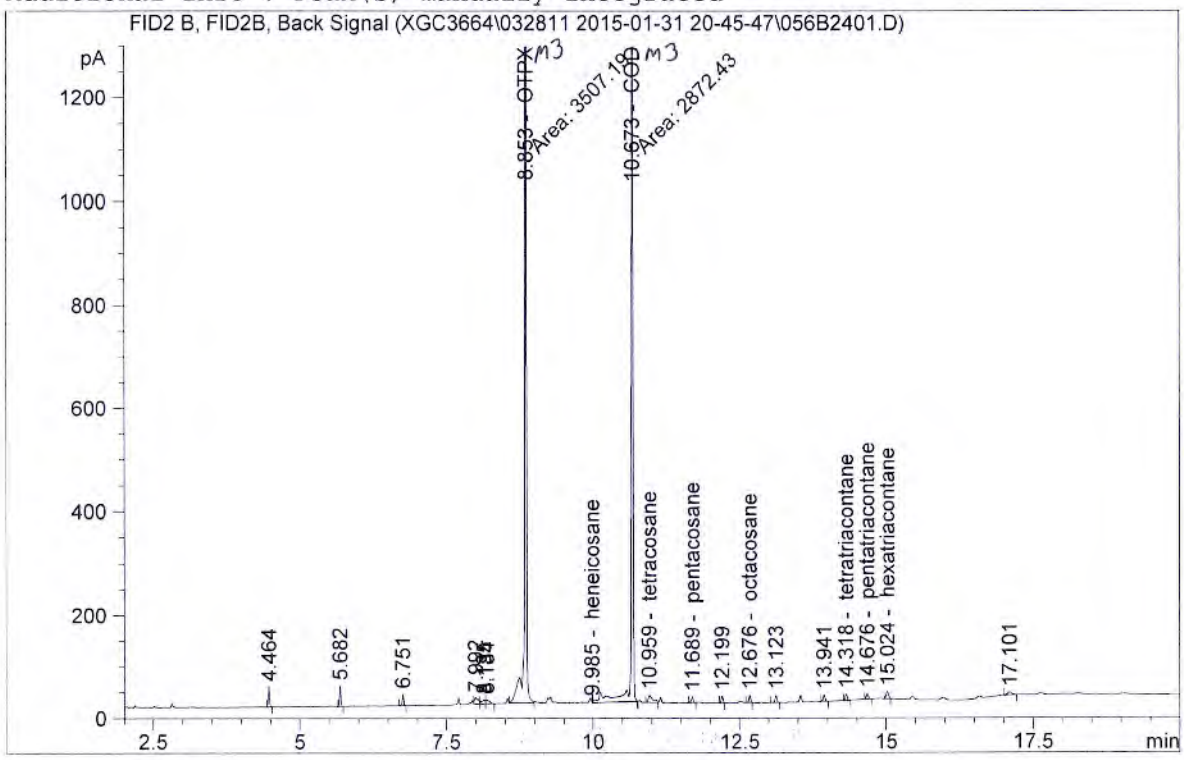
Prep Batch: **XXX4517**
Prep Method: **SW-846 3520C**
Prep Date/Time: **01/29/2015 15:00**
Prep Initial Wt./Vol.: **899 mL**
Prep Extract Vol: **5 mL**

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\056B2401.D
Sample Name: 0182_7

==========

Acq. Operator : VS
Seq. Line : 24
Acq. Instrument : GC08
Location : Vial 56
Injection Date : 2/1/2015 6:42:13 AM
Inj : 1
Inj Volume : 10 µl
Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/2/2015 12:33:35 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



VS
2-2-15

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.355	BP N	31.09273	1.00000	31.09273		?
0.818	PB	1.74006e7	1.00000	1.74006e7		?
2.258		-	-	-		nonane
3.170		-	-	-		decane

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\056B2401.D
Sample Name: 0182_7

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
4.464	BB	62.09406	1.00000	62.09406		?
4.801		-	-	-		dodecane
5.682	BB	66.12795	1.00000	66.12795		?
6.751	BB	42.75443	1.00000	42.75443		?
7.341		-	-	-		hexadecane
7.992	VV	52.67786	1.00000	52.67786		?
8.135	VV	32.26334	1.00000	32.26334		?
8.184	VB	29.91376	1.00000	29.91376		?
8.853	MM T	3507.18848	0.00000	0.00000		OTPX
8.894		-	-	-		nonadecane
9.378		-	-	-		eicosane
9.985	VM R	71.92540	1.85493e-2	1.33417		heneicosane
10.673	MM T	2872.43457	0.00000	0.00000		COD
10.959	PV	75.66017	1.18753e-2	8.98486e-1		tetracosane
11.689	BB	27.42165	1.16961e-2	3.20726e-1		pentacosane
12.199	PP	25.15046	1.00000	25.15046		?
12.676	VP	28.32521	1.89816e-2	5.37659e-1		octacosane
13.123	PB	28.57104	1.00000	28.57104		?
13.941	BB	28.32162	1.00000	28.32162		?
14.318	BB	26.85719	1.44738e-2	3.88725e-1		tetratriacontane
14.676	BB	25.19083	1.85685e-2	4.67755e-1		pentatriacontane
15.024	BP	41.97899	1.85740e-2	7.79717e-1		hexatriacontane
16.602		-	-	-		tetracontane
17.101	BB	32.63213	1.00000	32.63213		?

Totals : 1.74011e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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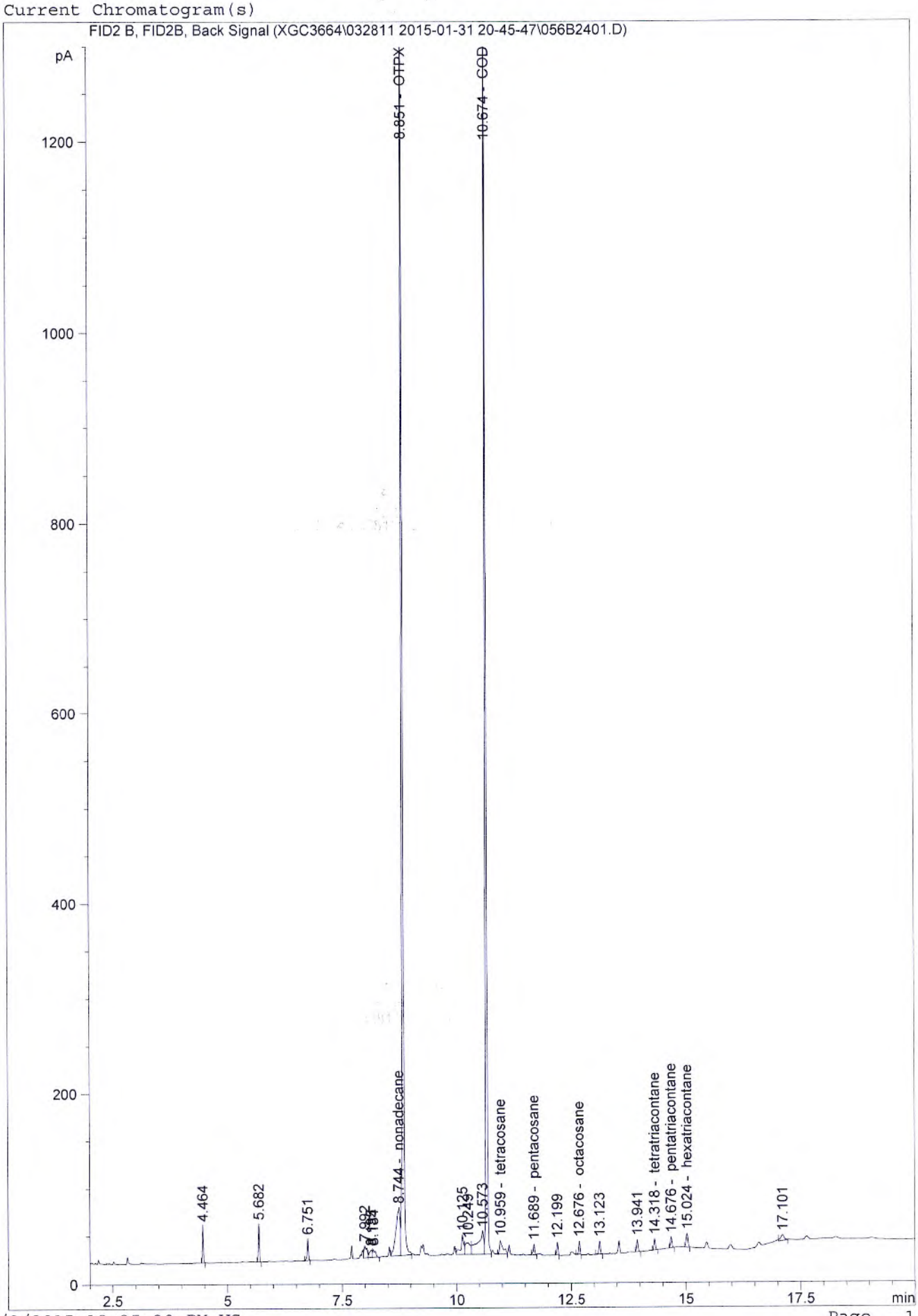
*** End of Report ***

Current Chromatogram(s)



Results of **BT-SD-01**

Client Sample ID: **BT-SD-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182008-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 15:45
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 60.60

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**25.4**		10.2	mg/kg	1	02/5/2015 14:25
Surrogates						
o-Terphenyl	55.0		40.0-140	%	1	02/5/2015 14:25

Batch Information

Analytical Batch: **XGC3675**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4531**
Prep Method: **SW-846 3541**
Prep Date/Time: **02/05/2015 10:45**
Prep Initial Wt./Vol.: **32.42 g**
Prep Extract Vol: **10 mL**

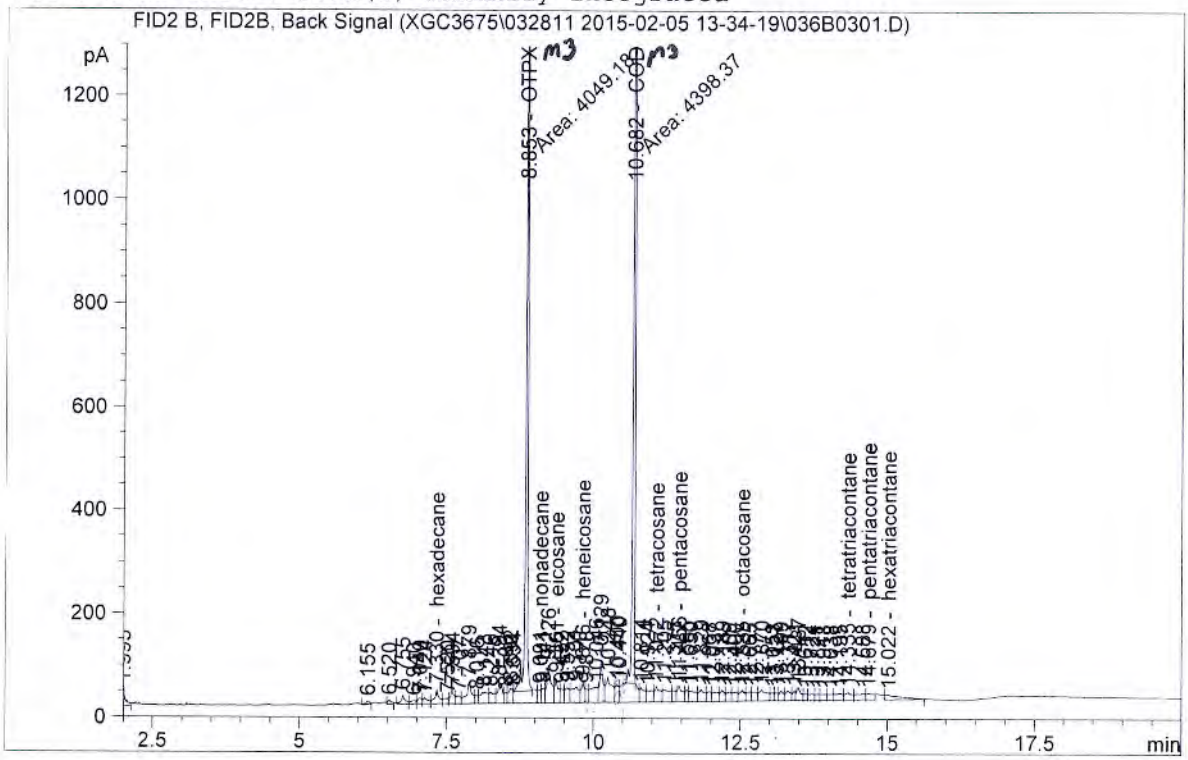
Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\036B0301.D
Sample Name: 0182_8

==========

Acq. Operator : VS
Seq. Line : 3
Acq. Instrument : GC08
Location : Vial 36
Injection Date : 2/5/2015 2:25:30 PM
Inj : 1
Inj Volume : 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3675\DRO-K_B.M
Last changed : 2/5/2015 3:24:51 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-5-15

Sorted By : Signal
Calib. Data Modified : 2/5/2015 1:20:20 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.153	PV	3.27514e7	1.00000	3.27514e7		?
1.995	VV	272.42957	1.00000	272.42957		?
2.200		-	-	-		nonane
3.170		-	-	-		decane

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\036B0301.D
Sample Name: 0182_8

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
4.801		-	-	-		dodecane
6.155	VV	29.95845	1.00000	29.95845		?
6.520	VV	34.31673	1.00000	34.31673		?
6.755	VV	83.28674	1.00000	83.28674		?
6.940	VV	40.01329	1.00000	40.01329		?
7.040	VV	54.02680	1.00000	54.02680		?
7.124	VV	68.68668	1.00000	68.68668		?
7.330	VV	150.70038	1.87901e-2	2.83168		hexadecane
7.520	VV	63.63681	1.00000	63.63681		?
7.594	VV	117.30582	1.00000	117.30582		?
7.707	VV	76.28876	1.00000	76.28876		?
7.879	VV	276.58606	1.00000	276.58606		?
8.016	VV	50.97035	1.00000	50.97035		?
8.143	VV	204.46362	1.00000	204.46362		?
8.246	VV	132.14223	1.00000	132.14223		?
8.394	VV	224.68967	1.00000	224.68967		?
8.506	VV	70.57549	1.00000	70.57549		?
8.592	VV	149.44588	1.00000	149.44588		?
8.634	VM R	584.90485	1.00000	584.90485		?
8.853	MM T	4049.17993	0.00000	0.00000		OTPX
9.091	VV	98.69075	1.58832e-2	1.56753		nonadecane
9.141	VV	103.92590	1.00000	103.92590		?
9.226	VV	388.31412	1.00000	388.31412		?
9.361	VV	203.67740	1.54620e-2	3.14926		eicosane
9.452	VV	106.06987	1.00000	106.06987		?
9.552	VV	160.80521	1.00000	160.80521		?
9.701	VV	282.17862	1.00000	282.17862		?
9.816	VV	149.09596	1.85493e-2	2.76563		heneicosane
9.878	VV	95.16830	1.00000	95.16830		?
10.046	VV	275.63077	1.00000	275.63077		?
10.129	VV	316.17230	1.00000	316.17230		?
10.248	VV	357.02374	1.00000	357.02374		?
10.400	VV	147.83421	1.00000	147.83421		?
10.440	VM R	715.97974	1.00000	715.97974		?
10.682	MM T	4398.37158	0.00000	0.00000		COD
10.814	VV	162.76166	1.00000	162.76166		?
10.924	VV	166.61954	1.00000	166.61954		?
11.072	VV	206.02321	1.18753e-2	2.44659		tetracosane
11.205	VV	215.78891	1.00000	215.78891		?
11.375	VV	97.44894	1.00000	97.44894		?
11.456	VV	192.15385	1.16961e-2	2.24745		pentacosane
11.585	VV	82.13450	1.00000	82.13450		?
11.650	VV	172.40977	1.00000	172.40977		?
11.829	VV	169.83862	1.00000	169.83862		?
11.968	VV	96.86790	1.00000	96.86790		?
12.037	VV	145.15736	1.00000	145.15736		?
12.189	VV	105.62067	1.00000	105.62067		?
12.309	VV	100.54036	1.00000	100.54036		?
12.400	VV	110.48185	1.00000	110.48185		?
12.535	VV	144.40578	1.89816e-2	2.74106		octacosane
12.665	VV	102.14875	1.00000	102.14875		?
12.777	VV	109.53313	1.00000	109.53313		?
12.870	VV	205.22116	1.00000	205.22116		?
13.053	VV	66.50995	1.00000	66.50995		?
13.127	VV	65.55830	1.00000	65.55830		?
13.199	VV	95.07475	1.00000	95.07475		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\036B0301.D
Sample Name: 0182_8

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
13.317	VV	117.98907	1.00000	117.98907		?
13.421	VV	62.01421	1.00000	62.01421		?
13.487	VV	132.77664	1.00000	132.77664		?
13.612	VV	58.71262	1.00000	58.71262		?
13.724	VV	84.48114	1.00000	84.48114		?
13.821	VV	61.35192	1.00000	61.35192		?
13.918	VV	80.90009	1.00000	80.90009		?
14.038	VV	75.15376	1.00000	75.15376		?
14.195	VV	121.08118	1.00000	121.08118		?
14.335	VV	123.16858	1.44738e-2	1.78272		tetratriacontane
14.588	VV	133.23000	1.00000	133.23000		?
14.679	VB	107.79453	1.85685e-2	2.00158		pentatriacontane
15.022	PB	178.37448	1.85740e-2	3.31313		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 3.27601e7

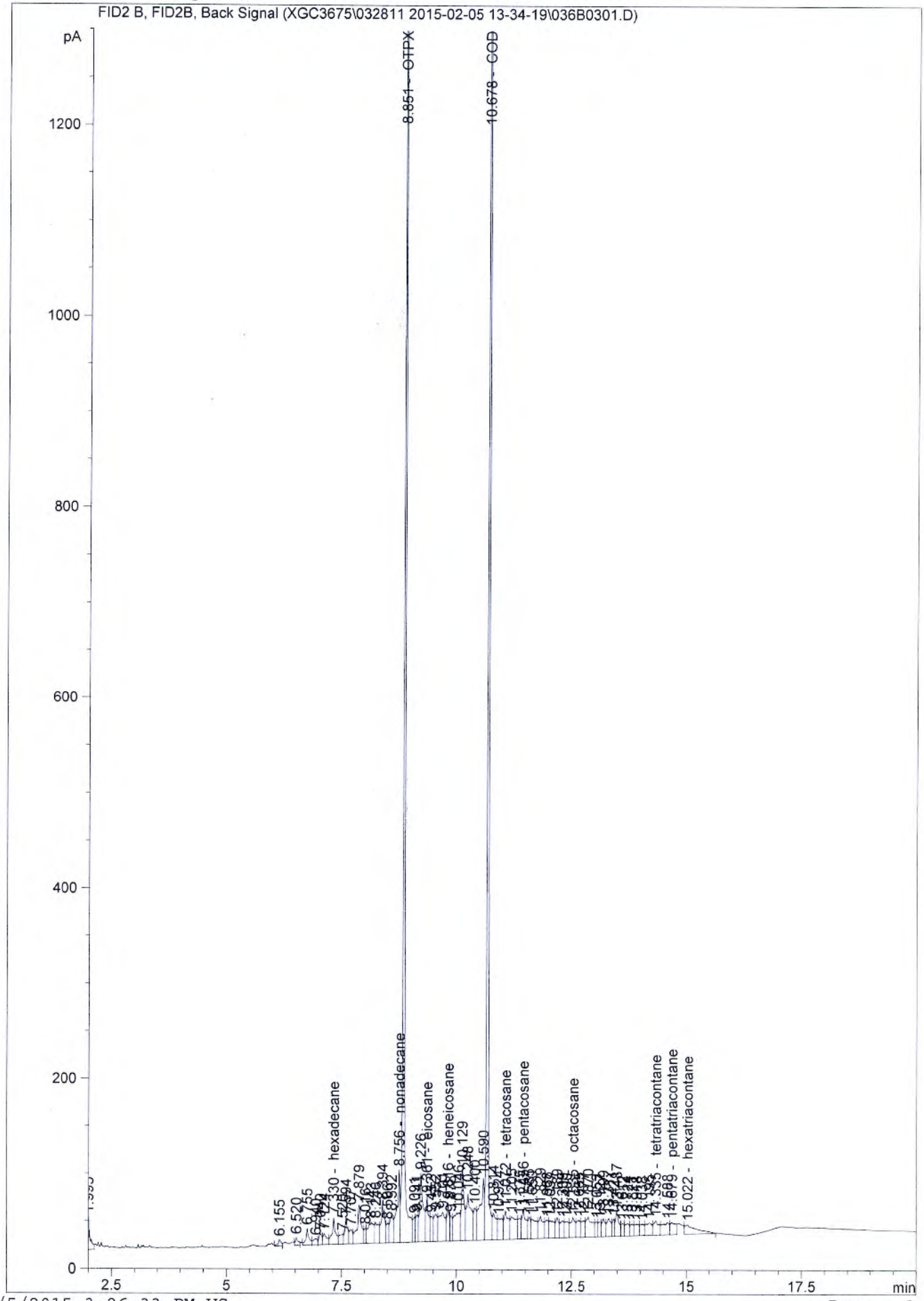
4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

==========

*** End of Report ***

Current Chromatogram(s)



Results of **BT-SD-02**

Client Sample ID: **BT-SD-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182009-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 16:30
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 37.70

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**137**		16.5	mg/kg	1	02/5/2015 15:40
Surrogates						
o-Terphenyl	67.1		40.0-140	%	1	02/5/2015 15:40

Batch Information

Analytical Batch: **XGC3675**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

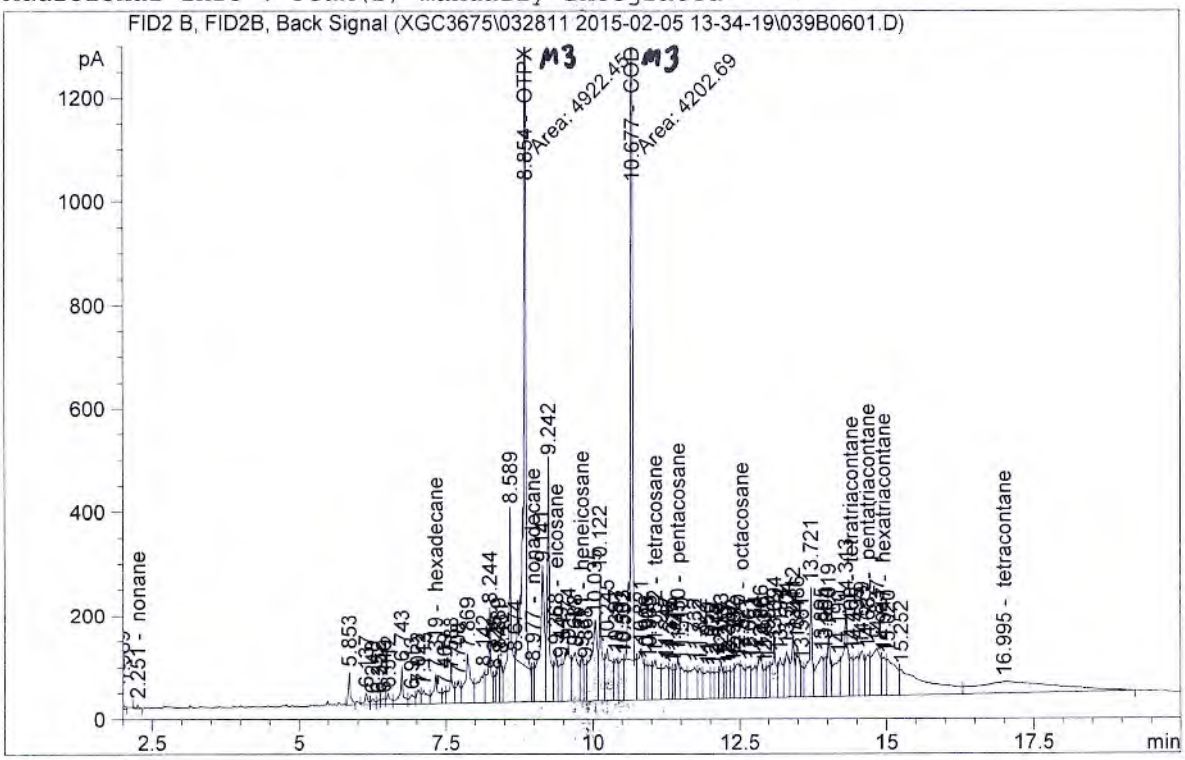
Prep Batch: **XXX4531**
Prep Method: **SW-846 3541**
Prep Date/Time: **02/05/2015 10:45**
Prep Initial Wt./Vol.: **32.25 g**
Prep Extract Vol: **10 mL**

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\039B0601.D
Sample Name: 0182_9

==========

Acq. Operator : VS
Seq. Line : 6
Acq. Instrument : GC08
Location : Vial 39
Injection Date : 2/5/2015 3:40:43 PM
Inj : 1
Inj Volume : 10 µl
Acq. Method : C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3675\DRO-K_B.M
Last changed : 2/5/2015 4:20:37 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-5-15

Sorted By : Signal
Calib. Data Modified : 2/5/2015 1:20:20 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.332	BV	27.73904	1.00000	27.73904		?
0.384	VV	54.70117	1.00000	54.70117		?
1.114	VV	3.08743e7	1.00000	3.08743e7		?
1.917	VV	117.20573	1.00000	117.20573		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\039B0601.D
Sample Name: 0182_9

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.989	VB	68.55147	1.00000	68.55147		?
2.251	PV	25.42713	1.73487e-2	4.41127e-1		nonane
3.170		-	-	-		decane
4.801		-	-	-		dodecane
5.853	VV	166.40742	1.00000	166.40742		?
6.137	VV	81.65775	1.00000	81.65775		?
6.248	VV	43.17794	1.00000	43.17794		?
6.352	VV	31.20820	1.00000	31.20820		?
6.440	VV	55.44008	1.00000	55.44008		?
6.512	VV	82.01070	1.00000	82.01070		?
6.743	VV	270.14969	1.00000	270.14969		?
6.913	VV	101.93137	1.00000	101.93137		?
7.022	VV	115.65299	1.00000	115.65299		?
7.113	VV	166.80324	1.00000	166.80324		?
7.319	VV	305.17139	1.87901e-2	5.73421		hexadecane
7.469	VV	82.26012	1.00000	82.26012		?
7.588	VV	299.79541	1.00000	299.79541		?
7.708	VV	235.30043	1.00000	235.30043		?
7.869	VV	637.70416	1.00000	637.70416		?
8.142	VV	486.75311	1.00000	486.75311		?
8.244	VV	651.18933	1.00000	651.18933		?
8.325	VV	125.55908	1.00000	125.55908		?
8.389	VV	277.57303	1.00000	277.57303		?
8.431	VV	227.22221	1.00000	227.22221		?
8.589	VV	1485.80823	1.00000	1485.80823		?
8.674	VM R	1222.60718	1.00000	1222.60718		?
8.854	MM T	4922.44873	0.00000	0.00000		OTPX
8.977	VV	173.29903	1.58832e-2	2.75255		nonadecane
9.141	VV	1483.31799	1.00000	1483.31799		?
9.242	VV	1357.79810	1.00000	1357.79810		?
9.368	VV	364.42923	1.54620e-2	5.63480		eicosane
9.449	VV	280.46359	1.00000	280.46359		?
9.574	VV	876.19250	1.00000	876.19250		?
9.688	VV	668.32135	1.00000	668.32135		?
9.811	VV	310.33099	1.85493e-2	5.75642		heneicosane
9.868	VV	206.68121	1.00000	206.68121		?
10.035	VV	1161.30444	1.00000	1161.30444		?
10.122	VV	842.97412	1.00000	842.97412		?
10.245	VV	776.14514	1.00000	776.14514		?
10.397	VV	337.88907	1.00000	337.88907		?
10.503	VV	436.57339	1.00000	436.57339		?
10.532	VV R	1022.81128	1.00000	1022.81128		?
10.677	MM T	4202.69434	0.00000	0.00000		COD
10.821	VV	678.60767	1.00000	678.60767		?
10.908	VV	189.13028	1.00000	189.13028		?
10.963	VV	303.04346	1.00000	303.04346		?
11.062	VV	593.28925	1.18753e-2	7.04548		tetracosane
11.247	VV	457.13275	1.00000	457.13275		?
11.315	VV	226.41568	1.00000	226.41568		?
11.377	VV	174.84581	1.00000	174.84581		?
11.450	VV	325.72446	1.16961e-2	3.80970		pentacosane
11.510	VV	424.14529	1.00000	424.14529		?
11.732	VV	577.29559	1.00000	577.29559		?
11.822	VV	283.15741	1.00000	283.15741		?
11.950	VV	390.85019	1.00000	390.85019		?
12.029	VV	194.68552	1.00000	194.68552		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\039B0601.D
Sample Name: 0182_9

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
12.113	VV	237.65262	1.00000	237.65262		?
12.183	VV	269.23096	1.00000	269.23096		?
12.247	VV	145.36147	1.00000	145.36147		?
12.307	VV	226.82100	1.00000	226.82100		?
12.392	VV	218.21375	1.00000	218.21375		?
12.470	VV	359.52676	1.00000	359.52676		?
12.527	VV	324.06924	1.89816e-2	6.15136		octacosane
12.661	VV	346.36966	1.00000	346.36966		?
12.764	VV	334.31906	1.00000	334.31906		?
12.866	VV	452.49734	1.00000	452.49734		?
12.931	VV	158.31026	1.00000	158.31026		?
12.989	VV	221.75136	1.00000	221.75136		?
13.094	VV	559.42578	1.00000	559.42578		?
13.194	VV	414.84921	1.00000	414.84921		?
13.304	VV	462.69943	1.00000	462.69943		?
13.412	VV	442.70694	1.00000	442.70694		?
13.486	VV	444.56177	1.00000	444.56177		?
13.561	VV	193.88127	1.00000	193.88127		?
13.721	VV	886.96136	1.00000	886.96136		?
13.895	VV	635.86792	1.00000	635.86792		?
13.964	VV	246.06761	1.00000	246.06761		?
14.019	VV	424.86581	1.00000	424.86581		?
14.190	VV	537.77899	1.00000	537.77899		?
14.313	VV	936.68280	1.00000	936.68280		?
14.400	VV	264.82251	1.44738e-2	3.83298		tetratriacontane
14.495	VV	441.65350	1.00000	441.65350		?
14.579	VV	465.05853	1.00000	465.05853		?
14.682	VV	395.13217	1.85685e-2	7.33700		pentatriacontane
14.837	VV	939.49323	1.00000	939.49323		?
14.947	VV	359.56995	1.85740e-2	6.67865		hexatriacontane
15.020	VV	799.86426	1.00000	799.86426		?
15.252	VV	1643.98206	1.00000	1643.98206		?
16.995	VB	2076.68970	0.00000	0.00000		tetracontane

Totals : 3.09082e7

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)
Warning : Invalid calibration curve, (tetracontane)

==========

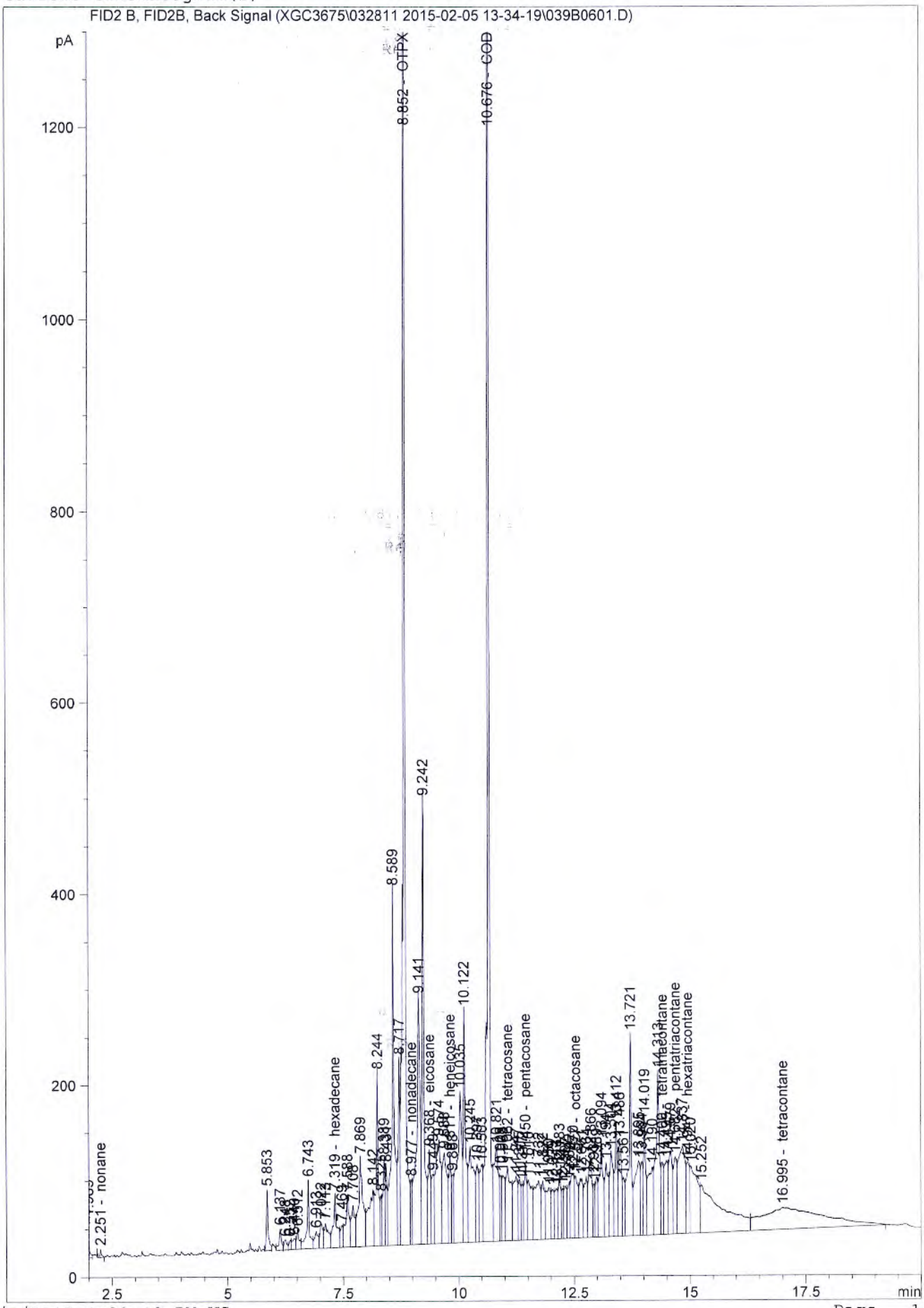
*** End of Report ***

$\left(\frac{1666.78844 \times 10}{32.25}\right) \div .37670068$

CN 2-5-15

$= 137.2902904$

Current Chromatogram(s)



Results of **BT-SD-03**

Client Sample ID: **BT-SD-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182010-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:00
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 76.00

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	ND		8.12	mg/kg	1	02/5/2015 16:05
Surrogates						
o-Terphenyl	77.3		40.0-140	%	1	02/5/2015 16:05

Batch Information

Analytical Batch: **XGC3675**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4531**
Prep Method: **SW-846 3541**
Prep Date/Time: **02/05/2015 10:45**
Prep Initial Wt./Vol.: **32.4 g**
Prep Extract Vol: **10 mL**

Print Date: 02/06/2015

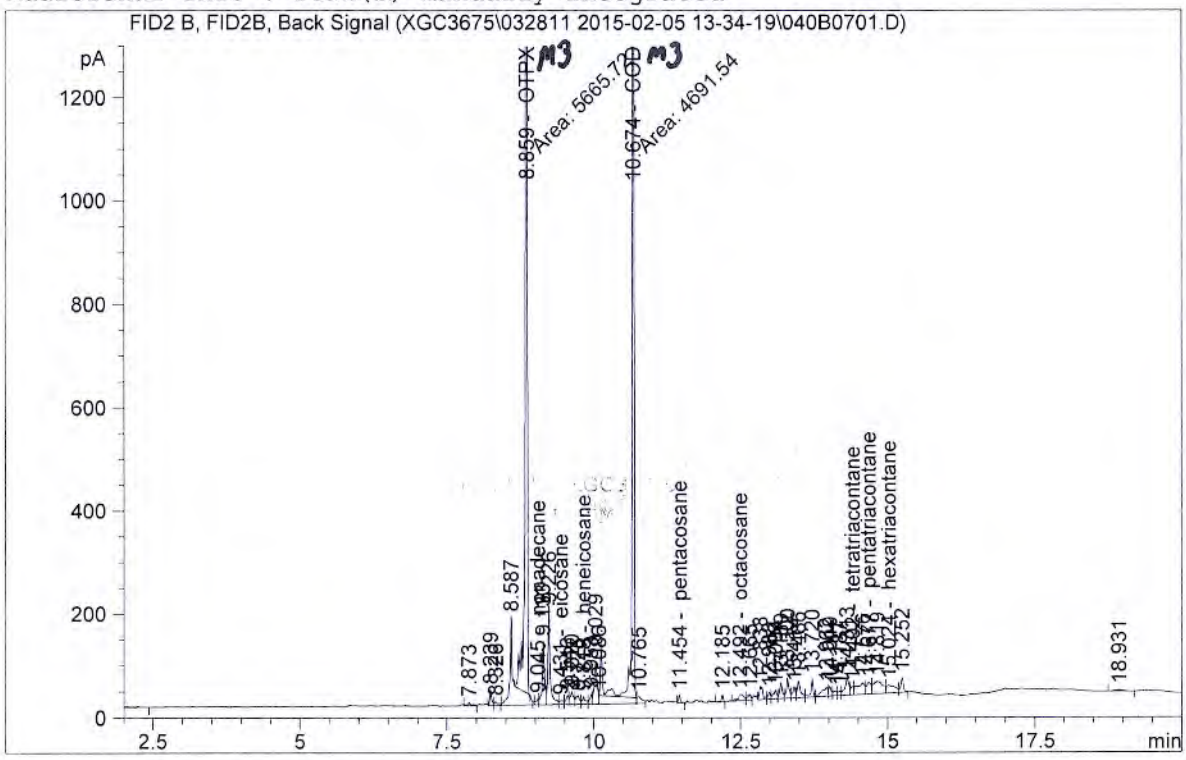
N.C. Certification # 481

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\040B0701.D
Sample Name: 0182_10

==========

Acq. Operator : VS
Seq. Line : 7
Acq. Instrument : GC08
Location : Vial 40
Injection Date : 2/5/2015 4:05:43 PM
Inj : 1
Inj Volume : 10 µl
Acq. Method : C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3675\DRO-K_B.M
Last changed : 2/5/2015 4:31:29 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-5-15

Sorted By : Signal
Calib. Data Modified : 2/5/2015 1:20:20 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.385	VV	40.32720	1.00000	40.32720		?
1.100	VB S	3.04306e7	1.00000	3.04306e7		?
2.200		-	-	-		nonane
3.170		-	-	-		decane

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\040B0701.D
Sample Name: 0182_10

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
4.801		-	-	-		dodecane
7.341		-	-	-		hexadecane
7.873	VB	32.44838	1.00000	32.44838		?
8.239	VV	67.39915	1.00000	67.39915		?
8.326	VB	27.52797	1.00000	27.52797		?
8.587	BM R	984.54022	1.00000	984.54022		?
8.859	MM T	5665.71826	0.00000	0.00000		OTPX
9.045	BV	38.29475	1.58832e-2	6.08244e-1		nonadecane
9.133	VV	357.79263	1.00000	357.79263		?
9.226	VV	509.28769	1.00000	509.28769		?
9.431	VV	37.74256	1.54620e-2	5.83575e-1		eicosane
9.546	VV	55.06140	1.00000	55.06140		?
9.620	VV	96.45432	1.00000	96.45432		?
9.725	VV	71.89465	1.00000	71.89465		?
9.818	VV	55.57410	1.85493e-2	1.03086		heneicosane
9.953	VV	53.98910	1.00000	53.98910		?
10.029	VV	276.53079	1.00000	276.53079		?
10.086	VM R	535.07190	1.00000	535.07190		?
10.674	MM T	4691.54102	0.00000	0.00000		COD
10.765	VV	75.16245	1.00000	75.16245		?
11.083		-	-	-		tetracosane
11.454	VV	35.70381	1.16961e-2	4.17595e-1		pentacosane
12.185	VV	29.47605	1.00000	29.47605		?
12.492	VV	89.64705	1.89816e-2	1.70165		octacosane
12.665	VV	45.74001	1.00000	45.74001		?
12.838	VV	109.23997	1.00000	109.23997		?
12.988	VV	35.30201	1.00000	35.30201		?
13.094	VV	67.85001	1.00000	67.85001		?
13.189	VV	98.18838	1.00000	98.18838		?
13.300	VV	126.35252	1.00000	126.35252		?
13.414	VV	66.22194	1.00000	66.22194		?
13.485	VV	124.77290	1.00000	124.77290		?
13.720	VV	98.59370	1.00000	98.59370		?
13.962	VV	122.00809	1.00000	122.00809		?
14.019	VV	55.37514	1.00000	55.37514		?
14.111	VV	38.57970	1.00000	38.57970		?
14.187	VV	30.38925	1.00000	30.38925		?
14.313	VV	163.91440	1.00000	163.91440		?
14.402	VV	54.78902	1.44738e-2	7.93004e-1		tetratriacontane
14.576	VV	208.05222	1.00000	208.05222		?
14.677	VV	119.80426	1.85685e-2	2.22458		pentatriacontane
14.819	VV	276.13669	1.00000	276.13669		?
15.024	VV	165.09636	1.85740e-2	3.06650		hexatriacontane
15.252	VB	94.43337	1.00000	94.43337		?
16.602		-	-	-		tetracontane
18.931	BB	27.73375	1.00000	27.73375		?

Totals : 3.04356e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\040B0701.D
Sample Name: 0182_10

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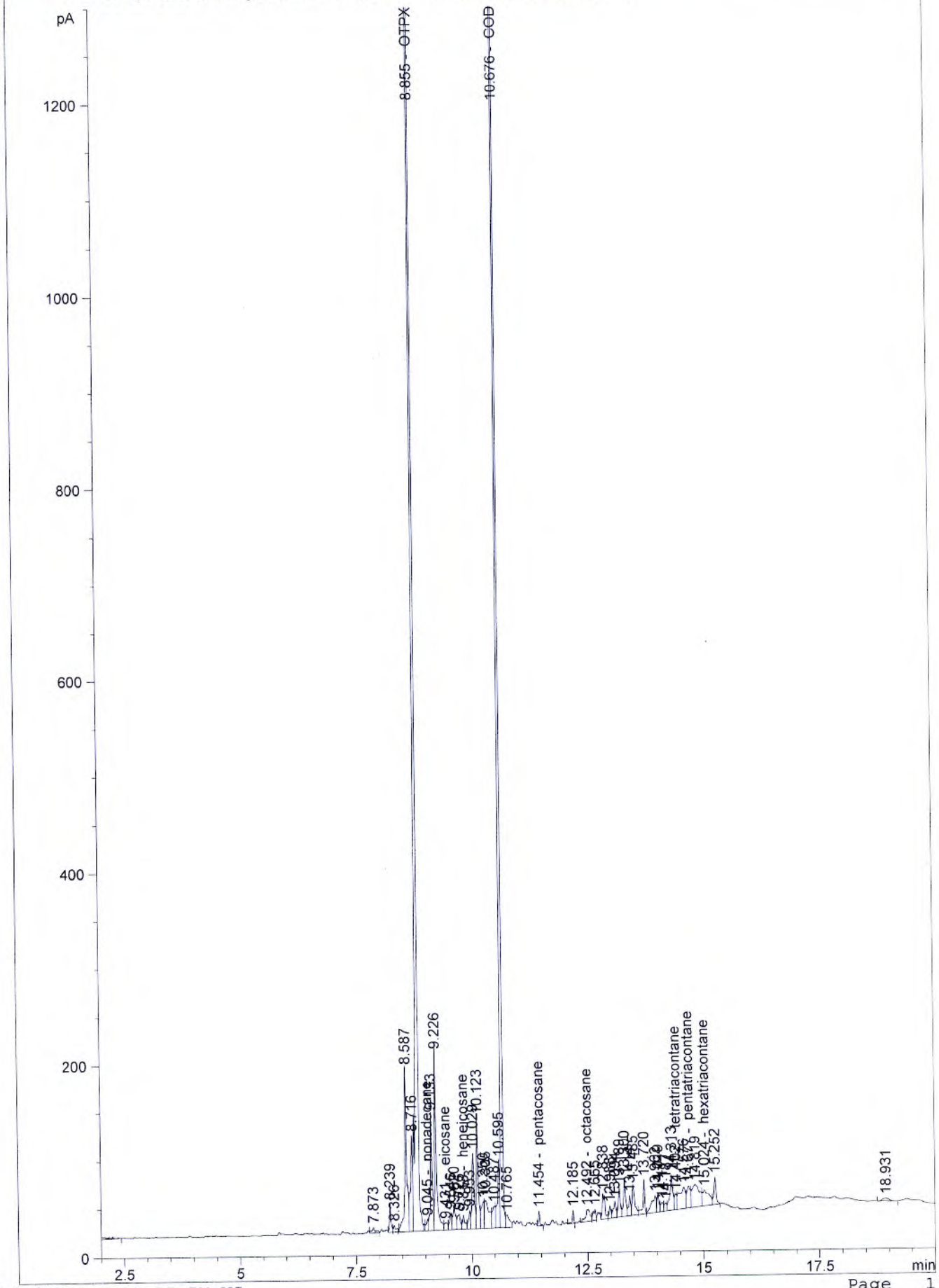
*** End of Report ***

Current Chromatogram(s)

FID2 B, FID2B, Back Signal (XGC3675\032811 2015-02-05 13-34-19\040B0701.D)



Results of **BT-PW-01**

Client Sample ID: **BT-PW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182011-B
Lab Project ID: 31500182

Collection Date: 01/24/2015 14:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**3.28**		0.253	mg/L	1	02/1/2015 7:07
Surrogates						
o-Terphenyl	82.6		40.0-140	%	1	02/1/2015 7:07

Batch Information

Analytical Batch: **XGC3668**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4517**
Prep Method: **SW-846 3520C**
Prep Date/Time: **01/29/2015 15:00**
Prep Initial Wt./Vol.: **989 mL**
Prep Extract Vol: **5 mL**

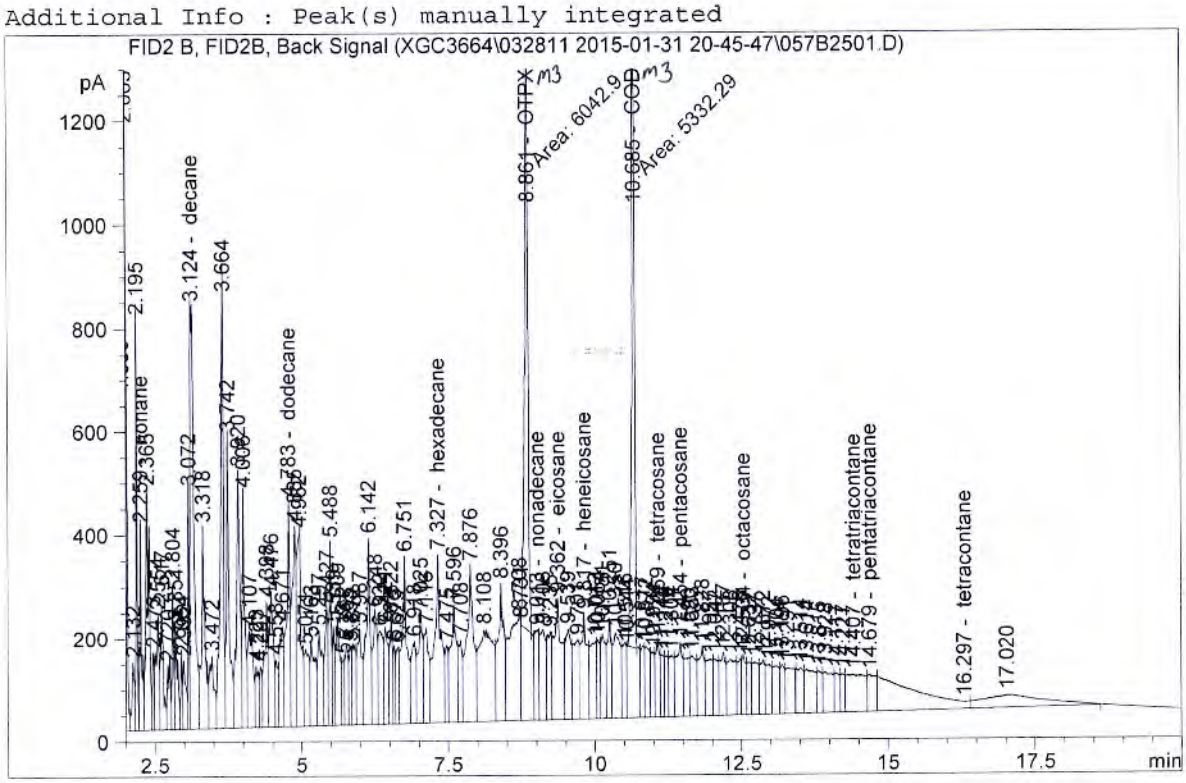
Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\057B2501.D
Sample Name: 0182_11

==========

Acq. Operator : VS
Seq. Line : 25
Acq. Instrument : GC08
Location : Vial 57
Injection Date : 2/1/2015 7:07:05 AM
Inj : 1
Inj Volume : 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/2/2015 12:37:25 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-2-15

Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.391	VV	65.66029	1.00000	65.66029		?
1.121	VV	3.03393e7	1.00000	3.03393e7		?
1.216	VV	4.97051e4	1.00000	4.97051e4		?
1.449	VV	3.96146e4	1.00000	3.96146e4		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\057B2501.D
Sample Name: 0182_11

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.738	VV	6247.18262	1.00000	6247.18262		?
1.781	VV	6615.90625	1.00000	6615.90625		?
1.939	VV	2111.13306	1.00000	2111.13306		?
2.003	VV	2685.37012	1.00000	2685.37012		?
2.132	VV	396.69614	1.00000	396.69614		?
2.195	VV	1121.06531	1.00000	1121.06531		?
2.259	VV	911.57202	1.73487e-2	15.81458		nonane
2.365	VV	1923.86450	1.00000	1923.86450		?
2.473	VV	315.61365	1.00000	315.61365		?
2.554	VV	850.54095	1.00000	850.54095		?
2.617	VV	840.10364	1.00000	840.10364		?
2.720	VV	477.83569	1.00000	477.83569		?
2.804	VV	527.92200	1.00000	527.92200		?
2.851	VV	681.37372	1.00000	681.37372		?
2.954	VV	285.10165	1.00000	285.10165		?
2.992	VV	421.59357	1.00000	421.59357		?
3.072	VV	633.99390	1.00000	633.99390		?
3.124	VV	3842.89111	1.90669e-2	73.27188		decane
3.318	VV	1697.20251	1.00000	1697.20251		?
3.472	VV	775.72345	1.00000	775.72345		?
3.664	VV	3185.50024	1.00000	3185.50024		?
3.742	VV	1865.23474	1.00000	1865.23474		?
3.920	VV	2101.55347	1.00000	2101.55347		?
4.006	VV	1422.87622	1.00000	1422.87622		?
4.107	VV	1207.84875	1.00000	1207.84875		?
4.223	VV	464.00510	1.00000	464.00510		?
4.297	VV	326.17825	1.00000	326.17825		?
4.398	VV	948.48468	1.00000	948.48468		?
4.476	VV	1324.83191	1.00000	1324.83191		?
4.558	VV	418.24329	1.00000	418.24329		?
4.671	VV	964.75421	1.00000	964.75421		?
4.783	VV	1758.67285	1.94670e-2	34.23613		dodecane
4.885	VV	1760.23218	1.00000	1760.23218		?
4.962	VV	1908.49890	1.00000	1908.49890		?
5.071	VV	857.17755	1.00000	857.17755		?
5.163	VV	966.43976	1.00000	966.43976		?
5.297	VV	1005.51263	1.00000	1005.51263		?
5.427	VV	844.44214	1.00000	844.44214		?
5.488	VV	971.68237	1.00000	971.68237		?
5.539	VV	478.88010	1.00000	478.88010		?
5.609	VV	1025.41882	1.00000	1025.41882		?
5.713	VV	381.15359	1.00000	381.15359		?
5.765	VV	567.34894	1.00000	567.34894		?
5.833	VV	466.43918	1.00000	466.43918		?
5.872	VV	684.33215	1.00000	684.33215		?
5.987	VV	1040.37683	1.00000	1040.37683		?
6.142	VV	1716.98853	1.00000	1716.98853		?
6.248	VV	1142.71399	1.00000	1142.71399		?
6.332	VV	1026.21387	1.00000	1026.21387		?
6.421	VV	885.35767	1.00000	885.35767		?
6.522	VV	709.16376	1.00000	709.16376		?
6.575	VV	371.84860	1.00000	371.84860		?
6.629	VV	470.59744	1.00000	470.59744		?
6.751	VV	1998.90735	1.00000	1998.90735		?
6.918	VV	841.70605	1.00000	841.70605		?
7.025	VV	1177.63269	1.00000	1177.63269		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\057B2501.D
Sample Name: 0182_11

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
7.116	VV	1077.37891	1.00000	1077.37891		?
7.327	VV	2632.00903	1.87901e-2	49.45580		hexadecane
7.475	VV	545.18671	1.00000	545.18671		?
7.596	VV	1575.13232	1.00000	1575.13232		?
7.708	VV	727.12158	1.00000	727.12158		?
7.876	VV	2547.65552	1.00000	2547.65552		?
8.108	VV	3021.87476	1.00000	3021.87476		?
8.396	VV	1888.60352	1.00000	1888.60352		?
8.708	VV	2769.48535	1.00000	2769.48535		?
8.731	VV R	2361.79199	1.00000	2361.79199		?
8.861	MM T	6042.89551	0.00000	0.00000		OTPX
9.013	VV	888.63220	1.58832e-2	14.11433		nonadecane
9.108	VV	1286.17444	1.00000	1286.17444		?
9.235	VV	907.10083	1.00000	907.10083		?
9.362	VV	2139.67847	1.54620e-2	33.08366		eicosane
9.539	VV	1214.89746	1.00000	1214.89746		?
9.701	VV	1162.80823	1.00000	1162.80823		?
9.817	VV	1557.72632	1.85493e-2	28.89474		heneicosane
10.013	VV	1099.13989	1.00000	1099.13989		?
10.054	VV	581.08661	1.00000	581.08661		?
10.131	VV	913.13092	1.00000	913.13092		?
10.251	VV	857.18549	1.00000	857.18549		?
10.350	VV	1558.99438	1.00000	1558.99438		?
10.516	VV	729.07806	1.00000	729.07806		?
10.544	VV R	1867.75366	1.00000	1867.75366		?
10.685	MM T	5332.29443	0.00000	0.00000		COD
10.817	VV	620.32080	1.00000	620.32080		?
10.872	VV	761.02856	1.00000	761.02856		?
10.994	VV	556.47827	1.00000	556.47827		?
11.069	VV	722.68555	1.18753e-2	8.58210		tetracosane
11.142	VV	515.36951	1.00000	515.36951		?
11.210	VV	474.98639	1.00000	474.98639		?
11.304	VV	713.47498	1.00000	713.47498		?
11.454	VV	1091.63110	1.16961e-2	12.76781		pentacosane
11.590	VV	717.41431	1.00000	717.41431		?
11.653	VV	846.13928	1.00000	846.13928		?
11.828	VV	954.61969	1.00000	954.61969		?
11.957	VV	874.66382	1.00000	874.66382		?
12.042	VV	618.01025	1.00000	618.01025		?
12.187	VV	838.35529	1.00000	838.35529		?
12.308	VV	1167.70227	1.00000	1167.70227		?
12.478	VV	491.37518	1.00000	491.37518		?
12.534	VV	586.79871	1.89816e-2	11.13839		octacosane
12.632	VV	469.29587	1.00000	469.29587		?
12.737	VV	785.24750	1.00000	785.24750		?
12.872	VV	596.43335	1.00000	596.43335		?
12.972	VV	658.16913	1.00000	658.16913		?
13.104	VV	717.75812	1.00000	717.75812		?
13.196	VV	528.14612	1.00000	528.14612		?
13.291	VB	856.64117	1.00000	856.64117		?
13.514	PV	719.11090	1.00000	719.11090		?
13.614	VV	1014.94287	1.00000	1014.94287		?
13.815	VV	485.22067	1.00000	485.22067		?
13.928	VV	884.40253	1.00000	884.40253		?
14.117	VV	465.11298	1.00000	465.11298		?
14.227	VV	365.01962	1.00000	365.01962		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\057B2501.D
Sample Name: 0182_11

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
14.407	VV	1585.56873	1.44738e-2	22.94917		tetratriacontane
14.679	VB	692.00787	1.85685e-2	12.84953		pentatriacontane
14.982		-	-	-		hexatriacontane
16.297	BP	3259.52856	0.00000	0.00000		tetracontane
17.020	PB	1773.46582	1.00000	1773.46582		?

Totals : 3.05443e7

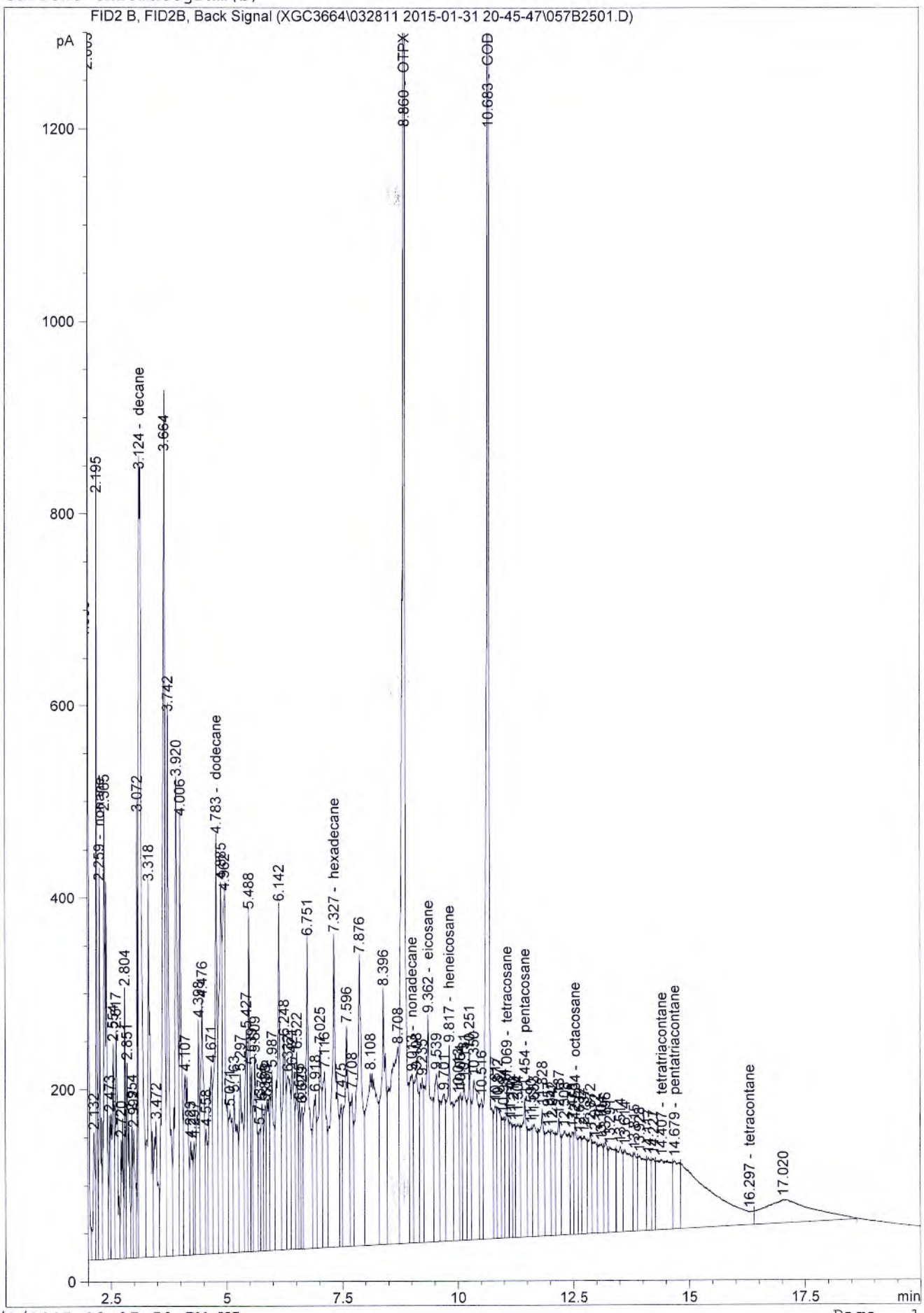
5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)
Warning : Invalid calibration curve, (tetracontane)

==========

*** End of Report ***

Current Chromatogram(s)



Results of **BT-PW-02**

Client Sample ID: **BT-PW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182012-B
Lab Project ID: 31500182

Collection Date: 01/25/2015 10:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**3.67**		0.266	mg/L	1	02/1/2015 7:32
Surrogates						
o-Terphenyl	108		40.0-140	%	1	02/1/2015 7:32

Batch Information

Analytical Batch: **XGC3668**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4517**
Prep Method: **SW-846 3520C**
Prep Date/Time: **01/29/2015 15:00**
Prep Initial Wt./Vol.: **941 mL**
Prep Extract Vol: **5 mL**

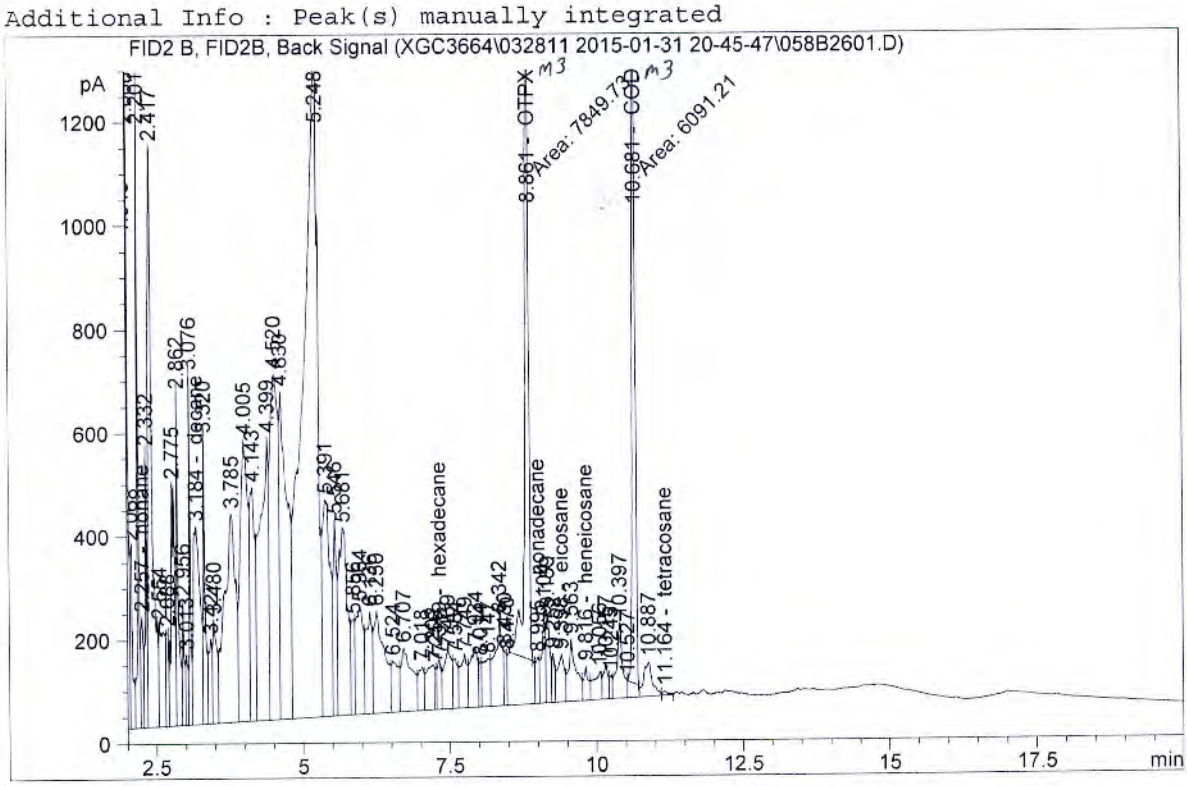
Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\058B2601.D
Sample Name: 0182_12

==========

Acq. Operator : VS
Seq. Line : 26
Acq. Instrument : GC08
Location : Vial 58
Injection Date : 2/1/2015 7:32:08 AM
Inj : 1
Inj Volume : 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/2/2015 12:40:21 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS ✓
2-2-15

Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.392	VV	50.97872	1.00000	50.97872		?
1.123	VV	3.05651e7	1.00000	3.05651e7		?
1.220	VV	6.34177e4	1.00000	6.34177e4		?
1.454	VV	2.47553e4	1.00000	2.47553e4		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\058B2601.D
Sample Name: 0182_12

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.551	VV	1.40584e4	1.00000	1.40584e4		?
1.610	VV	1.42289e4	1.00000	1.42289e4		?
1.741	VV	3699.43945	1.00000	3699.43945		?
1.823	VV	8510.88477	1.00000	8510.88477		?
1.943	VV	2374.82202	1.00000	2374.82202		?
2.008	VV	3769.05835	1.00000	3769.05835		?
2.068	VV	1099.25049	1.00000	1099.25049		?
2.201	VV	2153.23779	1.00000	2153.23779		?
2.257	VV	645.30835	1.73487e-2	11.19526		nonane
2.332	VV	1038.46741	1.00000	1038.46741		?
2.417	VV	5401.45898	1.00000	5401.45898		?
2.554	VV	1277.48401	1.00000	1277.48401		?
2.688	VV	578.50873	1.00000	578.50873		?
2.775	VV	2044.71741	1.00000	2044.71741		?
2.862	VV	1459.52527	1.00000	1459.52527		?
2.956	VV	569.63947	1.00000	569.63947		?
3.013	VV	354.57291	1.00000	354.57291		?
3.076	VV	1107.10266	1.00000	1107.10266		?
3.184	VV	3083.99951	1.90669e-2	58.80220		decane
3.320	VV	1375.55981	1.00000	1375.55981		?
3.427	VV	648.35626	1.00000	648.35626		?
3.480	VV	1001.49493	1.00000	1001.49493		?
3.785	VV	5330.34229	1.00000	5330.34229		?
4.005	VV	5034.39111	1.00000	5034.39111		?
4.143	VV	2640.94165	1.00000	2640.94165		?
4.399	VV	5625.49170	1.00000	5625.49170		?
4.520	VV	6403.25195	1.00000	6403.25195		?
4.630	VV	6162.36230	1.00000	6162.36230		?
4.801		-	-	-		dodecane
5.248	VV	2.22705e4	1.00000	2.22705e4		?
5.391	VV	3811.25122	1.00000	3811.25122		?
5.546	VV	1538.19885	1.00000	1538.19885		?
5.681	VV	3722.46777	1.00000	3722.46777		?
5.856	VV	815.00281	1.00000	815.00281		?
5.964	VV	1839.21729	1.00000	1839.21729		?
6.136	VV	1413.36877	1.00000	1413.36877		?
6.250	VV	2536.83521	1.00000	2536.83521		?
6.524	VV	835.06653	1.00000	835.06653		?
6.707	VV	1612.28503	1.00000	1612.28503		?
7.018	VV	542.48010	1.00000	542.48010		?
7.202	VV	841.17950	1.00000	841.17950		?
7.256	VV	189.35098	1.00000	189.35098		?
7.319	VV	423.45313	1.87901e-2	7.95674		hexadecane
7.469	VV	1060.72046	1.00000	1060.72046		?
7.584	VV	511.52585	1.00000	511.52585		?
7.749	VV	853.33612	1.00000	853.33612		?
7.934	VV	1020.44684	1.00000	1020.44684		?
8.014	VV	247.01628	1.00000	247.01628		?
8.147	VV	820.91901	1.00000	820.91901		?
8.342	VV	1494.27490	1.00000	1494.27490		?
8.430	VV	354.88995	1.00000	354.88995		?
8.470	VM R	2611.71802	1.00000	2611.71802		?
8.861	MM T	7849.72607	0.00000	0.00000		OTPX
8.995	VV	394.08328	1.58832e-2	6.25931		nonadecane
9.104	VV	750.37610	1.00000	750.37610		?
9.159	VV	762.14362	1.00000	762.14362		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\058B2601.D
Sample Name: 0182_12

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
9.252	VV	315.58902	1.00000	315.58902		?
9.398	VV	751.98828	1.54620e-2	11.62723		eicosane
9.563	VV	1085.01013	1.00000	1085.01013		?
9.816	VV	375.23483	1.85493e-2	6.96035		heneicosane
10.056	VV	484.20697	1.00000	484.20697		?
10.157	VV	366.07663	1.00000	366.07663		?
10.245	VV	152.23676	1.00000	152.23676		?
10.397	VV	1026.44580	1.00000	1026.44580		?
10.527	VV R	329.89905	1.00000	329.89905		?
10.681	MM T	6091.20947	0.00000	0.00000		COD
10.887	VV	673.12091	1.00000	673.12091		?
11.164	VV	50.26886	1.18753e-2	5.96957e-1		tetracosane
11.468		-	-	-		pentacosane
12.549		-	-	-		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
14.982		-	-	-		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 3.08083e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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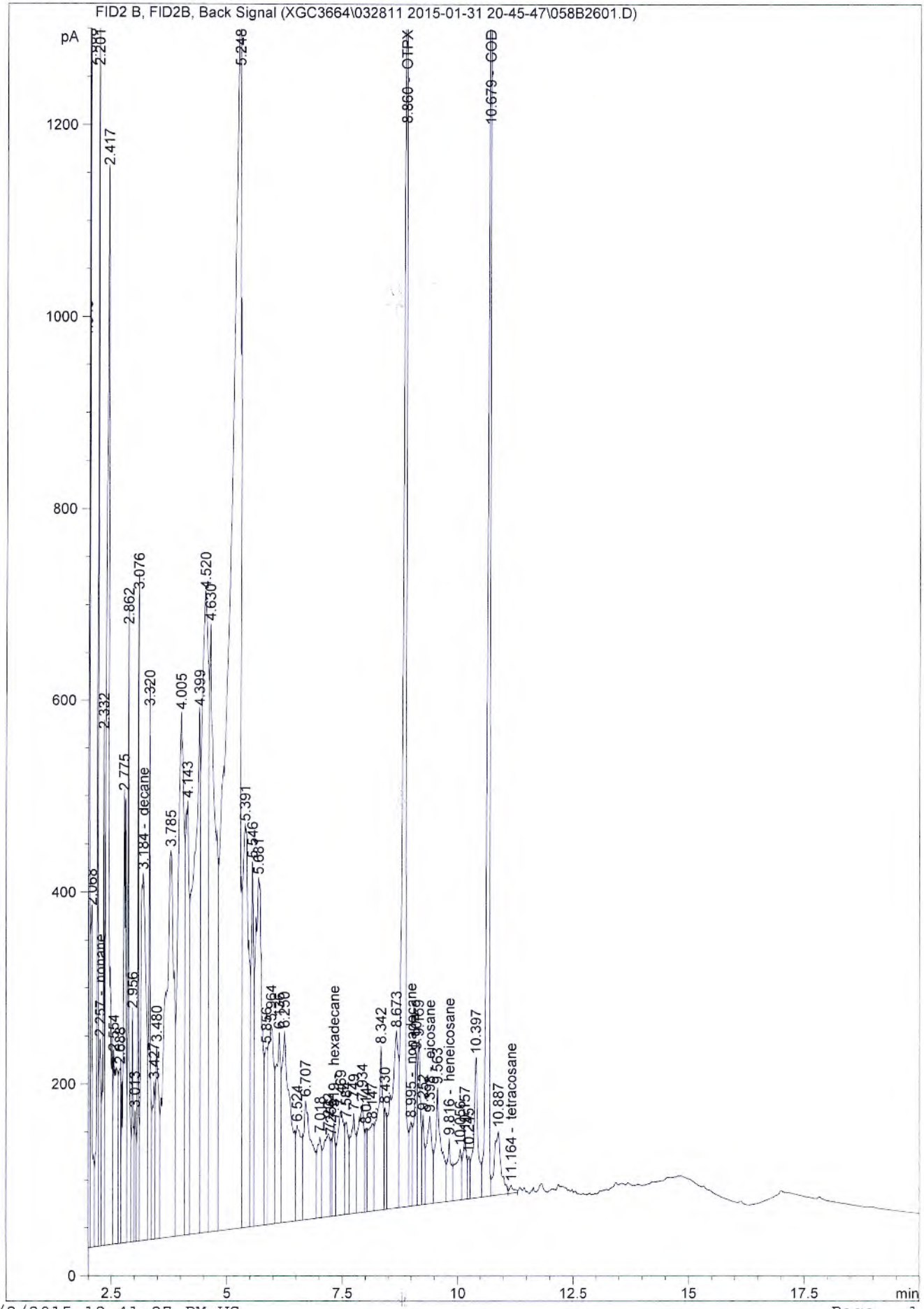
*** End of Report ***

$$\frac{6091.32318 \times 5}{941} = 3.6733431 46$$

CN 2-3-15

Current Chromatogram(s)



SW-846 8015C DRO
QC, Blanks Data

Print Date: 02/06/2015

N.C. Certification # 481

SW-846 8015C DRO
Batch XXX4517

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 8015C DRO

Prep Method: SW-846 3520C
Prep Batch: XXX4517
Prep Date: 01/29/2015 15:00

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 63659 [XXX/4517]	157991	02/01/2015 02:34	XGC3668	GC8	VS
LCS for HBN 63659 [XXX/4517]	157992	02/01/2015 02:59	XGC3668	GC8	VS
LCSD for HBN 63659 [XXX/4517]	157993	02/01/2015 03:23	XGC3668	GC8	VS
BT-SW-02	31500182002	02/01/2015 04:13	XGC3668	GC8	VS
BT-SW-02(157959MS)	157994	02/01/2015 04:38	XGC3668	GC8	VS
BT-SW-03	31500182003	02/01/2015 05:03	XGC3668	GC8	VS
BT-SW-04	31500182004	02/01/2015 05:27	XGC3668	GC8	VS
BT-SW-05	31500182005	02/01/2015 05:52	XGC3668	GC8	VS
BT-SW-06	31500182006	02/01/2015 06:17	XGC3668	GC8	VS
BT-SW-DUP	31500182007	02/01/2015 06:42	XGC3668	GC8	VS
BT-PW-01	31500182011	02/01/2015 07:07	XGC3668	GC8	VS
BT-PW-02	31500182012	02/01/2015 07:32	XGC3668	GC8	VS
BT-SW-01	31500182001	02/01/2015 18:48	XGC3665	GC8	VS

Surrogate Summary Form 2

Analytical Method: SW-846 8015C DRO
Analytical Batch: XGC3665
Work Order: 31500182
Matrix: Water

Results by **SW-846 8015C DRO**

	o-TPHYL
BT-SW-01	103

Control Limits

o-Terphenyl	o-TPHYL	40.0-140

Print Date: 02/06/2015

N.C. Certification # 481

Surrogate Summary Form 2

Analytical Method: SW-846 8015C DRO
Analytical Batch: XGC3668
Work Order: 31500182
Matrix: Water

Results by **SW-846 8015C DRO**

	o-TPHYL
BT-PW-01	82.6
BT-PW-02	108
BT-SW-02	82.2
BT-SW-02(157959MS)	101
BT-SW-03	79.5
BT-SW-04	102
BT-SW-05	103
BT-SW-06	96.7
BT-SW-DUP	47.6
LCS for HBN 63659 [XXX/4517]	97.8
LCSD for HBN 63659 [XXX/4517]	87.6
MB for HBN 63659 [XXX/4517]	98.5

Control Limits

o-Terphenyl	o-TPHYL	40.0-140

Method Blank Summary **Form 4**

Blank ID: MB for HBN 63659 [XXX/4517]
Blank Lab ID: 157991
Prep Batch: XXX4517

Matrix: Water
Analysis Date/Time: 02/1/2015 02:34

Results by **SW-846 8015C DRO**

Client Sample ID	Lab Sample ID	Filename	Date Analyzed	Analyst
LCS for HBN 63659 [XXX/4517]	157992	047B1501.D	02/1/2015 02:59	VS
LCSD for HBN 63659 [XXX/4517]	157993	048B1601.D	02/1/2015 03:23	VS
BT-SW-02	31500182002	050B1801.D	02/1/2015 04:13	VS
BT-SW-02(157959MS)	157994	051B1901.D	02/1/2015 04:38	VS
BT-SW-03	31500182003	052B2001.D	02/1/2015 05:03	VS
BT-SW-04	31500182004	053B2101.D	02/1/2015 05:27	VS
BT-SW-05	31500182005	054B2201.D	02/1/2015 05:52	VS
BT-SW-06	31500182006	055B2301.D	02/1/2015 06:17	VS
BT-SW-DUP	31500182007	056B2401.D	02/1/2015 06:42	VS
BT-PW-01	31500182011	057B2501.D	02/1/2015 07:07	VS
BT-PW-02	31500182012	058B2601.D	02/1/2015 07:32	VS
BT-SW-01	31500182001	083B0301.D	02/1/2015 18:48	VS

Method Blank

Blank ID: MB for HBN 63659 [XXX/4517]
Matrix: Water
Blank Lab ID: 157991
QC for Samples:
31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF
Diesel Range Organics (DRO)	ND		0.250	mg/L	1
Surrogates					
o-Terphenyl	98.5		40.0-140	%	1

Batch Information

Analytical Batch: XGC3668
Analytical Method: SW-846 8015C DRO
Instrument: GC8
Analyst: VS

Prep Batch: XXX4517
Prep Method: SW-846 3520C
Prep Date/Time: 1/29/2015 3:00:52PM
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: 5 mL

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\046B1401.D
Sample Name: 157991

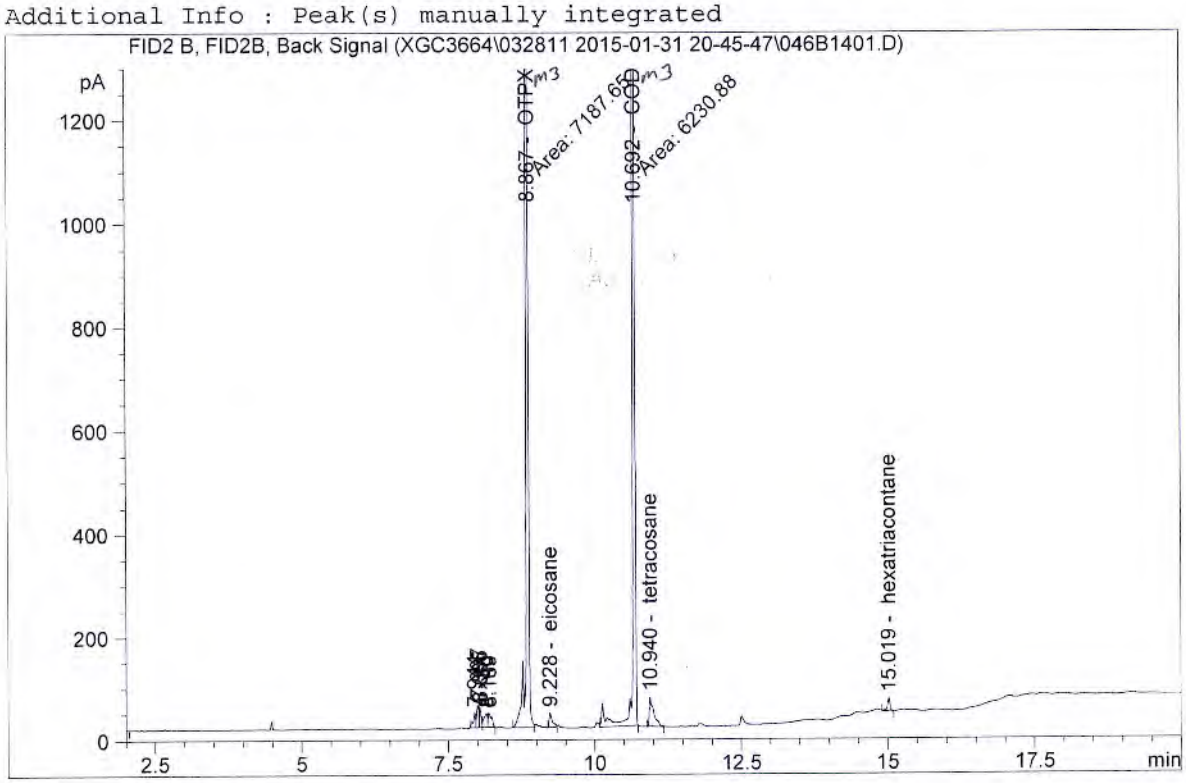
==========

Acq. Operator : VS
Acq. Instrument : GC08
Injection Date : 2/1/2015 2:34:21 AM

Seq. Line : 14
Location : Vial 46
Inj : 1
Inj Volume : 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/2/2015 11:49:01 AM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.127	PB	3.04337e7	1.00000	3.04337e7		?
2.258		-	-	-		nonane
3.170		-	-	-		decane
4.801		-	-	-		dodecane

NS
2-2-15

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\046B1401.D
Sample Name: 157991

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
7.341		-	-	-		hexadecane
7.944	BV	77.91453	1.00000	77.91453		?
7.997	VV	102.32372	1.00000	102.32372		?
8.035	VV	81.84618	1.00000	81.84618		?
8.140	VV	110.36355	1.00000	110.36355		?
8.189	VP	110.55527	1.00000	110.55527		?
8.867	MM T	7187.65430	0.00000	0.00000		OTPX
8.894		-	-	-		nonadecane
9.228	PV	99.38760	1.54620e-2	1.53673		eicosane
9.829		-	-	-		heneicosane
10.692	MM T	6230.88037	0.00000	0.00000		COD
10.940	PP	296.41730	1.18753e-2	3.52004		tetracosane
11.468		-	-	-		pentacosane
12.549		-	-	-		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
15.019	VV	75.16662	1.85740e-2	1.39614		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 3.04342e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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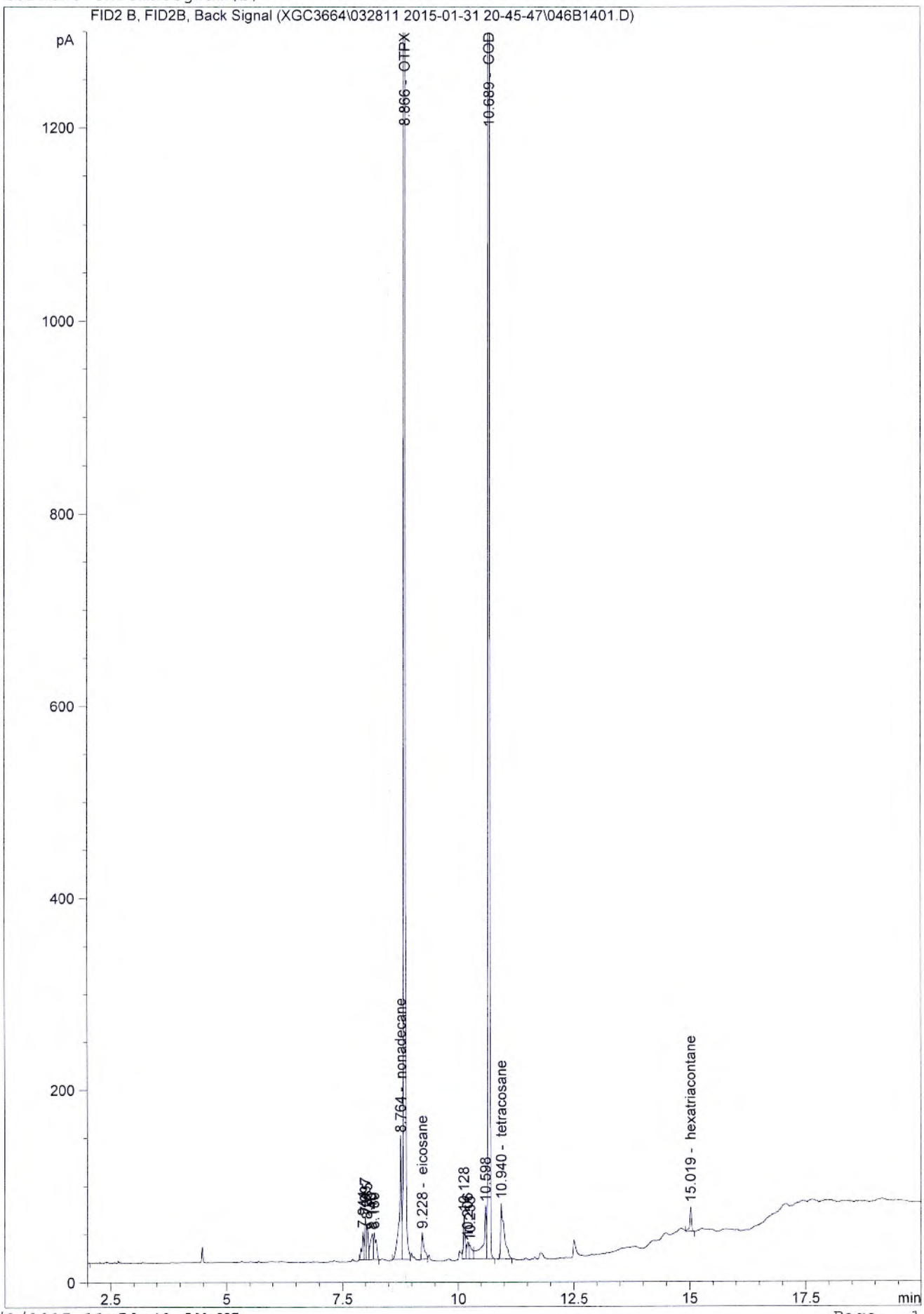
*** End of Report ***

Current Chromatogram(s)



Blank Spike Summary

Blank Spike ID: LCS for HBN 63659 [XXX/4517]
Blank Spike Lab ID: 157992
Date Analyzed: 02/01/2015 02:59

Spike Duplicate ID: LCSD for HBN 63659 [XXX/4517]
Spike Duplicate Lab ID: 157993
Date Analyzed: 02/01/2015 03:23
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 8015C DRO**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics (DRO)	1.00	1.01	101	1.00	0.931	93	55.0-137	8.1	30.00
Surrogates									
o-Terphenyl			97.8			87.6	40.0-140		

Batch Information

Analytical Batch: **XGC3668**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4517**
Prep Method: **SW-846 3520C**
Prep Date/Time: **01/29/2015 15:00**
Spike Init Wt./Vol.: **1000 mL** Extract Vol: **5 mL**
Dupe Init Wt./Vol.: **1000 mL** Extract Vol: **5 mL**

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\047B1501.D
Sample Name: 157992

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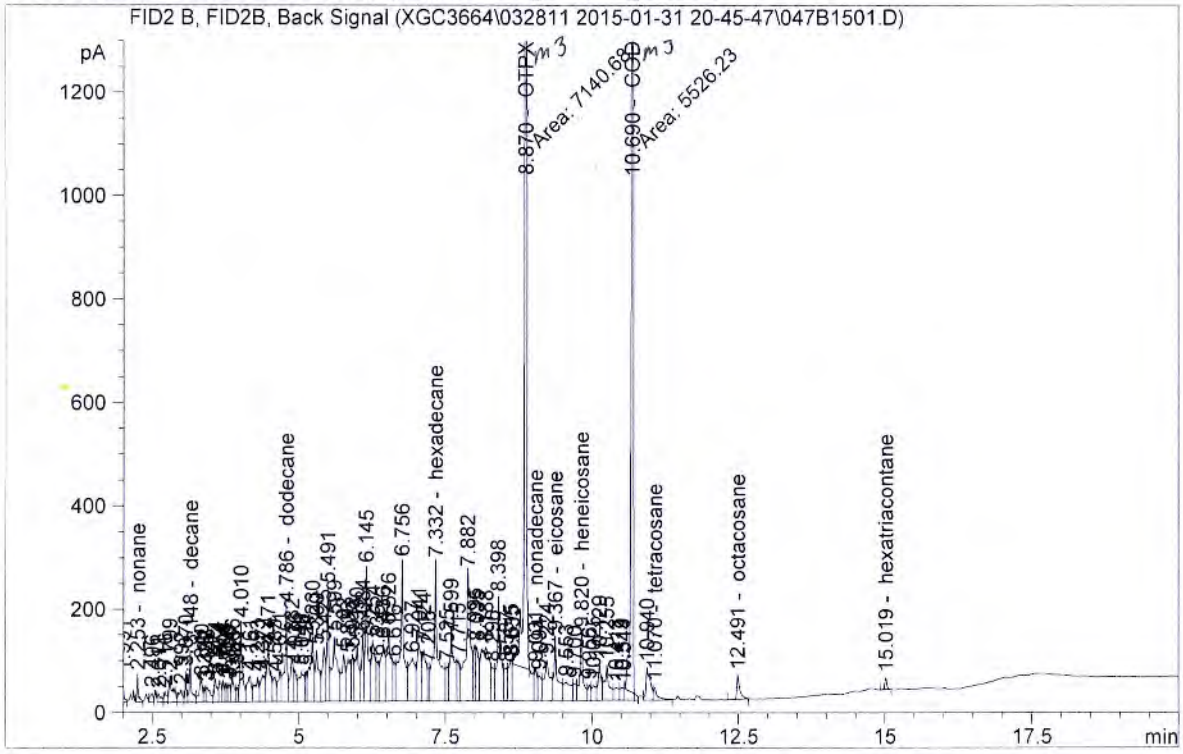
Acq. Operator	: VS	Seq. Line	: 15
Acq. Instrument	: GC08	Location	: Vial 47
Injection Date	: 2/1/2015 2:59:08 AM	Inj	: 1
		Inj Volume	: 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/2/2015 11:53:55 AM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



VS
2-2-15

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.111	PV	3.03052e7	1.00000	3.03052e7		?
1.991	VB	87.11831	1.00000	87.11831		?
2.253	VV	97.03615	1.73487e-2	1.68345		nonane
2.496	VV	55.42938	1.00000	55.42938		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\047B1501.D
Sample Name: 157992

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.611	VV	62.15150	1.00000	62.15150		?
2.716	VV	58.05781	1.00000	58.05781		?
2.799	VV	215.40533	1.00000	215.40533		?
2.992	VV	100.12033	1.00000	100.12033		?
3.070	VV	98.49838	1.00000	98.49838		?
3.148	VV	226.73936	1.90669e-2	4.32321		decane
3.340	VV	169.29959	1.00000	169.29959		?
3.392	VV	55.61261	1.00000	55.61261		?
3.436	VV	144.95538	1.00000	144.95538		?
3.574	VV	150.83319	1.00000	150.83319		?
3.651	VV	119.50418	1.00000	119.50418		?
3.708	VV	87.37831	1.00000	87.37831		?
3.758	VV	79.69720	1.00000	79.69720		?
3.808	VV	91.32659	1.00000	91.32659		?
3.866	VV	157.54543	1.00000	157.54543		?
3.941	VV	67.83933	1.00000	67.83933		?
4.010	VV	440.71252	1.00000	440.71252		?
4.161	VV	241.20436	1.00000	241.20436		?
4.293	VV	230.25789	1.00000	230.25789		?
4.372	VV	256.16650	1.00000	256.16650		?
4.471	VV	455.96780	1.00000	455.96780		?
4.583	VV	177.70506	1.00000	177.70506		?
4.671	VV	224.88513	1.00000	224.88513		?
4.786	VV	586.72028	1.94670e-2	11.42170		dodecane
4.882	VV	331.10117	1.00000	331.10117		?
4.936	VV	159.78008	1.00000	159.78008		?
5.046	VV	375.09277	1.00000	375.09277		?
5.124	VV	121.78757	1.00000	121.78757		?
5.230	VV	568.26385	1.00000	568.26385		?
5.300	VV	431.72958	1.00000	431.72958		?
5.425	VV	394.35269	1.00000	394.35269		?
5.491	VV	487.24487	1.00000	487.24487		?
5.599	VV	768.99658	1.00000	768.99658		?
5.762	VV	393.72513	1.00000	393.72513		?
5.836	VV	392.74460	1.00000	392.74460		?
5.912	VV	233.45988	1.00000	233.45988		?
5.990	VV	504.63681	1.00000	504.63681		?
6.084	VV	335.30801	1.00000	335.30801		?
6.145	VV	812.62091	1.00000	812.62091		?
6.254	VV	507.70355	1.00000	507.70355		?
6.335	VV	219.51389	1.00000	219.51389		?
6.436	VV	585.15704	1.00000	585.15704		?
6.526	VV	718.17072	1.00000	718.17072		?
6.616	VV	191.06088	1.00000	191.06088		?
6.756	VV	1227.70166	1.00000	1227.70166		?
6.927	VV	642.52899	1.00000	642.52899		?
7.041	VV	509.18155	1.00000	509.18155		?
7.124	VV	477.57382	1.00000	477.57382		?
7.205	VV	161.98686	1.00000	161.98686		?
7.332	VV	1487.73633	1.87901e-2	27.95476		hexadecane
7.525	VV	195.97200	1.00000	195.97200		?
7.599	VV	727.65088	1.00000	727.65088		?
7.715	VV	241.64050	1.00000	241.64050		?
7.882	VV	1473.76404	1.00000	1473.76404		?
7.996	VV	300.12823	1.00000	300.12823		?
8.035	VV	314.36926	1.00000	314.36926		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\047B1501.D
Sample Name: 157992

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
8.188	VV	1066.62134	1.00000	1066.62134		?
8.296	VV	244.13930	1.00000	244.13930		?
8.398	VV	837.17206	1.00000	837.17206		?
8.537	VV	253.45680	1.00000	253.45680		?
8.615	VV	332.36145	1.00000	332.36145		?
8.635	VM R	1402.32825	1.00000	1402.32825		?
8.870	MM T	7140.68359	0.00000	0.00000		OTPX
9.031	VV	201.67342	1.58832e-2	3.20322		nonadecane
9.094	VV	193.97514	1.00000	193.97514		?
9.224	VV	547.95135	1.00000	547.95135		?
9.367	VV	520.38031	1.54620e-2	8.04611		eicosane
9.553	VV	317.11932	1.00000	317.11932		?
9.700	VV	119.46478	1.00000	119.46478		?
9.820	VV	599.45673	1.85493e-2	11.11951		heneicosane
9.956	VV	95.35706	1.00000	95.35706		?
10.025	VV	146.45119	1.00000	146.45119		?
10.129	VV	259.95233	1.00000	259.95233		?
10.255	VV	383.31183	1.00000	383.31183		?
10.413	VV	150.05038	1.00000	150.05038		?
10.519	VV	96.88063	1.00000	96.88063		?
10.544	VV R	231.01955	1.00000	231.01955		?
10.690	MM T	5526.22656	0.00000	0.00000		COD
10.940	VV	314.26874	1.00000	314.26874		?
11.070	VB	121.04050	1.18753e-2	1.43739		tetracosane
11.468		-	-	-		pentacosane
12.491	BB	157.19521	1.89816e-2	2.98382		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
15.019	VB	53.12729	1.85740e-2	9.86786e-1		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 3.03309e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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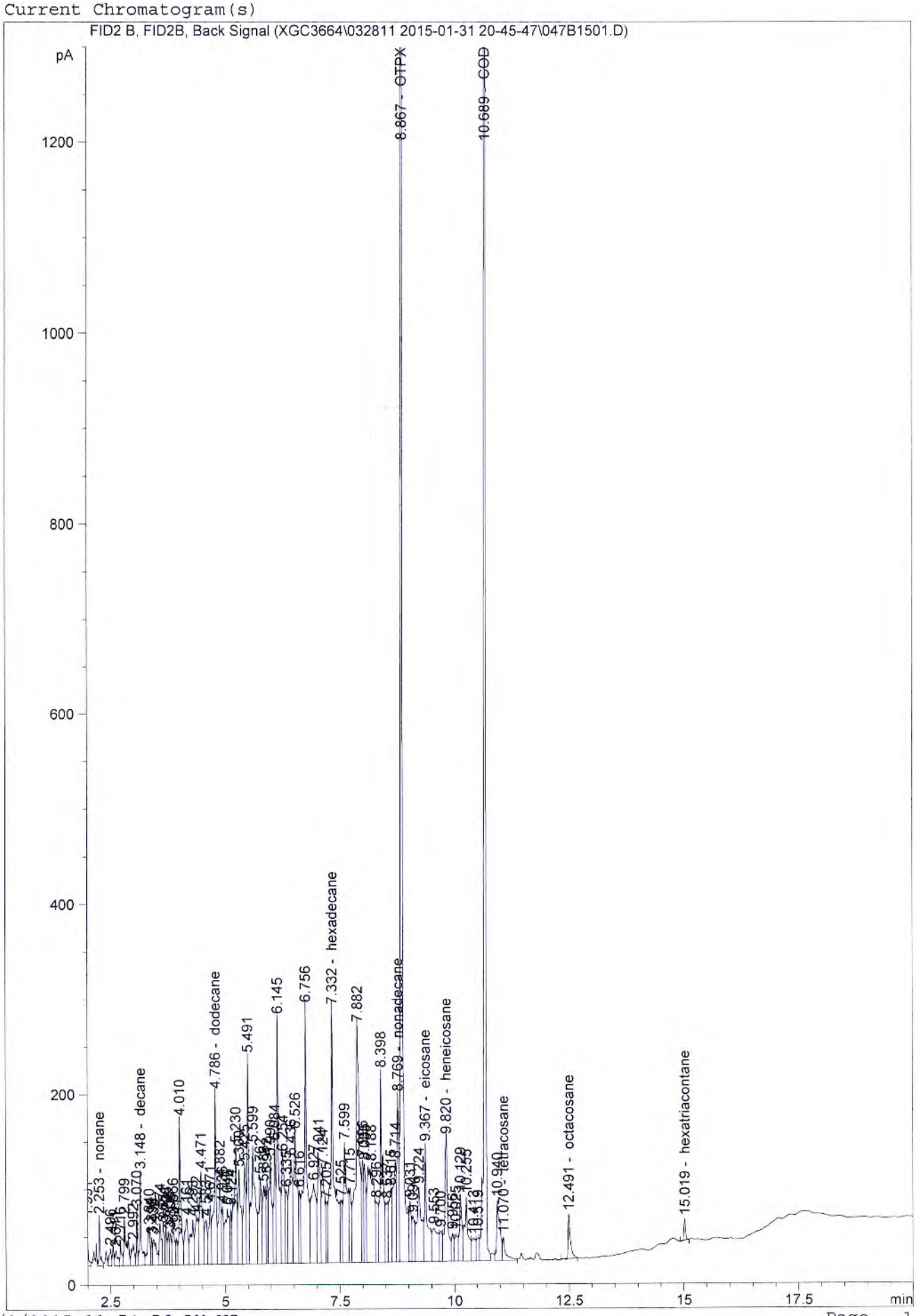
*** End of Report ***

Current Chromatogram(s)

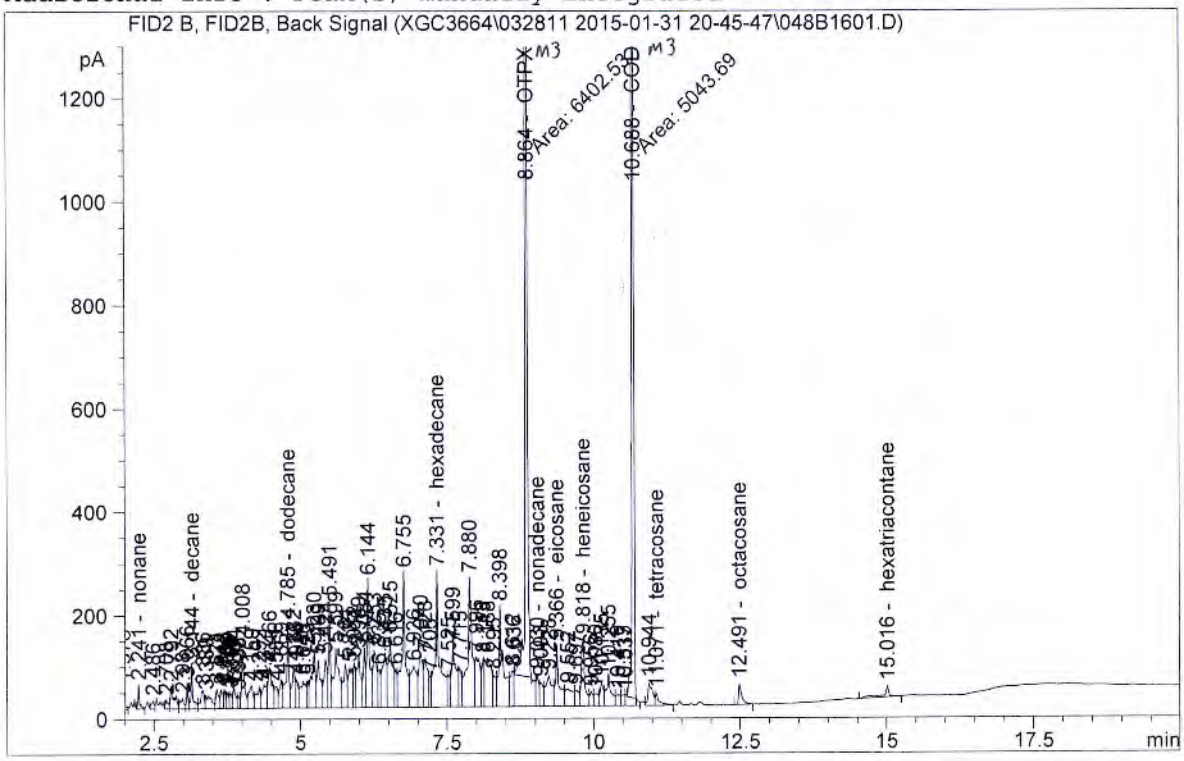


Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\048B1601.D
Sample Name: 157993

==========

Acq. Operator : VS
Seq. Line : 16
Acq. Instrument : GC08
Location : Vial 48
Injection Date : 2/1/2015 3:23:54 AM
Inj : 1
Inj Volume : 10 µl
Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/2/2015 11:53:55 AM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-2-15

Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.094	PV	2.96264e7	1.00000	2.96264e7		?
1.976	VB	81.00002	1.00000	81.00002		?
2.241	VV	92.38522	1.73487e-2	1.60276		nonane
2.486	VV	50.48399	1.00000	50.48399		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\048B1601.D
Sample Name: 157993

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.708	VV	52.37899	1.00000	52.37899		?
2.792	VV	193.79659	1.00000	193.79659		?
2.987	VV	90.49197	1.00000	90.49197		?
3.066	VV	85.91489	1.00000	85.91489		?
3.144	VV	202.85587	1.90669e-2	3.86783		decane
3.336	VV	150.48735	1.00000	150.48735		?
3.389	VV	180.26491	1.00000	180.26491		?
3.571	VV	132.41774	1.00000	132.41774		?
3.648	VV	105.80748	1.00000	105.80748		?
3.706	VV	78.25391	1.00000	78.25391		?
3.756	VV	71.84783	1.00000	71.84783		?
3.805	VV	80.35247	1.00000	80.35247		?
3.864	VV	140.52083	1.00000	140.52083		?
3.938	VV	61.54316	1.00000	61.54316		?
4.008	VV	390.76385	1.00000	390.76385		?
4.159	VV	215.72607	1.00000	215.72607		?
4.292	VV	206.77168	1.00000	206.77168		?
4.371	VV	230.55208	1.00000	230.55208		?
4.466	VV	385.93176	1.00000	385.93176		?
4.581	VV	160.71286	1.00000	160.71286		?
4.669	VV	202.00751	1.00000	202.00751		?
4.785	VV	529.85730	1.94670e-2	10.31475		dodecane
4.882	VV	299.96048	1.00000	299.96048		?
4.936	VV	145.25430	1.00000	145.25430		?
5.046	VV	340.96564	1.00000	340.96564		?
5.123	VV	111.00281	1.00000	111.00281		?
5.230	VV	519.00177	1.00000	519.00177		?
5.299	VV	399.64594	1.00000	399.64594		?
5.424	VV	360.18304	1.00000	360.18304		?
5.491	VV	458.12051	1.00000	458.12051		?
5.599	VV	709.58746	1.00000	709.58746		?
5.761	VV	367.37332	1.00000	367.37332		?
5.835	VV	367.15469	1.00000	367.15469		?
5.912	VV	218.66971	1.00000	218.66971		?
5.989	VV	481.39395	1.00000	481.39395		?
6.084	VV	302.38934	1.00000	302.38934		?
6.144	VV	766.18848	1.00000	766.18848		?
6.253	VV	489.84760	1.00000	489.84760		?
6.335	VV	193.47871	1.00000	193.47871		?
6.435	VV	557.26611	1.00000	557.26611		?
6.525	VV	683.51642	1.00000	683.51642		?
6.616	VV	193.74597	1.00000	193.74597		?
6.755	VV	1163.71448	1.00000	1163.71448		?
6.926	VV	600.93524	1.00000	600.93524		?
7.040	VV	481.62839	1.00000	481.62839		?
7.123	VV	465.42056	1.00000	465.42056		?
7.205	VV	157.42259	1.00000	157.42259		?
7.331	VV	1425.40796	1.87901e-2	26.78360		hexadecane
7.525	VV	174.61534	1.00000	174.61534		?
7.599	VV	706.40479	1.00000	706.40479		?
7.715	VV	228.27211	1.00000	228.27211		?
7.880	VV	1394.73169	1.00000	1394.73169		?
7.996	VV	556.04907	1.00000	556.04907		?
8.113	VV	269.57260	1.00000	269.57260		?
8.188	VV	719.65619	1.00000	719.65619		?
8.295	VV	223.25687	1.00000	223.25687		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\048B1601.D
Sample Name: 157993

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
8.398	VV	1036.48682	1.00000	1036.48682		?
8.612	VV	305.66330	1.00000	305.66330		?
8.636	VM R	1276.14990	1.00000	1276.14990		?
8.864	MM T	6402.52832	0.00000	0.00000		OTPX
9.030	VV	193.72633	1.58832e-2	3.07700		nonadecane
9.093	VV	187.58899	1.00000	187.58899		?
9.228	VV	456.56406	1.00000	456.56406		?
9.366	VV	524.70068	1.54620e-2	8.11291		eicosane
9.552	VV	304.00751	1.00000	304.00751		?
9.697	VV	155.76135	1.00000	155.76135		?
9.818	VV	535.62866	1.85493e-2	9.93554		heneicosane
9.956	VV	108.31361	1.00000	108.31361		?
10.030	VV	118.16558	1.00000	118.16558		?
10.135	VV	182.06003	1.00000	182.06003		?
10.255	VV	347.76529	1.00000	347.76529		?
10.410	VV	121.12407	1.00000	121.12407		?
10.513	VV	83.74052	1.00000	83.74052		?
10.537	VV R	224.70450	1.00000	224.70450		?
10.688	MM T	5043.68555	0.00000	0.00000		COD
10.944	VV	237.02426	1.00000	237.02426		?
11.071	VB	118.29523	1.18753e-2	1.40479		tetracosane
11.468		-	-	-		pentacosane
12.491	PB	154.80901	1.89816e-2	2.93853		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
15.016	BB	133.45042	1.85740e-2	2.47871		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 2.96501e7

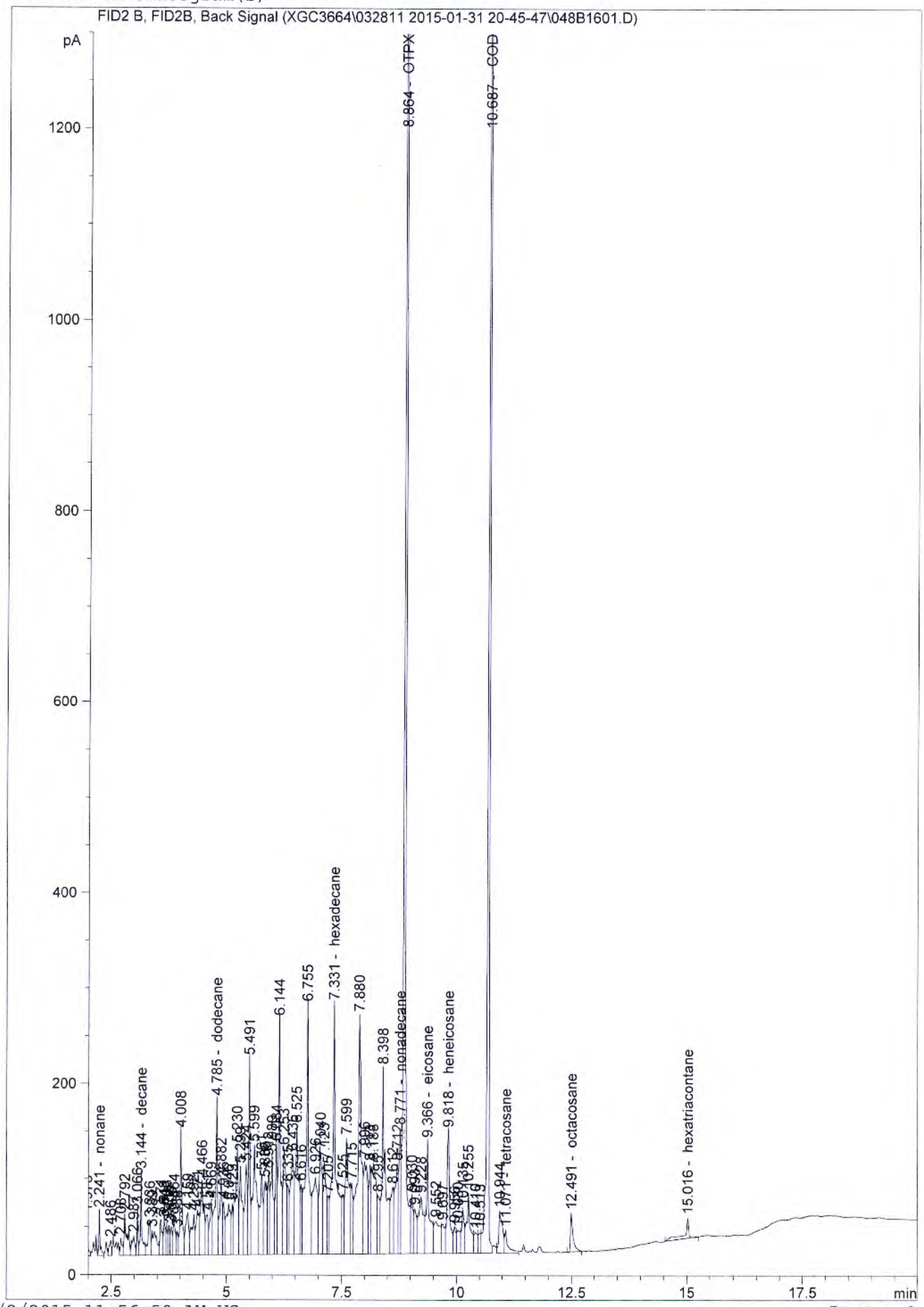
4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

==========

*** End of Report ***

Current Chromatogram(s)



Matrix Spike Summary

Original Sample ID: 31500182002 (BT-SW-02)
MS Sample ID: 157994
MSD Sample ID:

Analysis Date: 02/01/2015 04:13
Analysis Date: 02/01/2015 04:38
Analysis Date:
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 8015C DRO**

		Matrix Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics (DRO)	ND	1.03	1.13	110				40.0-140		
Surrogates										
o-Terphenyl				101				40.0-140		

Batch Information

Analytical Batch: **XGC3668**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4517**
Prep Method: **SW-846 3520C**
Prep Date/Time: **01/29/2015 15:00**
MS Init Wt./Vol.: **974 mL** Extract Vol.: **5 mL**
MSD Init Wt./Vol.: Extract Vol.:

Print Date: 02/06/2015

N.C. Certification # 481

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\051B1901.D
Sample Name: 157994

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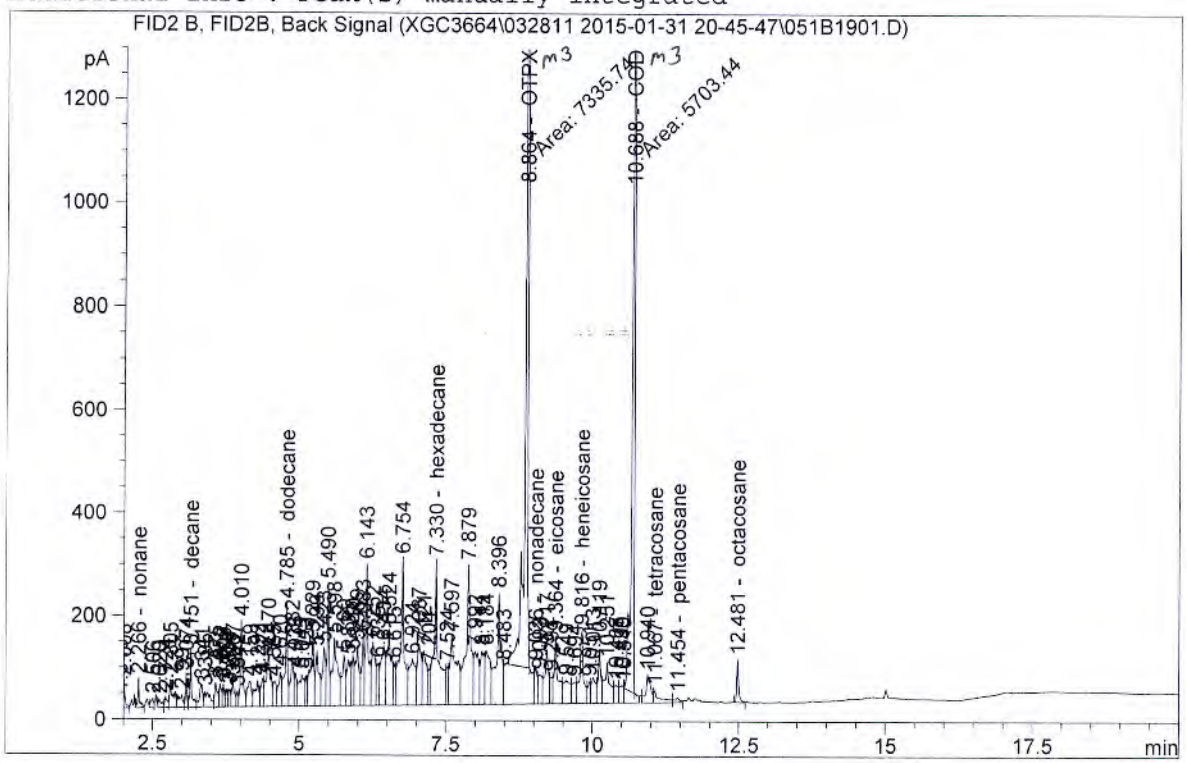
Acq. Operator	: VS	Seq. Line :	19
Acq. Instrument	: GC08	Location :	Vial 51
Injection Date	: 2/1/2015 4:38:13 AM	Inj :	1
		Inj Volume :	10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/2/2015 12:06:42 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



VS
2-2-15

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.391	BV	63.88237	1.00000	63.88237		?
1.132	VV	3.11684e7	1.00000	3.11684e7		?
1.749	VV	6770.83789	1.00000	6770.83789		?
1.946	VV	65.60909	1.00000	65.60909		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\051B1901.D
Sample Name: 157994

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.008	VV	106.07227	1.00000	106.07227		?
2.266	VV	115.94373	1.73487e-2	2.01147		nonane
2.506	VV	54.82958	1.00000	54.82958		?
2.620	VV	61.47644	1.00000	61.47644		?
2.724	VV	61.82150	1.00000	61.82150		?
2.805	VV	216.72433	1.00000	216.72433		?
2.997	VV	130.10864	1.00000	130.10864		?
3.074	VV	102.73246	1.00000	102.73246		?
3.151	VV	237.71336	1.90669e-2	4.53245		decane
3.341	VV	171.73930	1.00000	171.73930		?
3.395	VV	200.76436	1.00000	200.76436		?
3.575	VV	155.35506	1.00000	155.35506		?
3.652	VV	120.67197	1.00000	120.67197		?
3.709	VV	86.20735	1.00000	86.20735		?
3.759	VV	76.43626	1.00000	76.43626		?
3.809	VV	90.74449	1.00000	90.74449		?
3.867	VV	160.10539	1.00000	160.10539		?
3.942	VV	67.01347	1.00000	67.01347		?
4.010	VV	458.56784	1.00000	458.56784		?
4.159	VV	244.48320	1.00000	244.48320		?
4.292	VV	235.09111	1.00000	235.09111		?
4.371	VV	174.10419	1.00000	174.10419		?
4.470	VV	562.75732	1.00000	562.75732		?
4.565	VV	182.43491	1.00000	182.43491		?
4.670	VV	237.13736	1.00000	237.13736		?
4.785	VV	625.45636	1.94670e-2	12.17578		dodecane
4.882	VV	346.82751	1.00000	346.82751		?
4.936	VV	166.72914	1.00000	166.72914		?
5.045	VV	388.57544	1.00000	388.57544		?
5.123	VV	126.80589	1.00000	126.80589		?
5.229	VV	599.08960	1.00000	599.08960		?
5.299	VV	454.33908	1.00000	454.33908		?
5.423	VV	413.42078	1.00000	413.42078		?
5.490	VV	524.44000	1.00000	524.44000		?
5.598	VV	802.83478	1.00000	802.83478		?
5.760	VV	412.38300	1.00000	412.38300		?
5.835	VV	416.99265	1.00000	416.99265		?
5.910	VV	245.56947	1.00000	245.56947		?
5.989	VV	517.05524	1.00000	517.05524		?
6.083	VV	369.33630	1.00000	369.33630		?
6.143	VV	860.05096	1.00000	860.05096		?
6.252	VV	517.86481	1.00000	517.86481		?
6.335	VV	236.79926	1.00000	236.79926		?
6.434	VV	623.59869	1.00000	623.59869		?
6.524	VV	754.93292	1.00000	754.93292		?
6.615	VV	187.81773	1.00000	187.81773		?
6.754	VV	1334.59277	1.00000	1334.59277		?
6.924	VV	666.14954	1.00000	666.14954		?
7.037	VV	566.49310	1.00000	566.49310		?
7.121	VV	481.57227	1.00000	481.57227		?
7.204	VV	166.28485	1.00000	166.28485		?
7.330	VV	1596.61987	1.87901e-2	30.00070		hexadecane
7.524	VV	216.18416	1.00000	216.18416		?
7.597	VV	1041.45349	1.00000	1041.45349		?
7.879	VV	1587.72900	1.00000	1587.72900		?
7.992	VV	585.65173	1.00000	585.65173		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\051B1901.D
Sample Name: 157994

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
8.111	VV	494.49945	1.00000	494.49945		?
8.184	VV	587.42212	1.00000	587.42212		?
8.396	VV	1218.18396	1.00000	1218.18396		?
8.483	VM R	2248.30957	1.00000	2248.30957		?
8.864	MM T	7335.73779	0.00000	0.00000		OTPX
9.026	VV	228.00250	1.58832e-2	3.62141		nonadecane
9.093	VV	267.51160	1.00000	267.51160		?
9.217	VV	472.29587	1.00000	472.29587		?
9.291	VV	158.72572	1.00000	158.72572		?
9.364	VV	598.57257	1.54620e-2	9.25512		eicosane
9.549	VV	355.53201	1.00000	355.53201		?
9.694	VV	212.52835	1.00000	212.52835		?
9.816	VV	717.03217	1.85493e-2	13.30045		heneicosane
9.951	VV	129.49403	1.00000	129.49403		?
10.013	VV	259.46152	1.00000	259.46152		?
10.119	VV	340.10150	1.00000	340.10150		?
10.251	VV	510.96634	1.00000	510.96634		?
10.407	VV	172.18367	1.00000	172.18367		?
10.499	VV	171.41139	1.00000	171.41139		?
10.540	VM R	334.41788	1.00000	334.41788		?
10.688	MM T	5703.43604	0.00000	0.00000		COD
10.940	PV	309.50864	1.00000	309.50864		?
11.067	VB	175.56419	1.18753e-2	2.08488		tetracosane
11.454	BV	55.08266	1.16961e-2	6.44251e-1		pentacosane
12.481	VB	192.83075	1.89816e-2	3.66024		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
14.982		-	-	-		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 3.12032e7

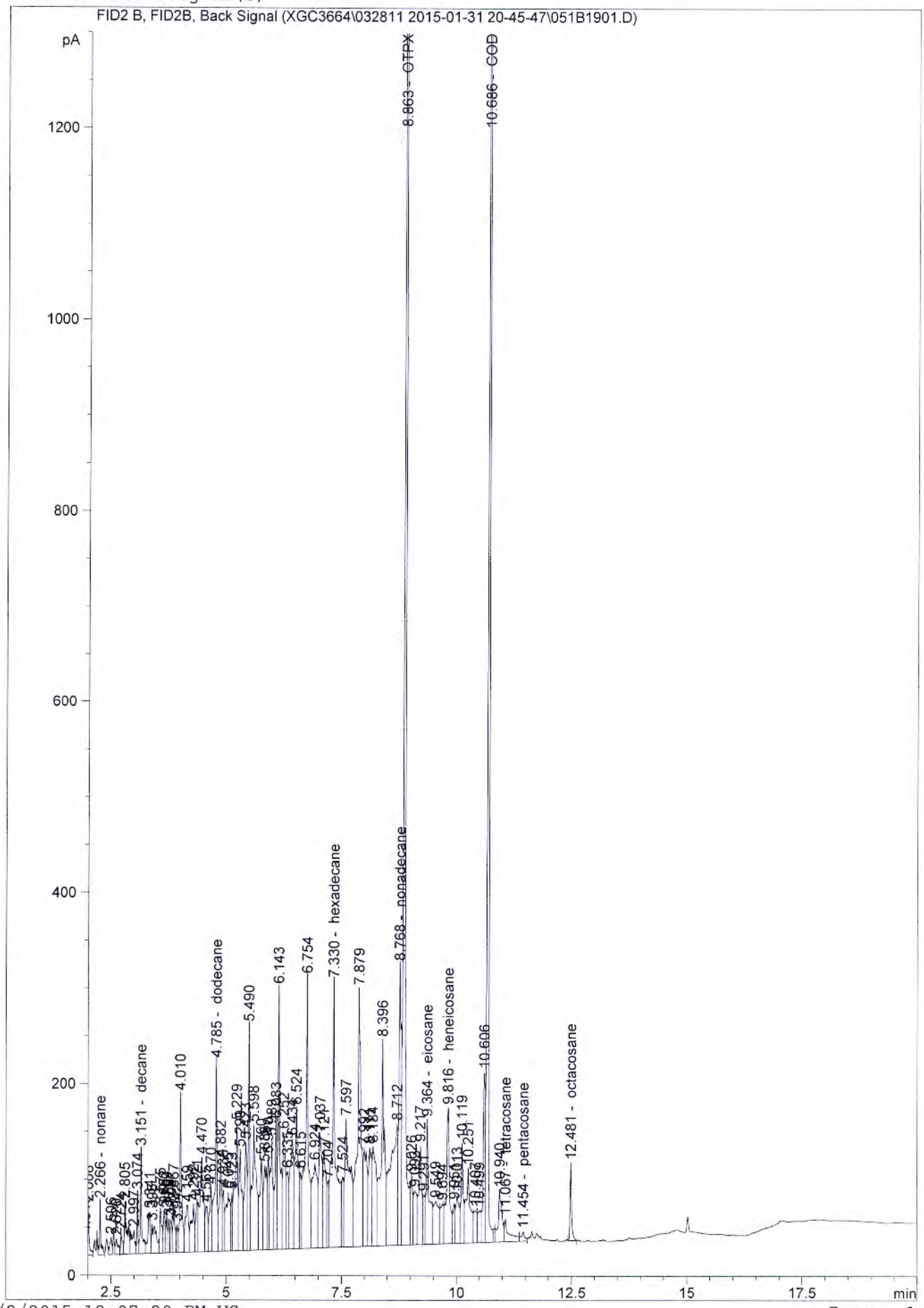
4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

==========

*** End of Report ***

Current Chromatogram(s)



SW-846 8015C DRO
Batch XXX4531

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 8015C DRO

Prep Method: SW-846 3541
Prep Batch: XXX4531
Prep Date: 02/05/2015 10:45

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 64964 [XXX/4531]	158795	02/05/2015 13:35	XGC3675	GC8	VS
LCS for HBN 64964 [XXX/4531]	158796	02/05/2015 14:00	XGC3675	GC8	VS
BT-SD-01	31500182008	02/05/2015 14:25	XGC3675	GC8	VS
BT-SD-02(157966MS)	158798	02/05/2015 14:50	XGC3675	GC8	VS
BT-SD-02(157966MSD)	158799	02/05/2015 15:15	XGC3675	GC8	VS
BT-SD-02	31500182009	02/05/2015 15:40	XGC3675	GC8	VS
BT-SD-03	31500182010	02/05/2015 16:05	XGC3675	GC8	VS

Surrogate Summary Form 2

Analytical Method: SW-846 8015C DRO
Analytical Batch: XGC3675
Work Order: 31500182
Matrix: Soil

Results by **SW-846 8015C DRO**

	o-TPHYL
BT-SD-01	55
BT-SD-02	67.1
BT-SD-02(157966MS)	81.3
BT-SD-02(157966MSD)	69.9
BT-SD-03	77.3
LCS for HBN 64964 [XXX/4531]	88.1
MB for HBN 64964 [XXX/4531]	93

Control Limits

o-Terphenyl	o-TPHYL	40.0-140

Method Blank Summary **Form 4**

Blank ID: MB for HBN 64964 [XXX/4531]
Blank Lab ID: 158795
Prep Batch: XXX4531

Matrix: Soil-Solid as dry weight
Analysis Date/Time: 02/5/2015 13:35

Results by **SW-846 8015C DRO**

Client Sample ID	Lab Sample ID	Filename	Date Analyzed	Analyst
LCS for HBN 64964 [XXX/4531]	158796	035B0201.D	02/5/2015 14:00	VS
BT-SD-01	31500182008	036B0301.D	02/5/2015 14:25	VS
BT-SD-02(157966MS)	158798	037B0401.D	02/5/2015 14:50	VS
BT-SD-02(157966MSD)	158799	038B0501.D	02/5/2015 15:15	VS
BT-SD-02	31500182009	039B0601.D	02/5/2015 15:40	VS
BT-SD-03	31500182010	040B0701.D	02/5/2015 16:05	VS

Method Blank

Blank ID: MB for HBN 64964 [XXX/4531]
Blank Lab ID: 158795
QC for Samples:
31500182008, 31500182009, 31500182010

Matrix: Soil-Solid as dry weight

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF
Diesel Range Organics (DRO)	ND		6.25	mg/kg	1
Surrogates					
o-Terphenyl	93.0		40.0-140	%	1

Batch Information

Analytical Batch: XGC3675
Analytical Method: SW-846 8015C DRO
Instrument: GC8
Analyst: VS

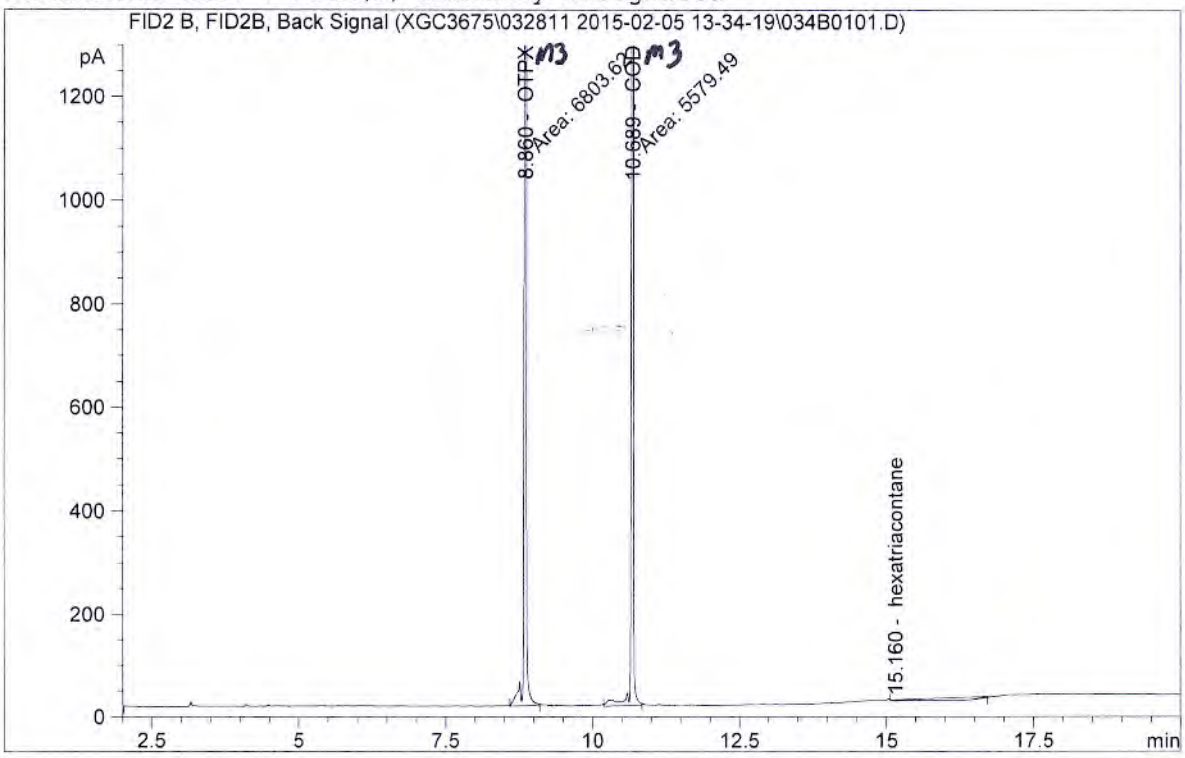
Prep Batch: XXX4531
Prep Method: SW-846 3541
Prep Date/Time: 2/5/2015 10:45:50AM
Prep Initial Wt./Vol.: 32 g
Prep Extract Vol: 10 mL

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\034B0101.D
Sample Name: 158795

==========

Acq. Operator : VS
Seq. Line : 1
Acq. Instrument : GC08
Location : Vial 34
Injection Date : 2/5/2015 1:35:30 PM
Inj : 1
Inj Volume : 10 µl
Acq. Method : C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3675\DRO-K_B.M
Last changed : 2/5/2015 2:07:00 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

VS
2-5-15

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Sorted By : Signal
Calib. Data Modified : 2/5/2015 1:20:20 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.386	BV	73.06424	1.00000	73.06424	?	
1.107	VV	3.02133e7	1.00000	3.02133e7	?	
1.544	VV	2.01016e4	1.00000	2.01016e4	?	
1.776	VB	6592.98584	1.00000	6592.98584	?	

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\034B0101.D
Sample Name: 158795

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.200		-	-	-		nonane
3.170		-	-	-		decane
4.801		-	-	-		dodecane
7.341		-	-	-		hexadecane
8.860	MM T	6803.62109	0.00000	0.00000		OTPX
8.894		-	-	-		nonadecane
9.378		-	-	-		eicosane
9.829		-	-	-		heneicosane
10.689	MM T	5579.48535	0.00000	0.00000		COD
11.083		-	-	-		tetracosane
11.468		-	-	-		pentacosane
12.549		-	-	-		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
15.160	PP N	351.66568	1.85740e-2	6.53183		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 3.02401e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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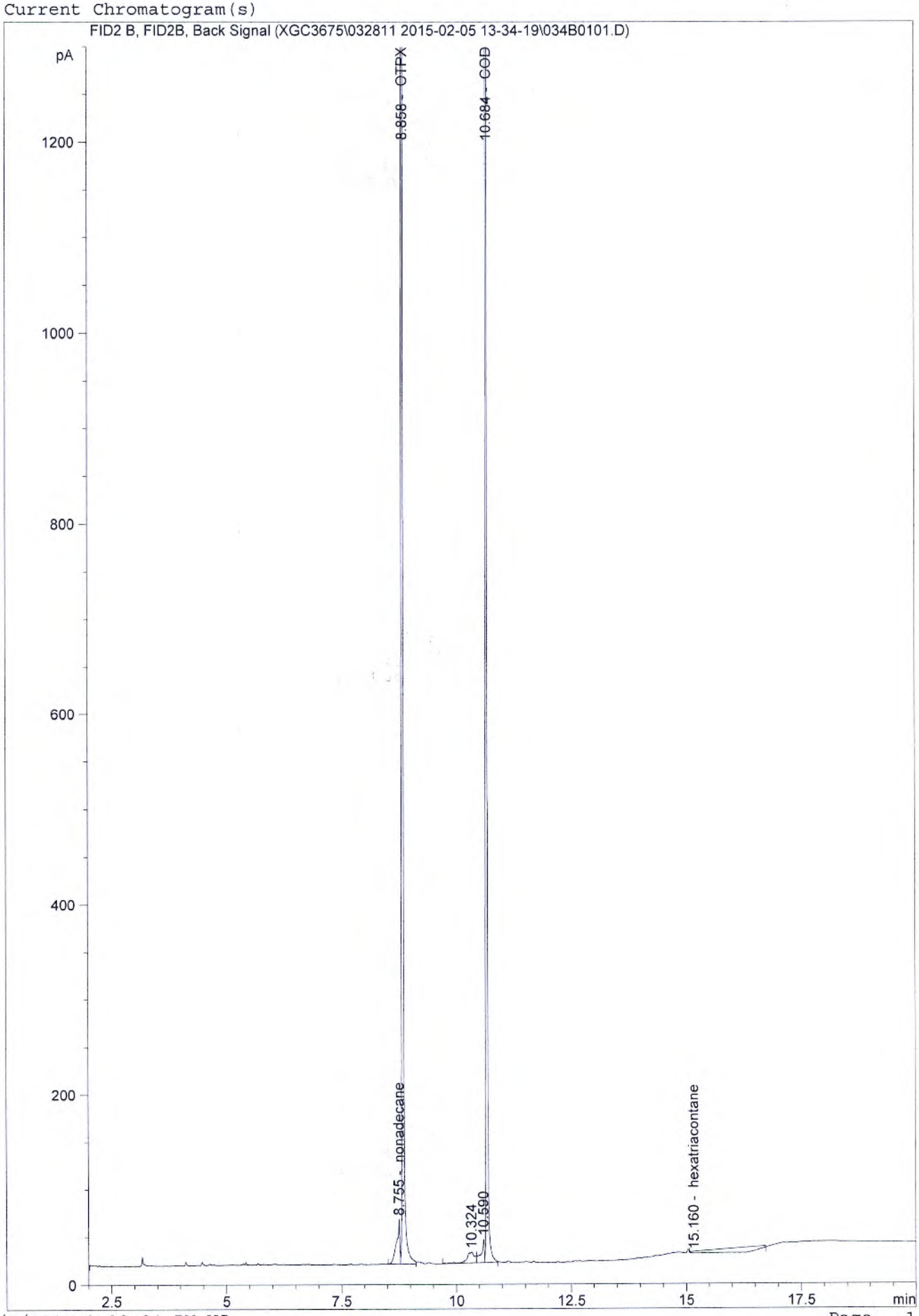
*** End of Report ***

Current Chromatogram(s)



Blank Spike Summary

Blank Spike ID: LCS for HBN 64964 [XXX/4531]
Blank Spike Lab ID: 158796
Date Analyzed: 02/05/2015 14:00

Matrix: Soil-Solid as dry weight

QC for Samples: 31500182008, 31500182009, 31500182010

Results by **SW-846 8015C DRO**

	Blank Spike (mg/kg)			
Parameter	Spike	Result	Rec (%)	CL
Diesel Range Organics (DRO)	62.5	51.8	83	55.0-137
Surrogates				
o-Terphenyl			88.1	40.0-140

Batch Information

Analytical Batch: **XGC3675**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4531**
Prep Method: **SW-846 3541**
Prep Date/Time: **02/05/2015 10:45**
Spike Init Wt./Vol.: **32 g** Extract Vol: **10 mL**
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 02/06/2015

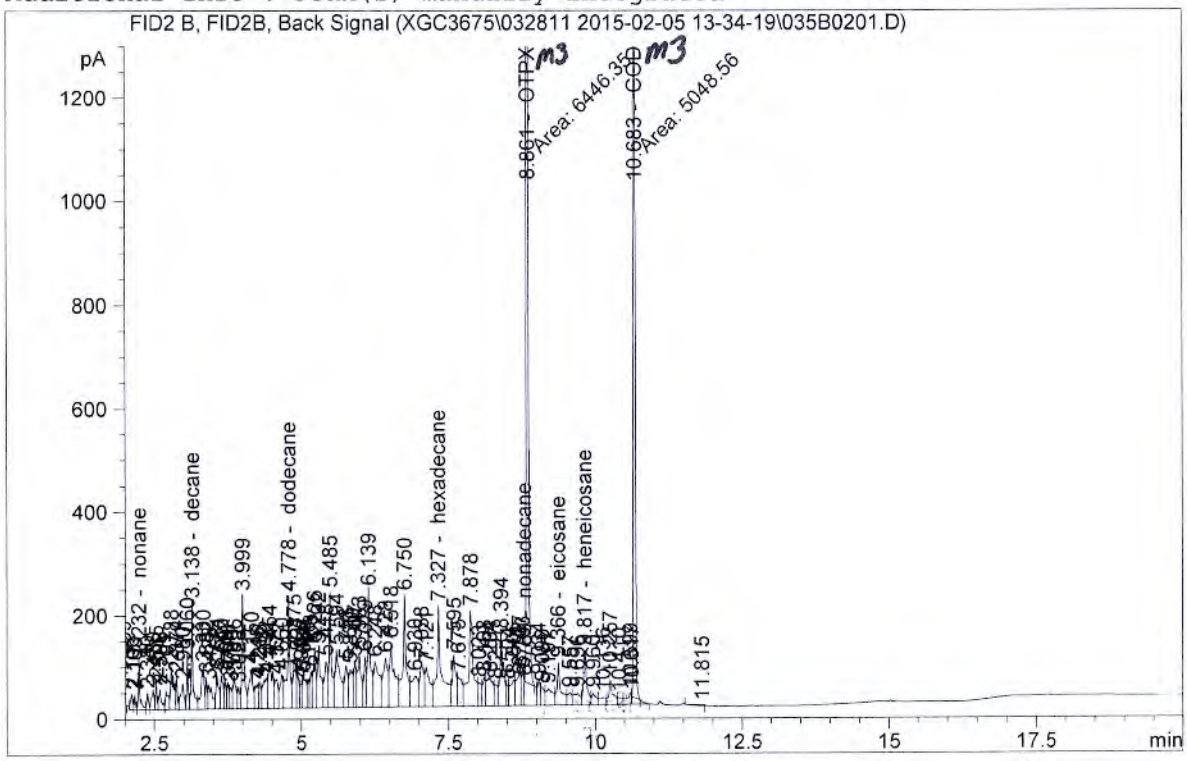
N.C. Certification # 481

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\035B0201.D
Sample Name: 158796

==========

Acq. Operator : VS
Seq. Line : 2
Acq. Instrument : GC08
Location : Vial 35
Injection Date : 2/5/2015 2:00:28 PM
Inj : 1
Inj Volume : 10 µl
Acq. Method : C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3675\DRO-K_B.M
Last changed : 2/5/2015 2:07:00 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



VS
2-5-15

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/5/2015 1:20:20 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.385	BV	48.37926	1.00000	48.37926	?	
1.088	VV	3.04654e7	1.00000	3.04654e7	?	
1.535	VV	2.36584e4	1.00000	2.36584e4	?	
1.771	VV	8372.34863	1.00000	8372.34863	?	

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\035B0201.D
Sample Name: 158796

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.921	VV	74.96378	1.00000	74.96378		?
1.969	VV	126.95626	1.00000	126.95626		?
2.106	VV	77.76745	1.00000	77.76745		?
2.163	VV	42.57496	1.00000	42.57496		?
2.232	VV	195.68217	1.73487e-2	3.39483		nonane
2.380	VV	73.39796	1.00000	73.39796		?
2.480	VV	116.48783	1.00000	116.48783		?
2.535	VV	91.37251	1.00000	91.37251		?
2.596	VV	123.54416	1.00000	123.54416		?
2.701	VV	122.19378	1.00000	122.19378		?
2.788	VV	287.02832	1.00000	287.02832		?
2.874	VV	121.21452	1.00000	121.21452		?
2.980	VV	194.92084	1.00000	194.92084		?
3.060	VV	183.91017	1.00000	183.91017		?
3.138	VV	441.75085	1.90669e-2	8.42280		decane
3.330	VV	319.57626	1.00000	319.57626		?
3.382	VV	117.40649	1.00000	117.40649		?
3.428	VV	228.09045	1.00000	228.09045		?
3.561	VV	225.77530	1.00000	225.77530		?
3.640	VV	182.62758	1.00000	182.62758		?
3.697	VV	130.53217	1.00000	130.53217		?
3.748	VV	124.51883	1.00000	124.51883		?
3.799	VV	106.61819	1.00000	106.61819		?
3.856	VV	220.37784	1.00000	220.37784		?
3.928	VV	106.25462	1.00000	106.25462		?
3.999	VV	600.52954	1.00000	600.52954		?
4.150	VV	342.05981	1.00000	342.05981		?
4.245	VV	170.80156	1.00000	170.80156		?
4.286	VV	137.71559	1.00000	137.71559		?
4.392	VV	289.08936	1.00000	289.08936		?
4.454	VV	478.54019	1.00000	478.54019		?
4.572	VV	218.41783	1.00000	218.41783		?
4.660	VV	242.49109	1.00000	242.49109		?
4.778	VV	709.48993	1.94670e-2	13.81166		dodecane
4.875	VV	361.54245	1.00000	361.54245		?
4.927	VV	170.43565	1.00000	170.43565		?
4.991	VV	120.91794	1.00000	120.91794		?
5.039	VV	265.38708	1.00000	265.38708		?
5.116	VV	115.40359	1.00000	115.40359		?
5.163	VV	175.60150	1.00000	175.60150		?
5.226	VV	384.19452	1.00000	384.19452		?
5.292	VV	454.99643	1.00000	454.99643		?
5.418	VV	361.84619	1.00000	361.84619		?
5.485	VV	629.80151	1.00000	629.80151		?
5.594	VV	675.67834	1.00000	675.67834		?
5.758	VV	309.13901	1.00000	309.13901		?
5.830	VV	340.82977	1.00000	340.82977		?
5.907	VV	235.55673	1.00000	235.55673		?
5.983	VV	453.56628	1.00000	453.56628		?
6.079	VV	266.30573	1.00000	266.30573		?
6.139	VV	726.72614	1.00000	726.72614		?
6.248	VV	585.58154	1.00000	585.58154		?
6.428	VV	533.13910	1.00000	533.13910		?
6.518	VV	745.31378	1.00000	745.31378		?
6.750	VV	934.28607	1.00000	934.28607		?
6.930	VV	459.84167	1.00000	459.84167		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\035B0201.D
Sample Name: 158796

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
7.038	VV	405.92712	1.00000	405.92712		?
7.121	VV	453.21686	1.00000	453.21686		?
7.327	VV	1192.86890	1.87901e-2	22.41417		hexadecane
7.595	VV	437.80652	1.00000	437.80652		?
7.675	VV	290.26935	1.00000	290.26935		?
7.878	VV	1082.23486	1.00000	1082.23486		?
8.023	VV	178.08028	1.00000	178.08028		?
8.108	VV	170.62955	1.00000	170.62955		?
8.204	VV	413.61316	1.00000	413.61316		?
8.297	VV	163.23505	1.00000	163.23505		?
8.394	VV	573.79144	1.00000	573.79144		?
8.504	VV	93.69095	1.00000	93.69095		?
8.606	VV	271.82718	1.00000	271.82718		?
8.707	VV	341.92352	1.00000	341.92352		?
8.763	VV	184.18037	1.00000	184.18037		?
8.789	VV R	519.75922	1.58832e-2	8.25545		nonadecane
8.861	MM T	6446.34668	0.00000	0.00000		OTPX
9.034	VV	161.15611	1.00000	161.15611		?
9.090	VV	134.96915	1.00000	134.96915		?
9.197	VV	263.51688	1.00000	263.51688		?
9.366	VV	391.86487	1.54620e-2	6.05901		eicosane
9.557	VV	111.36592	1.00000	111.36592		?
9.696	VV	182.23235	1.00000	182.23235		?
9.817	VV	413.51648	1.85493e-2	7.67044		heneicosane
9.960	VV	120.12908	1.00000	120.12908		?
10.136	VV	111.24922	1.00000	111.24922		?
10.257	VV	230.87053	1.00000	230.87053		?
10.410	VV	69.52766	1.00000	69.52766		?
10.599	VV	116.69328	1.00000	116.69328		?
10.617	VB R	138.42113	1.00000	138.42113		?
10.683	MM T	5048.55615	0.00000	0.00000		COD
11.083		-	-	-		tetracosane
11.468		-	-	-		pentacosane
11.815	PV N	27.33471	1.00000	27.33471		?
12.549		-	-	-		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
14.982		-	-	-		hexatriacontane
16.602		-	-	-		tetracontane
Totals :				3.05194e7		

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Elution order of calibrated compounds may have changed
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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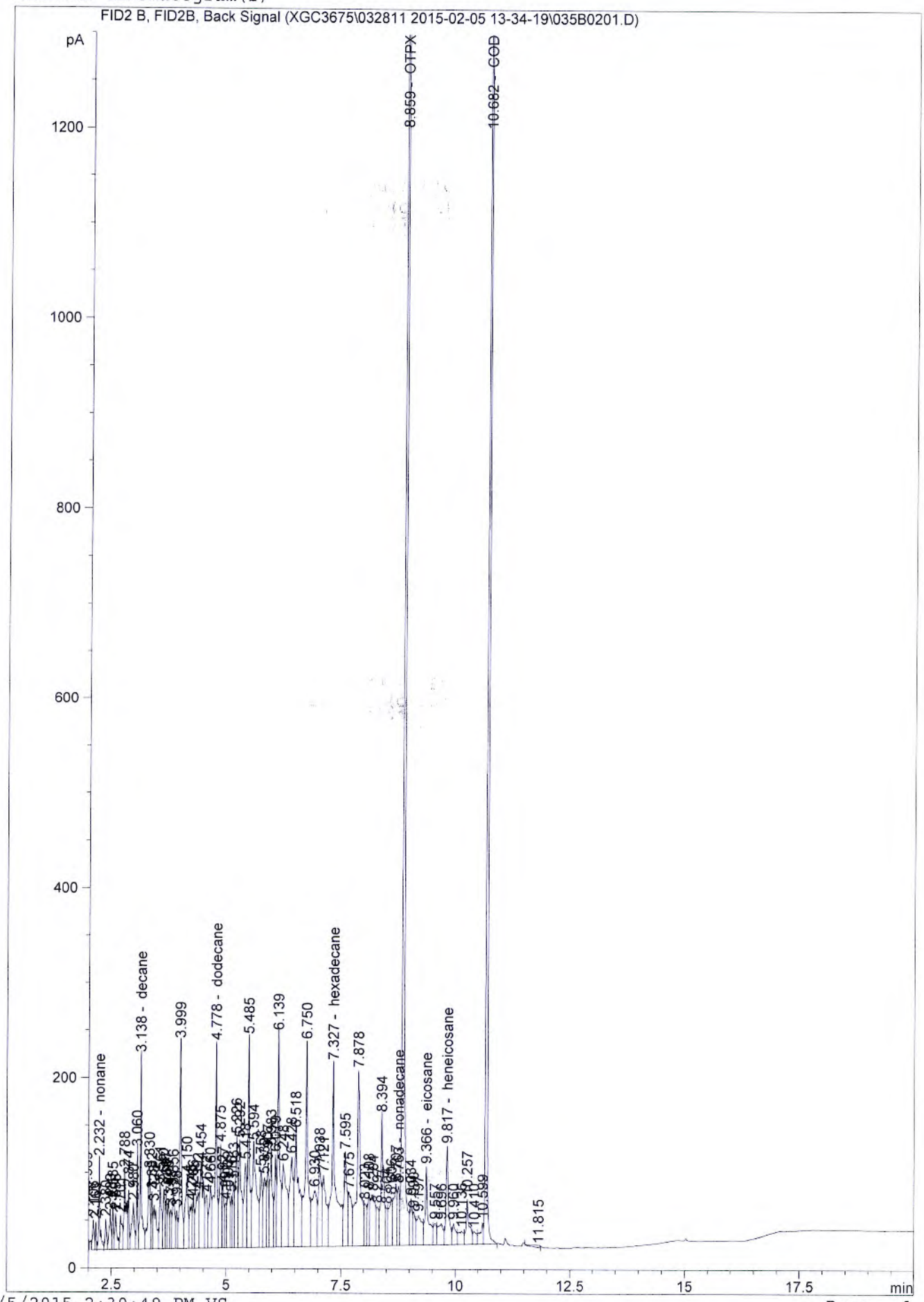
*** End of Report ***

Current Chromatogram(s)



Matrix Spike Summary

Original Sample ID: 31500182009 (BT-SD-02)
MS Sample ID: 158798
MSD Sample ID: 158799

QC for Samples: 31500182008, 31500182009, 31500182010

Analysis Date: 02/05/2015 15:40
Analysis Date: 02/05/2015 14:50
Analysis Date: 02/05/2015 15:15
Matrix: Soil-Solid as dry weight

Results by **SW-846 8015C DRO**

		Matrix Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics (DRO)	137	165	180	26 *	166	166	18 *	40.0-140	8.0	30.00
Surrogates										
o-Terphenyl				81.3			69.9	40.0-140		

Batch Information

Analytical Batch: **XGC3675**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC8**
Analyst: **VS**

Prep Batch: **XXX4531**
Prep Method: **SW-846 3541**
Prep Date/Time: **02/05/2015 10:45**
MS Init Wt./Vol.: **32.12 g** Extract Vol.: **10 mL**
MSD Init Wt./Vol.: **32.06 g** Extract Vol.: **10 mL**

Print Date: 02/06/2015

N.C. Certification # 481

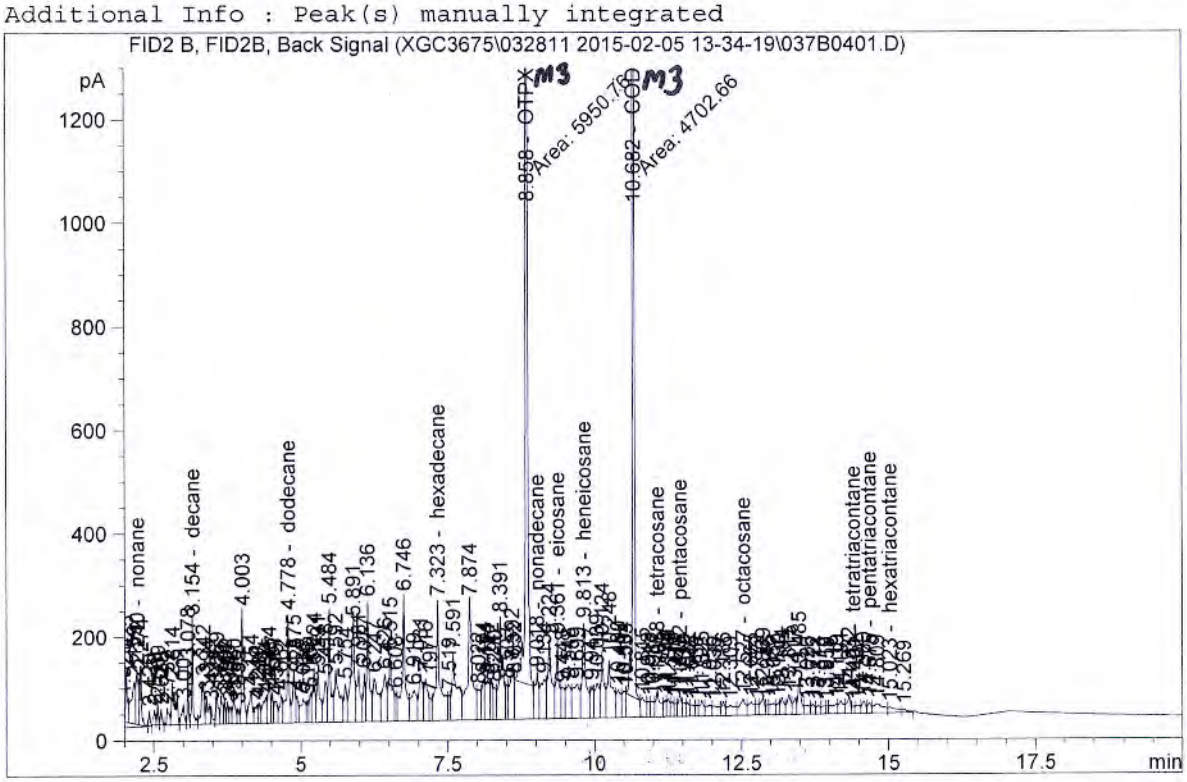
Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\037B0401.D
Sample Name: 158798

==========

Acq. Operator	: VS	Seq. Line :	4
Acq. Instrument	: GC08	Location :	Vial 37
Injection Date	: 2/5/2015 2:50:36 PM	Inj :	1
		Inj Volume :	10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3675\DRO-K_B.M
Last changed : 2/5/2015 4:25:01 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

VS
2-5-15

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Sorted By : Signal
Calib. Data Modified : 2/5/2015 1:20:20 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.384	VV	48.41367	1.00000	48.41367		?
1.148	VBAS	3.35835e7	1.00000	3.35835e7		?
1.978	VV X	96.45628	1.00000	96.45628		?
2.025	VV X	213.15633	1.00000	213.15633		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\037B0401.D
Sample Name: 158798

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.159	VV X	363.25775	1.00000	363.25775		?
2.210	VV X	296.14685	1.73487e-2	5.13776		nonane
2.274	VV X	293.94095	1.00000	293.94095		?
2.420	VB T	48.50737	1.00000	48.50737		?
2.516	BV	64.77261	1.00000	64.77261		?
2.569	VV	61.67302	1.00000	61.67302		?
2.628	VV	56.46680	1.00000	56.46680		?
2.732	VV	90.37512	1.00000	90.37512		?
2.814	VV	332.02155	1.00000	332.02155		?
3.001	VV	122.16323	1.00000	122.16323		?
3.078	VV	156.66342	1.00000	156.66342		?
3.154	VV	340.56418	1.90669e-2	6.49349		decane
3.342	VV	274.05063	1.00000	274.05063		?
3.394	VV	168.55305	1.00000	168.55305		?
3.474	VV	78.01646	1.00000	78.01646		?
3.569	VV	176.23883	1.00000	176.23883		?
3.645	VV	136.01387	1.00000	136.01387		?
3.702	VV	91.84737	1.00000	91.84737		?
3.753	VV	87.69557	1.00000	87.69557		?
3.802	VV	80.01530	1.00000	80.01530		?
3.860	VV	165.38411	1.00000	165.38411		?
3.935	VV	63.70674	1.00000	63.70674		?
4.003	VV	511.23074	1.00000	511.23074		?
4.154	VV	257.94208	1.00000	257.94208		?
4.249	VV	120.07058	1.00000	120.07058		?
4.288	VV	97.28864	1.00000	97.28864		?
4.394	VV	228.69417	1.00000	228.69417		?
4.454	VV	255.37622	1.00000	255.37622		?
4.507	VV	122.00667	1.00000	122.00667		?
4.575	VV	162.36298	1.00000	162.36298		?
4.662	VV	185.05045	1.00000	185.05045		?
4.778	VV	587.71924	1.94670e-2	11.44115		dodecane
4.875	VV	314.58838	1.00000	314.58838		?
4.928	VV	128.93805	1.00000	128.93805		?
5.038	VV	285.08041	1.00000	285.08041		?
5.116	VV	87.20461	1.00000	87.20461		?
5.162	VV	135.80415	1.00000	135.80415		?
5.224	VV	322.02881	1.00000	322.02881		?
5.291	VV	364.99103	1.00000	364.99103		?
5.418	VV	302.29080	1.00000	302.29080		?
5.484	VV	589.50641	1.00000	589.50641		?
5.592	VV	579.12683	1.00000	579.12683		?
5.754	VV	241.79994	1.00000	241.79994		?
5.891	VV	857.29919	1.00000	857.29919		?
5.981	VV	424.48798	1.00000	424.48798		?
6.077	VV	233.85126	1.00000	233.85126		?
6.136	VV	685.66223	1.00000	685.66223		?
6.247	VV	522.46509	1.00000	522.46509		?
6.426	VV	443.48843	1.00000	443.48843		?
6.515	VV	568.62909	1.00000	568.62909		?
6.608	VV	139.47073	1.00000	139.47073		?
6.746	VV	950.95563	1.00000	950.95563		?
6.919	VV	420.61465	1.00000	420.61465		?
7.031	VV	408.32092	1.00000	408.32092		?
7.116	VV	370.46768	1.00000	370.46768		?
7.197	VV	115.00536	1.00000	115.00536		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\037B0401.D
Sample Name: 158798

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
7.323	VV	1168.35657	1.87901e-2	21.95358		hexadecane
7.519	VV	126.66660	1.00000	126.66660		?
7.591	VV	862.13995	1.00000	862.13995		?
7.874	VV	1350.32141	1.00000	1350.32141		?
8.022	VV	255.46198	1.00000	255.46198		?
8.104	VV	234.93622	1.00000	234.93622		?
8.174	VV	412.37100	1.00000	412.37100		?
8.242	VV	202.80685	1.00000	202.80685		?
8.290	VV	212.06241	1.00000	212.06241		?
8.391	VV	860.34918	1.00000	860.34918		?
8.503	VV	207.61765	1.00000	207.61765		?
8.592	VV	505.06320	1.00000	505.06320		?
8.632	VM R	1378.47925	1.00000	1378.47925		?
8.858	MM T	5950.75781	0.00000	0.00000		OTPX
9.018	VV	394.37573	1.58832e-2	6.26395		nonadecane
9.134	VV	497.53998	1.00000	497.53998		?
9.224	VV	740.28534	1.00000	740.28534		?
9.361	VV	542.85767	1.54620e-2	8.39365		eicosane
9.448	VV	244.60220	1.00000	244.60220		?
9.548	VV	391.26074	1.00000	391.26074		?
9.699	VV	537.97253	1.00000	537.97253		?
9.813	VV	850.36591	1.85493e-2	15.77370		heneicosane
9.947	VV	231.27330	1.00000	231.27330		?
10.039	VV	367.83591	1.00000	367.83591		?
10.124	VV	511.61127	1.00000	511.61127		?
10.248	VV	653.52692	1.00000	653.52692		?
10.400	VV	277.96463	1.00000	277.96463		?
10.504	VV	208.05981	1.00000	208.05981		?
10.533	VV R	589.15131	1.00000	589.15131		?
10.682	MM T	4702.66162	0.00000	0.00000		COD
10.815	VV	218.29292	1.00000	218.29292		?
10.918	VV	91.26579	1.00000	91.26579		?
10.987	VV	140.70563	1.00000	140.70563		?
11.068	VV	279.56226	1.18753e-2	3.31988		tetracosane
11.198	VV	101.51288	1.00000	101.51288		?
11.249	VV	122.39306	1.00000	122.39306		?
11.318	VV	104.83242	1.00000	104.83242		?
11.377	VV	77.74275	1.00000	77.74275		?
11.452	VV	166.98019	1.16961e-2	1.95301		pentacosane
11.519	VV	91.29427	1.00000	91.29427		?
11.582	VV	86.66587	1.00000	86.66587		?
11.645	VV	116.24858	1.00000	116.24858		?
11.736	VV	69.27548	1.00000	69.27548		?
11.825	VV	148.46758	1.00000	148.46758		?
11.956	VV	142.98294	1.00000	142.98294		?
12.036	VV	150.30696	1.00000	150.30696		?
12.186	VV	106.60340	1.00000	106.60340		?
12.309	VV	197.17818	1.00000	197.17818		?
12.527	VV	233.80876	1.89816e-2	4.43807		octacosane
12.665	VV	193.34457	1.00000	193.34457		?
12.772	VV	71.96733	1.00000	71.96733		?
12.869	VV	171.92842	1.00000	171.92842		?
12.946	VV	62.18502	1.00000	62.18502		?
13.052	VV	139.48741	1.00000	139.48741		?
13.130	VV	86.55119	1.00000	86.55119		?
13.194	VV	147.59456	1.00000	147.59456		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\037B0401.D
Sample Name: 158798

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
13.315	VV	178.49750	1.00000	178.49750		?
13.417	VV	120.98544	1.00000	120.98544		?
13.485	VV	258.13431	1.00000	258.13431		?
13.626	VV	111.59819	1.00000	111.59819		?
13.722	VV	79.42077	1.00000	79.42077		?
13.813	VV	81.18443	1.00000	81.18443		?
13.912	VV	68.00243	1.00000	68.00243		?
13.959	VV	44.04110	1.00000	44.04110		?
14.119	VV	156.03819	1.00000	156.03819		?
14.191	VV	141.65306	1.00000	141.65306		?
14.332	VV	150.50780	1.00000	150.50780		?
14.401	VV	40.86722	1.44738e-2	5.91503e-1		tetratriacontane
14.462	VV	91.29079	1.00000	91.29079		?
14.580	VV	105.24234	1.00000	105.24234		?
14.675	VV	82.54684	1.85685e-2	1.53277		pentatriacontane
14.809	VV	217.71968	1.00000	217.71968		?
15.023	VV	113.02571	1.85740e-2	2.09934		hexatriacontane
15.269	VB	40.64294	1.00000	40.64294		?
16.602		-	-	-		tetracontane

Totals : 3.36148e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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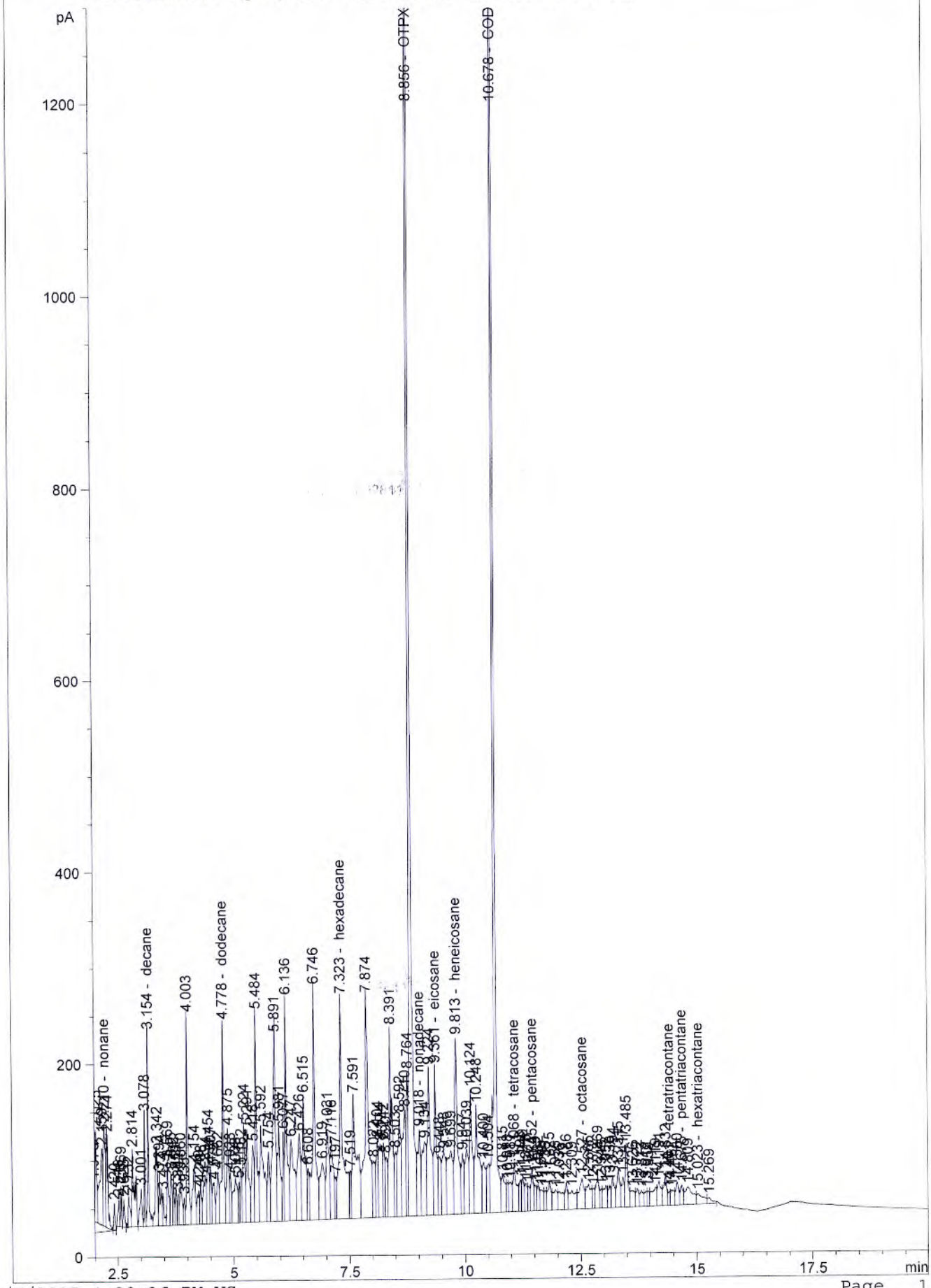
*** End of Report ***

Current Chromatogram(s)

FID2 B, FID2B, Back Signal (XGC3675\032811 2015-02-05 13-34-19\037B0401.D)



Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\038B0501.D
Sample Name: 158799

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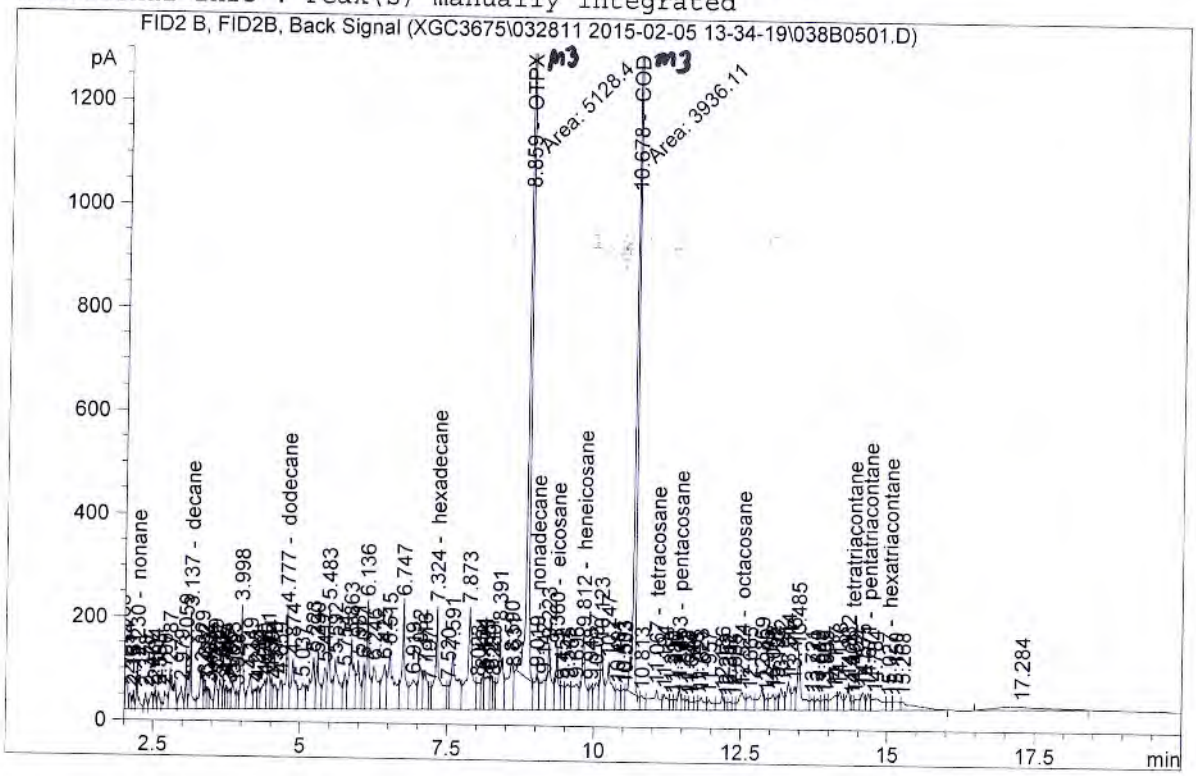
Acq. Operator	: VS	Seq. Line :	5
Acq. Instrument	: GC08	Location :	Vial 38
Injection Date	: 2/5/2015 3:15:43 PM	Inj :	1
		Inj Volume :	10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3675\DRO-K_B.M
Last changed : 2/5/2015 3:27:09 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



VS
2-5-15

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/5/2015 1:20:20 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.082	VV	3.04703e7	1.00000	3.04703e7		?
1.917	VV	168.52008	1.00000	168.52008		?
1.965	VV	292.71756	1.00000	292.71756		?
2.054	VV	182.11766	1.00000	182.11766		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\038B0501.D
Sample Name: 158799

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.101	VV	79.74178	1.00000	79.74178		?
2.161	VV	62.61742	1.00000	62.61742		?
2.230	VV	193.14067	1.73487e-2	3.35074		nonane
2.378	VV	73.37772	1.00000	73.37772		?
2.477	VV	104.15002	1.00000	104.15002		?
2.534	VV	84.69109	1.00000	84.69109		?
2.595	VV	92.85394	1.00000	92.85394		?
2.700	VV	136.43793	1.00000	136.43793		?
2.787	VV	375.19473	1.00000	375.19473		?
2.979	VV	173.16536	1.00000	173.16536		?
3.059	VV	175.73666	1.00000	175.73666		?
3.137	VV	379.53290	1.90669e-2	7.23650		decane
3.329	VV	310.37604	1.00000	310.37604		?
3.382	VV	107.48589	1.00000	107.48589		?
3.427	VV	89.28041	1.00000	89.28041		?
3.463	VV	111.87014	1.00000	111.87014		?
3.559	VV	198.80405	1.00000	198.80405		?
3.637	VV	158.41574	1.00000	158.41574		?
3.695	VV	109.51624	1.00000	109.51624		?
3.746	VV	106.86353	1.00000	106.86353		?
3.795	VV	98.04417	1.00000	98.04417		?
3.853	VV	195.60046	1.00000	195.60046		?
3.928	VV	87.48417	1.00000	87.48417		?
3.998	VV	523.92981	1.00000	523.92981		?
4.149	VV	294.83426	1.00000	294.83426		?
4.245	VV	144.99179	1.00000	144.99179		?
4.284	VV	115.56392	1.00000	115.56392		?
4.390	VV	262.78845	1.00000	262.78845		?
4.451	VV	262.95056	1.00000	262.95056		?
4.504	VV	136.27086	1.00000	136.27086		?
4.571	VV	183.41718	1.00000	183.41718		?
4.659	VV	210.01888	1.00000	210.01888		?
4.777	VV	594.16992	1.94670e-2	11.56672		dodecane
4.874	VV	470.40753	1.00000	470.40753		?
5.037	VV	322.11984	1.00000	322.11984		?
5.223	VV	566.75922	1.00000	566.75922		?
5.290	VV	379.71960	1.00000	379.71960		?
5.417	VV	316.13846	1.00000	316.13846		?
5.483	VV	569.99536	1.00000	569.99536		?
5.592	VV	577.20844	1.00000	577.20844		?
5.754	VV	252.11823	1.00000	252.11823		?
5.863	VV	685.01288	1.00000	685.01288		?
5.981	VV	418.39804	1.00000	418.39804		?
6.077	VV	231.34695	1.00000	231.34695		?
6.136	VV	642.98267	1.00000	642.98267		?
6.246	VV	526.41681	1.00000	526.41681		?
6.425	VV	444.55704	1.00000	444.55704		?
6.515	VV	792.15381	1.00000	792.15381		?
6.747	VV	780.30347	1.00000	780.30347		?
6.919	VV	422.51929	1.00000	422.51929		?
7.032	VV	379.00546	1.00000	379.00546		?
7.116	VV	351.95432	1.00000	351.95432		?
7.197	VV	119.84619	1.00000	119.84619		?
7.324	VV	1079.37573	1.87901e-2	20.28161		hexadecane
7.520	VV	122.35576	1.00000	122.35576		?
7.591	VV	771.38092	1.00000	771.38092		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\038B0501.D
Sample Name: 158799

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
7.873	VV	1190.40515	1.00000	1190.40515		?
8.023	VV	227.10487	1.00000	227.10487		?
8.104	VV	203.41663	1.00000	203.41663		?
8.173	VV	350.51953	1.00000	350.51953		?
8.241	VV	175.98636	1.00000	175.98636		?
8.289	VV	152.84024	1.00000	152.84024		?
8.391	VV	746.67023	1.00000	746.67023		?
8.590	VV	669.79199	1.00000	669.79199		?
8.631	VM R	1286.35498	1.00000	1286.35498		?
8.859	MM T	5128.39648	0.00000	0.00000		OTPX
9.019	VV	335.07217	1.58832e-2	5.32202		nonadecane
9.142	VV	373.43774	1.00000	373.43774		?
9.223	VV	618.35962	1.00000	618.35962		?
9.360	VV	430.58179	1.54620e-2	6.65765		eicosane
9.452	VV	195.92859	1.00000	195.92859		?
9.545	VV	296.07605	1.00000	296.07605		?
9.696	VV	394.43399	1.00000	394.43399		?
9.812	VV	702.30090	1.85493e-2	13.02719		heneicosane
9.948	VV	171.35597	1.00000	171.35597		?
10.037	VV	289.83987	1.00000	289.83987		?
10.123	VV	457.23502	1.00000	457.23502		?
10.247	VV	584.81403	1.00000	584.81403		?
10.401	VV	213.23653	1.00000	213.23653		?
10.503	VV	176.55934	1.00000	176.55934		?
10.533	VM R	480.03314	1.00000	480.03314		?
10.678	MM T	3936.10547	0.00000	0.00000		COD
10.813	VV	155.72705	1.00000	155.72705		?
11.067	VV	389.23938	1.18753e-2	4.62233		tetracosane
11.194	VV	180.06778	1.00000	180.06778		?
11.319	VV	74.82157	1.00000	74.82157		?
11.380	VV	63.20004	1.00000	63.20004		?
11.453	VV	149.27901	1.16961e-2	1.74598		pentacosane
11.515	VV	75.74918	1.00000	75.74918		?
11.583	VV	69.06715	1.00000	69.06715		?
11.644	VV	74.79921	1.00000	74.79921		?
11.746	VV	71.99213	1.00000	71.99213		?
11.823	VV	154.04858	1.00000	154.04858		?
11.957	VV	134.56010	1.00000	134.56010		?
12.186	VV	161.52151	1.00000	161.52151		?
12.252	VV	43.73936	1.00000	43.73936		?
12.312	VV	62.05392	1.00000	62.05392		?
12.395	VV	61.24010	1.00000	61.24010		?
12.524	VV	247.22932	1.89816e-2	4.69281		octacosane
12.665	VV	206.57288	1.00000	206.57288		?
12.869	VV	269.18924	1.00000	269.18924		?
12.946	VV	70.75610	1.00000	70.75610		?
13.052	VV	180.04219	1.00000	180.04219		?
13.132	VV	87.78346	1.00000	87.78346		?
13.192	VV	187.93604	1.00000	187.93604		?
13.314	VV	243.33162	1.00000	243.33162		?
13.416	VV	186.02539	1.00000	186.02539		?
13.485	VV	558.71014	1.00000	558.71014		?
13.721	VV	93.46628	1.00000	93.46628		?
13.810	VV	109.89086	1.00000	109.89086		?
13.907	VV	85.74280	1.00000	85.74280		?
13.959	VV	73.28515	1.00000	73.28515		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 13-34-19\038B0501.D
Sample Name: 158799

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
14.117	VV	223.28018	1.00000	223.28018		?
14.188	VV	174.79599	1.00000	174.79599		?
14.332	VV	219.67374	1.00000	219.67374		?
14.401	VV	49.54092	1.44738e-2	7.17044e-1		tetratriacontane
14.459	VV	121.38137	1.00000	121.38137		?
14.575	VV	154.93576	1.00000	154.93576		?
14.671	VV	131.32582	1.85685e-2	2.43852		pentatriacontane
14.784	VV	314.67218	1.00000	314.67218		?
15.027	VV	100.74460	1.85740e-2	1.87123		hexatriacontane
15.150	VV	143.84546	1.00000	143.84546		?
15.268	VB	302.22916	1.00000	302.22916		?
16.602		-	-	-		tetracontane
17.284	PB	434.85672	1.00000	434.85672		?

Totals : 3.05013e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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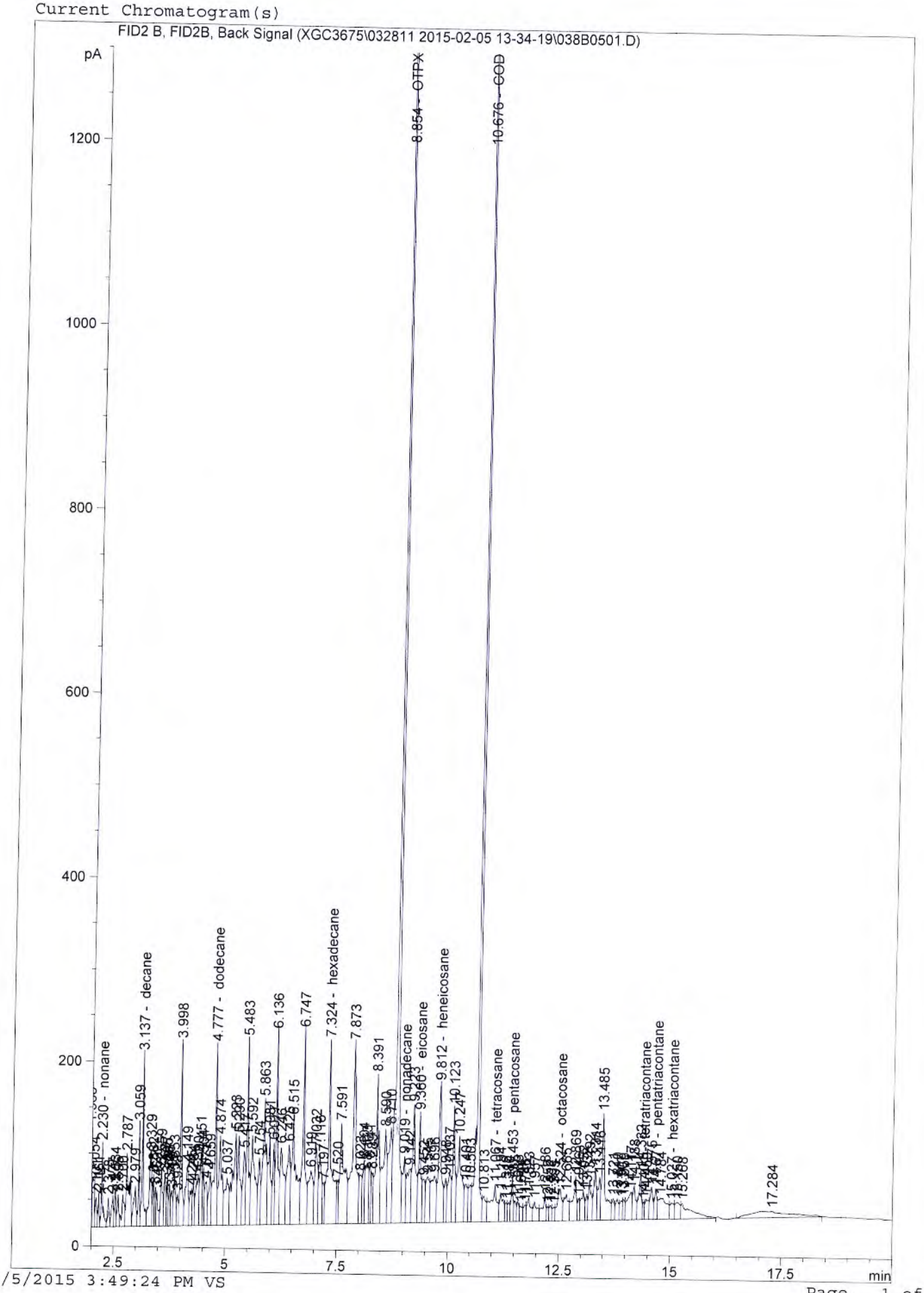
*** End of Report ***

Current Chromatogram(s)



SW-846 8015C DRO
Prep, Standard, Run Logs

Print Date: 02/06/2015

N.C. Certification # 481

SGS
Semivolatile Waters Pull Sheet

	Sample ID	Volume (mls)
1	MB	1000
2	1490-1	1000
3	-2	1000
4	-3	1000
5	-4	1000
6	-5	1000
7	-6	1000
8	-7	1000
9	-8	1000
10	-9	1000
11	-10	1000
12	-11	1000
13	-12	1000
14	-13	1000
15	-14	1000
16	-15	1000
17	-16	1000
18	157987 MB	1000
19	157988 LCS	1000
20	157989 LCSD	1000
21	172-1	985
22	157991 MB	1000
23	157992 LCS	1000
24	157993 LCSD	1000
25	182-1	981
26	-2	956
27	157994 -2 MS	974
28	-3	931
29	-4	930
30	-5	975
31	-6	924
32	-7	899
33	-11	989
34	-12	941
35	TCLP-B ~~MB~~ RCH 1/29/15	100
36	LCS	1000
37	88-1	100
38	88-1 MS	100
39	88-1 MSD	100
40	89-1	100
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Date / Start Time / End Time	1/28/15-16:00/1/29/15-08:30
Extractionist	RCH
Batch Number	4516
Method	8082 (1L→5mL)
Line Items	1-17
SR spike ID / Amount	5V05W19KL/500µL → ECD05W7KL/500µL
QC Spike ID / Amount	→ ECD05W7KD/500µL
Spike Witness	VS

Date / Start Time / End Time	1/28/15-16:00/1/29/15-08:30
Extractionist	RCH
Batch Number	~~4513~~ RCH 1/29/15 4516
Method	8015
Line Items	18-21
SR spike ID / Amount	5V05W21C/500µL
QC Spike ID / Amount	5V05W21DE/500µL
Spike Witness	VS

Date / Start Time / End Time	1/29/15-15:00/1/30/15-08:30
Extractionist	RCH
Batch Number	4517
Method	8015
Line Items	22-34
SR spike ID / Amount	5V05W21C/500µL
QC Spike ID / Amount	5V05W21E/500µL
Spike Witness	VS

Date / Start Time / End Time	2/2/15-04:15/
Extractionist	RCH
Batch Number	
Method	8270
Line Items	35-40
SR spike ID / Amount	5V05W20FG/500µL
QC Spike ID / Amount	5V05W20LR/500µL
Spike Witness	VS

Date / Start Time / End Time	
Extractionist	
Batch Number	
Method	
Line Items	
SR spike ID / Amount	
QC Spike ID / Amount	
Spike Witness	

DCM #	STL4-26
Hexane #	STL5-3
NaCl #	—
Base #	WR52C
Acid #	SR19H
Na2SO4 #	SR310
Sand #	SR270
Balance #	2

SV_54.5

SGS
Semivolatile Soils Pull Sheet

	Sample ID	Volume (mls)
1	158795MB	32.00
2	158796LCS	32.00
3	0182-8	32.42
4	158798MS	32.12
5	158799MSD	32.06
6	0182-9	32.25
7	0182-10	32.40
8		
9		
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Date / Start Time / End Time	2-5-15 10:30 / 2.5.15 13:30
Extractionist	VS
Batch Number	4531
Method	SW3541.DRO
Line Items	1-7
SR spike ID / Amount	5V05W21J / 1mL
QC Spike ID / Amount	5V05W21K / 1mL
Spike Witness	RCH

Date / Start Time / End Time	
Extractionist	
Batch Number	
Method	
Line Items	
SR spike ID / Amount	
QC Spike ID / Amount	
Spike Witness	

Date / Start Time / End Time	
Extractionist	
Batch Number	
Method	
Line Items	
SR spike ID / Amount	
QC Spike ID / Amount	
Spike Witness	

Date / Start Time / End Time	
Extractionist	
Batch Number	
Method	
Line Items	
SR spike ID / Amount	
QC Spike ID / Amount	
Spike Witness	

Date / Start Time / End Time	
Extractionist	
Batch Number	
Method	
Line Items	
SR spike ID / Amount	
QC Spike ID / Amount	
Spike Witness	

DCM #	STL 4-26
Hexane #	STL 5-3
NaCl #	-
Base #	-
Acid #	-
Na2SO4 #	5R32J
Sand #	5Q270
Balance #	2

SGS North America - Wilmington

GC8 Runlog

Method: 8015C-DRO

Initial Cal. Curve: XGC3464

Batch: **XGC3665**

ICAL/CCV PrepDate 2/1/2015

FILENAME	SAMPLE ID / DILUTION	DATE / TIME	COMMENTS	FNT	BACK	SR QC	OPER	RERUN
081B0101.D	RTCHK	01-Feb-15, 17:08:54	RTCHK ECD05W10T-U		√		VS	
081B0102.D	RTCHK	01-Feb-15, 17:33:47	RTCHK ECD05W10T-U NOT USED				VS	
082B0201.D	CCV	01-Feb-15, 17:58:40	8015 ICAL ECD05W8E-F		√		VS	
082B0202.D	CCV	01-Feb-15, 18:23:31	8015 ICAL ECD05W8E-F NOT USED				VS	
083B0301.D	0182_1 x2	01-Feb-15, 18:48:22			√		VS	
084B0401.D	0107_4 x50	01-Feb-15, 19:13:13			√		VS	
085B0501.D	0110_5 x100	01-Feb-15, 19:38:03			√		VS	
086B0601.D	0110_7 x5	01-Feb-15, 20:02:53			√		VS	
087B0701.D	0110_8 x5	01-Feb-15, 20:27:44			√		VS	
088B0801.D	CCV	01-Feb-15, 20:52:36	8015 ICAL ECD05W8E-F		√		VS	

VS 2-3-15

Analyst: VS

ICAL prepared per procedures in SV_71

Page Number: 1 OF 1

SGS North America - Wilmington

GC8 Runlog

Method: **8015C-DRO**

Initial Cal. Curve: XGC3464

ICAL/CCV PrepDate 1/31/2015

POSTED TO XGC 3664 AND XGC 3668

Batch: **XGC3664**

	FILENAME	SAMPLE ID / DILUTION	DATE / TIME	COMMENTS	FNT	BACK	SR QC	OPER	RERUN
POSTED TO BOTH	031B0101.D	RTCHK	31-Jan-15, 19:02:55	RTCHK ECD05W10T-U		✓		VS	
POSTED TO XGC 3664	032B0201.D	CCV	31-Jan-15, 19:27:50	8015 ICAL ECD05W8E-F		✓		VS	
	033B0101.D	158029	31-Jan-15, 20:46:58			✓		VS	
	034B0201.D	158030	31-Jan-15, 21:11:41			✓		VS	
	035B0301.D	0148_1	31-Jan-15, 21:36:26			✓		VS	
	036B0401.D	0148_2	31-Jan-15, 22:01:13			✓		VS	
	037B0501.D	0148_4	31-Jan-15, 22:26:02			✓		VS	
	038B0601.D	0166_1 x5	31-Jan-15, 22:50:55			✓		VS	
	039B0701.D	0166_3	31-Jan-15, 23:15:43			✓		VS	
	040B0801.D	0166_4	31-Jan-15, 23:40:30			✓		VS	
	041B0901.D	0166_5	01-Feb-15, 00:05:17			✓		VS	
	042B1001.D	158031	01-Feb-15, 00:30:02			✓		VS	
	043B1101.D	158032	01-Feb-15, 00:54:54			✓		VS	
	044B1201.D	0178_1	01-Feb-15, 01:19:53			✓		VS	
POSTED TO BOTH	045B1301.D	CCV	01-Feb-15, 01:44:29	8015 ICAL ECD05W8E-F NOT USED		✓ TE 2-1	VS 7-15	VS	
	045B1302.D	CCV	01-Feb-15, 02:09:12	8015 ICAL ECD05W8E-F ~~USED~~ NOT USED TE VS 2-17-15		✓		VS	
POSTED TO XGC 3668	046B1401.D	157991	01-Feb-15, 02:34:21			✓		VS	
	047B1501.D	157992	01-Feb-15, 02:59:08			✓		VS	
	048B1601.D	157993	01-Feb-15, 03:23:54			✓		VS	
	049B1701.D	0182_1	01-Feb-15, 03:48:42	NEEDS 2x DILUTION				VS	/
	050B1801.D	0182_2	01-Feb-15, 04:13:24			✓		VS	
	051B1901.D	157994	01-Feb-15, 04:38:13			✓		VS	
	052B2001.D	0182_3	01-Feb-15, 05:03:07			✓		VS	

Analyst: VS

ICAL prepared per procedures in SV_71

Page Number: 1 OF 3

SGS North America - Wilmington

GC8 Runlog

Method: **8015C-DRO**

Initial Cal. Curve: XGC3464

ICAL/CCV PrepDate 1/31/2015

Posted to XGC3668

Batch: **XGC3664**

FILENAME	SAMPLE ID / DILUTION	DATE / TIME	COMMENTS	FNT	BACK	SR QC	OPER	RERUN
053B2101.D	0182_4	01-Feb-15, 05:27:54			✓		VS	
054B2201.D	0182_5	01-Feb-15, 05:52:39			✓		VS	
055B2301.D	0182_6	01-Feb-15, 06:17:22			✓		VS	
056B2401.D	0182_7	01-Feb-15, 06:42:13			✓		VS	
057B2501.D	0182_11	01-Feb-15, 07:07:05			✓		VS	
058B2601.D	0182_12	01-Feb-15, 07:32:08			✓		VS	
059B2701.D	157600	01-Feb-15, 07:56:45			✓		VS	
060B2801.D	157601	01-Feb-15, 08:21:29			✓		VS	
061B2901.D	0107_4 x5	01-Feb-15, 08:46:13	NEEDS 50x DILUTION				VS	✓
062B3001.D	0107_5	01-Feb-15, 09:11:05			✓		VS	
063B3101.D	0107_6	01-Feb-15, 09:35:55			✓		VS	
064B3201.D	0108_5	01-Feb-15, 10:00:42			✓		VS	
065B3301.D	CCV	01-Feb-15, 10:25:31	8015 ICAL ECD05W8E-F		✓		VS	
065B3302.D	CCV	01-Feb-15, 10:50:19	8015 ICAL ECD05W8E-F NOT USED				VS	
066B3401.D	0108_6	01-Feb-15, 11:15:09			✓		VS	
067B3501.D	0108_7	01-Feb-15, 11:39:58			✓		VS	
068B3601.D	157602	01-Feb-15, 12:04:48			✓		VS	
069B3701.D	157603	01-Feb-15, 12:29:37			✓		VS	
070B3801.D	0110_5 x5	01-Feb-15, 12:54:29	NEEDS 100x DILUTION				VS	✓
071B3901.D	0110_6	01-Feb-15, 13:19:16			✓		VS	
072B4001.D	0110_7	01-Feb-15, 13:44:07	NEEDS 5x DILUTION				VS	✓
073B4101.D	0110_8	01-Feb-15, 14:08:58	NEEDS 5x DILUTION				VS	✓
074B4201.D	0116_6	01-Feb-15, 14:33:54			✓		VS	

Analyst: VS

ICAL prepared per procedures in SV_71

Page Number: 2 of 3

SGS North America - Wilmington

GC8 Runlog

Method: **8015C-DRO**

Initial Cal. Curve: XGC3464

ICAL/CCV PrepDate 1/31/2015

Posted to XGC 3668

Batch: **XGC3664**

FILENAME	SAMPLE ID / DILUTION	DATE / TIME	COMMENTS	FNT	BACK	SR QC	OPER	RERUN
075B4301.D	0116_7	01-Feb-15, 14:58:47			√		VS	
076B4401.D	0116_8	01-Feb-15, 15:23:43			√		VS	
077B4501.D	0116_9	01-Feb-15, 15:48:36			√		VS	
078B4601.D	0108_8	01-Feb-15, 16:13:28			√		VS	
079B4701.D	CCV	01-Feb-15, 16:38:19	8015 ICAL ECD05W8E-F		√		VS	

VS 2-3-15

Analyst: VS

ICAL prepared per procedures in SV_71

Page Number: 3 of 3

SGS North America - Wilmington

GC8 Runlog

Method: **8015C-DRO**

Initial Cal. Curve: XGC3464

ICAL/CCV PrepDate 2/5/2015

Batch: **XGC3675**

FILENAME	SAMPLE ID / DILUTION	DATE / TIME	COMMENTS	FNT	BACK	SR QC	OPER	RERUN
031B0101.D	DCM blank	05-Feb-15, 11:23:04					VS	
032B0201.D	RTCHK	05-Feb-15, 11:47:59	RTCHK ECD05W10T-U		√		VS	
033B0301.D	CCV	05-Feb-15, 12:12:56	8015 ICAL ECD05W8E-F		√		VS	
034B0101.D	158795	05-Feb-15, 13:35:30			√		VS	
035B0201.D	158796	05-Feb-15, 14:00:28			√		VS	
036B0301.D	0182_8	05-Feb-15, 14:25:30			√		VS	
037B0401.D	158798	05-Feb-15, 14:50:36			√		VS	
038B0501.D	158799	05-Feb-15, 15:15:43			√		VS	
039B0601.D	0182_9	05-Feb-15, 15:40:43			√		VS	
040B0701.D	0182_10	05-Feb-15, 16:05:43			√		VS	
041B0801.D	CCV	05-Feb-15, 16:30:48	8015 ICAL ECD05W8E-F FAILED LOW				VS	
042B0101.D	CCV	05-Feb-15, 17:05:56	8015 ICAL ECD05W8E-F		√		VS	

VS 2-3-15

Analyst: VS

ICAL prepared per procedures in SV_71

Page Number: 1 of 1

SW-846 8015C DRO
Initial Calibration Data

Print Date: 02/06/2015

N.C. Certification # 481

SGS North America - Wilmington

GC8 Runlog

Method: **8015C-DRO**

Initial Cal. Curve: XGC3464

ICAL/CCV PrepDate 10/1/2014

Batch: **XGC3464**

FILENAME	SAMPLE ID / DILUTION	DATE / TIME	COMMENTS	FNT	BACK	SR QC	OPER	RERUN
021B0101.D	RTCHK	01-Oct-14, 14:09:08	RTCHK ECD05W7C-D		✓		VS	
022B0201.D	D-1000	01-Oct-14, 14:34:02	8015 ICAL ECD05W8E-F		✓		VS	
023B0301.D	D-500	01-Oct-14, 14:59:04	8015 ICAL ECD05W8E-F		✓		VS	
024B0401.D	D-250	01-Oct-14, 15:24:05	8015 ICAL ECD05W8E-F		✓		VS	
025B0501.D	D-100	01-Oct-14, 15:49:09	8015 ICAL ECD05W8E-F		✓		VS	
026B0601.D	D-50	01-Oct-14, 16:14:17	8015 ICAL ECD05W8E-F		✓		VS	
027B0701.D	D-20	01-Oct-14, 16:39:21	8015 ICAL ECD05W8E-F		✓		VS	
028B0801.D	ICV	01-Oct-14, 17:04:29	8015 ICAL ECD05W8G-H		✓		VS	

VS 10-2-14

Analyst: VS

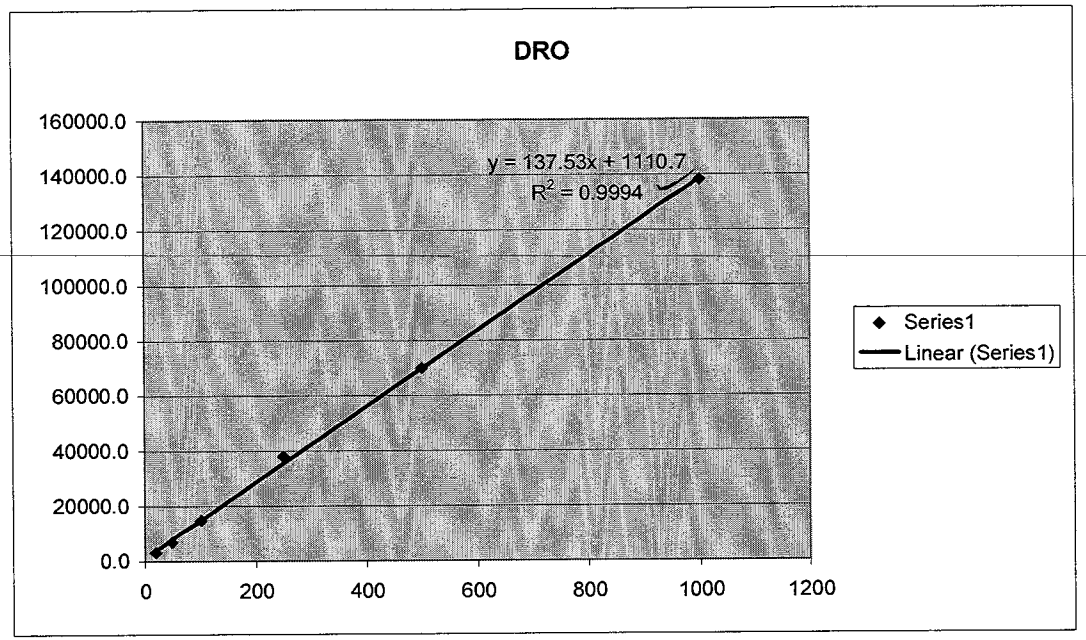
ICAL prepared per procedures in SV_71

Page Number: 1 of 1

DRO curve 10/01/14 XGC464 on Back column GC8
Method: 8015C

ug/ml	area	RF
20	3087.8	154.39
50	6851.3	137.03
100	14810.2	148.10
250	37963.8	151.86
500	69945.6	139.89
1000	138071.7	138.07

m	137.5346	
b	1110.653	
r	0.999381	≥0.995



	area	on column conc
ICV	69908.6	500.22

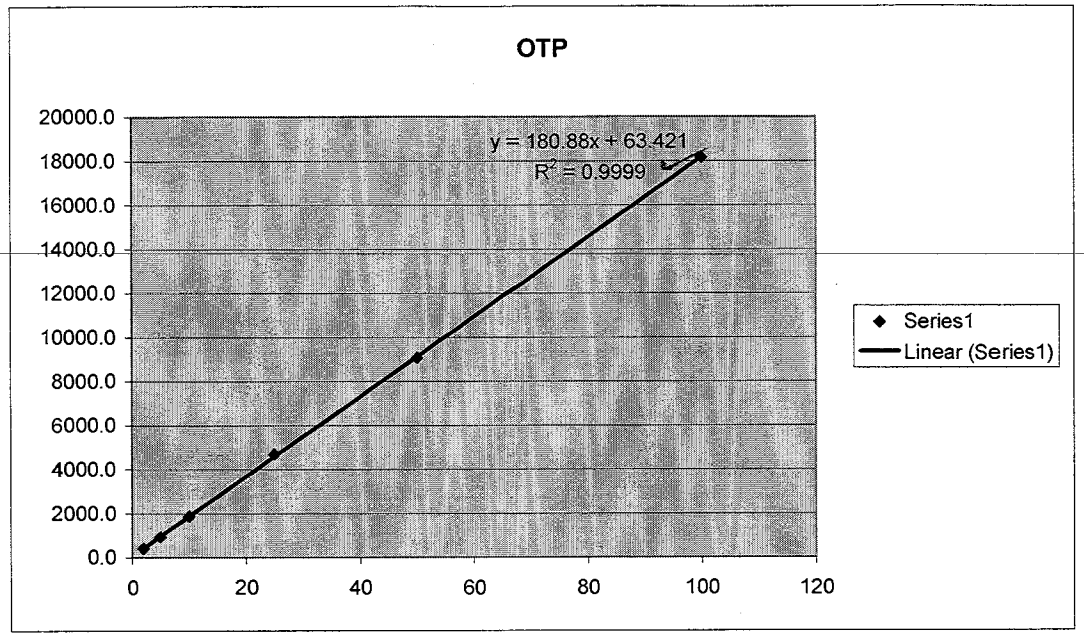
ICV limits:	30%	350 - 650
CCV limits:	15%	425 - 575

ARF	144.8889
% RSD	5.186693

OTP curve 10/01/14 XGC464 on Back column GC8
Method: 8015C

ug/ml	area	RF
2	402.1	201.07
5	937.5	187.51
10	1865.3	186.53
25	4690.0	187.60
50	9065.9	181.32
100	18149.0	181.49

m	180.8824	
b	63.42088	
r	0.999939	≥0.995



	Area	On Column Conc.
ICV	8924.6	48.99

ICV limits: 30% 35 - 65

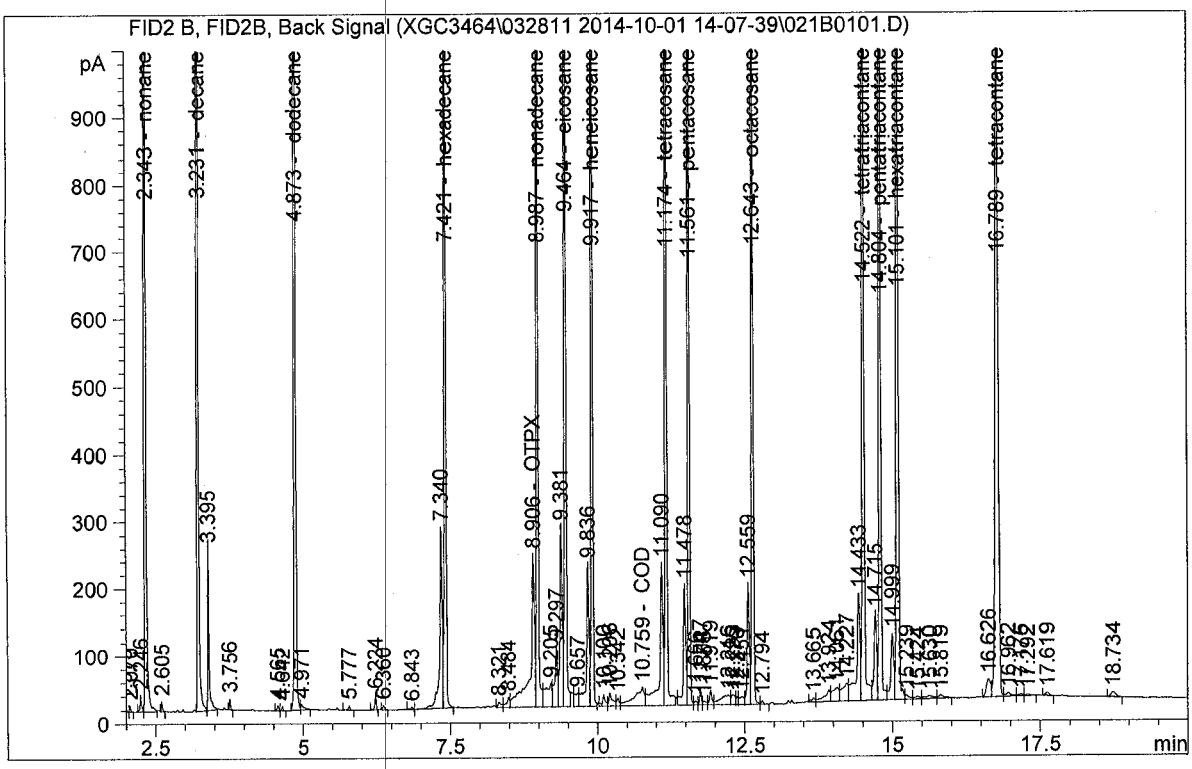
ARF	187.5867
% RSD	3.840125

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\021B0101.D
Sample Name: RTCHK

==========

Acq. Operator	: VS	Seq. Line :	1
Acq. Instrument	: GC08	Location :	Vial 21
Injection Date	: 10/1/2014 2:09:08 PM	Inj :	1
		Inj Volume :	10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3464\DRO-K_B.M
Last changed : 10/2/2014 11:07:36 AM by DTF
(modified after loading)
Method Info : DRO/EPH



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External Standard Report

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NB
10-2-14

Sorted By : Signal
Calib. Data Modified : 10/2/2014 11:08:34 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.337	BV	48.22091	1.00000	48.22091		?
0.446	VV S	1.10548e7	1.00000	1.10548e7		?
1.141	VV S	2.44236e7	1.00000	2.44236e7		?
1.277	VV S	2.46667e4	1.00000	2.46667e4		?
1.490	VV S	6890.74023	1.00000	6890.74023		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\021B0101.D
Sample Name: RTCHK

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.617	VBAS	1.45881e4	1.00000	1.45881e4		?
1.975	BV X	11.54027	1.00000	11.54027		?
2.070	VB T	11.01577	1.00000	11.01577		?
2.246	BV	43.29313	1.00000	43.29313		?
2.343	VV	4771.80664	1.73487e-2	82.78462		nonane
2.605	VB	21.33470	1.00000	21.33470		?
3.231	VV	3764.14966	1.90669e-2	71.77053		decane
3.395	VB	382.64496	1.00000	382.64496		?
3.756	BB	19.51590	1.00000	19.51590		?
4.565	BV	13.73498	1.00000	13.73498		?
4.642	VB	10.33605	1.00000	10.33605		?
4.873	BV	3791.35498	1.94670e-2	73.80641		dodecane
4.971	VB	31.67885	1.00000	31.67885		?
5.777	BB	14.20045	1.00000	14.20045		?
6.224	BV	39.97933	1.00000	39.97933		?
6.360	VB	16.35286	1.00000	16.35286		?
6.843	BV	11.61856	1.00000	11.61856		?
7.340	VV	843.13232	1.00000	843.13232		?
7.421	VB	2992.40161	1.87901e-2	56.22762		hexadecane
8.321	VV	29.74035	1.00000	29.74035		?
8.484	VV	53.58611	1.00000	53.58611		?
8.906	VV	1114.32874	0.00000	0.00000		OTPX
8.987	VV	2879.69727	1.58832e-2	45.73884		nonadecane
9.205	VV	249.08255	1.00000	249.08255		?
9.297	VV	314.88593	1.00000	314.88593		?
9.381	VV	753.57257	1.00000	753.57257		?
9.464	VB	3485.15674	1.54620e-2	53.88742		eicosane
9.657	BV	88.33018	1.00000	88.33018		?
9.836	VV	666.37006	1.00000	666.37006		?
9.917	VB	2827.08276	1.85493e-2	52.44042		heneicosane
10.100	BV	58.26307	1.00000	58.26307		?
10.206	VV	75.55305	1.00000	75.55305		?
10.342	VV	33.17240	1.00000	33.17240		?
10.759	VV	298.49139	0.00000	0.00000		COD
11.090	VV	851.14435	1.00000	851.14435		?
11.174	VB	3162.15723	1.18753e-2	37.55153		tetracosane
11.478	BV	524.35217	1.00000	524.35217		?
11.561	VV	2705.83691	1.16961e-2	31.64770		pentacosane
11.666	VV	19.18539	1.00000	19.18539		?
11.747	VV	43.05772	1.00000	43.05772		?
11.806	VV	22.06052	1.00000	22.06052		?
11.919	VV	57.78032	1.00000	57.78032		?
12.216	VV	157.37898	1.00000	157.37898		?
12.293	VV	63.56348	1.00000	63.56348		?
12.370	VV	24.42284	1.00000	24.42284		?
12.451	VV	60.66604	1.00000	60.66604		?
12.559	VV	486.01691	1.00000	486.01691		?
12.643	VV	2740.38965	1.89816e-2	52.01705		octacosane
12.794	VB	12.89495	1.00000	12.89495		?
13.665	BV	24.01826	1.00000	24.01826		?
13.924	VV	109.35275	1.00000	109.35275		?
14.061	VV	142.48538	1.00000	142.48538		?
14.227	VV	182.06734	1.00000	182.06734		?
14.433	VV	674.51923	1.00000	674.51923		?
14.522	VV	3383.70459	1.44738e-2	48.97500		tetratriacontane
14.715	VV	413.07748	1.00000	413.07748		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\021B0101.D
Sample Name: RTCHK

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
14.804	VV	3266.56396	1.85685e-2	60.65513		pentatriacontane
14.999	VV	345.95377	1.00000	345.95377		?
15.101	VV	3251.86719	1.85740e-2	60.40014		hexatriacontane
15.239	VB	28.80053	1.00000	28.80053		?
15.424	BV	23.34250	1.00000	23.34250		?
15.630	VV	44.20835	1.00000	44.20835		?
15.819	VB	32.80922	1.00000	32.80922		?
16.626	BV	139.33287	1.00000	139.33287		?
16.789	VB	3670.88965	0.00000	0.00000		tetracontane
16.962	BB	35.30341	1.00000	35.30341		?
17.175	BV	15.49617	1.00000	15.49617		?
17.292	VB	14.26413	1.00000	14.26413		?
17.619	BB	18.13461	1.00000	18.13461		?
18.734	BB	38.90342	1.00000	38.90342		?
Totals :				3.55336e7		

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)
Warning : Invalid calibration curve, (tetracontane)

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*** End of Report ***

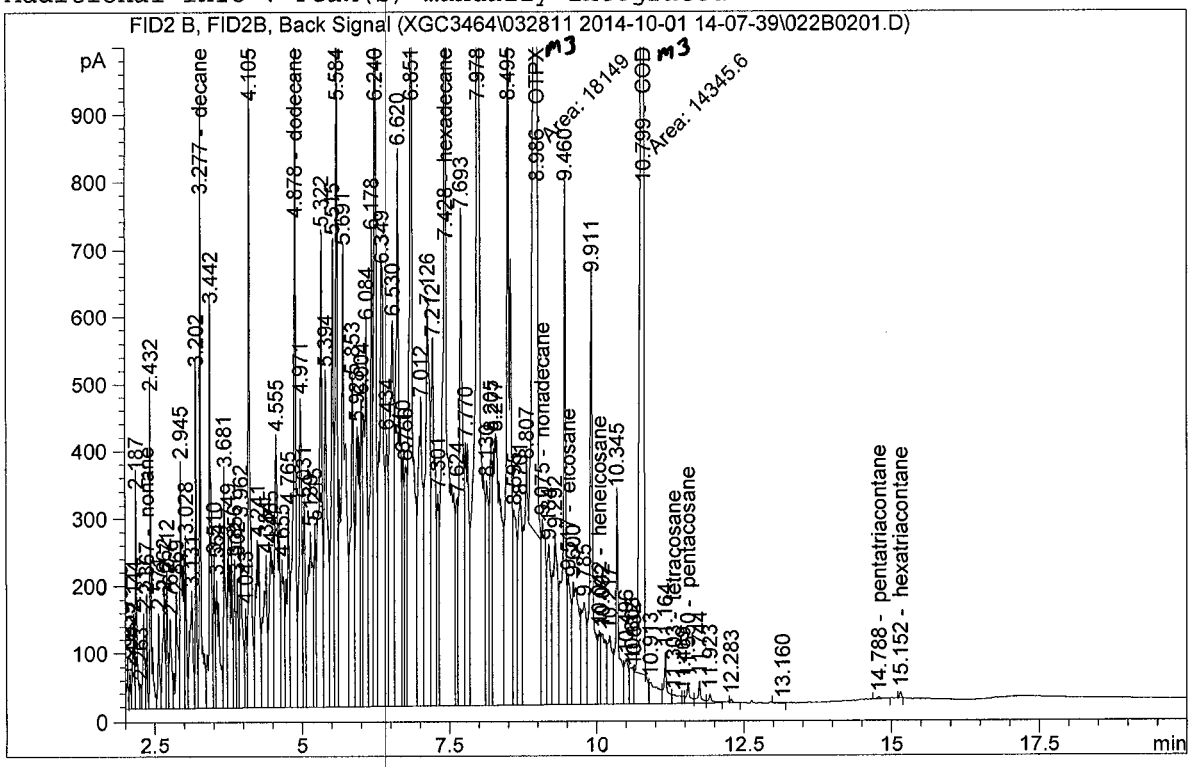
Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\022B0201.D
Sample Name: D-1000

==========

Acq. Operator	: VS	Seq. Line :	2
Acq. Instrument	: GC08	Location :	Vial 22
Injection Date	: 10/1/2014 2:34:02 PM	Inj :	1
		Inj Volume :	10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3464\DRO-K_B.M
Last changed : 10/2/2014 11:13:00 AM by DTF
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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NF
10-2-14

Sorted By : Signal
Calib. Data Modified : 10/2/2014 11:08:34 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.261	BV	4.16401e7	1.00000	4.16401e7		?
1.320	VV	2.66467e4	1.00000	2.66467e4		?
1.604	VV	7928.40479	1.00000	7928.40479		?
1.729	VV	7024.52100	1.00000	7024.52100		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\022B0201.D
Sample Name: D-1000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.923	VV	416.38336	1.00000	416.38336		?
1.982	VV	65.60305	1.00000	65.60305		?
2.039	VV	133.00885	1.00000	133.00885		?
2.082	VV	82.30421	1.00000	82.30421		?
2.144	VV	276.50375	1.00000	276.50375		?
2.187	VV	590.32300	1.00000	590.32300		?
2.263	VV	78.19489	1.00000	78.19489		?
2.317	VV	296.06357	1.00000	296.06357		?
2.367	VV	232.60440	1.73487e-2	4.03538		nonane
2.432	VV	825.81256	1.00000	825.81256		?
2.571	VV	280.15219	1.00000	280.15219		?
2.662	VV	460.32910	1.00000	460.32910		?
2.712	VV	349.55774	1.00000	349.55774		?
2.767	VV	355.27081	1.00000	355.27081		?
2.869	VV	499.01404	1.00000	499.01404		?
2.945	VV	1164.43103	1.00000	1164.43103		?
3.028	VV	435.88547	1.00000	435.88547		?
3.131	VV	662.63855	1.00000	662.63855		?
3.202	VV	741.13013	1.00000	741.13013		?
3.277	VV	1579.33948	1.90669e-2	30.11305		decane
3.442	VV	1443.09277	1.00000	1443.09277		?
3.510	VV	420.66785	1.00000	420.66785		?
3.554	VV	785.58521	1.00000	785.58521		?
3.681	VV	859.57562	1.00000	859.57562		?
3.749	VV	1103.10022	1.00000	1103.10022		?
3.856	VV	409.35184	1.00000	409.35184		?
3.902	VV	441.60965	1.00000	441.60965		?
3.962	VV	796.79962	1.00000	796.79962		?
4.043	VV	308.41010	1.00000	308.41010		?
4.105	VV	2213.62598	1.00000	2213.62598		?
4.241	VV	1241.28015	1.00000	1241.28015		?
4.384	VV	1013.24768	1.00000	1013.24768		?
4.465	VV	1137.72314	1.00000	1137.72314		?
4.555	VV	1881.01575	1.00000	1881.01575		?
4.655	VV	800.08551	1.00000	800.08551		?
4.765	VV	1067.03149	1.00000	1067.03149		?
4.878	VV	2781.72021	1.94670e-2	54.15182		dodecane
4.971	VV	1541.69214	1.00000	1541.69214		?
5.031	VV	781.41925	1.00000	781.41925		?
5.139	VV	1576.80334	1.00000	1576.80334		?
5.215	VV	601.04321	1.00000	601.04321		?
5.322	VV	2702.96265	1.00000	2702.96265		?
5.394	VV	1995.07520	1.00000	1995.07520		?
5.515	VV	2013.25000	1.00000	2013.25000		?
5.584	VV	2685.40137	1.00000	2685.40137		?
5.691	VV	3800.08032	1.00000	3800.08032		?
5.853	VV	1967.88281	1.00000	1967.88281		?
5.928	VV	1899.11108	1.00000	1899.11108		?
6.004	VV	1007.93921	1.00000	1007.93921		?
6.084	VV	2346.85059	1.00000	2346.85059		?
6.178	VV	2146.10596	1.00000	2146.10596		?
6.240	VV	3714.64819	1.00000	3714.64819		?
6.349	VV	3609.20898	1.00000	3609.20898		?
6.434	VV	1159.87244	1.00000	1159.87244		?
6.530	VV	2974.12988	1.00000	2974.12988		?
6.620	VV	3791.23779	1.00000	3791.23779		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\022B0201.D
Sample Name: D-1000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
6.710	VV	808.33142	1.00000	808.33142		?
6.756	VV	990.64722	1.00000	990.64722		?
6.851	VV	5923.46387	1.00000	5923.46387		?
7.012	VV	2571.22656	1.00000	2571.22656		?
7.126	VV	3185.81860	1.00000	3185.81860		?
7.212	VV	2443.02197	1.00000	2443.02197		?
7.301	VV	807.55188	1.00000	807.55188		?
7.428	VV	7949.78467	1.87901e-2	149.37751		hexadecane
7.624	VV	827.40277	1.00000	827.40277		?
7.693	VV	3084.11597	1.00000	3084.11597		?
7.770	VV	1865.00623	1.00000	1865.00623		?
7.978	VV	9019.50293	1.00000	9019.50293		?
8.130	VV	1138.16284	1.00000	1138.16284		?
8.205	VV	1197.11487	1.00000	1197.11487		?
8.277	VV	3816.73682	1.00000	3816.73682		?
8.495	VV	5056.53662	1.00000	5056.53662		?
8.595	VV	1172.64905	1.00000	1172.64905		?
8.701	VV	1441.95325	1.00000	1441.95325		?
8.807	VM R	5151.74463	1.00000	5151.74463		?
8.986	MM T	1.81490e4	0.00000	0.00000		OTPX
9.075	VV	1389.27893	1.58832e-2	22.06621		nonadecane
9.184	VV	1070.98193	1.00000	1070.98193		?
9.292	VV	1508.56604	1.00000	1508.56604		?
9.460	VV	2546.54639	1.00000	2546.54639		?
9.517	VV	769.63550	1.54620e-2	11.90009		eicosane
9.600	VV	1415.79785	1.00000	1415.79785		?
9.785	VV	903.25513	1.00000	903.25513		?
9.911	VV	2403.46021	1.00000	2403.46021		?
10.042	VV	331.91144	1.85493e-2	6.15673		heneicosane
10.092	VV	589.95715	1.00000	589.95715		?
10.217	VV	617.12402	1.00000	617.12402		?
10.345	VV	1107.20044	1.00000	1107.20044		?
10.496	VV	342.50107	1.00000	342.50107		?
10.603	VV	267.40561	1.00000	267.40561		?
10.632	VV R	668.57117	1.00000	668.57117		?
10.799	MM T	1.43456e4	0.00000	0.00000		COD
10.913	VV	351.58713	1.00000	351.58713		?
11.164	VV	272.50977	1.00000	272.50977		?
11.303	VV	119.81470	1.18753e-2	1.42283		tetracosane
11.469	VV	30.23089	1.00000	30.23089		?
11.550	VV	118.04173	1.16961e-2	1.38063		pentacosane
11.744	VV	122.43892	1.00000	122.43892		?
11.923	VB	60.70389	1.00000	60.70389		?
12.283	VB	15.45312	1.00000	15.45312		?
12.711		-	-	-		octacosane
13.160	PP N	11.36727	1.00000	11.36727		?
14.590		-	-	-		tetratriacontane
14.788	BB	15.73043	1.85685e-2	2.92090e-1		pentatriacontane
15.152	BPA	21.40389	1.85740e-2	3.97556e-1		hexatriacontane
16.789		-	-	-		tetracontane

Totals : 4.18128e7

4 Warnings or Errors :

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\022B0201.D
Sample Name: D-1000

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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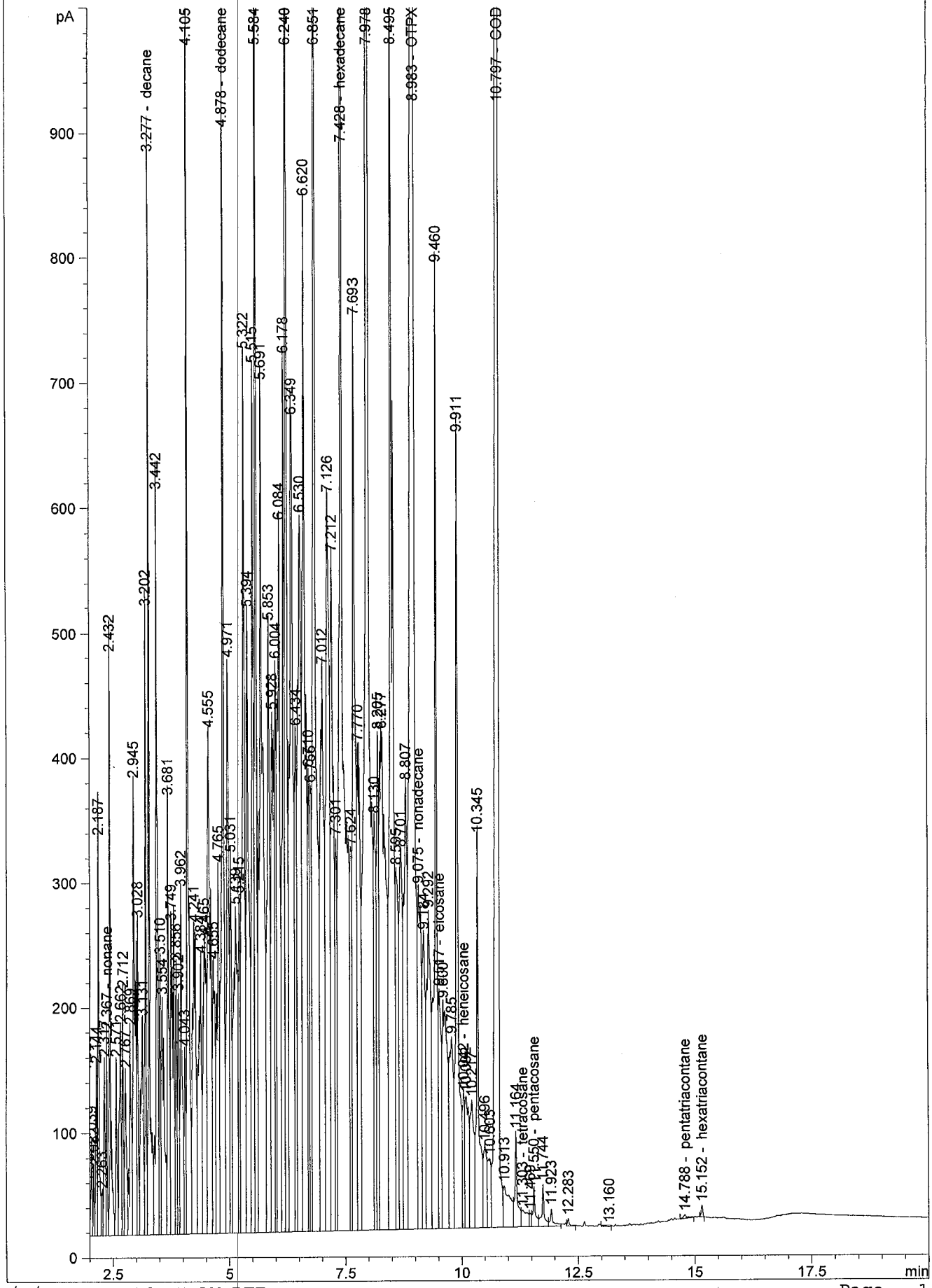
*** End of Report ***

Current Chromatogram(s)

FID2 B, FID2B, Back Signal (XGC3464\032811 2014-10-01 14-07-39\022B0201.D)



Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\023B0301.D
Sample Name: D-500

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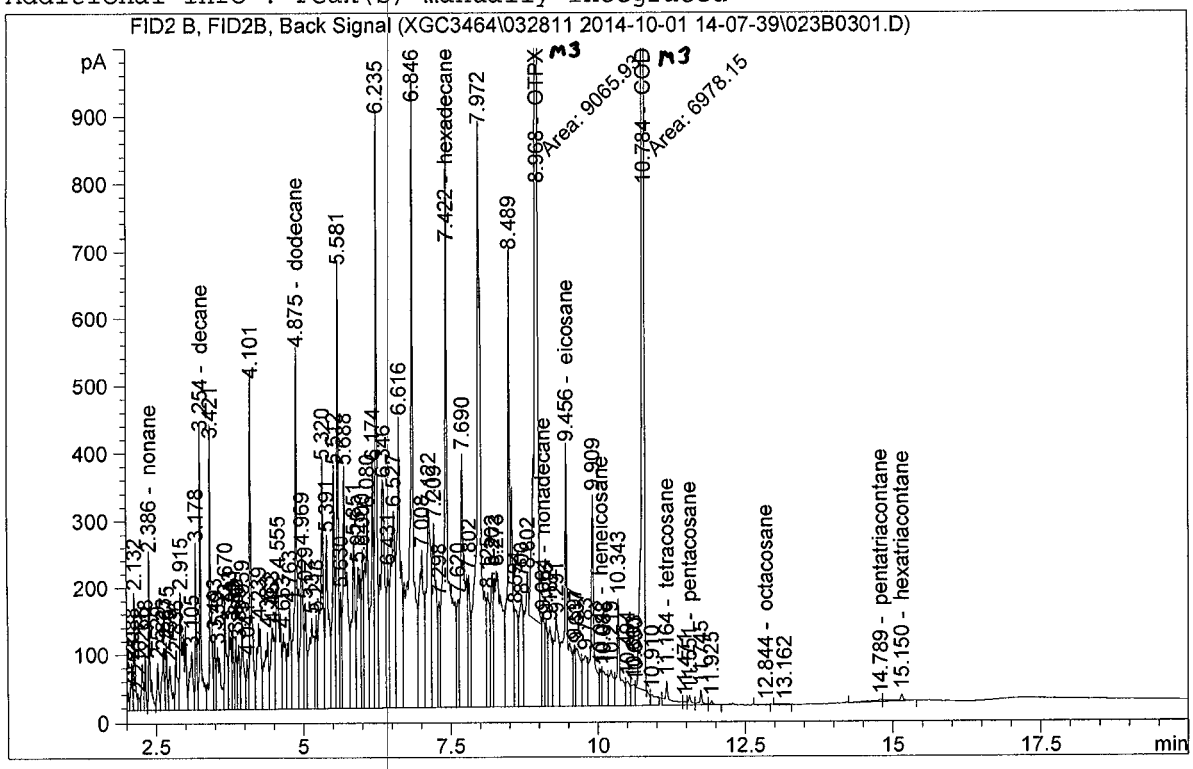
Acq. Operator	: VS	Seq. Line	: 3
Acq. Instrument	: GC08	Location	: Vial 23
Injection Date	: 10/1/2014 2:59:04 PM	Inj	: 1
		Inj Volume	: 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3464\DRO-K_B.M
Last changed : 10/2/2014 11:13:00 AM by DTF
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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NF
10-2-14

Sorted By : Signal
Calib. Data Modified : 10/2/2014 11:08:34 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.194	BV	3.59714e7	1.00000	3.59714e7		?
1.286	VV	4.47668e4	1.00000	4.47668e4		?
1.923	VV	41.63240	1.00000	41.63240		?
1.977	VV	71.30784	1.00000	71.30784		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\023B0301.D
Sample Name: D-500

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.022	VV	46.28149	1.00000	46.28149		?
2.088	VV	143.78371	1.00000	143.78371		?
2.132	VV	302.73822	1.00000	302.73822		?
2.210	VV	41.98914	1.00000	41.98914		?
2.266	VV	148.58377	1.00000	148.58377		?
2.318	VV	134.75246	1.00000	134.75246		?
2.386	VV	425.65927	1.73487e-2	7.38463		nonane
2.529	VV	148.34157	1.00000	148.34157		?
2.623	VV	235.22369	1.00000	235.22369		?
2.675	VV	183.70374	1.00000	183.70374		?
2.733	VV	222.05777	1.00000	222.05777		?
2.836	VV	217.22275	1.00000	217.22275		?
2.915	VV	800.71533	1.00000	800.71533		?
3.105	VV	338.57535	1.00000	338.57535		?
3.178	VV	370.47205	1.00000	370.47205		?
3.254	VV	796.49298	1.90669e-2	15.18662		decane
3.421	VV	887.30511	1.00000	887.30511		?
3.493	VV	219.76155	1.00000	219.76155		?
3.539	VV	412.32895	1.00000	412.32895		?
3.670	VV	439.99179	1.00000	439.99179		?
3.743	VV	345.65784	1.00000	345.65784		?
3.801	VV	229.63911	1.00000	229.63911		?
3.852	VV	209.43533	1.00000	209.43533		?
3.899	VV	225.43779	1.00000	225.43779		?
3.959	VV	404.38239	1.00000	404.38239		?
4.041	VV	159.62146	1.00000	159.62146		?
4.101	VV	1120.81921	1.00000	1120.81921		?
4.239	VV	627.39722	1.00000	627.39722		?
4.383	VV	517.50226	1.00000	517.50226		?
4.463	VV	574.87384	1.00000	574.87384		?
4.555	VV	954.10309	1.00000	954.10309		?
4.653	VV	406.50906	1.00000	406.50906		?
4.763	VV	540.01276	1.00000	540.01276		?
4.875	VV	1397.47021	1.94670e-2	27.20459		dodecane
4.969	VV	787.32739	1.00000	787.32739		?
5.029	VV	388.09976	1.00000	388.09976		?
5.137	VV	807.14740	1.00000	807.14740		?
5.213	VV	293.92270	1.00000	293.92270		?
5.320	VV	1359.83545	1.00000	1359.83545		?
5.391	VV	1018.67090	1.00000	1018.67090		?
5.512	VV	1023.57916	1.00000	1023.57916		?
5.581	VV	1321.78088	1.00000	1321.78088		?
5.630	VV	340.60059	1.00000	340.60059		?
5.688	VV	1585.21985	1.00000	1585.21985		?
5.851	VV	996.88513	1.00000	996.88513		?
5.925	VV	953.76654	1.00000	953.76654		?
6.000	VV	506.65970	1.00000	506.65970		?
6.080	VV	1187.98340	1.00000	1187.98340		?
6.174	VV	1101.81873	1.00000	1101.81873		?
6.235	VV	1862.27832	1.00000	1862.27832		?
6.346	VV	1823.77209	1.00000	1823.77209		?
6.431	VV	586.38696	1.00000	586.38696		?
6.527	VV	1505.47949	1.00000	1505.47949		?
6.616	VV	1908.12671	1.00000	1908.12671		?
6.846	VV	3903.12744	1.00000	3903.12744		?
7.008	VV	1293.13501	1.00000	1293.13501		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\023B0301.D
Sample Name: D-500

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
7.122	VV	1612.90454	1.00000	1612.90454		?
7.209	VV	1223.32446	1.00000	1223.32446		?
7.298	VV	408.73227	1.00000	408.73227		?
7.422	VV	3999.57861	1.87901e-2	75.15261		hexadecane
7.620	VV	474.81915	1.00000	474.81915		?
7.690	VV	1906.07837	1.00000	1906.07837		?
7.802	VV	549.58722	1.00000	549.58722		?
7.972	VV	4557.72070	1.00000	4557.72070		?
8.125	VV	594.38403	1.00000	594.38403		?
8.202	VV	591.38947	1.00000	591.38947		?
8.273	VV	1952.81873	1.00000	1952.81873		?
8.489	VV	2514.41699	1.00000	2514.41699		?
8.594	VV	605.48358	1.00000	605.48358		?
8.700	VV	747.56079	1.00000	747.56079		?
8.802	VV R	2598.43774	1.00000	2598.43774		?
8.968	MM T	9065.93262	0.00000	0.00000		OTPX
9.064	VV	422.29950	1.58832e-2	6.70747		nonadecane
9.116	VV	322.44135	1.00000	322.44135		?
9.182	VV	535.91339	1.00000	535.91339		?
9.291	VV	766.87598	1.00000	766.87598		?
9.456	VV	1665.04114	1.54620e-2	25.74483		eicosane
9.597	VV	225.69400	1.00000	225.69400		?
9.637	VV	501.05939	1.00000	501.05939		?
9.783	VV	428.17056	1.00000	428.17056		?
9.909	VV	1210.01392	1.00000	1210.01392		?
10.042	VV	156.73871	1.85493e-2	2.90739		heneicosane
10.088	VV	293.16278	1.00000	293.16278		?
10.219	VV	313.35284	1.00000	313.35284		?
10.343	VV	598.01563	1.00000	598.01563		?
10.494	VV	184.10315	1.00000	184.10315		?
10.603	VV	142.91585	1.00000	142.91585		?
10.630	VV R	350.76965	1.00000	350.76965		?
10.784	MM T	6978.14844	0.00000	0.00000		COD
10.910	VB	121.98619	1.00000	121.98619		?
11.164	PB	195.24063	1.18753e-2	2.31854		tetracosane
11.471	BV	20.67663	1.00000	20.67663		?
11.551	VV	46.21021	1.16961e-2	5.40479e-1		pentacosane
11.745	VV	65.70905	1.00000	65.70905		?
11.925	VB	17.60591	1.00000	17.60591		?
12.844	PP N	13.02384	1.89816e-2	2.47214e-1		octacosane
13.162	PP N	17.19953	1.00000	17.19953		?
14.590		-	-	-		tetratriacontane
14.789	VV	46.94768	1.85685e-2	8.71747e-1		pentatriacontane
15.150	VB	64.66201	1.85740e-2	1.20103		hexatriacontane
16.789		-	-	-		tetracontane

Totals : 3.60811e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\023B0301.D
Sample Name: D-500

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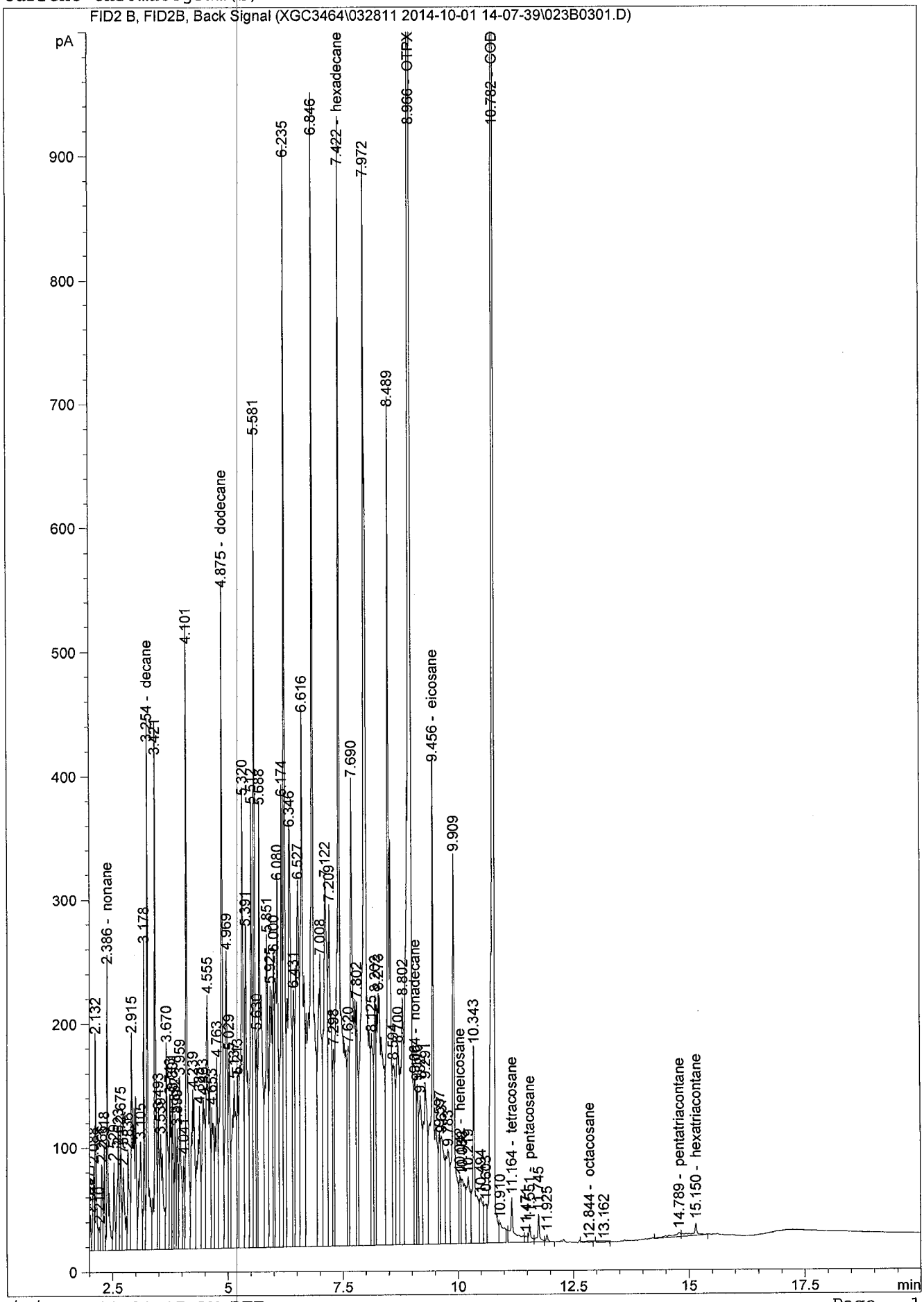
*** End of Report ***

Current Chromatogram(s)



Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\024B0401.D
Sample Name: D-250

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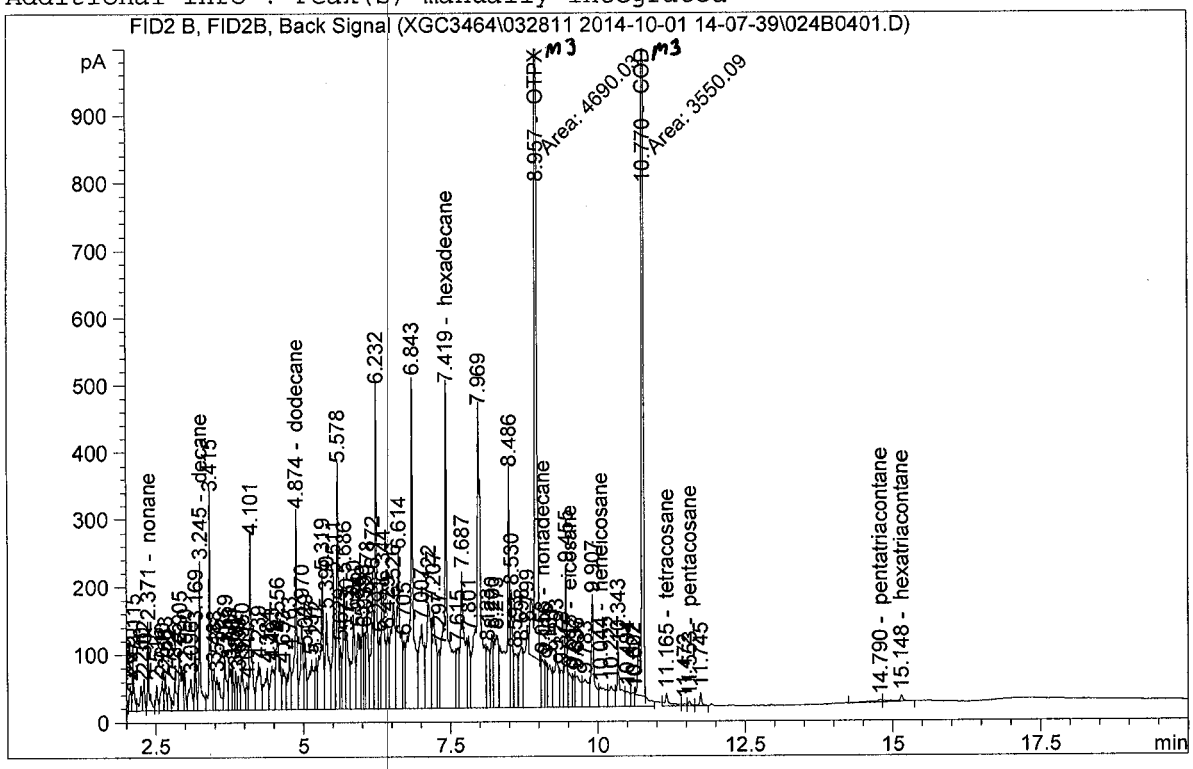
Acq. Operator	: VS	Seq. Line :	4
Acq. Instrument	: GC08	Location :	Vial 24
Injection Date	: 10/1/2014 3:24:05 PM	Inj :	1
		Inj Volume :	10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3464\DRO-K_B.M
Last changed : 10/2/2014 11:13:00 AM by DTF
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



NL
10-2-14

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 10/2/2014 11:08:34 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.175	BV	3.36410e7	1.00000	3.36410e7		?
1.289	VV	3.27635e4	1.00000	3.27635e4		?
1.648	VV	9949.92773	1.00000	9949.92773		?
1.906	VV	31.95999	1.00000	31.95999		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\024B0401.D
Sample Name: D-250

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.959	VV	42.40551	1.00000	42.40551		?
2.004	VV	29.27318	1.00000	29.27318		?
2.070	VV	80.85786	1.00000	80.85786		?
2.115	VV	169.32097	1.00000	169.32097		?
2.250	VV	104.27258	1.00000	104.27258		?
2.302	VV	91.26230	1.00000	91.26230		?
2.371	VV	236.54346	1.73487e-2	4.10372		nonane
2.516	VV	86.48159	1.00000	86.48159		?
2.610	VV	127.09584	1.00000	127.09584		?
2.663	VV	108.10684	1.00000	108.10684		?
2.722	VV	100.88786	1.00000	100.88786		?
2.825	VV	144.30099	1.00000	144.30099		?
2.905	VV	310.08261	1.00000	310.08261		?
2.990	VV	118.98979	1.00000	118.98979		?
3.096	VV	184.82930	1.00000	184.82930		?
3.169	VV	199.64647	1.00000	199.64647		?
3.245	VV	429.06604	1.90669e-2	8.18094		decane
3.415	VV	628.52576	1.00000	628.52576		?
3.488	VV	127.55956	1.00000	127.55956		?
3.536	VV	234.21317	1.00000	234.21317		?
3.669	VV	241.65279	1.00000	241.65279		?
3.743	VV	197.65015	1.00000	197.65015		?
3.801	VV	127.40068	1.00000	127.40068		?
3.852	VV	116.16760	1.00000	116.16760		?
3.899	VV	123.94762	1.00000	123.94762		?
3.960	VV	221.37575	1.00000	221.37575		?
4.041	VV	88.36606	1.00000	88.36606		?
4.101	VV	602.56091	1.00000	602.56091		?
4.239	VV	339.99127	1.00000	339.99127		?
4.384	VV	282.49887	1.00000	282.49887		?
4.463	VV	310.97617	1.00000	310.97617		?
4.556	VV	517.01611	1.00000	517.01611		?
4.653	VV	220.49606	1.00000	220.49606		?
4.763	VV	290.31085	1.00000	290.31085		?
4.874	VV	747.08728	1.94670e-2	14.54357		dodecane
4.970	VV	428.49353	1.00000	428.49353		?
5.029	VV	208.49937	1.00000	208.49937		?
5.137	VV	434.63110	1.00000	434.63110		?
5.212	VV	157.66287	1.00000	157.66287		?
5.319	VV	727.63293	1.00000	727.63293		?
5.390	VV	552.41565	1.00000	552.41565		?
5.511	VV	549.79999	1.00000	549.79999		?
5.578	VV	699.08942	1.00000	699.08942		?
5.629	VV	193.13489	1.00000	193.13489		?
5.686	VV	468.44931	1.00000	468.44931		?
5.730	VV	378.36264	1.00000	378.36264		?
5.850	VV	536.39081	1.00000	536.39081		?
5.924	VV	506.80789	1.00000	506.80789		?
5.999	VV	277.10507	1.00000	277.10507		?
6.039	VV	234.50682	1.00000	234.50682		?
6.078	VV	403.46140	1.00000	403.46140		?
6.172	VV	583.21942	1.00000	583.21942		?
6.232	VV	1004.29938	1.00000	1004.29938		?
6.291	VV	223.35301	1.00000	223.35301		?
6.344	VV	745.18451	1.00000	745.18451		?
6.429	VV	314.93631	1.00000	314.93631		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\024B0401.D
Sample Name: D-250

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
6.526	VV	813.83270	1.00000	813.83270		?
6.614	VV	1012.96753	1.00000	1012.96753		?
6.705	VV	217.58586	1.00000	217.58586		?
6.843	VV	1873.77161	1.00000	1873.77161		?
7.007	VV	698.71906	1.00000	698.71906		?
7.122	VV	855.41833	1.00000	855.41833		?
7.207	VV	650.87872	1.00000	650.87872		?
7.297	VV	216.53438	1.00000	216.53438		?
7.419	VV	2141.50293	1.87901e-2	40.23912		hexadecane
7.615	VV	285.74005	1.00000	285.74005		?
7.687	VV	993.59497	1.00000	993.59497		?
7.801	VV	299.21866	1.00000	299.21866		?
7.969	VV	2432.98413	1.00000	2432.98413		?
8.123	VV	328.30011	1.00000	328.30011		?
8.200	VV	317.42529	1.00000	317.42529		?
8.273	VV	576.60431	1.00000	576.60431		?
8.486	VV	1384.81213	1.00000	1384.81213		?
8.530	VV	426.94678	1.00000	426.94678		?
8.593	VV	338.75092	1.00000	338.75092		?
8.698	VV	413.91690	1.00000	413.91690		?
8.799	VM R	1490.44104	1.00000	1490.44104		?
8.957	MM T	4690.03369	0.00000	0.00000		OTPX
9.058	VV	238.43414	1.58832e-2	3.78710		nonadecane
9.116	VV	176.58051	1.00000	176.58051		?
9.181	VV	285.76733	1.00000	285.76733		?
9.293	VV	429.49982	1.00000	429.49982		?
9.378	VV	197.91129	1.00000	197.91129		?
9.455	VV	488.02429	1.00000	488.02429		?
9.515	VV	211.71964	1.54620e-2	3.27360		eicosane
9.597	VV	120.25378	1.00000	120.25378		?
9.636	VV	274.13150	1.00000	274.13150		?
9.783	VV	295.12399	1.00000	295.12399		?
9.907	VV	567.21423	1.00000	567.21423		?
10.044	VV	245.15758	1.85493e-2	4.54750		heneicosane
10.222	VV	204.31509	1.00000	204.31509		?
10.343	VV	329.73300	1.00000	329.73300		?
10.494	VV	113.73500	1.00000	113.73500		?
10.602	VV	87.99991	1.00000	87.99991		?
10.627	VM R	262.96536	1.00000	262.96536		?
10.770	MM T	3550.09302	0.00000	0.00000		COD
11.165	PB	98.92160	1.18753e-2	1.17472		tetracosane
11.472	BV	15.88957	1.00000	15.88957		?
11.553	VV	23.36434	1.16961e-2	2.73271e-1		pentacosane
11.745	VV	52.79601	1.00000	52.79601		?
12.711		-	-	-		octacosane
14.590		-	-	-		tetratriacontane
14.790	VV	42.95900	1.85685e-2	7.97683e-1		pentatriacontane
15.148	VB	59.22292	1.85740e-2	1.10001		hexatriacontane
16.789		-	-	-		tetracontane

Totals : 3.37196e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\024B0401.D
Sample Name: D-250

Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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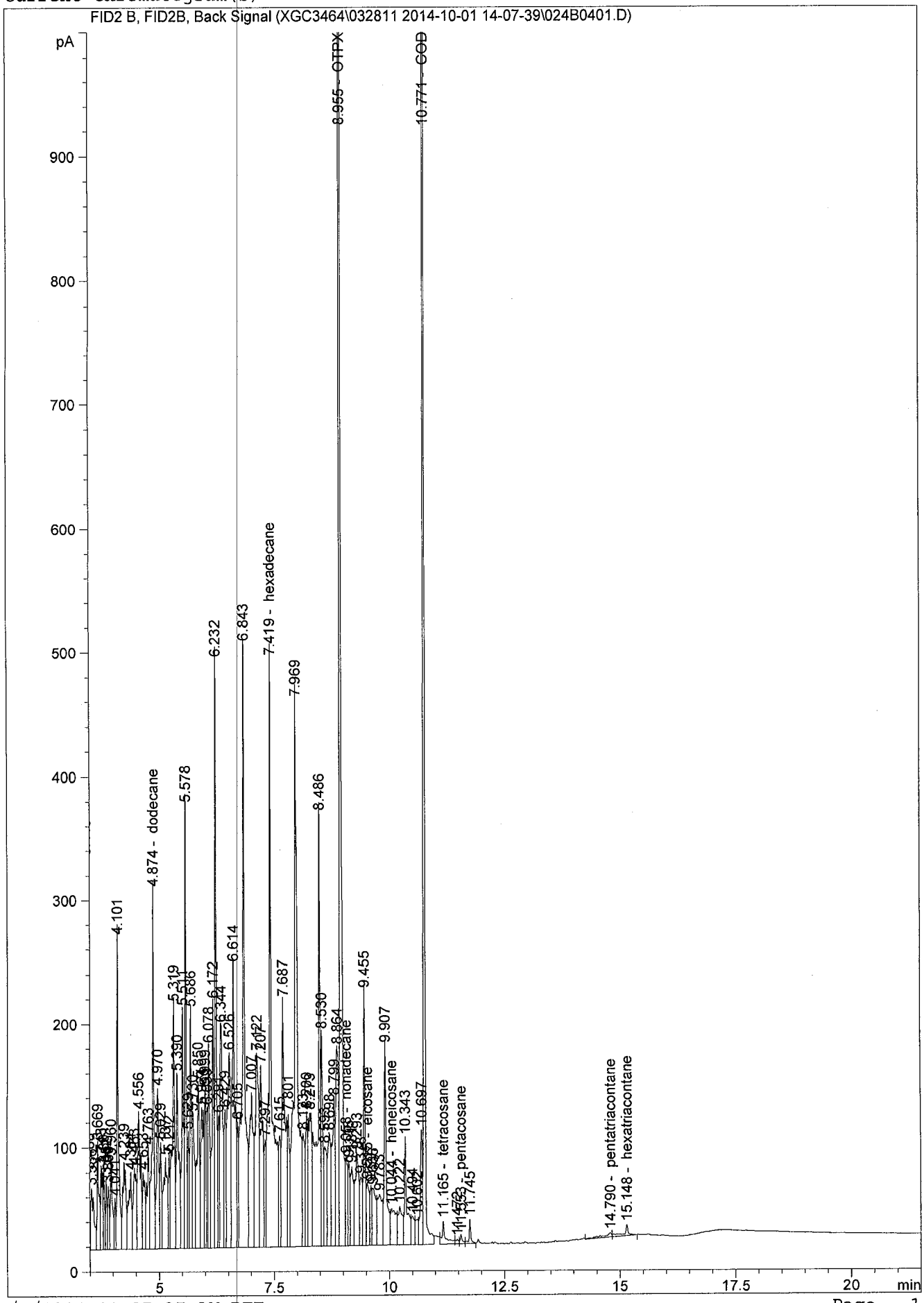
*** End of Report ***

Current Chromatogram(s)

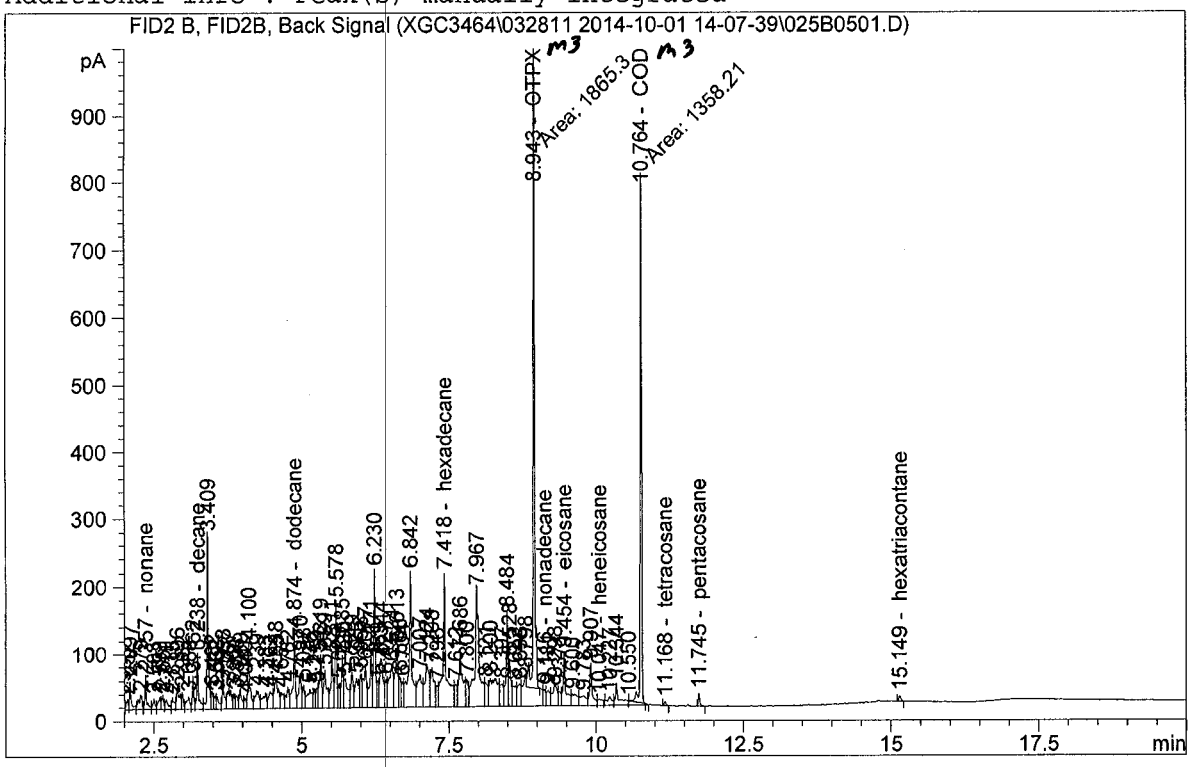


Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\025B0501.D
Sample Name: D-100

==========

Acq. Operator : VS
Seq. Line : 5
Acq. Instrument : GC08
Location : Vial 25
Injection Date : 10/1/2014 3:49:09 PM
Inj : 1
Inj Volume : 10 µl
Acq. Method : C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3464\DRO-K_B.M
Last changed : 10/2/2014 11:30:59 AM by DTF
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

NA
10-2-14

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Sorted By : Signal
Calib. Data Modified : 10/2/2014 11:08:34 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.435	BV	865.08423	1.00000	865.08423		?
1.156	VV	3.16992e7	1.00000	3.16992e7		?
1.200	VV	1.23564e4	1.00000	1.23564e4		?
1.282	VV	4.22343e4	1.00000	4.22343e4		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\025B0501.D
Sample Name: D-100

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.889	VV	23.52583	1.00000	23.52583		?
1.941	VV	20.79578	1.00000	20.79578		?
1.986	VV	16.36095	1.00000	16.36095		?
2.052	VV	36.19356	1.00000	36.19356		?
2.097	VV	87.30157	1.00000	87.30157		?
2.279	VV	87.39290	1.00000	87.39290		?
2.357	VV	101.72411	1.73487e-2	1.76478		nonane
2.503	VV	41.03133	1.00000	41.03133		?
2.598	VV	50.26350	1.00000	50.26350		?
2.651	VV	53.66057	1.00000	53.66057		?
2.711	VV	53.05179	1.00000	53.05179		?
2.815	VV	49.51247	1.00000	49.51247		?
2.896	VV	125.14561	1.00000	125.14561		?
2.982	VV	47.84862	1.00000	47.84862		?
3.088	VV	74.91975	1.00000	74.91975		?
3.162	VV	81.01451	1.00000	81.01451		?
3.238	VV	172.51311	1.90669e-2	3.28928		decane
3.409	VV	430.63763	1.00000	430.63763		?
3.482	VV	60.01062	1.00000	60.01062		?
3.532	VV	43.96396	1.00000	43.96396		?
3.568	VV	59.65690	1.00000	59.65690		?
3.668	VV	99.07430	1.00000	99.07430		?
3.767	VV	145.31093	1.00000	145.31093		?
3.851	VV	48.32304	1.00000	48.32304		?
3.898	VV	51.20248	1.00000	51.20248		?
3.959	VV	89.80406	1.00000	89.80406		?
4.040	VV	36.60406	1.00000	36.60406		?
4.100	VV	239.10851	1.00000	239.10851		?
4.239	VV	135.05750	1.00000	135.05750		?
4.383	VV	112.34193	1.00000	112.34193		?
4.463	VV	120.81202	1.00000	120.81202		?
4.558	VV	210.41774	1.00000	210.41774		?
4.652	VV	87.23862	1.00000	87.23862		?
4.762	VV	113.13387	1.00000	113.13387		?
4.874	VV	291.60120	1.94670e-2	5.67661		dodecane
4.970	VV	173.79758	1.00000	173.79758		?
5.028	VV	81.80113	1.00000	81.80113		?
5.136	VV	168.36931	1.00000	168.36931		?
5.212	VV	60.76038	1.00000	60.76038		?
5.259	VV	69.60823	1.00000	69.60823		?
5.319	VV	212.41090	1.00000	212.41090		?
5.389	VV	216.87442	1.00000	216.87442		?
5.511	VV	210.14977	1.00000	210.14977		?
5.578	VV	297.25479	1.00000	297.25479		?
5.629	VV	74.56976	1.00000	74.56976		?
5.685	VV	181.67958	1.00000	181.67958		?
5.730	VV	202.83148	1.00000	202.83148		?
5.849	VV	160.81367	1.00000	160.81367		?
5.923	VV	193.87607	1.00000	193.87607		?
5.998	VV	109.17744	1.00000	109.17744		?
6.077	VV	247.06085	1.00000	247.06085		?
6.171	VV	212.55542	1.00000	212.55542		?
6.230	VV	422.48608	1.00000	422.48608		?
6.289	VV	81.30769	1.00000	81.30769		?
6.344	VV	293.53726	1.00000	293.53726		?
6.427	VV	116.10995	1.00000	116.10995		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\025B0501.D
Sample Name: D-100

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
6.524	VV	311.92819	1.00000	311.92819		?
6.613	VV	302.58096	1.00000	302.58096		?
6.660	VV	98.90542	1.00000	98.90542		?
6.704	VV	85.96009	1.00000	85.96009		?
6.842	VV	729.18262	1.00000	729.18262		?
7.007	VV	266.47028	1.00000	266.47028		?
7.124	VV	326.96030	1.00000	326.96030		?
7.208	VV	259.61292	1.00000	259.61292		?
7.296	VV	80.71403	1.00000	80.71403		?
7.418	VV	836.65533	1.87901e-2	15.72086		hexadecane
7.612	VV	102.94398	1.00000	102.94398		?
7.686	VV	388.76132	1.00000	388.76132		?
7.800	VV	112.46357	1.00000	112.46357		?
7.967	VV	951.77081	1.00000	951.77081		?
8.121	VV	127.08002	1.00000	127.08002		?
8.200	VV	413.92407	1.00000	413.92407		?
8.397	VV	137.75996	1.00000	137.75996		?
8.484	VV	322.35114	1.00000	322.35114		?
8.528	VV	167.54062	1.00000	167.54062		?
8.622	VV	131.71265	1.00000	131.71265		?
8.698	VV	149.64877	1.00000	149.64877		?
8.798	VM R	647.21680	1.00000	647.21680		?
8.943	MM T	1865.30347	0.00000	0.00000		OTPX
9.116	VV	69.89622	1.58832e-2	1.11018		nonadecane
9.181	VV	101.72085	1.00000	101.72085		?
9.298	VV	176.46327	1.00000	176.46327		?
9.371	VV	67.84026	1.00000	67.84026		?
9.454	VV	269.35120	1.54620e-2	4.16470		eicosane
9.600	VV	117.78477	1.00000	117.78477		?
9.783	VV	115.39496	1.00000	115.39496		?
9.907	VV	198.49774	1.00000	198.49774		?
10.047	VB	52.35363	1.85493e-2	9.71123e-1		heneicosane
10.227	BV	75.86538	1.00000	75.86538		?
10.344	VV	154.01967	1.00000	154.01967		?
10.550	VM R	76.27998	1.00000	76.27998		?
10.764	MM T	1358.21313	0.00000	0.00000		COD
11.168	BB	11.53221	1.18753e-2	1.36948e-1		tetracosane
11.745	BB	37.24983	1.16961e-2	4.35677e-1		pentacosane
12.711		-	-	-		octacosane
14.590		-	-	-		tetratriacontane
14.874		-	-	-		pentatriacontane
15.149	BB	18.87200	1.85740e-2	3.50528e-1		hexatriacontane
16.789		-	-	-		tetracontane

Totals : 3.17686e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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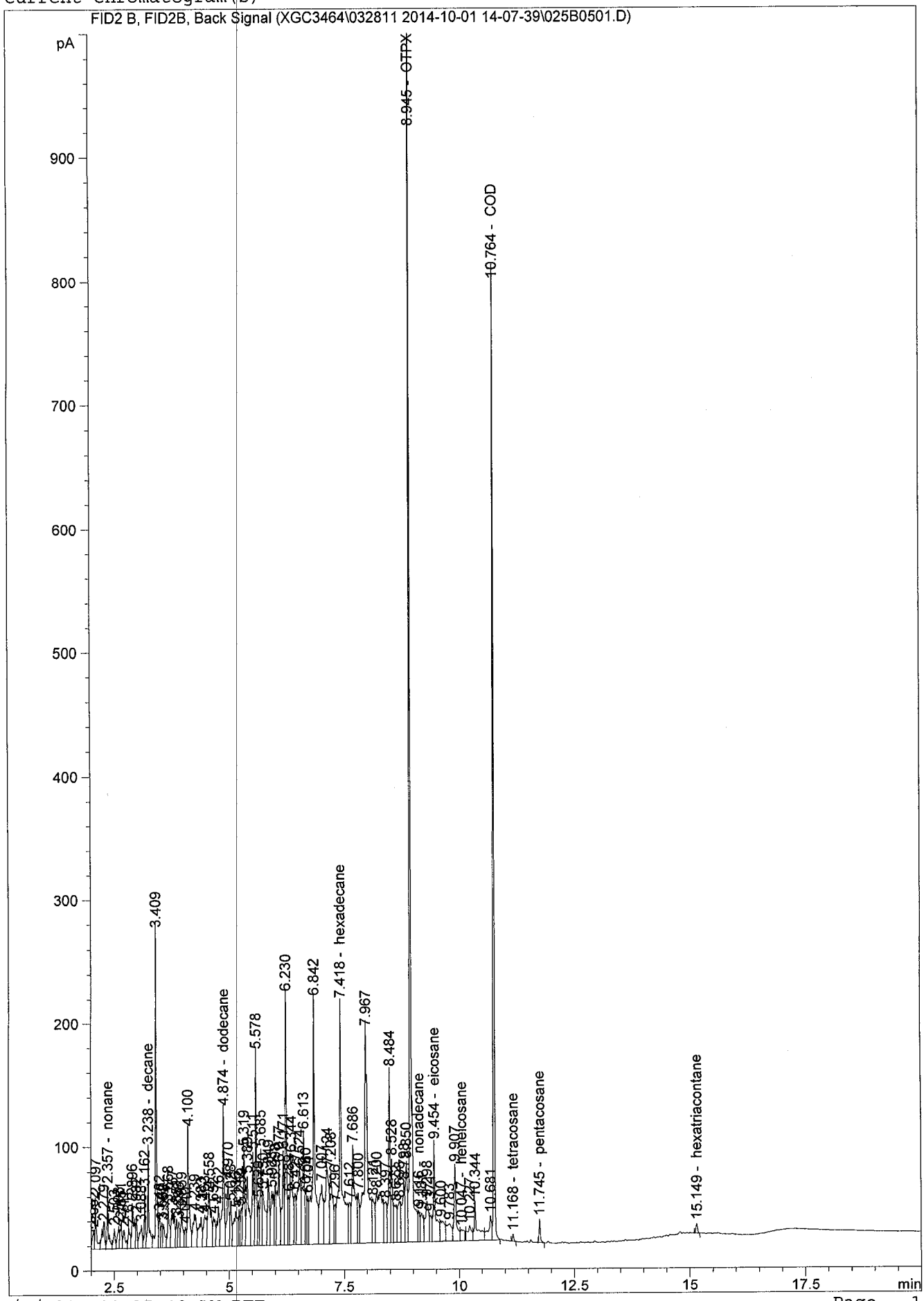
*** End of Report ***

Current Chromatogram(s)



Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\026B0601.D
Sample Name: D-50

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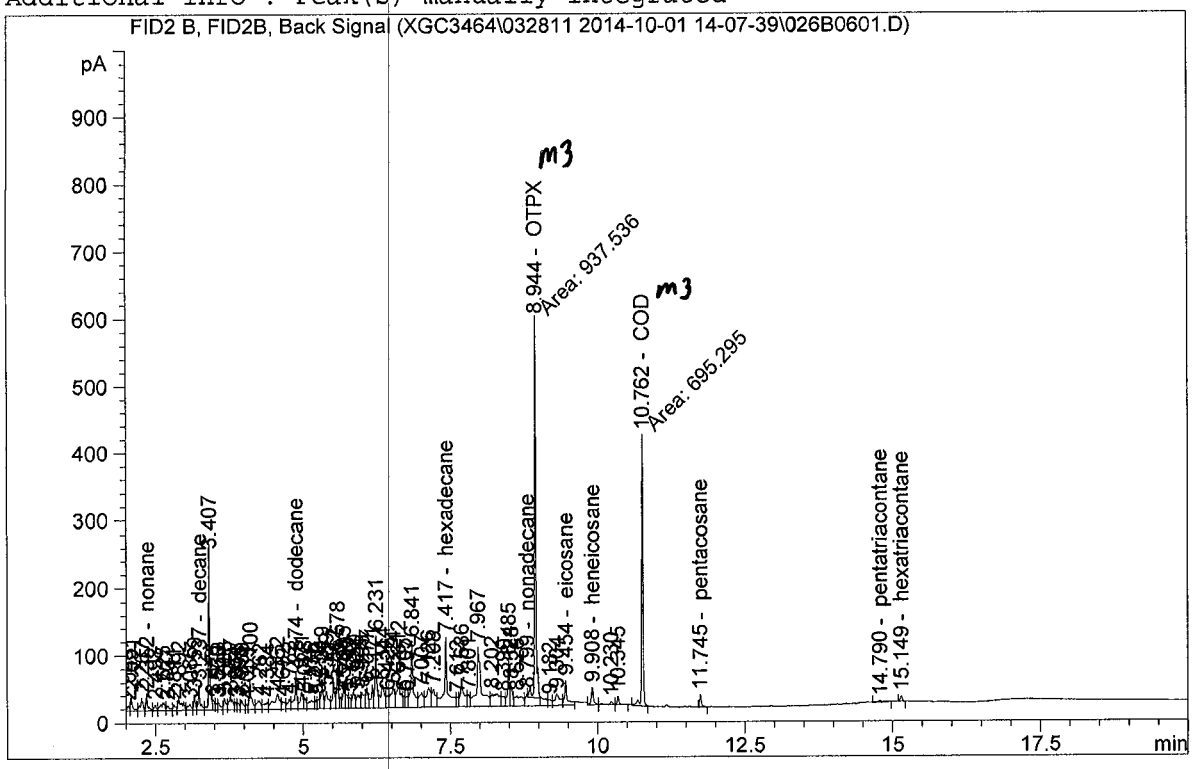
Acq. Operator	: VS	Seq. Line :	6
Acq. Instrument	: GC08	Location :	Vial 26
Injection Date	: 10/1/2014 4:14:17 PM	Inj :	1
		Inj Volume :	10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3464\DRO-K_B.M
Last changed : 10/2/2014 11:41:56 AM by DTF
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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10-2-14

Sorted By : Signal
Calib. Data Modified : 10/2/2014 11:08:34 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.416	BV	718.59747	1.00000	718.59747		?
1.152	VV	3.10791e7	1.00000	3.10791e7		?
1.279	VV	4.15296e4	1.00000	4.15296e4		?
1.934	VV	11.94007	1.00000	11.94007		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\026B0601.D
Sample Name: D-50

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.045	VV	30.34016	1.00000	30.34016		?
2.091	VB	49.01626	1.00000	49.01626		?
2.267	BV	57.17744	1.00000	57.17744		?
2.352	VV	53.06458	1.73487e-2	9.20601e-1		nonane
2.498	VV	23.05204	1.00000	23.05204		?
2.625	VV	56.36473	1.00000	56.36473		?
2.707	VV	25.96735	1.00000	25.96735		?
2.811	VV	24.14020	1.00000	24.14020		?
2.892	VV	84.53773	1.00000	84.53773		?
3.085	VV	35.47560	1.00000	35.47560		?
3.159	VV	40.35789	1.00000	40.35789		?
3.237	VV	85.26112	1.90669e-2	1.62566		decane
3.407	VV	371.84607	1.00000	371.84607		?
3.475	VV	36.40292	1.00000	36.40292		?
3.530	VV	21.83787	1.00000	21.83787		?
3.568	VV	34.38660	1.00000	34.38660		?
3.668	VV	49.86958	1.00000	49.86958		?
3.767	VV	83.41486	1.00000	83.41486		?
3.851	VV	24.46273	1.00000	24.46273		?
3.898	VV	25.80025	1.00000	25.80025		?
3.959	VV	43.97307	1.00000	43.97307		?
4.039	VV	18.04171	1.00000	18.04171		?
4.100	VV	115.55081	1.00000	115.55081		?
4.262	VV	64.31317	1.00000	64.31317		?
4.384	VV	52.45110	1.00000	52.45110		?
4.562	VV	160.78323	1.00000	160.78323		?
4.652	VV	40.73029	1.00000	40.73029		?
4.762	VV	51.89978	1.00000	51.89978		?
4.874	VV	137.13341	1.94670e-2	2.66958		dodecane
4.971	VV	85.64016	1.00000	85.64016		?
5.028	VV	38.83138	1.00000	38.83138		?
5.136	VV	76.41025	1.00000	76.41025		?
5.212	VV	27.39106	1.00000	27.39106		?
5.259	VV	32.27665	1.00000	32.27665		?
5.319	VV	99.21172	1.00000	99.21172		?
5.389	VV	101.90085	1.00000	101.90085		?
5.512	VV	98.53806	1.00000	98.53806		?
5.578	VV	139.49336	1.00000	139.49336		?
5.629	VV	35.26509	1.00000	35.26509		?
5.685	VV	86.32487	1.00000	86.32487		?
5.730	VV	56.40286	1.00000	56.40286		?
5.782	VV	43.52761	1.00000	43.52761		?
5.850	VV	73.97079	1.00000	73.97079		?
5.924	VV	88.10513	1.00000	88.10513		?
5.999	VV	88.34532	1.00000	88.34532		?
6.077	VV	77.90007	1.00000	77.90007		?
6.171	VV	94.85779	1.00000	94.85779		?
6.231	VV	220.31493	1.00000	220.31493		?
6.344	VV	174.81601	1.00000	174.81601		?
6.426	VV	50.27053	1.00000	50.27053		?
6.524	VV	144.01521	1.00000	144.01521		?
6.612	VV	190.06595	1.00000	190.06595		?
6.705	VV	41.48485	1.00000	41.48485		?
6.757	VV	45.64048	1.00000	45.64048		?
6.841	VV	296.19635	1.00000	296.19635		?
7.007	VV	118.70628	1.00000	118.70628		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\026B0601.D
Sample Name: D-50

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
7.126	VV	152.19078	1.00000	152.19078		?
7.208	VV	121.18407	1.00000	121.18407		?
7.417	VV	428.58810	1.87901e-2	8.05323		hexadecane
7.612	VV	41.12292	1.00000	41.12292		?
7.686	VV	180.24966	1.00000	180.24966		?
7.801	VV	51.06631	1.00000	51.06631		?
7.967	VV	506.55695	1.00000	506.55695		?
8.202	VV	185.30058	1.00000	185.30058		?
8.390	VV	58.18781	1.00000	58.18781		?
8.485	VV	153.04201	1.00000	153.04201		?
8.528	VV	78.57017	1.00000	78.57017		?
8.626	VV	141.73792	1.00000	141.73792		?
8.799	VM R	281.36075	1.58832e-2	4.46891		nonadecane
8.944	MM T	937.53552	0.00000	0.00000		OTPX
9.182	VV	37.59891	1.00000	37.59891		?
9.304	VV	109.50872	1.00000	109.50872		?
9.454	VB	123.59180	1.54620e-2	1.91097		eicosane
9.908	PV	74.13457	1.85493e-2	1.37514		heneicosane
10.230	VV	19.78203	1.00000	19.78203		?
10.345	VB	24.74052	1.00000	24.74052		?
10.762	MM T	695.29541	0.00000	0.00000		COD
11.239		-	-	-		tetracosane
11.745	BB	38.67783	1.16961e-2	4.52379e-1		pentacosane
12.711		-	-	-		octacosane
14.590		-	-	-		tetratriacontane
14.790	BB	14.97040	1.85685e-2	2.77978e-1		pentatriacontane
15.149	BB	19.36225	1.85740e-2	3.59634e-1		hexatriacontane
16.789		-	-	-		tetracontane

Totals : 3.11275e7

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Elution order of calibrated compounds may have changed
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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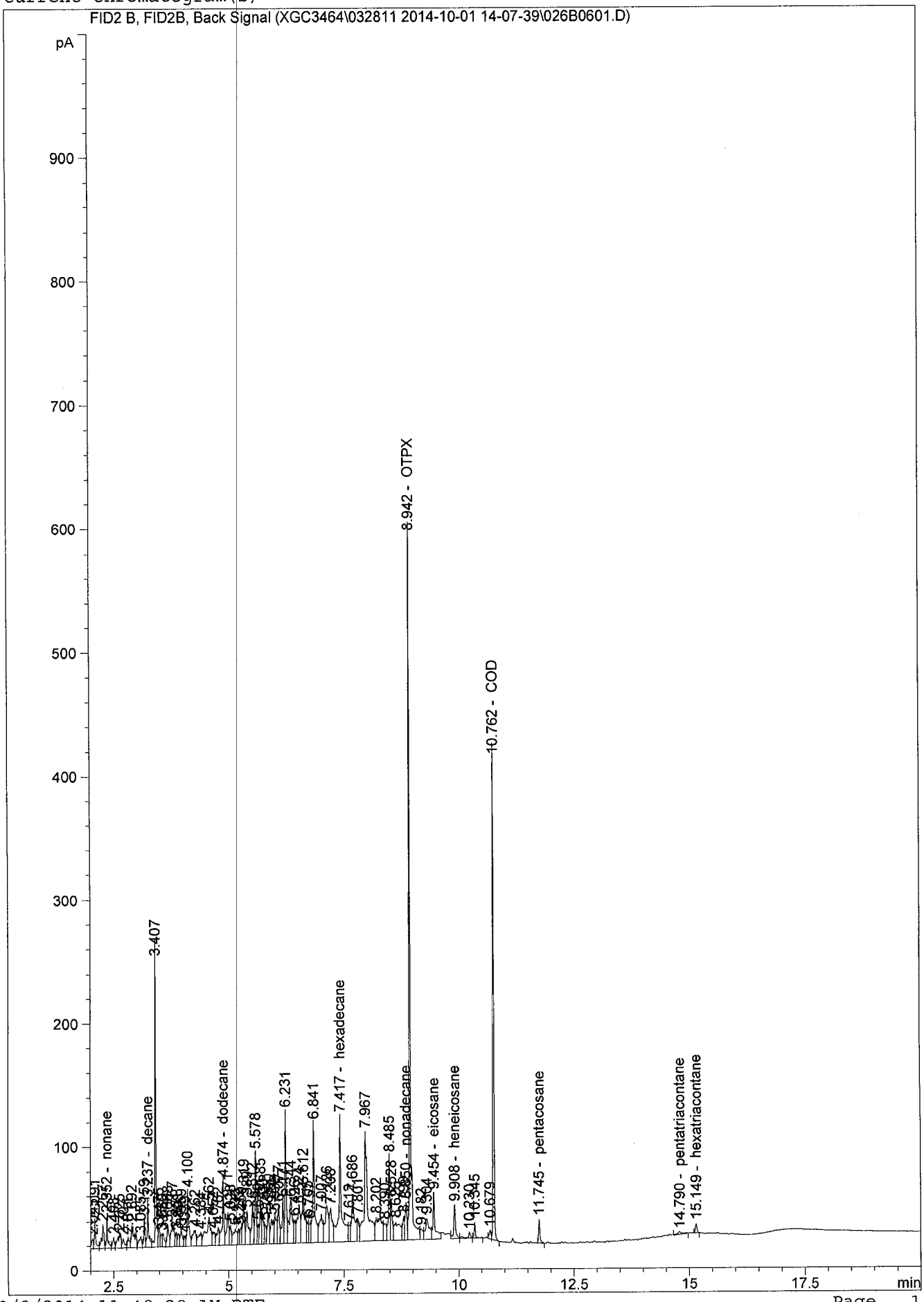
*** End of Report ***

Current Chromatogram(s)



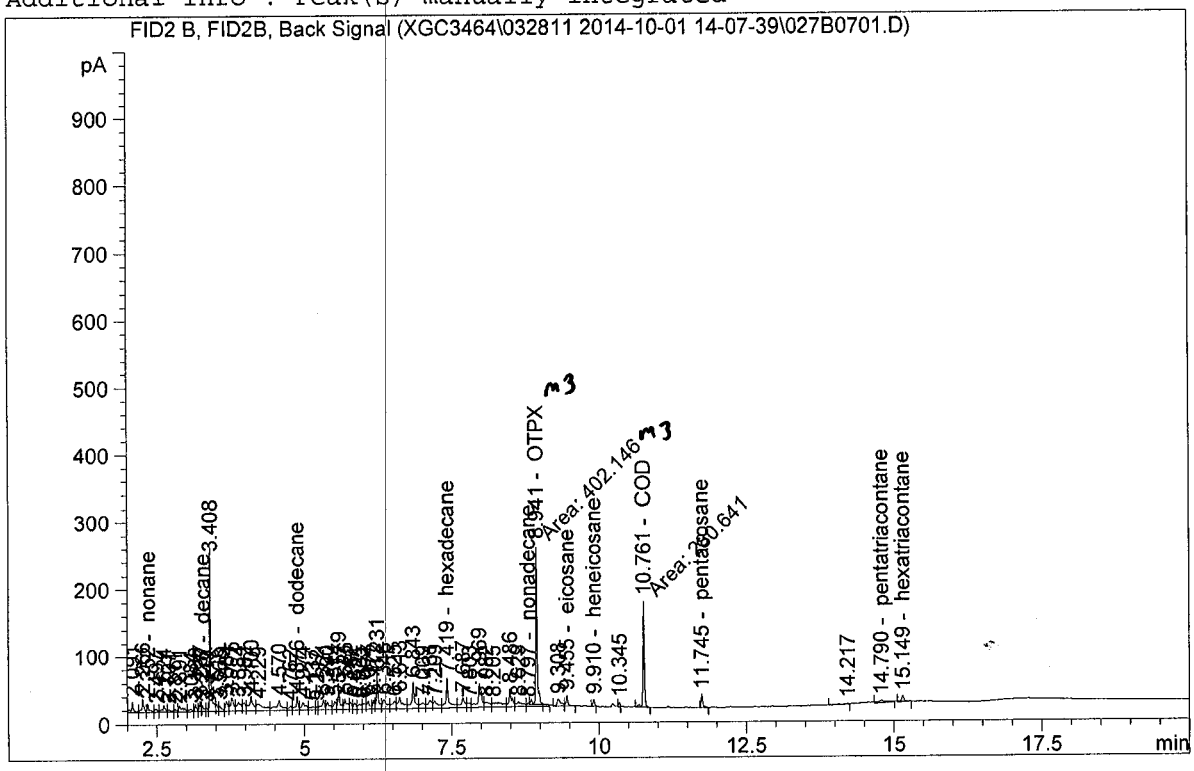
Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\027B0701.D
Sample Name: D-20

==========

Acq. Operator : VS
Seq. Line : 7
Acq. Instrument : GC08
Location : Vial 27
Injection Date : 10/1/2014 4:39:21 PM
Inj : 1
Inj Volume : 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3464\DRO-K_B.M
Last changed : 10/2/2014 11:41:56 AM by DTF
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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NB
10-2-14

Sorted By : Signal
Calib. Data Modified : 10/2/2014 11:08:34 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
0.416	BV	635.04437	1.00000	635.04437		?
1.153	VV	3.09773e7	1.00000	3.09773e7		?
1.284	VV	4.13915e4	1.00000	4.13915e4		?
2.091	VV	42.33354	1.00000	42.33354		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\027B0701.D
Sample Name: D-20

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.266	VV	44.24954	1.00000	44.24954		?
2.352	VV	28.81736	1.73487e-2	4.99944e-1		nonane
2.497	VV	15.12627	1.00000	15.12627		?
2.624	VV	33.28575	1.00000	33.28575		?
2.707	VV	13.57649	1.00000	13.57649		?
2.811	VV	11.32447	1.00000	11.32447		?
2.891	VV	40.99464	1.00000	40.99464		?
3.084	VV	16.27166	1.00000	16.27166		?
3.160	VV	21.38162	1.00000	21.38162		?
3.237	VV	26.74088	1.00000	26.74088		?
3.277	VV	21.44720	1.90669e-2	4.08931e-1		decane
3.349	VV	10.10740	1.00000	10.10740		?
3.408	VV	366.41272	1.00000	366.41272		?
3.516	VV	22.86037	1.00000	22.86037		?
3.568	VV	25.67138	1.00000	25.67138		?
3.684	VV	43.28089	1.00000	43.28089		?
3.775	VV	71.22599	1.00000	71.22599		?
3.884	VV	62.18914	1.00000	62.18914		?
3.982	VV	41.04330	1.00000	41.04330		?
4.100	VV	94.06870	1.00000	94.06870		?
4.229	VV	91.41338	1.00000	91.41338		?
4.570	VV	97.67439	1.00000	97.67439		?
4.762	VV	21.10347	1.00000	21.10347		?
4.876	VV	54.64513	1.94670e-2	1.06378		dodecane
4.974	VV	54.33061	1.00000	54.33061		?
5.137	VV	28.84817	1.00000	28.84817		?
5.212	VV	10.45519	1.00000	10.45519		?
5.321	VV	50.11757	1.00000	50.11757		?
5.390	VV	41.42445	1.00000	41.42445		?
5.514	VV	37.83914	1.00000	37.83914		?
5.579	VV	74.74919	1.00000	74.74919		?
5.686	VV	54.96207	1.00000	54.96207		?
5.782	VV	27.30246	1.00000	27.30246		?
5.851	VV	27.42860	1.00000	27.42860		?
5.925	VV	31.11380	1.00000	31.11380		?
6.002	VV	31.70942	1.00000	31.70942		?
6.077	VV	36.72297	1.00000	36.72297		?
6.172	VV	27.07491	1.00000	27.07491		?
6.231	VV	116.43315	1.00000	116.43315		?
6.346	VV	69.72878	1.00000	69.72878		?
6.525	VV	51.82002	1.00000	51.82002		?
6.613	VV	89.92052	1.00000	89.92052		?
6.843	VV	129.62531	1.00000	129.62531		?
7.009	VV	41.03877	1.00000	41.03877		?
7.131	VV	56.02050	1.00000	56.02050		?
7.209	VV	57.85593	1.00000	57.85593		?
7.419	VV	150.44653	1.87901e-2	2.82691		hexadecane
7.687	VV	66.23603	1.00000	66.23603		?
7.803	VV	28.91852	1.00000	28.91852		?
7.969	VV	150.52098	1.00000	150.52098		?
8.082	VV	44.83272	1.00000	44.83272		?
8.205	VV	83.79300	1.00000	83.79300		?
8.486	VV	89.04731	1.00000	89.04731		?
8.629	VV	52.60867	1.00000	52.60867		?
8.797	VM R	69.66489	1.58832e-2	1.10650		nonadecane
8.941	MM T	402.14569	0.00000	0.00000		OTPX

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\027B0701.D
Sample Name: D-20

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
9.308	PV	50.29499	1.00000	50.29499		?
9.455	VB	35.51188	1.54620e-2	5.49084e-1		eicosane
9.910	BP	18.96179	1.85493e-2	3.51728e-1		heneicosane
10.345	PP	11.04093	1.00000	11.04093		?
10.761	MM T	280.64111	0.00000	0.00000		COD
11.239		-	-	-		tetracosane
11.745	BB	39.46849	1.16961e-2	4.61627e-1		pentacosane
12.711		-	-	-		octacosane
14.217	BV	10.33309	1.00000	10.33309		?
14.590		-	-	-		tetratriacontane
14.790	BB	39.05962	1.85685e-2	7.25278e-1		pentatriacontane
15.149	BB	32.07509	1.85740e-2	5.95762e-1		hexatriacontane
16.789		-	-	-		tetracontane

Totals : 3.10223e7

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Elution order of calibrated compounds may have changed
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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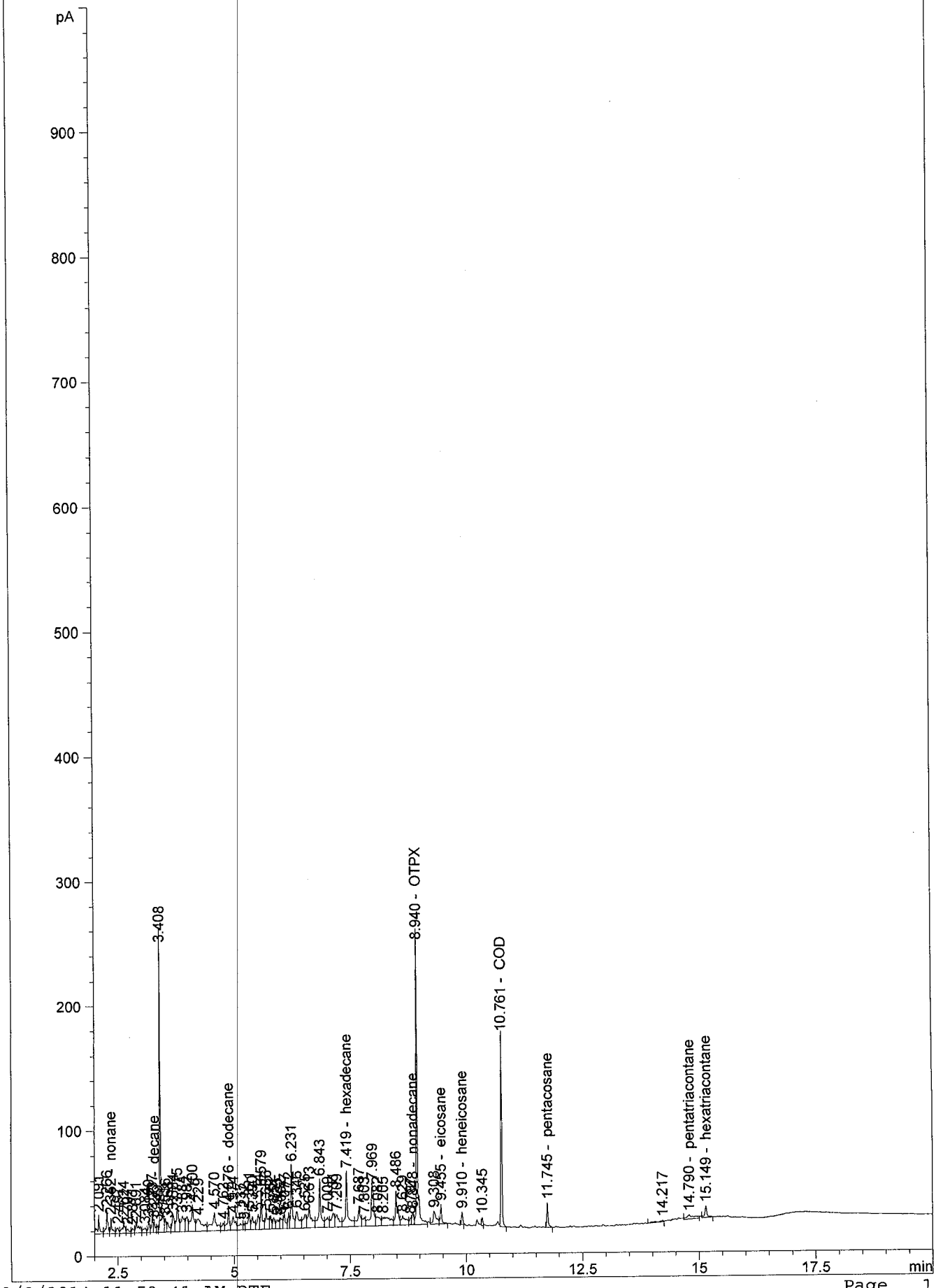
*** End of Report ***

Current Chromatogram(s)

FID2 B, FID2B, Back Signal (XGC3464\032811 2014-10-01 14-07-39\027B0701.D)



Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\028B0801.D
Sample Name: ICV

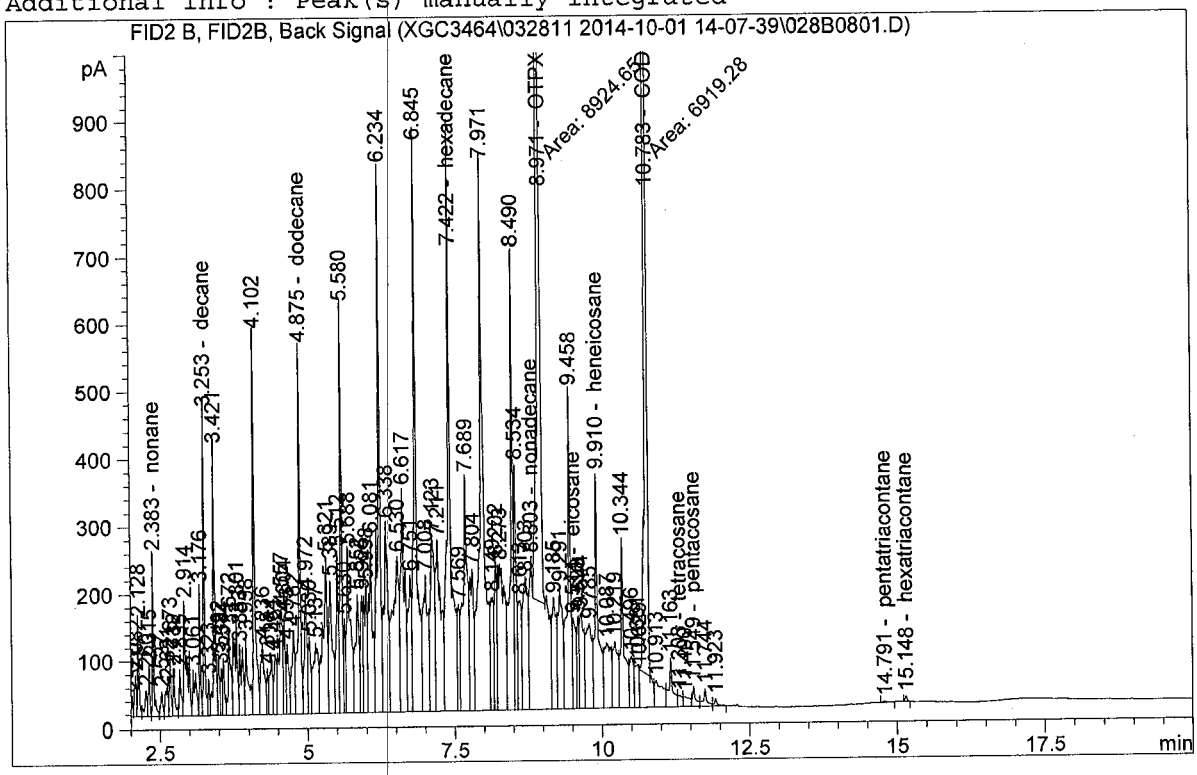
==========

Acq. Operator : VS
Acq. Instrument : GC08
Injection Date : 10/1/2014 5:04:29 PM

Seq. Line : 8
Location : Vial 28
Inj : 1
Inj Volume : 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3464\DRO-K_B.M
Last changed : 10/2/2014 11:41:56 AM by DTF
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



NB
10-2-14

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 10/2/2014 11:08:34 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.187	BV	3.56397e7	1.00000	3.56397e7		?
1.281	VV	3.29350e4	1.00000	3.29350e4		?
1.622	VV	2269.86890	1.00000	2269.86890		?
1.661	VV	1.02368e4	1.00000	1.02368e4		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\028B0801.D
Sample Name: ICV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.921	VV	71.95457	1.00000	71.95457		?
2.017	VV	49.38810	1.00000	49.38810		?
2.082	VV	133.91577	1.00000	133.91577		?
2.128	VV	254.89450	1.00000	254.89450		?
2.260	VV	109.07874	1.00000	109.07874		?
2.315	VV	123.95678	1.00000	123.95678		?
2.383	VV	374.72638	1.73487e-2	6.50101		nonane
2.527	VV	89.75283	1.00000	89.75283		?
2.621	VV	146.63539	1.00000	146.63539		?
2.673	VV	174.65459	1.00000	174.65459		?
2.732	VV	161.99124	1.00000	161.99124		?
2.835	VV	156.37326	1.00000	156.37326		?
2.914	VV	643.99213	1.00000	643.99213		?
3.061	VV	270.16891	1.00000	270.16891		?
3.176	VV	279.29501	1.00000	279.29501		?
3.253	VV	706.17853	1.90669e-2	13.46461		decane
3.323	VV	94.82195	1.00000	94.82195		?
3.421	VV	876.36676	1.00000	876.36676		?
3.492	VV	170.03592	1.00000	170.03592		?
3.538	VV	131.36201	1.00000	131.36201		?
3.574	VV	168.78426	1.00000	168.78426		?
3.672	VV	391.69955	1.00000	391.69955		?
3.801	VV	576.81091	1.00000	576.81091		?
3.853	VV	409.75439	1.00000	409.75439		?
3.958	VV	446.93903	1.00000	446.93903		?
4.102	VV	1241.51099	1.00000	1241.51099		?
4.236	VV	460.85852	1.00000	460.85852		?
4.318	VV	135.57933	1.00000	135.57933		?
4.384	VV	298.28903	1.00000	298.28903		?
4.451	VV	267.65155	1.00000	267.65155		?
4.557	VV	743.01617	1.00000	743.01617		?
4.604	VV	296.40143	1.00000	296.40143		?
4.653	VV	306.25607	1.00000	306.25607		?
4.762	VV	438.64932	1.00000	438.64932		?
4.875	VV	1341.36841	1.94670e-2	26.11245		dodecane
4.972	VV	605.61639	1.00000	605.61639		?
5.030	VV	313.15265	1.00000	313.15265		?
5.137	VV	653.93353	1.00000	653.93353		?
5.321	VV	1197.64001	1.00000	1197.64001		?
5.389	VV	814.25488	1.00000	814.25488		?
5.512	VV	695.48694	1.00000	695.48694		?
5.580	VV	1243.77905	1.00000	1243.77905		?
5.630	VV	280.44464	1.00000	280.44464		?
5.688	VV	1131.96606	1.00000	1131.96606		?
5.852	VV	765.96112	1.00000	765.96112		?
5.925	VV	490.41586	1.00000	490.41586		?
5.998	VV	718.43536	1.00000	718.43536		?
6.081	VV	1146.10779	1.00000	1146.10779		?
6.234	VV	2392.30591	1.00000	2392.30591		?
6.338	VV	1375.59570	1.00000	1375.59570		?
6.530	VV	1776.01074	1.00000	1776.01074		?
6.617	VV	1553.46216	1.00000	1553.46216		?
6.751	VV	830.00354	1.00000	830.00354		?
6.845	VV	2861.91699	1.00000	2861.91699		?
7.008	VV	1199.59448	1.00000	1199.59448		?
7.123	VV	1295.77942	1.00000	1295.77942		?

Data File C:\CHEM32\1\DATA\XGC3464\032811 2014-10-01 14-07-39\028B0801.D
Sample Name: ICV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
7.211	VV	1645.45850	1.00000	1645.45850		?
7.422	VV	3568.38745	1.87901e-2	67.05047		hexadecane
7.569	VV	434.26190	1.00000	434.26190		?
7.689	VV	1958.38562	1.00000	1958.38562		?
7.804	VV	938.15784	1.00000	938.15784		?
7.971	VV	4197.97266	1.00000	4197.97266		?
8.149	VV	647.98730	1.00000	647.98730		?
8.202	VV	622.13214	1.00000	622.13214		?
8.273	VV	1833.12878	1.00000	1833.12878		?
8.490	VV	2154.26636	1.00000	2154.26636		?
8.534	VV	861.66620	1.00000	861.66620		?
8.613	VV	671.33643	1.00000	671.33643		?
8.703	VV	1202.98071	1.00000	1202.98071		?
8.803	VM R	3792.02173	1.58832e-2	60.22948		nonadecane
8.971	MM T	8924.64746	0.00000	0.00000		OTPX
9.185	VV	853.08990	1.00000	853.08990		?
9.291	VV	1031.40173	1.00000	1031.40173		?
9.458	VV	1703.15063	1.00000	1703.15063		?
9.514	VV	546.75201	1.54620e-2	8.45387		eicosane
9.598	VV	343.40912	1.00000	343.40912		?
9.644	VV	709.30609	1.00000	709.30609		?
9.785	VV	955.83759	1.00000	955.83759		?
9.910	VV	1381.62463	1.85493e-2	25.62818		heneicosane
10.087	VV	793.47144	1.00000	793.47144		?
10.219	VV	617.73871	1.00000	617.73871		?
10.344	VV	1016.27545	1.00000	1016.27545		?
10.496	VV	372.03836	1.00000	372.03836		?
10.601	VV	306.33514	1.00000	306.33514		?
10.629	VV R	735.85303	1.00000	735.85303		?
10.783	MM T	6919.28076	0.00000	0.00000		COD
10.913	VB	376.93356	1.00000	376.93356		?
11.163	BV	336.36365	1.00000	336.36365		?
11.303	VV	88.08267	1.18753e-2	1.04601		tetracosane
11.400	VV	111.79671	1.00000	111.79671		?
11.549	VV	109.79679	1.16961e-2	1.28419		pentacosane
11.744	VV	109.66834	1.00000	109.66834		?
11.923	VB	37.37251	1.00000	37.37251		?
12.711		-	-	-		octacosane
14.590		-	-	-		tetratriacontane
14.791	BB	11.91561	1.85685e-2	2.21255e-1		pentatriacontane
15.148	BB	19.88428	1.85740e-2	3.69330e-1		hexatriacontane
16.789		-	-	-		tetracontane

Totals : 3.57464e7

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Elution order of calibrated compounds may have changed
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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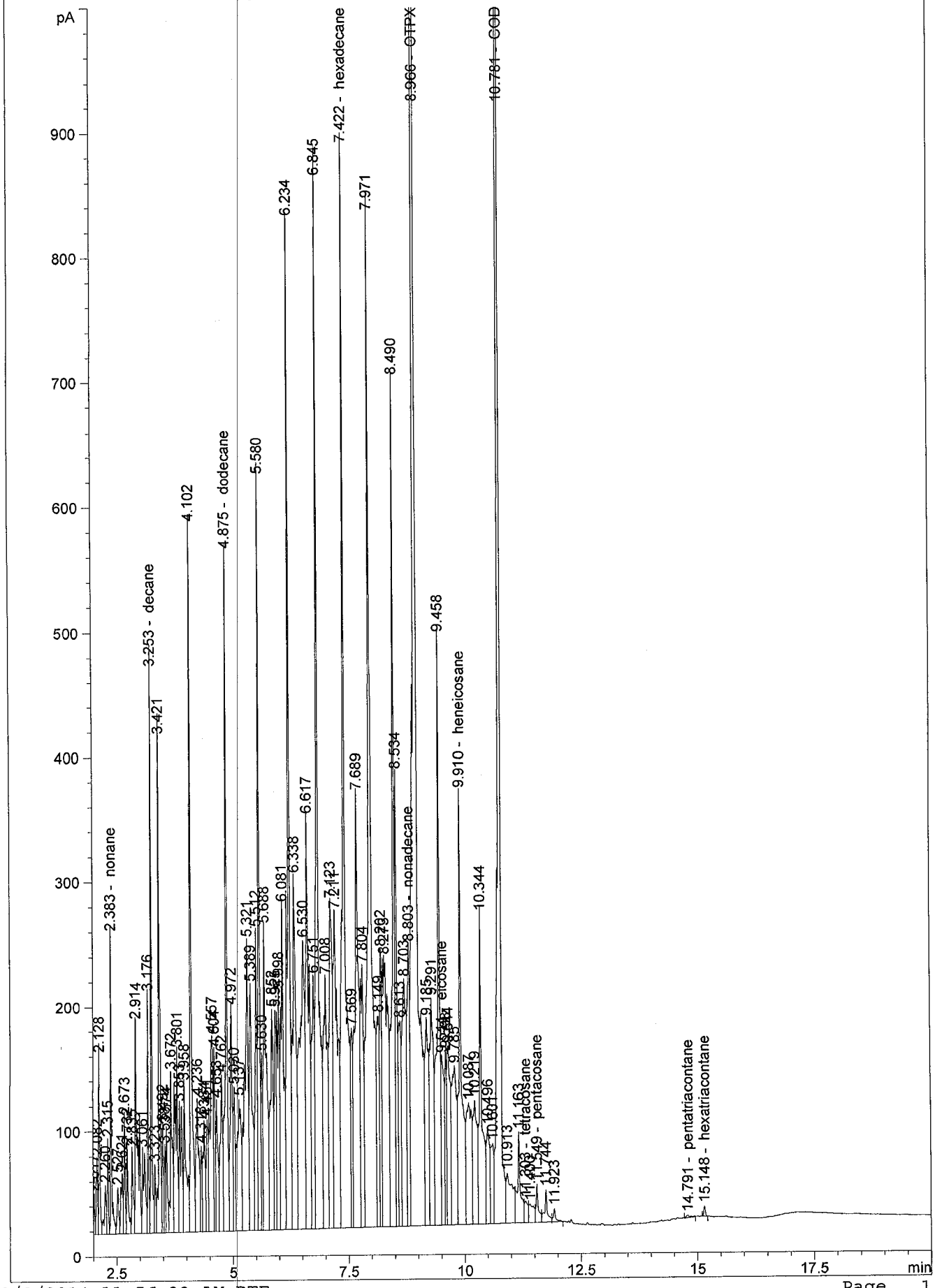
*** End of Report ***

Current Chromatogram(s)

FID2 B, FID2B, Back Signal (XGC3464\032811 2014-10-01 14-07-39\028B0801.D)



SW-846 8015C DRO
Continuing Calibration Data

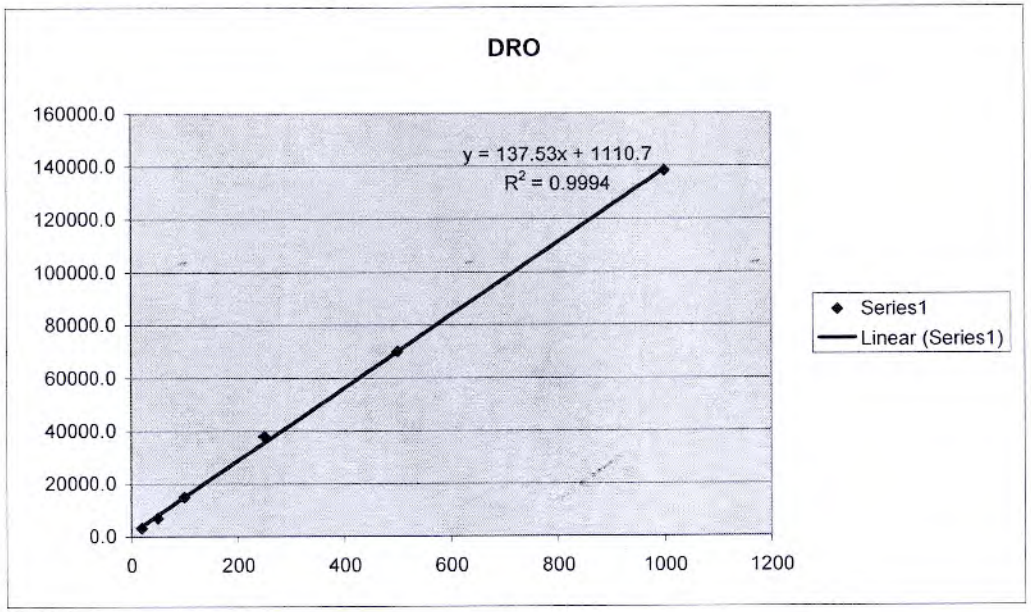
Print Date: 02/06/2015

N.C. Certification # 481

DRO curve 10/01/14 XGC3464 on Back column GC8
Method: 8015C

ug/ml	area	RF
20	3087.8	154.39
50	6851.3	137.03
100	14810.2	148.10
250	37963.8	151.86
500	69945.6	139.89
1000	138071.7	138.07

m	137.5346	
b	1110.653	
r	0.999381	≥0.995



	area	on column conc
CCV XGC3664\045B1302.D	72921.9	522.13

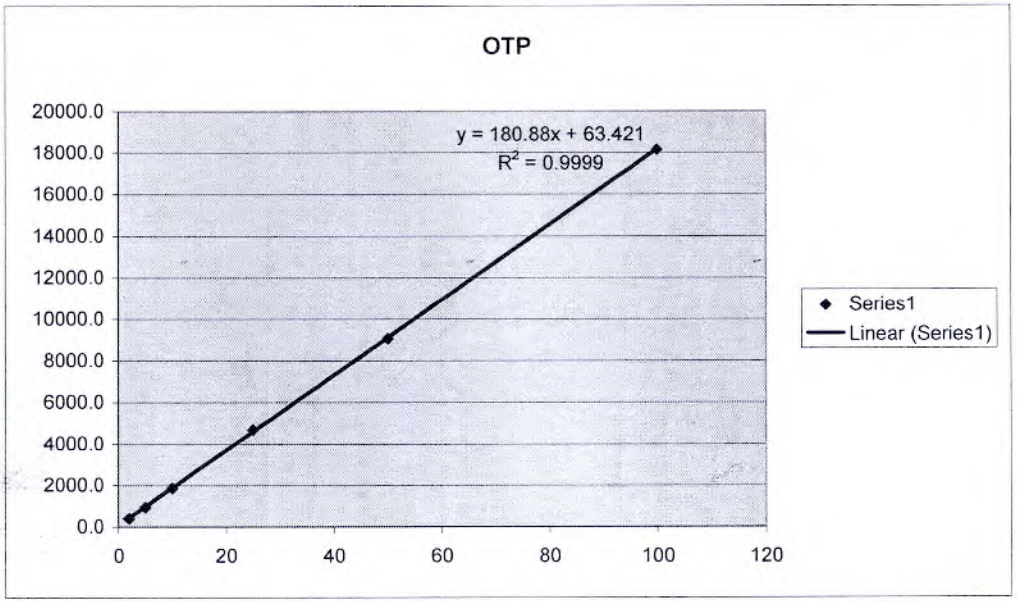
ICV limits:	30%	350 - 650
CCV limits:	15%	425 - 575

ARF	144.8888525
% RSD	5.186692588

OTP curve 10/01/14 XGC3464 on Back column GC8
Method: 8015C

ug/ml	area	RF
2	402.1	201.07
5	937.5	187.51
10	1865.3	186.53
25	4690.0	187.60
50	9065.9	181.32
100	18149.0	181.49

m	180.8824	
b	63.42088	
r	0.999939	≥0.995



	Area	On Column Conc.
CCV XGC3664\045B1302.D	9635.9	52.92

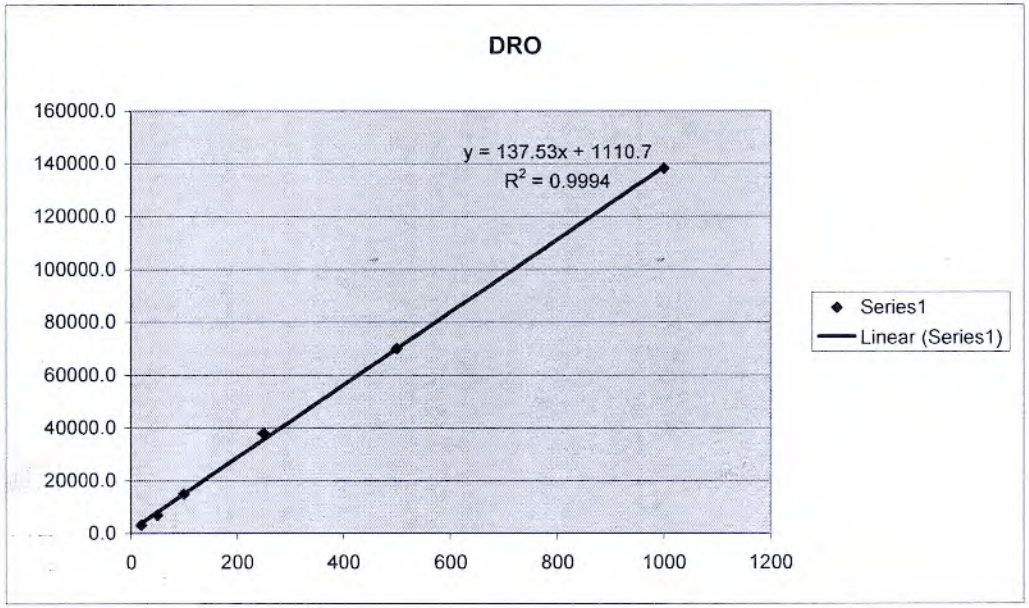
ICV limits: 30% 35 - 65

ARF	187.586716
% RSD	3.840125086

DRO curve 10/01/14 XGC3464 on Back column GC8
Method: 8015C

ug/ml	area	RF
20	3087.8	154.39
50	6851.3	137.03
100	14810.2	148.10
250	37963.8	151.86
500	69945.6	139.89
1000	138071.7	138.07

m	137.5346	
b	1110.653	
r	0.999381	≥0.995



	area	on column conc
CCV XGC3664\065B3301.D	68260.6	488.24

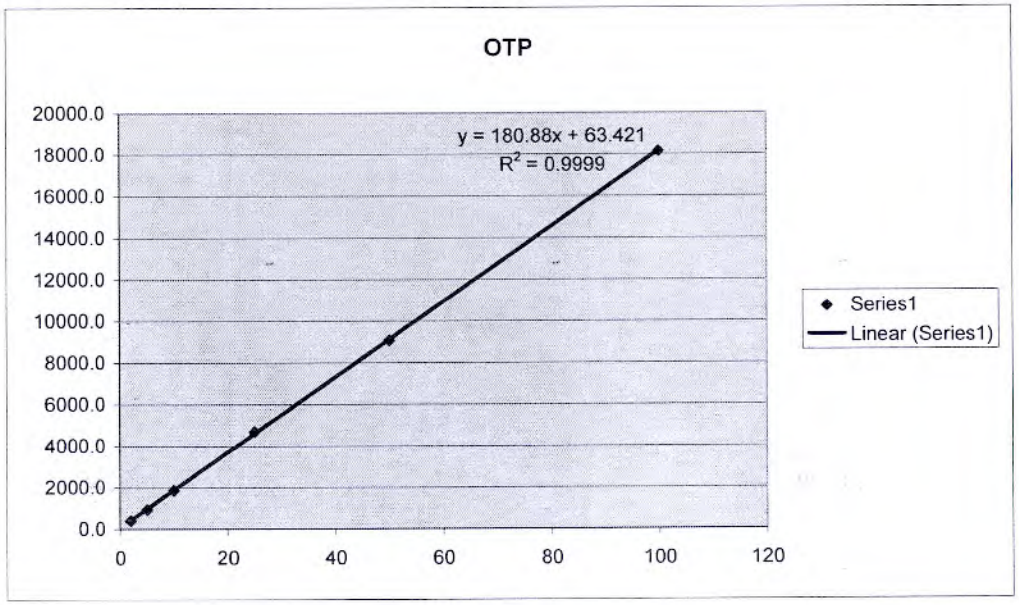
ICV limits:	30%	350 - 650
CCV limits:	15%	425 - 575

ARF	144.8888525
% RSD	5.186692588

OTP curve 10/01/14 XGC3464 on Back column GC8
Method: 8015C

ug/ml	area	RF
2	402.1	201.07
5	937.5	187.51
10	1865.3	186.53
25	4690.0	187.60
50	9065.9	181.32
100	18149.0	181.49

m	180.8824	
b	63.42088	
r	0.999939	≥0.995



	Area	On Column Conc.
CCV XGC3664\065B3301.D	8975.6	49.27

ICV limits: 30% 35 - 65

ARF	187.586716
% RSD	3.840125086

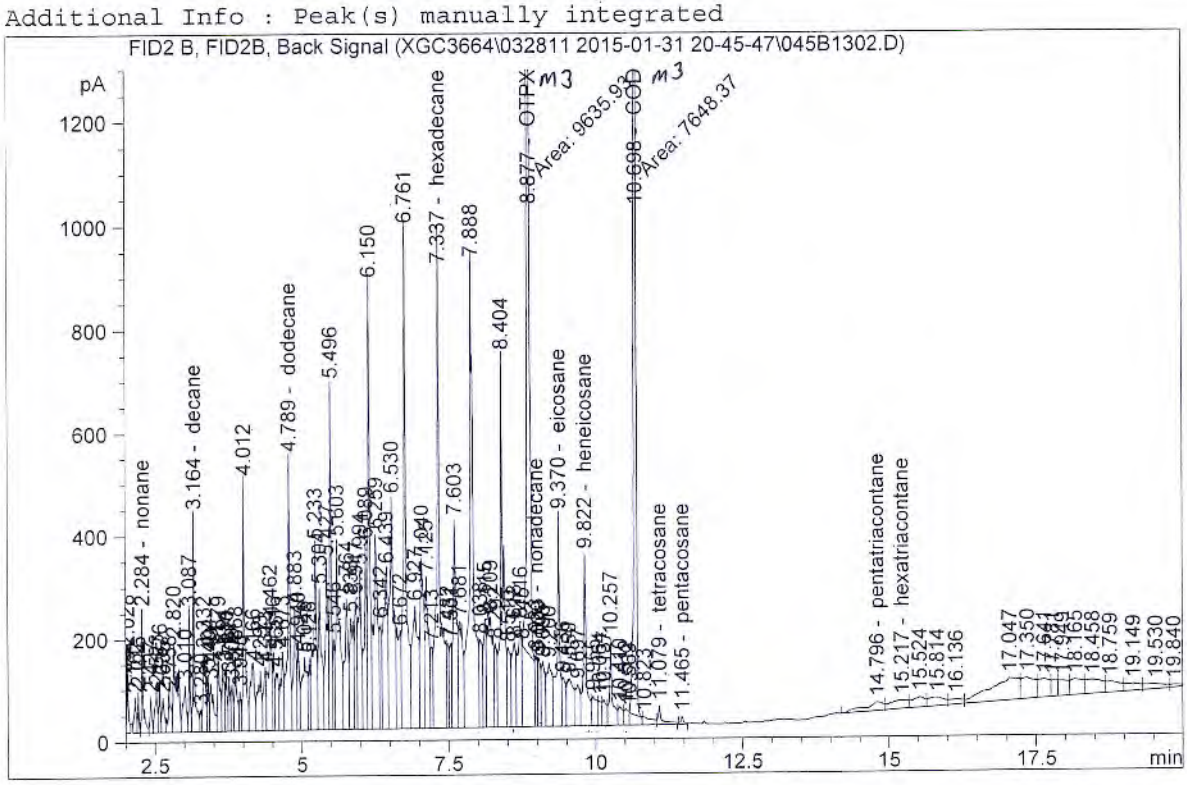
Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\045B1302.D
Sample Name: CCV

==========

Acq. Operator	: VS	Seq. Line	: 13
Acq. Instrument	: GC08	Location	: Vial 45
Injection Date	: 2/1/2015 2:09:12 AM	Inj	: 2
		Inj Volume	: 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/1/2015 3:37:10 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-1-15

Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.148	BV	3.40272e7	1.00000	3.40272e7		?
1.231	VV	4.12288e4	1.00000	4.12288e4		?
1.588	VV	1.74341e4	1.00000	1.74341e4		?
1.878	VV	71.72334	1.00000	71.72334		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\045B1302.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.919	VV	51.58276	1.00000	51.58276		?
1.982	VV	147.85495	1.00000	147.85495		?
2.028	VV	301.90604	1.00000	301.90604		?
2.162	VV	159.91684	1.00000	159.91684		?
2.216	VV	105.87487	1.00000	105.87487		?
2.284	VV	431.09784	1.73487e-2	7.47898		nonane
2.427	VV	146.25644	1.00000	146.25644		?
2.523	VV	236.71924	1.00000	236.71924		?
2.576	VV	184.90276	1.00000	184.90276		?
2.635	VV	186.05518	1.00000	186.05518		?
2.738	VV	264.07458	1.00000	264.07458		?
2.820	VV	821.09027	1.00000	821.09027		?
3.010	VV	353.71460	1.00000	353.71460		?
3.087	VV	369.85001	1.00000	369.85001		?
3.164	VV	821.48376	1.90669e-2	15.66312		decane
3.280	VV	81.14206	1.00000	81.14206		?
3.332	VV	493.72025	1.00000	493.72025		?
3.404	VV	208.80649	1.00000	208.80649		?
3.449	VV	411.30420	1.00000	411.30420		?
3.579	VV	437.59039	1.00000	437.59039		?
3.654	VV	334.92468	1.00000	334.92468		?
3.710	VV	241.12633	1.00000	241.12633		?
3.761	VV	218.71318	1.00000	218.71318		?
3.809	VV	229.91782	1.00000	229.91782		?
3.868	VV	407.94733	1.00000	407.94733		?
3.945	VV	180.16425	1.00000	180.16425		?
4.012	VV	1169.08972	1.00000	1169.08972		?
4.166	VV	653.21179	1.00000	653.21179		?
4.293	VV	547.32751	1.00000	547.32751		?
4.373	VV	384.29367	1.00000	384.29367		?
4.462	VV	898.79773	1.00000	898.79773		?
4.516	VV	312.57150	1.00000	312.57150		?
4.565	VV	425.07776	1.00000	425.07776		?
4.673	VV	556.64423	1.00000	556.64423		?
4.789	VV	1489.22559	1.94670e-2	28.99079		dodecane
4.883	VV	816.71393	1.00000	816.71393		?
4.940	VV	403.46234	1.00000	403.46234		?
5.049	VV	843.10858	1.00000	843.10858		?
5.126	VV	308.98328	1.00000	308.98328		?
5.233	VV	1433.25073	1.00000	1433.25073		?
5.304	VV	1079.38342	1.00000	1079.38342		?
5.427	VV	1084.14636	1.00000	1084.14636		?
5.496	VV	1396.87622	1.00000	1396.87622		?
5.546	VV	353.88730	1.00000	353.88730		?
5.603	VV	1679.31140	1.00000	1679.31140		?
5.764	VV	1026.07190	1.00000	1026.07190		?
5.838	VV	997.17645	1.00000	997.17645		?
5.917	VV	693.92859	1.00000	693.92859		?
5.994	VV	1141.86157	1.00000	1141.86157		?
6.089	VV	1099.31958	1.00000	1099.31958		?
6.150	VV	2009.74231	1.00000	2009.74231		?
6.259	VV	1888.04272	1.00000	1888.04272		?
6.342	VV	549.39520	1.00000	549.39520		?
6.439	VV	1582.10339	1.00000	1582.10339		?
6.530	VV	2116.72827	1.00000	2116.72827		?
6.672	VV	952.34479	1.00000	952.34479		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\045B1302.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
6.761	VV	3169.15234	1.00000	3169.15234		?
6.927	VV	1627.30371	1.00000	1627.30371		?
7.040	VV	1415.03113	1.00000	1415.03113		?
7.125	VV	1333.04187	1.00000	1333.04187		?
7.213	VV	434.06766	1.00000	434.06766		?
7.337	VV	3842.67407	1.87901e-2	72.20436		hexadecane
7.482	VV	380.07513	1.00000	380.07513		?
7.531	VV	451.62759	1.00000	451.62759		?
7.603	VV	1624.81921	1.00000	1624.81921		?
7.681	VV	1030.46704	1.00000	1030.46704		?
7.888	VV	4754.75244	1.00000	4754.75244		?
8.038	VV	639.13074	1.00000	639.13074		?
8.115	VV	626.70160	1.00000	626.70160		?
8.209	VV	1512.54321	1.00000	1512.54321		?
8.292	VV	504.24265	1.00000	504.24265		?
8.404	VV	2721.67407	1.00000	2721.67407		?
8.510	VV	614.69147	1.00000	614.69147		?
8.613	VV	767.03937	1.00000	767.03937		?
8.716	VV	976.89838	1.00000	976.89838		?
8.745	VV	1881.41418	1.00000	1881.41418	R	?
8.877	MM	9635.93262	0.00000	0.00000	T	OTPX
8.983	VV	378.36362	1.58832e-2	6.00963		nonadecane
9.029	VV	400.98343	1.00000	400.98343		?
9.095	VV	525.50269	1.00000	525.50269		?
9.200	VV	776.35248	1.00000	776.35248		?
9.370	VV	1372.30640	1.54620e-2	21.21857		eicosane
9.436	VV	393.88681	1.00000	393.88681		?
9.550	VV	714.49896	1.00000	714.49896		?
9.697	VV	447.94736	1.00000	447.94736		?
9.822	VV	1244.31433	1.85493e-2	23.08117		heneicosane
9.955	VV	366.55008	1.00000	366.55008		?
10.064	VV	183.35884	1.00000	183.35884		?
10.137	VV	245.71977	1.00000	245.71977		?
10.257	VV	591.38733	1.00000	591.38733		?
10.410	VV	195.56723	1.00000	195.56723		?
10.512	VV	160.29468	1.00000	160.29468		?
10.569	VV	261.94016	1.00000	261.94016	R	?
10.698	MM	7648.36768	0.00000	0.00000	T	COD
10.823	VV	163.85333	1.00000	163.85333		?
11.079	VB	180.71954	1.18753e-2	2.14610		tetracosane
11.465	BV	52.10006	1.16961e-2	6.09367e-1		pentacosane
12.549		-	-	-		octacosane
14.420		-	-	-		tetratriacontane
14.796	BV	380.78079	1.85685e-2	7.07052		pentatriacontane
15.217	VV	350.26254	1.85740e-2	6.50577		hexatriacontane
15.524	VV	299.03143	1.00000	299.03143		?
15.814	VV	313.23157	1.00000	313.23157		?
16.136	VV	154.46396	1.00000	154.46396		?
16.602		-	-	-		tetracontane
17.047	VV	1515.07617	1.00000	1515.07617		?
17.350	VV	671.76904	1.00000	671.76904		?
17.641	VV	480.27740	1.00000	480.27740		?
17.781	VB	201.36841	1.00000	201.36841		?
17.949	PV	332.33621	1.00000	332.33621		?
18.165	VV	452.49994	1.00000	452.49994		?
18.458	VV	530.09869	1.00000	530.09869		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\045B1302.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
18.759	VV	347.99020	1.00000	347.99020		?
19.149	VV	244.87508	1.00000	244.87508		?
19.530	VV	238.17076	1.00000	238.17076		?
19.840	VB	80.44329	1.00000	80.44329		?

Totals : 3.41589e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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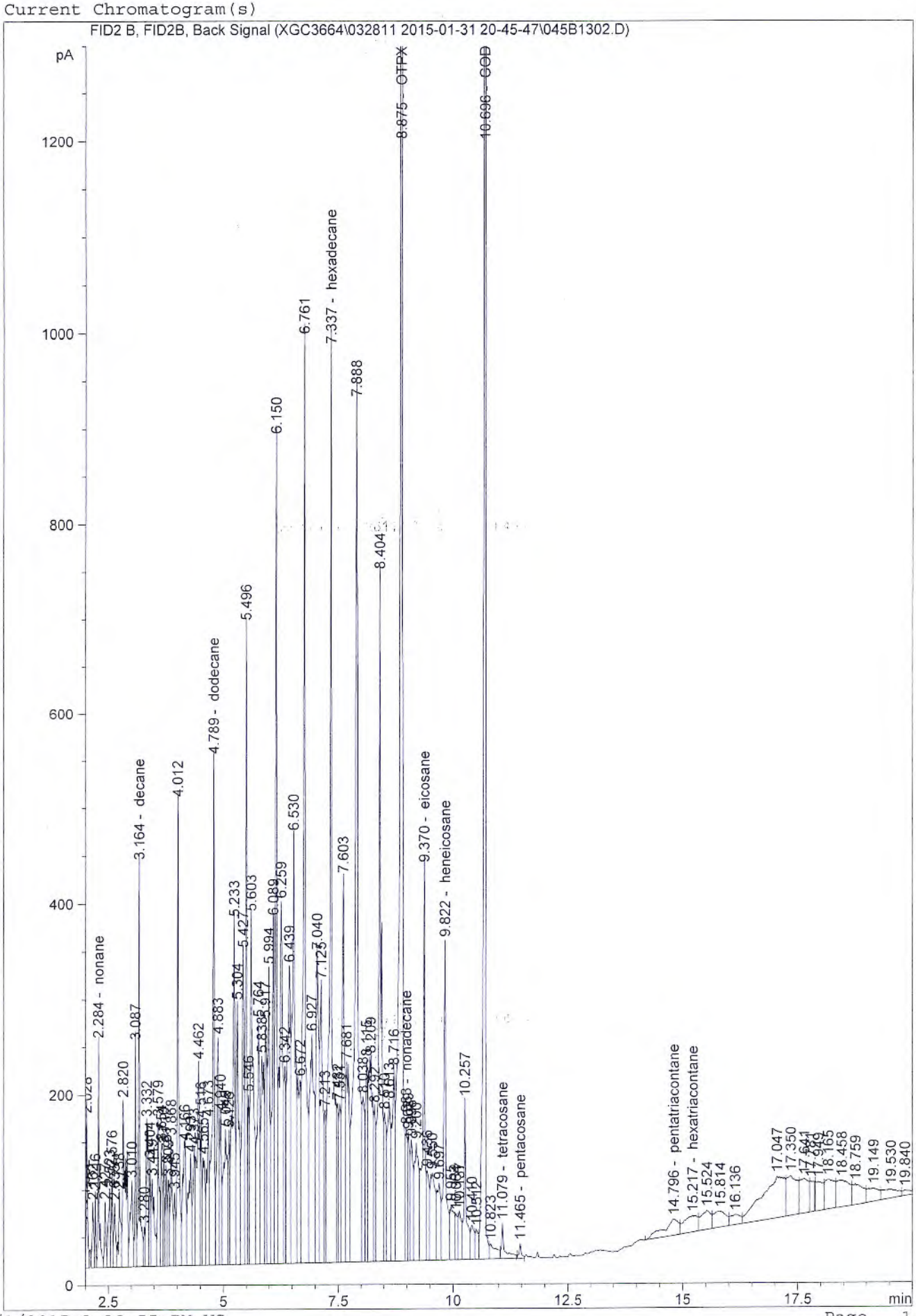
*** End of Report ***

Current Chromatogram(s)



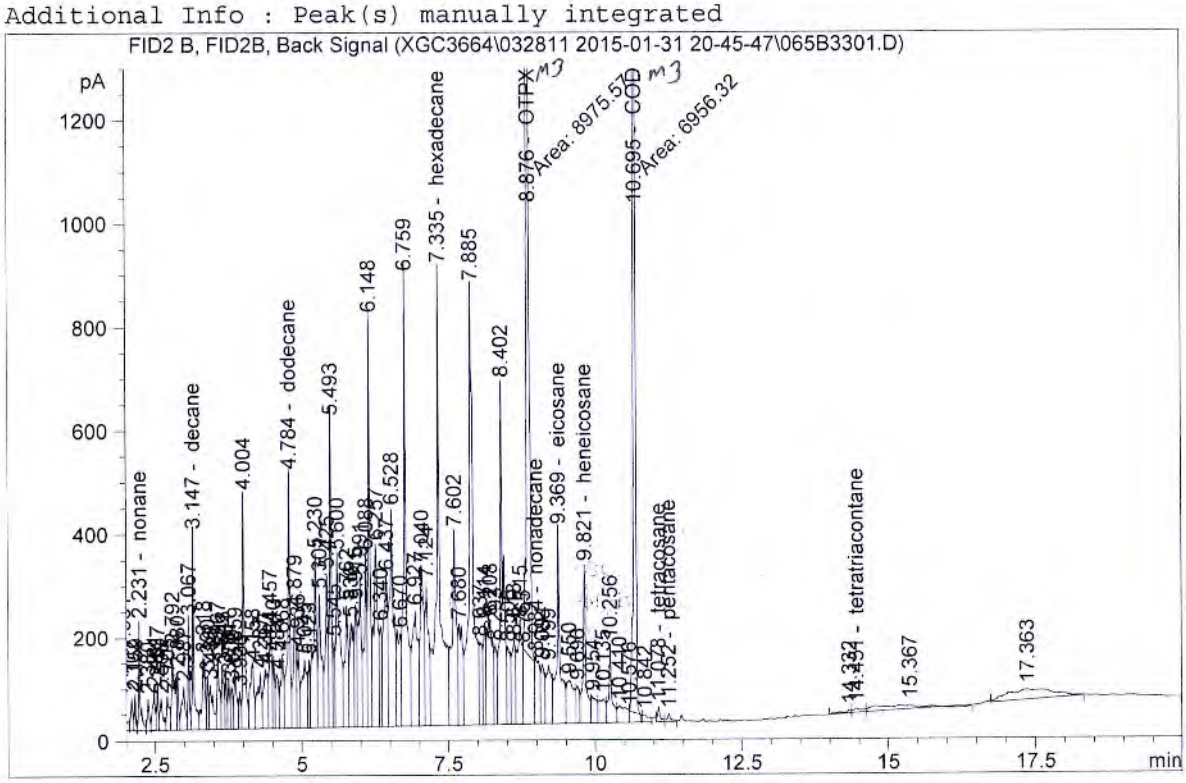
Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\065B3301.D
Sample Name: CCV

==========

Acq. Operator : VS
Seq. Line : 33
Acq. Instrument : GC08
Location : Vial 65
Injection Date : 2/1/2015 10:25:31 AM
Inj : 1
Inj Volume : 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3664\DRO-K_B.M
Last changed : 2/1/2015 4:00:05 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-1-15

Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.074	BV	3.06300e7	1.00000	3.06300e7		?
1.162	VV	7.61675e4	1.00000	7.61675e4		?
1.913	VV	145.62769	1.00000	145.62769		?
1.961	VV	327.94766	1.00000	327.94766		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\065B3301.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.102	VV	149.64291	1.00000	149.64291		?
2.159	VV	109.19509	1.00000	109.19509		?
2.231	VV	405.52307	1.73487e-2	7.03530		nonane
2.380	VV	139.81264	1.00000	139.81264		?
2.481	VV	220.89301	1.00000	220.89301		?
2.537	VV	172.90665	1.00000	172.90665		?
2.598	VV	213.21953	1.00000	213.21953		?
2.705	VV	215.30272	1.00000	215.30272		?
2.792	VV	558.98645	1.00000	558.98645		?
2.880	VV	207.62160	1.00000	207.62160		?
2.987	VV	336.53354	1.00000	336.53354		?
3.067	VV	343.83914	1.00000	343.83914		?
3.147	VV	776.93542	1.90669e-2	14.81372		decane
3.318	VV	538.61481	1.00000	538.61481		?
3.390	VV	195.54980	1.00000	195.54980		?
3.436	VV	384.53329	1.00000	384.53329		?
3.567	VV	410.37891	1.00000	410.37891		?
3.643	VV	314.69931	1.00000	314.69931		?
3.701	VV	223.60764	1.00000	223.60764		?
3.751	VV	204.67509	1.00000	204.67509		?
3.800	VV	212.48463	1.00000	212.48463		?
3.859	VV	378.02060	1.00000	378.02060		?
3.936	VV	172.91629	1.00000	172.91629		?
4.004	VV	1092.09082	1.00000	1092.09082		?
4.158	VV	609.50238	1.00000	609.50238		?
4.287	VV	510.71460	1.00000	510.71460		?
4.367	VV	572.86932	1.00000	572.86932		?
4.457	VV	621.64136	1.00000	621.64136		?
4.510	VV	292.63754	1.00000	292.63754		?
4.581	VV	399.30545	1.00000	399.30545		?
4.668	VV	519.96057	1.00000	519.96057		?
4.784	VV	1393.85071	1.94670e-2	27.13413		dodecane
4.879	VV	763.79663	1.00000	763.79663		?
4.936	VV	379.58685	1.00000	379.58685		?
5.045	VV	785.93164	1.00000	785.93164		?
5.123	VV	287.66528	1.00000	287.66528		?
5.230	VV	1341.04517	1.00000	1341.04517		?
5.301	VV	1011.29083	1.00000	1011.29083		?
5.425	VV	1014.91693	1.00000	1014.91693		?
5.493	VV	1308.05798	1.00000	1308.05798		?
5.545	VV	331.93948	1.00000	331.93948		?
5.600	VV	1563.92932	1.00000	1563.92932		?
5.762	VV	966.79608	1.00000	966.79608		?
5.836	VV	944.96460	1.00000	944.96460		?
5.915	VV	647.68414	1.00000	647.68414		?
5.991	VV	1054.78979	1.00000	1054.78979		?
6.088	VV	1062.97095	1.00000	1062.97095		?
6.148	VV	1875.74194	1.00000	1875.74194		?
6.257	VV	1771.69995	1.00000	1771.69995		?
6.340	VV	522.01984	1.00000	522.01984		?
6.437	VV	1443.20056	1.00000	1443.20056		?
6.528	VV	2028.55762	1.00000	2028.55762		?
6.670	VV	890.88599	1.00000	890.88599		?
6.759	VV	2990.75415	1.00000	2990.75415		?
6.927	VV	1522.66235	1.00000	1522.66235		?
7.040	VV	1351.29529	1.00000	1351.29529		?

Data File C:\CHEM32\1\DATA\XGC3664\032811 2015-01-31 20-45-47\065B3301.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
7.124	VV	1221.18066	1.00000	1221.18066		?
7.335	VV	4382.15820	1.87901e-2	82.34133		hexadecane
7.602	VV	1952.13440	1.00000	1952.13440		?
7.680	VV	974.10266	1.00000	974.10266		?
7.885	VV	4487.84570	1.00000	4487.84570		?
8.037	VV	582.54364	1.00000	582.54364		?
8.114	VV	594.47559	1.00000	594.47559		?
8.208	VV	1421.96008	1.00000	1421.96008		?
8.293	VV	474.92810	1.00000	474.92810		?
8.402	VV	2549.58081	1.00000	2549.58081		?
8.508	VV	586.33026	1.00000	586.33026		?
8.613	VV	743.48846	1.00000	743.48846		?
8.715	VV	1158.20898	1.00000	1158.20898		?
8.765	VV	1585.74915	1.00000	1585.74915	R	?
8.876	MM	8975.57129	0.00000	0.00000	T	OTPX
8.984	VV	695.57898	1.58832e-2	11.04803		nonadecane
9.094	VV	495.35431	1.00000	495.35431		?
9.199	VV	717.06799	1.00000	717.06799		?
9.369	VV	1634.05127	1.54620e-2	25.26567		eicosane
9.550	VV	772.92511	1.00000	772.92511		?
9.696	VV	279.46783	1.00000	279.46783		?
9.821	VV	1125.78174	1.85493e-2	20.88247		heneicosane
9.954	VV	329.91714	1.00000	329.91714		?
10.135	VV	363.04926	1.00000	363.04926		?
10.256	VV	598.37274	1.00000	598.37274		?
10.410	VV	346.13364	1.00000	346.13364		?
10.576	VV	238.03931	1.00000	238.03931	R	?
10.695	MM	6956.31738	0.00000	0.00000	T	COD
10.842	VB	106.31708	1.00000	106.31708		?
11.078	VV	91.38054	1.18753e-2	1.08517		tetracosane
11.252	VV	65.25797	1.16961e-2	7.63263e-1		pentacosane
12.549		-	-	-		octacosane
14.332	BV	53.93904	1.00000	53.93904		?
14.451	VB	84.78769	1.44738e-2	1.22720		tetratriacontane
14.700		-	-	-		pentatriacontane
14.982		-	-	-		hexatriacontane
15.367	BB	392.58231	1.00000	392.58231		?
16.602		-	-	-		tetracontane
17.363	BB	1052.49097	1.00000	1052.49097		?
Totals :				3.07691e7		

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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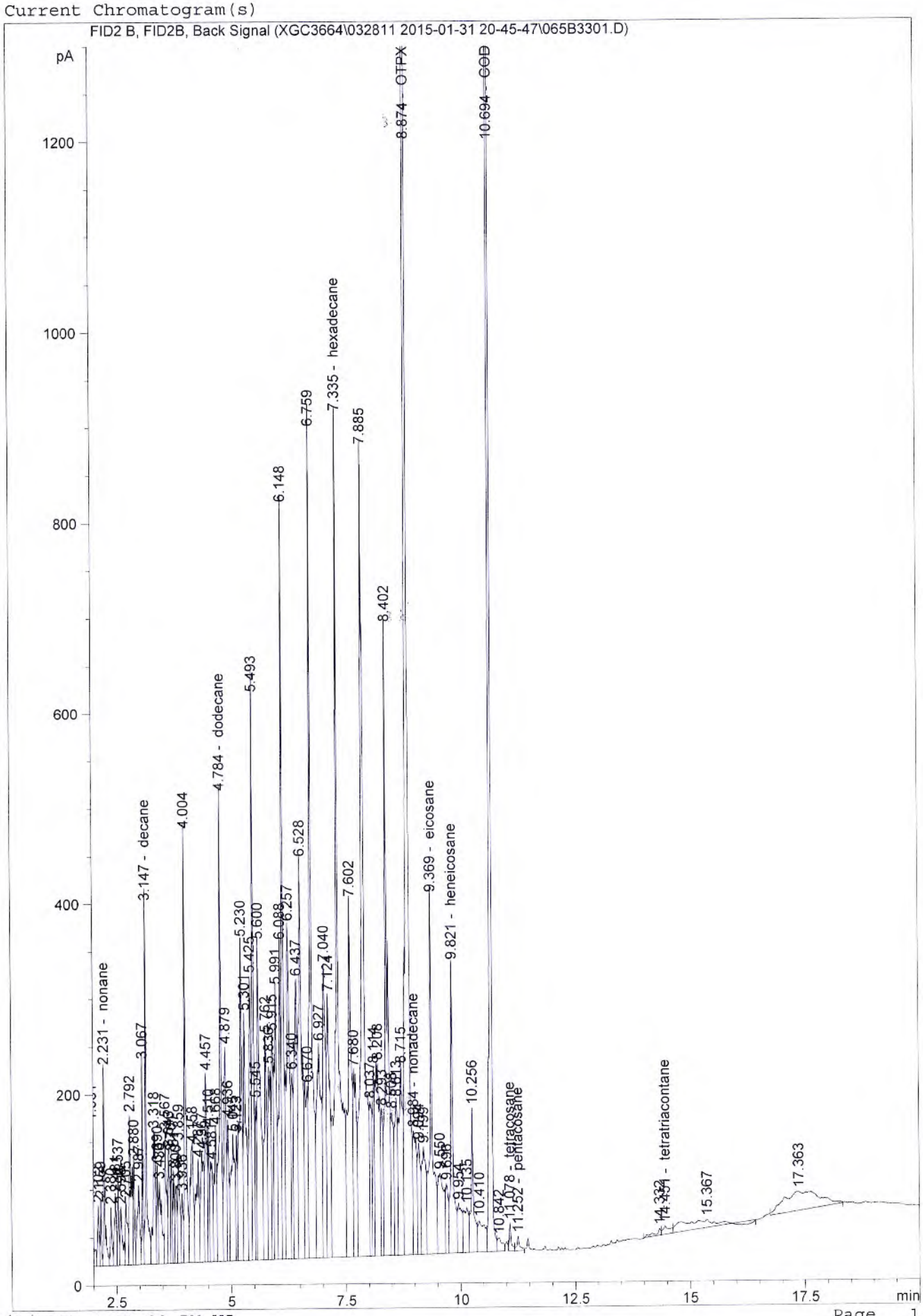
*** End of Report ***

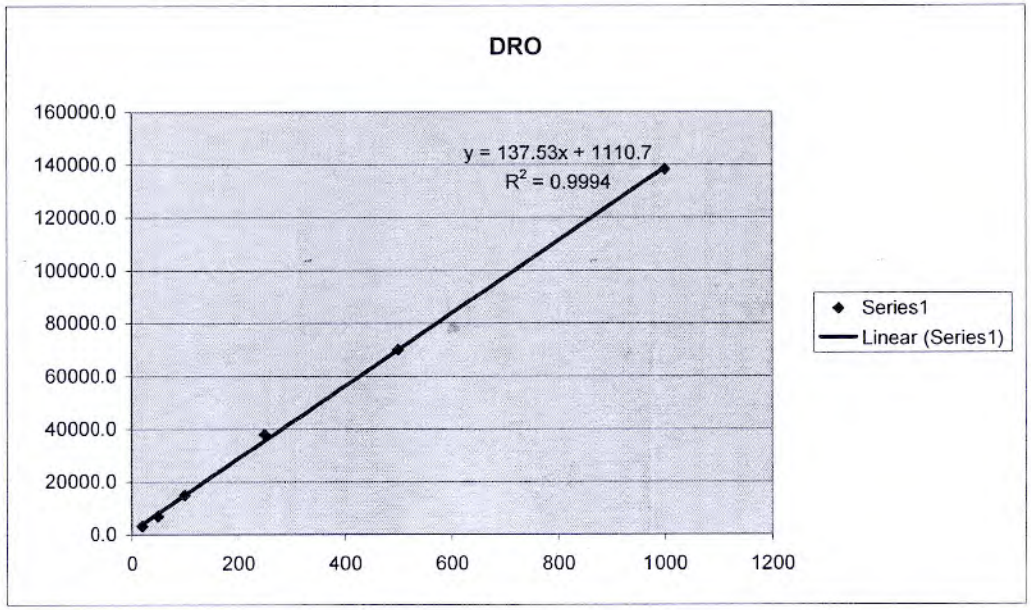
Current Chromatogram(s)



DRO curve 10/01/14 XGC3464 on Back column GC8
Method: 8015C

ug/ml	area	RF
20	3087.8	154.39
50	6851.3	137.03
100	14810.2	148.10
250	37963.8	151.86
500	69945.6	139.89
1000	138071.7	138.07

m	137.5346	
b	1110.653	
r	0.999381	≥0.995



	area	on column conc
CCV XGC3665\082B0201.D	68460.6	489.69

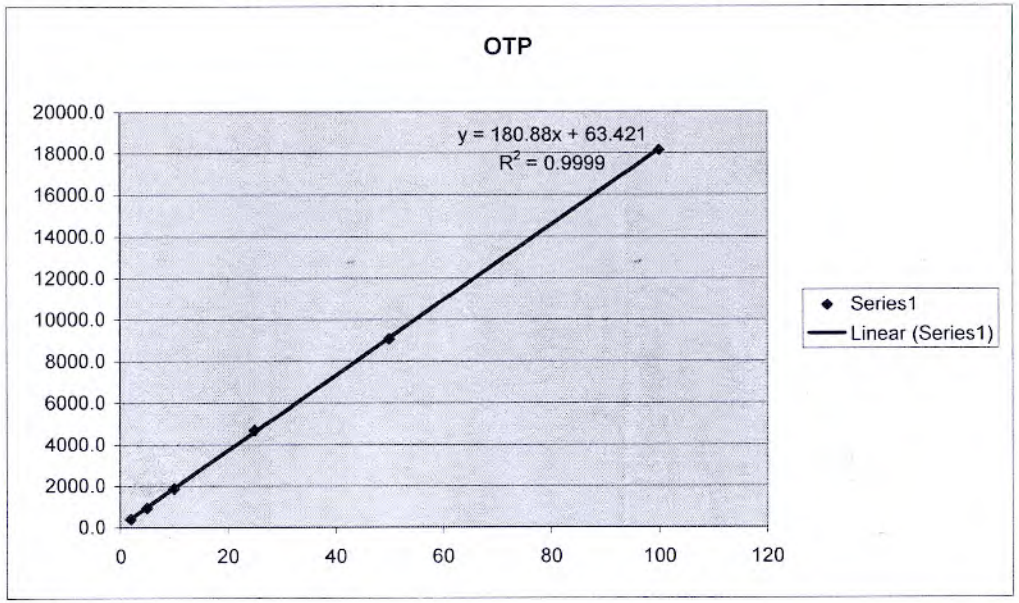
ICV limits:	30%	350 - 650
CCV limits:	15%	425 - 575

ARF	144.8888525
% RSD	5.186692588

OTP curve 10/01/14 XGC3464 on Back column GC8
Method: 8015C

ug/ml	area	RF
2	402.1	201.07
5	937.5	187.51
10	1865.3	186.53
25	4690.0	187.60
50	9065.9	181.32
100	18149.0	181.49

m	180.8824	
b	63.42088	
r	0.999939	≥0.995



	Area	On Column Conc.
CCV XGC3665\082B0201.D	9032.2	49.58

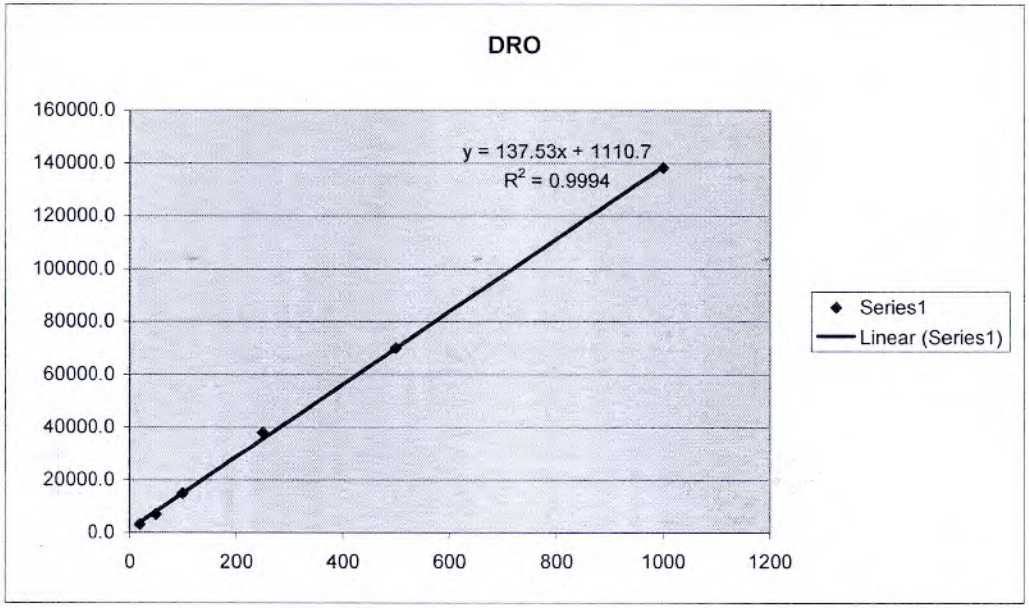
ICV limits: 30% 35 - 65

ARF	187.586716
% RSD	3.840125086

DRO curve 10/01/14 XGC3464 on Back column GC8
Method: 8015C

ug/ml	area	RF
20	3087.8	154.39
50	6851.3	137.03
100	14810.2	148.10
250	37963.8	151.86
500	69945.6	139.89
1000	138071.7	138.07

m	137.5346	
b	1110.653	
r	0.999381	≥0.995



	area	on column conc
CCV XGC3665\088B0801.D	74344.9	532.48

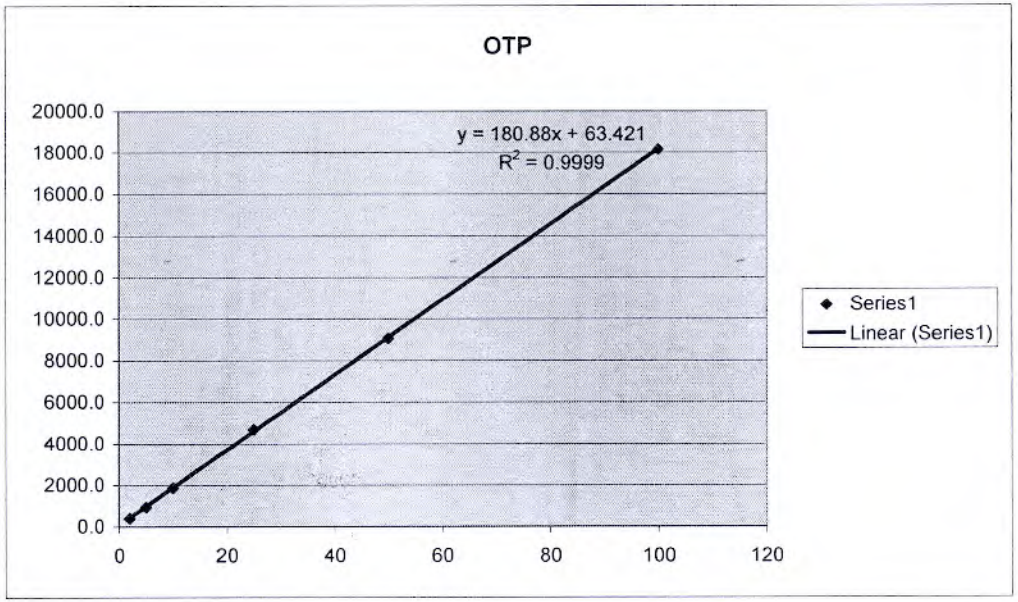
ICV limits:	30%	350 - 650
CCV limits:	15%	425 - 575

ARF	144.8888525
% RSD	5.186692588

OTP curve 10/01/14 XGC3464 on Back column GC8
Method: 8015C

ug/ml	area	RF
2	402.1	201.07
5	937.5	187.51
10	1865.3	186.53
25	4690.0	187.60
50	9065.9	181.32
100	18149.0	181.49

m	180.8824	
b	63.42088	
r	0.999939	≥0.995



	Area	On Column Conc.
CCV XGC3665\088B0801.D	9677.0	53.15

ICV limits: 30% 35 - 65

ARF	187.586716
% RSD	3.840125086

Data File C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\082B0201.D
Sample Name: CCV

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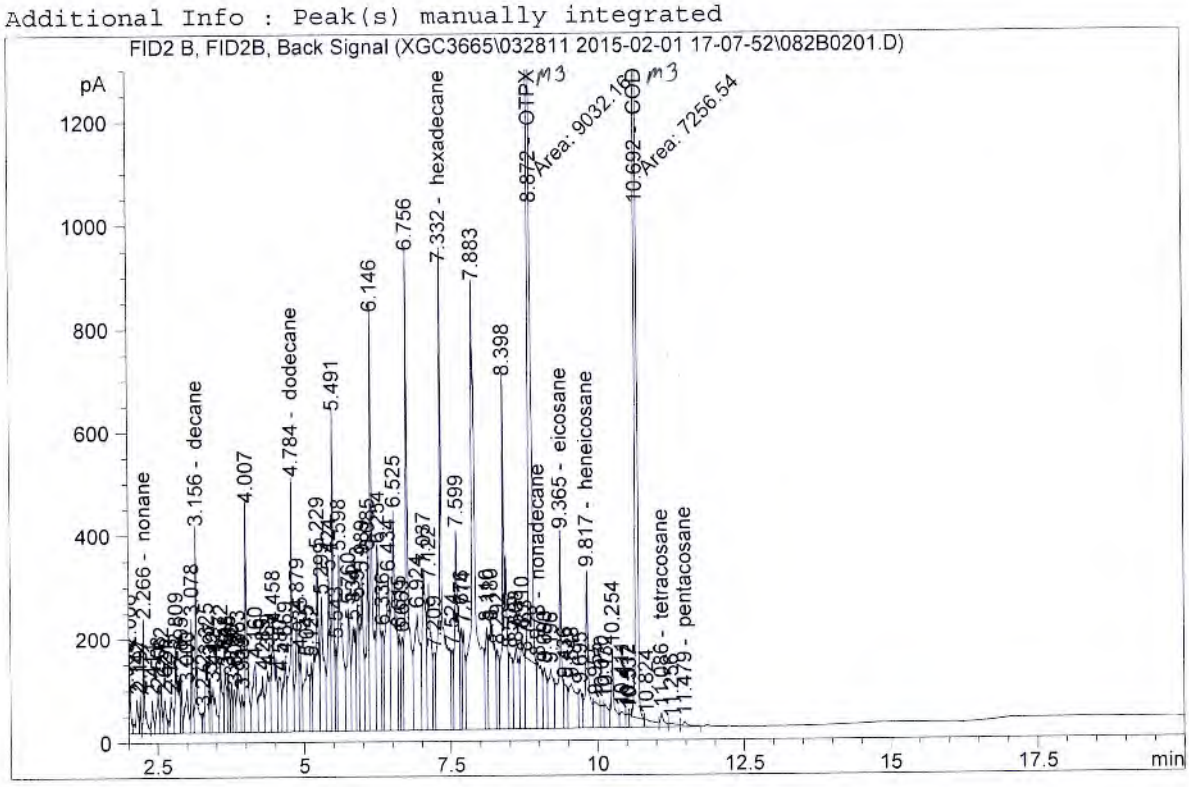
Acq. Operator	: VS	Seq. Line :	2
Acq. Instrument	: GC08	Location :	Vial 82
Injection Date	: 2/1/2015 5:58:40 PM	Inj :	1
		Inj Volume :	10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3665\DRO-K_B.M
Last changed : 2/2/2015 12:51:07 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-2-15

Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.126	BV	3.29828e7	1.00000	3.29828e7		?
1.211	VV	6.66569e4	1.00000	6.66569e4		?
1.896	VV	55.42026	1.00000	55.42026		?
1.959	VV	145.56525	1.00000	145.56525		?

Data File C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\082B0201.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
2.006	VV	290.67255	1.00000	290.67255		?
2.142	VV	197.84653	1.00000	197.84653		?
2.197	VV	105.05685	1.00000	105.05685		?
2.266	VV	415.53046	1.73487e-2	7.20891		nonane
2.411	VV	143.55266	1.00000	143.55266		?
2.508	VV	227.39168	1.00000	227.39168		?
2.562	VV	176.42064	1.00000	176.42064		?
2.621	VV	179.54584	1.00000	179.54584		?
2.725	VV	257.43414	1.00000	257.43414		?
2.809	VV	561.24347	1.00000	561.24347		?
2.895	VV	214.16609	1.00000	214.16609		?
3.000	VV	341.56339	1.00000	341.56339		?
3.078	VV	344.49167	1.00000	344.49167		?
3.156	VV	780.62439	1.90669e-2	14.88406		decane
3.272	VV	78.61346	1.00000	78.61346		?
3.325	VV	466.01746	1.00000	466.01746		?
3.397	VV	198.31833	1.00000	198.31833		?
3.442	VV	394.81036	1.00000	394.81036		?
3.572	VV	413.56537	1.00000	413.56537		?
3.648	VV	321.16644	1.00000	321.16644		?
3.705	VV	231.26303	1.00000	231.26303		?
3.756	VV	209.39026	1.00000	209.39026		?
3.805	VV	218.73717	1.00000	218.73717		?
3.863	VV	383.07150	1.00000	383.07150		?
3.939	VV	181.76395	1.00000	181.76395		?
4.007	VV	1100.82751	1.00000	1100.82751		?
4.160	VV	618.76910	1.00000	618.76910		?
4.289	VV	528.01617	1.00000	528.01617		?
4.369	VV	581.52008	1.00000	581.52008		?
4.458	VV	932.65253	1.00000	932.65253		?
4.580	VV	406.88928	1.00000	406.88928		?
4.669	VV	531.02039	1.00000	531.02039		?
4.784	VV	1407.12415	1.94670e-2	27.39252		dodecane
4.879	VV	771.42426	1.00000	771.42426		?
4.935	VV	385.83569	1.00000	385.83569		?
5.045	VV	798.12079	1.00000	798.12079		?
5.122	VV	296.90604	1.00000	296.90604		?
5.229	VV	1354.83533	1.00000	1354.83533		?
5.299	VV	1031.55786	1.00000	1031.55786		?
5.424	VV	1011.36066	1.00000	1011.36066		?
5.491	VV	1312.72278	1.00000	1312.72278		?
5.543	VV	334.29886	1.00000	334.29886		?
5.598	VV	1590.79529	1.00000	1590.79529		?
5.760	VV	970.50360	1.00000	970.50360		?
5.834	VV	943.35095	1.00000	943.35095		?
5.913	VV	651.33020	1.00000	651.33020		?
5.989	VV	1104.80444	1.00000	1104.80444		?
6.085	VV	998.78595	1.00000	998.78595		?
6.146	VV	2262.90723	1.00000	2262.90723		?
6.254	VV	1416.85864	1.00000	1416.85864		?
6.336	VV	517.88922	1.00000	517.88922		?
6.434	VV	1467.69263	1.00000	1467.69263		?
6.525	VV	2034.05249	1.00000	2034.05249		?
6.615	VV	439.90723	1.00000	439.90723		?
6.669	VV	483.36786	1.00000	483.36786		?
6.756	VV	2962.90039	1.00000	2962.90039		?

Data File C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\082B0201.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
6.924	VV	1537.28113	1.00000	1537.28113		?
7.037	VV	1329.70642	1.00000	1329.70642		?
7.122	VV	1264.15381	1.00000	1264.15381		?
7.209	VV	419.20721	1.00000	419.20721		?
7.332	VV	3970.40894	1.87901e-2	74.60451		hexadecane
7.524	VV	394.95020	1.00000	394.95020		?
7.599	VV	1549.05505	1.00000	1549.05505		?
7.676	VV	422.52905	1.00000	422.52905		?
7.714	VV	560.17419	1.00000	560.17419		?
7.883	VV	5036.48584	1.00000	5036.48584		?
8.110	VV	592.27930	1.00000	592.27930		?
8.180	VV	1430.43591	1.00000	1430.43591		?
8.292	VV	489.36862	1.00000	489.36862		?
8.398	VV	2510.74634	1.00000	2510.74634		?
8.505	VV	582.25342	1.00000	582.25342		?
8.608	VV	923.52228	1.00000	923.52228		?
8.710	VV	849.08850	1.00000	849.08850		?
8.763	VV	1541.43921	1.00000	1541.43921	R	?
8.872	MM	9032.15918	0.00000	0.00000	T	OTPX
8.978	VV	704.30243	1.58832e-2	11.18658		nonadecane
9.090	VV	493.72083	1.00000	493.72083		?
9.196	VV	716.19574	1.00000	716.19574		?
9.365	VV	1287.03467	1.54620e-2	19.90010		eicosane
9.436	VV	347.53452	1.00000	347.53452		?
9.548	VV	776.29803	1.00000	776.29803		?
9.695	VV	294.94296	1.00000	294.94296		?
9.817	VV	1099.29565	1.85493e-2	20.39117		heneicosane
9.955	VV	336.20459	1.00000	336.20459		?
10.070	VV	162.56787	1.00000	162.56787		?
10.132	VV	225.66093	1.00000	225.66093		?
10.254	VV	518.12805	1.00000	518.12805		?
10.411	VV	178.22084	1.00000	178.22084		?
10.512	VV	86.34399	1.00000	86.34399		?
10.537	VV	296.90704	1.00000	296.90704	R	?
10.692	MM	7256.53564	0.00000	0.00000	T	COD
10.824	VV	159.65282	1.00000	159.65282		?
11.086	VV	117.08220	1.18753e-2	1.39038		tetracosane
11.256	VB	60.39815	1.00000	60.39815		?
11.479	BB	70.63406	1.16961e-2	8.26142e-1		pentacosane
12.549		-	-	-		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
14.982		-	-	-		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 3.31119e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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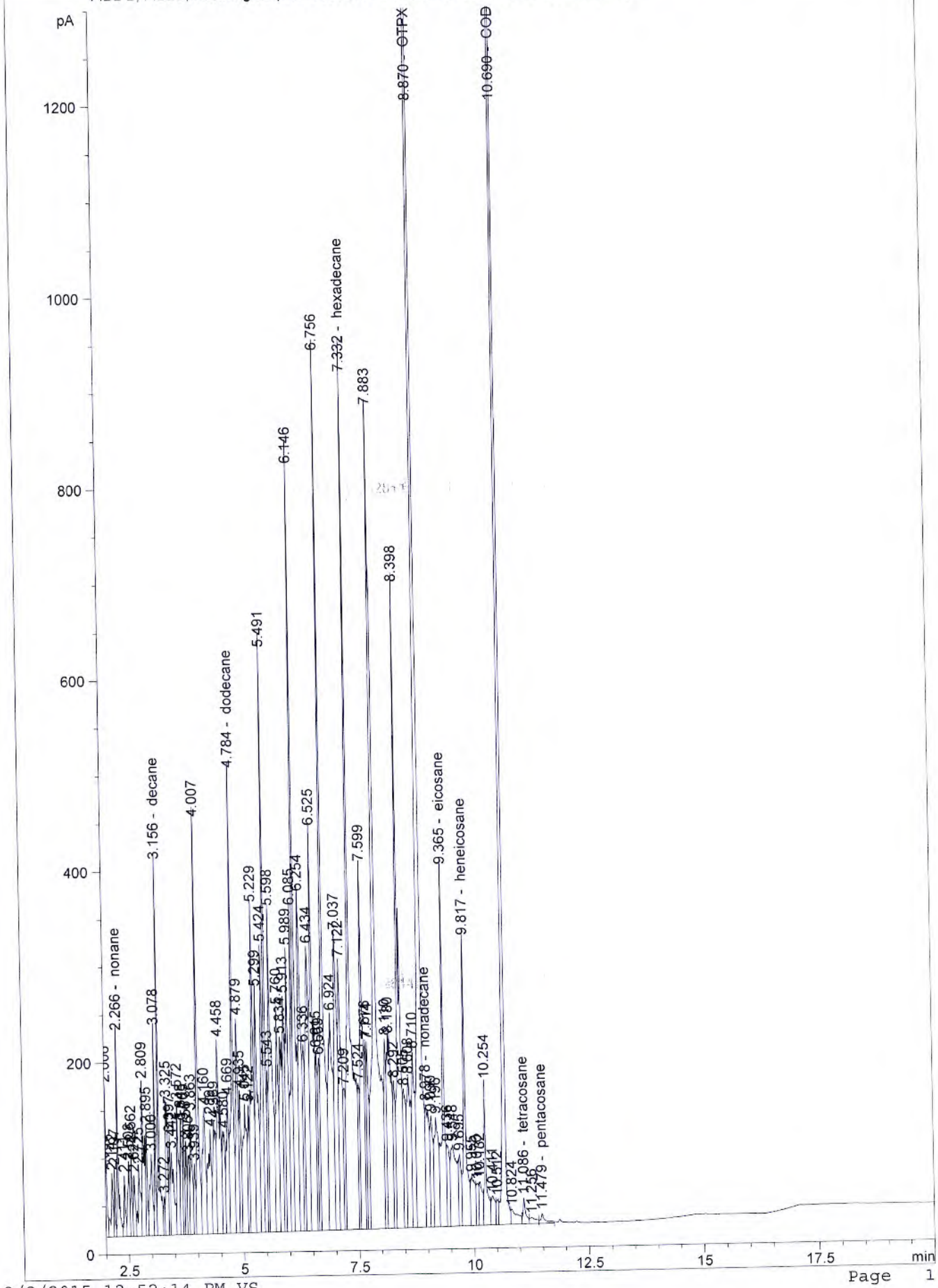
Current Chromatogram(s)

FID2 B, FID2B, Back Signal (XGC3665\032811 2015-02-01 17-07-52\082B0201.D)



Data File C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\088B0801.D
Sample Name: CCV

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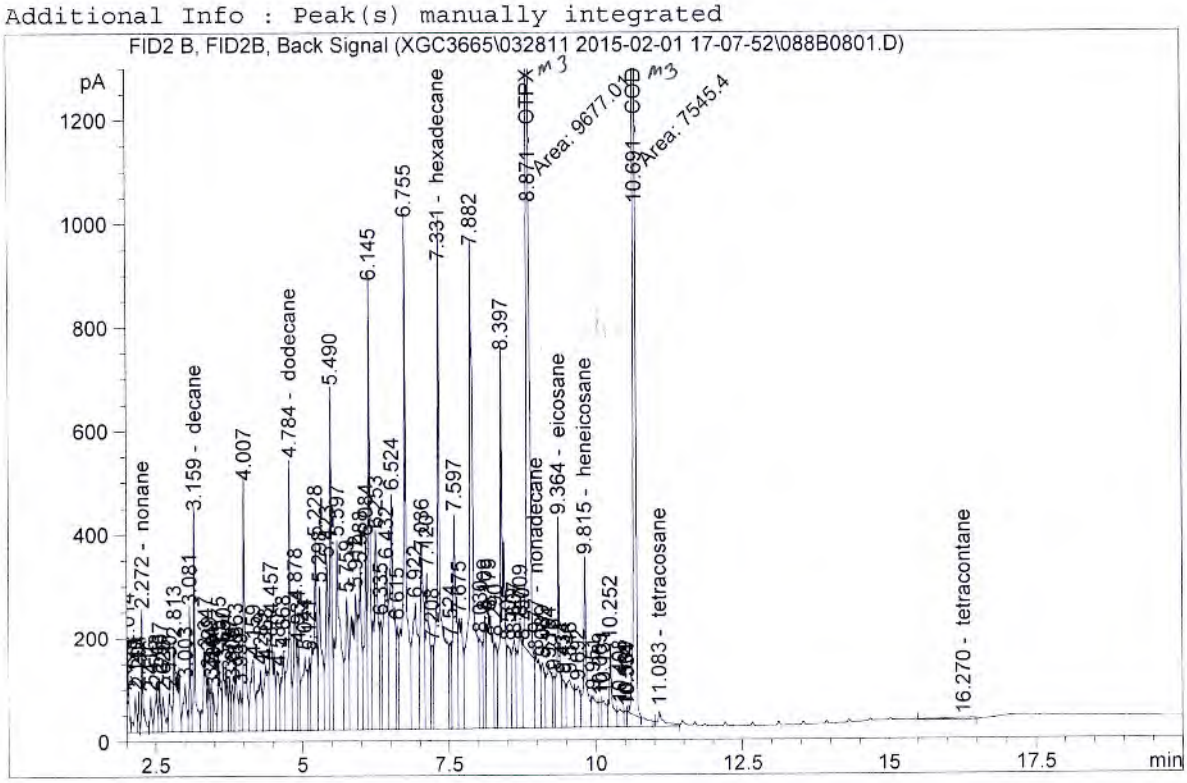
Acq. Operator : VS
Seq. Line : 8
Acq. Instrument : GC08
Location : Vial 88
Injection Date : 2/1/2015 8:52:36 PM
Inj : 1
Inj Volume : 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3665\DRO-K_B.M
Last changed : 2/2/2015 12:51:07 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-2-15

Sorted By : Signal
Calib. Data Modified : 1/30/2015 10:29:25 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.131	BV	3.33768e7	1.00000	3.33768e7		?
1.216	VV	5.85333e4	1.00000	5.85333e4		?
1.687	VV	1.23226e4	1.00000	1.23226e4		?
1.903	VV	57.66676	1.00000	57.66676		?

Data File C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\088B0801.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.966	VV	154.15611	1.00000	154.15611		?
2.014	VV	310.50528	1.00000	310.50528		?
2.149	VV	209.88277	1.00000	209.88277		?
2.204	VV	110.78757	1.00000	110.78757		?
2.272	VV	443.40735	1.73487e-2	7.69254		nonane
2.416	VV	153.20708	1.00000	153.20708		?
2.513	VV	243.25743	1.00000	243.25743		?
2.567	VV	188.67313	1.00000	188.67313		?
2.626	VV	236.98561	1.00000	236.98561		?
2.730	VV	232.56401	1.00000	232.56401		?
2.813	VV	836.16083	1.00000	836.16083		?
3.003	VV	365.91129	1.00000	365.91129		?
3.081	VV	375.50089	1.00000	375.50089		?
3.159	VV	843.38275	1.90669e-2	16.08066		decane
3.347	VV	589.51556	1.00000	589.51556		?
3.399	VV	213.06311	1.00000	213.06311		?
3.444	VV	207.93353	1.00000	207.93353		?
3.480	VV	214.79193	1.00000	214.79193		?
3.575	VV	450.39236	1.00000	450.39236		?
3.650	VV	590.18854	1.00000	590.18854		?
3.757	VV	224.49353	1.00000	224.49353		?
3.805	VV	235.54471	1.00000	235.54471		?
3.863	VV	413.17447	1.00000	413.17447		?
3.939	VV	193.05376	1.00000	193.05376		?
4.007	VV	1189.94238	1.00000	1189.94238		?
4.159	VV	666.44427	1.00000	666.44427		?
4.289	VV	567.28918	1.00000	567.28918		?
4.368	VV	626.99152	1.00000	626.99152		?
4.457	VV	1005.95844	1.00000	1005.95844		?
4.580	VV	437.38483	1.00000	437.38483		?
4.668	VV	574.65515	1.00000	574.65515		?
4.784	VV	1519.79199	1.94670e-2	29.58583		dodecane
4.878	VV	832.75964	1.00000	832.75964		?
4.934	VV	417.58514	1.00000	417.58514		?
5.044	VV	859.96161	1.00000	859.96161		?
5.121	VV	320.60669	1.00000	320.60669		?
5.228	VV	1466.03662	1.00000	1466.03662		?
5.298	VV	1111.18726	1.00000	1111.18726		?
5.423	VV	1097.66223	1.00000	1097.66223		?
5.490	VV	1424.29504	1.00000	1424.29504		?
5.597	VV	2132.76172	1.00000	2132.76172		?
5.759	VV	1018.03680	1.00000	1018.03680		?
5.912	VV	1728.69080	1.00000	1728.69080		?
5.988	VV	1177.99243	1.00000	1177.99243		?
6.084	VV	1111.38562	1.00000	1111.38562		?
6.145	VV	2053.13818	1.00000	2053.13818		?
6.253	VV	1926.64746	1.00000	1926.64746		?
6.335	VV	561.21136	1.00000	561.21136		?
6.432	VV	1593.21765	1.00000	1593.21765		?
6.524	VV	2200.91821	1.00000	2200.91821		?
6.615	VV	465.91858	1.00000	465.91858		?
6.755	VV	3764.84497	1.00000	3764.84497		?
6.922	VV	1660.05762	1.00000	1660.05762		?
7.036	VV	1457.02258	1.00000	1457.02258		?
7.120	VV	1364.39575	1.00000	1364.39575		?
7.208	VV	447.71533	1.00000	447.71533		?

Data File C:\CHEM32\1\DATA\XGC3665\032811 2015-02-01 17-07-52\088B0801.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
7.331	VV	4304.51416	1.87901e-2	80.88239		hexadecane
7.524	VV	443.91095	1.00000	443.91095		?
7.597	VV	1666.92932	1.00000	1666.92932		?
7.675	VV	1088.10388	1.00000	1088.10388		?
7.882	VV	4814.49316	1.00000	4814.49316		?
8.030	VV	654.05945	1.00000	654.05945		?
8.109	VV	643.04095	1.00000	643.04095		?
8.179	VV	1550.78101	1.00000	1550.78101		?
8.290	VV	509.57782	1.00000	509.57782		?
8.397	VV	2752.80615	1.00000	2752.80615		?
8.505	VV	666.06909	1.00000	666.06909		?
8.607	VV	757.93469	1.00000	757.93469		?
8.709	VV	1109.90039	1.00000	1109.90039		?
8.750	VV R	1830.41565	1.00000	1830.41565		?
8.871	MM T	9677.00684	0.00000	0.00000		OTPX
8.977	VV	767.52136	1.58832e-2	12.19070		nonadecane
9.089	VV	533.82098	1.00000	533.82098		?
9.194	VV	750.05023	1.00000	750.05023		?
9.276	VV	242.78999	1.00000	242.78999		?
9.364	VV	1186.55212	1.54620e-2	18.34644		eicosane
9.434	VV	372.42935	1.00000	372.42935		?
9.546	VV	716.84424	1.00000	716.84424		?
9.692	VV	438.01385	1.00000	438.01385		?
9.815	VV	1186.72449	1.85493e-2	22.01291		heneicosane
9.951	VV	383.19598	1.00000	383.19598		?
10.069	VV	185.58669	1.00000	185.58669		?
10.131	VV	259.27759	1.00000	259.27759		?
10.252	VV	570.37726	1.00000	570.37726		?
10.408	VV	204.81911	1.00000	204.81911		?
10.509	VV	100.49919	1.00000	100.49919		?
10.534	VB R	482.04999	1.00000	482.04999		?
10.691	MM T	7545.39746	0.00000	0.00000		COD
11.083	PV	213.76878	1.18753e-2	2.53857		tetracosane
11.468		-	-	-		pentacosane
12.549		-	-	-		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
14.982		-	-	-		hexatriacontane
16.270	PP N	164.56078	0.00000	0.00000		tetracontane
Totals :				3.35157e7		

5 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)
Warning : Invalid calibration curve, (tetracontane)

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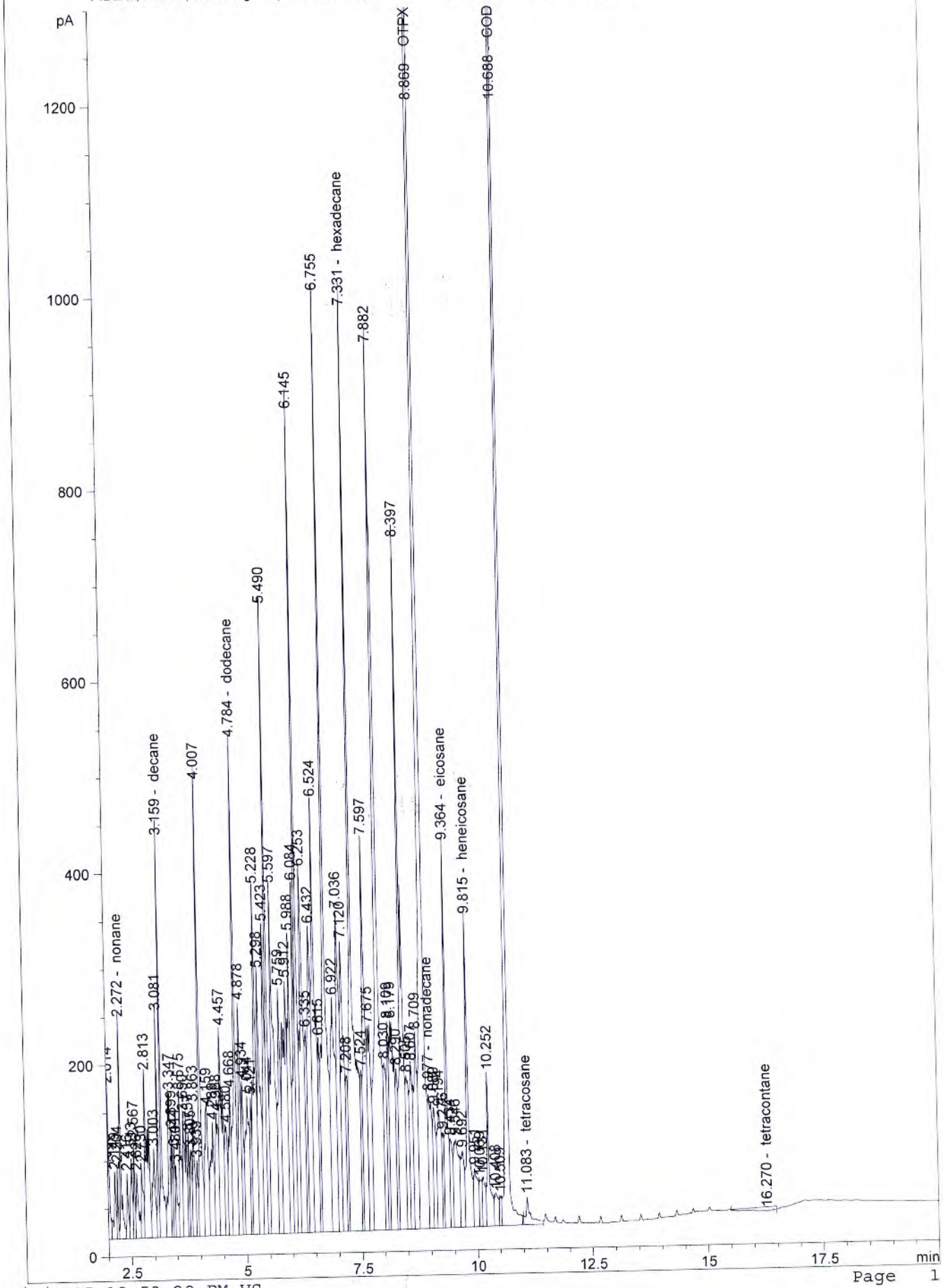
*** End of Report ***

Current Chromatogram(s)

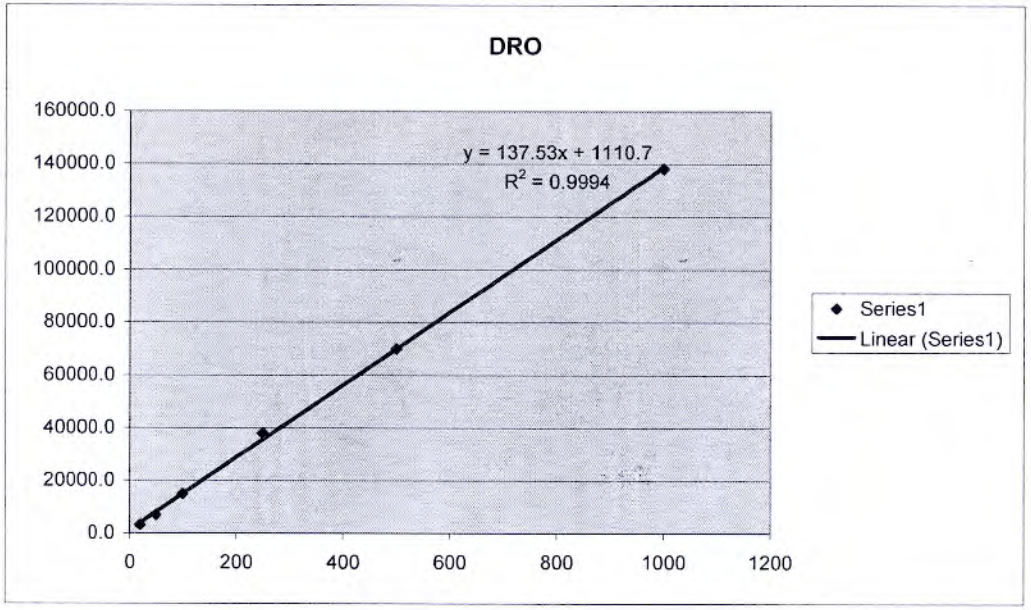
FID2 B, FID2B, Back Signal (XGC3665\032811 2015-02-01 17-07-52\088B0801.D)



DRO curve 10/01/14 XGC3464 on Back column GC8
Method: 8015C

ug/ml	area	RF
20	3087.8	154.39
50	6851.3	137.03
100	14810.2	148.10
250	37963.8	151.86
500	69945.6	139.89
1000	138071.7	138.07

m	137.5346	
b	1110.653	
r	0.999381	≥0.995



	area	on column conc
CCV XGC3675\033B0301.D	73517.4	526.46

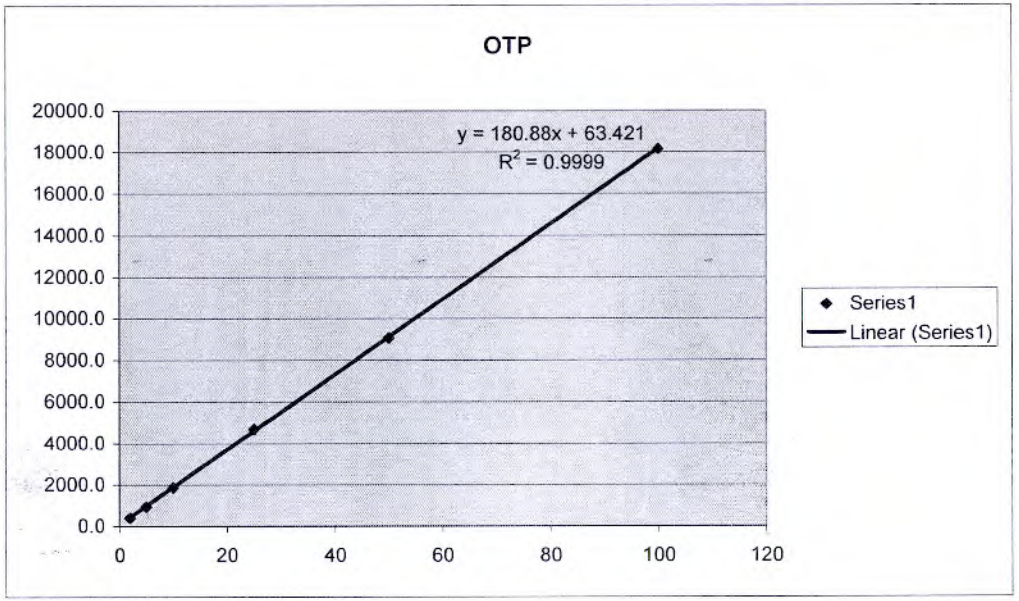
ICV limits:	30%	350 - 650
CCV limits:	15%	425 - 575

ARF	144.8888525
% RSD	5.186692588

OTP curve 10/01/14 XGC3464 on Back column GC8
Method: 8015C

ug/ml	area	RF
2	402.1	201.07
5	937.5	187.51
10	1865.3	186.53
25	4690.0	187.60
50	9065.9	181.32
100	18149.0	181.49

m	180.8824	
b	63.42088	
r	0.999939	≥0.995



	Area	On Column Conc.
CCV XGC3675\033B0301.D	9374.4	51.48

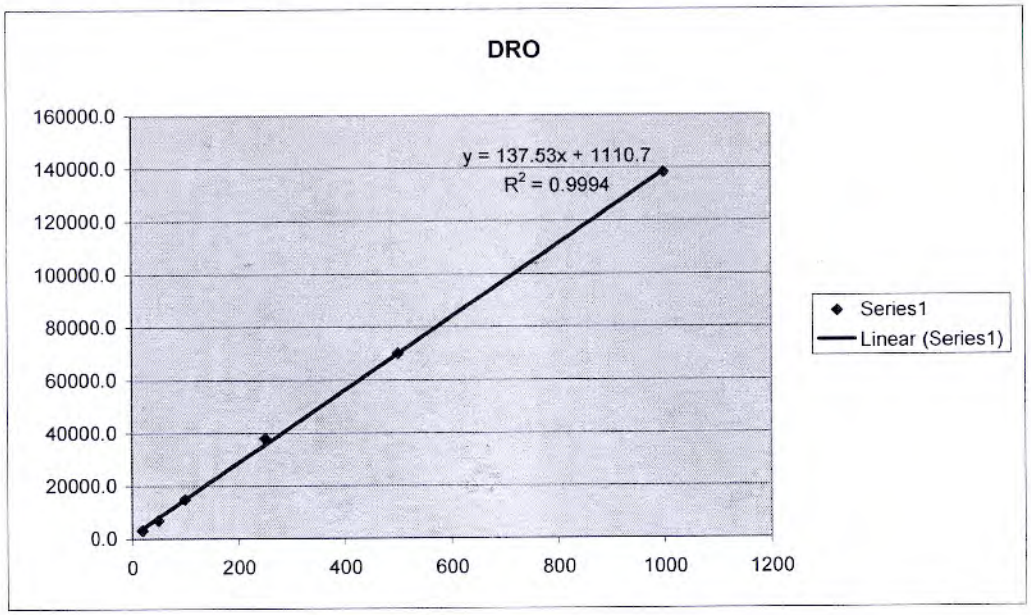
ICV limits: 30% 35 - 65

ARF	187.586716
% RSD	3.840125086

DRO curve 10/01/14 XGC3464 on Back column GC8
Method: 8015C

ug/ml	area	RF
20	3087.8	154.39
50	6851.3	137.03
100	14810.2	148.10
250	37963.8	151.86
500	69945.6	139.89
1000	138071.7	138.07

m	137.5346	
b	1110.653	
r	0.999381	≥0.995



	area	on column conc
CCV XGC3675\042B0101.D	72134.1	516.40

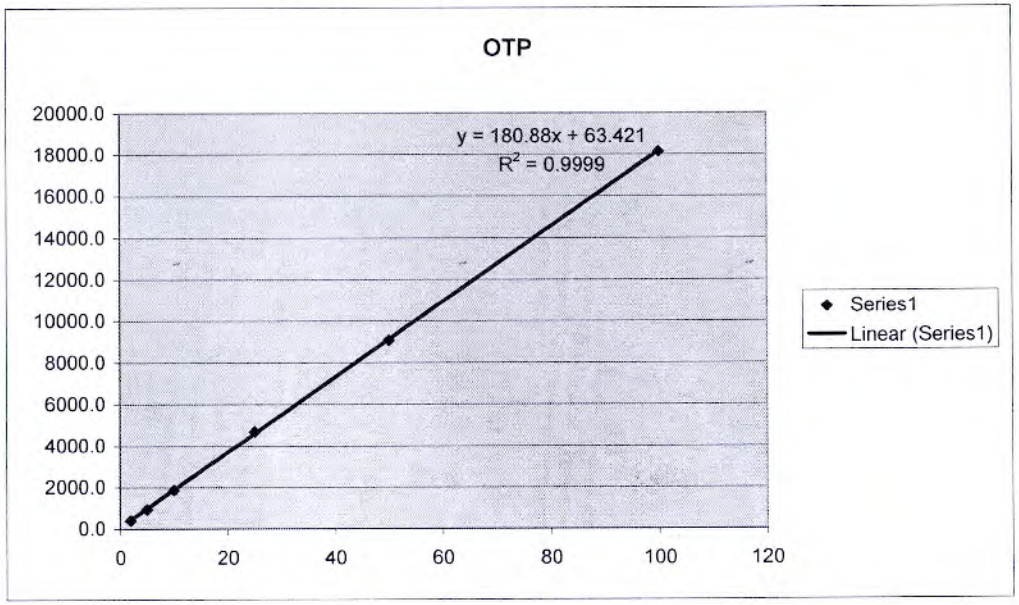
ICV limits:	30%	350 - 650
CCV limits:	15%	425 - 575

ARF	144.8888525
% RSD	5.186692588

OTP curve 10/01/14 XGC3464 on Back column GC8
Method: 8015C

ug/ml	area	RF
2	402.1	201.07
5	937.5	187.51
10	1865.3	186.53
25	4690.0	187.60
50	9065.9	181.32
100	18149.0	181.49

m	180.8824	
b	63.42088	
r	0.999939	≥0.995



	Area	On Column Conc.
CCV XGC3675\042B0101.D	9206.2	50.55

ICV limits: 30% 35 - 65

ARF	187.586716
% RSD	3.840125086

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 11-21-47\033B0301.D
Sample Name: CCV

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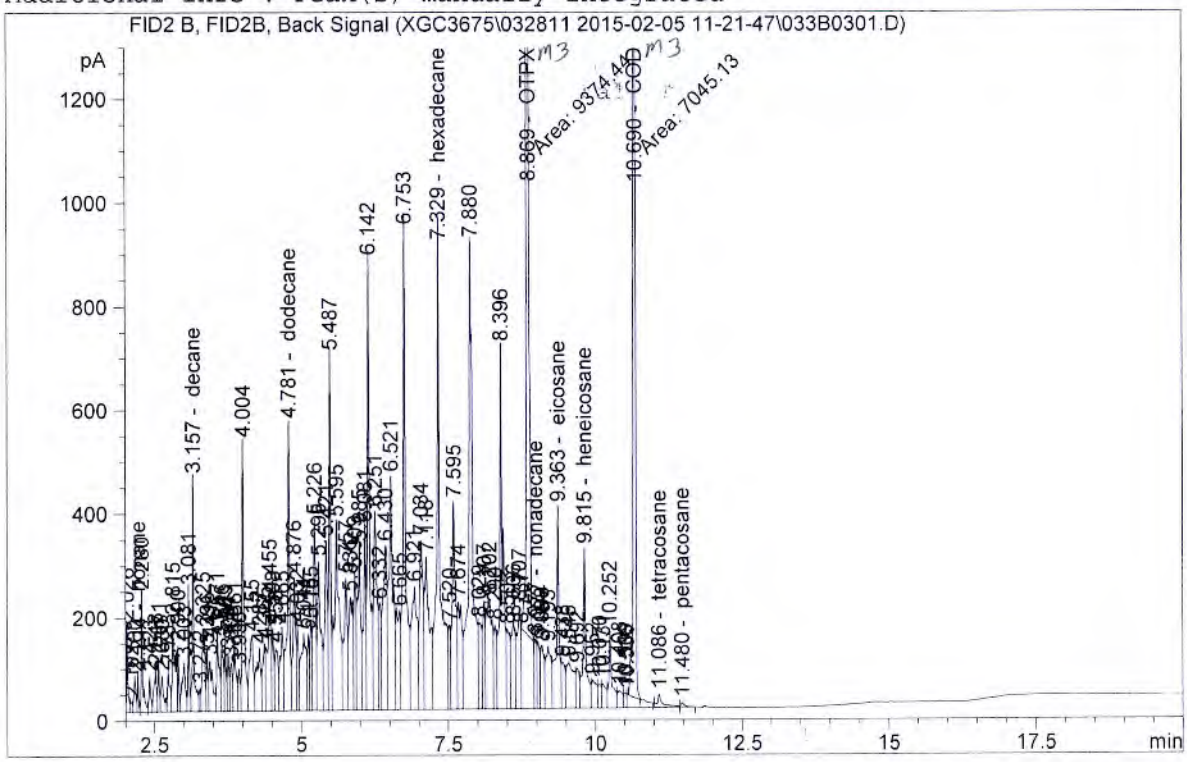
Acq. Operator : VS
Acq. Instrument : GC08
Injection Date : 2/5/2015 12:12:56 PM

Seq. Line : 3
Location : Vial 33
Inj : 1
Inj Volume : 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 11-21-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3675\DRO-K_B.M
Last changed : 2/5/2015 1:22:18 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



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External Standard Report

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VS
2-5-15

Sorted By : Signal
Calib. Data Modified : 2/5/2015 1:20:20 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.152	BV	3.41159e7	1.00000	3.41159e7		?
1.235	VV	5.08210e4	1.00000	5.08210e4		?
1.588	VV	2.28504e4	1.00000	2.28504e4		?
1.876	VV	73.90119	1.00000	73.90119		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 11-21-47\033B0301.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.917	VV	52.49176	1.00000	52.49176		?
1.979	VV	147.06007	1.00000	147.06007		?
2.026	VV	298.68433	1.00000	298.68433		?
2.102	VV	41.70503	1.00000	41.70503		?
2.160	VV	158.52504	1.00000	158.52504		?
2.214	VV	103.50754	1.73487e-2	1.79572		nonane
2.280	VV	429.08200	1.00000	429.08200		?
2.423	VV	147.12222	1.00000	147.12222		?
2.518	VV	237.97911	1.00000	237.97911		?
2.571	VV	189.22205	1.00000	189.22205		?
2.630	VV	231.72224	1.00000	231.72224		?
2.733	VV	228.01366	1.00000	228.01366		?
2.815	VV	609.23444	1.00000	609.23444		?
2.900	VV	230.03065	1.00000	230.03065		?
3.003	VV	366.23093	1.00000	366.23093		?
3.081	VV	376.77884	1.00000	376.77884		?
3.157	VV	863.56561	1.90669e-2	16.46549		decane
3.272	VV	86.73661	1.00000	86.73661		?
3.325	VV	522.66901	1.00000	522.66901		?
3.396	VV	221.53577	1.00000	221.53577		?
3.441	VV	435.99310	1.00000	435.99310		?
3.571	VV	460.92175	1.00000	460.92175		?
3.646	VV	360.44269	1.00000	360.44269		?
3.703	VV	260.16669	1.00000	260.16669		?
3.754	VV	237.31688	1.00000	237.31688		?
3.803	VV	242.48650	1.00000	242.48650		?
3.861	VV	432.23154	1.00000	432.23154		?
3.936	VV	197.48453	1.00000	197.48453		?
4.004	VV	1258.84351	1.00000	1258.84351		?
4.155	VV	692.39423	1.00000	692.39423		?
4.287	VV	601.08618	1.00000	601.08618		?
4.365	VV	395.64676	1.00000	395.64676		?
4.455	VV	953.68066	1.00000	953.68066		?
4.508	VV	341.39468	1.00000	341.39468		?
4.558	VV	456.49741	1.00000	456.49741		?
4.665	VV	596.27130	1.00000	596.27130		?
4.781	VV	1584.41101	1.94670e-2	30.84377		dodecane
4.876	VV	862.89594	1.00000	862.89594		?
4.932	VV	421.07397	1.00000	421.07397		?
5.041	VV	895.71234	1.00000	895.71234		?
5.118	VV	317.96991	1.00000	317.96991		?
5.165	VV	392.42639	1.00000	392.42639		?
5.226	VV	1097.77954	1.00000	1097.77954		?
5.295	VV	1147.09106	1.00000	1147.09106		?
5.421	VV	1103.71252	1.00000	1103.71252		?
5.487	VV	1438.18835	1.00000	1438.18835		?
5.595	VV	2095.60181	1.00000	2095.60181		?
5.757	VV	1052.35339	1.00000	1052.35339		?
5.831	VV	1015.13660	1.00000	1015.13660		?
5.909	VV	713.52887	1.00000	713.52887		?
5.985	VV	1205.75183	1.00000	1205.75183		?
6.081	VV	1056.05481	1.00000	1056.05481		?
6.142	VV	2441.59326	1.00000	2441.59326		?
6.251	VV	1543.00159	1.00000	1543.00159		?
6.332	VV	544.19391	1.00000	544.19391		?
6.430	VV	1571.79626	1.00000	1571.79626		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 11-21-47\033B0301.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
6.521	VV	2152.01270	1.00000	2152.01270		?
6.665	VV	990.45746	1.00000	990.45746		?
6.753	VV	3145.52100	1.00000	3145.52100		?
6.921	VV	1610.31348	1.00000	1610.31348		?
7.034	VV	1420.36719	1.00000	1420.36719		?
7.118	VV	1764.82898	1.00000	1764.82898		?
7.329	VV	4190.56982	1.87901e-2	78.74136		hexadecane
7.520	VV	428.45361	1.00000	428.45361		?
7.595	VV	1629.32031	1.00000	1629.32031		?
7.674	VV	1034.38220	1.00000	1034.38220		?
7.880	VV	4692.81543	1.00000	4692.81543		?
8.029	VV	627.07678	1.00000	627.07678		?
8.107	VV	620.15991	1.00000	620.15991		?
8.202	VV	1505.79285	1.00000	1505.79285		?
8.290	VV	513.73407	1.00000	513.73407		?
8.396	VV	2654.49438	1.00000	2654.49438		?
8.503	VV	611.81122	1.00000	611.81122		?
8.606	VV	759.60858	1.00000	759.60858		?
8.707	VV	955.30164	1.00000	955.30164		?
8.737	VV	1886.39465	1.00000	1886.39465	R	?
8.869	MM	9374.43652	0.00000	0.00000	T	OTPX
8.977	VV	347.23389	1.58832e-2	5.51519		nonadecane
9.022	VV	385.04880	1.00000	385.04880		?
9.088	VV	517.67828	1.00000	517.67828		?
9.193	VV	743.75494	1.00000	743.75494		?
9.363	VV	1362.55469	1.54620e-2	21.06779		eicosane
9.438	VV	358.19327	1.00000	358.19327		?
9.545	VV	804.52350	1.00000	804.52350		?
9.692	VV	288.13205	1.00000	288.13205		?
9.815	VV	1160.74231	1.85493e-2	21.53096		heneicosane
9.952	VV	346.00418	1.00000	346.00418		?
10.070	VV	167.09720	1.00000	167.09720		?
10.131	VV	250.38533	1.00000	250.38533		?
10.252	VV	556.93372	1.00000	556.93372		?
10.408	VV	186.85718	1.00000	186.85718		?
10.509	VV	96.08963	1.00000	96.08963		?
10.536	VB	424.06866	1.00000	424.06866	R	?
10.690	MM	7045.13232	0.00000	0.00000	T	COD
11.086	PV	168.64807	1.18753e-2	2.00274		tetracosane
11.480	VB	42.37697	1.16961e-2	4.95645e-1		pentacosane
12.549		-	-	-		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
14.982		-	-	-		hexatriacontane
16.602		-	-	-		tetracontane

Totals : 3.42574e7

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 11-21-47\033B0301.D
Sample Name: CCV

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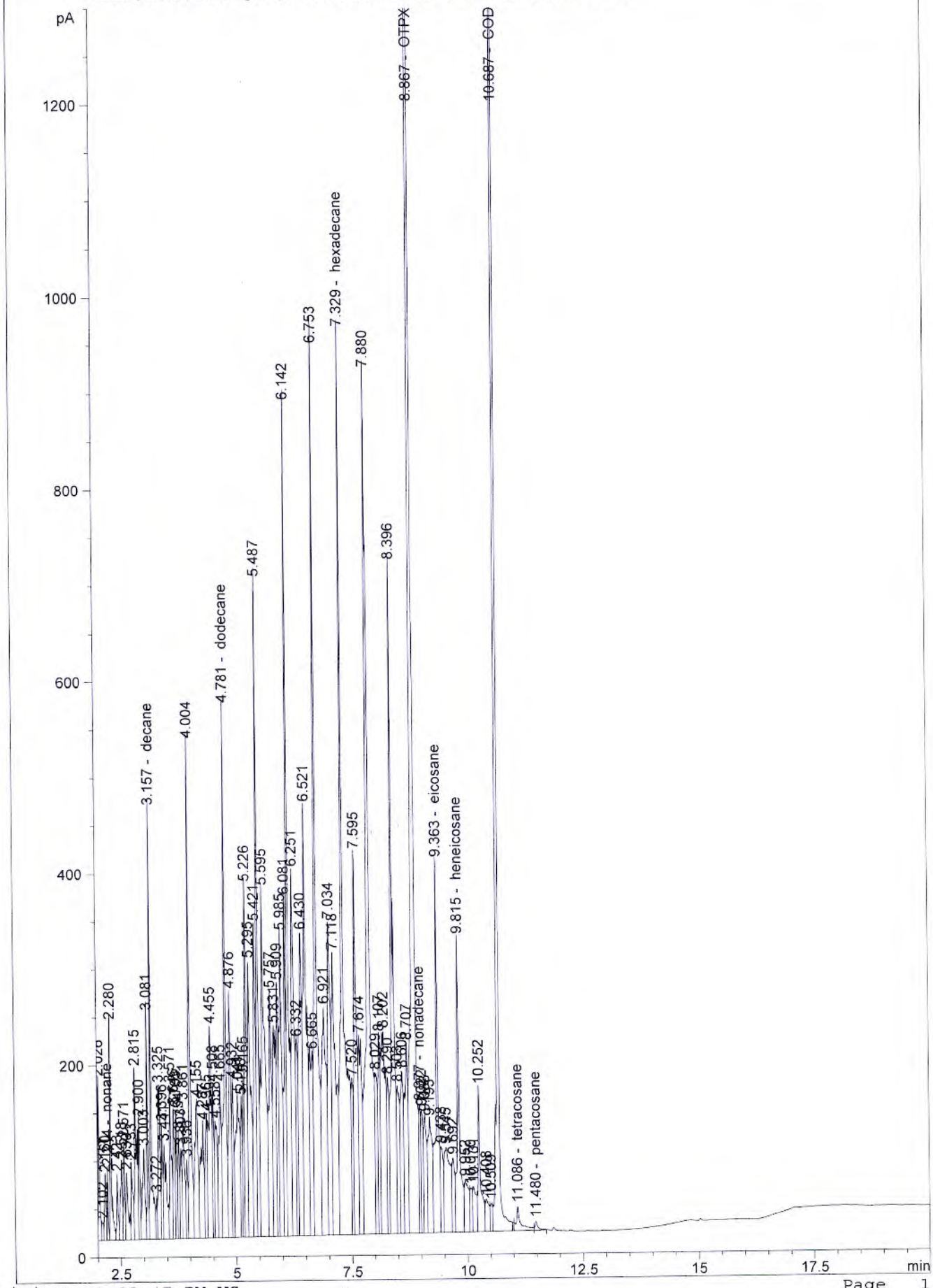
*** End of Report ***

Current Chromatogram(s)

FID2 B, FID2B, Back Signal (XGC3675\032811 2015-02-05 11-21-47\033B0301.D)



Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 17-04-47\042B0101.D
Sample Name: CCV

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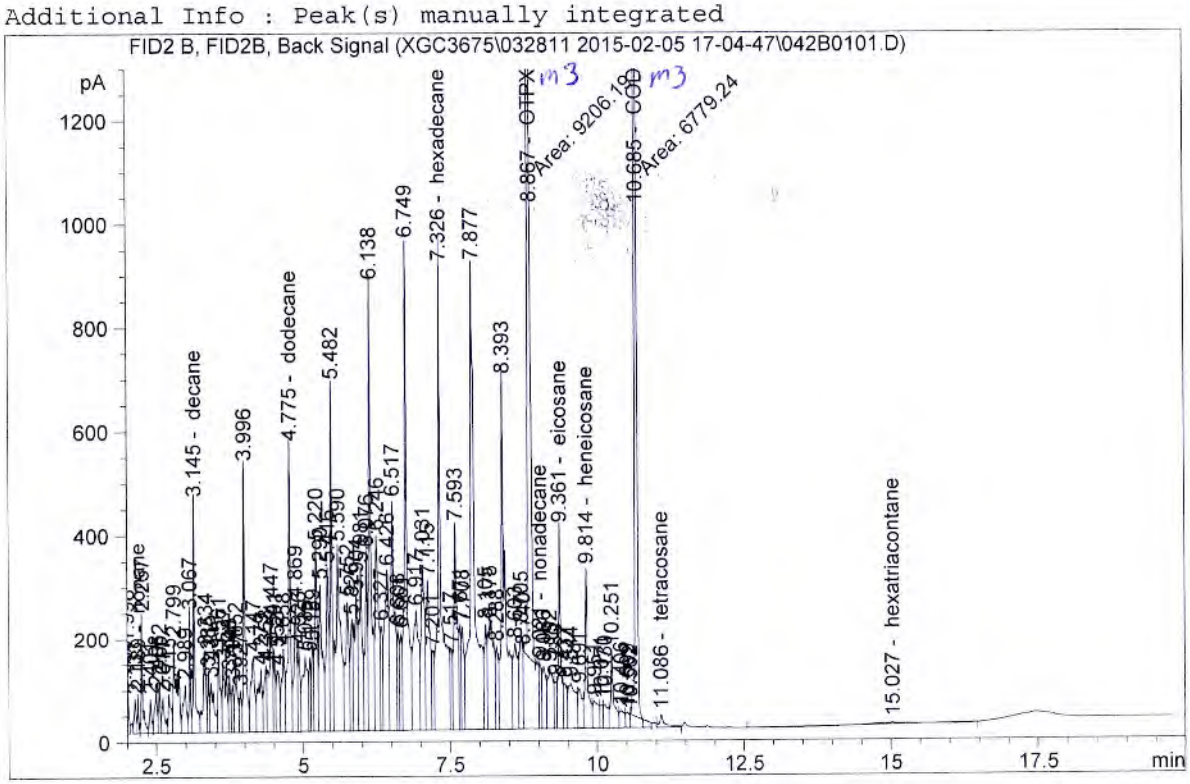
Acq. Operator : VS
Seq. Line : 1
Acq. Instrument : GC08
Location : Vial 42
Injection Date : 2/5/2015 5:05:56 PM
Inj : 1
Inj Volume : 10 µl

Acq. Method : C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 17-04-47\DTF_EPH1.M
Last changed : 6/10/2014 4:00:45 PM by DTF
Analysis Method : C:\CHEM32\1\DATA\XGC3675\DRO-K_B.M
Last changed : 2/5/2015 4:54:32 PM by VS
(modified after loading)
Method Info : DRO/EPH

Additional Info : Peak(s) manually integrated



VS
2-5-15

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External Standard Report

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Sorted By : Signal
Calib. Data Modified : 2/5/2015 1:20:20 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B, FID2B, Back Signal
Uncalibrated peaks RF : 1.00000

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.128	BV	3.32909e7	1.00000	3.32909e7	?	
1.214	VV	5.79348e4	1.00000	5.79348e4	?	
1.562	VV	2.91650e4	1.00000	2.91650e4	?	
1.889	VV	57.81584	1.00000	57.81584	?	

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 17-04-47\042B0101.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
1.950	VV	147.11424	1.00000	147.11424		?
1.998	VV	297.14795	1.00000	297.14795		?
2.133	VV	158.28072	1.00000	158.28072		?
2.189	VV	103.05406	1.73487e-2	1.78785		nonane
2.257	VV	424.79813	1.00000	424.79813		?
2.401	VV	146.80295	1.00000	146.80295		?
2.498	VV	236.09624	1.00000	236.09624		?
2.552	VV	187.15694	1.00000	187.15694		?
2.611	VV	230.40340	1.00000	230.40340		?
2.715	VV	229.30296	1.00000	229.30296		?
2.799	VV	827.70538	1.00000	827.70538		?
2.989	VV	362.93698	1.00000	362.93698		?
3.067	VV	372.66586	1.00000	372.66586		?
3.145	VV	854.79498	1.90669e-2	16.29826		decane
3.334	VV	601.79462	1.00000	601.79462		?
3.385	VV	216.06322	1.00000	216.06322		?
3.431	VV	429.57791	1.00000	429.57791		?
3.561	VV	456.26309	1.00000	456.26309		?
3.637	VV	607.69843	1.00000	607.69843		?
3.745	VV	232.95978	1.00000	232.95978		?
3.794	VV	235.79237	1.00000	235.79237		?
3.852	VV	423.70438	1.00000	423.70438		?
3.927	VV	197.35591	1.00000	197.35591		?
3.996	VV	1237.22949	1.00000	1237.22949		?
4.147	VV	676.06775	1.00000	676.06775		?
4.279	VV	590.45990	1.00000	590.45990		?
4.358	VV	393.80637	1.00000	393.80637		?
4.447	VV	934.09161	1.00000	934.09161		?
4.501	VV	334.28232	1.00000	334.28232		?
4.552	VV	447.26337	1.00000	447.26337		?
4.658	VV	583.68256	1.00000	583.68256		?
4.775	VV	1556.53918	1.94670e-2	30.30119		dodecane
4.869	VV	846.98383	1.00000	846.98383		?
4.926	VV	414.35153	1.00000	414.35153		?
5.035	VV	877.53699	1.00000	877.53699		?
5.112	VV	311.74930	1.00000	311.74930		?
5.159	VV	390.17447	1.00000	390.17447		?
5.220	VV	1074.11414	1.00000	1074.11414		?
5.290	VV	1124.65808	1.00000	1124.65808		?
5.416	VV	1080.58154	1.00000	1080.58154		?
5.482	VV	1414.98059	1.00000	1414.98059		?
5.590	VV	2059.26807	1.00000	2059.26807		?
5.752	VV	1027.43823	1.00000	1027.43823		?
5.826	VV	615.27539	1.00000	615.27539		?
5.904	VV	1074.97058	1.00000	1074.97058		?
5.981	VV	1202.53040	1.00000	1202.53040		?
6.076	VV	1005.80481	1.00000	1005.80481		?
6.138	VV	2397.51660	1.00000	2397.51660		?
6.246	VV	1510.74072	1.00000	1510.74072		?
6.327	VV	539.87805	1.00000	539.87805		?
6.426	VV	1523.73755	1.00000	1523.73755		?
6.517	VV	2125.24927	1.00000	2125.24927		?
6.608	VV	458.39600	1.00000	458.39600		?
6.661	VV	508.79807	1.00000	508.79807		?
6.749	VV	3077.82837	1.00000	3077.82837		?
6.917	VV	1573.86133	1.00000	1573.86133		?

Data File C:\CHEM32\1\DATA\XGC3675\032811 2015-02-05 17-04-47\042B0101.D
Sample Name: CCV

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
7.031	VV	1379.18127	1.00000	1379.18127		?
7.115	VV	1321.07129	1.00000	1321.07129		?
7.201	VV	436.50659	1.00000	436.50659		?
7.326	VV	4100.79297	1.87901e-2	77.05444		hexadecane
7.517	VV	410.85254	1.00000	410.85254		?
7.593	VV	1591.10950	1.00000	1591.10950		?
7.671	VV	444.60904	1.00000	444.60904		?
7.708	VV	578.04242	1.00000	578.04242		?
7.877	VV	5202.58252	1.00000	5202.58252		?
8.105	VV	616.52051	1.00000	616.52051		?
8.175	VV	1485.76379	1.00000	1485.76379		?
8.288	VV	553.23999	1.00000	553.23999		?
8.393	VV	3156.44922	1.00000	3156.44922		?
8.603	VV	977.72559	1.00000	977.72559		?
8.705	VV	762.57416	1.00000	762.57416		?
8.740	VV R	2148.53516	1.00000	2148.53516		?
8.867	MM T	9206.18555	0.00000	0.00000		OTPX
9.021	VV	370.69901	1.58832e-2	5.88789		nonadecane
9.086	VV	516.37219	1.00000	516.37219		?
9.192	VV	735.79584	1.00000	735.79584		?
9.280	VV	280.01981	1.00000	280.01981		?
9.361	VV	1065.14807	1.54620e-2	16.46930		eicosane
9.437	VV	349.49338	1.00000	349.49338		?
9.544	VV	789.00549	1.00000	789.00549		?
9.691	VV	372.48141	1.00000	372.48141		?
9.814	VV	1068.80933	1.85493e-2	19.82567		heneicosane
9.951	VV	347.62479	1.00000	347.62479		?
10.071	VV	163.04779	1.00000	163.04779		?
10.130	VV	241.60033	1.00000	241.60033		?
10.251	VV	565.30713	1.00000	565.30713		?
10.406	VV	193.69159	1.00000	193.69159		?
10.509	VV	140.77817	1.00000	140.77817		?
10.562	VM R	363.33710	1.00000	363.33710		?
10.685	MM T	6779.24072	0.00000	0.00000		COD
11.086	PV	159.48442	1.18753e-2	1.89392		tetracosane
11.468		-	-	-		pentacosane
12.549		-	-	-		octacosane
14.420		-	-	-		tetratriacontane
14.700		-	-	-		pentatriacontane
15.027	BB	69.50729	1.85740e-2	1.29103		hexatriacontane
16.602		-	-	-		tetracontane
Totals :				3.34448e7		

4 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
Warning : Invalid calibration curve, (OTPX)
Warning : Invalid calibration curve, (COD)

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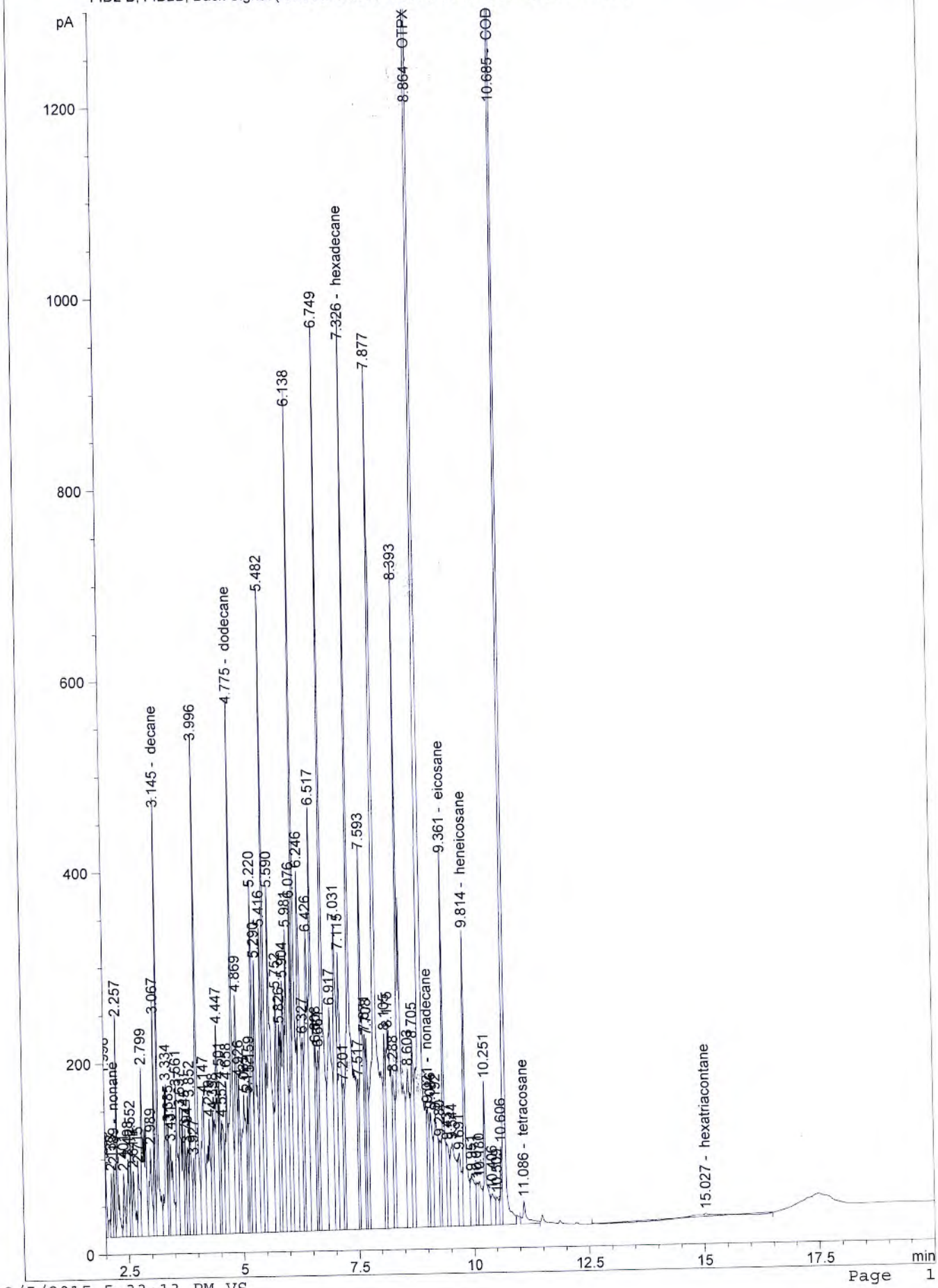
*** End of Report ***

Current Chromatogram(s)

FID2 B, FID2B, Back Signal (XGC3675\032811 2015-02-05 17-04-47\042B0101.D)



SW-846 6010C

Sample Data

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-01**

Client Sample ID: **BT-SW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182001-G
Lab Project ID: 31500182

Collection Date: 01/24/2015 13:30
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Aluminum	**0.188**		0.100	mg/L	1	02/2/2015 11:20
Antimony	ND		0.0400	mg/L	1	02/2/2015 11:20
Arsenic	ND		0.0100	mg/L	1	02/2/2015 11:20
Barium	ND		0.100	mg/L	1	02/2/2015 11:20
Beryllium	ND		0.0200	mg/L	1	02/3/2015 16:41
Cadmium	ND		0.00500	mg/L	1	02/2/2015 11:20
Calcium	**221**		10.0	mg/L	100	02/3/2015 16:50
Chromium	ND		0.0100	mg/L	1	02/2/2015 11:20
Cobalt	ND		0.0100	mg/L	1	02/2/2015 11:20
Copper	ND		0.0100	mg/L	1	02/2/2015 11:20
Iron	**1.32**		0.100	mg/L	1	02/2/2015 11:20
Lead	ND		0.0100	mg/L	1	02/2/2015 11:20
Magnesium	**192**		10.0	mg/L	100	02/3/2015 16:50
Manganese	**0.742**		0.0100	mg/L	1	02/2/2015 11:20
Nickel	ND		0.0100	mg/L	1	02/2/2015 11:20
Potassium	**22.8**		2.00	mg/L	10	02/3/2015 16:45
Selenium	ND		0.0200	mg/L	1	02/2/2015 11:20
Silver	ND		0.0100	mg/L	1	02/2/2015 11:20
Sodium	**1130**		200	mg/L	1000	02/4/2015 10:40
Thallium	ND		0.0100	mg/L	1	02/2/2015 11:20
Vanadium	ND		0.0500	mg/L	1	02/2/2015 11:20
Zinc	ND		0.0200	mg/L	1	02/2/2015 11:20

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-02**

Client Sample ID: **BT-SW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182002-G
Lab Project ID: 31500182

Collection Date: 01/24/2015 16:50
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Aluminum	ND		0.100	mg/L	1	02/2/2015 11:40
Antimony	ND		0.0400	mg/L	1	02/2/2015 11:40
Arsenic	ND		0.0100	mg/L	1	02/2/2015 11:40
Barium	ND		0.100	mg/L	1	02/2/2015 11:40
Beryllium	ND		0.0200	mg/L	1	02/3/2015 17:28
Cadmium	ND		0.00500	mg/L	1	02/2/2015 11:40
Calcium	**119**		10.0	mg/L	100	02/3/2015 17:37
Chromium	ND		0.0100	mg/L	1	02/2/2015 11:40
Cobalt	ND		0.0100	mg/L	1	02/2/2015 11:40
Copper	ND		0.0100	mg/L	1	02/2/2015 11:40
Iron	**0.660**		0.100	mg/L	1	02/2/2015 11:40
Lead	ND		0.0100	mg/L	1	02/2/2015 11:40
Magnesium	**77.3**		10.0	mg/L	100	02/3/2015 17:37
Manganese	**0.221**		0.0100	mg/L	1	02/2/2015 11:40
Nickel	ND		0.0100	mg/L	1	02/2/2015 11:40
Potassium	**9.70**		2.00	mg/L	10	02/3/2015 17:33
Selenium	ND		0.0200	mg/L	1	02/2/2015 11:40
Silver	ND		0.0100	mg/L	1	02/2/2015 11:40
Sodium	**347**		20.0	mg/L	100	02/4/2015 10:50
Thallium	ND		0.0100	mg/L	1	02/2/2015 11:40
Vanadium	ND		0.0500	mg/L	1	02/2/2015 11:40
Zinc	ND		0.0200	mg/L	1	02/2/2015 11:40

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-03**

Client Sample ID: **BT-SW-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182003-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Aluminum	ND		0.100	mg/L	1	02/2/2015 11:46
Antimony	ND		0.0400	mg/L	1	02/2/2015 11:46
Arsenic	ND		0.0100	mg/L	1	02/2/2015 11:46
Barium	ND		0.100	mg/L	1	02/2/2015 11:46
Beryllium	ND		0.0200	mg/L	1	02/3/2015 17:41
Cadmium	ND		0.00500	mg/L	1	02/2/2015 11:46
Calcium	**153**		10.0	mg/L	100	02/3/2015 17:50
Chromium	ND		0.0100	mg/L	1	02/2/2015 11:46
Cobalt	ND		0.0100	mg/L	1	02/2/2015 11:46
Copper	ND		0.0100	mg/L	1	02/2/2015 11:46
Iron	**0.825**		0.100	mg/L	1	02/2/2015 11:46
Lead	ND		0.0100	mg/L	1	02/2/2015 11:46
Magnesium	**149**		10.0	mg/L	100	02/3/2015 17:50
Manganese	**0.436**		0.0100	mg/L	1	02/2/2015 11:46
Nickel	ND		0.0100	mg/L	1	02/2/2015 11:46
Potassium	**14.2**		2.00	mg/L	10	02/3/2015 17:46
Selenium	ND		0.0200	mg/L	1	02/2/2015 11:46
Silver	ND		0.0100	mg/L	1	02/2/2015 11:46
Sodium	**903**		200	mg/L	1000	02/4/2015 10:53
Thallium	ND		0.0100	mg/L	1	02/2/2015 11:46
Vanadium	ND		0.0500	mg/L	1	02/2/2015 11:46
Zinc	ND		0.0200	mg/L	1	02/2/2015 11:46

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-04**

Client Sample ID: **BT-SW-04**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182004-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:15
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Aluminum	ND		0.100	mg/L	1	02/2/2015 11:53
Antimony	ND		0.0400	mg/L	1	02/2/2015 11:53
Arsenic	ND		0.0100	mg/L	1	02/2/2015 11:53
Barium	ND		0.100	mg/L	1	02/2/2015 11:53
Beryllium	ND		0.0200	mg/L	1	02/3/2015 18:03
Cadmium	ND		0.00500	mg/L	1	02/2/2015 11:53
Calcium	**113**		10.0	mg/L	100	02/3/2015 18:11
Chromium	ND		0.0100	mg/L	1	02/2/2015 11:53
Cobalt	ND		0.0100	mg/L	1	02/2/2015 11:53
Copper	ND		0.0100	mg/L	1	02/2/2015 11:53
Iron	**0.968**		0.100	mg/L	1	02/2/2015 11:53
Lead	ND		0.0100	mg/L	1	02/2/2015 11:53
Magnesium	**74.2**		10.0	mg/L	100	02/3/2015 18:11
Manganese	**0.206**		0.0100	mg/L	1	02/2/2015 11:53
Nickel	ND		0.0100	mg/L	1	02/2/2015 11:53
Potassium	**10.2**		2.00	mg/L	10	02/3/2015 18:07
Selenium	ND		0.0200	mg/L	1	02/2/2015 11:53
Silver	ND		0.0100	mg/L	1	02/2/2015 11:53
Sodium	**351**		20.0	mg/L	100	02/4/2015 10:57
Thallium	ND		0.0100	mg/L	1	02/2/2015 11:53
Vanadium	ND		0.0500	mg/L	1	02/2/2015 11:53
Zinc	ND		0.0200	mg/L	1	02/2/2015 11:53

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-05**

Client Sample ID: **BT-SW-05**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182005-G
Lab Project ID: 31500182

Collection Date: 01/26/2015 09:10
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Aluminum	ND		0.100	mg/L	1	02/2/2015 12:00
Antimony	ND		0.0400	mg/L	1	02/2/2015 12:00
Arsenic	ND		0.0100	mg/L	1	02/2/2015 12:00
Barium	ND		0.100	mg/L	1	02/2/2015 12:00
Beryllium	ND		0.0200	mg/L	1	02/3/2015 18:16
Cadmium	ND		0.00500	mg/L	1	02/2/2015 12:00
Calcium	**109**		10.0	mg/L	100	02/3/2015 18:24
Chromium	ND		0.0100	mg/L	1	02/2/2015 12:00
Cobalt	ND		0.0100	mg/L	1	02/2/2015 12:00
Copper	ND		0.0100	mg/L	1	02/2/2015 12:00
Iron	**0.949**		0.100	mg/L	1	02/2/2015 12:00
Lead	ND		0.0100	mg/L	1	02/2/2015 12:00
Magnesium	**72.0**		10.0	mg/L	100	02/3/2015 18:24
Manganese	**0.198**		0.0100	mg/L	1	02/2/2015 12:00
Nickel	ND		0.0100	mg/L	1	02/2/2015 12:00
Potassium	**9.16**		2.00	mg/L	10	02/3/2015 18:20
Selenium	ND		0.0200	mg/L	1	02/2/2015 12:00
Silver	ND		0.0100	mg/L	1	02/2/2015 12:00
Sodium	**354**		20.0	mg/L	100	02/4/2015 11:00
Thallium	ND		0.0100	mg/L	1	02/2/2015 12:00
Vanadium	ND		0.0500	mg/L	1	02/2/2015 12:00
Zinc	ND		0.0200	mg/L	1	02/2/2015 12:00

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-06**

Client Sample ID: **BT-SW-06**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182006-G
Lab Project ID: 31500182

Collection Date: 01/26/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Aluminum	ND		0.100	mg/L	1	02/2/2015 12:19
Antimony	ND		0.0400	mg/L	1	02/2/2015 12:19
Arsenic	ND		0.0100	mg/L	1	02/2/2015 12:19
Barium	ND		0.100	mg/L	1	02/2/2015 12:19
Beryllium	ND		0.0200	mg/L	1	02/3/2015 18:29
Cadmium	ND		0.00500	mg/L	1	02/2/2015 12:19
Calcium	**85.9**		10.0	mg/L	100	02/3/2015 18:37
Chromium	ND		0.0100	mg/L	1	02/2/2015 12:19
Cobalt	ND		0.0100	mg/L	1	02/2/2015 12:19
Copper	ND		0.0100	mg/L	1	02/2/2015 12:19
Iron	**0.156**		0.100	mg/L	1	02/2/2015 12:19
Lead	ND		0.0100	mg/L	1	02/2/2015 12:19
Magnesium	**42.5**		1.00	mg/L	10	02/3/2015 18:33
Manganese	**0.220**		0.0100	mg/L	1	02/2/2015 12:19
Nickel	ND		0.0100	mg/L	1	02/2/2015 12:19
Potassium	**7.82**		2.00	mg/L	10	02/3/2015 18:33
Selenium	ND		0.0200	mg/L	1	02/2/2015 12:19
Silver	ND		0.0100	mg/L	1	02/2/2015 12:19
Sodium	**181**		20.0	mg/L	100	02/4/2015 17:41
Thallium	ND		0.0100	mg/L	1	02/2/2015 12:19
Vanadium	ND		0.0500	mg/L	1	02/2/2015 12:19
Zinc	ND		0.0200	mg/L	1	02/2/2015 12:19

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2724**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-DUP**

Client Sample ID: **BT-SW-DUP**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182007-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 00:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Aluminum	ND		0.100	mg/L	1	02/2/2015 12:26
Antimony	ND		0.0400	mg/L	1	02/2/2015 12:26
Arsenic	ND		0.0100	mg/L	1	02/2/2015 12:26
Barium	ND		0.100	mg/L	1	02/2/2015 12:26
Beryllium	ND		0.0200	mg/L	1	02/4/2015 11:14
Cadmium	ND		0.00500	mg/L	1	02/2/2015 12:26
Calcium	**108**		10.0	mg/L	100	02/3/2015 18:59
Chromium	ND		0.0100	mg/L	1	02/2/2015 12:26
Cobalt	ND		0.0100	mg/L	1	02/2/2015 12:26
Copper	ND		0.0100	mg/L	1	02/2/2015 12:26
Iron	**1.04**		0.100	mg/L	1	02/2/2015 12:26
Lead	ND		0.0100	mg/L	1	02/2/2015 12:26
Magnesium	**67.6**		10.0	mg/L	100	02/3/2015 18:59
Manganese	**0.210**		0.0100	mg/L	1	02/2/2015 12:26
Nickel	ND		0.0100	mg/L	1	02/2/2015 12:26
Potassium	**10.6**		2.00	mg/L	10	02/3/2015 18:54
Selenium	ND		0.0200	mg/L	1	02/2/2015 12:26
Silver	ND		0.0100	mg/L	1	02/2/2015 12:26
Sodium	**335**		20.0	mg/L	100	02/4/2015 17:47
Thallium	ND		0.0100	mg/L	1	02/2/2015 12:26
Vanadium	ND		0.0500	mg/L	1	02/2/2015 12:26
Zinc	ND		0.0200	mg/L	1	02/2/2015 12:26

Results of **BT-SW-DUP**

Client Sample ID: **BT-SW-DUP**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182007-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 00:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2724**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Results of **BT-SD-01**

Client Sample ID: **BT-SD-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182008-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 15:45
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 60.60

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Arsenic	ND		1.50	mg/kg	1	02/3/2015 20:55
Thallium	ND		1.50	mg/kg	1	02/2/2015 16:42
Selenium	ND		3.00	mg/kg	1	02/2/2015 16:42
Antimony	ND		6.00	mg/kg	1	02/2/2015 16:42
Zinc	**56.6**		3.00	mg/kg	1	02/2/2015 16:42
Cadmium	ND		0.750	mg/kg	1	02/2/2015 16:42
Lead	**5.43**		1.50	mg/kg	1	02/2/2015 16:42
Cobalt	**3.94**		1.50	mg/kg	1	02/2/2015 16:42
Nickel	**9.79**		1.50	mg/kg	1	02/2/2015 16:42
Barium	**1230**		150	mg/kg	10	02/4/2015 12:50
Manganese	**414**		15.0	mg/kg	10	02/4/2015 12:50
Iron	**9830**		1500	mg/kg	100	02/3/2015 21:04
Chromium	**10.2**		1.50	mg/kg	1	02/2/2015 16:42
Magnesium	**11900**		1500	mg/kg	100	02/3/2015 21:04
Vanadium	**19.9**		7.50	mg/kg	1	02/2/2015 16:42
Aluminum	**5120**		300	mg/kg	10	02/3/2015 20:59
Beryllium	ND		1.50	mg/kg	1	02/3/2015 20:55
Calcium	**33700**		1500	mg/kg	100	02/3/2015 21:04
Copper	**10.3**		1.50	mg/kg	1	02/2/2015 16:42
Silver	ND		1.50	mg/kg	1	02/2/2015 16:42
Sodium	**8320**		3000	mg/kg	100	02/4/2015 19:41
Potassium	**2110**		300	mg/kg	10	02/3/2015 20:59

Print Date: 02/06/2015

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Results of **BT-SD-01**

Client Sample ID: **BT-SD-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182008-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 15:45
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 60.60

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Prep Initial Wt./Vol.: **.55 g**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Prep Initial Wt./Vol.: **.55 g**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Prep Initial Wt./Vol.: **.55 g**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2724**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Prep Initial Wt./Vol.: **.55 g**
Prep Extract Vol: **50 mL**

Results of **BT-SD-02**

Client Sample ID: **BT-SD-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182009-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 16:30
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 37.70

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Arsenic	ND		2.65	mg/kg	1	02/3/2015 21:42
Thallium	**22.6**		2.65	mg/kg	1	02/2/2015 17:02
Selenium	ND		5.31	mg/kg	1	02/2/2015 17:02
Antimony	ND		10.6	mg/kg	1	02/2/2015 17:02
Zinc	**222**		5.31	mg/kg	1	02/2/2015 17:02
Cadmium	ND		1.33	mg/kg	1	02/2/2015 17:02
Lead	**6.69**		2.65	mg/kg	1	02/2/2015 17:02
Cobalt	**3.21**		2.65	mg/kg	1	02/2/2015 17:02
Nickel	**7.73**		2.65	mg/kg	1	02/2/2015 17:02
Barium	**199**		26.5	mg/kg	1	02/2/2015 17:02
Manganese	**470**		26.5	mg/kg	10	02/4/2015 13:34
Iron	**20500**		2650	mg/kg	100	02/3/2015 21:51
Chromium	**9.12**		2.65	mg/kg	1	02/2/2015 17:02
Magnesium	**9790**		265	mg/kg	10	02/3/2015 21:47
Vanadium	**14.4**		13.3	mg/kg	1	02/2/2015 17:02
Aluminum	**5090**		531	mg/kg	10	02/3/2015 21:47
Beryllium	ND		2.65	mg/kg	1	02/3/2015 21:42
Calcium	**58100**		2650	mg/kg	100	02/3/2015 21:51
Copper	**7.21**		2.65	mg/kg	1	02/2/2015 17:02
Silver	ND		2.65	mg/kg	1	02/2/2015 17:02
Sodium	**25000**		5310	mg/kg	100	02/4/2015 20:11
Potassium	**3330**		531	mg/kg	10	02/3/2015 21:47

Print Date: 02/06/2015

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Results of **BT-SD-02**

Client Sample ID: **BT-SD-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182009-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 16:30
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 37.70

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Prep Initial Wt./Vol.: **.5 g**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Prep Initial Wt./Vol.: **.5 g**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Prep Initial Wt./Vol.: **.5 g**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2724**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Prep Initial Wt./Vol.: **.5 g**
Prep Extract Vol: **50 mL**

Results of **BT-SD-03**

Client Sample ID: **BT-SD-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182010-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:00
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 76.00

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Arsenic	ND		1.22	mg/kg	1	02/3/2015 21:55
Thallium	ND		1.22	mg/kg	1	02/2/2015 17:08
Selenium	ND		2.44	mg/kg	1	02/2/2015 17:08
Antimony	ND		4.87	mg/kg	1	02/2/2015 17:08
Zinc	**3.61**		2.44	mg/kg	1	02/2/2015 17:08
Cadmium	ND		0.609	mg/kg	1	02/2/2015 17:08
Lead	ND		1.22	mg/kg	1	02/2/2015 17:08
Cobalt	ND		1.22	mg/kg	1	02/2/2015 17:08
Nickel	ND		1.22	mg/kg	1	02/2/2015 17:08
Barium	ND		12.2	mg/kg	1	02/2/2015 17:08
Manganese	**374**		12.2	mg/kg	10	02/4/2015 13:45
Iron	**15000**		1220	mg/kg	100	02/3/2015 22:04
Chromium	**1.45**		1.22	mg/kg	1	02/2/2015 17:08
Magnesium	**12200**		1220	mg/kg	100	02/3/2015 22:04
Vanadium	ND		6.09	mg/kg	1	02/2/2015 17:08
Aluminum	**410**		24.4	mg/kg	1	02/2/2015 17:08
Beryllium	ND		1.22	mg/kg	1	02/3/2015 21:55
Calcium	**29200**		1220	mg/kg	100	02/3/2015 22:04
Copper	ND		1.22	mg/kg	1	02/2/2015 17:08
Silver	ND		1.22	mg/kg	1	02/2/2015 17:08
Sodium	**109**		24.4	mg/kg	1	02/4/2015 20:17
Potassium	**94.9**		24.4	mg/kg	1	02/3/2015 21:55

Results of **BT-SD-03**

Client Sample ID: **BT-SD-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182010-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:00
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 76.00

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Prep Initial Wt./Vol.: **.54 g**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Prep Initial Wt./Vol.: **.54 g**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Prep Initial Wt./Vol.: **.54 g**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2724**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Prep Initial Wt./Vol.: **.54 g**
Prep Extract Vol: **50 mL**

Results of **BT-PW-01**

Client Sample ID: **BT-PW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182011-G
Lab Project ID: 31500182

Collection Date: 01/24/2015 14:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Aluminum	ND		1.00	mg/L	1	02/2/2015 12:32
Antimony	ND		0.400	mg/L	1	02/2/2015 12:32
Arsenic	ND		0.100	mg/L	1	02/2/2015 12:32
Barium	**14.4**		1.00	mg/L	1	02/2/2015 12:32
Beryllium	ND		0.200	mg/L	1	02/4/2015 11:21
Cadmium	ND		0.0500	mg/L	1	02/2/2015 12:32
Calcium	**20500**		1000	mg/L	1000	02/3/2015 19:07
Chromium	**0.275**		0.100	mg/L	1	02/2/2015 12:32
Cobalt	ND		0.100	mg/L	1	02/2/2015 12:32
Copper	ND		0.100	mg/L	1	02/2/2015 12:32
Iron	**120**		10.0	mg/L	10	02/2/2015 12:39
Lead	ND		0.100	mg/L	1	02/2/2015 12:32
Magnesium	**1830**		100	mg/L	100	02/2/2015 12:45
Manganese	**9.08**		0.100	mg/L	1	02/2/2015 12:32
Nickel	ND		0.100	mg/L	1	02/2/2015 12:32
Potassium	**13900**		2000	mg/L	1000	02/3/2015 19:07
Selenium	ND		0.200	mg/L	1	02/2/2015 12:32
Silver	ND		0.100	mg/L	1	02/2/2015 12:32
Sodium	**223000**		200000	mg/L	100000	02/4/2015 17:53
Thallium	**0.254**		0.100	mg/L	1	02/2/2015 12:32
Vanadium	ND		0.500	mg/L	1	02/2/2015 12:32
Zinc	**0.529**		0.200	mg/L	1	02/2/2015 12:32

Results of **BT-PW-01**

Client Sample ID: **BT-PW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182011-G
Lab Project ID: 31500182

Collection Date: 01/24/2015 14:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **5 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **5 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **5 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2724**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **5 mL**
Prep Extract Vol: **50 mL**

Results of **BT-PW-02**

Client Sample ID: **BT-PW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182012-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 10:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Arsenic	ND		0.100	mg/L	1	02/2/2015 12:52
Thallium	**0.220**		0.100	mg/L	1	02/2/2015 12:52
Selenium	ND		0.200	mg/L	1	02/2/2015 12:52
Antimony	ND		0.400	mg/L	1	02/2/2015 12:52
Zinc	**0.201**		0.200	mg/L	1	02/2/2015 12:52
Cadmium	ND		0.0500	mg/L	1	02/2/2015 12:52
Lead	ND		0.100	mg/L	1	02/2/2015 12:52
Cobalt	ND		0.100	mg/L	1	02/2/2015 12:52
Nickel	ND		0.100	mg/L	1	02/2/2015 12:52
Barium	**15.3**		1.00	mg/L	1	02/2/2015 12:52
Manganese	**64.0**		1.00	mg/L	10	02/2/2015 12:59
Iron	**164**		10.0	mg/L	10	02/2/2015 12:59
Chromium	ND		0.100	mg/L	1	02/2/2015 12:52
Magnesium	**1750**		100	mg/L	100	02/2/2015 13:05
Vanadium	ND		0.500	mg/L	1	02/2/2015 12:52
Aluminum	ND		1.00	mg/L	1	02/2/2015 12:52
Beryllium	ND		0.200	mg/L	1	02/4/2015 11:28
Calcium	**19700**		1000	mg/L	1000	02/3/2015 19:20
Copper	ND		0.100	mg/L	1	02/2/2015 12:52
Silver	ND		0.100	mg/L	1	02/2/2015 12:52
Sodium	**209000**		200000	mg/L	100000	02/4/2015 17:59
Potassium	**17200**		2000	mg/L	1000	02/3/2015 19:20

Print Date: 02/06/2015

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Results of **BT-PW-02**

Client Sample ID: **BT-PW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182012-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 10:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **5 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **5 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **5 mL**
Prep Extract Vol: **50 mL**

Analytical Batch: **MIP2724**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Prep Initial Wt./Vol.: **5 mL**
Prep Extract Vol: **50 mL**

SW-846 6010C
QC, Blanks Data

Print Date: 02/06/2015

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Instrument Detection Limits **Form 9**

Instrument: ICP1
Units: mg/L

Results by **SW-846 6010C**

Parameter	Wavelength/Mass	CRQL	MDL
Aluminum	308	0.100	0.0533
Antimony	207	0.0400	0.00515
Arsenic	189	0.0100	0.00268
Barium	234	0.100	0.000394
Beryllium	313	0.0100	0.00858
Cadmium	214	0.00500	0.000690
Calcium	318	0.100	0.0348
Chromium	268	0.0100	0.00125
Cobalt	229	0.0100	0.00207
Copper	325	0.0100	0.00198
Iron	260	0.100	0.0544
Lead	220	0.0100	0.00794
Magnesium	279	0.100	0.0648
Manganese	258	0.0100	0.00159
Nickel	232	0.0100	0.00254
Potassium	766	0.200	0.0289
Selenium	196	0.0200	0.00691
Silver	328	0.0100	0.00141
Sodium	590	0.200	0.0296
Thallium	191	0.0100	0.00779
Vanadium	292	0.0500	0.00421
Zinc	214	0.0200	0.00226

SW-846 6010C
Batch MXX3844

Print Date: 02/06/2015

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Batch Summary

Analytical Method: SW-846 6010C

Prep Method: SW-846 3010A
Prep Batch: MXX3844
Prep Date: 01/30/2015 08:24

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 63753 [MXX/3844]	158133	02/02/2015 11:00	MIP2719	ICP1	PSW
LCS for HBN 63753 [MXX/3844]	158134	02/02/2015 11:07	MIP2719	ICP1	PSW
LCSD for HBN 63753 [MXX/3844]	158135	02/02/2015 11:14	MIP2719	ICP1	PSW
BT-SW-01	31500182001	02/02/2015 11:20	MIP2719	ICP1	PSW
BT-SW-01(157958MS)	158136	02/02/2015 11:27	MIP2719	ICP1	PSW
BT-SW-01(157958MSD)	158137	02/02/2015 11:33	MIP2719	ICP1	PSW
BT-SW-02	31500182002	02/02/2015 11:40	MIP2719	ICP1	PSW
BT-SW-03	31500182003	02/02/2015 11:46	MIP2719	ICP1	PSW
BT-SW-04	31500182004	02/02/2015 11:53	MIP2719	ICP1	PSW
BT-SW-05	31500182005	02/02/2015 12:00	MIP2719	ICP1	PSW
BT-SW-06	31500182006	02/02/2015 12:19	MIP2719	ICP1	PSW
BT-SW-DUP	31500182007	02/02/2015 12:26	MIP2719	ICP1	PSW
BT-PW-01	31500182011	02/02/2015 12:32	MIP2719	ICP1	PSW
BT-PW-01	31500182011	02/02/2015 12:39	MIP2719	ICP1	PSW
BT-PW-01	31500182011	02/02/2015 12:45	MIP2719	ICP1	PSW
BT-PW-02	31500182012	02/02/2015 12:52	MIP2719	ICP1	PSW
BT-PW-02	31500182012	02/02/2015 12:59	MIP2719	ICP1	PSW
BT-PW-02	31500182012	02/02/2015 13:05	MIP2719	ICP1	PSW
OUTFALL(157990DUP)	158138	02/02/2015 15:02	MIP2719	ICP1	PSW
LCS for HBN 63753 [MXX/3844]	158134	02/03/2015 16:32	MIP2721	ICP1	PSW
LCSD for HBN 63753 [MXX/3844]	158135	02/03/2015 16:37	MIP2721	ICP1	PSW
BT-SW-01	31500182001	02/03/2015 16:41	MIP2721	ICP1	PSW
BT-SW-01	31500182001	02/03/2015 16:45	MIP2721	ICP1	PSW
BT-SW-01	31500182001	02/03/2015 16:50	MIP2721	ICP1	PSW
BT-SW-01(157958MS)	158136	02/03/2015 16:54	MIP2721	ICP1	PSW
BT-SW-01(157958MS)	158136	02/03/2015 16:58	MIP2721	ICP1	PSW
BT-SW-01(157958MS)	158136	02/03/2015 17:03	MIP2721	ICP1	PSW
BT-SW-01(157958MSD)	158137	02/03/2015 17:15	MIP2721	ICP1	PSW
BT-SW-01(157958MSD)	158137	02/03/2015 17:20	MIP2721	ICP1	PSW
BT-SW-01(157958MSD)	158137	02/03/2015 17:24	MIP2721	ICP1	PSW
BT-SW-02	31500182002	02/03/2015 17:28	MIP2721	ICP1	PSW
BT-SW-02	31500182002	02/03/2015 17:33	MIP2721	ICP1	PSW
BT-SW-02	31500182002	02/03/2015 17:37	MIP2721	ICP1	PSW
BT-SW-03	31500182003	02/03/2015 17:41	MIP2721	ICP1	PSW
BT-SW-03	31500182003	02/03/2015 17:46	MIP2721	ICP1	PSW
BT-SW-03	31500182003	02/03/2015 17:50	MIP2721	ICP1	PSW
BT-SW-04	31500182004	02/03/2015 18:03	MIP2721	ICP1	PSW
BT-SW-04	31500182004	02/03/2015 18:07	MIP2721	ICP1	PSW
BT-SW-04	31500182004	02/03/2015 18:11	MIP2721	ICP1	PSW
BT-SW-05	31500182005	02/03/2015 18:16	MIP2721	ICP1	PSW

Batch Summary

Analytical Method: SW-846 6010C

Prep Method: SW-846 3010A
Prep Batch: MXX3844
Prep Date: 01/30/2015 08:24

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
BT-SW-05	31500182005	02/03/2015 18:20	MIP2721	ICP1	PSW
BT-SW-05	31500182005	02/03/2015 18:24	MIP2721	ICP1	PSW
BT-SW-06	31500182006	02/03/2015 18:29	MIP2721	ICP1	PSW
BT-SW-06	31500182006	02/03/2015 18:33	MIP2721	ICP1	PSW
BT-SW-06	31500182006	02/03/2015 18:37	MIP2721	ICP1	PSW
BT-SW-DUP	31500182007	02/03/2015 18:54	MIP2721	ICP1	PSW
BT-SW-DUP	31500182007	02/03/2015 18:59	MIP2721	ICP1	PSW
BT-PW-01	31500182011	02/03/2015 19:07	MIP2721	ICP1	PSW
BT-PW-02	31500182012	02/03/2015 19:20	MIP2721	ICP1	PSW
MB for HBN 63753 [MXX/3844]	158133	02/04/2015 10:29	MIP2722	ICP1	PSW
LCS for HBN 63753 [MXX/3844]	158134	02/04/2015 10:33	MIP2722	ICP1	PSW
LCSD for HBN 63753 [MXX/3844]	158135	02/04/2015 10:36	MIP2722	ICP1	PSW
BT-SW-01	31500182001	02/04/2015 10:40	MIP2722	ICP1	PSW
BT-SW-01(157958MS)	158136	02/04/2015 10:43	MIP2722	ICP1	PSW
BT-SW-01(157958MSD)	158137	02/04/2015 10:46	MIP2722	ICP1	PSW
BT-SW-02	31500182002	02/04/2015 10:50	MIP2722	ICP1	PSW
BT-SW-03	31500182003	02/04/2015 10:53	MIP2722	ICP1	PSW
BT-SW-04	31500182004	02/04/2015 10:57	MIP2722	ICP1	PSW
BT-SW-05	31500182005	02/04/2015 11:00	MIP2722	ICP1	PSW
BT-SW-DUP	31500182007	02/04/2015 11:14	MIP2722	ICP1	PSW
BT-PW-01	31500182011	02/04/2015 11:21	MIP2722	ICP1	PSW
BT-PW-02	31500182012	02/04/2015 11:28	MIP2722	ICP1	PSW
BT-SW-06	31500182006	02/04/2015 17:41	MIP2724	ICP1	PSW
BT-SW-DUP	31500182007	02/04/2015 17:47	MIP2724	ICP1	PSW
BT-PW-01	31500182011	02/04/2015 17:53	MIP2724	ICP1	PSW
BT-PW-02	31500182012	02/04/2015 17:59	MIP2724	ICP1	PSW

Method Blank

Blank ID: MB for HBN 63753 [MXX/3844]
Matrix: Water
Blank Lab ID: 158133
QC for Samples:
31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF
Arsenic	ND		0.0100	mg/L	1
Thallium	ND		0.0100	mg/L	1
Selenium	ND		0.0200	mg/L	1
Antimony	ND		0.0400	mg/L	1
Zinc	ND		0.0200	mg/L	1
Cadmium	ND		0.00500	mg/L	1
Lead	ND		0.0100	mg/L	1
Cobalt	ND		0.0100	mg/L	1
Nickel	ND		0.0100	mg/L	1
Barium	ND		0.100	mg/L	1
Manganese	ND		0.0100	mg/L	1
Iron	ND		0.100	mg/L	1
Chromium	ND		0.0100	mg/L	1
Magnesium	ND		0.100	mg/L	1
Vanadium	ND		0.0500	mg/L	1
Aluminum	ND		0.100	mg/L	1
Beryllium	ND		0.0200	mg/L	1
Calcium	ND		0.100	mg/L	1
Copper	ND		0.0100	mg/L	1
Silver	ND		0.0100	mg/L	1
Sodium	ND		0.200	mg/L	1
Potassium	ND		0.200	mg/L	1

Batch Information

Analytical Batch: MIP2719
Analytical Method: SW-846 6010C
Instrument: ICP1
Analyst: PSW

Prep Batch: MXX3844
Prep Method: SW-846 3010A
Prep Date/Time: 1/30/2015 8:24:00AM
Prep Initial Wt./Vol.: 50 mL
Prep Extract Vol: 50 mL

Analytical Batch: MIP2722
Analytical Method: SW-846 6010C
Instrument: ICP1
Analyst: PSW

Prep Batch: MXX3844
Prep Method: SW-846 3010A
Prep Date/Time: 1/30/2015 8:24:00AM
Prep Initial Wt./Vol.: 50 mL
Prep Extract Vol: 50 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 63753 [MXX/3844]
Blank Spike Lab ID: 158134
Date Analyzed: 02/02/2015 11:07

Spike Duplicate ID: LCSD for HBN 63753 [MXX/3844]
Spike Duplicate Lab ID: 158135
Date Analyzed: 02/02/2015 11:14
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 6010C**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Arsenic	0.400	0.412	103	0.400	0.416	104	80.0-120	0.97	20.00
Thallium	0.400	0.399	100	0.400	0.398	100	80.0-120	0.25	20.00
Selenium	0.400	0.402	100	0.400	0.396	99	80.0-120	1.5	20.00
Antimony	0.400	0.418	105	0.400	0.420	105	80.0-120	0.48	20.00
Zinc	0.400	0.399	100	0.400	0.402	101	80.0-120	0.75	20.00
Cadmium	0.400	0.396	99	0.400	0.396	99	80.0-120	0.0	20.00
Lead	0.400	0.389	97	0.400	0.392	98	80.0-120	0.77	20.00
Cobalt	0.400	0.415	104	0.400	0.413	103	80.0-120	0.48	20.00
Nickel	0.400	0.405	101	0.400	0.408	102	80.0-120	0.74	20.00
Barium	2.00	1.99	99	2.00	1.98	99	80.0-120	0.50	20.00
Manganese	0.400	0.409	102	0.400	0.409	102	80.0-120	0.0	20.00
Iron	2.00	1.89	95	2.00	1.90	95	80.0-120	0.53	20.00
Chromium	0.400	0.403	101	0.400	0.397	99	80.0-120	1.5	20.00
Magnesium	2.00	2.02	101	2.00	1.99	99	80.0-120	1.5	20.00
Vanadium	0.400	0.408	102	0.400	0.413	103	80.0-120	1.2	20.00
Aluminum	2.00	1.98	99	2.00	1.99	99	80.0-120	0.50	20.00
Beryllium	0.400	0.377	94	0.400	0.379	95	80.0-120	0.53	20.00
Calcium	2.00	2.00	100	2.00	2.03	102	80.0-120	1.5	20.00
Copper	0.400	0.405	101	0.400	0.409	102	80.0-120	0.98	20.00
Silver	0.400	0.430	107	0.400	0.426	106	80.0-120	0.93	20.00
Sodium	2.00	2.00	100	2.00	2.11	106	80.0-120	5.4	20.00
Potassium	2.00	1.96	98	2.00	1.97	98	80.0-120	0.51	20.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 63753 [MXX/3844]
Blank Spike Lab ID: 158134
Date Analyzed: 02/02/2015 11:07

Spike Duplicate ID: LCSD for HBN 63753 [MXX/3844]
Spike Duplicate Lab ID: 158135
Date Analyzed: 02/02/2015 11:14
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 6010C**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Spike Init Wt./Vol.: **50 mL** Extract Vol: **50 mL**
Dupe Init Wt./Vol.: **50 mL** Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Spike Init Wt./Vol.: **50 mL** Extract Vol: **50 mL**
Dupe Init Wt./Vol.: **50 mL** Extract Vol: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
Spike Init Wt./Vol.: **50 mL** Extract Vol: **50 mL**
Dupe Init Wt./Vol.: **50 mL** Extract Vol: **50 mL**

Matrix Spike Summary

Original Sample ID: 31500182001 (BT-SW-01)
MS Sample ID: 158136
MSD Sample ID: 158137

Analysis Date: 02/02/2015 11:20
Analysis Date: 02/02/2015 11:27
Analysis Date: 02/02/2015 11:33
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 6010C**

		Matrix Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Aluminum	0.188	2.00	2.14	97	2.00	2.06	94	75.0-125	3.8	20.00
Antimony	ND	0.400	0.401	100	0.400	0.395	99	75.0-125	1.5	20.00
Arsenic	ND	0.400	0.406	102	0.400	0.393	98	75.0-125	3.3	20.00
Barium	ND	2.00	1.90	95	2.00	1.85	92	75.0-125	2.7	20.00
Beryllium	ND	0.400	0.344	86	0.400	0.358	90	75.0-125	4.0	20.00
Cadmium	ND	0.400	0.361	90	0.400	0.357	89	75.0-125	1.1	20.00
Calcium	221	2.00	219	-111 *	2.00	226	270 *	75.0-125	3.1	20.00
Chromium	ND	0.400	0.371	93	0.400	0.360	90	75.0-125	3.0	20.00
Cobalt	ND	0.400	0.383	96	0.400	0.377	94	75.0-125	1.6	20.00
Copper	ND	0.400	0.425	106	0.400	0.416	104	75.0-125	2.1	20.00
Iron	1.32	2.00	3.16	92	2.00	3.04	86	75.0-125	3.9	20.00
Lead	ND	0.400	0.360	90	0.400	0.352	88	75.0-125	2.2	20.00
Magnesium	192	2.00	190	-82 *	2.00	196	222 *	75.0-125	3.1	20.00
Manganese	0.742	0.400	1.11	92	0.400	1.09	88	75.0-125	1.8	20.00
Nickel	ND	0.400	0.375	94	0.400	0.367	92	75.0-125	2.2	20.00
Potassium	22.8	2.00	25.2	117	2.00	25.3	122	75.0-125	0.40	20.00
Selenium	ND	0.400	0.396	99	0.400	0.378	95	75.0-125	4.7	20.00
Silver	ND	0.400	0.432	108	0.400	0.420	105	75.0-125	2.8	20.00
Sodium	1130	2.00	1210	4155 *	2.00	1240	5520 *	75.0-125	2.4	20.00
Thallium	ND	0.400	0.363	91	0.400	0.358	89	75.0-125	1.4	20.00
Vanadium	ND	0.400	0.381	95	0.400	0.376	94	75.0-125	1.3	20.00
Zinc	ND	0.400	0.410	102	0.400	0.401	100	75.0-125	2.2	20.00

Print Date: 02/06/2015

N.C. Certification # 481

Matrix Spike Summary

Original Sample ID: 31500182001 (BT-SW-01)
MS Sample ID: 158136
MSD Sample ID: 158137

Analysis Date: 02/02/2015 11:20
Analysis Date: 02/02/2015 11:27
Analysis Date: 02/02/2015 11:33
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 6010C**

		Matrix Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
MS Init Wt./Vol.: **50 mL** Extract Vol.: **50 mL**
MSD Init Wt./Vol.: **50 mL** Extract Vol.: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
MS Init Wt./Vol.: **50 mL** Extract Vol.: **50 mL**
MSD Init Wt./Vol.: **50 mL** Extract Vol.: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3844**
Prep Method: **SW-846 3010A**
Prep Date/Time: **01/30/2015 08:24**
MS Init Wt./Vol.: **50 mL** Extract Vol.: **50 mL**
MSD Init Wt./Vol.: **50 mL** Extract Vol.: **50 mL**

SW-846 6010C
Batch MXX3845

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 6010C

Prep Method: SW-846 3050B
Prep Batch: MXX3845
Prep Date: 01/30/2015 11:35

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 63754 [MXX/3845]	158139	02/02/2015 16:22	MIP2719	ICP1	PSW
LCS for HBN 63754 [MXX/3845]	158140	02/02/2015 16:29	MIP2719	ICP1	PSW
LCSD for HBN 63754 [MXX/3845]	158141	02/02/2015 16:35	MIP2719	ICP1	PSW
BT-SD-01	31500182008	02/02/2015 16:42	MIP2719	ICP1	PSW
BT-SD-01(157965MS)	158142	02/02/2015 16:49	MIP2719	ICP1	PSW
BT-SD-01(157965MSD)	158143	02/02/2015 16:55	MIP2719	ICP1	PSW
BT-SD-02	31500182009	02/02/2015 17:02	MIP2719	ICP1	PSW
BT-SD-03	31500182010	02/02/2015 17:08	MIP2719	ICP1	PSW
BT-SD-03(157967DUP)	158144	02/02/2015 17:15	MIP2719	ICP1	PSW
MB for HBN 63754 [MXX/3845]	158139	02/03/2015 20:42	MIP2721	ICP1	PSW
LCS for HBN 63754 [MXX/3845]	158140	02/03/2015 20:46	MIP2721	ICP1	PSW
LCSD for HBN 63754 [MXX/3845]	158141	02/03/2015 20:51	MIP2721	ICP1	PSW
BT-SD-01	31500182008	02/03/2015 20:55	MIP2721	ICP1	PSW
BT-SD-01	31500182008	02/03/2015 20:59	MIP2721	ICP1	PSW
BT-SD-01	31500182008	02/03/2015 21:04	MIP2721	ICP1	PSW
BT-SD-01(157965MS)	158142	02/03/2015 21:08	MIP2721	ICP1	PSW
BT-SD-01(157965MS)	158142	02/03/2015 21:12	MIP2721	ICP1	PSW
BT-SD-01(157965MS)	158142	02/03/2015 21:25	MIP2721	ICP1	PSW
BT-SD-01(157965MSD)	158143	02/03/2015 21:29	MIP2721	ICP1	PSW
BT-SD-01(157965MSD)	158143	02/03/2015 21:34	MIP2721	ICP1	PSW
BT-SD-01(157965MSD)	158143	02/03/2015 21:38	MIP2721	ICP1	PSW
BT-SD-02	31500182009	02/03/2015 21:42	MIP2721	ICP1	PSW
BT-SD-02	31500182009	02/03/2015 21:47	MIP2721	ICP1	PSW
BT-SD-02	31500182009	02/03/2015 21:51	MIP2721	ICP1	PSW
BT-SD-03	31500182010	02/03/2015 21:55	MIP2721	ICP1	PSW
BT-SD-03	31500182010	02/03/2015 22:04	MIP2721	ICP1	PSW
BT-SD-03(157967DUP)	158144	02/03/2015 22:17	MIP2721	ICP1	PSW
BT-SD-03(157967DUP)	158144	02/03/2015 22:21	MIP2721	ICP1	PSW
BT-SD-03(157967DUP)	158144	02/03/2015 22:26	MIP2721	ICP1	PSW
BT-SD-01	31500182008	02/04/2015 12:50	MIP2722	ICP1	PSW
BT-SD-01(157965MS)	158142	02/04/2015 13:01	MIP2722	ICP1	PSW
BT-SD-01(157965MSD)	158143	02/04/2015 13:11	MIP2722	ICP1	PSW
BT-SD-02	31500182009	02/04/2015 13:34	MIP2722	ICP1	PSW
BT-SD-03	31500182010	02/04/2015 13:45	MIP2722	ICP1	PSW
BT-SD-03(157967DUP)	158144	02/04/2015 13:55	MIP2722	ICP1	PSW
MB for HBN 63754 [MXX/3845]	158139	02/04/2015 19:23	MIP2724	ICP1	PSW
LCS for HBN 63754 [MXX/3845]	158140	02/04/2015 19:29	MIP2724	ICP1	PSW
LCSD for HBN 63754 [MXX/3845]	158141	02/04/2015 19:35	MIP2724	ICP1	PSW
BT-SD-01	31500182008	02/04/2015 19:41	MIP2724	ICP1	PSW
BT-SD-01(157965MS)	158142	02/04/2015 19:47	MIP2724	ICP1	PSW

Batch Summary

Analytical Method: SW-846 6010C

Prep Method: SW-846 3050B
Prep Batch: MXX3845
Prep Date: 01/30/2015 11:35

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
BT-SD-01(157965MSD)	158143	02/04/2015 20:05	MIP2724	ICP1	PSW
BT-SD-02	31500182009	02/04/2015 20:11	MIP2724	ICP1	PSW
BT-SD-03	31500182010	02/04/2015 20:17	MIP2724	ICP1	PSW
BT-SD-03(157967DUP)	158144	02/04/2015 20:23	MIP2724	ICP1	PSW

Method Blank

Blank ID: MB for HBN 63754 [MXX/3845]
Blank Lab ID: 158139
QC for Samples:
31500182008, 31500182009, 31500182010

Matrix: Soil-Solid as dry weight

Results by **SW-846 6010C**

Parameter	Result	Qual	LOQ/CL	Units	DF
Arsenic	ND		0.893	mg/kg	1
Thallium	ND		0.893	mg/kg	1
Selenium	ND		1.79	mg/kg	1
Antimony	ND		3.57	mg/kg	1
Zinc	ND		1.79	mg/kg	1
Cadmium	ND		0.446	mg/kg	1
Lead	ND		0.893	mg/kg	1
Cobalt	ND		0.893	mg/kg	1
Nickel	ND		0.893	mg/kg	1
Barium	ND		8.93	mg/kg	1
Manganese	ND		0.893	mg/kg	1
Iron	ND		8.93	mg/kg	1
Chromium	ND		0.893	mg/kg	1
Magnesium	ND		8.93	mg/kg	1
Vanadium	ND		4.46	mg/kg	1
Aluminum	ND		17.9	mg/kg	1
Beryllium	ND		0.893	mg/kg	1
Calcium	ND		8.93	mg/kg	1
Copper	ND		0.893	mg/kg	1
Silver	ND		0.893	mg/kg	1
Sodium	ND		17.9	mg/kg	1
Potassium	ND		17.9	mg/kg	1

Batch Information

Analytical Batch: MIP2719
Analytical Method: SW-846 6010C
Instrument: ICP1
Analyst: PSW

Prep Batch: MXX3845
Prep Method: SW-846 3050B
Prep Date/Time: 1/30/2015 11:35:53AM
Prep Initial Wt./Vol.: .56 g
Prep Extract Vol: 50 mL

Analytical Batch: MIP2721
Analytical Method: SW-846 6010C
Instrument: ICP1
Analyst: PSW

Prep Batch: MXX3845
Prep Method: SW-846 3050B
Prep Date/Time: 1/30/2015 11:35:53AM
Prep Initial Wt./Vol.: .56 g
Prep Extract Vol: 50 mL

Analytical Batch: MIP2724
Analytical Method: SW-846 6010C
Instrument: ICP1
Analyst: PSW

Prep Batch: MXX3845
Prep Method: SW-846 3050B
Prep Date/Time: 1/30/2015 11:35:53AM
Prep Initial Wt./Vol.: .56 g
Prep Extract Vol: 50 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 63754 [MXX/3845]
Blank Spike Lab ID: 158140
Date Analyzed: 02/03/2015 20:46

Spike Duplicate ID: LCSD for HBN 63754 [MXX/3845]
Spike Duplicate Lab ID: 158141
Date Analyzed: 02/03/2015 20:51
Matrix: Soil-Solid as dry weight

QC for Samples: 31500182008, 31500182009, 31500182010

Results by **SW-846 6010C**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Arsenic	35.7	33.2	93	36.4	34.6	95	80.0-120	4.1	20.00
Thallium	35.7	36.0	101	36.4	38.0	105	80.0-120	5.4	20.00
Selenium	35.7	36.2	101	36.4	37.7	104	80.0-120	4.1	20.00
Antimony	35.7	38.1	107	36.4	39.0	107	80.0-120	2.3	20.00
Zinc	35.7	36.5	102	36.4	38.0	105	80.0-120	4.0	20.00
Cadmium	35.7	37.0	104	36.4	37.8	104	80.0-120	2.1	20.00
Lead	35.7	36.1	101	36.4	37.5	103	80.0-120	3.8	20.00
Cobalt	35.7	38.7	108	36.4	38.5	106	80.0-120	0.52	20.00
Nickel	35.7	37.5	105	36.4	38.8	107	80.0-120	3.4	20.00
Barium	179	183	103	182	187	103	80.0-120	2.2	20.00
Manganese	35.7	37.5	105	36.4	38.5	106	80.0-120	2.6	20.00
Iron	179	178	100	182	181	99	80.0-120	1.7	20.00
Chromium	35.7	36.9	103	36.4	37.8	104	80.0-120	2.4	20.00
Magnesium	179	183	103	182	188	103	80.0-120	2.7	20.00
Vanadium	35.7	38.0	106	36.4	39.0	107	80.0-120	2.6	20.00
Aluminum	179	180	101	182	185	102	80.0-120	2.7	20.00
Beryllium	35.7	32.6	91	36.4	33.8	93	80.0-120	3.6	20.00
Calcium	179	186	104	182	192	106	80.0-120	3.2	20.00
Copper	35.7	37.5	105	36.4	38.0	105	80.0-120	1.3	20.00
Silver	35.7	38.1	107	36.4	39.0	107	80.0-120	2.3	20.00
Sodium	179	184	103	182	186	102	80.0-120	1.1	20.00
Potassium	179	175	98	182	180	99	80.0-120	2.8	20.00

Blank Spike Summary

Blank Spike ID: LCS for HBN 63754 [MXX/3845]
Blank Spike Lab ID: 158140
Date Analyzed: 02/03/2015 20:46

Spike Duplicate ID: LCSD for HBN 63754 [MXX/3845]
Spike Duplicate Lab ID: 158141
Date Analyzed: 02/03/2015 20:51
Matrix: Soil-Solid as dry weight

QC for Samples: 31500182008, 31500182009, 31500182010

Results by **SW-846 6010C**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Spike Init Wt./Vol.: **.56 g** Extract Vol: **50 mL**
Dupe Init Wt./Vol.: **.55 g** Extract Vol: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Spike Init Wt./Vol.: **.56 g** Extract Vol: **50 mL**
Dupe Init Wt./Vol.: **.55 g** Extract Vol: **50 mL**

Analytical Batch: **MIP2724**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
Spike Init Wt./Vol.: **.56 g** Extract Vol: **50 mL**
Dupe Init Wt./Vol.: **.55 g** Extract Vol: **50 mL**

Matrix Spike Summary

Original Sample ID: 31500182008 (BT-SD-01)
MS Sample ID: 158142
MSD Sample ID: 158143

QC for Samples: 31500182008, 31500182009, 31500182010

Analysis Date: 02/03/2015 20:55
Analysis Date: 02/03/2015 21:08
Analysis Date: 02/03/2015 21:29
Matrix: Soil-Solid as dry weight

Results by **SW-846 6010C**

		Matrix Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Arsenic	ND	63.5	60.9	96	55.0	52.2	95	75.0-125	15	20.00
Thallium	ND	63.5	60.3	95	55.0	55.1	100	75.0-125	9.1	20.00
Selenium	ND	63.5	60.1	95	55.0	54.5	99	75.0-125	9.8	20.00
Antimony	ND	63.5	31.3	49 *	55.0	26.7	48 *	75.0-125	16	20.00
Zinc	56.6	63.5	115	92	55.0	113	102	75.0-125	2.0	20.00
Cadmium	ND	63.5	60.0	95	55.0	53.9	98	75.0-125	11	20.00
Lead	5.43	63.5	63.8	92	55.0	57.8	95	75.0-125	10	20.00
Cobalt	3.94	63.5	64.6	96	55.0	58.9	100	75.0-125	9.3	20.00
Nickel	9.79	63.5	70.5	96	55.0	65.5	101	75.0-125	7.3	20.00
Barium	1230	317	788	-139 *	276	646	-213 *	75.0-125	20	20.00
Manganese	414	63.5	549	214 *	55.0	508	171 *	75.0-125	7.8	20.00
Iron	9830	317	11200	424 *	276	11000	415 *	75.0-125	1.9	20.00
Chromium	10.2	63.5	72.4	98	55.0	66.8	103	75.0-125	8.1	20.00
Magnesium	11900	317	13800	588 *	276	14600	955 *	75.0-125	5.5	20.00
Vanadium	19.9	63.5	85.5	103	55.0	80.0	109	75.0-125	6.6	20.00
Aluminum	5120	317	8210	974 *	276	8650	1282 *	75.0-125	5.1	20.00
Beryllium	ND	63.5	60.7	96	55.0	49.0	89	75.0-125	21*	20.00
Calcium	33700	317	38300	1444 *	276	39600	2115 *	75.0-125	3.4	20.00
Copper	10.3	63.5	75.0	102	55.0	68.9	107	75.0-125	8.3	20.00
Silver	ND	63.5	65.7	103	55.0	60.7	110	75.0-125	7.8	20.00
Sodium	8320	317	11000	840 *	276	10200	700 *	75.0-125	7.0	20.00
Potassium	2110	317	3290	373 *	276	3160	384 *	75.0-125	3.6	20.00

Matrix Spike Summary

Original Sample ID: 31500182008 (BT-SD-01)
MS Sample ID: 158142
MSD Sample ID: 158143

QC for Samples: 31500182008, 31500182009, 31500182010

Analysis Date: 02/03/2015 20:59
Analysis Date: 02/03/2015 21:12
Analysis Date: 02/03/2015 21:34
Matrix: Soil-Solid as dry weight

Results by **SW-846 6010C**

		Matrix Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: **MIP2719**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
MS Init Wt./Vol.: **.52 g** Extract Vol.: **50 mL**
MSD Init Wt./Vol.: **.6 g** Extract Vol.: **50 mL**

Analytical Batch: **MIP2721**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
MS Init Wt./Vol.: **.52 g** Extract Vol.: **50 mL**
MSD Init Wt./Vol.: **.6 g** Extract Vol.: **50 mL**

Analytical Batch: **MIP2722**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
MS Init Wt./Vol.: **.52 g** Extract Vol.: **50 mL**
MSD Init Wt./Vol.: **.6 g** Extract Vol.: **50 mL**

Analytical Batch: **MIP2724**
Analytical Method: **SW-846 6010C**
Instrument: **ICP1**
Analyst: **PSW**

Prep Batch: **MXX3845**
Prep Method: **SW-846 3050B**
Prep Date/Time: **01/30/2015 11:35**
MS Init Wt./Vol.: **.52 g** Extract Vol.: **50 mL**
MSD Init Wt./Vol.: **.6 g** Extract Vol.: **50 mL**

Duplicate Sample Summary

Original Sample ID: 31500182010-A
Duplicate Sample ID: 158144

Analysis Date: 02/02/2015 17:08
Analysis Date: 02/03/2015 22:21
Matrix: Soil-Solid as dry weight

QC for Samples: 31500182008, 31500182009, 31500182010

Results by **SW-846 6010C**

PARAMETER	Original (mg/kg)	Qual	Duplicate (mg/kg)	Qual	RPD (%)	RPD CL
Aluminum	410		1360		**108***	20.00
Antimony	ND		ND			20.00
Barium	ND		18.4			20.00
Beryllium	ND		ND			20.00
Cadmium	ND		ND			20.00
Calcium	29200		44000		**40***	20.00
Chromium	1.45		2.40		**49***	20.00
Cobalt	ND		ND			20.00
Copper	ND		ND			20.00
Iron	15000		3860		**118***	20.00
Lead	ND		ND			20.00
Magnesium	12200		16100		**28***	20.00
Manganese	374		406		8.1	20.00
Nickel	ND		1.54			20.00
Potassium	94.9		257		**92***	20.00
Selenium	ND		ND			20.00
Silver	ND		ND			20.00
Sodium	109		233		**73***	20.00
Thallium	ND		ND			20.00
Vanadium	ND		ND			20.00
Zinc	3.61		6.45		**56***	20.00

Batch Information

Analytical Batch: MIP2719
Analytical Method: SW-846 6010C
Instrument: ICP1
Analyst: PSW

Prep Batch: MXX3845
Prep Method: SW-846 3050B
Prep Date/Time: 01/30/2015 11:35

Print Date: 02/06/2015

N.C. Certification # 481

SW-846 6010C
Prep, Standard, Run Logs

Print Date: 02/06/2015

N.C. Certification # 481

Batch Review Report

Queue MXX Batch 3844 Rule SW3010

Run Sequence

	Lab Sample ID	Cust Sample ID	Collect Date	Date Analyzed
1	158133	MB for HBN 63753 [MXX/3844]		01/30/2015 08:24
2	158134	LCS for HBN 63753 [MXX/3844]		01/30/2015 08:24
3	158135	LCSD for HBN 63753 [MXX/3844]		01/30/2015 08:24
4	31500182001	BT-SW-01	01/24/2015 01:30	01/30/2015 08:24
5	158136	BT-SW-01(157958MS)	01/24/2015 01:30	01/30/2015 08:24
6	158137	BT-SW-01(157958MSD)	01/24/2015 01:30	01/30/2015 08:24
7	31500182002	BT-SW-02	01/24/2015 04:50	01/30/2015 08:24
8	31500182003	BT-SW-03	01/25/2015 11:45	01/30/2015 08:24
9	31500182004	BT-SW-04	01/25/2015 05:15	01/30/2015 08:24
10	31500182005	BT-SW-05	01/26/2015 09:10	01/30/2015 08:24
11	31500182006	BT-SW-06	01/26/2015 11:45	01/30/2015 08:24
12	31500182007	BT-SW-DUP	01/25/2015 12:00	01/30/2015 08:24
13	31500182011	BT-PW-01	01/24/2015 02:20	01/30/2015 08:24
14	31500182012	BT-PW-02	01/25/2015 10:20	01/30/2015 08:24
15	31500171001	153-96-16-10H	01/11/2015 02:00	01/30/2015 08:24
16	31500171002	153-96-16-4H	01/16/2015 02:00	01/30/2015 08:24
17	31500171003	153-96-16-12H	01/16/2015 02:00	01/30/2015 08:24
18	31500171004	153-96-16-3H	01/13/2015 02:00	01/30/2015 08:24
19	31500171005	153-96-16-2H	01/11/2015 02:00	01/30/2015 08:24
20	31500171006	153-96-16-11H	01/16/2015 02:00	01/30/2015 08:24
21	31500185001	OUTFALL	01/28/2015 12:00	01/30/2015 08:24
22	158138	OUTFALL(157990DUP)	01/28/2015 12:00	01/30/2015 08:24

Digest tubes: 194597

Spiking Solutions: 1231-1385, 1231-1386, 1231-1357

HNO3: R-4964

HCL: R-4940

Temperature: HB2 95.1° start: 9:30am stop 13:15pm

Queue MXX **Batch** 3844 **Comments**

SAMPLE 31500182002 Use this sample for MS

Lab ID 158133 Cust Sample ID MB for HBN 63753 [MXX/3844]

Sample Info Schedule: 944540 Type MB Collect Date Receive Date 1/30/2015 Container Prep Cont.
Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:
Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 158134 Cust Sample ID LCS for HBN 63753 [MXX/3844]

Sample Info Schedule: 944542 Type LCS Collect Date Receive Date 1/30/2015 Container Prep Cont.
Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:
Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 158135 Cust Sample ID LCSD for HBN 63753 [MXX/3844]

Sample Info Schedule: 944544 Type LCSD Collect Date Receive Date 1/30/2015 Container Prep Cont.
Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:
Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500182001 Cust Sample ID BT-SW-01

Sample Info Schedule: 943776 Type SAMPLE Collect Date 1/24/2015 Receive Date 1/29/2015 Container 31500182001-G Prep Cont.
Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:
Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 158136 Cust Sample ID BT-SW-01(157958MS)

Sample Info Schedule: 944546 Type MS Collect Date 1/24/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 158137 Cust Sample ID BT-SW-01(157958MSD)

Sample Info Schedule: 944548 Type MSO Collect Date 1/24/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500182002 Cust Sample ID BT-SW-02

Sample Info Schedule: 943791 Type SAMPLE Collect Date 1/24/2015 Receive Date 1/29/2015 Container 31500182002-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500182003 Cust Sample ID BT-SW-03

Sample Info Schedule: 943806 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182003-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500182004 Cust Sample ID BT-SW-04

Sample Info Schedule: 943821 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182004-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500182005 Cust Sample ID BT-SW-05

Sample Info Schedule: 943836 Type SAMPLE Collect Date 1/26/2015 Receive Date 1/29/2015 Container 315001820D5-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500182006 Cust Sample ID BT-SW-06

Sample Info Schedule: 943851 Type SAMPLE Collect Date 1/26/2015 Receive Date 1/29/2015 Container 31500182006-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500182007 Cust Sample ID BT-SW-DUP

Sample Info Schedule: 943866 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182007-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500182011 Cust Sample ID BT-PW-01

Sample Info Schedule: 943908 Type SAMPLE Collect Date 1/24/2015 Receive Date 1/29/2015 Container 31500182011-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 5 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		5	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500182012 Cust Sample ID BT-PW-02

Sample Info Schedule: 943923 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182012-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 5 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		5	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500171001 Cust Sample ID 153-96-16-10H

Sample Info Schedule: 942739 Type SAMPLE Collect Date 1/11/2015 Receive Date 1/28/2015 Container 31500171001-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 5 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		5	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500171002 Cust Sample ID 153-96-16-4H

Sample Info Schedule: 942747 Type SAMPLE Collect Date 1/16/2015 Receive Date 1/28/2015 Container 31500171002-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 5 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		5	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500171003 Cust Sample ID 153-96-16-12H

Sample Info Schedule: 942755 Type SAMPLE Collect Date 1/16/2015 Receive Date 1/28/2015 Container 31500171003-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 5 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		5	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500171004 Cust Sample ID 153-96-16-3H

Sample Info Schedule: 942763 Type SAMPLE Collect Date 1/13/2015 Receive Date 1/28/2015 Container 31500171004-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 5 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		5	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500171005 Cust Sample ID 153-96-16-2H

Sample Info Schedule: 942771 Type SAMPLE Collect Date 1/11/2015 Receive Date 1/28/2015 Container 31500171005-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 5 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		5	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500171006 Cust Sample ID 153-96-16-11H

Sample Info Schedule: 942779 Type SAMPLE Collect Date 1/16/2015 Receive Date 1/28/2015 Container 31500171006-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 5 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		5	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 31500185001 Cust Sample ID OUTFALL

Sample Info Schedule: 944063 Type SAMPLE Collect Date 1/28/2015 Receive Date 1/29/2015 Container 31500185001-F Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Lab ID 158138 Cust Sample ID OUTFALL(157990DUP)

Sample Info Schedule: 944550 Type DUP Collect Date 1/28/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3844 Method: SW-846 3010A IVOL/WT: 50 mL FVOL: 50 mL Analyst: PSW Run Date: 01/30/15 08:24 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		50	OK	mL											
Final Extract Volume		50	OK	mL											

Batch Review Report

Queue MXX **Batch** 3845 **Rule** SW3050

Run Sequence

	Lab Sample ID	Cust Sample ID	Collect Date	Date Analyzed
1	158139	MB for HBN 63754 [MXX/3845]		01/30/2015 11:35
2	158140	LCS for HBN 63754 [MXX/3845]		01/30/2015 11:35
3	158141	LCSD for HBN 63754 [MXX/3845]		01/30/2015 11:35
4	31500182008	BT-SD-01	01/25/2015 03:45	01/30/2015 11:35
5	158142	BT-SD-01(157965MS)	01/25/2015 03:45	01/30/2015 11:35
6	158143	BT-SD-01(157965MSD)	01/25/2015 03:45	01/30/2015 11:35
7	31500182009	BT-SD-02	01/25/2015 04:30	01/30/2015 11:35
8	31500182010	BT-SD-03	01/25/2015 05:00	01/30/2015 11:35
9	158144	BT-SD-03(157967DUP)	01/25/2015 05:00	01/30/2015 11:35

Digest tubes: 194597
Teflon chips: M-021
(1:1) HNO_3: R-4947
Spiking solutions: 1231-1385, 1231-1386, 1231-1387
~~(1:1) HCl: C-779~~ 1mL 1-30-15
Push filters:
H_2O_2: R-4914
Balance: BAL 4
Temperature: 95.1°C 2:00-3:30PM

Lab ID 158139 Cust Sample ID MB for HBN 63754 [MXX/3845]

Sample Info Schedule: 944553 Type MB Collect Date Receive Date 1/30/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3845 Method: SW-846 3050B IVOL/WT: 0.56 g FVOL: 50 mL Analyst: VML Run Date: 01/30/15 11:35 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.56	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158140 Cust Sample ID LCS for HBN 63754 [MXX/3845]

Sample Info Schedule: 944555 Type LCS Collect Date Receive Date 1/30/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3845 Method: SW-846 3050B IVOL/WT: 0.56 g FVOL: 50 mL Analyst: VML Run Date: 01/30/15 11:35 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.56	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158141 Cust Sample ID LCSD for HBN 63754 [MXX/3845]

Sample Info Schedule: 944557 Type LCSD Collect Date Receive Date 1/30/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3845 Method: SW-846 3050B IVOL/WT: 0.55 g FVOL: 50 mL Analyst: VML Run Date: 01/30/15 11:35 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.55	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 31500182008 Cust Sample ID BT-SD-01

Sample Info Schedule: 943877 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182008-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3845 Method: SW-846 3050B IVOL/WT: 0.55 g FVOL: 50 mL Analyst: VML Run Date: 01/30/15 11:35 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.55	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158142 Cust Sample ID BT-SD-01(157965MS)

Sample Info Schedule: 944559 Type MS Collect Date 1/25/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3845 Method: SW-846 3050B IVOL/WT: 0.52 g FVOL: 50 mL Analyst: VML Run Date: 01/30/15 11:35 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.52	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158143 Cust Sample ID BT-SD-01(157965MSD)

Sample Info Schedule: 944561 Type MSD Collect Date 1/25/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3845 Method: SW-846 3050B IVOL/WT: 0.6 g FVOL: 50 mL Analyst: VML Run Date: 01/30/15 11:35 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.6	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 31500182009 Cust Sample ID BT-SD-02

Sample Info Schedule: 943886 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182009-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3845 Method: SW-846 3050B IVOL/WT: 0.5 g FVOL: 50 mL Analyst: VML Run Date: 01/30/15 11:35 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.5	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 31500182010 Cust Sample ID BT-SD-03

Sample Info Schedule: 943895 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182010-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3845 Method: SW-846 3050B IVOL/WT: 0.54 g FVOL: 50 mL Analyst: VML Run Date: 01/30/15 11:35 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.54	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158144 Cust Sample ID BT-SD-03(157967DUP)

Sample Info Schedule: 944563 Type DUP Collect Date 1/25/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3845 Method: SW-846 3050B IVOL/WT: 0.53 g FVOL: 50 mL Analyst: VML Run Date: 01/30/15 11:35 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.53	OK	g											
Final Extract Volume		50	OK	mL											

SW-846 6010C
MIP-2719

Print Date: 07/01/2014

N.C. Certification # 481

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2719 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/2/15 10:15			CCV1 2/2/15 10:47			CCV2 2/2/15 12:06			LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	1000	1069	106.9	2500	2494	99.7	2500	2535	101.4	90-110
Antimony	1000	1071	107.1	500	525	104.9	500	523	104.7	90-110
Arsenic	1000	1039	103.9	500	533	106.5	500	527	105.4	90-110
Barium	1000	1030	103.0	2500	2515	100.6	2500	2483	99.3	90-110
Beryllium	1000	975	97.5	500	489	97.9	500	490	98.1	90-110
Boron	500									90-110
Cadmium	1000	994	99.4	500	512	102.4	500	504	100.9	90-110
Calcium	1000	976	97.6	2500	2556	102.3	2500	2526	101.1	90-110
Chromium	1000	987	98.7	500	504	100.8	500	503	100.6	90-110
Cobalt	1000	1029	102.9	500	515	102.9	500	508	101.7	90-110
Copper	1000	993	99.3	500	500	100.0	500	496	99.2	90-110
Iron	1000	995	99.5	2500	2460	98.4	2500	2489	99.6	90-110
Lead	1000	997	99.7	500	499	99.7	500	503	100.5	90-110
Magnesium	1000	983	98.3	2500	2565	102.6	2500	2539	101.6	90-110
Manganese	1000	1006	100.6	500	508	101.6	500	507	101.5	90-110
Molybdenum	1000									90-110
Nickel	1000	1017	101.7	500	509	101.7	500	509	101.7	90-110
Potassium	1000	1006	100.6	2500	2497	99.9	2500	2562	102.5	90-110
Selenium	1000	1011	101.1	500	518	103.7	500	520	104.1	90-110
Silver	500	503	100.6	500	501	100.1	500	497	99.3	90-110
Sodium	1000	967	96.7	2500	2483	99.3	2500	2819	112.7708	90-110
Thallium	1000	994	99.4	500	509	101.9	500	505	101.0	90-110
Tin	500									90-110
Vanadium	1000	1002	100.2	500	503	100.7	500	507	101.3	90-110
Zinc	1000	1006	100.6	500	507	101.3	500	502	100.4	90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2719 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/2/15 10:15			CCV3 2/2/15 13:25			CCV4 2/2/15 14:43			LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	1000	1069	106.9	2500	2496	99.8	2500	2457	98.3	90-110
Antimony	1000	1071	107.1	500	512	102.4	500	504	100.9	90-110
Arsenic	1000	1039	103.9	500	523	104.5	500	517	103.4	90-110
Barium	1000	1030	103.0	2500	2459	98.4	2500	2430	97.2	90-110
Beryllium	1000	975	97.5	500	483	96.7	500	482	96.3	90-110
Boron	500									90-110
Cadmium	1000	994	99.4	500	501	100.2	500	493	98.6	90-110
Calcium	1000	976	97.6	2500	2500	100.0	2500	2418	96.7	90-110
Chromium	1000	987	98.7	500	495	99.0	500	493	98.5	90-110
Cobalt	1000	1029	102.9	500	503	100.7	500	495	99.1	90-110
Copper	1000	993	99.3	500	492	98.4	500	480	96.0	90-110
Iron	1000	995	99.5	2500	2499	100.0	2500	2429	97.2	90-110
Lead	1000	997	99.7	500	494	98.7	500	490	98.0	90-110
Magnesium	1000	983	98.3	2500	2493	99.7	2500	2490	99.6	90-110
Manganese	1000	1006	100.6	500	500	100.1	500	498	99.5	90-110
Molybdenum	1000									90-110
Nickel	1000	1017	101.7	500	505	100.9	500	497	99.4	90-110
Potassium	1000	1006	100.6	2500	2650	106.0	2500	2655	106.2	90-110
Selenium	1000	1011	101.1	500	508	101.7	500	498	99.6	90-110
Silver	500	503	100.6	500	493	98.6	500	486	97.3	90-110
Sodium	1000	967	96.7	2500	2797	111.8888	2500	2721	108.8	90-110
Thallium	1000	994	99.4	500	501	100.3	500	495	99.0	90-110
Tin	500									90-110
Vanadium	1000	1002	100.2	500	505	100.9	500	498	99.5	90-110
Zinc	1000	1006	100.6	500	497	99.4	500	495	99.0	90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2719 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/2/15 10:15			CCV5 2/2/15 16:01			CCV6 2/2/15 17:21			LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	1000	1069	106.9	2500	2422	96.9	2500	2535	101.4	90-110
Antimony	1000	1071	107.1	500	524	104.7	500	522	104.4	90-110
Arsenic	1000	1039	103.9	500	536	107.3	500	540	108.1	90-110
Barium	1000	1030	103.0	2500	2514	100.6	2500	2487	99.5	90-110
Beryllium	1000	975	97.5	500	491	98.2	500	497	99.3	90-110
Boron	500									90-110
Cadmium	1000	994	99.4	500	518	103.5	500	510	102.0	90-110
Calcium	1000	976	97.6	2500	2526	101.0	2500	2568	102.7	90-110
Chromium	1000	987	98.7	500	506	101.1	500	507	101.4	90-110
Cobalt	1000	1029	102.9	500	509	101.7	500	509	101.7	90-110
Copper	1000	993	99.3	500	492	98.4	500	499	99.8	90-110
Iron	1000	995	99.5	2500	2492	99.7	2500	2509	100.4	90-110
Lead	1000	997	99.7	500	505	100.9	500	499	99.9	90-110
Magnesium	1000	983	98.3	2500	2507	100.3	2500	2633	105.3	90-110
Manganese	1000	1006	100.6	500	505	101.0	500	506	101.2	90-110
Molybdenum	1000									90-110
Nickel	1000	1017	101.7	500	513	102.6	500	513	102.6	90-110
Potassium	1000	1006	100.6	2500	2763	110.526*	2500	2610	104.4	90-110
Selenium	1000	1011	101.1	500	520	104.0	500	526	105.1	90-110
Silver	500	503	100.6	500	494	98.8	500	491	98.2	90-110
Sodium	1000	967	96.7	2500	3128	125.1304	2500	2597	103.9	90-110
Thallium	1000	994	99.4	500	508	101.5	500	511	102.2	90-110
Tin	500									90-110
Vanadium	1000	1002	100.2	500	510	101.9	500	509	101.7	90-110
Zinc	1000	1006	100.6	500	507	101.5	500	508	101.5	90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2719 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/2/15 10:15			CCV7 2/2/15 18:40			CCV8 2/2/15 19:19			LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	1000	1069	106.9	2500	2497	99.9	2500	2530	101.2	90-110
Antimony	1000	1071	107.1	500	531	106.1	500	521	104.2	90-110
Arsenic	1000	1039	103.9	500	546	109.2	500	544	108.8	90-110
Barium	1000	1030	103.0	2500	2476	99.1	2500	2488	99.5	90-110
Beryllium	1000	975	97.5	500	501	100.2	500	494	98.7	90-110
Boron	500									90-110
Cadmium	1000	994	99.4	500	516	103.1	500	507	101.5	90-110
Calcium	1000	976	97.6	2500	2521	100.8	2500	2512	100.5	90-110
Chromium	1000	987	98.7	500	504	100.8	500	506	101.3	90-110
Cobalt	1000	1029	102.9	500	507	101.3	500	504	100.7	90-110
Copper	1000	993	99.3	500	489	97.8	500	494	98.8	90-110
Iron	1000	995	99.5	2500	2474	99.0	2500	2506	100.2	90-110
Lead	1000	997	99.7	500	505	101.0	500	500	100.0	90-110
Magnesium	1000	983	98.3	2500	2511	100.5	2500	2560	102.4	90-110
Manganese	1000	1006	100.6	500	508	101.6	500	504	100.8	90-110
Molybdenum	1000									90-110
Nickel	1000	1017	101.7	500	508	101.5	500	506	101.2	90-110
Potassium	1000	1006	100.6	2500	2637	105.5	2500	2534	101.4	90-110
Selenium	1000	1011	101.1	500	521	104.2	500	513	102.6	90-110
Silver	500	503	100.6	500	495	98.9	500	492	98.5	90-110
Sodium	1000	967	96.7	2500	2818	112.7356	2500	2528	101.1	90-110
Thallium	1000	994	99.4	500	511	102.3	500	507	101.4	90-110
Tin	500									90-110
Vanadium	1000	1002	100.2	500	505	101.0	500	508	101.5	90-110
Zinc	1000	1006	100.6	500	509	101.7	500	499	99.9	90-110

Comments:

FORM IIA - METALS

CRDL Check Standard **Form 2B**

Analytical Batch: MIP2719
Instrument: ICP1
Analyst: PSW
Analytical Date/Time: 2/2/2015 10:41:21AM

Results by **SW-846 6010C**

Parameter	Spike	Result	% Recovery	CL	Units
Aluminum	0.100	0.0662	66.2*	70 - 130	mg/L
Iron	0.100	0.118	118	70 - 130	mg/L
Lead	0.0100	0.00973	97.3	70 - 130	mg/L
Magnesium	0.100	0.0868	86.8	70 - 130	mg/L
Manganese	0.0100	0.00760	76.0	70 - 130	mg/L
Nickel	0.0100	0.00857	85.7	70 - 130	mg/L
Potassium	0.200	0.183	91.4	70 - 130	mg/L
Silver	0.0100	0.0104	104	70 - 130	mg/L
Sodium	0.200	0.127	63.5*	70 - 130	mg/L
Thallium	0.0100	0.00899	89.9	70 - 130	mg/L
Antimony	0.0400	0.0286	71.5	70 - 130	mg/L
Arsenic	0.0100	0.0117	117	70 - 130	mg/L
Barium	0.100	0.102	102	70 - 130	mg/L
Beryllium	0.0100	0.0159	159*	70 - 130	mg/L
Cadmium	0.00500	0.00368	73.6	70 - 130	mg/L
Chromium	0.0100	0.00900	90.0	70 - 130	mg/L
Cobalt	0.0100	0.00850	85.0	70 - 130	mg/L
Copper	0.0100	0.00856	85.6	70 - 130	mg/L
Vanadium	0.0500	0.0494	98.9	70 - 130	mg/L
Zinc	0.0200	0.0161	80.6	70 - 130	mg/L
Calcium	0.100	0.110	110	70 - 130	mg/L
Selenium	0.0200	0.0211	105	70 - 130	mg/L

CRDL Check Standard **Form 2B**

Analytical Batch: MIP2719
Instrument: ICP1
Analyst: PSW
Analytical Date/Time: 2/2/2015 7:12:58PM

Results by **SW-846 6010C**

Parameter	Spike	Result	% Recovery	CL	Units
Aluminum	0.100	0.0809	80.9	70 - 130	mg/L
Iron	0.100	0.0933	93.3	70 - 130	mg/L
Lead	0.0100	0.00624	62.4*	70 - 130	mg/L
Magnesium	0.100	0.0756	75.6	70 - 130	mg/L
Manganese	0.0100	0.00831	83.1	70 - 130	mg/L
Nickel	0.0100	0.0101	101	70 - 130	mg/L
Potassium	0.200	0.220	110	70 - 130	mg/L
Silver	0.0100	0.0104	104	70 - 130	mg/L
Sodium	0.200	0.198	98.9	70 - 130	mg/L
Thallium	0.0100	0.0102	102	70 - 130	mg/L
Antimony	0.0400	0.0278	69.5	70 - 130	mg/L
Arsenic	0.0100	0.0230	230*	70 - 130	mg/L
Barium	0.100	0.102	102	70 - 130	mg/L
Beryllium	0.0100	0.0325	325*	70 - 130	mg/L
Cadmium	0.00500	0.00454	90.8	70 - 130	mg/L
Chromium	0.0100	0.00868	86.8	70 - 130	mg/L
Cobalt	0.0100	0.00586	58.6*	70 - 130	mg/L
Copper	0.0100	0.00822	82.2	70 - 130	mg/L
Vanadium	0.0500	0.0490	98.0	70 - 130	mg/L
Zinc	0.0200	0.0172	86.0	70 - 130	mg/L
Calcium	0.100	0.122	122	70 - 130	mg/L
Selenium	0.0200	0.0186	92.9	70 - 130	mg/L

BLANKS

Lab Name: SGS North America

Batch ID: MIP2719 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB1		CCB2		CCB3			
	2/2/15 9:45	C	2/2/15 10:54	C	2/2/15 12:13	C	2/2/15 13:31	C		
Aluminum	100	U	100	U	100	U	100	U		
Antimony	40	U	40	U	40	U	40	U		
Arsenic	10	U	10	U	10	U	10	U		
Barium	100	U	100	U	100	U	100	U		
Beryllium	10	U	15.54	#	15.9	#	11.82	#		
Boron										
Cadmium	10	U	10	U	10	U	10	U		
Calcium	100	U	100	U	100	U	100	U		
Chromium	10	U	10	U	10	U	10	U		
Cobalt	10	U	10	U	10	U	10	U		
Copper	10	U	10	U	10	U	10	U		
Iron	100	U	100	U	100	U	100	U		
Lead	10	U	10	U	10	U	10	U		
Magnesium	100	U	100	U	100	U	100	U		
Manganese	10	U	10	U	10	U	10	U		
Molybdenum										
Mercury										
Nickel	10	U	10	U	10	U	10	U		
Potassium	200	U	200	U	200	U	200	U		
Selenium	20	U	20	U	20	U	20	U		
Silver	10	U	10	U	10	U	10	U		
Sodium	200	U	200	U	200	U	200	U		
Thallium	10	U	10	U	10	U	10	U		
Tin										
Vanadium	50	U	50	U	50	U	50	U		
Zinc	20	U	20	U	20	U	20	U		

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: MIP2719 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB4		CCB5		CCB6			
	2/2/15 9:45	C	2/2/15 14:49	C	2/2/15 16:08	C	2/2/15 17:28	C		
Aluminum	100	U	100	U	100	U	100	U		
Antimony	40	U	40	U	40	U	40	U		
Arsenic	10	U	10	U	10.41	#	11.52	#		
Barium	100	U	100	U	100	U	100	U		
Beryllium	10	U	10	U	10	U	15.9	#		
Boron										
Cadmium	10	U	10	U	10	U	10	U		
Calcium	100	U	100	U	100	U	100	U		
Chromium	10	U	10	U	10	U	10	U		
Cobalt	10	U	10	U	10	U	10	U		
Copper	10	U	10	U	10	U	10	U		
Iron	100	U	100	U	100	U	100	U		
Lead	10	U	10	U	10	U	10	U		
Magnesium	100	U	100	U	100	U	100	U		
Manganese	10	U	10	U	10	U	10	U		
Molybdenum										
Mercury										
Nickel	10	U	10	U	10	U	10	U		
Potassium	200	U	200	U	200	U	200	U		
Selenium	20	U	20	U	20	U	20	U		
Silver	10	U	10	U	10	U	10	U		
Sodium	200	U	200	U	308.5	#	200	U		
Thallium	10	U	10	U	10	U	10	U		
Tin										
Vanadium	50	U	50	U	50	U	50	U		
Zinc	20	U	20	U	20	U	20	U		

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: MIP2719 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB7							
	2/2/15 9:45	C	2/2/15 18:46	C		C		C		
Aluminum	100	U	100	U						
Antimony	40	U	40	U						
Arsenic	10	U	13.22	#						
Barium	100	U	100	U						
Beryllium	10	U	16.78	#						
Boron										
Cadmium	10	U	10	U						
Calcium	100	U	100	U						
Chromium	10	U	10	U						
Cobalt	10	U	10	U						
Copper	10	U	10	U						
Iron	100	U	100	U						
Lead	10	U	10	U						
Magnesium	100	U	100	U						
Manganese	10	U	10	U						
Molybdenum										
Mercury										
Nickel	10	U	10	U						
Potassium	200	U	200	U						
Selenium	20	U	20	U						
Silver	10	U	10	U						
Sodium	200	U	200	U						
Thallium	10	U	10	U						
Tin										
Vanadium	50	U	50	U						
Zinc	20	U	20	U						

Comments:

FORM III - METALS

Interference Check Sample Form 4A

Analytical Batch: MIP2719
Instrument: ICP1
Analyst: PSW

Results by **SW-846 6010C**

	True		Initial Found (mg/L)			Final Found (mg/L)			
Parameter	A	B	A	B	Rec (%)	A	B	Rec (%)	cl
Aluminum	100.0000	100.0000	99.3	98.6	98.6	97.4	96.4	96.4	80 - 120
Antimony	0.0000	0.3000	-0.00434	0.319	106	-0.00176	0.319	106	80 - 120
Arsenic	0.0000	0.3000	0.00937	0.319	106	0.0183	0.333	111	80 - 120
Barium	0.0000	1.0000	0.00372	0.996	99.6	0.00357	0.971	97.1	80 - 120
Beryllium	0.0000	0.3000	0.00723	0.305	102	0.0205	0.277	92.3	80 - 120
Cadmium	0.0000	0.3000	0.00128	0.301	100	0.00236	0.296	98.6	80 - 120
Calcium	40.0000	40.0000	39.6	39.1	97.9	38.1	38.1	95.1	80 - 120
Chromium	0.0000	0.3000	0.00300	0.302	101	0.00343	0.296	98.8	80 - 120
Cobalt	0.0000	0.3000	-0.00193	0.305	102	-0.00177	0.293	97.6	80 - 120
Copper	0.0000	0.3000	0.00322	0.323	108	0.00170	0.312	104	80 - 120
Iron	100.0000	100.0000	97.8	96.7	96.7	97.1	94.6	94.6	80 - 120
Iron	100.0000	100.0000	97.8	95.9	95.9	97.1	94.6	94.6	80 - 120
Lead	0.0000	0.3000	-0.00601	0.271	90.3	-0.00252	0.288	96.1	80 - 120
Magnesium	40.0000	40.0000	39.5	38.5	96.3	39.4	39.2	97.9	80 - 120
Manganese	0.0000	0.3000	-0.00173	0.293	97.8	-0.00116	0.297	98.9	80 - 120
Nickel	0.0000	0.3000	-0.00540	0.283	94.5	-0.00247	0.292	97.3	80 - 120
Potassium	0.0000	0.0000	-0.00536			0.0134	0.0182		
Selenium	0.0000	0.3000	-0.0244	0.274	91.5	-0.0277	0.285	95.1	80 - 120
Silver	0.0000	0.3000	0.000660	0.245	81.6	0.00133	0.285	95.2	80 - 120
Sodium	0.0000	0.0000	-0.0816	-0.00842		0.0322	0.0479		
Thallium	0.0000	0.3000	0.00350			-0.000560	0.307	102	80 - 120
Vanadium	0.0000	0.3000	-0.00151	0.296	98.6	-0.00217	0.301	100	80 - 120
Zinc	0.0000	0.3000	0.00607	0.296	98.8	0.00632	0.311	104	80 - 120

Analytical Run Log **Form 13**

Analytical Method: SW-846 6010C
Analytical Batch: MIP2719
Prep Method:
Start Date: 02/02/2015

Instrument: ICP1
Analyst: PSW
End Date: 02/02/2015

		Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn
09:51	ICAL3			X	X	X		X		X	X							X		X			X
09:55	ICAL4		X				X		X			X	X	X	X	X	X					X	
09:59	ICAL5	X																	X		X		
10:02	ICAL2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10:08	ICAL1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10:15	ICV	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10:28	ICSA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10:34	ICSB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10:41	LLC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10:47	CCV	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10:54	CBV for HBN 63865 (MIP/2719)	X	X	X	X			X	X	X	X	X			X		X	X	X	X	X	X	X
11:00	MB for HBN 63753 [MXX/3844]	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
11:07	LCS for HBN 63753 [MXX/3844]	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
11:14	LCSD for HBN 63753 [MXX/3844]	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
11:20	BT-SW-01	X	X	X	X			X	X	X	X	X			X		X	X	X	X	X	X	X
11:27	BT-SW-01(157958MS)	X	X	X	X			X	X	X	X	X			X		X	X	X	X	X	X	X
11:33	BT-SW-01(157958MSD)	X	X	X	X			X	X	X	X	X			X		X	X	X	X	X	X	X
11:40	BT-SW-02	X	X	X	X			X	X	X	X	X			X		X	X	X	X	X	X	X
11:46	BT-SW-03	X	X	X	X			X	X	X	X	X			X		X	X	X	X	X	X	X
11:53	BT-SW-04	X	X	X	X			X	X	X	X	X			X		X	X	X	X	X	X	X
12:00	BT-SW-05	X	X	X	X			X	X	X	X	X			X		X	X	X	X	X	X	X
12:06	CCV	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12:13	CBV for HBN 63865 (MIP/2719)	X	X	X	X			X	X	X	X	X		X	X		X	X	X	X	X	X	X
12:19	BT-SW-06	X	X	X	X			X	X	X	X	X			X		X	X	X	X	X	X	X
12:26	BT-SW-DUP	X	X	X	X			X	X	X	X	X			X		X	X	X	X	X	X	X
12:32	BT-PW-01	X	X	X	X			X	X	X	X				X		X	X	X	X	X	X	X
12:39	BT-PW-01											X											
12:45	BT-PW-01													X									
12:52	BT-PW-02	X	X	X	X			X	X	X	X						X	X	X	X	X	X	X
12:59	BT-PW-02											X			X								
13:05	BT-PW-02													X									
13:25	CCV	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13:31	CBV for HBN 63865 (MIP/2719)	X	X	X	X			X	X	X	X	X		X	X		X	X	X	X	X	X	X
14:43	CCV	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15:02	OUTFALL(157990DUP)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
16:01	CCV	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
16:08	CBV for HBN 63865 (MIP/2719)	X	X		X			X	X	X	X						X	X	X	X	X	X	X
16:22	MB for HBN 63754 [MXX/3845]	X	X		X		X	X	X	X	X	X		X	X		X	X	X	X	X	X	X
16:29	LCS for HBN 63754 [MXX/3845]	X	X		X		X	X	X	X	X	X		X	X		X	X	X	X	X	X	X
16:35	LCSD for HBN 63754 [MXX/3845]	X	X		X		X	X	X	X	X	X		X	X		X	X	X	X	X	X	X

Print Date: 02/06/2015

N.C. Certification # 481

Analytical Run Log **Form 13**

Analytical Method: SW-846 6010C
Analytical Batch: MIP2719
Prep Method:

Instrument: ICP1
Analyst: PSW

		Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn
16:42	BT-SD-01	X						X	X	X	X						X	X	X	X	X	X	X
16:49	BT-SD-01(157965MS)	X			X	X		X	X	X	X						X	X	X	X	X	X	X
16:55	BT-SD-01(157965MSD)	X			X			X	X	X	X						X	X	X	X	X	X	X
17:02	BT-SD-02	X			X			X	X	X	X						X	X	X	X	X	X	X
17:08	BT-SD-03	X	X		X			X	X	X	X						X	X	X	X	X	X	X
17:15	BT-SD-03(157967DUP)	X			X			X	X	X	X						X	X	X	X	X	X	X
17:21	CCV	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
17:28	CBV for HBN 63865 (MIP/2719)	X	X		X			X	X	X	X						X	X	X	X	X	X	X
18:40	CCV	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18:59	ICSA	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19:06	ICSB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19:12	LLC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19:19	CCV	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Print Date: 02/06/2015

N.C. Certification # 481

Analytical Sequence

Method : 6010C

MIP 2719

Seq.	Loc.		Sample ID
1	1		CBV
2	4		ICAL3
3	5		ICAL4 0ES020215-1
4	6		ICAL5
5	3		ICAL2
6	2		ICAL1
7	7		ICV ✓
8	1		ICB - Be
9	8		ICSA ✓
10	9		ICSB ✓
11	2		LLC - Al Be Na
12	3		CCV ✓
13	1		CBV - Be
14	10	R.R Na Be Sr	158133 MB - Be
15	11		158134 LCS ✓
16	12		158135 LCSD ✓
17	13		0182_1 - Mg Ca Na K 10x 100x
18	14		158136 MS - "
19	15	R.R Be + Dilutions	158137 MSD - "
20	16		0182_2 - Mg Ca Na K 10x 100x
21	17		0182_3 - "
22	18		0182_4 - "
23	19		0182_5 - "
24	3		CCV - Na
25	1		CBV - Be
26	20		0182_6 - Mg Ca Na K 10x 100x
27	21		0182_7 - "
28	22	R.R Be + dilutions	0182_11 - Fe Mg Ca Na K
29	23		0182_11 x10 - Mg Ca Na K
30	24		0182_11 x100 - Ca Na K 1000x 100000x
31	25		0182_12 - Mn Fe Mg Ca Na K
32	26		0182_12 x10 - Mg Ca Na K
33	27		0182_12 x100 - Ca Na K
34	28		0171_1 x10 - Fe Mg Ca Na K
35	29		0171_1 x1000 - Na 100000x
36	3		CCV - Na
37	1		CBV - Be
38	30		0171_2 x10 - Mg Ca Na K
39	31		0171_2 x1000 - Na 100000x
40	32	R.R Na dilution + Sr	0171_3 x10 - Mg Ca Na K
41	33		0171_3 x1000 - Na 100000x
42	34		0171_4 x10 - Mg Ca Na K
43	35		0171_4 x1000 - Na 100000x
44	36		0171_5 x10 - Mg Ca Na K
45	37		0171_5 x1000 - Na 100000x
46	38		0171_6 x10 - Mg Ca Na K
47	39		0171_6 x1000 - Na 100000x
48	3		CCV ✓
49	1		CBV ✓
50	40		0185_1 - Mg Ca Na K
51	41		158138 DUP - "
52	42	R.R Be As B Mg Sn Sr Ti	157815 MB - Be
53	43		157816 LCS ✓
54	44		157817 LCSD ✓
55	45		0144_1 - Mg Ca Na K
56	46	R.R Na K dilu + Sr	0144_1 x10 - Na

Analytical Sequence

Method : 6010C

Seq.	Loc.		Sample ID
57	47		0144_1 x100 - Na 1000x
58	48		0144_2 - Mg Ca Na K
59	49		0144_2 x10 - "
60	3		CCV - Na K
61	1		CBV - Na As
62	50		0144_2 x100 - Ca Na 1,000x 10000x
63	51	R.L. As Be Na K	158139 MB - Be Na
64	52		158140 LCS - Na
65	53		158141 LCSD - Na
66	54		0182_8 - Ba Mn Fe Mg Al Ca Na K 10x 100x
67	55		158142 MS - "
68	56	R.L. As Be + dilution	158143 MSD - "
69	57		0182_9 - "
70	58		0182_10 - Mn Fe Mg Ca 10x 100x
71	59		158144 DUP - "
72	3		CCV ✓
73	1		CBV - Be As
74	60		158254 MB - Be Na
75	61		158255 LCS - Na
76	62		158256 LCSD - Na
77	63	R.L As	0088_1 - Ca Na
78	64		158366 PDS - "
79	65		158258 MS - "
80	66		158259 MSD - "
81	67		158257 DUP - "
82	68		0089_1 - Ca Na
83	69		158367 PDS - "
84	3		CCV - Na
85	1		CBV - As Be
86	70	R.L. All	-158188 TCLP-B - As Be Na
87	8		ICSA ✓
88	9		ICSB ✓
89	2		LLC
90	3		CCV ✓
91	1		CBV - instrument shut down

Analysis Begun

Start Time: 2/2/2015 9:45:12 AM
Logged In Analyst: Anyone
Spectrometer Model: Optima 2100

Plasma On Time: 2/2/2015 9:21:05 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pa\Anyone\Sample Information\MIP2719.sif
Batch ID:
Results Data Set: MIP2719
Results Library: C:\pa\Anyone\Results\Results.mdb

Method Loaded
Method Name: 6010C
IEC File: 031010.iec
Method Description: TAL with interference correction

Method Last Saved: 2/4/2014 1:46:45 PM
MSF File:

Sequence No.: 1
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/2/2015 9:45:13 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
As 189	998.5	32.99	3.30%	[0.00]	mg/L
Tl 191	-480.9	18.28	3.80%	[0.00]	mg/L
Se 196	73.0	48.53	66.50%	[0.00]	mg/L
Sb 207	558.8	12.25	2.19%	[0.00]	mg/L
Zn 214	3357.2	0.00	0.00%	[0.00]	mg/L
Cd 214	2613.6	171.15	6.55%	[0.00]	mg/L
Pb 220	279.4	64.85	23.21%	[0.00]	mg/L
Co 229	-2248.5	134.06	5.96%	[0.00]	mg/L
Ni 232	-239.1	158.92	66.47%	[0.00]	mg/L
Ba 234	74.5	1061.57	>999.9%	[0.00]	mg/L
Mn 258	-15397.6	0.00	0.00%	[0.00]	mg/L
Fe 260	6990.7	303.64	4.34%	[0.00]	mg/L
Cr 268	441.4	136.92	31.02%	[0.00]	mg/L
Mg 279	119.5	113.04	94.63%	[0.00]	mg/L
V 292	3396.1	40.65	1.20%	[0.00]	mg/L
Al 308	5085.5	162.61	3.20%	[0.00]	mg/L
Be 313	-1243.6	663.48	53.35%	[0.00]	mg/L
Ca 318	2981.7	265.39	8.90%	[0.00]	mg/L
Cu 325	12341.4	0.00	0.00%	[0.00]	mg/L
Ag 328	-591.9	140.50	23.74%	[0.00]	mg/L
Na 590	14124.7	684.60	4.85%	[0.00]	mg/L
K 766	-1213.1	271.99	22.42%	[0.00]	mg/L

Sequence No.: 2
Sample ID: ICAL3
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 2/2/2015 9:51:57 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL3

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICAL3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
As 189	12382.7	38.12	0.31%	[1]	mg/L
Se 196	9727.8	20.88	0.21%	[1]	mg/L
Zn 214	292416.1	2230.38	0.76%	[1]	mg/L
Cd 214	549207.7	838.71	0.15%	[1]	mg/L
Pb 220	29430.9	2.65	0.01%	[1]	mg/L
Ba 234	2127842.9	27202.79	1.28%	[5]	mg/L
Cr 268	300227.5	286.60	0.10%	[1]	mg/L
Be 313	75772.4	1819.13	2.40%	[1]	mg/L
Cu 325	457557.8	410.76	0.09%	[1]	mg/L

Sequence No.: 3
Sample ID: ICAL4
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collectad: 2/2/2015 9:55:39 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL4

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICAL4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Co 229	143287.1	384.73	0.27%	[1]	mg/L
Ni 232	147924.8	166.98	0.11%	[1]	mg/L
Mn 258	1904644.3	2128.64	0.11%	[1]	mg/L
Fe 260	153730.5	910.93	0.59%	[5]	mg/L
Mg 279	15395.3	74.81	0.49%	[5]	mg/L
V 292	175647.5	917.80	0.52%	[1]	mg/L
Al 308	29334.6	199.47	0.68%	[5]	mg/L
Ca 318	131650.3	874.11	0.66%	[5]	mg/L
Na 590	334075.0	2104.78	0.63%	[5]	mg/L
K 766	99264.0	294.19	0.30%	[5]	mg/L

Sequence No.: 4
Sample ID: ICAL5
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 2/2/2015 9:59:42 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL5

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICAL5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Tl 191	11811.4	41.54	0.35%	[1]	mg/L
Sb 207	12275.8	90.19	0.73%	[1]	mg/L
Ag 328	325893.0	977.20	0.30%	[1]	mg/L

Sequence No.: 5
Sample ID: ICAL2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/2/2015 10:02:20 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL2

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICAL2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
As 189	6423.3	19.51	0.30%	[0.5]	mg/L
Tl 191	5932.0	30.52	0.51%	[0.5]	mg/L
Se 196	4997.4	41.77	0.84%	[0.5]	mg/L
Sb 207	6660.0	39.59	0.59%	[0.5]	mg/L
Zn 214	149154.7	0.00	0.00%	[0.5]	mg/L
Cd 214	277562.8	1112.41	0.40%	[0.5]	mg/L
Pb 220	14768.1	131.75	0.89%	[0.5]	mg/L
Co 229	72765.4	1488.22	2.05%	[0.5]	mg/L
Ni 232	75895.9	78.38	0.10%	[0.5]	mg/L
Ba 234	1059084.2	2616.72	0.25%	[2.5]	mg/L
Mn 258	973506.8	1112.36	0.11%	[0.5]	mg/L
Fe 260	78495.6	1034.44	1.32%	[2.5]	mg/L
Cr 268	150747.6	902.74	0.60%	[0.5]	mg/L
Mg 279	7936.7	135.94	1.71%	[2.5]	mg/L
V 292	89353.1	301.66	0.34%	[0.5]	mg/L
Al 308	14896.3	225.16	1.51%	[2.5]	mg/L
Be 313	36593.9	398.09	1.09%	[0.5]	mg/L
Ca 318	65730.6	377.03	0.57%	[2.5]	mg/L
Cu 325	229214.6	4312.98	1.88%	[0.5]	mg/L
Ag 328	162559.6	519.84	0.32%	[0.5]	mg/L
Na 590	161245.1	461.74	0.29%	[2.5]	mg/L
K 766	49821.9	170.50	0.34%	[2.5]	mg/L

Sequence No.: 6
Sample ID: ICAL1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/2/2015 10:08:53 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL1

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICAL1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
As 189	201.4	12.57	6.24%	[0.01]	mg/L
Tl 191	135.0	14.93	11.06%	[0.01]	mg/L
Se 196	193.6	46.35	23.94%	[0.02]	mg/L
Sb 207	503.3	27.52	5.47%	[0.04]	mg/L
Zn 214	5723.7	132.70	2.32%	[0.02]	mg/L
Cd 214	2831.9	171.01	6.04%	[0.005]	mg/L
Pb 220	319.9	18.37	5.74%	[0.01]	mg/L
Co 229	1208.2	46.48	3.85%	[0.01]	mg/L
Ni 232	1630.3	136.92	8.40%	[0.01]	mg/L
Ba 234	42245.1	132.70	0.31%	[0.1]	mg/L
Mn 258	15807.4	0.00	0.00%	[0.01]	mg/L
Fe 260	2703.9	483.77	17.89%	[0.1]	mg/L
Cr 268	3107.2	124.16	4.00%	[0.01]	mg/L
Mg 279	296.0	23.84	8.05%	[0.1]	mg/L
V 292	9072.1	273.84	3.02%	[0.05]	mg/L
Al 308	882.5	315.33	35.73%	[0.1]	mg/L
Be 313	336.1	0.00	0.00%	[0.01]	mg/L
Ca 318	2143.2	111.63	5.21%	[0.1]	mg/L
Cu 325	5511.0	479.22	8.70%	[0.01]	mg/L
Ag 328	3234.3	170.08	5.26%	[0.01]	mg/L
Na 590	3749.0	131.28	3.50%	[0.2]	mg/L
K 766	3714.0	469.43	12.64%	[0.2]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
As 189	3	Lin, Calc Int	77.4	12380	0.00000	0.999828	
Tl 191	3	Lin, Calc Int	12.4	11810	0.00000	0.999997	
Se 196	3	Lin, Calc Int	23.9	9752	0.00000	0.999898	

Sb 207	3	Lin, Calc Int	101.0	12360	0.00000	0.999024
Zn 214	3	Lin, Calc Int	480.4	293000	0.00000	0.999944
Cd 214	3	Lin, Calc Int	577.3	549700	0.00000	0.999985
Pb 220	3	Lin, Calc Int	21.2	29430	0.00000	0.999998
Co 229	3	Lin, Calc Int	102.2	143600	0.00000	0.999963
Ni 232	3	Lin, Calc Int	420.5	148200	0.00000	0.999912
Ba 234	3	Lin, Calc Int	-1022.8	425400	0.00000	0.999997
Mn 258	3	Lin, Calc Int	2385.1	1910000	0.00000	0.999928
Fe 260	3	Lin, Calc Int	129.0	30840	0.00000	0.999930
Cr 268	3	Lin, Calc Int	163.0	300300	0.00000	0.999998
Mg 279	3	Lin, Calc Int	38.2	3089	0.00000	0.999867
V 292	3	Lin, Calc Int	410.6	175800	0.00000	0.999961
Al 308	3	Lin, Calc Int	175.8	5843	0.00000	0.999946
Be 313	3	Lin, Calc Int	-426.6	75770	0.00000	0.999857
Ca 318	3	Lin, Calc Int	-239.3	26380	0.00000	0.999995
Cu 325	3	Lin, Calc Int	504.0	457100	0.00000	0.999998
Ag 328	3	Lin, Calc Int	-81.6	325800	0.00000	0.999999
Na 590	3	Lin, Calc Int	-5400.9	67620	0.00000	0.999629
K 766	3	Lin, Calc Int	-81.2	19890	0.00000	0.999994

Sequence No.: 7
Sample ID: ICV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/2/2015 10:15:23 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	12832.3	1.04	mg/L	0.009	1.04	mg/L	0.009	0.91%
Tl 191	11751.4	0.994	mg/L	0.0095	0.994	mg/L	0.0095	0.96%
Se 196	9885.6	1.01	mg/L	0.003	1.01	mg/L	0.003	0.30%
Sb 207	13521.3	1.07	mg/L	0.005	1.07	mg/L	0.005	0.45%
Zn 214	296656.5	1.01	mg/L	0.002	1.01	mg/L	0.002	0.18%
Cd 214	546932.6	0.994	mg/L	0.0008	0.994	mg/L	0.0008	0.08%
Pb 220	29366.6	0.997	mg/L	0.0062	0.997	mg/L	0.0062	0.62%
Co 229	147865.5	1.03	mg/L	0.002	1.03	mg/L	0.002	0.16%
Ni 232	151143.9	1.02	mg/L	0.000	1.02	mg/L	0.000	0.01%
Ba 234	437202.1	1.03	mg/L	0.015	1.03	mg/L	0.015	1.42%
Mn 258	1924211.6	1.01	mg/L	0.006	1.01	mg/L	0.006	0.61%
Fe 260	30830.5	0.995	mg/L	0.0058	0.995	mg/L	0.0058	0.59%
Cr 268	296451.6	0.987	mg/L	0.0078	0.987	mg/L	0.0078	0.79%
Mg 279	3075.8	0.983	mg/L	0.0052	0.983	mg/L	0.0052	0.53%
V 292	176490.1	1.00	mg/L	0.007	1.00	mg/L	0.007	0.70%
Al 308	6420.6	1.07	mg/L	0.019	1.07	mg/L	0.019	1.78%
Be 313	73454.0	0.975	mg/L	0.0018	0.975	mg/L	0.0018	0.18%
Ca 318	25507.0	0.976	mg/L	0.0008	0.976	mg/L	0.0008	0.08%
Cu 325	454286.4	0.993	mg/L	0.0123	0.993	mg/L	0.0123	1.24%
Ag 328	163787.0	0.503	mg/L	0.0055	0.503	mg/L	0.0055	1.09%
Na 590	60005.1	0.967	mg/L	0.0031	0.967	mg/L	0.0031	0.32%
K 766	19917.6	1.01	mg/L	0.019	1.01	mg/L	0.019	1.92%

Sequence No.: 8
Sample ID: ICB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/2/2015 10:21:49 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICB

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	98.8	0.0017	mg/L	0.00119	0.0017	mg/L	0.00119	69.54%
Tl 191	10.5	-0.0002	mg/L	0.00321	-0.0002	mg/L	0.00321	>999.9%
Se 196	-35.2	-0.0061	mg/L	0.00014	-0.0061	mg/L	0.00014	2.37%
Sb 207	24.7	-0.0061	mg/L	0.00082	-0.0061	mg/L	0.00082	13.33%
Zn 214	-187.7	-0.0023	mg/L	0.00001	-0.0023	mg/L	0.00001	0.30%
Cd 214	84.8	-0.0009	mg/L	0.00022	-0.0009	mg/L	0.00022	24.31%
Pb 220	42.3	0.0007	mg/L	0.00061	0.0007	mg/L	0.00061	85.33%
Co 229	-233.9	-0.0023	mg/L	0.00032	-0.0023	mg/L	0.00032	13.52%
Ni 232	280.6	-0.0009	mg/L	0.00133	-0.0009	mg/L	0.00133	140.84%
Ba 234	-594.3	0.0010	mg/L	0.00052	0.0010	mg/L	0.00052	51.61%
Mn 258	-408.7	-0.0015	mg/L	0.00086	-0.0015	mg/L	0.00086	58.78%
Fe 260	342.1	0.0069	mg/L	0.02553	0.0069	mg/L	0.02553	369.56%
Cr 268	-281.4	-0.0015	mg/L	0.00004	-0.0015	mg/L	0.00004	2.87%
Mg 279	-19.9	-0.0188	mg/L	0.00485	-0.0188	mg/L	0.00485	25.84%
V 292	310.1	-0.0006	mg/L	0.00039	-0.0006	mg/L	0.00039	68.12%
Al 308	97.3	-0.0134	mg/L	0.03515	-0.0134	mg/L	0.03515	261.40%
Be 313	563.0	0.0131	mg/L	0.00175	0.0131	mg/L	0.00175	13.41%
Ca 318	81.9	0.0122	mg/L	0.00439	0.0122	mg/L	0.00439	36.07%
Cu 325	379.7	-0.0003	mg/L	0.00062	-0.0003	mg/L	0.00062	228.97%
Ag 328	-29.8	0.0002	mg/L	0.00041	0.0002	mg/L	0.00041	259.01%
Na 590	-10921.6	-0.0816	mg/L	0.00781	-0.0816	mg/L	0.00781	9.57%
K 766	14.2	0.0048	mg/L	0.01275	0.0048	mg/L	0.01275	265.79%

Sequence No.: 9
Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/2/2015 10:28:21 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	193.2	0.0094	mg/L	0.00156	0.0094	mg/L	0.00156	16.64%
Tl 191	53.8	0.0035	mg/L	0.01121	0.0035	mg/L	0.01121	320.30%
Se 196	-420.7	-0.0244	mg/L	0.00375	-0.0244	mg/L	0.00375	15.37%
Sb 207	47.9	-0.0043	mg/L	0.00181	-0.0043	mg/L	0.00181	41.78%
Zn 214	2251.9	0.0061	mg/L	0.00001	0.0061	mg/L	0.00001	0.21%
Cd 214	1282.7	0.0013	mg/L	0.00006	0.0013	mg/L	0.00006	4.85%
Pb 220	-155.8	-0.0060	mg/L	0.00296	-0.0060	mg/L	0.00296	49.19%
Co 229	-175.0	-0.0019	mg/L	0.00071	-0.0019	mg/L	0.00071	37.04%
Ni 232	-380.3	-0.0054	mg/L	0.00250	-0.0054	mg/L	0.00250	46.30%
Ba 234	558.0	0.0037	mg/L	0.00019	0.0037	mg/L	0.00019	5.15%
Mn 258	-919.4	-0.0017	mg/L	0.00022	-0.0017	mg/L	0.00022	12.82%
Fe 260	3015500.8	97.8	mg/L	1.59	97.8	mg/L	1.59	1.63%
Cr 268	1065.0	0.0030	mg/L	0.00091	0.0030	mg/L	0.00091	30.36%
Mg 279	121913.3	39.5	mg/L	0.05	39.5	mg/L	0.05	0.12%
V 292	145.2	-0.0015	mg/L	0.00094	-0.0015	mg/L	0.00094	62.07%
Al 308	580364.1	99.3	mg/L	1.17	99.3	mg/L	1.17	1.17%
Be 313	121.1	0.0072	mg/L	0.00650	0.0072	mg/L	0.00650	89.85%
Ca 318	1045234.5	39.6	mg/L	0.36	39.6	mg/L	0.36	0.91%
Cu 325	1977.1	0.0032	mg/L	0.00090	0.0032	mg/L	0.00090	27.88%
Ag 328	131.9	0.0007	mg/L	0.00014	0.0007	mg/L	0.00014	21.56%
Na 590	-10921.2	-0.0816	mg/L	0.00392	-0.0816	mg/L	0.00392	4.81%
K 766	-187.8	-0.0054	mg/L	0.01279	-0.0054	mg/L	0.01279	238.37%

Sequence No.: 10
Sample ID: ICSB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 2/2/2015 10:34:51 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSB

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICSB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	3987.7	0.319	mg/L	0.0058	0.319	mg/L	0.0058	1.83%
Tl 191	3648.6	0.308	mg/L	0.0052	0.308	mg/L	0.0052	1.68%
Se 196	2648.8	0.290	mg/L	0.0023	0.290	mg/L	0.0023	0.80%
Sb 207	4097.1	0.319	mg/L	0.0013	0.319	mg/L	0.0013	0.42%
Zn 214	92632.7	0.313	mg/L	0.0000	0.313	mg/L	0.0000	0.00%
Cd 214	166101.9	0.301	mg/L	0.0002	0.301	mg/L	0.0002	0.05%
Pb 220	8598.9	0.291	mg/L	0.0006	0.291	mg/L	0.0006	0.22%
Co 229	43946.5	0.305	mg/L	0.0049	0.305	mg/L	0.0049	1.61%
Ni 232	43786.6	0.293	mg/L	0.0013	0.293	mg/L	0.0013	0.44%
Ba 234	422653.4	0.996	mg/L	0.0052	0.996	mg/L	0.0052	0.52%
Mn 258	578351.3	0.302	mg/L	0.0006	0.302	mg/L	0.0006	0.20%
Fe 260	2983294.7	96.7	mg/L	1.08	96.7	mg/L	1.08	1.12%
Cr 268	90739.0	0.302	mg/L	0.0034	0.302	mg/L	0.0034	1.12%
Mg 279	121439.0	39.3	mg/L	0.35	39.3	mg/L	0.35	0.88%
V 292	53995.2	0.305	mg/L	0.0008	0.305	mg/L	0.0008	0.26%
Al 308	576343.4	98.6	mg/L	0.57	98.6	mg/L	0.57	0.57%
Be 313	22652.4	0.305	mg/L	0.0053	0.305	mg/L	0.0053	1.72%
Ca 318	1032296.3	39.1	mg/L	0.34	39.1	mg/L	0.34	0.86%
Cu 325	148199.0	0.323	mg/L	0.0037	0.323	mg/L	0.0037	1.14%
Ag 328	88506.9	0.272	mg/L	0.0021	0.272	mg/L	0.0021	0.77%
Na 590	-9738.2	-0.0641	mg/L	0.01091	-0.0641	mg/L	0.01091	17.01%
K 766	6.5	0.0044	mg/L	0.02368	0.0044	mg/L	0.02368	536.99%

Sequence No.: 11
Sample ID: LLC
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/2/2015 10:41:21 AM
Data Type: Originel
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LLC

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: LLC

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	221.6	0.0117	mg/L	0.00227	0.0117	mg/L	0.00227	19.36%
Tl 191	118.5	0.0090	mg/L	0.00447	0.0090	mg/L	0.00447	49.71%
Se 196	229.2	0.0211	mg/L	0.00680	0.0211	mg/L	0.00680	32.26%
Sb 207	455.9	0.0286	mg/L	0.00177	0.0286	mg/L	0.00177	6.18%
Zn 214	5218.5	0.0161	mg/L	0.00182	0.0161	mg/L	0.00182	11.28%
Cd 214	2602.1	0.0037	mg/L	0.00028	0.0037	mg/L	0.00028	7.60%
Pb 220	307.4	0.0097	mg/L	0.00318	0.0097	mg/L	0.00318	32.70%
Co 229	1322.9	0.0085	mg/L	0.00108	0.0085	mg/L	0.00108	12.66%
Ni 232	1690.1	0.0086	mg/L	0.00139	0.0086	mg/L	0.00139	16.18%
Ba 234	42469.0	0.102	mg/L	0.0010	0.102	mg/L	0.0010	1.02%
Mn 258	16902.3	0.0076	mg/L	0.00137	0.0076	mg/L	0.00137	18.00%
Fe 260	3777.4	0.118	mg/L	0.0058	0.118	mg/L	0.0058	4.94%
Cr 268	2865.1	0.0090	mg/L	0.00155	0.0090	mg/L	0.00155	17.26%
Mg 279	306.3	0.0868	mg/L	0.01311	0.0868	mg/L	0.01311	15.09%
V 292	9100.8	0.0494	mg/L	0.00023	0.0494	mg/L	0.00023	0.47%
Al 308	562.7	0.0662	mg/L	0.00000	0.0662	mg/L	0.00000	0.00%
Be 313	778.0	0.0159	mg/L	0.00124	0.0159	mg/L	0.00124	7.81%
Ca 318	2654.1	0.110	mg/L	0.0070	0.110	mg/L	0.0070	6.41%
Cu 325	4418.0	0.0086	mg/L	0.00024	0.0086	mg/L	0.00024	2.76%
Ag 328	3295.6	0.0104	mg/L	0.00064	0.0104	mg/L	0.00064	6.17%
Na 590	3181.4	0.127	mg/L	0.0008	0.127	mg/L	0.0008	0.64%
K 766	3555.5	0.183	mg/L	0.0103	0.183	mg/L	0.0103	5.63%

Sequence No.: 12
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/2/2015 10:47:50 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6613.3	0.533	mg/L	0.0019	0.533	mg/L	0.0019	0.36%
Tl 191	6025.8	0.509	mg/L	0.0017	0.509	mg/L	0.0017	0.32%
Se 196	5074.7	0.518	mg/L	0.0057	0.518	mg/L	0.0057	1.09%
Sb 207	6677.4	0.525	mg/L	0.0026	0.525	mg/L	0.0026	0.50%
Zn 214	149659.9	0.507	mg/L	0.0023	0.507	mg/L	0.0023	0.45%
Cd 214	281907.6	0.512	mg/L	0.0007	0.512	mg/L	0.0007	0.15%
Pb 220	14692.0	0.499	mg/L	0.0051	0.499	mg/L	0.0051	1.03%
Co 229	74008.8	0.515	mg/L	0.0014	0.515	mg/L	0.0014	0.27%
Ni 232	75779.3	0.509	mg/L	0.0016	0.509	mg/L	0.0016	0.32%
Ba 234	1068717.5	2.51	mg/L	0.042	2.51	mg/L	0.042	1.68%
Mn 258	972907.6	0.508	mg/L	0.0008	0.508	mg/L	0.0008	0.16%
Fe 260	76006.4	2.46	mg/L	0.049	2.46	mg/L	0.049	2.00%
Cr 268	151513.1	0.504	mg/L	0.0016	0.504	mg/L	0.0016	0.32%
Mg 279	7960.9	2.56	mg/L	0.005	2.56	mg/L	0.005	0.18%
V 292	88888.7	0.503	mg/L	0.0034	0.503	mg/L	0.0034	0.68%
Al 308	14747.4	2.49	mg/L	0.012	2.49	mg/L	0.012	0.47%
Be 313	36660.5	0.489	mg/L	0.0030	0.489	mg/L	0.0030	0.61%
Ca 318	67193.2	2.56	mg/L	0.012	2.56	mg/L	0.012	0.48%
Cu 325	229173.8	0.500	mg/L	0.0040	0.500	mg/L	0.0040	0.81%
Ag 328	163010.8	0.501	mg/L	0.0063	0.501	mg/L	0.0063	1.26%
Na 590	162493.0	2.48	mg/L	0.023	2.48	mg/L	0.023	0.93%
K 766	49578.0	2.50	mg/L	0.004	2.50	mg/L	0.004	0.17%

Sequence No.: 13
Sample ID: CBV
Analyst:
Initiel Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/2/2015 10:54:25 AM
Data Type: Originel
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Date: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	123.2	0.0037	mg/L	0.00109	0.0037	mg/L	0.00109	29.55%
Tl 191	6.5	-0.0005	mg/L	0.00189	-0.0005	mg/L	0.00189	373.60%
Se 196	32.8	0.0009	mg/L	0.00194	0.0009	mg/L	0.00194	210.14%
Sb 207	9.2	-0.0074	mg/L	0.00307	-0.0074	mg/L	0.00307	41.45%
Zn 214	-281.5	-0.0026	mg/L	0.00136	-0.0026	mg/L	0.00136	52.66%
Cd 214	-205.7	-0.0014	mg/L	0.00022	-0.0014	mg/L	0.00022	15.29%
Pb 220	-74.7	-0.0033	mg/L	0.00194	-0.0033	mg/L	0.00194	59.57%
Co 229	108.5	0.0000	mg/L	0.00196	0.0000	mg/L	0.00196	>999.9%
Ni 232	-45.4	-0.0031	mg/L	0.00045	-0.0031	mg/L	0.00045	14.36%
Ba 234	-1010.8	0.0000	mg/L	0.00062	0.0000	mg/L	0.00062	>999.9%
Mn 258	752.6	-0.0009	mg/L	0.00056	-0.0009	mg/L	0.00056	65.19%
Fe 260	429.4	0.0097	mg/L	0.08059	0.0097	mg/L	0.08059	827.47%
Cr 268	-378.2	-0.0018	mg/L	0.00004	-0.0018	mg/L	0.00004	2.36%
Mg 279	50.8	0.0041	mg/L	0.01355	0.0041	mg/L	0.01355	329.88%
V 292	-19.7	-0.0024	mg/L	0.00117	-0.0024	mg/L	0.00117	47.73%
Al 308	160.6	-0.0026	mg/L	0.00360	-0.0026	mg/L	0.00360	137.98%
Be 313	750.6	0.0155	mg/L	0.00525	0.0155	mg/L	0.00525	33.82%
Ca 318	271.1	0.0193	mg/L	0.00000	0.0193	mg/L	0.00000	0.00%

Cu 325	310.9	-0.0004 mg/L	0.00041	-0.0004 mg/L	0.00041	96.98%
Ag 328	-85.0	0.0000 mg/L	0.00059	0.0000 mg/L	0.00059	>999.9%
Na 590	-11263.4	-0.0867 mg/L	0.00121	-0.0867 mg/L	0.00121	1.39%
K 766	-298.9	-0.0109 mg/L	0.02406	-0.0109 mg/L	0.02406	219.78%

Sequence No.: 14
Sample ID: 158133 MB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 2/2/2015 11:00:54 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158133 MB

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158133 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	95.9	0.0015	mg/L	0.00029	0.0015	mg/L	0.00029	19.93%
Tl 191	-8.0	-0.0017	mg/L	0.00127	-0.0017	mg/L	0.00127	73.55%
Se 196	-12.6	-0.0037	mg/L	0.00091	-0.0037	mg/L	0.00091	24.44%
Sb 207	55.7	-0.0036	mg/L	0.00071	-0.0036	mg/L	0.00071	19.62%
Zn 214	563.0	0.0003	mg/L	0.00000	0.0003	mg/L	0.00000	0.64%
Cd 214	-108.9	-0.0012	mg/L	0.00065	-0.0012	mg/L	0.00065	52.39%
Pb 220	-129.8	-0.0051	mg/L	0.00190	-0.0051	mg/L	0.00190	36.95%
Co 229	55.1	-0.0003	mg/L	0.00045	-0.0003	mg/L	0.00045	137.62%
Ni 232	54.1	-0.0025	mg/L	0.00037	-0.0025	mg/L	0.00037	14.88%
Ba 234	-594.3	0.0010	mg/L	0.00074	0.0010	mg/L	0.00074	73.89%
Mn 258	-1193.7	-0.0019	mg/L	0.00028	-0.0019	mg/L	0.00028	14.87%
Fe 260	469.4	0.0110	mg/L	0.00000	0.0110	mg/L	0.00000	0.00%
Cr 268	-417.6	-0.0019	mg/L	0.00068	-0.0019	mg/L	0.00068	35.37%
Mg 279	45.1	0.0022	mg/L	0.03375	0.0022	mg/L	0.03375	>999.9%
V 292	164.9	-0.0014	mg/L	0.00156	-0.0014	mg/L	0.00156	111.44%
Al 308	11.2	-0.0282	mg/L	0.00710	-0.0282	mg/L	0.00710	25.19%
Be 313	563.0	0.0131	mg/L	0.00175	0.0131	mg/L	0.00175	13.41%
Ca 318	871.3	0.0421	mg/L	0.01653	0.0421	mg/L	0.01653	39.26%
Cu 325	117.2	-0.0008	mg/L	0.00096	-0.0008	mg/L	0.00096	113.67%
Ag 328	-7.2	0.0002	mg/L	0.00092	0.0002	mg/L	0.00092	401.61%
Na 590	-8861.6	-0.0512	mg/L	0.00287	-0.0512	mg/L	0.00287	5.61%
K 766	64.9	0.0073	mg/L	0.01398	0.0073	mg/L	0.01398	190.41%

Sequence No.: 15
Sample ID: 158134 LCS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 11
Date Collected: 2/2/2015 11:07:30 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158134 LCS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158134 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5126.4	0.412	mg/L	0.0050	0.412	mg/L	0.0050	1.23%
Tl 191	4718.4	0.399	mg/L	0.0042	0.399	mg/L	0.0042	1.06%
Se 196	3940.2	0.402	mg/L	0.0001	0.402	mg/L	0.0001	0.03%
Sb 207	5344.1	0.418	mg/L	0.0033	0.418	mg/L	0.0033	0.78%
Zn 214	117851.3	0.399	mg/L	0.0000	0.399	mg/L	0.0000	0.00%
Cd 214	218346.9	0.396	mg/L	0.0007	0.396	mg/L	0.0007	0.17%
Pb 220	11469.9	0.389	mg/L	0.0032	0.389	mg/L	0.0032	0.81%
Co 229	59699.8	0.415	mg/L	0.0011	0.415	mg/L	0.0011	0.27%
Ni 232	60378.0	0.405	mg/L	0.0006	0.405	mg/L	0.0006	0.15%
Ba 234	844873.9	1.99	mg/L	0.003	1.99	mg/L	0.003	0.17%
Mn 258	782847.0	0.409	mg/L	0.0050	0.409	mg/L	0.0050	1.23%
Fe 260	58527.8	1.89	mg/L	0.075	1.89	mg/L	0.075	3.95%

Cr 268	121169.9	0.403 mg/L	0.0005	0.403 mg/L	0.0005	0.12%
Mg 279	6287.5	2.02 mg/L	0.043	2.02 mg/L	0.043	2.11%
V 292	72139.4	0.408 mg/L	0.0016	0.408 mg/L	0.0016	0.38%
Al 308	11730.7	1.98 mg/L	0.008	1.98 mg/L	0.008	0.40%
Be 313	29435.5	0.394 mg/L	0.0023	0.394 mg/L	0.0023	0.57%
Ca 318	52609.2	2.00 mg/L	0.035	2.00 mg/L	0.035	1.76%
Cu 325	185501.6	0.405 mg/L	0.0015	0.405 mg/L	0.0015	0.37%
Ag 328	140019.5	0.430 mg/L	0.0009	0.430 mg/L	0.0009	0.20%
Na 590	129421.3	1.99 mg/L	0.009	1.99 mg/L	0.009	0.47%
K 766	38936.9	1.96 mg/L	0.017	1.96 mg/L	0.017	0.84%

Sequence No.: 16
Sample ID: 158135 LCSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 12
Date Collected: 2/2/2015 11:14:10 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158135 LCSD

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158135 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5180.0	0.416	mg/L	0.0003	0.416	mg/L	0.0003	0.08%
Tl 191	4714.0	0.398	mg/L	0.0025	0.398	mg/L	0.0025	0.62%
Se 196	3883.3	0.396	mg/L	0.0026	0.396	mg/L	0.0026	0.66%
Sb 207	5363.0	0.420	mg/L	0.0017	0.420	mg/L	0.0017	0.40%
Zn 214	118941.2	0.402	mg/L	0.0027	0.402	mg/L	0.0027	0.68%
Cd 214	218250.3	0.396	mg/L	0.0024	0.396	mg/L	0.0024	0.61%
Pb 220	11559.7	0.392	mg/L	0.0094	0.392	mg/L	0.0094	2.39%
Co 229	59409.4	0.413	mg/L	0.0008	0.413	mg/L	0.0008	0.18%
Ni 232	60904.8	0.408	mg/L	0.0033	0.408	mg/L	0.0033	0.81%
Ba 234	840940.4	1.98	mg/L	0.024	1.98	mg/L	0.024	1.22%
Mn 258	782835.1	0.409	mg/L	0.0017	0.409	mg/L	0.0017	0.42%
Fe 260	58615.1	1.90	mg/L	0.020	1.90	mg/L	0.020	1.04%
Cr 268	119445.3	0.397	mg/L	0.0059	0.397	mg/L	0.0059	1.48%
Mg 279	6175.7	1.99	mg/L	0.015	1.99	mg/L	0.015	0.76%
V 292	73059.1	0.413	mg/L	0.0019	0.413	mg/L	0.0019	0.47%
Al 308	11798.2	1.99	mg/L	0.023	1.99	mg/L	0.023	1.13%
Be 313	29181.3	0.391	mg/L	0.0035	0.391	mg/L	0.0035	0.90%
Ca 318	53359.8	2.03	mg/L	0.025	2.03	mg/L	0.025	1.24%
Cu 325	187382.0	0.409	mg/L	0.0034	0.409	mg/L	0.0034	0.84%
Ag 328	138689.3	0.426	mg/L	0.0003	0.426	mg/L	0.0003	0.07%
Na 590	135100.8	2.08	mg/L	0.017	2.08	mg/L	0.017	0.81%
K 766	39069.4	1.97	mg/L	0.003	1.97	mg/L	0.003	0.15%

Sequence No.: 17
Sample ID: 0182_1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 13
Date Collected: 2/2/2015 11:20:45 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_1

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	67.4	-0.0008	mg/L	0.00250	-0.0008	mg/L	0.00250	306.23%
Tl 191	41.6	0.0025	mg/L	0.00383	0.0025	mg/L	0.00383	154.94%
Se 196	6.2	-0.0015	mg/L	0.00385	-0.0015	mg/L	0.00385	251.91%
Sb 207	-62.0	-0.0132	mg/L	0.00092	-0.0132	mg/L	0.00092	6.98%
Zn 214	5817.5	0.0182	mg/L	0.00092	0.0182	mg/L	0.00092	5.02%
Cd 214	-181.5	-0.0014	mg/L	0.00016	-0.0014	mg/L	0.00016	11.27%

Pb 220	155.5	0.0046 mg/L	0.00283	0.0046 mg/L	0.00283	61.92%
Co 229	-56.5	-0.0011 mg/L	0.00033	-0.0011 mg/L	0.00033	29.95%
Ni 232	197.8	-0.0015 mg/L	0.00185	-0.0015 mg/L	0.00185	122.97%
Ba 234	22141.5	0.0544 mg/L	0.00186	0.0544 mg/L	0.00186	3.42%
Mn 258	1419724.5	0.742 mg/L	0.0028	0.742 mg/L	0.0028	0.37%
Fe 260	40707.1	1.32 mg/L	0.026	1.32 mg/L	0.026	1.94%
Cr 268	87.8	-0.0003 mg/L	0.00133	-0.0003 mg/L	0.00133	529.36%
Mg 279	562810.8	182 mg/L	0.0	182 mg/L	0.0	0.01%
V 292	-697.4	-0.0063 mg/L	0.00039	-0.0063 mg/L	0.00039	6.18%
Al 308	1274.0	0.188 mg/L	0.0241	0.188 mg/L	0.0241	12.83%
Be 313	-254.2	0.0023 mg/L	0.00650	0.0023 mg/L	0.00650	285.44%
Ca 318	5660483.4	215 mg/L	0.7	215 mg/L	0.7	0.34%
Cu 325	331.3	-0.0004 mg/L	0.00060	-0.0004 mg/L	0.00060	158.56%
Ag 328	-237.8	-0.0005 mg/L	0.00003	-0.0005 mg/L	0.00003	5.56%
Na 590	Saturated4					
K 766	494764.6	24.9 mg/L	0.02	24.9 mg/L	0.02	0.08%

Sequence No.: 18
Sample ID: 158136 MS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 14
Date Collected: 2/2/2015 11:27:24 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158136 MS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158136 MS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5065.9	0.406	mg/L	0.0022	0.406	mg/L	0.0022	0.54%
Tl 191	4295.2	0.363	mg/L	0.0036	0.363	mg/L	0.0036	1.00%
Se 196	3879.3	0.396	mg/L	0.0016	0.396	mg/L	0.0016	0.40%
Sb 207	5122.8	0.401	mg/L	0.0047	0.401	mg/L	0.0047	1.18%
Zn 214	121041.5	0.410	mg/L	0.0000	0.410	mg/L	0.0000	0.01%
Cd 214	199092.5	0.361	mg/L	0.0003	0.361	mg/L	0.0003	0.08%
Pb 220	10600.6	0.360	mg/L	0.0053	0.360	mg/L	0.0053	1.47%
Co 229	55090.9	0.383	mg/L	0.0015	0.383	mg/L	0.0015	0.38%
Ni 232	55981.4	0.375	mg/L	0.0051	0.375	mg/L	0.0051	1.37%
Ba 234	807912.0	1.90	mg/L	0.026	1.90	mg/L	0.026	1.37%
Mn 258	2123270.9	1.11	mg/L	0.003	1.11	mg/L	0.003	0.28%
Fe 260	97477.2	3.16	mg/L	0.010	3.16	mg/L	0.010	0.31%
Cr 268	111642.5	0.371	mg/L	0.0007	0.371	mg/L	0.0007	0.18%
Mg 279	552867.1	179	mg/L	1.1	179	mg/L	1.1	0.60%
V 292	67327.2	0.381	mg/L	0.0060	0.381	mg/L	0.0060	1.58%
Al 308	12665.3	2.14	mg/L	0.007	2.14	mg/L	0.007	0.34%
Be 313	27437.8	0.368	mg/L	0.0035	0.368	mg/L	0.0035	0.95%
Ca 318	5570759.0	211	mg/L	3.4	211	mg/L	3.4	1.63%
Cu 325	194892.9	0.425	mg/L	0.0003	0.425	mg/L	0.0003	0.07%
Ag 328	140659.1	0.432	mg/L	0.0042	0.432	mg/L	0.0042	0.97%
Na 590	Saturated4							
K 766	530954.5	26.7	mg/L	0.12	26.7	mg/L	0.12	0.46%

Sequence No.: 19
Sample ID: 158137 MSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 15
Date Collected: 2/2/2015 11:33:55 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158137 MSD

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158137 MSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD

As 189	4901.1	0.393 mg/L	0.0032	0.393 mg/L	0.0032	0.82%
Tl 191	4234.8	0.358 mg/L	0.0069	0.358 mg/L	0.0069	1.93%
Se 196	3708.0	0.378 mg/L	0.0038	0.378 mg/L	0.0038	1.00%
Sb 207	5045.3	0.395 mg/L	0.0007	0.395 mg/L	0.0007	0.18%
Zn 214	118472.1	0.401 mg/L	0.0041	0.401 mg/L	0.0041	1.02%
Cd 214	196684.1	0.357 mg/L	0.0012	0.357 mg/L	0.0012	0.35%
Pb 220	10381.6	0.352 mg/L	0.0024	0.352 mg/L	0.0024	0.67%
Co 229	54215.9	0.377 mg/L	0.0078	0.377 mg/L	0.0078	2.07%
Ni 232	54781.2	0.367 mg/L	0.0008	0.367 mg/L	0.0008	0.21%
Ba 234	784240.4	1.85 mg/L	0.025	1.85 mg/L	0.025	1.33%
Mn 258	2089029.7	1.09 mg/L	0.002	1.09 mg/L	0.002	0.15%
Fe 260	94041.9	3.04 mg/L	0.030	3.04 mg/L	0.030	0.97%
Cr 268	108399.1	0.360 mg/L	0.0023	0.360 mg/L	0.0023	0.63%
Mg 279	531488.8	172 mg/L	2.5	172 mg/L	2.5	1.43%
V 292	66581.4	0.376 mg/L	0.0027	0.376 mg/L	0.0027	0.70%
Al 308	12215.7	2.06 mg/L	0.055	2.06 mg/L	0.055	2.65%
Be 313	27089.7	0.363 mg/L	0.0030	0.363 mg/L	0.0030	0.82%
Ca 318	5442169.3	206 mg/L	0.8	206 mg/L	0.8	0.38%
Cu 325	190584.5	0.416 mg/L	0.0001	0.416 mg/L	0.0001	0.04%
Ag 328	136738.3	0.420 mg/L	0.0025	0.420 mg/L	0.0025	0.60%
Na 590	Saturated4					
K 766	521745.7	26.2 mg/L	0.11	26.2 mg/L	0.11	0.42%

Sequence No.: 20
Sample ID: 0182_2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 16
Date Collected: 2/2/2015 11:40:26 AM
Data Type: Originel
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_2

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_2

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	107.3	0.0024	mg/L	0.00130	0.0024	mg/L	0.00130	54.07%
Tl 191	24.7	0.0010	mg/L	0.00377	0.0010	mg/L	0.00377	361.74%
Se 196	34.8	0.0013	mg/L	0.00143	0.0013	mg/L	0.00143	113.42%
Sb 207	-22.0	-0.0099	mg/L	0.00280	-0.0099	mg/L	0.00280	28.14%
Zn 214	357.3	-0.0004	mg/L	0.00008	-0.0004	mg/L	0.00008	20.63%
Cd 214	48.5	-0.0010	mg/L	0.00037	-0.0010	mg/L	0.00037	38.84%
Pb 220	-38.5	-0.0020	mg/L	0.00152	-0.0020	mg/L	0.00152	75.01%
Co 229	-66.5	-0.0012	mg/L	0.00204	-0.0012	mg/L	0.00204	173.68%
Ni 232	155.1	-0.0018	mg/L	0.00041	-0.0018	mg/L	0.00041	22.76%
Ba 234	11223.4	0.0288	mg/L	0.00074	0.0288	mg/L	0.00074	2.59%
Mn 258	424161.0	0.221	mg/L	0.0002	0.221	mg/L	0.0002	0.10%
Fe 260	20484.5	0.660	mg/L	0.0551	0.660	mg/L	0.0551	8.34%
Cr 268	96.8	-0.0002	mg/L	0.00000	-0.0002	mg/L	0.00000	0.00%
Mg 279	211630.1	68.5	mg/L	0.03	68.5	mg/L	0.03	0.05%
V 292	0.0	-0.0023	mg/L	0.00055	-0.0023	mg/L	0.00055	23.45%
Al 308	-96.4	-0.0466	mg/L	0.01172	-0.0466	mg/L	0.01172	25.15%
Be 313	1126.0	0.0205	mg/L	0.00525	0.0205	mg/L	0.00525	25.64%
Ca 318	2872931.7	109	mg/L	0.8	109	mg/L	0.8	0.76%
Cu 325	484.1	0.0000	mg/L	0.00090	0.0000	mg/L	0.00090	>999.9%
Ag 328	-155.6	-0.0002	mg/L	0.00004	-0.0002	mg/L	0.00004	17.00%
Na 590	Saturated4							
K 766	186395.2	9.38	mg/L	0.064	9.38	mg/L	0.064	0.69%

Sequence No.: 21
Sample ID: 0182_3
Analyst:
Initiel Sample Wt:
Dilution:

Autosampler Location: 17
Date Collected: 2/2/2015 11:46:57 AM
Date Type: Originel
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_3

Analyte	Back Pressure	Flow

All 186.0 kPa 0.55 L/min

Mean Data: 0182_3

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	54.6	-0.0019	mg/L	0.00015	-0.0019	mg/L	0.00015	8.04%
Tl 191	40.2	0.0024	mg/L	0.00177	0.0024	mg/L	0.00177	75.33%
Se 196	30.0	0.0008	mg/L	0.00250	0.0008	mg/L	0.00250	308.82%
Sb 207	-57.1	-0.0128	mg/L	0.00361	-0.0128	mg/L	0.00361	28.28%
Zn 214	393.3	-0.0003	mg/L	0.00008	-0.0003	mg/L	0.00008	29.70%
Cd 214	181.6	-0.0007	mg/L	0.00009	-0.0007	mg/L	0.00009	12.96%
Pb 220	84.6	0.0022	mg/L	0.00361	0.0022	mg/L	0.00361	167.60%
Co 229	238.4	0.0009	mg/L	0.00048	0.0009	mg/L	0.00048	50.79%
Ni 232	78.0	-0.0023	mg/L	0.00041	-0.0023	mg/L	0.00041	17.64%
Ba 234	9816.0	0.0255	mg/L	0.00019	0.0255	mg/L	0.00019	0.75%
Mn 258	834809.5	0.436	mg/L	0.0006	0.436	mg/L	0.0006	0.13%
Fe 260	25590.2	0.825	mg/L	0.0295	0.825	mg/L	0.0295	3.58%
Cr 268	-96.8	-0.0009	mg/L	0.00000	-0.0009	mg/L	0.00000	0.00%
Mg 279	436459.2	141	mg/L	0.5	141	mg/L	0.5	0.32%
V 292	-174.0	-0.0033	mg/L	0.00039	-0.0033	mg/L	0.00039	11.71%
Al 308	324.9	0.0255	mg/L	0.01070	0.0255	mg/L	0.01070	41.97%
Be 313	938.3	0.0180	mg/L	0.00876	0.0180	mg/L	0.00876	48.61%
Ca 318	3875380.9	147	mg/L	0.0	147	mg/L	0.0	0.01%
Cu 325	186.0	-0.0007	mg/L	0.00015	-0.0007	mg/L	0.00015	21.53%
Ag 328	-85.0	0.0000	mg/L	0.00089	0.0000	mg/L	0.00089	>999.9%
Na 590	Saturated4							
K 766	301089.6	15.1	mg/L	0.00	15.1	mg/L	0.00	0.01%

Sequence No.: 22
Sample ID: 0182_4
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 18
Date Collected: 2/2/2015 11:53:31 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_4

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_4

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	95.8	0.0015	mg/L	0.00002	0.0015	mg/L	0.00002	1.31%
Tl 191	-100.8	-0.0096	mg/L	0.00608	-0.0096	mg/L	0.00608	63.37%
Se 196	13.6	-0.0008	mg/L	0.00363	-0.0008	mg/L	0.00363	431.93%
Sb 207	-110.1	-0.0171	mg/L	0.00011	-0.0171	mg/L	0.00011	0.62%
Zn 214	656.8	0.0006	mg/L	0.00137	0.0006	mg/L	0.00137	219.96%
Cd 214	181.5	-0.0007	mg/L	0.00016	-0.0007	mg/L	0.00016	21.60%
Pb 220	-6.0	-0.0009	mg/L	0.00032	-0.0009	mg/L	0.00032	34.34%
Co 229	-88.7	-0.0013	mg/L	0.00000	-0.0013	mg/L	0.00000	0.00%
Ni 232	-129.7	-0.0037	mg/L	0.00139	-0.0037	mg/L	0.00139	37.33%
Ba 234	11728.8	0.0300	mg/L	0.00031	0.0300	mg/L	0.00031	1.04%
Mn 258	396017.3	0.206	mg/L	0.0006	0.206	mg/L	0.0006	0.27%
Fe 260	29971.7	0.968	mg/L	0.0255	0.968	mg/L	0.0255	2.64%
Cr 268	136.2	-0.0001	mg/L	0.00201	-0.0001	mg/L	0.00201	>999.9%
Mg 279	204233.4	66.1	mg/L	0.60	66.1	mg/L	0.60	0.91%
V 292	213.3	-0.0011	mg/L	0.00039	-0.0011	mg/L	0.00039	34.70%
Al 308	227.1	0.0088	mg/L	0.01251	0.0088	mg/L	0.01251	142.45%
Be 313	1004.8	0.0189	mg/L	0.00650	0.0189	mg/L	0.00650	34.38%
Ca 318	2816336.9	107	mg/L	0.8	107	mg/L	0.8	0.71%
Cu 325	580.9	0.0002	mg/L	0.00073	0.0002	mg/L	0.00073	430.89%
Ag 328	-242.2	-0.0005	mg/L	0.00092	-0.0005	mg/L	0.00092	186.13%
Na 590	Saturated4							
K 766	198125.6	9.97	mg/L	0.019	9.97	mg/L	0.019	0.19%

Sequence No.: 23
Sample ID: 0182_5
Analyst:

Autosampler Location: 19
Date Collected: 2/2/2015 12:00:01 PM
Data Type: Original

Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 0182_5

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_5

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	135.9	0.0047	mg/L	0.00031	0.0047	mg/L	0.00031	6.64%
Tl 191	1.3	-0.0009	mg/L	0.00574	-0.0009	mg/L	0.00574	607.56%
Se 196	5.4	-0.0017	mg/L	0.00081	-0.0017	mg/L	0.00081	47.91%
Sb 207	-94.0	-0.0158	mg/L	0.00314	-0.0158	mg/L	0.00314	19.93%
Zn 214	862.5	0.0013	mg/L	0.00036	0.0013	mg/L	0.00036	27.41%
Cd 214	72.6	-0.0009	mg/L	0.00000	-0.0009	mg/L	0.00000	0.00%
Pb 220	120.3	0.0034	mg/L	0.00099	0.0034	mg/L	0.00099	29.51%
Co 229	-136.0	-0.0017	mg/L	0.00039	-0.0017	mg/L	0.00039	23.59%
Ni 232	167.8	-0.0017	mg/L	0.00121	-0.0017	mg/L	0.00121	70.98%
Ba 234	10944.4	0.0281	mg/L	0.00020	0.0281	mg/L	0.00020	0.71%
Mn 258	380511.0	0.198	mg/L	0.0003	0.198	mg/L	0.0003	0.17%
Fe 260	29414.9	0.949	mg/L	0.0591	0.949	mg/L	0.0591	6.22%
Cr 268	-184.6	-0.0012	mg/L	0.00041	-0.0012	mg/L	0.00041	35.72%
Mg 279	205569.6	66.5	mg/L	0.38	66.5	mg/L	0.38	0.58%
V 292	-19.7	-0.0024	mg/L	0.00039	-0.0024	mg/L	0.00039	15.91%
Al 308	227.1	0.0088	mg/L	0.03392	0.0088	mg/L	0.03392	386.28%
Be 313	27.3	0.0060	mg/L	0.00474	0.0060	mg/L	0.00474	79.19%
Ca 318	2768913.7	105	mg/L	1.7	105	mg/L	1.7	1.61%
Cu 325	1610.3	0.0024	mg/L	0.00143	0.0024	mg/L	0.00143	59.27%
Ag 328	26.0	0.0003	mg/L	0.00089	0.0003	mg/L	0.00089	269.14%
Na 590	Saturated4							
K 766	193975.2	9.76	mg/L	0.073	9.76	mg/L	0.073	0.75%

Sequence No.: 24 **Autosampler Location: 3**
Sample ID: CCV **Date Collected: 2/2/2015 12:06:34 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6546.3	0.527	mg/L	0.0058	0.527	mg/L	0.0058	1.11%
Tl 191	5977.2	0.505	mg/L	0.0031	0.505	mg/L	0.0031	0.62%
Se 196	5093.7	0.520	mg/L	0.0023	0.520	mg/L	0.0023	0.45%
Sb 207	6661.4	0.523	mg/L	0.0021	0.523	mg/L	0.0021	0.40%
Zn 214	148310.2	0.502	mg/L	0.0023	0.502	mg/L	0.0023	0.46%
Cd 214	277853.2	0.504	mg/L	0.0003	0.504	mg/L	0.0003	0.06%
Pb 220	14811.9	0.503	mg/L	0.0012	0.503	mg/L	0.0012	0.24%
Co 229	73123.0	0.508	mg/L	0.0007	0.508	mg/L	0.0007	0.13%
Ni 232	75789.2	0.509	mg/L	0.0103	0.509	mg/L	0.0103	2.03%
Ba 234	1055268.4	2.48	mg/L	0.052	2.48	mg/L	0.052	2.11%
Mn 258	971514.7	0.507	mg/L	0.0002	0.507	mg/L	0.0002	0.04%
Fe 260	76905.3	2.49	mg/L	0.039	2.49	mg/L	0.039	1.58%
Cr 268	151174.2	0.503	mg/L	0.0005	0.503	mg/L	0.0005	0.09%
Mg 279	7880.5	2.54	mg/L	0.005	2.54	mg/L	0.005	0.20%
V 292	89469.6	0.507	mg/L	0.0070	0.507	mg/L	0.0070	1.38%
Al 308	14988.9	2.54	mg/L	0.007	2.54	mg/L	0.007	0.29%
Be 313	36727.0	0.490	mg/L	0.0053	0.490	mg/L	0.0053	1.07%
Ca 318	66402.3	2.53	mg/L	0.020	2.53	mg/L	0.020	0.80%
Cu 325	227201.8	0.496	mg/L	0.0026	0.496	mg/L	0.0026	0.53%
Ag 328	161755.9	0.497	mg/L	0.0049	0.497	mg/L	0.0049	0.98%
Na 590	185237.5	2.82	mg/L	0.022	2.82	mg/L	0.022	0.78%

K 766	50869.5	2.56 mg/L	0.032	2.56 mg/L	0.032	1.25%

Sequence No.: 25
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/2/2015 12:13:08 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	102.3	0.0020	mg/L	0.00275	0.0020	mg/L	0.00275	137.36%
Tl 191	-56.0	-0.0058	mg/L	0.00335	-0.0058	mg/L	0.00335	57.75%
Se 196	22.0	-0.0002	mg/L	0.00740	-0.0002	mg/L	0.00740	>999.9%
Sb 207	-0.3	-0.0082	mg/L	0.00222	-0.0082	mg/L	0.00222	27.15%
Zn 214	-187.7	-0.0023	mg/L	0.00090	-0.0023	mg/L	0.00090	39.77%
Cd 214	169.4	-0.0007	mg/L	0.00019	-0.0007	mg/L	0.00019	25.15%
Pb 220	27.1	0.0002	mg/L	0.00032	0.0002	mg/L	0.00032	157.24%
Co 229	27.5	-0.0005	mg/L	0.00024	-0.0005	mg/L	0.00024	46.24%
Ni 232	139.5	-0.0019	mg/L	0.00056	-0.0019	mg/L	0.00056	29.33%
Ba 234	-163.8	0.0020	mg/L	0.00155	0.0020	mg/L	0.00155	76.84%
Mn 258	-64.9	-0.0013	mg/L	0.00000	-0.0013	mg/L	0.00000	0.00%
Fe 260	1543.0	0.0458	mg/L	0.02953	0.0458	mg/L	0.02953	64.42%
Cr 268	57.4	-0.0004	mg/L	0.00019	-0.0004	mg/L	0.00019	52.77%
Mg 279	15.9	-0.0072	mg/L	0.03311	-0.0072	mg/L	0.03311	460.41%
V 292	600.6	0.0011	mg/L	0.00226	0.0011	mg/L	0.00226	209.49%
Al 308	257.4	0.0140	mg/L	0.01983	0.0140	mg/L	0.01983	142.07%
Be 313	778.0	0.0159	mg/L	0.01525	0.0159	mg/L	0.01525	95.94%
Ca 318	14.9	0.0096	mg/L	0.02220	0.0096	mg/L	0.02220	230.38%
Cu 325	270.0	-0.0005	mg/L	0.00066	-0.0005	mg/L	0.00066	129.41%
Ag 328	14.4	0.0003	mg/L	0.00011	0.0003	mg/L	0.00011	37.36%
Na 590	627.9	0.0892	mg/L	0.00149	0.0892	mg/L	0.00149	1.67%
K 766	-283.7	-0.0102	mg/L	0.00251	-0.0102	mg/L	0.00251	24.66%

Sequence No.: 26
Sample ID: 0182_6
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 20
Date Collected: 2/2/2015 12:19:40 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_6

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_6

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	176.4	0.0080	mg/L	0.00026	0.0080	mg/L	0.00026	3.29%
Tl 191	-22.5	-0.0030	mg/L	0.00013	-0.0030	mg/L	0.00013	4.41%
Se 196	13.6	-0.0010	mg/L	0.00145	-0.0010	mg/L	0.00145	143.13%
Sb 207	-27.4	-0.0104	mg/L	0.00135	-0.0104	mg/L	0.00135	13.05%
Zn 214	599.0	0.0004	mg/L	0.00000	0.0004	mg/L	0.00000	0.03%
Cd 214	0.1	-0.0010	mg/L	0.00025	-0.0010	mg/L	0.00025	23.72%
Pb 220	144.8	0.0042	mg/L	0.00099	0.0042	mg/L	0.00099	23.48%
Co 229	-66.5	-0.0012	mg/L	0.00010	-0.0012	mg/L	0.00010	8.33%
Ni 232	212.0	-0.0014	mg/L	0.00003	-0.0014	mg/L	0.00003	1.93%
Ba 234	25206.7	0.0617	mg/L	0.00042	0.0617	mg/L	0.00042	0.69%
Mn 258	423033.7	0.220	mg/L	0.0005	0.220	mg/L	0.0005	0.23%
Fe 260	4938.3	0.156	mg/L	0.0197	0.156	mg/L	0.0197	12.63%
Cr 268	-136.2	-0.0010	mg/L	0.00064	-0.0010	mg/L	0.00064	64.38%
Mg 279	122717.8	39.7	mg/L	0.57	39.7	mg/L	0.57	1.44%
V 292	28.7	-0.0022	mg/L	0.00000	-0.0022	mg/L	0.00000	0.00%

Al 308	596.3	0.0719	mg/L	0.01532	0.0719	mg/L	0.01532	21.29%
Be 313	778.0	0.0159	mg/L	0.00124	0.0159	mg/L	0.00124	7.81%
Ca 318	2140622.3	81.2	mg/L	0.07	81.2	mg/L	0.07	0.09%
Cu 325	919.8	0.0009	mg/L	0.00105	0.0009	mg/L	0.00105	115.25%
Ag 328	-11.0	0.0002	mg/L	0.00023	0.0002	mg/L	0.00023	108.34%
Na 590	11177682.7	165	mg/L	0.9	165	mg/L	0.9	0.57%
K 766	158005.4	7.95	mg/L	0.062	7.95	mg/L	0.062	0.78%

Sequence No.: 27
Sample ID: 0182_7
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 21
Date Collected: 2/2/2015 12:26:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_7

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_7

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	125.1	0.0038	mg/L	0.00123	0.0038	mg/L	0.00123	31.94%
Tl 191	-25.9	-0.0032	mg/L	0.00020	-0.0032	mg/L	0.00020	6.23%
Se 196	-7.1	-0.0030	mg/L	0.00083	-0.0030	mg/L	0.00083	28.09%
Sb 207	-14.6	-0.0093	mg/L	0.00480	-0.0093	mg/L	0.00480	51.44%
Zn 214	0.0	-0.0016	mg/L	0.00001	-0.0016	mg/L	0.00001	0.50%
Cd 214	145.2	-0.0008	mg/L	0.00000	-0.0008	mg/L	0.00000	0.03%
Pb 220	93.6	0.0025	mg/L	0.00091	0.0025	mg/L	0.00091	36.84%
Co 229	0.7	-0.0007	mg/L	0.00010	-0.0007	mg/L	0.00010	13.85%
Ni 232	143.5	-0.0019	mg/L	0.00161	-0.0019	mg/L	0.00161	85.88%
Ba 234	11820.2	0.0302	mg/L	0.00001	0.0302	mg/L	0.00001	0.03%
Mn 258	402977.9	0.210	mg/L	0.0003	0.210	mg/L	0.0003	0.14%
Fe 260	32333.5	1.04	mg/L	0.035	1.04	mg/L	0.035	3.39%
Cr 268	-136.2	-0.0010	mg/L	0.00155	-0.0010	mg/L	0.00155	155.91%
Mg 279	207120.6	67.0	mg/L	0.74	67.0	mg/L	0.74	1.11%
V 292	-242.0	-0.0037	mg/L	0.00094	-0.0037	mg/L	0.00094	25.24%
Al 308	324.0	0.0253	mg/L	0.01972	0.0253	mg/L	0.01972	77.78%
Be 313	-39.2	0.0051	mg/L	0.00701	0.0051	mg/L	0.00701	137.01%
Ca 318	2816952.0	107	mg/L	0.7	107	mg/L	0.7	0.62%
Cu 325	221.6	-0.0006	mg/L	0.00069	-0.0006	mg/L	0.00069	111.03%
Ag 328	-328.9	-0.0008	mg/L	0.00032	-0.0008	mg/L	0.00032	42.32%
Na 590	Saturated4							
K 766	197871.6	9.95	mg/L	0.071	9.95	mg/L	0.071	0.72%

Sequence No.: 28
Sample ID: 0182_11
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 22
Date Collected: 2/2/2015 12:32:48 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_11

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_11

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-334.5	-0.0330	mg/L	0.00061	-0.0330	mg/L	0.00061	1.86%
Tl 191	312.5	0.0254	mg/L	0.00084	0.0254	mg/L	0.00084	3.30%
Se 196	-22.1	-0.0020	mg/L	0.00012	-0.0020	mg/L	0.00012	5.85%
Sb 207	-133.2	-0.0194	mg/L	0.00310	-0.0194	mg/L	0.00310	16.02%
Zn 214	15969.2	0.0529	mg/L	0.00084	0.0529	mg/L	0.00084	1.58%
Cd 214	302.5	-0.0005	mg/L	0.00003	-0.0005	mg/L	0.00003	6.25%
Pb 220	31.1	0.0003	mg/L	0.00008	0.0003	mg/L	0.00008	23.51%
Co 229	526.5	0.0030	mg/L	0.00013	0.0030	mg/L	0.00013	4.33%
Ni 232	427.1	0.0000	mg/L	0.00346	0.0000	mg/L	0.00346	>999.9%

Ba 234	610541.0	1.44	mg/L	0.004	1.44	mg/L	0.004	0.28%
Mn 258	1737381.1	0.908	mg/L	0.0016	0.908	mg/L	0.0016	0.18%
Fe 260	385145.2	12.5	mg/L	0.04	12.5	mg/L	0.04	0.32%
Cr 268	8414.1	0.0275	mg/L	0.00004	0.0275	mg/L	0.00004	0.15%
Mg 279	508382.6	165	mg/L	1.4	165	mg/L	1.4	0.86%
V 292	-2818.3	-0.0184	mg/L	0.00234	-0.0184	mg/L	0.00234	12.72%
Al 308	-194.5	-0.0634	mg/L	0.00462	-0.0634	mg/L	0.00462	7.28%
Be 313	308.8	0.0097	mg/L	0.01000	0.0097	mg/L	0.01000	103.01%
Ca 318	Saturated4							
Cu 325	-2448.4	-0.0065	mg/L	0.00069	-0.0065	mg/L	0.00069	10.62%
Ag 328	692.7	0.0024	mg/L	0.00027	0.0024	mg/L	0.00027	11.39%
Na 590	Saturated4							
K 766	Saturated4							

Sequence No.: 29
Sample ID: 0182_11 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 23
Date Collected: 2/2/2015 12:39:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_11 x10

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_11 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	90.4	0.0011	mg/L	0.00235	0.0011	mg/L	0.00235	219.37%
Tl 191	36.0	0.0020	mg/L	0.00159	0.0020	mg/L	0.00159	79.32%
Se 196	-47.1	-0.0070	mg/L	0.00137	-0.0070	mg/L	0.00137	19.50%
Sb 207	-123.0	-0.0182	mg/L	0.00103	-0.0182	mg/L	0.00103	5.67%
Zn 214	2363.8	0.0064	mg/L	0.00037	0.0064	mg/L	0.00037	5.71%
Cd 214	109.0	-0.0009	mg/L	0.00009	-0.0009	mg/L	0.00009	10.98%
Pb 220	-20.4	-0.0014	mg/L	0.00075	-0.0014	mg/L	0.00075	52.84%
Co 229	-399.7	-0.0035	mg/L	0.00052	-0.0035	mg/L	0.00052	14.86%
Ni 232	82.4	-0.0023	mg/L	0.00029	-0.0023	mg/L	0.00029	12.55%
Ba 234	76086.7	0.181	mg/L	0.0016	0.181	mg/L	0.0016	0.86%
Mn 258	217090.5	0.112	mg/L	0.0008	0.112	mg/L	0.0008	0.72%
Fe 260	37271.8	1.20	mg/L	0.045	1.20	mg/L	0.045	3.75%
Cr 268	928.8	0.0026	mg/L	0.00064	0.0026	mg/L	0.00064	25.15%
Mg 279	50237.2	16.3	mg/L	0.12	16.3	mg/L	0.12	0.74%
V 292	-532.5	-0.0054	mg/L	0.00327	-0.0054	mg/L	0.00327	61.02%
Al 308	63.8	-0.0192	mg/L	0.01983	-0.0192	mg/L	0.01983	103.37%
Be 313	590.3	0.0134	mg/L	0.00825	0.0134	mg/L	0.00825	61.45%
Ca 318	5249059.9	199	mg/L	1.2	199	mg/L	1.2	0.60%
Cu 325	262.4	-0.0005	mg/L	0.00086	-0.0005	mg/L	0.00086	162.58%
Ag 328	28.1	0.0003	mg/L	0.00059	0.0003	mg/L	0.00059	175.72%
Na 590	Saturated4							
K 766	1610734.0	81.0	mg/L	0.36	81.0	mg/L	0.36	0.45%

Sequence No.: 30
Sample ID: 0182_11 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 24
Date Collected: 2/2/2015 12:45:53 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_11 x100

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_11 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	169.9	0.0075	mg/L	0.00109	0.0075	mg/L	0.00109	14.57%
Tl 191	-11.4	-0.0020	mg/L	0.00121	-0.0020	mg/L	0.00121	59.78%
Se 196	-66.3	-0.0092	mg/L	0.00248	-0.0092	mg/L	0.00248	26.85%

Sb 207	-94.6	-0.0158 mg/L	0.00088	-0.0158 mg/L	0.00088	5.60%
Zn 214	732.6	0.0009 mg/L	0.00099	0.0009 mg/L	0.00099	113.01%
Cd 214	242.0	-0.0006 mg/L	0.00050	-0.0006 mg/L	0.00050	81.65%
Pb 220	25.7	0.0002 mg/L	0.00233	0.0002 mg/L	0.00233	>999.9%
Co 229	-285.8	-0.0027 mg/L	0.00068	-0.0027 mg/L	0.00068	25.08%
Ni 232	-38.5	-0.0031 mg/L	0.00041	-0.0031 mg/L	0.00041	13.16%
Ba 234	8974.0	0.0235 mg/L	0.00072	0.0235 mg/L	0.00072	3.06%
Mn 258	25821.1	0.0123 mg/L	0.00022	0.0123 mg/L	0.00022	1.80%
Fe 260	3650.0	0.114 mg/L	0.0000	0.114 mg/L	0.0000	0.00%
Cr 268	-272.4	-0.0014 mg/L	0.00046	-0.0014 mg/L	0.00046	31.45%
Mg 279	5676.6	1.83 mg/L	0.004	1.83 mg/L	0.004	0.23%
V 292	503.8	0.0005 mg/L	0.00117	0.0005 mg/L	0.00117	220.52%
Al 308	208.1	0.0055 mg/L	0.03853	0.0055 mg/L	0.03853	698.51%
Be 313	750.6	0.0155 mg/L	0.00525	0.0155 mg/L	0.00525	33.82%
Ca 318	590613.2	22.4 mg/L	0.36	22.4 mg/L	0.36	1.63%
Cu 325	988.6	0.0011 mg/L	0.00011	0.0011 mg/L	0.00011	10.39%
Ag 328	74.0	0.0005 mg/L	0.00084	0.0005 mg/L	0.00084	175.59%
Na 590	8558676.4	127 mg/L	0.6	127 mg/L	0.6	0.48%
K 766	173060.8	8.71 mg/L	0.010	8.71 mg/L	0.010	0.11%

Sequence No.: 31
Sample ID: 0182_12
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 25
Date Collected: 2/2/2015 12:52:30 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_12

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_12

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-272.6	-0.0283	mg/L	0.00151	-0.0283	mg/L	0.00151	5.35%
Tl 191	271.7	0.0220	mg/L	0.00310	0.0220	mg/L	0.00310	14.13%
Se 196	-14.4	-0.0007	mg/L	0.00107	-0.0007	mg/L	0.00107	157.49%
Sb 207	-143.2	-0.0198	mg/L	0.00314	-0.0198	mg/L	0.00314	15.88%
Zn 214	6362.5	0.0201	mg/L	0.00098	0.0201	mg/L	0.00098	4.89%
Cd 214	48.4	-0.0010	mg/L	0.00037	-0.0010	mg/L	0.00037	38.81%
Pb 220	79.7	0.0020	mg/L	0.00370	0.0020	mg/L	0.00370	186.10%
Co 229	585.4	0.0034	mg/L	0.00033	0.0034	mg/L	0.00033	9.84%
Ni 232	84.1	-0.0023	mg/L	0.00193	-0.0023	mg/L	0.00193	85.00%
Ba 234	649661.0	1.53	mg/L	0.001	1.53	mg/L	0.001	0.08%
Mn 258	8813818.3	4.61	mg/L	0.011	4.61	mg/L	0.011	0.23%
Fe 260	461708.4	15.0	mg/L	0.06	15.0	mg/L	0.06	0.43%
Cr 268	641.6	0.0016	mg/L	0.00000	0.0016	mg/L	0.00000	0.00%
Mg 279	434170.7	141	mg/L	2.9	141	mg/L	2.9	2.04%
V 292	-2556.6	-0.0169	mg/L	0.00133	-0.0169	mg/L	0.00133	7.86%
Al 308	-319.3	-0.0847	mg/L	0.01882	-0.0847	mg/L	0.01882	22.20%
Be 313	496.5	0.0122	mg/L	0.01000	0.0122	mg/L	0.01000	82.07%
Ca 318	Saturated4							
Cu 325	-2089.2	-0.0057	mg/L	0.00090	-0.0057	mg/L	0.00090	15.84%
Ag 328	429.1	0.0016	mg/L	0.00020	0.0016	mg/L	0.00020	12.99%
Na 590	Saturated4							
K 766	Saturated4							

Sequence No.: 32
Sample ID: 0182_12 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 26
Date Collected: 2/2/2015 12:59:01 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_12 x10

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_12 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	121.3	0.0035	mg/L	0.00068	0.0035	mg/L	0.00068	19.10%
Tl 191	48.3	0.0030	mg/L	0.00398	0.0030	mg/L	0.00398	131.24%
Se 196	-17.8	-0.0039	mg/L	0.00317	-0.0039	mg/L	0.00317	80.83%
Sb 207	-113.5	-0.0174	mg/L	0.00063	-0.0174	mg/L	0.00063	3.64%
Zn 214	563.0	0.0003	mg/L	0.00000	0.0003	mg/L	0.00000	0.09%
Cd 214	-24.1	-0.0011	mg/L	0.00006	-0.0011	mg/L	0.00006	5.69%
Pb 220	45.5	0.0008	mg/L	0.00196	0.0008	mg/L	0.00196	237.74%
Co 229	-52.7	-0.0011	mg/L	0.00102	-0.0011	mg/L	0.00102	94.17%
Ni 232	-87.0	-0.0034	mg/L	0.00005	-0.0034	mg/L	0.00005	1.59%
Ba 234	89973.6	0.214	mg/L	0.0016	0.214	mg/L	0.0016	0.73%
Mn 258	1225213.2	0.640	mg/L	0.0020	0.640	mg/L	0.0020	0.30%
Fe 260	50583.6	1.64	mg/L	0.026	1.64	mg/L	0.026	1.56%
Cr 268	224.0	0.0002	mg/L	0.00023	0.0002	mg/L	0.00023	112.20%
Mg 279	50083.4	16.2	mg/L	0.11	16.2	mg/L	0.11	0.66%
V 292	48.4	-0.0021	mg/L	0.00172	-0.0021	mg/L	0.00172	83.28%
Al 308	156.4	-0.0033	mg/L	0.04225	-0.0033	mg/L	0.04225	>999.9%
Be 313	402.6	0.0109	mg/L	0.01175	0.0109	mg/L	0.01175	107.36%
Ca 318	5337667.3	202	mg/L	1.7	202	mg/L	1.7	0.83%
Cu 325	282.8	-0.0005	mg/L	0.00028	-0.0005	mg/L	0.00028	57.06%
Ag 328	209.7	0.0009	mg/L	0.00041	0.0009	mg/L	0.00041	45.57%
Na 590	Saturated4							
K 766	1631032.7	82.0	mg/L	0.20	82.0	mg/L	0.20	0.24%

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Sequence No.: 33
Sample ID: 0182_12 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 27
Date Collected: 2/2/2015 1:05:32 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_12 x100

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_12 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	159.6	0.0066	mg/L	0.00187	0.0066	mg/L	0.00187	28.17%
Tl 191	-37.2	-0.0042	mg/L	0.00121	-0.0042	mg/L	0.00121	28.69%
Se 196	-12.6	-0.0037	mg/L	0.00100	-0.0037	mg/L	0.00100	26.99%
Sb 207	-63.7	-0.0133	mg/L	0.00254	-0.0133	mg/L	0.00254	19.10%
Zn 214	187.7	-0.0010	mg/L	0.00090	-0.0010	mg/L	0.00090	91.52%
Cd 214	48.5	-0.0010	mg/L	0.00012	-0.0010	mg/L	0.00012	12.95%
Pb 220	-134.7	-0.0053	mg/L	0.00495	-0.0053	mg/L	0.00495	93.38%
Co 229	-133.0	-0.0016	mg/L	0.00132	-0.0016	mg/L	0.00132	80.91%
Ni 232	105.6	-0.0021	mg/L	0.00023	-0.0021	mg/L	0.00023	10.92%
Ba 234	9816.0	0.0255	mg/L	0.00082	0.0255	mg/L	0.00082	3.20%
Mn 258	136939.9	0.0704	mg/L	0.00053	0.0704	mg/L	0.00053	0.76%
Fe 260	4938.3	0.156	mg/L	0.0197	0.156	mg/L	0.0197	12.63%
Cr 268	-48.4	-0.0007	mg/L	0.00023	-0.0007	mg/L	0.00023	32.39%
Mg 279	5457.6	1.75	mg/L	0.030	1.75	mg/L	0.030	1.71%
V 292	358.5	-0.0003	mg/L	0.00156	-0.0003	mg/L	0.00156	525.71%
Al 308	96.8	-0.0135	mg/L	0.02783	-0.0135	mg/L	0.02783	205.77%
Be 313	684.1	0.0147	mg/L	0.01000	0.0147	mg/L	0.01000	68.20%
Ca 318	582128.2	22.1	mg/L	0.12	22.1	mg/L	0.12	0.55%
Cu 325	649.7	0.0003	mg/L	0.00128	0.0003	mg/L	0.00128	402.92%
Ag 328	97.6	0.0006	mg/L	0.00092	0.0006	mg/L	0.00092	166.75%
Na 590	8174901.9	121	mg/L	1.1	121	mg/L	1.1	0.92%
K 766	173355.9	8.72	mg/L	0.021	8.72	mg/L	0.021	0.24%

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Sequence No.: 34
Sample ID: 0171_1 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 28
Date Collected: 2/2/2015 1:12:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_1 x10

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0171_1 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	139.1	0.0050	mg/L	0.00210	0.0050	mg/L	0.00210	42.25%
Tl 191	45.0	0.0028	mg/L	0.00155	0.0028	mg/L	0.00155	56.04%
Se 196	-1.9	-0.0020	mg/L	0.00195	-0.0020	mg/L	0.00195	96.14%
Sb 207	-99.9	-0.0163	mg/L	0.00626	-0.0163	mg/L	0.00626	38.51%
Zn 214	56450.0	0.191	mg/L	0.0009	0.191	mg/L	0.0009	0.48%
Cd 214	109.0	-0.0009	mg/L	0.00040	-0.0009	mg/L	0.00040	47.50%
Pb 220	185.1	0.0056	mg/L	0.00234	0.0056	mg/L	0.00234	41.97%
Co 229	-212.4	-0.0022	mg/L	0.00003	-0.0022	mg/L	0.00003	1.38%
Ni 232	18.6	-0.0027	mg/L	0.00199	-0.0027	mg/L	0.00199	73.22%
Ba 234	105614.6	0.251	mg/L	0.0018	0.251	mg/L	0.0018	0.70%
Mn 258	429131.1	0.223	mg/L	0.0000	0.223	mg/L	0.0000	0.00%
Fe 260	87083.9	2.82	mg/L	0.026	2.82	mg/L	0.026	0.91%
Cr 268	251.1	0.0003	mg/L	0.00019	0.0003	mg/L	0.00019	63.23%
Mg 279	41571.0	13.4	mg/L	0.29	13.4	mg/L	0.29	2.17%
V 292	-68.1	-0.0027	mg/L	0.00078	-0.0027	mg/L	0.00078	28.60%
Al 308	160.6	-0.0026	mg/L	0.07390	-0.0026	mg/L	0.07390	>999.9%
Be 313	-320.7	0.0014	mg/L	0.00175	0.0014	mg/L	0.00175	125.30%
Ca 318	5065518.3	192	mg/L	1.7	192	mg/L	1.7	0.87%
Cu 325	677.7	0.0004	mg/L	0.00030	0.0004	mg/L	0.00030	78.80%
Ag 328	102.1	0.0006	mg/L	0.00070	0.0006	mg/L	0.00070	124.48%
Na 590	Saturated4							
K 766	1755089.4	88.3	mg/L	0.32	88.3	mg/L	0.32	0.36%

Sequence No.: 35
Sample ID: 0171_1 x1000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 29
Date Collected: 2/2/2015 1:18:35 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_1 x1000

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0171_1 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	152.9	0.0061	mg/L	0.00047	0.0061	mg/L	0.00047	7.71%
Tl 191	0.5	-0.0010	mg/L	0.00022	-0.0010	mg/L	0.00022	21.97%
Se 196	-6.3	-0.0031	mg/L	0.00329	-0.0031	mg/L	0.00329	106.55%
Sb 207	-94.6	-0.0158	mg/L	0.00032	-0.0158	mg/L	0.00032	2.02%
Zn 214	844.5	0.0013	mg/L	0.00136	0.0013	mg/L	0.00136	108.61%
Cd 214	520.3	-0.0001	mg/L	0.00016	-0.0001	mg/L	0.00016	150.24%
Pb 220	66.1	0.0015	mg/L	0.00261	0.0015	mg/L	0.00261	170.89%
Co 229	-334.7	-0.0030	mg/L	0.00032	-0.0030	mg/L	0.00032	10.40%
Ni 232	193.6	-0.0015	mg/L	0.00015	-0.0015	mg/L	0.00015	9.70%
Ba 234	808.2	0.0043	mg/L	0.00021	0.0043	mg/L	0.00021	4.83%
Mn 258	4670.5	0.0012	mg/L	0.00028	0.0012	mg/L	0.00028	23.29%
Fe 260	986.2	0.0278	mg/L	0.00400	0.0278	mg/L	0.00400	14.41%
Cr 268	-184.6	-0.0012	mg/L	0.00041	-0.0012	mg/L	0.00041	35.72%
Mg 279	465.6	0.138	mg/L	0.0287	0.138	mg/L	0.0287	20.71%
V 292	543.1	0.0008	mg/L	0.00226	0.0008	mg/L	0.00226	300.39%
Al 308	59.6	-0.0199	mg/L	0.04225	-0.0199	mg/L	0.04225	212.34%
Be 313	496.5	0.0122	mg/L	0.00051	0.0122	mg/L	0.00051	4.18%
Ca 318	56992.4	2.17	mg/L	0.020	2.17	mg/L	0.020	0.92%
Cu 325	387.3	-0.0003	mg/L	0.00120	-0.0003	mg/L	0.00120	469.35%
Ag 328	53.1	0.0004	mg/L	0.00019	0.0004	mg/L	0.00019	46.39%
Na 590	630640.8	9.41	mg/L	0.050	9.41	mg/L	0.050	0.54%
K 766	26526.7	1.34	mg/L	0.018	1.34	mg/L	0.018	1.35%

Sequence No.: 36
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/2/2015 1:25:08 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6490.9	0.523	mg/L	0.0018	0.523	mg/L	0.0018	0.34%
Tl 191	5931.4	0.501	mg/L	0.0039	0.501	mg/L	0.0039	0.78%
Se 196	4975.6	0.508	mg/L	0.0020	0.508	mg/L	0.0020	0.40%
Sb 207	6523.5	0.512	mg/L	0.0061	0.512	mg/L	0.0061	1.19%
Zn 214	146920.8	0.497	mg/L	0.0001	0.497	mg/L	0.0001	0.02%
Cd 214	276074.2	0.501	mg/L	0.0001	0.501	mg/L	0.0001	0.02%
Pb 220	14549.7	0.494	mg/L	0.0043	0.494	mg/L	0.0043	0.87%
Co 229	72407.0	0.503	mg/L	0.0055	0.503	mg/L	0.0055	1.09%
Ni 232	75201.1	0.505	mg/L	0.0016	0.505	mg/L	0.0016	0.32%
Ba 234	1045197.3	2.46	mg/L	0.014	2.46	mg/L	0.014	0.57%
Mn 258	958044.8	0.500	mg/L	0.0003	0.500	mg/L	0.0003	0.06%
Fe 260	77207.3	2.50	mg/L	0.124	2.50	mg/L	0.124	4.96%
Cr 268	148793.2	0.495	mg/L	0.0047	0.495	mg/L	0.0047	0.96%
Mg 279	7738.9	2.49	mg/L	0.007	2.49	mg/L	0.007	0.26%
V 292	89111.1	0.505	mg/L	0.0029	0.505	mg/L	0.0029	0.57%
Al 308	14762.3	2.50	mg/L	0.008	2.50	mg/L	0.008	0.32%
Be 313	36191.3	0.483	mg/L	0.0082	0.483	mg/L	0.0082	1.71%
Ca 318	65706.8	2.50	mg/L	0.044	2.50	mg/L	0.044	1.78%
Cu 325	225362.3	0.492	mg/L	0.0038	0.492	mg/L	0.0038	0.77%
Ag 328	160487.7	0.493	mg/L	0.0009	0.493	mg/L	0.0009	0.18%
Na 590	183746.6	2.80	mg/L	0.008	2.80	mg/L	0.008	0.30%
K 766	52626.4	2.65	mg/L	0.010	2.65	mg/L	0.010	0.39%

Sequence No.: 37
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/2/2015 1:31:46 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	160.6	0.0067	mg/L	0.00520	0.0067	mg/L	0.00520	77.59%
Tl 191	-18.1	-0.0026	mg/L	0.00334	-0.0026	mg/L	0.00334	129.26%
Se 196	7.2	-0.0017	mg/L	0.00120	-0.0017	mg/L	0.00120	70.11%
Sb 207	-83.7	-0.0149	mg/L	0.00101	-0.0149	mg/L	0.00101	6.75%
Zn 214	-93.8	-0.0019	mg/L	0.00046	-0.0019	mg/L	0.00046	23.81%
Cd 214	290.5	-0.0005	mg/L	0.00044	-0.0005	mg/L	0.00044	83.55%
Pb 220	58.5	0.0013	mg/L	0.00205	0.0013	mg/L	0.00205	161.65%
Co 229	-214.8	-0.0022	mg/L	0.00091	-0.0022	mg/L	0.00091	41.26%
Ni 232	-18.4	-0.0030	mg/L	0.00198	-0.0030	mg/L	0.00198	66.98%
Ba 234	-599.2	0.0010	mg/L	0.00052	0.0010	mg/L	0.00052	52.22%
Mn 258	-408.7	-0.0015	mg/L	0.00142	-0.0015	mg/L	0.00142	96.88%
Fe 260	342.1	0.0069	mg/L	0.04522	0.0069	mg/L	0.04522	654.58%
Cr 268	-233.0	-0.0013	mg/L	0.00019	-0.0013	mg/L	0.00019	14.07%
Mg 279	25.9	-0.0040	mg/L	0.06388	-0.0040	mg/L	0.06388	>999.9%
V 292	213.3	-0.0011	mg/L	0.00039	-0.0011	mg/L	0.00039	34.70%
Al 308	145.7	-0.0052	mg/L	0.00000	-0.0052	mg/L	0.00000	0.00%
Be 313	469.2	0.0118	mg/L	0.00000	0.0118	mg/L	0.00000	0.00%
Ca 318	135.5	0.0142	mg/L	0.00727	0.0142	mg/L	0.00727	51.14%

Cu 325	109.6	-0.0009	mg/L	0.00128	-0.0009	mg/L	0.00128 148.93%
Ag 328	2.7	0.0003	mg/L	0.00044	0.0003	mg/L	0.00044 171.13%
Na 590	7571.7	0.192	mg/L	0.0136	0.192	mg/L	0.0136 7.11%
K 766	2818.5	0.146	mg/L	0.0056	0.146	mg/L	0.0056 3.87%

Sequence No.: 38 **Autosampler Location: 30**
Sample ID: 0171_2 x10 **Date Collected: 2/2/2015 1:38:16 PM**
Analyst: **Dete Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 0171_2 x10

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0171_2 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	93.6	0.0013	mg/L	0.00252	0.0013	mg/L	0.00252	192.69%
Tl 191	2.1	-0.0009	mg/L	0.00350	-0.0009	mg/L	0.00350	400.29%
Se 196	-14.7	-0.0035	mg/L	0.00854	-0.0035	mg/L	0.00854	245.17%
Sb 207	-94.8	-0.0158	mg/L	0.00261	-0.0158	mg/L	0.00261	16.47%
Zn 214	4615.7	0.0141	mg/L	0.00127	0.0141	mg/L	0.00127	8.99%
Cd 214	254.2	-0.0006	mg/L	0.00009	-0.0006	mg/L	0.00009	15.92%
Pb 220	-23.0	-0.0015	mg/L	0.00066	-0.0015	mg/L	0.00066	43.85%
Co 229	-293.4	-0.0028	mg/L	0.00030	-0.0028	mg/L	0.00030	10.92%
Ni 232	236.3	-0.0012	mg/L	0.00037	-0.0012	mg/L	0.00037	29.60%
Ba 234	59296.0	0.142	mg/L	0.0006	0.142	mg/L	0.0006	0.44%
Mn 258	264236.3	0.137	mg/L	0.0005	0.137	mg/L	0.0005	0.36%
Fe 260	66686.7	2.16	mg/L	0.016	2.16	mg/L	0.016	0.73%
Cr 268	338.9	0.0006	mg/L	0.00068	0.0006	mg/L	0.00068	116.77%
Mg 279	36135.1	11.7	mg/L	0.13	11.7	mg/L	0.13	1.08%
V 292	-310.1	-0.0041	mg/L	0.00039	-0.0041	mg/L	0.00039	9.50%
Al 308	189.9	0.0024	mg/L	0.01273	0.0024	mg/L	0.01273	528.58%
Be 313	441.8	0.0115	mg/L	0.01350	0.0115	mg/L	0.01350	117.79%
Ca 318	3766136.8	143	mg/L	2.2	143	mg/L	2.2	1.52%
Cu 325	1093.0	0.0013	mg/L	0.00039	0.0013	mg/L	0.00039	29.97%
Ag 328	78.4	0.0005	mg/L	0.00067	0.0005	mg/L	0.00067	136.52%
Na 590	Saturated4							
K 766	1338141.2	67.3	mg/L	0.12	67.3	mg/L	0.12	0.18%

Sequence No.: 39 **Autosampler Location: 31**
Sample ID: 0171_2 x1000 **Date Collected: 2/2/2015 1:44:44 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 0171_2 x1000

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0171_2 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	97.7	0.0016	mg/L	0.00041	0.0016	mg/L	0.00041	25.38%
Tl 191	39.8	0.0023	mg/L	0.00380	0.0023	mg/L	0.00380	164.00%
Se 196	-24.3	-0.0049	mg/L	0.00014	-0.0049	mg/L	0.00014	2.90%
Sb 207	-103.3	-0.0165	mg/L	0.00446	-0.0165	mg/L	0.00446	27.03%
Zn 214	469.2	0.0000	mg/L	0.00046	0.0000	mg/L	0.00046	>999.9%
Cd 214	-48.3	-0.0011	mg/L	0.00062	-0.0011	mg/L	0.00062	54.72%
Pb 220	42.2	0.0007	mg/L	0.00154	0.0007	mg/L	0.00154	215.60%
Co 229	-440.9	-0.0038	mg/L	0.00020	-0.0038	mg/L	0.00020	5.37%
Ni 232	34.2	-0.0026	mg/L	0.00075	-0.0026	mg/L	0.00075	28.63%
Ba 234	-33.8	0.0023	mg/L	0.00051	0.0023	mg/L	0.00051	22.01%
Mn 258	4028.6	0.0009	mg/L	0.00036	0.0009	mg/L	0.00036	41.91%
Fe 260	898.9	0.0250	mg/L	0.01969	0.0250	mg/L	0.01969	78.88%

Cr 268	-0.0	-0.0005 mg/L	0.00046	-0.0005 mg/L	0.00046	84.01%
Mg 279	482.9	0.144 mg/L	0.0260	0.144 mg/L	0.0260	18.08%
V 292	213.3	-0.0011 mg/L	0.00117	-0.0011 mg/L	0.00117	104.09%
Al 308	193.6	0.0030 mg/L	0.01904	0.0030 mg/L	0.01904	625.13%
Be 313	1219.8	0.0217 mg/L	0.00000	0.0217 mg/L	0.00000	0.00%
Ca 318	42061.4	1.60 mg/L	0.017	1.60 mg/L	0.017	1.07%
Cu 325	726.1	0.0005 mg/L	0.00092	0.0005 mg/L	0.00092	189.73%
Ag 328	-114.8	-0.0001 mg/L	0.00013	-0.0001 mg/L	0.00013	127.15%
Na 590	536843.6	8.02 mg/L	0.014	8.02 mg/L	0.014	0.18%
K 766	19458.7	0.983 mg/L	0.0086	0.983 mg/L	0.0086	0.88%

Sequence No.: 40
Sample ID: 0171_3 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 32
Date Collected: 2/2/2015 1:51:15 PM
Data Type: Original
Initiel Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_3 x10

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Date: 0171_3 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	148.2	0.0057	mg/L	0.00018	0.0057	mg/L	0.00018	3.15%
Tl 191	96.9	0.0072	mg/L	0.01507	0.0072	mg/L	0.01507	210.56%
Se 196	-30.3	-0.0050	mg/L	0.00018	-0.0050	mg/L	0.00018	3.71%
Sb 207	-116.8	-0.0176	mg/L	0.00232	-0.0176	mg/L	0.00232	13.16%
Zn 214	78817.7	0.267	mg/L	0.0018	0.267	mg/L	0.0018	0.68%
Cd 214	145.3	-0.0008	mg/L	0.00037	-0.0008	mg/L	0.00037	47.55%
Pb 220	26.2	0.0002	mg/L	0.00129	0.0002	mg/L	0.00129	753.26%
Co 229	181.9	0.0006	mg/L	0.00051	0.0006	mg/L	0.00051	92.25%
Ni 232	-72.5	-0.0033	mg/L	0.00038	-0.0033	mg/L	0.00038	11.44%
Ba 234	136200.9	0.323	mg/L	0.0009	0.323	mg/L	0.0009	0.29%
Mn 258	465177.0	0.242	mg/L	0.0006	0.242	mg/L	0.0006	0.25%
Fe 260	85668.3	2.77	mg/L	0.020	2.77	mg/L	0.020	0.71%
Cr 268	57.4	-0.0004	mg/L	0.00201	-0.0004	mg/L	0.00201	571.67%
Mg 279	41306.9	13.4	mg/L	0.10	13.4	mg/L	0.10	0.71%
V 292	-116.5	-0.0030	mg/L	0.00117	-0.0030	mg/L	0.00117	38.96%
Al 308	112.2	-0.0109	mg/L	0.03154	-0.0109	mg/L	0.03154	289.46%
Be 313	-254.2	0.0023	mg/L	0.00051	0.0023	mg/L	0.00051	22.40%
Ca 318	5357799.2	203	mg/L	0.7	203	mg/L	0.7	0.36%
Cu 325	186.0	-0.0007	mg/L	0.00105	-0.0007	mg/L	0.00105	150.73%
Ag 328	-104.8	-0.0001	mg/L	0.00105	-0.0001	mg/L	0.00105	>999.9%
Na 590	Saturated4							
K 766	1845252.0	92.8	mg/L	0.37	92.8	mg/L	0.37	0.39%

Sequence No.: 41
Sample ID: 0171_3 x1000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 33
Date Collected: 2/2/2015 1:57:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_3 x1000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0171_3 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	162.3	0.0068	mg/L	0.00051	0.0068	mg/L	0.00051	7.38%
Tl 191	-106.1	-0.0100	mg/L	0.00387	-0.0100	mg/L	0.00387	38.55%
Se 196	-57.5	-0.0083	mg/L	0.00208	-0.0083	mg/L	0.00208	24.95%
Sb 207	-112.9	-0.0173	mg/L	0.00299	-0.0173	mg/L	0.00299	17.27%
Zn 214	920.3	0.0015	mg/L	0.00173	0.0015	mg/L	0.00173	114.47%
Cd 214	-120.8	-0.0013	mg/L	0.00000	-0.0013	mg/L	0.00000	0.00%

Pb 220	83.3	0.0021 mg/L	0.00059	0.0021 mg/L	0.00059	27.97%
Co 229	-239.2	-0.0024 mg/L	0.00166	-0.0024 mg/L	0.00166	69.97%
Ni 232	12.7	-0.0028 mg/L	0.00193	-0.0028 mg/L	0.00193	70.12%
Ba 234	1027.2	0.0048 mg/L	0.00178	0.0048 mg/L	0.00178	37.02%
Mn 258	8887.9	0.0034 mg/L	0.00062	0.0034 mg/L	0.00062	18.07%
Fe 260	644.1	0.0167 mg/L	0.00000	0.0167 mg/L	0.00000	0.00%
Cr 268	-48.4	-0.0007 mg/L	0.00023	-0.0007 mg/L	0.00023	32.39%
Mg 279	631.6	0.192 mg/L	0.0057	0.192 mg/L	0.0057	2.97%
V 292	19.7	-0.0022 mg/L	0.00273	-0.0022 mg/L	0.00273	122.58%
Al 308	260.2	0.0144 mg/L	0.01172	0.0144 mg/L	0.01172	81.15%
Be 313	469.2	0.0118 mg/L	0.01401	0.0118 mg/L	0.01401	118.51%
Ca 318	60155.9	2.29 mg/L	0.003	2.29 mg/L	0.003	0.13%
Cu 325	173.2	-0.0007 mg/L	0.00084	-0.0007 mg/L	0.00084	115.47%
Ag 328	-108.6	-0.0001 mg/L	0.00070	-0.0001 mg/L	0.00070	841.25%
Na 590	655497.3	9.77 mg/L	0.045	9.77 mg/L	0.045	0.46%
K 766	25956.5	1.31 mg/L	0.006	1.31 mg/L	0.006	0.45%

Sequence No.: 42
Sample ID: 0171_4 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 34
Date Collected: 2/2/2015 2:04:21 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_4 x10

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0171_4 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	112.8	0.0029	mg/L	0.00065	0.0029	mg/L	0.00065	22.69%
Tl 191	59.8	0.0040	mg/L	0.00126	0.0040	mg/L	0.00126	31.41%
Se 196	47.0	0.0030	mg/L	0.00174	0.0030	mg/L	0.00174	58.61%
Sb 207	-52.3	-0.0124	mg/L	0.00407	-0.0124	mg/L	0.00407	32.85%
Zn 214	11447.3	0.0374	mg/L	0.00107	0.0374	mg/L	0.00107	2.85%
Cd 214	-60.5	-0.0012	mg/L	0.00016	-0.0012	mg/L	0.00016	13.43%
Pb 220	26.7	0.0002	mg/L	0.00225	0.0002	mg/L	0.00225	>999.9%
Co 229	-100.1	-0.0014	mg/L	0.00022	-0.0014	mg/L	0.00022	15.51%
Ni 232	307.7	-0.0008	mg/L	0.00216	-0.0008	mg/L	0.00216	284.08%
Ba 234	74778.0	0.178	mg/L	0.0003	0.178	mg/L	0.0003	0.18%
Mn 258	525085.9	0.274	mg/L	0.0003	0.274	mg/L	0.0003	0.10%
Fe 260	85238.9	2.76	mg/L	0.000	2.76	mg/L	0.000	0.00%
Cr 268	-39.4	-0.0007	mg/L	0.00064	-0.0007	mg/L	0.00064	95.18%
Mg 279	37880.5	12.3	mg/L	0.07	12.3	mg/L	0.07	0.55%
V 292	96.8	-0.0018	mg/L	0.00055	-0.0018	mg/L	0.00055	30.68%
Al 308	253.2	0.0132	mg/L	0.01882	0.0132	mg/L	0.01882	142.10%
Be 313	-320.7	0.0014	mg/L	0.00175	0.0014	mg/L	0.00175	125.30%
Ca 318	4233884.0	161	mg/L	0.6	161	mg/L	0.6	0.35%
Cu 325	-84.0	-0.0013	mg/L	0.00051	-0.0013	mg/L	0.00051	39.84%
Ag 328	-147.3	-0.0002	mg/L	0.00062	-0.0002	mg/L	0.00062	309.80%
Na 590	Saturated4							
K 766	1457389.3	73.3	mg/L	0.25	73.3	mg/L	0.25	0.34%

Sequence No.: 43
Sample ID: 0171_4 x1000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 35
Date Collected: 2/2/2015 2:10:50 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_4 x1000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Date: 0171_4 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD

As 189	141.2	0.0051 mg/L	0.00081	0.0051 mg/L	0.00081	15.86%
Tl 191	5.9	-0.0006 mg/L	0.00180	-0.0006 mg/L	0.00180	323.15%
Se 196	-50.3	-0.0076 mg/L	0.00164	-0.0076 mg/L	0.00164	21.54%
Sb 207	-114.7	-0.0174 mg/L	0.00260	-0.0174 mg/L	0.00260	14.91%
Zn 214	563.0	0.0003 mg/L	0.00001	0.0003 mg/L	0.00001	2.21%
Cd 214	-24.3	-0.0011 mg/L	0.00031	-0.0011 mg/L	0.00031	28.45%
Pb 220	-0.5	-0.0007 mg/L	0.00393	-0.0007 mg/L	0.00393	532.77%
Co 229	78.7	-0.0002 mg/L	0.00251	-0.0002 mg/L	0.00251	>999.9%
Ni 232	307.7	-0.0008 mg/L	0.00124	-0.0008 mg/L	0.00124	162.64%
Ba 234	748.2	0.0042 mg/L	0.00062	0.0042 mg/L	0.00062	14.79%
Mn 258	5944.0	0.0019 mg/L	0.00061	0.0019 mg/L	0.00061	32.95%
Fe 260	1073.5	0.0306 mg/L	0.00000	0.0306 mg/L	0.00000	0.00%
Cr 268	-136.2	-0.0010 mg/L	0.00110	-0.0010 mg/L	0.00110	110.15%
Mg 279	521.9	0.157 mg/L	0.0227	0.157 mg/L	0.0227	14.52%
V 292	310.1	-0.0006 mg/L	0.00085	-0.0006 mg/L	0.00085	149.01%
Al 308	290.9	0.0197 mg/L	0.01172	0.0197 mg/L	0.01172	59.50%
Be 313	817.2	0.0164 mg/L	0.00299	0.0164 mg/L	0.00299	18.23%
Ca 318	45947.2	1.75 mg/L	0.000	1.75 mg/L	0.000	0.00%
Cu 325	-15.2	-0.0011 mg/L	0.00150	-0.0011 mg/L	0.00150	131.87%
Ag 328	-42.5	0.0001 mg/L	0.00032	0.0001 mg/L	0.00032	264.99%
Na 590	530497.3	7.93 mg/L	0.026	7.93 mg/L	0.026	0.33%
K 766	21327.4	1.08 mg/L	0.012	1.08 mg/L	0.012	1.12%

Sequence No.: 44
Sample ID: 0171_5 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 36
Date Collected: 2/2/2015 2:17:21 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_5 x10

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0171_5 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	118.9	0.0033	mg/L	0.00512	0.0033	mg/L	0.00512	152.99%
Tl 191	102.9	0.0077	mg/L	0.00242	0.0077	mg/L	0.00242	31.58%
Se 196	10.7	-0.0007	mg/L	0.00405	-0.0007	mg/L	0.00405	562.88%
Sb 207	-107.7	-0.0169	mg/L	0.00074	-0.0169	mg/L	0.00074	4.41%
Zn 214	16608.0	0.0551	mg/L	0.00045	0.0551	mg/L	0.00045	0.82%
Cd 214	-290.4	-0.0016	mg/L	0.00025	-0.0016	mg/L	0.00025	15.78%
Pb 220	97.2	0.0026	mg/L	0.00382	0.0026	mg/L	0.00382	147.82%
Co 229	-148.3	-0.0017	mg/L	0.00032	-0.0017	mg/L	0.00032	18.14%
Ni 232	0.0	-0.0028	mg/L	0.00078	-0.0028	mg/L	0.00078	27.33%
Ba 234	95230.6	0.226	mg/L	0.0003	0.226	mg/L	0.0003	0.13%
Mn 258	346225.5	0.180	mg/L	0.0006	0.180	mg/L	0.0006	0.32%
Fe 260	89875.1	2.91	mg/L	0.016	2.91	mg/L	0.016	0.54%
Cr 268	299.5	0.0005	mg/L	0.00004	0.0005	mg/L	0.00004	9.35%
Mg 279	42058.9	13.6	mg/L	0.10	13.6	mg/L	0.10	0.70%
V 292	-145.2	-0.0032	mg/L	0.00016	-0.0032	mg/L	0.00016	5.00%
Al 308	92.6	-0.0142	mg/L	0.00339	-0.0142	mg/L	0.00339	23.77%
Be 313	-160.4	0.0035	mg/L	0.00124	0.0035	mg/L	0.00124	35.33%
Ca 318	4868908.8	185	mg/L	0.2	185	mg/L	0.2	0.13%
Cu 325	504.5	0.0000	mg/L	0.00126	0.0000	mg/L	0.00126	>999.9%
Ag 328	412.8	0.0015	mg/L	0.00013	0.0015	mg/L	0.00013	8.52%
Na 590	Saturated4							
K 766	1655332.9	83.2	mg/L	0.23	83.2	mg/L	0.23	0.27%

Sequence No.: 45
Sample ID: 0171_5 x1000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 37
Date Collected: 2/2/2015 2:23:53 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_5 x1000

Analyte	Back Pressure	Flow

All 185.0 kPa 0.55 L/min

Mean Data: 0171_5 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	152.5	0.0061	mg/L	0.00170	0.0061	mg/L	0.00170	28.06%
Tl 191	24.6	0.0010	mg/L	0.00934	0.0010	mg/L	0.00934	903.99%
Se 196	-17.4	-0.0042	mg/L	0.00645	-0.0042	mg/L	0.00645	152.77%
Sb 207	-44.7	-0.0118	mg/L	0.00252	-0.0118	mg/L	0.00252	21.40%
Zn 214	36.0	-0.0015	mg/L	0.00016	-0.0015	mg/L	0.00016	10.91%
Cd 214	242.1	-0.0006	mg/L	0.00037	-0.0006	mg/L	0.00037	61.29%
Pb 220	34.5	0.0005	mg/L	0.00237	0.0005	mg/L	0.00237	526.22%
Co 229	-82.5	-0.0013	mg/L	0.00020	-0.0013	mg/L	0.00020	15.21%
Ni 232	101.0	-0.0022	mg/L	0.00185	-0.0022	mg/L	0.00185	85.71%
Ba 234	497.9	0.0036	mg/L	0.00001	0.0036	mg/L	0.00001	0.23%
Mn 258	4074.4	0.0009	mg/L	0.00028	0.0009	mg/L	0.00028	31.50%
Fe 260	1630.3	0.0487	mg/L	0.01385	0.0487	mg/L	0.01385	28.45%
Cr 268	290.5	0.0004	mg/L	0.00046	0.0004	mg/L	0.00046	107.41%
Mg 279	451.6	0.134	mg/L	0.0084	0.134	mg/L	0.0084	6.24%
V 292	242.0	-0.0010	mg/L	0.00250	-0.0010	mg/L	0.00250	260.17%
Al 308	301.6	0.0215	mg/L	0.05396	0.0215	mg/L	0.05396	250.69%
Be 313	-66.5	0.0048	mg/L	0.01700	0.0048	mg/L	0.01700	357.79%
Ca 318	54634.7	2.08	mg/L	0.017	2.08	mg/L	0.017	0.83%
Cu 325	48.4	-0.0010	mg/L	0.00092	-0.0010	mg/L	0.00092	92.53%
Ag 328	173.3	0.0008	mg/L	0.00037	0.0008	mg/L	0.00037	47.13%
Na 590	626795.5	9.35	mg/L	0.039	9.35	mg/L	0.039	0.42%
K 766	24158.5	1.22	mg/L	0.007	1.22	mg/L	0.007	0.56%

Sequence No.: 46
Sample ID: 0171_6 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 38
Date Collected: 2/2/2015 2:30:19 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_6 x10

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0171_6 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	75.4	-0.0002	mg/L	0.00110	-0.0002	mg/L	0.00110	702.99%
Tl 191	65.1	0.0045	mg/L	0.00299	0.0045	mg/L	0.00299	67.08%
Se 196	26.5	0.0009	mg/L	0.00546	0.0009	mg/L	0.00546	624.30%
Sb 207	-145.7	-0.0200	mg/L	0.00199	-0.0200	mg/L	0.00199	9.97%
Zn 214	74202.0	0.252	mg/L	0.0005	0.252	mg/L	0.0005	0.22%
Cd 214	338.9	-0.0004	mg/L	0.00019	-0.0004	mg/L	0.00019	43.08%
Pb 220	146.4	0.0043	mg/L	0.00114	0.0043	mg/L	0.00114	26.89%
Co 229	-7.6	-0.0008	mg/L	0.00134	-0.0008	mg/L	0.00134	175.19%
Ni 232	453.0	0.0002	mg/L	0.00078	0.0002	mg/L	0.00078	353.85%
Ba 234	118529.4	0.281	mg/L	0.0023	0.281	mg/L	0.0023	0.82%
Mn 258	535622.1	0.279	mg/L	0.0003	0.279	mg/L	0.0003	0.10%
Fe 260	86010.4	2.78	mg/L	0.016	2.78	mg/L	0.016	0.56%
Cr 268	378.2	0.0007	mg/L	0.00087	0.0007	mg/L	0.00087	121.28%
Mg 279	41486.9	13.4	mg/L	0.22	13.4	mg/L	0.22	1.67%
V 292	-290.5	-0.0040	mg/L	0.00101	-0.0040	mg/L	0.00101	25.33%
Al 308	130.3	-0.0078	mg/L	0.04315	-0.0078	mg/L	0.04315	554.02%
Be 313	563.0	0.0131	mg/L	0.00175	0.0131	mg/L	0.00175	13.41%
Ca 318	5293511.8	201	mg/L	0.2	201	mg/L	0.2	0.12%
Cu 325	89.2	-0.0009	mg/L	0.00045	-0.0009	mg/L	0.00045	49.52%
Ag 328	304.2	0.0012	mg/L	0.00069	0.0012	mg/L	0.00069	58.03%
Na 590	Saturated4							
K 766	1881448.3	94.6	mg/L	0.02	94.6	mg/L	0.02	0.02%

Sequence No.: 47
Sample ID: 0171_6 x1000
Analyst:

Autosampler Location: 39
Date Collected: 2/2/2015 2:36:48 PM
Data Type: Original

Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 0171_6 x1000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0171_6 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	87.9	0.0008	mg/L	0.00115	0.0008	mg/L	0.00115	136.15%
Tl 191	-26.6	-0.0033	mg/L	0.00795	-0.0033	mg/L	0.00795	240.30%
Se 196	11.6	-0.0013	mg/L	0.00102	-0.0013	mg/L	0.00102	81.54%
Sb 207	-96.0	-0.0159	mg/L	0.00058	-0.0159	mg/L	0.00058	3.63%
Zn 214	844.5	0.0013	mg/L	0.00136	0.0013	mg/L	0.00136	108.25%
Cd 214	-133.1	-0.0013	mg/L	0.00003	-0.0013	mg/L	0.00003	2.40%
Pb 220	65.3	0.0015	mg/L	0.00345	0.0015	mg/L	0.00345	229.81%
Co 229	-23.7	-0.0009	mg/L	0.00020	-0.0009	mg/L	0.00020	23.16%
Ni 232	52.4	-0.0025	mg/L	0.00000	-0.0025	mg/L	0.00000	0.00%
Ba 234	1058.4	0.0049	mg/L	0.00146	0.0049	mg/L	0.00146	29.75%
Mn 258	5955.8	0.0019	mg/L	0.00056	0.0019	mg/L	0.00056	29.81%
Fe 260	1288.2	0.0376	mg/L	0.00984	0.0376	mg/L	0.00984	26.19%
Cr 268	184.6	0.0001	mg/L	0.00041	0.0001	mg/L	0.00041	573.96%
Mg 279	556.6	0.168	mg/L	0.0532	0.168	mg/L	0.0532	31.70%
V 292	358.5	-0.0003	mg/L	0.00078	-0.0003	mg/L	0.00078	262.86%
Al 308	11.2	-0.0282	mg/L	0.00710	-0.0282	mg/L	0.00710	25.19%
Be 313	121.1	0.0072	mg/L	0.00650	0.0072	mg/L	0.00650	89.85%
Ca 318	61278.9	2.33	mg/L	0.072	2.33	mg/L	0.072	3.08%
Cu 325	318.5	-0.0004	mg/L	0.00069	-0.0004	mg/L	0.00069	168.97%
Ag 328	125.4	0.0006	mg/L	0.00004	0.0006	mg/L	0.00004	5.63%
Na 590	664725.1	9.91	mg/L	0.054	9.91	mg/L	0.054	0.55%
K 766	27396.8	1.38	mg/L	0.002	1.38	mg/L	0.002	0.18%

Sequence No.: 48 **Autosampler Location: 3**
Sample ID: CCV **Date Collected: 2/2/2015 2:43:21 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6421.6	0.517	mg/L	0.0013	0.517	mg/L	0.0013	0.25%
Tl 191	5854.1	0.495	mg/L	0.0048	0.495	mg/L	0.0048	0.96%
Se 196	4875.6	0.498	mg/L	0.0047	0.498	mg/L	0.0047	0.94%
Sb 207	6425.0	0.504	mg/L	0.0013	0.504	mg/L	0.0013	0.25%
Zn 214	146321.8	0.495	mg/L	0.0019	0.495	mg/L	0.0019	0.38%
Cd 214	271681.2	0.493	mg/L	0.0049	0.493	mg/L	0.0049	0.99%
Pb 220	14434.2	0.490	mg/L	0.0062	0.490	mg/L	0.0062	1.26%
Co 229	71227.8	0.495	mg/L	0.0027	0.495	mg/L	0.0027	0.54%
Ni 232	74050.7	0.497	mg/L	0.0003	0.497	mg/L	0.0003	0.06%
Ba 234	1032936.8	2.43	mg/L	0.011	2.43	mg/L	0.011	0.47%
Mn 258	952999.6	0.498	mg/L	0.0033	0.498	mg/L	0.0033	0.67%
Fe 260	75060.3	2.43	mg/L	0.045	2.43	mg/L	0.045	1.86%
Cr 268	148076.1	0.493	mg/L	0.0032	0.493	mg/L	0.0032	0.65%
Mg 279	7730.3	2.49	mg/L	0.029	2.49	mg/L	0.029	1.17%
V 292	87852.5	0.498	mg/L	0.0044	0.498	mg/L	0.0044	0.89%
Al 308	14534.2	2.46	mg/L	0.014	2.46	mg/L	0.014	0.59%
Be 313	36070.2	0.482	mg/L	0.0245	0.482	mg/L	0.0245	5.09%
Ca 318	63533.8	2.42	mg/L	0.033	2.42	mg/L	0.033	1.37%
Cu 325	219976.1	0.480	mg/L	0.0006	0.480	mg/L	0.0006	0.12%
Ag 328	158382.6	0.486	mg/L	0.0015	0.486	mg/L	0.0015	0.30%
Na 590	178600.5	2.72	mg/L	0.017	2.72	mg/L	0.017	0.62%

K 766	52717.6	2.66 mg/L	0.030	2.66 mg/L	0.030	1.13%

Sequence No.: 49
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/2/2015 2:49:50 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	115.8	0.0031	mg/L	0.00201	0.0031	mg/L	0.00201	64.84%
Tl 191	27.2	0.0012	mg/L	0.00076	0.0012	mg/L	0.00076	60.62%
Se 196	26.0	0.0002	mg/L	0.00098	0.0002	mg/L	0.00098	457.49%
Sb 207	-20.9	-0.0099	mg/L	0.00041	-0.0099	mg/L	0.00041	4.14%
Zn 214	-205.7	-0.0023	mg/L	0.00009	-0.0023	mg/L	0.00009	3.75%
Cd 214	24.2	-0.0010	mg/L	0.00019	-0.0010	mg/L	0.00019	18.59%
Pb 220	47.6	0.0009	mg/L	0.00029	0.0009	mg/L	0.00029	32.45%
Co 229	-129.9	-0.0016	mg/L	0.00105	-0.0016	mg/L	0.00105	65.18%
Ni 232	-26.9	-0.0030	mg/L	0.00005	-0.0030	mg/L	0.00005	1.80%
Ba 234	-558.0	0.0011	mg/L	0.00042	0.0011	mg/L	0.00042	38.07%
Mn 258	-817.5	-0.0017	mg/L	0.00111	-0.0017	mg/L	0.00111	66.47%
Fe 260	-644.1	-0.0251	mg/L	0.03938	-0.0251	mg/L	0.03938	157.10%
Cr 268	96.8	-0.0002	mg/L	0.00046	-0.0002	mg/L	0.00046	206.95%
Mg 279	2.5	-0.0115	mg/L	0.02275	-0.0115	mg/L	0.02275	197.20%
V 292	406.9	0.0000	mg/L	0.00149	0.0000	mg/L	0.00149	>999.9%
Al 308	81.9	-0.0161	mg/L	0.00800	-0.0161	mg/L	0.00800	49.78%
Be 313	215.0	0.0085	mg/L	0.01175	0.0085	mg/L	0.01175	138.76%
Ca 318	229.4	0.0178	mg/L	0.00224	0.0178	mg/L	0.00224	12.58%
Cu 325	186.0	-0.0007	mg/L	0.00075	-0.0007	mg/L	0.00075	107.67%
Ag 328	-25.8	0.0002	mg/L	0.00078	0.0002	mg/L	0.00078	456.97%
Na 590	3062.4	0.125	mg/L	0.0003	0.125	mg/L	0.0003	0.26%
K 766	2358.0	0.123	mg/L	0.0231	0.123	mg/L	0.0231	18.84%

Sequence No.: 50
Sample ID: 0185_1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 40
Date Collected: 2/2/2015 2:56:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0185_1

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0185_1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	42.6	-0.0028	mg/L	0.00289	-0.0028	mg/L	0.00289	103.27%
Tl 191	-48.8	-0.0052	mg/L	0.00154	-0.0052	mg/L	0.00154	29.72%
Se 196	11.6	-0.0013	mg/L	0.00115	-0.0013	mg/L	0.00115	91.70%
Sb 207	34.0	-0.0054	mg/L	0.00088	-0.0054	mg/L	0.00088	16.14%
Zn 214	15933.2	0.0527	mg/L	0.00083	0.0527	mg/L	0.00083	1.57%
Cd 214	12.2	-0.0010	mg/L	0.00022	-0.0010	mg/L	0.00022	21.21%
Pb 220	108.4	0.0030	mg/L	0.00312	0.0030	mg/L	0.00312	105.14%
Co 229	-264.4	-0.0026	mg/L	0.00132	-0.0026	mg/L	0.00132	51.90%
Ni 232	212.0	-0.0014	mg/L	0.00152	-0.0014	mg/L	0.00152	108.33%
Ba 234	91232.2	0.217	mg/L	0.0026	0.217	mg/L	0.0026	1.20%
Mn 258	109390.7	0.0560	mg/L	0.00036	0.0560	mg/L	0.00036	0.64%
Fe 260	1073.5	0.0306	mg/L	0.01969	0.0306	mg/L	0.01969	64.30%
Cr 268	677.7	0.0017	mg/L	0.00091	0.0017	mg/L	0.00091	53.20%
Mg 279	91300.6	29.5	mg/L	0.32	29.5	mg/L	0.32	1.09%
V 292	745.8	0.0019	mg/L	0.00078	0.0019	mg/L	0.00078	40.85%

Al 308	238.3	0.0107 mg/L	0.02444	0.0107 mg/L	0.02444	228.61%
Be 313	215.0	0.0085 mg/L	0.00124	0.0085 mg/L	0.00124	14.66%
Ca 318	1296017.0	49.1 mg/L	0.25	49.1 mg/L	0.25	0.52%
Cu 325	2509.6	0.0044 mg/L	0.00075	0.0044 mg/L	0.00075	17.07%
Ag 328	-120.9	-0.0001 mg/L	0.00138	-0.0001 mg/L	0.00138	>999.9%
Na 590	3080777.7	45.6 mg/L	0.14	45.6 mg/L	0.14	0.30%
K 766	729631.4	36.7 mg/L	0.02	36.7 mg/L	0.02	0.05%

Sequence No.: 51
Sample ID: 158138 DUP
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 41
Date Collected: 2/2/2015 3:02:52 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158138 DUP

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158138 DUP

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	111.2	0.0027	mg/L	0.00229	0.0027	mg/L	0.00229	83.59%
Tl 191	-6.3	-0.0016	mg/L	0.00153	-0.0016	mg/L	0.00153	96.14%
Se 196	-21.8	-0.0047	mg/L	0.00998	-0.0047	mg/L	0.00998	213.84%
Sb 207	-75.9	-0.0143	mg/L	0.00012	-0.0143	mg/L	0.00012	0.85%
Zn 214	17001.3	0.0564	mg/L	0.00035	0.0564	mg/L	0.00035	0.62%
Cd 214	-72.6	-0.0012	mg/L	0.00075	-0.0012	mg/L	0.00075	63.21%
Pb 220	111.6	0.0031	mg/L	0.00076	0.0031	mg/L	0.00076	24.78%
Co 229	-347.7	-0.0031	mg/L	0.00019	-0.0031	mg/L	0.00019	6.01%
Ni 232	217.7	-0.0014	mg/L	0.00285	-0.0014	mg/L	0.00285	208.55%
Ba 234	89071.6	0.212	mg/L	0.0021	0.212	mg/L	0.0021	0.97%
Mn 258	109845.3	0.0563	mg/L	0.00002	0.0563	mg/L	0.00002	0.04%
Fe 260	2274.4	0.0696	mg/L	0.01568	0.0696	mg/L	0.01568	22.55%
Cr 268	484.1	0.0011	mg/L	0.00137	0.0011	mg/L	0.00137	127.92%
Mg 279	87324.4	28.3	mg/L	0.73	28.3	mg/L	0.73	2.58%
V 292	726.1	0.0018	mg/L	0.00094	0.0018	mg/L	0.00094	52.21%
Al 308	0.5	-0.0300	mg/L	0.01172	-0.0300	mg/L	0.01172	39.03%
Be 313	-133.0	0.0039	mg/L	0.00175	0.0039	mg/L	0.00175	45.20%
Ca 318	1262879.9	47.9	mg/L	0.47	47.9	mg/L	0.47	0.99%
Cu 325	12690.6	0.0267	mg/L	0.00075	0.0267	mg/L	0.00075	2.81%
Ag 328	-129.2	-0.0001	mg/L	0.00017	-0.0001	mg/L	0.00017	115.13%
Na 590	2978947.4	44.1	mg/L	0.09	44.1	mg/L	0.09	0.21%
K 766	709043.7	35.7	mg/L	0.23	35.7	mg/L	0.23	0.64%

Sequence No.: 52
Sample ID: 157815 MB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 42
Date Collected: 2/2/2015 3:09:25 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 157815 MB

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 157815 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	126.4	0.0040	mg/L	0.00013	0.0040	mg/L	0.00013	3.28%
Tl 191	6.2	-0.0005	mg/L	0.00080	-0.0005	mg/L	0.00080	149.79%
Se 196	11.3	-0.0013	mg/L	0.00221	-0.0013	mg/L	0.00221	172.34%
Sb 207	-17.8	-0.0096	mg/L	0.00042	-0.0096	mg/L	0.00042	4.37%
Zn 214	187.7	-0.0010	mg/L	0.00001	-0.0010	mg/L	0.00001	0.52%
Cd 214	-96.7	-0.0012	mg/L	0.00006	-0.0012	mg/L	0.00006	5.06%
Pb 220	-83.5	-0.0036	mg/L	0.00151	-0.0036	mg/L	0.00151	42.43%
Co 229	-200.2	-0.0021	mg/L	0.00017	-0.0021	mg/L	0.00017	7.86%
Ni 232	24.1	-0.0027	mg/L	0.00101	-0.0027	mg/L	0.00101	37.59%

Ba 234	-375.3	0.0015 mg/L	0.00187	0.0015 mg/L	0.00187	122.97%
Mn 258	-1238.0	-0.0019 mg/L	0.00025	-0.0019 mg/L	0.00025	12.96%
Fe 260	556.8	0.0139 mg/L	0.01568	0.0139 mg/L	0.01568	113.09%
Cr 268	48.4	-0.0004 mg/L	0.00068	-0.0004 mg/L	0.00068	179.26%
Mg 279	67.7	0.0096 mg/L	0.02188	0.0096 mg/L	0.02188	228.74%
V 292	164.9	-0.0014 mg/L	0.00078	-0.0014 mg/L	0.00078	55.72%
Al 308	15.3	-0.0275 mg/L	0.03875	-0.0275 mg/L	0.03875	141.09%
Be 313	844.5	0.0168 mg/L	0.01299	0.0168 mg/L	0.01299	77.44%
Ca 318	-67.0	0.0065 mg/L	0.00359	0.0065 mg/L	0.00359	55.03%
Cu 325	-48.4	-0.0012 mg/L	0.00075	-0.0012 mg/L	0.00075	61.97%
Ag 328	-166.1	-0.0003 mg/L	0.00068	-0.0003 mg/L	0.00068	263.12%
Na 590	9976.8	0.227 mg/L	0.0092	0.227 mg/L	0.0092	4.04%
K 766	3966.5	0.204 mg/L	0.0120	0.204 mg/L	0.0120	5.90%

Sequence No.: 53 **Autosampler Location: 43**
Sample ID: 157816 LCS **Date Collected: 2/2/2015 3:16:00 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 157816 LCS

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 157816 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5294.1	0.425	mg/L	0.0020	0.425	mg/L	0.0020	0.47%
Tl 191	4756.9	0.402	mg/L	0.0062	0.402	mg/L	0.0062	1.54%
Se 196	4065.6	0.415	mg/L	0.0020	0.415	mg/L	0.0020	0.48%
Sb 207	5431.9	0.425	mg/L	0.0031	0.425	mg/L	0.0031	0.72%
Zn 214	121193.2	0.410	mg/L	0.0000	0.410	mg/L	0.0000	0.00%
Cd 214	225584.0	0.409	mg/L	0.0019	0.409	mg/L	0.0019	0.47%
Pb 220	11911.6	0.404	mg/L	0.0020	0.404	mg/L	0.0020	0.49%
Co 229	61250.4	0.426	mg/L	0.0015	0.426	mg/L	0.0015	0.36%
Ni 232	62516.5	0.419	mg/L	0.0010	0.419	mg/L	0.0010	0.23%
Ba 234	865302.6	2.04	mg/L	0.027	2.04	mg/L	0.027	1.32%
Mn 258	798716.2	0.417	mg/L	0.0006	0.417	mg/L	0.0006	0.13%
Fe 260	61104.3	1.98	mg/L	0.024	1.98	mg/L	0.024	1.20%
Cr 268	124259.1	0.413	mg/L	0.0023	0.413	mg/L	0.0023	0.55%
Mg 279	6255.4	2.01	mg/L	0.026	2.01	mg/L	0.026	1.29%
V 292	75285.9	0.426	mg/L	0.0012	0.426	mg/L	0.0012	0.27%
Al 308	12005.8	2.02	mg/L	0.035	2.02	mg/L	0.035	1.74%
Be 313	30158.8	0.404	mg/L	0.0018	0.404	mg/L	0.0018	0.43%
Ca 318	52476.6	2.00	mg/L	0.002	2.00	mg/L	0.002	0.10%
Cu 325	190245.7	0.415	mg/L	0.0021	0.415	mg/L	0.0021	0.51%
Ag 328	142808.4	0.439	mg/L	0.0096	0.439	mg/L	0.0096	2.20%
Na 590	156023.8	2.39	mg/L	0.019	2.39	mg/L	0.019	0.78%
K 766	43936.6	2.21	mg/L	0.006	2.21	mg/L	0.006	0.26%

Sequence No.: 54 **Autosampler Location: 44**
Sample ID: 157817 LCSD **Date Collected: 2/2/2015 3:22:33 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 157817 LCSD

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 157817 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5469.0	0.439	mg/L	0.0001	0.439	mg/L	0.0001	0.02%
Tl 191	4981.7	0.421	mg/L	0.0008	0.421	mg/L	0.0008	0.18%
Se 196	4190.3	0.428	mg/L	0.0029	0.428	mg/L	0.0029	0.68%

Sb 207	5601.6	0.439 mg/L	0.0019	0.439 mg/L	0.0019	0.44%
Zn 214	122506.8	0.414 mg/L	0.0009	0.414 mg/L	0.0009	0.22%
Cd 214	231393.2	0.420 mg/L	0.0001	0.420 mg/L	0.0001	0.01%
Pb 220	12244.9	0.415 mg/L	0.0010	0.415 mg/L	0.0010	0.25%
Co 229	62574.7	0.435 mg/L	0.0017	0.435 mg/L	0.0017	0.40%
Ni 232	63406.5	0.425 mg/L	0.0016	0.425 mg/L	0.0016	0.38%
Ba 234	879718.8	2.07 mg/L	0.001	2.07 mg/L	0.001	0.03%
Mn 258	819160.1	0.428 mg/L	0.0017	0.428 mg/L	0.0017	0.40%
Fe 260	61748.4	2.00 mg/L	0.045	2.00 mg/L	0.045	2.26%
Cr 268	125478.3	0.417 mg/L	0.0053	0.417 mg/L	0.0053	1.27%
Mg 279	6384.6	2.05 mg/L	0.031	2.05 mg/L	0.031	1.52%
V 292	76757.8	0.434 mg/L	0.0021	0.434 mg/L	0.0021	0.48%
Al 308	12170.1	2.05 mg/L	0.028	2.05 mg/L	0.028	1.37%
Be 313	30467.6	0.408 mg/L	0.0030	0.408 mg/L	0.0030	0.73%
Ca 318	54526.0	2.08 mg/L	0.013	2.08 mg/L	0.013	0.62%
Cu 325	193267.4	0.422 mg/L	0.0017	0.422 mg/L	0.0017	0.41%
Ag 328	142966.6	0.439 mg/L	0.0012	0.439 mg/L	0.0012	0.28%
Na 590	151005.9	2.31 mg/L	0.002	2.31 mg/L	0.002	0.08%
K 766	43990.6	2.22 mg/L	0.021	2.22 mg/L	0.021	0.96%

Sequence No.: 55
Sample ID: 0144_1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 45
Date Collected: 2/2/2015 3:29:08 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_1

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Date: 0144_1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	122.5	0.0036	mg/L	0.00034	0.0036	mg/L	0.00034	9.34%
Tl 191	-20.3	-0.0028	mg/L	0.00060	-0.0028	mg/L	0.00060	21.70%
Se 196	21.7	-0.0002	mg/L	0.00089	-0.0002	mg/L	0.00089	469.65%
Sb 207	-38.3	-0.0113	mg/L	0.00133	-0.0113	mg/L	0.00133	11.81%
Zn 214	768.6	0.0010	mg/L	0.00083	0.0010	mg/L	0.00083	83.67%
Cd 214	-36.2	-0.0011	mg/L	0.00009	-0.0011	mg/L	0.00009	8.36%
Pb 220	-133.4	-0.0053	mg/L	0.00136	-0.0053	mg/L	0.00136	25.81%
Co 229	-265.9	-0.0026	mg/L	0.00017	-0.0026	mg/L	0.00017	6.46%
Ni 232	96.8	-0.0022	mg/L	0.00262	-0.0022	mg/L	0.00262	120.11%
Ba 234	3620.7	0.0109	mg/L	0.00082	0.0109	mg/L	0.00082	7.54%
Mn 258	33049.0	0.0161	mg/L	0.00056	0.0161	mg/L	0.00056	3.47%
Fe 260	4079.4	0.128	mg/L	0.0000	0.128	mg/L	0.0000	0.00%
Cr 268	193.6	0.0001	mg/L	0.00128	0.0001	mg/L	0.00128	>999.9%
Mg 279	25689.5	8.30	mg/L	0.080	8.30	mg/L	0.080	0.96%
V 292	387.3	-0.0001	mg/L	0.00101	-0.0001	mg/L	0.00101	760.49%
Al 308	220.2	0.0076	mg/L	0.02682	0.0076	mg/L	0.02682	353.62%
Be 313	-66.5	0.0048	mg/L	0.00299	0.0048	mg/L	0.00299	62.98%
Ca 318	316377.5	12.0	mg/L	0.20	12.0	mg/L	0.20	1.70%
Cu 325	2170.8	0.0036	mg/L	0.00000	0.0036	mg/L	0.00000	0.00%
Ag 328	75.0	0.0005	mg/L	0.00015	0.0005	mg/L	0.00015	31.86%
Na 590	Saturated4							
K 766	138031.7	6.95	mg/L	0.034	6.95	mg/L	0.034	0.49%

Sequence No.: 56
Sample ID: 0144_1 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 46
Date Collected: 2/2/2015 3:35:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_1 x10

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0144_1 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	177.7	0.0081	mg/L	0.00285	0.0081	mg/L	0.00285	35.17%
Tl 191	6.1	-0.0005	mg/L	0.00153	-0.0005	mg/L	0.00153	285.27%
Se 196	-9.0	-0.0034	mg/L	0.00189	-0.0034	mg/L	0.00189	56.22%
Sb 207	-63.7	-0.0133	mg/L	0.00165	-0.0133	mg/L	0.00165	12.35%
Zn 214	375.3	-0.0003	mg/L	0.00001	-0.0003	mg/L	0.00001	3.59%
Cd 214	217.8	-0.0007	mg/L	0.00062	-0.0007	mg/L	0.00062	95.24%
Pb 220	-39.6	-0.0021	mg/L	0.00058	-0.0021	mg/L	0.00058	28.12%
Co 229	104.7	0.0000	mg/L	0.00043	0.0000	mg/L	0.00043	>999.9%
Ni 232	-121.1	-0.0037	mg/L	0.00239	-0.0037	mg/L	0.00239	65.43%
Ba 234	62.6	0.0026	mg/L	0.00021	0.0026	mg/L	0.00021	8.15%
Mn 258	3698.1	0.0007	mg/L	0.00056	0.0007	mg/L	0.00056	81.06%
Fe 260	771.5	0.0208	mg/L	0.00584	0.0208	mg/L	0.00584	28.04%
Cr 268	242.0	0.0003	mg/L	0.00105	0.0003	mg/L	0.00105	400.66%
Mg 279	2742.9	0.876	mg/L	0.0083	0.876	mg/L	0.0083	0.94%
V 292	145.2	-0.0015	mg/L	0.00172	-0.0015	mg/L	0.00172	113.66%
Al 308	383.1	0.0355	mg/L	0.05025	0.0355	mg/L	0.05025	141.67%
Be 313	187.7	0.0081	mg/L	0.00175	0.0081	mg/L	0.00175	21.60%
Ca 318	34072.4	1.30	mg/L	0.027	1.30	mg/L	0.027	2.11%
Cu 325	863.8	0.0008	mg/L	0.00177	0.0008	mg/L	0.00177	225.34%
Ag 328	-112.0	-0.0001	mg/L	0.00010	-0.0001	mg/L	0.00010	110.05%
Na 590	8391620.9	124	mg/L	1.0	124	mg/L	1.0	0.82%
K 766	21331.5	1.08	mg/L	0.008	1.08	mg/L	0.008	0.71%

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Sequence No.: 57
Sample ID: 0144_1 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 47
Data Collected: 2/2/2015 3:42:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_1 x100

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0144_1 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	172.1	0.0076	mg/L	0.00150	0.0076	mg/L	0.00150	19.67%
Tl 191	-16.4	-0.0024	mg/L	0.00397	-0.0024	mg/L	0.00397	162.58%
Se 196	-30.7	-0.0056	mg/L	0.00840	-0.0056	mg/L	0.00840	150.02%
Sb 207	-102.1	-0.0164	mg/L	0.00182	-0.0164	mg/L	0.00182	11.09%
Zn 214	393.3	-0.0003	mg/L	0.00082	-0.0003	mg/L	0.00082	290.07%
Cd 214	-157.2	-0.0013	mg/L	0.00009	-0.0013	mg/L	0.00009	7.00%
Pb 220	-39.8	-0.0021	mg/L	0.00450	-0.0021	mg/L	0.00450	217.38%
Co 229	-126.8	-0.0016	mg/L	0.00095	-0.0016	mg/L	0.00095	59.46%
Ni 232	-15.6	-0.0029	mg/L	0.00000	-0.0029	mg/L	0.00000	0.00%
Ba 234	-1099.7	-0.0002	mg/L	0.00094	-0.0002	mg/L	0.00094	517.80%
Mn 258	233.2	-0.0011	mg/L	0.00089	-0.0011	mg/L	0.00089	79.33%
Fe 260	-87.3	-0.0070	mg/L	0.00584	-0.0070	mg/L	0.00584	83.26%
Cr 268	-39.4	-0.0007	mg/L	0.00155	-0.0007	mg/L	0.00155	230.50%
Mg 279	381.5	0.111	mg/L	0.0276	0.111	mg/L	0.0276	24.84%
V 292	532.5	0.0007	mg/L	0.00172	0.0007	mg/L	0.00172	247.51%
Al 308	290.5	0.0196	mg/L	0.07267	0.0196	mg/L	0.07267	370.50%
Be 313	308.8	0.0097	mg/L	0.00051	0.0097	mg/L	0.00051	5.25%
Ca 318	4061.5	0.163	mg/L	0.0077	0.163	mg/L	0.0077	4.75%
Cu 325	1037.0	0.0012	mg/L	0.00009	0.0012	mg/L	0.00009	7.43%
Ag 328	-140.1	-0.0002	mg/L	0.00054	-0.0002	mg/L	0.00054	298.89%
Na 590	915297.2	13.6	mg/L	0.12	13.6	mg/L	0.12	0.88%
K 766	7016.4	0.357	mg/L	0.0238	0.357	mg/L	0.0238	6.66%

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Sequence No.: 58
Sample ID: 0144_2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 48
Data Collected: 2/2/2015 3:48:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_2

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0144_2

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-93.8	-0.0138	mg/L	0.00030	-0.0138	mg/L	0.00030	2.14%
Tl 191	94.1	0.0069	mg/L	0.00194	0.0069	mg/L	0.00194	28.06%
Se 196	-19.4	-0.0044	mg/L	0.00256	-0.0044	mg/L	0.00256	58.10%
Sb 207	-105.0	-0.0166	mg/L	0.00113	-0.0166	mg/L	0.00113	6.79%
Zn 214	920.3	0.0015	mg/L	0.00099	0.0015	mg/L	0.00099	65.41%
Cd 214	-60.4	-0.0012	mg/L	0.00009	-0.0012	mg/L	0.00009	8.06%
Pb 220	13.6	-0.0003	mg/L	0.00133	-0.0003	mg/L	0.00133	520.05%
Co 229	79.5	-0.0002	mg/L	0.00185	-0.0002	mg/L	0.00185	>999.9%
Ni 232	-52.4	-0.0032	mg/L	0.00000	-0.0032	mg/L	0.00000	0.00%
Ba 234	115469.3	0.274	mg/L	0.0025	0.274	mg/L	0.0025	0.91%
Mn 258	130199.1	0.0669	mg/L	0.00111	0.0669	mg/L	0.00111	1.66%
Fe 260	4421.5	0.139	mg/L	0.0157	0.139	mg/L	0.0157	11.27%
Cr 268	-378.2	-0.0018	mg/L	0.00224	-0.0018	mg/L	0.00224	124.13%
Mg 279	273415.4	88.5	mg/L	0.12	88.5	mg/L	0.12	0.14%
V 292	-1346.4	-0.0100	mg/L	0.00016	-0.0100	mg/L	0.00016	1.58%
Al 308	-3.7	-0.0307	mg/L	0.01070	-0.0307	mg/L	0.01070	34.84%
Be 313	308.8	0.0097	mg/L	0.00299	0.0097	mg/L	0.00299	30.84%
Ca 318	Saturated4							
Cu 325	-394.9	-0.0020	mg/L	0.00015	-0.0020	mg/L	0.00015	7.62%
Ag 328	-14.8	0.0002	mg/L	0.00031	0.0002	mg/L	0.00031	152.93%
Na 590	Saturated4							
K 766	8057713.7	405	mg/L	2.3	405	mg/L	2.3	0.56%

Sequence No.: 59
Sample ID: 0144_2 x10
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 49
Date Collected: 2/2/2015 3:55:16 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_2 x10

Analyte	Back Pressure	Flow
All	187.0 kPa	0.55 L/min

Mean Data: 0144_2 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	178.3	0.0081	mg/L	0.00178	0.0081	mg/L	0.00178	21.87%
Tl 191	-6.3	-0.0016	mg/L	0.00177	-0.0016	mg/L	0.00177	111.67%
Se 196	-41.6	-0.0067	mg/L	0.00188	-0.0067	mg/L	0.00188	28.08%
Sb 207	-87.4	-0.0152	mg/L	0.00375	-0.0152	mg/L	0.00375	24.58%
Zn 214	375.3	-0.0004	mg/L	0.00093	-0.0004	mg/L	0.00093	260.26%
Cd 214	169.4	-0.0007	mg/L	0.00000	-0.0007	mg/L	0.00000	0.00%
Pb 220	17.6	-0.0001	mg/L	0.00303	-0.0001	mg/L	0.00303	>999.9%
Co 229	-99.3	-0.0014	mg/L	0.00193	-0.0014	mg/L	0.00193	137.28%
Ni 232	371.7	-0.0003	mg/L	0.00462	-0.0003	mg/L	0.00462	>999.9%
Ba 234	13913.2	0.0351	mg/L	0.00094	0.0351	mg/L	0.00094	2.67%
Mn 258	15695.2	0.0070	mg/L	0.00003	0.0070	mg/L	0.00003	0.47%
Fe 260	771.5	0.0208	mg/L	0.00584	0.0208	mg/L	0.00584	28.04%
Cr 268	242.0	0.0003	mg/L	0.00023	0.0003	mg/L	0.00023	86.59%
Mg 279	28267.9	9.14	mg/L	0.188	9.14	mg/L	0.188	2.06%
V 292	-68.1	-0.0027	mg/L	0.00078	-0.0027	mg/L	0.00078	28.60%
Al 308	130.3	-0.0078	mg/L	0.02715	-0.0078	mg/L	0.02715	348.55%
Be 313	629.5	0.0139	mg/L	0.01700	0.0139	mg/L	0.01700	121.99%
Ca 318	2974562.2	113	mg/L	1.7	113	mg/L	1.7	1.52%
Cu 325	685.3	0.0004	mg/L	0.00045	0.0004	mg/L	0.00045	113.24%
Ag 328	-38.7	0.0001	mg/L	0.00044	0.0001	mg/L	0.00044	330.73%
Na 590	Saturated4							
K 766	745525.4	37.5	mg/L	0.11	37.5	mg/L	0.11	0.30%

Sequence No.: 60
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/2/2015 4:01:46 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6661.6	0.536	mg/L	0.0020	0.536	mg/L	0.0020	0.37%
Tl 191	6005.9	0.508	mg/L	0.0053	0.508	mg/L	0.0053	1.04%
Se 196	5087.8	0.520	mg/L	0.0031	0.520	mg/L	0.0031	0.59%
Sb 207	6666.5	0.524	mg/L	0.0023	0.524	mg/L	0.0023	0.43%
Zn 214	149905.4	0.507	mg/L	0.0009	0.507	mg/L	0.0009	0.18%
Cd 214	285175.0	0.518	mg/L	0.0046	0.518	mg/L	0.0046	0.89%
Pb 220	14871.0	0.505	mg/L	0.0042	0.505	mg/L	0.0042	0.83%
Co 229	73156.7	0.509	mg/L	0.0005	0.509	mg/L	0.0005	0.09%
Ni 232	76413.9	0.513	mg/L	0.0015	0.513	mg/L	0.0015	0.29%
Ba 234	1068436.0	2.51	mg/L	0.018	2.51	mg/L	0.018	0.72%
Mn 258	966999.2	0.505	mg/L	0.0013	0.505	mg/L	0.0013	0.26%
Fe 260	76992.6	2.49	mg/L	0.035	2.49	mg/L	0.035	1.42%
Cr 268	151997.2	0.506	mg/L	0.0011	0.506	mg/L	0.0011	0.23%
Mg 279	7781.2	2.51	mg/L	0.030	2.51	mg/L	0.030	1.19%
V 292	90002.1	0.510	mg/L	0.0027	0.510	mg/L	0.0027	0.53%
Al 308	14330.8	2.42	mg/L	0.005	2.42	mg/L	0.005	0.19%
Be 313	36793.5	0.491	mg/L	0.0075	0.491	mg/L	0.0075	1.53%
Ca 318	66387.4	2.53	mg/L	0.050	2.53	mg/L	0.050	1.96%
Cu 325	225341.9	0.492	mg/L	0.0016	0.492	mg/L	0.0016	0.33%
Ag 328	160849.1	0.494	mg/L	0.0005	0.494	mg/L	0.0005	0.10%
Na 590	206131.4	3.13	mg/L	0.011	3.13	mg/L	0.011	0.35%
K 766	54867.8	2.76	mg/L	0.008	2.76	mg/L	0.008	0.29%

Sequence No.: 61
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/2/2015 4:08:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	206.2	0.0104	mg/L	0.00051	0.0104	mg/L	0.00051	4.89%
Tl 191	-23.6	-0.0031	mg/L	0.00571	-0.0031	mg/L	0.00571	187.05%
Se 196	58.5	0.0035	mg/L	0.00359	0.0035	mg/L	0.00359	101.05%
Sb 207	-38.7	-0.0113	mg/L	0.00083	-0.0113	mg/L	0.00083	7.31%
Zn 214	-375.3	-0.0029	mg/L	0.00091	-0.0029	mg/L	0.00091	31.35%
Cd 214	229.9	-0.0006	mg/L	0.00022	-0.0006	mg/L	0.00022	34.51%
Pb 220	-33.0	-0.0018	mg/L	0.00272	-0.0018	mg/L	0.00272	147.50%
Co 229	-97.0	-0.0014	mg/L	0.00040	-0.0014	mg/L	0.00040	28.74%
Ni 232	-87.0	-0.0034	mg/L	0.00087	-0.0034	mg/L	0.00087	25.40%
Ba 234	-659.3	0.0009	mg/L	0.00157	0.0009	mg/L	0.00157	183.50%
Mn 258	720.2	-0.0009	mg/L	0.00002	-0.0009	mg/L	0.00002	2.75%
Fe 260	556.8	0.0139	mg/L	0.00400	0.0139	mg/L	0.00400	28.87%
Cr 268	611.3	0.0015	mg/L	0.00068	0.0015	mg/L	0.00068	45.81%
Mg 279	78.8	0.0132	mg/L	0.03163	0.0132	mg/L	0.03163	240.48%
V 292	193.6	-0.0012	mg/L	0.00055	-0.0012	mg/L	0.00055	44.37%
Al 308	174.6	-0.0002	mg/L	0.01442	-0.0002	mg/L	0.01442	>999.9%
Be 313	121.1	0.0072	mg/L	0.00299	0.0072	mg/L	0.00299	41.40%
Ca 318	226.4	0.0177	mg/L	0.00798	0.0177	mg/L	0.00798	45.23%

Cu 325	580.9	0.0002 mg/L	0.00150	0.0002 mg/L	0.00150	889.73%
Ag 328	90.5	0.0005 mg/L	0.00032	0.0005 mg/L	0.00032	60.81%
Na 590	15460.1	0.309 mg/L	0.0068	0.309 mg/L	0.0068	2.20%
K 766	2679.3	0.139 mg/L	0.0072	0.139 mg/L	0.0072	5.21%

User canceled analysis.

Analysis Begun

Start Time: 2/2/2015 4:16:18 PM
Logged In Analyst: Anyone
Spectrometer Model: Optima 2100

Plasma On Time: 2/2/2015 9:21:05 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Anyone\Sample Information\MIP2719.sif
Batch ID:
Results Data Set: MIP2719
Results Library: C:\pe\Anyone\Results\Results.mdb

Sequence No.: 1
Sample ID: 0144_2 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 50
Date Collected: 2/2/2015 4:16:18 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_2 x100

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0144_2 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	209.3	0.0106	mg/L	0.00016	0.0106	mg/L	0.00016	1.52%
Tl 191	-12.9	-0.0021	mg/L	0.00152	-0.0021	mg/L	0.00152	70.89%
Se 196	16.1	-0.0008	mg/L	0.00033	-0.0008	mg/L	0.00033	41.53%
Sb 207	-98.5	-0.0161	mg/L	0.00389	-0.0161	mg/L	0.00389	24.12%
Zn 214	281.5	-0.0007	mg/L	0.00136	-0.0007	mg/L	0.00136	206.59%
Cd 214	-193.6	-0.0014	mg/L	0.00006	-0.0014	mg/L	0.00006	4.44%
Pb 220	95.3	0.0025	mg/L	0.00211	0.0025	mg/L	0.00211	83.61%
Co 229	-405.0	-0.0035	mg/L	0.00003	-0.0035	mg/L	0.00003	0.85%
Ni 232	-219.5	-0.0043	mg/L	0.00029	-0.0043	mg/L	0.00029	6.63%
Ba 234	962.1	0.0047	mg/L	0.00030	0.0047	mg/L	0.00030	6.51%
Mn 258	1440.3	-0.0005	mg/L	0.00056	-0.0005	mg/L	0.00056	112.65%
Fe 260	-87.3	-0.0070	mg/L	0.02553	-0.0070	mg/L	0.02553	363.95%
Cr 268	-87.8	-0.0008	mg/L	0.00133	-0.0008	mg/L	0.00133	158.71%
Mg 279	2823.1	0.902	mg/L	0.0338	0.902	mg/L	0.0338	3.74%
V 292	164.9	-0.0014	mg/L	0.00343	-0.0014	mg/L	0.00343	245.52%
Al 308	112.2	-0.0109	mg/L	0.02952	-0.0109	mg/L	0.02952	270.91%
Be 313	27.3	0.0060	mg/L	0.00825	0.0060	mg/L	0.00825	137.66%
Ca 318	280830.6	10.7	mg/L	0.06	10.7	mg/L	0.06	0.58%
Cu 325	-201.2	-0.0015	mg/L	0.00045	-0.0015	mg/L	0.00045	29.12%
Ag 328	167.8	0.0008	mg/L	0.00089	0.0008	mg/L	0.00089	115.75%
Na 590	3975489.5	58.9	mg/L	0.07	58.9	mg/L	0.07	0.11%
K 766	68139.6	3.43	mg/L	0.005	3.43	mg/L	0.005	0.14%

Sequence No.: 2
Sample ID: 158139 MB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 51
Date Collected: 2/2/2015 4:22:50 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158139 MB

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Date: 158139 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	162.1	0.0068	mg/L	0.00399	0.0068	mg/L	0.00399	58.47%
Tl 191	-87.3	-0.0084	mg/L	0.00616	-0.0084	mg/L	0.00616	72.91%
Se 196	66.0	0.0043	mg/L	0.00236	0.0043	mg/L	0.00236	54.72%
Sb 207	-42.4	-0.0116	mg/L	0.00257	-0.0116	mg/L	0.00257	22.19%

Zn 214	339.3	-0.0005 mg/L	0.00182	-0.0005 mg/L	0.00182	393.96%
Cd 214	-24.1	-0.0011 mg/L	0.00087	-0.0011 mg/L	0.00087	79.67%
Pb 220	87.3	0.0022 mg/L	0.00067	0.0022 mg/L	0.00067	29.73%
Co 229	-291.9	-0.0027 mg/L	0.00147	-0.0027 mg/L	0.00147	53.74%
Ni 232	-117.0	-0.0036 mg/L	0.00254	-0.0036 mg/L	0.00254	70.03%
Ba 234	-437.9	0.0014 mg/L	0.00021	0.0014 mg/L	0.00021	15.12%
Mn 258	7384.3	0.0026 mg/L	0.00006	0.0026 mg/L	0.00006	2.17%
Fe 260	-214.7	-0.0111 mg/L	0.00000	-0.0111 mg/L	0.00000	0.00%
Cr 268	-87.8	-0.0008 mg/L	0.00041	-0.0008 mg/L	0.00041	49.51%
Mg 279	40.9	0.0009 mg/L	0.04454	0.0009 mg/L	0.04454	>999.9%
V 292	571.8	0.0009 mg/L	0.00094	0.0009 mg/L	0.00094	102.18%
Al 308	108.0	-0.0116 mg/L	0.00710	-0.0116 mg/L	0.00710	61.14%
Be 313	750.6	0.0155 mg/L	0.00175	0.0155 mg/L	0.00175	11.27%
Ca 318	816.2	0.0400 mg/L	0.00942	0.0400 mg/L	0.00942	23.55%
Cu 325	-104.4	-0.0013 mg/L	0.00002	-0.0013 mg/L	0.00002	1.77%
Ag 328	-143.5	-0.0002 mg/L	0.00065	-0.0002 mg/L	0.00065	340.42%
Na 590	15800.9	0.314 mg/L	0.0061	0.314 mg/L	0.0061	1.93%
K 766	2351.6	0.122 mg/L	0.0044	0.122 mg/L	0.0044	3.62%

Sequence No.: 3
Sample ID: 158140 LCS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 52
Date Collected: 2/2/2015 4:29:26 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158140 LCS

Analyte	Back Pressure	Flow
All	187.0 kPa	0.55 L/min

Mean Data: 158140 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5420.9	0.435	mg/L	0.0037	0.435	mg/L	0.0037	0.85%
Tl 191	4768.2	0.403	mg/L	0.0044	0.403	mg/L	0.0044	1.10%
Se 196	3972.1	0.405	mg/L	0.0050	0.405	mg/L	0.0050	1.23%
Sb 207	5454.4	0.427	mg/L	0.0007	0.427	mg/L	0.0007	0.17%
Zn 214	120965.7	0.409	mg/L	0.0005	0.409	mg/L	0.0005	0.13%
Cd 214	228512.8	0.415	mg/L	0.0029	0.415	mg/L	0.0029	0.69%
Pb 220	11916.5	0.404	mg/L	0.0008	0.404	mg/L	0.0008	0.19%
Co 229	62274.4	0.433	mg/L	0.0042	0.433	mg/L	0.0042	0.96%
Ni 232	62684.7	0.420	mg/L	0.0000	0.420	mg/L	0.0000	0.00%
Ba 234	872465.0	2.05	mg/L	0.036	2.05	mg/L	0.036	1.74%
Mn 258	803985.8	0.420	mg/L	0.0017	0.420	mg/L	0.0017	0.40%
Fe 260	61621.0	1.99	mg/L	0.059	1.99	mg/L	0.059	2.96%
Cr 268	124364.9	0.414	mg/L	0.0013	0.414	mg/L	0.0013	0.32%
Mg 279	6382.9	2.05	mg/L	0.046	2.05	mg/L	0.046	2.24%
V 292	75121.0	0.425	mg/L	0.0014	0.425	mg/L	0.0014	0.33%
Al 308	11929.4	2.01	mg/L	0.000	2.01	mg/L	0.000	0.00%
Be 313	29087.5	0.390	mg/L	0.0018	0.390	mg/L	0.0018	0.45%
Ca 318	54658.6	2.08	mg/L	0.036	2.08	mg/L	0.036	1.73%
Cu 325	192243.2	0.419	mg/L	0.0011	0.419	mg/L	0.0011	0.27%
Ag 328	138886.9	0.426	mg/L	0.0028	0.426	mg/L	0.0028	0.65%
Na 590	157833.8	2.41	mg/L	0.012	2.41	mg/L	0.012	0.49%
K 766	42892.2	2.16	mg/L	0.012	2.16	mg/L	0.012	0.56%

Sequence No.: 4
Sample ID: 158141 LCSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 53
Date Collected: 2/2/2015 4:35:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158141 LCSD

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158141 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5481.3	0.440	mg/L	0.0029	0.440	mg/L	0.0029	0.65%
Tl 191	4952.9	0.418	mg/L	0.0040	0.418	mg/L	0.0040	0.96%
Se 196	4060.8	0.414	mg/L	0.0015	0.414	mg/L	0.0015	0.36%
Sb 207	5478.3	0.429	mg/L	0.0039	0.429	mg/L	0.0039	0.90%
Zn 214	123596.8	0.418	mg/L	0.0038	0.418	mg/L	0.0038	0.90%
Cd 214	229372.0	0.416	mg/L	0.0007	0.416	mg/L	0.0007	0.16%
Pb 220	12150.2	0.412	mg/L	0.0018	0.412	mg/L	0.0018	0.44%
Co 229	60973.7	0.424	mg/L	0.0064	0.424	mg/L	0.0064	1.51%
Ni 232	63726.9	0.427	mg/L	0.0038	0.427	mg/L	0.0038	0.88%
Ba 234	875715.3	2.06	mg/L	0.018	2.06	mg/L	0.018	0.87%
Mn 258	811136.9	0.423	mg/L	0.0008	0.423	mg/L	0.0008	0.20%
Fe 260	61406.3	1.99	mg/L	0.010	1.99	mg/L	0.010	0.50%
Cr 268	125148.5	0.416	mg/L	0.0009	0.416	mg/L	0.0009	0.22%
Mg 279	6418.5	2.07	mg/L	0.055	2.07	mg/L	0.055	2.66%
V 292	75741.3	0.429	mg/L	0.0033	0.429	mg/L	0.0033	0.76%
Al 308	12040.2	2.03	mg/L	0.027	2.03	mg/L	0.027	1.32%
Be 313	30186.2	0.404	mg/L	0.0082	0.404	mg/L	0.0082	2.04%
Ca 318	55461.4	2.11	mg/L	0.011	2.11	mg/L	0.011	0.54%
Cu 325	191738.7	0.418	mg/L	0.0076	0.418	mg/L	0.0076	1.82%
Ag 328	139731.0	0.429	mg/L	0.0044	0.429	mg/L	0.0044	1.01%
Na 590	157006.6	2.40	mg/L	0.004	2.40	mg/L	0.004	0.18%
K 766	42950.3	2.16	mg/L	0.004	2.16	mg/L	0.004	0.20%

Sequence No.: 5
Sample ID: 0182_8
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 54
Date Collected: 2/2/2015 4:42:28 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_8

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_8

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	378.9	0.0250	mg/L	0.00227	0.0250	mg/L	0.00227	9.10%
Tl 191	116.9	0.0088	mg/L	0.00233	0.0088	mg/L	0.00233	26.37%
Se 196	-230.4	-0.0117	mg/L	0.00136	-0.0117	mg/L	0.00136	11.59%
Sb 207	-92.7	-0.0167	mg/L	0.00292	-0.0167	mg/L	0.00292	17.50%
Zn 214	111153.3	0.377	mg/L	0.0023	0.377	mg/L	0.0023	0.60%
Cd 214	1694.3	0.0020	mg/L	0.00006	0.0020	mg/L	0.00006	3.06%
Pb 220	1087.1	0.0362	mg/L	0.00469	0.0362	mg/L	0.00469	12.94%
Co 229	3873.8	0.0263	mg/L	0.00100	0.0263	mg/L	0.00100	3.81%
Ni 232	10098.8	0.0653	mg/L	0.00003	0.0653	mg/L	0.00003	0.04%
Ba 234	3317351.8	7.80	mg/L	0.056	7.80	mg/L	0.056	0.72%
Mn 258	5101269.5	2.67	mg/L	0.018	2.67	mg/L	0.018	0.68%
Fe 260	2036984.3	66.0	mg/L	0.54	66.0	mg/L	0.54	0.82%
Cr 268	20634.4	0.0682	mg/L	0.00023	0.0682	mg/L	0.00023	0.33%
Mg 279	248817.1	80.5	mg/L	0.99	80.5	mg/L	0.99	1.23%
V 292	23739.9	0.133	mg/L	0.0019	0.133	mg/L	0.0019	1.47%
Al 308	209773.9	35.9	mg/L	0.50	35.9	mg/L	0.50	1.40%
Be 313	496.5	0.0122	mg/L	0.01350	0.0122	mg/L	0.01350	110.82%
Ca 318	5955338.0	226	mg/L	5.7	226	mg/L	5.7	2.53%
Cu 325	31893.6	0.0687	mg/L	0.00257	0.0687	mg/L	0.00257	3.74%
Ag 328	-226.8	-0.0004	mg/L	0.00040	-0.0004	mg/L	0.00040	88.75%
Na 590	3723138.3	55.1	mg/L	0.71	55.1	mg/L	0.71	1.28%
K 766	300621.0	15.1	mg/L	0.14	15.1	mg/L	0.14	0.90%

Sequence No.: 6
Sample ID: 158142 MS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 55
Date Collected: 2/2/2015 4:49:01 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158142 MS

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158142 MS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5305.2	0.426	mg/L	0.0013	0.426	mg/L	0.0013	0.30%
Tl 191	4501.5	0.380	mg/L	0.0070	0.380	mg/L	0.0070	1.85%
Se 196	3572.4	0.379	mg/L	0.0053	0.379	mg/L	0.0053	1.40%
Sb 207	2627.1	0.198	mg/L	0.0005	0.198	mg/L	0.0005	0.26%
Zn 214	213750.0	0.726	mg/L	0.0014	0.726	mg/L	0.0014	0.20%
Cd 214	208556.3	0.378	mg/L	0.0025	0.378	mg/L	0.0025	0.65%
Pb 220	11865.0	0.402	mg/L	0.0023	0.402	mg/L	0.0023	0.57%
Co 229	58594.7	0.407	mg/L	0.0034	0.407	mg/L	0.0034	0.82%
Ni 232	66302.2	0.445	mg/L	0.0001	0.445	mg/L	0.0001	0.03%
Ba 234	2113549.4	4.97	mg/L	0.100	4.97	mg/L	0.100	2.02%
Mn 258	6020809.9	3.15	mg/L	0.006	3.15	mg/L	0.006	0.19%
Fe 260	2140990.0	69.4	mg/L	0.72	69.4	mg/L	0.72	1.04%
Cr 268	137271.9	0.457	mg/L	0.0084	0.457	mg/L	0.0084	1.84%
Mg 279	257610.2	83.4	mg/L	1.05	83.4	mg/L	1.05	1.25%
V 292	95181.8	0.539	mg/L	0.0055	0.539	mg/L	0.0055	1.01%
Al 308	291464.2	49.8	mg/L	0.43	49.8	mg/L	0.43	0.87%
Be 313	28563.7	0.383	mg/L	0.0000	0.383	mg/L	0.0000	0.00%
Ca 318	6136525.0	233	mg/L	2.7	233	mg/L	2.7	1.17%
Cu 325	216511.1	0.473	mg/L	0.0031	0.473	mg/L	0.0031	0.65%
Ag 328	134795.6	0.414	mg/L	0.0037	0.414	mg/L	0.0037	0.90%
Na 590	4253804.0	63.0	mg/L	0.24	63.0	mg/L	0.24	0.39%
K 766	407552.7	20.5	mg/L	0.09	20.5	mg/L	0.09	0.44%

Sequence No.: 7
Sample ID: 158143 MSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 56
Date Collected: 2/2/2015 4:55:34 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158143 MSD

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158143 MSD

Anelyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5528.9	0.445	mg/L	0.0053	0.445	mg/L	0.0053	1.18%
Tl 191	4744.4	0.401	mg/L	0.0023	0.401	mg/L	0.0023	0.58%
Se 196	3719.8	0.396	mg/L	0.0024	0.396	mg/L	0.0024	0.61%
Sb 207	2588.5	0.194	mg/L	0.0047	0.194	mg/L	0.0047	2.43%
Zn 214	241577.9	0.820	mg/L	0.0041	0.820	mg/L	0.0041	0.50%
Cd 214	216277.4	0.392	mg/L	0.0020	0.392	mg/L	0.0020	0.52%
Pb 220	12387.7	0.420	mg/L	0.0014	0.420	mg/L	0.0014	0.33%
Co 229	61664.6	0.429	mg/L	0.0001	0.429	mg/L	0.0001	0.03%
Ni 232	70978.1	0.476	mg/L	0.0029	0.476	mg/L	0.0029	0.61%
Ba 234	1997738.6	4.70	mg/L	0.058	4.70	mg/L	0.058	1.24%
Mn 258	6799361.2	3.56	mg/L	0.013	3.56	mg/L	0.013	0.36%
Fe 260	2444633.7	79.3	mg/L	1.59	79.3	mg/L	1.59	2.01%
Cr 268	146015.9	0.486	mg/L	0.0022	0.486	mg/L	0.0022	0.46%
Mg 279	306163.9	99.1	mg/L	1.26	99.1	mg/L	1.26	1.27%
V 292	102656.4	0.582	mg/L	0.0017	0.582	mg/L	0.0017	0.30%
Al 308	341823.0	58.5	mg/L	0.08	58.5	mg/L	0.08	0.14%
Be 313	28966.4	0.388	mg/L	0.0100	0.388	mg/L	0.0100	2.58%
Ca 318	7277361.0	276	mg/L	1.2	276	mg/L	1.2	0.42%
Cu 325	229670.7	0.501	mg/L	0.0011	0.501	mg/L	0.0011	0.23%
Ag 328	143859.8	0.442	mg/L	0.0009	0.442	mg/L	0.0009	0.20%
Na 590	5044923.4	74.7	mg/L	0.32	74.7	mg/L	0.32	0.43%
K 766	471692.2	23.7	mg/L	0.01	23.7	mg/L	0.01	0.03%

Sequence No.: 8

Autosampler Location: 57

Sample ID: 0182_9
Analyst:
Initial Sample Wt:
Dilution:

Date Collected: 2/2/2015 5:02:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_9

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_9

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	375.5	0.0244	mg/L	0.00304	0.0244	mg/L	0.00304	12.47%
Tl 191	1018.8	0.0852	mg/L	0.00735	0.0852	mg/L	0.00735	8.62%
Se 196	-292.3	-0.0153	mg/L	0.00290	-0.0153	mg/L	0.00290	18.96%
Sb 207	-36.2	-0.0116	mg/L	0.00134	-0.0116	mg/L	0.00134	11.52%
Zn 214	245630.6	0.837	mg/L	0.0090	0.837	mg/L	0.0090	1.07%
Cd 214	1742.6	0.0021	mg/L	0.00037	0.0021	mg/L	0.00037	17.62%
Pb 220	763.2	0.0252	mg/L	0.00515	0.0252	mg/L	0.00515	20.43%
Co 229	1839.4	0.0121	mg/L	0.00032	0.0121	mg/L	0.00032	2.68%
Ni 232	4735.3	0.0291	mg/L	0.00132	0.0291	mg/L	0.00132	4.53%
Ba 234	318407.5	0.751	mg/L	0.0147	0.751	mg/L	0.0147	1.95%
Mn 258	3984319.7	2.08	mg/L	0.001	2.08	mg/L	0.001	0.03%
Fe 260	2437715.7	79.0	mg/L	0.01	79.0	mg/L	0.01	0.02%
Cr 268	10477.6	0.0343	mg/L	0.00019	0.0343	mg/L	0.00019	0.54%
Mg 279	95598.4	30.9	mg/L	0.37	30.9	mg/L	0.37	1.20%
V 292	9914.7	0.0541	mg/L	0.00023	0.0541	mg/L	0.00023	0.43%
Al 308	93657.9	16.0	mg/L	0.02	16.0	mg/L	0.02	0.13%
Be 313	1126.0	0.0205	mg/L	0.00175	0.0205	mg/L	0.00175	8.55%
Ca 318	5881185.0	223	mg/L	3.6	223	mg/L	3.6	1.63%
Cu 325	12917.5	0.0272	mg/L	0.00167	0.0272	mg/L	0.00167	6.15%
Ag 328	-27.1	0.0002	mg/L	0.00008	0.0002	mg/L	0.00008	47.10%
Na 590	5914344.8	87.5	mg/L	0.11	87.5	mg/L	0.11	0.13%
K 766	229821.2	11.6	mg/L	0.03	11.6	mg/L	0.03	0.23%

Sequence No.: 9
Sample ID: 0182_10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 58
Date Collected: 2/2/2015 5:08:38 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_10

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	226.7	0.0122	mg/L	0.00071	0.0122	mg/L	0.00071	5.86%
Tl 191	-89.1	-0.0086	mg/L	0.00275	-0.0086	mg/L	0.00275	31.98%
Se 196	-447.9	-0.0211	mg/L	0.00120	-0.0211	mg/L	0.00120	5.67%
Sb 207	38.5	-0.0052	mg/L	0.00529	-0.0052	mg/L	0.00529	101.08%
Zn 214	9177.4	0.0297	mg/L	0.00099	0.0297	mg/L	0.00099	3.34%
Cd 214	1936.1	0.0025	mg/L	0.00006	0.0025	mg/L	0.00006	2.52%
Pb 220	204.6	0.0062	mg/L	0.00012	0.0062	mg/L	0.00012	1.94%
Co 229	798.6	0.0048	mg/L	0.00013	0.0048	mg/L	0.00013	2.64%
Ni 232	987.7	0.0038	mg/L	0.00061	0.0038	mg/L	0.00061	15.95%
Ba 234	24148.2	0.0592	mg/L	0.00145	0.0592	mg/L	0.00145	2.45%
Mn 258	6587494.5	3.45	mg/L	0.001	3.45	mg/L	0.001	0.04%
Fe 260	3877685.9	126	mg/L	1.7	126	mg/L	1.7	1.36%
Cr 268	3748.8	0.0119	mg/L	0.00141	0.0119	mg/L	0.00141	11.81%
Mg 279	317284.5	103	mg/L	1.1	103	mg/L	1.1	1.12%
V 292	2614.1	0.0125	mg/L	0.00288	0.0125	mg/L	0.00288	23.01%
Al 308	19845.2	3.37	mg/L	0.004	3.37	mg/L	0.004	0.11%
Be 313	187.7	0.0081	mg/L	0.00876	0.0081	mg/L	0.00876	108.01%
Ca 318	6427371.6	244	mg/L	2.0	244	mg/L	2.0	0.81%
Cu 325	2489.2	0.0043	mg/L	0.00039	0.0043	mg/L	0.00039	8.89%

Ag 328	-9.3	0.0002 mg/L	0.00042	0.0002 mg/L	0.00042	190.90%
Na 590	66713.2	1.07 mg/L	0.015	1.07 mg/L	0.015	1.40%
K 766	15498.6	0.783 mg/L	0.0079	0.783 mg/L	0.0079	1.01%

Sequence No.: 10
Sample ID: 158144 DUP
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 59
Data Collected: 2/2/2015 5:15:13 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158144 DUP

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158144 DUP

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	530.7	0.0368	mg/L	0.00232	0.0368	mg/L	0.00232	6.31%
Tl 191	-59.0	-0.0061	mg/L	0.00228	-0.0061	mg/L	0.00228	37.67%
Se 196	-120.8	-0.0089	mg/L	0.00566	-0.0089	mg/L	0.00566	63.52%
Sb 207	-109.1	-0.0173	mg/L	0.00087	-0.0173	mg/L	0.00087	5.02%
Zn 214	15727.5	0.0520	mg/L	0.00001	0.0520	mg/L	0.00001	0.03%
Cd 214	762.4	0.0003	mg/L	0.00003	0.0003	mg/L	0.00003	9.21%
Pb 220	167.9	0.0050	mg/L	0.00287	0.0050	mg/L	0.00287	57.53%
Co 229	1151.7	0.0073	mg/L	0.00016	0.0073	mg/L	0.00016	2.16%
Ni 232	2260.8	0.0124	mg/L	0.00260	0.0124	mg/L	0.00260	20.91%
Ba 234	61923.3	0.148	mg/L	0.0006	0.148	mg/L	0.0006	0.42%
Mn 258	5168483.0	2.70	mg/L	0.000	2.70	mg/L	0.000	0.02%
Fe 260	841485.8	27.3	mg/L	0.16	27.3	mg/L	0.16	0.60%
Cr 268	5975.6	0.0194	mg/L	0.00004	0.0194	mg/L	0.00004	0.22%
Mg 279	391298.1	127	mg/L	0.9	127	mg/L	0.9	0.68%
V 292	3756.2	0.0190	mg/L	0.00117	0.0190	mg/L	0.00117	6.14%
Al 308	54508.9	9.30	mg/L	0.097	9.30	mg/L	0.097	1.05%
Be 313	-0.0	0.0056	mg/L	0.00876	0.0056	mg/L	0.00876	155.53%
Ca 318	9309763.8	353	mg/L	4.9	353	mg/L	4.9	1.40%
Cu 325	2863.7	0.0052	mg/L	0.00077	0.0052	mg/L	0.00077	14.96%
Ag 328	21.2	0.0003	mg/L	0.00023	0.0003	mg/L	0.00023	74.45%
Na 590	137430.1	2.11	mg/L	0.010	2.11	mg/L	0.010	0.49%
K 766	39539.5	1.99	mg/L	0.025	1.99	mg/L	0.025	1.24%

Sequence No.: 11
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Data Collected: 2/2/2015 5:21:46 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6709.8	0.540	mg/L	0.0007	0.540	mg/L	0.0007	0.13%
Tl 191	6046.1	0.511	mg/L	0.0060	0.511	mg/L	0.0060	1.18%
Se 196	5145.1	0.526	mg/L	0.0036	0.526	mg/L	0.0036	0.69%
Sb 207	6648.2	0.522	mg/L	0.0043	0.522	mg/L	0.0043	0.82%
Zn 214	149999.2	0.508	mg/L	0.0013	0.508	mg/L	0.0013	0.26%
Cd 214	281036.1	0.510	mg/L	0.0019	0.510	mg/L	0.0019	0.38%
Pb 220	14716.9	0.499	mg/L	0.0041	0.499	mg/L	0.0041	0.82%
Co 229	73148.3	0.509	mg/L	0.0014	0.509	mg/L	0.0014	0.27%
Ni 232	76458.2	0.513	mg/L	0.0030	0.513	mg/L	0.0030	0.59%
Ba 234	1057056.2	2.49	mg/L	0.010	2.49	mg/L	0.010	0.42%
Mn 258	968504.3	0.506	mg/L	0.0031	0.506	mg/L	0.0031	0.62%
Fe 260	77509.4	2.51	mg/L	0.000	2.51	mg/L	0.000	0.00%
Cr 268	152432.9	0.507	mg/L	0.0058	0.507	mg/L	0.0058	1.15%

Mg 279	8170.3	2.63 mg/L	0.006	2.63 mg/L	0.006	0.24%
V 292	89788.8	0.509 mg/L	0.0002	0.509 mg/L	0.0002	0.05%
Al 308	14986.1	2.53 mg/L	0.031	2.53 mg/L	0.031	1.24%
Be 313	37196.1	0.497 mg/L	0.0035	0.497 mg/L	0.0035	0.71%
Ca 318	67501.5	2.57 mg/L	0.020	2.57 mg/L	0.020	0.79%
Cu 325	228577.7	0.499 mg/L	0.0081	0.499 mg/L	0.0081	1.63%
Ag 328	159874.5	0.491 mg/L	0.0023	0.491 mg/L	0.0023	0.46%
Na 590	170190.6	2.60 mg/L	0.021	2.60 mg/L	0.021	0.80%
K 766	51813.2	2.61 mg/L	0.018	2.61 mg/L	0.018	0.69%

Sequence No.: 12
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/2/2015 5:28:18 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	220.2	0.0115	mg/L	0.00150	0.0115	mg/L	0.00150	13.00%
Tl 191	-20.1	-0.0028	mg/L	0.00187	-0.0028	mg/L	0.00187	67.84%
Se 196	58.1	0.0035	mg/L	0.00220	0.0035	mg/L	0.00220	62.53%
Sb 207	-31.9	-0.0107	mg/L	0.00217	-0.0107	mg/L	0.00217	20.22%
Zn 214	-205.7	-0.0023	mg/L	0.00009	-0.0023	mg/L	0.00009	3.83%
Cd 214	217.9	-0.0007	mg/L	0.00019	-0.0007	mg/L	0.00019	28.58%
Pb 220	-117.3	-0.0047	mg/L	0.00286	-0.0047	mg/L	0.00286	60.79%
Co 229	-178.8	-0.0020	mg/L	0.00009	-0.0020	mg/L	0.00009	4.62%
Ni 232	163.6	-0.0017	mg/L	0.00049	-0.0017	mg/L	0.00049	28.22%
Ba 234	-630.5	0.0009	mg/L	0.00061	0.0009	mg/L	0.00061	65.86%
Mn 258	-1570.0	-0.0021	mg/L	0.00056	-0.0021	mg/L	0.00056	26.91%
Fe 260	986.2	0.0278	mg/L	0.00400	0.0278	mg/L	0.00400	14.41%
Cr 268	-105.8	-0.0009	mg/L	0.00178	-0.0009	mg/L	0.00178	198.99%
Mg 279	51.3	0.0043	mg/L	0.00359	0.0043	mg/L	0.00359	84.21%
V 292	222.4	-0.0011	mg/L	0.00078	-0.0011	mg/L	0.00078	72.74%
Al 308	127.1	-0.0083	mg/L	0.01172	-0.0083	mg/L	0.01172	140.34%
Be 313	778.0	0.0159	mg/L	0.00825	0.0159	mg/L	0.00825	51.87%
Ca 318	737.2	0.0370	mg/L	0.01525	0.0370	mg/L	0.01525	41.20%
Cu 325	0.0	-0.0011	mg/L	0.00137	-0.0011	mg/L	0.00137	124.39%
Ag 328	-101.4	-0.0001	mg/L	0.00128	-0.0001	mg/L	0.00128	>999.9%
Na 590	-2988.1	0.0357	mg/L	0.00979	0.0357	mg/L	0.00979	27.43%
K 766	998.6	0.0543	mg/L	0.00266	0.0543	mg/L	0.00266	4.90%

Sequence No.: 13
Sample ID: 158254 MB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 60
Date Collected: 2/2/2015 5:34:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158254 MB

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158254 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	195.2	0.0095	mg/L	0.00133	0.0095	mg/L	0.00133	14.01%
Tl 191	-23.4	-0.0030	mg/L	0.00003	-0.0030	mg/L	0.00003	1.12%
Se 196	24.7	0.0001	mg/L	0.00276	0.0001	mg/L	0.00276	>999.9%
Sb 207	-102.2	-0.0164	mg/L	0.00359	-0.0164	mg/L	0.00359	21.85%
Zn 214	469.2	0.0000	mg/L	0.00136	0.0000	mg/L	0.00136	>999.9%
Cd 214	-157.2	-0.0013	mg/L	0.00040	-0.0013	mg/L	0.00040	30.29%
Pb 220	119.1	0.0033	mg/L	0.00147	0.0033	mg/L	0.00147	44.05%

Co 229	-222.4	-0.0023 mg/L	0.00065	-0.0023 mg/L	0.00065	28.97%
Ni 232	169.5	-0.0017 mg/L	0.00101	-0.0017 mg/L	0.00101	59.37%
Ba 234	-221.4	0.0019 mg/L	0.00051	0.0019 mg/L	0.00051	27.16%
Mn 258	-529.7	-0.0015 mg/L	0.00028	-0.0015 mg/L	0.00028	18.26%
Fe 260	986.2	0.0278 mg/L	0.00400	0.0278 mg/L	0.00400	14.41%
Cr 268	272.4	0.0004 mg/L	0.00000	0.0004 mg/L	0.00000	0.00%
Mg 279	136.8	0.0319 mg/L	0.04105	0.0319 mg/L	0.04105	128.58%
V 292	174.0	-0.0013 mg/L	0.00071	-0.0013 mg/L	0.00071	52.44%
Al 308	-18.2	-0.0332 mg/L	0.00000	-0.0332 mg/L	0.00000	0.00%
Be 313	911.0	0.0177 mg/L	0.01876	0.0177 mg/L	0.01876	106.24%
Ca 318	417.0	0.0249 mg/L	0.01230	0.0249 mg/L	0.01230	49.42%
Cu 325	214.0	-0.0006 mg/L	0.00113	-0.0006 mg/L	0.00113	178.95%
Ag 328	308.0	0.0012 mg/L	0.00011	0.0012 mg/L	0.00011	8.83%
Na 590	3191922.2	47.3 mg/L	0.64	47.3 mg/L	0.64	1.35%
K 766	371.4	0.0228 mg/L	0.00614	0.0228 mg/L	0.00614	26.98%

Sequence No.: 14
Sample ID: 158255 LCS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 61
Date Collected: 2/2/2015 5:41:26 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158255 LCS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158255 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5255.7	0.422	mg/L	0.0008	0.422	mg/L	0.0008	0.20%
Tl 191	4607.9	0.389	mg/L	0.0041	0.389	mg/L	0.0041	1.07%
Se 196	3978.6	0.406	mg/L	0.0017	0.406	mg/L	0.0017	0.43%
Sb 207	5338.9	0.418	mg/L	0.0011	0.418	mg/L	0.0011	0.27%
Zn 214	120366.7	0.407	mg/L	0.0004	0.407	mg/L	0.0004	0.09%
Cd 214	218806.9	0.397	mg/L	0.0026	0.397	mg/L	0.0026	0.64%
Pb 220	11414.7	0.387	mg/L	0.0071	0.387	mg/L	0.0071	1.85%
Co 229	57879.4	0.402	mg/L	0.0004	0.402	mg/L	0.0004	0.10%
Ni 232	59518.0	0.399	mg/L	0.0018	0.399	mg/L	0.0018	0.44%
Ba 234	819956.1	1.93	mg/L	0.002	1.93	mg/L	0.002	0.08%
Mn 258	753983.1	0.393	mg/L	0.0015	0.393	mg/L	0.0015	0.37%
Fe 260	56468.1	1.83	mg/L	0.000	1.83	mg/L	0.000	0.00%
Cr 268	117297.3	0.390	mg/L	0.0009	0.390	mg/L	0.0009	0.22%
Mg 279	5937.7	1.91	mg/L	0.034	1.91	mg/L	0.034	1.78%
V 292	72042.5	0.408	mg/L	0.0000	0.408	mg/L	0.0000	0.00%
Al 308	11067.9	1.86	mg/L	0.004	1.86	mg/L	0.004	0.24%
Be 313	28939.1	0.388	mg/L	0.0035	0.388	mg/L	0.0035	0.90%
Ca 318	50784.7	1.93	mg/L	0.028	1.93	mg/L	0.028	1.44%
Cu 325	190645.7	0.416	mg/L	0.0053	0.416	mg/L	0.0053	1.28%
Ag 328	133171.8	0.409	mg/L	0.0013	0.409	mg/L	0.0013	0.31%
Na 590	7880861.5	117	mg/L	0.7	117	mg/L	0.7	0.57%
K 766	38744.6	1.95	mg/L	0.002	1.95	mg/L	0.002	0.11%

Sequence No.: 15
Sample ID: 158256 LCSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 62
Date Collected: 2/2/2015 5:48:01 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158256 LCSD

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158256 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5324.5	0.427	mg/L	0.0027	0.427	mg/L	0.0027	0.63%

Tl 191	4640.4	0.392 mg/L	0.0039	0.392 mg/L	0.0039	0.99%
Se 196	4021.2	0.410 mg/L	0.0008	0.410 mg/L	0.0008	0.19%
Sb 207	5343.7	0.418 mg/L	0.0059	0.418 mg/L	0.0059	1.41%
Zn 214	120442.5	0.407 mg/L	0.0018	0.407 mg/L	0.0018	0.44%
Cd 214	222486.0	0.404 mg/L	0.0058	0.404 mg/L	0.0058	1.43%
Pb 220	11547.6	0.392 mg/L	0.0059	0.392 mg/L	0.0059	1.51%
Co 229	58950.1	0.410 mg/L	0.0027	0.410 mg/L	0.0027	0.67%
Ni 232	59795.6	0.401 mg/L	0.0025	0.401 mg/L	0.0025	0.63%
Ba 234	820639.2	1.93 mg/L	0.048	1.93 mg/L	0.048	2.47%
Mn 258	759140.5	0.396 mg/L	0.0003	0.396 mg/L	0.0003	0.07%
Fe 260	57541.6	1.86 mg/L	0.030	1.86 mg/L	0.030	1.59%
Cr 268	118710.1	0.395 mg/L	0.0007	0.395 mg/L	0.0007	0.17%
Mg 279	5974.5	1.92 mg/L	0.035	1.92 mg/L	0.035	1.84%
V 292	72284.6	0.409 mg/L	0.0038	0.409 mg/L	0.0038	0.93%
Al 308	11246.6	1.89 mg/L	0.039	1.89 mg/L	0.039	2.05%
Be 313	29380.9	0.393 mg/L	0.0012	0.393 mg/L	0.0012	0.32%
Ca 318	50421.3	1.92 mg/L	0.020	1.92 mg/L	0.020	1.05%
Cu 325	192492.9	0.420 mg/L	0.0025	0.420 mg/L	0.0025	0.59%
Ag 328	135926.7	0.417 mg/L	0.0014	0.417 mg/L	0.0014	0.33%
Na 590	10174722.9	151 mg/L	0.1	151 mg/L	0.1	0.04%
K 766	39533.9	1.99 mg/L	0.026	1.99 mg/L	0.026	1.33%

Sequence No.: 16
Sample ID: 0088_1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 63
Date Collected: 2/2/2015 5:54:35 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0088_1

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0088_1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	200.3	0.0099	mg/L	0.00232	0.0099	mg/L	0.00232	23.38%
Tl 191	-59.9	-0.0061	mg/L	0.00239	-0.0061	mg/L	0.00239	39.03%
Se 196	93.8	0.0072	mg/L	0.00014	0.0072	mg/L	0.00014	1.96%
Sb 207	-29.4	-0.0106	mg/L	0.00379	-0.0106	mg/L	0.00379	35.86%
Zn 214	72588.9	0.246	mg/L	0.0009	0.246	mg/L	0.0009	0.37%
Cd 214	593.1	0.0000	mg/L	0.00003	0.0000	mg/L	0.00003	107.88%
Pb 220	174.8	0.0052	mg/L	0.00057	0.0052	mg/L	0.00057	10.96%
Co 229	-73.4	-0.0012	mg/L	0.00056	-0.0012	mg/L	0.00056	45.56%
Ni 232	599.3	0.0012	mg/L	0.00152	0.0012	mg/L	0.00152	126.28%
Ba 234	22858.4	0.0561	mg/L	0.00113	0.0561	mg/L	0.00113	2.01%
Mn 258	818739.5	0.427	mg/L	0.0013	0.427	mg/L	0.0013	0.31%
Fe 260	1073.5	0.0306	mg/L	0.00000	0.0306	mg/L	0.00000	0.00%
Cr 268	484.1	0.0011	mg/L	0.00046	0.0011	mg/L	0.00046	42.64%
Mg 279	4112.5	1.32	mg/L	0.044	1.32	mg/L	0.044	3.30%
V 292	261.7	-0.0008	mg/L	0.00078	-0.0008	mg/L	0.00078	91.95%
Al 308	112.2	-0.0109	mg/L	0.03154	-0.0109	mg/L	0.03154	289.46%
Be 313	375.3	0.0106	mg/L	0.00876	0.0106	mg/L	0.00876	82.74%
Ca 318	1624506.2	61.6	mg/L	0.74	61.6	mg/L	0.74	1.21%
Cu 325	10545.5	0.0220	mg/L	0.00075	0.0220	mg/L	0.00075	3.41%
Ag 328	257.6	0.0010	mg/L	0.00007	0.0010	mg/L	0.00007	7.14%
Na 590	9296360.1	138	mg/L	0.3	138	mg/L	0.3	0.21%
K 766	6770.3	0.345	mg/L	0.0240	0.345	mg/L	0.0240	6.97%

Sequence No.: 17
Sample ID: 158366 PDS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 64
Date Collected: 2/2/2015 6:01:10 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158366 PDS

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158366 PDS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	2667.0	0.211	mg/L	0.0031	0.211	mg/L	0.0031	1.46%
Tl 191	2175.1	0.183	mg/L	0.0011	0.183	mg/L	0.0011	0.61%
Se 196	1910.1	0.194	mg/L	0.0027	0.194	mg/L	0.0027	1.42%
Sb 207	2551.0	0.195	mg/L	0.0002	0.195	mg/L	0.0002	0.12%
Zn 214	130482.4	0.443	mg/L	0.0023	0.443	mg/L	0.0023	0.51%
Cd 214	104441.6	0.189	mg/L	0.0002	0.189	mg/L	0.0002	0.13%
Pb 220	5604.8	0.190	mg/L	0.0017	0.190	mg/L	0.0017	0.92%
Co 229	27141.5	0.188	mg/L	0.0007	0.188	mg/L	0.0007	0.36%
Ni 232	28702.1	0.191	mg/L	0.0023	0.191	mg/L	0.0023	1.21%
Ba 234	405422.3	0.955	mg/L	0.0080	0.955	mg/L	0.0080	0.84%
Mn 258	1186078.7	0.620	mg/L	0.0036	0.620	mg/L	0.0036	0.58%
Fe 260	27267.8	0.880	mg/L	0.0394	0.880	mg/L	0.0394	4.48%
Cr 268	56901.4	0.189	mg/L	0.0004	0.189	mg/L	0.0004	0.22%
Mg 279	4118.5	1.32	mg/L	0.011	1.32	mg/L	0.011	0.83%
V 292	33837.6	0.190	mg/L	0.0009	0.190	mg/L	0.0009	0.49%
Al 308	145.2	-0.0052	mg/L	0.00732	-0.0052	mg/L	0.00732	139.70%
Be 313	13417.8	0.183	mg/L	0.0165	0.183	mg/L	0.0165	9.03%
Ca 318	1617041.4	61.3	mg/L	0.24	61.3	mg/L	0.24	0.39%
Cu 325	102203.3	0.222	mg/L	0.0004	0.222	mg/L	0.0004	0.16%
Ag 328	64678.4	0.199	mg/L	0.0018	0.199	mg/L	0.0018	0.92%
Na 590	9244670.5	137	mg/L	0.7	137	mg/L	0.7	0.51%
K 766	6898.1	0.351	mg/L	0.0095	0.351	mg/L	0.0095	2.72%

Sequence No.: 18
Sample ID: 158258 MS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 65
Date Collected: 2/2/2015 6:07:39 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158258 MS

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158258 MS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5349.6	0.429	mg/L	0.0020	0.429	mg/L	0.0020	0.48%
Tl 191	4616.0	0.390	mg/L	0.0006	0.390	mg/L	0.0006	0.16%
Se 196	4027.7	0.411	mg/L	0.0014	0.411	mg/L	0.0014	0.35%
Sb 207	5337.6	0.418	mg/L	0.0009	0.418	mg/L	0.0009	0.20%
Zn 214	191190.8	0.649	mg/L	0.0009	0.649	mg/L	0.0009	0.14%
Cd 214	218044.5	0.396	mg/L	0.0045	0.396	mg/L	0.0045	1.14%
Pb 220	11453.6	0.389	mg/L	0.0065	0.389	mg/L	0.0065	1.66%
Co 229	58577.2	0.407	mg/L	0.0036	0.407	mg/L	0.0036	0.88%
Ni 232	59916.9	0.401	mg/L	0.0004	0.401	mg/L	0.0004	0.09%
Ba 234	842124.0	1.98	mg/L	0.012	1.98	mg/L	0.012	0.60%
Mn 258	1566545.4	0.819	mg/L	0.0039	0.819	mg/L	0.0039	0.47%
Fe 260	58527.8	1.89	mg/L	0.035	1.89	mg/L	0.035	1.87%
Cr 268	117732.9	0.392	mg/L	0.0002	0.392	mg/L	0.0002	0.05%
Mg 279	9877.6	3.19	mg/L	0.026	3.19	mg/L	0.026	0.81%
V 292	72333.0	0.409	mg/L	0.0008	0.409	mg/L	0.0008	0.19%
Al 308	11243.3	1.89	mg/L	0.023	1.89	mg/L	0.023	1.24%
Be 313	28309.5	0.379	mg/L	0.0082	0.379	mg/L	0.0082	2.17%
Ca 318	1658298.6	62.9	mg/L	0.63	62.9	mg/L	0.63	1.01%
Cu 325	201053.6	0.439	mg/L	0.0064	0.439	mg/L	0.0064	1.45%
Ag 328	134431.4	0.413	mg/L	0.0046	0.413	mg/L	0.0046	1.11%
Na 590	9221654.2	136	mg/L	0.2	136	mg/L	0.2	0.17%
K 766	45759.7	2.31	mg/L	0.001	2.31	mg/L	0.001	0.04%

Sequence No.: 19
Sample ID: 158259 MSD
Analyst:
Initial Sample Wt:

Autosampler Location: 66
Date Collected: 2/2/2015 6:14:10 PM
Data Type: Original
Initial Sample Vol:

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 158259 MSD

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158259 MSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5459.7	0.438	mg/L	0.0018	0.438	mg/L	0.0018	0.40%
Tl 191	4656.1	0.393	mg/L	0.0087	0.393	mg/L	0.0087	2.21%
Se 196	4115.8	0.420	mg/L	0.0090	0.420	mg/L	0.0090	2.14%
Sb 207	5378.1	0.421	mg/L	0.0032	0.421	mg/L	0.0032	0.76%
Zn 214	183460.7	0.622	mg/L	0.0009	0.622	mg/L	0.0009	0.15%
Cd 214	222110.9	0.403	mg/L	0.0002	0.403	mg/L	0.0002	0.04%
Pb 220	11642.6	0.395	mg/L	0.0001	0.395	mg/L	0.0001	0.03%
Co 229	58649.8	0.408	mg/L	0.0025	0.408	mg/L	0.0025	0.62%
Ni 232	59577.6	0.399	mg/L	0.0005	0.399	mg/L	0.0005	0.12%
Ba 234	844659.9	1.99	mg/L	0.010	1.99	mg/L	0.010	0.49%
Mn 258	1463894.0	0.765	mg/L	0.0037	0.765	mg/L	0.0037	0.48%
Fe 260	58400.4	1.89	mg/L	0.049	1.89	mg/L	0.049	2.61%
Cr 268	118304.8	0.393	mg/L	0.0002	0.393	mg/L	0.0002	0.06%
Mg 279	9348.5	3.01	mg/L	0.036	3.01	mg/L	0.036	1.21%
V 292	72962.3	0.413	mg/L	0.0012	0.413	mg/L	0.0012	0.28%
Al 308	11518.9	1.94	mg/L	0.004	1.94	mg/L	0.004	0.19%
Be 313	28712.2	0.385	mg/L	0.0123	0.385	mg/L	0.0123	3.19%
Ca 318	1446843.1	54.9	mg/L	0.20	54.9	mg/L	0.20	0.37%
Cu 325	202016.6	0.441	mg/L	0.0048	0.441	mg/L	0.0048	1.09%
Ag 328	136433.1	0.419	mg/L	0.0025	0.419	mg/L	0.0025	0.59%
Na 590	8111900.2	120	mg/L	1.6	120	mg/L	1.6	1.36%
K 766	45348.3	2.28	mg/L	0.011	2.28	mg/L	0.011	0.48%

Sequence No.: 20
Sample ID: 158257 DUP
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 67
Date Collected: 2/2/2015 6:20:43 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158257 DUP

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158257 DUP

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	196.2	0.0096	mg/L	0.00133	0.0096	mg/L	0.00133	13.86%
Tl 191	-21.6	-0.0029	mg/L	0.00202	-0.0029	mg/L	0.00202	70.04%
Se 196	14.4	-0.0010	mg/L	0.00385	-0.0010	mg/L	0.00385	396.99%
Sb 207	-101.3	-0.0164	mg/L	0.00610	-0.0164	mg/L	0.00610	37.27%
Zn 214	65328.0	0.221	mg/L	0.0004	0.221	mg/L	0.0004	0.20%
Cd 214	447.8	-0.0002	mg/L	0.00003	-0.0002	mg/L	0.00003	13.17%
Pb 220	100.3	0.0027	mg/L	0.00220	0.0027	mg/L	0.00220	81.79%
Co 229	56.5	-0.0003	mg/L	0.00020	-0.0003	mg/L	0.00020	61.57%
Ni 232	-4.4	-0.0029	mg/L	0.00084	-0.0029	mg/L	0.00084	29.38%
Ba 234	20570.3	0.0508	mg/L	0.00125	0.0508	mg/L	0.00125	2.46%
Mn 258	732833.9	0.382	mg/L	0.0036	0.382	mg/L	0.0036	0.94%
Fe 260	214.7	0.0028	mg/L	0.00000	0.0028	mg/L	0.00000	0.00%
Cr 268	329.8	0.0006	mg/L	0.00155	0.0006	mg/L	0.00155	279.56%
Mg 279	3769.7	1.21	mg/L	0.053	1.21	mg/L	0.053	4.40%
V 292	242.0	-0.0010	mg/L	0.00172	-0.0010	mg/L	0.00172	178.94%
Al 308	175.5	-0.0001	mg/L	0.02343	-0.0001	mg/L	0.02343	>999.9%
Be 313	-508.4	-0.0011	mg/L	0.00175	-0.0011	mg/L	0.00175	162.30%
Ca 318	1451025.2	55.0	mg/L	0.80	55.0	mg/L	0.80	1.46%
Cu 325	9439.7	0.0195	mg/L	0.00032	0.0195	mg/L	0.00032	1.65%
Ag 328	20.9	0.0003	mg/L	0.00174	0.0003	mg/L	0.00174	554.21%
Na 590	8126741.4	120	mg/L	1.0	120	mg/L	1.0	0.82%
K 766	6992.3	0.356	mg/L	0.0054	0.356	mg/L	0.0054	1.52%

Sequence No.: 21
Sample ID: 0089_1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 68
Date Collected: 2/2/2015 6:27:16 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0089_1

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0089_1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	215.0	0.0111	mg/L	0.00270	0.0111	mg/L	0.00270	24.26%
Tl 191	-23.0	-0.0030	mg/L	0.00547	-0.0030	mg/L	0.00547	182.36%
Se 196	17.3	-0.0007	mg/L	0.00022	-0.0007	mg/L	0.00022	33.80%
Sb 207	-52.4	-0.0124	mg/L	0.00017	-0.0124	mg/L	0.00017	1.35%
Zn 214	78781.7	0.267	mg/L	0.0000	0.267	mg/L	0.0000	0.00%
Cd 214	508.4	-0.0001	mg/L	0.00006	-0.0001	mg/L	0.00006	49.71%
Pb 220	193.3	0.0059	mg/L	0.00023	0.0059	mg/L	0.00023	4.01%
Co 229	29.1	-0.0005	mg/L	0.00163	-0.0005	mg/L	0.00163	319.25%
Ni 232	368.9	-0.0003	mg/L	0.00152	-0.0003	mg/L	0.00152	437.36%
Ba 234	20173.6	0.0498	mg/L	0.00094	0.0498	mg/L	0.00094	1.88%
Mn 258	834056.9	0.435	mg/L	0.0033	0.435	mg/L	0.0033	0.76%
Fe 260	2361.8	0.0724	mg/L	0.03938	0.0724	mg/L	0.03938	54.40%
Cr 268	426.7	0.0009	mg/L	0.00064	0.0009	mg/L	0.00064	73.05%
Mg 279	9087.2	2.93	mg/L	0.026	2.93	mg/L	0.026	0.89%
V 292	358.5	-0.0003	mg/L	0.00000	-0.0003	mg/L	0.00000	0.00%
Al 308	30.2	-0.0249	mg/L	0.01172	-0.0249	mg/L	0.01172	47.02%
Be 313	-226.9	0.0026	mg/L	0.00701	0.0026	mg/L	0.00701	265.75%
Ca 318	1343020.2	50.9	mg/L	0.08	50.9	mg/L	0.08	0.15%
Cu 325	6382.3	0.0129	mg/L	0.00075	0.0129	mg/L	0.00075	5.82%
Ag 328	-245.0	-0.0005	mg/L	0.00056	-0.0005	mg/L	0.00056	111.81%
Na 590	8735688.0	129	mg/L	0.6	129	mg/L	0.6	0.44%
K 766	5933.5	0.302	mg/L	0.0025	0.302	mg/L	0.0025	0.81%

Sequence No.: 22
Sample ID: 158367 PDS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 69
Date Collected: 2/2/2015 6:33:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158367 PDS

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158367 PDS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	2633.3	0.208	mg/L	0.0021	0.208	mg/L	0.0021	1.02%
Tl 191	2176.4	0.183	mg/L	0.0045	0.183	mg/L	0.0045	2.45%
Se 196	1898.7	0.192	mg/L	0.0001	0.192	mg/L	0.0001	0.06%
Sb 207	2528.5	0.194	mg/L	0.0040	0.194	mg/L	0.0040	2.05%
Zn 214	135549.3	0.460	mg/L	0.0032	0.460	mg/L	0.0032	0.69%
Cd 214	104175.3	0.188	mg/L	0.0003	0.188	mg/L	0.0003	0.17%
Pb 220	5617.8	0.190	mg/L	0.0007	0.190	mg/L	0.0007	0.34%
Co 229	27224.1	0.189	mg/L	0.0018	0.189	mg/L	0.0018	0.96%
Ni 232	28495.4	0.189	mg/L	0.0001	0.189	mg/L	0.0001	0.08%
Ba 234	402453.5	0.948	mg/L	0.0112	0.948	mg/L	0.0112	1.18%
Mn 258	1186865.2	0.620	mg/L	0.0019	0.620	mg/L	0.0019	0.31%
Fe 260	30703.2	0.991	mg/L	0.0000	0.991	mg/L	0.0000	0.00%
Cr 268	55893.9	0.186	mg/L	0.0007	0.186	mg/L	0.0007	0.37%
Mg 279	9094.7	2.93	mg/L	0.046	2.93	mg/L	0.046	1.55%
V 292	33964.7	0.191	mg/L	0.0010	0.191	mg/L	0.0010	0.53%
Al 308	275.6	0.0171	mg/L	0.03143	0.0171	mg/L	0.03143	184.20%

Be 313	12975.9	0.177 mg/L	0.0023	0.177 mg/L	0.0023	1.28%
Ca 318	1347133.9	51.1 mg/L	0.44	51.1 mg/L	0.44	0.87%
Cu 325	97729.3	0.213 mg/L	0.0014	0.213 mg/L	0.0014	0.64%
Ag 328	63823.4	0.196 mg/L	0.0011	0.196 mg/L	0.0011	0.56%
Na 590	8791242.1	130 mg/L	0.4	130 mg/L	0.4	0.32%
K 766	6571.0	0.335 mg/L	0.0147	0.335 mg/L	0.0147	4.39%

Sequence No.: 23
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/2/2015 6:40:21 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6780.7	0.546	mg/L	0.0043	0.546	mg/L	0.0043	0.79%
Tl 191	6049.0	0.511	mg/L	0.0060	0.511	mg/L	0.0060	1.17%
Se 196	5098.5	0.521	mg/L	0.0047	0.521	mg/L	0.0047	0.90%
Sb 207	6752.9	0.531	mg/L	0.0011	0.531	mg/L	0.0011	0.20%
Zn 214	150280.7	0.509	mg/L	0.0027	0.509	mg/L	0.0027	0.53%
Cd 214	284001.1	0.516	mg/L	0.0048	0.516	mg/L	0.0048	0.94%
Pb 220	14880.1	0.505	mg/L	0.0011	0.505	mg/L	0.0011	0.23%
Co 229	72847.9	0.507	mg/L	0.0046	0.507	mg/L	0.0046	0.91%
Ni 232	75649.3	0.508	mg/L	0.0005	0.508	mg/L	0.0005	0.09%
Ba 234	1052542.4	2.48	mg/L	0.046	2.48	mg/L	0.046	1.86%
Mn 258	972299.7	0.508	mg/L	0.0009	0.508	mg/L	0.0009	0.17%
Fe 260	76435.9	2.47	mg/L	0.010	2.47	mg/L	0.010	0.40%
Cr 268	151473.7	0.504	mg/L	0.0018	0.504	mg/L	0.0018	0.35%
Mg 279	7795.7	2.51	mg/L	0.010	2.51	mg/L	0.010	0.38%
V 292	89159.5	0.505	mg/L	0.0056	0.505	mg/L	0.0056	1.11%
Al 308	14765.1	2.50	mg/L	0.023	2.50	mg/L	0.023	0.94%
Be 313	37544.2	0.501	mg/L	0.0065	0.501	mg/L	0.0065	1.30%
Ca 318	66266.8	2.52	mg/L	0.013	2.52	mg/L	0.013	0.51%
Cu 325	224124.1	0.489	mg/L	0.0010	0.489	mg/L	0.0010	0.21%
Ag 328	161100.5	0.495	mg/L	0.0006	0.495	mg/L	0.0006	0.11%
Na 590	185178.4	2.82	mg/L	0.002	2.82	mg/L	0.002	0.09%
K 766	52367.4	2.64	mg/L	0.001	2.64	mg/L	0.001	0.02%

Sequence No.: 24
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/2/2015 6:46:52 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	241.2	0.0132	mg/L	0.00069	0.0132	mg/L	0.00069	5.20%
Tl 191	-12.6	-0.0021	mg/L	0.00176	-0.0021	mg/L	0.00176	83.16%
Se 196	26.2	0.0002	mg/L	0.00599	0.0002	mg/L	0.00599	>999.9%
Sb 207	-16.0	-0.0095	mg/L	0.00299	-0.0095	mg/L	0.00299	31.62%
Zn 214	-205.7	-0.0023	mg/L	0.00081	-0.0023	mg/L	0.00081	34.96%
Cd 214	181.6	-0.0007	mg/L	0.00022	-0.0007	mg/L	0.00022	30.26%
Pb 220	38.2	0.0006	mg/L	0.00337	0.0006	mg/L	0.00337	581.67%
Co 229	-340.8	-0.0031	mg/L	0.00026	-0.0031	mg/L	0.00026	8.30%
Ni 232	116.5	-0.0021	mg/L	0.00078	-0.0021	mg/L	0.00078	37.81%
Ba 234	-565.5	0.0011	mg/L	0.00126	0.0011	mg/L	0.00126	116.84%

Mn 258	-1193.7	-0.0019 mg/L	0.00139	-0.0019 mg/L	0.00139	74.35%
Fe 260	644.1	0.0167 mg/L	0.01969	0.0167 mg/L	0.01969	117.89%
Cr 268	-0.0	-0.0005 mg/L	0.00046	-0.0005 mg/L	0.00046	84.01%
Mg 279	13.7	-0.0079 mg/L	0.00433	-0.0079 mg/L	0.00433	54.59%
V 292	600.6	0.0011 mg/L	0.00273	0.0011 mg/L	0.00273	252.28%
Al 308	98.2	-0.0133 mg/L	0.00270	-0.0133 mg/L	0.00270	20.34%
Be 313	844.5	0.0168 mg/L	0.00701	0.0168 mg/L	0.00701	41.76%
Ca 318	-55.1	0.0070 mg/L	0.00711	0.0070 mg/L	0.00711	101.79%
Cu 325	-96.8	-0.0013 mg/L	0.00013	-0.0013 mg/L	0.00013	9.61%
Ag 328	31.5	0.0003 mg/L	0.00075	0.0003 mg/L	0.00075	215.88%
Na 590	3876.6	0.137 mg/L	0.0032	0.137 mg/L	0.0032	2.32%
K 766	873.8	0.0480 mg/L	0.00614	0.0480 mg/L	0.00614	12.79%

Sequence No.: 25
Sample ID: 158188 TCLP-B
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 70
Date Collected: 2/2/2015 6:53:22 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158188 TCLP-B

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 158188 TCLP-B

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	255.4	0.0144	mg/L	0.00417	0.0144	mg/L	0.00417	29.06%
Tl 191	-64.2	-0.0065	mg/L	0.00322	-0.0065	mg/L	0.00322	49.57%
Se 196	-8.7	-0.0033	mg/L	0.00401	-0.0033	mg/L	0.00401	119.68%
Sb 207	-139.6	-0.0195	mg/L	0.00186	-0.0195	mg/L	0.00186	9.58%
Zn 214	732.6	0.0009	mg/L	0.00008	0.0009	mg/L	0.00008	9.67%
Cd 214	72.7	-0.0009	mg/L	0.00050	-0.0009	mg/L	0.00050	54.25%
Pb 220	126.6	0.0036	mg/L	0.00430	0.0036	mg/L	0.00430	120.05%
Co 229	-192.6	-0.0021	mg/L	0.00023	-0.0021	mg/L	0.00023	11.00%
Ni 232	169.5	-0.0017	mg/L	0.00055	-0.0017	mg/L	0.00055	32.21%
Ba 234	211.5	0.0029	mg/L	0.00157	0.0029	mg/L	0.00157	54.04%
Mn 258	188.9	-0.0011	mg/L	0.00025	-0.0011	mg/L	0.00025	22.04%
Fe 260	-1288.2	-0.0459	mg/L	0.00984	-0.0459	mg/L	0.00984	21.42%
Cr 268	-154.2	-0.0011	mg/L	0.00064	-0.0011	mg/L	0.00064	60.72%
Mg 279	-17.1	-0.0179	mg/L	0.01247	-0.0179	mg/L	0.01247	69.69%
V 292	-261.7	-0.0038	mg/L	0.00078	-0.0038	mg/L	0.00078	20.37%
Al 308	4.2	-0.0294	mg/L	0.02682	-0.0294	mg/L	0.02682	91.28%
Be 313	402.6	0.0109	mg/L	0.01175	0.0109	mg/L	0.01175	107.36%
Ca 318	1540.0	0.0675	mg/L	0.01214	0.0675	mg/L	0.01214	17.99%
Cu 325	-387.3	-0.0019	mg/L	0.00090	-0.0019	mg/L	0.00090	46.09%
Ag 328	-160.0	-0.0002	mg/L	0.00037	-0.0002	mg/L	0.00037	155.20%
Na 590	1690866.8	25.1	mg/L	0.07	25.1	mg/L	0.07	0.29%
K 766	1170.0	0.0629	mg/L	0.00865	0.0629	mg/L	0.00865	13.75%

Sequence No.: 26
Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/2/2015 6:59:53 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	304.1	0.0183	mg/L	0.00054	0.0183	mg/L	0.00054	2.92%
Tl 191	5.8	-0.0006	mg/L	0.00277	-0.0006	mg/L	0.00277	496.12%
Se 196	-451.1	-0.0277	mg/L	0.00246	-0.0277	mg/L	0.00246	8.90%
Sb 207	79.9	-0.0018	mg/L	0.00457	-0.0018	mg/L	0.00457	260.22%

Zn 214	2327.8	0.0063 mg/L	0.00035	0.0063 mg/L	0.00035	5.61%
Cd 214	1875.7	0.0024 mg/L	0.00028	0.0024 mg/L	0.00028	11.87%
Pb 220	-52.9	-0.0025 mg/L	0.00088	-0.0025 mg/L	0.00088	34.82%
Co 229	-152.1	-0.0018 mg/L	0.00075	-0.0018 mg/L	0.00075	42.09%
Ni 232	54.1	-0.0025 mg/L	0.00222	-0.0025 mg/L	0.00222	89.62%
Ba 234	497.9	0.0036 mg/L	0.00062	0.0036 mg/L	0.00062	17.22%
Mn 258	175.5	-0.0012 mg/L	0.00103	-0.0012 mg/L	0.00103	89.25%
Fe 260	2994117.4	97.1 mg/L	0.92	97.1 mg/L	0.92	0.95%
Cr 268	1192.2	0.0034 mg/L	0.00242	0.0034 mg/L	0.00242	70.69%
Mg 279	121873.1	39.4 mg/L	0.06	39.4 mg/L	0.06	0.16%
V 292	28.7	-0.0022 mg/L	0.00156	-0.0022 mg/L	0.00156	71.71%
Al 308	569450.9	97.4 mg/L	0.22	97.4 mg/L	0.22	0.22%
Be 313	1126.0	0.0205 mg/L	0.00175	0.0205 mg/L	0.00175	8.55%
Ca 318	1005864.4	38.1 mg/L	0.39	38.1 mg/L	0.39	1.03%
Cu 325	1279.0	0.0017 mg/L	0.00203	0.0017 mg/L	0.00203	119.94%
Ag 328	352.2	0.0013 mg/L	0.00020	0.0013 mg/L	0.00020	14.75%
Na 590	-3223.3	0.0322 mg/L	0.00987	0.0322 mg/L	0.00987	30.64%
K 766	185.8	0.0134 mg/L	0.01368	0.0134 mg/L	0.01368	101.89%

Sequence No.: 27
Sample ID: ICSB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 2/2/2015 7:06:26 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSB

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICSB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	4161.3	0.333	mg/L	0.0001	0.333	mg/L	0.0001	0.02%
Tl 191	3639.1	0.307	mg/L	0.0004	0.307	mg/L	0.0004	0.14%
Se 196	2606.7	0.285	mg/L	0.0048	0.285	mg/L	0.0048	1.67%
Sb 207	4102.4	0.319	mg/L	0.0028	0.319	mg/L	0.0028	0.86%
Zn 214	92123.7	0.311	mg/L	0.0008	0.311	mg/L	0.0008	0.26%
Cd 214	163161.1	0.296	mg/L	0.0041	0.296	mg/L	0.0041	1.39%
Pb 220	8507.7	0.288	mg/L	0.0001	0.288	mg/L	0.0001	0.03%
Co 229	42143.7	0.293	mg/L	0.0035	0.293	mg/L	0.0035	1.20%
Ni 232	43679.9	0.292	mg/L	0.0023	0.292	mg/L	0.0023	0.79%
Ba 234	412079.3	0.971	mg/L	0.0171	0.971	mg/L	0.0171	1.76%
Mn 258	568976.4	0.297	mg/L	0.0008	0.297	mg/L	0.0008	0.25%
Fe 260	2917379.5	94.6	mg/L	1.31	94.6	mg/L	1.31	1.38%
Cr 268	89198.9	0.297	mg/L	0.0007	0.297	mg/L	0.0007	0.23%
Mg 279	120967.5	39.2	mg/L	0.22	39.2	mg/L	0.22	0.56%
V 292	53240.4	0.301	mg/L	0.0006	0.301	mg/L	0.0006	0.21%
Al 308	563285.3	96.4	mg/L	0.22	96.4	mg/L	0.22	0.23%
Be 313	20548.9	0.277	mg/L	0.0035	0.277	mg/L	0.0035	1.27%
Ca 318	1003572.2	38.1	mg/L	0.24	38.1	mg/L	0.24	0.64%
Cu 325	143047.3	0.312	mg/L	0.0025	0.312	mg/L	0.0025	0.82%
Ag 328	92935.0	0.285	mg/L	0.0020	0.285	mg/L	0.0020	0.71%
Na 590	-2161.1	0.0479	mg/L	0.00678	0.0479	mg/L	0.00678	14.15%
K 766	280.7	0.0182	mg/L	0.00179	0.0182	mg/L	0.00179	9.86%

Sequence No.: 28
Sample ID: LLC
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/2/2015 7:12:58 PM
Date Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LLC

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: LLC

SW-846 6010C
MIP-2721

Print Date: 07/01/2014

N.C. Certification # 481

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2721 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/3/15 15:54			CCV1 2/3/15 16:15			CCV2 2/3/15 17:07			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Aluminum	1000	1020	102.0	2500	2524	101.0	2500	2486	99.4	90-110
Antimony	1000			500			500			90-110
Arsenic	1000	1007	100.7	500	499	99.9	500	500	100.1	90-110
Barium	1000			2500			2500			90-110
Beryllium	1000	956	95.6	500	490	98.1	500	488	97.5	90-110
Boron	500									90-110
Cadmium	1000	967	96.7	500	490	98.0	500	488	97.6	90-110
Calcium	1000	982	98.2	2500	2478	99.1	2500	2457	98.3	90-110
Chromium	1000	952	95.2	500	490	98.0	500	486	97.2	90-110
Cobalt	1000			500			500			90-110
Copper	1000			500			500			90-110
Iron	1000	946	94.6	2500	2509	100.4	2500	2478	99.1	90-110
Lead	1000	968	96.8	500	481	96.1	500	477	95.4	90-110
Magnesium	1000	993	99.3	2500	2519	100.8	2500	2503	100.1	90-110
Manganese	1000			500			500			90-110
Molybdenum	1000									90-110
Nickel	1000			500			500			90-110
Potassium	1000	982	98.2	2500	2499	100.0	2500	2474	99.0	90-110
Selenium	1000			500			500			90-110
Silver	500			500			500			90-110
Sodium	1000	939	93.9	2500	2531	101.2	2500	2563	102.5	90-110
Thallium	1000			500			500			90-110
Tin	500									90-110
Vanadium	1000			500			500			90-110
Zinc	1000			500			500			90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2721 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/3/15 15:54			CCV3 2/3/15 17:54			CCV4 2/3/15 18:42			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Aluminum	1000	1020	102.0	2500	2447	97.9	2500	2462	98.5	90-110
Antimony	1000			500			500			90-110
Arsenic	1000	1007	100.7	500	494	98.9	500	487	97.5	90-110
Barium	1000			2500			2500			90-110
Beryllium	1000	956	95.6	500	480	96.0	500	485	96.9	90-110
Boron	500									90-110
Cadmium	1000	967	96.7	500	488	97.6	500	475	94.9	90-110
Calcium	1000	982	98.2	2500	2426	97.1	2500	2386	95.5	90-110
Chromium	1000	952	95.2	500	482	96.3	500	478	95.6	90-110
Cobalt	1000			500			500			90-110
Copper	1000			500			500			90-110
Iron	1000	946	94.6	2500	2441	97.6	2500	2461	98.4	90-110
Lead	1000	968	96.8	500	478	95.5	500	472	94.5	90-110
Magnesium	1000	993	99.3	2500	2482	99.3	2500	2467	98.7	90-110
Manganese	1000			500			500			90-110
Molybdenum	1000									90-110
Nickel	1000			500			500			90-110
Potassium	1000	982	98.2	2500	2528	101.1	2500	2479	99.2	90-110
Selenium	1000			500			500			90-110
Silver	500			500			500			90-110
Sodium	1000	939	93.9	2500	2606	104.2	2500	2603	104.1	90-110
Thallium	1000			500			500			90-110
Tin	500									90-110
Vanadium	1000			500			500			90-110
Zinc	1000			500			500			90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2721 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/3/15 15:54			CCV5 2/3/15 19:33			CCV6 2/3/15 20:25			LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	1000	1020	102.0	2500	2462	98.5	2500	2424	97.0	90-110
Antimony	1000			500			500			90-110
Arsenic	1000	1007	100.7	500	474	94.8	500	478	95.6	90-110
Barium	1000			2500			2500			90-110
Beryllium	1000	956	95.6	500	472	94.4	500	475	95.1	90-110
Boron	500									90-110
Cadmium	1000	967	96.7	500	468	93.5	500	467	93.3	90-110
Calcium	1000	982	98.2	2500	2372	94.9	2500	2373	94.9	90-110
Chromium	1000	952	95.2	500	472	94.3	500	471	94.2	90-110
Cobalt	1000			500			500			90-110
Copper	1000			500			500			90-110
Iron	1000	946	94.6	2500	2389	95.6	2500	2401	96.0	90-110
Lead	1000	968	96.8	500	466	93.3	500	461	92.1	90-110
Magnesium	1000	993	99.3	2500	2439	97.6	2500	2438	97.5	90-110
Manganese	1000			500			500			90-110
Molybdenum	1000									90-110
Nickel	1000			500			500			90-110
Potassium	1000	982	98.2	2500	2569	102.8	2500	2526	101.1	90-110
Selenium	1000			500			500			90-110
Silver	500			500			500			90-110
Sodium	1000	939	93.9	2500	2955	118.2096	2500	2780	111.1872	90-110
Thallium	1000			500			500			90-110
Tin	500									90-110
Vanadium	1000			500			500			90-110
Zinc	1000			500			500			90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2721 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/3/15 15:54			CCV7 2/3/15 21:16			CCV8 2/3/15 22:08			LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	1000	1020	102.0	2500	2482	99.3	2500	2429	97.2	90-110
Antimony	1000			500			500			90-110
Arsenic	1000	1007	100.7	500	482	96.4	500	474	94.7	90-110
Barium	1000			2500			2500			90-110
Beryllium	1000	956	95.6	500	479	95.7	500	487	97.4	90-110
Boron	500									90-110
Cadmium	1000	967	96.7	500	472	94.4	500	466	93.2	90-110
Calcium	1000	982	98.2	2500	2397	95.9	2500	2392	95.7	90-110
Chromium	1000	952	95.2	500	478	95.6	500	472	94.4	90-110
Cobalt	1000			500			500			90-110
Copper	1000			500			500			90-110
Iron	1000	946	94.6	2500	2438	97.5	2500	2461	98.4	90-110
Lead	1000	968	96.8	500	470	94.0	500	464	92.7	90-110
Magnesium	1000	993	99.3	2500	2404	96.2	2500	2410	96.4	90-110
Manganese	1000			500			500			90-110
Molybdenum	1000									90-110
Nickel	1000			500			500			90-110
Potassium	1000	982	98.2	2500	2520	100.8	2500	2513	100.5	90-110
Selenium	1000			500			500			90-110
Silver	500			500			500			90-110
Sodium	1000	939	93.9	2500	2635	105.4	2500	2550	102.0	90-110
Thallium	1000			500			500			90-110
Tin	500									90-110
Vanadium	1000			500			500			90-110
Zinc	1000			500			500			90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2721 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/3/15 15:54			CCV9 2/3/15 22:30			CCV10 2/3/15 22:51			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Aluminum	1000	1020	102.0	2500	2452	98.1	2500	2462	98.5	90-110
Antimony	1000			500			500			90-110
Arsenic	1000	1007	100.7	500	475	94.9	500	475	95.0	90-110
Barium	1000			2500			2500			90-110
Beryllium	1000	956	95.6	500	469	93.7	500	490	98.1	90-110
Boron	500									90-110
Cadmium	1000	967	96.7	500	467	93.4	500	475	95.0	90-110
Calcium	1000	982	98.2	2500	2411	96.5	2500	2428	97.1	90-110
Chromium	1000	952	95.2	500	474	94.8	500	475	95.0	90-110
Cobalt	1000			500			500			90-110
Copper	1000			500			500			90-110
Iron	1000	946	94.6	2500	2433	97.3	2500	2455	98.2	90-110
Lead	1000	968	96.8	500	462	92.5	500	463	92.7	90-110
Magnesium	1000	993	99.3	2500	2415	96.6	2500	2433	97.3	90-110
Manganese	1000			500			500			90-110
Molybdenum	1000									90-110
Nickel	1000			500			500			90-110
Potassium	1000	982	98.2	2500	2511	100.4	2500	2508	100.3	90-110
Selenium	1000			500			500			90-110
Silver	500			500			500			90-110
Sodium	1000	939	93.9	2500	2595	103.8	2500	2585	103.4	90-110
Thallium	1000			500			500			90-110
Tin	500									90-110
Vanadium	1000			500			500			90-110
Zinc	1000			500			500			90-110

Comments:

FORM IIA - METALS

CRDL Check Standard **Form 2B**

Analytical Batch: MIP2721
Instrument: ICP1
Analyst: PSW
Analytical Date/Time: 2/3/2015 4:11:19PM

Results by **SW-846 6010C**

Parameter	Spike	Result	% Recovery	CL	Units
Aluminum	0.100	0.0903	90.3	70 - 130	mg/L
Iron	0.100	0.108	108	70 - 130	mg/L
Lead	0.0100	0.0167	167*	70 - 130	mg/L
Magnesium	0.100	0.0884	88.4	70 - 130	mg/L
Potassium	0.200	0.205	102	70 - 130	mg/L
Sodium	0.200	0.190	95.1	70 - 130	mg/L
Arsenic	0.0100	0.00875	87.5	70 - 130	mg/L
Beryllium	0.0100	0.00160	16.0*	70 - 130	mg/L
Cadmium	0.00500	0.00771	154*	70 - 130	mg/L
Chromium	0.0100	0.0120	120	70 - 130	mg/L
Calcium	0.100	0.105	105	70 - 130	mg/L

CRDL Check Standard **Form 2B**

Analytical Batch: MIP2721
Instrument: ICP1
Analyst: PSW
Analytical Date/Time: 2/3/2015 10:47:34PM

Results by **SW-846 6010C**

Parameter	Spike	Result	% Recovery	CL	Units
Aluminum	0.100	0.0432	43.2*	70 - 130	mg/L
Iron	0.100	0.102	102	70 - 130	mg/L
Lead	0.0100	0.0123	123	70 - 130	mg/L
Magnesium	0.100	0.0892	89.2	70 - 130	mg/L
Potassium	0.200	0.208	104	70 - 130	mg/L
Sodium	0.200	0.258	129	70 - 130	mg/L
Arsenic	0.0100	0.00219	21.9*	70 - 130	mg/L
Beryllium	0.0100	0.0139	139*	70 - 130	mg/L
Cadmium	0.00500	0.00719	144*	70 - 130	mg/L
Chromium	0.0100	0.00985	98.5	70 - 130	mg/L
Calcium	0.100	0.105	105	70 - 130	mg/L

BLANKS

Lab Name: SGS North America

Batch ID: MIP2721 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB1		CCB2		CCB3			
	2/3/15 15:35	C	2/3/15 16:19	C	2/3/15 17:11	C	2/3/15 17:59	C		
Aluminum	100	U	100	U	100	U	100	U		
Antimony										
Arsenic	10	U	10	U	10	U	10	U		
Barium										
Beryllium	10	U	10	U	10	U	10	U		
Boron										
Cadmium	10	U	10	U	10	U	10	U		
Calcium	100	U	100	U	100	U	100	U		
Chromium	10	U	10	U	10	U	10	U		
Cobalt										
Copper										
Iron	100	U	100	U	100	U	100	U		
Lead	10	U	10	U	10	U	10	U		
Magnesium	100	U	100	U	100	U	100	U		
Manganese										
Molybdenum										
Mercury										
Nickel										
Potassium	200	U	200	U	200	U	200	U		
Selenium										
Silver										
Sodium	200	U	200	U	216.25	#	278.97	#		
Thallium										
Tin										
Vanadium										
Zinc										

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: MIP2721 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB4		CCB5		CCB6			
	2/3/15 15:35	C	2/3/15 18:46	C	2/3/15 19:37	C	2/3/15 20:29	C		
Aluminum	100	U	100	U	100	U	100	U		
Antimony										
Arsenic	10	U	10	U	10	U	10	U		
Barium										
Beryllium	10	U	10	U	11.2	#	10	U		
Boron										
Cadmium	10	U	10	U	10	U	10	U		
Calcium	100	U	100	U	100	U	100	U		
Chromium	10	U	10	U	10	U	10	U		
Cobalt										
Copper										
Iron	100	U	100	U	100	U	100	U		
Lead	10	U	10	U	10	U	10	U		
Magnesium	100	U	100	U	100	U	100	U		
Manganese										
Molybdenum										
Mercury										
Nickel										
Potassium	200	U	200	U	291.07	#	200	U		
Selenium										
Silver										
Sodium	200	U	219.32	#	1707.73	#	868.44	#		
Thallium										
Tin										
Vanadium										
Zinc										

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: MIP2721 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB7		CCB8		CCB9			
	2/3/15 15:35	C	2/3/15 21:21	C	2/3/15 22:13	C	2/3/15 22:34	C		
Aluminum	100	U	100	U	100	U	100	U		
Antimony										
Arsenic	10	U	10	U	10	U	10	U		
Barium										
Beryllium	10	U	10	U	10	U	10	U		
Boron										
Cadmium	10	U	10	U	10	U	10	U		
Calcium	100	U	100	U	100	U	100	U		
Chromium	10	U	10	U	10	U	10	U		
Cobalt										
Copper										
Iron	100	U	100	U	100	U	100	U		
Lead	10	U	10	U	10	U	10	U		
Magnesium	100	U	100	U	100	U	100	U		
Manganese										
Molybdenum										
Mercury										
Nickel										
Potassium	200	U	200	U	200	U	200	U		
Selenium										
Silver										
Sodium	200	U	285.01	#	200	U	200	U		
Thallium										
Tin										
Vanadium										
Zinc										

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: MIP2721 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB10							
	2/3/15 15:35	C	2/3/15 22:56	C		C		C		
Aluminum	100	U	100	U						
Antimony										
Arsenic	10	U	10	U						
Barium										
Beryllium	10	U	10	U						
Boron										
Cadmium	10	U	10	U						
Calcium	100	U	100	U						
Chromium	10	U	10	U						
Cobalt										
Copper										
Iron	100	U	100	U						
Lead	10	U	10	U						
Magnesium	100	U	100	U						
Manganese										
Molybdenum										
Mercury										
Nickel										
Potassium	200	U	200	U						
Selenium										
Silver										
Sodium	200	U	200	U						
Thallium										
Tin										
Vanadium										
Zinc										

Comments:

FORM III - METALS

Interference Check Sample Form 4A

Analytical Batch: MIP2721
Instrument: ICP1
Analyst: PSW

Results by **SW-846 6010C**

	True		Initial Found (mg/L)			Final Found (mg/L)			
Parameter	A	B	A	B	Rec (%)	A	B	Rec (%)	cl
Aluminum	100.0000	100.0000	95.9	95.0	95.0	94.7	94.1	94.1	80 - 120
Antimony	0.0000	0.3000							80 - 120
Arsenic	0.0000	0.3000	0.00743	0.305	102	0.00134	0.287	95.5	80 - 120
Barium	0.0000	1.0000							80 - 120
Beryllium	0.0000	0.3000	0.0124	0.275	91.7	-0.00903	0.267	88.9	80 - 120
Cadmium	0.0000	0.3000	0.00494	0.283	94.2	0.00500	0.269	89.6	80 - 120
Calcium	40.0000	40.0000	37.2	37.3	93.3	36.1	36.1	90.2	80 - 120
Chromium	0.0000	0.3000	0.00406	0.287	95.6	0.00302	0.275	91.6	80 - 120
Cobalt	0.0000	0.3000							80 - 120
Copper	0.0000	0.3000							80 - 120
Iron	100.0000	100.0000	94.4	93.9	93.9	91.2	91.6	91.6	80 - 120
Lead	0.0000	0.3000	0.000340	0.267	89.0	-0.00144	0.256	85.4	80 - 120
Magnesium	40.0000	40.0000	37.6	37.8	94.5	36.5	36.8	91.9	80 - 120
Manganese	0.0000	0.3000							80 - 120
Nickel	0.0000	0.3000							80 - 120
Potassium	0.0000	0.0000	0.00863	0.0167		0.0152	0.00494		
Selenium	0.0000	0.3000							80 - 120
Silver	0.0000	0.3000							80 - 120
Sodium	0.0000	0.0000	-0.0112	-0.00279		0.0592	0.0499		
Thallium	0.0000	0.3000							80 - 120
Vanadium	0.0000	0.3000							80 - 120
Zinc	0.0000	0.3000							80 - 120

Analytical Run Log **Form 13**

Analytical Method: SW-846 6010C
Analytical Batch: MIP2721
Prep Method:
Start Date: 02/03/2015

Instrument: ICP1
Analyst: PSW

End Date: 02/03/2015

		Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn
15:39	ICAL3			X		X		X		X								X					
15:42	ICAL4		X				X					X	X	X		X							
15:45	ICAL2		X	X		X	X	X		X		X	X	X		X		X					
15:49	ICAL1		X	X		X	X	X		X		X	X	X		X		X					
15:54	ICV		X	X		X	X	X		X		X	X	X		X		X					
16:02	ICSA		X	X		X	X	X		X		X	X	X		X		X					
16:06	ICSB		X	X		X	X	X		X		X	X	X		X		X					
16:11	LLC		X	X		X	X	X		X		X	X	X		X		X					
16:15	CCV		X	X		X	X	X		X		X	X	X		X		X					
16:19	CBV for HBN 64848 (MIP/2721)					X	X						X	X									
16:32	LCS for HBN 63753 [MXX/3844]					X																	
16:37	LCSD for HBN 63753 [MXX/3844]					X																	
16:41	BT-SW-01					X																	
16:45	BT-SW-01												X										
16:50	BT-SW-01						X							X									
16:54	BT-SW-01(157958MS)					X																	
16:58	BT-SW-01(157958MS)												X										
17:03	BT-SW-01(157958MS)						X							X									
17:07	CCV		X	X		X	X	X		X		X	X	X		X		X					
17:11	CBV for HBN 64848 (MIP/2721)					X	X						X	X									
17:15	BT-SW-01(157958MSD)					X																	
17:20	BT-SW-01(157958MSD)												X										
17:24	BT-SW-01(157958MSD)						X							X									
17:28	BT-SW-02					X																	
17:33	BT-SW-02												X										
17:37	BT-SW-02						X							X									
17:41	BT-SW-03					X																	
17:46	BT-SW-03												X										
17:50	BT-SW-03						X							X									
17:54	CCV		X	X		X	X	X		X		X	X	X		X		X					
17:59	CBV for HBN 64848 (MIP/2721)					X	X						X	X									
18:03	BT-SW-04					X																	
18:07	BT-SW-04												X										
18:11	BT-SW-04						X							X									
18:16	BT-SW-05					X																	
18:20	BT-SW-05												X										
18:24	BT-SW-05						X							X									
18:29	BT-SW-06					X																	
18:33	BT-SW-06												X	X									
18:37	BT-SW-06						X																

Print Date: 02/06/2015

N.C. Certification # 481

Analytical Run Log **Form 13**

Analytical Method: SW-846 6010C
Analytical Batch: MIP2721
Prep Method:

Instrument: ICP1
Analyst: PSW

		Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn
18:42	CCV		X	X		X	X	X		X		X	X	X		X		X					
18:46	CBV for HBN 64848 (MIP/2721)					X	X						X	X									
18:54	BT-SW-DUP												X										
18:59	BT-SW-DUP						X							X									
19:07	BT-PW-01						X						X										
19:20	BT-PW-02						X						X										
19:33	CCV		X	X		X	X	X		X		X	X	X		X		X					
19:37	CBV for HBN 64848 (MIP/2721)						X						X	X									
20:25	CCV		X	X		X	X	X		X		X	X	X		X		X					
20:29	CBV for HBN 64848 (MIP/2721)		X	X		X	X					X	X	X									
20:42	MB for HBN 63754 [MXX/3845]			X		X							X										
20:46	LCS for HBN 63754 [MXX/3845]			X		X							X										
20:51	LCSD for HBN 63754 [MXX/3845]			X		X							X										
20:55	BT-SD-01			X		X																	
20:59	BT-SD-01		X										X										
21:04	BT-SD-01						X					X		X									
21:08	BT-SD-01(157965MS)			X																			
21:12	BT-SD-01(157965MS)												X										
21:16	CCV		X	X		X	X	X		X		X	X	X		X		X					
21:21	CBV for HBN 64848 (MIP/2721)		X	X		X	X					X	X	X									
21:25	BT-SD-01(157965MS)		X				X					X		X									
21:29	BT-SD-01(157965MSD)			X		X																	
21:34	BT-SD-01(157965MSD)												X										
21:38	BT-SD-01(157965MSD)		X				X					X		X									
21:42	BT-SD-02			X		X																	
21:47	BT-SD-02		X										X	X									
21:51	BT-SD-02						X					X											
21:55	BT-SD-03			X		X							X										
22:04	BT-SD-03						X					X		X									
22:08	CCV		X	X		X	X	X		X		X	X	X		X		X					
22:13	CBV for HBN 64848 (MIP/2721)		X	X		X	X					X	X	X									
22:17	BT-SD-03(157967DUP)					X							X										
22:21	BT-SD-03(157967DUP)		X									X											
22:26	BT-SD-03(157967DUP)						X							X									
22:30	CCV		X	X		X	X	X		X		X	X	X		X		X					
22:39	ICSA		X	X		X	X	X		X		X	X	X		X		X					
22:43	ICSB		X	X		X	X	X		X		X	X	X		X		X					
22:47	LLC		X	X		X	X	X		X		X	X	X		X		X					
22:51	CCV		X	X		X	X	X		X		X	X	X		X		X					

Analytical Sequence

Method : 6010C

MIP2721

Seq.	Loc.	Sample ID	Status
1	1	CBV	Applied
2	4	ICAL3	Applied
3	5	ICAL4	Applied
4	6	ICAL5	Skipped
5	3	ICAL2	Applied
6	2	ICAL1	Applied
7	7	ICV ✓	Analyzed
8	1	ICB ✓	Analyzed
9	8	ICSA ✓	Analyzed
10	9	ICSB ✓	Analyzed
11	2	LLC - Cd Pb ↑ Be ↓	Analyzed
12	3	CCV ✓	Analyzed
13	1	CBV ✓	Analyzed
14	10	158188 TCLP-B - Na	Analyzed
15	11	158133 MB - Be	Analyzed
16	12	158134 LCS ✓	Analyzed
17	13	158135 LCSD ✓	Analyzed
18	14	0182_1 - Mg Ca Na K	Analyzed
19	15	0182_1 x10 - Mg Ca Na	Analyzed
20	16	0182_1 x100 - Na 1000x	Analyzed
21	17	158136 MS - Mg Ca Na K	Analyzed
22	18	158136 MS x10 - Mg Ca Na	Analyzed
23	19	158136 MS x100 - Na 1000x	Analyzed
24	3	CCV ✓	Analyzed
25	1	CBV - Na	Analyzed
26	20	158137 MSD - Mg Ca Na K	Analyzed
27	21	158137 MSD x10 - Mg Ca Na	Analyzed
28	22	158137 MSD x100 - Na 1000x	Analyzed
29	23	0182_2 - Mg Ca Na K	Analyzed
30	24	0182_2 x10 - Mg Ca Na	Analyzed
31	25	0182_2 x100 - Na	Analyzed
32	26	0182_3 - Mg Ca Na K	Analyzed
33	27	0182_3 x10 - Mg Ca Na	Analyzed
34	28	0182_3 x100 - Na 1000x	Analyzed
35	3	CCV ✓	Analyzed
36	1	CBV - Na	Analyzed
37	29	0182_4 - Mg Ca Na K	Analyzed
38	30	0182_4 x10 - Mg Ca Na	Analyzed
39	31	0182_4 x100 ✓	Analyzed
40	32	0182_5 - Mg Ca Na K	Analyzed
41	33	0182_5 x10 - Mg Ca Na	Analyzed
42	34	0182_5 x100 ✓	Analyzed
43	35	0182_6 - Mg Ca Na K	Analyzed
44	36	0182_6 x10 - Ca Na	Analyzed
45	37	0182_6 x100 ✓	Analyzed
46	3	CCV ✓	Analyzed
47	1	CBV - Na	Analyzed
48	38	0182_7 - Mg Ca Na K	Analyzed
49	39	0182_7 x10 - Mg Ca Na	Analyzed
50	40	0182_7 x100 ✓	Analyzed
51	41	0182_11 - Fe Mg Ca Na K	Analyzed
52	42	0182_11 x1000 - Na	Analyzed
53	43	0182_11 x10000 ✓	Analyzed
54	44	0182_12 - Fe Mg Ca Na K	Analyzed
55	45	0182_12 x1000 - Na	Analyzed
56	46	0182_12 x10000 ✓	Analyzed

0ES020315-1

RP
Be
Na

Analytical Sequence

Method : 6010C

Seq.	Loc.		Sample ID	Status
57	47		0171_1 x10000 ✓	Analyzed
58	3		CCV - Na	Analyzed
59	1		CBV - Be Na	Analyzed
60	48		0171_2 x10000 ✓	Analyzed
61	49		0171_3 x10000 ✓	Analyzed
62	50		0171_4 x10000 ✓	Analyzed
63	51		0171_5 x10000 ✓	Analyzed
64	52		0171_6 x10000 ✓	Analyzed
65	53		157815 MB - Be Na	Analyzed
66	54		157816 LCS ✓	Analyzed
67	55		157817 LCSD ✓	Analyzed
68	56		0144_1 x10 - Na	Analyzed
69	57		0144_1 x1000 ✓	Analyzed
70	3		CCV - Na	Analyzed
71	1		CBV - Na	Analyzed
72	58		0144_2 x1000 Na	Analyzed
73	59		0144_2 x10000 ✓	Analyzed
74	60		158139 MB - Na	Analyzed
75	61		158140 LCS ✓	Analyzed
76	62		158141 LCSD ✓	Analyzed
77	63		0182_8 - Fe Mg Al Ca Na K	Analyzed
78	64	R.l	0182_8 x10 - Fe Mg Ca Na	Analyzed
79	65		0182_8 x100 ✓	Analyzed
80	66	Ba	158142 MS - Fe Mg Al Ca Na K	Analyzed
81	67	Mn	158142 MS x10 - Fe Mg Ca Na	Analyzed
82	3	Na	CCV ✓	Analyzed
83	1		CBV - Na	Analyzed
84	68		158142 MS x100 ✓	Analyzed
85	69		158143 MSD - Fe Mg Al Ca Na K	Analyzed
86	70		158143 MSD x10 - Fe Mg Ca Na	Analyzed
87	71		158143 MSD x100 ✓	Analyzed
88	72		0182_9 - Fe Mg Al Ca Na K	Analyzed
89	73		0182_9 x10 - Fe Ca Na	Analyzed
90	74	R.l	0182_9 x100 ✓	Analyzed
91	75	Mn	0182_10 - Fe Mg Ca	Analyzed
92	76	Na	0182_10 x10 - Fe Mg Ca	Analyzed
93	77		0182_10 x100 ✓	Analyzed
94	3		CCV ✓	Analyzed
95	1		CBV ✓	Analyzed
96	78		158144 DUP - Fe Mg Al Ca	Analyzed
97	79		158144 DUP x10 - Fe Mg Ca	Analyzed
98	80		158144 DUP x100 ✓	Analyzed
99	3		CCV ✓	Analyzed
100	1		CBV ✓	Analyzed
101	8		ICSA ✓	Analyzed
102	9		ICSB ✓	Analyzed
103	2		LLC	Analyzed
104	3		CCV ✓	Analyzed
105	1		CBV ✓	Analyzed

==========

Analysis Begun

Start Time: 2/3/2015 3:35:16 PM
Logged In Analyst: Anyone
Spectrometer Model: Optima 2100

Plasma On Time: 2/3/2015 3:15:12 PM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Anyone\Sample Information\MIP2721.sif
Batch ID:
Results Data Set: MIP2721
Results Library: C:\pe\Anyone\Results\Results.mdb

==========

Sequence No.: 1
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/3/2015 3:35:16 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
As 189	1138.3	21.20	1.86%	[0.00]	mg/L
Cd 214	1657.4	119.73	7.22%	[0.00]	mg/L
Pb 220	142.9	68.75	48.13%	[0.00]	mg/L
Fe 260	12733.2	910.93	7.15%	[0.00]	mg/L
Cr 268	525.9	342.30	65.09%	[0.00]	mg/L
Mg 279	-103.0	20.53	19.93%	[0.00]	mg/L
Al 308	5094.4	84.26	1.65%	[0.00]	mg/L
Be 313	-2299.6	0.00	0.00%	[0.00]	mg/L
Ca 318	1824.5	115.85	6.35%	[0.00]	mg/L
Na 590	-79.3	159.13	200.55%	[0.00]	mg/L
K 766	-2900.7	158.06	5.45%	[0.00]	mg/L

==========

Sequence No.: 2
Sample ID: ICAL3
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 2/3/2015 3:39:33 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL3

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICAL3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
As 189	13736.6	136.98	1.00%	[1]	mg/L
Cd 214	621905.3	2447.38	0.39%	[1]	mg/L
Pb 220	34376.8	49.81	0.14%	[1]	mg/L
Cr 268	354463.1	466.46	0.13%	[1]	mg/L
Be 313	79740.6	132.70	0.17%	[1]	mg/L

==========

Sequence No.: 3
Sample ID: ICAL4
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 2/3/2015 3:42:31 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL4

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: ICAL4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Fe 260	187829.0	1518.21	0.81%	[5]	mg/L
Mg 279	18186.7	35.92	0.20%	[5]	mg/L
Al 308	37212.7	90.17	0.24%	[5]	mg/L
Ca 318	159541.9	2255.84	1.41%	[5]	mg/L
Na 590	391807.5	1875.91	0.48%	[5]	mg/L
K 766	117818.5	697.82	0.59%	[5]	mg/L

Sequence No.: 5
Sample ID: ICAL2
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 3
Date Collected: 2/3/2015 3:45:35 PM
Data Type: Original
Initiel Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL2

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICAL2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
As 189	6857.7	28.54	0.42%	[0.5]	mg/L
Cd 214	302880.5	650.51	0.21%	[0.5]	mg/L
Pb 220	16501.1	39.86	0.24%	[0.5]	mg/L
Fe 260	92928.3	2125.50	2.29%	[2.5]	mg/L
Cr 268	174331.6	753.06	0.43%	[0.5]	mg/L
Mg 279	9236.5	11.46	0.12%	[2.5]	mg/L
Al 308	18827.2	389.70	2.07%	[2.5]	mg/L
Be 313	39166.6	1061.57	2.71%	[0.5]	mg/L
Ca 318	77970.3	16.85	0.02%	[2.5]	mg/L
Na 590	199197.2	1361.56	0.68%	[2.5]	mg/L
K 766	58938.0	272.78	0.46%	[2.5]	mg/L

Sequence No.: 6
Sample ID: ICAL1
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 2
Date Collected: 2/3/2015 3:49:53 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL1

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICAL1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
As 189	134.0	1.21	0.90%	[0.01]	mg/L
Cd 214	2759.3	17.19	0.62%	[0.005]	mg/L
Pb 220	358.7	106.06	29.57%	[0.01]	mg/L
Fe 260	2663.8	180.13	6.76%	[0.1]	mg/L
Cr 268	2834.8	192.62	6.79%	[0.01]	mg/L
Mg 279	497.4	52.93	10.64%	[0.1]	mg/L
Al 308	948.6	68.46	7.22%	[0.1]	mg/L
Be 313	1126.0	265.39	23.57%	[0.01]	mg/L
Ca 318	3312.4	398.09	12.02%	[0.1]	mg/L
Na 590	16327.3	217.75	1.33%	[0.2]	mg/L
K 766	5011.7	54.45	1.09%	[0.2]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
As 189	3	Lin, Calc Int	-3.4	13740	0.00000	1.000000	
Cd 214	3	Lin, Calc Int	-1627.5	620600	0.00000	0.999912	
Pb 220	3	Lin, Calc Int	-118.3	34240	0.00000	0.999782	
Fe 260	3	Lin, Calc Int	-675.1	37650	0.00000	0.999980	
Cr 268	3	Lin, Calc Int	-850.1	354300	0.00000	0.999967	
Mg 279	3	Lin, Calc Int	86.7	3628	0.00000	0.999960	
Al 308	3	Lin, Calc Int	132.9	7429	0.00000	0.999977	
Be 313	3	Lin, Calc Int	21.1	79440	0.00000	0.999941	
Ca 318	3	Lin, Calc Int	-273.0	31830	0.00000	0.999928	
Na 590	3	Lin, Calc Int	897.8	78410	0.00000	0.999964	
K 766	3	Lin, Calc Int	140.3	23530	0.00000	0.999997	

Sequence No.: 7
Sample ID: ICV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/3/2015 3:54:07 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	13699.9	1.01	mg/L	0.000	1.01	mg/L	0.000	0.02%
Cd 214	598511.8	0.967	mg/L	0.0011	0.967	mg/L	0.0011	0.11%
Pb 220	33020.4	0.968	mg/L	0.0060	0.968	mg/L	0.0060	0.62%
Fe 260	34957.3	0.946	mg/L	0.0242	0.946	mg/L	0.0242	2.56%
Cr 268	336388.7	0.952	mg/L	0.0031	0.952	mg/L	0.0031	0.33%
Mg 279	3689.7	0.993	mg/L	0.0183	0.993	mg/L	0.0183	1.84%
Al 308	7708.1	1.02	mg/L	0.018	1.02	mg/L	0.018	1.81%
Be 313	75987.4	0.956	mg/L	0.0184	0.956	mg/L	0.0184	1.92%
Ca 318	30977.5	0.982	mg/L	0.0160	0.982	mg/L	0.0160	1.63%
Na 590	74507.7	0.939	mg/L	0.0079	0.939	mg/L	0.0079	0.84%
K 766	23248.6	0.982	mg/L	0.0090	0.982	mg/L	0.0090	0.91%

Sequence No.: 8
Sample ID: ICB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/3/2015 3:58:24 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICB

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	39.1	0.0031	mg/L	0.00246	0.0031	mg/L	0.00246	79.29%
Cd 214	193.5	0.0029	mg/L	0.00003	0.0029	mg/L	0.00003	0.94%
Pb 220	95.0	0.0062	mg/L	0.00010	0.0062	mg/L	0.00010	1.68%
Fe 260	214.7	0.0236	mg/L	0.03226	0.0236	mg/L	0.03226	136.50%
Cr 268	-708.1	0.0004	mg/L	0.00077	0.0004	mg/L	0.00077	192.85%
Mg 279	24.9	-0.0170	mg/L	0.02170	-0.0170	mg/L	0.02170	127.55%
Al 308	91.3	-0.0056	mg/L	0.01188	-0.0056	mg/L	0.01188	211.97%
Be 313	93.8	0.0009	mg/L	0.00501	0.0009	mg/L	0.00501	547.23%
Ca 318	-253.2	0.0006	mg/L	0.01251	0.0006	mg/L	0.01251	>999.9%
Na 590	422.4	-0.0061	mg/L	0.00210	-0.0061	mg/L	0.00210	34.58%
K 766	262.2	0.0052	mg/L	0.00206	0.0052	mg/L	0.00206	39.67%

Sequence No.: 9

Autosampler Location: 8

Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:

Date Collected: 2/3/2015 4:02:39 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	98.1	0.0074	mg/L	0.00170	0.0074	mg/L	0.00170	22.83%
Cd 214	1440.0	0.0049	mg/L	0.00006	0.0049	mg/L	0.00006	1.12%
Pb 220	-106.6	0.0003	mg/L	0.00133	0.0003	mg/L	0.00133	388.49%
Fe 260	3554256.4	94.4	mg/L	0.03	94.4	mg/L	0.03	0.03%
Cr 268	589.9	0.0041	mg/L	0.00054	0.0041	mg/L	0.00054	13.38%
Mg 279	136363.7	37.6	mg/L	0.08	37.6	mg/L	0.08	0.22%
Al 308	712615.3	95.9	mg/L	0.31	95.9	mg/L	0.31	0.32%
Be 313	1004.8	0.0124	mg/L	0.00787	0.0124	mg/L	0.00787	63.52%
Ca 318	1183125.4	37.2	mg/L	0.24	37.2	mg/L	0.24	0.65%
Na 590	18.0	-0.0112	mg/L	0.00601	-0.0112	mg/L	0.00601	53.60%
K 766	343.3	0.0086	mg/L	0.01392	0.0086	mg/L	0.01392	161.27%

Sequence No.: 10
Sample ID: ICSB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 2/3/2015 4:06:59 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSB

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICSB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	4144.4	0.305	mg/L	0.0040	0.305	mg/L	0.0040	1.30%
Cd 214	173786.8	0.283	mg/L	0.0025	0.283	mg/L	0.0025	0.89%
Pb 220	9025.9	0.267	mg/L	0.0006	0.267	mg/L	0.0006	0.24%
Fe 260	3535402.2	93.9	mg/L	0.22	93.9	mg/L	0.22	0.23%
Cr 268	100768.6	0.287	mg/L	0.0014	0.287	mg/L	0.0014	0.47%
Mg 279	137276.1	37.8	mg/L	0.15	37.8	mg/L	0.15	0.39%
Al 308	705853.9	95.0	mg/L	0.02	95.0	mg/L	0.02	0.02%
Be 313	21862.5	0.275	mg/L	0.0017	0.275	mg/L	0.0017	0.61%
Ca 318	1187081.1	37.3	mg/L	0.26	37.3	mg/L	0.26	0.69%
Na 590	679.0	-0.0028	mg/L	0.00019	-0.0028	mg/L	0.00019	6.66%
K 766	532.3	0.0167	mg/L	0.00083	0.0167	mg/L	0.00083	4.99%

Sequence No.: 11
Sample ID: LLC
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/3/2015 4:11:19 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LLC

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: LLC

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	115.2	0.0087	mg/L	0.00034	0.0087	mg/L	0.00034	3.94%
Cd 214	3158.6	0.0077	mg/L	0.00028	0.0077	mg/L	0.00028	3.58%

Pb 220	452.7	0.0167 mg/L	0.00371	0.0167 mg/L	0.00371	22.26%
Fe 260	3395.3	0.108 mg/L	0.0161	0.108 mg/L	0.0161	14.92%
Cr 268	3388.6	0.0120 mg/L	0.00019	0.0120 mg/L	0.00019	1.62%
Mg 279	407.3	0.0884 mg/L	0.01677	0.0884 mg/L	0.01677	18.97%
Al 308	803.9	0.0903 mg/L	0.00576	0.0903 mg/L	0.00576	6.37%
Be 313	148.4	0.0016 mg/L	0.00501	0.0016 mg/L	0.00501	312.57%
Ca 318	3057.7	0.105 mg/L	0.0142	0.105 mg/L	0.0142	13.53%
Na 590	15814.5	0.190 mg/L	0.0140	0.190 mg/L	0.0140	7.35%
K 766	4954.1	0.205 mg/L	0.0145	0.205 mg/L	0.0145	7.09%

Sequence No.: 12
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/3/2015 4:15:32 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6791.8	0.499	mg/L	0.0045	0.499	mg/L	0.0045	0.90%
Cd 214	302360.1	0.490	mg/L	0.0038	0.490	mg/L	0.0038	0.77%
Pb 220	16341.6	0.481	mg/L	0.0009	0.481	mg/L	0.0009	0.18%
Fe 260	93787.1	2.51	mg/L	0.008	2.51	mg/L	0.008	0.32%
Cr 268	172830.9	0.490	mg/L	0.0000	0.490	mg/L	0.0000	0.00%
Mg 279	9227.0	2.52	mg/L	0.023	2.52	mg/L	0.023	0.92%
Al 308	18883.5	2.52	mg/L	0.012	2.52	mg/L	0.012	0.48%
Be 313	38978.9	0.490	mg/L	0.0134	0.490	mg/L	0.0134	2.72%
Ca 318	78612.2	2.48	mg/L	0.013	2.48	mg/L	0.013	0.51%
Na 590	199356.5	2.53	mg/L	0.022	2.53	mg/L	0.022	0.87%
K 766	58950.4	2.50	mg/L	0.024	2.50	mg/L	0.024	0.96%

Sequence No.: 13
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/3/2015 4:19:53 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	43.6	0.0034	mg/L	0.00094	0.0034	mg/L	0.00094	27.54%
Cd 214	121.0	0.0028	mg/L	0.00025	0.0028	mg/L	0.00025	8.81%
Pb 220	58.5	0.0052	mg/L	0.00148	0.0052	mg/L	0.00148	28.64%
Fe 260	-771.5	-0.0026	mg/L	0.05318	-0.0026	mg/L	0.05318	>999.9%
Cr 268	-562.9	0.0008	mg/L	0.00019	0.0008	mg/L	0.00019	23.84%
Mg 279	114.3	0.0076	mg/L	0.03567	0.0076	mg/L	0.03567	467.61%
Al 308	-5.5	-0.0186	mg/L	0.01188	-0.0186	mg/L	0.01188	63.74%
Be 313	93.8	0.0009	mg/L	0.01406	0.0009	mg/L	0.01406	>999.9%
Ca 318	0.0	0.0086	mg/L	0.00364	0.0086	mg/L	0.00364	42.43%
Na 590	984.5	0.0011	mg/L	0.00188	0.0011	mg/L	0.00188	169.89%
K 766	533.6	0.0167	mg/L	0.00500	0.0167	mg/L	0.00500	29.90%

Sequence No.: 14
Sample ID: 158188 TCLP-B
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 2/3/2015 4:24:10 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158188 TCLP-B

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 158188 TCLP-B

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-28.6	-0.0018	mg/L	0.00100	-0.0018	mg/L	0.00100	54.90%
Cd 214	181.5	0.0029	mg/L	0.00022	0.0029	mg/L	0.00022	7.57%
Pb 220	30.5	0.0043	mg/L	0.00047	0.0043	mg/L	0.00047	10.74%
Fe 260	-556.8	0.0031	mg/L	0.04511	0.0031	mg/L	0.04511	>999.9%
Cr 268	-690.0	0.0005	mg/L	0.00039	0.0005	mg/L	0.00039	85.55%
Mg 279	136.5	0.0137	mg/L	0.01549	0.0137	mg/L	0.01549	112.72%
Al 308	-15.3	-0.0200	mg/L	0.02685	-0.0200	mg/L	0.02685	134.55%
Be 313	-66.5	-0.0011	mg/L	0.00787	-0.0011	mg/L	0.00787	713.25%
Ca 318	2319.0	0.0814	mg/L	0.00172	0.0814	mg/L	0.00172	2.11%
Na 590	2297572.8	29.3	mg/L	0.46	29.3	mg/L	0.46	1.55%
K 766	870.6	0.0310	mg/L	0.01487	0.0310	mg/L	0.01487	47.92%

Sequence No.: 15
Sample ID: 158133 MB
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 11
Date Collected: 2/3/2015 4:28:34 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158133 MB

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158133 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-3.9	0.0000	mg/L	0.00099	0.0000	mg/L	0.00099	>999.9%
Cd 214	48.4	0.0027	mg/L	0.00030	0.0027	mg/L	0.00030	11.23%
Pb 220	42.8	0.0047	mg/L	0.00012	0.0047	mg/L	0.00012	2.63%
Fe 260	-986.2	-0.0083	mg/L	0.01285	-0.0083	mg/L	0.01285	155.50%
Cr 268	-786.9	0.0002	mg/L	0.00077	0.0002	mg/L	0.00077	433.11%
Mg 279	158.0	0.0197	mg/L	0.02639	0.0197	mg/L	0.02639	134.16%
Al 308	-63.8	-0.0265	mg/L	0.01764	-0.0265	mg/L	0.01764	66.62%
Be 313	817.2	0.0100	mg/L	0.00118	0.0100	mg/L	0.00118	11.82%
Ca 318	1045.5	0.0414	mg/L	0.00827	0.0414	mg/L	0.00827	19.97%
Na 590	4441.6	0.0452	mg/L	0.00125	0.0452	mg/L	0.00125	2.76%
K 766	276.3	0.0058	mg/L	0.00288	0.0058	mg/L	0.00288	49.77%

Sequence No.: 16
Sample ID: 158134 LCS
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 12
Date Collected: 2/3/2015 4:32:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158134 LCS

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158134 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5290.2	0.389	mg/L	0.0027	0.389	mg/L	0.0027	0.69%
Cd 214	232615.3	0.377	mg/L	0.0006	0.377	mg/L	0.0006	0.15%
Pb 220	12704.2	0.374	mg/L	0.0015	0.374	mg/L	0.0015	0.39%
Fe 260	70511.4	1.89	mg/L	0.069	1.89	mg/L	0.069	3.67%
Cr 268	135226.5	0.384	mg/L	0.0040	0.384	mg/L	0.0040	1.05%
Mg 279	7237.1	1.97	mg/L	0.059	1.97	mg/L	0.059	3.00%

Al 308	14648.7	1.95 mg/L	0.030	1.95 mg/L	0.030	1.51%
Be 313	29932.0	0.377 mg/L	0.0084	0.377 mg/L	0.0084	2.22%
Ca 318	61216.3	1.93 mg/L	0.023	1.93 mg/L	0.023	1.20%
Na 590	160150.7	2.03 mg/L	0.001	2.03 mg/L	0.001	0.03%
K 766	46207.7	1.96 mg/L	0.013	1.96 mg/L	0.013	0.67%

Sequence No.: 17
Sample ID: 158135 LCSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 13
Date Collected: 2/3/2015 4:37:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158135 LCSD

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158135 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
As 189	5302.7	0.390	mg/L	0.0026	0.390	mg/L	0.0026	0.67%
Cd 214	233801.3	0.379	mg/L	0.0017	0.379	mg/L	0.0017	0.45%
Pb 220	12731.7	0.375	mg/L	0.0019	0.375	mg/L	0.0019	0.50%
Fe 260	72101.7	1.93	mg/L	0.016	1.93	mg/L	0.016	0.83%
Cr 268	136766.5	0.388	mg/L	0.0033	0.388	mg/L	0.0033	0.85%
Mg 279	7166.6	1.95	mg/L	0.032	1.95	mg/L	0.032	1.62%
Al 308	14664.1	1.96	mg/L	0.021	1.96	mg/L	0.021	1.09%
Be 313	30092.3	0.379	mg/L	0.0112	0.379	mg/L	0.0112	2.96%
Ca 318	61952.0	1.95	mg/L	0.036	1.95	mg/L	0.036	1.83%
Na 590	167317.3	2.12	mg/L	0.006	2.12	mg/L	0.006	0.28%
K 766	46492.6	1.97	mg/L	0.009	1.97	mg/L	0.009	0.44%

Sequence No.: 18
Sample ID: 0182_1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 14
Date Collected: 2/3/2015 4:41:35 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_1

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_1

Analyte	Mean Corrected Intensity	Calib Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
As 189	-49.7	-0.0034	mg/L	0.00140	-0.0034	mg/L	0.00140	41.51%
Cd 214	60.5	0.0027	mg/L	0.00028	0.0027	mg/L	0.00028	10.14%
Pb 220	89.6	0.0061	mg/L	0.00111	0.0061	mg/L	0.00111	18.25%
Fe 260	45478.0	1.23	mg/L	0.032	1.23	mg/L	0.032	2.63%
Cr 268	-747.5	0.0003	mg/L	0.00054	0.0003	mg/L	0.00054	187.72%
Mg 279	595075.7	164	mg/L	1.5	164	mg/L	1.5	0.89%
Al 308	2031.8	0.256	mg/L	0.0127	0.256	mg/L	0.0127	4.96%
Be 313	-160.4	-0.0023	mg/L	0.00954	-0.0023	mg/L	0.00954	417.53%
Ca 318	5932039.7	186	mg/L	2.7	186	mg/L	2.7	1.43%
Na 590	Saturated4							
K 766	543354.2	23.1	mg/L	0.13	23.1	mg/L	0.13	0.56%

Sequence No.: 19
Sample ID: 0182_1 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 15
Date Collected: 2/3/2015 4:45:55 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_1 x10

Analyte	Back Pressure	Flow

All 183.0 kPa 0.55 L/min

Mean Data: 0182_1 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-20.3	-0.0012	mg/L	0.00017	-0.0012	mg/L	0.00017	13.96%
Cd 214	36.3	0.0027	mg/L	0.00011	0.0027	mg/L	0.00011	4.11%
Pb 220	108.7	0.0066	mg/L	0.00048	0.0066	mg/L	0.00048	7.28%
Fe 260	5971.8	0.177	mg/L	0.0000	0.177	mg/L	0.0000	0.00%
Cr 268	-426.7	0.0012	mg/L	0.00004	0.0012	mg/L	0.00004	3.01%
Mg 279	72329.5	19.9	mg/L	0.09	19.9	mg/L	0.09	0.44%
Al 308	367.7	0.0316	mg/L	0.02765	0.0316	mg/L	0.02765	87.46%
Be 313	-789.9	-0.0102	mg/L	0.00835	-0.0102	mg/L	0.00835	81.82%
Ca 318	690312.0	21.7	mg/L	0.28	21.7	mg/L	0.28	1.27%
Na 590	8128892.9	104	mg/L	0.4	104	mg/L	0.4	0.36%
K 766	53827.5	2.28	mg/L	0.009	2.28	mg/L	0.009	0.40%

Sequence No.: 20
Sample ID: 0182_1 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 16
Date Collected: 2/3/2015 4:50:12 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_1 x100

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_1 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-1.0	0.0002	mg/L	0.00178	0.0002	mg/L	0.00178	973.63%
Cd 214	-96.8	0.0025	mg/L	0.00019	0.0025	mg/L	0.00019	7.82%
Pb 220	-31.6	0.0025	mg/L	0.00202	0.0025	mg/L	0.00202	79.73%
Fe 260	-811.5	-0.0036	mg/L	0.01285	-0.0036	mg/L	0.01285	354.58%
Cr 268	-659.7	0.0005	mg/L	0.00019	0.0005	mg/L	0.00019	35.95%
Mg 279	7037.2	1.92	mg/L	0.017	1.92	mg/L	0.017	0.88%
Al 308	-156.4	-0.0389	mg/L	0.01843	-0.0389	mg/L	0.01843	47.33%
Be 313	-66.5	-0.0011	mg/L	0.01455	-0.0011	mg/L	0.01455	>999.9%
Ca 318	69991.7	2.21	mg/L	0.005	2.21	mg/L	0.005	0.22%
Na 590	877333.8	11.2	mg/L	0.07	11.2	mg/L	0.07	0.66%
K 766	6402.1	0.266	mg/L	0.0102	0.266	mg/L	0.0102	3.84%

Sequence No.: 21
Sample ID: 158136 MS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 17
Date Collected: 2/3/2015 4:54:28 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158136 MS

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158136 MS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5019.0	0.369	mg/L	0.0002	0.369	mg/L	0.0002	0.04%
Cd 214	206377.9	0.335	mg/L	0.0034	0.335	mg/L	0.0034	1.02%
Pb 220	11148.0	0.329	mg/L	0.0015	0.329	mg/L	0.0015	0.45%
Fe 260	110017.6	2.94	mg/L	0.021	2.94	mg/L	0.021	0.71%
Cr 268	117905.2	0.335	mg/L	0.0017	0.335	mg/L	0.0017	0.52%
Mg 279	582654.2	161	mg/L	2.1	161	mg/L	2.1	1.28%
Al 308	14876.8	1.98	mg/L	0.001	1.98	mg/L	0.001	0.04%
Be 313	27343.9	0.344	mg/L	0.0033	0.344	mg/L	0.0033	0.97%
Ca 318	5938153.6	187	mg/L	0.5	187	mg/L	0.5	0.26%
Na 590	Saturated4							

K 766	577103.8	24.5 mg/L	0.06	24.5 mg/L	0.06	0.25%

Sequence No.: 22
Sample ID: 158136 MS x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 18
Date Collected: 2/3/2015 4:58:44 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158136 MS x10

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 158136 MS x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	491.2	0.0363	mg/L	0.00265	0.0363	mg/L	0.00265	7.30%
Cd 214	20827.7	0.0362	mg/L	0.00083	0.0362	mg/L	0.00083	2.29%
Pb 220	1099.1	0.0356	mg/L	0.00073	0.0356	mg/L	0.00073	2.06%
Fe 260	12755.1	0.357	mg/L	0.0451	0.357	mg/L	0.0451	12.65%
Cr 268	10522.7	0.0321	mg/L	0.00000	0.0321	mg/L	0.00000	0.00%
Mg 279	72611.8	20.0	mg/L	0.17	20.0	mg/L	0.17	0.85%
Al 308	1674.8	0.208	mg/L	0.0184	0.208	mg/L	0.0184	8.88%
Be 313	3123.7	0.0391	mg/L	0.00453	0.0391	mg/L	0.00453	11.59%
Ca 318	706298.9	22.2	mg/L	0.17	22.2	mg/L	0.17	0.75%
Na 590	8231478.3	105	mg/L	1.1	105	mg/L	1.1	1.09%
K 766	59347.0	2.52	mg/L	0.039	2.52	mg/L	0.039	1.56%

Sequence No.: 23
Sample ID: 158136 MS x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 19
Date Collected: 2/3/2015 5:03:02 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158136 MS x100

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 158136 MS x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	50.8	0.0040	mg/L	0.00326	0.0040	mg/L	0.00326	81.54%
Cd 214	2456.7	0.0066	mg/L	0.00033	0.0066	mg/L	0.00033	5.03%
Pb 220	50.7	0.0049	mg/L	0.00014	0.0049	mg/L	0.00014	2.76%
Fe 260	-40.0	0.0169	mg/L	0.01613	0.0169	mg/L	0.01613	95.63%
Cr 268	928.8	0.0050	mg/L	0.00151	0.0050	mg/L	0.00151	30.07%
Mg 279	6977.4	1.90	mg/L	0.032	1.90	mg/L	0.032	1.70%
Al 308	326.3	0.0260	mg/L	0.02402	0.0260	mg/L	0.02402	92.24%
Be 313	27.3	0.0001	mg/L	0.00620	0.0001	mg/L	0.00620	>999.9%
Ca 318	69282.8	2.19	mg/L	0.027	2.19	mg/L	0.027	1.22%
Na 590	865446.7	11.0	mg/L	0.08	11.0	mg/L	0.08	0.75%
K 766	7312.3	0.305	mg/L	0.0038	0.305	mg/L	0.0038	1.23%

Sequence No.: 24
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/3/2015 5:07:21 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6806.5	0.500	mg/L	0.0003	0.500	mg/L	0.0003	0.05%
Cd 214	301295.1	0.488	mg/L	0.0033	0.488	mg/L	0.0033	0.68%
Pb 220	16209.5	0.477	mg/L	0.0045	0.477	mg/L	0.0045	0.94%
Fe 260	92626.3	2.48	mg/L	0.036	2.48	mg/L	0.036	1.43%
Cr 268	171378.6	0.486	mg/L	0.0004	0.486	mg/L	0.0004	0.08%
Mg 279	9169.3	2.50	mg/L	0.013	2.50	mg/L	0.013	0.53%
Al 308	18600.1	2.49	mg/L	0.009	2.49	mg/L	0.009	0.37%
Be 313	38764.0	0.488	mg/L	0.0129	0.488	mg/L	0.0129	2.64%
Ca 318	77942.0	2.46	mg/L	0.021	2.46	mg/L	0.021	0.85%
Na 590	201842.6	2.56	mg/L	0.019	2.56	mg/L	0.019	0.75%
K 766	58356.0	2.47	mg/L	0.031	2.47	mg/L	0.031	1.25%

Sequence No.: 25
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/3/2015 5:11:35 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	26.6	0.0022	mg/L	0.00049	0.0022	mg/L	0.00049	22.38%
Cd 214	-242.0	0.0022	mg/L	0.00069	0.0022	mg/L	0.00069	30.89%
Pb 220	10.4	0.0038	mg/L	0.00233	0.0038	mg/L	0.00233	62.11%
Fe 260	-1328.3	-0.0174	mg/L	0.00000	-0.0174	mg/L	0.00000	0.00%
Cr 268	-941.1	-0.0003	mg/L	0.00093	-0.0003	mg/L	0.00093	362.05%
Mg 279	24.0	-0.0173	mg/L	0.03449	-0.0173	mg/L	0.03449	199.81%
Al 308	-116.3	-0.0336	mg/L	0.03882	-0.0336	mg/L	0.03882	115.69%
Be 313	-226.9	-0.0031	mg/L	0.00501	-0.0031	mg/L	0.00501	160.55%
Ca 318	-320.2	-0.0015	mg/L	0.01919	-0.0015	mg/L	0.01919	>999.9%
Na 590	17853.9	0.216	mg/L	0.0023	0.216	mg/L	0.0023	1.06%
K 766	138.7	-0.0001	mg/L	0.00373	-0.0001	mg/L	0.00373	>999.9%

Sequence No.: 26
Sample ID: 158137 MSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 20
Date Collected: 2/3/2015 5:15:52 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158137 MSD

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 158137 MSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5187.1	0.381	mg/L	0.0020	0.381	mg/L	0.0020	0.53%
Cd 214	213094.6	0.346	mg/L	0.0009	0.346	mg/L	0.0009	0.26%
Pb 220	11458.6	0.338	mg/L	0.0001	0.338	mg/L	0.0001	0.03%
Fe 260	113325.5	3.03	mg/L	0.016	3.03	mg/L	0.016	0.53%
Cr 268	121729.5	0.346	mg/L	0.0008	0.346	mg/L	0.0008	0.22%
Mg 279	602445.3	166	mg/L	1.0	166	mg/L	1.0	0.58%
Al 308	15181.2	2.03	mg/L	0.003	2.03	mg/L	0.003	0.17%
Be 313	28469.9	0.358	mg/L	0.0033	0.358	mg/L	0.0033	0.93%
Ca 318	6144302.5	193	mg/L	1.3	193	mg/L	1.3	0.67%
Na 590	Saturated4							
K 766	597987.4	25.4	mg/L	0.04	25.4	mg/L	0.04	0.18%

Sequence No.: 27

Autosampler Location: 21

Sample ID: 158137 MSD x10
Analyst:
Initial Sample Wt:
Dilution:

Date Collected: 2/3/2015 5:20:09 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158137 MSD x10

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 158137 MSD x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	542.7	0.0401	mg/L	0.00454	0.0401	mg/L	0.00454	11.31%
Cd 214	22025.9	0.0381	mg/L	0.00047	0.0381	mg/L	0.00047	1.23%
Pb 220	1179.3	0.0379	mg/L	0.00326	0.0379	mg/L	0.00326	8.60%
Fe 260	12198.3	0.342	mg/L	0.0403	0.342	mg/L	0.0403	11.79%
Cr 268	11829.7	0.0358	mg/L	0.00019	0.0358	mg/L	0.00019	0.54%
Mg 279	71666.4	19.7	mg/L	0.17	19.7	mg/L	0.17	0.85%
Al 308	1582.1	0.195	mg/L	0.0176	0.195	mg/L	0.0176	9.04%
Be 313	3284.1	0.0411	mg/L	0.01072	0.0411	mg/L	0.01072	26.10%
Ca 318	690201.8	21.7	mg/L	0.15	21.7	mg/L	0.15	0.68%
Na 590	8216511.1	105	mg/L	0.3	105	mg/L	0.3	0.26%
K 766	59567.9	2.53	mg/L	0.015	2.53	mg/L	0.015	0.58%

Sequence No.: 28
Sample ID: 158137 MSD x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 22
Date Collected: 2/3/2015 5:24:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158137 MSD x100

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 158137 MSD x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	55.9	0.0044	mg/L	0.00177	0.0044	mg/L	0.00177	40.46%
Cd 214	2359.9	0.0064	mg/L	0.00033	0.0064	mg/L	0.00033	5.15%
Pb 220	165.8	0.0083	mg/L	0.00102	0.0083	mg/L	0.00102	12.28%
Fe 260	1503.0	0.0579	mg/L	0.01613	0.0579	mg/L	0.01613	27.88%
Cr 268	1113.4	0.0055	mg/L	0.00039	0.0055	mg/L	0.00039	6.97%
Mg 279	7198.0	1.96	mg/L	0.033	1.96	mg/L	0.033	1.70%
Al 308	300.3	0.0225	mg/L	0.01480	0.0225	mg/L	0.01480	65.70%
Be 313	938.3	0.0115	mg/L	0.01573	0.0115	mg/L	0.01573	136.25%
Ca 318	71710.4	2.26	mg/L	0.011	2.26	mg/L	0.011	0.48%
Na 590	894695.2	11.4	mg/L	0.10	11.4	mg/L	0.10	0.89%
K 766	7750.0	0.323	mg/L	0.0139	0.323	mg/L	0.0139	4.31%

Sequence No.: 29
Sample ID: 0182_2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 23
Date Collected: 2/3/2015 5:28:48 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_2

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_2

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	4.1	0.0006	mg/L	0.00330	0.0006	mg/L	0.00330	595.20%
Cd 214	-60.5	0.0025	mg/L	0.00006	0.0025	mg/L	0.00006	2.18%

Pb 220	67.6	0.0054 mg/L	0.00083	0.0054 mg/L	0.00083	15.38%
Fe 260	22846.3	0.625 mg/L	0.0048	0.625 mg/L	0.0048	0.77%
Cr 268	-611.3	0.0007 mg/L	0.00039	0.0007 mg/L	0.00039	57.33%
Mg 279	229981.2	63.4 mg/L	0.92	63.4 mg/L	0.92	1.46%
Al 308	28.9	-0.0140 mg/L	0.00000	-0.0140 mg/L	0.00000	0.00%
Be 313	27.3	0.0001 mg/L	0.00954	0.0001 mg/L	0.00954	>999.9%
Ca 318	3149897.4	99.0 mg/L	0.43	99.0 mg/L	0.43	0.43%
Na 590	Saturated4					
K 766	201803.5	8.57 mg/L	0.007	8.57 mg/L	0.007	0.08%

Sequence No.: 30
Sample ID: 0182_2 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 24
Date Collected: 2/3/2015 5:33:09 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_2 x10

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_2 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	0.3	0.0003	mg/L	0.00333	0.0003	mg/L	0.00333	>999.9%
Cd 214	-109.0	0.0024	mg/L	0.00066	0.0024	mg/L	0.00066	27.05%
Pb 220	73.9	0.0056	mg/L	0.00208	0.0056	mg/L	0.00208	37.07%
Fe 260	2321.8	0.0796	mg/L	0.00807	0.0796	mg/L	0.00807	10.13%
Cr 268	-659.7	0.0005	mg/L	0.00128	0.0005	mg/L	0.00128	238.28%
Mg 279	29164.7	8.01	mg/L	0.025	8.01	mg/L	0.025	0.31%
Al 308	-49.8	-0.0246	mg/L	0.00346	-0.0246	mg/L	0.00346	14.06%
Be 313	308.8	0.0036	mg/L	0.00453	0.0036	mg/L	0.00453	124.94%
Ca 318	377148.5	11.9	mg/L	0.12	11.9	mg/L	0.12	1.02%
Na 590	2544859.5	32.4	mg/L	0.22	32.4	mg/L	0.22	0.68%
K 766	22972.0	0.970	mg/L	0.0166	0.970	mg/L	0.0166	1.71%

Sequence No.: 31
Sample ID: 0182_2 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 25
Date Collected: 2/3/2015 5:37:28 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_2 x100

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_2 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-5.1	-0.0001	mg/L	0.00139	-0.0001	mg/L	0.00139	>999.9%
Cd 214	-435.6	0.0019	mg/L	0.00047	0.0019	mg/L	0.00047	24.41%
Pb 220	191.0	0.0090	mg/L	0.00127	0.0090	mg/L	0.00127	14.00%
Fe 260	-556.8	0.0031	mg/L	0.00328	0.0031	mg/L	0.00328	104.41%
Cr 268	-602.2	0.0007	mg/L	0.00042	0.0007	mg/L	0.00042	60.39%
Mg 279	2892.2	0.773	mg/L	0.0424	0.773	mg/L	0.0424	5.49%
Al 308	-97.3	-0.0310	mg/L	0.06088	-0.0310	mg/L	0.06088	196.48%
Be 313	563.0	0.0068	mg/L	0.00334	0.0068	mg/L	0.00334	48.97%
Ca 318	37571.0	1.19	mg/L	0.022	1.19	mg/L	0.022	1.86%
Na 590	294828.2	3.75	mg/L	0.006	3.75	mg/L	0.006	0.17%
K 766	3863.1	0.158	mg/L	0.0131	0.158	mg/L	0.0131	8.27%

Sequence No.: 32
Sample ID: 0182_3
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 26
Date Collected: 2/3/2015 5:41:48 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_3

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_3

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Calib Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
As 189	-53.4	-0.0036	mg/L	0.00375	-0.0036	mg/L	0.00375	103.47%
Cd 214	48.4	0.0027	mg/L	0.00030	0.0027	mg/L	0.00030	11.23%
Pb 220	86.3	0.0060	mg/L	0.00237	0.0060	mg/L	0.00237	39.67%
Fe 260	27227.8	0.741	mg/L	0.0403	0.741	mg/L	0.0403	5.44%
Cr 268	-417.6	0.0012	mg/L	0.00000	0.0012	mg/L	0.00000	0.00%
Mg 279	461991.5	127	mg/L	0.6	127	mg/L	0.6	0.50%
Al 308	498.1	0.0492	mg/L	0.00284	0.0492	mg/L	0.00284	5.77%
Be 313	281.5	0.0033	mg/L	0.00501	0.0033	mg/L	0.00501	152.87%
Ca 318	4136230.1	130	mg/L	0.1	130	mg/L	0.1	0.09%
Na 590	Saturated4							
K 766	324281.4	13.8	mg/L	0.08	13.8	mg/L	0.08	0.59%

Sequence No.: 33
Sample ID: 0182_3 x10
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 27
Date Collected: 2/3/2015 5:46:09 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_3 x10

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_3 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Calib Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
As 189	-3.5	0.0000	mg/L	0.00084	0.0000	mg/L	0.00084	>999.9%
Cd 214	-145.3	0.0024	mg/L	0.00036	0.0024	mg/L	0.00036	15.01%
Pb 220	-38.5	0.0023	mg/L	0.00468	0.0023	mg/L	0.00468	200.64%
Fe 260	2321.8	0.0796	mg/L	0.02420	0.0796	mg/L	0.02420	30.40%
Cr 268	-795.9	0.0002	mg/L	0.00035	0.0002	mg/L	0.00035	229.06%
Mg 279	55367.5	15.2	mg/L	0.02	15.2	mg/L	0.02	0.14%
Al 308	9.8	-0.0166	mg/L	0.01480	-0.0166	mg/L	0.01480	89.32%
Be 313	215.0	0.0024	mg/L	0.01288	0.0024	mg/L	0.01288	527.61%
Ca 318	461645.2	14.5	mg/L	0.09	14.5	mg/L	0.09	0.63%
Na 590	5838013.2	74.4	mg/L	0.12	74.4	mg/L	0.12	0.16%
K 766	33614.9	1.42	mg/L	0.045	1.42	mg/L	0.045	3.18%

Sequence No.: 34
Sample ID: 0182_3 x100
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 28
Date Collected: 2/3/2015 5:50:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_3 x100

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_3 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Calib Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
As 189	-8.0	-0.0003	mg/L	0.00181	-0.0003	mg/L	0.00181	559.67%
Cd 214	96.8	0.0028	mg/L	0.00041	0.0028	mg/L	0.00041	14.88%
Pb 220	-53.2	0.0019	mg/L	0.00095	0.0019	mg/L	0.00095	50.03%
Fe 260	87.3	0.0203	mg/L	0.01135	0.0203	mg/L	0.01135	56.03%
Cr 268	-514.4	0.0009	mg/L	0.00039	0.0009	mg/L	0.00039	40.79%
Mg 279	5480.2	1.49	mg/L	0.006	1.49	mg/L	0.006	0.43%

Al 308	-16.3	-0.0201 mg/L	0.02135	-0.0201 mg/L	0.02135	106.34%
Be 313	281.5	0.0033 mg/L	0.01169	0.0033 mg/L	0.01169	356.70%
Ca 318	48321.3	1.53 mg/L	0.029	1.53 mg/L	0.029	1.91%
Na 590	657392.2	8.37 mg/L	0.073	8.37 mg/L	0.073	0.87%
K 766	5789.6	0.240 mg/L	0.0050	0.240 mg/L	0.0050	2.07%

Sequence No.: 35 **Autosampler Location: 3**
Sample ID: CCV **Dete Collected: 2/3/2015 5:54:43 PM**
Analyst: **Dete Type: Original**
Initial Sample Wt: **Initiel Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6724.8	0.494	mg/L	0.0022	0.494	mg/L	0.0022	0.44%
Cd 214	301283.0	0.488	mg/L	0.0032	0.488	mg/L	0.0032	0.66%
Pb 220	16240.1	0.478	mg/L	0.0019	0.478	mg/L	0.0019	0.40%
Fe 260	91210.6	2.44	mg/L	0.008	2.44	mg/L	0.008	0.33%
Cr 268	169829.6	0.482	mg/L	0.0019	0.482	mg/L	0.0019	0.40%
Mg 279	9091.6	2.48	mg/L	0.025	2.48	mg/L	0.025	0.99%
Al 308	18313.8	2.45	mg/L	0.034	2.45	mg/L	0.034	1.38%
Be 313	38161.8	0.480	mg/L	0.0079	0.480	mg/L	0.0079	1.64%
Ca 318	76962.0	2.43	mg/L	0.031	2.43	mg/L	0.031	1.28%
Na 590	205209.6	2.61	mg/L	0.026	2.61	mg/L	0.026	0.99%
K 766	59622.1	2.53	mg/L	0.013	2.53	mg/L	0.013	0.50%

Sequence No.: 36 **Autosampler Location: 1**
Sample ID: CBV **Date Collected: 2/3/2015 5:59:03 PM**
Analyst: **Data Type: Original**
Initiel Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-1.1	0.0002	mg/L	0.00045	0.0002	mg/L	0.00045	255.99%
Cd 214	72.6	0.0027	mg/L	0.00025	0.0027	mg/L	0.00025	9.06%
Pb 220	93.2	0.0062	mg/L	0.00135	0.0062	mg/L	0.00135	21.87%
Fe 260	-556.8	0.0031	mg/L	0.00328	0.0031	mg/L	0.00328	104.41%
Cr 268	-562.9	0.0008	mg/L	0.00019	0.0008	mg/L	0.00019	23.84%
Mg 279	75.5	-0.0031	mg/L	0.04304	-0.0031	mg/L	0.04304	>999.9%
Al 308	28.9	-0.0140	mg/L	0.01843	-0.0140	mg/L	0.01843	131.62%
Be 313	375.3	0.0045	mg/L	0.01239	0.0045	mg/L	0.01239	277.87%
Ca 318	336.6	0.0192	mg/L	0.00165	0.0192	mg/L	0.00165	8.64%
Na 590	22771.5	0.279	mg/L	0.0023	0.279	mg/L	0.0023	0.83%
K 766	883.5	0.0316	mg/L	0.00313	0.0316	mg/L	0.00313	9.92%

Sequence No.: 37 **Autosampler Location: 29**
Sample ID: 0182_4 **Date Collected: 2/3/2015 6:03:21 PM**
Analyst: **Data Type: Original**
Initiel Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Perameters: 0182_4

Analyte	Back Pressure	Flow

All	183.0 kPa	0.55 L/min

Mean Data: 0182_4

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-27.4	-0.0017	mg/L	0.00139	-0.0017	mg/L	0.00139	79.85%
Cd 214	60.5	0.0027	mg/L	0.00044	0.0027	mg/L	0.00044	16.22%
Pb 220	44.0	0.0047	mg/L	0.00047	0.0047	mg/L	0.00047	9.82%
Fe 260	33581.7	0.910	mg/L	0.0209	0.910	mg/L	0.0209	2.30%
Cr 268	-523.5	0.0009	mg/L	0.00035	0.0009	mg/L	0.00035	38.01%
Mg 279	222364.0	61.3	mg/L	0.33	61.3	mg/L	0.33	0.53%
Al 308	-38.6	-0.0231	mg/L	0.00558	-0.0231	mg/L	0.00558	24.19%
Be 313	215.0	0.0024	mg/L	0.00285	0.0024	mg/L	0.00285	116.96%
Ca 318	3012490.6	94.6	mg/L	0.21	94.6	mg/L	0.21	0.22%
Na 590	Saturated4							
K 766	213170.0	9.05	mg/L	0.009	9.05	mg/L	0.009	0.10%

Sequence No.: 38
Sample ID: 0182_4 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 30
Date Collected: 2/3/2015 6:07:35 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_4 x10

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_4 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-11.7	-0.0006	mg/L	0.00078	-0.0006	mg/L	0.00078	130.93%
Cd 214	-72.6	0.0025	mg/L	0.00008	0.0025	mg/L	0.00008	3.31%
Pb 220	91.8	0.0061	mg/L	0.00158	0.0061	mg/L	0.00158	25.82%
Fe 260	3737.4	0.117	mg/L	0.0128	0.117	mg/L	0.0128	10.96%
Cr 268	-659.7	0.0005	mg/L	0.00058	0.0005	mg/L	0.00058	107.86%
Mg 279	29463.5	8.10	mg/L	0.092	8.10	mg/L	0.092	1.13%
Al 308	-146.6	-0.0376	mg/L	0.02189	-0.0376	mg/L	0.02189	58.18%
Be 313	-508.4	-0.0067	mg/L	0.00000	-0.0067	mg/L	0.00000	0.00%
Ca 318	367592.7	11.6	mg/L	0.09	11.6	mg/L	0.09	0.82%
Na 590	2487412.2	31.7	mg/L	0.45	31.7	mg/L	0.45	1.43%
K 766	24073.6	1.02	mg/L	0.013	1.02	mg/L	0.013	1.29%

Sequence No.: 39
Sample ID: 0182_4 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 31
Date Collected: 2/3/2015 6:11:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_4 x100

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_4 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-8.2	-0.0003	mg/L	0.00343	-0.0003	mg/L	0.00343	>999.9%
Cd 214	-12.2	0.0026	mg/L	0.00000	0.0026	mg/L	0.00000	0.00%
Pb 220	44.8	0.0048	mg/L	0.00331	0.0048	mg/L	0.00331	69.53%
Fe 260	87.3	0.0203	mg/L	0.00478	0.0203	mg/L	0.00478	23.63%
Cr 268	-562.9	0.0008	mg/L	0.00019	0.0008	mg/L	0.00019	23.84%
Mg 279	2779.9	0.742	mg/L	0.0150	0.742	mg/L	0.0150	2.03%
Al 308	47.0	-0.0116	mg/L	0.00346	-0.0116	mg/L	0.00346	29.92%
Be 313	-254.2	-0.0035	mg/L	0.01121	-0.0035	mg/L	0.01121	323.41%
Ca 318	35736.1	1.13	mg/L	0.013	1.13	mg/L	0.013	1.15%
Na 590	285555.2	3.63	mg/L	0.027	3.63	mg/L	0.027	0.75%

K 766	3834.6	0.157 mg/L	0.0144	0.157 mg/L	0.0144	9.14%

Sequence No.: 40
Sample ID: 0182_5
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 32
Date Collected: 2/3/2015 6:16:09 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_5

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_5

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-5.6	-0.0002	mg/L	0.00388	-0.0002	mg/L	0.00388	>999.9%
Cd 214	120.9	0.0028	mg/L	0.00014	0.0028	mg/L	0.00014	4.90%
Pb 220	75.8	0.0057	mg/L	0.00171	0.0057	mg/L	0.00171	30.19%
Fe 260	32595.5	0.884	mg/L	0.0323	0.884	mg/L	0.0323	3.65%
Cr 268	-466.0	0.0011	mg/L	0.00019	0.0011	mg/L	0.00019	17.83%
Mg 279	220601.2	60.8	mg/L	0.02	60.8	mg/L	0.02	0.04%
Al 308	318.4	0.0250	mg/L	0.04236	0.0250	mg/L	0.04236	169.62%
Be 313	-0.0	-0.0003	mg/L	0.00334	-0.0003	mg/L	0.00334	>999.9%
Ca 318	2972189.6	93.4	mg/L	0.21	93.4	mg/L	0.21	0.23%
Na 590	Saturated4							
K 766	209668.5	8.90	mg/L	0.027	8.90	mg/L	0.027	0.30%

Sequence No.: 41
Sample ID: 0182_5 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 33
Date Collected: 2/3/2015 6:20:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_5 x10

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_5 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-20.4	-0.0012	mg/L	0.00289	-0.0012	mg/L	0.00289	235.41%
Cd 214	-84.9	0.0025	mg/L	0.00000	0.0025	mg/L	0.00000	0.00%
Pb 220	-8.4	0.0032	mg/L	0.00077	0.0032	mg/L	0.00077	24.12%
Fe 260	3180.6	0.102	mg/L	0.0081	0.102	mg/L	0.0081	7.88%
Cr 268	-611.3	0.0007	mg/L	0.00039	0.0007	mg/L	0.00039	57.33%
Mg 279	27081.5	7.44	mg/L	0.101	7.44	mg/L	0.101	1.36%
Al 308	28.9	-0.0140	mg/L	0.01843	-0.0140	mg/L	0.01843	131.62%
Be 313	121.1	0.0013	mg/L	0.00787	0.0013	mg/L	0.00787	624.53%
Ca 318	334984.3	10.5	mg/L	0.11	10.5	mg/L	0.11	1.05%
Na 590	2329729.7	29.7	mg/L	0.23	29.7	mg/L	0.23	0.77%
K 766	21698.0	0.916	mg/L	0.0174	0.916	mg/L	0.0174	1.89%

Sequence No.: 42
Sample ID: 0182_5 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 34
Date Collected: 2/3/2015 6:24:43 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_5 x100

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_5 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-46.0	-0.0031	mg/L	0.00166	-0.0031	mg/L	0.00166	53.66%
Cd 214	-60.5	0.0025	mg/L	0.00000	0.0025	mg/L	0.00000	0.01%
Pb 220	-10.3	0.0032	mg/L	0.00206	0.0032	mg/L	0.00206	65.29%
Fe 260	174.7	0.0226	mg/L	0.00807	0.0226	mg/L	0.00807	35.73%
Cr 268	-804.9	0.0001	mg/L	0.00039	0.0001	mg/L	0.00039	303.05%
Mg 279	2698.5	0.720	mg/L	0.0019	0.720	mg/L	0.0019	0.26%
Al 308	-0.5	-0.0180	mg/L	0.02402	-0.0180	mg/L	0.02402	133.78%
Be 313	-441.8	-0.0058	mg/L	0.00787	-0.0058	mg/L	0.00787	134.98%
Ca 318	34580.3	1.09	mg/L	0.014	1.09	mg/L	0.014	1.31%
Na 590	272745.0	3.47	mg/L	0.019	3.47	mg/L	0.019	0.55%
K 766	3778.1	0.155	mg/L	0.0078	0.155	mg/L	0.0078	5.07%

Sequence No.: 43
Sample ID: 0182_6
Analyst:
Initial Sample Wt:
Dilution:

Autoaampler Location: 35
Date Collected: 2/3/2015 6:29:02 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parametera: 0182_6

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_6

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	28.7	0.0023	mg/L	0.00028	0.0023	mg/L	0.00028	12.12%
Cd 214	181.5	0.0029	mg/L	0.00044	0.0029	mg/L	0.00044	15.14%
Pb 220	82.0	0.0058	mg/L	0.00202	0.0058	mg/L	0.00202	34.55%
Fe 260	4254.1	0.131	mg/L	0.0000	0.131	mg/L	0.0000	0.00%
Cr 268	-699.1	0.0004	mg/L	0.00035	0.0004	mg/L	0.00035	82.21%
Mg 279	135451.3	37.3	mg/L	0.30	37.3	mg/L	0.30	0.81%
Al 308	856.0	0.0973	mg/L	0.03944	0.0973	mg/L	0.03944	40.52%
Be 313	-1325.5	-0.0170	mg/L	0.01121	-0.0170	mg/L	0.01121	66.11%
Ca 318	2338837.3	73.5	mg/L	0.22	73.5	mg/L	0.22	0.30%
Na 590	12076639.9	154	mg/L	0.8	154	mg/L	0.8	0.49%
Saturated within survey window (code 5)								
K 766	177484.3	7.54	mg/L	0.061	7.54	mg/L	0.061	0.81%

Sequence No.: 44
Sample ID: 0182_6 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 36
Date Collected: 2/3/2015 6:33:25 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_6 x10

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_6 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-26.8	-0.0017	mg/L	0.00286	-0.0017	mg/L	0.00286	168.80%
Cd 214	169.4	0.0029	mg/L	0.00025	0.0029	mg/L	0.00025	8.57%
Pb 220	-8.8	0.0032	mg/L	0.00084	0.0032	mg/L	0.00084	26.31%
Fe 260	-1328.3	-0.0174	mg/L	0.03226	-0.0174	mg/L	0.03226	185.94%
Cr 268	-523.5	0.0009	mg/L	0.00190	0.0009	mg/L	0.00190	205.70%
Mg 279	15498.6	4.25	mg/L	0.058	4.25	mg/L	0.058	1.36%
Al 308	28.9	-0.0140	mg/L	0.01843	-0.0140	mg/L	0.01843	131.62%
Be 313	-133.0	-0.0019	mg/L	0.00905	-0.0019	mg/L	0.00905	466.45%
Ca 318	241639.2	7.60	mg/L	0.073	7.60	mg/L	0.073	0.96%
Na 590	1259875.3	16.1	mg/L	0.12	16.1	mg/L	0.12	0.73%
K 766	18552.8	0.782	mg/L	0.0096	0.782	mg/L	0.0096	1.22%

Sequence No.: 45
Sample ID: 0182_6 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 37
Date Collected: 2/3/2015 6:37:43 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_6 x100

Analyte	Back Presaure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_6 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-6.9	-0.0003	mg/L	0.00143	-0.0003	mg/L	0.00143	568.98%
Cd 214	120.8	0.0028	mg/L	0.00025	0.0028	mg/L	0.00025	8.81%
Pb 220	21.0	0.0041	mg/L	0.00069	0.0041	mg/L	0.00069	17.04%
Fe 260	-898.9	-0.0059	mg/L	0.00000	-0.0059	mg/L	0.00000	0.00%
Cr 268	-932.1	-0.0002	mg/L	0.00058	-0.0002	mg/L	0.00058	250.47%
Mg 279	1601.8	0.418	mg/L	0.0213	0.418	mg/L	0.0213	5.09%
Al 308	91.3	-0.0056	mg/L	0.00655	-0.0056	mg/L	0.00655	116.94%
Be 313	375.3	0.0045	mg/L	0.01002	0.0045	mg/L	0.01002	224.76%
Ca 318	27063.4	0.859	mg/L	0.0102	0.859	mg/L	0.0102	1.19%
Na 590	167733.4	2.13	mg/L	0.001	2.13	mg/L	0.001	0.06%
K 766	3399.6	0.138	mg/L	0.0090	0.138	mg/L	0.0090	6.46%

Sequence No.: 46
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/3/2015 6:42:01 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6631.3	0.487	mg/L	0.0039	0.487	mg/L	0.0039	0.80%
Cd 214	292896.1	0.475	mg/L	0.0018	0.475	mg/L	0.0018	0.39%
Pb 220	16060.2	0.472	mg/L	0.0000	0.472	mg/L	0.0000	0.00%
Fe 260	91982.1	2.46	mg/L	0.053	2.46	mg/L	0.053	2.16%
Cr 268	168474.1	0.478	mg/L	0.0012	0.478	mg/L	0.0012	0.24%
Mg 279	9036.4	2.47	mg/L	0.016	2.47	mg/L	0.016	0.66%
Al 308	18420.4	2.46	mg/L	0.005	2.46	mg/L	0.005	0.20%
Be 313	38521.7	0.485	mg/L	0.0038	0.485	mg/L	0.0038	0.79%
Ca 318	75690.0	2.39	mg/L	0.038	2.39	mg/L	0.038	1.57%
Na 590	204982.4	2.60	mg/L	0.023	2.60	mg/L	0.023	0.87%
K 766	58483.1	2.48	mg/L	0.004	2.48	mg/L	0.004	0.14%

Sequence No.: 47
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/3/2015 6:46:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-19.1	-0.0011	mg/L	0.00081	-0.0011	mg/L	0.00081	71.25%

Cd 214	290.4	0.0031 mg/L	0.00014	0.0031 mg/L	0.00014	4.46%
Pb 220	17.6	0.0040 mg/L	0.00196	0.0040 mg/L	0.00196	49.27%
Fe 260	-429.4	0.0065 mg/L	0.00807	0.0065 mg/L	0.00807	123.60%
Cr 268	-699.1	0.0004 mg/L	0.00151	0.0004 mg/L	0.00151	354.20%
Mg 279	85.7	-0.0003 mg/L	0.03909	-0.0003 mg/L	0.03909	>999.9%
Al 308	-149.4	-0.0380 mg/L	0.03394	-0.0380 mg/L	0.03394	89.31%
Be 313	281.5	0.0033 mg/L	0.00167	0.0033 mg/L	0.00167	50.96%
Ca 318	4.5	0.0087 mg/L	0.00834	0.0087 mg/L	0.00834	95.64%
Na 590	18094.5	0.219 mg/L	0.0018	0.219 mg/L	0.0018	0.84%
K 766	1117.1	0.0415 mg/L	0.00060	0.0415 mg/L	0.00060	1.43%

Sequence No.: 48
Sample ID: 0182_7
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 38
Date Collected: 2/3/2015 6:50:36 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_7

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_7

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	13.2	0.0012	mg/L	0.00482	0.0012	mg/L	0.00482	394.49%
Cd 214	72.5	0.0027	mg/L	0.00025	0.0027	mg/L	0.00025	9.07%
Pb 220	130.0	0.0073	mg/L	0.00096	0.0073	mg/L	0.00096	13.21%
Fe 260	33239.6	0.901	mg/L	0.0081	0.901	mg/L	0.0081	0.90%
Cr 268	-426.7	0.0012	mg/L	0.00112	0.0012	mg/L	0.00112	93.99%
Mg 279	225131.0	62.0	mg/L	0.03	62.0	mg/L	0.03	0.04%
Al 308	11.2	-0.0164	mg/L	0.06451	-0.0164	mg/L	0.06451	393.66%
Be 313	375.3	0.0045	mg/L	0.01239	0.0045	mg/L	0.01239	277.87%
Ca 318	3054023.3	96.0	mg/L	0.54	96.0	mg/L	0.54	0.57%
Na 590	Saturated4							
K 766	216654.1	9.20	mg/L	0.044	9.20	mg/L	0.044	0.47%

Sequence No.: 49
Sample ID: 0182_7 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 39
Date Collected: 2/3/2015 6:54:55 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_7 x10

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_7 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-48.5	-0.0033	mg/L	0.00128	-0.0033	mg/L	0.00128	39.02%
Cd 214	-205.8	0.0023	mg/L	0.00022	0.0023	mg/L	0.00022	9.63%
Pb 220	86.3	0.0060	mg/L	0.00231	0.0060	mg/L	0.00231	38.68%
Fe 260	4683.5	0.142	mg/L	0.0000	0.142	mg/L	0.0000	0.00%
Cr 268	-747.5	0.0003	mg/L	0.00132	0.0003	mg/L	0.00132	454.58%
Mg 279	29754.2	8.18	mg/L	0.024	8.18	mg/L	0.024	0.29%
Al 308	-149.4	-0.0380	mg/L	0.01551	-0.0380	mg/L	0.01551	40.81%
Be 313	187.7	0.0021	mg/L	0.00668	0.0021	mg/L	0.00668	318.64%
Ca 318	378302.8	11.9	mg/L	0.04	11.9	mg/L	0.04	0.33%
Na 590	2648339.1	33.8	mg/L	0.05	33.8	mg/L	0.05	0.16%
K 766	25167.2	1.06	mg/L	0.022	1.06	mg/L	0.022	2.05%

Sequence No.: 50
Sample ID: 0182_7 x100
Analyst:
Initial Sample Wt:

Autosampler Location: 40
Date Collected: 2/3/2015 6:59:16 PM
Data Type: Original
Initial Sample Vol:

Dilution: **Sample Prep Vol:**

Nebulirer Parameters: 0182_7 x100

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_7 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	0.4	0.0003	mg/L	0.00022	0.0003	mg/L	0.00022	76.19%
Cd 214	-230.0	0.0023	mg/L	0.00039	0.0023	mg/L	0.00039	17.15%
Pb 220	36.2	0.0045	mg/L	0.00213	0.0045	mg/L	0.00213	47.15%
Fe 260	87.3	0.0203	mg/L	0.00478	0.0203	mg/L	0.00478	23.63%
Cr 268	-668.7	0.0005	mg/L	0.00016	0.0005	mg/L	0.00016	30.71%
Mg 279	2537.7	0.676	mg/L	0.0049	0.676	mg/L	0.0049	0.73%
Al 308	-272.7	-0.0546	mg/L	0.02056	-0.0546	mg/L	0.02056	37.65%
Be 313	911.0	0.0112	mg/L	0.01288	0.0112	mg/L	0.01288	114.95%
Ca 318	34059.0	1.08	mg/L	0.004	1.08	mg/L	0.004	0.39%
Na 590	273576.7	3.48	mg/L	0.026	3.48	mg/L	0.026	0.74%
K 766	3862.6	0.158	mg/L	0.0002	0.158	mg/L	0.0002	0.10%

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Sequence No.: 51 **Autosampler Location: 41**
Sample ID: 0182_11 **Date Collected: 2/3/2015 7:03:33 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulirer Parameters: 0182_11

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_11

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-336.6	-0.0240	mg/L	0.00205	-0.0240	mg/L	0.00205	8.52%
Cd 214	217.7	0.0030	mg/L	0.00041	0.0030	mg/L	0.00041	13.91%
Pb 220	115.2	0.0068	mg/L	0.00335	0.0068	mg/L	0.00335	49.09%
Fe 260	298490.7	7.95	mg/L	0.077	7.95	mg/L	0.077	0.97%
Cr 268	7415.5	0.0233	mg/L	0.00074	0.0233	mg/L	0.00074	3.16%
Mg 279	377303.5	104	mg/L	1.3	104	mg/L	1.3	1.23%
Al 308	-789.9	-0.124	mg/L	0.0084	-0.124	mg/L	0.0084	6.78%
Be 313	0.0	-0.0003	mg/L	0.00334	-0.0003	mg/L	0.00334	>999.9%
Ca 318	Saturated4							
Na 590	Saturated4							
K 766	Saturated4							

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Sequence No.: 52 **Autosampler Location: 42**
Sample ID: 0182_11 x1000 **Date Collected: 2/3/2015 7:07:47 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 0182_11 x1000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_11 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-105.4	-0.0074	mg/L	0.00202	-0.0074	mg/L	0.00202	27.31%
Cd 214	60.5	0.0027	mg/L	0.00017	0.0027	mg/L	0.00017	6.08%
Pb 220	-13.1	0.0031	mg/L	0.00066	0.0031	mg/L	0.00066	21.36%
Fe 260	-342.1	0.0088	mg/L	0.02092	0.0088	mg/L	0.02092	236.45%
Cr 268	-329.8	0.0015	mg/L	0.00035	0.0015	mg/L	0.00035	23.87%

Mg 279	620.1	0.147 mg/L	0.0012	0.147 mg/L	0.0012	0.80%
Al 308	-67.9	-0.0270 mg/L	0.00000	-0.0270 mg/L	0.00000	0.00%
Be 313	-441.8	-0.0058 mg/L	0.00453	-0.0058 mg/L	0.00453	77.65%
Ca 318	64834.0	2.05 mg/L	0.029	2.05 mg/L	0.029	1.43%
Na 590	1165519.7	14.9 mg/L	0.04	14.9 mg/L	0.04	0.28%
K 766	32897.0	1.39 mg/L	0.029	1.39 mg/L	0.029	2.07%

Sequence No.: 53
Sample ID: 0182_11 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 43
Date Collected: 2/3/2015 7:12:01 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_11 x10000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_11 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-42.0	-0.0028	mg/L	0.00039	-0.0028	mg/L	0.00039	13.94%
Cd 214	-193.7	0.0023	mg/L	0.00025	0.0023	mg/L	0.00025	10.74%
Pb 220	-10.6	0.0031	mg/L	0.00136	0.0031	mg/L	0.00136	43.31%
Fe 260	-684.2	-0.0002	mg/L	0.02420	-0.0002	mg/L	0.02420	>999.9%
Cr 268	-426.7	0.0012	mg/L	0.00074	0.0012	mg/L	0.00074	61.66%
Mg 279	218.1	0.0362	mg/L	0.02332	0.0362	mg/L	0.02332	64.41%
Al 308	-16.3	-0.0201	mg/L	0.03394	-0.0201	mg/L	0.03394	169.03%
Be 313	-160.4	-0.0023	mg/L	0.00954	-0.0023	mg/L	0.00954	417.53%
Ca 318	7229.4	0.236	mg/L	0.0042	0.236	mg/L	0.0042	1.77%
Na 590	241460.7	3.07	mg/L	0.018	3.07	mg/L	0.018	0.58%
K 766	9972.0	0.418	mg/L	0.0147	0.418	mg/L	0.0147	3.52%

Sequence No.: 54
Sample ID: 0182_12
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 44
Date Collected: 2/3/2015 7:16:19 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_12

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_12

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-273.3	-0.0196	mg/L	0.00138	-0.0196	mg/L	0.00138	7.04%
Cd 214	-242.1	0.0022	mg/L	0.00025	0.0022	mg/L	0.00025	11.11%
Pb 220	76.3	0.0057	mg/L	0.00030	0.0057	mg/L	0.00030	5.24%
Fe 260	364278.5	9.69	mg/L	0.048	9.69	mg/L	0.048	0.50%
Cr 268	-105.8	0.0021	mg/L	0.00093	0.0021	mg/L	0.00093	44.28%
Mg 279	340955.7	94.0	mg/L	0.77	94.0	mg/L	0.77	0.82%
Al 308	-504.5	-0.0858	mg/L	0.02056	-0.0858	mg/L	0.02056	23.96%
Be 313	308.8	0.0036	mg/L	0.00453	0.0036	mg/L	0.00453	124.94%
Ca 318	Saturated4							
Na 590	Saturated4							
K 766	Saturated4							

Sequence No.: 55
Sample ID: 0182_12 x1000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 45
Date Collected: 2/3/2015 7:20:39 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_12 x1000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_12 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-51.0	-0.0034	mg/L	0.00145	-0.0034	mg/L	0.00145	41.96%
Cd 214	36.3	0.0027	mg/L	0.00005	0.0027	mg/L	0.00005	2.05%
Pb 220	24.2	0.0042	mg/L	0.00157	0.0042	mg/L	0.00157	37.66%
Fe 260	-254.7	0.0112	mg/L	0.00807	0.0112	mg/L	0.00807	72.24%
Cr 268	-369.2	0.0014	mg/L	0.00058	0.0014	mg/L	0.00058	42.71%
Mg 279	629.1	0.150	mg/L	0.0355	0.150	mg/L	0.0355	23.74%
Al 308	-164.3	-0.0400	mg/L	0.01267	-0.0400	mg/L	0.01267	31.68%
Be 313	27.3	0.0001	mg/L	0.00620	0.0001	mg/L	0.00620	>999.9%
Ca 318	62366.1	1.97	mg/L	0.013	1.97	mg/L	0.013	0.64%
Na 590	1185577.3	15.1	mg/L	0.19	15.1	mg/L	0.19	1.28%
K 766	40558.5	1.72	mg/L	0.016	1.72	mg/L	0.016	0.92%

Sequence No.: 56
Sample ID: 0182_12 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 46
Date Collected: 2/3/2015 7:24:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_12 x10000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_12 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-79.7	-0.0055	mg/L	0.00284	-0.0055	mg/L	0.00284	51.20%
Cd 214	-302.6	0.0021	mg/L	0.00061	0.0021	mg/L	0.00061	28.41%
Pb 220	-4.7	0.0033	mg/L	0.00298	0.0033	mg/L	0.00298	89.82%
Fe 260	-556.8	0.0031	mg/L	0.02898	0.0031	mg/L	0.02898	922.27%
Cr 268	-466.0	0.0011	mg/L	0.00019	0.0011	mg/L	0.00019	17.83%
Mg 279	86.6	0.0000	mg/L	0.01549	0.0000	mg/L	0.01549	>999.9%
Al 308	-82.8	-0.0290	mg/L	0.01560	-0.0290	mg/L	0.01560	53.70%
Be 313	-789.9	-0.0102	mg/L	0.00070	-0.0102	mg/L	0.00070	6.84%
Ca 318	6986.7	0.228	mg/L	0.0017	0.228	mg/L	0.0017	0.75%
Na 590	291343.4	3.70	mg/L	0.026	3.70	mg/L	0.026	0.71%
K 766	14709.1	0.619	mg/L	0.0255	0.619	mg/L	0.0255	4.13%

Sequence No.: 57
Sample ID: 0171_1 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 47
Date Collected: 2/3/2015 7:29:18 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_1 x10000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0171_1 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-67.0	-0.0046	mg/L	0.00043	-0.0046	mg/L	0.00043	9.37%
Cd 214	84.7	0.0028	mg/L	0.00022	0.0028	mg/L	0.00022	8.00%
Pb 220	34.4	0.0045	mg/L	0.00500	0.0045	mg/L	0.00500	112.13%
Fe 260	-986.2	-0.0083	mg/L	0.04511	-0.0083	mg/L	0.04511	545.89%
Cr 268	-466.0	0.0011	mg/L	0.00019	0.0011	mg/L	0.00019	17.83%
Mg 279	124.5	0.0104	mg/L	0.00378	0.0104	mg/L	0.00378	36.20%
Al 308	-117.3	-0.0337	mg/L	0.01630	-0.0337	mg/L	0.01630	48.42%
Be 313	883.7	0.0109	mg/L	0.01907	0.0109	mg/L	0.01907	175.64%
Ca 318	6300.1	0.206	mg/L	0.0048	0.206	mg/L	0.0048	2.34%

Na 590	235062.8	2.99	mg/L	0.003	2.99	mg/L	0.003	0.10%
K 766	11485.7	0.482	mg/L	0.0064	0.482	mg/L	0.0064	1.32%

Sequence No.: 58
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/3/2015 7:33:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6450.3	0.474	mg/L	0.0052	0.474	mg/L	0.0052	1.09%
Cd 214	288612.1	0.468	mg/L	0.0001	0.468	mg/L	0.0001	0.02%
Pb 220	15854.7	0.466	mg/L	0.0043	0.466	mg/L	0.0043	0.92%
Fe 260	89278.3	2.39	mg/L	0.000	2.39	mg/L	0.000	0.00%
Cr 268	166256.4	0.472	mg/L	0.0023	0.472	mg/L	0.0023	0.48%
Mg 279	8936.8	2.44	mg/L	0.030	2.44	mg/L	0.030	1.22%
Al 308	18424.6	2.46	mg/L	0.024	2.46	mg/L	0.024	0.98%
Be 313	37504.9	0.472	mg/L	0.0095	0.472	mg/L	0.0095	2.02%
Ca 318	75220.9	2.37	mg/L	0.025	2.37	mg/L	0.025	1.05%
Na 590	232612.0	2.96	mg/L	0.014	2.96	mg/L	0.014	0.49%
K 766	60597.6	2.57	mg/L	0.004	2.57	mg/L	0.004	0.15%

Sequence No.: 59
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/3/2015 7:37:55 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-66.2	-0.0046	mg/L	0.00096	-0.0046	mg/L	0.00096	21.00%
Cd 214	-254.1	0.0022	mg/L	0.00039	0.0022	mg/L	0.00039	17.45%
Pb 220	146.7	0.0077	mg/L	0.00033	0.0077	mg/L	0.00033	4.20%
Fe 260	302.0	0.0260	mg/L	0.00328	0.0260	mg/L	0.00328	12.64%
Cr 268	-417.6	0.0012	mg/L	0.00000	0.0012	mg/L	0.00000	0.00%
Mg 279	21.2	-0.0180	mg/L	0.02856	-0.0180	mg/L	0.02856	158.41%
Al 308	-150.3	-0.0381	mg/L	0.02685	-0.0381	mg/L	0.02685	70.43%
Be 313	911.0	0.0112	mg/L	0.00285	0.0112	mg/L	0.00285	25.48%
Ca 318	216.0	0.0154	mg/L	0.00000	0.0154	mg/L	0.00000	0.00%
Na 590	134797.7	1.71	mg/L	0.004	1.71	mg/L	0.004	0.22%
K 766	6990.1	0.291	mg/L	0.0061	0.291	mg/L	0.0061	2.09%

Sequence No.: 60
Sample ID: 0171_2 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 48
Date Collected: 2/3/2015 7:42:14 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_2 x10000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0171_2 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-75.6	-0.0052	mg/L	0.00340	-0.0052	mg/L	0.00340	64.83%
Cd 214	181.5	0.0029	mg/L	0.00000	0.0029	mg/L	0.00000	0.00%
Pb 220	11.0	0.0038	mg/L	0.00139	0.0038	mg/L	0.00139	36.72%
Fe 260	-1543.0	-0.0231	mg/L	0.00807	-0.0231	mg/L	0.00807	34.99%
Cr 268	-320.8	0.0015	mg/L	0.00000	0.0015	mg/L	0.00000	0.00%
Mg 279	53.8	-0.0091	mg/L	0.05927	-0.0091	mg/L	0.05927	654.28%
Al 308	-127.5	-0.0351	mg/L	0.02552	-0.0351	mg/L	0.02552	72.80%
Be 313	1098.7	0.0136	mg/L	0.00620	0.0136	mg/L	0.00620	45.67%
Ca 318	5028.1	0.167	mg/L	0.0054	0.167	mg/L	0.0054	3.22%
Na 590	184444.3	2.34	mg/L	0.007	2.34	mg/L	0.007	0.31%
K 766	8103.1	0.338	mg/L	0.0234	0.338	mg/L	0.0234	6.91%

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Sequence No.: 61 **Autosampler Location: 49**
Sample ID: 0171_3 x10000 **Date Collected: 2/3/2015 7:46:34 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 0171_3 x10000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0171_3 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-32.1	-0.0021	mg/L	0.00060	-0.0021	mg/L	0.00060	28.79%
Cd 214	72.5	0.0027	mg/L	0.00019	0.0027	mg/L	0.00019	7.04%
Pb 220	19.5	0.0040	mg/L	0.00264	0.0040	mg/L	0.00264	65.52%
Fe 260	-214.7	0.0122	mg/L	0.01613	0.0122	mg/L	0.01613	131.91%
Cr 268	-901.7	-0.0001	mg/L	0.00039	-0.0001	mg/L	0.00039	265.16%
Mg 279	219.5	0.0366	mg/L	0.03539	0.0366	mg/L	0.03539	96.67%
Al 308	-291.8	-0.0572	mg/L	0.00576	-0.0572	mg/L	0.00576	10.07%
Be 313	375.3	0.0045	mg/L	0.00000	0.0045	mg/L	0.00000	0.00%
Ca 318	6194.3	0.203	mg/L	0.0165	0.203	mg/L	0.0165	8.14%
Na 590	184495.1	2.34	mg/L	0.018	2.34	mg/L	0.018	0.78%
K 766	7890.9	0.329	mg/L	0.0073	0.329	mg/L	0.0073	2.21%

==========

Sequence No.: 62 **Autosampler Location: 50**
Sample ID: 0171_4 x10000 **Date Collected: 2/3/2015 7:50:51 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 0171_4 x10000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0171_4 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-90.4	-0.0063	mg/L	0.00227	-0.0063	mg/L	0.00227	36.02%
Cd 214	36.3	0.0027	mg/L	0.00033	0.0027	mg/L	0.00033	12.34%
Pb 220	11.3	0.0038	mg/L	0.00252	0.0038	mg/L	0.00252	66.53%
Fe 260	-1113.6	-0.0116	mg/L	0.00807	-0.0116	mg/L	0.00807	69.25%
Cr 268	-272.4	0.0016	mg/L	0.00019	0.0016	mg/L	0.00019	11.85%
Mg 279	85.5	-0.0003	mg/L	0.01828	-0.0003	mg/L	0.01828	>999.9%
Al 308	-197.8	-0.0445	mg/L	0.01214	-0.0445	mg/L	0.01214	27.26%
Be 313	1004.8	0.0124	mg/L	0.00216	0.0124	mg/L	0.00216	17.41%
Ca 318	5361.8	0.177	mg/L	0.0118	0.177	mg/L	0.0118	6.69%
Na 590	173189.7	2.20	mg/L	0.008	2.20	mg/L	0.008	0.37%
K 766	7097.7	0.296	mg/L	0.0020	0.296	mg/L	0.0020	0.67%

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Sequence No.: 63
Sample ID: 0171_5 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 51
Date Collected: 2/3/2015 7:55:11 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_5 x10000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0171_5 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-77.1	-0.0054	mg/L	0.00063	-0.0054	mg/L	0.00063	11.82%
Cd 214	-181.6	0.0023	mg/L	0.00028	0.0023	mg/L	0.00028	11.84%
Pb 220	94.9	0.0062	mg/L	0.00150	0.0062	mg/L	0.00150	24.01%
Fe 260	-2099.8	-0.0378	mg/L	0.00328	-0.0378	mg/L	0.00328	8.67%
Cr 268	-378.2	0.0013	mg/L	0.00016	0.0013	mg/L	0.00016	11.80%
Mg 279	67.9	-0.0052	mg/L	0.01018	-0.0052	mg/L	0.01018	196.55%
Al 308	9.8	-0.0166	mg/L	0.03323	-0.0166	mg/L	0.03323	200.55%
Be 313	281.5	0.0033	mg/L	0.00167	0.0033	mg/L	0.00167	50.96%
Ca 318	6233.0	0.204	mg/L	0.0065	0.204	mg/L	0.0065	3.17%
Na 590	175979.3	2.23	mg/L	0.020	2.23	mg/L	0.020	0.89%
K 766	7192.7	0.300	mg/L	0.0037	0.300	mg/L	0.0037	1.25%

Sequence No.: 64
Sample ID: 0171_6 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 52
Date Collected: 2/3/2015 7:59:26 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_6 x10000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0171_6 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-80.8	-0.0056	mg/L	0.00128	-0.0056	mg/L	0.00128	22.66%
Cd 214	-84.7	0.0025	mg/L	0.00017	0.0025	mg/L	0.00017	6.65%
Pb 220	44.8	0.0048	mg/L	0.00145	0.0048	mg/L	0.00145	30.42%
Fe 260	-214.7	0.0122	mg/L	0.01613	0.0122	mg/L	0.01613	131.91%
Cr 268	-659.7	0.0005	mg/L	0.00019	0.0005	mg/L	0.00019	35.95%
Mg 279	217.6	0.0361	mg/L	0.02008	0.0361	mg/L	0.02008	55.63%
Al 308	-209.9	-0.0461	mg/L	0.01551	-0.0461	mg/L	0.01551	33.61%
Be 313	-160.4	-0.0023	mg/L	0.00285	-0.0023	mg/L	0.00285	124.99%
Ca 318	6541.3	0.214	mg/L	0.0142	0.214	mg/L	0.0142	6.65%
Na 590	173189.5	2.20	mg/L	0.013	2.20	mg/L	0.013	0.58%
K 766	7163.1	0.298	mg/L	0.0148	0.298	mg/L	0.0148	4.97%

Sequence No.: 65
Sample ID: 157815 MB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 53
Date Collected: 2/3/2015 8:03:44 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 157815 MB

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 157815 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-72.2	-0.0050	mg/L	0.00123	-0.0050	mg/L	0.00123	24.54%

Cd 214	96.7	0.0028 mg/L	0.00003	0.0028 mg/L	0.00003	0.99%
Pb 220	121.1	0.0070 mg/L	0.00035	0.0070 mg/L	0.00035	5.03%
Fe 260	214.7	0.0236 mg/L	0.00000	0.0236 mg/L	0.00000	0.00%
Cr 268	-756.5	0.0003 mg/L	0.00058	0.0003 mg/L	0.00058	219.45%
Mg 279	94.5	0.0022 mg/L	0.02233	0.0022 mg/L	0.02233	>999.9%
Al 308	-310.0	-0.0596 mg/L	0.02765	-0.0596 mg/L	0.02765	46.37%
Be 313	817.2	0.0100 mg/L	0.00453	0.0100 mg/L	0.00453	45.15%
Ca 318	-26.8	0.0077 mg/L	0.01423	0.0077 mg/L	0.01423	183.92%
Na 590	113503.8	1.44 mg/L	0.010	1.44 mg/L	0.010	0.71%
K 766	4656.4	0.192 mg/L	0.0024	0.192 mg/L	0.0024	1.27%

Sequence No.: 66
Sample ID: 1S7816 LCS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: S4
Date Collected: 2/3/2015 8:08:04 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 1S7816 LCS

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 1S7816 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5117.3	0.376	mg/L	0.0036	0.376	mg/L	0.0036	0.95%
Cd 214	227278.3	0.369	mg/L	0.0050	0.369	mg/L	0.0050	1.35%
Pb 220	12472.1	0.368	mg/L	0.0013	0.368	mg/L	0.0013	0.36%
Fe 260	69437.8	1.86	mg/L	0.003	1.86	mg/L	0.003	0.18%
Cr 268	132234.2	0.376	mg/L	0.0010	0.376	mg/L	0.0010	0.26%
Mg 279	7064.9	1.92	mg/L	0.014	1.92	mg/L	0.014	0.72%
Al 308	14272.6	1.90	mg/L	0.033	1.90	mg/L	0.033	1.75%
Be 313	29341.7	0.369	mg/L	0.0112	0.369	mg/L	0.0112	3.04%
Ca 318	60665.2	1.91	mg/L	0.023	1.91	mg/L	0.023	1.19%
Na 590	182647.2	2.32	mg/L	0.007	2.32	mg/L	0.007	0.32%
K 766	47708.0	2.02	mg/L	0.007	2.02	mg/L	0.007	0.36%

Sequence No.: 67
Sample ID: 1S7817 LCSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: S5
Date Collected: 2/3/2015 8:12:23 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 1S7817 LCSD

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 1S7817 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5138.4	0.378	mg/L	0.0009	0.378	mg/L	0.0009	0.24%
Cd 214	226225.5	0.367	mg/L	0.0025	0.367	mg/L	0.0025	0.69%
Pb 220	12511.3	0.369	mg/L	0.0005	0.369	mg/L	0.0005	0.13%
Fe 260	71068.2	1.91	mg/L	0.016	1.91	mg/L	0.016	0.85%
Cr 268	131613.9	0.374	mg/L	0.0011	0.374	mg/L	0.0011	0.30%
Mg 279	6831.8	1.86	mg/L	0.002	1.86	mg/L	0.002	0.10%
Al 308	14291.7	1.91	mg/L	0.055	1.91	mg/L	0.055	2.90%
Be 313	29341.7	0.369	mg/L	0.0012	0.369	mg/L	0.0012	0.32%
Ca 318	59284.6	1.87	mg/L	0.024	1.87	mg/L	0.024	1.30%
Na 590	182534.7	2.32	mg/L	0.023	2.32	mg/L	0.023	0.99%
K 766	47020.7	1.99	mg/L	0.001	1.99	mg/L	0.001	0.04%

Sequence No.: 68
Sample ID: 0144_1 x10
Analyst:
Initial Sample Wt:

Autosampler Location: 56
Date Collected: 2/3/2015 8:16:43 PM
Data Type: Original
Initial Sample Vol:

Dilution: Sample Prep Vol:

Nebulizer Parameters: 0144_1 x10

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0144_1 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-50.3	-0.0034	mg/L	0.00021	-0.0034	mg/L	0.00021	6.15%
Cd 214	72.5	0.0027	mg/L	0.00041	0.0027	mg/L	0.00041	15.10%
Pb 220	-7.7	0.0032	mg/L	0.00081	0.0032	mg/L	0.00081	24.95%
Fe 260	-342.1	0.0088	mg/L	0.05318	0.0088	mg/L	0.05318	601.18%
Cr 268	-1037.9	-0.0005	mg/L	0.00016	-0.0005	mg/L	0.00016	29.65%
Mg 279	3628.7	0.976	mg/L	0.0116	0.976	mg/L	0.0116	1.19%
Al 308	-354.2	-0.0656	mg/L	0.01764	-0.0656	mg/L	0.01764	26.90%
Be 313	590.3	0.0072	mg/L	0.00620	0.0072	mg/L	0.00620	86.47%
Ca 318	40893.8	1.29	mg/L	0.017	1.29	mg/L	0.017	1.34%
Na 590	9963097.8	127	mg/L	1.0	127	mg/L	1.0	0.80%
K 766	16846.9	0.710	mg/L	0.0013	0.710	mg/L	0.0013	0.19%

Sequence No.: 69
Sample ID: 0144_1 x1000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 57
Date Collected: 2/3/2015 8:21:04 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_1 x1000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0144_1 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-83.7	-0.0058	mg/L	0.00094	-0.0058	mg/L	0.00094	16.16%
Cd 214	-435.7	0.0019	mg/L	0.00030	0.0019	mg/L	0.00030	15.79%
Pb 220	89.0	0.0061	mg/L	0.00053	0.0061	mg/L	0.00053	8.78%
Fe 260	-684.2	-0.0002	mg/L	0.00807	-0.0002	mg/L	0.00807	>999.9%
Cr 268	-475.1	0.0011	mg/L	0.00023	0.0011	mg/L	0.00023	21.66%
Mg 279	77.1	-0.0026	mg/L	0.00657	-0.0026	mg/L	0.00657	250.15%
Al 308	-160.6	-0.0395	mg/L	0.01923	-0.0395	mg/L	0.01923	48.67%
Be 313	-187.7	-0.0026	mg/L	0.00334	-0.0026	mg/L	0.00334	127.14%
Ca 318	1353.8	0.0511	mg/L	0.00185	0.0511	mg/L	0.00185	3.63%
Na 590	197989.1	2.51	mg/L	0.019	2.51	mg/L	0.019	0.76%
K 766	4459.0	0.184	mg/L	0.0168	0.184	mg/L	0.0168	9.16%

Sequence No.: 70
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/3/2015 8:25:25 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6503.6	0.478	mg/L	0.0003	0.478	mg/L	0.0003	0.07%
Cd 214	287970.6	0.467	mg/L	0.0042	0.467	mg/L	0.0042	0.90%
Pb 220	15655.8	0.461	mg/L	0.0057	0.461	mg/L	0.0057	1.23%
Fe 260	89707.7	2.40	mg/L	0.048	2.40	mg/L	0.048	2.02%
Cr 268	166111.1	0.471	mg/L	0.0022	0.471	mg/L	0.0022	0.46%

Mg 279	8933.6	2.44 mg/L	0.029	2.44 mg/L	0.029	1.19%
Al 308	18138.3	2.42 mg/L	0.001	2.42 mg/L	0.001	0.03%
Be 313	37786.4	0.475 mg/L	0.0012	0.475 mg/L	0.0012	0.25%
Ca 318	75276.0	2.37 mg/L	0.019	2.37 mg/L	0.019	0.81%
Na 590	218846.8	2.78 mg/L	0.025	2.78 mg/L	0.025	0.90%
K 766	59591.6	2.53 mg/L	0.014	2.53 mg/L	0.014	0.57%

Sequence No.: 71
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/3/2015 8:29:42 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-54.6	-0.0037	mg/L	0.00346	-0.0037	mg/L	0.00346	93.06%
Cd 214	-229.9	0.0023	mg/L	0.00011	0.0023	mg/L	0.00011	4.90%
Pb 220	-70.8	0.0014	mg/L	0.00182	0.0014	mg/L	0.00182	130.89%
Fe 260	-429.4	0.0065	mg/L	0.00807	0.0065	mg/L	0.00807	123.60%
Cr 268	-408.6	0.0012	mg/L	0.00112	0.0012	mg/L	0.00112	90.15%
Mg 279	100.7	0.0039	mg/L	0.00765	0.0039	mg/L	0.00765	197.35%
Al 308	-183.8	-0.0426	mg/L	0.00363	-0.0426	mg/L	0.00363	8.52%
Be 313	656.8	0.0080	mg/L	0.00167	0.0080	mg/L	0.00167	20.87%
Ca 318	378.3	0.0205	mg/L	0.00483	0.0205	mg/L	0.00483	23.61%
Na 590	68990.2	0.868	mg/L	0.0127	0.868	mg/L	0.0127	1.47%
K 766	3067.7	0.124	mg/L	0.0176	0.124	mg/L	0.0176	14.18%

Sequence No.: 72
Sample ID: 0144_2 x1000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 58
Date Collected: 2/3/2015 8:33:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_2 x1000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0144_2 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-93.0	-0.0065	mg/L	0.00215	-0.0065	mg/L	0.00215	32.98%
Cd 214	-193.6	0.0023	mg/L	0.00030	0.0023	mg/L	0.00030	13.13%
Pb 220	85.3	0.0059	mg/L	0.00159	0.0059	mg/L	0.00159	26.69%
Fe 260	302.0	0.0260	mg/L	0.02898	0.0260	mg/L	0.02898	111.66%
Cr 268	-699.1	0.0004	mg/L	0.00004	0.0004	mg/L	0.00004	8.45%
Mg 279	377.0	0.0800	mg/L	0.01791	0.0800	mg/L	0.01791	22.38%
Al 308	-257.4	-0.0525	mg/L	0.01923	-0.0525	mg/L	0.01923	36.59%
Be 313	-93.8	-0.0014	mg/L	0.00501	-0.0014	mg/L	0.00501	346.42%
Ca 318	32306.0	1.02	mg/L	0.002	1.02	mg/L	0.002	0.23%
Na 590	535440.9	6.82	mg/L	0.049	6.82	mg/L	0.049	0.71%
K 766	10767.4	0.452	mg/L	0.0207	0.452	mg/L	0.0207	4.57%

Sequence No.: 73
Sample ID: 0144_2 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 59
Date Collected: 2/3/2015 8:38:13 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_2 x10000

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0144_2 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-72.9	-0.0051	mg/L	0.00199	-0.0051	mg/L	0.00199	39.41%
Cd 214	-399.4	0.0020	mg/L	0.00044	0.0020	mg/L	0.00044	22.30%
Pb 220	46.1	0.0048	mg/L	0.00085	0.0048	mg/L	0.00085	17.68%
Fe 260	429.4	0.0293	mg/L	0.00807	0.0293	mg/L	0.00807	27.49%
Cr 268	-795.9	0.0002	mg/L	0.00120	0.0002	mg/L	0.00120	781.34%
Mg 279	67.4	-0.0053	mg/L	0.00585	-0.0053	mg/L	0.00585	110.36%
Al 308	-135.4	-0.0361	mg/L	0.00558	-0.0361	mg/L	0.00558	15.46%
Be 313	308.8	0.0036	mg/L	0.01455	0.0036	mg/L	0.01455	401.66%
Ca 318	3768.1	0.127	mg/L	0.0043	0.127	mg/L	0.0043	3.39%
Na 590	134783.1	1.71	mg/L	0.018	1.71	mg/L	0.018	1.06%
K 766	4086.5	0.168	mg/L	0.0050	0.168	mg/L	0.0050	2.96%

Sequence No.: 74
Sample ID: 158139 MB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 60
Date Collected: 2/3/2015 8:42:33 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158139 MB

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158139 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-55.3	-0.0038	mg/L	0.00132	-0.0038	mg/L	0.00132	35.13%
Cd 214	-181.5	0.0023	mg/L	0.00006	0.0023	mg/L	0.00006	2.38%
Pb 220	-50.3	0.0020	mg/L	0.00258	0.0020	mg/L	0.00258	130.00%
Fe 260	516.8	0.0317	mg/L	0.02092	0.0317	mg/L	0.02092	66.07%
Cr 268	-417.6	0.0012	mg/L	0.00000	0.0012	mg/L	0.00000	0.00%
Mg 279	-3.0	-0.0247	mg/L	0.01692	-0.0247	mg/L	0.01692	68.47%
Al 308	-67.9	-0.0270	mg/L	0.00000	-0.0270	mg/L	0.00000	0.00%
Be 313	187.7	0.0021	mg/L	0.01573	0.0021	mg/L	0.01573	750.24%
Ca 318	-169.8	0.0032	mg/L	0.00417	0.0032	mg/L	0.00417	128.53%
Na 590	85604.8	1.08	mg/L	0.004	1.08	mg/L	0.004	0.40%
K 766	3296.1	0.134	mg/L	0.0081	0.134	mg/L	0.0081	6.04%

Sequence No.: 75
Sample ID: 158140 LCS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 61
Date Collected: 2/3/2015 8:46:53 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158140 LCS

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158140 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5051.5	0.372	mg/L	0.0008	0.372	mg/L	0.0008	0.21%
Cd 214	224083.4	0.364	mg/L	0.0010	0.364	mg/L	0.0010	0.27%
Pb 220	12309.5	0.363	mg/L	0.0057	0.363	mg/L	0.0057	1.58%
Fe 260	68236.9	1.83	mg/L	0.016	1.83	mg/L	0.016	0.88%
Cr 268	132176.7	0.375	mg/L	0.0012	0.375	mg/L	0.0012	0.32%
Mg 279	6859.3	1.87	mg/L	0.023	1.87	mg/L	0.023	1.23%
Al 308	14179.5	1.89	mg/L	0.016	1.89	mg/L	0.016	0.82%
Be 313	29060.2	0.366	mg/L	0.0095	0.366	mg/L	0.0095	2.61%
Ca 318	60211.0	1.90	mg/L	0.025	1.90	mg/L	0.025	1.32%

Na 590	178396.5	2.26 mg/L	0.005	2.26 mg/L	0.005	0.20%
K 766	46193.3	1.96 mg/L	0.014	1.96 mg/L	0.014	0.71%

Sequence No.: 76
Sample ID: 158141 LCSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 62
Date Collected: 2/3/2015 8:51:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158141 LCSD

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158141 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5174.3	0.380	mg/L	0.0045	0.380	mg/L	0.0045	1.17%
Cd 214	229371.9	0.372	mg/L	0.0026	0.372	mg/L	0.0026	0.71%
Pb 220	12469.5	0.368	mg/L	0.0006	0.368	mg/L	0.0006	0.17%
Fe 260	69525.2	1.86	mg/L	0.048	1.86	mg/L	0.048	2.60%
Cr 268	131992.1	0.375	mg/L	0.0023	0.375	mg/L	0.0023	0.62%
Mg 279	7058.9	1.92	mg/L	0.006	1.92	mg/L	0.006	0.32%
Al 308	14276.8	1.90	mg/L	0.021	1.90	mg/L	0.021	1.12%
Be 313	29595.9	0.372	mg/L	0.0134	0.372	mg/L	0.0134	3.59%
Ca 318	59633.1	1.88	mg/L	0.019	1.88	mg/L	0.019	0.98%
Na 590	179983.3	2.28	mg/L	0.030	2.28	mg/L	0.030	1.31%
K 766	46771.0	1.98	mg/L	0.022	1.98	mg/L	0.022	1.13%

Sequence No.: 77
Sample ID: 0182_8
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 63
Date Collected: 2/3/2015 8:55:32 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_8

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_8

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	96.2	0.0078	mg/L	0.00007	0.0078	mg/L	0.00007	0.84%
Cd 214	1500.6	0.0050	mg/L	0.00003	0.0050	mg/L	0.00003	0.54%
Pb 220	1010.6	0.0330	mg/L	0.00146	0.0330	mg/L	0.00146	4.43%
Fe 260	2265957.0	60.2	mg/L	0.09	60.2	mg/L	0.09	0.15%
Cr 268	20855.1	0.0613	mg/L	0.00074	0.0613	mg/L	0.00074	1.20%
Mg 279	255021.9	70.3	mg/L	0.50	70.3	mg/L	0.50	0.72%
Al 308	248355.6	33.4	mg/L	0.03	33.4	mg/L	0.03	0.10%
Be 313	375.3	0.0045	mg/L	0.00334	0.0045	mg/L	0.00334	74.92%
Ca 318	6403587.8	201	mg/L	1.8	201	mg/L	1.8	0.88%
Na 590	3987003.4	50.8	mg/L	0.45	50.8	mg/L	0.45	0.89%
K 766	325450.5	13.8	mg/L	0.04	13.8	mg/L	0.04	0.29%

Sequence No.: 78
Sample ID: 0182_8 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 64
Date Collected: 2/3/2015 8:59:47 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_8 x10

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_8 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-76.6	-0.0053	mg/L	0.00116	-0.0053	mg/L	0.00116	22.05%
Cd 214	84.7	0.0028	mg/L	0.00000	0.0028	mg/L	0.00000	0.00%
Pb 220	37.0	0.0045	mg/L	0.00016	0.0045	mg/L	0.00016	3.49%
Fe 260	230770.5	6.15	mg/L	0.040	6.15	mg/L	0.040	0.66%
Cr 268	1800.1	0.0075	mg/L	0.00035	0.0075	mg/L	0.00035	4.68%
Mg 279	26873.8	7.38	mg/L	0.009	7.38	mg/L	0.009	0.13%
Al 308	25508.5	3.42	mg/L	0.010	3.42	mg/L	0.010	0.29%
Be 313	27.3	0.0001	mg/L	0.01622	0.0001	mg/L	0.01622	>999.9%
Ca 318	654093.4	20.6	mg/L	0.10	20.6	mg/L	0.10	0.48%
Na 590	418278.1	5.32	mg/L	0.038	5.32	mg/L	0.038	0.71%
K 766	33202.8	1.40	mg/L	0.017	1.40	mg/L	0.017	1.23%

Sequence No.: 79
Sample ID: 0182_8 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 65
Date Collected: 2/3/2015 9:04:02 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_8 x100

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_8 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-73.4	-0.0051	mg/L	0.00070	-0.0051	mg/L	0.00070	13.69%
Cd 214	-24.3	0.0026	mg/L	0.00019	0.0026	mg/L	0.00019	7.47%
Pb 220	99.8	0.0064	mg/L	0.00009	0.0064	mg/L	0.00009	1.37%
Fe 260	24007.2	0.656	mg/L	0.0161	0.656	mg/L	0.0161	2.46%
Cr 268	-505.4	0.0010	mg/L	0.00112	0.0010	mg/L	0.00112	115.48%
Mg 279	2977.2	0.797	mg/L	0.0244	0.797	mg/L	0.0244	3.06%
Al 308	2691.4	0.344	mg/L	0.0092	0.344	mg/L	0.0092	2.68%
Be 313	93.8	0.0009	mg/L	0.00501	0.0009	mg/L	0.00501	547.23%
Ca 318	71344.0	2.25	mg/L	0.027	2.25	mg/L	0.027	1.19%
Na 590	72213.6	0.910	mg/L	0.0132	0.910	mg/L	0.0132	1.45%
K 766	5006.6	0.207	mg/L	0.0130	0.207	mg/L	0.0130	6.30%

Sequence No.: 80
Sample ID: 158142 MS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 66
Date Collected: 2/3/2015 9:08:21 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158142 MS

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158142 MS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5219.3	0.384	mg/L	0.0002	0.384	mg/L	0.0002	0.06%
Cd 214	210141.6	0.341	mg/L	0.0022	0.341	mg/L	0.0022	0.65%
Pb 220	12339.5	0.364	mg/L	0.0078	0.364	mg/L	0.0078	2.15%
Fe 260	2457174.1	65.3	mg/L	0.66	65.3	mg/L	0.66	1.02%
Cr 268	150593.3	0.427	mg/L	0.0037	0.427	mg/L	0.0037	0.86%
Mg 279	283147.5	78.0	mg/L	1.15	78.0	mg/L	1.15	1.48%
Al 308	365854.1	49.2	mg/L	0.25	49.2	mg/L	0.25	0.50%
Be 313	27492.4	0.346	mg/L	0.0084	0.346	mg/L	0.0084	2.42%
Ca 318	6901503.8	217	mg/L	1.5	217	mg/L	1.5	0.71%
Na 590	4710928.2	60.1	mg/L	0.27	60.1	mg/L	0.27	0.45%
K 766	468870.7	19.9	mg/L	0.02	19.9	mg/L	0.02	0.11%

Sequence No.: 81
Sample ID: 158142 MS x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 67
Date Collected: 2/3/2015 9:12:40 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158142 MS x10

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158142 MS x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	430.2	0.0319	mg/L	0.00244	0.0319	mg/L	0.00244	7.64%
Cd 214	20658.3	0.0359	mg/L	0.00011	0.0359	mg/L	0.00011	0.31%
Pb 220	1234.1	0.0395	mg/L	0.00061	0.0395	mg/L	0.00061	1.54%
Fe 260	287111.2	7.64	mg/L	0.005	7.64	mg/L	0.005	0.06%
Cr 268	13330.4	0.0400	mg/L	0.00109	0.0400	mg/L	0.00109	2.72%
Mg 279	33035.4	9.08	mg/L	0.022	9.08	mg/L	0.022	0.24%
Al 308	42049.8	5.64	mg/L	0.042	5.64	mg/L	0.042	0.75%
Be 313	3096.4	0.0387	mg/L	0.00167	0.0387	mg/L	0.00167	4.31%
Ca 318	755929.4	23.8	mg/L	0.34	23.8	mg/L	0.34	1.41%
Na 590	522825.8	6.66	mg/L	0.036	6.66	mg/L	0.036	0.54%
K 766	48956.0	2.07	mg/L	0.024	2.07	mg/L	0.024	1.16%

Sequence No.: 82
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/3/2015 9:16:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6554.5	0.482	mg/L	0.0049	0.482	mg/L	0.0049	1.03%
Cd 214	291335.0	0.472	mg/L	0.0046	0.472	mg/L	0.0046	0.97%
Pb 220	15976.9	0.470	mg/L	0.0008	0.470	mg/L	0.0008	0.16%
Fe 260	91123.3	2.44	mg/L	0.011	2.44	mg/L	0.011	0.47%
Cr 268	168580.0	0.478	mg/L	0.0011	0.478	mg/L	0.0011	0.23%
Mg 279	8807.9	2.40	mg/L	0.009	2.40	mg/L	0.009	0.39%
Al 308	18569.8	2.48	mg/L	0.015	2.48	mg/L	0.015	0.60%
Be 313	38040.6	0.479	mg/L	0.0067	0.479	mg/L	0.0067	1.40%
Ca 318	76026.6	2.40	mg/L	0.027	2.40	mg/L	0.027	1.15%
Na 590	207530.5	2.64	mg/L	0.022	2.64	mg/L	0.022	0.83%
K 766	59437.8	2.52	mg/L	0.004	2.52	mg/L	0.004	0.14%

Sequence No.: 83
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/3/2015 9:21:19 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	182.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-79.7	-0.0055	mg/L	0.00022	-0.0055	mg/L	0.00022	4.00%

Cd 214	-96.8	0.0025 mg/L	0.00030	0.0025 mg/L	0.00030	12.29%
Pb 220	141.4	0.0076 mg/L	0.00261	0.0076 mg/L	0.00261	34.46%
Fe 260	-2099.8	-0.0378 mg/L	0.01285	-0.0378 mg/L	0.01285	33.96%
Cr 268	-804.9	0.0001 mg/L	0.00000	0.0001 mg/L	0.00000	0.00%
Mg 279	114.4	0.0076 mg/L	0.00252	0.0076 mg/L	0.00252	33.02%
Al 308	58.2	-0.0101 mg/L	0.00558	-0.0101 mg/L	0.00558	55.55%
Be 313	0.0	-0.0003 mg/L	0.00571	-0.0003 mg/L	0.00571	>999.9%
Ca 318	-399.2	-0.0040 mg/L	0.00232	-0.0040 mg/L	0.00232	58.45%
Na 590	23244.9	0.285 mg/L	0.0050	0.285 mg/L	0.0050	1.76%
K 766	1055.1	0.0389 mg/L	0.00313	0.0389 mg/L	0.00313	8.06%

Sequence No.: 84
Sample ID: 158142 MS x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 68
Date Collected: 2/3/2015 9:25:36 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158142 MS x100

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158142 MS x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-43.0	-0.0028	mg/L	0.00082	-0.0028	mg/L	0.00082	29.01%
Cd 214	2238.8	0.0062	mg/L	0.00061	0.0062	mg/L	0.00061	9.74%
Pb 220	142.0	0.0076	mg/L	0.00103	0.0076	mg/L	0.00103	13.61%
Fe 260	25852.2	0.705	mg/L	0.0532	0.705	mg/L	0.0532	7.55%
Cr 268	1228.3	0.0059	mg/L	0.00077	0.0059	mg/L	0.00077	13.18%
Mg 279	3245.9	0.871	mg/L	0.0000	0.871	mg/L	0.0000	0.00%
Al 308	3979.3	0.518	mg/L	0.0332	0.518	mg/L	0.0332	6.42%
Be 313	-66.5	-0.0011	mg/L	0.00787	-0.0011	mg/L	0.00787	713.25%
Ca 318	76629.8	2.42	mg/L	0.026	2.42	mg/L	0.026	1.06%
Na 590	83298.5	1.05	mg/L	0.007	1.05	mg/L	0.007	0.70%
K 766	6695.5	0.279	mg/L	0.0129	0.279	mg/L	0.0129	4.62%

Sequence No.: 85
Sample ID: 158143 MSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 69
Date Collected: 2/3/2015 9:29:57 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158143 MSD

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158143 MSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5153.8	0.379	mg/L	0.0010	0.379	mg/L	0.0010	0.26%
Cd 214	208096.3	0.338	mg/L	0.0026	0.338	mg/L	0.0026	0.78%
Pb 220	12194.6	0.360	mg/L	0.0013	0.360	mg/L	0.0013	0.36%
Fe 260	2687085.7	71.4	mg/L	0.05	71.4	mg/L	0.05	0.07%
Cr 268	151543.5	0.430	mg/L	0.0006	0.430	mg/L	0.0006	0.13%
Mg 279	316948.1	87.3	mg/L	0.87	87.3	mg/L	0.87	1.00%
Al 308	400291.2	53.9	mg/L	0.30	53.9	mg/L	0.30	0.55%
Be 313	28348.8	0.357	mg/L	0.0045	0.357	mg/L	0.0045	1.27%
Ca 318	7822986.1	246	mg/L	2.0	246	mg/L	2.0	0.82%
Na 590	5259721.3	67.1	mg/L	0.03	67.1	mg/L	0.03	0.05%
K 766	505100.8	21.5	mg/L	0.05	21.5	mg/L	0.05	0.25%

Sequence No.: 86
Sample ID: 158143 MSD x10
Analyst:
Initial Sample Wt:

Autosampler Location: 70
Date Collected: 2/3/2015 9:34:16 PM
Data Type: Original
Initial Sample Vol:

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 158143 MSD x10

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158143 MSD x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	444.1	0.0330	mg/L	0.00080	0.0330	mg/L	0.00080	2.44%
Cd 214	20900.3	0.0363	mg/L	0.00022	0.0363	mg/L	0.00022	0.61%
Pb 220	1196.1	0.0384	mg/L	0.00024	0.0384	mg/L	0.00024	0.63%
Fe 260	319317.3	8.50	mg/L	0.027	8.50	mg/L	0.027	0.32%
Cr 268	13862.9	0.0415	mg/L	0.00019	0.0415	mg/L	0.00019	0.47%
Mg 279	37954.4	10.4	mg/L	0.23	10.4	mg/L	0.23	2.17%
Al 308	46214.3	6.20	mg/L	0.018	6.20	mg/L	0.018	0.30%
Be 313	2842.2	0.0355	mg/L	0.00049	0.0355	mg/L	0.00049	1.37%
Ca 318	865346.3	27.2	mg/L	0.38	27.2	mg/L	0.38	1.41%
Na 590	593066.4	7.55	mg/L	0.032	7.55	mg/L	0.032	0.42%
K 766	54263.9	2.30	mg/L	0.039	2.30	mg/L	0.039	1.71%

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Sequence No.: 87 **Autosampler Location: 71**
Sample ID: 158143 MSD x100 **Date Collected: 2/3/2015 9:38:37 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 158143 MSD x100

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158143 MSD x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-54.8	-0.0037	mg/L	0.00196	-0.0037	mg/L	0.00196	53.20%
Cd 214	2384.1	0.0065	mg/L	0.00028	0.0065	mg/L	0.00028	4.27%
Pb 220	197.1	0.0092	mg/L	0.00451	0.0092	mg/L	0.00451	48.95%
Fe 260	29374.9	0.798	mg/L	0.0242	0.798	mg/L	0.0242	3.03%
Cr 268	995.2	0.0052	mg/L	0.00023	0.0052	mg/L	0.00023	4.40%
Mg 279	3933.2	1.06	mg/L	0.007	1.06	mg/L	0.007	0.64%
Al 308	4806.4	0.629	mg/L	0.0121	0.629	mg/L	0.0121	1.92%
Be 313	281.5	0.0033	mg/L	0.00167	0.0033	mg/L	0.00167	50.96%
Ca 318	91321.0	2.88	mg/L	0.032	2.88	mg/L	0.032	1.10%
Na 590	81904.1	1.03	mg/L	0.005	1.03	mg/L	0.005	0.44%
K 766	7044.5	0.293	mg/L	0.0006	0.293	mg/L	0.0006	0.19%

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Sequence No.: 88 **Autosampler Location: 72**
Sample ID: 0182_9 **Date Collected: 2/3/2015 9:42:59 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 0182_9

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_9

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	71.4	0.0058	mg/L	0.00032	0.0058	mg/L	0.00032	5.62%
Cd 214	1331.1	0.0048	mg/L	0.00008	0.0048	mg/L	0.00008	1.73%
Pb 220	697.0	0.0238	mg/L	0.00259	0.0238	mg/L	0.00259	10.87%
Fe 260	2661233.5	70.7	mg/L	0.55	70.7	mg/L	0.55	0.78%
Cr 268	10728.7	0.0327	mg/L	0.00058	0.0327	mg/L	0.00058	1.77%

Mg 279	99276.5	27.3 mg/L	0.18	27.3 mg/L	0.18	0.67%
Al 308	109368.3	14.7 mg/L	0.10	14.7 mg/L	0.10	0.71%
Be 313	469.2	0.0056 mg/L	0.00167	0.0056 mg/L	0.00167	29.62%
Ca 318	6264261.2	197 mg/L	1.5	197 mg/L	1.5	0.78%
Na 590	6291102.0	80.2 mg/L	0.88	80.2 mg/L	0.88	1.10%
K 766	245489.0	10.4 mg/L	0.04	10.4 mg/L	0.04	0.36%

Sequence No.: 89
Sample ID: 0182_9 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 73
Date Collected: 2/3/2015 9:47:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_9 x10

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_9 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-70.7	-0.0049	mg/L	0.00078	-0.0049	mg/L	0.00078	16.11%
Cd 214	108.9	0.0028	mg/L	0.00028	0.0028	mg/L	0.00028	9.86%
Pb 220	120.8	0.0070	mg/L	0.00055	0.0070	mg/L	0.00055	7.83%
Fe 260	363761.7	9.68	mg/L	0.068	9.68	mg/L	0.068	0.70%
Cr 268	414.3	0.0036	mg/L	0.00054	0.0036	mg/L	0.00054	15.23%
Mg 279	13464.3	3.69	mg/L	0.011	3.69	mg/L	0.011	0.30%
Al 308	14377.3	1.92	mg/L	0.002	1.92	mg/L	0.002	0.11%
Be 313	215.0	0.0024	mg/L	0.00285	0.0024	mg/L	0.00285	116.96%
Ca 318	786387.1	24.7	mg/L	0.37	24.7	mg/L	0.37	1.50%
Na 590	782027.1	9.96	mg/L	0.030	9.96	mg/L	0.030	0.31%
K 766	29640.6	1.25	mg/L	0.001	1.25	mg/L	0.001	0.07%

Sequence No.: 90
Sample ID: 0182_9 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 74
Date Collected: 2/3/2015 9:51:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_9 x100

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_9 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-101.8	-0.0072	mg/L	0.00067	-0.0072	mg/L	0.00067	9.32%
Cd 214	-48.5	0.0025	mg/L	0.00019	0.0025	mg/L	0.00019	7.59%
Pb 220	-13.7	0.0031	mg/L	0.00076	0.0031	mg/L	0.00076	24.77%
Fe 260	28428.7	0.773	mg/L	0.0693	0.773	mg/L	0.0693	8.97%
Cr 268	-408.6	0.0012	mg/L	0.00151	0.0012	mg/L	0.00151	121.17%
Mg 279	1280.6	0.329	mg/L	0.0148	0.329	mg/L	0.0148	4.49%
Al 308	1030.6	0.121	mg/L	0.0248	0.121	mg/L	0.0248	20.53%
Be 313	-254.2	-0.0035	mg/L	0.00787	-0.0035	mg/L	0.00787	227.00%
Ca 318	69391.5	2.19	mg/L	0.034	2.19	mg/L	0.034	1.55%
Na 590	90795.8	1.15	mg/L	0.006	1.15	mg/L	0.006	0.49%
K 766	3926.7	0.161	mg/L	0.0097	0.161	mg/L	0.0097	6.05%

Sequence No.: 91
Sample ID: 0182_10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 75
Date Collected: 2/3/2015 9:55:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_10

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 0182_10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	22.0	0.0020	mg/L	0.00133	0.0020	mg/L	0.00133	67.52%
Cd 214	1875.6	0.0056	mg/L	0.00011	0.0056	mg/L	0.00011	1.95%
Pb 220	281.3	0.0117	mg/L	0.00053	0.0117	mg/L	0.00053	4.52%
Fe 260	4341508.6	115	mg/L	0.8	115	mg/L	0.8	0.72%
Cr 268	3670.0	0.0128	mg/L	0.00016	0.0128	mg/L	0.00016	1.23%
Mg 279	322064.7	88.7	mg/L	0.33	88.7	mg/L	0.33	0.38%
Al 308	23255.6	3.11	mg/L	0.009	3.11	mg/L	0.009	0.30%
Be 313	-0.0	-0.0003	mg/L	0.01002	-0.0003	mg/L	0.01002	>999.9%
Ca 318	6807670.2	214	mg/L	1.9	214	mg/L	1.9	0.87%
Na 590	78255.9	0.987	mg/L	0.0056	0.987	mg/L	0.0056	0.57%
K 766	18460.7	0.778	mg/L	0.0058	0.778	mg/L	0.0058	0.75%

Sequence No.: 92
Sample ID: 0182_10 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 76
Date Collected: 2/3/2015 10:00:12 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_10 x10

Analyte	Back Pressure	Flow
All	182.0 kPa	0.55 L/min

Mean Data: 0182_10 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-112.0	-0.0079	mg/L	0.00047	-0.0079	mg/L	0.00047	5.99%
Cd 214	-109.0	0.0024	mg/L	0.00022	0.0024	mg/L	0.00022	9.02%
Pb 220	56.6	0.0051	mg/L	0.00055	0.0051	mg/L	0.00055	10.79%
Fe 260	594404.9	15.8	mg/L	0.07	15.8	mg/L	0.07	0.46%
Cr 268	-311.8	0.0015	mg/L	0.00042	0.0015	mg/L	0.00042	27.81%
Mg 279	43417.4	11.9	mg/L	0.07	11.9	mg/L	0.07	0.60%
Al 308	3204.8	0.414	mg/L	0.0332	0.414	mg/L	0.0332	8.04%
Be 313	93.8	0.0009	mg/L	0.00167	0.0009	mg/L	0.00167	182.41%
Ca 318	835229.7	26.2	mg/L	0.37	26.2	mg/L	0.37	1.41%
Na 590	17385.5	0.210	mg/L	0.0003	0.210	mg/L	0.0003	0.12%
K 766	2823.2	0.114	mg/L	0.0232	0.114	mg/L	0.0232	20.38%

Sequence No.: 93
Sample ID: 0182_10 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 77
Date Collected: 2/3/2015 10:04:30 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_10 x100

Analyte	Back Pressure	Flow
All	182.0 kPa	0.55 L/min

Mean Data: 0182_10 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-75.4	-0.0052	mg/L	0.00339	-0.0052	mg/L	0.00339	64.84%
Cd 214	-36.4	0.0026	mg/L	0.00017	0.0026	mg/L	0.00017	6.45%
Pb 220	10.6	0.0038	mg/L	0.00022	0.0038	mg/L	0.00022	5.75%
Fe 260	45565.3	1.23	mg/L	0.019	1.23	mg/L	0.019	1.58%
Cr 268	-523.5	0.0009	mg/L	0.00035	0.0009	mg/L	0.00035	38.01%
Mg 279	3720.6	1.00	mg/L	0.025	1.00	mg/L	0.025	2.47%
Al 308	203.4	0.0095	mg/L	0.01480	0.0095	mg/L	0.01480	155.87%
Be 313	-254.2	-0.0035	mg/L	0.00453	-0.0035	mg/L	0.00453	130.59%
Ca 318	76026.6	2.40	mg/L	0.006	2.40	mg/L	0.006	0.25%

Na 590	12738.3	0.151 mg/L	0.0037	0.151 mg/L	0.0037	2.47%
K 766	1261.8	0.0477 mg/L	0.00974	0.0477 mg/L	0.00974	20.43%

Sequence No.: 94
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/3/2015 10:08:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	182.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6443.2	0.474	mg/L	0.0009	0.474	mg/L	0.0009	0.20%
Cd 214	287728.6	0.466	mg/L	0.0043	0.466	mg/L	0.0043	0.92%
Pb 220	15755.0	0.464	mg/L	0.0011	0.464	mg/L	0.0011	0.24%
Fe 260	91982.1	2.46	mg/L	0.011	2.46	mg/L	0.011	0.46%
Cr 268	166471.3	0.472	mg/L	0.0029	0.472	mg/L	0.0029	0.61%
Mg 279	8831.5	2.41	mg/L	0.031	2.41	mg/L	0.031	1.29%
Al 308	18179.7	2.43	mg/L	0.064	2.43	mg/L	0.064	2.62%
Be 313	38697.4	0.487	mg/L	0.0050	0.487	mg/L	0.0050	1.03%
Ca 318	75877.7	2.39	mg/L	0.038	2.39	mg/L	0.038	1.57%
Na 590	200843.0	2.55	mg/L	0.027	2.55	mg/L	0.027	1.05%
K 766	59288.8	2.51	mg/L	0.001	2.51	mg/L	0.001	0.04%

Sequence No.: 95
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/3/2015 10:13:08 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	182.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-105.0	-0.0074	mg/L	0.00073	-0.0074	mg/L	0.00073	9.90%
Cd 214	36.3	0.0027	mg/L	0.00011	0.0027	mg/L	0.00011	4.11%
Pb 220	26.0	0.0042	mg/L	0.00608	0.0042	mg/L	0.00608	144.24%
Fe 260	302.0	0.0260	mg/L	0.02898	0.0260	mg/L	0.02898	111.66%
Cr 268	-457.0	0.0011	mg/L	0.00016	0.0011	mg/L	0.00016	14.17%
Mg 279	-33.5	-0.0331	mg/L	0.02919	-0.0331	mg/L	0.02919	88.12%
Al 308	-98.2	-0.0311	mg/L	0.03111	-0.0311	mg/L	0.03111	99.99%
Be 313	93.8	0.0009	mg/L	0.00835	0.0009	mg/L	0.00835	912.05%
Ca 318	-214.5	0.0018	mg/L	0.00589	0.0018	mg/L	0.00589	320.13%
Na 590	11167.1	0.131	mg/L	0.0069	0.131	mg/L	0.0069	5.28%
K 766	668.6	0.0224	mg/L	0.00309	0.0224	mg/L	0.00309	13.76%

Sequence No.: 96
Sample ID: 158144 DUP
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 78
Date Collected: 2/3/2015 10:17:25 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158144 DUP

Analyte	Back Pressure	Flow
All	182.0 kPa	0.55 L/min

Mean Data: 158144 DUP

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	188.7	0.0142	mg/L	0.00112	0.0142	mg/L	0.00112	7.91%
Cd 214	229.9	0.0030	mg/L	0.00022	0.0030	mg/L	0.00022	7.37%
Pb 220	209.3	0.0096	mg/L	0.00209	0.0096	mg/L	0.00209	21.83%
Fe 260	961125.2	25.5	mg/L	0.01	25.5	mg/L	0.01	0.03%
Cr 268	5984.6	0.0193	mg/L	0.00019	0.0193	mg/L	0.00019	1.00%
Mg 279	401405.4	111	mg/L	1.1	111	mg/L	1.1	1.00%
Al 308	67916.7	9.12	mg/L	0.016	9.12	mg/L	0.016	0.17%
Be 313	-160.4	-0.0023	mg/L	0.00620	-0.0023	mg/L	0.00620	271.26%
Ca 318	10030972.9	315	mg/L	0.8	315	mg/L	0.8	0.26%
Na 590	154802.9	1.96	mg/L	0.002	1.96	mg/L	0.002	0.11%
K 766	48831.9	2.07	mg/L	0.005	2.07	mg/L	0.005	0.24%

Sequence No.: 97
Sample ID: 158144 DUP x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 79
Date Collected: 2/3/2015 10:21:45 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158144 DUP x10

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: 158144 DUP x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-78.1	-0.0054	mg/L	0.00158	-0.0054	mg/L	0.00158	29.21%
Cd 214	-72.6	0.0025	mg/L	0.00036	0.0025	mg/L	0.00036	14.31%
Pb 220	-34.7	0.0024	mg/L	0.00149	0.0024	mg/L	0.00149	61.08%
Fe 260	116371.4	3.11	mg/L	0.008	3.11	mg/L	0.008	0.26%
Cr 268	75.5	0.0026	mg/L	0.00112	0.0026	mg/L	0.00112	43.00%
Mg 279	50884.2	14.0	mg/L	0.07	14.0	mg/L	0.07	0.52%
Al 308	8291.9	1.10	mg/L	0.025	1.10	mg/L	0.025	2.26%
Be 313	-320.7	-0.0043	mg/L	0.00905	-0.0043	mg/L	0.00905	210.34%
Ca 318	1220778.3	38.4	mg/L	0.16	38.4	mg/L	0.16	0.42%
Na 590	28592.1	0.353	mg/L	0.0017	0.353	mg/L	0.0017	0.49%
K 766	6761.5	0.281	mg/L	0.0052	0.281	mg/L	0.0052	1.84%

Sequence No.: 98
Sample ID: 158144 DUP x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 80
Date Collected: 2/3/2015 10:26:05 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158144 DUP x100

Analyte	Back Pressure	Flow
All	182.0 kPa	0.55 L/min

Mean Data: 158144 DUP x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-119.7	-0.0085	mg/L	0.00266	-0.0085	mg/L	0.00266	31.43%
Cd 214	-121.1	0.0024	mg/L	0.00019	0.0024	mg/L	0.00019	7.95%
Pb 220	133.3	0.0073	mg/L	0.00010	0.0073	mg/L	0.00010	1.42%
Fe 260	9963.9	0.283	mg/L	0.0532	0.283	mg/L	0.0532	18.82%
Cr 268	-514.4	0.0009	mg/L	0.00039	0.0009	mg/L	0.00039	40.79%
Mg 279	4801.4	1.30	mg/L	0.026	1.30	mg/L	0.026	2.03%
Al 308	691.7	0.0752	mg/L	0.01560	0.0752	mg/L	0.01560	20.73%
Be 313	-66.5	-0.0011	mg/L	0.00787	-0.0011	mg/L	0.00787	713.25%
Ca 318	112470.2	3.54	mg/L	0.076	3.54	mg/L	0.076	2.13%
Na 590	16007.9	0.193	mg/L	0.0034	0.193	mg/L	0.0034	1.77%
K 766	1858.2	0.0730	mg/L	0.01186	0.0730	mg/L	0.01186	16.25%

Sequence No.: 99
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/3/2015 10:30:25 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	182.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6454.8	0.475	mg/L	0.0032	0.475	mg/L	0.0032	0.68%
Cd 214	288103.8	0.467	mg/L	0.0019	0.467	mg/L	0.0019	0.41%
Pb 220	15712.5	0.462	mg/L	0.0020	0.462	mg/L	0.0020	0.44%
Fe 260	90908.6	2.43	mg/L	0.029	2.43	mg/L	0.029	1.19%
Cr 268	167070.3	0.474	mg/L	0.0037	0.474	mg/L	0.0037	0.77%
Mg 279	8848.1	2.41	mg/L	0.052	2.41	mg/L	0.052	2.13%
Al 308	18351.0	2.45	mg/L	0.003	2.45	mg/L	0.003	0.12%
Be 313	37250.8	0.469	mg/L	0.0184	0.469	mg/L	0.0184	3.92%
Ca 318	76480.9	2.41	mg/L	0.023	2.41	mg/L	0.023	0.94%
Na 590	204356.5	2.59	mg/L	0.023	2.59	mg/L	0.023	0.87%
K 766	59226.6	2.51	mg/L	0.026	2.51	mg/L	0.026	1.04%

Sequence No.: 100
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/3/2015 10:34:44 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-97.4	-0.0068	mg/L	0.00159	-0.0068	mg/L	0.00159	23.32%
Cd 214	181.5	0.0029	mg/L	0.00022	0.0029	mg/L	0.00022	7.57%
Pb 220	176.3	0.0086	mg/L	0.00026	0.0086	mg/L	0.00026	2.98%
Fe 260	-127.4	0.0145	mg/L	0.01285	0.0145	mg/L	0.01285	88.32%
Cr 268	-611.3	0.0007	mg/L	0.00116	0.0007	mg/L	0.00116	172.00%
Mg 279	92.4	0.0016	mg/L	0.01936	0.0016	mg/L	0.01936	>999.9%
Al 308	-272.7	-0.0546	mg/L	0.00904	-0.0546	mg/L	0.00904	16.56%
Be 313	308.8	0.0036	mg/L	0.00118	0.0036	mg/L	0.00118	32.70%
Ca 318	-211.5	0.0019	mg/L	0.01436	0.0019	mg/L	0.01436	742.76%
Na 590	11071.5	0.130	mg/L	0.0013	0.130	mg/L	0.0013	0.99%
K 766	861.4	0.0306	mg/L	0.01589	0.0306	mg/L	0.01589	51.86%

Sequence No.: 101
Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/3/2015 10:39:00 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	14.5	0.0013	mg/L	0.00218	0.0013	mg/L	0.00218	163.59%

Cd 214	1476.3	0.0050 mg/L	0.00025	0.0050 mg/L	0.00025	4.96%
Pb 220	-167.5	-0.0014 mg/L	0.00044	-0.0014 mg/L	0.00044	30.99%
Fe 260	3431094.4	91.2 mg/L	0.13	91.2 mg/L	0.13	0.14%
Cr 268	220.7	0.0030 mg/L	0.00093	0.0030 mg/L	0.00093	30.78%
Mg 279	132542.0	36.5 mg/L	0.17	36.5 mg/L	0.17	0.47%
Al 308	703710.5	94.7 mg/L	1.04	94.7 mg/L	1.04	1.09%
Be 313	-696.0	-0.0090 mg/L	0.00334	-0.0090 mg/L	0.00334	37.01%
Ca 318	1148305.3	36.1 mg/L	0.08	36.1 mg/L	0.08	0.22%
Na 590	5541.0	0.0592 mg/L	0.00674	0.0592 mg/L	0.00674	11.39%
K 766	497.9	0.0152 mg/L	0.01447	0.0152 mg/L	0.01447	95.19%

Sequence No.: 102
Sample ID: ICSB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 2/3/2015 10:43:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSB

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICSB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	3897.2	0.287	mg/L	0.0010	0.287	mg/L	0.0010	0.36%
Cd 214	165121.6	0.269	mg/L	0.0011	0.269	mg/L	0.0011	0.42%
Pb 220	8656.5	0.256	mg/L	0.0062	0.256	mg/L	0.0062	2.42%
Fe 260	3448271.0	91.6	mg/L	0.50	91.6	mg/L	0.50	0.55%
Cr 268	96517.7	0.275	mg/L	0.0005	0.275	mg/L	0.0005	0.20%
Mg 279	133493.7	36.8	mg/L	0.52	36.8	mg/L	0.52	1.41%
Al 308	698969.7	94.1	mg/L	0.01	94.1	mg/L	0.01	0.01%
Be 313	21205.7	0.267	mg/L	0.0033	0.267	mg/L	0.0033	1.25%
Ca 318	1147740.8	36.1	mg/L	0.07	36.1	mg/L	0.07	0.18%
Na 590	4812.8	0.0499	mg/L	0.00079	0.0499	mg/L	0.00079	1.58%
K 766	256.4	0.0049	mg/L	0.00294	0.0049	mg/L	0.00294	59.61%

Sequence No.: 103
Sample ID: LLC
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/3/2015 10:47:34 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LLC

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: LLC

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	25.4	0.0022	mg/L	0.00192	0.0022	mg/L	0.00192	87.36%
Cd 214	2831.8	0.0072	mg/L	0.00052	0.0072	mg/L	0.00052	7.29%
Pb 220	301.6	0.0123	mg/L	0.00037	0.0123	mg/L	0.00037	3.00%
Fe 260	3180.6	0.102	mg/L	0.0081	0.102	mg/L	0.0081	7.88%
Cr 268	2641.1	0.0099	mg/L	0.00016	0.0099	mg/L	0.00016	1.60%
Mg 279	410.3	0.0892	mg/L	0.02098	0.0892	mg/L	0.02098	23.52%
Al 308	453.8	0.0432	mg/L	0.00558	0.0432	mg/L	0.00558	12.93%
Be 313	1126.0	0.0139	mg/L	0.00334	0.0139	mg/L	0.00334	24.02%
Ca 318	3069.6	0.105	mg/L	0.0066	0.105	mg/L	0.0066	6.30%
Na 590	21087.9	0.257	mg/L	0.0010	0.257	mg/L	0.0010	0.39%
K 766	5038.8	0.208	mg/L	0.0139	0.208	mg/L	0.0139	6.69%

Sequence No.: 104
Sample ID: CCV
Analyst:
Initiel Sample Wt:

Autosampler Location: 3
Date Collected: 2/3/2015 10:51:49 PM
Data Type: Original
Initial Sample Vol:

Dilution: Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6461.7	0.475	mg/L	0.0014	0.475	mg/L	0.0014	0.29%
Cd 214	293126.1	0.475	mg/L	0.0039	0.475	mg/L	0.0039	0.81%
Pb 220	15753.9	0.463	mg/L	0.0024	0.463	mg/L	0.0024	0.51%
Fe 260	91767.4	2.46	mg/L	0.029	2.46	mg/L	0.029	1.18%
Cr 268	167409.1	0.475	mg/L	0.0031	0.475	mg/L	0.0031	0.65%
Mg 279	8913.0	2.43	mg/L	0.033	2.43	mg/L	0.033	1.37%
Al 308	18425.5	2.46	mg/L	0.006	2.46	mg/L	0.006	0.23%
Be 313	38978.9	0.490	mg/L	0.0100	0.490	mg/L	0.0100	2.04%
Ca 318	77003.7	2.43	mg/L	0.013	2.43	mg/L	0.013	0.52%
Na 590	203608.1	2.59	mg/L	0.001	2.59	mg/L	0.001	0.06%
K 766	59153.0	2.51	mg/L	0.001	2.51	mg/L	0.001	0.03%

Sequence No.: 105
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/3/2015 10:56:07 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	-63.0	-0.0043	mg/L	0.00026	-0.0043	mg/L	0.00026	5.99%
Cd 214	-36.3	0.0026	mg/L	0.00050	0.0026	mg/L	0.00050	19.35%
Pb 220	4.0	0.0036	mg/L	0.00081	0.0036	mg/L	0.00081	22.62%
Fe 260	-1026.2	-0.0093	mg/L	0.02092	-0.0093	mg/L	0.02092	224.24%
Cr 268	-523.5	0.0009	mg/L	0.00074	0.0009	mg/L	0.00074	79.94%
Mg 279	23.3	-0.0175	mg/L	0.01784	-0.0175	mg/L	0.01784	102.18%
Al 308	-146.6	-0.0376	mg/L	0.00771	-0.0376	mg/L	0.00771	20.50%
Be 313	563.0	0.0068	mg/L	0.00000	0.0068	mg/L	0.00000	0.00%
Ca 318	-26.8	0.0077	mg/L	0.00245	0.0077	mg/L	0.00245	31.65%
Na 590	11086.2	0.130	mg/L	0.0067	0.130	mg/L	0.0067	5.13%
K 766	608.9	0.0199	mg/L	0.00085	0.0199	mg/L	0.00085	4.28%

SW-846 6010C
MIP-2722

Print Date: 07/01/2014

N.C. Certification # 481

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2722 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/4/15 10:05			CCV1 2/4/15 10:22			CCV2 2/4/15 11:04			LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	1000	1078	107.8	2500	2589	103.5	2500	2584	103.4	90-110
Antimony	1000			500			500			90-110
Arsenic	1000			500			500			90-110
Barium	1000	1006	100.6	2500	2493	99.7	2500	2489	99.6	90-110
Beryllium	1000	958	95.8	500	494	98.8	500	480	95.9	90-110
Boron	500									90-110
Cadmium	1000			500			500			90-110
Calcium	1000	1009	100.9	2500	2603	104.1	2500	2599	104.0	90-110
Chromium	1000			500			500			90-110
Cobalt	1000			500			500			90-110
Copper	1000			500			500			90-110
Iron	1000	981	98.1	2500	2589	103.5	2500	2543	101.7	90-110
Lead	1000			500			500			90-110
Magnesium	1000	975	97.5	2500	2580	103.2	2500	2529	101.2	90-110
Manganese	1000	1020	102.0	500	512	102.4	500	511	102.2	90-110
Molybdenum	1000									90-110
Nickel	1000			500			500			90-110
Potassium	1000			2500			2500			90-110
Selenium	1000			500			500			90-110
Silver	500			500			500			90-110
Sodium	1000	903	90.3	2500	2478	99.1	2500	2485	99.4	90-110
Thallium	1000			500			500			90-110
Tin	500									90-110
Vanadium	1000			500			500			90-110
Zinc	1000			500			500			90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2722 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/4/15 10:05			CCV3 2/4/15 11:55			CCV4 2/4/15 12:37			LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	1000	1078	107.8	2500	2589	103.5	2500	2538	101.5	90-110
Antimony	1000			500			500			90-110
Arsenic	1000			500			500			90-110
Barium	1000	1006	100.6	2500	2479	99.1	2500	2490	99.6	90-110
Beryllium	1000	958	95.8	500	486	97.2	500	500	100.0	90-110
Boron	500									90-110
Cadmium	1000			500			500			90-110
Calcium	1000	1009	100.9	2500	2554	102.2	2500	2569	102.7	90-110
Chromium	1000			500			500			90-110
Cobalt	1000			500			500			90-110
Copper	1000			500			500			90-110
Iron	1000	981	98.1	2500	2474	98.9	2500	2531	101.2	90-110
Lead	1000			500			500			90-110
Magnesium	1000	975	97.5	2500	2552	102.1	2500	2544	101.7	90-110
Manganese	1000	1020	102.0	500	502	100.4	500	508	101.7	90-110
Molybdenum	1000									90-110
Nickel	1000			500			500			90-110
Potassium	1000			2500			2500			90-110
Selenium	1000			500			500			90-110
Silver	500			500			500			90-110
Sodium	1000	903	90.3	2500	3441	137.6292	2500	2796	111.8208	90-110
Thallium	1000			500			500			90-110
Tin	500									90-110
Vanadium	1000			500			500			90-110
Zinc	1000			500			500			90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2722 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/4/15 10:05			CCV5 2/4/15 13:24			CCV6 2/4/15 14:02			LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	1000	1078	107.8	2500	2626	105.1	2500	2605	104.2	90-110
Antimony	1000			500			500			90-110
Arsenic	1000			500			500			90-110
Barium	1000	1006	100.6	2500	2505	100.2	2500	2465	98.6	90-110
Beryllium	1000	958	95.8	500	497	99.3	500	487	97.4	90-110
Boron	500									90-110
Cadmium	1000			500			500			90-110
Calcium	1000	1009	100.9	2500	2596	103.9	2500	2605	104.2	90-110
Chromium	1000			500			500			90-110
Cobalt	1000			500			500			90-110
Copper	1000			500			500			90-110
Iron	1000	981	98.1	2500	2543	101.7	2500	2589	103.5	90-110
Lead	1000			500			500			90-110
Magnesium	1000	975	97.5	2500	2574	103.0	2500	2634	105.4	90-110
Manganese	1000	1020	102.0	500	510	102.1	500	509	101.9	90-110
Molybdenum	1000									90-110
Nickel	1000			500			500			90-110
Potassium	1000			2500			2500			90-110
Selenium	1000			500			500			90-110
Silver	500			500			500			90-110
Sodium	1000	903	90.3	2500	2741	109.6	2500	2629	105.2	90-110
Thallium	1000			500			500			90-110
Tin	500									90-110
Vanadium	1000			500			500			90-110
Zinc	1000			500			500			90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2722 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/4/15 10:05			CCV7 2/4/15 14:20						LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	1000	1078	107.8	2500	2576	103.0	2500			90-110
Antimony	1000			500			500			90-110
Arsenic	1000			500			500			90-110
Barium	1000	1006	100.6	2500	2403	96.1	2500			90-110
Beryllium	1000	958	95.8	500	474	94.9	500			90-110
Boron	500									90-110
Cadmium	1000			500			500			90-110
Calcium	1000	1009	100.9	2500	2630	105.2	2500			90-110
Chromium	1000			500			500			90-110
Cobalt	1000			500			500			90-110
Copper	1000			500			500			90-110
Iron	1000	981	98.1	2500	2554	102.2	2500			90-110
Lead	1000			500			500			90-110
Magnesium	1000	975	97.5	2500	2610	104.4	2500			90-110
Manganese	1000	1020	102.0	500	503	100.5	500			90-110
Molybdenum	1000									90-110
Nickel	1000			500			500			90-110
Potassium	1000			2500			2500			90-110
Selenium	1000			500			500			90-110
Silver	500			500			500			90-110
Sodium	1000	903	90.3	2500	2554	102.2	2500			90-110
Thallium	1000			500			500			90-110
Tin	500									90-110
Vanadium	1000			500			500			90-110
Zinc	1000			500			500			90-110

Comments:

FORM IIA - METALS

CRDL Check Standard **Form 2B**

Analytical Batch: MIP2722
Instrument: ICP1
Analyst: PSW
Analytical Date/Time: 2/4/2015 10:19:23AM

Results by **SW-846 6010C**

Parameter	Spike	Result	% Recovery	CL	Units
Aluminum	0.100	0.118	118	70 - 130	mg/L
Iron	0.100	0.125	125	70 - 130	mg/L
Magnesium	0.100	0.0472	47.2*	70 - 130	mg/L
Manganese	0.0100	0.00603	60.3*	70 - 130	mg/L
Sodium	0.200	0.117	58.5*	70 - 130	mg/L
Barium	0.100	0.106	106	70 - 130	mg/L
Beryllium	0.0100	0.0137	137*	70 - 130	mg/L
Calcium	0.100	0.0921	92.1	70 - 130	mg/L

Print Date: 02/06/2015

N.C. Certification # 481

CRDL Check Standard **Form 2B**

Analytical Batch: MIP2722
Instrument: ICP1
Analyst: PSW
Analytical Date/Time: 2/4/2015 2:16:32PM

Results by **SW-846 6010C**

Parameter	Spike	Result	% Recovery	CL	Units
Aluminum	0.100	0.151	151*	70 - 130	mg/L
Iron	0.100	0.112	112	70 - 130	mg/L
Magnesium	0.100	0.0721	72.1	70 - 130	mg/L
Manganese	0.0100	0.00635	63.5*	70 - 130	mg/L
Sodium	0.200	0.142	71.2	70 - 130	mg/L
Barium	0.100	0.105	105	70 - 130	mg/L
Beryllium	0.0100	0.0129	129	70 - 130	mg/L
Calcium	0.100	0.0847	84.7	70 - 130	mg/L

Print Date: 02/06/2015

N.C. Certification # 481

BLANKS

Lab Name: SGS North America

Batch ID: MIP2722 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB1		CCB2		CCB3			
	2/4/15 9:49	C	2/4/15 10:26	C	2/4/15 11:07	C	2/4/15 11:58	C		
Aluminum	100	U	100	U	100	U	100	U		
Antimony										
Arsenic										
Barium	100	U	100	U	100	U	100	U		
Beryllium	10	U	10	U	10	U	10	U		
Boron										
Cadmium										
Calcium	100	U	100	U	100	U	100	U		
Chromium										
Cobalt										
Copper										
Iron	100	U	100	U	100	U	100	U		
Lead										
Magnesium	100	U	100	U	100	U	100	U		
Manganese	10	U	10	U	10	U	10	U		
Molybdenum										
Mercury										
Nickel										
Potassium										
Selenium										
Silver										
Sodium	200	U	200	U	200	U	978.59	#		
Thallium										
Tin										
Vanadium										
Zinc										

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: MIP2722 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB4		CCB5		CCB6			
	2/4/15 9:49	C	2/4/15 12:40	C	2/4/15 13:27	C	2/4/15 14:06	C		
Aluminum	100	U	100	U	100	U	100	U		
Antimony										
Arsenic										
Barium	100	U	100	U	100	U	100	U		
Beryllium	10	U	10	U	10	U	10	U		
Boron										
Cadmium										
Calcium	100	U	100	U	100	U	100	U		
Chromium										
Cobalt										
Copper										
Iron	100	U	100	U	100	U	100	U		
Lead										
Magnesium	100	U	100	U	100	U	100	U		
Manganese	10	U	10	U	10	U	10	U		
Molybdenum										
Mercury										
Nickel										
Potassium										
Selenium										
Silver										
Sodium	200	U	413.05	#	280.12	#	200	U		
Thallium										
Tin										
Vanadium										
Zinc										

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: MIP2722 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB7							
	2/4/15 9:49	C	2/4/15 14:23	C		C		C		
Aluminum	100	U	100	U						
Antimony										
Arsenic										
Barium	100	U	100	U						
Beryllium	10	U	10	U						
Boron										
Cadmium										
Calcium	100	U	100	U						
Chromium										
Cobalt										
Copper										
Iron	100	U	100	U						
Lead										
Magnesium	100	U	100	U						
Manganese	10	U	10	U						
Molybdenum										
Mercury										
Nickel										
Potassium										
Selenium										
Silver										
Sodium	200	U	200	U						
Thallium										
Tin										
Vanadium										
Zinc										

Comments:

FORM III - METALS

Interference Check Sample Form 4A

Analytical Batch: MIP2722
Instrument: ICP1
Analyst: PSW

Results by **SW-846 6010C**

	True		Initial Found (mg/L)			Final Found (mg/L)			
Parameter	A	B	A	B	Rec (%)	A	B	Rec (%)	cl
Aluminum	100.0000	100.0000	97.3	95.3	95.3	101	98.5	98.5	80 - 120
Antimony	0.0000	0.3000							80 - 120
Arsenic	0.0000	0.3000		0.305	102				80 - 120
Barium	0.0000	1.0000	0.00697			0.00730	0.957	95.7	80 - 120
Beryllium	0.0000	0.3000	0.00623	0.275	91.7	0.00148	0.266	88.8	80 - 120
Cadmium	0.0000	0.3000		0.283	94.2				80 - 120
Calcium	40.0000	40.0000	39.0	37.3	93.3	40.3	39.6	99.0	80 - 120
Chromium	0.0000	0.3000		0.287	95.6				80 - 120
Cobalt	0.0000	0.3000							80 - 120
Copper	0.0000	0.3000							80 - 120
Iron	100.0000	100.0000	96.0	93.9	93.9	97.9	95.5	95.5	80 - 120
Lead	0.0000	0.3000		0.267	89.0				80 - 120
Magnesium	40.0000	40.0000	38.6	37.8	94.5	40.1	39.1	97.8	80 - 120
Manganese	0.0000	0.3000	-0.00459			-0.00484	0.288	96.1	80 - 120
Nickel	0.0000	0.3000							80 - 120
Potassium	0.0000	0.0000		0.0167					
Selenium	0.0000	0.3000							80 - 120
Silver	0.0000	0.3000							80 - 120
Sodium	0.0000	0.0000	-0.0929	-0.00279		-0.0717	-0.0653		
Thallium	0.0000	0.3000							80 - 120
Vanadium	0.0000	0.3000							80 - 120
Zinc	0.0000	0.3000							80 - 120

Analytical Run Log **Form 13**

Analytical Method: SW-846 6010C
Analytical Batch: MIP2722
Prep Method:
Start Date: 02/04/2015

Instrument: ICP1
Analyst: PSW

End Date: 02/04/2015

		Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn
09:53	ICAL3				X	X																	
09:55	ICAL4		X				X					X		X	X	X							
09:58	ICAL2		X		X	X	X					X		X	X	X							
10:02	ICAL1		X		X	X	X					X		X	X	X							
10:05	ICV		X		X	X	X					X		X	X	X							
10:12	ICSA		X		X	X	X					X		X	X	X							
10:15	ICSB		X		X	X	X					X		X	X	X							
10:19	LLC		X		X	X	X					X		X	X	X							
10:22	CCV		X		X	X	X					X		X	X	X							
10:26	CBV for HBN 64854 (MIP/2722)															X							
10:29	MB for HBN 63753 [MXX/3844]					X										X							
10:33	LCS for HBN 63753 [MXX/3844]															X							
10:36	LCSD for HBN 63753 [MXX/3844]															X							
10:40	BT-SW-01															X							
10:43	BT-SW-01(157958MS)															X							
10:46	BT-SW-01(157958MSD)															X							
10:50	BT-SW-02															X							
10:53	BT-SW-03															X							
10:57	BT-SW-04															X							
11:00	BT-SW-05															X							
11:04	CCV		X		X	X	X					X		X	X	X							
11:07	CBV for HBN 64854 (MIP/2722)					X										X							
11:14	BT-SW-DUP					X																	
11:21	BT-PW-01					X																	
11:28	BT-PW-02					X																	
11:55	CCV		X		X	X	X					X		X	X	X							
11:58	CBV for HBN 64854 (MIP/2722)					X																	
12:37	CCV		X		X	X	X					X		X	X	X							
12:40	CBV for HBN 64854 (MIP/2722)				X										X								
12:50	BT-SD-01				X										X								
13:01	BT-SD-01(157965MS)														X								
13:11	BT-SD-01(157965MSD)														X								
13:24	CCV		X		X	X	X					X		X	X	X							
13:27	CBV for HBN 64854 (MIP/2722)				X										X								
13:34	BT-SD-02														X								
13:45	BT-SD-03														X								
13:55	BT-SD-03(157967DUP)														X								
14:02	CCV		X		X	X	X					X		X	X	X							
14:06	CBV for HBN 64854 (MIP/2722)														X								
14:09	ICSA		X		X	X	X					X		X	X	X							

Print Date: 02/06/2015

N.C. Certification # 481

Analytical Run Log **Form 13**

Analytical Method: SW-846 6010C
Analytical Batch: MIP2722
Prep Method:

Instrument: ICP1
Analyst: PSW

		Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn
14:13	ICSB		X		X	X	X					X		X	X	X							
14:16	LLC		X		X	X	X					X		X	X	X							
14:20	CCV		X		X	X	X					X		X	X	X							

Analytical Sequence

Method : 6010C

MIP2722

Seq.	Loc.		Sample ID	Status
1	1		CBV	Applied
2	4		ICAL3	Applied
3	5		ICAL4	Applied
4	6		ICAL5	Skipped
5	3		ICAL2	Applied
6	2		ICAL1	Applied
7	7		ICV ✓	Analyzed
8	1		ICB ✓	Analyzed
9	8		ICSA ✓	Analyzed
10	9		ICSB ✓	Analyzed
11	2		LLC	Analyzed
12	3		CCV ✓	Analyzed
13	1		CBV ✓	Analyzed
14	11	R.R	158133 MB ✓	Analyzed
15	12	Sr	158134 LCS ✓	Analyzed
16	13		158135 LCSD ✓	Analyzed
17	16		0182_1 x1000	Analyzed
18	19		158136 MS x1000	Analyzed
19	22		158137 MSD x1000	Analyzed
20	25		0182_2 x100	Analyzed
21	28		0182_3 x1000	Analyzed
22	31		0182_4 x100	Analyzed
23	34		0182_5 x100	Analyzed
24	3		CCV ✓	Analyzed
25	1		CBV ✓	Analyzed
26	37		0182_6 x100	Analyzed
27	38		0182_7 - Ca Na Mg	Analyzed
28	40		0182_7 x100 ✓	Analyzed
29	41	R.R	0182_11 - Fe Mg Ca K	Analyzed
30	43		0182_11 x10000 ✓ 100000	Analyzed
31	44	Na	0182_12 - Fe Mg Ca K	Analyzed
32	46		0182_12 x10000 ✓ 100000	Analyzed
33	47	Sr	0171_1 x10000 ✓	Analyzed
34	48		0171_2 x10000 ✓	Analyzed
35	49		0171_3 x10000 ✓	Analyzed
36	3		CCV - Na	Analyzed
37	1		CBV - Na	Analyzed
38	50		0171_4 x10000	Analyzed
39	51		0171_5 x10000	Analyzed
40	52	+ Sr	0171_6 x10000	Analyzed
41	53		157815 MB - Na	Analyzed
42	54		157816 LCS ✓	Analyzed
43	55		157817 LCSD ✓	Analyzed
44	57		0144_1 x1000	Analyzed
45	59	R.R	0144_2 x10000	Analyzed
46	60		158139 MB - Na	Analyzed
47	61	Na	158140 LCS ✓	Analyzed
48	3		CCV - Na	Analyzed
49	1		CBV - Na	Analyzed
50	62		158141 LCSD ✓	Analyzed
51	63		0182_8 - Ba Mn Na	Analyzed
52	64		0182_8 x10 - Na	Analyzed
53	65		0182_8 x100 ✓	Analyzed
54	66		158142 MS - Ba Mn Na	Analyzed
55	67		158142 MS x10 - Na	Analyzed
56	68		158142 MS x100 ✓	Analyzed

ODES020315-1

Analytical Sequence

Method : 6010C

Seq.	Loc.	Sample ID	Status
57	69	158143 MSD - Ba Mn Na	Analyzed
58	70	158143 MSD x10 - Na	Analyzed
59	71	158143 MSD x100 ✓	Analyzed
60	3	CCV ✓	Analyzed
61	1	CBV - Na	Analyzed
62	72	0182_9 - Mn Na	Analyzed
63	73	0182_9 x10 ✓ Na	Analyzed
64	74	0182_9 x100 ✓	Analyzed
65	75	0182_10 - Na Mn	Analyzed
66	76	0182_10 x10 Na	Analyzed
67	77	0182_10 x100 ✓	Analyzed
68	78	158144 DUP - Na Mn	Analyzed
69	79	158144 DUP x10 Na	Analyzed
70	80	158144 DUP x100 ✓	Analyzed
71	3	CCV ✓	Analyzed
72	1	CBV ✓	Analyzed
73	8	ICSA ✓	Analyzed
74	9	ICSB ✓	Analyzed
75	2	LLC ✓	Analyzed
76	3	CCV ✓	Analyzed
77	1	CBV ✓	Analyzed

Analysis Begun

Start Time: 2/4/2015 9:49:52 AM
Logged In Analyst: Anyone
Spectrometer Model: Optima 2100

Plasma On Time: 2/4/2015 9:08:07 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Anyone\Sample Information\MIP2722.sif
Batch ID:
Results Data Set: MIP2722
Results Library: C:\pe\Anyone\Results\Results.mdb

Sequence No.: 1
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 9:49:52 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ba 234	3883.3	265.39	6.83%	[0.00]	mg/L
Mn 258	24169.8	532.16	2.20%	[0.00]	mg/L
Fe 260	9192.4	0.00	0.00%	[0.00]	mg/L
Mg 279	354.1	212.04	59.87%	[0.00]	mg/L
Al 308	4201.3	157.98	3.76%	[0.00]	mg/L
Be 313	4476.6	38.62	0.86%	[0.00]	mg/L
Ca 318	4000.5	265.39	6.63%	[0.00]	mg/L
Na 590	17693.5	815.88	4.61%	[0.00]	mg/L

Sequence No.: 2
Sample ID: ICAL3
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 2/4/2015 9:53:15 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL3

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICAL3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ba 234	2813996.6	2388.54	0.08%	[5]	mg/L
Be 313	84725.6	398.09	0.47%	[1]	mg/L

Sequence No.: 3
Sample ID: ICAL4
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 2/4/2015 9:55:22 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL4

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICAL4

Mean Corrected Calib

Analyte	Intensity	Std.Dev.	RSD	Conc.	Units
Mn 258	2364119.3	10267.55	0.43%	[1]	mg/L
Fe 260	186064.0	1394.70	0.75%	[5]	mg/L
Mg 279	17675.9	157.21	0.89%	[5]	mg/L
Al 308	36405.1	337.03	0.93%	[5]	mg/L
Ca 318	151313.1	1497.58	0.99%	[5]	mg/L
Na 590	381848.0	8465.38	2.22%	[5]	mg/L

Sequence No.: 5
Sample ID: ICAL2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 9:58:37 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL2

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICAL2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ba 234	1392798.6	12606.17	0.91%	[2.5]	mg/L
Mn 258	1214741.9	7450.23	0.61%	[0.5]	mg/L
Fe 260	94041.9	967.54	1.03%	[2.5]	mg/L
Mg 279	9141.1	120.22	1.32%	[2.5]	mg/L
Al 308	18329.1	157.98	0.86%	[2.5]	mg/L
Be 313	42396.0	1232.89	2.91%	[0.5]	mg/L
Ca 318	76536.0	75.83	0.10%	[2.5]	mg/L
Na 590	190728.1	92.13	0.05%	[2.5]	mg/L

Sequence No.: 6
Sample ID: ICAL1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/4/2015 10:02:03 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL1

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICAL1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ba 234	56113.2	180.44	0.32%	[0.1]	mg/L
Mn 258	18050.3	640.63	3.55%	[0.01]	mg/L
Fe 260	2576.5	0.00	0.00%	[0.1]	mg/L
Mg 279	344.7	39.54	11.47%	[0.1]	mg/L
Al 308	696.8	131.01	18.80%	[0.1]	mg/L
Be 313	911.0	530.79	58.26%	[0.01]	mg/L
Ca 318	1717.2	73.72	4.29%	[0.1]	mg/L
Na 590	5291.9	42.98	0.81%	[0.2]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ba 234	3	Lin, Calc Int	-2663.1	562300	0.00000	0.999986	
Mn 258	3	Lin, Calc Int	3410.0	2373000	0.00000	0.999887	
Fe 260	3	Lin, Calc Int	-334.9	37370	0.00000	0.999959	
Mg 279	3	Lin, Calc Int	51.3	3547	0.00000	0.999839	
Al 308	3	Lin, Calc Int	8.9	7289	0.00000	0.999992	
Be 313	3	Lin, Calc Int	35.0	84700	0.00000	1.000000	
Ca 318	3	Lin, Calc Int	-433.2	30430	0.00000	0.999938	
Na 590	3	Lin, Calc Int	-4544.2	77410	0.00000	0.999716	

Sequence No.: 7
Sample ID: ICV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/4/2015 10:05:29 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICV

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	563298.1	1.01	mg/L	0.007	1.01	mg/L	0.007	0.65%
Mn 258	2423994.2	1.02	mg/L	0.003	1.02	mg/L	0.003	0.27%
Fe 260	36325.6	0.981	mg/L	0.0163	0.981	mg/L	0.0163	1.66%
Mg 279	3510.9	0.975	mg/L	0.0043	0.975	mg/L	0.0043	0.44%
Al 308	7865.4	1.08	mg/L	0.019	1.08	mg/L	0.019	1.74%
Be 313	81214.6	0.958	mg/L	0.0016	0.958	mg/L	0.0016	0.16%
Ca 318	30264.1	1.01	mg/L	0.025	1.01	mg/L	0.025	2.47%
Na 590	65371.3	0.903	mg/L	0.0080	0.903	mg/L	0.0080	0.89%

Sequence No.: 8
Sample ID: ICB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 10:08:58 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICB

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	-120.1	0.0045	mg/L	0.00048	0.0045	mg/L	0.00048	10.71%
Mn 258	-8322.7	-0.0049	mg/L	0.00020	-0.0049	mg/L	0.00020	4.00%
Fe 260	-302.0	0.0009	mg/L	0.03732	0.0009	mg/L	0.03732	>999.9%
Mg 279	-30.9	-0.0232	mg/L	0.00543	-0.0232	mg/L	0.00543	23.46%
Al 308	78.7	0.0096	mg/L	0.04398	0.0096	mg/L	0.04398	459.47%
Be 313	469.2	0.0051	mg/L	0.00738	0.0051	mg/L	0.00738	143.92%
Ca 318	-874.3	-0.0145	mg/L	0.00436	-0.0145	mg/L	0.00436	30.08%
Na 590	-4497.4	0.0006	mg/L	0.00392	0.0006	mg/L	0.00392	648.40%

Sequence No.: 9
Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/4/2015 10:12:25 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	183.0 kPa	0.55 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1256.0	0.0070	mg/L	0.00014	0.0070	mg/L	0.00014	2.08%
Mn 258	-7484.7	-0.0046	mg/L	0.00090	-0.0046	mg/L	0.00090	19.52%
Fe 260	3587528.8	96.0	mg/L	0.04	96.0	mg/L	0.04	0.04%
Mg 279	136888.9	38.6	mg/L	0.40	38.6	mg/L	0.40	1.04%
Al 308	709408.6	97.3	mg/L	0.05	97.3	mg/L	0.05	0.06%
Be 313	563.0	0.0062	mg/L	0.00268	0.0062	mg/L	0.00268	42.95%
Ca 318	1186133.9	39.0	mg/L	0.09	39.0	mg/L	0.09	0.24%

Na 590	-11737.3	-0.0929 mg/L	0.00402	-0.0929 mg/L	0.00402	4.33%

Sequence No.: 10
Sample ID: ICSB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 2/4/2015 10:15:53 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSB

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: ICSB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	537064.2	0.960	mg/L	0.0034	0.960	mg/L	0.0034	0.36%
Mn 258	687640.1	0.288	mg/L	0.0011	0.288	mg/L	0.0011	0.40%
Fe 260	3507275.5	93.9	mg/L	1.19	93.9	mg/L	1.19	1.27%
Mg 279	136695.7	38.5	mg/L	0.01	38.5	mg/L	0.01	0.03%
Al 308	694514.6	95.3	mg/L	0.04	95.3	mg/L	0.04	0.04%
Be 313	23751.1	0.280	mg/L	0.0031	0.280	mg/L	0.0031	1.12%
Ca 318	1194326.9	39.3	mg/L	0.43	39.3	mg/L	0.43	1.09%
Na 590	-11217.8	-0.0862	mg/L	0.00454	-0.0862	mg/L	0.00454	5.27%

Sequence No.: 11
Sample ID: LLC
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/4/2015 10:19:23 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LLC

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: LLC

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	56741.2	0.106	mg/L	0.0025	0.106	mg/L	0.0025	2.39%
Mn 258	17718.2	0.0060	mg/L	0.00002	0.0060	mg/L	0.00002	0.32%
Fe 260	4334.2	0.125	mg/L	0.0406	0.125	mg/L	0.0406	32.52%
Mg 279	218.5	0.0472	mg/L	0.00046	0.0472	mg/L	0.00046	0.98%
Al 308	867.2	0.118	mg/L	0.0151	0.118	mg/L	0.0151	12.81%
Be 313	1192.5	0.0137	mg/L	0.01097	0.0137	mg/L	0.01097	80.25%
Ca 318	2371.1	0.0921	mg/L	0.01924	0.0921	mg/L	0.01924	20.88%
Na 590	4511.6	0.117	mg/L	0.0052	0.117	mg/L	0.0052	4.42%

Sequence No.: 12
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 10:22:44 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1399400.5	2.49	mg/L	0.028	2.49	mg/L	0.028	1.11%
Mn 258	1218881.1	0.512	mg/L	0.0002	0.512	mg/L	0.0002	0.04%
Fe 260	96403.7	2.59	mg/L	0.024	2.59	mg/L	0.024	0.94%
Mg 279	9203.9	2.58	mg/L	0.012	2.58	mg/L	0.012	0.48%

Al 308	18876.5	2.59 mg/L	0.009	2.59 mg/L	0.009	0.36%
Be 313	41860.4	0.494 mg/L	0.0172	0.494 mg/L	0.0172	3.49%
Ca 318	78773.1	2.60 mg/L	0.007	2.60 mg/L	0.007	0.27%
Na 590	187236.2	2.48 mg/L	0.010	2.48 mg/L	0.010	0.40%

Sequence No.: 13
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 10:26:12 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	753.1	0.0061	mg/L	0.00047	0.0061	mg/L	0.00047	7.67%
Mn 258	-7869.7	-0.0048	mg/L	0.00047	-0.0048	mg/L	0.00047	9.84%
Fe 260	-946.2	-0.0164	mg/L	0.01294	-0.0164	mg/L	0.01294	79.15%
Mg 279	-106.0	-0.0443	mg/L	0.00626	-0.0443	mg/L	0.00626	14.13%
Al 308	178.3	0.0232	mg/L	0.03170	0.0232	mg/L	0.03170	136.40%
Be 313	696.0	0.0078	mg/L	0.00894	0.0078	mg/L	0.00894	114.60%
Ca 318	-817.7	-0.0126	mg/L	0.00311	-0.0126	mg/L	0.00311	24.65%
Na 590	-6323.1	-0.0230	mg/L	0.00889	-0.0230	mg/L	0.00889	38.69%

Sequence No.: 14
Sample ID: 158133 MB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 11
Date Collected: 2/4/2015 10:29:39 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158133 MB

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 158133 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	411.6	0.0055	mg/L	0.00037	0.0055	mg/L	0.00037	6.74%
Mn 258	-5235.7	-0.0036	mg/L	0.00024	-0.0036	mg/L	0.00024	6.69%
Fe 260	684.2	0.0273	mg/L	0.00000	0.0273	mg/L	0.00000	0.00%
Mg 279	4.6	-0.0131	mg/L	0.04524	-0.0131	mg/L	0.04524	344.09%
Al 308	129.9	0.0166	mg/L	0.03947	0.0166	mg/L	0.03947	237.78%
Be 313	535.7	0.0059	mg/L	0.00313	0.0059	mg/L	0.00313	53.01%
Ca 318	819.2	0.0411	mg/L	0.00069	0.0411	mg/L	0.00069	1.68%
Na 590	-7358.1	-0.0364	mg/L	0.00121	-0.0364	mg/L	0.00121	3.32%

Sequence No.: 15
Sample ID: 158134 LCS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 12
Date Collected: 2/4/2015 10:33:07 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158134 LCS

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 158134 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1123139.3	2.00	mg/L	0.015	2.00	mg/L	0.015	0.74%

Mn 258	965935.1	0.406 mg/L	0.0015	0.406 mg/L	0.0015	0.38%
Fe 260	73859.4	1.99 mg/L	0.016	1.99 mg/L	0.016	0.82%
Mg 279	7133.6	2.00 mg/L	0.021	2.00 mg/L	0.021	1.05%
Al 308	15003.8	2.06 mg/L	0.009	2.06 mg/L	0.009	0.46%
Be 313	32383.5	0.382 mg/L	0.0148	0.382 mg/L	0.0148	3.86%
Ca 318	61293.7	2.03 mg/L	0.011	2.03 mg/L	0.011	0.53%
Na 590	150315.9	2.00 mg/L	0.008	2.00 mg/L	0.008	0.39%

Sequence No.: 16
Sample ID: 158135 LCSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 13
Date Collected: 2/4/2015 10:36:34 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158135 LCSD

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 158135 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1110623.6	1.98	mg/L	0.003	1.98	mg/L	0.003	0.17%
Mn 258	995662.3	0.418	mg/L	0.0026	0.418	mg/L	0.0026	0.63%
Fe 260	74074.1	1.99	mg/L	0.041	1.99	mg/L	0.041	2.04%
Mg 279	7194.8	2.01	mg/L	0.015	2.01	mg/L	0.015	0.72%
Al 308	15070.4	2.07	mg/L	0.015	2.07	mg/L	0.015	0.74%
Be 313	31312.1	0.369	mg/L	0.0094	0.369	mg/L	0.0094	2.55%
Ca 318	61657.2	2.04	mg/L	0.010	2.04	mg/L	0.010	0.50%
Na 590	159114.2	2.11	mg/L	0.006	2.11	mg/L	0.006	0.26%

Sequence No.: 17
Sample ID: 0182_1 x1000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 16
Date Collected: 2/4/2015 10:40:03 AM
Data Type: Original
Initiel Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_1 x1000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_1 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	-93.8	0.0046	mg/L	0.00024	0.0046	mg/L	0.00024	5.16%
Mn 258	-5644.4	-0.0038	mg/L	0.00045	-0.0038	mg/L	0.00045	11.75%
Fe 260	-429.4	-0.0025	mg/L	0.01625	-0.0025	mg/L	0.01625	642.86%
Mg 279	743.9	0.195	mg/L	0.0049	0.195	mg/L	0.0049	2.50%
Al 308	304.4	0.0405	mg/L	0.02601	0.0405	mg/L	0.02601	64.14%
Be 313	817.2	0.0092	mg/L	0.00157	0.0092	mg/L	0.00157	16.97%
Ca 318	5856.2	0.207	mg/L	0.0018	0.207	mg/L	0.0018	0.87%
Na 590	82584.1	1.13	mg/L	0.011	1.13	mg/L	0.011	1.02%

Sequence No.: 18
Sample ID: 158136 MS x1000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 19
Date Collected: 2/4/2015 10:43:30 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158136 MS x1000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 158136 MS x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1407.5	0.0072	mg/L	0.00024	0.0072	mg/L	0.00024	3.26%
Mn 258	-5644.4	-0.0038	mg/L	0.00090	-0.0038	mg/L	0.00090	23.51%
Fe 260	-644.1	-0.0083	mg/L	0.02438	-0.0083	mg/L	0.02438	294.63%
Mg 279	779.1	0.205	mg/L	0.0202	0.205	mg/L	0.0202	9.83%
Al 308	193.6	0.0253	mg/L	0.01589	0.0253	mg/L	0.01589	62.71%
Be 313	93.8	0.0007	mg/L	0.00111	0.0007	mg/L	0.00111	159.89%
Ca 318	6621.8	0.232	mg/L	0.0174	0.232	mg/L	0.0174	7.52%
Na 590	89016.7	1.21	mg/L	0.014	1.21	mg/L	0.014	1.20%

Sequence No.: 19
Sample ID: 158137 MSD x1000
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 22
Date Collected: 2/4/2015 10:46:58 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158137 MSD x1000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 158137 MSD x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	2061.8	0.0084	mg/L	0.00047	0.0084	mg/L	0.00047	5.54%
Mn 258	-5612.0	-0.0038	mg/L	0.00047	-0.0038	mg/L	0.00047	12.31%
Fe 260	-644.1	-0.0083	mg/L	0.02438	-0.0083	mg/L	0.02438	294.63%
Mg 279	694.8	0.181	mg/L	0.0175	0.181	mg/L	0.0175	9.65%
Al 308	178.3	0.0232	mg/L	0.01292	0.0232	mg/L	0.01292	55.58%
Be 313	254.2	0.0026	mg/L	0.01006	0.0026	mg/L	0.01006	388.54%
Ca 318	5762.4	0.204	mg/L	0.0062	0.204	mg/L	0.0062	3.03%
Na 590	91129.8	1.24	mg/L	0.001	1.24	mg/L	0.001	0.11%

Sequence No.: 20
Sample ID: 0182_2 x100
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 25
Date Collected: 2/4/2015 10:50:25 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_2 x100

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_2 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1436.3	0.0073	mg/L	0.00014	0.0073	mg/L	0.00014	1.90%
Mn 258	-1096.4	-0.0019	mg/L	0.00002	-0.0019	mg/L	0.00002	1.02%
Fe 260	-429.4	-0.0025	mg/L	0.01625	-0.0025	mg/L	0.01625	642.86%
Mg 279	2757.2	0.763	mg/L	0.0078	0.763	mg/L	0.0078	1.02%
Al 308	-48.4	-0.0079	mg/L	0.01390	-0.0079	mg/L	0.01390	176.90%
Be 313	-281.5	-0.0037	mg/L	0.01364	-0.0037	mg/L	0.01364	365.15%
Ca 318	37584.4	1.25	mg/L	0.004	1.25	mg/L	0.004	0.30%
Na 590	264383.5	3.47	mg/L	0.021	3.47	mg/L	0.021	0.60%

Sequence No.: 21
Sample ID: 0182_3 x1000
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 28
Date Collected: 2/4/2015 10:53:53 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_3 x1000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_3 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	279.0	0.0052	mg/L	0.00070	0.0052	mg/L	0.00070	13.41%
Mn 258	-5955.8	-0.0039	mg/L	0.00022	-0.0039	mg/L	0.00022	5.68%
Fe 260	-644.1	-0.0083	mg/L	0.00813	-0.0083	mg/L	0.00813	98.21%
Mg 279	458.1	0.115	mg/L	0.0127	0.115	mg/L	0.0127	11.08%
Al 308	92.6	0.0115	mg/L	0.00370	0.0115	mg/L	0.00370	32.20%
Be 313	441.8	0.0048	mg/L	0.00470	0.0048	mg/L	0.00470	97.85%
Ca 318	3739.8	0.137	mg/L	0.0031	0.137	mg/L	0.0031	2.27%
Na 590	65372.3	0.903	mg/L	0.0035	0.903	mg/L	0.0035	0.39%

Sequence No.: 22
Sample ID: 0182_4 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 31
Date Collected: 2/4/2015 10:57:20 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_4 x100

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_4 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	693.1	0.0060	mg/L	0.00110	0.0060	mg/L	0.00110	18.45%
Mn 258	-1505.2	-0.0021	mg/L	0.00022	-0.0021	mg/L	0.00022	10.83%
Fe 260	342.1	0.0181	mg/L	0.04544	0.0181	mg/L	0.04544	250.85%
Mg 279	2549.7	0.704	mg/L	0.0043	0.704	mg/L	0.0043	0.62%
Al 308	178.3	0.0232	mg/L	0.00009	0.0232	mg/L	0.00009	0.38%
Be 313	-375.3	-0.0048	mg/L	0.00581	-0.0048	mg/L	0.00581	119.95%
Ca 318	36053.3	1.20	mg/L	0.006	1.20	mg/L	0.006	0.53%
Na 590	266867.1	3.51	mg/L	0.021	3.51	mg/L	0.021	0.59%

Sequence No.: 23
Sample ID: 0182_5 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 34
Date Collected: 2/4/2015 11:00:47 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_5 x100

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_5 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	344.0	0.0053	mg/L	0.00039	0.0053	mg/L	0.00039	7.35%
Mn 258	-1925.7	-0.0022	mg/L	0.00047	-0.0022	mg/L	0.00047	21.12%
Fe 260	214.7	0.0147	mg/L	0.02438	0.0147	mg/L	0.02438	165.73%
Mg 279	2552.1	0.705	mg/L	0.0227	0.705	mg/L	0.0227	3.23%
Al 308	323.5	0.0432	mg/L	0.04109	0.0432	mg/L	0.04109	95.20%
Be 313	977.5	0.0111	mg/L	0.01364	0.0111	mg/L	0.01364	122.61%
Ca 318	34902.0	1.16	mg/L	0.001	1.16	mg/L	0.001	0.11%
Na 590	269443.6	3.54	mg/L	0.015	3.54	mg/L	0.015	0.43%

Sequence No.: 24
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 11:04:17 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1397114.8	2.49	mg/L	0.046	2.49	mg/L	0.046	1.85%
Mn 258	1216546.6	0.511	mg/L	0.0002	0.511	mg/L	0.0002	0.03%
Fe 260	94686.0	2.54	mg/L	0.024	2.54	mg/L	0.024	0.96%
Mg 279	9022.8	2.53	mg/L	0.008	2.53	mg/L	0.008	0.30%
Al 308	18846.3	2.58	mg/L	0.004	2.58	mg/L	0.004	0.14%
Be 313	40667.9	0.480	mg/L	0.0058	0.480	mg/L	0.0058	1.21%
Ca 318	78677.7	2.60	mg/L	0.009	2.60	mg/L	0.009	0.34%
Na 590	187782.9	2.48	mg/L	0.002	2.48	mg/L	0.002	0.08%

Sequence No.: 25
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 11:07:46 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parametere: CBV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Deta: CBV

Anelyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	505.4	0.0056	mg/L	0.00063	0.0056	mg/L	0.00063	11.17%
Mn 258	-8654.8	-0.0051	mg/L	0.00090	-0.0051	mg/L	0.00090	17.64%
Fe 260	-302.0	0.0009	mg/L	0.02107	0.0009	mg/L	0.02107	>999.9%
Mg 279	-76.5	-0.0360	mg/L	0.01180	-0.0360	mg/L	0.01180	32.76%
Al 308	14.9	0.0008	mg/L	0.00000	0.0008	mg/L	0.00000	0.00%
Be 313	187.7	0.0018	mg/L	0.00268	0.0018	mg/L	0.00268	148.54%
Ca 318	-908.5	-0.0156	mg/L	0.00623	-0.0156	mg/L	0.00623	39.88%
Na 590	-8002.4	-0.0447	mg/L	0.00131	-0.0447	mg/L	0.00131	2.92%

Sequence No.: 26
Sample ID: 0182_6 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 37
Date Collected: 2/4/2015 11:11:10 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulirer Parameters: 0182_6 x100

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_6 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	466.7	0.0056	mg/L	0.00024	0.0056	mg/L	0.00024	4.35%
Mn 258	-1549.4	-0.0021	mg/L	0.00025	-0.0021	mg/L	0.00025	11.99%
Fe 260	-644.1	-0.0083	mg/L	0.00813	-0.0083	mg/L	0.00813	98.21%
Mg 279	1605.3	0.438	mg/L	0.0322	0.438	mg/L	0.0322	7.34%
Al 308	270.9	0.0360	mg/L	0.06846	0.0360	mg/L	0.06846	190.42%
Be 313	-281.5	-0.0037	mg/L	0.00738	-0.0037	mg/L	0.00738	197.44%
Ca 318	27529.6	0.919	mg/L	0.0260	0.919	mg/L	0.0260	2.83%
Na 590	136817.6	1.83	mg/L	0.031	1.83	mg/L	0.031	1.68%

Sequence No.: 27
Sample ID: 0182_7
Analyst:
Initial Sample Wt:

Autosampler Location: 38
Date Collected: 2/4/2015 11:14:41 AM
Data Type: Original
Initial Sample Vol:

Dilution: Sample Prep Vol:

Nebulizer Parameters: 0182_7

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_7

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	16608.0	0.0343	mg/L	0.00071	0.0343	mg/L	0.00071	2.07%
Mn 258	484432.9	0.203	mg/L	0.0000	0.203	mg/L	0.0000	0.02%
Fe 260	36500.3	0.986	mg/L	0.0000	0.986	mg/L	0.0000	0.00%
Mg 279	231606.5	65.3	mg/L	0.33	65.3	mg/L	0.33	0.51%
Al 308	416.2	0.0559	mg/L	0.00433	0.0559	mg/L	0.00433	7.76%
Be 313	414.5	0.0045	mg/L	0.01678	0.0045	mg/L	0.01678	374.41%
Ca 318	3186244.1	105	mg/L	0.6	105	mg/L	0.6	0.54%
Na 590	Saturated4							

Sequence No.: 28
Sample ID: 0182_7 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 40
Date Collected: 2/4/2015 11:18:10 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_7 x100

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_7 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	505.4	0.0056	mg/L	0.00079	0.0056	mg/L	0.00079	13.96%
Mn 258	-3054.6	-0.0027	mg/L	0.00020	-0.0027	mg/L	0.00020	7.26%
Fe 260	214.7	0.0147	mg/L	0.02438	0.0147	mg/L	0.02438	165.73%
Mg 279	2636.8	0.729	mg/L	0.0138	0.729	mg/L	0.0138	1.90%
Al 308	96.8	0.0121	mg/L	0.01589	0.0121	mg/L	0.01589	131.74%
Be 313	-469.2	-0.0060	mg/L	0.00424	-0.0060	mg/L	0.00424	71.30%
Ca 318	34593.7	1.15	mg/L	0.013	1.15	mg/L	0.013	1.14%
Na 590	260650.2	3.43	mg/L	0.001	3.43	mg/L	0.001	0.02%

Sequence No.: 29
Sample ID: 0182_11
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 41
Date Collected: 2/4/2015 11:21:39 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_11

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_11

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	688131.5	1.23	mg/L	0.004	1.23	mg/L	0.004	0.33%
Mn 258	1879950.5	0.791	mg/L	0.0016	0.791	mg/L	0.0016	0.20%
Fe 260	317210.3	8.50	mg/L	0.125	8.50	mg/L	0.125	1.47%
Mg 279	408670.4	115	mg/L	0.4	115	mg/L	0.4	0.34%
Al 308	-212.7	-0.0304	mg/L	0.00081	-0.0304	mg/L	0.00081	2.67%
Be 313	66.5	0.0004	mg/L	0.00470	0.0004	mg/L	0.00470	>999.9%
Ca 318	Saturated4							
Na 590	Saturated4							

Sequence No.: 30 Autosampler Location: 43

Sample ID: 0182_11 x10000
Analyst:
Initial Sample Wt:
Dilution:

Date Collected: 2/4/2015 11:25:06 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulirer Parameters: 0182_11 x10000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_11 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	411.6	0.0055	mg/L	0.00008	0.0055	mg/L	0.00008	1.44%
Mn 258	-3054.6	-0.0027	mg/L	0.00065	-0.0027	mg/L	0.00065	23.73%
Fe 260	342.1	0.0181	mg/L	0.01294	0.0181	mg/L	0.01294	71.46%
Mg 279	38.6	-0.0036	mg/L	0.01252	-0.0036	mg/L	0.01252	349.92%
Al 308	81.5	0.0100	mg/L	0.01292	0.0100	mg/L	0.01292	129.70%
Be 313	629.5	0.0070	mg/L	0.00470	0.0070	mg/L	0.00470	66.96%
Ca 318	11365.4	0.388	mg/L	0.0150	0.388	mg/L	0.0150	3.87%
Na 590	618528.4	8.05	mg/L	0.094	8.05	mg/L	0.094	1.17%

Sequence No.: 31
Sample ID: 0182_12
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 44
Date Collected: 2/4/2015 11:28:33 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulirer Parameters: 0182_12

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_12

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	739670.9	1.32	mg/L	0.012	1.32	mg/L	0.012	0.94%
Mn 258	9690335.7	4.08	mg/L	0.010	4.08	mg/L	0.010	0.25%
Fe 260	397598.2	10.6	mg/L	0.24	10.6	mg/L	0.24	2.21%
Mg 279	366519.1	103	mg/L	1.6	103	mg/L	1.6	1.52%
Al 308	-406.3	-0.0570	mg/L	0.01797	-0.0570	mg/L	0.01797	31.55%
Be 313	469.2	0.0051	mg/L	0.01678	0.0051	mg/L	0.01678	327.31%
Ca 318	Saturated4							
Na 590	Saturated4							

Sequence No.: 32
Sample ID: 0182_12 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 46
Date Collected: 2/4/2015 11:31:59 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulirer Parameters: 0182_12 x10000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Date: 0182_12 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	409.1	0.0055	mg/L	0.00086	0.0055	mg/L	0.00086	15.72%
Mn 258	-4217.5	-0.0032	mg/L	0.00005	-0.0032	mg/L	0.00005	1.45%
Fe 260	-0.0	0.0090	mg/L	0.00000	0.0090	mg/L	0.00000	0.00%
Mg 279	31.9	-0.0055	mg/L	0.00341	-0.0055	mg/L	0.00341	62.41%
Al 308	129.9	0.0166	mg/L	0.03947	0.0166	mg/L	0.03947	237.78%
Be 313	254.2	0.0026	mg/L	0.01632	0.0026	mg/L	0.01632	630.69%
Ca 318	10360.1	0.355	mg/L	0.0069	0.355	mg/L	0.0069	1.95%
Na 590	656869.0	8.54	mg/L	0.085	8.54	mg/L	0.085	0.99%

Sequence No.: 33
Sample ID: 0171_1 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 47
Date Collected: 2/4/2015 11:35:26 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_1 x10000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0171_1 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	630.5	0.0059	mg/L	0.00030	0.0059	mg/L	0.00030	5.16%
Mn 258	-5722.6	-0.0038	mg/L	0.00050	-0.0038	mg/L	0.00050	12.87%
Fe 260	684.2	0.0273	mg/L	0.00000	0.0273	mg/L	0.00000	0.00%
Mg 279	-69.3	-0.0340	mg/L	0.02569	-0.0340	mg/L	0.02569	75.57%
Al 308	160.1	0.0207	mg/L	0.02818	0.0207	mg/L	0.02818	135.79%
Be 313	187.7	0.0018	mg/L	0.00268	0.0018	mg/L	0.00268	148.54%
Ca 318	6446.0	0.226	mg/L	0.0093	0.226	mg/L	0.0093	4.10%
Na 590	317507.6	4.16	mg/L	0.044	4.16	mg/L	0.044	1.06%

Sequence No.: 34
Sample ID: 0171_2 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 48
Date Collected: 2/4/2015 11:38:55 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_2 x10000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0171_2 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	185.2	0.0051	mg/L	0.00048	0.0051	mg/L	0.00048	9.44%
Mn 258	-6485.5	-0.0042	mg/L	0.00000	-0.0042	mg/L	0.00000	0.00%
Fe 260	342.1	0.0181	mg/L	0.01294	0.0181	mg/L	0.01294	71.46%
Mg 279	-37.4	-0.0250	mg/L	0.02016	-0.0250	mg/L	0.02016	80.65%
Al 308	14.9	0.0008	mg/L	0.01878	0.0008	mg/L	0.01878	>999.9%
Be 313	160.4	0.0015	mg/L	0.00627	0.0015	mg/L	0.00627	423.41%
Ca 318	4395.1	0.159	mg/L	0.0037	0.159	mg/L	0.0037	2.31%
Na 590	225302.0	2.97	mg/L	0.015	2.97	mg/L	0.015	0.49%

Sequence No.: 35
Sample ID: 0171_3 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 49
Date Collected: 2/4/2015 11:42:25 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_3 x10000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0171_3 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	372.8	0.0054	mg/L	0.00095	0.0054	mg/L	0.00095	17.60%
Mn 258	-5579.5	-0.0038	mg/L	0.00000	-0.0038	mg/L	0.00000	0.00%
Fe 260	-1288.2	-0.0255	mg/L	0.01625	-0.0255	mg/L	0.01625	63.70%
Mg 279	14.8	-0.0103	mg/L	0.00250	-0.0103	mg/L	0.00250	24.33%
Al 308	85.6	0.0105	mg/L	0.04968	0.0105	mg/L	0.04968	471.65%

Be 313	508.4	0.0056 mg/L	0.00046	0.0056 mg/L	0.00046	8.16%
Ca 318	5765.4	0.204 mg/L	0.0063	0.204 mg/L	0.0063	3.09%
Na 590	199667.0	2.64 mg/L	0.000	2.64 mg/L	0.000	0.01%

Sequence No.: 36
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 11:45:52 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Rerun PM 2-4-15

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1396426.7	2.49	mg/L	0.010	2.49	mg/L	0.010	0.41%
Mn 258	1220010.0	0.513	mg/L	0.0031	0.513	mg/L	0.0031	0.61%
Fe 260	93612.5	2.51	mg/L	0.049	2.51	mg/L	0.049	1.94%
Mg 279	9195.1	2.58	mg/L	0.018	2.58	mg/L	0.018	0.71%
Al 308	19009.7	2.61	mg/L	0.009	2.61	mg/L	0.009	0.36%
Be 313	41391.2	0.488	mg/L	0.0031	0.488	mg/L	0.0031	0.64%
Ca 318	79041.1	2.61	mg/L	0.017	2.61	mg/L	0.017	0.64%
Na 590	219415.1	2.89	mg/L	0.011	2.89	mg/L	0.011	0.38%

Sequence No.: 37
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:
User canceled analysis.

Autosampler Location: 1
Date Collected: 2/4/2015 11:49:20 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Analysis Begun

Start Time: 2/4/2015 11:55:30 AM
Logged In Analyst: Anyone
Spectrometer Model: Optima 2100

Plasma On Time: 2/4/2015 9:08:07 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Anyone\Sample Information\MIP2722.sif
Batch ID:
Results Data Set: MIP2722
Results Library: C:\pe\Anyone\Results\Results.mdb

Sequence No.: 36
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 11:55:30 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1391109.6	2.48	mg/L	0.019	2.48	mg/L	0.019	0.77%
Mn 258	1195208.6	0.502	mg/L	0.0022	0.502	mg/L	0.0022	0.44%
Fe 260	92109.5	2.47	mg/L	0.024	2.47	mg/L	0.024	0.99%
Mg 279	9103.7	2.55	mg/L	0.015	2.55	mg/L	0.015	0.59%
Al 308	18876.5	2.59	mg/L	0.028	2.59	mg/L	0.028	1.09%
Be 313	41203.6	0.486	mg/L	0.0125	0.486	mg/L	0.0125	2.58%
Ca 318	77309.0	2.55	mg/L	0.002	2.55	mg/L	0.002	0.09%

Na 590	261797.2	3.44 mg/L	0.038	3.44 mg/L	0.038	1.09%

Sequence No.: 37
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 11:58:56 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	-281.5	0.0042	mg/L	0.00024	0.0042	mg/L	0.00024	5.57%
Mn 258	-7227.8	-0.0045	mg/L	0.00005	-0.0045	mg/L	0.00005	1.04%
Fe 260	-214.7	0.0032	mg/L	0.00813	0.0032	mg/L	0.00813	252.53%
Mg 279	-71.2	-0.0345	mg/L	0.02332	-0.0345	mg/L	0.02332	67.56%
Al 308	111.7	0.0141	mg/L	0.01878	0.0141	mg/L	0.01878	133.15%
Be 313	254.2	0.0026	mg/L	0.00157	0.0026	mg/L	0.00157	60.54%
Ca 318	-400.6	0.0011	mg/L	0.01239	0.0011	mg/L	0.01239	>999.9%
Na 590	71206.7	0.979	mg/L	0.0154	0.979	mg/L	0.0154	1.58%

Sequence No.: 38
Sample ID: 0171_4 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 50
Date Collected: 2/4/2015 12:02:22 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_4 x10000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0171_4 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	377.8	0.0054	mg/L	0.00094	0.0054	mg/L	0.00094	17.34%
Mn 258	-5346.4	-0.0037	mg/L	0.00072	-0.0037	mg/L	0.00072	19.50%
Fe 260	127.4	0.0124	mg/L	0.03732	0.0124	mg/L	0.03732	301.68%
Mg 279	-6.0	-0.0161	mg/L	0.01060	-0.0161	mg/L	0.01060	65.64%
Al 308	193.6	0.0253	mg/L	0.01589	0.0253	mg/L	0.01589	62.71%
Be 313	441.8	0.0048	mg/L	0.00470	0.0048	mg/L	0.00470	97.85%
Ca 318	4943.2	0.177	mg/L	0.0044	0.177	mg/L	0.0044	2.47%
Na 590	120873.1	1.62	mg/L	0.010	1.62	mg/L	0.010	0.60%

Sequence No.: 39
Sample ID: 0171_5 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 51
Date Collected: 2/4/2015 12:05:51 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_5 x10000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0171_5 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	375.3	0.0054	mg/L	0.00047	0.0054	mg/L	0.00047	8.73%
Mn 258	-6098.9	-0.0040	mg/L	0.00027	-0.0040	mg/L	0.00027	6.76%
Fe 260	127.4	0.0124	mg/L	0.02107	0.0124	mg/L	0.02107	170.32%
Mg 279	-49.0	-0.0283	mg/L	0.00949	-0.0283	mg/L	0.00949	33.59%

Al 308	211.8	0.0278 mg/L	0.01237	0.0278 mg/L	0.01237	44.43%
Be 313	121.1	0.0010 mg/L	0.00783	0.0010 mg/L	0.00783	770.18%
Ca 318	5629.8	0.199 mg/L	0.0087	0.199 mg/L	0.0087	4.38%
Na 590	132530.4	1.77 mg/L	0.005	1.77 mg/L	0.005	0.29%

Sequence No.: 40
Sample ID: 0171_6 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 52
Date Collected: 2/4/2015 12:09:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_6 x10000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0171_6 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	127.6	0.0050	mg/L	0.00015	0.0050	mg/L	0.00015	3.04%
Mn 258	-7525.9	-0.0046	mg/L	0.00022	-0.0046	mg/L	0.00022	4.87%
Fe 260	-429.4	-0.0025	mg/L	0.00000	-0.0025	mg/L	0.00000	0.00%
Mg 279	-17.1	-0.0193	mg/L	0.00158	-0.0193	mg/L	0.00158	8.20%
Al 308	30.2	0.0029	mg/L	0.03459	0.0029	mg/L	0.03459	>999.9%
Be 313	66.5	0.0004	mg/L	0.00157	0.0004	mg/L	0.00157	420.85%
Ca 318	5844.3	0.206	mg/L	0.0187	0.206	mg/L	0.0187	9.06%
Na 590	121562.9	1.63	mg/L	0.006	1.63	mg/L	0.006	0.39%

Sequence No.: 41
Sample ID: 157815 MB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 53
Date Collected: 2/4/2015 12:12:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 157815 MB

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 157815 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	-151.4	0.0045	mg/L	0.00008	0.0045	mg/L	0.00008	1.76%
Mn 258	-7525.9	-0.0046	mg/L	0.00112	-0.0046	mg/L	0.00112	24.33%
Fe 260	-644.1	-0.0083	mg/L	0.02438	-0.0083	mg/L	0.02438	294.63%
Mg 279	-129.6	-0.0510	mg/L	0.02930	-0.0510	mg/L	0.02930	57.46%
Al 308	115.9	0.0147	mg/L	0.00081	0.0147	mg/L	0.00081	5.52%
Be 313	723.3	0.0081	mg/L	0.00000	0.0081	mg/L	0.00000	0.00%
Ca 318	-899.6	-0.0153	mg/L	0.00692	-0.0153	mg/L	0.00692	45.16%
Na 590	58614.7	0.816	mg/L	0.0018	0.816	mg/L	0.0018	0.22%

Sequence No.: 42
Sample ID: 157816 LCS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 54
Date Collected: 2/4/2015 12:16:10 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 157816 LCS

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 157816 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1125802.8	2.01	mg/L	0.007	2.01	mg/L	0.007	0.35%

Mn 258	985126.1	0.414 mg/L	0.0009	0.414 mg/L	0.0009	0.23%
Fe 260	74932.9	2.01 mg/L	0.024	2.01 mg/L	0.024	1.21%
Mg 279	7315.6	2.05 mg/L	0.040	2.05 mg/L	0.040	1.97%
Al 308	15029.9	2.06 mg/L	0.019	2.06 mg/L	0.019	0.91%
Be 313	32317.0	0.381 mg/L	0.0105	0.381 mg/L	0.0105	2.76%
Ca 318	62541.8	2.07 mg/L	0.026	2.07 mg/L	0.026	1.26%
Na 590	165119.7	2.19 mg/L	0.002	2.19 mg/L	0.002	0.11%

Sequence No.: 43
Sample ID: 157817 LCSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 55
Date Collected: 2/4/2015 12:19:42 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 157817 LCSD

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 157817 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1126235.7	2.01	mg/L	0.018	2.01	mg/L	0.018	0.88%
Mn 258	988512.8	0.415	mg/L	0.0016	0.415	mg/L	0.0016	0.39%
Fe 260	73859.4	1.99	mg/L	0.065	1.99	mg/L	0.065	3.27%
Mg 279	7341.7	2.06	mg/L	0.008	2.06	mg/L	0.008	0.40%
Al 308	15219.8	2.09	mg/L	0.012	2.09	mg/L	0.012	0.58%
Be 313	32504.6	0.383	mg/L	0.0105	0.383	mg/L	0.0105	2.74%
Ca 318	61896.9	2.05	mg/L	0.021	2.05	mg/L	0.021	1.04%
Na 590	167223.7	2.22	mg/L	0.020	2.22	mg/L	0.020	0.90%

Sequence No.: 44
Sample ID: 0144_1 x1000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 57
Date Collected: 2/4/2015 12:23:12 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_1 x1000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0144_1 x1000

Analyte	Mean Corrected Inteneity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	750.6	0.0061	mg/L	0.00047	0.0061	mg/L	0.00047	7.77%
Mn 258	-4891.8	-0.0035	mg/L	0.00000	-0.0035	mg/L	0.00000	0.00%
Fe 260	-87.3	0.0066	mg/L	0.02919	0.0066	mg/L	0.02919	440.63%
Mg 279	-80.4	-0.0371	mg/L	0.00064	-0.0371	mg/L	0.00064	1.72%
Al 308	126.2	0.0161	mg/L	0.01020	0.0161	mg/L	0.01020	63.41%
Be 313	-375.3	-0.0048	mg/L	0.00672	-0.0048	mg/L	0.00672	138.77%
Ca 318	171.3	0.0199	mg/L	0.01308	0.0199	mg/L	0.01308	65.86%
Na 590	130352.2	1.74	mg/L	0.027	1.74	mg/L	0.027	1.54%

Sequence No.: 45
Sample ID: 0144_2 x10000
Analyst:
Initiel Sample Wt:
Dilution:

Autosampler Location: 59
Date Collected: 2/4/2015 12:26:43 PM
Dete Type: Original
Initiel Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_2 x10000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0144_2 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	690.6	0.0060	mg/L	0.00157	0.0060	mg/L	0.00157	26.27%
Mn 258	-7525.9	-0.0046	mg/L	0.00067	-0.0046	mg/L	0.00067	14.60%
Fe 260	342.1	0.0181	mg/L	0.01294	0.0181	mg/L	0.01294	71.46%
Mg 279	-20.8	-0.0203	mg/L	0.02533	-0.0203	mg/L	0.02533	124.70%
Al 308	353.8	0.0473	mg/L	0.00939	0.0473	mg/L	0.00939	19.85%
Be 313	1004.8	0.0115	mg/L	0.00157	0.0115	mg/L	0.00157	13.68%
Ca 318	2666.0	0.102	mg/L	0.0105	0.102	mg/L	0.0105	10.33%
Na 590	89453.5	1.21	mg/L	0.005	1.21	mg/L	0.005	0.41%

Sequence No.: 46
Sample ID: 158139 MB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 60
Date Collected: 2/4/2015 12:30:11 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158139 MB

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158139 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	312.8	0.0053	mg/L	0.00033	0.0053	mg/L	0.00033	6.18%
Mn 258	-2634.1	-0.0025	mg/L	0.00045	-0.0025	mg/L	0.00045	17.61%
Fe 260	342.1	0.0181	mg/L	0.02919	0.0181	mg/L	0.02919	161.15%
Mg 279	-156.2	-0.0585	mg/L	0.01429	-0.0585	mg/L	0.01429	24.42%
Al 308	256.9	0.0340	mg/L	0.00939	0.0340	mg/L	0.00939	27.60%
Be 313	-93.8	-0.0015	mg/L	0.00829	-0.0015	mg/L	0.00829	545.01%
Ca 318	-790.9	-0.0118	mg/L	0.00436	-0.0118	mg/L	0.00436	37.10%
Na 590	39659.2	0.571	mg/L	0.0083	0.571	mg/L	0.0083	1.46%

Sequence No.: 47
Sample ID: 158140 LCS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 61
Date Collected: 2/4/2015 12:33:43 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158140 LCS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158140 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1104560.8	1.97	mg/L	0.002	1.97	mg/L	0.002	0.10%
Mn 258	974932.2	0.409	mg/L	0.0034	0.409	mg/L	0.0034	0.84%
Fe 260	73000.5	1.96	mg/L	0.049	1.96	mg/L	0.049	2.48%
Mg 279	7371.1	2.06	mg/L	0.020	2.06	mg/L	0.020	0.96%
Al 308	14803.2	2.03	mg/L	0.006	2.03	mg/L	0.006	0.32%
Be 313	31941.6	0.377	mg/L	0.0011	0.377	mg/L	0.0011	0.29%
Ca 318	62795.0	2.08	mg/L	0.002	2.08	mg/L	0.002	0.09%
Na 590	163554.5	2.17	mg/L	0.012	2.17	mg/L	0.012	0.55%

Sequence No.: 48
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 12:37:10 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1397208.6	2.49	mg/L	0.022	2.49	mg/L	0.022	0.88%
Mn 258	1209850.0	0.508	mg/L	0.0025	0.508	mg/L	0.0025	0.49%
Fe 260	94256.6	2.53	mg/L	0.008	2.53	mg/L	0.008	0.32%
Mg 279	9073.6	2.54	mg/L	0.014	2.54	mg/L	0.014	0.56%
Al 308	18508.8	2.54	mg/L	0.000	2.54	mg/L	0.000	0.01%
Be 313	42368.7	0.500	mg/L	0.0069	0.500	mg/L	0.0069	1.38%
Ca 318	77742.4	2.57	mg/L	0.017	2.57	mg/L	0.017	0.68%
Na 590	211852.4	2.80	mg/L	0.018	2.80	mg/L	0.018	0.66%

Sequence No.: 49
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Data Collected: 2/4/2015 12:40:38 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	875.8	0.0063	mg/L	0.00080	0.0063	mg/L	0.00080	12.70%
Mn 258	-7946.4	-0.0048	mg/L	0.00047	-0.0048	mg/L	0.00047	9.92%
Fe 260	-1288.2	-0.0255	mg/L	0.00000	-0.0255	mg/L	0.00000	0.00%
Mg 279	-81.8	-0.0375	mg/L	0.00931	-0.0375	mg/L	0.00931	24.84%
Al 308	324.4	0.0433	mg/L	0.01508	0.0433	mg/L	0.01508	34.84%
Be 313	469.2	0.0051	mg/L	0.00424	0.0051	mg/L	0.00424	82.80%
Ca 318	-697.0	-0.0087	mg/L	0.00872	-0.0087	mg/L	0.00872	100.58%
Na 590	27429.5	0.413	mg/L	0.0004	0.413	mg/L	0.0004	0.09%

Sequence No.: 50
Sample ID: 158141 LCSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 62
Date Collected: 2/4/2015 12:44:03 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158141 LCSD

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158141 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1126110.6	2.01	mg/L	0.018	2.01	mg/L	0.018	0.92%
Mn 258	984296.8	0.413	mg/L	0.0000	0.413	mg/L	0.0000	0.00%
Fe 260	74074.1	1.99	mg/L	0.089	1.99	mg/L	0.089	4.49%
Mg 279	7239.1	2.03	mg/L	0.004	2.03	mg/L	0.004	0.20%
Al 308	15008.0	2.06	mg/L	0.027	2.06	mg/L	0.027	1.33%
Be 313	31754.0	0.374	mg/L	0.0052	0.374	mg/L	0.0052	1.38%
Ca 318	62713.1	2.07	mg/L	0.039	2.07	mg/L	0.039	1.89%
Na 590	162522.6	2.16	mg/L	0.014	2.16	mg/L	0.014	0.65%

Sequence No.: 51
Sample ID: 0182_8
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 63
Date Collected: 2/4/2015 12:47:30 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_8

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_8

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	4158573.7	7.40	mg/L	0.052	7.40	mg/L	0.052	0.70%
Mn 258	6076079.2	2.56	mg/L	0.006	2.56	mg/L	0.006	0.22%
Fe 260	2395251.0	64.1	mg/L	0.02	64.1	mg/L	0.02	0.04%
Mg 279	269057.6	75.8	mg/L	1.00	75.8	mg/L	1.00	1.32%
Al 308	255397.6	35.0	mg/L	0.13	35.0	mg/L	0.13	0.36%
Be 313	629.5	0.0070	mg/L	0.00783	0.0070	mg/L	0.00783	111.60%
Ca 318	6848109.7	225	mg/L	2.6	225	mg/L	2.6	1.17%
Na 590	4015209.9	51.9	mg/L	0.21	51.9	mg/L	0.21	0.41%

Sequence No.: 52
Sample ID: 0182_8 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 64
Date Collected: 2/4/2015 12:50:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_8 x10

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0182_8 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	458626.8	0.820	mg/L	0.0197	0.820	mg/L	0.0197	2.40%
Mn 258	657982.4	0.276	mg/L	0.0020	0.276	mg/L	0.0020	0.73%
Fe 260	257951.0	6.91	mg/L	0.005	6.91	mg/L	0.005	0.07%
Mg 279	29956.1	8.43	mg/L	0.059	8.43	mg/L	0.059	0.70%
Al 308	28364.6	3.89	mg/L	0.009	3.89	mg/L	0.009	0.24%
Be 313	-348.0	-0.0045	mg/L	0.00313	-0.0045	mg/L	0.00313	69.29%
Ca 318	737767.9	24.3	mg/L	0.16	24.3	mg/L	0.16	0.64%
Na 590	431063.7	5.63	mg/L	0.031	5.63	mg/L	0.031	0.55%

Sequence No.: 53
Sample ID: 0182_8 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 65
Date Collected: 2/4/2015 12:54:25 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_8 x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_8 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	46511.2	0.0875	mg/L	0.00024	0.0875	mg/L	0.00024	0.28%
Mn 258	62088.4	0.0247	mg/L	0.00000	0.0247	mg/L	0.00000	0.00%
Fe 260	24261.9	0.658	mg/L	0.0244	0.658	mg/L	0.0244	3.70%
Mg 279	3058.0	0.848	mg/L	0.0172	0.848	mg/L	0.0172	2.03%
Al 308	3197.8	0.438	mg/L	0.0094	0.438	mg/L	0.0094	2.15%
Be 313	375.3	0.0040	mg/L	0.01430	0.0040	mg/L	0.01430	355.86%
Ca 318	74083.0	2.45	mg/L	0.039	2.45	mg/L	0.039	1.60%
Na 590	55978.8	0.782	mg/L	0.0131	0.782	mg/L	0.0131	1.67%

Sequence No.: 54
Sample ID: 158142 MS
Analyst:
Initial Sample Wt:

Autosampler Location: 66
Date Collected: 2/4/2015 12:57:54 PM
Data Type: Original
Initial Sample Vol:

Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 158142 MS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158142 MS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	2750754.7	4.90	mg/L	0.074	4.90	mg/L	0.074	1.50%
Mn 258	7560734.2	3.18	mg/L	0.005	3.18	mg/L	0.005	0.16%
Fe 260	2607986.0	69.8	mg/L	1.26	69.8	mg/L	1.26	1.80%
Mg 279	298993.8	84.3	mg/L	1.19	84.3	mg/L	1.19	1.41%
Al 308	381157.2	52.3	mg/L	0.14	52.3	mg/L	0.14	0.27%
Be 313	31257.5	0.369	mg/L	0.0094	0.369	mg/L	0.0094	2.55%
Ca 318	7288051.7	239	mg/L	2.7	239	mg/L	2.7	1.13%
Na 590	4861538.1	62.9	mg/L	0.19	62.9	mg/L	0.19	0.31%

Sequence No.: 55 **Autosampler Location: 67**
Sample ID: 158142 MS x10 **Date Collected: 2/4/2015 1:01:24 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 158142 MS x10

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158142 MS x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	304470.5	0.546	mg/L	0.0020	0.546	mg/L	0.0020	0.36%
Mn 258	825123.1	0.346	mg/L	0.0011	0.346	mg/L	0.0011	0.32%
Fe 260	284789.4	7.63	mg/L	0.182	7.63	mg/L	0.182	2.39%
Mg 279	32845.9	9.25	mg/L	0.164	9.25	mg/L	0.164	1.78%
Al 308	42262.5	5.80	mg/L	0.012	5.80	mg/L	0.012	0.21%
Be 313	3632.1	0.0425	mg/L	0.00783	0.0425	mg/L	0.00783	18.44%
Ca 318	793154.8	26.1	mg/L	0.26	26.1	mg/L	0.26	1.01%
Na 590	519237.7	6.77	mg/L	0.039	6.77	mg/L	0.039	0.57%

Sequence No.: 56 **Autosampler Location: 68**
Sample ID: 158142 MS x100 **Date Collected: 2/4/2015 1:04:58 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: 158142 MS x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158142 MS x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	32215.2	0.0620	mg/L	0.00156	0.0620	mg/L	0.00156	2.52%
Mn 258	78301.5	0.0316	mg/L	0.00024	0.0316	mg/L	0.00024	0.77%
Fe 260	26838.4	0.727	mg/L	0.0081	0.727	mg/L	0.0081	1.12%
Mg 279	3375.7	0.937	mg/L	0.0289	0.937	mg/L	0.0289	3.09%
Al 308	4420.1	0.605	mg/L	0.0094	0.605	mg/L	0.0094	1.55%
Be 313	750.6	0.0084	mg/L	0.01208	0.0084	mg/L	0.01208	142.94%
Ca 318	82809.3	2.74	mg/L	0.000	2.74	mg/L	0.000	0.00%
Na 590	60934.8	0.846	mg/L	0.0130	0.846	mg/L	0.0130	1.54%

Sequence No.: 57 **Autosampler Location: 69**

Sample ID: 158143 MSD
Analyst:
Initial Sample Wt:
Dilution:
Date Collected: 2/4/2015 1:08:23 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158143 MSD

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158143 MSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	2562733.0	4.56	mg/L	0.001	4.56	mg/L	0.001	0.02%
Mn 258	8170772.4	3.44	mg/L	0.007	3.44	mg/L	0.007	0.22%
Fe 260	2879336.2	77.1	mg/L	0.67	77.1	mg/L	0.67	0.86%
Mg 279	333829.3	94.1	mg/L	0.33	94.1	mg/L	0.33	0.35%
Al 308	416816.6	57.2	mg/L	0.17	57.2	mg/L	0.17	0.29%
Be 313	30131.5	0.355	mg/L	0.0094	0.355	mg/L	0.0094	2.65%
Ca 318	8298846.0	273	mg/L	1.5	273	mg/L	1.5	0.53%
Na 590	5387238.3	69.7	mg/L	0.43	69.7	mg/L	0.43	0.61%

==========

Sequence No.: 58
Sample ID: 158143 MSD x10
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 70
Date Collected: 2/4/2015 1:11:51 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158143 MSD x10

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158143 MSD x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	277074.4	0.497	mg/L	0.0040	0.497	mg/L	0.0040	0.81%
Mn 258	879687.2	0.369	mg/L	0.0018	0.369	mg/L	0.0018	0.49%
Fe 260	307421.1	8.24	mg/L	0.154	8.24	mg/L	0.154	1.87%
Mg 279	36747.3	10.3	mg/L	0.05	10.3	mg/L	0.05	0.45%
Al 308	45372.7	6.22	mg/L	0.010	6.22	mg/L	0.010	0.16%
Be 313	3819.7	0.0447	mg/L	0.00470	0.0447	mg/L	0.00470	10.52%
Ca 318	885397.8	29.1	mg/L	0.06	29.1	mg/L	0.06	0.21%
Na 590	573208.7	7.46	mg/L	0.044	7.46	mg/L	0.044	0.59%

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Sequence No.: 59
Sample ID: 158143 MSD x100
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 71
Date Collected: 2/4/2015 1:15:18 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Initialize Optics completed successfully

Nebulizer Parameters: 158143 MSD x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158143 MSD x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	30247.2	0.0585	mg/L	0.00133	0.0585	mg/L	0.00133	2.27%
Mn 258	92147.6	0.0374	mg/L	0.00042	0.0374	mg/L	0.00042	1.13%
Fe 260	34265.9	0.926	mg/L	0.0129	0.926	mg/L	0.0129	1.40%
Mg 279	4018.9	1.12	mg/L	0.032	1.12	mg/L	0.032	2.90%
Al 308	4797.5	0.657	mg/L	0.0434	0.657	mg/L	0.0434	6.61%
Be 313	723.3	0.0081	mg/L	0.00313	0.0081	mg/L	0.00313	38.56%
Ca 318	96681.3	3.19	mg/L	0.001	3.19	mg/L	0.001	0.02%

Na 590	75833.3	1.04 mg/L	0.006	1.04 mg/L	0.006	0.55%

Sequence No.: 60
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 1:24:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1405874.8	2.50	mg/L	0.018	2.50	mg/L	0.018	0.73%
Mn 258	1214806.7	0.510	mg/L	0.0000	0.510	mg/L	0.0000	0.00%
Fe 260	94686.0	2.54	mg/L	0.008	2.54	mg/L	0.008	0.32%
Mg 279	9181.0	2.57	mg/L	0.017	2.57	mg/L	0.017	0.68%
Al 308	19152.1	2.63	mg/L	0.007	2.63	mg/L	0.007	0.25%
Be 313	42087.2	0.497	mg/L	0.0063	0.497	mg/L	0.0063	1.26%
Ca 318	78586.9	2.60	mg/L	0.039	2.60	mg/L	0.039	1.51%
Na 590	207637.4	2.74	mg/L	0.023	2.74	mg/L	0.023	0.85%

Sequence No.: 61
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 1:27:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	315.3	0.0053	mg/L	0.00032	0.0053	mg/L	0.00032	6.06%
Mn 258	-7990.7	-0.0048	mg/L	0.00045	-0.0048	mg/L	0.00045	9.34%
Fe 260	556.8	0.0239	mg/L	0.03732	0.0239	mg/L	0.03732	156.40%
Mg 279	2.1	-0.0139	mg/L	0.01381	-0.0139	mg/L	0.01381	99.60%
Al 308	193.6	0.0253	mg/L	0.01589	0.0253	mg/L	0.01589	62.71%
Be 313	348.0	0.0037	mg/L	0.00000	0.0037	mg/L	0.00000	0.00%
Ca 318	-1044.1	-0.0201	mg/L	0.01225	-0.0201	mg/L	0.01225	61.03%
Na 590	17139.1	0.280	mg/L	0.0026	0.280	mg/L	0.0026	0.93%

Sequence No.: 62
Sample ID: 0182_9
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 72
Date Collected: 2/4/2015 1:31:22 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_9

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_9

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	421383.4	0.754	mg/L	0.0034	0.754	mg/L	0.0034	0.45%
Mn 258	4794311.3	2.02	mg/L	0.009	2.02	mg/L	0.009	0.44%
Fe 260	2848975.1	76.2	mg/L	0.91	76.2	mg/L	0.91	1.19%
Mg 279	105503.0	29.7	mg/L	0.36	29.7	mg/L	0.36	1.22%

Al 308	115187.0	15.8 mg/L	0.02	15.8 mg/L	0.02	0.14%
Be 313	563.0	0.0062 mg/L	0.00894	0.0062 mg/L	0.00894	143.48%
Ca 318	6808544.4	224 mg/L	0.4	224 mg/L	0.4	0.18%
Na 590	6485241.0	83.8 mg/L	0.61	83.8 mg/L	0.61	0.73%

Sequence No.: 63
Sample ID: 0182_9 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 73
Date Collected: 2/4/2015 1:34:52 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_9 x10

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_9 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	37623.6	0.0716	mg/L	0.00166	0.0716	mg/L	0.00166	2.31%
Mn 258	423473.3	0.177	mg/L	0.0009	0.177	mg/L	0.0009	0.48%
Fe 260	289425.7	7.75	mg/L	0.130	7.75	mg/L	0.130	1.68%
Mg 279	10315.9	2.89	mg/L	0.071	2.89	mg/L	0.071	2.46%
Al 308	11004.1	1.51	mg/L	0.004	1.51	mg/L	0.004	0.23%
Be 313	281.5	0.0029	mg/L	0.00424	0.0029	mg/L	0.00424	145.83%
Ca 318	618476.4	20.3	mg/L	0.25	20.3	mg/L	0.25	1.22%
Na 590	598636.6	7.79	mg/L	0.066	7.79	mg/L	0.066	0.85%

Sequence No.: 64
Sample ID: 0182_9 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 74
Date Collected: 2/4/2015 1:38:21 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_9 x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_9 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	4691.5	0.0131	mg/L	0.00047	0.0131	mg/L	0.00047	3.61%
Mn 258	47821.7	0.0187	mg/L	0.00092	0.0187	mg/L	0.00092	4.90%
Fe 260	31562.0	0.854	mg/L	0.0244	0.854	mg/L	0.0244	2.86%
Mg 279	1143.2	0.308	mg/L	0.0178	0.308	mg/L	0.0178	5.78%
Al 308	1403.8	0.191	mg/L	0.0065	0.191	mg/L	0.0065	3.40%
Be 313	187.7	0.0018	mg/L	0.00894	0.0018	mg/L	0.00894	496.21%
Ca 318	73852.2	2.44	mg/L	0.019	2.44	mg/L	0.019	0.77%
Na 590	73088.2	1.00	mg/L	0.000	1.00	mg/L	0.000	0.00%

Sequence No.: 65
Sample ID: 0182_10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 75
Date Collected: 2/4/2015 1:41:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_10

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	43537.4	0.0822	mg/L	0.00046	0.0822	mg/L	0.00046	0.56%

Mn 258	8000609.5	3.37 mg/L	0.006	3.37 mg/L	0.006	0.19%
Fe 260	4707879.6	126 mg/L	1.5	126 mg/L	1.5	1.16%
Mg 279	350164.7	98.7 mg/L	0.28	98.7 mg/L	0.28	0.29%
Al 308	24652.5	3.38 mg/L	0.041	3.38 mg/L	0.041	1.20%
Be 313	535.7	0.0059 mg/L	0.01253	0.0059 mg/L	0.01253	212.02%
Ca 318	7316530.1	240 mg/L	3.1	240 mg/L	3.1	1.30%
Na 590	65667.1	0.907 mg/L	0.0027	0.907 mg/L	0.0027	0.30%

Sequence No.: 66
Sample ID: 0182_10 x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 76
Date Collected: 2/4/2015 1:45:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_10 x10

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_10 x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	4157.3	0.0121	mg/L	0.00087	0.0121	mg/L	0.00087	7.19%
Mn 258	732522.5	0.307	mg/L	0.0007	0.307	mg/L	0.0007	0.23%
Fe 260	427569.9	11.5	mg/L	0.03	11.5	mg/L	0.03	0.24%
Mg 279	32412.8	9.12	mg/L	0.010	9.12	mg/L	0.010	0.11%
Al 308	2241.7	0.306	mg/L	0.0000	0.306	mg/L	0.0000	0.00%
Be 313	375.3	0.0040	mg/L	0.00581	0.0040	mg/L	0.00581	144.61%
Ca 318	684022.3	22.5	mg/L	0.15	22.5	mg/L	0.15	0.67%
Na 590	1006.9	0.0717	mg/L	0.00066	0.0717	mg/L	0.00066	0.92%

Sequence No.: 67
Sample ID: 0182_10 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 77
Date Collected: 2/4/2015 1:48:44 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_10 x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_10 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	161.4	0.0050	mg/L	0.00024	0.0050	mg/L	0.00024	4.70%
Mn 258	82784.6	0.0334	mg/L	0.00067	0.0334	mg/L	0.00067	2.01%
Fe 260	51529.8	1.39	mg/L	0.000	1.39	mg/L	0.000	0.00%
Mg 279	3886.1	1.08	mg/L	0.018	1.08	mg/L	0.018	1.70%
Al 308	479.9	0.0646	mg/L	0.05265	0.0646	mg/L	0.05265	81.48%
Be 313	-0.0	-0.0004	mg/L	0.00894	-0.0004	mg/L	0.00894	>999.9%
Ca 318	81815.8	2.70	mg/L	0.024	2.70	mg/L	0.024	0.87%
Na 590	-2959.9	0.0205	mg/L	0.00167	0.0205	mg/L	0.00167	8.17%

Sequence No.: 68
Sample ID: 158144 DUP
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 78
Date Collected: 2/4/2015 1:52:14 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158144 DUP

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158144 DUP

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	107712.6	0.196	mg/L	0.0013	0.196	mg/L	0.0013	0.64%
Mn 258	6255196.5	2.63	mg/L	0.014	2.63	mg/L	0.014	0.52%
Fe 260	1023430.4	27.4	mg/L	0.28	27.4	mg/L	0.28	1.04%
Mg 279	432428.8	122	mg/L	1.1	122	mg/L	1.1	0.90%
Al 308	70740.6	9.70	mg/L	0.035	9.70	mg/L	0.035	0.36%
Be 313	629.5	0.0070	mg/L	0.00783	0.0070	mg/L	0.00783	111.60%
Ca 318	10808487.8	355	mg/L	1.8	355	mg/L	1.8	0.51%
Na 590	145928.4	1.94	mg/L	0.010	1.94	mg/L	0.010	0.51%

Sequence No.: 69
Sample ID: 158144 DUP x10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 79
Date Collected: 2/4/2015 1:55:44 PM
Date Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158144 DUP x10

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158144 DUP x10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	13454.0	0.0287	mg/L	0.00031	0.0287	mg/L	0.00031	1.10%
Mn 258	778805.1	0.327	mg/L	0.0018	0.327	mg/L	0.0018	0.54%
Fe 260	125603.9	3.37	mg/L	0.024	3.37	mg/L	0.024	0.72%
Mg 279	54214.1	15.3	mg/L	0.00	15.3	mg/L	0.00	0.01%
Al 308	9048.2	1.24	mg/L	0.032	1.24	mg/L	0.032	2.57%
Be 313	-375.3	-0.0048	mg/L	0.00894	-0.0048	mg/L	0.00894	184.63%
Ca 318	1315486.1	43.2	mg/L	0.16	43.2	mg/L	0.16	0.37%
Na 590	14897.5	0.251	mg/L	0.0060	0.251	mg/L	0.0060	2.39%

Sequence No.: 70
Sample ID: 158144 DUP x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 80
Date Collected: 2/4/2015 1:59:12 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158144 DUP x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158144 DUP x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1467.5	0.0073	mg/L	0.00056	0.0073	mg/L	0.00056	7.58%
Mn 258	65773.1	0.0263	mg/L	0.00040	0.0263	mg/L	0.00040	1.53%
Fe 260	11077.4	0.305	mg/L	0.0033	0.305	mg/L	0.0033	1.08%
Mg 279	4967.6	1.39	mg/L	0.035	1.39	mg/L	0.035	2.54%
Al 308	952.8	0.130	mg/L	0.0505	0.130	mg/L	0.0505	38.98%
Be 313	-0.0	-0.0004	mg/L	0.01208	-0.0004	mg/L	0.01208	>999.9%
Ca 318	122279.2	4.03	mg/L	0.013	4.03	mg/L	0.013	0.32%
Na 590	1386.2	0.0766	mg/L	0.00002	0.0766	mg/L	0.00002	0.03%

Sequence No.: 71
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 2:02:41 PM
Date Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1383165.3	2.46	mg/L	0.004	2.46	mg/L	0.004	0.18%
Mn 258	1212107.8	0.509	mg/L	0.0029	0.509	mg/L	0.0029	0.57%
Fe 260	96403.7	2.59	mg/L	0.008	2.59	mg/L	0.008	0.31%
Mg 279	9394.1	2.63	mg/L	0.016	2.63	mg/L	0.016	0.63%
Al 308	18996.6	2.61	mg/L	0.050	2.61	mg/L	0.050	1.91%
Be 313	41270.1	0.487	mg/L	0.0042	0.487	mg/L	0.0042	0.87%
Ca 318	78852.0	2.61	mg/L	0.013	2.61	mg/L	0.013	0.50%
Na 590	198968.9	2.63	mg/L	0.015	2.63	mg/L	0.015	0.57%

Sequence No.: 72
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 2:06:09 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	406.6	0.0055	mg/L	0.00008	0.0055	mg/L	0.00008	1.44%
Mn 258	-7195.4	-0.0045	mg/L	0.00007	-0.0045	mg/L	0.00007	1.48%
Fe 260	-731.5	-0.0106	mg/L	0.05357	-0.0106	mg/L	0.05357	504.90%
Mg 279	-16.9	-0.0192	mg/L	0.01051	-0.0192	mg/L	0.01051	54.76%
Al 308	33.1	0.0033	mg/L	0.02231	0.0033	mg/L	0.02231	672.43%
Be 313	-93.8	-0.0015	mg/L	0.00111	-0.0015	mg/L	0.00111	73.03%
Ca 318	-1045.5	-0.0201	mg/L	0.01758	-0.0201	mg/L	0.01758	87.36%
Na 590	1216.3	0.0744	mg/L	0.00163	0.0744	mg/L	0.00163	2.19%

Sequence No.: 73
Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/4/2015 2:09:34 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1443.7	0.0073	mg/L	0.00014	0.0073	mg/L	0.00014	1.98%
Mn 258	-8080.8	-0.0048	mg/L	0.00022	-0.0048	mg/L	0.00022	4.63%
Fe 260	3658859.0	97.9	mg/L	0.22	97.9	mg/L	0.22	0.22%
Mg 279	142357.5	40.1	mg/L	0.38	40.1	mg/L	0.38	0.96%
Al 308	736518.3	101	mg/L	0.9	101	mg/L	0.9	0.87%
Be 313	160.4	0.0015	mg/L	0.00313	0.0015	mg/L	0.00313	211.70%
Ca 318	1226001.5	40.3	mg/L	0.33	40.3	mg/L	0.33	0.81%
Na 590	-10092.3	-0.0717	mg/L	0.00998	-0.0717	mg/L	0.00998	13.92%

Sequence No.: 74
Sample ID: ICSB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 2/4/2015 2:13:04 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSB

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: ICSB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	535469.1	0.957	mg/L	0.0117	0.957	mg/L	0.0117	1.22%
Mn 258	687573.7	0.288	mg/L	0.0002	0.288	mg/L	0.0002	0.05%
Fe 260	3570359.5	95.5	mg/L	0.08	95.5	mg/L	0.08	0.09%
Mg 279	138872.1	39.1	mg/L	0.10	39.1	mg/L	0.10	0.25%
Al 308	718105.0	98.5	mg/L	0.54	98.5	mg/L	0.54	0.55%
Be 313	22585.9	0.266	mg/L	0.0016	0.266	mg/L	0.0016	0.59%
Ca 318	1204180.7	39.6	mg/L	0.36	39.6	mg/L	0.36	0.90%
Na 590	-9601.9	-0.0653	mg/L	0.00502	-0.0653	mg/L	0.00502	7.69%

Sequence No.: 75
Sample ID: LLC
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/4/2015 2:16:32 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LLC

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: LLC

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	56363.4	0.105	mg/L	0.0005	0.105	mg/L	0.0005	0.44%
Mn 258	18470.8	0.0063	mg/L	0.00002	0.0063	mg/L	0.00002	0.30%
Fe 260	3864.7	0.112	mg/L	0.0000	0.112	mg/L	0.0000	0.00%
Mg 279	307.0	0.0721	mg/L	0.03722	0.0721	mg/L	0.03722	51.62%
Al 308	1112.0	0.151	mg/L	0.0008	0.151	mg/L	0.0008	0.54%
Be 313	1126.0	0.0129	mg/L	0.00894	0.0129	mg/L	0.00894	69.44%
Ca 318	2143.2	0.0847	mg/L	0.00505	0.0847	mg/L	0.00505	5.97%
Na 590	6479.0	0.142	mg/L	0.0082	0.142	mg/L	0.0082	5.79%

Sequence No.: 76
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 2:20:01 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	1348522.9	2.40	mg/L	0.023	2.40	mg/L	0.023	0.97%
Mn 258	1195927.2	0.503	mg/L	0.0004	0.503	mg/L	0.0004	0.09%
Fe 260	95115.4	2.55	mg/L	0.041	2.55	mg/L	0.041	1.59%
Mg 279	9309.5	2.61	mg/L	0.047	2.61	mg/L	0.047	1.81%
Al 308	18783.9	2.58	mg/L	0.027	2.58	mg/L	0.027	1.06%
Be 313	40210.6	0.474	mg/L	0.0031	0.474	mg/L	0.0031	0.66%
Ca 318	79614.5	2.63	mg/L	0.021	2.63	mg/L	0.021	0.81%
Na 590	193146.5	2.55	mg/L	0.002	2.55	mg/L	0.002	0.08%

Sequence No.: 77
Sample ID: CBV
Analyst:
Initial Sample Wt:

Autosampler Location: 1
Date Collected: 2/4/2015 2:23:29 PM
Data Type: Original
Initial Sample Vol:

Dilution: Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ba 234	-156.4	0.0045	mg/L	0.00087	0.0045	mg/L	0.00087	19.41%
Mn 258	-7193.8	-0.0045	mg/L	0.00092	-0.0045	mg/L	0.00092	20.66%
Fe 260	-644.1	-0.0083	mg/L	0.02438	-0.0083	mg/L	0.02438	294.63%
Mg 279	-43.2	-0.0266	mg/L	0.00220	-0.0266	mg/L	0.00220	8.27%
Al 308	284.9	0.0379	mg/L	0.00939	0.0379	mg/L	0.00939	24.80%
Be 313	-0.0	-0.0004	mg/L	0.00581	-0.0004	mg/L	0.00581	>999.9%
Ca 318	-926.4	-0.0162	mg/L	0.00678	-0.0162	mg/L	0.00678	41.85%
Na 590	-3956.0	0.0076	mg/L	0.00342	0.0076	mg/L	0.00342	44.95%

SW-846 6010C
MIP-2724

Print Date: 07/01/2014

N.C. Certification # 481

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2724 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/4/15 16:58			CCV1 2/4/15 17:28			CCV2 2/4/15 18:41			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Aluminum	1000	1038	103.8	2500	2491	99.7	2500	2489	99.6	90-110
Antimony	1000	1058	105.8	500	515	103.0	500	506	101.1	90-110
Arsenic	1000	1016	101.6	500	516	103.2	500	504	100.8	90-110
Barium	1000	985	98.5	2500	2493	99.7	2500	2459	98.4	90-110
Beryllium	1000	967	96.7	500	509	101.7	500	492	98.5	90-110
Boron	500									90-110
Cadmium	1000	972	97.2	500	498	99.7	500	493	98.7	90-110
Calcium	1000	985	98.5	2500	2531	101.2	2500	2460	98.4	90-110
Chromium	1000	968	96.8	500	501	100.3	500	493	98.6	90-110
Cobalt	1000	1024	102.4	500	506	101.3	500	503	100.7	90-110
Copper	1000	967	96.7	500	493	98.5	500	487	97.4	90-110
Iron	1000	922	92.2	2500	2508	100.3	2500	2458	98.3	90-110
Lead	1000	971	97.1	500	487	97.4	500	476	95.1	90-110
Magnesium	1000	983	98.3	2500	2515	100.6	2500	2508	100.3	90-110
Manganese	1000	1018	101.8	500	512	102.5	500	505	101.0	90-110
Molybdenum	1000									90-110
Nickel	1000	1016	101.6	500	518	103.7	500	506	101.2	90-110
Potassium	1000			2500			2500			90-110
Selenium	1000	970	97.0	500	509	101.7	500	495	99.0	90-110
Silver	500	492	98.5	500	521	104.3	500	516	103.3	90-110
Sodium	1000	989	98.9	2500	2506	100.2	2500	2458	98.3	90-110
Thallium	1000			500			500			90-110
Tin	500									90-110
Vanadium	1000	996	99.6	500	507	101.4	500	499	99.8	90-110
Zinc	1000	985	98.5	500	495	99.0	500	486	97.2	90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2724 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/4/15 16:58			CCV3 2/4/15 19:53			CCV4 2/4/15 21:05			LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	1000	1038	103.8	2500	2495	99.8	2500	2543	101.7	90-110
Antimony	1000	1058	105.8	500	506	101.2	500	508	101.6	90-110
Arsenic	1000	1016	101.6	500	511	102.2	500	510	102.0	90-110
Barium	1000	985	98.5	2500	2467	98.7	2500	2497	99.9	90-110
Beryllium	1000	967	96.7	500	504	100.7	500	499	99.7	90-110
Boron	500									90-110
Cadmium	1000	972	97.2	500	493	98.5	500	494	98.8	90-110
Calcium	1000	985	98.5	2500	2515	100.6	2500	2520	100.8	90-110
Chromium	1000	968	96.8	500	499	99.9	500	499	99.7	90-110
Cobalt	1000	1024	102.4	500	508	101.7	500	513	102.7	90-110
Copper	1000	967	96.7	500	497	99.5	500	494	98.7	90-110
Iron	1000	922	92.2	2500	2486	99.4	2500	2482	99.3	90-110
Lead	1000	971	97.1	500	481	96.2	500	483	96.6	90-110
Magnesium	1000	983	98.3	2500	2562	102.5	2500	2530	101.2	90-110
Manganese	1000	1018	101.8	500	504	100.9	500	508	101.5	90-110
Molybdenum	1000									90-110
Nickel	1000	1016	101.6	500	507	101.4	500	510	101.9	90-110
Potassium	1000			2500			2500			90-110
Selenium	1000	970	97.0	500	499	99.8	500	498	99.6	90-110
Silver	500	492	98.5	500	522	104.5	500	522	104.5	90-110
Sodium	1000	989	98.9	2500	2473	98.9	2500	2641	105.6	90-110
Thallium	1000			500			500			90-110
Tin	500									90-110
Vanadium	1000	996	99.6	500	499	99.9	500	511	102.1	90-110
Zinc	1000	985	98.5	500	491	98.3	500	491	98.2	90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America Initial Cal Source Environmental Express

Batch ID: MIP2724 OES Continuing Cal Source: Environmental Express

METAL	ICV 2/4/15 16:58			CCV5 2/4/15 22:11			CCV6 2/4/15 22:41			LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	1000	1038	103.8	2500	2538	101.5	2500	2531	101.2	90-110
Antimony	1000	1058	105.8	500	508	101.7	500	501	100.3	90-110
Arsenic	1000	1016	101.6	500	508	101.6	500	506	101.3	90-110
Barium	1000	985	98.5	2500	2440	97.6	2500	2468	98.7	90-110
Beryllium	1000	967	96.7	500	490	98.1	500	503	100.6	90-110
Boron	500									90-110
Cadmium	1000	972	97.2	500	488	97.6	500	497	99.4	90-110
Calcium	1000	985	98.5	2500	2509	100.4	2500	2509	100.4	90-110
Chromium	1000	968	96.8	500	492	98.4	500	497	99.4	90-110
Cobalt	1000	1024	102.4	500	511	102.2	500	506	101.2	90-110
Copper	1000	967	96.7	500	493	98.7	500	490	97.9	90-110
Iron	1000	922	92.2	2500	2452	98.1	2500	2497	99.9	90-110
Lead	1000	971	97.1	500	479	95.7	500	477	95.4	90-110
Magnesium	1000	983	98.3	2500	2494	99.8	2500	2533	101.3	90-110
Manganese	1000	1018	101.8	500	504	100.8	500	506	101.3	90-110
Molybdenum	1000									90-110
Nickel	1000	1016	101.6	500	514	102.7	500	514	102.9	90-110
Potassium	1000			2500			2500			90-110
Selenium	1000	970	97.0	500	495	98.9	500	493	98.7	90-110
Silver	500	492	98.5	500	520	104.1	500	511	102.1	90-110
Sodium	1000	989	98.9	2500	2630	105.2	2500	2530	101.2	90-110
Thallium	1000			500			500			90-110
Tin	500									90-110
Vanadium	1000	996	99.6	500	501	100.3	500	504	100.9	90-110
Zinc	1000	985	98.5	500	491	98.2	500	486	97.2	90-110

Comments:

FORM IIA - METALS

CRDL Check Standard **Form 2B**

Analytical Batch: MIP2724
Instrument: ICP1
Analyst: PSW
Analytical Date/Time: 2/4/2015 5:22:54PM

Results by **SW-846 6010C**

Parameter	Spike	Result	% Recovery	CL	Units
Aluminum	0.100	0.0811	81.1	70 - 130	mg/L
Iron	0.100	0.0722	72.2	70 - 130	mg/L
Lead	0.0100	0.0131	131*	70 - 130	mg/L
Magnesium	0.100	0.0965	96.5	70 - 130	mg/L
Manganese	0.0100	0.00849	84.9	70 - 130	mg/L
Nickel	0.0100	0.00811	81.1	70 - 130	mg/L
Silver	0.0100	0.00301	30.1*	70 - 130	mg/L
Sodium	0.200	0.180	90.1	70 - 130	mg/L
Antimony	0.0400	0.0351	87.7	70 - 130	mg/L
Arsenic	0.0100	0.0101	101	70 - 130	mg/L
Barium	0.100	0.107	107	70 - 130	mg/L
Beryllium	0.0100	0.00391	39.1*	70 - 130	mg/L
Cadmium	0.00500	0.00683	137*	70 - 130	mg/L
Chromium	0.0100	0.00965	96.5	70 - 130	mg/L
Cobalt	0.0100	0.00572	57.2*	70 - 130	mg/L
Copper	0.0100	0.0123	123	70 - 130	mg/L
Vanadium	0.0500	0.0503	101	70 - 130	mg/L
Zinc	0.0200	0.0201	101	70 - 130	mg/L
Calcium	0.100	0.115	115	70 - 130	mg/L
Selenium	0.0200	0.0197	98.4	70 - 130	mg/L

CRDL Check Standard **Form 2B**

Analytical Batch: MIP2724
Instrument: ICP1
Analyst: PSW
Analytical Date/Time: 2/4/2015 10:35:57PM

Results by **SW-846 6010C**

Parameter	Spike	Result	% Recovery	CL	Units
Aluminum	0.100	0.0728	72.8	70 - 130	mg/L
Iron	0.100	0.0924	92.4	70 - 130	mg/L
Lead	0.0100	0.0139	139*	70 - 130	mg/L
Magnesium	0.100	0.123	123	70 - 130	mg/L
Manganese	0.0100	0.00854	85.4	70 - 130	mg/L
Nickel	0.0100	0.00926	92.6	70 - 130	mg/L
Silver	0.0100	0.00430	43.0*	70 - 130	mg/L
Sodium	0.200	0.191	95.3	70 - 130	mg/L
Antimony	0.0400	0.0317	79.2	70 - 130	mg/L
Arsenic	0.0100	0.0106	106	70 - 130	mg/L
Barium	0.100	0.106	106	70 - 130	mg/L
Beryllium	0.0100	0.00125	12.5*	70 - 130	mg/L
Cadmium	0.00500	0.00667	133*	70 - 130	mg/L
Chromium	0.0100	0.0101	100	70 - 130	mg/L
Cobalt	0.0100	0.00630	63.0*	70 - 130	mg/L
Copper	0.0100	0.0122	122	70 - 130	mg/L
Vanadium	0.0500	0.0500	99.9	70 - 130	mg/L
Zinc	0.0200	0.0214	107	70 - 130	mg/L
Calcium	0.100	0.119	119	70 - 130	mg/L
Selenium	0.0200	0.0184	91.8	70 - 130	mg/L

BLANKS

Lab Name: SGS North America

Batch ID: MIP2724 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB1		CCB2		CCB3			
	2/4/15 15:52	C	2/4/15 16:30	C	2/4/15 17:35	C	2/4/15 18:47	C		
Aluminum	100	U	100	U	100	U	100	U		
Antimony	40	U	40	U	40	U	40	U		
Arsenic	10	U	10	U	10	U	10	U		
Barium	100	U	100	U	100	U	100	U		
Beryllium	10	U	10	U	10	U	10	U		
Boron										
Cadmium	10	U	10	U	10	U	10	U		
Calcium	100	U	100	U	100	U	100	U		
Chromium	10	U	10	U	10	U	10	U		
Cobalt	10	U	10	U	10	U	10	U		
Copper	10	U	10	U	10	U	10	U		
Iron	100	U	100	U	100	U	100	U		
Lead	10	U	10	U	10	U	10.4	#		
Magnesium	100	U	100	U	100	U	100	U		
Manganese	10	U	10	U	10	U	10	U		
Molybdenum										
Mercury										
Nickel	10	U	10	U	10	U	10	U		
Potassium										
Selenium	20	U	20	U	20	U	20	U		
Silver	10	U	10	U	10	U	10	U		
Sodium	200	U	200	U	200	U	200	U		
Thallium										
Tin										
Vanadium	50	U	50	U	50	U	50	U		
Zinc	20	U	20	U	20	U	20	U		

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: MIP2724 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB4		CCB5		CCB6			
	2/4/15 15:52	C	2/4/15 19:59	C	2/4/15 21:11	C	2/4/15 22:17	C		
Aluminum	100	U	100	U	100	U	100	U		
Antimony	40	U	40	U	40	U	40	U		
Arsenic	10	U	10	U	10	U	10	U		
Barium	100	U	100	U	100	U	100	U		
Beryllium	10	U	10	U	10	U	10	U		
Boron										
Cadmium	10	U	10	U	10	U	10	U		
Calcium	100	U	100	U	100	U	100	U		
Chromium	10	U	10	U	10	U	10	U		
Cobalt	10	U	10	U	10	U	10	U		
Copper	10	U	10	U	10	U	10	U		
Iron	100	U	100	U	100	U	100	U		
Lead	10	U	10	U	10	U	10	U		
Magnesium	100	U	100	U	100	U	100	U		
Manganese	10	U	10	U	10	U	10	U		
Molybdenum										
Mercury										
Nickel	10	U	10	U	10	U	10	U		
Potassium										
Selenium	20	U	20	U	20	U	20	U		
Silver	10	U	10	U	10	U	10	U		
Sodium	200	U	200	U	200	U	200	U		
Thallium										
Tin										
Vanadium	50	U	50	U	50	U	50	U		
Zinc	20	U	20	U	20	U	20	U		

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: MIP2724 OES
Batch ID: HG

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L) CCB7							
	2/4/15 15:52	C	2/4/15 22:47	C		C		C		
Aluminum	100	U	100	U						
Antimony	40	U	40	U						
Arsenic	10	U	10	U						
Barium	100	U	100	U						
Beryllium	10	U	10	U						
Boron										
Cadmium	10	U	10	U						
Calcium	100	U	100	U						
Chromium	10	U	10	U						
Cobalt	10	U	10	U						
Copper	10	U	10	U						
Iron	100	U	100	U						
Lead	10	U	10	U						
Magnesium	100	U	100	U						
Manganese	10	U	10	U						
Molybdenum										
Mercury										
Nickel	10	U	10	U						
Potassium										
Selenium	20	U	20	U						
Silver	10	U	10	U						
Sodium	200	U	200	U						
Thallium										
Tin										
Vanadium	50	U	50	U						
Zinc	20	U	20	U						

Comments:

FORM III - METALS

Interference Check Sample Form 4A

Analytical Batch: MIP2724
Instrument: ICP1
Analyst: PSW

Results by **SW-846 6010C**

	True		Initial Found (mg/L)			Final Found (mg/L)			
Parameter	A	B	A	B	Rec (%)	A	B	Rec (%)	cl
Aluminum	100.0000	100.0000	96.4	96.0	96.0	97.5	97.0	97.0	80 - 120
Antimony	0.0000	0.3000	-0.00161	0.319	106	-0.00260	0.310	103	80 - 120
Arsenic	0.0000	0.3000	0.00812	0.319	106	0.00781	0.305	102	80 - 120
Barium	0.0000	1.0000	0.00834	0.996	99.6	0.00839	0.957	95.7	80 - 120
Beryllium	0.0000	0.3000	-0.0100	0.305	102	0.00556	0.295	98.3	80 - 120
Cadmium	0.0000	0.3000	0.00409	0.301	100	0.00453	0.282	93.9	80 - 120
Calcium	40.0000	40.0000	37.8	39.1	97.9	37.5	38.2	95.6	80 - 120
Chromium	0.0000	0.3000	0.00300	0.302	101	0.00241	0.286	95.4	80 - 120
Cobalt	0.0000	0.3000	-0.00296	0.305	102	-0.00204	0.284	94.5	80 - 120
Copper	0.0000	0.3000	0.00527	0.323	108	0.00551	0.301	100	80 - 120
Iron	100.0000	100.0000	95.1	96.7	96.7	93.9	94.5	94.5	80 - 120
Lead	0.0000	0.3000	-0.00111	0.291	97.2	-0.00317	0.264	88.1	80 - 120
Magnesium	40.0000	40.0000	38.1	39.3	98.3	37.7	38.2	95.6	80 - 120
Manganese	0.0000	0.3000	-0.00167	0.302	101	-0.00132	0.291	96.9	80 - 120
Nickel	0.0000	0.3000	-0.00253	0.293	97.5	-0.00112	0.280	93.4	80 - 120
Potassium	0.0000	0.0000		0.00441					
Selenium	0.0000	0.3000	-0.0241	0.290	96.7	-0.0244	0.271	90.4	80 - 120
Silver	0.0000	0.3000	-0.00621	0.272	90.6	-0.00603	0.244	81.4	80 - 120
Sodium	0.0000	0.0000	-0.00396	-0.0641		0.0237	0.00248		
Thallium	0.0000	0.3000		0.308	103				80 - 120
Vanadium	0.0000	0.3000	-0.000920	0.305	102	-0.000120	0.294	97.9	80 - 120
Zinc	0.0000	0.3000	0.0104	0.313	104	0.00971	0.292	97.5	80 - 120

Analytical Run Log **Form 13**

Analytical Method: SW-846 6010C
Analytical Batch: MIP2724
Prep Method:
Start Date: 02/04/2015

Instrument: ICP1
Analyst: PSW

End Date: 02/04/2015

		Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn
16:37	ICAL3			X	X	X		X		X	X							X		X			X
16:40	ICAL4		X				X		X			X		X	X	X	X					X	
16:44	ICAL5	X																	X				
16:46	ICAL2	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
16:52	ICAL1	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
16:58	ICV	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
17:10	ICSA	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
17:16	ICSB	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
17:22	LLC	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
17:28	CCV	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
17:35	CBV for HBN 64874 (MIP/2724)															X							
17:41	BT-SW-06															X							
17:47	BT-SW-DUP															X							
17:53	BT-PW-01															X							
17:59	BT-PW-02															X							
18:41	CCV	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
18:47	CBV for HBN 64874 (MIP/2724)															X							
19:23	MB for HBN 63754 [MXX/3845]															X							
19:29	LCS for HBN 63754 [MXX/3845]															X							
19:35	LCSD for HBN 63754 [MXX/3845]															X							
19:41	BT-SD-01															X							
19:47	BT-SD-01(157965MS)															X							
19:53	CCV	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
19:59	CBV for HBN 64874 (MIP/2724)															X							
20:05	BT-SD-01(157965MSD)															X							
20:11	BT-SD-02															X							
20:17	BT-SD-03															X							
20:23	BT-SD-03(157967DUP)															X							
21:05	CCV	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
21:11	CBV for HBN 64874 (MIP/2724)															X							
22:11	CCV	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
22:23	ICSA	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
22:29	ICSB	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
22:35	LLC	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X
22:41	CCV	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X

Analytical Sequence

Method : 6010C

MIP 2724

Seq.	Loc.	Sample ID	Status
1	1	CBV	Applied
2	4	ICAL3	Applied
3	5	ICAL4 OES020415-1	Applied
4	6	ICAL5	Applied
5	3	ICAL2	Applied
6	2	ICAL1	Applied
7	7	ICV ✓	Analyzed
8	1	ICB ✓	Analyzed
9	8	ICSA ✓	Analyzed
10	9	ICSB ✓	Analyzed
11	2	LLC - Cd Pb ↑ As ↓	Analyzed
12	3	CCV ✓	Analyzed
13	1	CBV ✓	Analyzed
14	10	0182_6 x100	Analyzed
15	11	0182_7 x100	Analyzed
16	12	0182_11 x100000	Analyzed
17	13	0182_12 x100000	Analyzed
18	14	0171_1 x10000	Analyzed
19	15	0171_2 x10000	Analyzed
20	16	0171_3 x10000	Analyzed
21	17	0171_4 x10000	Analyzed
22	18	0171_5 x10000	Analyzed
23	19	0171_6 x10000	Analyzed
24	3	CCV - ~~Pb~~ ✓	Analyzed
25	1	CBV ~~✓~~ Pb	Analyzed
26	20	Run B Mo Sn Ti: 157815 MB ✓	Analyzed
27	21	157816 LCS ✓	Analyzed
28	22	157817 LCSD ✓	Analyzed
29	23	0144_1 x1000	Analyzed
30	24	0144_2 x10000	Analyzed
31	25	158139 MB ✓	Analyzed
32	26	158140 LCS ✓	Analyzed
33	27	158141 LCSD ✓	Analyzed
34	28	0182_8 x100	Analyzed
35	29	158142 MS x100	Analyzed
36	3	CCV ✓	Analyzed
37	1	CBV ✓	Analyzed
38	30	158143 MSD x100	Analyzed
39	31	0182_9 x100	Analyzed
40	32	0182_10	Analyzed
41	33	158144 DUP	Analyzed
42	34	Run B Mo Sn 158594 MB ✓	Analyzed
43	35	158595 LCS ✓	Analyzed
44	36	158596 LCSD ✓	Analyzed
45	37	0125_1 - Ca Na	Analyzed
46	38	158683 PDS - "	Analyzed
47	39	158597 MS - "	Analyzed
48	3	CCV ✓	Analyzed
49	1	CBV ✓	Analyzed
50	40	158598 MSD - Ca Na	Analyzed
51	41	158599 DUP - Ca Na	Analyzed
52	42	0125_2 - Ca Na	Analyzed
53	43	158684 PDS - Ca Na	Analyzed
54	44	0169_1 - Ca Na	Analyzed
55	45	Run B Mo Sn 158685 PDS - Ca Na	Analyzed
56	46	0078_1 - Ca Na	Analyzed

Analytical Sequence

Method : 6010C

Seq.	Loc.	Sample ID	Status
57	47	158682 PDS - Ca Na	Analyzed
58	48	Run - 158453 TCLP-B - Na	Analyzed
59	3	B Mo Sn CCV ✓	Analyzed
60	1	CBV ✓	Analyzed
61	8	ICSA ✓	Analyzed
62	9	ICSB ✓	Analyzed
63	2	LLC	Analyzed
64	3	CCV ✓	Analyzed
65	1	CBV ✓	Analyzed

Analysis Begun

Start Time: 2/4/2015 4:30:59 PM
Logged In Analyst: Anyone
Spectrometer Model: Optima 2100

Plasma On Time: 2/4/2015 9:08:07 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Anyone\Sample Information\MIP2724.sif
Batch ID:
Results Data Set: MIP2724
Results Library: C:\pe\Anyone\Results\Results.mdb

Sequence No.: 1
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 4:30:59 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
As 189	1271.4	4.38	0.34%	[0.00]	mg/L
Se 196	40.4	55.18	136.59%	[0.00]	mg/L
Sb 207	490.7	42.71	8.70%	[0.00]	mg/L
Zn 214	4024.4	158.15	3.93%	[0.00]	mg/L
Cd 214	2965.5	17.19	0.58%	[0.00]	mg/L
Pb 220	356.6	50.62	14.20%	[0.00]	mg/L
Co 229	-1729.5	178.32	10.31%	[0.00]	mg/L
Ni 232	2152.1	76.51	3.56%	[0.00]	mg/L
Ba 234	5196.9	530.79	10.21%	[0.00]	mg/L
Mn 258	17728.5	1126.93	6.36%	[0.00]	mg/L
Fe 260	8460.9	787.41	9.31%	[0.00]	mg/L
Cr 268	3313.1	466.46	14.08%	[0.00]	mg/L
Mg 279	254.6	18.96	7.45%	[0.00]	mg/L
V 292	6420.2	205.38	3.20%	[0.00]	mg/L
Al 308	4390.7	246.87	5.62%	[0.00]	mg/L
Be 313	4918.4	663.48	13.49%	[0.00]	mg/L
Ca 318	2593.0	132.70	5.12%	[0.00]	mg/L
Cu 325	16392.5	273.84	1.67%	[0.00]	mg/L
Ag 328	-234.6	84.86	36.16%	[0.00]	mg/L
Na 590	7765.7	331.01	4.26%	[0.00]	mg/L

Sequence No.: 2
Sample ID: ICAL3
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 2/4/2015 4:37:03 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL3

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: ICAL3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
As 189	15418.9	97.59	0.63%	[1]	mg/L
Se 196	12059.3	134.79	1.12%	[1]	mg/L
Zn 214	367765.9	290.85	0.08%	[1]	mg/L
Cd 214	695268.5	51.42	0.01%	[1]	mg/L
Pb 220	38783.8	222.69	0.57%	[1]	mg/L
Ba 234	2790702.8	9241.01	0.33%	[5]	mg/L

Cr 268	380150.1	932.92	0.25%	[1] mg/L
Be 313	80370.1	1232.89	1.53%	[1] mg/L
Cu 325	569998.1	381.91	0.07%	[1] mg/L

Sequence No.: 3
Sample ID: ICAL4
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 2/4/2015 4:40:46 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL4

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICAL4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Co 229	180718.7	3194.68	1.77%	[1]	mg/L
Ni 232	184680.7	1300.74	0.70%	[1]	mg/L
Mn 258	2372331.4	3192.96	0.13%	[1]	mg/L
Fe 260	191908.4	2912.91	1.52%	[5]	mg/L
Mg 279	18334.6	93.71	0.51%	[5]	mg/L
V 292	216852.2	342.30	0.16%	[1]	mg/L
Al 308	37620.4	47.40	0.13%	[5]	mg/L
Ca 318	161056.6	846.73	0.53%	[5]	mg/L
Na 590	392454.1	5461.69	1.39%	[5]	mg/L

Sequence No.: 4
Sample ID: ICAL5
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 2/4/2015 4:44:33 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL5

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICAL5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sb 207	15216.8	52.37	0.34%	[1]	mg/L
Ag 328	402633.6	1222.33	0.30%	[1]	mg/L

Sequence No.: 5
Sample ID: ICAL2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 4:46:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL2

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICAL2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
As 189	7804.8	24.46	0.31%	[0.5]	mg/L
Se 196	6057.1	2.67	0.04%	[0.5]	mg/L
Sb 207	8188.2	46.82	0.57%	[0.5]	mg/L
Zn 214	180869.5	158.15	0.09%	[0.5]	mg/L
Cd 214	339779.9	4535.55	1.33%	[0.5]	mg/L
Pb 220	18324.5	71.29	0.39%	[0.5]	mg/L
Co 229	93399.0	721.92	0.77%	[0.5]	mg/L

Ni 232	94763.6	382.28	0.40%	[0.5]	mg/L
Ba 234	1370000.2	6019.09	0.44%	[2.5]	mg/L
Mn 258	1199812.6	5743.10	0.48%	[0.5]	mg/L
Fe 260	95504.8	787.41	0.82%	[2.5]	mg/L
Cr 268	189135.6	616.14	0.33%	[0.5]	mg/L
Mg 279	9315.2	40.88	0.44%	[2.5]	mg/L
V 292	108047.9	616.14	0.57%	[0.5]	mg/L
Al 308	18769.0	277.82	1.48%	[2.5]	mg/L
Be 313	41297.4	304.01	0.74%	[0.5]	mg/L
Ca 318	79860.3	473.92	0.59%	[2.5]	mg/L
Cu 325	279062.6	1751.11	0.63%	[0.5]	mg/L
Ag 328	214738.5	235.52	0.11%	[0.5]	mg/L
Na 590	198278.3	585.00	0.30%	[2.5]	mg/L

Sequence No.: 6
Sample ID: ICAL1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/4/2015 4:52:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICAL1

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICAL1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
As 189	252.8	19.41	7.68%	[0.01]	mg/L
Se 196	225.9	47.72	21.12%	[0.02]	mg/L
Sb 207	731.7	59.96	8.19%	[0.04]	mg/L
Zn 214	6907.5	158.15	2.29%	[0.02]	mg/L
Cd 214	3170.7	119.73	3.78%	[0.005]	mg/L
Pb 220	293.8	120.94	41.16%	[0.01]	mg/L
Co 229	1945.7	46.48	2.39%	[0.01]	mg/L
Ni 232	1986.1	34.08	1.72%	[0.01]	mg/L
Ba 234	55764.2	47.75	0.09%	[0.1]	mg/L
Mn 258	25177.7	1707.13	6.78%	[0.01]	mg/L
Fe 260	5709.8	607.28	10.64%	[0.1]	mg/L
Cr 268	3261.4	149.68	4.59%	[0.01]	mg/L
Mg 279	390.9	86.24	22.06%	[0.1]	mg/L
V 292	10494.1	314.49	3.00%	[0.05]	mg/L
Al 308	964.0	115.86	12.02%	[0.1]	mg/L
Be 313	402.6	359.47	89.28%	[0.01]	mg/L
Ca 318	3510.5	54.76	1.56%	[0.1]	mg/L
Cu 325	5587.4	176.53	3.16%	[0.01]	mg/L
Ag 328	4118.4	78.94	1.92%	[0.01]	mg/L
Na 590	16415.7	115.81	0.71%	[0.2]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
As 189	3	Lin, Calc Int	62.1	15380	0.00000	0.999974	
Se 196	3	Lin, Calc Int	-1.9	12070	0.00000	0.999996	
Sb 207	3	Lin, Calc Int	161.6	15250	0.00000	0.999260	
Zn 214	3	Lin, Calc Int	-752.2	367500	0.00000	0.999966	
Cd 214	3	Lin, Calc Int	-1567.6	694000	0.00000	0.999933	
Pb 220	3	Lin, Calc Int	-237.0	38640	0.00000	0.999608	
Co 229	3	Lin, Calc Int	616.1	181200	0.00000	0.999853	
Ni 232	3	Lin, Calc Int	504.3	185000	0.00000	0.999911	
Ba 234	3	Lin, Calc Int	-4642.2	557200	0.00000	0.999955	
Mn 258	3	Lin, Calc Int	3144.1	2374000	0.00000	0.999983	
Fe 260	3	Lin, Calc Int	766.6	38170	0.00000	0.999951	
Cr 268	3	Lin, Calc Int	-416.2	380300	0.00000	0.999997	
Mg 279	3	Lin, Calc Int	37.9	3670	0.00000	0.999967	
V 292	3	Lin, Calc Int	-226.3	217000	0.00000	0.999998	
Al 308	3	Lin, Calc Int	88.4	7500	0.00000	0.999984	
Be 313	3	Lin, Calc Int	20.4	80790	0.00000	0.999870	
Ca 318	3	Lin, Calc Int	9.4	32160	0.00000	0.999987	

Cu 325	3	Lin, Calc Int	-1131.6	569000	0.00000	0.999942
Ag 328	3	Lin, Calc Int	2484.6	405000	0.00000	0.999415
Na 590	3	Lin, Calc Int	699.0	78490	0.00000	0.999986

Sequence No.: 7
Sample ID: ICV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/4/2015 4:58:55 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	15550.7	1.02	mg/L	0.001	1.02	mg/L	0.001	0.12%
Se 196	11704.4	0.970	mg/L	0.0078	0.970	mg/L	0.0078	0.80%
Sb 207	16525.1	1.06	mg/L	0.003	1.06	mg/L	0.003	0.25%
Zn 214	363164.4	0.985	mg/L	0.0042	0.985	mg/L	0.0042	0.43%
Cd 214	672685.9	0.972	mg/L	0.0026	0.972	mg/L	0.0026	0.27%
Pb 220	37282.4	0.971	mg/L	0.0105	0.971	mg/L	0.0105	1.08%
Co 229	186066.6	1.02	mg/L	0.009	1.02	mg/L	0.009	0.86%
Ni 232	188590.6	1.02	mg/L	0.006	1.02	mg/L	0.006	0.58%
Ba 234	544351.7	0.985	mg/L	0.0094	0.985	mg/L	0.0094	0.96%
Mn 258	2419589.4	1.02	mg/L	0.002	1.02	mg/L	0.002	0.15%
Fe 260	35943.5	0.922	mg/L	0.0159	0.922	mg/L	0.0159	1.73%
Cr 268	367700.0	0.968	mg/L	0.0002	0.968	mg/L	0.0002	0.02%
Mg 279	3643.7	0.983	mg/L	0.0323	0.983	mg/L	0.0323	3.29%
V 292	215961.2	0.996	mg/L	0.0112	0.996	mg/L	0.0112	1.12%
Al 308	7876.6	1.04	mg/L	0.003	1.04	mg/L	0.003	0.28%
Be 313	78118.2	0.967	mg/L	0.0143	0.967	mg/L	0.0143	1.48%
Ca 318	31685.0	0.985	mg/L	0.0124	0.985	mg/L	0.0124	1.26%
Cu 325	549085.6	0.967	mg/L	0.0052	0.967	mg/L	0.0052	0.54%
Ag 328	201861.2	0.492	mg/L	0.0068	0.492	mg/L	0.0068	1.38%
Na 590	78284.5	0.989	mg/L	0.0015	0.989	mg/L	0.0015	0.15%

Sequence No.: 8
Sample ID: ICB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 5:04:55 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICB

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	69.4	0.0005	mg/L	0.00351	0.0005	mg/L	0.00351	738.53%
Se 196	-11.2	-0.0008	mg/L	0.00085	-0.0008	mg/L	0.00085	110.38%
Sb 207	138.0	-0.0015	mg/L	0.00277	-0.0015	mg/L	0.00277	179.52%
Zn 214	-36.0	0.0019	mg/L	0.00115	0.0019	mg/L	0.00115	59.18%
Cd 214	-60.6	0.0022	mg/L	0.00010	0.0022	mg/L	0.00010	4.54%
Pb 220	-110.0	0.0033	mg/L	0.00357	0.0033	mg/L	0.00357	108.75%
Co 229	285.0	-0.0018	mg/L	0.00093	-0.0018	mg/L	0.00093	50.93%
Ni 232	474.2	-0.0002	mg/L	0.00025	-0.0002	mg/L	0.00025	154.62%
Ba 234	93.8	0.0085	mg/L	0.00119	0.0085	mg/L	0.00119	14.01%
Mn 258	1205.6	-0.0008	mg/L	0.00024	-0.0008	mg/L	0.00024	29.82%
Fe 260	516.8	-0.0065	mg/L	0.00796	-0.0065	mg/L	0.00796	121.56%
Cr 268	-369.2	0.0001	mg/L	0.00015	0.0001	mg/L	0.00015	118.63%
Mg 279	31.9	-0.0017	mg/L	0.03241	-0.0017	mg/L	0.03241	>999.9%
V 292	-10.6	0.0010	mg/L	0.00076	0.0010	mg/L	0.00076	76.36%
Al 308	134.1	0.0061	mg/L	0.00921	0.0061	mg/L	0.00921	151.40%

Be 313	121.1	0.0012 mg/L	0.00938	0.0012 mg/L	0.00938	751.70%
Ca 318	496.0	0.0151 mg/L	0.01873	0.0151 mg/L	0.01873	123.82%
Cu 325	338.9	0.0026 mg/L	0.00070	0.0026 mg/L	0.00070	27.20%
Ag 328	149.0	-0.0058 mg/L	0.00024	-0.0058 mg/L	0.00024	4.19%
Na 590	1081.1	0.0049 mg/L	0.00267	0.0049 mg/L	0.00267	54.75%

Sequence No.: 9
Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/4/2015 5:10:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	186.6	0.0081	mg/L	0.00081	0.0081	mg/L	0.00081	10.01%
Se 196	-542.0	-0.0241	mg/L	0.00352	-0.0241	mg/L	0.00352	14.60%
Sb 207	137.7	-0.0016	mg/L	0.00057	-0.0016	mg/L	0.00057	35.61%
Zn 214	3060.4	0.0104	mg/L	0.00007	0.0104	mg/L	0.00007	0.72%
Cd 214	1270.6	0.0041	mg/L	0.00020	0.0041	mg/L	0.00020	4.82%
Pb 220	-279.7	-0.0011	mg/L	0.00060	-0.0011	mg/L	0.00060	54.21%
Co 229	79.5	-0.0030	mg/L	0.00092	-0.0030	mg/L	0.00092	31.22%
Ni 232	35.3	-0.0025	mg/L	0.00103	-0.0025	mg/L	0.00103	40.82%
Ba 234	5.0	0.0083	mg/L	0.00048	0.0083	mg/L	0.00048	5.71%
Mn 258	-810.2	-0.0017	mg/L	0.00072	-0.0017	mg/L	0.00072	43.12%
Fe 260	3629014.6	95.1	mg/L	0.38	95.1	mg/L	0.38	0.40%
Cr 268	726.1	0.0030	mg/L	0.00069	0.0030	mg/L	0.00069	22.86%
Mg 279	139827.6	38.1	mg/L	0.07	38.1	mg/L	0.07	0.18%
V 292	-426.6	-0.0009	mg/L	0.00095	-0.0009	mg/L	0.00095	102.54%
Al 308	723078.0	96.4	mg/L	0.44	96.4	mg/L	0.44	0.45%
Be 313	-789.9	-0.0100	mg/L	0.00329	-0.0100	mg/L	0.00329	32.76%
Ca 318	1216742.0	37.8	mg/L	0.24	37.8	mg/L	0.24	0.64%
Cu 325	1867.5	0.0053	mg/L	0.00031	0.0053	mg/L	0.00031	5.89%
Ag 328	-29.8	-0.0062	mg/L	0.00133	-0.0062	mg/L	0.00133	21.39%
Na 590	388.3	-0.0040	mg/L	0.00896	-0.0040	mg/L	0.00896	226.44%

Sequence No.: 10
Sample ID: ICSB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 2/4/2015 5:16:55 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSB

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICSB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	4782.1	0.310	mg/L	0.0023	0.310	mg/L	0.0023	0.73%
Se 196	3060.5	0.274	mg/L	0.0025	0.274	mg/L	0.0025	0.90%
Sb 207	5057.9	0.317	mg/L	0.0016	0.317	mg/L	0.0016	0.50%
Zn 214	108731.7	0.296	mg/L	0.0000	0.296	mg/L	0.0000	0.00%
Cd 214	197603.8	0.287	mg/L	0.0002	0.287	mg/L	0.0002	0.08%
Pb 220	10227.4	0.271	mg/L	0.0062	0.271	mg/L	0.0062	2.28%
Co 229	53418.8	0.291	mg/L	0.0017	0.291	mg/L	0.0017	0.59%
Ni 232	52961.2	0.283	mg/L	0.0014	0.283	mg/L	0.0014	0.51%
Ba 234	533780.1	0.966	mg/L	0.0104	0.966	mg/L	0.0104	1.08%
Mn 258	699770.0	0.293	mg/L	0.0009	0.293	mg/L	0.0009	0.31%
Fe 260	3662421.7	95.9	mg/L	0.23	95.9	mg/L	0.23	0.24%
Cr 268	108892.2	0.287	mg/L	0.0005	0.287	mg/L	0.0005	0.19%
Mg 279	141425.1	38.5	mg/L	0.27	38.5	mg/L	0.27	0.69%

V 292	63928.1	0.296 mg/L	0.0018	0.296 mg/L	0.0018	0.60%
Al 308	720079.1	96.0 mg/L	0.64	96.0 mg/L	0.64	0.66%
Be 313	23551.5	0.291 mg/L	0.0131	0.291 mg/L	0.0131	4.51%
Ca 318	1218848.0	37.9 mg/L	0.29	37.9 mg/L	0.29	0.76%
Cu 325	171947.2	0.304 mg/L	0.0017	0.304 mg/L	0.0017	0.55%
Ag 328	101574.1	0.245 mg/L	0.0017	0.245 mg/L	0.0017	0.69%
Na 590	38.1	-0.0084 mg/L	0.00265	-0.0084 mg/L	0.00265	31.52%

Sequence No.: 11
Sample ID: LLC
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/4/2015 5:22:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LLC

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: LLC

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	216.2	0.0101	mg/L	0.00092	0.0101	mg/L	0.00092	9.14%
Se 196	235.6	0.0197	mg/L	0.00364	0.0197	mg/L	0.00364	18.46%
Sb 207	698.6	0.0351	mg/L	0.00092	0.0351	mg/L	0.00092	2.64%
Zn 214	6662.0	0.0201	mg/L	0.00007	0.0201	mg/L	0.00007	0.36%
Cd 214	3170.8	0.0068	mg/L	0.00032	0.0068	mg/L	0.00032	4.69%
Pb 220	268.4	0.0131	mg/L	0.00250	0.0131	mg/L	0.00250	19.13%
Co 229	1652.2	0.0057	mg/L	0.00007	0.0057	mg/L	0.00007	1.15%
Ni 232	2004.5	0.0081	mg/L	0.00070	0.0081	mg/L	0.00070	8.59%
Ba 234	55013.5	0.107	mg/L	0.0029	0.107	mg/L	0.0029	2.75%
Mn 258	23297.8	0.0085	mg/L	0.00049	0.0085	mg/L	0.00049	5.82%
Fe 260	3522.7	0.0722	mg/L	0.02387	0.0722	mg/L	0.02387	33.05%
Cr 268	3252.4	0.0096	mg/L	0.00036	0.0096	mg/L	0.00036	3.73%
Mg 279	392.1	0.0965	mg/L	0.02485	0.0965	mg/L	0.02485	25.75%
V 292	10687.7	0.0503	mg/L	0.00044	0.0503	mg/L	0.00044	0.88%
Al 308	696.8	0.0811	mg/L	0.01826	0.0811	mg/L	0.01826	22.51%
Be 313	336.1	0.0039	mg/L	0.00890	0.0039	mg/L	0.00890	227.69%
Ca 318	3701.1	0.115	mg/L	0.0018	0.115	mg/L	0.0018	1.60%
Cu 325	5857.4	0.0123	mg/L	0.00070	0.0123	mg/L	0.00070	5.72%
Ag 328	3701.8	0.0030	mg/L	0.00031	0.0030	mg/L	0.00031	10.39%
Na 590	14836.5	0.180	mg/L	0.0019	0.180	mg/L	0.0019	1.06%

Sequence No.: 12
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 5:28:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	7927.7	0.516	mg/L	0.0017	0.516	mg/L	0.0017	0.34%
Se 196	6131.1	0.509	mg/L	0.0060	0.509	mg/L	0.0060	1.18%
Sb 207	8133.4	0.515	mg/L	0.0007	0.515	mg/L	0.0007	0.14%
Zn 214	182089.3	0.495	mg/L	0.0029	0.495	mg/L	0.0029	0.60%
Cd 214	344366.7	0.498	mg/L	0.0012	0.498	mg/L	0.0012	0.24%
Pb 220	18581.0	0.487	mg/L	0.0030	0.487	mg/L	0.0030	0.61%
Co 229	92369.6	0.506	mg/L	0.0098	0.506	mg/L	0.0098	1.93%
Ni 232	96403.8	0.518	mg/L	0.0023	0.518	mg/L	0.0023	0.45%
Ba 234	1384510.2	2.49	mg/L	0.028	2.49	mg/L	0.028	1.13%
Mn 258	1219301.6	0.512	mg/L	0.0011	0.512	mg/L	0.0011	0.22%
Fe 260	96491.0	2.51	mg/L	0.032	2.51	mg/L	0.032	1.27%

Cr 268	190288.4	0.501 mg/L	0.0041	0.501 mg/L	0.0041	0.82%
Mg 279	9267.4	2.52 mg/L	0.018	2.52 mg/L	0.018	0.73%
V 292	109742.2	0.507 mg/L	0.0000	0.507 mg/L	0.0000	0.00%
Al 308	18774.1	2.49 mg/L	0.031	2.49 mg/L	0.031	1.24%
Be 313	41109.7	0.509 mg/L	0.0070	0.509 mg/L	0.0070	1.39%
Ca 318	81385.4	2.53 mg/L	0.004	2.53 mg/L	0.004	0.16%
Cu 325	279228.2	0.493 mg/L	0.0027	0.493 mg/L	0.0027	0.54%
Ag 328	213614.8	0.521 mg/L	0.0033	0.521 mg/L	0.0033	0.64%
Na 590	197358.9	2.51 mg/L	0.009	2.51 mg/L	0.009	0.34%

Sequence No.: 13
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 5:35:00 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	75.2	0.0009	mg/L	0.00098	0.0009	mg/L	0.00098	115.05%
Se 196	14.9	0.0014	mg/L	0.00974	0.0014	mg/L	0.00974	695.83%
Sb 207	94.9	-0.0044	mg/L	0.00004	-0.0044	mg/L	0.00004	0.86%
Zn 214	-36.0	0.0020	mg/L	0.00030	0.0020	mg/L	0.00030	15.35%
Cd 214	145.2	0.0025	mg/L	0.00017	0.0025	mg/L	0.00017	6.99%
Pb 220	-52.2	0.0048	mg/L	0.00140	0.0048	mg/L	0.00140	29.33%
Co 229	221.6	-0.0022	mg/L	0.00023	-0.0022	mg/L	0.00023	10.68%
Ni 232	223.6	-0.0015	mg/L	0.00166	-0.0015	mg/L	0.00166	109.73%
Ba 234	442.8	0.0091	mg/L	0.00048	0.0091	mg/L	0.00048	5.22%
Mn 258	-796.9	-0.0017	mg/L	0.00000	-0.0017	mg/L	0.00000	0.00%
Fe 260	1073.5	0.0080	mg/L	0.04450	0.0080	mg/L	0.04450	553.23%
Cr 268	-48.4	0.0010	mg/L	0.00069	0.0010	mg/L	0.00069	70.99%
Mg 279	65.6	0.0075	mg/L	0.01638	0.0075	mg/L	0.01638	217.38%
V 292	-233.0	0.0000	mg/L	0.00095	0.0000	mg/L	0.00095	>999.9%
Al 308	-29.3	-0.0157	mg/L	0.00913	-0.0157	mg/L	0.00913	58.14%
Be 313	27.3	0.0001	mg/L	0.00116	0.0001	mg/L	0.00116	>999.9%
Ca 318	546.6	0.0167	mg/L	0.00825	0.0167	mg/L	0.00825	49.41%
Cu 325	193.6	0.0023	mg/L	0.00086	0.0023	mg/L	0.00086	36.97%
Ag 328	198.7	-0.0056	mg/L	0.00055	-0.0056	mg/L	0.00055	9.73%
Na 590	-838.9	-0.0196	mg/L	0.00680	-0.0196	mg/L	0.00680	34.69%

Sequence No.: 14
Sample ID: 0182_6 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 2/4/2015 5:41:01 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_6 x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_6 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	78.6	0.0011	mg/L	0.00089	0.0011	mg/L	0.00089	83.74%
Se 196	82.2	0.0070	mg/L	0.00025	0.0070	mg/L	0.00025	3.52%
Sb 207	9.3	-0.0100	mg/L	0.00094	-0.0100	mg/L	0.00094	9.47%
Zn 214	-563.0	0.0005	mg/L	0.00028	0.0005	mg/L	0.00028	54.01%
Cd 214	-532.5	0.0015	mg/L	0.00027	0.0015	mg/L	0.00027	18.18%
Pb 220	-235.5	0.0000	mg/L	0.00069	0.0000	mg/L	0.00069	>999.9%
Co 229	-121.5	-0.0041	mg/L	0.00086	-0.0041	mg/L	0.00086	21.09%
Ni 232	320.5	-0.0010	mg/L	0.00217	-0.0010	mg/L	0.00217	218.07%
Ba 234	-786.9	0.0069	mg/L	0.00057	0.0069	mg/L	0.00057	8.21%

Mn 258	3430.9	0.0001 mg/L	0.00067	0.0001 mg/L	0.00067	556.53%
Fe 260	946.2	0.0047 mg/L	0.00796	0.0047 mg/L	0.00796	169.05%
Cr 268	-475.1	-0.0002 mg/L	0.00054	-0.0002 mg/L	0.00054	348.77%
Mg 279	1581.2	0.421 mg/L	0.0084	0.421 mg/L	0.0084	1.99%
V 292	-310.1	-0.0004 mg/L	0.00044	-0.0004 mg/L	0.00044	114.89%
Al 308	7.0	-0.0109 mg/L	0.02738	-0.0109 mg/L	0.02738	252.25%
Be 313	-977.5	-0.0124 mg/L	0.00657	-0.0124 mg/L	0.00657	53.19%
Ca 318	27233.2	0.847 mg/L	0.0266	0.847 mg/L	0.0266	3.14%
Cu 325	443.3	0.0028 mg/L	0.00010	0.0028 mg/L	0.00010	3.66%
Ag 328	-246.3	-0.0067 mg/L	0.00091	-0.0067 mg/L	0.00091	13.52%
Na 590	143147.5	1.81 mg/L	0.003	1.81 mg/L	0.003	0.17%

Sequence No.: 15
Sample ID: 0182_7 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 11
Date Collected: 2/4/2015 5:47:04 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_7 x100

Analyte	Back Pressure	Flow
All	186.0 kPa	0.55 L/min

Mean Data: 0182_7 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	101.4	0.0026	mg/L	0.00155	0.0026	mg/L	0.00155	60.60%
Se 196	-6.5	-0.0004	mg/L	0.00030	-0.0004	mg/L	0.00030	79.81%
Sb 207	-27.4	-0.0124	mg/L	0.00251	-0.0124	mg/L	0.00251	20.26%
Zn 214	-375.3	0.0010	mg/L	0.00029	0.0010	mg/L	0.00029	28.25%
Cd 214	60.5	0.0023	mg/L	0.00025	0.0023	mg/L	0.00025	10.51%
Pb 220	-236.0	0.0000	mg/L	0.00040	0.0000	mg/L	0.00040	>999.9%
Co 229	-72.6	-0.0038	mg/L	0.00031	-0.0038	mg/L	0.00031	8.16%
Ni 232	236.3	-0.0014	mg/L	0.00000	-0.0014	mg/L	0.00000	0.00%
Ba 234	-902.1	0.0067	mg/L	0.00038	0.0067	mg/L	0.00038	5.73%
Mn 258	3729.0	0.0002	mg/L	0.00040	0.0002	mg/L	0.00040	163.04%
Fe 260	1160.9	0.0103	mg/L	0.04774	0.0103	mg/L	0.04774	462.02%
Cr 268	-378.2	0.0001	mg/L	0.00054	0.0001	mg/L	0.00054	541.46%
Mg 279	2732.3	0.734	mg/L	0.0112	0.734	mg/L	0.0112	1.53%
V 292	48.4	0.0013	mg/L	0.00063	0.0013	mg/L	0.00063	49.84%
Al 308	111.7	0.0031	mg/L	0.03572	0.0031	mg/L	0.03572	>999.9%
Be 313	-441.8	-0.0057	mg/L	0.00281	-0.0057	mg/L	0.00281	49.06%
Ca 318	36803.9	1.14	mg/L	0.027	1.14	mg/L	0.027	2.32%
Cu 325	145.2	0.0022	mg/L	0.00094	0.0022	mg/L	0.00094	42.05%
Ag 328	-100.4	-0.0064	mg/L	0.00032	-0.0064	mg/L	0.00032	4.98%
Na 590	263263.7	3.35	mg/L	0.006	3.35	mg/L	0.006	0.19%

Sequence No.: 16
Sample ID: 0182_11 x100000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 12
Date Collected: 2/4/2015 5:53:08 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_11 x100000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_11 x100000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	62.4	0.0000	mg/L	0.00086	0.0000	mg/L	0.00086	>999.9%
Se 196	12.8	0.0012	mg/L	0.00446	0.0012	mg/L	0.00446	366.19%
Sb 207	-28.0	-0.0124	mg/L	0.00028	-0.0124	mg/L	0.00028	2.23%
Zn 214	-357.3	0.0011	mg/L	0.00166	0.0011	mg/L	0.00166	153.44%
Cd 214	-266.2	0.0019	mg/L	0.00042	0.0019	mg/L	0.00042	22.35%
Pb 220	-84.3	0.0040	mg/L	0.00086	0.0040	mg/L	0.00086	21.83%
Co 229	122.3	-0.0027	mg/L	0.00038	-0.0027	mg/L	0.00038	13.80%

Ni 232	173.5	-0.0018 mg/L	0.00085	-0.0018 mg/L	0.00085	47.48%
Ba 234	-868.3	0.0068 mg/L	0.00047	0.0068 mg/L	0.00047	6.94%
Mn 258	-2966.1	-0.0026 mg/L	0.00000	-0.0026 mg/L	0.00000	0.00%
Fe 260	731.5	-0.0009 mg/L	0.03182	-0.0009 mg/L	0.03182	>999.9%
Cr 268	-611.3	-0.0005 mg/L	0.00069	-0.0005 mg/L	0.00069	133.83%
Mg 279	49.9	0.0033 mg/L	0.04932	0.0033 mg/L	0.04932	>999.9%
V 292	-184.6	0.0002 mg/L	0.00152	0.0002 mg/L	0.00152	788.97%
Al 308	-7.0	-0.0127 mg/L	0.04828	-0.0127 mg/L	0.04828	379.51%
Be 313	93.8	0.0009 mg/L	0.00657	0.0009 mg/L	0.00657	722.44%
Ca 318	750.6	0.0230 mg/L	0.01238	0.0230 mg/L	0.01238	53.71%
Cu 325	7.6	0.0020 mg/L	0.00108	0.0020 mg/L	0.00108	54.09%
Ag 328	-25.4	-0.0062 mg/L	0.00013	-0.0062 mg/L	0.00013	2.03%
Na 590	18166.3	0.223 mg/L	0.0091	0.223 mg/L	0.0091	4.08%

Sequence No.: 17
Sample ID: 0182_12 x100000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 13
Date Collected: 2/4/2015 5:59:10 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_12 x100000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_12 x100000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	69.0	0.0004	mg/L	0.00062	0.0004	mg/L	0.00062	139.84%
Se 196	1.5	0.0003	mg/L	0.00029	0.0003	mg/L	0.00029	105.15%
Sb 207	14.6	-0.0096	mg/L	0.00072	-0.0096	mg/L	0.00072	7.44%
Zn 214	-469.2	0.0008	mg/L	0.00007	0.0008	mg/L	0.00007	8.51%
Cd 214	-556.7	0.0015	mg/L	0.00007	0.0015	mg/L	0.00007	5.09%
Pb 220	-40.1	0.0051	mg/L	0.00053	0.0051	mg/L	0.00053	10.44%
Co 229	-250.7	-0.0048	mg/L	0.00015	-0.0048	mg/L	0.00015	3.12%
Ni 232	343.0	-0.0009	mg/L	0.00066	-0.0009	mg/L	0.00066	76.27%
Ba 234	-1373.7	0.0059	mg/L	0.00032	0.0059	mg/L	0.00032	5.52%
Mn 258	0.0	-0.0013	mg/L	0.00047	-0.0013	mg/L	0.00047	35.84%
Fe 260	-342.1	-0.0290	mg/L	0.00796	-0.0290	mg/L	0.00796	27.39%
Cr 268	-466.0	-0.0001	mg/L	0.00015	-0.0001	mg/L	0.00015	111.70%
Mg 279	-20.8	-0.0160	mg/L	0.01603	-0.0160	mg/L	0.01603	100.14%
V 292	-107.4	0.0005	mg/L	0.00076	0.0005	mg/L	0.00076	138.54%
Al 308	-225.8	-0.0419	mg/L	0.01545	-0.0419	mg/L	0.01545	36.87%
Be 313	-789.9	-0.0100	mg/L	0.00000	-0.0100	mg/L	0.00000	0.00%
Ca 318	1073.8	0.0331	mg/L	0.00642	0.0331	mg/L	0.00642	19.39%
Cu 325	540.1	0.0029	mg/L	0.00000	0.0029	mg/L	0.00000	0.00%
Ag 328	-167.8	-0.0065	mg/L	0.00009	-0.0065	mg/L	0.00009	1.44%
Na 590	17116.7	0.209	mg/L	0.0032	0.209	mg/L	0.0032	1.55%

Sequence No.: 18
Sample ID: 0171_1 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 14
Date Collected: 2/4/2015 6:05:14 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_1 x10000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0171_1 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	53.3	-0.0006	mg/L	0.00278	-0.0006	mg/L	0.00278	488.10%
Se 196	18.5	0.0017	mg/L	0.00469	0.0017	mg/L	0.00469	277.89%
Sb 207	-46.9	-0.0137	mg/L	0.00153	-0.0137	mg/L	0.00153	11.21%
Zn 214	-223.7	0.0014	mg/L	0.00101	0.0014	mg/L	0.00101	69.48%
Cd 214	-387.4	0.0017	mg/L	0.00007	0.0017	mg/L	0.00007	4.36%

Pb 220	-121.6	0.0030 mg/L	0.00018	0.0030 mg/L	0.00018	6.07%
Co 229	-50.4	-0.0037 mg/L	0.00033	-0.0037 mg/L	0.00033	8.92%
Ni 232	187.9	-0.0017 mg/L	0.00170	-0.0017 mg/L	0.00170	99.39%
Ba 234	-1032.1	0.0065 mg/L	0.00024	0.0065 mg/L	0.00024	3.68%
Mn 258	44.3	-0.0013 mg/L	0.00000	-0.0013 mg/L	0.00000	0.00%
Fe 260	-342.1	-0.0290 mg/L	0.00796	-0.0290 mg/L	0.00796	27.39%
Cr 268	-175.6	0.0006 mg/L	0.00087	0.0006 mg/L	0.00087	136.97%
Mg 279	91.7	0.0147 mg/L	0.00811	0.0147 mg/L	0.00811	55.34%
V 292	-475.0	-0.0011 mg/L	0.00126	-0.0011 mg/L	0.00126	110.11%
Al 308	-44.2	-0.0177 mg/L	0.00632	-0.0177 mg/L	0.00632	35.73%
Be 313	-469.2	-0.0061 mg/L	0.00657	-0.0061 mg/L	0.00657	108.43%
Ca 318	5160.7	0.160 mg/L	0.0000	0.160 mg/L	0.0000	0.00%
Cu 325	-270.0	0.0015 mg/L	0.00091	0.0015 mg/L	0.00091	60.22%
Ag 328	-303.5	-0.0069 mg/L	0.00044	-0.0069 mg/L	0.00044	6.41%
Na 590	57819.8	0.728 mg/L	0.0020	0.728 mg/L	0.0020	0.27%

Sequence No.: 19
Sample ID: 0171_2 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 15
Date Collected: 2/4/2015 6:11:12 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_2 x10000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0171_2 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	69.5	0.0005	mg/L	0.00135	0.0005	mg/L	0.00135	276.97%
Se 196	37.1	0.0032	mg/L	0.00171	0.0032	mg/L	0.00171	52.89%
Sb 207	7.0	-0.0101	mg/L	0.00385	-0.0101	mg/L	0.00385	37.96%
Zn 214	-317.5	0.0012	mg/L	0.00007	0.0012	mg/L	0.00007	5.88%
Cd 214	193.6	0.0025	mg/L	0.00002	0.0025	mg/L	0.00002	0.98%
Pb 220	-82.5	0.0040	mg/L	0.00171	0.0040	mg/L	0.00171	42.84%
Co 229	-13.7	-0.0035	mg/L	0.00026	-0.0035	mg/L	0.00026	7.38%
Ni 232	116.5	-0.0021	mg/L	0.00018	-0.0021	mg/L	0.00018	8.38%
Ba 234	-344.0	0.0077	mg/L	0.00071	0.0077	mg/L	0.00071	9.26%
Mn 258	-1881.5	-0.0021	mg/L	0.00020	-0.0021	mg/L	0.00020	9.34%
Fe 260	1288.2	0.0137	mg/L	0.00472	0.0137	mg/L	0.00472	34.53%
Cr 268	-48.4	0.0010	mg/L	0.00069	0.0010	mg/L	0.00069	70.99%
Mg 279	148.4	0.0301	mg/L	0.04202	0.0301	mg/L	0.04202	139.64%
V 292	9.1	0.0011	mg/L	0.00126	0.0011	mg/L	0.00126	116.33%
Al 308	-174.1	-0.0350	mg/L	0.01255	-0.0350	mg/L	0.01255	35.86%
Be 313	-508.4	-0.0065	mg/L	0.00164	-0.0065	mg/L	0.00164	25.10%
Ca 318	3753.2	0.116	mg/L	0.0041	0.116	mg/L	0.0041	3.54%
Cu 325	-68.8	0.0019	mg/L	0.00027	0.0019	mg/L	0.00027	14.59%
Ag 328	-153.5	-0.0065	mg/L	0.00069	-0.0065	mg/L	0.00069	10.56%
Na 590	55062.9	0.693	mg/L	0.0007	0.693	mg/L	0.0007	0.10%

Sequence No.: 20
Sample ID: 0171_3 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 16
Date Collected: 2/4/2015 6:17:10 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_3 x10000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0171_3 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	41.3	-0.0013	mg/L	0.00104	-0.0013	mg/L	0.00104	77.43%
Se 196	-9.8	-0.0007	mg/L	0.00153	-0.0007	mg/L	0.00153	233.33%
Sb 207	-27.3	-0.0124	mg/L	0.00192	-0.0124	mg/L	0.00192	15.44%

Zn 214	-487.2	0.0007 mg/L	0.00000	0.0007 mg/L	0.00000	0.18%
Cd 214	-496.1	0.0015 mg/L	0.00025	0.0015 mg/L	0.00025	15.97%
Pb 220	29.8	0.0069 mg/L	0.00095	0.0069 mg/L	0.00095	13.72%
Co 229	-208.6	-0.0046 mg/L	0.00043	-0.0046 mg/L	0.00043	9.44%
Ni 232	106.7	-0.0021 mg/L	0.00025	-0.0021 mg/L	0.00025	11.68%
Ba 234	-750.6	0.0070 mg/L	0.00065	0.0070 mg/L	0.00065	9.27%
Mn 258	1549.4	-0.0007 mg/L	0.00045	-0.0007 mg/L	0.00045	66.74%
Fe 260	731.5	-0.0009 mg/L	0.00000	-0.0009 mg/L	0.00000	0.00%
Cr 268	-9.0	0.0011 mg/L	0.00018	0.0011 mg/L	0.00018	16.81%
Mg 279	106.7	0.0187 mg/L	0.03881	0.0187 mg/L	0.03881	207.07%
V 292	-136.2	0.0004 mg/L	0.00032	0.0004 mg/L	0.00032	75.92%
Al 308	-189.5	-0.0370 mg/L	0.03370	-0.0370 mg/L	0.03370	90.97%
Be 313	-441.8	-0.0057 mg/L	0.00048	-0.0057 mg/L	0.00048	8.36%
Ca 318	5483.9	0.170 mg/L	0.0060	0.170 mg/L	0.0060	3.50%
Cu 325	-165.6	0.0017 mg/L	0.00093	0.0017 mg/L	0.00093	54.83%
Ag 328	-117.5	-0.0064 mg/L	0.00034	-0.0064 mg/L	0.00034	5.21%
Na 590	64548.3	0.813 mg/L	0.0011	0.813 mg/L	0.0011	0.14%

Sequence No.: 21
Sample ID: 0171_4 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 17
Date Collected: 2/4/2015 6:23:13 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_4 x10000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0171_4 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	36.6	-0.0017	mg/L	0.00155	-0.0017	mg/L	0.00155	93.85%
Se 196	0.2	0.0002	mg/L	0.00210	0.0002	mg/L	0.00210	>999.9%
Sb 207	-33.2	-0.0128	mg/L	0.00056	-0.0128	mg/L	0.00056	4.42%
Zn 214	-299.5	0.0012	mg/L	0.00073	0.0012	mg/L	0.00073	58.95%
Cd 214	-254.3	0.0019	mg/L	0.00005	0.0019	mg/L	0.00005	2.61%
Pb 220	-113.3	0.0032	mg/L	0.00011	0.0032	mg/L	0.00011	3.53%
Co 229	116.2	-0.0028	mg/L	0.00081	-0.0028	mg/L	0.00081	29.18%
Ni 232	203.5	-0.0016	mg/L	0.00173	-0.0016	mg/L	0.00173	106.49%
Ba 234	-1282.4	0.0060	mg/L	0.00009	0.0060	mg/L	0.00009	1.53%
Mn 258	342.3	-0.0012	mg/L	0.00018	-0.0012	mg/L	0.00018	15.04%
Fe 260	87.3	-0.0178	mg/L	0.00796	-0.0178	mg/L	0.00796	44.71%
Cr 268	-329.8	0.0002	mg/L	0.00072	0.0002	mg/L	0.00072	317.17%
Mg 279	111.4	0.0200	mg/L	0.04310	0.0200	mg/L	0.04310	215.43%
V 292	-184.6	0.0002	mg/L	0.00126	0.0002	mg/L	0.00126	655.76%
Al 308	-59.6	-0.0197	mg/L	0.03994	-0.0197	mg/L	0.03994	202.39%
Be 313	-535.7	-0.0069	mg/L	0.00116	-0.0069	mg/L	0.00116	16.92%
Ca 318	4398.1	0.136	mg/L	0.0077	0.136	mg/L	0.0077	5.66%
Cu 325	-61.2	0.0019	mg/L	0.00125	0.0019	mg/L	0.00125	66.66%
Ag 328	-157.9	-0.0065	mg/L	0.00055	-0.0065	mg/L	0.00055	8.36%
Na 590	54030.0	0.679	mg/L	0.0035	0.679	mg/L	0.0035	0.51%

Sequence No.: 22
Sample ID: 0171_5 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 18
Date Collected: 2/4/2015 6:29:10 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_5 x10000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0171_5 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	51.8	-0.0007	mg/L	0.00329	-0.0007	mg/L	0.00329	496.53%

Se 196	30.5	0.0027 mg/L	0.00232	0.0027 mg/L	0.00232	86.27%
Sb 207	-14.9	-0.0116 mg/L	0.00141	-0.0116 mg/L	0.00141	12.16%
Zn 214	-563.0	0.0005 mg/L	0.00029	0.0005 mg/L	0.00029	55.10%
Cd 214	-290.5	0.0018 mg/L	0.00022	0.0018 mg/L	0.00022	12.07%
Pb 220	-99.5	0.0036 mg/L	0.00276	0.0036 mg/L	0.00276	77.53%
Co 229	-16.8	-0.0035 mg/L	0.00003	-0.0035 mg/L	0.00003	0.85%
Ni 232	62.4	-0.0024 mg/L	0.00028	-0.0024 mg/L	0.00028	11.78%
Ba 234	-938.3	0.0066 mg/L	0.00000	0.0066 mg/L	0.00000	0.00%
Mn 258	-786.6	-0.0017 mg/L	0.00005	-0.0017 mg/L	0.00005	2.82%
Fe 260	946.2	0.0047 mg/L	0.02387	0.0047 mg/L	0.02387	507.15%
Cr 268	-48.4	0.0010 mg/L	0.00105	0.0010 mg/L	0.00105	108.22%
Mg 279	58.7	0.0056 mg/L	0.02066	0.0056 mg/L	0.02066	365.81%
V 292	-494.7	-0.0012 mg/L	0.00050	-0.0012 mg/L	0.00050	40.66%
Al 308	7.0	-0.0109 mg/L	0.00913	-0.0109 mg/L	0.00913	84.08%
Be 313	-469.2	-0.0061 mg/L	0.00890	-0.0061 mg/L	0.00890	146.87%
Ca 318	4667.7	0.145 mg/L	0.0041	0.145 mg/L	0.0041	2.85%
Cu 325	7.6	0.0020 mg/L	0.00060	0.0020 mg/L	0.00060	30.05%
Ag 328	-13.3	-0.0062 mg/L	0.00038	-0.0062 mg/L	0.00038	6.09%
Na 590	62127.6	0.783 mg/L	0.0068	0.783 mg/L	0.0068	0.87%

Sequence No.: 23
Sample ID: 0171_6 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 19
Date Collected: 2/4/2015 6:35:12 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0171_6 x10000

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 0171_6 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	63.1	0.0001	mg/L	0.00125	0.0001	mg/L	0.00125	>999.9%
Se 196	31.1	0.0027	mg/L	0.00050	0.0027	mg/L	0.00050	18.18%
Sb 207	-24.2	-0.0122	mg/L	0.00148	-0.0122	mg/L	0.00148	12.15%
Zn 214	-393.3	0.0010	mg/L	0.00036	0.0010	mg/L	0.00036	36.75%
Cd 214	-242.1	0.0019	mg/L	0.00022	0.0019	mg/L	0.00022	11.62%
Pb 220	-74.0	0.0042	mg/L	0.00291	0.0042	mg/L	0.00291	68.91%
Co 229	-185.0	-0.0044	mg/L	0.00139	-0.0044	mg/L	0.00139	31.44%
Ni 232	246.2	-0.0014	mg/L	0.00008	-0.0014	mg/L	0.00008	5.41%
Ba 234	-1092.2	0.0064	mg/L	0.00087	0.0064	mg/L	0.00087	13.61%
Mn 258	-864.8	-0.0017	mg/L	0.00000	-0.0017	mg/L	0.00000	0.00%
Fe 260	302.0	-0.0122	mg/L	0.01591	-0.0122	mg/L	0.01591	130.74%
Cr 268	-417.6	0.0000	mg/L	0.00105	0.0000	mg/L	0.00105	>999.9%
Mg 279	-9.0	-0.0128	mg/L	0.03981	-0.0128	mg/L	0.03981	310.91%
V 292	-59.0	0.0008	mg/L	0.00171	0.0008	mg/L	0.00171	221.21%
Al 308	7.0	-0.0109	mg/L	0.00913	-0.0109	mg/L	0.00913	84.08%
Be 313	-441.8	-0.0057	mg/L	0.00609	-0.0057	mg/L	0.00609	106.48%
Ca 318	5266.4	0.163	mg/L	0.0105	0.163	mg/L	0.0105	6.45%
Cu 325	-68.8	0.0019	mg/L	0.00003	0.0019	mg/L	0.00003	1.70%
Ag 328	-49.7	-0.0063	mg/L	0.00019	-0.0063	mg/L	0.00019	2.98%
Na 590	60534.8	0.762	mg/L	0.0093	0.762	mg/L	0.0093	1.22%

Sequence No.: 24
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 6:41:12 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CCV

Mean Corrected Calib Sample

Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
As 189	7743.4	0.504	mg/L	0.0032	0.504	mg/L	0.0032	0.63%
Se 196	5964.7	0.495	mg/L	0.0100	0.495	mg/L	0.0100	2.02%
Sb 207	7988.2	0.506	mg/L	0.0017	0.506	mg/L	0.0017	0.34%
Zn 214	178841.2	0.486	mg/L	0.0033	0.486	mg/L	0.0033	0.68%
Cd 214	340917.4	0.493	mg/L	0.0030	0.493	mg/L	0.0030	0.60%
Pb 220	18143.8	0.476	mg/L	0.0057	0.476	mg/L	0.0057	1.21%
Co 229	91836.2	0.503	mg/L	0.0027	0.503	mg/L	0.0027	0.54%
Ni 232	94088.8	0.506	mg/L	0.0008	0.506	mg/L	0.0008	0.16%
Ba 234	1365655.2	2.46	mg/L	0.004	2.46	mg/L	0.004	0.17%
Mn 258	1201615.8	0.505	mg/L	0.0013	0.505	mg/L	0.0013	0.27%
Fe 260	94558.6	2.46	mg/L	0.024	2.46	mg/L	0.024	0.97%
Cr 268	187102.4	0.493	mg/L	0.0027	0.493	mg/L	0.0027	0.55%
Mg 279	9241.1	2.51	mg/L	0.023	2.51	mg/L	0.023	0.92%
V 292	108047.9	0.499	mg/L	0.0003	0.499	mg/L	0.0003	0.06%
Al 308	18754.1	2.49	mg/L	0.009	2.49	mg/L	0.009	0.37%
Be 313	39796.1	0.492	mg/L	0.0094	0.492	mg/L	0.0094	1.90%
Ca 318	79106.7	2.46	mg/L	0.022	2.46	mg/L	0.022	0.89%
Cu 325	275888.0	0.487	mg/L	0.0101	0.487	mg/L	0.0101	2.08%
Ag 328	211654.7	0.516	mg/L	0.0026	0.516	mg/L	0.0026	0.51%
Na 590	193642.3	2.46	mg/L	0.005	2.46	mg/L	0.005	0.18%

Sequence No.: 25
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 6:47:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
As 189	48.2	-0.0009	mg/L	0.00087	-0.0009	mg/L	0.00087	96.19%
Se 196	-4.4	-0.0002	mg/L	0.00202	-0.0002	mg/L	0.00202	947.56%
Sb 207	125.4	-0.0024	mg/L	0.00197	-0.0024	mg/L	0.00197	82.82%
Zn 214	451.2	0.0033	mg/L	0.00000	0.0033	mg/L	0.00000	0.09%
Cd 214	12.1	0.0023	mg/L	0.00015	0.0023	mg/L	0.00015	6.50%
Pb 220	164.8	0.0104	mg/L	0.00199	0.0104	mg/L	0.00199	19.16%
Co 229	102.4	-0.0028	mg/L	0.00085	-0.0028	mg/L	0.00085	30.09%
Ni 232	146.5	-0.0019	mg/L	0.00056	-0.0019	mg/L	0.00056	28.75%
Ba 234	57.6	0.0084	mg/L	0.00111	0.0084	mg/L	0.00111	13.18%
Mn 258	44.3	-0.0013	mg/L	0.00134	-0.0013	mg/L	0.00134	103.01%
Fe 260	-127.4	-0.0234	mg/L	0.03182	-0.0234	mg/L	0.03182	135.87%
Cr 268	-417.6	0.0000	mg/L	0.00105	0.0000	mg/L	0.00105	>999.9%
Mg 279	108.6	0.0193	mg/L	0.02831	0.0193	mg/L	0.02831	147.03%
V 292	-204.2	0.0001	mg/L	0.00202	0.0001	mg/L	0.00202	>999.9%
Al 308	-77.7	-0.0222	mg/L	0.00000	-0.0222	mg/L	0.00000	0.00%
Be 313	215.0	0.0024	mg/L	0.01102	0.0024	mg/L	0.01102	457.46%
Ca 318	871.3	0.0268	mg/L	0.00943	0.0268	mg/L	0.00943	35.19%
Cu 325	201.2	0.0023	mg/L	0.00098	0.0023	mg/L	0.00098	41.90%
Ag 328	276.5	-0.0055	mg/L	0.00061	-0.0055	mg/L	0.00061	11.10%
Na 590	-1840.2	-0.0324	mg/L	0.00275	-0.0324	mg/L	0.00275	8.50%

Sequence No.: 26
Sample ID: 157815 MB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 20
Date Collected: 2/4/2015 6:53:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 157815 MB

Analyte	Back Pressure	Flow
All	184.0 kPa	0.55 L/min

Mean Data: 157815 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	14.2	-0.0031	mg/L	0.00038	-0.0031	mg/L	0.00038	12.30%
Se 196	25.0	0.0022	mg/L	0.00023	0.0022	mg/L	0.00023	10.33%
Sb 207	214.8	0.0035	mg/L	0.00127	0.0035	mg/L	0.00127	36.48%
Zn 214	39.8	0.0022	mg/L	0.00146	0.0022	mg/L	0.00146	67.40%
Cd 214	-48.4	0.0022	mg/L	0.00027	0.0022	mg/L	0.00027	12.39%
Pb 220	-37.6	0.0052	mg/L	0.00417	0.0052	mg/L	0.00417	80.82%
Co 229	-50.4	-0.0037	mg/L	0.00101	-0.0037	mg/L	0.00101	27.40%
Ni 232	189.3	-0.0017	mg/L	0.00273	-0.0017	mg/L	0.00273	160.39%
Ba 234	-1279.9	0.0060	mg/L	0.00039	0.0060	mg/L	0.00039	6.47%
Mn 258	-1505.2	-0.0020	mg/L	0.00042	-0.0020	mg/L	0.00042	21.55%
Fe 260	644.1	-0.0032	mg/L	0.04450	-0.0032	mg/L	0.04450	>999.9%
Cr 268	-105.8	0.0008	mg/L	0.00083	0.0008	mg/L	0.00083	102.08%
Mg 279	-8.8	-0.0127	mg/L	0.00373	-0.0127	mg/L	0.00373	29.29%
V 292	-136.2	0.0004	mg/L	0.00032	0.0004	mg/L	0.00032	75.92%
Al 308	-223.0	-0.0415	mg/L	0.00913	-0.0415	mg/L	0.00913	21.99%
Be 313	629.5	0.0075	mg/L	0.00938	0.0075	mg/L	0.00938	124.36%
Ca 318	910.0	0.0280	mg/L	0.01598	0.0280	mg/L	0.01598	57.07%
Cu 325	484.1	0.0028	mg/L	0.00024	0.0028	mg/L	0.00024	8.47%
Ag 328	22.6	-0.0061	mg/L	0.00090	-0.0061	mg/L	0.00090	14.78%
Na 590	-1465.9	-0.0276	mg/L	0.00647	-0.0276	mg/L	0.00647	23.47%

Sequence No.: 27
Sample ID: 157816 LCS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 21
Date Collected: 2/4/2015 6:59:18 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 157816 LCS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 157816 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6136.8	0.399	mg/L	0.0037	0.399	mg/L	0.0037	0.92%
Se 196	4641.4	0.385	mg/L	0.0010	0.385	mg/L	0.0010	0.27%
Sb 207	6673.0	0.421	mg/L	0.0026	0.421	mg/L	0.0026	0.62%
Zn 214	140316.6	0.382	mg/L	0.0004	0.382	mg/L	0.0004	0.10%
Cd 214	263693.7	0.382	mg/L	0.0006	0.382	mg/L	0.0006	0.17%
Pb 220	14146.8	0.372	mg/L	0.0005	0.372	mg/L	0.0005	0.14%
Co 229	75709.9	0.414	mg/L	0.0038	0.414	mg/L	0.0038	0.93%
Ni 232	75409.0	0.405	mg/L	0.0022	0.405	mg/L	0.0022	0.55%
Ba 234	1104967.4	1.99	mg/L	0.021	1.99	mg/L	0.021	1.05%
Mn 258	967108.3	0.406	mg/L	0.0025	0.406	mg/L	0.0025	0.62%
Fe 260	73604.6	1.91	mg/L	0.011	1.91	mg/L	0.011	0.59%
Cr 268	149498.0	0.394	mg/L	0.0007	0.394	mg/L	0.0007	0.17%
Mg 279	7468.6	2.02	mg/L	0.059	2.02	mg/L	0.059	2.91%
V 292	88965.9	0.411	mg/L	0.0072	0.411	mg/L	0.0072	1.75%
Al 308	15046.2	1.99	mg/L	0.027	1.99	mg/L	0.027	1.37%
Be 313	31284.8	0.387	mg/L	0.0148	0.387	mg/L	0.0148	3.82%
Ca 318	63399.7	1.97	mg/L	0.012	1.97	mg/L	0.012	0.63%
Cu 325	225716.4	0.399	mg/L	0.0017	0.399	mg/L	0.0017	0.44%
Ag 328	165278.5	0.402	mg/L	0.0015	0.402	mg/L	0.0015	0.37%
Na 590	165350.9	2.10	mg/L	0.009	2.10	mg/L	0.009	0.44%

Sequence No.: 28
Sample ID: 157817 LCSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 22
Date Collected: 2/4/2015 7:05:19 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 157817 LCSD

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 157817 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6225.5	0.404	mg/L	0.0005	0.404	mg/L	0.0005	0.11%
Se 196	4656.2	0.386	mg/L	0.0003	0.386	mg/L	0.0003	0.08%
Sb 207	6631.4	0.418	mg/L	0.0005	0.418	mg/L	0.0005	0.12%
Zn 214	141724.1	0.386	mg/L	0.0029	0.386	mg/L	0.0029	0.75%
Cd 214	263814.7	0.382	mg/L	0.0006	0.382	mg/L	0.0006	0.15%
Pb 220	14301.3	0.376	mg/L	0.0009	0.376	mg/L	0.0009	0.25%
Co 229	74910.5	0.410	mg/L	0.0009	0.410	mg/L	0.0009	0.22%
Ni 232	75481.5	0.405	mg/L	0.0002	0.405	mg/L	0.0002	0.05%
Ba 234	1097997.6	1.98	mg/L	0.021	1.98	mg/L	0.021	1.06%
Mn 258	970528.9	0.407	mg/L	0.0009	0.407	mg/L	0.0009	0.21%
Fe 260	74161.4	1.92	mg/L	0.000	1.92	mg/L	0.000	0.00%
Cr 268	148239.4	0.391	mg/L	0.0004	0.391	mg/L	0.0004	0.10%
Mg 279	7413.8	2.01	mg/L	0.033	2.01	mg/L	0.033	1.65%
V 292	87890.3	0.406	mg/L	0.0008	0.406	mg/L	0.0008	0.20%
Al 308	15182.6	2.01	mg/L	0.006	2.01	mg/L	0.006	0.27%
Be 313	32195.8	0.398	mg/L	0.0110	0.398	mg/L	0.0110	2.77%
Ca 318	63718.4	1.98	mg/L	0.022	1.98	mg/L	0.022	1.10%
Cu 325	223474.4	0.395	mg/L	0.0010	0.395	mg/L	0.0010	0.26%
Ag 328	166850.6	0.406	mg/L	0.0027	0.406	mg/L	0.0027	0.66%
Na 590	159869.0	2.03	mg/L	0.005	2.03	mg/L	0.005	0.24%

Sequence No.: 29
Sample ID: 0144_1 x1000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 23
Date Collected: 2/4/2015 7:11:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_1 x1000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0144_1 x1000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	40.2	-0.0014	mg/L	0.00120	-0.0014	mg/L	0.00120	84.56%
Se 196	13.1	0.0012	mg/L	0.00414	0.0012	mg/L	0.00414	331.97%
Sb 207	-13.2	-0.0115	mg/L	0.00103	-0.0115	mg/L	0.00103	9.00%
Zn 214	93.8	0.0023	mg/L	0.00007	0.0023	mg/L	0.00007	2.92%
Cd 214	-387.4	0.0017	mg/L	0.00007	0.0017	mg/L	0.00007	4.36%
Pb 220	-167.8	0.0018	mg/L	0.00568	0.0018	mg/L	0.00568	317.70%
Co 229	209.4	-0.0022	mg/L	0.00127	-0.0022	mg/L	0.00127	56.59%
Ni 232	284.8	-0.0012	mg/L	0.00037	-0.0012	mg/L	0.00037	31.19%
Ba 234	-1152.3	0.0063	mg/L	0.00119	0.0063	mg/L	0.00119	19.01%
Mn 258	-2181.1	-0.0022	mg/L	0.00092	-0.0022	mg/L	0.00092	40.83%
Fe 260	302.0	-0.0122	mg/L	0.00000	-0.0122	mg/L	0.00000	0.00%
Cr 268	-417.6	0.0000	mg/L	0.00033	0.0000	mg/L	0.00033	>999.9%
Mg 279	53.8	0.0043	mg/L	0.02555	0.0043	mg/L	0.02555	590.89%
V 292	-136.2	0.0004	mg/L	0.00095	0.0004	mg/L	0.00095	227.77%
Al 308	-122.0	-0.0281	mg/L	0.00834	-0.0281	mg/L	0.00834	29.73%
Be 313	-93.8	-0.0014	mg/L	0.00657	-0.0014	mg/L	0.00657	464.83%
Ca 318	601.7	0.0184	mg/L	0.00583	0.0184	mg/L	0.00583	31.65%
Cu 325	221.6	0.0024	mg/L	0.00003	0.0024	mg/L	0.00003	1.34%
Ag 328	-103.8	-0.0064	mg/L	0.00065	-0.0064	mg/L	0.00065	10.22%
Na 590	103104.6	1.30	mg/L	0.010	1.30	mg/L	0.010	0.76%

Sequence No.: 30
Sample ID: 0144_2 x10000
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 24
Date Collected: 2/4/2015 7:17:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0144_2 x10000

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0144_2 x10000

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	58.4	-0.0002	mg/L	0.00170	-0.0002	mg/L	0.00170	686.96%
Se 196	2.6	0.0004	mg/L	0.00209	0.0004	mg/L	0.00209	564.03%
Sb 207	-45.2	-0.0135	mg/L	0.00181	-0.0135	mg/L	0.00181	13.36%
Zn 214	75.8	0.0023	mg/L	0.00073	0.0023	mg/L	0.00073	32.06%
Cd 214	-532.5	0.0015	mg/L	0.00007	0.0015	mg/L	0.00007	4.95%
Pb 220	-57.7	0.0046	mg/L	0.00093	0.0046	mg/L	0.00093	20.10%
Co 229	363.0	-0.0014	mg/L	0.00051	-0.0014	mg/L	0.00051	36.73%
Ni 232	155.1	-0.0019	mg/L	0.00062	-0.0019	mg/L	0.00062	32.91%
Ba 234	-844.5	0.0068	mg/L	0.00024	0.0068	mg/L	0.00024	3.49%
Mn 258	-1915.4	-0.0021	mg/L	0.00063	-0.0021	mg/L	0.00063	29.37%
Fe 260	-556.8	-0.0347	mg/L	0.01591	-0.0347	mg/L	0.01591	45.89%
Cr 268	-659.7	-0.0006	mg/L	0.00021	-0.0006	mg/L	0.00021	33.36%
Mg 279	156.9	0.0324	mg/L	0.01095	0.0324	mg/L	0.01095	33.78%
V 292	-329.8	-0.0005	mg/L	0.00158	-0.0005	mg/L	0.00158	330.83%
Al 308	-59.6	-0.0197	mg/L	0.02168	-0.0197	mg/L	0.02168	109.88%
Be 313	254.2	0.0029	mg/L	0.00048	0.0029	mg/L	0.00048	16.52%
Ca 318	3471.7	0.108	mg/L	0.0000	0.108	mg/L	0.0000	0.00%
Cu 325	193.6	0.0023	mg/L	0.00000	0.0023	mg/L	0.00000	0.00%
Ag 328	-14.4	-0.0062	mg/L	0.00009	-0.0062	mg/L	0.00009	1.53%
Na 590	44493.9	0.558	mg/L	0.0096	0.558	mg/L	0.0096	1.72%

Sequence No.: 31
Sample ID: 158139 MB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 25
Date Collected: 2/4/2015 7:23:29 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158139 MB

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158139 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	2.7	-0.0039	mg/L	0.00022	-0.0039	mg/L	0.00022	5.78%
Se 196	31.3	0.0028	mg/L	0.00230	0.0028	mg/L	0.00230	83.71%
Sb 207	55.3	-0.0070	mg/L	0.00171	-0.0070	mg/L	0.00171	24.50%
Zn 214	469.2	0.0033	mg/L	0.00066	0.0033	mg/L	0.00066	19.94%
Cd 214	-72.6	0.0022	mg/L	0.00037	0.0022	mg/L	0.00037	17.18%
Pb 220	-52.4	0.0048	mg/L	0.00110	0.0048	mg/L	0.00110	23.04%
Co 229	-69.5	-0.0038	mg/L	0.00075	-0.0038	mg/L	0.00075	19.86%
Ni 232	475.3	-0.0002	mg/L	0.00196	-0.0002	mg/L	0.00196	>999.9%
Ba 234	-902.1	0.0067	mg/L	0.00023	0.0067	mg/L	0.00023	3.36%
Mn 258	8322.7	0.0022	mg/L	0.00134	0.0022	mg/L	0.00134	61.66%
Fe 260	946.2	0.0047	mg/L	0.02387	0.0047	mg/L	0.02387	507.15%
Cr 268	-466.0	-0.0001	mg/L	0.00051	-0.0001	mg/L	0.00051	386.29%
Mg 279	8.1	-0.0081	mg/L	0.02022	-0.0081	mg/L	0.02022	248.36%
V 292	-446.3	-0.0010	mg/L	0.00019	-0.0010	mg/L	0.00019	18.48%
Al 308	67.5	-0.0028	mg/L	0.00913	-0.0028	mg/L	0.00913	327.06%
Be 313	-535.7	-0.0069	mg/L	0.01102	-0.0069	mg/L	0.01102	160.11%
Ca 318	965.1	0.0297	mg/L	0.00531	0.0297	mg/L	0.00531	17.85%
Cu 325	-20.4	0.0020	mg/L	0.00067	0.0020	mg/L	0.00067	34.37%
Ag 328	-125.4	-0.0064	mg/L	0.00092	-0.0064	mg/L	0.00092	14.35%
Na 590	2490.2	0.0228	mg/L	0.00026	0.0228	mg/L	0.00026	1.16%

Sequence No.: 32
Sample ID: 158140 LCS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 26
Date Collected: 2/4/2015 7:29:28 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158140 LCS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158140 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6057.6	0.393	mg/L	0.0077	0.393	mg/L	0.0077	1.95%
Se 196	4494.6	0.373	mg/L	0.0013	0.373	mg/L	0.0013	0.36%
Sb 207	6556.0	0.413	mg/L	0.0055	0.413	mg/L	0.0055	1.33%
Zn 214	139266.5	0.379	mg/L	0.0050	0.379	mg/L	0.0050	1.31%
Cd 214	260002.6	0.377	mg/L	0.0033	0.377	mg/L	0.0033	0.87%
Pb 220	14268.9	0.375	mg/L	0.0055	0.375	mg/L	0.0055	1.47%
Co 229	74568.1	0.408	mg/L	0.0057	0.408	mg/L	0.0057	1.39%
Ni 232	75122.5	0.403	mg/L	0.0012	0.403	mg/L	0.0012	0.30%
Ba 234	1088802.2	1.96	mg/L	0.029	1.96	mg/L	0.029	1.46%
Mn 258	955066.9	0.401	mg/L	0.0016	0.401	mg/L	0.0016	0.40%
Fe 260	73946.7	1.92	mg/L	0.024	1.92	mg/L	0.024	1.24%
Cr 268	146690.3	0.387	mg/L	0.0021	0.387	mg/L	0.0021	0.55%
Mg 279	7305.5	1.98	mg/L	0.005	1.98	mg/L	0.005	0.27%
V 292	88801.0	0.410	mg/L	0.0052	0.410	mg/L	0.0052	1.28%
Al 308	14814.4	1.96	mg/L	0.027	1.96	mg/L	0.027	1.39%
Be 313	29932.0	0.370	mg/L	0.0099	0.370	mg/L	0.0099	2.66%
Ca 318	63679.7	1.98	mg/L	0.004	1.98	mg/L	0.004	0.18%
Cu 325	220722.7	0.390	mg/L	0.0090	0.390	mg/L	0.0090	2.30%
Ag 328	163042.6	0.396	mg/L	0.0004	0.396	mg/L	0.0004	0.10%
Na 590	162749.6	2.06	mg/L	0.011	2.06	mg/L	0.011	0.53%

Sequence No.: 33
Sample ID: 158141 LCSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 27
Date Collected: 2/4/2015 7:35:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158141 LCSD

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158141 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6121.3	0.398	mg/L	0.0036	0.398	mg/L	0.0036	0.90%
Se 196	4590.4	0.381	mg/L	0.0050	0.381	mg/L	0.0050	1.32%
Sb 207	6559.1	0.414	mg/L	0.0054	0.414	mg/L	0.0054	1.30%
Zn 214	140991.4	0.384	mg/L	0.0021	0.384	mg/L	0.0021	0.55%
Cd 214	264552.9	0.383	mg/L	0.0002	0.383	mg/L	0.0002	0.06%
Pb 220	14342.3	0.377	mg/L	0.0020	0.377	mg/L	0.0020	0.53%
Co 229	75229.2	0.412	mg/L	0.0026	0.412	mg/L	0.0026	0.63%
Ni 232	75922.8	0.408	mg/L	0.0022	0.408	mg/L	0.0022	0.55%
Ba 234	1090613.8	1.97	mg/L	0.008	1.97	mg/L	0.008	0.39%
Mn 258	973958.3	0.409	mg/L	0.0016	0.409	mg/L	0.0016	0.38%
Fe 260	75107.6	1.95	mg/L	0.029	1.95	mg/L	0.029	1.47%
Cr 268	148481.4	0.392	mg/L	0.0001	0.392	mg/L	0.0001	0.04%
Mg 279	7350.0	1.99	mg/L	0.010	1.99	mg/L	0.010	0.48%
V 292	88704.2	0.410	mg/L	0.0011	0.410	mg/L	0.0011	0.26%
Al 308	14766.0	1.96	mg/L	0.000	1.96	mg/L	0.000	0.00%
Be 313	30186.2	0.373	mg/L	0.0077	0.373	mg/L	0.0077	2.07%
Ca 318	63574.0	1.98	mg/L	0.033	1.98	mg/L	0.033	1.67%
Cu 325	220460.2	0.389	mg/L	0.0030	0.389	mg/L	0.0030	0.77%
Ag 328	162518.4	0.395	mg/L	0.0009	0.395	mg/L	0.0009	0.22%
Na 590	161307.7	2.05	mg/L	0.014	2.05	mg/L	0.014	0.69%

Sequence No.: 34
Sample ID: 0182_8 x100
Analyst:
Initial Sample Wt:

Autosampler Location: 28
Date Collected: 2/4/2015 7:41:28 PM
Data Type: Original
Initial Sample Vol:

Dilution: Sample Prep Vol:

Nebulizer Parameters: 0182_8 x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_8 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	57.9	-0.0003	mg/L	0.00104	-0.0003	mg/L	0.00104	379.09%
Se 196	25.4	0.0024	mg/L	0.00210	0.0024	mg/L	0.00210	87.32%
Sb 207	-37.2	-0.0130	mg/L	0.00280	-0.0130	mg/L	0.00280	21.47%
Zn 214	996.1	0.0048	mg/L	0.00079	0.0048	mg/L	0.00079	16.61%
Cd 214	-351.0	0.0018	mg/L	0.00010	0.0018	mg/L	0.00010	5.63%
Pb 220	-100.8	0.0035	mg/L	0.00158	0.0035	mg/L	0.00158	44.89%
Co 229	111.6	-0.0028	mg/L	0.00010	-0.0028	mg/L	0.00010	3.64%
Ni 232	440.3	-0.0003	mg/L	0.00023	-0.0003	mg/L	0.00023	66.29%
Ba 234	42195.0	0.0841	mg/L	0.00023	0.0841	mg/L	0.00023	0.28%
Mn 258	63670.3	0.0255	mg/L	0.00024	0.0255	mg/L	0.00024	0.96%
Fe 260	24993.4	0.635	mg/L	0.0080	0.635	mg/L	0.0080	1.25%
Cr 268	-281.4	0.0004	mg/L	0.00090	0.0004	mg/L	0.00090	254.03%
Mg 279	3100.1	0.834	mg/L	0.0135	0.834	mg/L	0.0135	1.62%
V 292	251.1	0.0022	mg/L	0.00032	0.0022	mg/L	0.00032	14.34%
Al 308	2878.4	0.372	mg/L	0.0154	0.372	mg/L	0.0154	4.13%
Be 313	-93.8	-0.0014	mg/L	0.00329	-0.0014	mg/L	0.00329	232.41%
Ca 318	73423.2	2.28	mg/L	0.021	2.28	mg/L	0.021	0.90%
Cu 325	366.9	0.0026	mg/L	0.00053	0.0026	mg/L	0.00053	20.20%
Ag 328	197.6	-0.0056	mg/L	0.00039	-0.0056	mg/L	0.00039	6.86%
Na 590	44257.9	0.555	mg/L	0.0058	0.555	mg/L	0.0058	1.04%

Sequence No.: 35
Sample ID: 158142 MS x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 29
Date Collected: 2/4/2015 7:47:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158142 MS x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158142 MS x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	114.1	0.0034	mg/L	0.00087	0.0034	mg/L	0.00087	25.50%
Se 196	32.2	0.0030	mg/L	0.00103	0.0030	mg/L	0.00103	34.47%
Sb 207	38.8	-0.0081	mg/L	0.00321	-0.0081	mg/L	0.00321	39.50%
Zn 214	2515.4	0.0089	mg/L	0.00001	0.0089	mg/L	0.00001	0.07%
Cd 214	2263.1	0.0055	mg/L	0.00010	0.0055	mg/L	0.00010	1.79%
Pb 220	37.6	0.0071	mg/L	0.00028	0.0071	mg/L	0.00028	3.90%
Co 229	834.5	0.0012	mg/L	0.00052	0.0012	mg/L	0.00052	43.05%
Ni 232	996.4	0.0027	mg/L	0.00122	0.0027	mg/L	0.00122	45.82%
Ba 234	28683.4	0.0598	mg/L	0.00072	0.0598	mg/L	0.00072	1.21%
Mn 258	78723.6	0.0318	mg/L	0.00020	0.0318	mg/L	0.00020	0.64%
Fe 260	28898.2	0.737	mg/L	0.0159	0.737	mg/L	0.0159	2.16%
Cr 268	1334.1	0.0046	mg/L	0.00036	0.0046	mg/L	0.00036	7.82%
Mg 279	3472.5	0.936	mg/L	0.0032	0.936	mg/L	0.0032	0.34%
V 292	880.4	0.0051	mg/L	0.00126	0.0051	mg/L	0.00126	24.74%
Al 308	4356.8	0.569	mg/L	0.0020	0.569	mg/L	0.0020	0.36%
Be 313	469.2	0.0056	mg/L	0.00329	0.0056	mg/L	0.00329	59.13%
Ca 318	79041.1	2.46	mg/L	0.003	2.46	mg/L	0.003	0.14%
Cu 325	2614.1	0.0066	mg/L	0.00034	0.0066	mg/L	0.00034	5.20%
Ag 328	1599.5	-0.0022	mg/L	0.00046	-0.0022	mg/L	0.00046	21.24%
Na 590	55068.6	0.693	mg/L	0.0118	0.693	mg/L	0.0118	1.71%

Sequence No.: 36
Sample ID: CCV

Autosampler Location: 3
Date Collected: 2/4/2015 7:53:27 PM

Analyst:
Initial Sample Wt:
Dilution:

Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	7851.7	0.511	mg/L	0.0032	0.511	mg/L	0.0032	0.63%
Se 196	6014.5	0.499	mg/L	0.0017	0.499	mg/L	0.0017	0.35%
Sb 207	7991.0	0.506	mg/L	0.0019	0.506	mg/L	0.0019	0.38%
Zn 214	180757.6	0.491	mg/L	0.0036	0.491	mg/L	0.0036	0.74%
Cd 214	340288.2	0.493	mg/L	0.0019	0.493	mg/L	0.0019	0.39%
Pb 220	18357.3	0.481	mg/L	0.0032	0.481	mg/L	0.0032	0.66%
Co 229	92721.9	0.508	mg/L	0.0047	0.508	mg/L	0.0047	0.92%
Ni 232	94336.5	0.507	mg/L	0.0037	0.507	mg/L	0.0037	0.73%
Ba 234	1370117.9	2.47	mg/L	0.014	2.47	mg/L	0.014	0.57%
Mn 258	1200630.1	0.504	mg/L	0.0007	0.504	mg/L	0.0007	0.14%
Fe 260	95632.2	2.49	mg/L	0.016	2.49	mg/L	0.016	0.64%
Cr 268	189474.4	0.499	mg/L	0.0000	0.499	mg/L	0.0000	0.00%
Mg 279	9439.6	2.56	mg/L	0.050	2.56	mg/L	0.050	1.94%
V 292	108144.7	0.499	mg/L	0.0007	0.499	mg/L	0.0007	0.14%
Al 308	18802.1	2.50	mg/L	0.013	2.50	mg/L	0.013	0.50%
Be 313	40707.1	0.504	mg/L	0.0197	0.504	mg/L	0.0197	3.91%
Ca 318	80874.6	2.51	mg/L	0.006	2.51	mg/L	0.006	0.26%
Cu 325	281890.7	0.497	mg/L	0.0034	0.497	mg/L	0.0034	0.68%
Ag 328	214093.4	0.522	mg/L	0.0021	0.522	mg/L	0.0021	0.41%
Na 590	194792.4	2.47	mg/L	0.025	2.47	mg/L	0.025	1.03%

Sequence No.: 37
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 7:59:25 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	64.1	0.0001	mg/L	0.00226	0.0001	mg/L	0.00226	>999.9%
Se 196	-9.0	-0.0006	mg/L	0.00050	-0.0006	mg/L	0.00050	85.94%
Sb 207	116.9	-0.0029	mg/L	0.00049	-0.0029	mg/L	0.00049	16.72%
Zn 214	-75.8	0.0018	mg/L	0.00073	0.0018	mg/L	0.00073	39.35%
Cd 214	120.9	0.0024	mg/L	0.00081	0.0024	mg/L	0.00081	33.44%
Pb 220	-104.3	0.0034	mg/L	0.00265	0.0034	mg/L	0.00265	77.27%
Co 229	189.5	-0.0024	mg/L	0.00069	-0.0024	mg/L	0.00069	29.15%
Ni 232	436.8	-0.0004	mg/L	0.00055	-0.0004	mg/L	0.00055	151.98%
Ba 234	156.4	0.0086	mg/L	0.00038	0.0086	mg/L	0.00038	4.46%
Mn 258	-786.6	-0.0017	mg/L	0.00040	-0.0017	mg/L	0.00040	24.26%
Fe 260	0.0	-0.0201	mg/L	0.03654	-0.0201	mg/L	0.03654	181.94%
Cr 268	-378.2	0.0001	mg/L	0.00018	0.0001	mg/L	0.00018	180.49%
Mg 279	104.0	0.0180	mg/L	0.02796	0.0180	mg/L	0.02796	155.42%
V 292	-39.3	0.0009	mg/L	0.00095	0.0009	mg/L	0.00095	109.84%
Al 308	134.1	0.0061	mg/L	0.05819	0.0061	mg/L	0.05819	956.26%
Be 313	-93.8	-0.0014	mg/L	0.01218	-0.0014	mg/L	0.01218	862.01%
Ca 318	780.4	0.0240	mg/L	0.00177	0.0240	mg/L	0.00177	7.38%
Cu 325	733.7	0.0033	mg/L	0.00014	0.0033	mg/L	0.00014	4.25%
Ag 328	227.5	-0.0056	mg/L	0.00030	-0.0056	mg/L	0.00030	5.43%
Na 590	-1863.5	-0.0326	mg/L	0.00530	-0.0326	mg/L	0.00530	16.23%

Sequence No.: 38
Sample ID: 158143 MSD x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 30
Date Collected: 2/4/2015 8:05:25 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158143 MSD x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158143 MSD x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	100.6	0.0025	mg/L	0.00034	0.0025	mg/L	0.00034	13.24%
Se 196	27.3	0.0026	mg/L	0.00023	0.0026	mg/L	0.00023	8.73%
Sb 207	20.9	-0.0093	mg/L	0.00005	-0.0093	mg/L	0.00005	0.56%
Zn 214	2515.4	0.0089	mg/L	0.00072	0.0089	mg/L	0.00072	8.15%
Cd 214	2408.3	0.0057	mg/L	0.00015	0.0057	mg/L	0.00015	2.58%
Pb 220	82.7	0.0083	mg/L	0.00282	0.0083	mg/L	0.00282	34.07%
Co 229	904.8	0.0016	mg/L	0.00017	0.0016	mg/L	0.00017	10.87%
Ni 232	1316.9	0.0044	mg/L	0.00012	0.0044	mg/L	0.00012	2.71%
Ba 234	26152.4	0.0553	mg/L	0.00048	0.0553	mg/L	0.00048	0.86%
Mn 258	87376.8	0.0355	mg/L	0.00002	0.0355	mg/L	0.00002	0.05%
Fe 260	29072.8	0.742	mg/L	0.0159	0.742	mg/L	0.0159	2.15%
Cr 268	1452.3	0.0049	mg/L	0.00015	0.0049	mg/L	0.00015	2.98%
Mg 279	3759.5	1.01	mg/L	0.016	1.01	mg/L	0.016	1.54%
V 292	1074.1	0.0060	mg/L	0.00000	0.0060	mg/L	0.00000	0.00%
Al 308	4457.8	0.583	mg/L	0.0028	0.583	mg/L	0.0028	0.48%
Be 313	723.3	0.0087	mg/L	0.00445	0.0087	mg/L	0.00445	51.14%
Ca 318	87621.4	2.72	mg/L	0.034	2.72	mg/L	0.034	1.25%
Cu 325	2344.0	0.0061	mg/L	0.00053	0.0061	mg/L	0.00053	8.71%
Ag 328	1724.2	-0.0019	mg/L	0.00041	-0.0019	mg/L	0.00041	21.66%
Na 590	59210.1	0.745	mg/L	0.0096	0.745	mg/L	0.0096	1.29%

Sequence No.: 39
Sample ID: 0182_9 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 31
Date Collected: 2/4/2015 8:11:26 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_9 x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_9 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	51.3	-0.0007	mg/L	0.00040	-0.0007	mg/L	0.00040	57.31%
Se 196	-29.9	-0.0022	mg/L	0.00179	-0.0022	mg/L	0.00179	83.26%
Sb 207	7.8	-0.0101	mg/L	0.00245	-0.0101	mg/L	0.00245	24.23%
Zn 214	3266.1	0.0109	mg/L	0.00072	0.0109	mg/L	0.00072	6.57%
Cd 214	-435.7	0.0016	mg/L	0.00027	0.0016	mg/L	0.00027	16.63%
Pb 220	52.5	0.0075	mg/L	0.00038	0.0075	mg/L	0.00038	5.10%
Co 229	166.6	-0.0025	mg/L	0.00067	-0.0025	mg/L	0.00067	27.17%
Ni 232	-29.8	-0.0029	mg/L	0.00055	-0.0029	mg/L	0.00055	19.20%
Ba 234	3977.1	0.0155	mg/L	0.00056	0.0155	mg/L	0.00056	3.59%
Mn 258	49326.9	0.0195	mg/L	0.00072	0.0195	mg/L	0.00072	3.69%
Fe 260	29502.3	0.753	mg/L	0.0000	0.753	mg/L	0.0000	0.00%
Cr 268	48.4	0.0012	mg/L	0.00069	0.0012	mg/L	0.00069	56.20%
Mg 279	1155.9	0.305	mg/L	0.0083	0.305	mg/L	0.0083	2.72%
V 292	77.1	0.0014	mg/L	0.00019	0.0014	mg/L	0.00019	13.39%
Al 308	894.6	0.107	mg/L	0.0008	0.107	mg/L	0.0008	0.73%
Be 313	375.3	0.0044	mg/L	0.00164	0.0044	mg/L	0.00164	37.38%
Ca 318	70986.6	2.21	mg/L	0.004	2.21	mg/L	0.004	0.19%
Cu 325	608.9	0.0031	mg/L	0.00017	0.0031	mg/L	0.00017	5.59%
Ag 328	17.1	-0.0061	mg/L	0.00033	-0.0061	mg/L	0.00033	5.44%
Na 590	74602.0	0.942	mg/L	0.0004	0.942	mg/L	0.0004	0.05%

Sequence No.: 38
Sample ID: 158143 MSD x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 30
Date Collected: 2/4/2015 8:05:25 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158143 MSD x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158143 MSD x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	100.6	0.0025	mg/L	0.00034	0.0025	mg/L	0.00034	13.24%
Se 196	27.3	0.0026	mg/L	0.00023	0.0026	mg/L	0.00023	8.73%
Sb 207	20.9	-0.0093	mg/L	0.00005	-0.0093	mg/L	0.00005	0.56%
Zn 214	2515.4	0.0089	mg/L	0.00072	0.0089	mg/L	0.00072	8.15%
Cd 214	2408.3	0.0057	mg/L	0.00015	0.0057	mg/L	0.00015	2.58%
Pb 220	82.7	0.0083	mg/L	0.00282	0.0083	mg/L	0.00282	34.07%
Co 229	904.8	0.0016	mg/L	0.00017	0.0016	mg/L	0.00017	10.87%
Ni 232	1316.9	0.0044	mg/L	0.00012	0.0044	mg/L	0.00012	2.71%
Ba 234	26152.4	0.0553	mg/L	0.00048	0.0553	mg/L	0.00048	0.86%
Mn 258	87376.8	0.0355	mg/L	0.00002	0.0355	mg/L	0.00002	0.05%
Fe 260	29072.8	0.742	mg/L	0.0159	0.742	mg/L	0.0159	2.15%
Cr 268	1452.3	0.0049	mg/L	0.00015	0.0049	mg/L	0.00015	2.98%
Mg 279	3759.5	1.01	mg/L	0.016	1.01	mg/L	0.016	1.54%
V 292	1074.1	0.0060	mg/L	0.00000	0.0060	mg/L	0.00000	0.00%
Al 308	4457.8	0.583	mg/L	0.0028	0.583	mg/L	0.0028	0.48%
Be 313	723.3	0.0087	mg/L	0.00445	0.0087	mg/L	0.00445	51.14%
Ca 318	87621.4	2.72	mg/L	0.034	2.72	mg/L	0.034	1.25%
Cu 325	2344.0	0.0061	mg/L	0.00053	0.0061	mg/L	0.00053	8.71%
Ag 328	1724.2	-0.0019	mg/L	0.00041	-0.0019	mg/L	0.00041	21.66%
Na 590	59210.1	0.745	mg/L	0.0096	0.745	mg/L	0.0096	1.29%

Sequence No.: 39
Sample ID: 0182_9 x100
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 31
Date Collected: 2/4/2015 8:11:26 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_9 x100

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_9 x100

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	51.3	-0.0007	mg/L	0.00040	-0.0007	mg/L	0.00040	57.31%
Se 196	-29.9	-0.0022	mg/L	0.00179	-0.0022	mg/L	0.00179	83.26%
Sb 207	7.8	-0.0101	mg/L	0.00245	-0.0101	mg/L	0.00245	24.23%
Zn 214	3266.1	0.0109	mg/L	0.00072	0.0109	mg/L	0.00072	6.57%
Cd 214	-435.7	0.0016	mg/L	0.00027	0.0016	mg/L	0.00027	16.63%
Pb 220	52.5	0.0075	mg/L	0.00038	0.0075	mg/L	0.00038	5.10%
Co 229	166.6	-0.0025	mg/L	0.00067	-0.0025	mg/L	0.00067	27.17%
Ni 232	-29.8	-0.0029	mg/L	0.00055	-0.0029	mg/L	0.00055	19.20%
Ba 234	3977.1	0.0155	mg/L	0.00056	0.0155	mg/L	0.00056	3.59%
Mn 258	49326.9	0.0195	mg/L	0.00072	0.0195	mg/L	0.00072	3.69%
Fe 260	29502.3	0.753	mg/L	0.0000	0.753	mg/L	0.0000	0.00%
Cr 268	48.4	0.0012	mg/L	0.00069	0.0012	mg/L	0.00069	56.20%
Mg 279	1155.9	0.305	mg/L	0.0083	0.305	mg/L	0.0083	2.72%
V 292	77.1	0.0014	mg/L	0.00019	0.0014	mg/L	0.00019	13.39%
Al 308	894.6	0.107	mg/L	0.0008	0.107	mg/L	0.0008	0.73%
Be 313	375.3	0.0044	mg/L	0.00164	0.0044	mg/L	0.00164	37.38%
Ca 318	70986.6	2.21	mg/L	0.004	2.21	mg/L	0.004	0.19%
Cu 325	608.9	0.0031	mg/L	0.00017	0.0031	mg/L	0.00017	5.59%
Ag 328	17.1	-0.0061	mg/L	0.00033	-0.0061	mg/L	0.00033	5.44%
Na 590	74602.0	0.942	mg/L	0.0004	0.942	mg/L	0.0004	0.05%

Sequence No.: 40
Sample ID: 0182_10
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 32
Date Collected: 2/4/2015 8:17:29 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0182_10

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0182_10

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	199.1	0.0090	mg/L	0.00198	0.0090	mg/L	0.00198	21.97%
Se 196	-627.1	-0.0252	mg/L	0.00146	-0.0252	mg/L	0.00146	5.79%
Sb 207	201.9	0.0025	mg/L	0.00097	0.0025	mg/L	0.00097	39.51%
Zn 214	10960.2	0.0318	mg/L	0.00144	0.0318	mg/L	0.00144	4.53%
Cd 214	2262.9	0.0055	mg/L	0.00000	0.0055	mg/L	0.00000	0.00%
Pb 220	372.8	0.0158	mg/L	0.00036	0.0158	mg/L	0.00036	2.26%
Co 229	1467.3	0.0047	mg/L	0.00013	0.0047	mg/L	0.00013	2.67%
Ni 232	1423.8	0.0050	mg/L	0.00026	0.0050	mg/L	0.00026	5.22%
Ba 234	45221.4	0.0895	mg/L	0.00095	0.0895	mg/L	0.00095	1.06%
Mn 258	7730883.7	3.26	mg/L	0.001	3.26	mg/L	0.001	0.03%
Fe 260	4684658.4	123	mg/L	0.0	123	mg/L	0.0	0.01%
Cr 268	4484.0	0.0129	mg/L	0.00069	0.0129	mg/L	0.00069	5.33%
Mg 279	342056.4	93.2	mg/L	1.21	93.2	mg/L	1.21	1.30%
V 292	2748.7	0.0137	mg/L	0.00044	0.0137	mg/L	0.00044	3.24%
Al 308	25092.3	3.33	mg/L	0.012	3.33	mg/L	0.012	0.36%
Be 313	254.2	0.0029	mg/L	0.00048	0.0029	mg/L	0.00048	16.52%
Ca 318	7206200.1	224	mg/L	1.0	224	mg/L	1.0	0.43%
Cu 325	3064.9	0.0074	mg/L	0.00098	0.0074	mg/L	0.00098	13.31%
Ag 328	-116.5	-0.0064	mg/L	0.00066	-0.0064	mg/L	0.00066	10.26%
Na 590	70599.8	0.891	mg/L	0.0159	0.891	mg/L	0.0159	1.79%

Sequence No.: 41
Sample ID: 158144 DUP
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 33
Date Collected: 2/4/2015 8:23:28 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158144 DUP

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158144 DUP

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	410.5	0.0228	mg/L	0.00084	0.0228	mg/L	0.00084	3.66%
Se 196	-69.5	0.0002	mg/L	0.00213	0.0002	mg/L	0.00213	>999.9%
Sb 207	31.5	-0.0088	mg/L	0.00001	-0.0088	mg/L	0.00001	0.15%
Zn 214	19199.3	0.0542	mg/L	0.00151	0.0542	mg/L	0.00151	2.78%
Cd 214	665.6	0.0032	mg/L	0.00020	0.0032	mg/L	0.00020	6.13%
Pb 220	180.6	0.0108	mg/L	0.00015	0.0108	mg/L	0.00015	1.40%
Co 229	1666.0	0.0058	mg/L	0.00112	0.0058	mg/L	0.00112	19.25%
Ni 232	2827.2	0.0126	mg/L	0.00144	0.0126	mg/L	0.00144	11.44%
Ba 234	113837.9	0.213	mg/L	0.0025	0.213	mg/L	0.0025	1.18%
Mn 258	6123582.3	2.58	mg/L	0.004	2.58	mg/L	0.004	0.14%
Fe 260	1018666.8	26.7	mg/L	0.56	26.7	mg/L	0.56	2.11%
Cr 268	7058.6	0.0197	mg/L	0.00018	0.0197	mg/L	0.00018	0.92%
Mg 279	426360.4	116	mg/L	0.6	116	mg/L	0.6	0.52%
V 292	4229.7	0.0205	mg/L	0.00063	0.0205	mg/L	0.00063	3.07%
Al 308	71891.7	9.57	mg/L	0.018	9.57	mg/L	0.018	0.19%
Be 313	-281.5	-0.0037	mg/L	0.00329	-0.0037	mg/L	0.00329	87.92%
Ca 318	10465681.3	325	mg/L	1.4	325	mg/L	1.4	0.42%
Cu 325	3154.2	0.0075	mg/L	0.00158	0.0075	mg/L	0.00158	21.02%

Ag 328	-159.0	-0.0065 mg/L	0.00049	-0.0065 mg/L	0.00049	7.53%
Na 590	148134.2	1.88 mg/L	0.008	1.88 mg/L	0.008	0.40%

Sequence No.: 42
Sample ID: 158594 MB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 34
Date Collected: 2/4/2015 8:29:32 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158594 MB

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158594 MB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	62.1	0.0000	mg/L	0.00097	0.0000	mg/L	0.00097	>999.9%
Se 196	8.0	0.0008	mg/L	0.00226	0.0008	mg/L	0.00226	275.01%
Sb 207	37.1	-0.0082	mg/L	0.00227	-0.0082	mg/L	0.00227	27.76%
Zn 214	169.7	0.0025	mg/L	0.00037	0.0025	mg/L	0.00037	14.64%
Cd 214	-133.2	0.0021	mg/L	0.00015	0.0021	mg/L	0.00015	7.16%
Pb 220	4.9	0.0063	mg/L	0.00235	0.0063	mg/L	0.00235	37.48%
Co 229	-183.4	-0.0044	mg/L	0.00065	-0.0044	mg/L	0.00065	14.73%
Ni 232	116.5	-0.0021	mg/L	0.00152	-0.0021	mg/L	0.00152	72.78%
Ba 234	-1186.0	0.0062	mg/L	0.00032	0.0062	mg/L	0.00032	5.22%
Mn 258	-1881.5	-0.0021	mg/L	0.00020	-0.0021	mg/L	0.00020	9.34%
Fe 260	429.4	-0.0088	mg/L	0.03654	-0.0088	mg/L	0.03654	413.69%
Cr 268	-136.2	0.0007	mg/L	0.00036	0.0007	mg/L	0.00036	48.90%
Mg 279	141.4	0.0282	mg/L	0.01941	0.0282	mg/L	0.01941	68.87%
V 292	9.1	0.0011	mg/L	0.00000	0.0011	mg/L	0.00000	0.00%
Al 308	-40.5	-0.0172	mg/L	0.02949	-0.0172	mg/L	0.02949	171.56%
Be 313	-629.5	-0.0080	mg/L	0.00938	-0.0080	mg/L	0.00938	116.57%
Ca 318	1610.0	0.0498	mg/L	0.00655	0.0498	mg/L	0.00655	13.16%
Cu 325	-282.8	0.0015	mg/L	0.00036	0.0015	mg/L	0.00036	24.20%
Ag 328	-290.9	-0.0069	mg/L	0.00039	-0.0069	mg/L	0.00039	5.62%
Na 590	1921.9	0.0156	mg/L	0.00704	0.0156	mg/L	0.00704	45.17%

Sequence No.: 43
Sample ID: 158595 LCS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 35
Date Collected: 2/4/2015 8:35:34 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158595 LCS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158595 LCS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6236.6	0.405	mg/L	0.0004	0.405	mg/L	0.0004	0.09%
Se 196	4685.5	0.389	mg/L	0.0046	0.389	mg/L	0.0046	1.17%
Sb 207	6709.6	0.423	mg/L	0.0061	0.423	mg/L	0.0061	1.44%
Zn 214	141518.4	0.385	mg/L	0.0007	0.385	mg/L	0.0007	0.17%
Cd 214	264420.0	0.383	mg/L	0.0015	0.383	mg/L	0.0015	0.39%
Pb 220	14337.4	0.377	mg/L	0.0060	0.377	mg/L	0.0060	1.60%
Co 229	75000.7	0.411	mg/L	0.0041	0.411	mg/L	0.0041	1.00%
Ni 232	76342.5	0.410	mg/L	0.0007	0.410	mg/L	0.0007	0.17%
Ba 234	1104284.3	1.99	mg/L	0.018	1.99	mg/L	0.018	0.90%
Mn 258	987426.6	0.415	mg/L	0.0003	0.415	mg/L	0.0003	0.07%
Fe 260	76093.8	1.97	mg/L	0.024	1.97	mg/L	0.024	1.21%
Cr 268	150078.9	0.396	mg/L	0.0014	0.396	mg/L	0.0014	0.36%
Mg 279	7529.1	2.04	mg/L	0.022	2.04	mg/L	0.022	1.10%
V 292	88664.8	0.410	mg/L	0.0017	0.410	mg/L	0.0017	0.42%
Al 308	15286.4	2.03	mg/L	0.018	2.03	mg/L	0.018	0.90%
Be 313	31820.5	0.394	mg/L	0.0021	0.394	mg/L	0.0021	0.54%

Ca 318	65715.7	2.04 mg/L	0.033	2.04 mg/L	0.033	1.62%
Cu 325	226124.0	0.399 mg/L	0.0016	0.399 mg/L	0.0016	0.40%
Ag 328	170186.3	0.414 mg/L	0.0010	0.414 mg/L	0.0010	0.24%
Na 590	167404.4	2.12 mg/L	0.015	2.12 mg/L	0.015	0.71%

Sequence No.: 44
Sample ID: 158596 LCSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 36
Date Collected: 2/4/2015 8:41:38 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158596 LCSD

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158596 LCSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6022.0	0.391	mg/L	0.0020	0.391	mg/L	0.0020	0.50%
Se 196	4542.8	0.377	mg/L	0.0001	0.377	mg/L	0.0001	0.03%
Sb 207	6460.0	0.407	mg/L	0.0015	0.407	mg/L	0.0015	0.36%
Zn 214	137032.6	0.373	mg/L	0.0022	0.373	mg/L	0.0022	0.59%
Cd 214	256601.9	0.372	mg/L	0.0011	0.372	mg/L	0.0011	0.29%
Pb 220	13886.0	0.365	mg/L	0.0014	0.365	mg/L	0.0014	0.39%
Co 229	73463.1	0.402	mg/L	0.0037	0.402	mg/L	0.0037	0.91%
Ni 232	74126.0	0.398	mg/L	0.0031	0.398	mg/L	0.0031	0.79%
Ba 234	1065910.0	1.92	mg/L	0.018	1.92	mg/L	0.018	0.92%
Mn 258	952100.8	0.400	mg/L	0.0020	0.400	mg/L	0.0020	0.51%
Fe 260	72014.3	1.87	mg/L	0.016	1.87	mg/L	0.016	0.85%
Cr 268	146545.1	0.386	mg/L	0.0042	0.386	mg/L	0.0042	1.08%
Mg 279	7166.6	1.94	mg/L	0.024	1.94	mg/L	0.024	1.26%
V 292	85896.5	0.397	mg/L	0.0030	0.397	mg/L	0.0030	0.75%
Al 308	14698.5	1.95	mg/L	0.024	1.95	mg/L	0.024	1.22%
Be 313	30694.5	0.380	mg/L	0.0087	0.380	mg/L	0.0087	2.29%
Ca 318	64053.6	1.99	mg/L	0.012	1.99	mg/L	0.012	0.59%
Cu 325	219644.9	0.388	mg/L	0.0015	0.388	mg/L	0.0015	0.38%
Ag 328	166192.9	0.404	mg/L	0.0011	0.404	mg/L	0.0011	0.28%
Na 590	163947.5	2.08	mg/L	0.002	2.08	mg/L	0.002	0.11%

Sequence No.: 45
Sample ID: 0125_1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 37
Date Collected: 2/4/2015 8:47:39 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0125_1

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0125_1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	44.8	-0.0011	mg/L	0.00092	-0.0011	mg/L	0.00092	81.86%
Se 196	42.6	0.0037	mg/L	0.00491	0.0037	mg/L	0.00491	133.14%
Sb 207	-2.3	-0.0108	mg/L	0.00173	-0.0108	mg/L	0.00173	16.09%
Zn 214	3341.9	0.0111	mg/L	0.00043	0.0111	mg/L	0.00043	3.89%
Cd 214	-351.0	0.0018	mg/L	0.00044	0.0018	mg/L	0.00044	25.31%
Pb 220	9.1	0.0064	mg/L	0.00295	0.0064	mg/L	0.00295	46.28%
Co 229	73.4	-0.0030	mg/L	0.00098	-0.0030	mg/L	0.00098	32.85%
Ni 232	197.8	-0.0017	mg/L	0.00058	-0.0017	mg/L	0.00058	34.77%
Ba 234	223903.7	0.410	mg/L	0.0017	0.410	mg/L	0.0017	0.40%
Mn 258	4515.5	0.0006	mg/L	0.00003	0.0006	mg/L	0.00003	4.56%
Fe 260	87.3	-0.0178	mg/L	0.00796	-0.0178	mg/L	0.00796	44.71%
Cr 268	-281.4	0.0004	mg/L	0.00018	0.0004	mg/L	0.00018	50.81%
Mg 279	104.0	0.0180	mg/L	0.02707	0.0180	mg/L	0.02707	150.43%
V 292	-485.6	-0.0012	mg/L	0.00019	-0.0012	mg/L	0.00019	15.68%

Al 308	1680.3	0.212 mg/L	0.0519	0.212 mg/L	0.0519	24.44%
Be 313	-187.7	-0.0026 mg/L	0.01150	-0.0026 mg/L	0.01150	446.53%
Ca 318	4989627.2	155 mg/L	0.2	155 mg/L	0.2	0.16%
Cu 325	249.6	0.0024 mg/L	0.00014	0.0024 mg/L	0.00014	5.73%
Ag 328	-278.2	-0.0068 mg/L	0.00053	-0.0068 mg/L	0.00053	7.77%
Na 590	3129208.6	39.9 mg/L	0.39	39.9 mg/L	0.39	0.97%

Sequence No.: 46
Sample ID: 158683 PDS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 38
Date Collected: 2/4/2015 8:53:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158683 PDS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158683 PDS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	3052.5	0.196	mg/L	0.0004	0.196	mg/L	0.0004	0.21%
Se 196	2318.1	0.192	mg/L	0.0024	0.192	mg/L	0.0024	1.26%
Sb 207	3260.2	0.200	mg/L	0.0009	0.200	mg/L	0.0009	0.43%
Zn 214	74765.0	0.204	mg/L	0.0007	0.204	mg/L	0.0007	0.35%
Cd 214	127871.3	0.187	mg/L	0.0006	0.187	mg/L	0.0006	0.33%
Pb 220	6993.1	0.187	mg/L	0.0014	0.187	mg/L	0.0014	0.73%
Co 229	36053.7	0.196	mg/L	0.0056	0.196	mg/L	0.0056	2.87%
Ni 232	37009.6	0.197	mg/L	0.0012	0.197	mg/L	0.0012	0.63%
Ba 234	721253.7	1.30	mg/L	0.005	1.30	mg/L	0.005	0.36%
Mn 258	467622.2	0.196	mg/L	0.0004	0.196	mg/L	0.0004	0.23%
Fe 260	35856.1	0.919	mg/L	0.0445	0.919	mg/L	0.0445	4.84%
Cr 268	70658.5	0.187	mg/L	0.0012	0.187	mg/L	0.0012	0.66%
Mg 279	92.9	0.0150	mg/L	0.02512	0.0150	mg/L	0.02512	167.76%
V 292	42318.2	0.196	mg/L	0.0019	0.196	mg/L	0.0019	0.97%
Al 308	1743.6	0.221	mg/L	0.0217	0.221	mg/L	0.0217	9.82%
Be 313	14262.3	0.176	mg/L	0.0016	0.176	mg/L	0.0016	0.93%
Ca 318	5019840.6	156	mg/L	0.6	156	mg/L	0.6	0.36%
Cu 325	113719.3	0.202	mg/L	0.0002	0.202	mg/L	0.0002	0.12%
Ag 328	86202.4	0.207	mg/L	0.0013	0.207	mg/L	0.0013	0.63%
Na 590	3082411.2	39.3	mg/L	0.38	39.3	mg/L	0.38	0.97%

Sequence No.: 47
Sample ID: 158597 MS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 39
Date Collected: 2/4/2015 8:59:43 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158597 MS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158597 MS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6207.8	0.403	mg/L	0.0043	0.403	mg/L	0.0043	1.06%
Se 196	4735.1	0.393	mg/L	0.0034	0.393	mg/L	0.0034	0.87%
Sb 207	6618.9	0.418	mg/L	0.0038	0.418	mg/L	0.0038	0.90%
Zn 214	143900.2	0.392	mg/L	0.0012	0.392	mg/L	0.0012	0.30%
Cd 214	257291.7	0.373	mg/L	0.0020	0.373	mg/L	0.0020	0.54%
Pb 220	13930.1	0.367	mg/L	0.0072	0.367	mg/L	0.0072	1.97%
Co 229	71091.8	0.389	mg/L	0.0016	0.389	mg/L	0.0016	0.41%
Ni 232	72508.4	0.389	mg/L	0.0049	0.389	mg/L	0.0049	1.27%
Ba 234	1304258.7	2.35	mg/L	0.005	2.35	mg/L	0.005	0.20%
Mn 258	938210.4	0.394	mg/L	0.0004	0.394	mg/L	0.0004	0.11%
Fe 260	72873.2	1.89	mg/L	0.032	1.89	mg/L	0.032	1.68%
Cr 268	142720.8	0.376	mg/L	0.0054	0.376	mg/L	0.0054	1.43%

Mg 279	6960.1	1.89 mg/L	0.004	1.89 mg/L	0.004	0.20%
V 292	89139.8	0.412 mg/L	0.0014	0.412 mg/L	0.0014	0.34%
Al 308	14982.0	1.99 mg/L	0.003	1.99 mg/L	0.003	0.13%
Be 313	30158.8	0.373 mg/L	0.0016	0.373 mg/L	0.0016	0.44%
Ca 318	6110483.2	190 mg/L	1.8	190 mg/L	1.8	0.97%
Cu 325	227866.7	0.402 mg/L	0.0053	0.402 mg/L	0.0053	1.32%
Ag 328	169289.0	0.412 mg/L	0.0012	0.412 mg/L	0.0012	0.29%
Na 590	3900626.3	49.7 mg/L	0.14	49.7 mg/L	0.14	0.28%

Sequence No.: 48
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 9:05:43 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	7836.3	0.510	mg/L	0.0025	0.510	mg/L	0.0025	0.49%
Se 196	6002.2	0.498	mg/L	0.0051	0.498	mg/L	0.0051	1.03%
Sb 207	8020.9	0.508	mg/L	0.0045	0.508	mg/L	0.0045	0.89%
Zn 214	180681.8	0.491	mg/L	0.0012	0.491	mg/L	0.0012	0.24%
Cd 214	341195.8	0.494	mg/L	0.0041	0.494	mg/L	0.0041	0.84%
Pb 220	18431.0	0.483	mg/L	0.0001	0.483	mg/L	0.0001	0.03%
Co 229	93624.4	0.513	mg/L	0.0038	0.513	mg/L	0.0038	0.74%
Ni 232	94826.1	0.510	mg/L	0.0017	0.510	mg/L	0.0017	0.34%
Ba 234	1386673.3	2.50	mg/L	0.015	2.50	mg/L	0.015	0.61%
Mn 258	1208423.1	0.508	mg/L	0.0005	0.508	mg/L	0.0005	0.09%
Fe 260	95504.8	2.48	mg/L	0.021	2.48	mg/L	0.021	0.83%
Cr 268	189232.4	0.499	mg/L	0.0085	0.499	mg/L	0.0085	1.70%
Mg 279	9322.9	2.53	mg/L	0.005	2.53	mg/L	0.005	0.20%
V 292	110536.4	0.511	mg/L	0.0005	0.511	mg/L	0.0005	0.10%
Al 308	19160.4	2.54	mg/L	0.024	2.54	mg/L	0.024	0.94%
Be 313	40292.6	0.498	mg/L	0.0049	0.498	mg/L	0.0049	0.99%
Ca 318	81035.4	2.52	mg/L	0.016	2.52	mg/L	0.016	0.63%
Cu 325	279760.7	0.494	mg/L	0.0062	0.494	mg/L	0.0062	1.25%
Ag 328	214056.1	0.522	mg/L	0.0018	0.522	mg/L	0.0018	0.34%
Na 590	207965.3	2.64	mg/L	0.009	2.64	mg/L	0.009	0.36%

Sequence No.: 49
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 9:11:42 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	115.3	0.0035	mg/L	0.00145	0.0035	mg/L	0.00145	41.85%
Se 196	48.5	0.0042	mg/L	0.00344	0.0042	mg/L	0.00344	82.26%
Sb 207	134.3	-0.0018	mg/L	0.00050	-0.0018	mg/L	0.00050	27.80%
Zn 214	-18.0	0.0020	mg/L	0.00181	0.0020	mg/L	0.00181	90.66%
Cd 214	290.4	0.0027	mg/L	0.00052	0.0027	mg/L	0.00052	19.34%
Pb 220	-134.1	0.0027	mg/L	0.00024	0.0027	mg/L	0.00024	9.02%
Co 229	87.1	-0.0029	mg/L	0.00035	-0.0029	mg/L	0.00035	12.06%
Ni 232	371.7	-0.0007	mg/L	0.00177	-0.0007	mg/L	0.00177	247.71%
Ba 234	-187.7	0.0080	mg/L	0.00095	0.0080	mg/L	0.00095	11.92%
Mn 258	1549.4	-0.0007	mg/L	0.00045	-0.0007	mg/L	0.00045	66.74%

Fe 260	1805.0	0.0272 mg/L	0.00796	0.0272 mg/L	0.00796	29.24%
Cr 268	-233.0	0.0005 mg/L	0.00000	0.0005 mg/L	0.00000	0.00%
Mg 279	-4.0	-0.0114 mg/L	0.01860	-0.0114 mg/L	0.01860	162.86%
V 292	-204.2	0.0001 mg/L	0.00076	0.0001 mg/L	0.00076	745.70%
Al 308	19.1	-0.0092 mg/L	0.03651	-0.0092 mg/L	0.03651	394.92%
Be 313	-348.0	-0.0046 mg/L	0.00212	-0.0046 mg/L	0.00212	46.51%
Ca 318	644.9	0.0198 mg/L	0.00773	0.0198 mg/L	0.00773	39.11%
Cu 325	270.0	0.0025 mg/L	0.00067	0.0025 mg/L	0.00067	27.25%
Ag 328	104.8	-0.0059 mg/L	0.00057	-0.0059 mg/L	0.00057	9.67%
Na 590	3212.7	0.0320 mg/L	0.00178	0.0320 mg/L	0.00178	5.56%

Sequence No.: 50
Sample ID: 158598 MSD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 40
Date Collected: 2/4/2015 9:17:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158598 MSD

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158598 MSD

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	6239.6	0.405	mg/L	0.0011	0.405	mg/L	0.0011	0.27%
Se 196	4741.6	0.393	mg/L	0.0051	0.393	mg/L	0.0051	1.30%
Sb 207	6760.8	0.427	mg/L	0.0020	0.427	mg/L	0.0020	0.46%
Zn 214	144463.2	0.393	mg/L	0.0003	0.393	mg/L	0.0003	0.08%
Cd 214	257364.4	0.373	mg/L	0.0024	0.373	mg/L	0.0024	0.65%
Pb 220	14015.3	0.369	mg/L	0.0017	0.369	mg/L	0.0017	0.46%
Co 229	71126.2	0.389	mg/L	0.0082	0.389	mg/L	0.0082	2.11%
Ni 232	72508.6	0.389	mg/L	0.0006	0.389	mg/L	0.0006	0.16%
Ba 234	1303695.7	2.35	mg/L	0.013	2.35	mg/L	0.013	0.55%
Mn 258	938963.0	0.394	mg/L	0.0000	0.394	mg/L	0.0000	0.00%
Fe 260	72229.0	1.87	mg/L	0.024	1.87	mg/L	0.024	1.27%
Cr 268	144908.2	0.382	mg/L	0.0005	0.382	mg/L	0.0005	0.14%
Mg 279	6973.0	1.89	mg/L	0.051	1.89	mg/L	0.051	2.68%
V 292	89797.9	0.415	mg/L	0.0006	0.415	mg/L	0.0006	0.15%
Al 308	15138.3	2.01	mg/L	0.021	2.01	mg/L	0.021	1.05%
Be 313	30815.7	0.381	mg/L	0.0033	0.381	mg/L	0.0033	0.86%
Ca 318	6371184.9	198	mg/L	1.0	198	mg/L	1.0	0.49%
Cu 325	228060.4	0.403	mg/L	0.0004	0.403	mg/L	0.0004	0.09%
Ag 328	171900.5	0.418	mg/L	0.0048	0.418	mg/L	0.0048	1.15%
Na 590	4063051.9	51.8	mg/L	0.29	51.8	mg/L	0.29	0.55%

Sequence No.: 51
Sample ID: 158599 DUP
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 41
Date Collected: 2/4/2015 9:23:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158599 DUP

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158599 DUP

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	39.8	-0.0014	mg/L	0.00224	-0.0014	mg/L	0.00224	154.74%
Se 196	35.0	0.0031	mg/L	0.00446	0.0031	mg/L	0.00446	145.91%
Sb 207	1.9	-0.0105	mg/L	0.00207	-0.0105	mg/L	0.00207	19.79%
Zn 214	1616.9	0.0065	mg/L	0.00043	0.0065	mg/L	0.00043	6.65%
Cd 214	-181.5	0.0020	mg/L	0.00000	0.0020	mg/L	0.00000	0.00%
Pb 220	95.7	0.0086	mg/L	0.00136	0.0086	mg/L	0.00136	15.75%
Co 229	-241.5	-0.0047	mg/L	0.00070	-0.0047	mg/L	0.00070	14.74%
Ni 232	286.1	-0.0012	mg/L	0.00023	-0.0012	mg/L	0.00023	19.45%

Ba 234	239320.7	0.438 mg/L	0.0013	0.438 mg/L	0.0013	0.29%
Mn 258	-332.0	-0.0015 mg/L	0.00067	-0.0015 mg/L	0.00067	45.93%
Fe 260	-127.4	-0.0234 mg/L	0.00000	-0.0234 mg/L	0.00000	0.00%
Cr 268	-426.7	0.0000 mg/L	0.00137	0.0000 mg/L	0.00137	>999.9%
Mg 279	-36.7	-0.0203 mg/L	0.00542	-0.0203 mg/L	0.00542	26.66%
V 292	-378.2	-0.0007 mg/L	0.00126	-0.0007 mg/L	0.00126	180.31%
Al 308	789.4	0.0935 mg/L	0.00079	0.0935 mg/L	0.00079	0.84%
Be 313	-160.4	-0.0022 mg/L	0.00445	-0.0022 mg/L	0.00445	198.92%
Ca 318	5556612.9	173 mg/L	0.5	173 mg/L	0.5	0.32%
Cu 325	137.6	0.0022 mg/L	0.00082	0.0022 mg/L	0.00082	36.91%
Ag 328	21.6	-0.0061 mg/L	0.00049	-0.0061 mg/L	0.00049	7.99%
Na 590	3432208.2	43.7 mg/L	0.10	43.7 mg/L	0.10	0.22%

Sequence No.: 52
Sample ID: 0125_2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 42
Date Collected: 2/4/2015 9:29:45 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0125_2

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0125_2

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	5.7	-0.0037	mg/L	0.00061	-0.0037	mg/L	0.00061	16.68%
Se 196	29.1	0.0026	mg/L	0.00080	0.0026	mg/L	0.00080	31.26%
Sb 207	-14.8	-0.0116	mg/L	0.00257	-0.0116	mg/L	0.00257	22.18%
Zn 214	2385.6	0.0085	mg/L	0.00035	0.0085	mg/L	0.00035	4.09%
Cd 214	84.7	0.0024	mg/L	0.00010	0.0024	mg/L	0.00010	4.14%
Pb 220	4.7	0.0063	mg/L	0.00186	0.0063	mg/L	0.00186	29.67%
Co 229	-113.2	-0.0040	mg/L	0.00044	-0.0040	mg/L	0.00044	10.82%
Ni 232	179.2	-0.0018	mg/L	0.00229	-0.0018	mg/L	0.00229	130.07%
Ba 234	103026.0	0.193	mg/L	0.0025	0.193	mg/L	0.0025	1.31%
Mn 258	-1505.2	-0.0020	mg/L	0.00042	-0.0020	mg/L	0.00042	21.55%
Fe 260	644.1	-0.0032	mg/L	0.04450	-0.0032	mg/L	0.04450	>999.9%
Cr 268	-233.0	0.0005	mg/L	0.00036	0.0005	mg/L	0.00036	74.76%
Mg 279	62.9	0.0068	mg/L	0.01372	0.0068	mg/L	0.01372	202.14%
V 292	-611.2	-0.0018	mg/L	0.00000	-0.0018	mg/L	0.00000	0.00%
Al 308	1955.4	0.249	mg/L	0.0365	0.249	mg/L	0.0365	14.67%
Be 313	-535.7	-0.0069	mg/L	0.00445	-0.0069	mg/L	0.00445	64.65%
Ca 318	6438829.4	200	mg/L	2.1	200	mg/L	2.1	1.04%
Cu 325	124.8	0.0022	mg/L	0.00117	0.0022	mg/L	0.00117	53.05%
Ag 328	-168.9	-0.0066	mg/L	0.00015	-0.0066	mg/L	0.00015	2.26%
Na 590	3729784.3	47.5	mg/L	0.54	47.5	mg/L	0.54	1.15%

Sequence No.: 53
Sample ID: 158684 PDS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 43
Date Collected: 2/4/2015 9:35:43 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158684 PDS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158684 PDS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	3006.5	0.193	mg/L	0.0024	0.193	mg/L	0.0024	1.24%
Se 196	2333.2	0.194	mg/L	0.0041	0.194	mg/L	0.0041	2.09%
Sb 207	3246.6	0.199	mg/L	0.0031	0.199	mg/L	0.0031	1.53%
Zn 214	73022.1	0.200	mg/L	0.0008	0.200	mg/L	0.0008	0.39%
Cd 214	125789.7	0.184	mg/L	0.0004	0.184	mg/L	0.0004	0.23%
Pb 220	6910.6	0.185	mg/L	0.0011	0.185	mg/L	0.0011	0.57%

Co 229	35609.7	0.193 mg/L	0.0028	0.193 mg/L	0.0028	1.46%
Ni 232	36210.7	0.193 mg/L	0.0024	0.193 mg/L	0.0024	1.25%
Ba 234	609660.3	1.10 mg/L	0.006	1.10 mg/L	0.006	0.51%
Mn 258	464909.9	0.195 mg/L	0.0002	0.195 mg/L	0.0002	0.09%
Fe 260	35728.8	0.916 mg/L	0.0080	0.916 mg/L	0.0080	0.87%
Cr 268	69989.8	0.185 mg/L	0.0005	0.185 mg/L	0.0005	0.29%
Mg 279	-16.6	-0.0149 mg/L	0.00712	-0.0149 mg/L	0.00712	47.88%
V 292	41737.3	0.193 mg/L	0.0006	0.193 mg/L	0.0006	0.33%
Al 308	1955.4	0.249 mg/L	0.0000	0.249 mg/L	0.0000	0.00%
Be 313	14543.7	0.180 mg/L	0.0099	0.180 mg/L	0.0099	5.48%
Ca 318	6330636.7	197 mg/L	1.9	197 mg/L	1.9	0.95%
Cu 325	113123.2	0.201 mg/L	0.0046	0.201 mg/L	0.0046	2.28%
Ag 328	83687.3	0.200 mg/L	0.0036	0.200 mg/L	0.0036	1.80%
Na 590	3742732.8	47.7 mg/L	0.20	47.7 mg/L	0.20	0.42%

Sequence No.: 54
Sample ID: 0169_1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 44
Date Collected: 2/4/2015 9:41:44 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0169_1

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0169_1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	30.8	-0.0020	mg/L	0.00151	-0.0020	mg/L	0.00151	74.21%
Se 196	63.6	0.0054	mg/L	0.00072	0.0054	mg/L	0.00072	13.25%
Sb 207	-14.4	-0.0115	mg/L	0.00140	-0.0115	mg/L	0.00140	12.15%
Zn 214	2309.8	0.0083	mg/L	0.00066	0.0083	mg/L	0.00066	7.89%
Cd 214	-375.1	0.0017	mg/L	0.00000	0.0017	mg/L	0.00000	0.00%
Pb 220	100.5	0.0087	mg/L	0.00181	0.0087	mg/L	0.00181	20.74%
Co 229	-285.0	-0.0050	mg/L	0.00016	-0.0050	mg/L	0.00016	3.12%
Ni 232	286.1	-0.0012	mg/L	0.00097	-0.0012	mg/L	0.00097	82.20%
Ba 234	183056.1	0.337	mg/L	0.0001	0.337	mg/L	0.0001	0.03%
Mn 258	2977.9	-0.0001	mg/L	0.00049	-0.0001	mg/L	0.00049	705.93%
Fe 260	858.8	0.0024	mg/L	0.02063	0.0024	mg/L	0.02063	853.30%
Cr 268	-175.6	0.0006	mg/L	0.00051	0.0006	mg/L	0.00051	80.06%
Mg 279	-43.5	-0.0222	mg/L	0.00891	-0.0222	mg/L	0.00891	40.15%
V 292	-804.8	-0.0027	mg/L	0.00063	-0.0027	mg/L	0.00063	23.67%
Al 308	465.9	0.0503	mg/L	0.00702	0.0503	mg/L	0.00702	13.95%
Be 313	-160.4	-0.0022	mg/L	0.01102	-0.0022	mg/L	0.01102	492.64%
Ca 318	6183785.8	192	mg/L	2.9	192	mg/L	2.9	1.52%
Cu 325	512.1	0.0029	mg/L	0.00065	0.0029	mg/L	0.00065	22.58%
Ag 328	-141.8	-0.0065	mg/L	0.00040	-0.0065	mg/L	0.00040	6.18%
Na 590	2408622.7	30.7	mg/L	0.08	30.7	mg/L	0.08	0.25%

Sequence No.: 55
Sample ID: 158685 PDS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 45
Date Collected: 2/4/2015 9:47:43 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158685 PDS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158685 PDS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	3017.0	0.194	mg/L	0.0006	0.194	mg/L	0.0006	0.30%
Se 196	2331.8	0.194	mg/L	0.0020	0.194	mg/L	0.0020	1.02%
Sb 207	3244.4	0.199	mg/L	0.0041	0.199	mg/L	0.0041	2.03%
Zn 214	71668.6	0.196	mg/L	0.0004	0.196	mg/L	0.0004	0.18%

Cd 214	124809.4	0.182 mg/L	0.0006	0.182 mg/L	0.0006	0.33%
Pb 220	6929.5	0.185 mg/L	0.0000	0.185 mg/L	0.0000	0.03%
Co 229	35889.4	0.195 mg/L	0.0013	0.195 mg/L	0.0013	0.65%
Ni 232	36138.2	0.193 mg/L	0.0018	0.193 mg/L	0.0018	0.96%
Ba 234	687881.3	1.24 mg/L	0.008	1.24 mg/L	0.008	0.64%
Mn 258	468374.7	0.196 mg/L	0.0004	0.196 mg/L	0.0004	0.23%
Fe 260	35084.7	0.899 mg/L	0.0000	0.899 mg/L	0.0000	0.00%
Cr 268	70997.3	0.188 mg/L	0.0014	0.188 mg/L	0.0014	0.75%
Mg 279	47.4	0.0026 mg/L	0.03214	0.0026 mg/L	0.03214	>999.9%
V 292	42008.0	0.195 mg/L	0.0008	0.195 mg/L	0.0008	0.39%
Al 308	357.9	0.0359 mg/L	0.00913	0.0359 mg/L	0.00913	25.40%
Be 313	14449.9	0.179 mg/L	0.0049	0.179 mg/L	0.0049	2.76%
Ca 318	6368320.9	198 mg/L	2.5	198 mg/L	2.5	1.27%
Cu 325	112965.2	0.201 mg/L	0.0012	0.201 mg/L	0.0012	0.57%
Ag 328	82662.5	0.198 mg/L	0.0008	0.198 mg/L	0.0008	0.40%
Na 590	2461154.5	31.3 mg/L	0.23	31.3 mg/L	0.23	0.73%

Sequence No.: 56
Sample ID: 0078_1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 46
Date Collected: 2/4/2015 9:53:48 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 0078_1

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 0078_1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	46.7	-0.0010	mg/L	0.00012	-0.0010	mg/L	0.00012	11.77%
Se 196	51.4	0.0044	mg/L	0.00043	0.0044	mg/L	0.00043	9.84%
Sb 207	19.7	-0.0093	mg/L	0.00044	-0.0093	mg/L	0.00044	4.70%
Zn 214	5236.5	0.0163	mg/L	0.00036	0.0163	mg/L	0.00036	2.21%
Cd 214	-48.5	0.0022	mg/L	0.00022	0.0022	mg/L	0.00022	10.14%
Pb 220	60.9	0.0077	mg/L	0.00086	0.0077	mg/L	0.00086	11.14%
Co 229	119.2	-0.0027	mg/L	0.00166	-0.0027	mg/L	0.00166	60.67%
Ni 232	125.1	-0.0020	mg/L	0.00011	-0.0020	mg/L	0.00011	5.39%
Ba 234	148690.3	0.275	mg/L	0.0035	0.275	mg/L	0.0035	1.27%
Mn 258	1128.9	-0.0008	mg/L	0.00070	-0.0008	mg/L	0.00070	82.33%
Fe 260	1160.9	0.0103	mg/L	0.00000	0.0103	mg/L	0.00000	0.00%
Cr 268	57.4	0.0012	mg/L	0.00108	0.0012	mg/L	0.00108	86.73%
Mg 279	4.1	-0.0092	mg/L	0.02100	-0.0092	mg/L	0.02100	228.00%
V 292	-523.4	-0.0014	mg/L	0.00247	-0.0014	mg/L	0.00247	180.02%
Al 308	56.3	-0.0043	mg/L	0.03634	-0.0043	mg/L	0.03634	849.00%
Be 313	0.0	-0.0003	mg/L	0.00164	-0.0003	mg/L	0.00164	651.77%
Ca 318	8849943.1	275	mg/L	3.3	275	mg/L	3.3	1.19%
Cu 325	298.1	0.0025	mg/L	0.00074	0.0025	mg/L	0.00074	29.48%
Ag 328	56.2	-0.0060	mg/L	0.00120	-0.0060	mg/L	0.00120	20.09%
Na 590	1634606.9	20.8	mg/L	0.18	20.8	mg/L	0.18	0.85%

Sequence No.: 57
Sample ID: 158682 PDS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 47
Date Collected: 2/4/2015 9:59:53 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158682 PDS

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158682 PDS

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	2996.8	0.193	mg/L	0.0018	0.193	mg/L	0.0018	0.92%
Se 196	2297.3	0.191	mg/L	0.0019	0.191	mg/L	0.0019	1.01%

Sb 207	3249.0	0.200 mg/L	0.0001	0.200 mg/L	0.0001	0.07%
Zn 214	74407.7	0.204 mg/L	0.0007	0.204 mg/L	0.0007	0.33%
Cd 214	125487.2	0.183 mg/L	0.0004	0.183 mg/L	0.0004	0.22%
Pb 220	6738.8	0.181 mg/L	0.0006	0.181 mg/L	0.0006	0.34%
Co 229	34727.8	0.188 mg/L	0.0007	0.188 mg/L	0.0007	0.37%
Ni 232	35563.0	0.189 mg/L	0.0041	0.189 mg/L	0.0041	2.17%
Ba 234	661262.2	1.20 mg/L	0.004	1.20 mg/L	0.004	0.31%
Mn 258	461446.5	0.193 mg/L	0.0018	0.193 mg/L	0.0018	0.93%
Fe 260	34440.5	0.882 mg/L	0.0080	0.882 mg/L	0.0080	0.90%
Cr 268	69708.3	0.184 mg/L	0.0019	0.184 mg/L	0.0019	1.06%
Mg 279	-38.6	-0.0209 mg/L	0.00331	-0.0209 mg/L	0.00331	15.89%
V 292	42269.8	0.196 mg/L	0.0016	0.196 mg/L	0.0016	0.81%
Al 308	38.1	-0.0067 mg/L	0.05117	-0.0067 mg/L	0.05117	763.48%
Be 313	13445.1	0.166 mg/L	0.0005	0.166 mg/L	0.0005	0.29%
Ca 318	8851168.8	275 mg/L	0.7	275 mg/L	0.7	0.27%
Cu 325	114957.5	0.204 mg/L	0.0021	0.204 mg/L	0.0021	1.04%
Ag 328	92813.4	0.223 mg/L	0.0028	0.223 mg/L	0.0028	1.24%
Na 590	1643562.6	20.9 mg/L	0.13	20.9 mg/L	0.13	0.64%

Sequence No.: 58
Sample ID: 158453 TCLP-B
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 48
Date Collected: 2/4/2015 10:05:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 158453 TCLP-B

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: 158453 TCLP-B

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	36.1	-0.0017	mg/L	0.00099	-0.0017	mg/L	0.00099	58.83%
Se 196	45.3	0.0039	mg/L	0.00065	0.0039	mg/L	0.00065	16.71%
Sb 207	-20.4	-0.0119	mg/L	0.00175	-0.0119	mg/L	0.00175	14.68%
Zn 214	2046.3	0.0076	mg/L	0.00109	0.0076	mg/L	0.00109	14.28%
Cd 214	-508.3	0.0015	mg/L	0.00002	0.0015	mg/L	0.00002	1.61%
Pb 220	41.5	0.0072	mg/L	0.00661	0.0072	mg/L	0.00661	91.74%
Co 229	-55.8	-0.0037	mg/L	0.00086	-0.0037	mg/L	0.00086	23.16%
Ni 232	257.6	-0.0013	mg/L	0.00095	-0.0013	mg/L	0.00095	70.96%
Ba 234	3409.2	0.0144	mg/L	0.00057	0.0144	mg/L	0.00057	3.93%
Mn 258	-44.3	-0.0013	mg/L	0.00000	-0.0013	mg/L	0.00000	0.00%
Fe 260	1073.5	0.0080	mg/L	0.01268	0.0080	mg/L	0.01268	157.59%
Cr 268	-9.0	0.0011	mg/L	0.00054	0.0011	mg/L	0.00054	50.44%
Mg 279	115.3	0.0211	mg/L	0.02252	0.0211	mg/L	0.02252	106.87%
V 292	105.9	0.0015	mg/L	0.00189	0.0015	mg/L	0.00189	123.64%
Al 308	-73.6	-0.0216	mg/L	0.01747	-0.0216	mg/L	0.01747	80.88%
Be 313	-441.8	-0.0057	mg/L	0.01266	-0.0057	mg/L	0.01266	221.32%
Ca 318	2012.1	0.0623	mg/L	0.01009	0.0623	mg/L	0.01009	16.20%
Cu 325	-40.8	0.0019	mg/L	0.00096	0.0019	mg/L	0.00096	50.21%
Ag 328	2.7	-0.0061	mg/L	0.00059	-0.0061	mg/L	0.00059	9.62%
Na 590	40560.0	0.508	mg/L	0.0032	0.508	mg/L	0.0032	0.63%

Sequence No.: 59
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 10:11:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD

As 189	7807.1	0.508 mg/L	0.0009	0.508 mg/L	0.0009	0.18%
Se 196	5963.4	0.495 mg/L	0.0012	0.495 mg/L	0.0012	0.24%
Sb 207	8026.6	0.508 mg/L	0.0025	0.508 mg/L	0.0025	0.50%
Zn 214	180663.8	0.491 mg/L	0.0004	0.491 mg/L	0.0004	0.08%
Cd 214	337214.4	0.488 mg/L	0.0029	0.488 mg/L	0.0029	0.60%
Pb 220	18261.3	0.479 mg/L	0.0020	0.479 mg/L	0.0020	0.43%
Co 229	93207.9	0.511 mg/L	0.0027	0.511 mg/L	0.0027	0.54%
Ni 232	95548.0	0.514 mg/L	0.0026	0.514 mg/L	0.0026	0.50%
Ba 234	1354924.8	2.44 mg/L	0.003	2.44 mg/L	0.003	0.10%
Mn 258	1199424.5	0.504 mg/L	0.0013	0.504 mg/L	0.0013	0.27%
Fe 260	94343.9	2.45 mg/L	0.032	2.45 mg/L	0.032	1.30%
Cr 268	186666.7	0.492 mg/L	0.0033	0.492 mg/L	0.0033	0.67%
Mg 279	9190.5	2.49 mg/L	0.016	2.49 mg/L	0.016	0.66%
V 292	108551.7	0.501 mg/L	0.0011	0.501 mg/L	0.0011	0.21%
Al 308	19122.7	2.54 mg/L	0.018	2.54 mg/L	0.018	0.72%
Be 313	39635.7	0.490 mg/L	0.0066	0.490 mg/L	0.0066	1.34%
Ca 318	80689.9	2.51 mg/L	0.007	2.51 mg/L	0.007	0.26%
Cu 325	279635.9	0.493 mg/L	0.0013	0.493 mg/L	0.0013	0.26%
Ag 328	213215.7	0.520 mg/L	0.0004	0.520 mg/L	0.0004	0.08%
Na 590	207092.5	2.63 mg/L	0.019	2.63 mg/L	0.019	0.74%

Sequence No.: 60
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 10:17:57 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	45.4	-0.0011	mg/L	0.00181	-0.0011	mg/L	0.00181	166.74%
Se 196	29.7	0.0026	mg/L	0.00073	0.0026	mg/L	0.00073	27.73%
Sb 207	94.6	-0.0044	mg/L	0.00132	-0.0044	mg/L	0.00132	29.91%
Zn 214	-147.8	0.0017	mg/L	0.00072	0.0017	mg/L	0.00072	43.69%
Cd 214	133.2	0.0025	mg/L	0.00035	0.0025	mg/L	0.00035	14.09%
Pb 220	-15.9	0.0057	mg/L	0.00201	0.0057	mg/L	0.00201	35.22%
Co 229	22.9	-0.0033	mg/L	0.00106	-0.0033	mg/L	0.00106	32.25%
Ni 232	103.8	-0.0022	mg/L	0.00023	-0.0022	mg/L	0.00023	10.60%
Ba 234	187.7	0.0087	mg/L	0.00097	0.0087	mg/L	0.00097	11.14%
Mn 258	-1460.9	-0.0019	mg/L	0.00045	-0.0019	mg/L	0.00045	23.11%
Fe 260	302.0	-0.0122	mg/L	0.04774	-0.0122	mg/L	0.04774	392.21%
Cr 268	-136.2	0.0007	mg/L	0.00072	0.0007	mg/L	0.00072	97.81%
Mg 279	145.8	0.0294	mg/L	0.03126	0.0294	mg/L	0.03126	106.38%
V 292	-68.1	0.0007	mg/L	0.00328	0.0007	mg/L	0.00328	450.20%
Al 308	-77.7	-0.0222	mg/L	0.01826	-0.0222	mg/L	0.01826	82.40%
Be 313	-348.0	-0.0046	mg/L	0.00773	-0.0046	mg/L	0.00773	169.63%
Ca 318	750.6	0.0230	mg/L	0.00413	0.0230	mg/L	0.00413	17.90%
Cu 325	443.3	0.0028	mg/L	0.00038	0.0028	mg/L	0.00038	13.72%
Ag 328	364.2	-0.0052	mg/L	0.00050	-0.0052	mg/L	0.00050	9.46%
Na 590	8800.4	0.103	mg/L	0.0024	0.103	mg/L	0.0024	2.37%

Sequence No.: 61
Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/4/2015 10:23:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	182.0	0.0078	mg/L	0.00376	0.0078	mg/L	0.00376	48.07%
Se 196	-542.7	-0.0244	mg/L	0.00191	-0.0244	mg/L	0.00191	7.80%
Sb 207	122.4	-0.0026	mg/L	0.00028	-0.0026	mg/L	0.00028	10.88%
Zn 214	2814.9	0.0097	mg/L	0.00102	0.0097	mg/L	0.00102	10.51%
Cd 214	1573.1	0.0045	mg/L	0.00012	0.0045	mg/L	0.00012	2.72%
Pb 220	-359.6	-0.0032	mg/L	0.00199	-0.0032	mg/L	0.00199	62.81%
Co 229	246.8	-0.0020	mg/L	0.00109	-0.0020	mg/L	0.00109	53.26%
Ni 232	296.1	-0.0011	mg/L	0.00124	-0.0011	mg/L	0.00124	110.29%
Ba 234	33.8	0.0084	mg/L	0.00009	0.0084	mg/L	0.00009	1.02%
Mn 258	19.1	-0.0013	mg/L	0.00022	-0.0013	mg/L	0.00022	17.03%
Fe 260	3583798.7	93.9	mg/L	0.60	93.9	mg/L	0.60	0.64%
Cr 268	502.1	0.0024	mg/L	0.00087	0.0024	mg/L	0.00087	35.89%
Mg 279	138295.4	37.7	mg/L	0.25	37.7	mg/L	0.25	0.66%
V 292	-252.6	-0.0001	mg/L	0.00107	-0.0001	mg/L	0.00107	886.10%
Al 308	730974.3	97.5	mg/L	1.32	97.5	mg/L	1.32	1.35%
Be 313	469.2	0.0056	mg/L	0.01314	0.0056	mg/L	0.01314	236.54%
Ca 318	1206943.4	37.5	mg/L	0.25	37.5	mg/L	0.25	0.66%
Cu 325	2005.2	0.0055	mg/L	0.00041	0.0055	mg/L	0.00041	7.47%
Ag 328	41.4	-0.0060	mg/L	0.00019	-0.0060	mg/L	0.00019	3.13%
Na 590	2560.6	0.0237	mg/L	0.00074	0.0237	mg/L	0.00074	3.12%

Sequence No.: 62
Sample ID: ICSB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 2/4/2015 10:29:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSB

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: ICSB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	4707.6	0.305	mg/L	0.0045	0.305	mg/L	0.0045	1.46%
Se 196	3024.2	0.271	mg/L	0.0010	0.271	mg/L	0.0010	0.37%
Sb 207	4961.1	0.310	mg/L	0.0038	0.310	mg/L	0.0038	1.23%
Zn 214	107230.4	0.292	mg/L	0.0007	0.292	mg/L	0.0007	0.25%
Cd 214	193924.7	0.282	mg/L	0.0016	0.282	mg/L	0.0016	0.57%
Pb 220	9972.4	0.264	mg/L	0.0022	0.264	mg/L	0.0022	0.82%
Co 229	52001.2	0.284	mg/L	0.0041	0.284	mg/L	0.0041	1.43%
Ni 232	52336.5	0.280	mg/L	0.0002	0.280	mg/L	0.0002	0.08%
Ba 234	528715.8	0.957	mg/L	0.0056	0.957	mg/L	0.0056	0.59%
Mn 258	693340.6	0.291	mg/L	0.0002	0.291	mg/L	0.0002	0.08%
Fe 260	3605953.6	94.5	mg/L	1.10	94.5	mg/L	1.10	1.16%
Cr 268	108359.7	0.286	mg/L	0.0011	0.286	mg/L	0.0011	0.38%
Mg 279	140316.1	38.2	mg/L	0.57	38.2	mg/L	0.57	1.48%
V 292	63521.1	0.294	mg/L	0.0025	0.294	mg/L	0.0025	0.86%
Al 308	727699.2	97.0	mg/L	0.29	97.0	mg/L	0.29	0.30%
Be 313	23844.9	0.295	mg/L	0.0127	0.295	mg/L	0.0127	4.29%
Ca 318	1229275.1	38.2	mg/L	0.36	38.2	mg/L	0.36	0.93%
Cu 325	169970.1	0.301	mg/L	0.0034	0.301	mg/L	0.0034	1.12%
Ag 328	101372.7	0.244	mg/L	0.0012	0.244	mg/L	0.0012	0.48%
Na 590	894.0	0.0025	mg/L	0.00419	0.0025	mg/L	0.00419	168.79%

Sequence No.: 63
Sample ID: LLC
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/4/2015 10:35:57 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LLC

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: LLC

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	223.9	0.0106	mg/L	0.00017	0.0106	mg/L	0.00017	1.62%
Se 196	219.6	0.0184	mg/L	0.00035	0.0184	mg/L	0.00035	1.90%
Sb 207	647.0	0.0317	mg/L	0.00248	0.0317	mg/L	0.00248	7.82%
Zn 214	7131.1	0.0214	mg/L	0.00029	0.0214	mg/L	0.00029	1.37%
Cd 214	3061.8	0.0067	mg/L	0.00025	0.0067	mg/L	0.00025	3.70%
Pb 220	298.6	0.0139	mg/L	0.00010	0.0139	mg/L	0.00010	0.69%
Co 229	1758.4	0.0063	mg/L	0.00033	0.0063	mg/L	0.00033	5.30%
Ni 232	2218.0	0.0093	mg/L	0.00026	0.0093	mg/L	0.00026	2.80%
Ba 234	54364.2	0.106	mg/L	0.0014	0.106	mg/L	0.0014	1.35%
Mn 258	23408.4	0.0085	mg/L	0.00002	0.0085	mg/L	0.00002	0.24%
Fe 260	4294.1	0.0924	mg/L	0.00472	0.0924	mg/L	0.00472	5.11%
Cr 268	3406.6	0.0101	mg/L	0.00159	0.0101	mg/L	0.00159	15.78%
Mg 279	488.9	0.123	mg/L	0.0126	0.123	mg/L	0.0126	10.28%
V 292	10610.5	0.0499	mg/L	0.00095	0.0499	mg/L	0.00095	1.90%
Al 308	634.4	0.0728	mg/L	0.00649	0.0728	mg/L	0.00649	8.92%
Be 313	121.1	0.0012	mg/L	0.00048	0.0012	mg/L	0.00048	38.32%
Ca 318	3832.2	0.119	mg/L	0.0159	0.119	mg/L	0.0159	13.33%
Cu 325	5816.6	0.0122	mg/L	0.00084	0.0122	mg/L	0.00084	6.90%
Ag 328	4226.0	0.0043	mg/L	0.00070	0.0043	mg/L	0.00070	16.39%
Na 590	15651.0	0.191	mg/L	0.0047	0.191	mg/L	0.0047	2.47%

Sequence No.: 64
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/4/2015 10:41:59 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	185.0 kPa	0.55 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	7778.7	0.506	mg/L	0.0053	0.506	mg/L	0.0053	1.05%
Se 196	5948.5	0.493	mg/L	0.0066	0.493	mg/L	0.0066	1.34%
Sb 207	7923.9	0.501	mg/L	0.0016	0.501	mg/L	0.0016	0.33%
Zn 214	178881.0	0.486	mg/L	0.0007	0.486	mg/L	0.0007	0.15%
Cd 214	343192.7	0.497	mg/L	0.0012	0.497	mg/L	0.0012	0.23%
Pb 220	18203.7	0.477	mg/L	0.0039	0.477	mg/L	0.0039	0.81%
Co 229	92280.2	0.506	mg/L	0.0004	0.506	mg/L	0.0004	0.07%
Ni 232	95701.8	0.514	mg/L	0.0029	0.514	mg/L	0.0029	0.56%
Ba 234	1370688.3	2.47	mg/L	0.021	2.47	mg/L	0.021	0.84%
Mn 258	1205378.8	0.506	mg/L	0.0018	0.506	mg/L	0.0018	0.35%
Fe 260	96061.6	2.50	mg/L	0.016	2.50	mg/L	0.016	0.64%
Cr 268	188545.6	0.497	mg/L	0.0019	0.497	mg/L	0.0019	0.39%
Mg 279	9333.1	2.53	mg/L	0.033	2.53	mg/L	0.033	1.29%
V 292	109200.7	0.504	mg/L	0.0006	0.504	mg/L	0.0006	0.13%
Al 308	19067.3	2.53	mg/L	0.024	2.53	mg/L	0.024	0.97%
Be 313	40640.6	0.503	mg/L	0.0044	0.503	mg/L	0.0044	0.88%
Ca 318	80689.9	2.51	mg/L	0.023	2.51	mg/L	0.023	0.92%
Cu 325	277457.5	0.490	mg/L	0.0061	0.490	mg/L	0.0061	1.24%
Ag 328	209262.4	0.511	mg/L	0.0062	0.511	mg/L	0.0062	1.22%
Na 590	199265.8	2.53	mg/L	0.017	2.53	mg/L	0.017	0.66%

Sequence No.: 65
Sample ID: CBV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/4/2015 10:47:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CBV

Analyte	Back Pressure	Flow

All 185.0 kPa 0.55 L/min

Mean Data: CBV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
As 189	83.1	0.0014	mg/L	0.00041	0.0014	mg/L	0.00041	29.61%
Se 196	60.1	0.0051	mg/L	0.00241	0.0051	mg/L	0.00241	47.07%
Sb 207	142.3	-0.0013	mg/L	0.00337	-0.0013	mg/L	0.00337	262.61%
Zn 214	-393.3	0.0010	mg/L	0.00037	0.0010	mg/L	0.00037	37.39%
Cd 214	217.7	0.0026	mg/L	0.00027	0.0026	mg/L	0.00027	10.54%
Pb 220	142.2	0.0098	mg/L	0.00222	0.0098	mg/L	0.00222	22.66%
Co 229	63.4	-0.0031	mg/L	0.00086	-0.0031	mg/L	0.00086	28.15%
Ni 232	131.0	-0.0020	mg/L	0.00155	-0.0020	mg/L	0.00155	76.60%
Ba 234	127.6	0.0086	mg/L	0.00032	0.0086	mg/L	0.00032	3.78%
Mn 258	-830.8	-0.0017	mg/L	0.00002	-0.0017	mg/L	0.00002	1.21%
Fe 260	-556.8	-0.0347	mg/L	0.01591	-0.0347	mg/L	0.01591	45.89%
Cr 268	48.4	0.0012	mg/L	0.00069	0.0012	mg/L	0.00069	56.20%
Mg 279	32.1	-0.0016	mg/L	0.01113	-0.0016	mg/L	0.01113	698.00%
V 292	86.2	0.0014	mg/L	0.00076	0.0014	mg/L	0.00076	52.71%
Al 308	-137.3	-0.0301	mg/L	0.01123	-0.0301	mg/L	0.01123	37.33%
Be 313	0.0	-0.0003	mg/L	0.00164	-0.0003	mg/L	0.00164	651.77%
Ca 318	913.0	0.0281	mg/L	0.00760	0.0281	mg/L	0.00760	27.04%
Cu 325	608.9	0.0031	mg/L	0.00021	0.0031	mg/L	0.00021	6.83%
Ag 328	195.3	-0.0057	mg/L	0.00024	-0.0057	mg/L	0.00024	4.26%
Na 590	359.0	-0.0043	mg/L	0.00557	-0.0043	mg/L	0.00557	128.61%

SW-846 7470A

Sample Data

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-01**

Client Sample ID: **BT-SW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182001-G
Lab Project ID: 31500182

Collection Date: 01/24/2015 13:30
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 7470A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Mercury	ND		0.000150	mg/L	1	01/30/2015 12:25

Batch Information

Analytical Batch: **MHG1662**
Analytical Method: **SW-846 7470A**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3846**
Prep Method: **SW-846 7470A PREP**
Prep Date/Time: **01/30/2015 08:29**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **57 mL**

Results of **BT-SW-02**

Client Sample ID: **BT-SW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182002-G
Lab Project ID: 31500182

Collection Date: 01/24/2015 16:50
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 7470A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Mercury	ND		0.000150	mg/L	1	01/30/2015 12:27

Batch Information

Analytical Batch: **MHG1662**
Analytical Method: **SW-846 7470A**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3846**
Prep Method: **SW-846 7470A PREP**
Prep Date/Time: **01/30/2015 08:29**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **57 mL**

Results of **BT-SW-03**

Client Sample ID: **BT-SW-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182003-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 7470A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Mercury	ND		0.000150	mg/L	1	01/30/2015 12:33

Batch Information

Analytical Batch: **MHG1662**
Analytical Method: **SW-846 7470A**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3846**
Prep Method: **SW-846 7470A PREP**
Prep Date/Time: **01/30/2015 08:29**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **57 mL**

Results of **BT-SW-04**

Client Sample ID: **BT-SW-04**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182004-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:15
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 7470A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Mercury	ND		0.000150	mg/L	1	01/30/2015 12:35

Batch Information

Analytical Batch: **MHG1662**
Analytical Method: **SW-846 7470A**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3846**
Prep Method: **SW-846 7470A PREP**
Prep Date/Time: **01/30/2015 08:29**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **57 mL**

Results of **BT-SW-05**

Client Sample ID: **BT-SW-05**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182005-G
Lab Project ID: 31500182

Collection Date: 01/26/2015 09:10
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 7470A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Mercury	ND		0.000150	mg/L	1	01/30/2015 12:37

Batch Information

Analytical Batch: **MHG1662**
Analytical Method: **SW-846 7470A**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3846**
Prep Method: **SW-846 7470A PREP**
Prep Date/Time: **01/30/2015 08:29**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **57 mL**

Results of **BT-SW-06**

Client Sample ID: **BT-SW-06**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182006-G
Lab Project ID: 31500182

Collection Date: 01/26/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 7470A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Mercury	ND		0.000150	mg/L	1	01/30/2015 12:39

Batch Information

Analytical Batch: **MHG1662**
Analytical Method: **SW-846 7470A**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3846**
Prep Method: **SW-846 7470A PREP**
Prep Date/Time: **01/30/2015 08:29**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **57 mL**

Results of **BT-SW-DUP**

Client Sample ID: **BT-SW-DUP**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182007-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 00:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 7470A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Mercury	ND		0.000150	mg/L	1	01/30/2015 12:41

Batch Information

Analytical Batch: **MHG1662**
Analytical Method: **SW-846 7470A**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3846**
Prep Method: **SW-846 7470A PREP**
Prep Date/Time: **01/30/2015 08:29**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **57 mL**

Results of **BT-PW-01**

Client Sample ID: **BT-PW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182011-G
Lab Project ID: 31500182

Collection Date: 01/24/2015 14:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 7470A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Mercury	ND		0.000150	mg/L	1	01/30/2015 12:43

Batch Information

Analytical Batch: **MHG1662**
Analytical Method: **SW-846 7470A**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3846**
Prep Method: **SW-846 7470A PREP**
Prep Date/Time: **01/30/2015 08:29**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **57 mL**

Results of **BT-PW-02**

Client Sample ID: **BT-PW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182012-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 10:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SW-846 7470A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Mercury	ND		0.000150	mg/L	1	01/30/2015 12:45

Batch Information

Analytical Batch: **MHG1662**
Analytical Method: **SW-846 7470A**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3846**
Prep Method: **SW-846 7470A PREP**
Prep Date/Time: **01/30/2015 08:29**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **57 mL**

SW-846 7470A
QC, Blanks Data

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 7470A

Prep Method: SW-846 7470A PREP
Prep Batch: MXX3846
Prep Date: 01/30/2015 08:29

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
LLC for HBN 63755 [MXX/3846]	158148	01/30/2015 12:00	MHG1662	HG2	PSW
CCV for HBN 63755 [MXX/3846]	158146	01/30/2015 12:02	MHG1662	HG2	PSW
MB for HBN 63755 [MXX/3846]	158149	01/30/2015 12:07	MHG1662	HG2	PSW
LCS for HBN 63755 [MXX/3846]	158150	01/30/2015 12:09	MHG1662	HG2	PSW
LCSD for HBN 63755 [MXX/3846]	158151	01/30/2015 12:11	MHG1662	HG2	PSW
Holding Tank(157877MS)	158152	01/30/2015 12:16	MHG1662	HG2	PSW
Holding Tank(157877MSD)	158153	01/30/2015 12:18	MHG1662	HG2	PSW
BT-SW-01	31500182001	01/30/2015 12:25	MHG1662	HG2	PSW
BT-SW-02	31500182002	01/30/2015 12:27	MHG1662	HG2	PSW
CCV for HBN 63755 [MXX/3846]	158146	01/30/2015 12:29	MHG1662	HG2	PSW
BT-SW-03	31500182003	01/30/2015 12:33	MHG1662	HG2	PSW
BT-SW-04	31500182004	01/30/2015 12:35	MHG1662	HG2	PSW
BT-SW-05	31500182005	01/30/2015 12:37	MHG1662	HG2	PSW
BT-SW-06	31500182006	01/30/2015 12:39	MHG1662	HG2	PSW
BT-SW-DUP	31500182007	01/30/2015 12:41	MHG1662	HG2	PSW
BT-PW-01	31500182011	01/30/2015 12:43	MHG1662	HG2	PSW
BT-PW-02	31500182012	01/30/2015 12:45	MHG1662	HG2	PSW
BT-PW-02(157969DUP)	158154	01/30/2015 12:47	MHG1662	HG2	PSW
CCV for HBN 63755 [MXX/3846]	158146	01/30/2015 13:16	MHG1662	HG2	PSW

Instrument Detection Limits **Form 9**

Instrument: HG2
Units: mg/L

Results by **SW-846 7470A**

Parameter	Wavelength/Mass	CRQL	MDL
Mercury	257	0.000150	0.0000153

Method Blank

Blank ID: MB for HBN 63755 [MXX/3846]
Matrix: Water
Blank Lab ID: 158149
QC for Samples:
31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 7470A**

Parameter	Result	Qual	LOQ/CL	Units	DF
Mercury	ND		0.000150	mg/L	1

Batch Information

Analytical Batch: MHG1662
Analytical Method: SW-846 7470A
Instrument: HG2
Analyst: PSW

Prep Batch: MXX3846
Prep Method: SW-846 7470A PREP
Prep Date/Time: 1/30/2015 8:29:54AM
Prep Initial Wt./Vol.: 40 mL
Prep Extract Vol: 57 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 63755 [MXX/3846]
Blank Spike Lab ID: 158150
Date Analyzed: 01/30/2015 12:09

Spike Duplicate ID: LCSD for HBN 63755 [MXX/3846]
Spike Duplicate Lab ID: 158151
Date Analyzed: 01/30/2015 12:11
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 7470A**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Mercury	0.00713	0.00674	95	0.00713	0.00697	98	80.0-120	3.4	20.00

Batch Information

Analytical Batch: **MHG1662**
Analytical Method: **SW-846 7470A**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3846**
Prep Method: **SW-846 7470A PREP**
Prep Date/Time: **01/30/2015 08:29**
Spike Init Wt./Vol.: **40 mL** Extract Vol: **57 mL**
Dupe Init Wt./Vol.: **40 mL** Extract Vol: **57 mL**

Duplicate Sample Summary

Original Sample ID: 31500182012-G
Duplicate Sample ID: 158154

Analysis Date: 01/30/2015 12:45
Analysis Date: 01/30/2015 12:47
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SW-846 7470A**

PARAMETER	Original (mg/L)	Qual	Duplicate (mg/L)	Qual	RPD (%)	RPD CL
Mercury	ND		ND			20.00

Batch Information

Analytical Batch: MHG1662
Analytical Method: SW-846 7470A
Instrument: HG2
Analyst: PSW

Prep Batch: MXX3846
Prep Method: SW-846 7470A PREP
Prep Date/Time: 01/30/2015 08:29

SW-846 7470A
Prep, Standard, Run Logs

Print Date: 02/06/2015

N.C. Certification # 481

Batch Review Report

Queue MXX **Batch** 3846 **Rule** 7470/245 P

Run Sequence

	Lab Sample ID	Cust Sample ID	Collect Date	Date Analyzed
1	158145	ICV for HBN 63755 [MXX/3846]		01/30/2015 08:29
2	158146	CCV for HBN 63755 [MXX/3846]		01/30/2015 08:29
3	158147	CBV for HBN 63755 [MXX/3846]		01/30/2015 08:29
4	158148	LLC for HBN 63755 [MXX/3846]		01/30/2015 08:29
5	158149	MB for HBN 63755 [MXX/3846]		01/30/2015 08:29
6	158150	LCS for HBN 63755 [MXX/3846]		01/30/2015 08:29
7	158151	LCSD for HBN 63755 [MXX/3846]		01/30/2015 08:29
8	31500177001	Holding Tank	01/28/2015 02:15	01/30/2015 08:29
9	158152	Holding Tank(157877MS)	01/28/2015 02:15	01/30/2015 08:29
10	158153	Holding Tank(157877MSD)	01/28/2015 02:15	01/30/2015 08:29
11	31500188001	WW-002 (012715 0700)	01/27/2015 07:00	01/30/2015 08:29
12	31500188002	WW-002 (012815 0700)	01/28/2015 07:00	01/30/2015 08:29
13	31500182001	BT-SW-01	01/24/2015 01:30	01/30/2015 08:29
14	31500182002	BT-SW-02	01/24/2015 04:50	01/30/2015 08:29
15	31500182003	BT-SW-03	01/25/2015 11:45	01/30/2015 08:29
16	31500182004	BT-SW-04	01/25/2015 05:15	01/30/2015 08:29
17	31500182005	BT-SW-05	01/26/2015 09:10	01/30/2015 08:29
18	31500182006	BT-SW-06	01/26/2015 11:45	01/30/2015 08:29
19	31500182007	BT-SW-DUP	01/25/2015 12:00	01/30/2015 08:29
20	31500182011	BT-PW-01	01/24/2015 02:20	01/30/2015 08:29
21	31500182012	BT-PW-02	01/25/2015 10:20	01/30/2015 08:29
22	158154	BT-PW-02(157969DUP)	01/25/2015 10:20	01/30/2015 08:29
23	158155	ICAL1 for HBN 63755 [MXX/3846]		01/30/2015 08:29
24	158156	ICAL2 for HBN 63755 [MXX/3846]		01/30/2015 08:29
25	158157	ICAL3 for HBN 63755 [MXX/3846]		01/30/2015 08:29
26	158158	ICAL4 for HBN 63755 [MXX/3846]		01/30/2015 08:29
27	158159	ICAL5 for HBN 63755 [MXX/3846]		01/30/2015 08:29

Digest tubes: 1208059
~~Teflon chips:~~ VML 1-30-15
Spiking solutions: D-591 D-592
~~HCl:~~ H_2SO_4: C-962
HNO3: R-4947
$KMnO_4$: R-4950
$K_2S_2O_8$: R-4989
NH_2OH-HCl: R-4958
Hg reductant R-4962
Hg rinse R-4963
Temperature: 90°C 09:00-11:00
~~Balance:~~ VML 01-30-15

CHEMWARE
0000.12.SGS.0

Queue	MXX	Batch	3846	Comments
SAMPLE	31500182002	Use this sample for MS		

Lab ID 158145 Cust Sample ID ICV for HBN 63755 [MXX/3846]

Sample Info Schedule: 944615 Type ICV Collect Date Receive Date 1/30/2015 Container Prep Cont.
Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:
Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 158146 Cust Sample ID CCV for HBN 63755 [MXX/3846]

Sample Info Schedule: 944617 Type CCV Collect Date Receive Date 1/30/2015 Container Prep Cont.
Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:
Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 158147 Cust Sample ID CBV for HBN 63755 [MXX/3846]

Sample Info Schedule: 944619 Type CBV Collect Date Receive Date 1/30/2015 Container Prep Cont.
Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:
Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 158148 Cust Sample ID LLC for HBN 63755 [MXX/3846]

Sample Info Schedule: 944621 Type LLC Collect Date Receive Date 1/30/2015 Container Prep Cont.
Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:
Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Oate: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	OK	*n/a*											

Lab ID 158149 Cust Sample ID MB for HBN 63755 [MXX/3846]

Sample Info Schedule: 944623 Type MB Collect Date Receive Date 1/30/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	OK	*n/a*											

Lab ID 158150 Cust Sample ID LCS for HBN 63755 [MXX/3846]

Sample Info Schedule: 944625 Type LCS Collect Date Receive Date 1/30/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	OK	*n/a*											

Lab ID 158151 Cust Sample ID LCSD for HBN 63755 [MXX/3846]

Sample Info Schedule: 944627 Type LCSD Collect Date Receive Date 1/30/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/e*											

Lab ID 31500177001 Cust Sample ID Holding Tank

Sample Info Schedule: 943222 Type SAMPLE Collect Date 1/28/2015 Receive Date 1/28/2015 Container 31500177001-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 158152 Cust Sample ID Holding Tank(157877MS)

Sample Info Schedule: 944629 Type MS Collect Date 1/28/2015 Receive Date 1/28/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 158153 Cust Sample ID Holding Tank(157877MSD)

Sample Info Schedule: 944631 Type MSD Collect Date 1/28/2015 Receive Date 1/28/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 31500188001 Cust Sample ID WW-002 (012715 0700)

Sample Info Schedule: 944282 Type SAMPLE Collect Date 1/27/2015 Receive Date 1/29/2015 Container 31500188001-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 31500188002 Cust Sample ID WW-002 (012815 0700)

Sample Info Schedule: 944284 Type SAMPLE Collect Date 1/28/2015 Receive Date 1/29/2015 Container 31500188002-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 31500182001 Cust Sample ID BT-SW-01

Sample Info Schedule: 943778 Type SAMPLE Collect Date 1/24/2015 Receive Date 1/29/2015 Container 31500182001-G Prep Cont.

Prep Into Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 31500182002 Cust Sample ID BT-SW-02

Sample Info Schedule: 943793 Type SAMPLE Collect Date 1/24/2015 Receive Date 1/29/2015 Container 31500182002-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 31500182003 Cust Sample ID BT-SW-03

Sample Info Schedule: 943808 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182003-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 31500182004 Cust Sample ID BT-SW-04

Sample Info Schedule: 943823 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182004-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	OK	*n/a*											

Lab ID 31500182005 Cust Sample ID BT-SW-05

Sample Info Schedule: 943838 Type SAMPLE Collect Date 1/26/2015 Receive Date 1/29/2015 Container 31500182005-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	OK	*n/a*											

Lab ID 31500182006 Cust Sample ID BT-SW-06

Sample Info Schedule: 943853 Type SAMPLE Collect Date 1/26/2015 Receive Date 1/29/2015 Container 31500182006-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	OK	*n/a*											

Lab ID 31500182007 Cust Sample ID BT-SW-DUP

Sample Info Schedule: 943868 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182007-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 31500182011 Cust Sample ID BT-PW-01

Sample Info Schedule: 943910 Type SAMPLE Collect Date 1/24/2015 Receive Date 1/29/2015 Container 31500182011-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 31500182012 Cust Sample ID BT-PW-02

Sample Info Schedule: 943925 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182012-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 158154 Cust Sample ID BT-PW-02(157969DUP)

Sample Info Schedule: 944633 Type DUP Collect Date 1/25/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		40	OK	mL											
Final Extract Volume		57	OK	mL											
Adjustment Factor		*1.425*	*OK*	*n/a*											

Lab ID 158155 Cust Sample ID ICAL1 for HBN 63755 [MXX/3846]

Sample Info Schedule: 944635 Type ICAL1 Collect Date Receive Date 1/30/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Response	CC	Cmp Text	Dry	Units	Qual	RL	MDL	PQL	Spiked	Units	Limits *
Initial Volume			OK										
Final Extract Volume			OK										
Adjustment Factor			*OK*										

Lab ID 158156 Cust Sample ID ICAL2 for HBN 63755 [MXX/3846]

Sample Info Schedule: 944637 Type ICAL2 Collect Date Receive Date 1/30/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Response	CC	Cmp Text	Dry	Units	Qual	RL	MDL	PQL	Spiked	Units	Limits *
Initial Volume			OK										
Final Extract Volume			OK										
Adjustment Factor			*OK*										

Lab ID 158157 Cust Sample ID ICAL3 for HBN 63755 [MXX/3846]

Sample Info Schedule: 944639 Type ICAL3 Collect Date Receive Date 1/30/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Response	CC	Cmp Text	Dry	Units	Qual	RL	MDL	PQL	Spiked	Units	Limits *
Initial Volume			OK										
Final Extract Volume			OK										
Adjustment Factor			OK										

Lab ID 158158 Cust Sample ID ICAL4 for HBN 63755 [MXX/3846]

Sample Info Schedule: 944641 Type ICAL4 Collect Date Receive Date 1/30/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Response	CC	Cmp Text	Dry	Units	Qual	RL	MDL	PQL	Spiked	Units	Limits *
Initial Volume			OK										
Final Extract Volume			OK										
Adjustment Factor			OK										

Lab ID 158159 Cust Sample ID ICAL5 for HBN 63755 [MXX/3846]

Sample Info Schedule: 944643 Type ICAL5 Collect Date Receive Date 1/30/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3846 Method: SW-846 7470A PREP IVOL/WT: 40 mL FVOL: 57 mL Analyst: VML Run Date: 01/30/15 08:29 AM DF:

Compound Name	T	Response	CC	Cmp Text	Dry	Units	Qual	RL	MDL	PQL	Spiked	Units	Limits *
Initial Volume			OK										
Final Extract Volume			OK										
Adjustment Factor			OK										

2A

INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Environmental Express

Batch ID: MHG1662

Continuing Cal Source: Environmental Express

METAL	ICV 1/30/2015 11:55			CCV1 1/30/2015 12:02			CCV2 1/30/2015 12:29			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Aluminum	2500			2500			2500			90-110
Antimony	500			500			500			90-110
Arsenic	500			500			500			90-110
Barium	2500			2500			2500			90-110
Beryllium	500			500			500			90-110
Cadmium	500			500			500			90-110
Calcium	2500			2500			2500			90-110
Chromium	500			500			500			90-110
Cobalt	500			500			500			90-110
Copper	500			500			500			90-110
Iron	2500			2500			2500			90-110
Lead	500			500			500			90-110
Magnesium	2500			2500			2500			90-110
Manganese	500			500			500			90-110
Mercury	5	5.19745	103.9	5	4.9462	98.9	5	4.78275	95.7	90-110
Nickel	500			500			500			90-110
Potassium	2500			2500			2500			90-110
Selenium	500			500			500			90-110
Silver	500			500			500			90-110
Sodium	2500			2500			2500			90-110
Thallium	500			500			500			90-110
Vanadium	500			500			500			90-110
Zinc	500			500			500			90-110

Comments:

FORM IIA - METALS

2A

INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Environmental Express

Batch ID: MHG1662

Continuing Cal Source: Environmental Express

METAL	ICV 1/30/2015 11:55			CCV3 1/30/2015 13:16						LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Aluminum	2500			2500			2500			90-110
Antimony	500			500			500			90-110
Arsenic	500			500			500			90-110
Barium	2500			2500			2500			90-110
Beryllium	500			500			500			90-110
Cadmium	500			500			500			90-110
Calcium	2500			2500			2500			90-110
Chromium	500			500			500			90-110
Cobalt	500			500			500			90-110
Copper	500			500			500			90-110
Iron	2500			2500			2500			90-110
Lead	500			500			500			90-110
Magnesium	2500			2500			2500			90-110
Manganese	500			500			500			90-110
Mercury	5	5.19745	103.9	5	4.73815	94.8	5			90-110
Nickel	500			500			500			90-110
Potassium	2500			2500			2500			90-110
Selenium	500			500			500			90-110
Silver	500			500			500			90-110
Sodium	2500			2500			2500			90-110
Thallium	500			500			500			90-110
Vanadium	500			500			500			90-110
Zinc	500			500			500			90-110

Comments:

FORM IIA - METALS

CRDL Check Standard **Form 2B**

Analytical Batch: MHG1662
Instrument: HG2
Analyst: PSW
Analytical Date/Time: 1/30/2015 12:00:48PM

Results by **SW-846 7470A**

Parameter	Spike	Result	% Recovery	CL	Units
Mercury	0.000213	0.000189	89	70 - 130	mg/L

Print Date: 02/06/2015

N.C. Certification # 481

Analytical Blank Summary Form 3

Analytical Batch: MHG1662
Units: mg/L

Instrument: HG2
Analyst: PSW

Results by **SW-846 7470A**

	158147			
	01/30/15 11:58	*01/30/15 12:04*	*01/30/15 12:31*	*01/30/15 13:18*
Mercury	0.000150 U	0.000150 U	0.000150 U	0.000150 U

Print Date: 02/06/2015

N.C. Certification # 481

MHG1662

Method: 7470 HG2 Operator: Admin Date of Analysis: 30 Jan 2015 09:22:32

Sample ID	Mean	SD	RSD	Curve Type	Method	Date
CBV	259	63	24.1779	-	7470 HG2	30 Jan 2015 11:42:22
ICAL1	2852	17	0.5786	-	7470 HG2	30 Jan 2015 11:44:33
ICAL2	5730	4	0.0698	-	7470 HG2	30 Jan 2015 11:46:45
ICAL3	14634	2	0.0103	-	7470 HG2	30 Jan 2015 11:48:46
ICAL4	73009	165	0.2253	-	7470 HG2	30 Jan 2015 11:50:54
ICAL5	138334	155	0.1117	-	7470 HG2	30 Jan 2015 11:53:06
ICV	5.1974	0.0008	0.0145	Linear	7470 HG2	30 Jan 2015 11:55:46
ICB	-0.0761	0.0004	-0.4714	Linear	7470 HG2	30 Jan 2015 11:58:03
LLC	0.1324	0.0005	0.3523	Linear	7470 HG2	30 Jan 2015 12:00:48
CCV	4.9462	0.0014	0.0283	Linear	7470 HG2	30 Jan 2015 12:02:47
CBV	-0.0462	0.0011	-2.3303	Linear	7470 HG2	30 Jan 2015 12:04:48
158149 MB	-0.0575	0.0002	-0.3747	Linear	7470 HG2	30 Jan 2015 12:07:25
158150 LCS	4.7268	0.0030	0.0630	Linear	7470 HG2	30 Jan 2015 12:09:23
158151 LCSD	4.8889	0.0009	0.0183	Linear	7470 HG2	30 Jan 2015 12:11:21
0177_1	-0.0464	0.0014	-2.9380	Linear	7470 HG2	30 Jan 2015 12:13:50
158152 MS	4.8149	0.0065	0.1341	Linear	7470 HG2	30 Jan 2015 12:16:21
158153 MSD	4.8618	0.0077	0.1579	Linear	7470 HG2	30 Jan 2015 12:18:19
0188_1	-0.0619	0.0005	-0.7539	Linear	7470 HG2	30 Jan 2015 12:20:46
0188_2	-0.0205	0.0004	-1.7501	Linear	7470 HG2	30 Jan 2015 12:23:13
0182_1	-0.0476	0.0016	-3.3198	Linear	7470 HG2	30 Jan 2015 12:25:12
0182_2	-0.0426	0.0001	-0.1684	Linear	7470 HG2	30 Jan 2015 12:27:11
CCV	4.7828	0.0066	0.1373	Linear	7470 HG2	30 Jan 2015 12:29:11
CBV	-0.0386	0.0016	-4.0915	Linear	7470 HG2	30 Jan 2015 12:31:09
0182_3	-0.0435	0.0004	-0.9073	Linear	7470 HG2	30 Jan 2015 12:33:40
0182_4	-0.0301	0.0000	-0.1193	Linear	7470 HG2	30 Jan 2015 12:35:39
0182_5	-0.0396	0.0003	-0.7250	Linear	7470 HG2	30 Jan 2015 12:37:38
0182_6	-0.0340	0.0006	-1.7925	Linear	7470 HG2	30 Jan 2015 12:39:36
0182_7	-0.0387	0.0009	-2.4132	Linear	7470 HG2	30 Jan 2015 12:41:33
0182_11	-0.0175	0.0005	-3.0840	Linear	7470 HG2	30 Jan 2015 12:43:30
0182_12	-0.0237	0.0004	-1.8144	Linear	7470 HG2	30 Jan 2015 12:45:28
158154 DUP	-0.0167	0.0003	-1.5009	Linear	7470 HG2	30 Jan 2015 12:47:25
LLC	0.1408	0.0003	0.2039	Linear	7470 HG2	30 Jan 2015 13:14:43
CCV	4.7382	0.0058	0.1234	Linear	7470 HG2	30 Jan 2015 13:16:39
CBV	-0.0434	0.0004	-0.9922	Linear	7470 HG2	30 Jan 2015 13:18:36

7470 HG2 - MHG1662

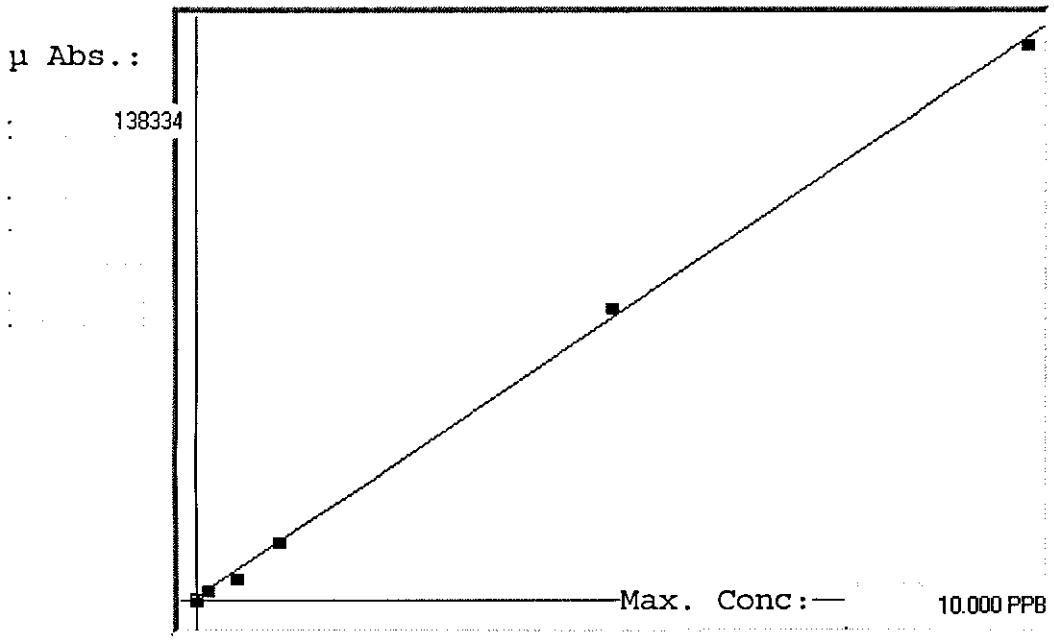
Type	Sample ID	Extended ID	Conc.	µ Abs.	Units
S	CBV - 1		-	321	PPB
S	CBV - 2		-	196	PPB
S	ICAL1 - 1		-	2835	PPB
S	ICAL1 - 2		-	2868	PPB
S	ICAL2 - 1		-	5726	PPB
S	ICAL2 - 2		-	5734	PPB
S	ICAL3 - 1		-	14632	PPB
S	ICAL3 - 2		-	14635	PPB
S	ICAL4 - 1		-	72844	PPB
S	ICAL4 - 2		-	73173	PPB
S	ICAL5 - 1		-	138179	PPB
S	ICAL5 - 2		-	138488	PPB
C	ICV - 1		5.1967	72879	PPB
C	ICV - 2		5.1982	72900	PPB
C	ICB - 1		-0.0758	-586	PPB
C	ICB - 2		-0.0765	-596	PPB
C	LLC - 1		0.1319	2308	PPB
C	LLC - 2		0.1329	2321	PPB
C	CCV - 1		4.9448	69370	PPB
C	CCV - 2		4.9476	69409	PPB
C	CBV - 1		-0.0451	-159	PPB
C	CBV - 2		-0.0473	-189	PPB
U	158149 MB - 1		-0.0572	-328	PPB
U	158149 MB - 2		-0.0577	-334	PPB
U	158150 LCS - 1		4.7239	66291	PPB
U	158150 LCS - 2		4.7298	66374	PPB
U	158151 LCSD - 1		4.8898	68603	PPB
U	158151 LCSD - 2		4.8880	68578	PPB
U	0177_1 - 1		-0.0450	-158	PPB
U	0177_1 - 2		-0.0478	-196	PPB
U	158152 MS - 1		4.8084	67469	PPB
U	158152 MS - 2		4.8213	67649	PPB
U	158153 MSD - 1		4.8541	68106	PPB
U	158153 MSD - 2		4.8695	68320	PPB
U	0188_1 - 1		-0.0614	-386	PPB
U	0188_1 - 2		-0.0623	-399	PPB
U	0188_2 - 1		-0.0209	179	PPB
U	0188_2 - 2		-0.0201	189	PPB
U	0182_1 - 1		-0.0460	-171	PPB
U	0182_1 - 2		-0.0491	-215	PPB
U	0182_2 - 1		-0.0427	-125	PPB
U	0182_2 - 2		-0.0425	-123	PPB
C	CCV - 1		4.7762	67020	PPB
C	CCV - 2		4.7893	67203	PPB
C	CBV - 1		-0.0370	-46	PPB
C	CBV - 2		-0.0402	-90	PPB
U	0182_3 - 1		-0.0431	-131	PPB
U	0182_3 - 2		-0.0439	-142	PPB
U	0182_4 - 1		-0.0301	50	PPB
U	0182_4 - 2		-0.0300	51	PPB
U	0182_5 - 1		-0.0393	-78	PPB
U	0182_5 - 2		-0.0399	-86	PPB
U	0182_6 - 1		-0.0346	-13	PPB
U	0182_6 - 2		-0.0334	4	PPB
U	0182_7 - 1		-0.0377	-56	PPB
U	0182_7 - 2		-0.0396	-82	PPB

7470 HG2 - MHG1662

Type	Sample ID	Extended ID	Conc.	µ Abs.	Units
U	0182_11 - 1		-0.0169	234	PPB
U	0182_11 - 2		-0.0180	219	PPB
U	0182_12 - 1		-0.0242	133	PPB
U	0182_12 - 2		-0.0233	145	PPB
U	158154 DUP - 1		-0.0170	233	PPB
U	158154 DUP - 2		-0.0165	240	PPB
C	LLC - 1		0.1410	2435	PPB
C	LLC - 2		0.1405	2427	PPB
C	CCV - 1		4.7323	66409	PPB
C	CCV - 2		4.7440	66572	PPB
C	CBV - 1		-0.0430	-129	PPB
C	CBV - 2		-0.0438	-141	PPB

7470 HG2

Linear



A= 0.0000e+000

B= 7.1768e-005

C= -3.3709e-002

Rho= 0.9995656

Accept= Accepted

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
CBV	0.000	-0.015	-0.015	258	62.500	321	196			
ICAL1	0.150	0.171	0.021	2851	0.6 %	2835	2868			
ICAL2	0.500	0.378	-0.122	5730	0.1 %	5726	5734			
ICAL3	1.000	1.017	0.017	14633	0.0 %	14632	14635			
ICAL4	5.000	5.206	0.206	73008	0.2 %	72844	73173			
ICAL5	10.000	9.894	-0.106	138333	0.1 %	138179	138488			

SW-846 7471B

Sample Data

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SD-01**

Client Sample ID: **BT-SD-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182008-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 15:45
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 60.60

Results by **SW-846 7471B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Mercury	ND		0.0280	mg/kg	1	02/3/2015 17:20

Batch Information

Analytical Batch: **MHG1664**
Analytical Method: **SW-846 7471B**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3849**
Prep Method: **SW-846 7471B PREP**
Prep Date/Time: **02/03/2015 15:07**
Prep Initial Wt./Vol.: **.59 g**
Prep Extract Vol: **50 mL**

Results of **BT-SD-02**

Client Sample ID: **BT-SD-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182009-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 16:30
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 37.70

Results by **SW-846 7471B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Mercury	ND		0.0458	mg/kg	1	02/3/2015 17:26

Batch Information

Analytical Batch: **MHG1664**
Analytical Method: **SW-846 7471B**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3849**
Prep Method: **SW-846 7471B PREP**
Prep Date/Time: **02/03/2015 15:07**
Prep Initial Wt./Vol.: **.58 g**
Prep Extract Vol: **50 mL**

Results of **BT-SD-03**

Client Sample ID: **BT-SD-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182010-D
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:00
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 76.00

Results by **SW-846 7471B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Mercury	ND		0.0244	mg/kg	1	02/3/2015 17:28

Batch Information

Analytical Batch: **MHG1664**
Analytical Method: **SW-846 7471B**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3849**
Prep Method: **SW-846 7471B PREP**
Prep Date/Time: **02/03/2015 15:07**
Prep Initial Wt./Vol.: **.54 g**
Prep Extract Vol: **50 mL**

SW-846 7471B
QC, Blanks Data

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: SW-846 7471B

Prep Method: SW-846 7471B PREP
Prep Batch: MXX3849
Prep Date: 02/03/2015 15:07

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
LLC for HBN 64756 [MXX/3849]	158505	02/03/2015 17:08	MHG1664	HG2	PSW
CCV for HBN 64756 [MXX/3849]	158503	02/03/2015 17:10	MHG1664	HG2	PSW
MB for HBN 64756 [MXX/3849]	158496	02/03/2015 17:14	MHG1664	HG2	PSW
LCS for HBN 64756 [MXX/3849]	158497	02/03/2015 17:16	MHG1664	HG2	PSW
LCSD for HBN 64756 [MXX/3849]	158498	02/03/2015 17:18	MHG1664	HG2	PSW
BT-SD-01	31500182008	02/03/2015 17:20	MHG1664	HG2	PSW
BT-SD-01(157965MS)	158499	02/03/2015 17:22	MHG1664	HG2	PSW
BT-SD-01(157965MSD)	158500	02/03/2015 17:24	MHG1664	HG2	PSW
BT-SD-02	31500182009	02/03/2015 17:26	MHG1664	HG2	PSW
BT-SD-03	31500182010	02/03/2015 17:28	MHG1664	HG2	PSW
BT-SD-03(157967DUP)	158501	02/03/2015 17:30	MHG1664	HG2	PSW
CCV for HBN 64756 [MXX/3849]	158503	02/03/2015 17:34	MHG1664	HG2	PSW

Instrument Detection Limits **Form 9**

Instrument: HG2
Units: mg/kg

Results by **SW-846 7471B**

Parameter	Wavelength/Mass	CRQL	MDL
Mercury	253	0.0200	0.00197

Print Date: 02/06/2015

N.C. Certification # 481

Method Blank

Blank ID: MB for HBN 64756 [MXX/3849]
Blank Lab ID: 158496
QC for Samples:
31500182008, 31500182009, 31500182010

Matrix: Soil-Solid as dry weight

Results by **SW-846 7471B**

Parameter	Result	Qual	LOQ/CL	Units	DF
Mercury	ND		0.0196	mg/kg	1

Batch Information

Analytical Batch: MHG1664
Analytical Method: SW-846 7471B
Instrument: HG2
Analyst: PSW

Prep Batch: MXX3849
Prep Method: SW-846 7471B PREP
Prep Date/Time: 2/3/2015 3:07:23PM
Prep Initial Wt./Vol.: .51 g
Prep Extract Vol: 50 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 64756 [MXX/3849]
Blank Spike Lab ID: 158497
Date Analyzed: 02/03/2015 17:16

Spike Duplicate ID: LCSD for HBN 64756 [MXX/3849]
Spike Duplicate Lab ID: 158498
Date Analyzed: 02/03/2015 17:18
Matrix: Soil-Solid as dry weight

QC for Samples: 31500182008, 31500182009, 31500182010

Results by **SW-846 7471B**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Mercury	0.481	0.415	86	0.463	0.406	88	80.0-120	2.2	20.00

Batch Information

Analytical Batch: **MHG1664**
Analytical Method: **SW-846 7471B**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3849**
Prep Method: **SW-846 7471B PREP**
Prep Date/Time: **02/03/2015 15:07**
Spike Init Wt./Vol.: **.52 g** Extract Vol: **50 mL**
Dupe Init Wt./Vol.: **.54 g** Extract Vol: **50 mL**

Matrix Spike Summary

Original Sample ID: 31500182008 (BT-SD-01)
MS Sample ID: 158499
MSD Sample ID: 158500

QC for Samples: 31500182008, 31500182009, 31500182010

Analysis Date: 02/03/2015 17:20
Analysis Date: 02/03/2015 17:22
Analysis Date: 02/03/2015 17:24
Matrix: Soil-Solid as dry weight

Results by **SW-846 7471B**

		Matrix Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Mercury	ND	0.724	0.726	100	0.794	0.794	100	80.0-120	8.9	20.00

Batch Information

Analytical Batch: **MHG1664**
Analytical Method: **SW-846 7471B**
Instrument: **HG2**
Analyst: **PSW**

Prep Batch: **MXX3849**
Prep Method: **SW-846 7471B PREP**
Prep Date/Time: **02/03/2015 15:07**
MS Init Wt./Vol.: **.57 g** Extract Vol.: **50 mL**
MSD Init Wt./Vol.: **.52 g** Extract Vol.: **50 mL**

Print Date: 02/06/2015

N.C. Certification # 481

Duplicate Sample Summary

Original Sample ID: 31500182010-D
Duplicate Sample ID: 158501

Analysis Date: 02/03/2015 17:28
Analysis Date: 02/03/2015 17:30
Matrix: Soil-Solid as dry weight

QC for Samples: 31500182008, 31500182009, 31500182010

Results by **SW-846 7471B**

PARAMETER	Original (mg/kg)	Qual	Duplicate (mg/kg)	Qual	RPD (%)	RPD CL
Mercury	ND		ND			20.00

Batch Information

Analytical Batch: MHG1664
Analytical Method: SW-846 7471B
Instrument: HG2
Analyst: PSW

Prep Batch: MXX3849
Prep Method: SW-846 7471B PREP
Prep Date/Time: 02/03/2015 15:07

SW-846 7471B
Prep, Standard, Run Logs

Print Date: 02/06/2015

N.C. Certification # 481

Batch Review Report

Queue MXX **Batch** 3849 **Rule** SW7471-SP

Run Sequence

	Lab Sample ID	Cust Sample ID	Collect Date	Date Analyzed
1	158496	MB for HBN 64756 [MXX/3849]		02/03/2015 03:07
2	158497	LCS for HBN 64756 [MXX/3849]		02/03/2015 03:07
3	158498	LCSD for HBN 64756 [MXX/3849]		02/03/2015 03:07
4	31500182008	BT-SD-01	01/25/2015 03:45	02/03/2015 03:07
5	158499	BT-SD-01(157965MS)	01/25/2015 03:45	02/03/2015 03:07
6	158500	BT-SD-01(157965MSD)	01/25/2015 03:45	02/03/2015 03:07
7	31500182009	BT-SD-02	01/25/2015 04:30	02/03/2015 03:07
8	31500182010	BT-SD-03	01/25/2015 05:00	02/03/2015 03:07
9	158501	BT-SD-03(157967DUP)	01/25/2015 05:00	02/03/2015 03:07
10	158502	ICV for HBN 64756 [MXX/3849]		02/03/2015 03:07
11	158503	CCV for HBN 64756 [MXX/3849]		02/03/2015 03:07
12	158504	CBV for HBN 64756 [MXX/3849]		02/03/2015 03:07
13	158505	LLC for HBN 64756 [MXX/3849]		02/03/2015 03:07
14	158506	ICAL1 for HBN 64756 [MXX/3849]		02/03/2015 03:07
15	158507	ICAL2 for HBN 64756 [MXX/3849]		02/03/2015 03:07
16	158508	ICAL3 for HBN 64756 [MXX/3849]		02/03/2015 03:07
17	158509	ICAL4 for HBN 64756 [MXX/3849]		02/03/2015 03:07
18	158510	ICAL5 for HBN 64756 [MXX/3849]		02/03/2015 03:07

Digest tubes: 1208059
Teflon chips: M-021
Spiking solutions: D-591 D-592
HCL: C-779
HNO3: C-743
$KMnO_4$: P-4965
~~$K_2S_2O_8$~~: VML 02-03-15
NH_2OH-HCl: P-4958
Hg reductant P-4966
Hg rinse P-4967
Temperature: 95.1 °C 1500-15:15 15:30-16:00
Balance: BAL 4 VML 02-03-15

CHEMWARE
0000.12.SGS.0

Lab ID 158496 Cust Sample ID MB for HBN 64756 [MXX/3849]

Sample Info Schedule: 946437 Type MB Collect Date Receive Date 2/3/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.51 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.51	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158497 Cust Sample ID LCS for HBN 64756 [MXX/3849]

Sample Info Schedule: 946439 Type LCS Collect Date Receive Date 2/3/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.52 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.52	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158498 Cust Sample ID LCSD for HBN 64756 [MXX/3849]

Sample Info Schedule: 946441 Type LCSD Collect Date Receive Date 2/3/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.54 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.54	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 31500182008 Cust Sample ID BT-SD-01

Sample Info Schedule: 943881 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182008-D Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.59 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.59	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158499 Cust Sample ID BT-SD-01(157965MS)

Sample Info Schedule: 946443 Type MS Collect Date 1/25/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.57 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.57	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158500 Cust Sample ID BT-SD-01(157965MSD)

Sample Info Schedule: 946445 Type MSD Collect Date 1/25/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: DK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.52 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.52	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 31500182009 Cust Sample ID BT-SD-02

Sample Info Schedule: 943890 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182009-D Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.58 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.58	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 31500182010 Cust Sample ID BT-SD-03

Sample Info Schedule: 943899 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182010-D Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.54 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.54	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158501 Cust Sample ID BT-SD-03(157967DUP)

Sample Info Schedule: 946447 Type DUP Collect Date 1/25/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.59 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.59	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158502 Cust Sample ID ICV for HBN 64756 [MXX/3849]

Sample Info Schedule: 946450 Type ICV Collect Date Receive Date 2/3/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.5 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.5	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158503 Cust Sample ID CCV for HBN 64756 [MXX/3849]

Sample Info Schedule: 946452 Type CCV Collect Date Receive Date 2/3/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.5 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Queue: MXX Batch: 3849 Lab ID: 158503 Schedule: 946452 Type: CCV

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.5	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158504 Cust Sample ID CBV for HBN 64756 [MXX/3849]

Sample Info Schedule: 946454 Type CBV Collect Date Receive Date 2/3/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.5 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.5	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158505 Cust Sample ID LLC for HBN 64756 [MXX/3849]

Sample Info Schedule: 946456 Type LLC Collect Date Receive Date 2/3/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.5 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		0.5	OK	g											
Final Extract Volume		50	OK	mL											

Lab ID 158506 Cust Sample ID ICAL1 for HBN 64756 [MXX/3849]

Sample Info Schedule: 946458 Type ICAL1 Collect Date Receive Date 2/3/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.5 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Response	CC	Cmp Text	Dry	Units	Qual	RL	MDL	PQL	Spiked	Units	Limits *
Initial Weight			OK										
Final Extract Volume			OK										

Lab ID 158507 **Cust Sample ID ICAL2 for HBN 64756 [MXX/3849]**

Sample Info Schedule: 946460 Type ICAL2 Collect Date Receive Date 2/3/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.5 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Response	CC	Cmp Text	Dry	Units	Qual	RL	MDL	PQL	Spiked	Units	Limits *
Initial Weight			OK										
Final Extract Volume			OK										

Lab ID 158508 **Cust Sample ID ICAL3 for HBN 64756 [MXX/3849]**

Sample Info Schedule: 946462 Type ICAL3 Collect Date Receive Date 2/3/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.5 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Response	CC	Cmp Text	Dry	Units	Qual	RL	MDL	PQL	Spiked	Units	Limits *
Initial Weight			OK										
Final Extract Volume			OK										

Lab ID 158509 **Cust Sample ID ICAL4 for HBN 64756 [MXX/3849]**

Sample Info Schedule: 946464 Type ICAL4 Collect Date Receive Date 2/3/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.5 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Response	CC	Cmp Text	Dry	Units	Qual	RL	MDL	PQL	Spiked	Units	Limits *
Initial Weight			OK										
Final Extract Volume			OK										

Lab ID 158510 **Cust Sample ID ICAL5 for HBN 64756 [MXX/3849]**

Sample Info Schedule: 946466 Type ICAL5 Collect Date Receive Date 2/3/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 3849 Method: SW-846 7471B PREP IVOL/WT: 0.5 g FVOL: 50 mL Analyst: VML Run Date: 02/03/15 03:07 PM DF:

Compound Name	T	Response	CC	Cmp Text	Dry	Units	Qual	RL	MDL	PQL	Spiked	Units	Limits *
Initial Weight			OK										
Final Extract Volume			OK										

2A

INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Environmental Express

Batch ID: MHG1664

Continuing Cal Source: Environmental Express

METAL	ICV 2/3/2015 17:03			CCV1 2/3/2015 17:10			CCV2 2/3/2015 17:34			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Aluminum	2500			2500			2500			90-110
Antimony	500			500			500			90-110
Arsenic	500			500			500			90-110
Barium	2500			2500			2500			90-110
Beryllium	500			500			500			90-110
Cadmium	500			500			500			90-110
Calcium	2500			2500			2500			90-110
Chromium	500			500			500			90-110
Cobalt	500			500			500			90-110
Copper	500			500			500			90-110
Iron	2500			2500			2500			90-110
Lead	500			500			500			90-110
Magnesium	2500			2500			2500			90-110
Manganese	500			500			500			90-110
Mercury	5	4.98	99.6	5	4.98	99.6	5	4.81	96.2	90-110
Nickel	500			500			500			90-110
Potassium	2500			2500			2500			90-110
Selenium	500			500			500			90-110
Silver	500			500			500			90-110
Sodium	2500			2500			2500			90-110
Thallium	500			500			500			90-110
Vanadium	500			500			500			90-110
Zinc	500			500			500			90-110

Comments:

FORM IIA - METALS

CRDL Check Standard **Form 2B**

Analytical Batch: MHG1664
Instrument: HG2
Analyst: PSW
Analytical Date/Time: 2/3/2015 5:08:18PM

Results by **SW-846 7471B**

Parameter	Spike	Result	% Recovery	CL	Units
Mercury	0.0150	0	73	70 - 130	mg/kg

Print Date: 02/06/2015

N.C. Certification # 481

Analytical Blank Summary Form 3

Analytical Batch: MHG1664
Units: mg/kg

Instrument: HG2
Analyst: PSW

Results by **SW-846 7471B**

		158504	
	02/03/15 17:06	*02/03/15 17:12*	*02/03/15 17:36*
Mercury	0.0200 U	0.0200 U	0.0200 U

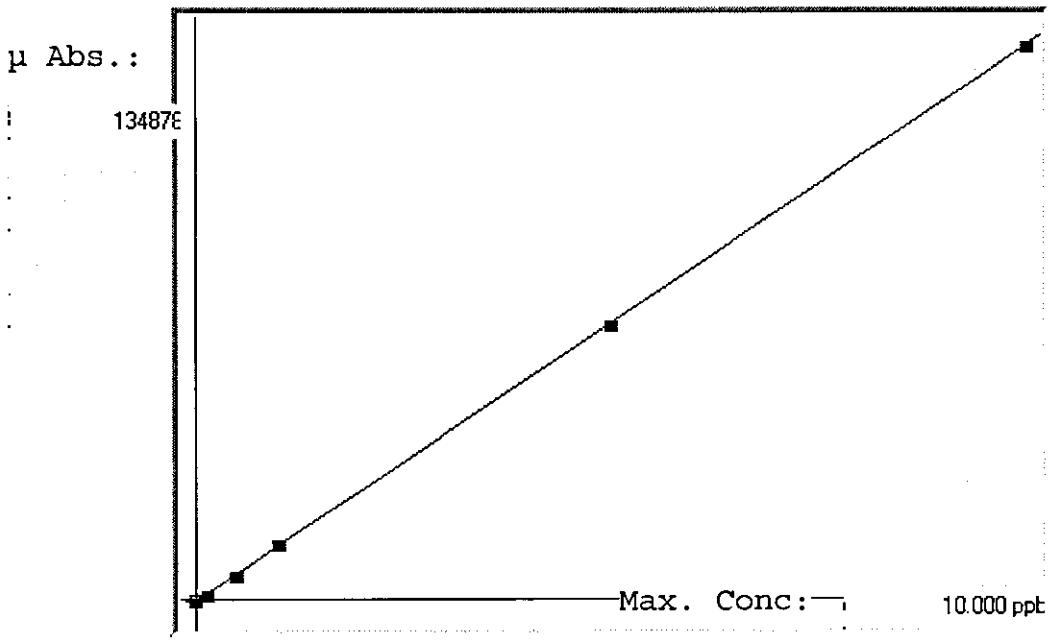
Print Date: 02/06/2015

N.C. Certification # 481

7471 HG2 - MHG1664

Type	Sample ID	Extended ID	Conc.	µ Abs.	Units
S	CBV - 1		-	-533	ppb
S	CBV - 2		-	-544	ppb
S	ICAL1 - 1		-	1160	ppb
S	ICAL1 - 2		-	1165	ppb
S	ICAL2 - 1		-	6024	ppb
S	ICAL2 - 2		-	6048	ppb
S	ICAL3 - 1		-	13439	ppb
S	ICAL3 - 2		-	13460	ppb
S	ICAL4 - 1		-	66625	ppb
S	ICAL4 - 2		-	67060	ppb
S	ICAL5 - 1		-	134563	ppb
S	ICAL5 - 2		-	135192	ppb
C	ICV - 1		4.9775	66792	ppb
C	ICV - 2		4.9864	66913	ppb
C	ICB - 1		-0.0318	-1031	ppb
C	ICB - 2		-0.0331	-1048	ppb
C	LLC - 1		0.1096	883	ppb
C	LLC - 2		0.1096	883	ppb
C	CCV - 1		4.9612	66572	ppb
C	CCV - 2		4.9996	67091	ppb
C	CBV - 1		-0.0176	-838	ppb
C	CBV - 2		-0.0190	-858	ppb
U	158496 MB - 1		0.0008	-590	ppb
U	158496 MB - 2		0.0002	-598	ppb
U	158497 LCS - 1		4.3151	57824	ppb
U	158497 LCS - 2		4.3199	57888	ppb
U	158498 LCSD - 1		4.3665	58520	ppb
U	158498 LCSD - 2		4.3931	58880	ppb
U	0182_8 - 1		0.0942	675	ppb
U	0182_8 - 2		0.0923	649	ppb
U	158499 MS - 1		5.0163	67317	ppb
U	158499 MS - 2		5.0187	67350	ppb
U	158500 MSD - 1		4.9918	66986	ppb
U	158500 MSD - 2		5.0224	67400	ppb
U	0182_9 - 1		0.0618	236	ppb
U	0182_9 - 2		0.0594	204	ppb
U	0182_10 - 1		0.0403	-55	ppb
U	0182_10 - 2		0.0398	-61	ppb
U	158501 DUP - 1		0.0416	-37	ppb
U	158501 DUP - 2		0.0408	-48	ppb
C	LLC - 1		0.1501	1432	ppb
C	LLC - 2		0.1494	1422	ppb
C	CCV - 1		4.8094	64516	ppb
C	CCV - 2		4.8068	64481	ppb
C	CBV - 1		0.0115	-445	ppb
C	CBV - 2		0.0095	-472	ppb

7471 HG2



Linear

A= 0.0000e+000

B= 7.3858e-005

C= 4.4337e-002

Rho= 0.9999855

Accept= Accepted

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
CBV	0.000	0.005	0.005	-538	5.500	-533	-544			
ICAL1	0.150	0.130	-0.020	1162	0.2 %	1160	1165			
ICAL2	0.500	0.490	-0.010	6036	0.2 %	6024	6048			
ICAL3	1.000	1.038	0.038	13449	0.1 %	13439	13460			
ICAL4	5.000	4.981	-0.019	66842	0.3 %	66625	67060			
ICAL5	10.000	10.006	0.006	134877	0.2 %	134563	135192			

MHG1664

Method: 7471 HG2 Operator: Admin Date of Analysis: 03 Feb 2015 16:04:55

Sample ID	Mean	SD	RSD	Curve Type	Method	Date
CBV	-539	6	-1.0214	-	7471 HG2	03 Feb 2015 16:51:51
ICAL1	1163	3	0.2151	-	7471 HG2	03 Feb 2015 16:53:44
ICAL2	6036	12	0.1988	-	7471 HG2	03 Feb 2015 16:55:37
ICAL3	13450	11	0.0781	-	7471 HG2	03 Feb 2015 16:57:31
ICAL4	66843	218	0.3254	-	7471 HG2	03 Feb 2015 16:59:26
ICAL5	134878	315	0.2332	-	7471 HG2	03 Feb 2015 17:01:24
ICV	4.9820	0.0045	0.0897	Linear	7471 HG2	03 Feb 2015 17:03:36
ICB	-0.0324	0.0006	-1.9353	Linear	7471 HG2	03 Feb 2015 17:06:00
LLC	0.1096	0.0000	0.0000	Linear	7471 HG2	03 Feb 2015 17:08:18
CCV	4.9804	0.0192	0.3848	Linear	7471 HG2	03 Feb 2015 17:10:13
CBV	-0.0183	0.0007	-4.0370	Linear	7471 HG2	03 Feb 2015 17:12:06
158496 MB	0.0005	0.0003	63.5894	Linear	7471 HG2	03 Feb 2015 17:14:21
158497 LCS	4.3175	0.0024	0.0547	Linear	7471 HG2	03 Feb 2015 17:16:13
158498 LCSD	4.3798	0.0133	0.3035	Linear	7471 HG2	03 Feb 2015 17:18:06
0182_8	0.0932	0.0010	1.0299	Linear	7471 HG2	03 Feb 2015 17:20:23
158499 MS	5.0175	0.0012	0.0243	Linear	7471 HG2	03 Feb 2015 17:22:44
158500 MSD	5.0071	0.0153	0.3053	Linear	7471 HG2	03 Feb 2015 17:24:36
0182_9	0.0606	0.0012	1.9505	Linear	7471 HG2	03 Feb 2015 17:26:46
0182_10	0.0401	0.0002	0.5532	Linear	7471 HG2	03 Feb 2015 17:28:56
158501 DUP	0.0412	0.0004	0.9860	Linear	7471 HG2	03 Feb 2015 17:30:49
LLC	0.1497	0.0004	0.2466	Linear	7471 HG2	03 Feb 2015 17:32:40
CCV	4.8081	0.0013	0.0269	Linear	7471 HG2	03 Feb 2015 17:34:34
CBV	0.0105	0.0010	9.5211	Linear	7471 HG2	03 Feb 2015 17:36:26

EPA 1664A

Sample Data

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-01**

Client Sample ID: **BT-SW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182001-G
Lab Project ID: 31500182

Collection Date: 01/24/2015 13:30
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 1664A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
HEM-Oil & Grease	**28.2**		5.30	mg/L	1.06	02/3/2015 11:03

Batch Information

Analytical Batch: **INO3642**
Analytical Method: **EPA 1664A**
Instrument: **BAL10**
Analyst: **VML**

Prep Batch: **INO3642**
Prep Method: **EPA 1664A**
Prep Date/Time: **02/03/2015 11:03**
Prep Initial Wt./Vol.: **946 mL**
Prep Extract Vol: NA

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-03**

Client Sample ID: **BT-SW-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182003-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 1664A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
HEM-Oil & Grease	**5.75**		5.25	mg/L	1.05	02/3/2015 11:03

Batch Information

Analytical Batch: **INO3642**
Analytical Method: **EPA 1664A**
Instrument: **BAL10**
Analyst: **VML**

Prep Batch: **INO3642**
Prep Method: **EPA 1664A**
Prep Date/Time: **02/03/2015 11:03**
Prep Initial Wt./Vol.: **955.7 mL**
Prep Extract Vol: **NA**

Results of **BT-SW-04**

Client Sample ID: **BT-SW-04**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182004-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:15
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 1664A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
HEM-Oil & Grease	ND		5.40	mg/L	1.08	02/3/2015 11:03

Batch Information

Analytical Batch: **INO3642**
Analytical Method: **EPA 1664A**
Instrument: **BAL10**
Analyst: **VML**

Prep Batch: **INO3642**
Prep Method: **EPA 1664A**
Prep Date/Time: **02/03/2015 11:03**
Prep Initial Wt./Vol.: **928.7 mL**
Prep Extract Vol: **NA**

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-05**

Client Sample ID: **BT-SW-05**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182005-G
Lab Project ID: 31500182

Collection Date: 01/26/2015 09:10
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 1664A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
HEM-Oil & Grease	**7.93**		5.35	mg/L	1.07	02/3/2015 11:03

Batch Information

Analytical Batch: **INO3642**
Analytical Method: **EPA 1664A**
Instrument: **BAL10**
Analyst: **VML**

Prep Batch: **INO3642**
Prep Method: **EPA 1664A**
Prep Date/Time: **02/03/2015 11:03**
Prep Initial Wt./Vol.: **933.0 mL**
Prep Extract Vol: **NA**

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-06**

Client Sample ID: **BT-SW-06**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182006-G
Lab Project ID: 31500182

Collection Date: 01/26/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 1664A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
HEM-Oil & Grease	**8.39**		5.30	mg/L	1.06	02/3/2015 11:03

Batch Information

Analytical Batch: **INO3642**
Analytical Method: **EPA 1664A**
Instrument: **BAL10**
Analyst: **VML**

Prep Batch: **INO3642**
Prep Method: **EPA 1664A**
Prep Date/Time: **02/03/2015 11:03**
Prep Initial Wt./Vol.: **941.1 mL**
Prep Extract Vol: **NA**

Results of **BT-SW-DUP**

Client Sample ID: **BT-SW-DUP**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182007-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 00:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 1664A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
HEM-Oil & Grease	ND		5.55	mg/L	1.11	02/3/2015 11:03

Batch Information

Analytical Batch: **INO3642**
Analytical Method: **EPA 1664A**
Instrument: **BAL10**
Analyst: **VML**

Prep Batch: **INO3642**
Prep Method: **EPA 1664A**
Prep Date/Time: **02/03/2015 11:03**
Prep Initial Wt./Vol.: **900.1 mL**
Prep Extract Vol: **NA**

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-PW-01**

Client Sample ID: **BT-PW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182011-G
Lab Project ID: 31500182

Collection Date: 01/24/2015 14:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 1664A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
HEM-Oil & Grease	**6.86**		4.40	mg/L	.88	02/3/2015 11:03

Batch Information

Analytical Batch: **INO3642**
Analytical Method: **EPA 1664A**
Instrument: **BAL10**
Analyst: **VML**

Prep Batch: **INO3642**
Prep Method: **EPA 1664A**
Prep Date/Time: **02/03/2015 11:03**
Prep Initial Wt./Vol.: **1137 mL**
Prep Extract Vol: **NA**

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-PW-02**

Client Sample ID: **BT-PW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182012-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 10:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 1664A**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
HEM-Oil & Grease	**26.7**		4.35	mg/L	.87	02/3/2015 11:03

Batch Information

Analytical Batch: **INO3642**
Analytical Method: **EPA 1664A**
Instrument: **BAL10**
Analyst: **VML**

Prep Batch: **INO3642**
Prep Method: **EPA 1664A**
Prep Date/Time: **02/03/2015 11:03**
Prep Initial Wt./Vol.: **1145 mL**
Prep Extract Vol: **NA**

EPA 1664A
QC, Blanks Data

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: EPA 1664A

Prep Method: EPA 1664A
Prep Batch: INO3642
Prep Date: 02/03/2015 11:02

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 64548 [INO/3642]	158370	02/03/2015 11:02	INO3642	BAL10	VML
LCS for HBN 64548 [INO/3642]	158371	02/03/2015 11:02	INO3642	BAL10	VML
LCSD for HBN 64548 [INO/3642]	158372	02/03/2015 11:02	INO3642	BAL10	VML
BT-SW-01	31500182001	02/03/2015 11:03	INO3642	BAL10	VML
BT-SW-03	31500182003	02/03/2015 11:03	INO3642	BAL10	VML
BT-SW-04	31500182004	02/03/2015 11:03	INO3642	BAL10	VML
BT-SW-05	31500182005	02/03/2015 11:03	INO3642	BAL10	VML
BT-SW-06	31500182006	02/03/2015 11:03	INO3642	BAL10	VML
BT-SW-DUP	31500182007	02/03/2015 11:03	INO3642	BAL10	VML
BT-PW-01	31500182011	02/03/2015 11:03	INO3642	BAL10	VML
BT-PW-02	31500182012	02/03/2015 11:03	INO3642	BAL10	VML

Method Blank Summary **Form 4**

Blank ID: MB for HBN 64548 [INO/3642]
Blank Lab ID: 158370
Prep Batch: INO3642

Matrix: Water
Analysis Date/Time: 02/3/2015 11:02

Results by **EPA 1664A**

Client Sample ID	Lab Sample ID	Filename	Date Analyzed	Analyst
LCS for HBN 64548 [INO/3642]	158371		02/3/2015 11:02	VML
LCSD for HBN 64548 [INO/3642]	158372		02/3/2015 11:02	VML
BT-SW-01	31500182001		02/3/2015 11:03	VML
BT-SW-03	31500182003		02/3/2015 11:03	VML
BT-SW-04	31500182004		02/3/2015 11:03	VML
BT-SW-05	31500182005		02/3/2015 11:03	VML
BT-SW-06	31500182006		02/3/2015 11:03	VML
BT-SW-DUP	31500182007		02/3/2015 11:03	VML
BT-PW-01	31500182011		02/3/2015 11:03	VML
BT-PW-02	31500182012		02/3/2015 11:03	VML

Method Blank

Blank ID: MB for HBN 64548 [INO/3642]
Matrix: Water
Blank Lab ID: 158370
QC for Samples:
31500182001, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **EPA 1664A**

Parameter	Result	Qual	LOQ/CL	Units	DF
HEM-Oil & Grease	ND		5.00	mg/L	1

Batch Information

Analytical Batch: INO3642
Analytical Method: EPA 1664A
Instrument: BAL10
Analyst: VML

Prep Batch: INO3642
Prep Method: EPA 1664A
Prep Date/Time: 2/3/2015 11:02:53AM
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: NA

Blank Spike Summary

Blank Spike ID: LCS for HBN 64548 [INO/3642]
Blank Spike Lab ID: 158371
Date Analyzed: 02/03/2015 11:02

Spike Duplicate ID: LCSD for HBN 64548 [INO/3642]
Spike Duplicate Lab ID: 158372
Date Analyzed: 02/03/2015 11:02
Matrix: Water

QC for Samples: 31500182001, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **EPA 1664A**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
HEM-Oil & Grease	40.0	42.1	105	40.0	40.6	102	78.0-114	3.6	18.00

Batch Information

Analytical Batch: **INO3642**
Analytical Method: **EPA 1664A**
Instrument: **BAL10**
Analyst: **VML**

Prep Batch: **INO3642**
Prep Method: **EPA 1664A**
Prep Date/Time: **02/03/2015 11:02**
Spike Init Wt./Vol.: **1000 mL** Extract Vol: **NA**
Dupe Init Wt./Vol.: **1000 mL** Extract Vol: **NA**

EPA 1664A
Bench Sheet

Print Date: 02/06/2015

N.C. Certification # 481

5500 Business Drive
Wilmington, NC 28405

HEM - Oil and Grease

EPA 1664A

Analyst: **VML**
Instrument: **BAL10**

Batch
INO 3642

Standard ID: **D-593**
Filter ID: INV34
Hexane ID: C-729

Silica Gel ID:
Vial ID: OPEN
Na Sulfate ID: SR32A

Type	Lab ID	pH	pH Adj ?	Vol mL	Initial g	Final g	Confirm g	Pass/Fail	HEM mg/L	Analysis Date / Time
MB	158370	2	☑	1000	31.2123	31.2122	31.2123	PASS	-0.1	02/03/2015 11:02
LCS	158371	2	☑	1000	31.1969	31.2390	31.2391	PASS	42.1	02/03/2015 11:02
LCSD	158372	2	☑	1000	31.2200	31.2606	31.2605	PASS	40.6	02/03/2015 11:02
SAMPLE	31500158001	2	☑	1000	31.2811	31.2841	31.2842	PASS	3.0	02/03/2015 11:02
SAMPLE	31500158002	2	☑	1000	31.2843	31.2893	31.2892	PASS	5.0	02/03/2015 11:03
SAMPLE	31500182001	2	☐	946	31.1523	31.1790	31.1792	PASS	28.2	02/03/2015 11:03
SAMPLE	31500182003	2	☐	955.7	31.1507	31.1562	31.1564	PASS	5.8	02/03/2015 11:03
SAMPLE	31500182004	2	☐	928.7	31.1651	31.1694	31.1694	PASS	4.6	02/03/2015 11:03
SAMPLE	31500182005	2	☐	933.0	31.1727	31.1801	31.1803	PASS	7.9	02/03/2015 11:03
SAMPLE	31500182006	2	☐	941.1	31.0934	31.1013	31.1014	PASS	8.4	02/03/2015 11:03
SAMPLE	31500182007	2	☐	900.1	31.0570	31.0590	31.0590	PASS	2.2	02/03/2015 11:03
SAMPLE	31500182011	2	☐	1137	31.1075	31.1153	31.1155	PASS	6.9	02/03/2015 11:03
SAMPLE	31500182012	2	☐	1145	31.0971	31.1277	31.1277	PASS	26.7	02/03/2015 11:03

Analyst Signature

02-03-15
Date

Reviewed Paul Walker
2-4-15

Analyst signature indicates that the data printed is a true representation of volumes and weights encountered in the analytical process.

The calculation of O and G is: $\frac{(F2 - F1) \times 1{,}000{,}000}{V1}$ = mg/L HEM Oil and Grease

Where: F2 = Final (g)
F1 = Initial (g)
V1 = Vol (mL)

Printed: 2/3/2015 1:54:28 PM

EPA 300.0

Sample Data

Results of **BT-SW-01**

Client Sample ID: **BT-SW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182001-A
Lab Project ID: 31500182

Collection Date: 01/24/2015 13:30
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 300.0**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Sulfate	**2160**		100	mg/L	100	01/29/2015 19:27
Chloride	**378**		100	mg/L	100	01/29/2015 19:27

Batch Information

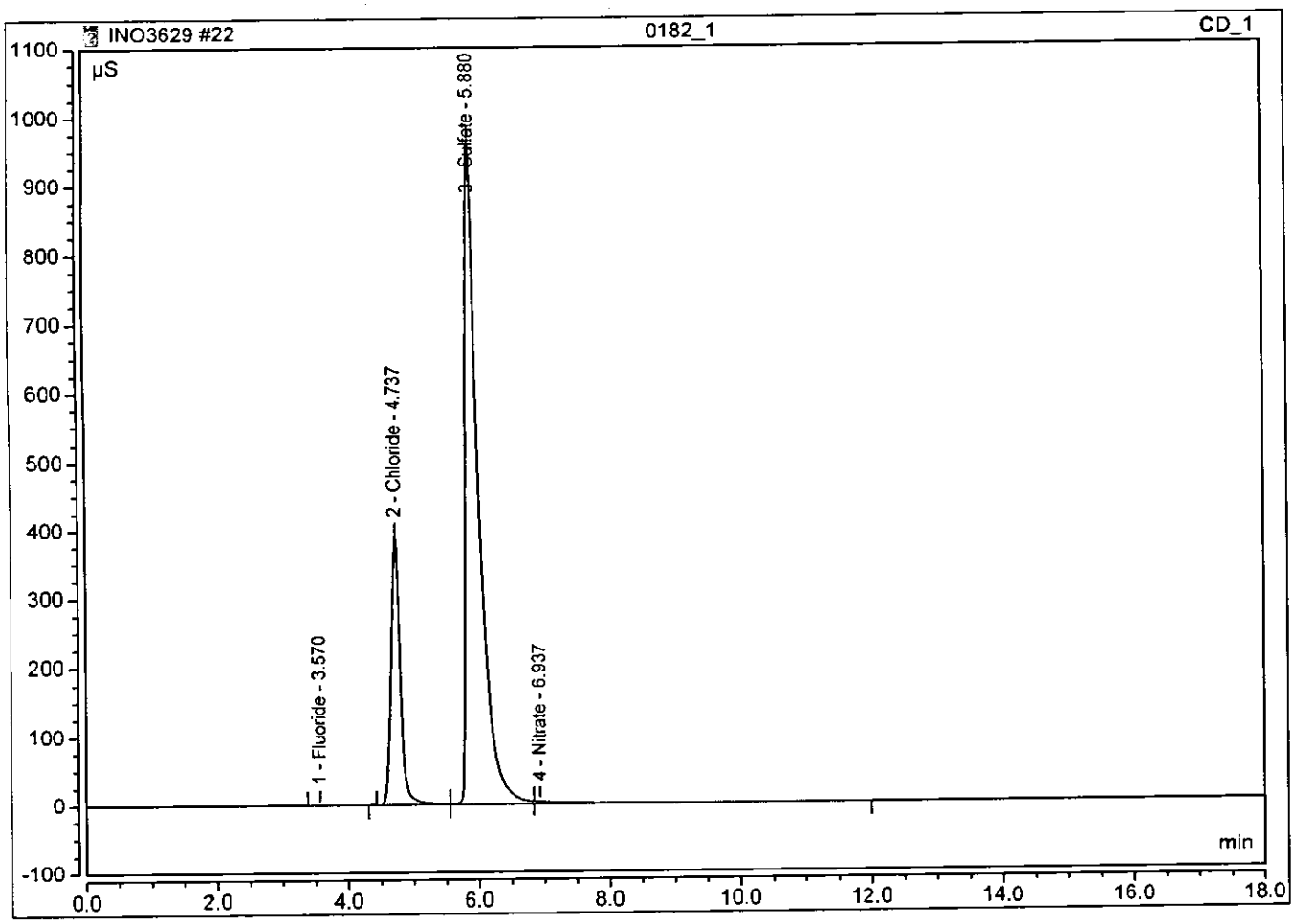
Analytical Batch: **INO3629**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3629**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/29/2015 19:27**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **10 mL**

Peak Integration Report

Sample Name:	0182_1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 19:06	*Run Time:*	18.00

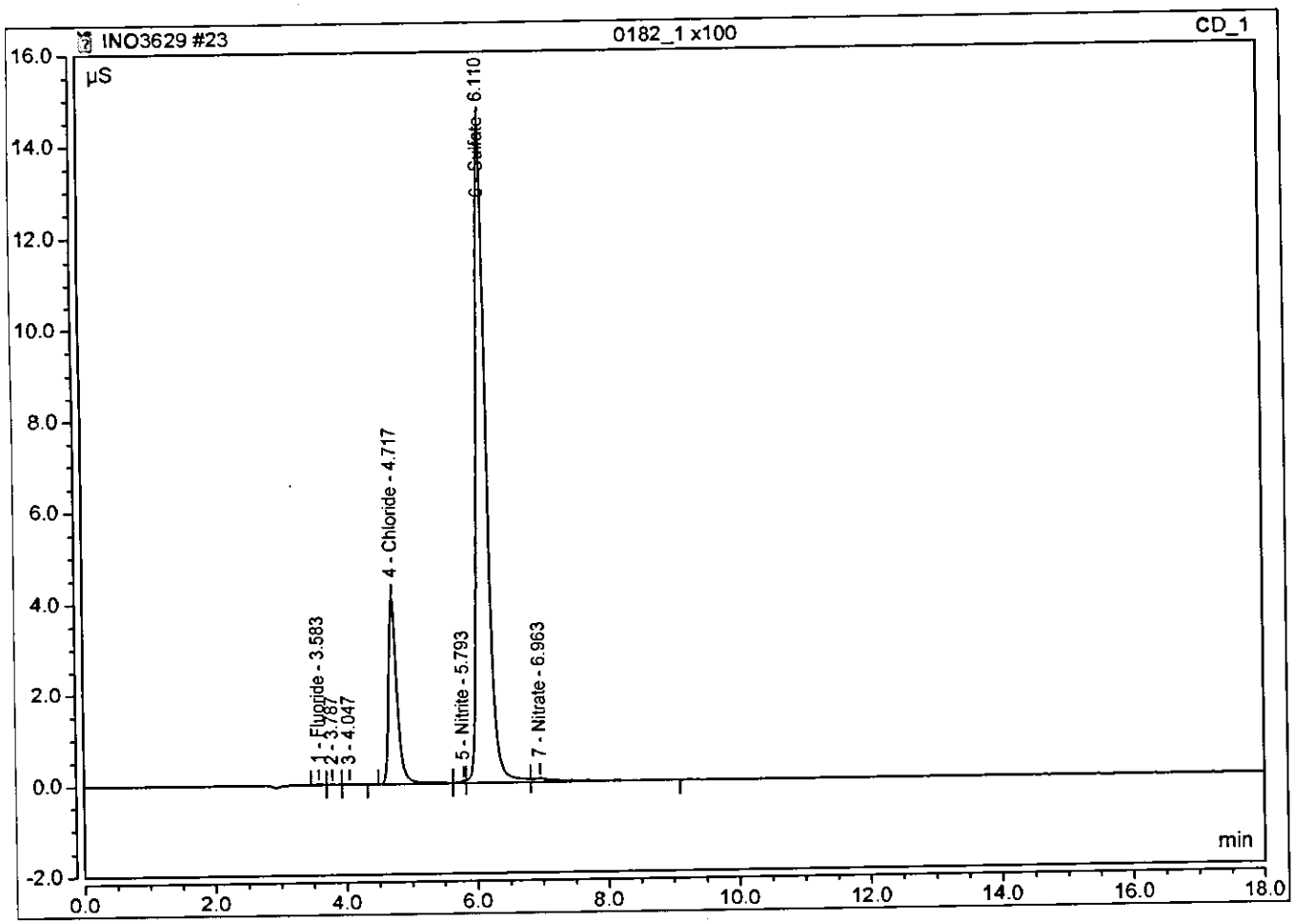
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.57	Fluoride	M	0.050	0.266	0.1873
2	4.74	Chloride	M	62.354	389.539	387.7882
3	5.88	Sulfate	M	227.621	963.627	1895.6684
4	6.94	Nitrate	M	2.161	3.583	5.1530
TOTAL:				292.19	1357.02	2288.80



Peak Integration Report

Sample Name:	0182_1 x100	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 19:27	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.003	0.020	0.0111
4	4.72	Chloride	M	0.606	4.073	3.7809
5	5.79	Nitrite	M	0.005	0.046	0.0530
6	6.11	Sulfate	M	2.608	14.412	21.5624
7	6.96	Nitrate	M	0.043	0.080	0.1021
TOTAL:				3.26	18.63	25.51



Results of **BT-SW-02**

Client Sample ID: **BT-SW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182002-A
Lab Project ID: 31500182

Collection Date: 01/24/2015 16:50
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 300.0**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Sulfate	**604**		10.0	mg/L	10	01/29/2015 20:07
Chloride	**21.2**		1.00	mg/L	1	01/29/2015 19:47

Batch Information

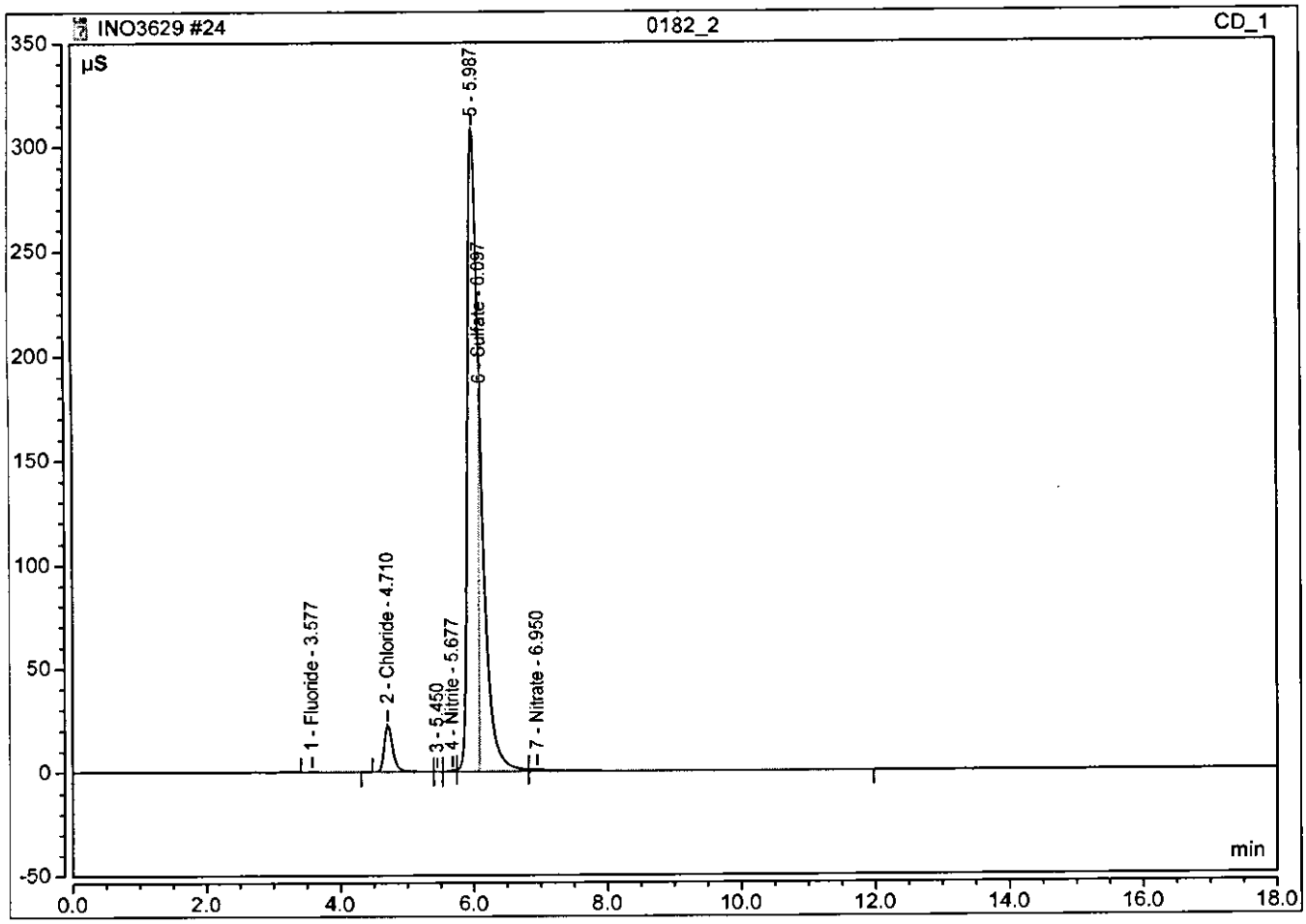
Analytical Batch: **INO3629**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3629**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/29/2015 20:07**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **10 mL**

Peak Integration Report

Sample Name:	0182_2	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 19:47	*Run Time:*	18.00

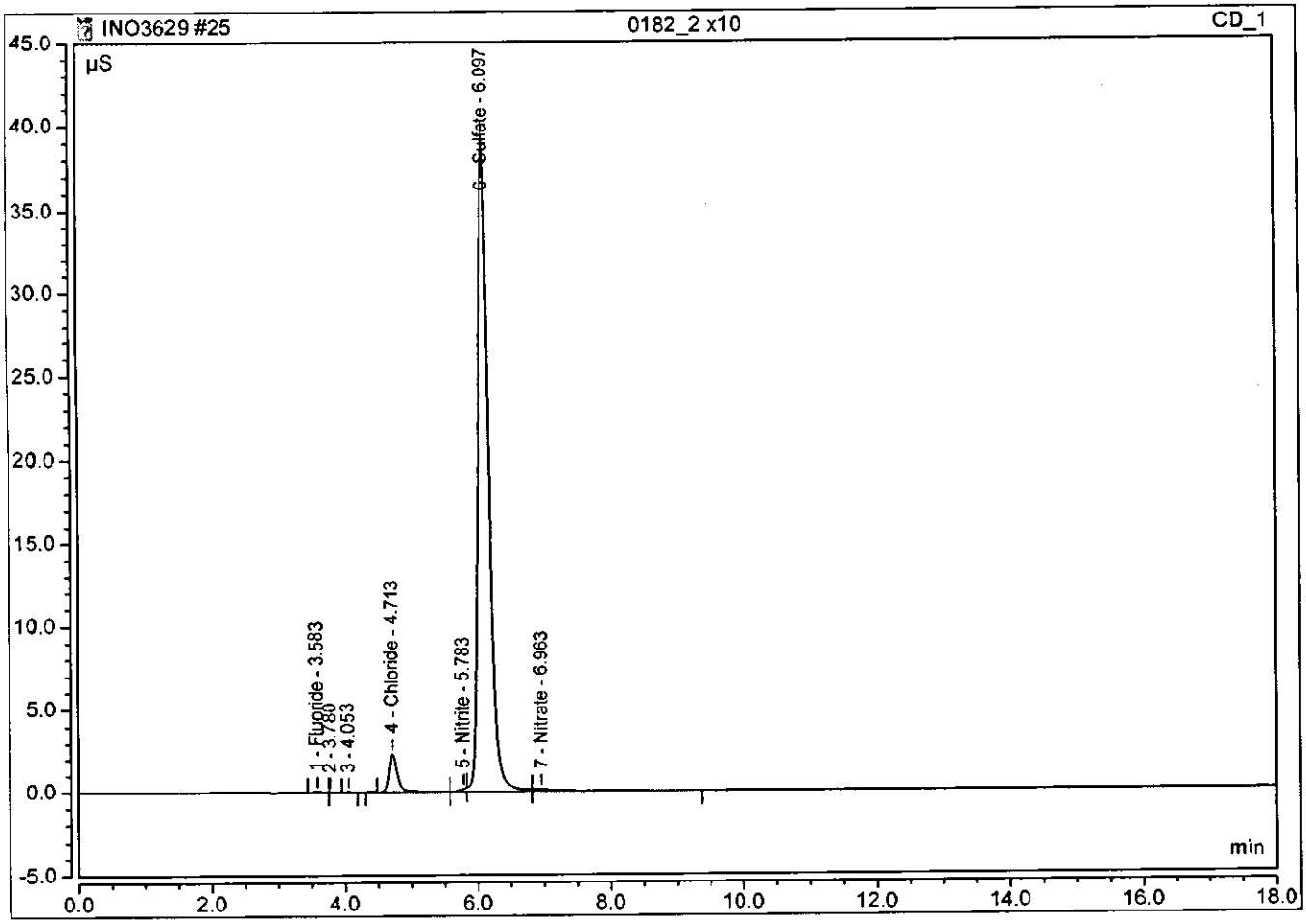
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.066	0.439	0.2447
2	4.71	Chloride	M	3.415	22.954	21.2463
4	5.68	Nitrite	M	0.095	0.743	0.2772
6	6.10	Sulfate	M	20.269	176.771	168.6562
7	6.95	Nitrate	M	0.559	0.989	1.3322
TOTAL:				24.40	201.90	191.76



Peak Integration Report

Sample Name:	0182_2 x10	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 20:07	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.008	0.055	0.0298
4	4.71	Chloride	M	0.342	2.361	2.1403
5	5.78	Nitrite	M	0.021	0.176	0.0916
6	6.10	Sulfate	M	7.270	39.425	60.3910
7	6.96	Nitrate	M	0.061	0.132	0.1458
TOTAL:				7.70	42.15	62.80



Results of **BT-SW-03**

Client Sample ID: **BT-SW-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182003-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 300.0**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Sulfate	**1940**		100	mg/L	100	01/29/2015 22:28
Chloride	**27.9**		1.00	mg/L	1	01/29/2015 22:08

Batch Information

Analytical Batch: **INO3629**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3629**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/29/2015 22:28**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **10 mL**

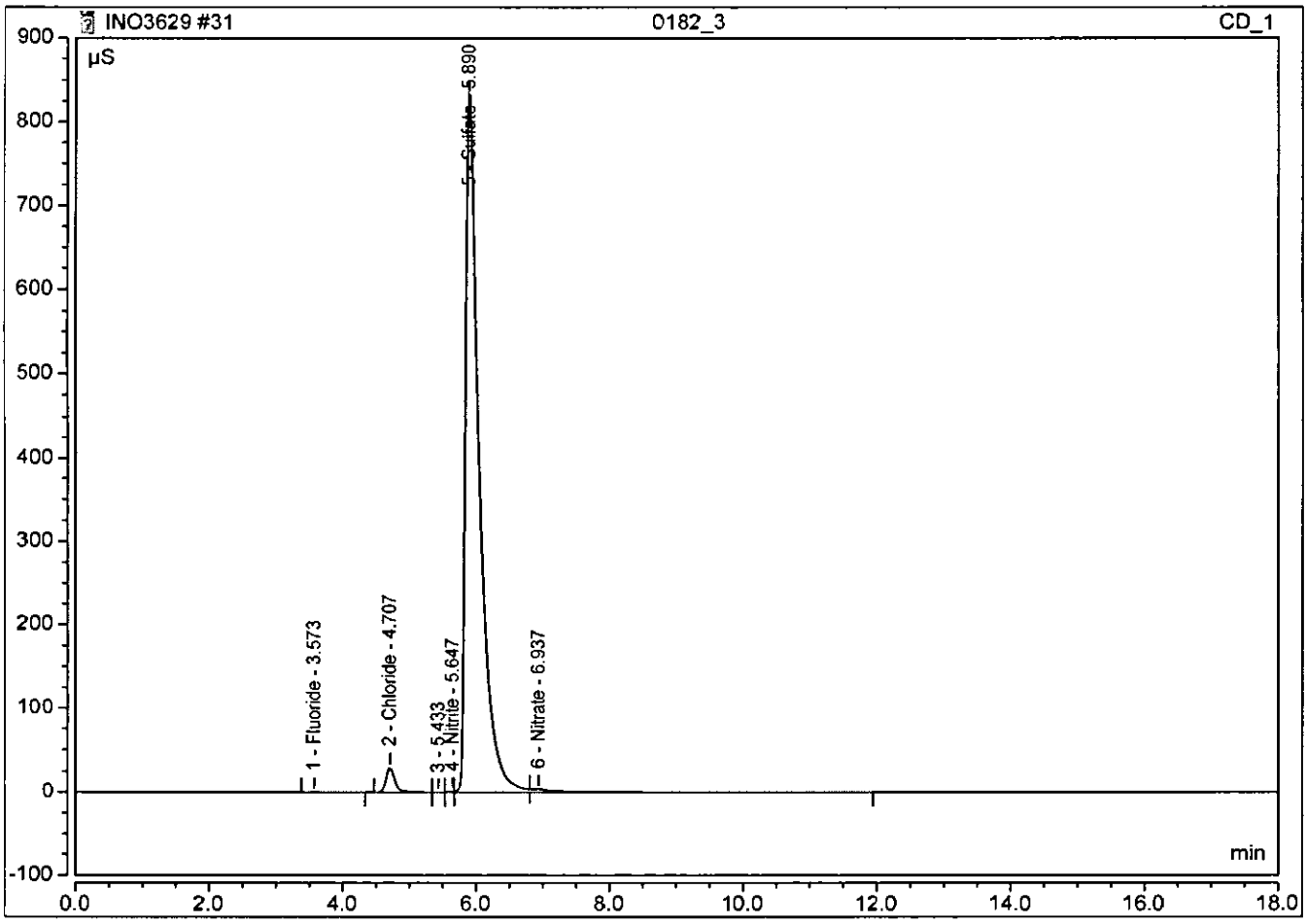
Print Date: 02/06/2015

N.C. Certification # 481

Peak Integration Report

Sample Name:	0182_3	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 22:08	*Run Time:*	18.00

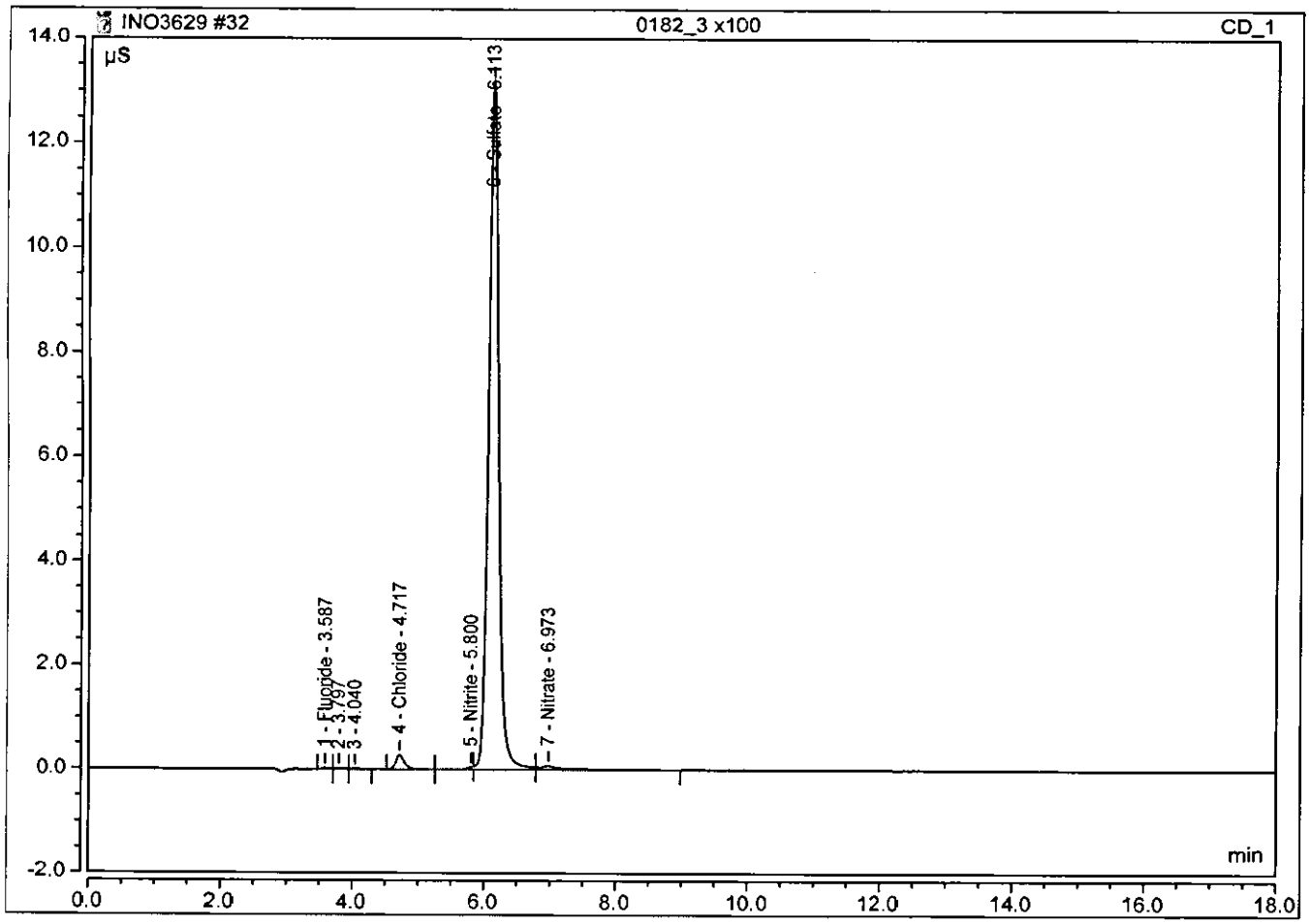
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.57	Fluoride	M	0.052	0.283	0.1942
2	4.71	Chloride	M	4.478	29.291	27.8559
4	5.65	Nitrite	M	0.056	0.737	0.1794
5	5.89	Sulfate	M	199.640	832.186	1662.6205
6	6.94	Nitrate	M	1.838	3.907	4.3827
		TOTAL:		206.06	866.40	1695.23



Peak Integration Report

Sample Name:	0182_3 x100	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 22:28	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.003	0.020	0.0112
4	4.72	Chloride	M	0.041	0.281	0.2683
5	5.80	Nitrite	M	0.006	0.047	0.0543
6	6.11	Sulfate	M	2.343	13.191	19.3529
7	6.97	Nitrate	M	0.030	0.071	0.0724
TOTAL:				2.42	13.61	19.76



Results of **BT-SW-04**

Client Sample ID: **BT-SW-04**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182004-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:15
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 300.0**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Sulfate	**565**		100	mg/L	100	01/30/2015 21:30
Chloride	**43.2**		1.00	mg/L	1	01/29/2015 22:48

Batch Information

Analytical Batch: **INO3629**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3629**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/29/2015 22:48**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **10 mL**

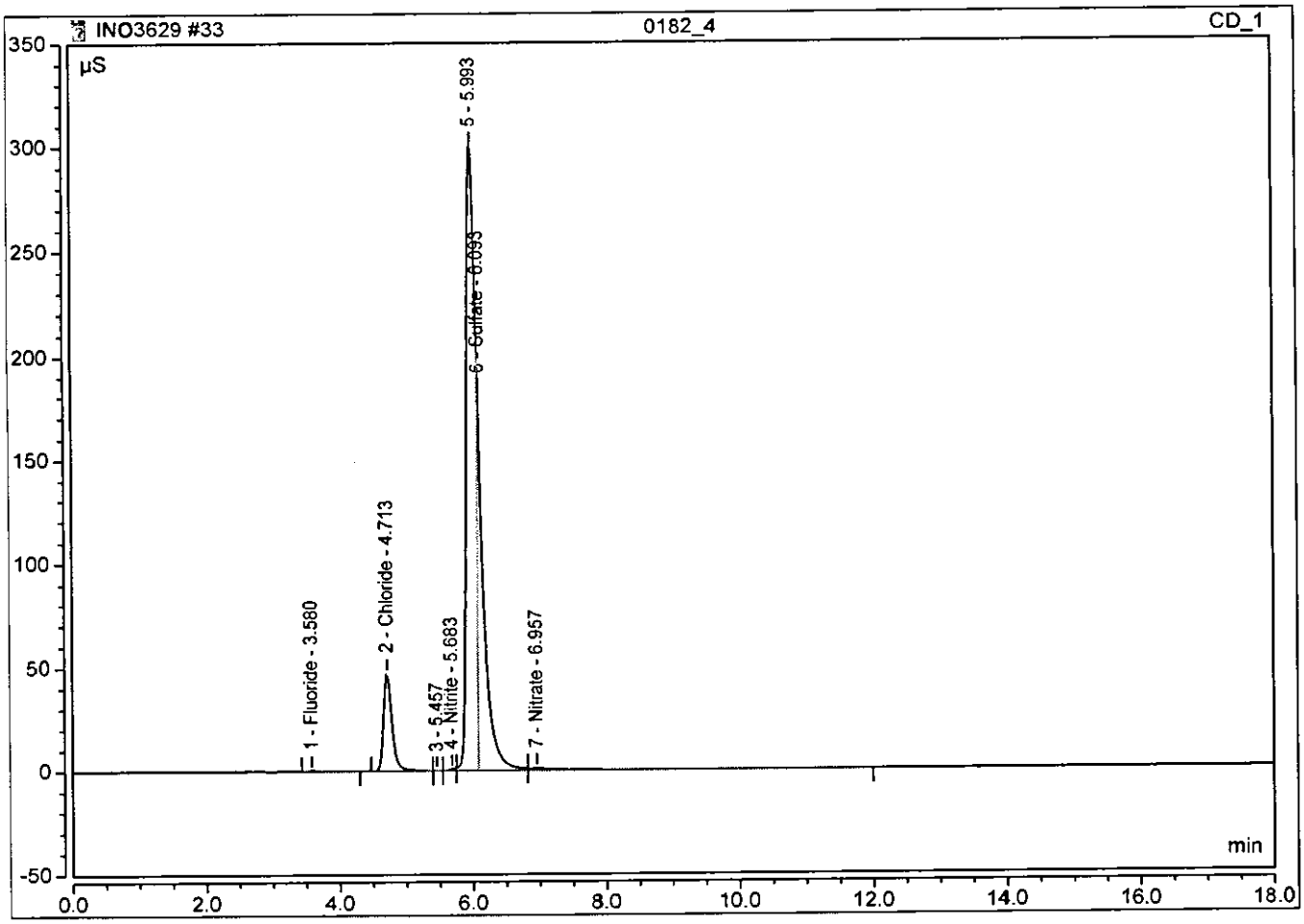
Analytical Batch: **INO3634**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3634**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/30/2015 21:30**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **10 mL**

Peak Integration Report

Sample Name:	0182_4	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 22:48	*Run Time:*	18.00

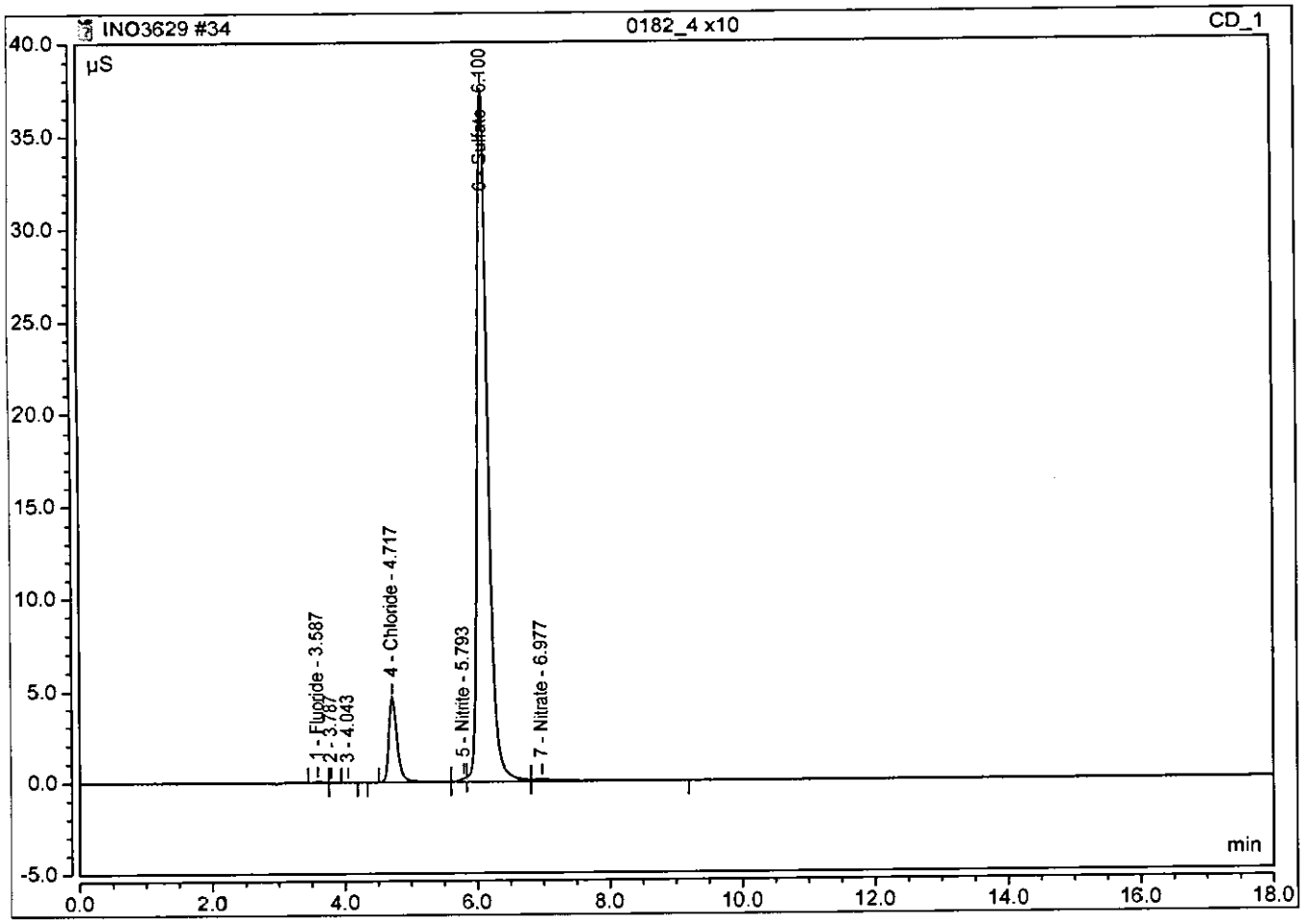
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.064	0.433	0.2372
2	4.71	Chloride	M	6.937	47.269	43.1537
4	5.68	Nitrite	M	0.098	0.750	0.2850
6	6.09	Sulfate	M	20.649	182.071	171.8228
7	6.96	Nitrate	M	0.606	1.025	1.4455
TOTAL:				28.35	231.55	216.94



Peak Integration Report

Sample Name:	**0182_4 x10**	*Inj. Vol.:*	**10.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**29-Jan-2015 / 23:08**	*Run Time:*	**18.00**

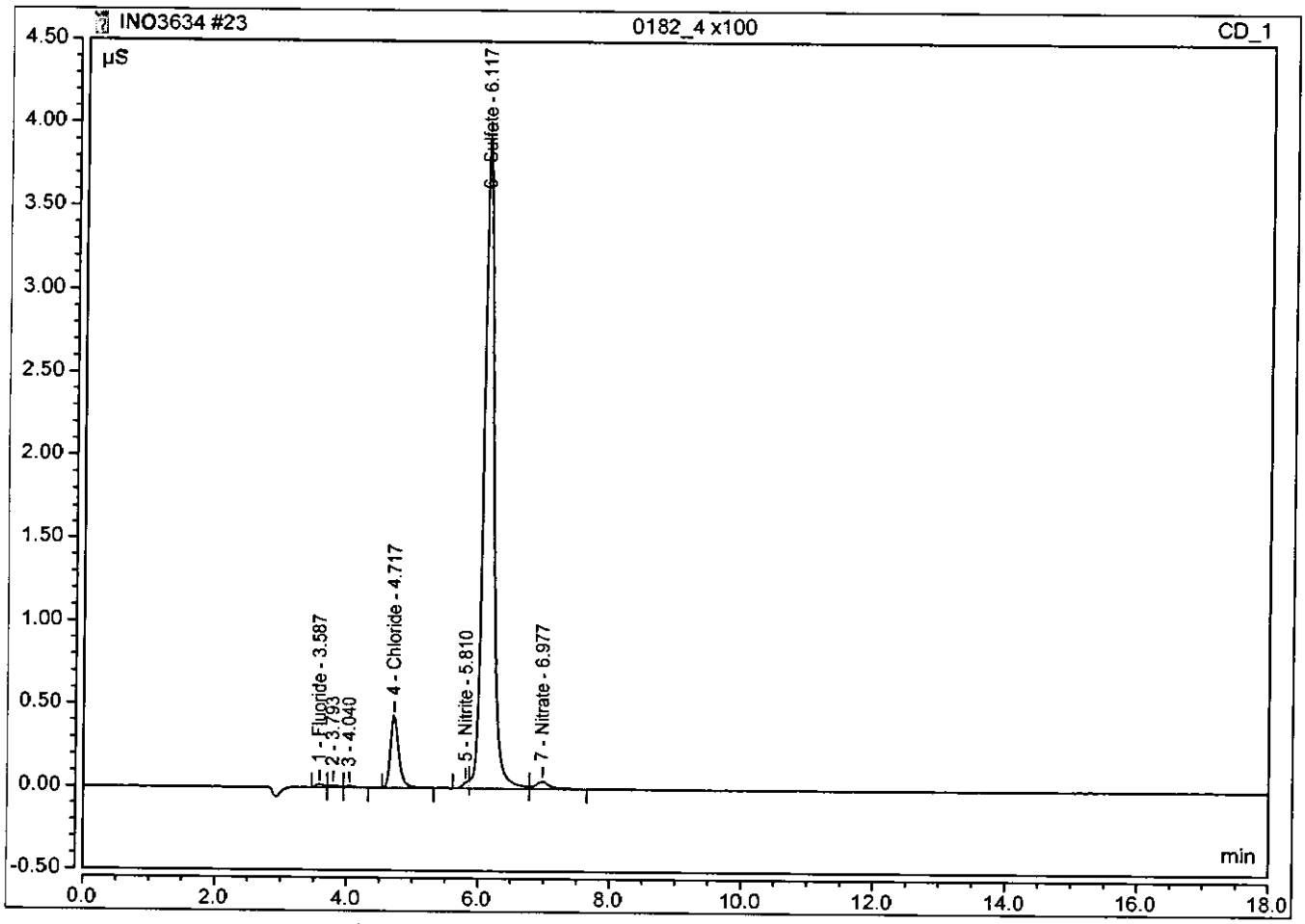
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.009	0.064	0.0334
4	4.72	Chloride	M	0.664	4.633	4.1369
5	5.79	Nitrite	M	0.021	0.177	0.0927
6	6.10	Sulfate	M	6.872	37.601	57.0741
7	6.98	Nitrate	M	0.058	0.138	0.1395
		TOTAL:		7.62	42.61	61.48



Peak Integration Report

Sample Name:	0182_4 x100	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 21:30	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.003	0.022	0.0121
4	4.72	Chloride	M	0.064	0.432	0.4067
5	5.81	Nitrite	M	0.004	0.037	0.0511
6	6.12	Sulfate	M	0.698	3.929	5.6527
7	6.98	Nitrate	M	0.011	0.045	0.0268
TOTAL:				0.78	4.47	6.15



Results of **BT-SW-05**

Client Sample ID: **BT-SW-05**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182005-A
Lab Project ID: 31500182

Collection Date: 01/26/2015 09:10
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 300.0**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Sulfate	**538**		100	mg/L	100	01/30/2015 22:31
Chloride	**30.4**		1.00	mg/L	1	01/29/2015 23:28

Batch Information

Analytical Batch: **INO3629**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3629**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/29/2015 23:28**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **10 mL**

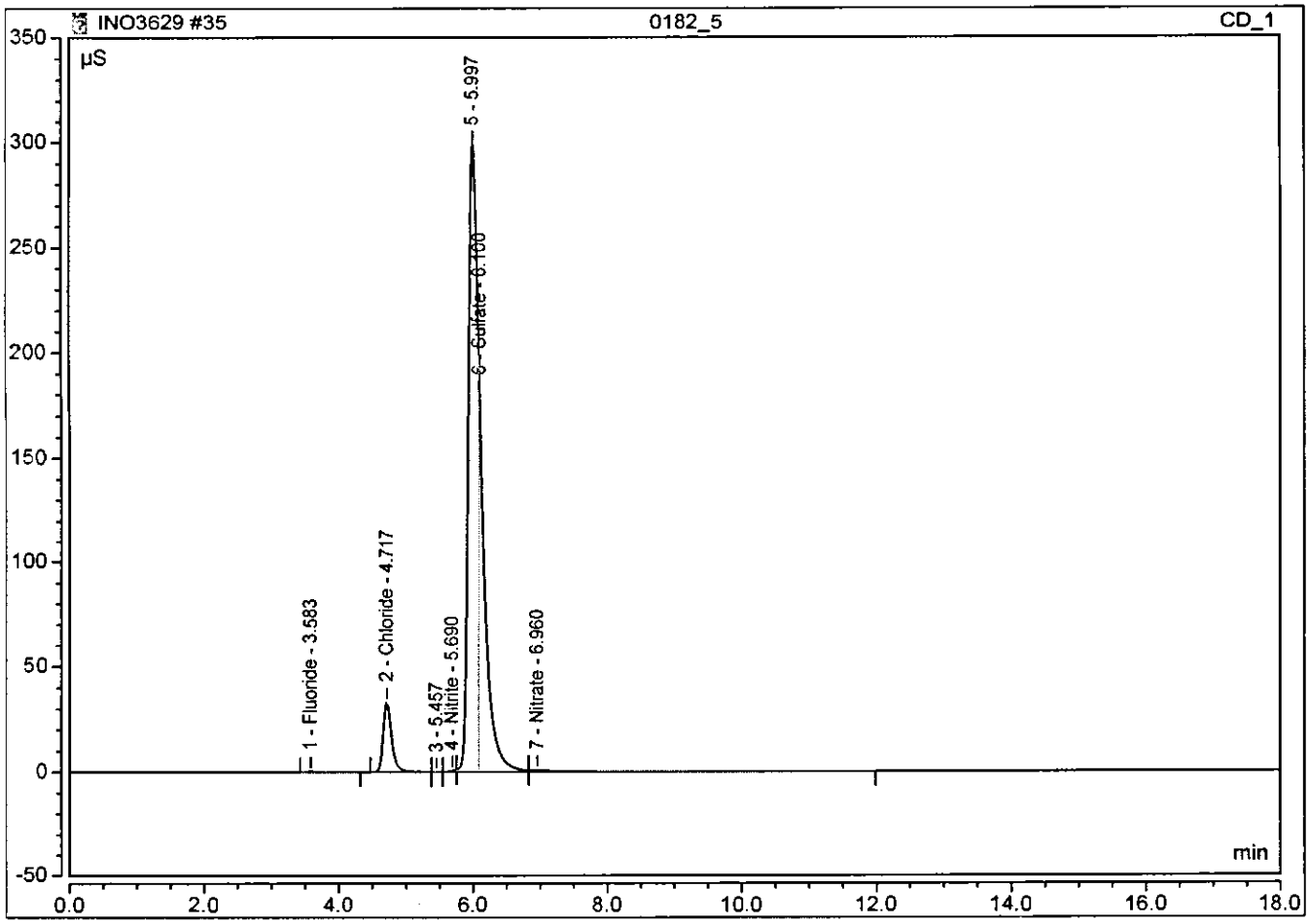
Analytical Batch: **INO3634**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3634**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/30/2015 22:31**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **10 mL**

Peak Integration Report

Sample Name:	0182_5	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 23:28	*Run Time:*	18.00

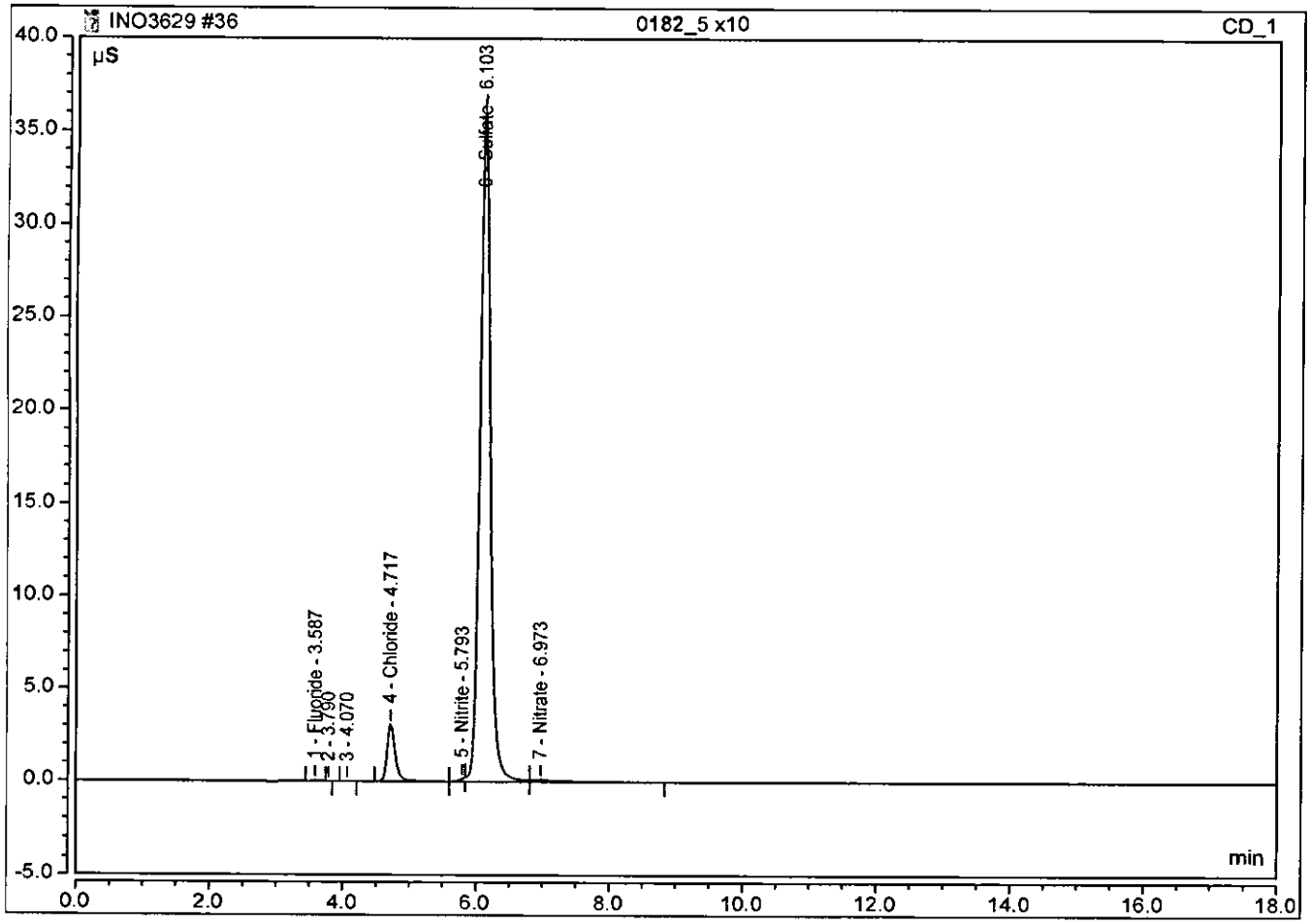
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.064	0.437	0.2396
2	4.72	Chloride	M	4.888	33.091	30.4107
4	5.69	Nitrite	M	0.096	0.740	0.2790
6	6.10	Sulfate	M	20.891	179.495	173.8395
7	6.96	Nitrate	M	0.539	0.969	1.2854
TOTAL:				26.48	214.73	206.05



Peak Integration Report

Sample Name:	0182_5 x10	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 23:48	*Run Time:*	18.00

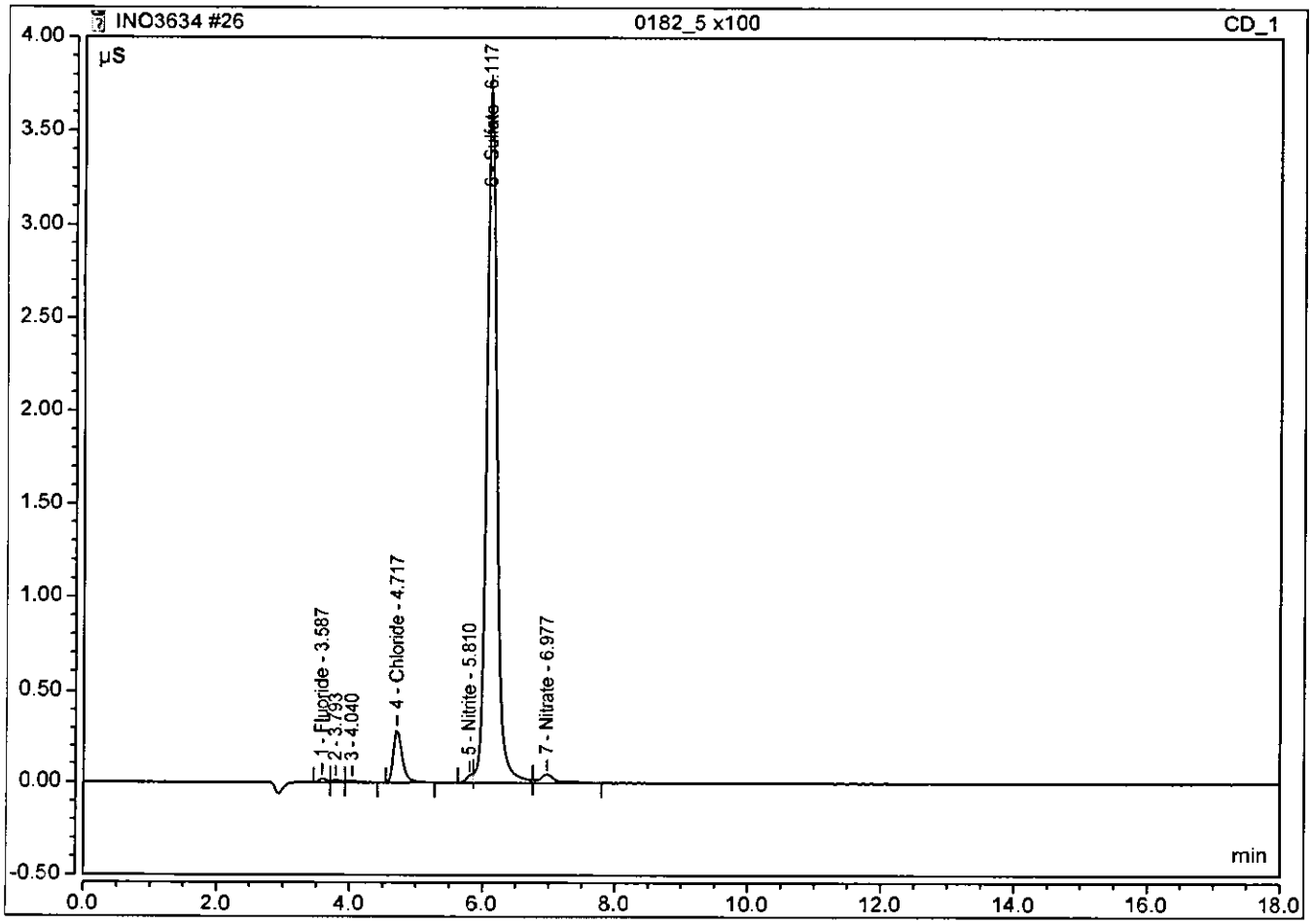
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.009	0.054	0.0361
4	4.72	Chloride	M	0.437	3.078	2.7301
5	5.79	Nitrite	M	0.020	0.167	0.0890
6	6.10	Sulfate	M	6.541	35.983	54.3205
7	6.97	Nitrate	M	0.053	0.125	0.1269
TOTAL:				7.06	39.41	57.30



Peak Integration Report

Sample Name:	0182_5 x100	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 22:31	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.003	0.021	0.0122
4	4.72	Chloride	M	0.044	0.293	0.2817
5	5.81	Nitrite	M	0.005	0.036	0.0515
6	6.12	Sulfate	M	0.665	3.726	5.3793
7	6.98	Nitrate	M	0.012	0.043	0.0280
		TOTAL:		0.73	4.12	5.75



Results of **BT-SW-06**

Client Sample ID: **BT-SW-06**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182006-A
Lab Project ID: 31500182

Collection Date: 01/26/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 300.0**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Sulfate	**313**		10.0	mg/L	10	01/30/2015 0:29
Chloride	**55.2**		10.0	mg/L	10	01/30/2015 0:29

Batch Information

Analytical Batch: **INO3629**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3629**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/30/2015 00:29**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **10 mL**

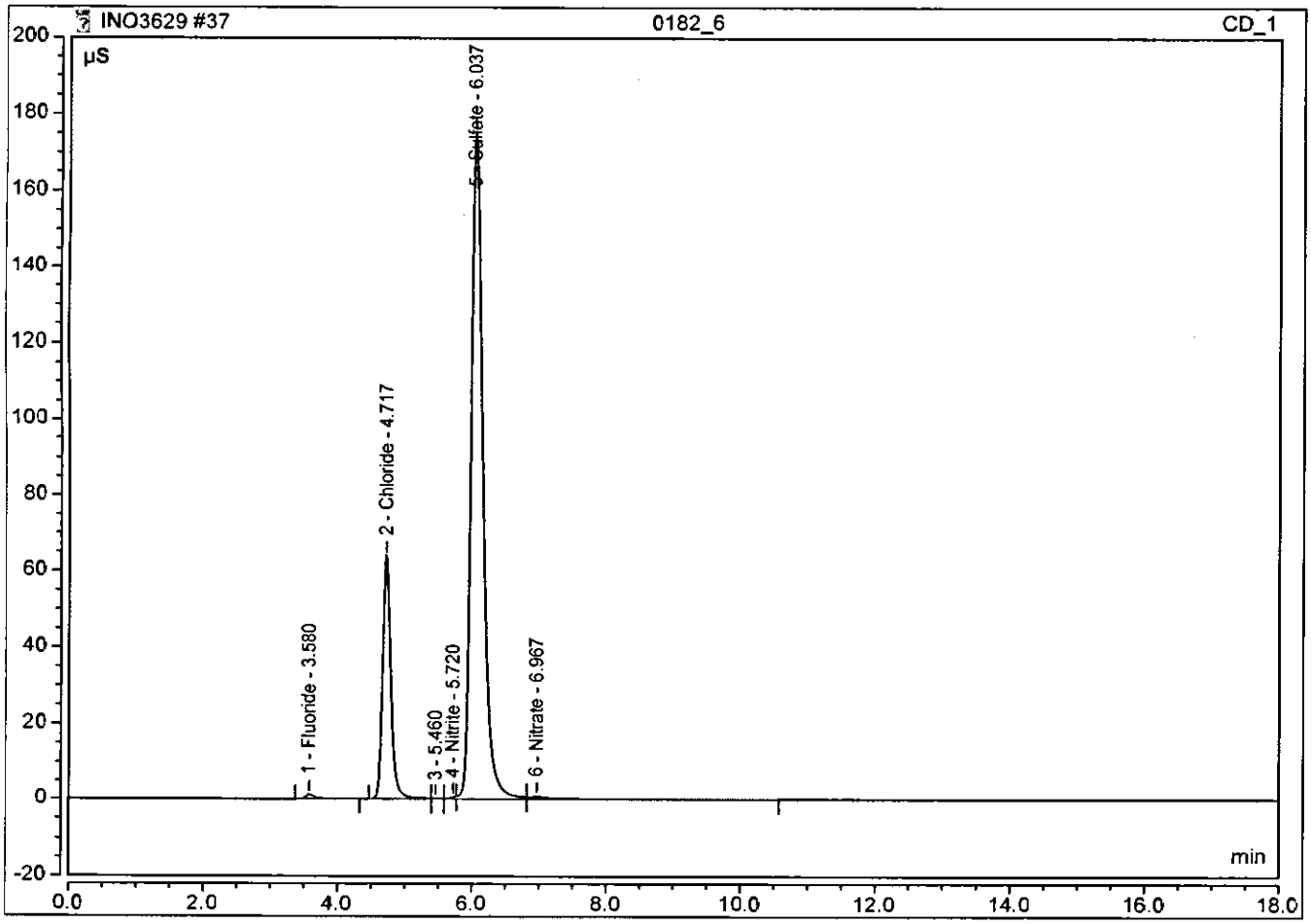
Print Date: 02/06/2015

N.C. Certification # 481

Peak Integration Report

Sample Name:	0182_6	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 00:09	*Run Time:*	18.00

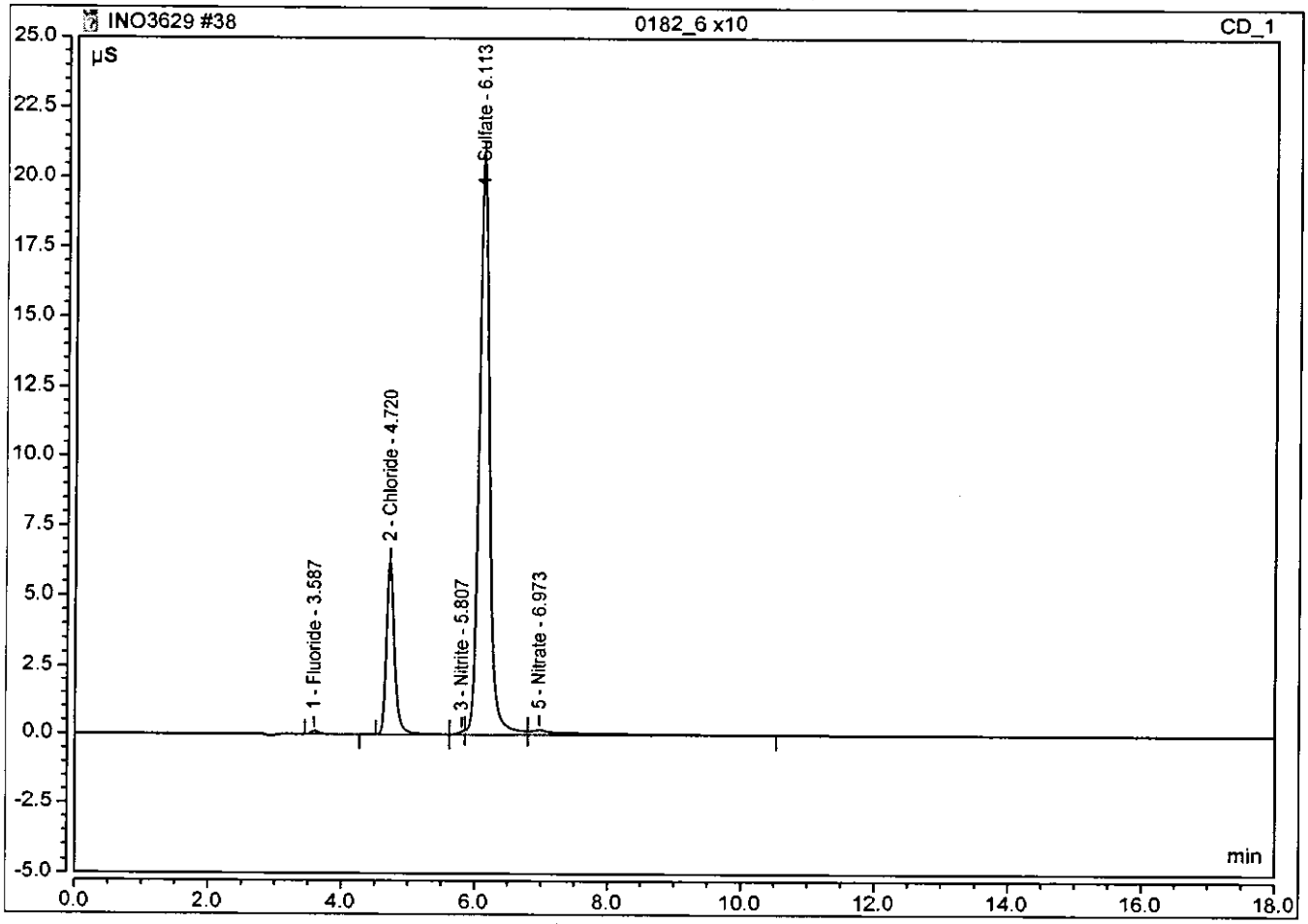
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.166	1.215	0.6149
2	4.72	Chloride	M	9.215	63.895	57.3155
4	5.72	Nitrite	M	0.068	0.566	0.2086
5	6.04	Sulfate	M	36.130	175.234	300.7673
6	6.97	Nitrate	M	0.338	0.785	0.8061
TOTAL:				45.92	241.70	359.71



Peak Integration Report

Sample Name:	0182_6 x10	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 00:29	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.018	0.127	0.0687
2	4.72	Chloride	M	0.886	6.206	5.5221
3	5.81	Nitrite	M	0.015	0.123	0.0767
4	6.11	Sulfate	M	3.773	20.810	31.2639
5	6.97	Nitrate	M	0.154	0.182	0.3685
TOTAL:				4.85	27.45	37.30



Results of **BT-SW-DUP**

Client Sample ID: **BT-SW-DUP**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182007-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 00:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 300.0**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Sulfate	**581**		100	mg/L	100	01/30/2015 22:51
Chloride	**42.4**		1.00	mg/L	1	01/30/2015 0:49

Batch Information

Analytical Batch: **INO3629**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3629**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/30/2015 00:49**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **10 mL**

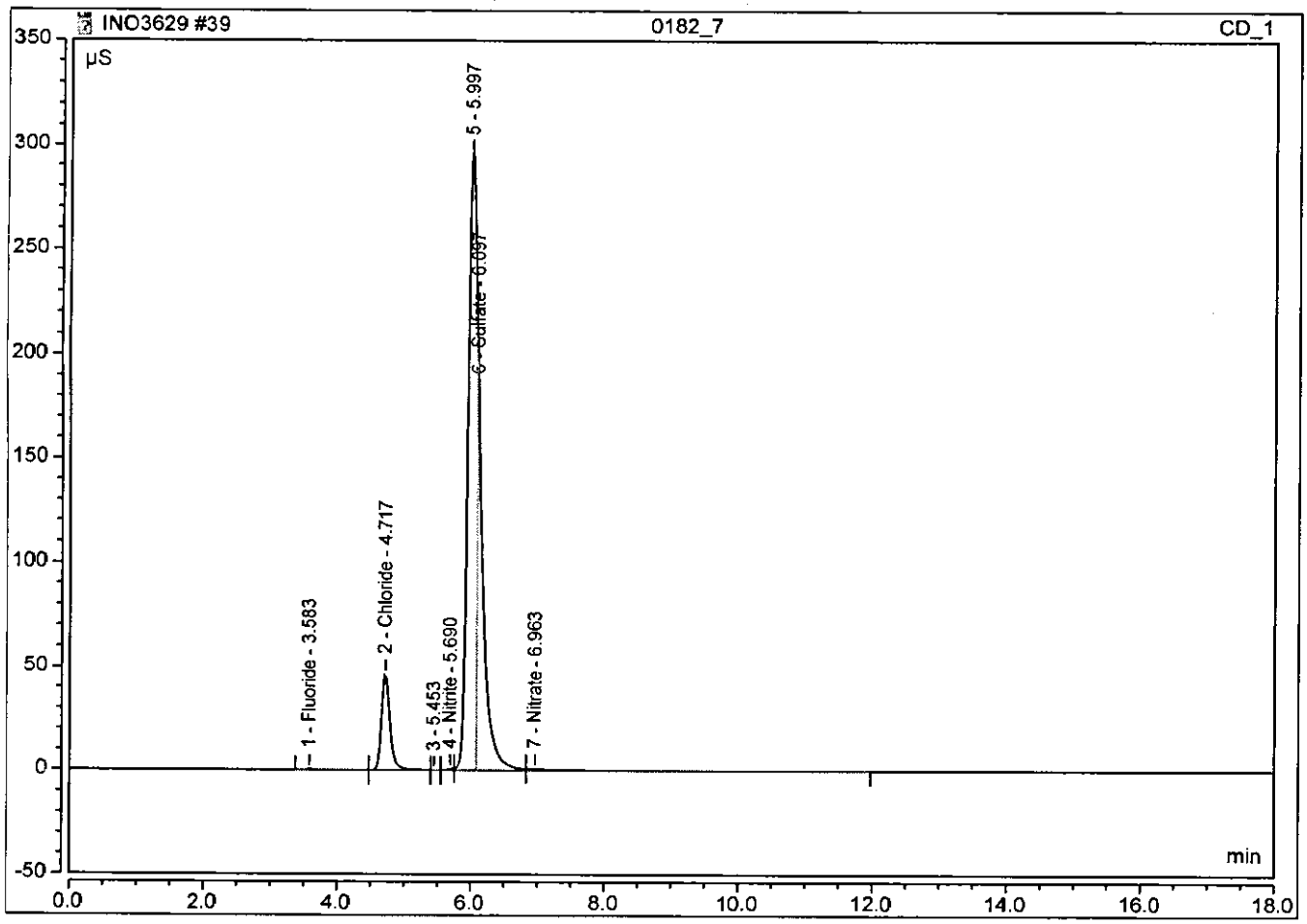
Analytical Batch: **INO3634**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3634**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/30/2015 22:51**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **10 mL**

Peak Integration Report

Sample Name:	**0182_7**	*Inj. Vol.:*	**10.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**30-Jan-2015 / 00:49**	*Run Time:*	**18.00**

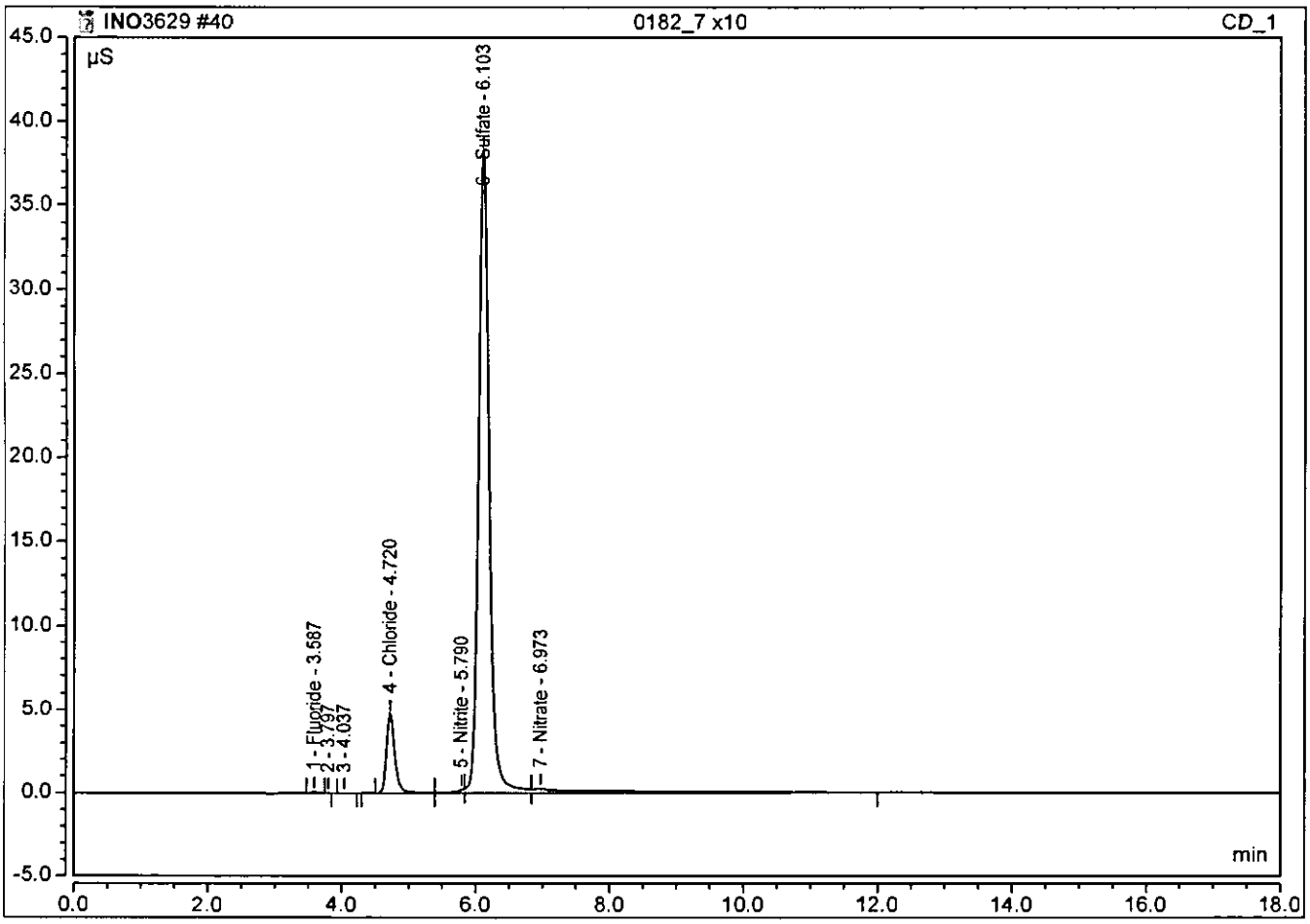
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.067	0.443	0.2489
2	4.72	Chloride	M	6.809	46.759	42.3573
4	5.69	Nitrite	M	0.098	0.746	0.2835
6	6.10	Sulfate	M	20.548	180.970	170.9793
7	6.96	Nitrate	M	0.496	0.933	1.1835
TOTAL:				28.02	229.85	215.05



Peak Integration Report

Sample Name:	0182_7 x10	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 01:09	*Run Time:*	18.00

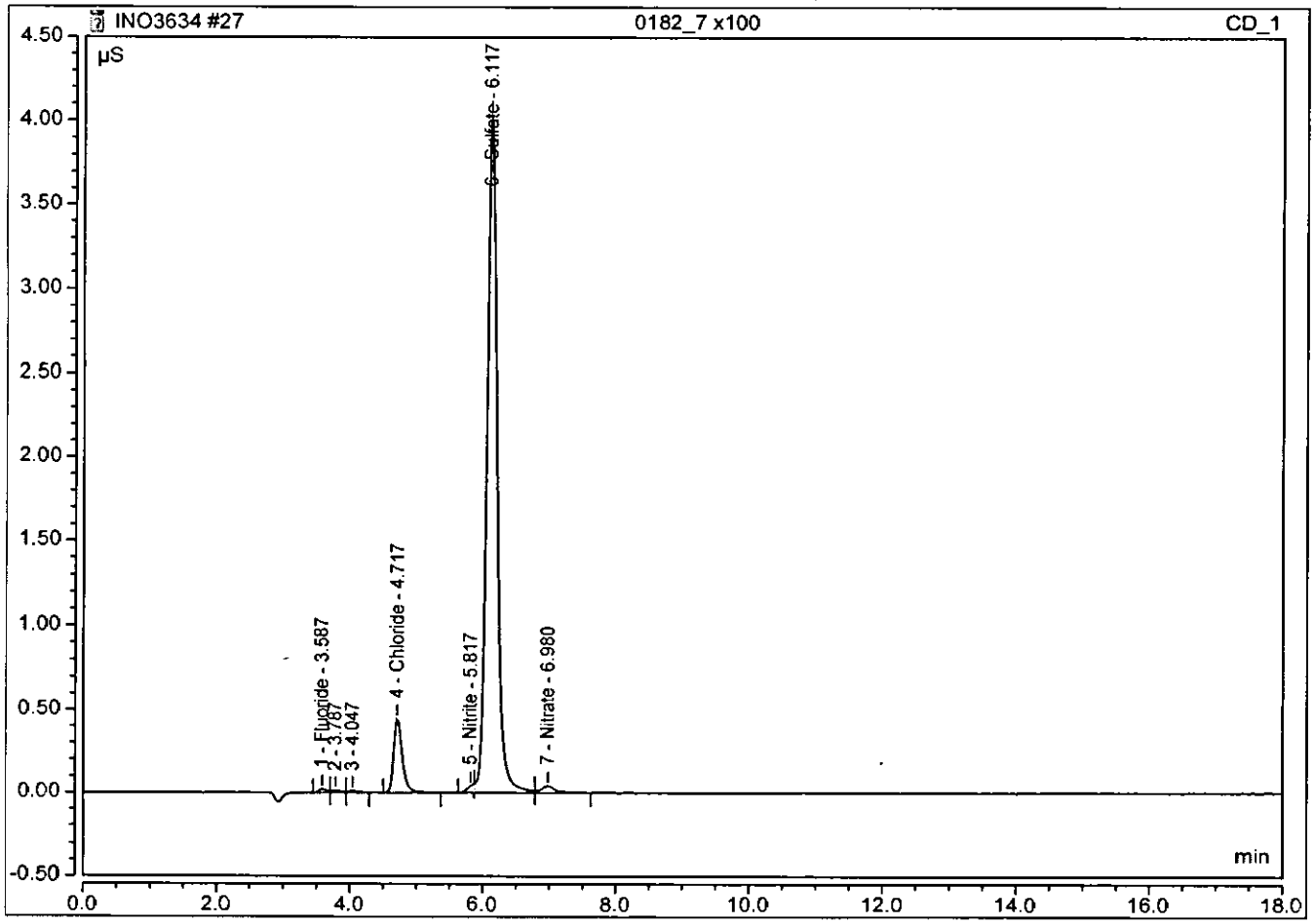
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.010	0.063	0.0388
4	4.72	Chloride	M	0.672	4.759	4.1908
5	5.79	Nitrite	M	0.032	0.210	0.1199
6	6.10	Sulfate	M	7.033	38.239	58.4186
7	6.97	Nitrate	M	0.364	0.251	0.8684
TOTAL:				8.11	43.52	63.64



Peak Integration Report

Sample Name:	0182_7 x100	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 22:51	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.003	0.023	0.0138
4	4.72	Chloride	M	0.066	0.445	0.4210
5	5.82	Nitrite	M	0.005	0.041	0.0526
6	6.12	Sulfate	M	0.717	4.027	5.8118
7	6.98	Nitrate	M	0.011	0.041	0.0257
TOTAL:				0.80	4.58	6.32



Results of **BT-PW-01**

Client Sample ID: **BT-PW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182011-A
Lab Project ID: 31500182

Collection Date: 01/24/2015 14:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 300.0**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Sulfate	**500**		100	mg/L	100	01/30/2015 2:09
Chloride	**214000**		10000	mg/L	10000	01/30/2015 2:30

Batch Information

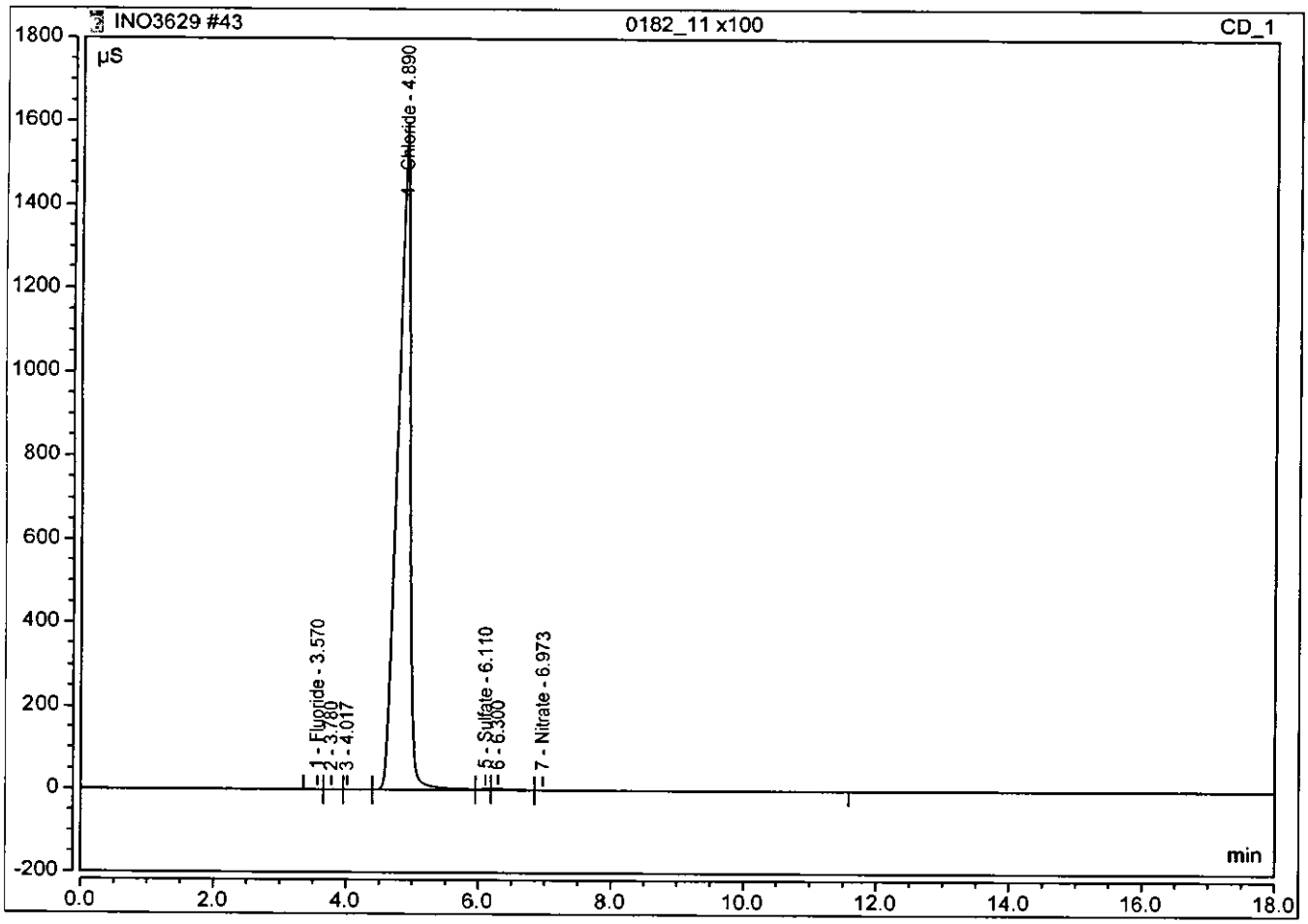
Analytical Batch: **INO3629**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3629**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/30/2015 02:09**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **10 mL**

Peak Integration Report

Sample Name:	0182_11 x100	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 02:09	*Run Time:*	18.00

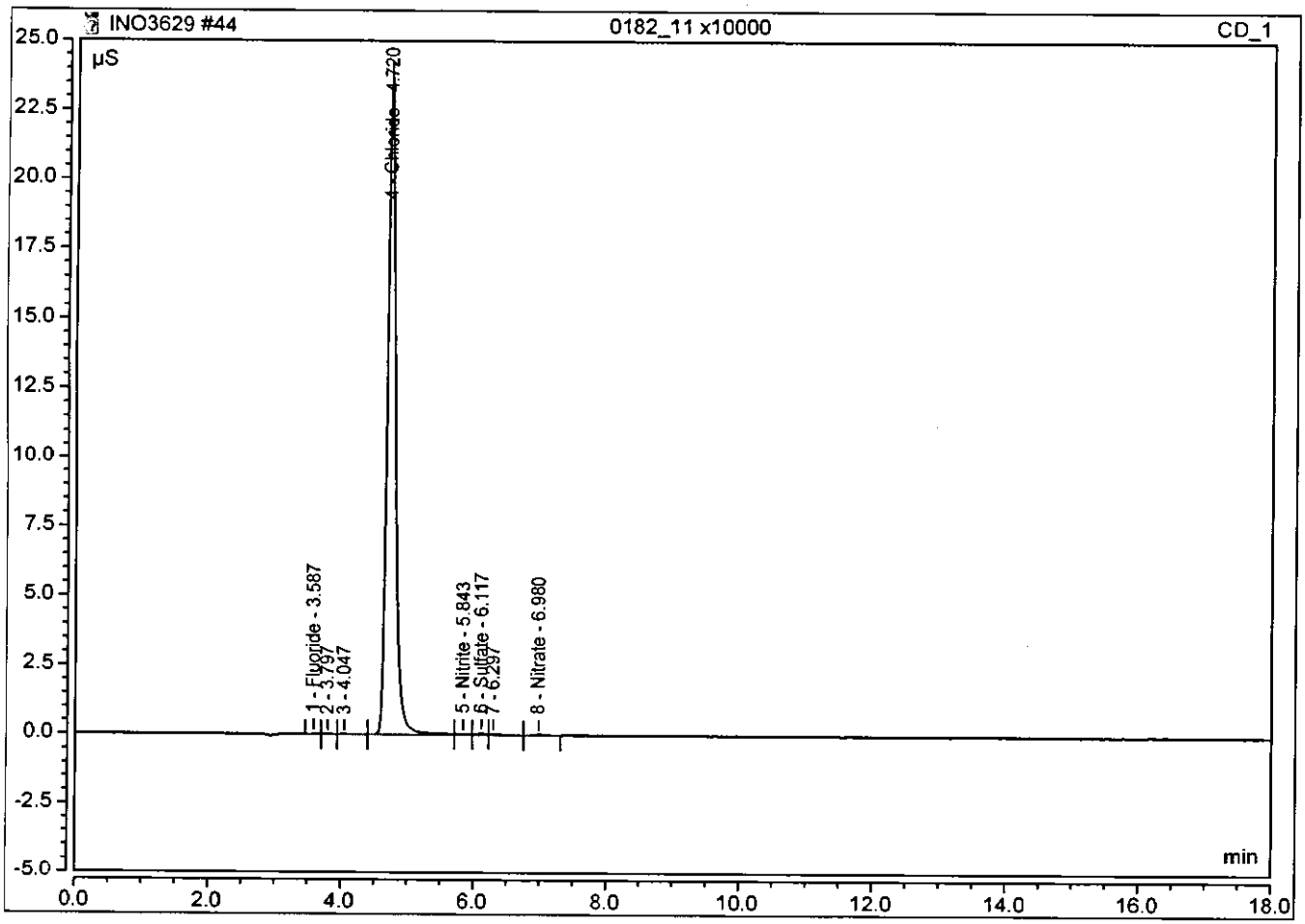
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.57	Fluoride	M	0.011	0.077	0.0417
4	4.89	Chloride	M	340.178	1566.096	2115.5617
5	6.11	Sulfate	M	0.619	3.390	4.9972
7	6.97	Nitrate	M	0.254	0.290	0.6050
TOTAL:				341.06	1569.85	2121.21



Peak Integration Report

Sample Name:	0182_11 x10000	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 02:30	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	BM	0.003	0.022	0.0123
4	4.72	Chloride	M	3.432	23.734	21.3552
5	5.84	Nitrite	M	0.009	0.040	0.0630
6	6.12	Sulfate	M	0.011	0.057	n.a.
8	6.98	Nitrate	MB	0.006	0.033	0.0156
TOTAL:				3.46	23.89	21.45



Results of **BT-PW-02**

Client Sample ID: **BT-PW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182012-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 10:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **EPA 300.0**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Sulfate	**377**		100	mg/L	100	01/30/2015 2:50
Chloride	**174000**		10000	mg/L	10000	01/30/2015 3:10

Batch Information

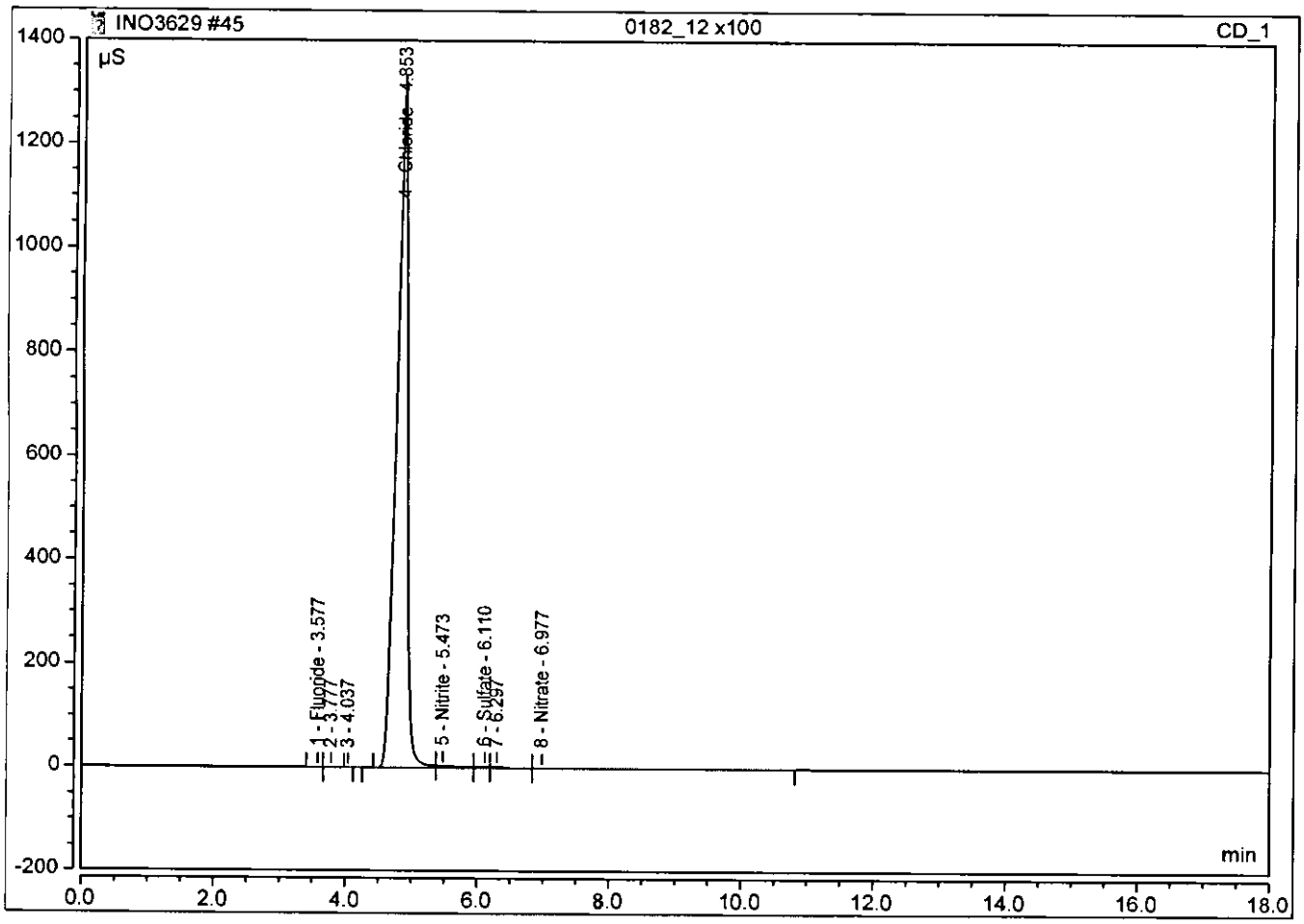
Analytical Batch: **INO3629**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3629**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/30/2015 02:50**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **10 mL**

Peak Integration Report

Sample Name:	**0182_12 x100**	*Inj. Vol.:*	**10.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**30-Jan-2015 / 02:50**	*Run Time:*	**18.00**

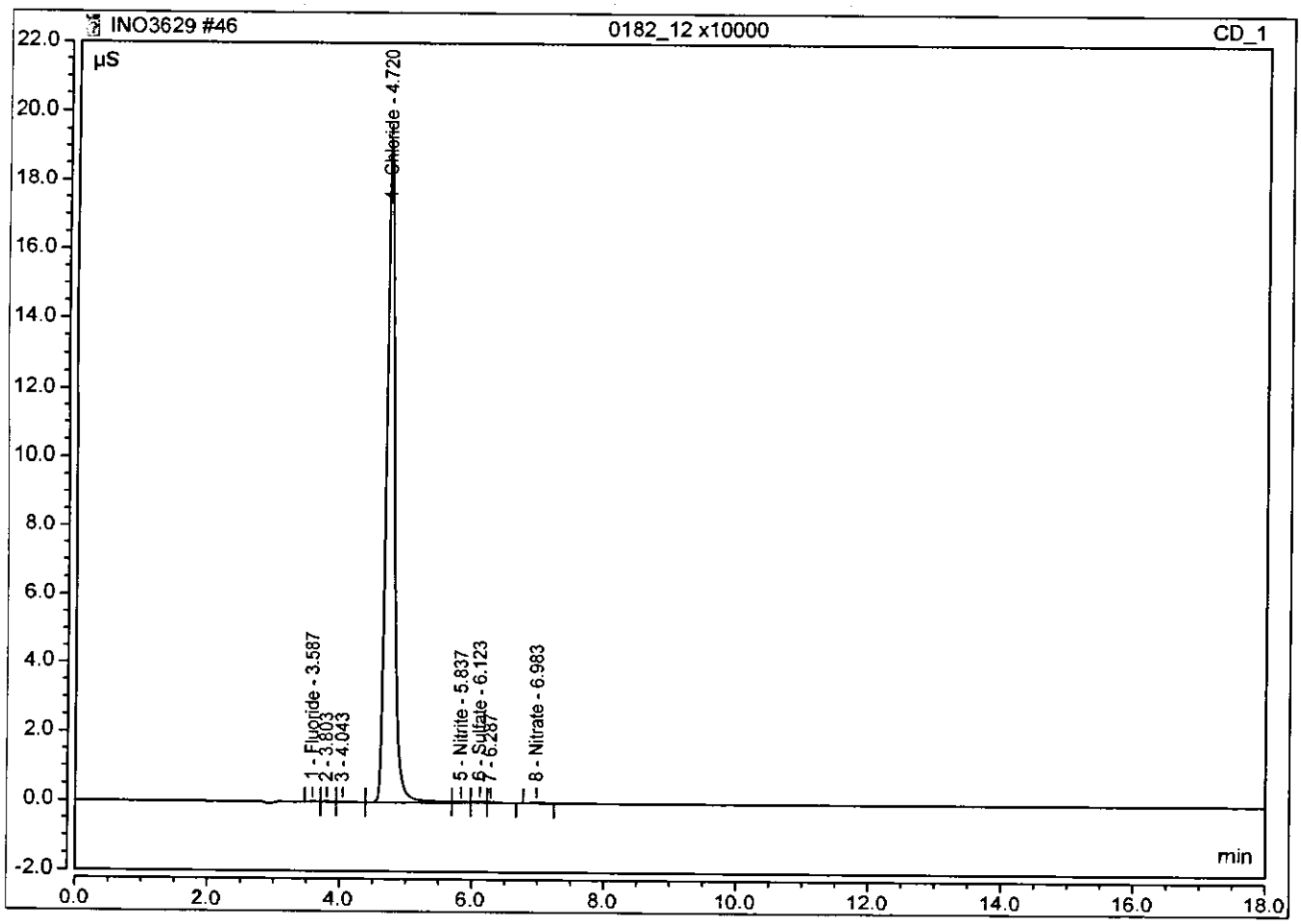
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.009	0.064	0.0347
4	4.85	Chloride	M	249.928	1307.782	1554.2986
5	5.47	Nitrite	M	1.376	3.450	3.4735
6	6.11	Sulfate	M	0.471	2.476	3.7674
8	6.98	Nitrate	M	0.176	0.208	0.4205
		TOTAL:		251.96	1313.98	1561.99



Peak Integration Report

Sample Name:	0182_12 x10000	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 03:10	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	BM	0.003	0.021	0.0120
4	4.72	Chloride	M	2.792	19.280	17.3713
5	5.84	Nitrite	M	0.008	0.034	0.0597
6	6.12	Sulfate	M	0.009	0.048	n.a.
8	6.98	Nitrate	BMB	0.006	0.031	0.0135
TOTAL:				2.82	19.41	17.46



EPA 300.0
QC, Blanks Data

Print Date: 02/06/2015

N.C. Certification # 481

Instrument Detection Limits **Form 9**

Instrument: IC2
Units: mg/L

Results by **EPA 300.0**

Parameter	Wavelength/Mass	CRQL	MDL
Chloride		1.00	0.0314
Sulfate		1.00	0.146

Print Date: 02/06/2015

N.C. Certification # 481

EPA 300.0
Batch INO3629

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: EPA 300.0

Prep Method: EPA 300.0
Prep Batch: INO3629
Prep Date: 01/29/2015 14:04

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 63654 [INO/3629]	157971	01/29/2015 14:04	INO3629	IC2	PSW
LCS for HBN 63654 [INO/3629]	157972	01/29/2015 14:24	INO3629	IC2	PSW
WB542-36 Fresh W...(157591MSD)	157974	01/29/2015 15:45	INO3629	IC2	PSW
153-96-16-11H(157837DUP)	157975	01/29/2015 18:46	INO3629	IC2	PSW
BT-SW-01	31500182001	01/29/2015 19:27	INO3629	IC2	PSW
BT-SW-02	31500182002	01/29/2015 19:47	INO3629	IC2	PSW
BT-SW-02	31500182002	01/29/2015 20:07	INO3629	IC2	PSW
MB for HBN 63654 [INO/3629]	157976	01/29/2015 20:27	INO3629	IC2	PSW
LCS for HBN 63654 [INO/3629]	157977	01/29/2015 20:47	INO3629	IC2	PSW
WB542-36 Fresh Wa...(157591MS)	157973	01/29/2015 21:07	INO3629	IC2	PSW
BT-SW-03	31500182003	01/29/2015 22:08	INO3629	IC2	PSW
BT-SW-03	31500182003	01/29/2015 22:28	INO3629	IC2	PSW
BT-SW-04	31500182004	01/29/2015 22:48	INO3629	IC2	PSW
BT-SW-05	31500182005	01/29/2015 23:28	INO3629	IC2	PSW
BT-SW-06	31500182006	01/30/2015 00:29	INO3629	IC2	PSW
BT-SW-DUP	31500182007	01/30/2015 00:49	INO3629	IC2	PSW
BT-PW-01	31500182011	01/30/2015 02:09	INO3629	IC2	PSW
BT-PW-01	31500182011	01/30/2015 02:30	INO3629	IC2	PSW
BT-PW-02	31500182012	01/30/2015 02:50	INO3629	IC2	PSW
BT-PW-02	31500182012	01/30/2015 03:10	INO3629	IC2	PSW

Method Blank Summary **Form 4**

Blank ID: MB for HBN 63654 [INO/3629]
Blank Lab ID: 157971
Prep Batch: INO3629

Matrix: Water
Analysis Date/Time: 01/29/2015 14:04

Results by **EPA 300.0**

Client Sample ID	Lab Sample ID	Filename	Date Analyzed	Analyst
LCS for HBN 63654 [INO/3629]	157972	157972x1	01/29/2015 14:24	PSW
WB542-36 Fresh W...(157591MSD)	157974	157974x10000	01/29/2015 15:45	PSW
CBV for HBN 63654 (INO/3629)	158170	CBV2x1	01/29/2015 17:46	PSW
153-96-16-11H(157837DUP)	157975	157975x10000	01/29/2015 18:46	PSW
BT-SW-01	31500182001	0182_1x100	01/29/2015 19:27	PSW
BT-SW-02	31500182002	0182_2x1	01/29/2015 19:47	PSW
BT-SW-02	31500182002	0182_2x10	01/29/2015 20:07	PSW
LCS for HBN 63654 [INO/3629]	157977	157977x1	01/29/2015 20:47	PSW
WB542-36 Fresh Wa...(157591MS)	157973	157973x10000	01/29/2015 21:07	PSW
CBV for HBN 63654 (INO/3629)	158171	CBV3x1	01/29/2015 21:47	PSW
BT-SW-03	31500182003	0182_3x1	01/29/2015 22:08	PSW
BT-SW-03	31500182003	0182_3x100	01/29/2015 22:28	PSW
BT-SW-04	31500182004	0182_4x1	01/29/2015 22:48	PSW
BT-SW-05	31500182005	0182_5x1	01/29/2015 23:28	PSW
BT-SW-06	31500182006	0182_6x10	01/30/2015 00:29	PSW
BT-SW-DUP	31500182007	0182_7x1	01/30/2015 00:49	PSW
CBV for HBN 63654 (INO/3629)	158172	CBV4x1	01/30/2015 01:49	PSW
BT-PW-01	31500182011	0182_11x100	01/30/2015 02:09	PSW
BT-PW-01	31500182011	0182_11x1000	01/30/2015 02:30	PSW
BT-PW-02	31500182012	0182_12x100	01/30/2015 02:50	PSW
BT-PW-02	31500182012	0182_12x1000	01/30/2015 03:10	PSW
CBV for HBN 63654 (INO/3629)	158173	CBV5x1	01/30/2015 03:50	PSW
LCS for HBN 63654 [INO/3629]	157972	157972x1	01/29/2015 14:24	PSW
WB542-36 Fresh W...(157591MSD)	157974	157974x10000	01/29/2015 15:45	PSW
CBV for HBN 63654 (INO/3629)	158170	CBV2x1	01/29/2015 17:46	PSW
153-96-16-11H(157837DUP)	157975	157975x10000	01/29/2015 18:46	PSW
BT-SW-01	31500182001	0182_1x100	01/29/2015 19:27	PSW
BT-SW-02	31500182002	0182_2x1	01/29/2015 19:47	PSW
BT-SW-02	31500182002	0182_2x10	01/29/2015 20:07	PSW
LCS for HBN 63654 [INO/3629]	157977	157977x1	01/29/2015 20:47	PSW
WB542-36 Fresh Wa...(157591MS)	157973	157973x10000	01/29/2015 21:07	PSW
CBV for HBN 63654 (INO/3629)	158171	CBV3x1	01/29/2015 21:47	PSW
BT-SW-03	31500182003	0182_3x1	01/29/2015 22:08	PSW
BT-SW-03	31500182003	0182_3x100	01/29/2015 22:28	PSW

Method Blank Summary **Form 4**

Blank ID: MB for HBN 63654 [INO/3629]
Blank Lab ID: 157976
Prep Batch: INO3629

Matrix: Water
Analysis Date/Time: 01/29/2015 20:27

Results by **EPA 300.0**

Client Sample ID	Lab Sample ID	Filename	Date Analyzed	Analyst
BT-SW-04	31500182004	0182_4x1	01/29/2015 22:48	PSW
BT-SW-05	31500182005	0182_5x1	01/29/2015 23:28	PSW
BT-SW-06	31500182006	0182_6x10	01/30/2015 00:29	PSW
BT-SW-DUP	31500182007	0182_7x1	01/30/2015 00:49	PSW
CBV for HBN 63654 (INO/3629)	158172	CBV4x1	01/30/2015 01:49	PSW
BT-PW-01	31500182011	0182_11x100	01/30/2015 02:09	PSW
BT-PW-01	31500182011	0182_11x1000	01/30/2015 02:30	PSW
BT-PW-02	31500182012	0182_12x100	01/30/2015 02:50	PSW
BT-PW-02	31500182012	0182_12x1000	01/30/2015 03:10	PSW
CBV for HBN 63654 (INO/3629)	158173	CBV5x1	01/30/2015 03:50	PSW

Method Blank

Blank ID: MB for HBN 63654 [INO/3629]
Matrix: Water
Blank Lab ID: 157971
QC for Samples:
31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **EPA 300.0**

Parameter	Result	Qual	LOQ/CL	Units	DF
Chloride	ND		1.00	mg/L	1
Sulfate	ND		1.00	mg/L	1

Batch Information

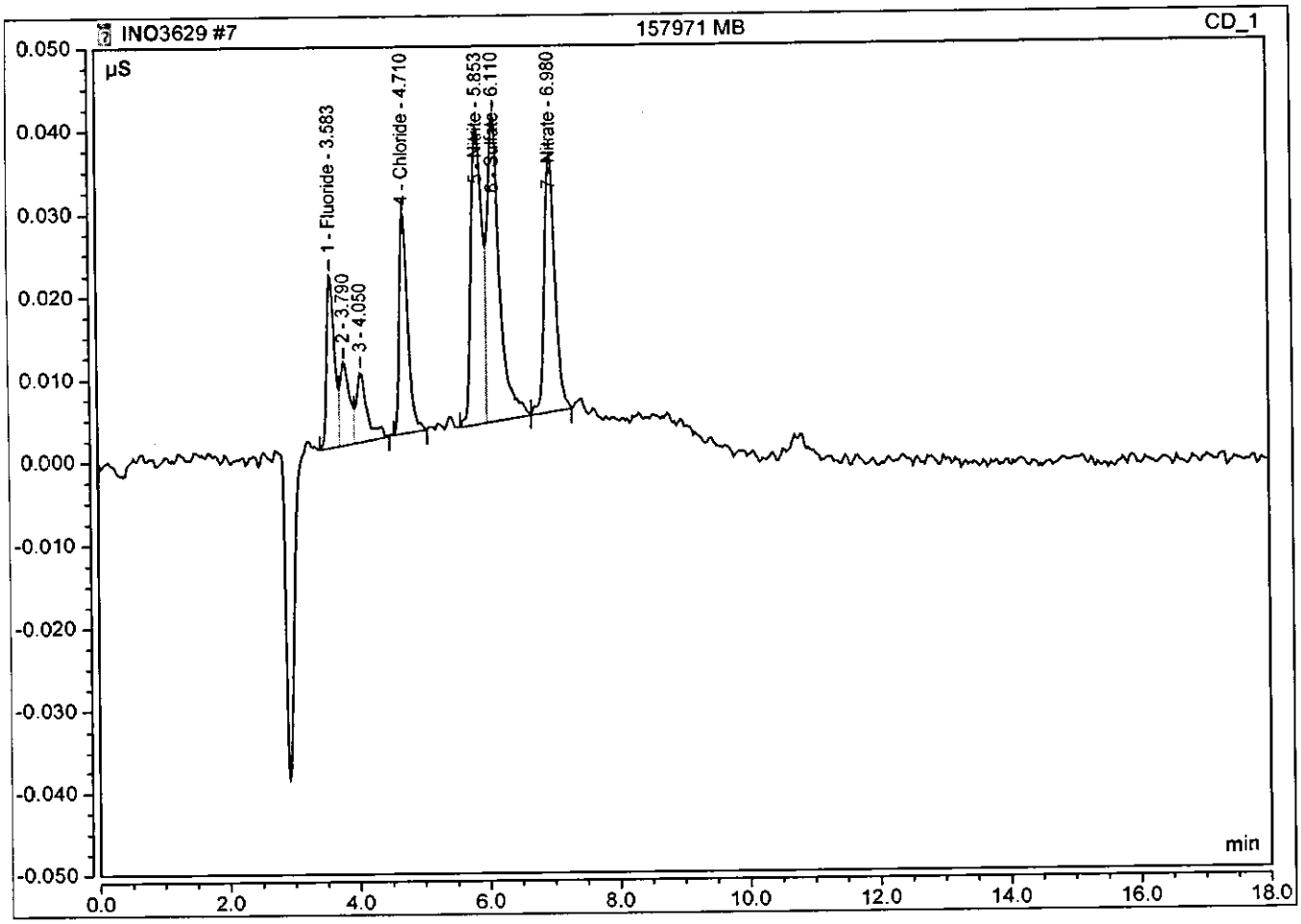
Analytical Batch: INO3629
Analytical Method: EPA 300.0
Instrument: IC2
Analyst: PSW

Prep Batch: INO3629
Prep Method: EPA 300.0
Prep Date/Time: 1/29/2015 2:04:45PM
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Peak Integration Report

Sample Name:	157971 MB	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 14:04	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BM	0.003	0.021	0.0127
4	4.71	Chloride	BMB	0.004	0.027	0.0352
5	5.85	Nitrite	BM	0.007	0.036	0.0582
6	6.11	Sulfate	M	0.008	0.037	n.a.
7	6.98	Nitrate	MB	0.006	0.031	0.0143
TOTAL:				0.03	0.15	0.12



Method Blank

Blank ID: MB for HBN 63654 [INO/3629]
Matrix: Water
Blank Lab ID: 157976
QC for Samples:
31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **EPA 300.0**

Parameter	Result	Qual	LOQ/CL	Units	DF
Chloride	ND		1.00	mg/L	1
Sulfate	ND		1.00	mg/L	1

Batch Information

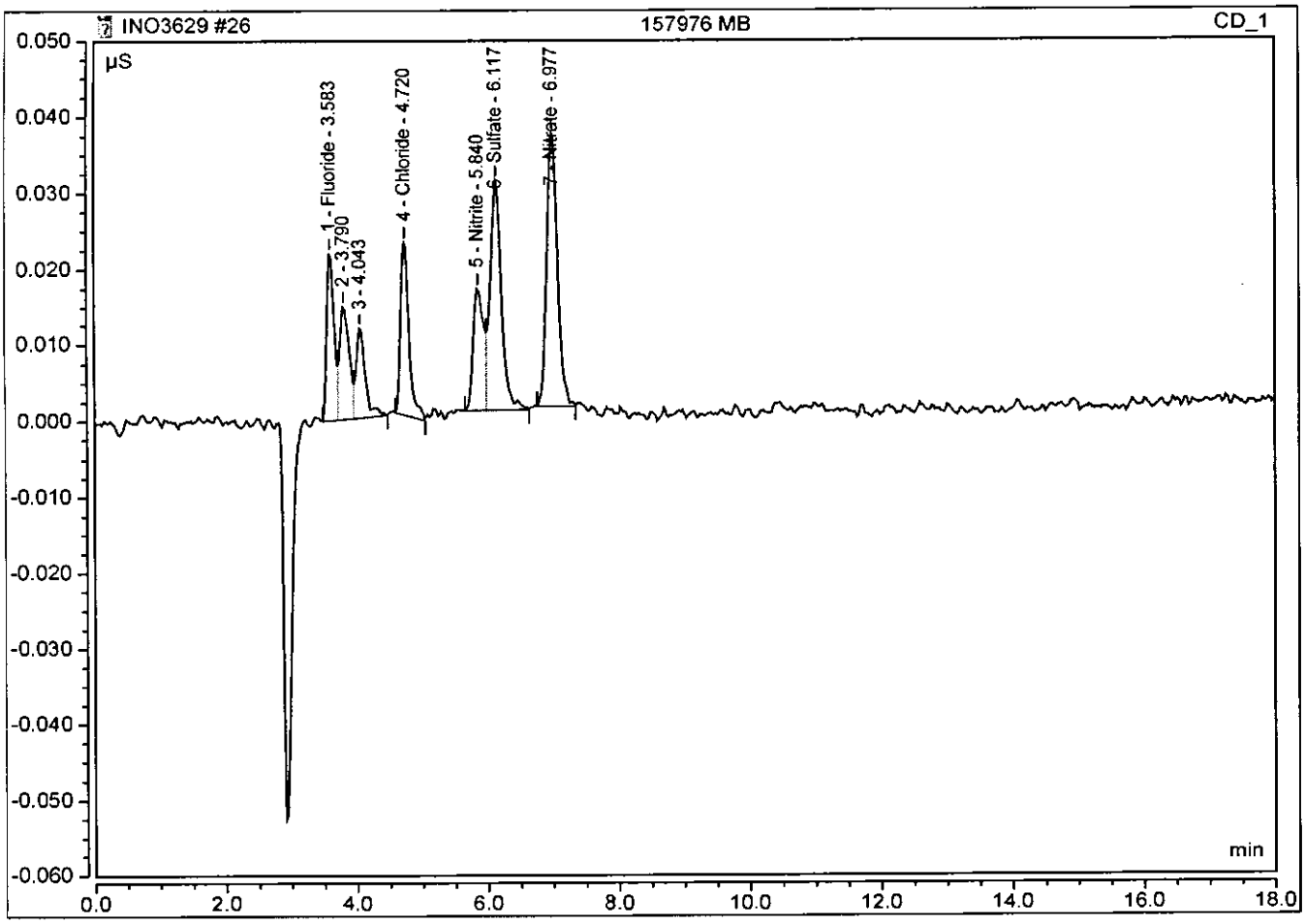
Analytical Batch: INO3629
Analytical Method: EPA 300.0
Instrument: IC2
Analyst: PSW

Prep Batch: INO3629
Prep Method: EPA 300.0
Prep Date/Time: 1/29/2015 8:27:25PM
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Peak Integration Report

Sample Name:	157976 MB	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 20:27	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BM	0.003	0.022	0.0125
4	4.72	Chloride	BMB	0.003	0.023	0.0314
5	5.84	Nitrite	BM	0.003	0.016	0.0474
6	6.12	Sulfate	MB	0.006	0.030	n.a.
7	6.98	Nitrate	BMB	0.007	0.036	0.0164
TOTAL:				0.02	0.13	0.11



Blank Spike Summary

Blank Spike ID: LCS for HBN 63654 [INO/3629]
Blank Spike Lab ID: 157972
Date Analyzed: 01/29/2015 14:24

Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **EPA 300.0**

	Blank Spike (mg/L)			
Parameter	Spike	Result	Rec (%)	CL
Chloride	20.0	21.5	108	90.0-110
Sulfate	20.0	21.1	105	90.0-110

Batch Information

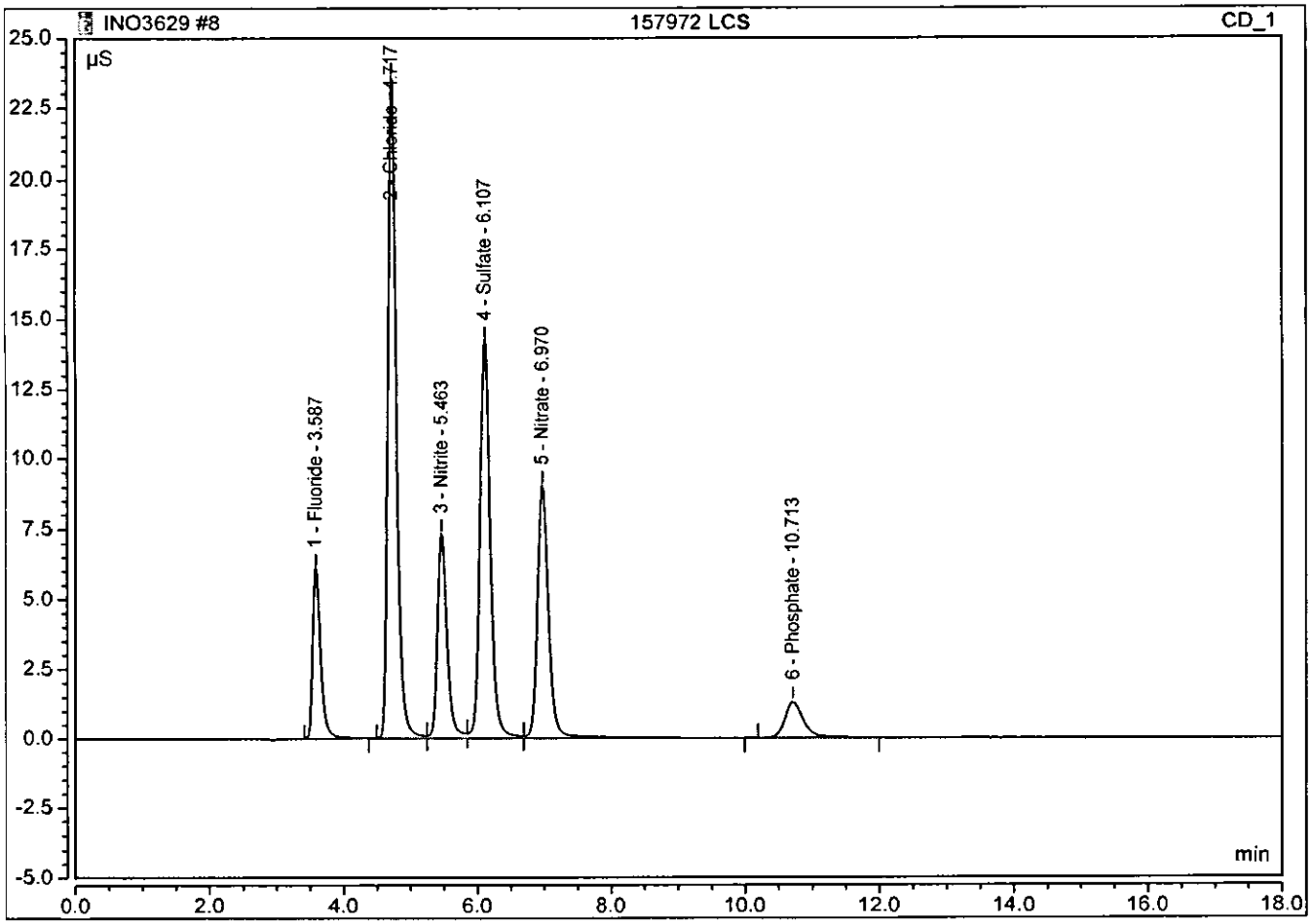
Analytical Batch: **INO3629**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3629**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/29/2015 14:24**
Spike Init Wt./Vol.: **10 mL** Extract Vol: **10 mL**
Dupe Init Wt./Vol.: Extract Vol:

Peak Integration Report

Sample Name:	157972 LCS	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 14:24	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.846	6.099	3.1260
2	4.72	Chloride	M	3.456	23.612	21.5060
3	5.46	Nitrite	M	1.225	7.314	3.0954
4	6.11	Sulfate	M	2.552	14.200	21.0995
5	6.97	Nitrate	M	1.777	9.005	4.2388
6	10.71	Phosphate	M	0.430	1.311	3.4937
TOTAL:				10.29	61.54	56.56



Blank Spike Summary

Blank Spike ID: LCS for HBN 63654 [INO/3629]
Blank Spike Lab ID: 157977
Date Analyzed: 01/29/2015 20:47

Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **EPA 300.0**

	Blank Spike (mg/L)			
Parameter	Spike	Result	Rec (%)	CL
Chloride	20.0	21.2	106	90.0-110
Sulfate	20.0	20.8	104	90.0-110

Batch Information

Analytical Batch: **INO3629**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3629**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/29/2015 20:47**
Spike Init Wt./Vol.: **10 mL** Extract Vol: **10 mL**
Dupe Init Wt./Vol.: Extract Vol:

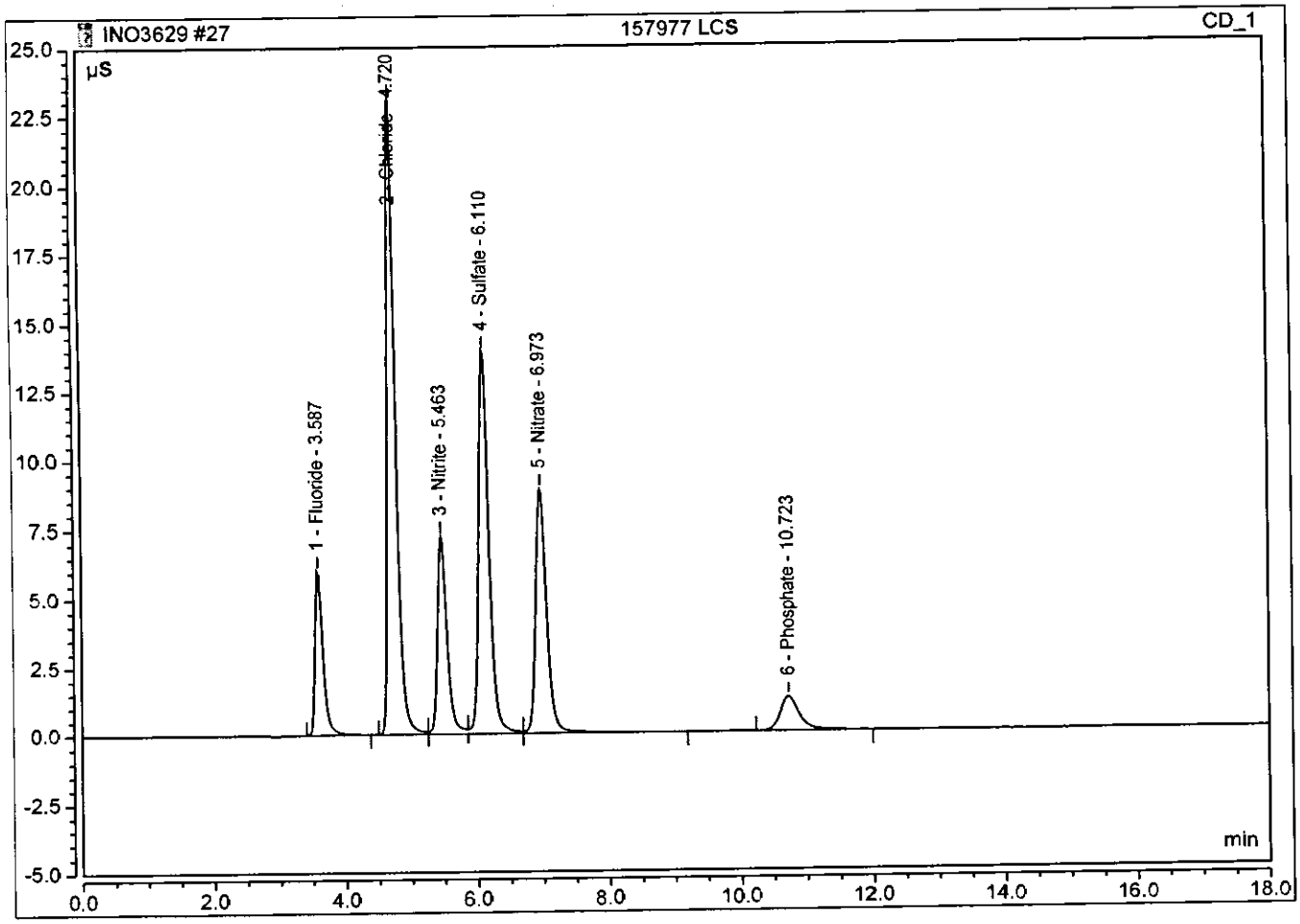
Print Date: 02/06/2015

N.C. Certification # 481

Peak Integration Report

Sample Name:	157977 LCS	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 20:47	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.847	6.039	3.1291
2	4.72	Chloride	M	3.413	23.114	21.2369
3	5.46	Nitrite	M	1.213	7.214	3.0668
4	6.11	Sulfate	M	2.517	13.939	20.8048
5	6.97	Nitrate	M	1.737	8.880	4.1422
6	10.72	Phosphate	M	0.430	1.258	3.4910
		TOTAL:		10.16	60.44	55.87



EPA 300.0
Batch INO3634

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: EPA 300.0

Prep Method: EPA 300.0
Prep Batch: INO3634
Prep Date: 01/30/2015 20:50

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 63864 [INO/3634]	158211	01/30/2015 20:50	INO3634	IC2	PSW
LCS for HBN 63864 [INO/3634]	158212	01/30/2015 21:10	INO3634	IC2	PSW
BT-SW-04	31500182004	01/30/2015 21:30	INO3634	IC2	PSW
BT-SW-04(157961MS)	158213	01/30/2015 21:50	INO3634	IC2	PSW
BT-SW-04(157961MSD)	158214	01/30/2015 22:10	INO3634	IC2	PSW
BT-SW-05	31500182005	01/30/2015 22:31	INO3634	IC2	PSW
BT-SW-DUP	31500182007	01/30/2015 22:51	INO3634	IC2	PSW
153-96-16-12H(157834DUP)	158215	01/30/2015 23:31	INO3634	IC2	PSW

Method Blank Summary **Form 4**

Blank ID: MB for HBN 63864 [INO/3634]
Blank Lab ID: 158211
Prep Batch: INO3634

Matrix: Water
Analysis Date/Time: 01/30/2015 20:50

Results by **EPA 300.0**

Client Sample ID	Lab Sample ID	Filename	Date Analyzed	Analyst
CBV for HBN 63864 (INO/3634)	158291	CBV1x1	01/30/2015 20:30	PSW
LCS for HBN 63864 [INO/3634]	158212	158212x1	01/30/2015 21:10	PSW
BT-SW-04	31500182004	0182_4x100	01/30/2015 21:30	PSW
BT-SW-04(157961MS)	158213	158213x100	01/30/2015 21:50	PSW
BT-SW-04(157961MSD)	158214	158214x100	01/30/2015 22:10	PSW
BT-SW-05	31500182005	0182_5x100	01/30/2015 22:31	PSW
BT-SW-DUP	31500182007	0182_7x100	01/30/2015 22:51	PSW
153-96-16-12H(157834DUP)	158215	158215x10000	01/30/2015 23:31	PSW
CBV for HBN 63864 (INO/3634)	158292	CBV2x1	01/31/2015 00:11	PSW

Method Blank

Blank ID: MB for HBN 63864 [INO/3634]
Blank Lab ID: 158211
QC for Samples:
31500182004, 31500182005, 31500182007

Matrix: Water

Results by **EPA 300.0**

Parameter	Result	Qual	LOQ/CL	Units	DF
Sulfate	ND		1.00	mg/L	1

Batch Information

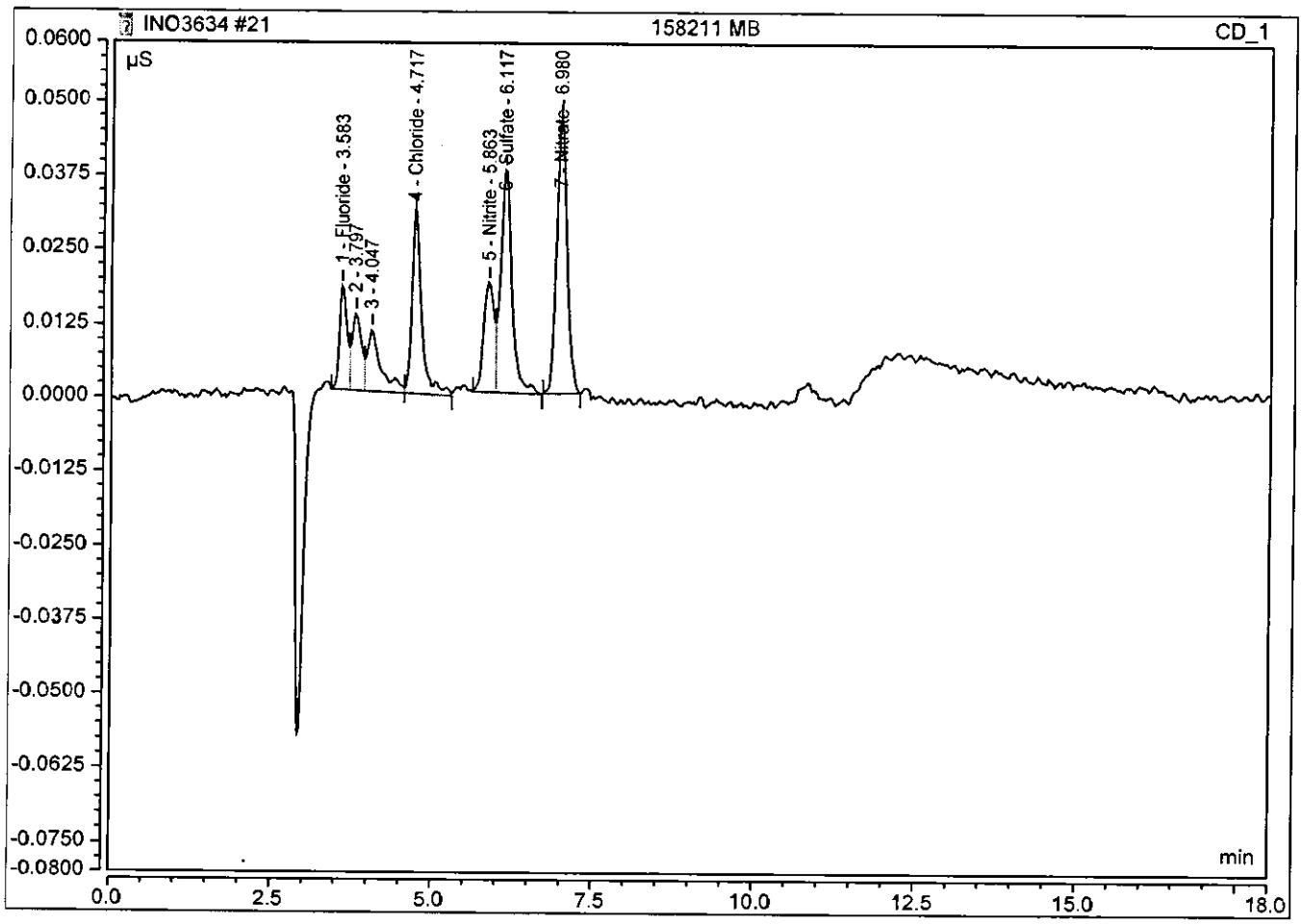
Analytical Batch: INO3634
Analytical Method: EPA 300.0
Instrument: IC2
Analyst: PSW

Prep Batch: INO3634
Prep Method: EPA 300.0
Prep Date/Time: 1/30/2015 8:50:27PM
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Peak Integration Report

Sample Name:	158211 MB	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 20:50	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BM	0.002	0.018	0.0109
4	4.72	Chloride	MB	0.005	0.031	0.0439
5	5.86	Nitrite	BM	0.004	0.019	0.0489
6	6.12	Sulfate	MB	0.008	0.038	n.a.
7	6.98	Nitrate	BMB	0.009	0.046	0.0209
TOTAL:				0.03	0.15	0.12



Blank Spike Summary

Blank Spike ID: LCS for HBN 63864 [INO/3634]
Blank Spike Lab ID: 158212
Date Analyzed: 01/30/2015 21:10

Matrix: Water

QC for Samples: 31500182004, 31500182005, 31500182007

Results by **EPA 300.0**

	Blank Spike (mg/L)			
Parameter	Spike	Result	Rec (%)	CL
Sulfate	20.0	19.9	100	90.0-110

Batch Information

Analytical Batch: **INO3634**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3634**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/30/2015 21:10**
Spike Init Wt./Vol.: **10 mL** Extract Vol: **10 mL**
Dupe Init Wt./Vol.: Extract Vol:

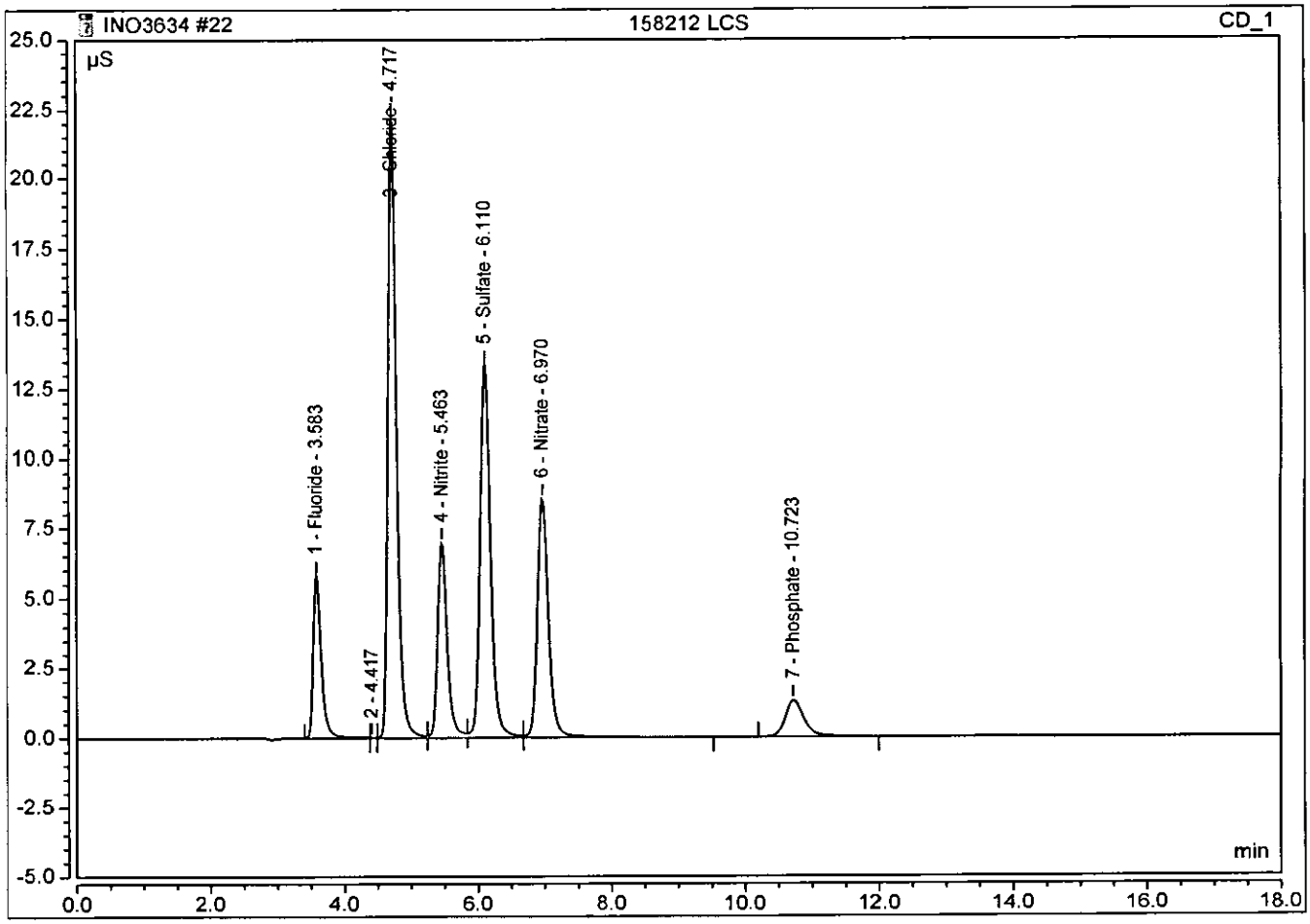
Print Date: 02/06/2015

N.C. Certification # 481

Peak Integration Report

Sample Name:	158212 LCS	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 21:10	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.816	5.798	3.0129
3	4.72	Chloride	M	3.277	22.221	20.3884
4	5.46	Nitrite	M	1.167	6.970	2.9521
5	6.11	Sulfate	M	2.413	13.359	19.9386
6	6.97	Nitrate	M	1.676	8.562	3.9978
7	10.72	Phosphate	M	0.425	1.288	3.4572
		TOTAL:		9.77	58.20	53.75



Matrix Spike Summary

Original Sample ID: 31500182004 (BT-SW-04)
MS Sample ID: 158213
MSD Sample ID: 158214

QC for Samples: 31500182004, 31500182005, 31500182007

Analysis Date: 01/30/2015 21:30
Analysis Date: 01/30/2015 21:50
Analysis Date: 01/30/2015 22:10
Matrix: Water

Results by **EPA 300.0**

		Matrix Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Sulfate	565	2000	2510	97	2000	2590	101	90.0-110	3.1	20.00

Batch Information

Analytical Batch: **INO3634**
Analytical Method: **EPA 300.0**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **INO3634**
Prep Method: **EPA 300.0**
Prep Date/Time: **01/30/2015 21:30**
MS Init Wt./Vol.: **10 mL** Extract Vol.: **10 mL**
MSD Init Wt./Vol.: **10 mL** Extract Vol.: **10 mL**

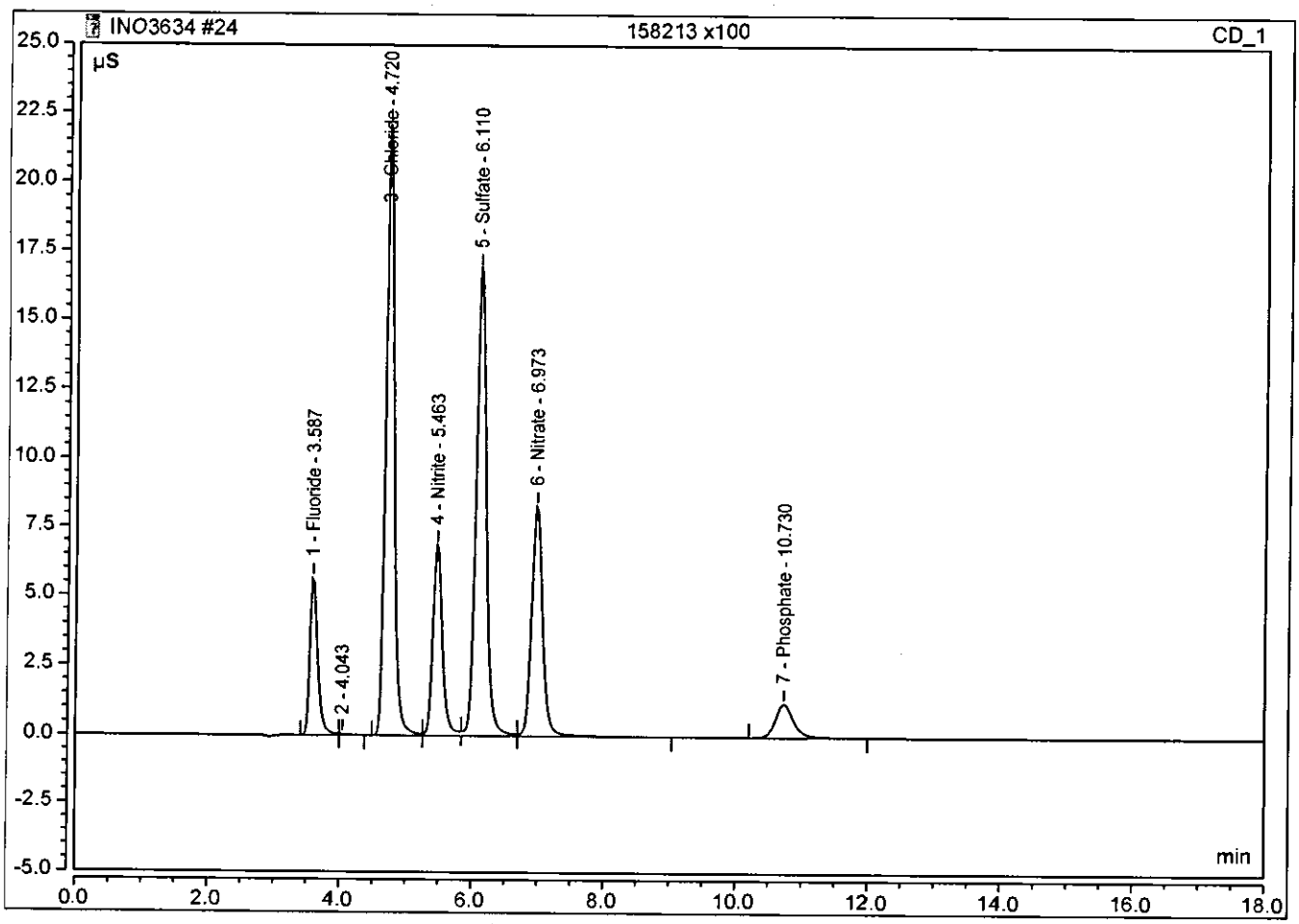
Print Date: 02/06/2015

N.C. Certification # 481

Peak Integration Report

Sample Name:	158213 x100	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 21:50	*Run Time:*	18.00

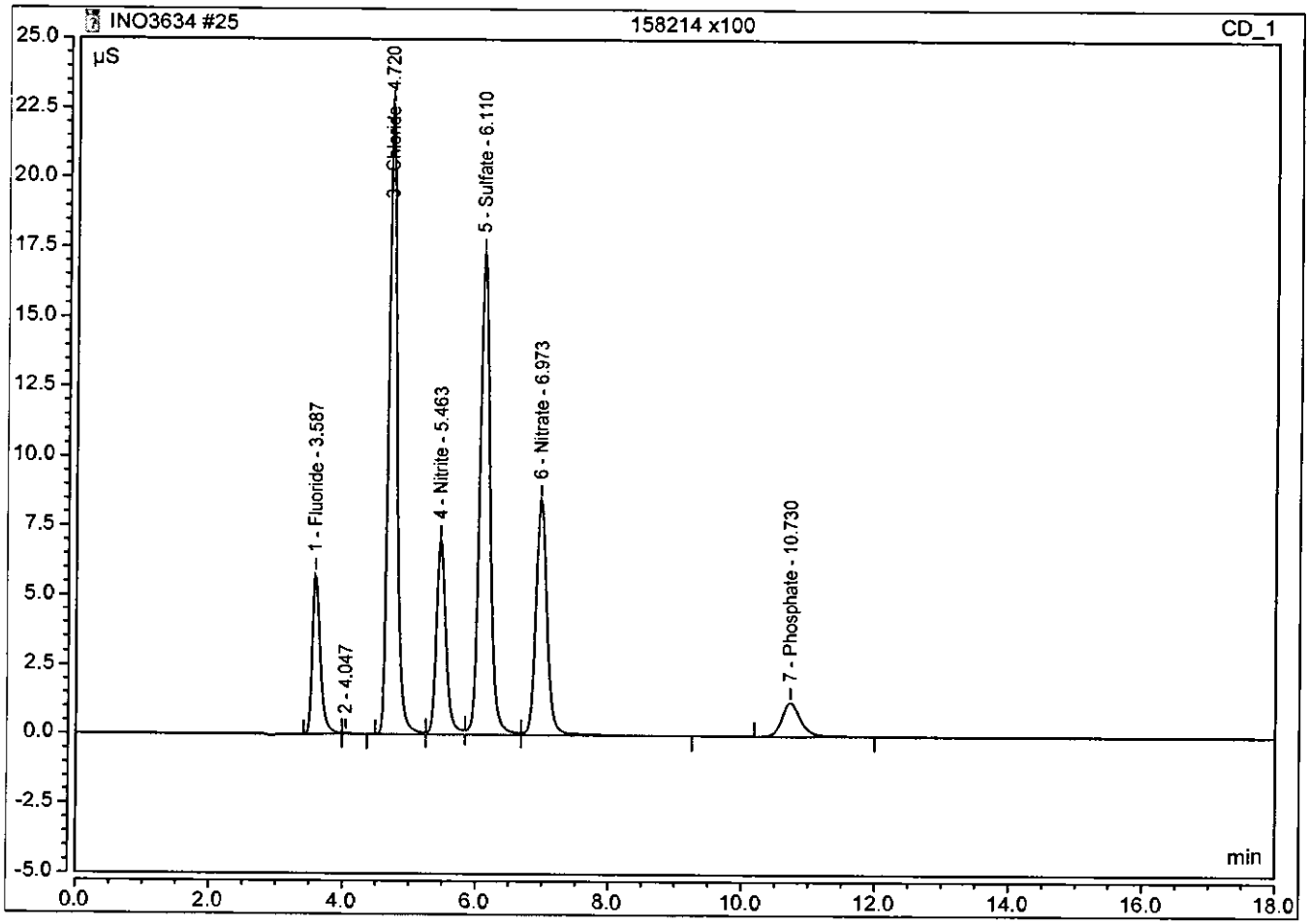
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.783	5.656	2.8912
3	4.72	Chloride	M	3.252	22.107	20.2360
4	5.46	Nitrite	M	1.142	6.864	2.8906
5	6.11	Sulfate	M	3.035	16.885	25.1224
6	6.97	Nitrate	M	1.609	8.293	3.8382
7	10.73	Phosphate	M	0.393	1.191	3.2196
TOTAL:				10.22	61.00	58.20



Peak Integration Report

Sample Name:	**158214 x100**	*Inj. Vol.:*	**10.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**30-Jan-2015 / 22:10**	*Run Time:*	**18.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.809	5.806	2.9863
3	4.72	Chloride	M	3.343	22.638	20.7988
4	5.46	Nitrite	M	1.175	7.028	2.9722
5	6.11	Sulfate	M	3.124	17.319	25.8565
6	6.97	Nitrate	M	1.660	8.514	3.9589
7	10.73	Phosphate	M	0.410	1.239	3.3411
		TOTAL:		10.52	62.54	59.91



EPA 300.0
Initial Calibration Data

Print Date: 02/06/2015

N.C. Certification # 481

IC5000_ICAL 122314_300.0

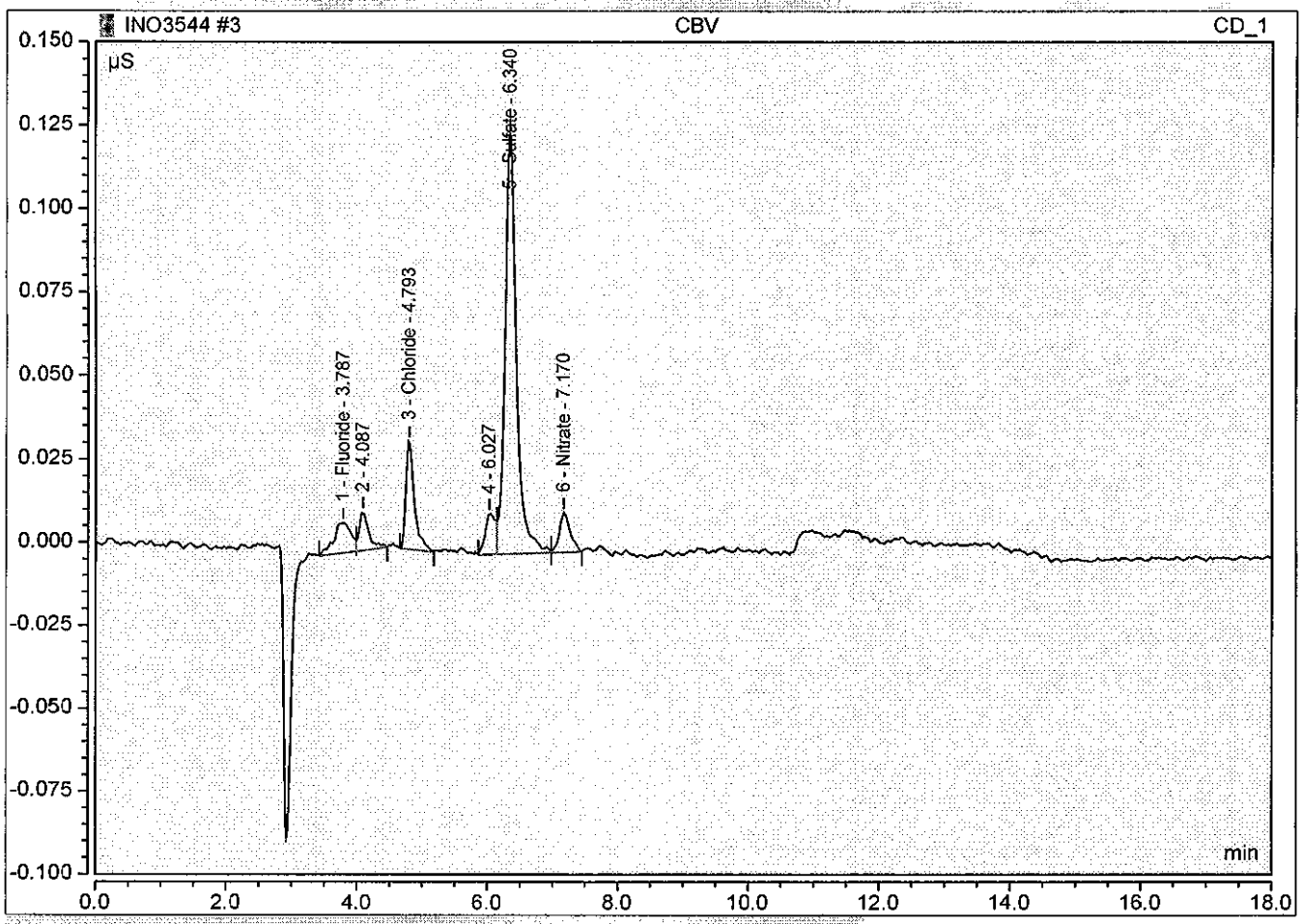
~~IN03544~~

#	CD_1	Name	Type	Level	Position	Volume [µl]	Instrument Method	Processing Method	Status
3		CBV	Calibration Standard	01	BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
4		ICAL1	Calibration Standard	02	BD1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
5		ICAL2	Calibration Standard	03	BD2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
6		ICAL3	Calibration Standard	04	BD3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
7		ICAL4	Calibration Standard	05	BD4	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
8		ICAL5	Calibration Standard	06	BD5	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
9		ICV	Unknown		BA1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
10		ICB	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
11		CCV1	Unknown		BA2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
12		CBV1	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished

Peak Integration Report

Sample Name:	CBV	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 17:55	*Run Time:*	18.00

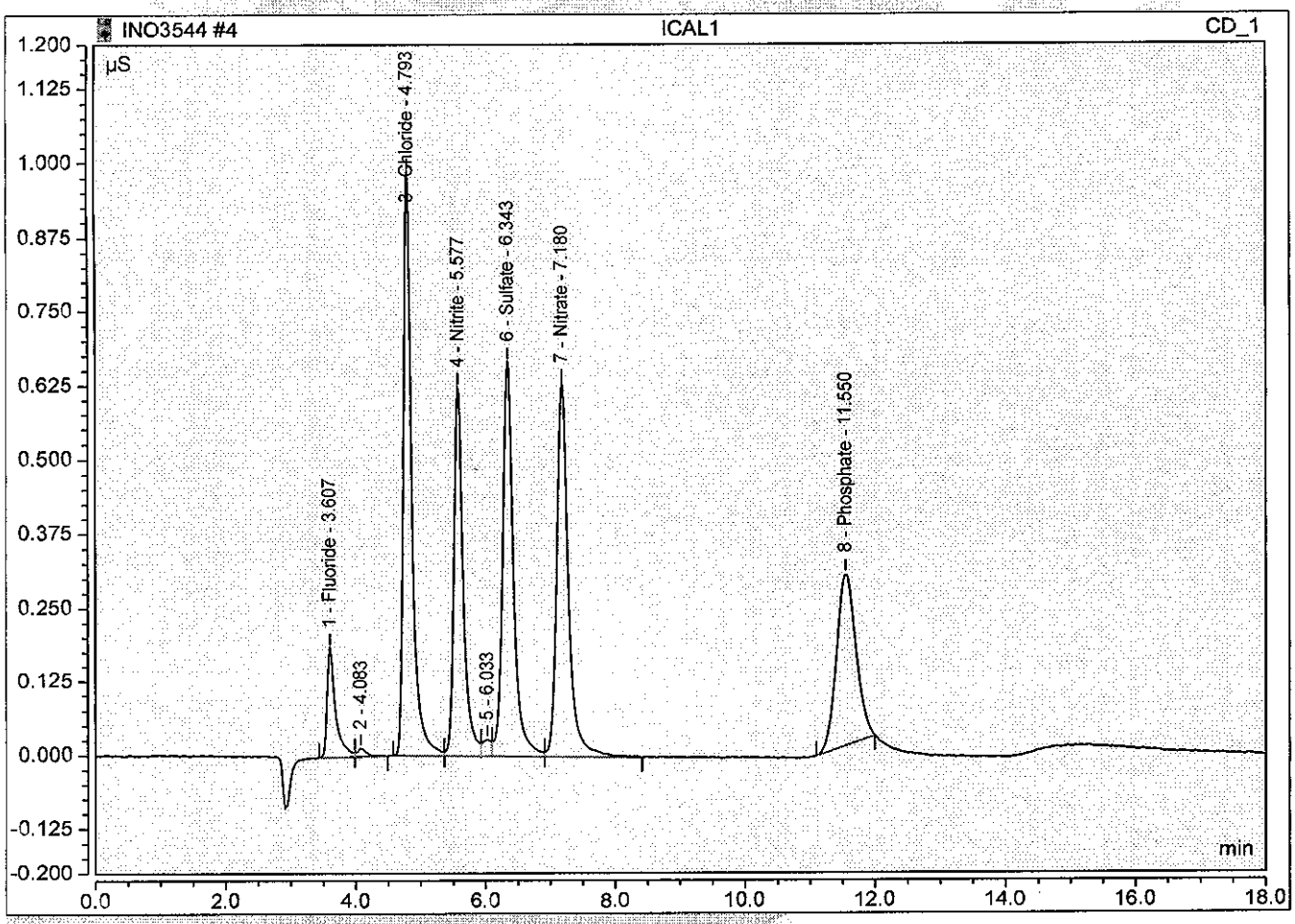
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.79	Fluoride	BM	0.003	0.009	0.0120
3	4.79	Chloride	BMB	0.005	0.032	0.0409
5	6.34	Sulfate	M	0.025	0.126	0.0520
6	7.17	Nitrate	MB	0.002	0.012	0.0055
		TOTAL:		0.04	0.18	0.11



Peak Integration Report

Sample Name:	ICAL1	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 18:15	*Run Time:*	18.00

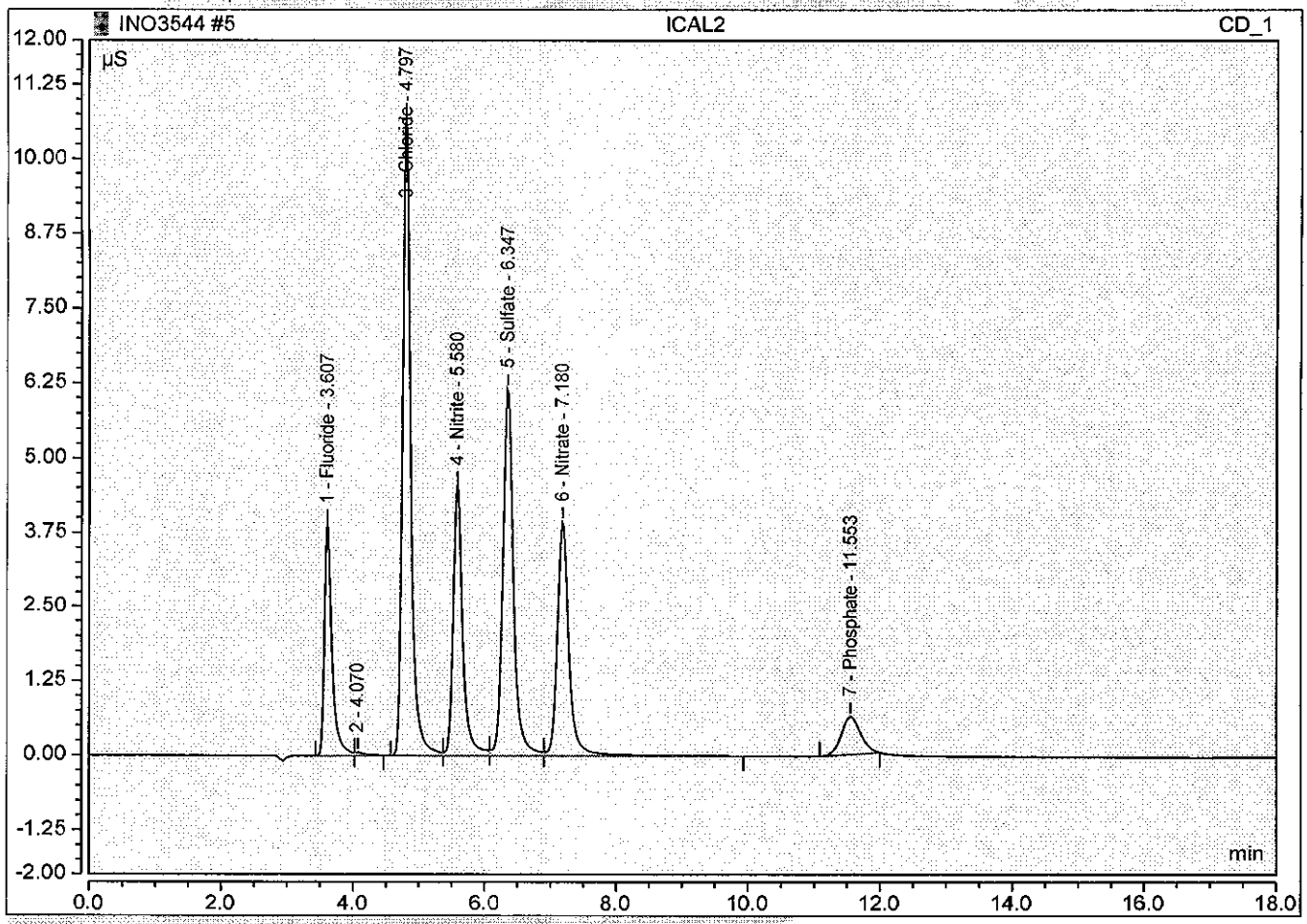
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	M	0.028	0.186	0.1052
3	4.79	Chloride	M	0.148	0.984	0.9307
4	5.58	Nitrite	M	0.104	0.623	0.3002
6	6.34	Sulfate	M	0.130	0.666	0.9213
7	7.18	Nitrate	M	0.132	0.631	0.3144
8	11.55	Phosphate	M	0.101	0.291	1.0551
		TOTAL:		0.64	3.38	3.63



Peak Integration Report

Sample Name:	ICAL2	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 18:36	*Run Time:*	18.00

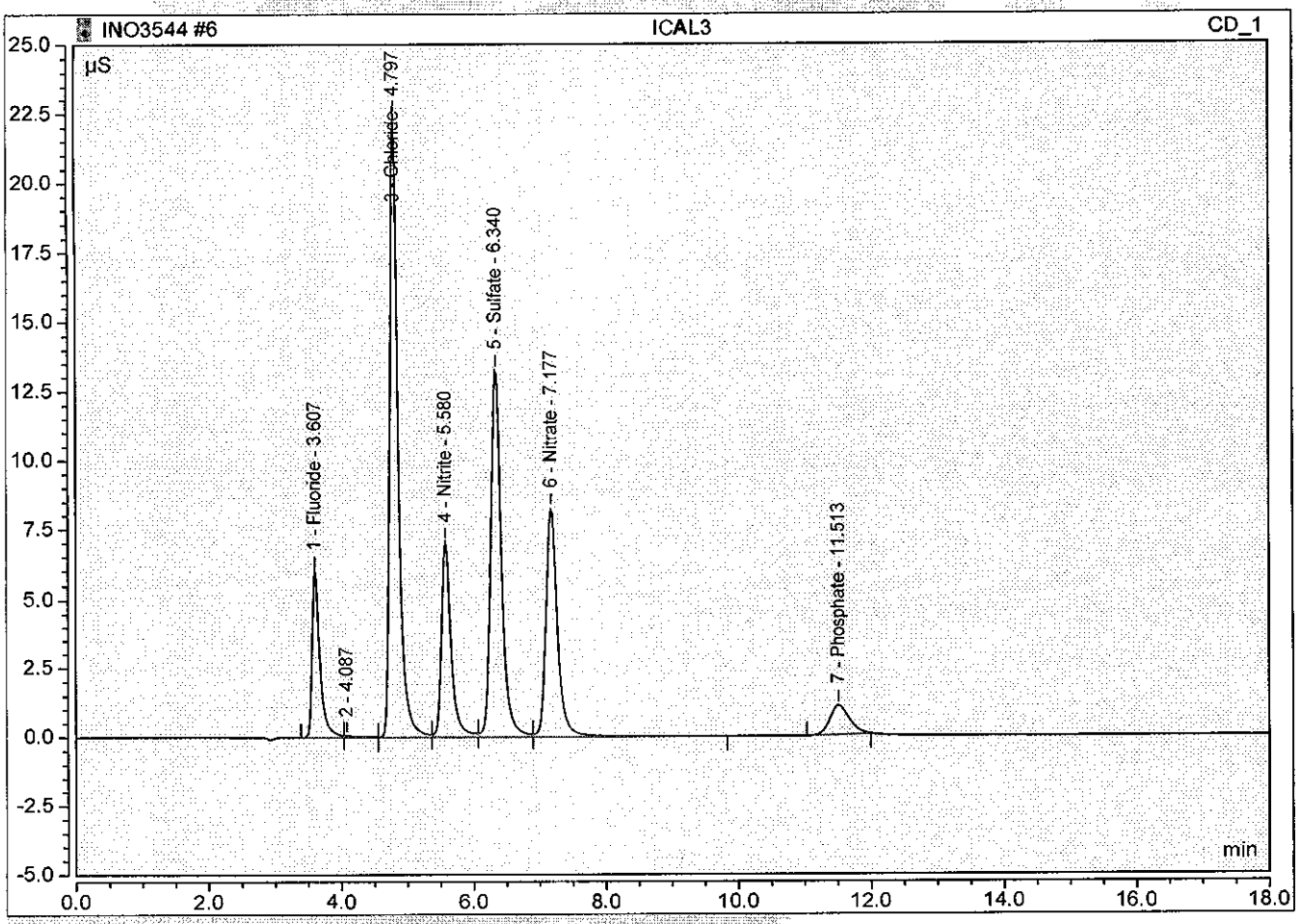
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	BM	0.519	3.882	1.9170
3	4.80	Chloride	BM	1.553	10.696	9.6692
4	5.58	Nitrite	M	0.764	4.546	1.9462
5	6.35	Sulfate	M	1.153	6.160	9.4419
6	7.18	Nitrate	MB	0.810	3.929	1.9318
7	11.55	Phosphate	BMB	0.212	0.626	1.8798
		TOTAL:		5.01	29.84	26.79



Peak Integration Report

Sample Name:	ICAL3	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 18:56	*Run Time:*	18.00

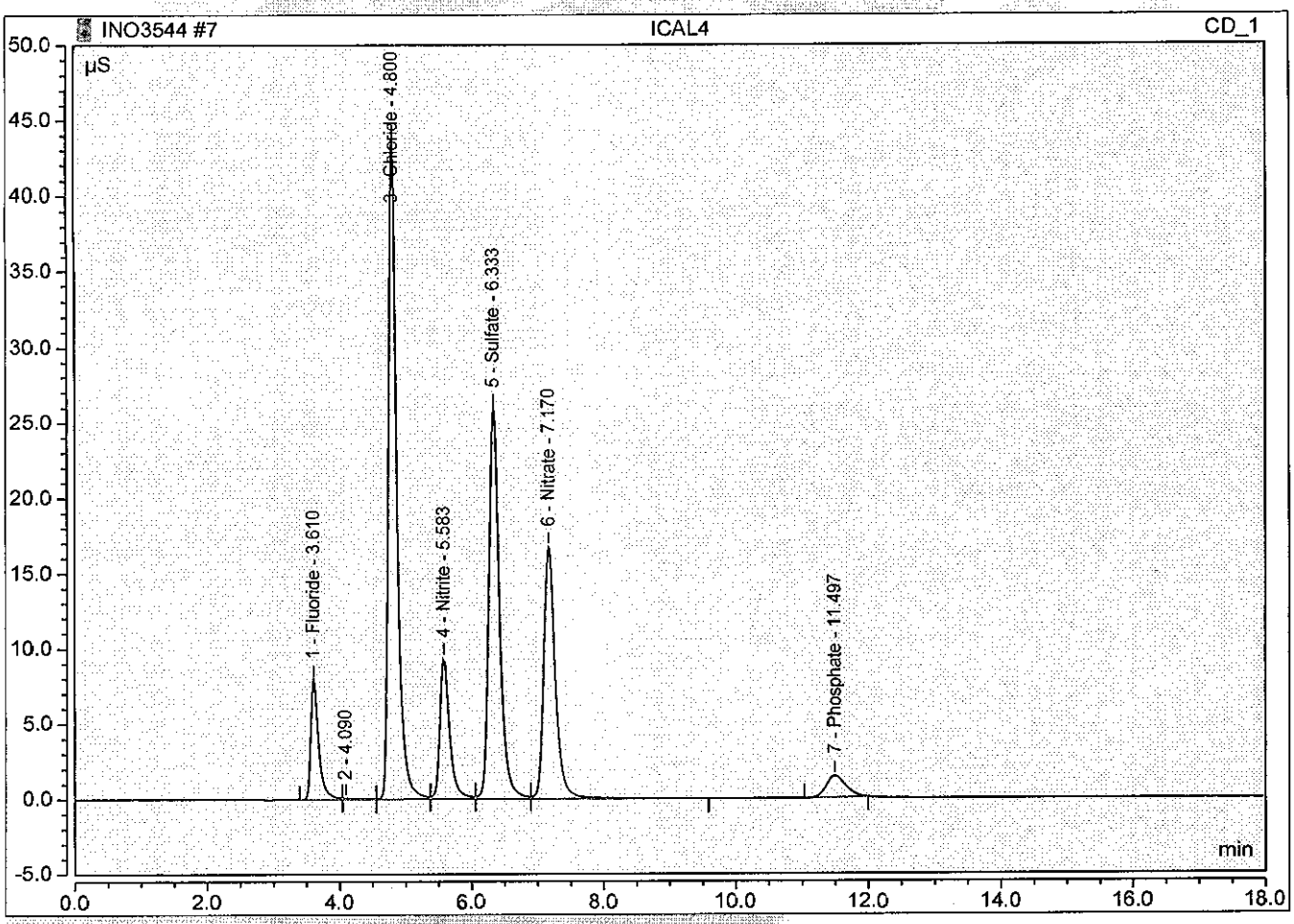
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	BM	0.824	6.002	3.0431
3	4.80	Chloride	M	3.276	22.282	20.3849
4	5.58	Nitrite	M	1.202	7.027	3.0392
5	6.34	Sulfate	M	2.494	13.280	20.6098
6	7.18	Nitrate	MB	1.682	8.260	4.0106
7	11.51	Phosphate	BMB	0.368	1.080	3.0358
		TOTAL:		9.85	57.93	54.12



Peak Integration Report

Sample Name:	ICAL4	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 19:16	*Run Time:*	18.00

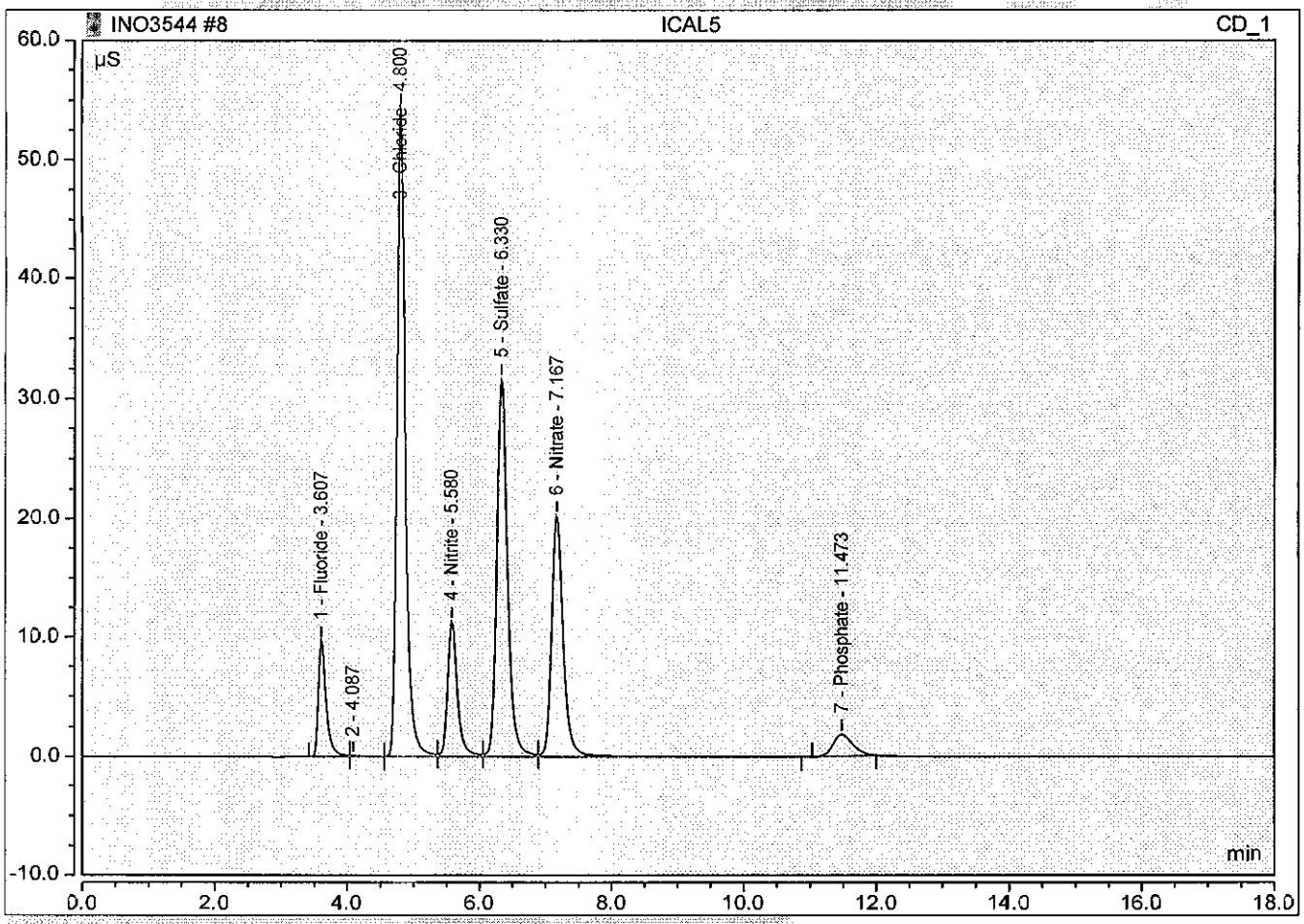
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	BM	1.104	7.951	4.0777
3	4.80	Chloride	M	6.479	43.814	40.3042
4	5.58	Nitrite	M	1.620	9.379	4.0817
5	6.33	Sulfate	M	4.885	25.935	40.5286
6	7.17	Nitrate	MB	3.415	16.734	8.1434
7	11.50	Phosphate	BMB	0.508	1.481	4.0686
		TOTAL:		18.01	105.29	101.20



Peak Integration Report

Sample Name:	ICAL5	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 19:36	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	BM	1.339	9.690	4.9451
3	4.80	Chloride	M	7.985	54.396	49.6702
4	5.58	Nitrite	M	1.961	11.362	4.9326
5	6.33	Sulfate	M	5.956	31.687	49.4464
6	7.17	Nitrate	MB	4.149	20.292	9.8943
7	11.47	Phosphate	BMB	0.628	1.823	4.9607
		TOTAL:		22.02	129.25	123.85



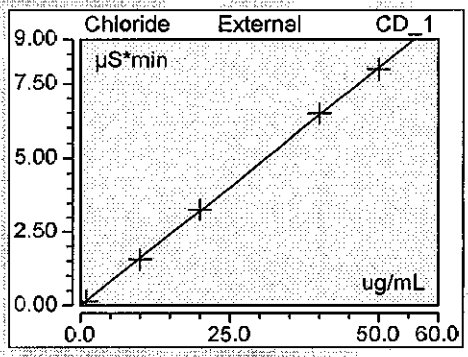
Calibration Batch Report

Sequence:	INO3544	*Injection Volume:*	10.00
Instrument Method:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 19:36	*Run Time:*	17.996667

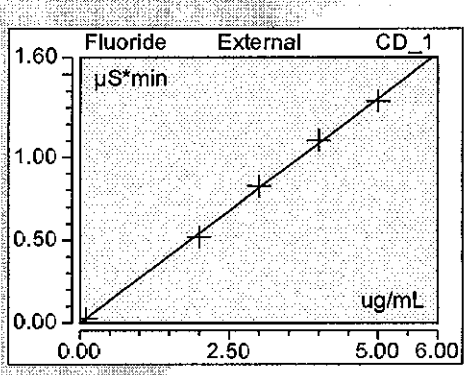
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
Fluoride	Area	in, WithOffse	6.000	0.000	0.271	0.000	99.9140
Chloride	Area	in, WithOffse	6.000	-0.002	0.161	0.000	99.9785
Nitrite	Area	in, WithOffse	5.000	-0.016	0.401	0.000	99.8815
Sulfate	Area	in, WithOffse	6.000	0.019	0.120	0.000	99.9409
Nitrate	Area	in, WithOffse	6.000	0.000	0.419	0.000	99.9571
Phosphate	Area	in, WithOffse	5.000	-0.042	0.135	0.000	99.7503
		AVERAGE:		-0.0068	0.2511	0.0000	99.9037

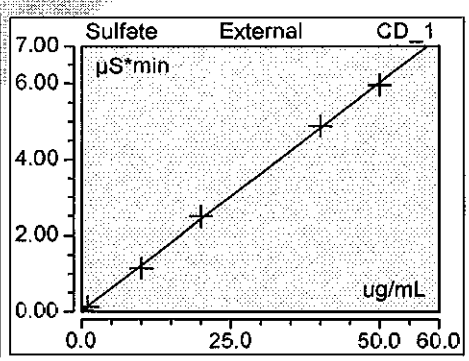
Injection Name Chloride	Ret.Time min Chloride	Area µS*min Chloride	Height µS Chloride	Amount ug/mL Chloride
	CD_1	CD_1	CD_1	CD_1
CBV	4.793	0.0049	0.032	0.041
ICAL1	4.793	0.1480	0.984	0.931
ICAL2	4.797	1.5531	10.696	9.669
ICAL3	4.797	3.2762	22.282	20.385
ICAL4	4.800	6.4792	43.814	40.304
ICAL5	4.800	7.9852	54.396	49.670
Average	4.797			
Rel. Std. Dev.	0.062 %			



Injection Name Fluoride	Ret.Time min Fluoride	Area µS*min Fluoride	Height µS Fluoride	Amount ug/mL Fluoride
	CD_1	CD_1	CD_1	CD_1
CBV	3.787	0.0027	0.009	0.012
ICAL1	3.607	0.0280	0.186	0.105
ICAL2	3.607	0.5188	3.882	1.917
ICAL3	3.607	0.8239	6.002	3.043
ICAL4	3.610	1.1042	7.951	4.078
ICAL5	3.607	1.3392	9.690	4.945
Average	3.637			
Rel. Std. Dev.	2.013 %			

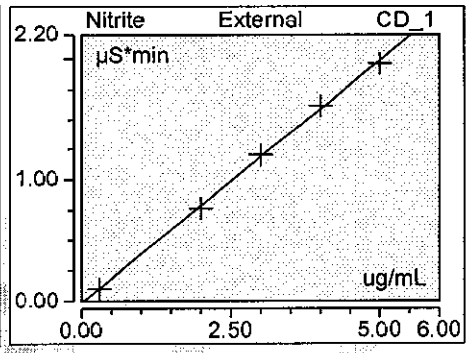


Injection Name Sulfate	Ret.Time min Sulfate	Area µS*min Sulfate	Height µS Sulfate	Amount ug/mL Sulfate
	CD_1	CD_1	CD_1	CD_1
CBV	6.340	0.0254	0.126	0.052
ICAL1	6.343	0.1298	0.666	0.921
ICAL2	6.347	1.1528	6.160	9.442
ICAL3	6.340	2.4937	13.280	20.610
ICAL4	6.333	4.8852	25.935	40.529
ICAL5	6.330	5.9559	31.687	49.446

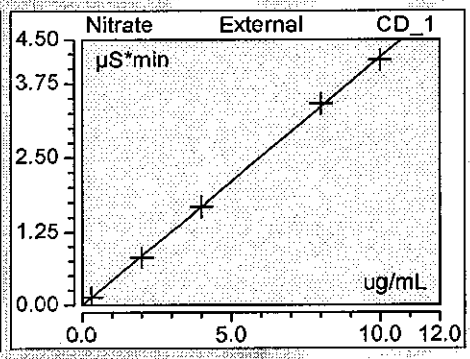


Average	6.339
Rel. Std. Dev.	0.098 %

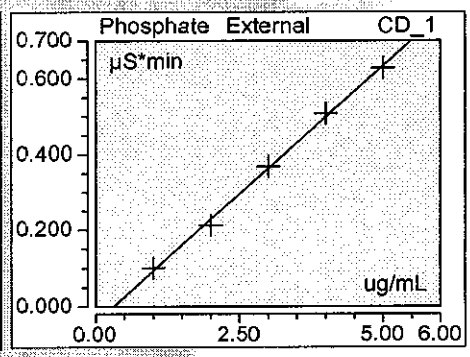
Injection Name Nitrite	Ret.Time min Nitrite	Area µS*min Nitrite	Height µS Nitrite	Amount ug/mL Nitrite
	CD_1	CD_1	CD_1	CD_1
CBV	n.a.	n.a.	n.a.	n.a.
ICAL1	5.577	0.1043	0.623	0.300
ICAL2	5.580	0.7639	4.546	1.946
ICAL3	5.580	1.2020	7.027	3.039
ICAL4	5.583	1.6198	9.379	4.082
ICAL5	5.580	1.9609	11.362	4.933
Average	5.580			
Rel. Std. Dev.	0.042 %			



Injection Name Nitrate	Ret.Time min Nitrate	Area µS*min Nitrate	Height µS Nitrate	Amount ug/mL Nitrate
	CD_1	CD_1	CD_1	CD_1
CBV	7.170	0.0023	0.012	0.006
ICAL1	7.180	0.1318	0.631	0.314
ICAL2	7.180	0.8100	3.929	1.932
ICAL3	7.177	1.6817	8.260	4.011
ICAL4	7.170	3.4147	16.734	8.143
ICAL5	7.167	4.1488	20.292	9.894
Average	7.174			
Rel. Std. Dev.	0.080 %			



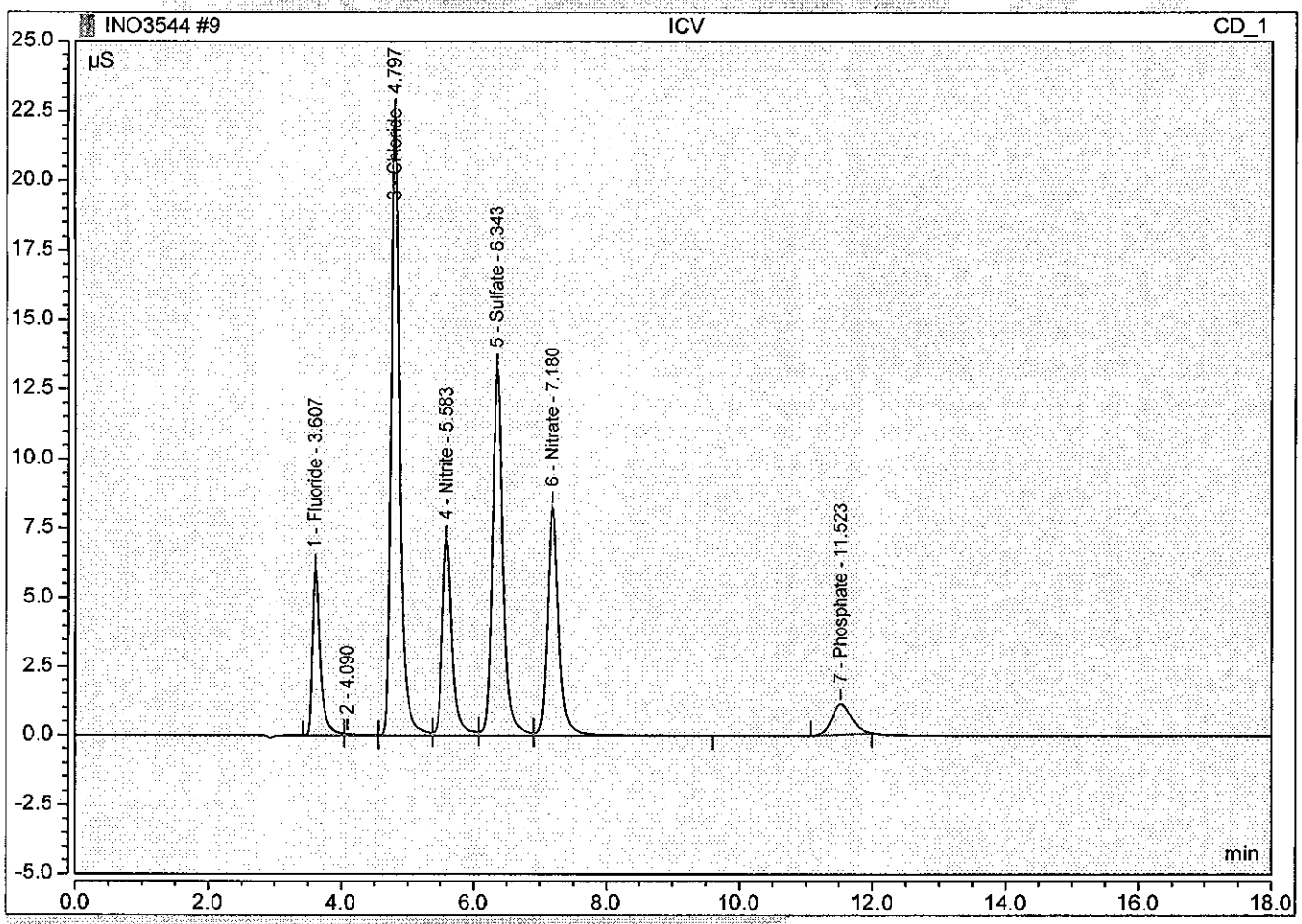
Injection Name Phosphate	Ret.Time min Phosphate	Area µS*min Phosphate	Height µS Phosphate	Amount ug/mL Phosphate
	CD_1	CD_1	CD_1	CD_1
CBV	n.a.	n.a.	n.a.	n.a.
ICAL1	11.550	0.1009	0.291	1.055
ICAL2	11.553	0.2122	0.626	1.880
ICAL3	11.513	0.3683	1.080	3.036
ICAL4	11.497	0.5077	1.481	4.069
ICAL5	11.473	0.6282	1.823	4.961
Average	11.517			
Rel. Std. Dev.	0.299 %			



Peak Integration Report

Sample Name:	ICV	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 19:56	*Run Time:*	18.00

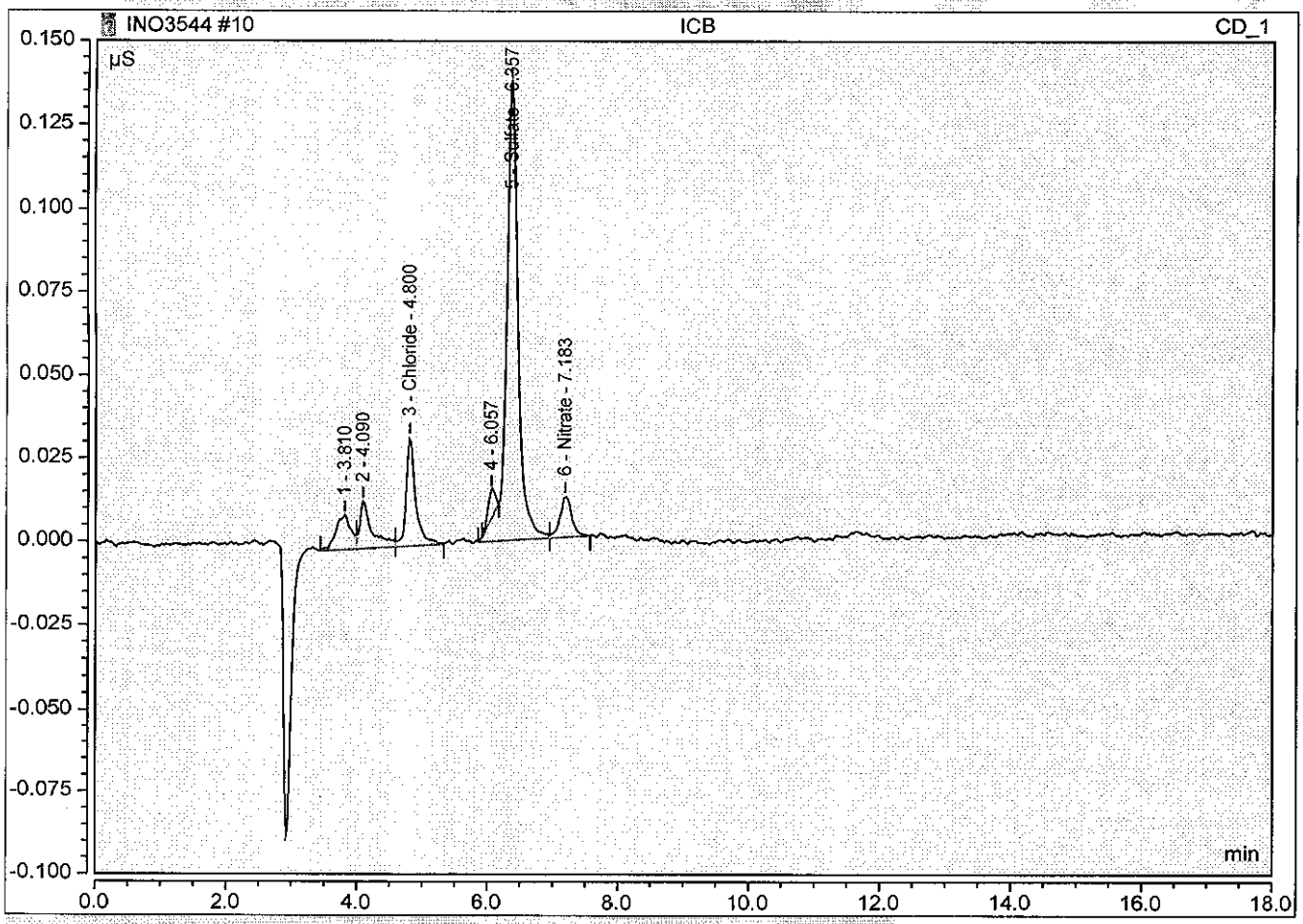
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	BM	0.828	6.043	3.0588
3	4.80	Chloride	M	3.296	22.395	20.5092
4	5.58	Nitrite	M	1.211	7.080	3.0619
5	6.34	Sulfate	M	2.489	13.260	20.5707
6	7.18	Nitrate	MB	1.690	8.311	4.0316
7	11.52	Phosphate	BMB	0.372	1.096	3.0635
		TOTAL:		9.89	58.18	54.30



Peak Integration Report

Sample Name:	ICB	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 20:16	*Run Time:*	18.00

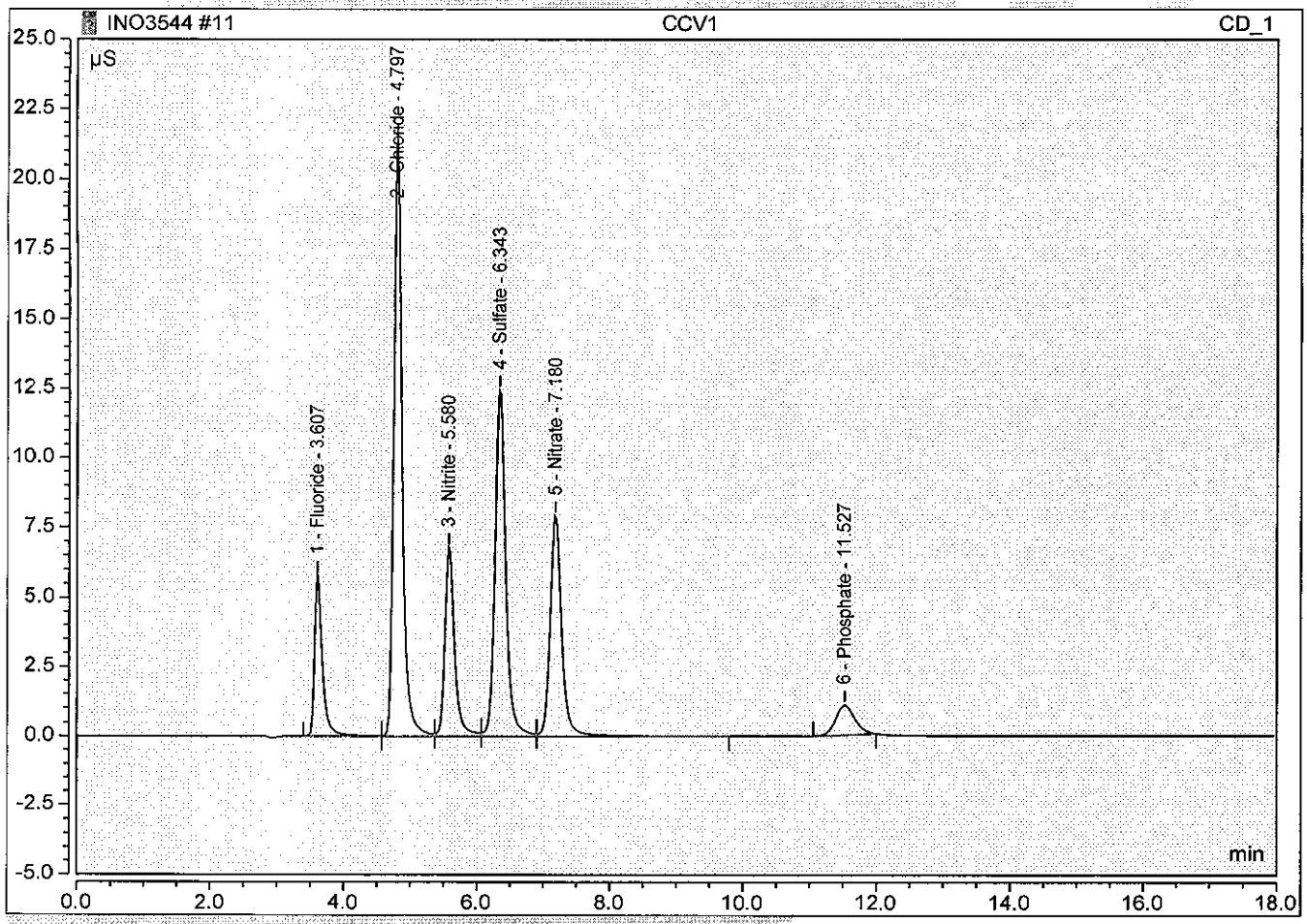
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
3	4.80	Chloride	MB	0.005	0.033	0.0445
5	6.36	Sulfate	BM	0.029	0.137	0.0797
6	7.18	Nitrate	MB	0.003	0.012	0.0061
		TOTAL:		0.04	0.18	0.13



Peak Integration Report

Sample Name:	CCV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 20:36	*Run Time:*	18.00

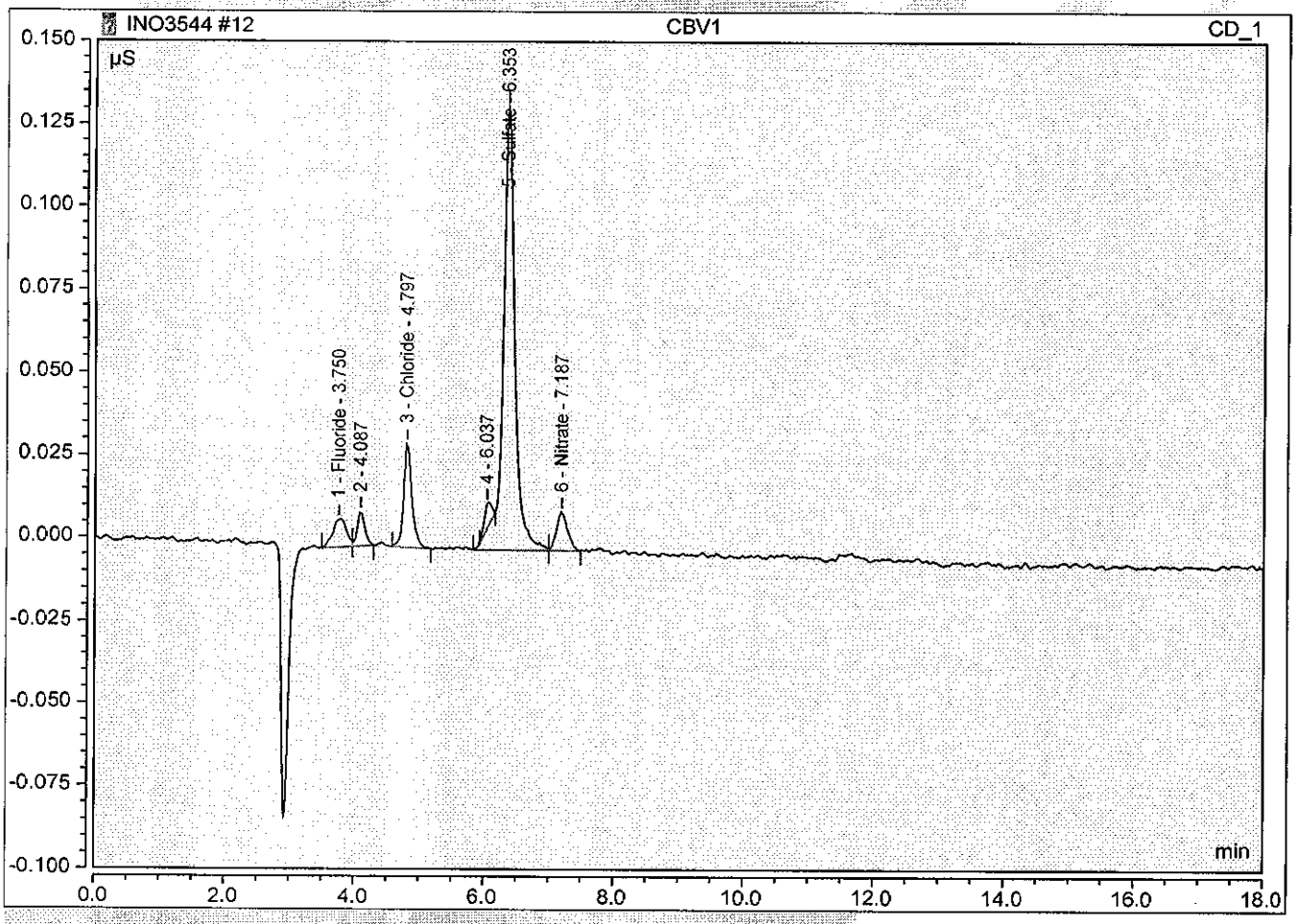
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	BM	0.791	5.774	2.9205
2	4.80	Chloride	M	3.104	21.399	19.3127
3	5.58	Nitrite	M	1.142	6.763	2.8894
4	6.34	Sulfate	M	2.310	12.447	19.0780
5	7.18	Nitrate	MB	1.589	7.903	3.7893
6	11.53	Phosphate	BMB	0.351	1.040	2.9109
		TOTAL:		9.29	55.33	50.90



Peak Integration Report

Sample Name:	CBV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 20:57	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.75	Fluoride	BM	0.002	0.009	0.0095
3	4.80	Chloride	BMB	0.005	0.031	0.0392
5	6.35	Sulfate	BM	0.028	0.134	0.0760
6	7.19	Nitrate	MB	0.002	0.012	0.0056
		TOTAL:		0.04	0.19	0.13



EPA 300.0
Prep, Standard, Run Logs

Print Date: 02/06/2015

N.C. Certification # 481

INO3629

#	CD_1	Name	Type	Level	Position	Volume [µl]	Instrument Method	Processing Method	Status
3		ICV ✓	Unknown		BA1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
4		ICB ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
5		CCV1 ✓	Unknown		BA2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
6		CBV1 ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
7		157971 MB ✓	Unknown		BA4	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
8		157972 LCS ✓	Unknown		BA5	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
9		0144_1 - SO_4^{2-}	Unknown		BA6	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
10		0144_2 x10000 ✓	Unknown		BA7	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
11		157973 x10000 - R.R. Cl^-	Unknown		BA8	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
12		157974 x10000 ✓	Unknown		BB1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
13		0171_1 x10000 ✓	Unknown		BB2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
14		0171_2 x10000 ✓	Unknown		BB3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
15		0171_3 x10000 R.R. Cl^-	Unknown		BB4	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
16		0171_4 x10000 ✓	Unknown		BB5	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
17		CCV2 ✓	Unknown		BA2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
18		CBV2 ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
19		0171_5 x10000 ✓	Unknown		BB6	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
20		0171_6 x10000 ✓	Unknown		BB7	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
21		157975 x10000 ✓	Unknown		BB7	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
22		0182_1 - Cl^- - SO_4^{2-}	Unknown		BB8	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
23		0182_1 x100 ✓	Unknown		BC1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
24		0182_2 - SO_4^{2-}	Unknown		BC2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
25		0182_2 x10 ✓	Unknown		BC3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
26		157976 MB ✓	Unknown		BC4	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished

INO3629

#	CD_1	Name	Type	Level	Position	Volume [µl]	Instrument Method	Processing Method	Status
27		157977 LCS ✓	Unknown		BC5	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
28		157973 x10000 ✓	Unknown		BA8	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
29		CCV3 ✓	Unknown		BA2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
30		CBV3 ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
31		0182_3 - SO_4	Unknown		BC6	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
32		0182_3 x100 ✓	Unknown		BC7	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
33		0182_4 - SO_4^{2-}	Unknown		BC8	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
34		0182_4 x10 SO_4 100x	Unknown		BD1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
35		0182_5 - SO_4	Unknown		BD2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
36		0182_5 x10 - SO_4 100x	Unknown		BD3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
37		0182_6 - Cl SO_4^{2-}	Unknown		BD4	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
38		0182_6 x10 ✓	Unknown		BD5	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
39		0182_7 - SO_4^{2-}	Unknown		BD6	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
40		0182_7 x10 - SO_4 100x	Unknown		BD7	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
41		CCV4 ✓	Unknown		BA2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
42		CBV4 ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
43		0182_11 x100 - Cl^-	Unknown		BD8	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
44		0182_11 x10000 ✓	Unknown		BE1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
45		0182_12 x100 - Cl^-	Unknown		BE2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
46		0182_12 x10000 ✓	Unknown		BE3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
47		CCV5 ✓	Unknown		BA2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
48		CBV5 ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished

INO3634

#	CD_1	Name	Type	Level	Position	Volume [µl]	Instrument Method	Processing Method	Status
17		ICV-3634 - PO_4	Unknown		BA1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
18		ICB ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
19		CCV1 - PO_4^{3}	Unknown		BA2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
20		CBV1 ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
21		158211 MB ✓	Unknown		BC1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
22		158212 LCS - PO_4	Unknown		BC2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
23		0182_4 x100	Unknown		BC3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
24		158213 x100	Unknown		BC4	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
25		158214 x100	Unknown		BC5	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
26		0182_5 x100	Unknown		BC6	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
27		0182_7 x100	Unknown		BC7	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
28		0171_3 x10000 - Cl^- 100000x	Unknown		BC8	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
29		158215 x10000 - Cl^-	Unknown		BD1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
30		CCV2 - PO_4	Unknown		BA2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
31		CBV2 ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished

EPA 300.0
Continuing Calibration Data

Print Date: 02/06/2015

N.C. Certification # 481

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Absolute Standard

Batch ID: INO3629

Continuing Cal Source: Environmental Express

Analyte	ICV 1/29/15 12:44			CCV1 1/29/15 13:24			CCV2 1/29/15 17:26			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Chloride	20	20	97.9	20	20	99.7	20	20	100.9	90-110
Nitrite	3	3	93.8	3	3	95.7	3	3	96.8	90-110
Nitrate	4	4	94.7	4	4	96.5	4	4	98.0	90-110
Phosphate	3	3	104.0	3	3	107.0	3	3	109.7	90-110
Sulfate	20	19	95.2	20	19	97.2	20	20	98.4	90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Absolute Standard

Batch ID: INO3629

Continuing Cal Source: Environmental Express

Analyte	ICV 1/29/15 12:44			CCV3 1/29/15 21:27			CCV4 1/30/15 1:29			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Chloride	20	20	97.9	20	20	100.0	20	20	100.4	90-110
Nitrite	3	3	93.8	3	3	96.1	3	3	97.0	90-110
Nitrate	4	4	94.7	4	4	96.9	4	4	97.4	90-110
Phosphate	3	3	104.0	3	3	108.8	3	3	105.5	90-110
Sulfate	20	19	95.2	20	19	97.5	20	20	98.2	90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Absolute Standard

Batch ID: INO3629

Continuing Cal Source: Environmental Express

Analyte	ICV 1/29/15 12:44			CCV5 1/30/15 3:30						LIMITS
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	REC.
Chloride	20	20	97.9	20	22	107.8				90-110
Nitrite	3	3	93.8	3	3	103.7				90-110
Nitrate	4	4	94.7	4	4	104.7				90-110
Phosphate	3	3	104.0	3	3	115.8823				90-110
Sulfate	20	19	95.2	20	21	105.4				90-110

Comments:

FORM IIA - METALS

BLANKS

Lab Name: SGS North America

Batch ID: INO3629

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)							
			CBV1		CBV2		CBV3			
	1/29/15 13:04	C	1/29/15 13:44	C	1/29/15 17:46	C	1/29/15 21:47	C		
Chloride	1.0	U	1.0	U	1.0	U	1.0	U		
Nitrite	0.3	U	0.3	U	0.3	U	0.3	U		
Nitrate	0.3	U	0.3	U	0.3	U	0.3	U		
Phosphate	1.0	U	1.0	U	1.0	U	1.0	U		
Sulfate	1.0	U	1.0	U	1.0	U	1.0	U		

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: INO3629

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)							
			CBV4		CBV5					
	1/29/15 13:04	C	1/30/15 1:49	C	1/30/15 3:50	C		C		
Chloride	1.0	U	1.0	U	1.0	U				
Nitrite	0.3	U	0.3	U	0.3	U				
Nitrate	0.3	U	0.3	U	0.3	U				
Phosphate	1.0	U	1.0	U	1.0	U				
Sulfate	1.0	U	1.0	U	1.0	U				

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: INO3634

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)							
			CBV1		CBV2					
	1/30/15 19:50	C	1/30/15 20:30	C	1/31/15 0:11	C		C		
Chloride	1.0	U	1.0	U	1.0	U				
Nitrite	0.3	U	0.3	U	0.3	U				
Nitrate	0.3	U	0.3	U	0.3	U				
Phosphate	1.0	U	1.0	U	1.0	U				
Sulfate	1.0	U	1.0	U	1.0	U				

Comments:

FORM III - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Absolute Standard

Batch ID: INO3634

Continuing Cal Source: Environmental Express

Analyte	ICV 1/30/15 19:29			CCV1 1/30/15 20:10			CCV2 1/30/15 23:51			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Chloride	20	21	103.2	20	21	103.2	20	20	102.1	90-110
Nitrite	3	3	99.3	3	3	99.4	3	3	98.2	90-110
Nitrate	4	4	100.3	4	4	100.1	4	4	99.0	90-110
Phosphate	3	3	113*	3	3	114.3*	3	3	112.8*	90-110
Sulfate	20	20	100.8	20	20	100.6	20	20	99.4	90-110

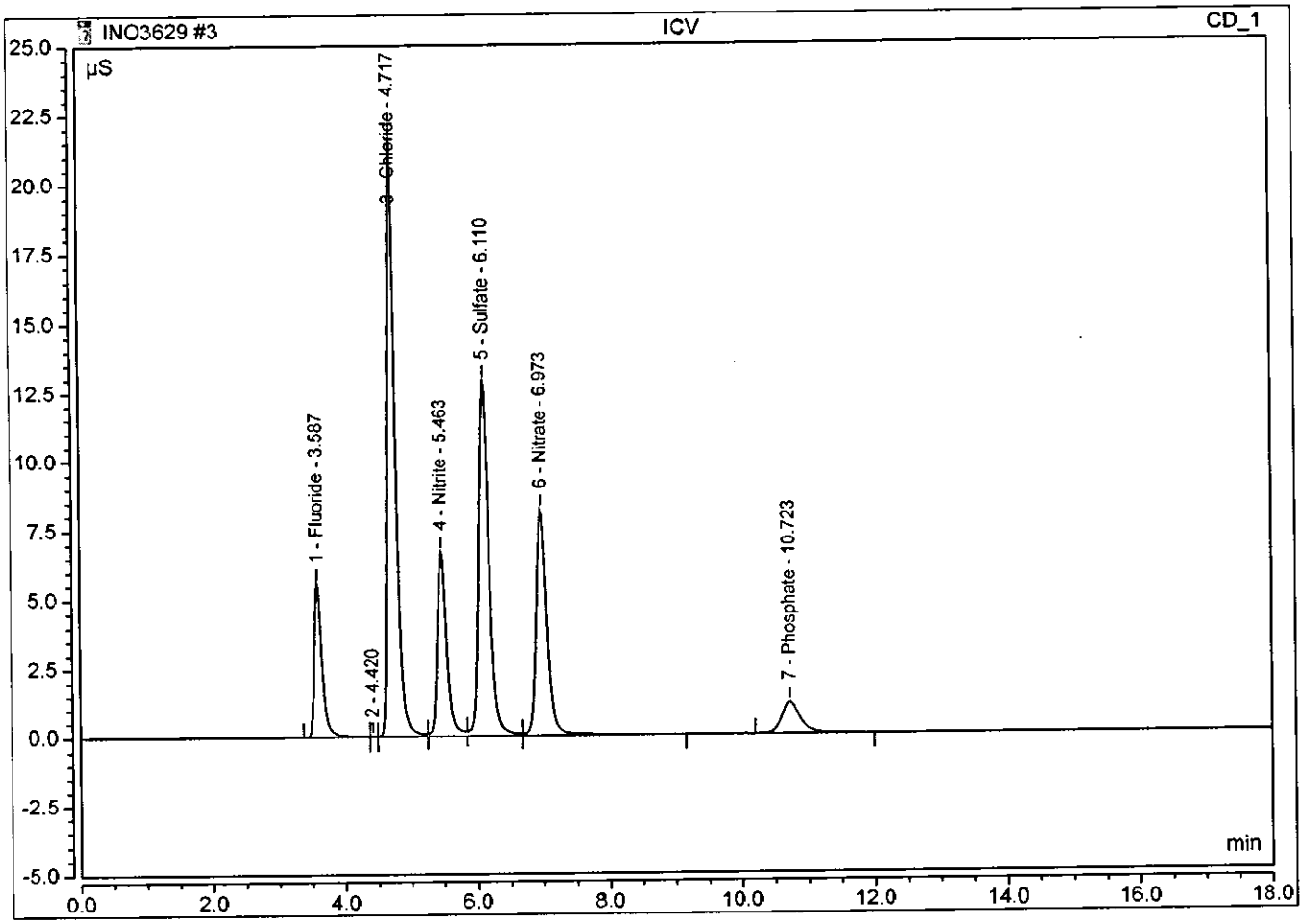
Comments:

FORM IIA - METALS

Peak Integration Report

Sample Name:	ICV	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 12:44	*Run Time:*	18.00

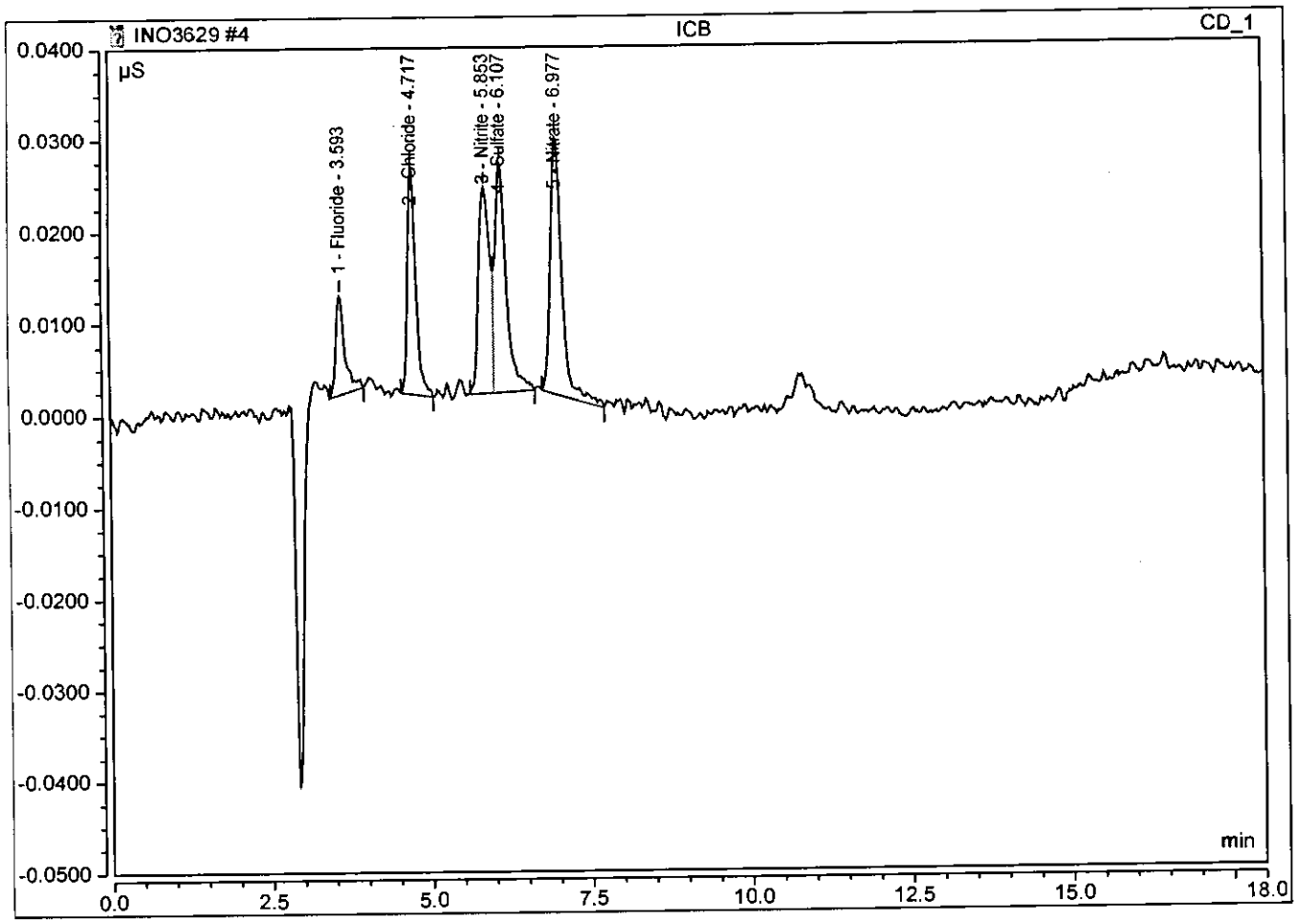
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.768	5.592	2.8369
3	4.72	Chloride	M	3.145	21.707	19.5707
4	5.46	Nitrite	M	1.112	6.727	2.8135
5	6.11	Sulfate	M	2.304	12.920	19.0338
6	6.97	Nitrate	M	1.588	8.213	3.7864
7	10.72	Phosphate	M	0.380	1.162	3.1211
TOTAL:				9.30	56.32	51.16



Peak Integration Report

Sample Name:	ICB	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 13:04	*Run Time:*	18.00

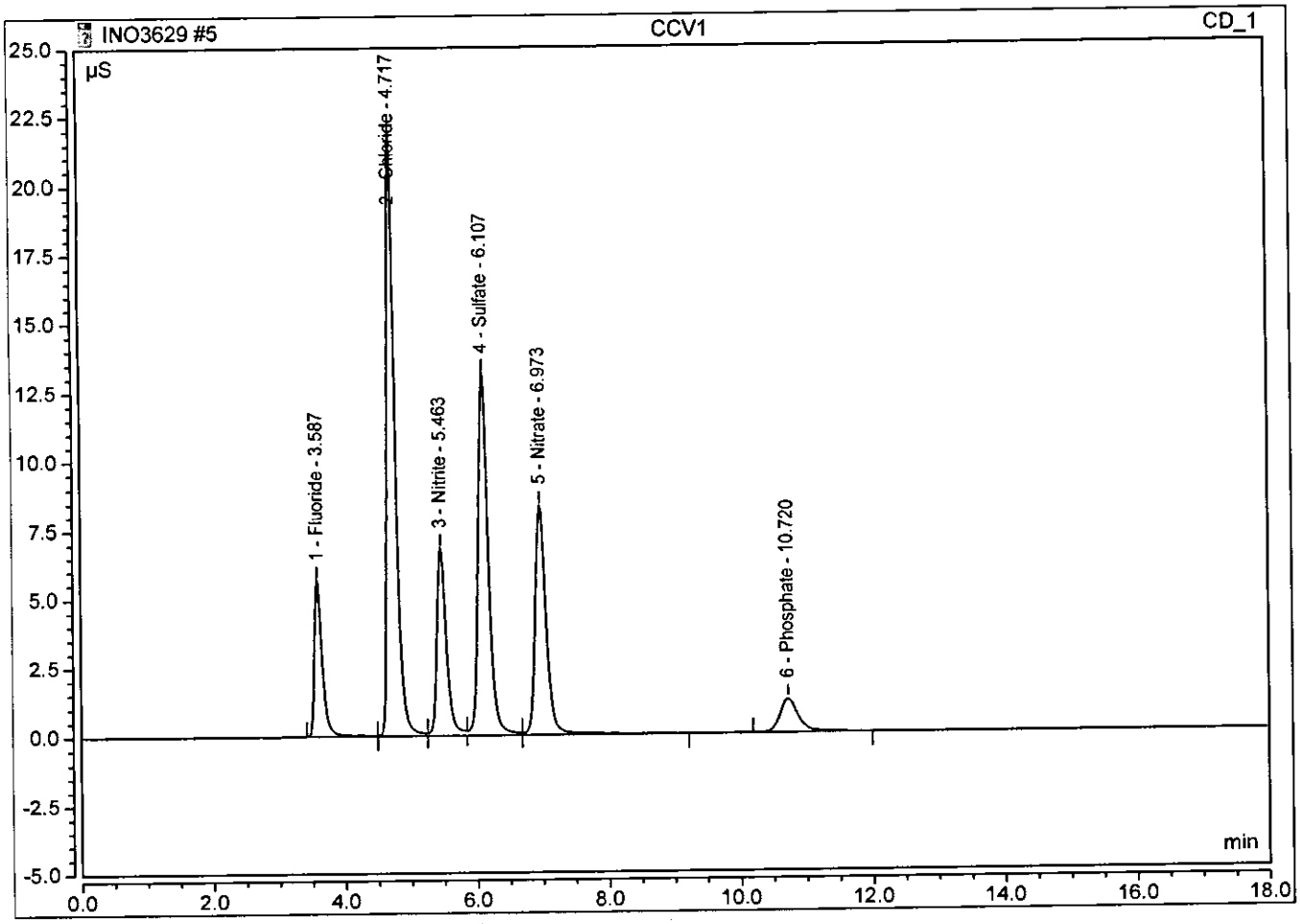
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	BMB	0.002	0.011	0.0085
2	4.72	Chloride	BMB	0.004	0.025	0.0338
3	5.85	Nitrite	BM	0.005	0.022	0.0515
4	6.11	Sulfate	MB	0.005	0.025	n.a.
5	6.98	Nitrate	BMB	0.006	0.028	0.0142
TOTAL:				0.02	0.11	0.11



Peak Integration Report

Sample Name:	CCV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 13:24	*Run Time:*	18.00

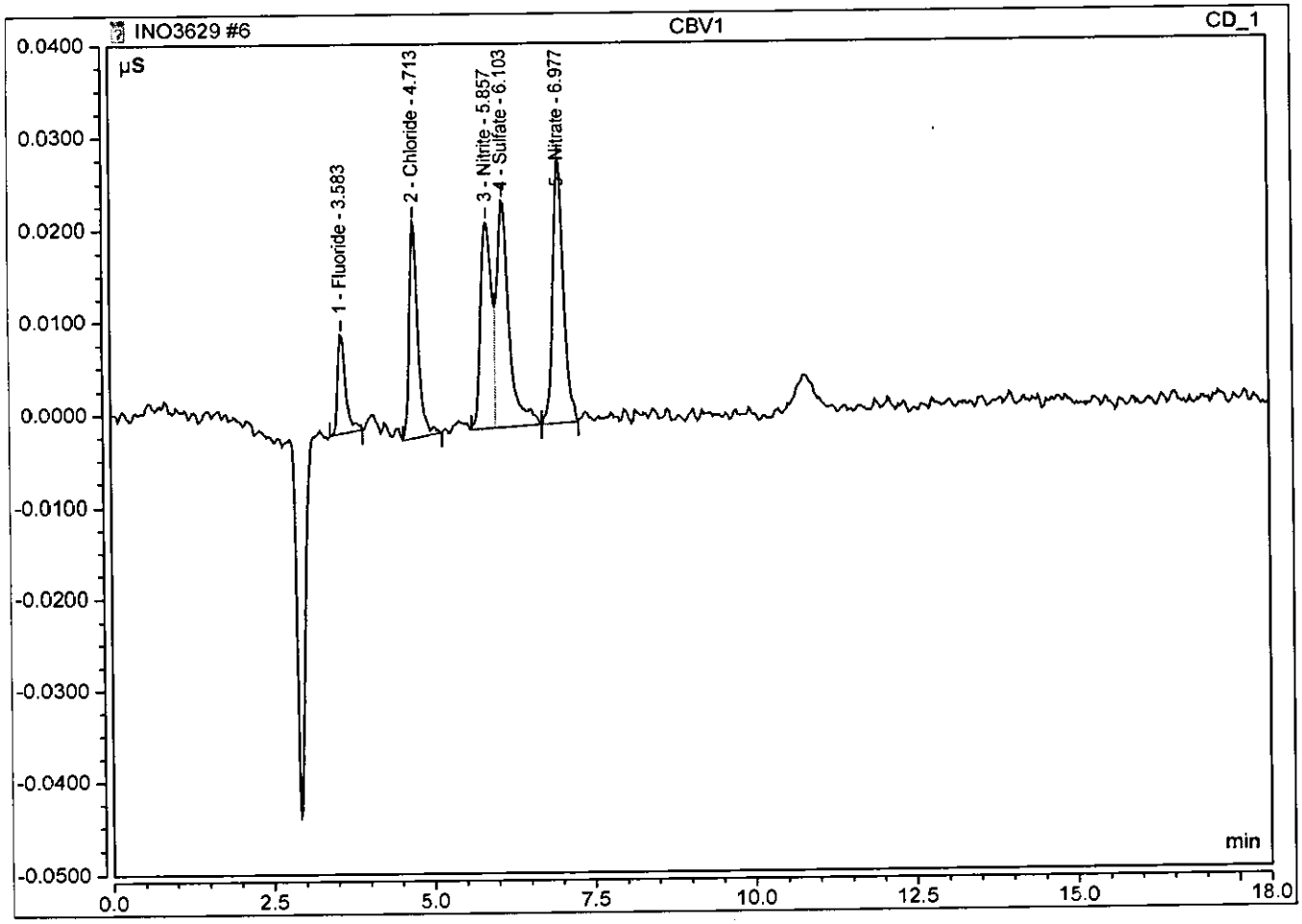
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.785	5.656	2.8984
2	4.72	Chloride	M	3.205	21.989	19.9429
3	5.46	Nitrite	M	1.135	6.822	2.8708
4	6.11	Sulfate	M	2.353	13.128	19.4362
5	6.97	Nitrate	M	1.619	8.340	3.8617
6	10.72	Phosphate	M	0.392	1.190	3.2087
TOTAL:				9.49	57.13	52.22



Peak Integration Report

Sample Name:	CBV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 13:44	*Run Time:*	18.00

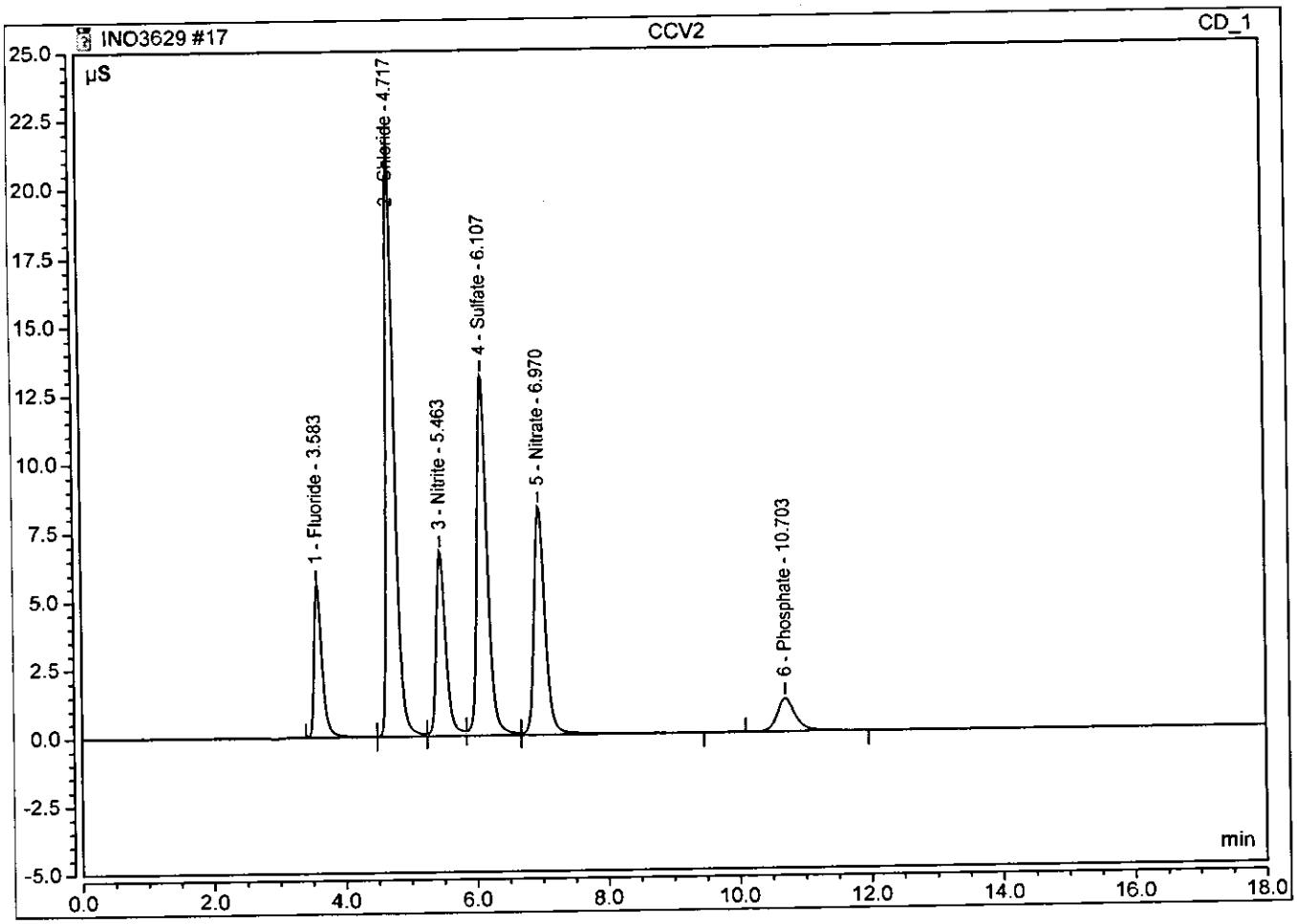
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BMB	0.002	0.011	0.0076
2	4.71	Chloride	BMB	0.004	0.024	0.0331
3	5.86	Nitrite	BM	0.004	0.022	0.0512
4	6.10	Sulfate	M	0.006	0.025	n.a.
5	6.98	Nitrate	MB	0.006	0.029	0.0133
TOTAL:				0.02	0.11	0.11



Peak Integration Report

Sample Name:	CCV2	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 17:26	*Run Time:*	18.00

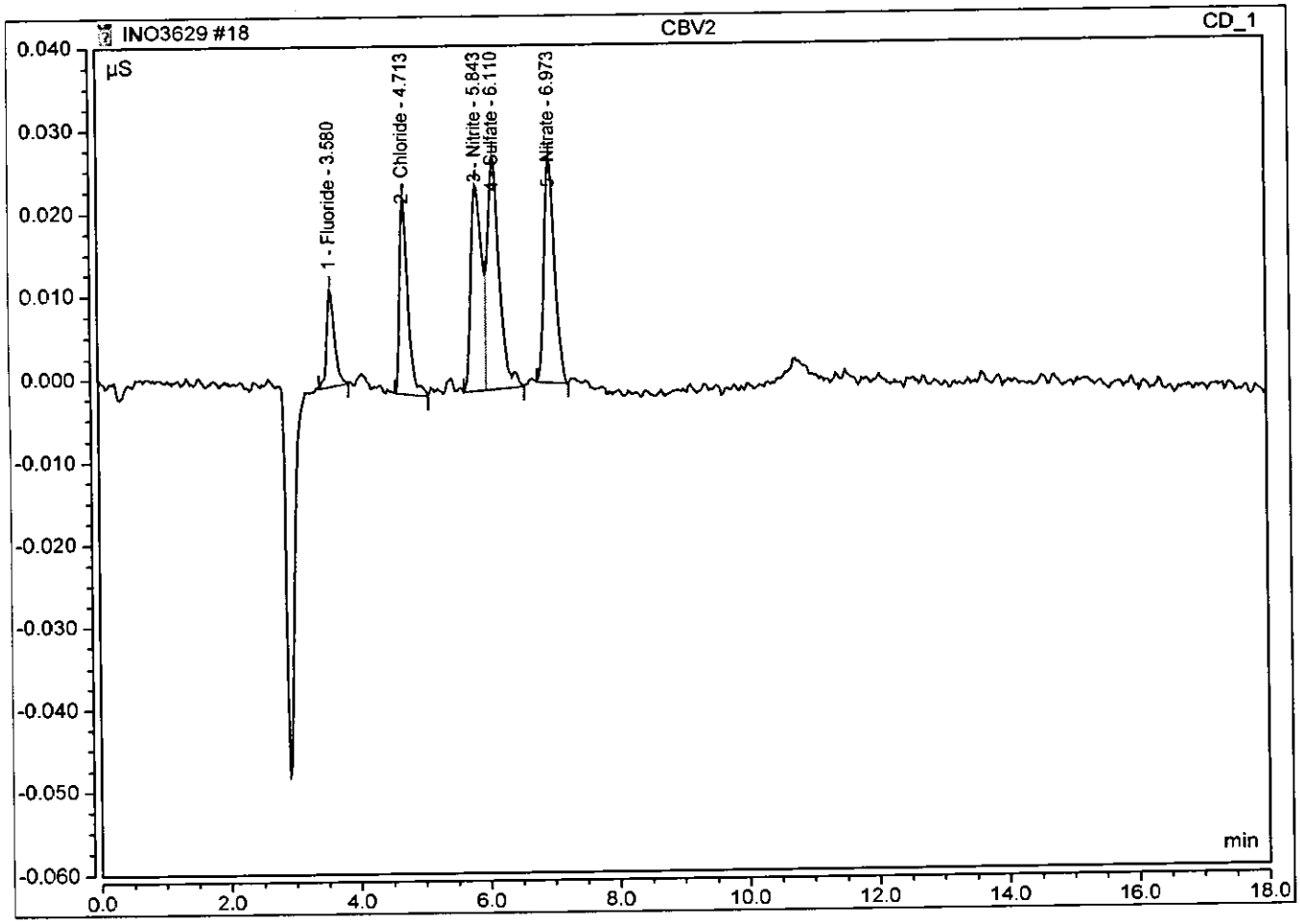
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.797	5.619	2.9445
2	4.72	Chloride	M	3.244	21.807	20.1833
3	5.46	Nitrite	M	1.148	6.795	2.9035
4	6.11	Sulfate	M	2.382	13.144	19.6816
5	6.97	Nitrate	M	1.643	8.351	3.9181
6	10.70	Phosphate	M	0.403	1.225	3.2905
		TOTAL:		9.62	56.94	52.92



Peak Integration Report

Sample Name:	CBV2	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 17:46	*Run Time:*	18.00

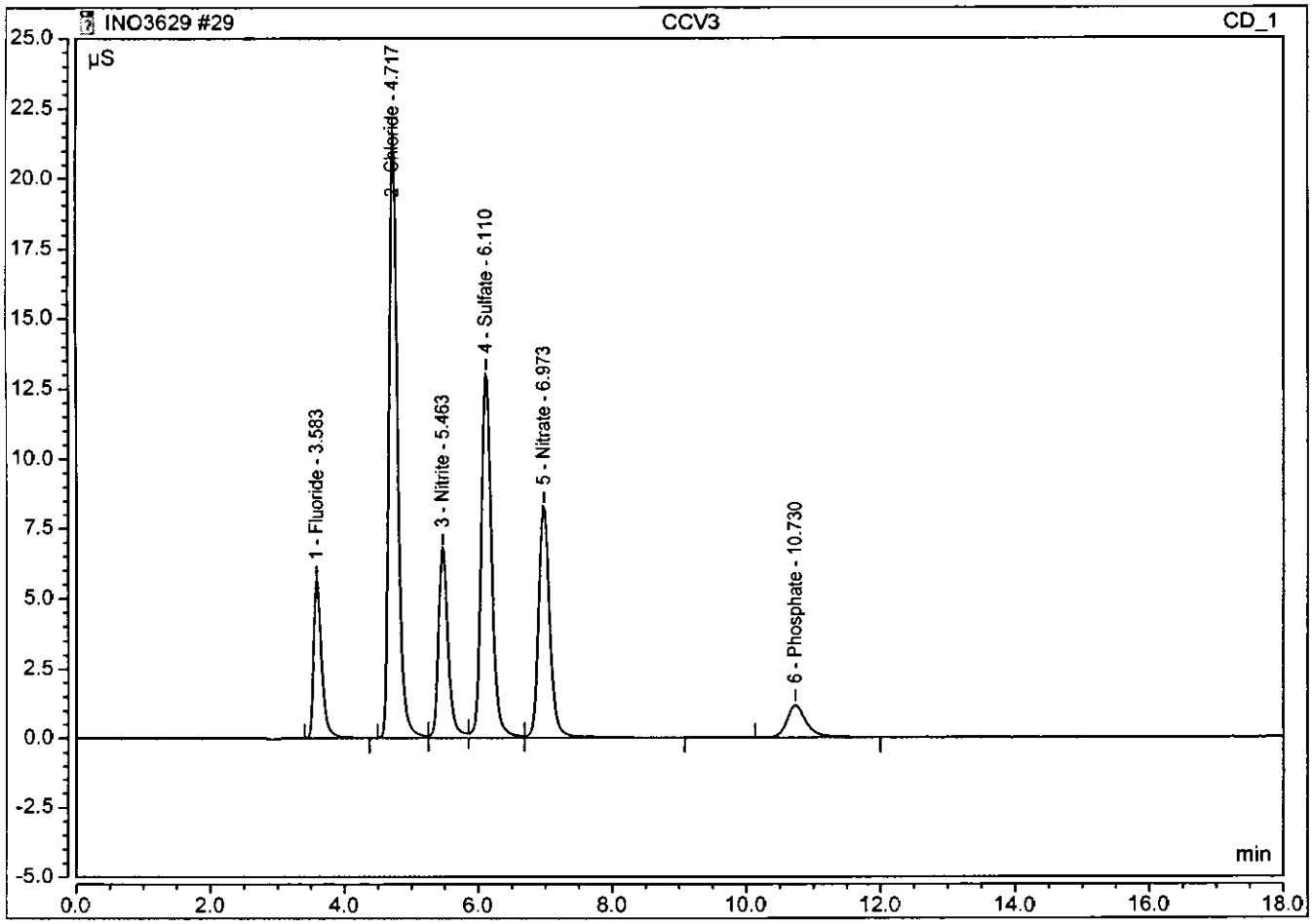
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BMB	0.002	0.012	0.0079
2	4.71	Chloride	BMB	0.004	0.024	0.0325
3	5.84	Nitrite	BM	0.005	0.025	0.0522
4	6.11	Sulfate	MB	0.006	0.028	n.a.
5	6.97	Nitrate	BMB	0.005	0.027	0.0123
TOTAL:				0.02	0.12	0.10



Peak Integration Report

Sample Name:	CCV3	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 21:27	*Run Time:*	18.00

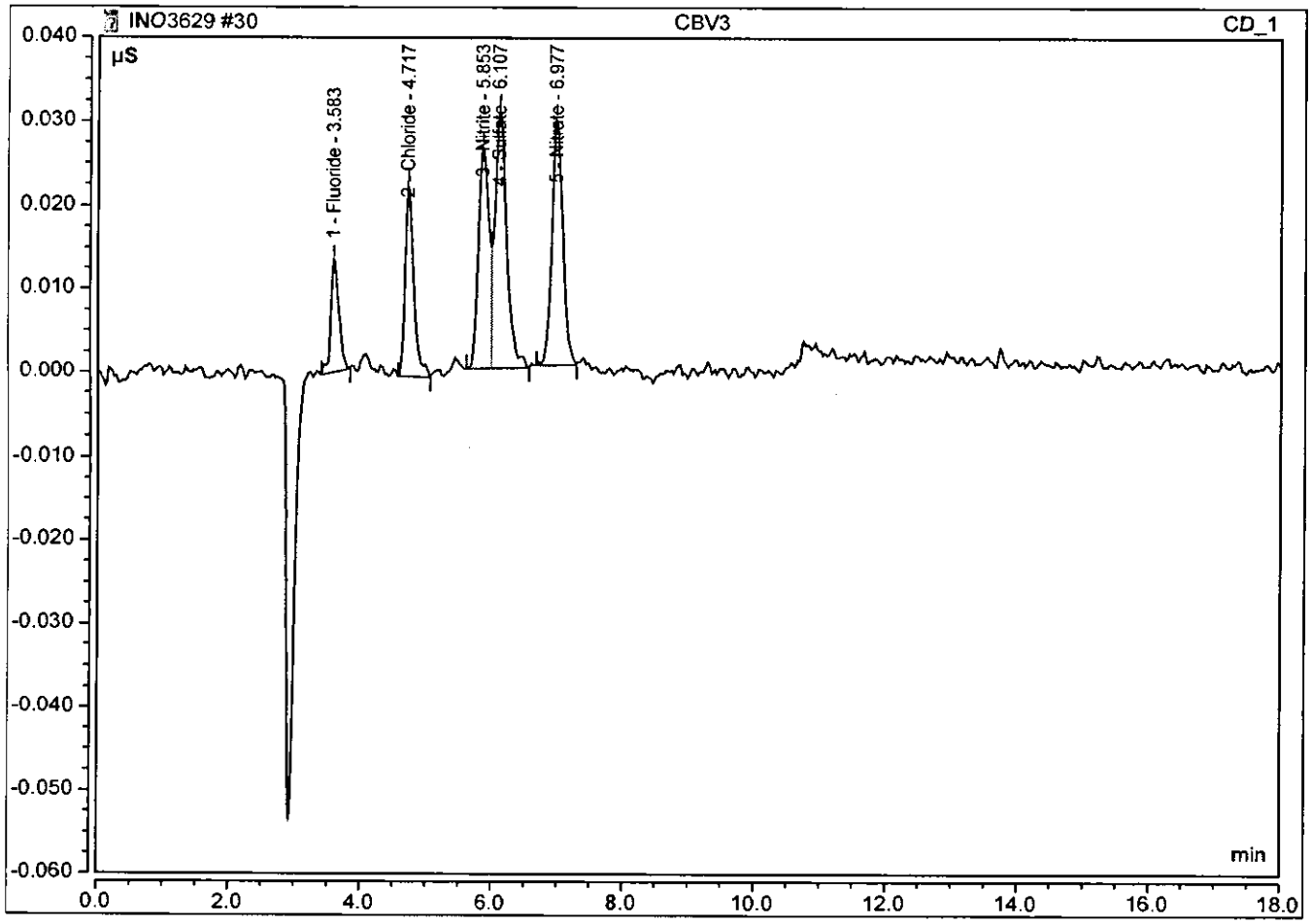
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.788	5.634	2.9096
2	4.72	Chloride	M	3.213	21.693	19.9904
3	5.46	Nitrite	M	1.140	6.786	2.8839
4	6.11	Sulfate	M	2.360	13.029	19.4990
5	6.97	Nitrate	M	1.625	8.311	3.8748
6	10.73	Phosphate	M	0.399	1.178	3.2631
TOTAL:				9.52	56.63	52.42



Peak Integration Report

Sample Name:	CBV3	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	29-Jan-2015 / 21:47	*Run Time:*	18.00

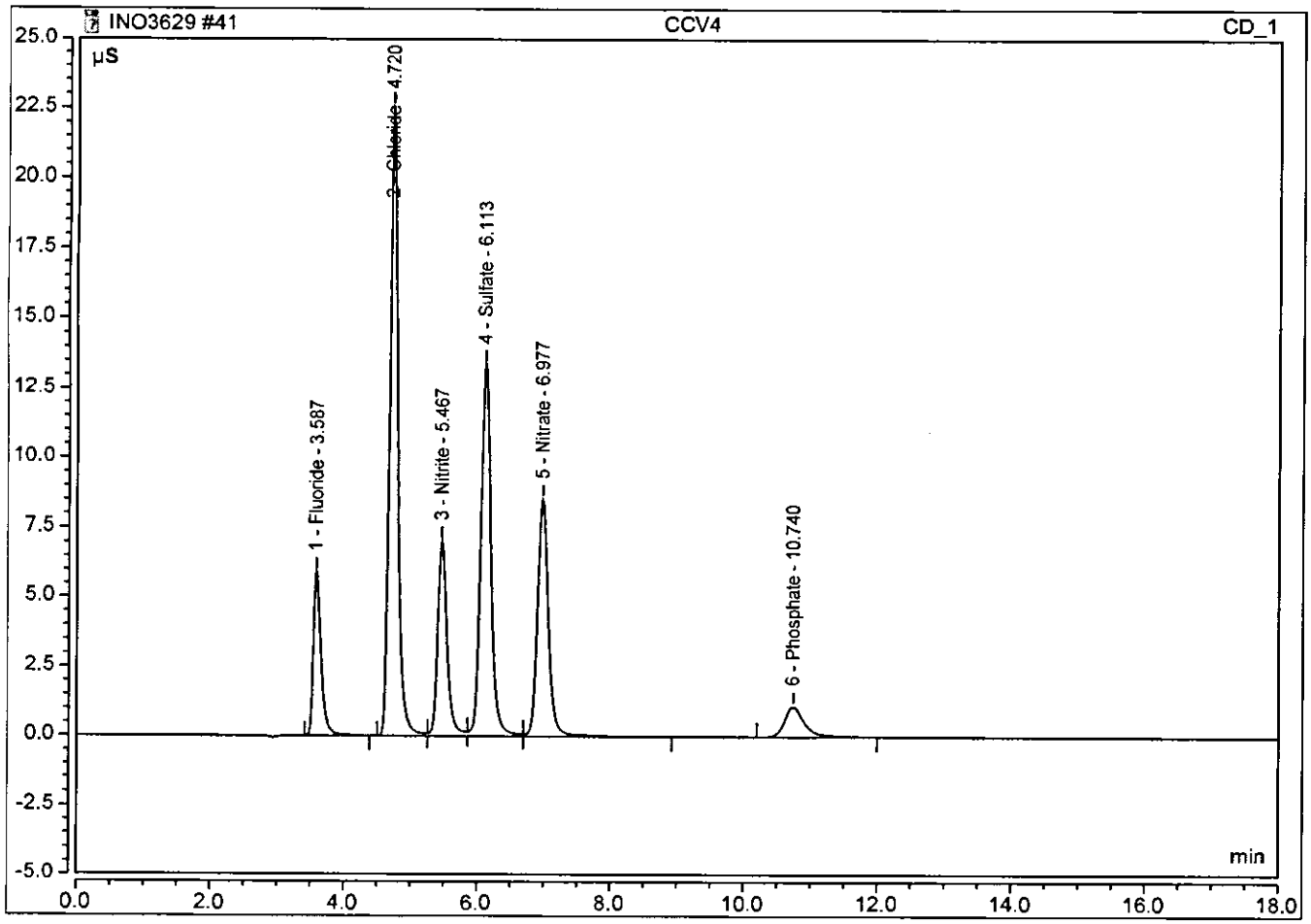
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BMB	0.002	0.014	0.0090
2	4.72	Chloride	BMB	0.003	0.023	0.0321
3	5.85	Nitrite	BM	0.005	0.027	0.0525
4	6.11	Sulfate	MB	0.006	0.031	n.a.
5	6.98	Nitrate	BMB	0.006	0.029	0.0136
TOTAL:				0.02	0.12	0.11



Peak Integration Report

Sample Name:	CCV4	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 01:29	*Run Time:*	18.00

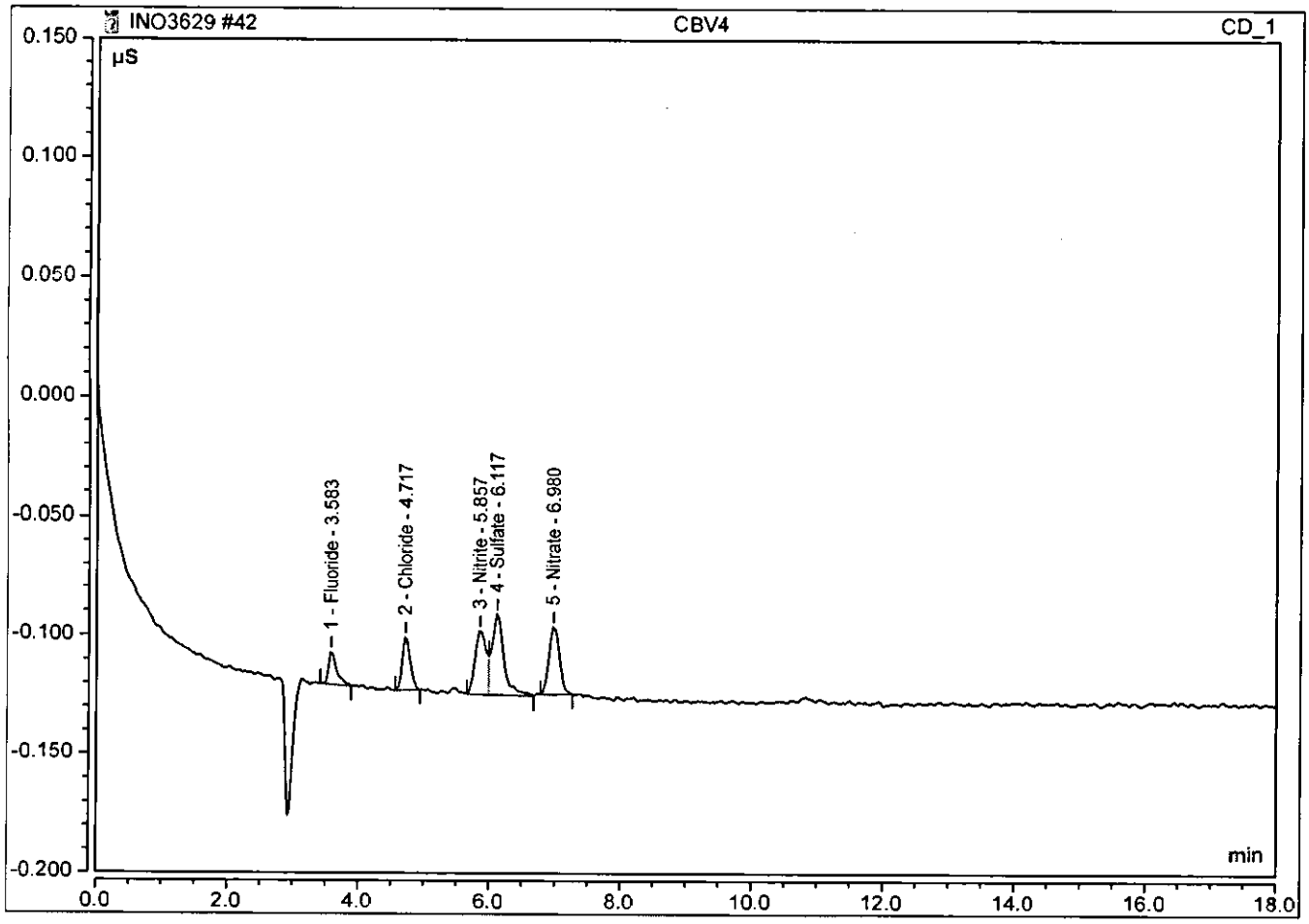
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	BMB	0.795	5.915	2.9355
2	4.72	Chloride	BM	3.228	22.524	20.0822
3	5.47	Nitrite	M	1.151	7.017	2.9109
4	6.11	Sulfate	M	2.377	13.364	19.6373
5	6.98	Nitrate	MB	1.634	8.521	3.8959
6	10.74	Phosphate	BMB	0.386	1.089	3.1648
TOTAL:				9.57	58.43	52.63



Peak Integration Report

Sample Name:	CBV4	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 01:49	*Run Time:*	18.00

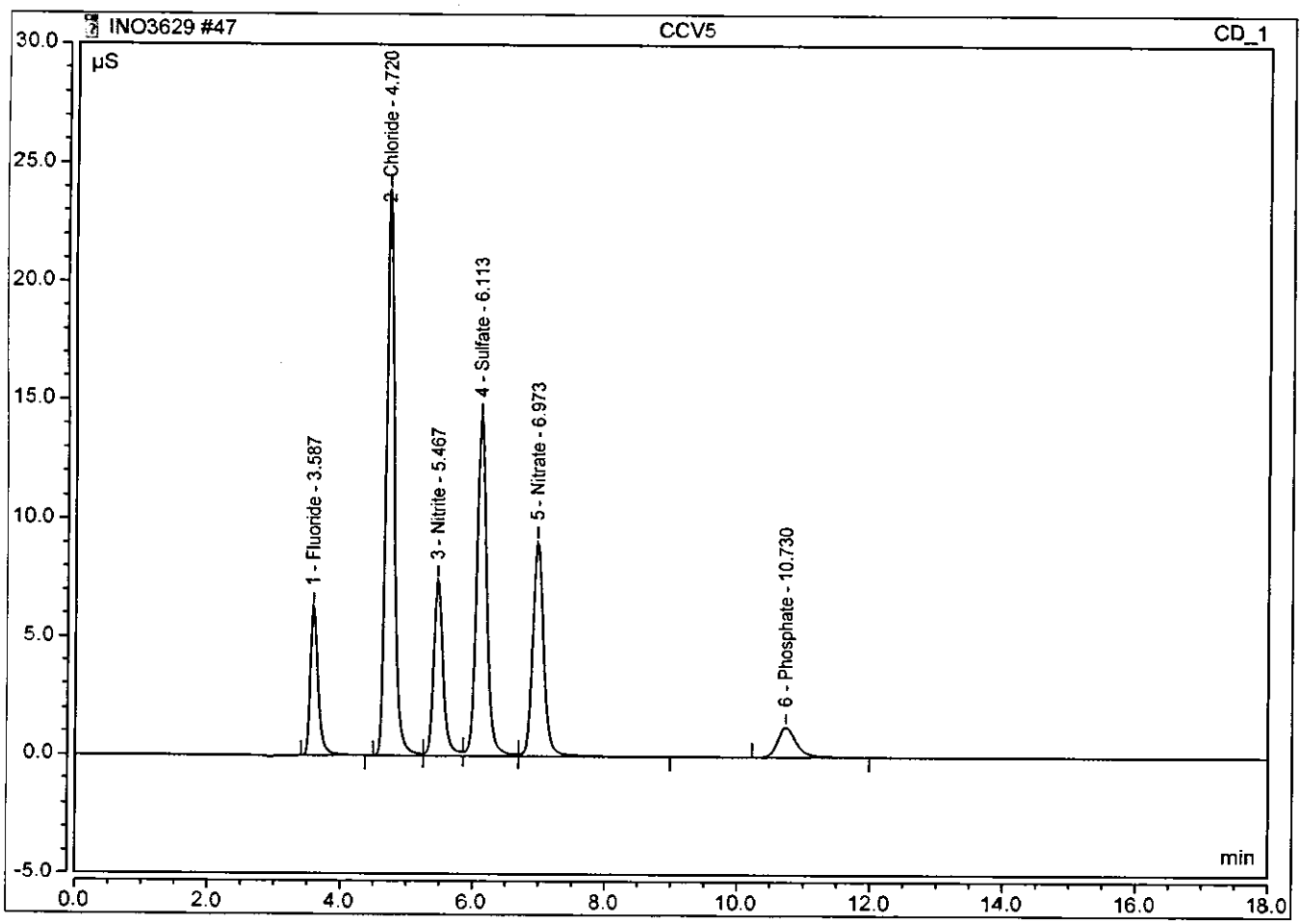
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BMB	0.002	0.014	0.0092
2	4.72	Chloride	BMB	0.003	0.023	0.0299
3	5.86	Nitrite	BM	0.005	0.027	0.0532
4	6.12	Sulfate	MB	0.007	0.034	n.a.
5	6.98	Nitrate	BMB	0.005	0.029	0.0129
		TOTAL:		0.02	0.13	0.11



Peak Integration Report

Sample Name:	CCV5	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 03:30	*Run Time:*	18.00

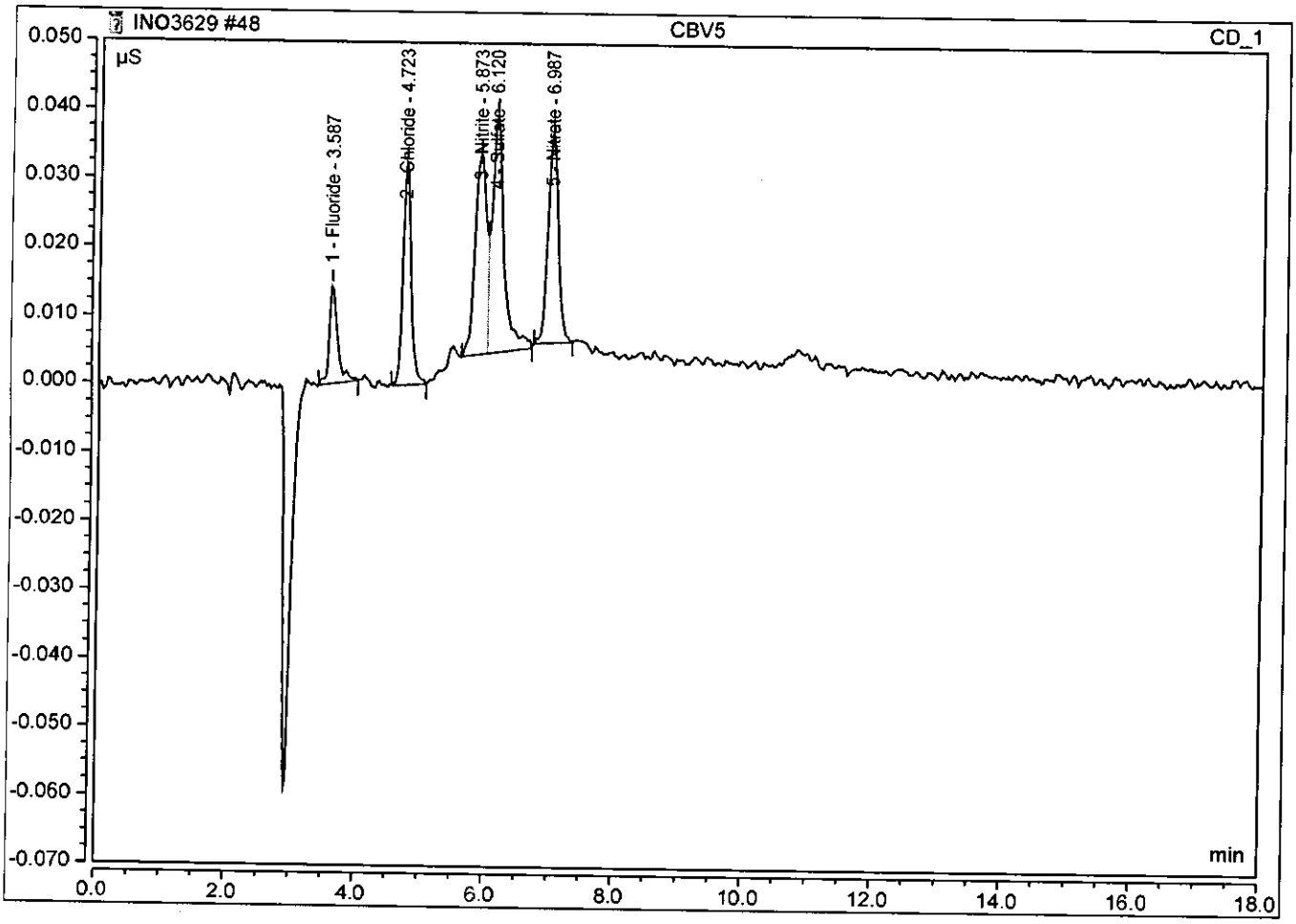
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.857	6.293	3.1645
2	4.72	Chloride	M	3.466	23.935	21.5656
3	5.47	Nitrite	M	1.231	7.447	3.1115
4	6.11	Sulfate	M	2.550	14.272	21.0756
5	6.97	Nitrate	M	1.756	9.103	4.1879
6	10.73	Phosphate	M	0.428	1.254	3.4765
		TOTAL:		10.29	62.30	56.58



Peak Integration Report

Sample Name:	CBV5	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 03:50	*Run Time:*	18.00

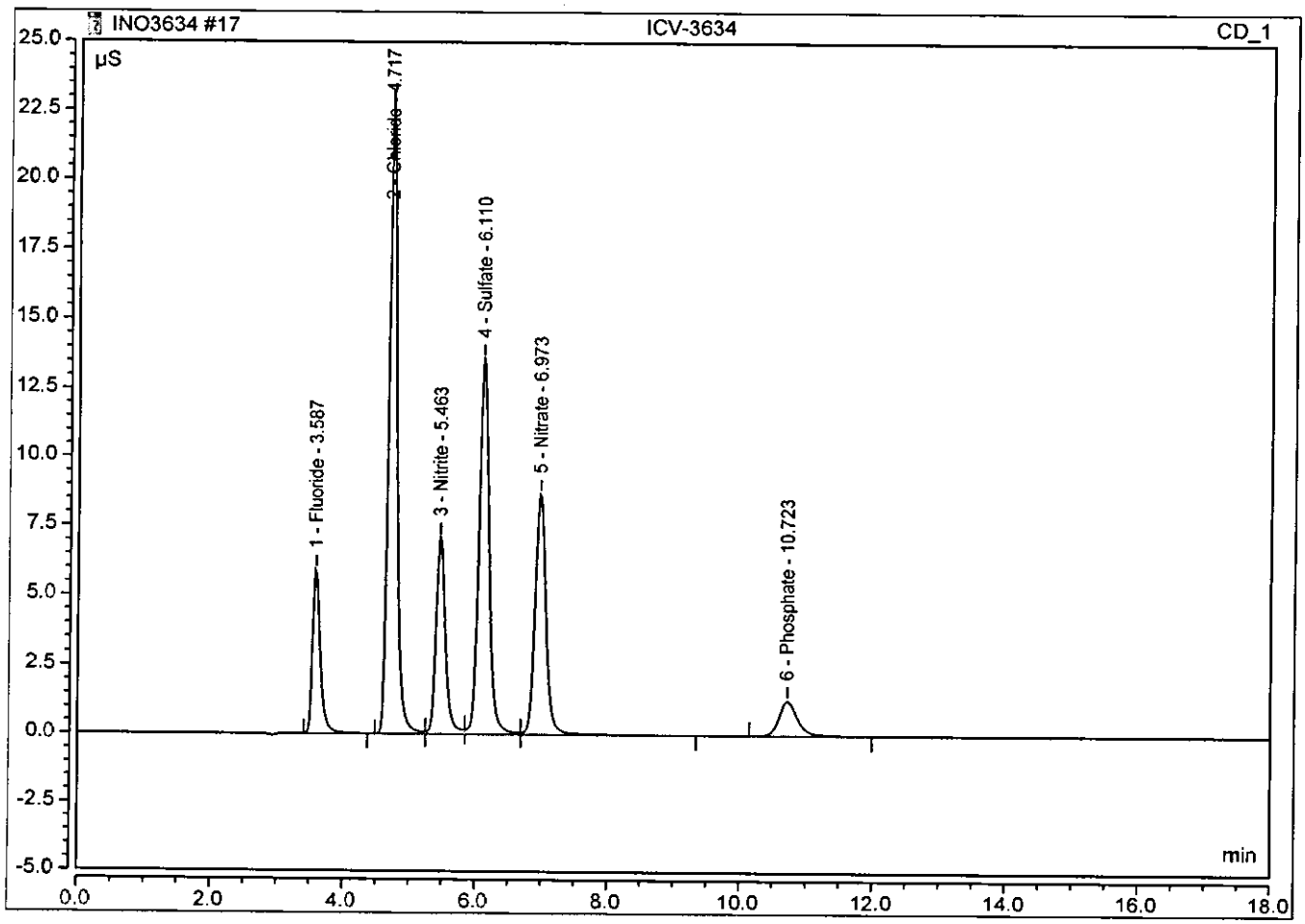
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	BMB	0.002	0.015	0.0099
2	4.72	Chloride	BMB	0.005	0.033	0.0402
3	5.87	Nitrite	BM	0.006	0.029	0.0551
4	6.12	Sulfate	MB	0.008	0.034	n.a.
5	6.99	Nitrate	BMB	0.006	0.030	0.0136
TOTAL:				0.03	0.14	0.12



Peak Integration Report

Sample Name:	ICV-3634	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 19:29	*Run Time:*	18.00

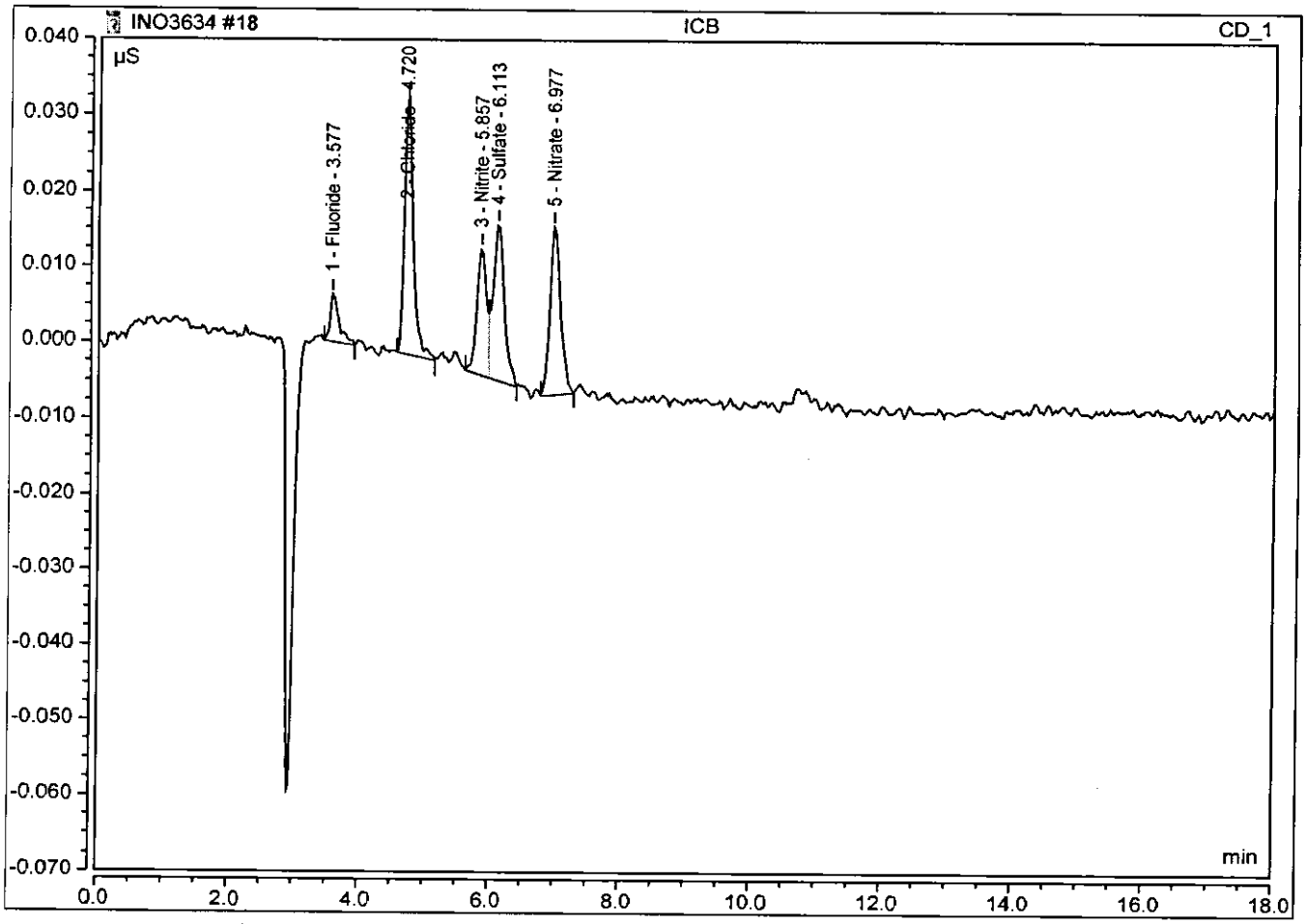
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.818	5.924	3.0216
2	4.72	Chloride	M	3.316	22.707	20.6309
3	5.46	Nitrite	M	1.178	7.093	2.9805
4	6.11	Sulfate	M	2.439	13.595	20.1515
5	6.97	Nitrate	M	1.682	8.690	4.0112
6	10.72	Phosphate	M	0.421	1.278	3.4254
TOTAL:				9.85	59.29	54.22



Peak Integration Report

Sample Name:	ICB	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 19:50	*Run Time:*	18.00

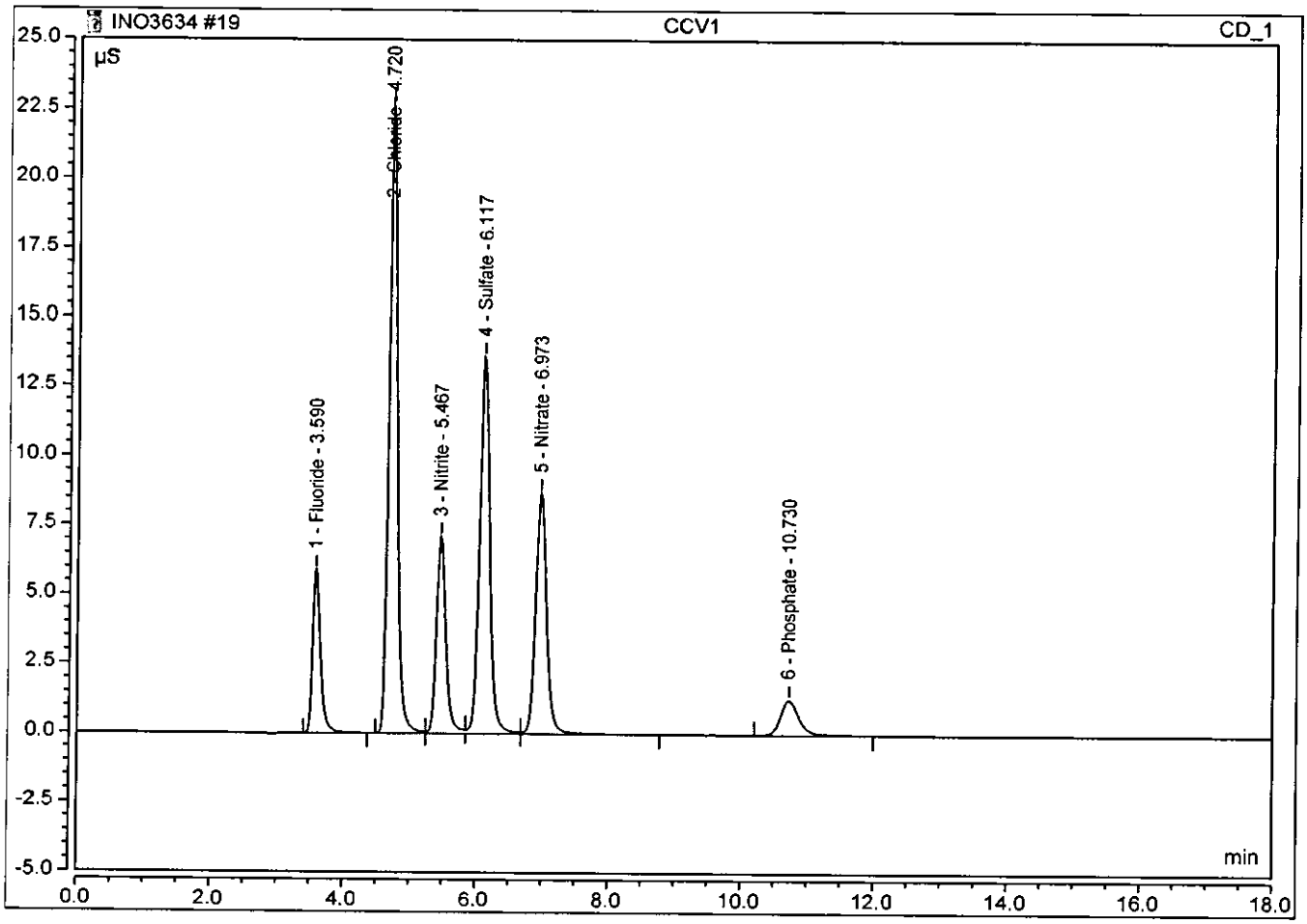
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BMB	0.001	0.006	0.0055
2	4.72	Chloride	BMB	0.005	0.034	0.0433
3	5.86	Nitrite	BM	0.003	0.017	0.0473
4	6.11	Sulfate	MB	0.004	0.021	n.a.
5	6.98	Nitrate	BMB	0.004	0.022	0.0100
TOTAL:				0.02	0.10	0.11



Peak Integration Report

Sample Name:	**CCV1**	*Inj. Vol.:*	**10.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**30-Jan-2015 / 20:10**	*Run Time:*	**18.00**

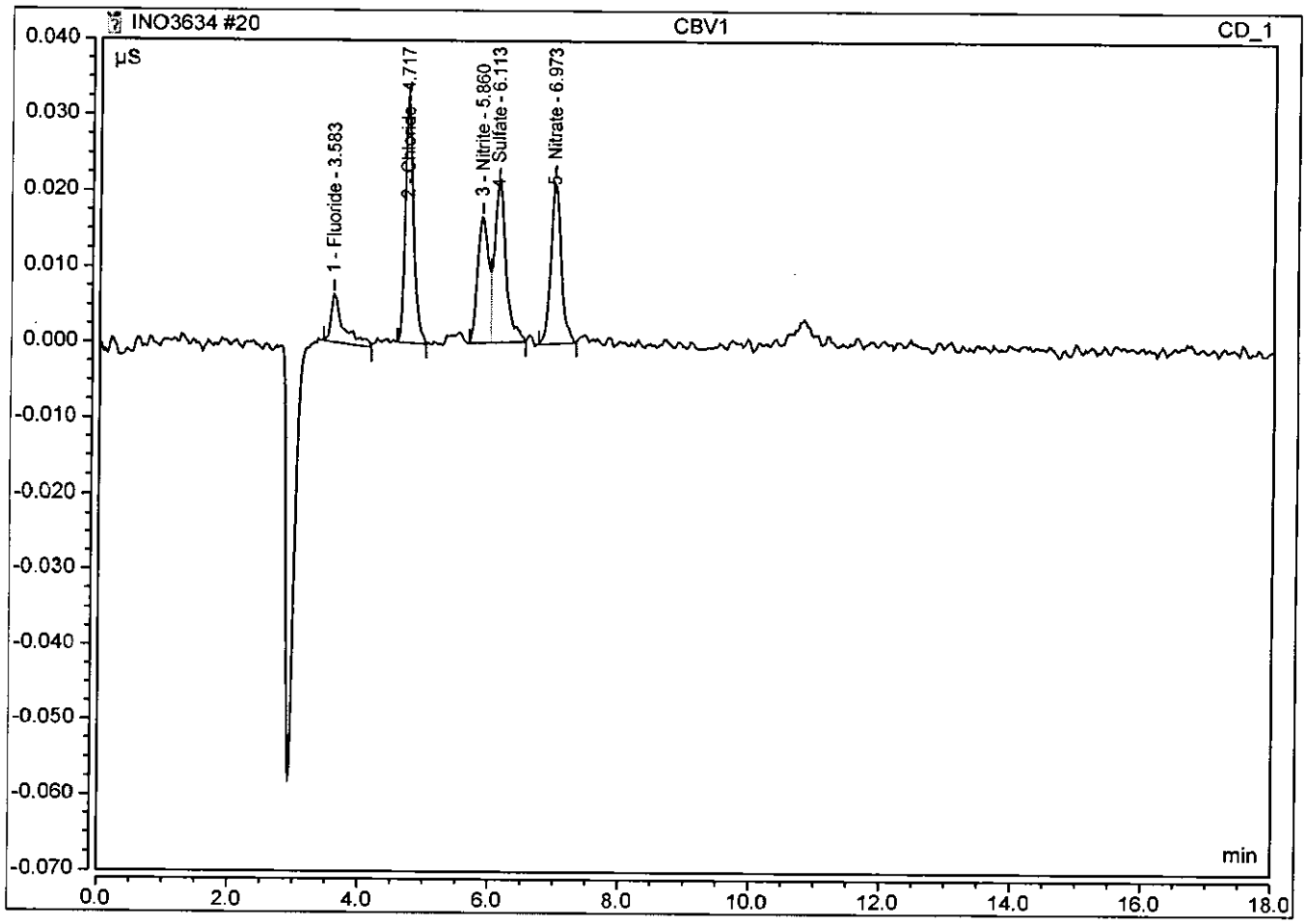
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.815	5.896	3.0093
2	4.72	Chloride	M	3.318	22.665	20.6451
3	5.47	Nitrite	M	1.179	7.087	2.9812
4	6.12	Sulfate	M	2.436	13.603	20.1283
5	6.97	Nitrate	M	1.679	8.683	4.0033
6	10.73	Phosphate	M	0.422	1.282	3.4301
		TOTAL:		9.85	59.22	54.20



Peak Integration Report

Sample Name:	CBV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 20:30	*Run Time:*	18.00

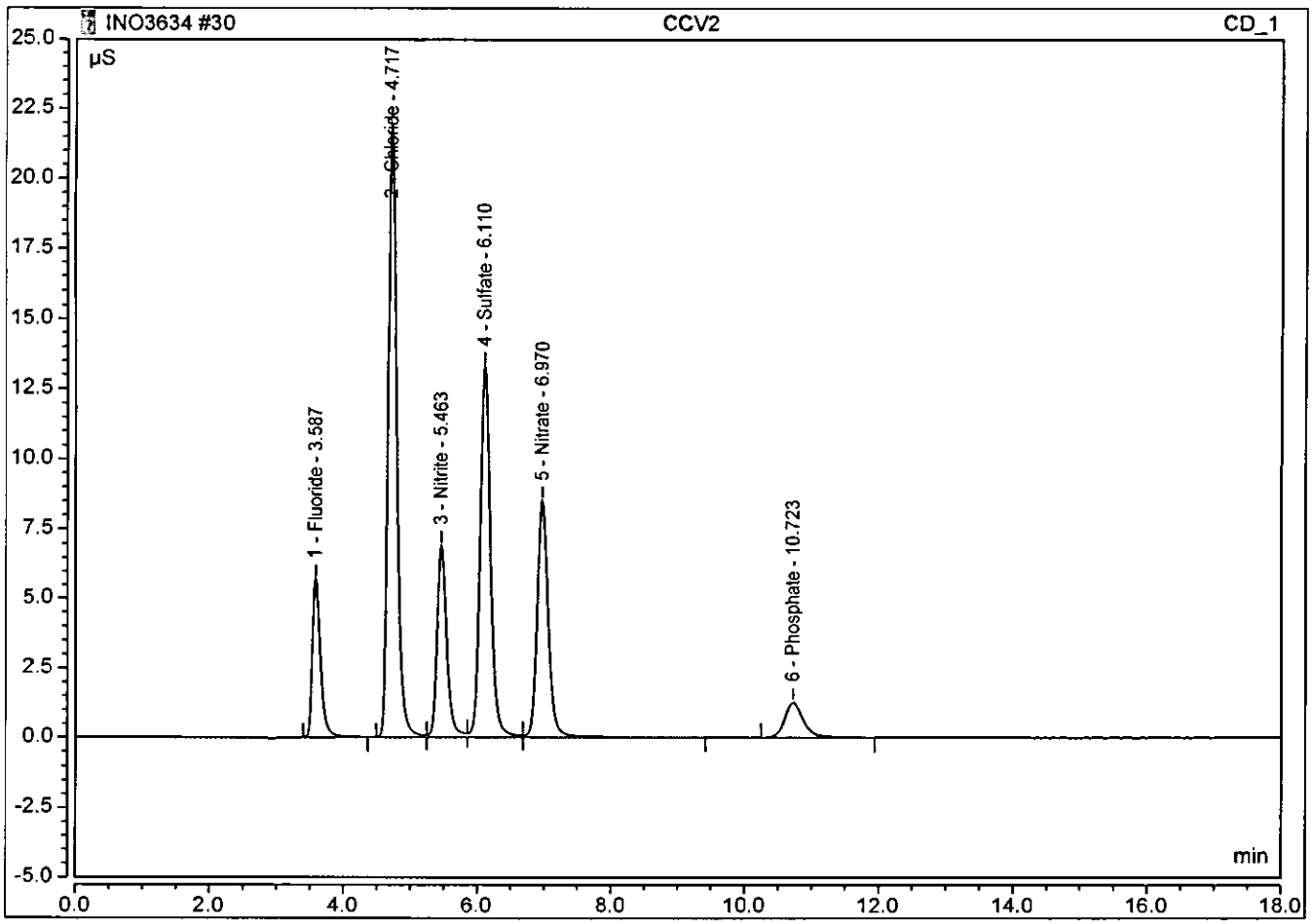
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BMB	0.001	0.006	0.0071
2	4.72	Chloride	BMB	0.005	0.032	0.0397
3	5.86	Nitrite	BM	0.003	0.017	0.0483
4	6.11	Sulfate	MB	0.004	0.021	n.a.
5	6.97	Nitrate	BMB	0.004	0.021	0.0096
TOTAL:				0.02	0.10	0.10



Peak Integration Report

Sample Name:	CCV2	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 23:51	*Run Time:*	18.00

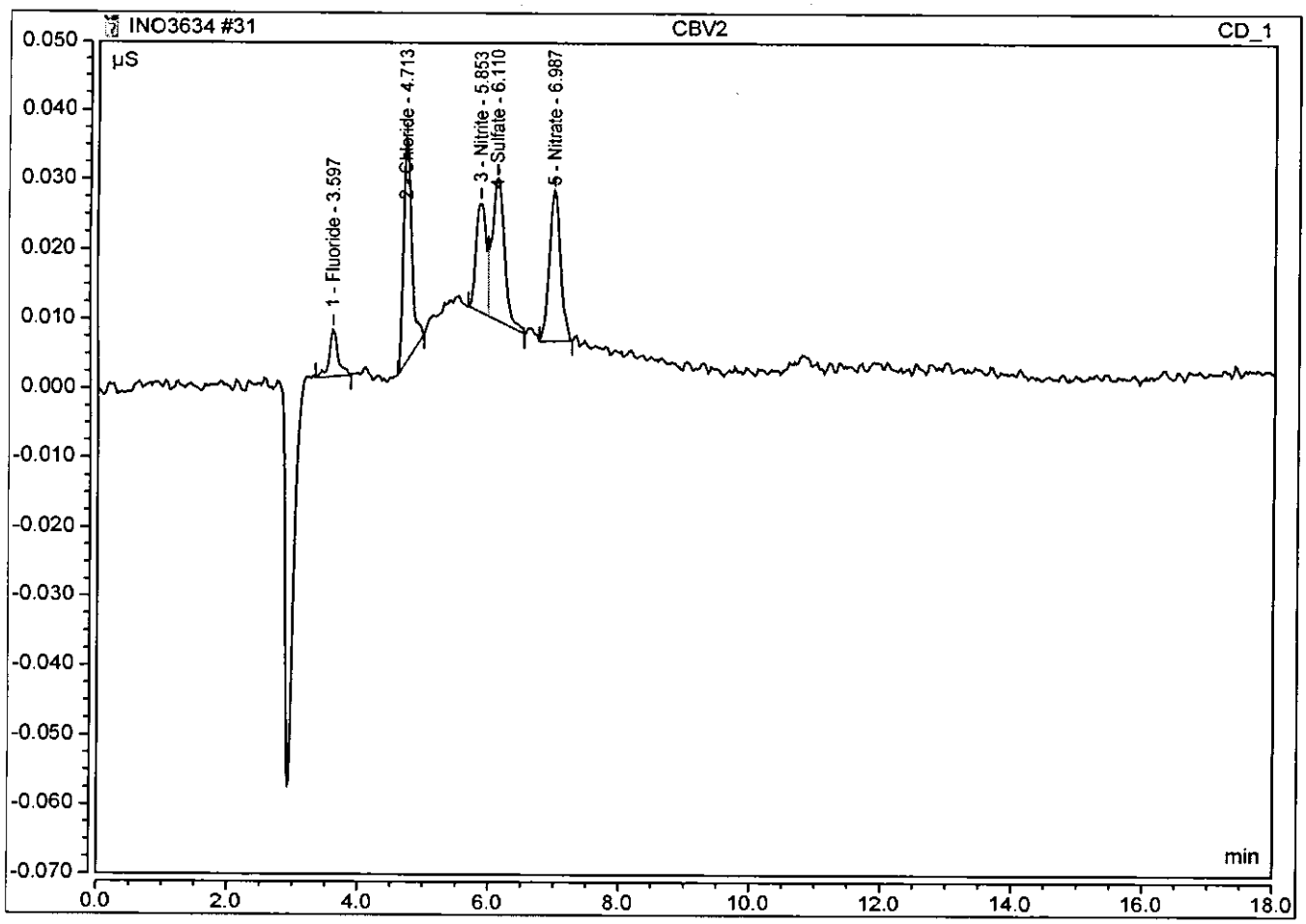
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.806	5.722	2.9776
2	4.72	Chloride	M	3.282	22.031	20.4224
3	5.46	Nitrite	M	1.164	6.908	2.9447
4	6.11	Sulfate	M	2.406	13.284	19.8765
5	6.97	Nitrate	M	1.660	8.481	3.9593
6	10.72	Phosphate	M	0.415	1.261	3.3855
TOTAL:				9.73	57.69	53.57



Peak Integration Report

Sample Name:	CBV2	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	31-Jan-2015 / 00:11	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.60	Fluoride	BMB	0.001	0.007	0.0058
2	4.71	Chloride	BMB	0.005	0.032	0.0392
3	5.85	Nitrite	BM	0.003	0.016	0.0472
4	6.11	Sulfate	MB	0.004	0.020	n.a.
5	6.99	Nitrate	BMB	0.004	0.022	0.0103
TOTAL:				0.02	0.10	0.10



EPA 300.0 Modified

Sample Data

Results of **BT-SD-01**

Client Sample ID: **BT-SD-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182008-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 15:45
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 60.60

Results by **EPA 300.0 Modified**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Chloride	**12200**		495	mg/kg	1000	02/3/2015 19:08
Nitrite as N	ND		0.495	mg/kg	1	02/3/2015 18:48
Nitrate as N	ND		0.495	mg/kg	1	02/3/2015 18:48
Ortho-Phosphate as P	ND		1.65	mg/kg	1	02/3/2015 18:48
Sulfate	**479**		16.5	mg/kg	10	01/30/2015 17:49

Batch Information

Analytical Batch: **INO3633**
Analytical Method: **EPA 300.0 Modified**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **IXX1325**
Prep Method: **EPA 300.0 soils PREP**
Prep Date/Time: **01/30/2015 11:25**
Prep Initial Wt./Vol.: **40 g**
Prep Extract Vol: **40 mL**

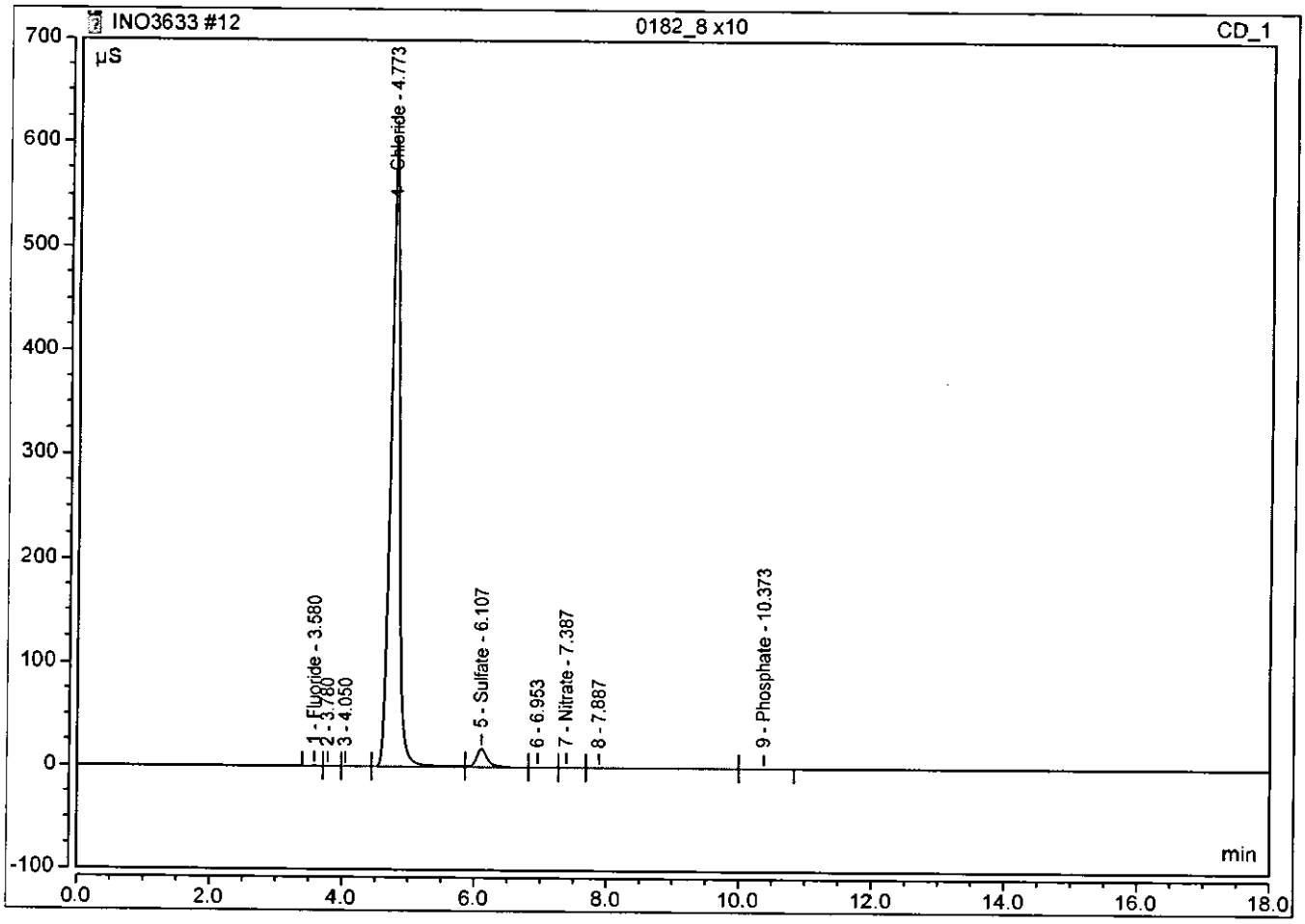
Analytical Batch: **INO3638**
Analytical Method: **EPA 300.0 Modified**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **IXX1325**
Prep Method: **EPA 300.0 soils PREP**
Prep Date/Time: **01/30/2015 11:25**
Prep Initial Wt./Vol.: **40 g**
Prep Extract Vol: **40 mL**

Peak Integration Report

Sample Name:	0182_8 x10	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 17:49	*Run Time:*	18.00

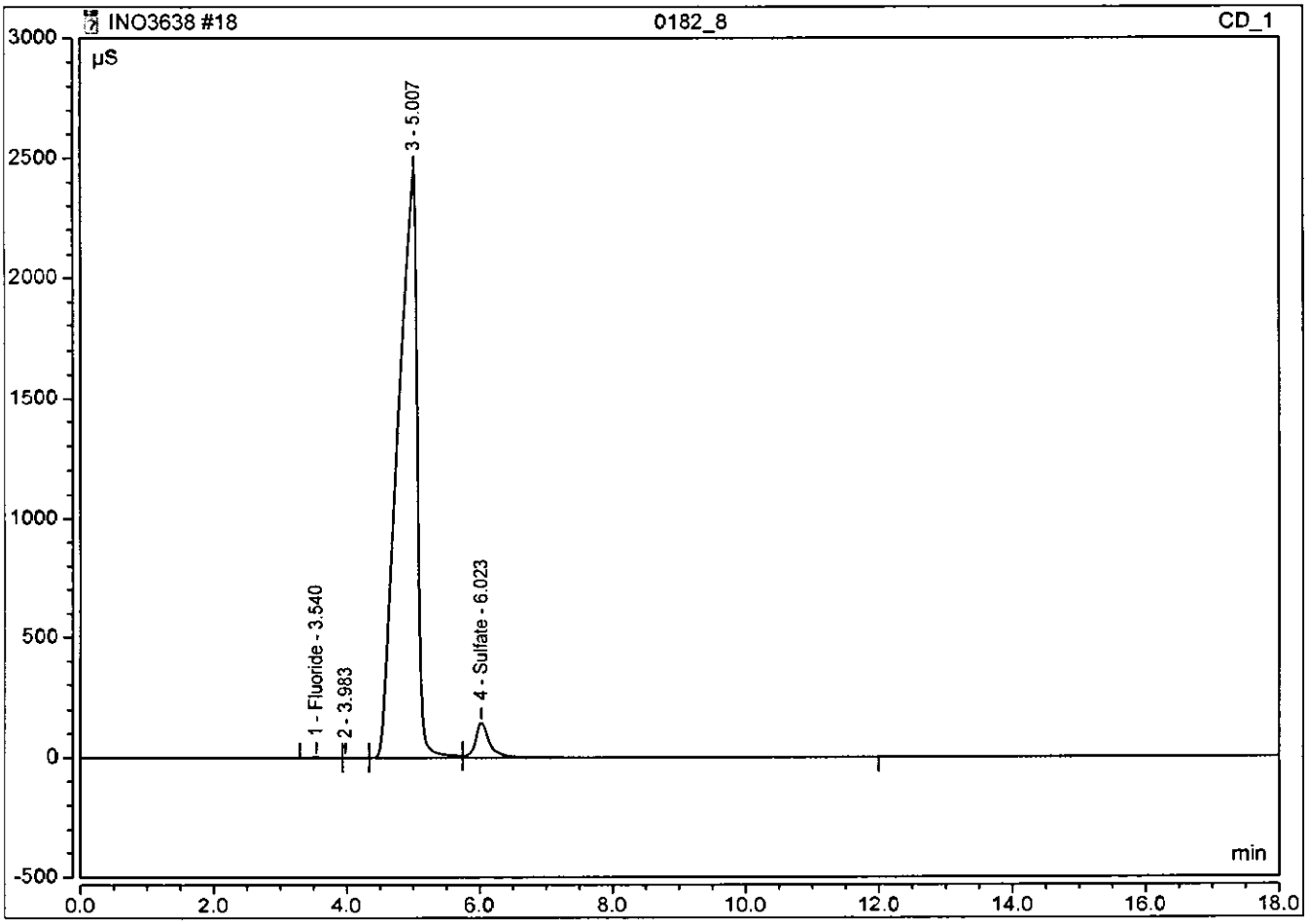
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BM	0.056	0.416	0.2081
4	4.77	Chloride	M	92.726	607.416	576.6689
5	6.11	Sulfate	M	3.502	17.738	29.0070
7	7.39	Nitrate	M	0.022	0.061	0.0516
9	10.37	Phosphate	MB	0.005	0.013	0.3456
TOTAL:				96.31	625.64	606.28



Peak Integration Report

Sample Name:	0182_8	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 18:48	*Run Time:*	18.00

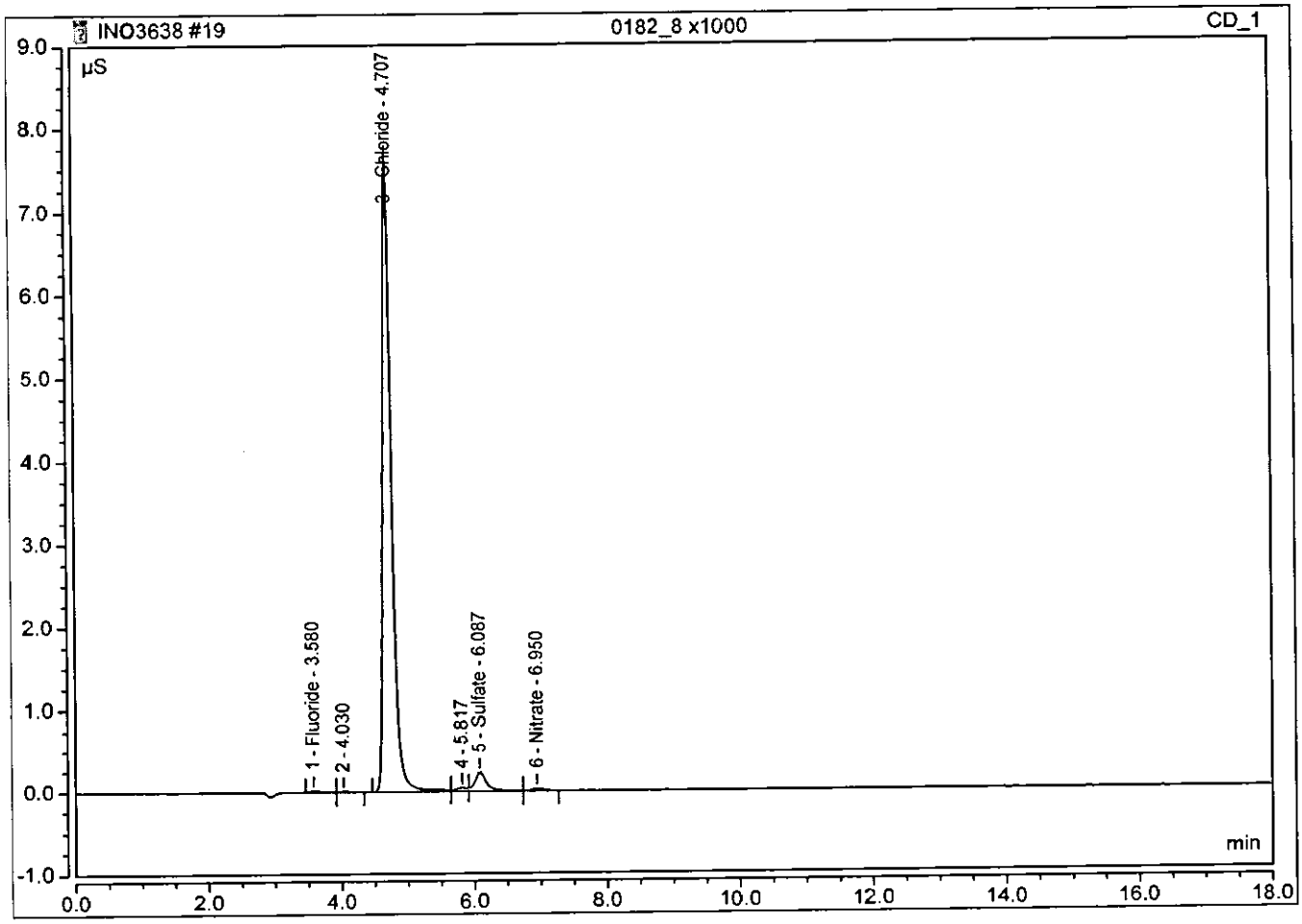
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.54	Fluoride	M	0.629	2.544	2.3804
4	6.02	Sulfate	M	37.513	148.456	321.4108
TOTAL:				38.14	151.00	323.79



Peak Integration Report

Sample Name:	0182_8 x1000	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 19:08	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BM	0.005	0.023	0.0260
3	4.71	Chloride	BM	1.154	7.625	7.3968
5	6.09	Sulfate	M	0.048	0.232	0.4272
6	6.95	Nitrate	MB	0.006	0.030	0.0190
TOTAL:				1.21	7.91	7.87



Results of **BT-SD-02**

Client Sample ID: **BT-SD-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182009-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 16:30
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 37.70

Results by **EPA 300.0 Modified**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Chloride	**18900**		796	mg/kg	1000	02/3/2015 20:08
Nitrite as N	ND		0.796	mg/kg	1	02/3/2015 19:48
Nitrate as N	ND		0.796	mg/kg	1	02/3/2015 19:48
Ortho-Phosphate as P	ND		2.65	mg/kg	1	02/3/2015 19:48
Sulfate	**965**		26.5	mg/kg	10	01/30/2015 18:29

Batch Information

Analytical Batch: **INO3633**
Analytical Method: **EPA 300.0 Modified**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **IXX1325**
Prep Method: **EPA 300.0 soils PREP**
Prep Date/Time: **01/30/2015 11:25**
Prep Initial Wt./Vol.: **40 g**
Prep Extract Vol: **40 mL**

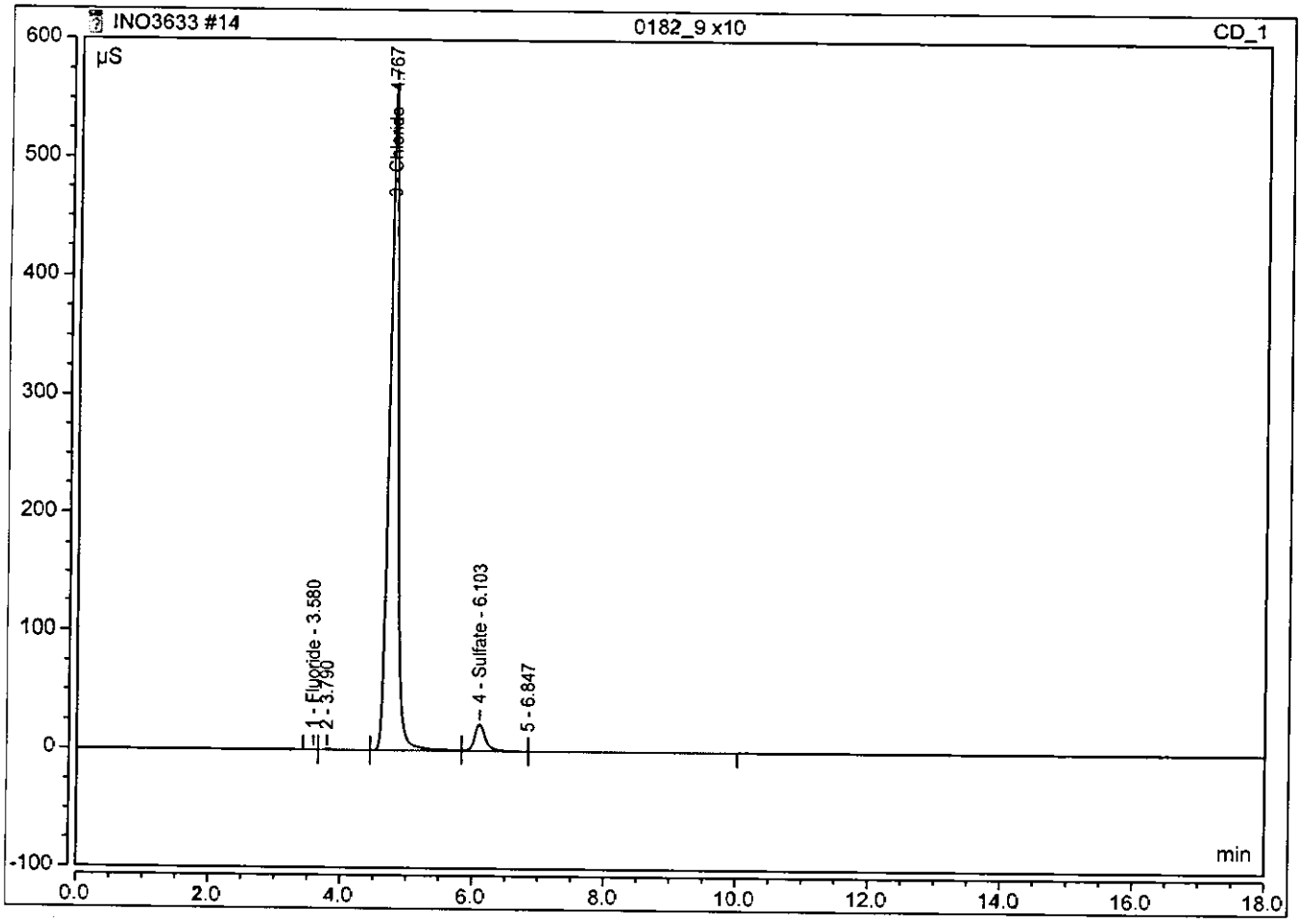
Analytical Batch: **INO3638**
Analytical Method: **EPA 300.0 Modified**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **IXX1325**
Prep Method: **EPA 300.0 soils PREP**
Prep Date/Time: **01/30/2015 11:25**
Prep Initial Wt./Vol.: **40 g**
Prep Extract Vol: **40 mL**

Peak Integration Report

Sample Name:	**0182_9 x10**	*Inj. Vol.:*	**10.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**30-Jan-2015 / 18:29**	*Run Time:*	**18.00**

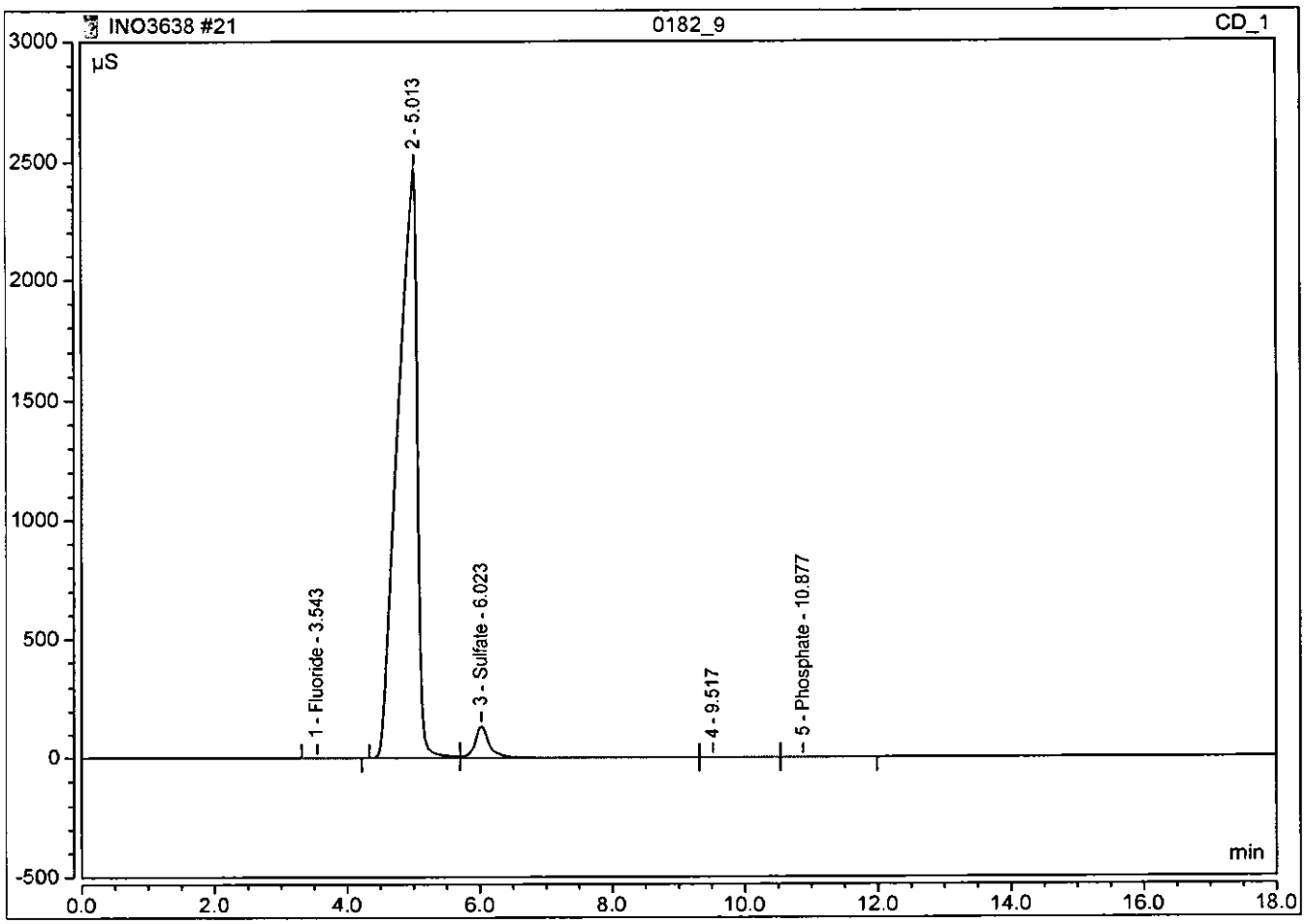
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BM	0.012	0.099	0.0452
3	4.77	Chloride	M	85.540	563.915	531.9809
4	6.10	Sulfate	M	4.386	22.782	36.3703
TOTAL:				89.94	586.80	568.40



Peak Integration Report

Sample Name:	0182_9	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 19:48	*Run Time:*	18.00

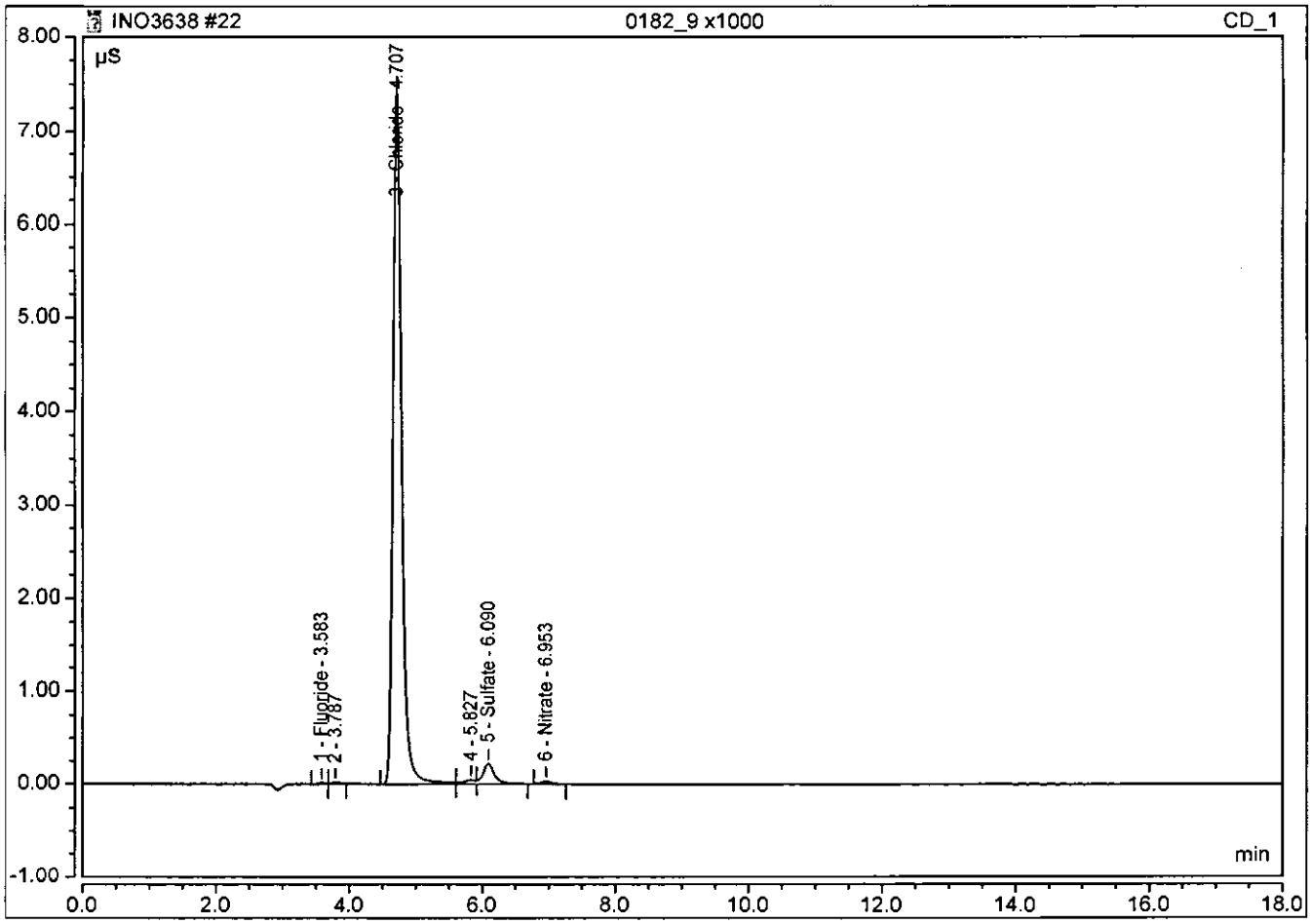
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.54	Fluoride	M	0.144	0.576	0.5518
3	6.02	Sulfate	M	34.418	137.445	294.8947
5	10.88	Phosphate	M	0.039	0.047	0.4161
TOTAL:				34.60	138.07	295.86



Peak Integration Report

Sample Name:	0182_9 x1000	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 20:08	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BM	0.002	0.016	0.0148
3	4.71	Chloride	BM	1.111	7.431	7.1226
5	6.09	Sulfate	MB	0.045	0.225	0.4005
6	6.95	Nitrate	BMB	0.005	0.029	0.0173
TOTAL:				1.16	7.70	7.56



Results of **BT-SD-03**

Client Sample ID: **BT-SD-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182010-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:00
Received Date: 01/29/2015 10:15
Matrix: Soil-Solid as dry weight
Solids (%): 76.00

Results by **EPA 300.0 Modified**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Chloride	**8.00**		0.395	mg/kg	1	02/3/2015 17:47
Nitrite as N	ND		0.395	mg/kg	1	02/3/2015 17:47
Nitrate as N	ND		0.395	mg/kg	1	02/3/2015 17:47
Ortho-Phosphate as P	ND		1.32	mg/kg	1	02/3/2015 17:47
Sulfate	**75.6**		13.2	mg/kg	10	01/30/2015 16:48

Batch Information

Analytical Batch: **INO3633**
Analytical Method: **EPA 300.0 Modified**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **IXX1325**
Prep Method: **EPA 300.0 soils PREP**
Prep Date/Time: **01/30/2015 11:25**
Prep Initial Wt./Vol.: **40 g**
Prep Extract Vol: **40 mL**

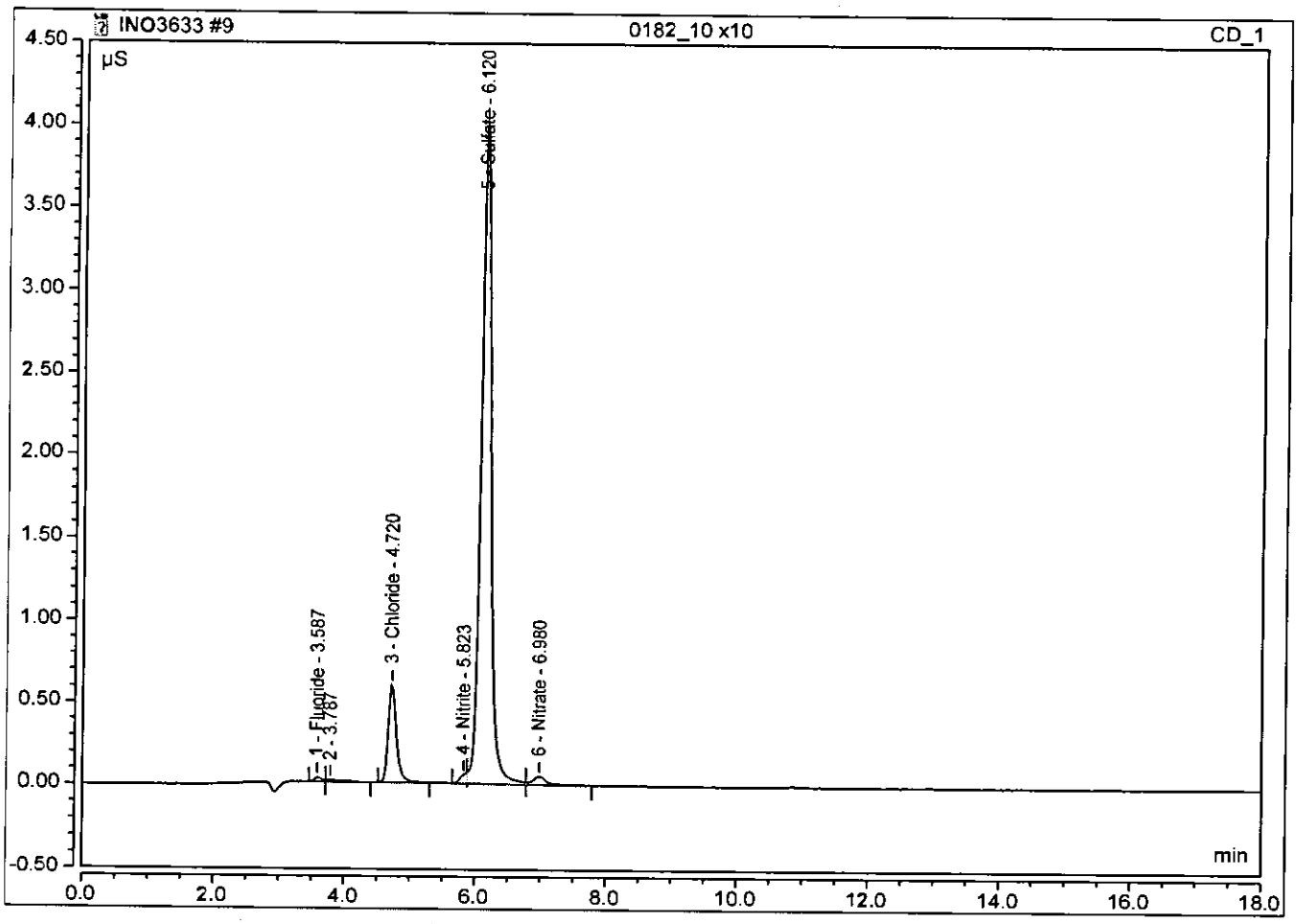
Analytical Batch: **INO3638**
Analytical Method: **EPA 300.0 Modified**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **IXX1325**
Prep Method: **EPA 300.0 soils PREP**
Prep Date/Time: **01/30/2015 11:25**
Prep Initial Wt./Vol.: **40 g**
Prep Extract Vol: **40 mL**

Peak Integration Report

Semple Name:	**0182_10 x10**	*Inj. Vol.:*	**10.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**30-Jan-2015 / 16:48**	*Run Time:*	**18.00**

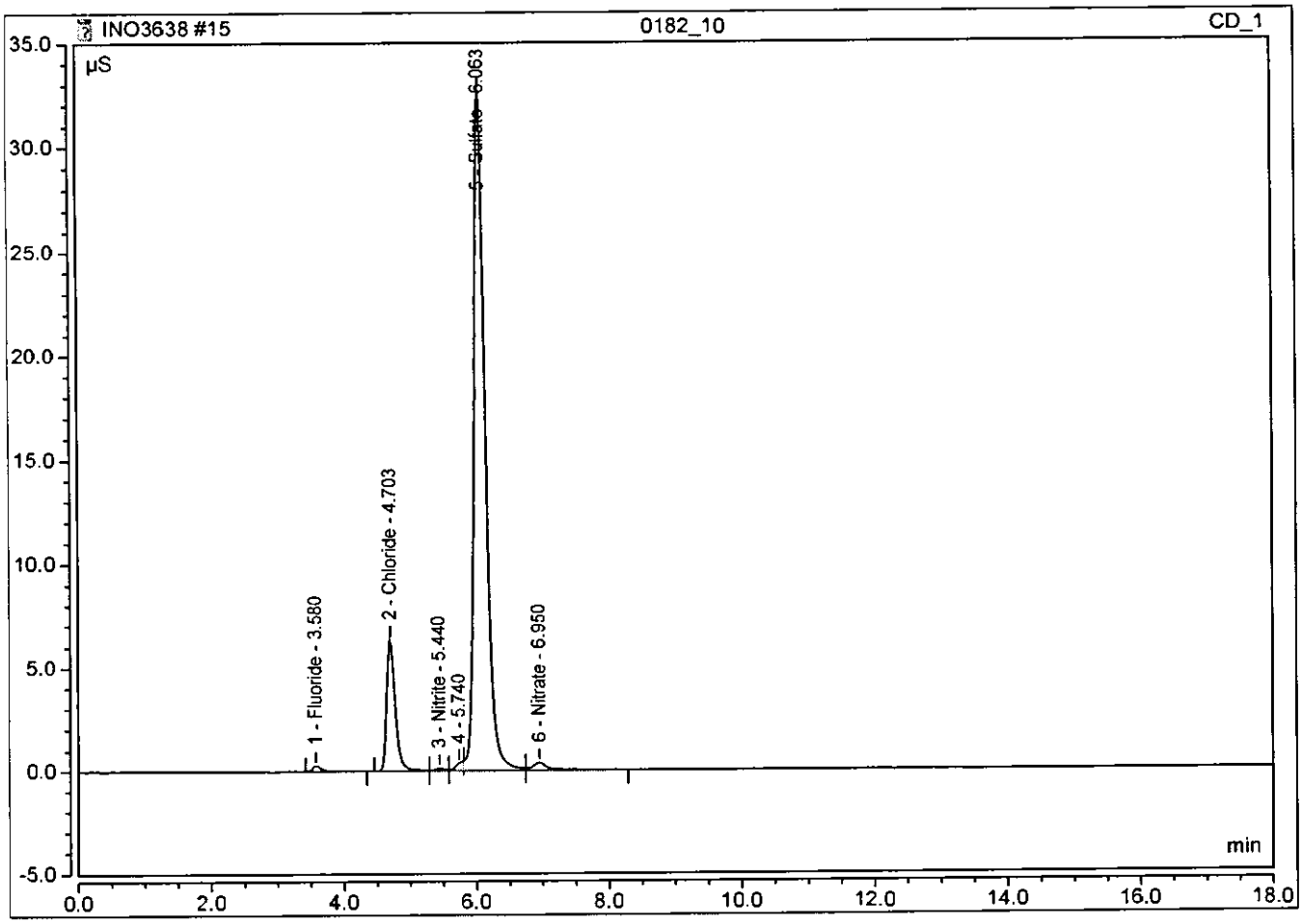
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.004	0.028	0.0150
3	4.72	Chloride	M	0.086	0.597	0.5442
4	5.82	Nitrite	M	0.007	0.054	0.0567
5	6.12	Sulfate	M	0.709	4.007	5.7480
6	6.98	Nitrate	M	0.013	0.050	0.0303
		TOTAL:		0.82	4.74	6.39



Peak Integration Report

Sample Name:	0182_10	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 17:47	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.042	0.279	0.1668
2	4.70	Chloride	M	0.948	6.279	6.0816
3	5.44	Nitrite	M	0.020	0.118	0.1041
5	6.06	Sulfate	M	6.426	32.688	55.0748
6	6.95	Nitrate	M	0.103	0.381	0.2586
TOTAL:				7.54	39.75	61.69



EPA 300.0 Modified
QC, Blanks Data

Print Date: 02/06/2015

N.C. Certification # 481

Instrument Detection Limits **Form 9**

Instrument: IC2
Units: mg/kg

Results by **EPA 300.0 Modified**

Parameter	Wavelength/Mass	CRQL	MDL
Chloride		0.3	0.0287
Nitrate as N		0.3	0.037
Nitrite as N		0.3	0.0163
Ortho-Phosphate as P		1.0	0.0534
Sulfate		1.0	0.104

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: EPA 300.0 Modified

Prep Method: EPA 300.0 soils PREP
Prep Batch: IXX1325
Prep Date: 01/30/2015 11:25

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 63859 [IXX/1325]	158197	01/30/2015 16:08	INO3633	IC2	PSW
LCS for HBN 63859 [IXX/1325]	158198	01/30/2015 16:28	INO3633	IC2	PSW
BT-SD-03	31500182010	01/30/2015 16:48	INO3633	IC2	PSW
BT-SD-03(157967MS)	158200	01/30/2015 17:08	INO3633	IC2	PSW
BT-SD-03(157967MSD)	158201	01/30/2015 17:29	INO3633	IC2	PSW
BT-SD-01	31500182008	01/30/2015 17:49	INO3633	IC2	PSW
BT-SD-01(157965DUP)	158199	01/30/2015 18:09	INO3633	IC2	PSW
BT-SD-02	31500182009	01/30/2015 18:29	INO3633	IC2	PSW
MB for HBN 63859 [IXX/1325]	158197	02/03/2015 17:07	INO3638	IC2	PSW
LCS for HBN 63859 [IXX/1325]	158198	02/03/2015 17:27	INO3638	IC2	PSW
BT-SD-03	31500182010	02/03/2015 17:47	INO3638	IC2	PSW
BT-SD-03(157967MS)	158200	02/03/2015 18:07	INO3638	IC2	PSW
BT-SD-03(157967MSD)	158201	02/03/2015 18:27	INO3638	IC2	PSW
BT-SD-01	31500182008	02/03/2015 18:48	INO3638	IC2	PSW
BT-SD-01	31500182008	02/03/2015 19:08	INO3638	IC2	PSW
BT-SD-01(157965DUP)	158199	02/03/2015 19:28	INO3638	IC2	PSW
BT-SD-02	31500182009	02/03/2015 19:48	INO3638	IC2	PSW
BT-SD-02	31500182009	02/03/2015 20:08	INO3638	IC2	PSW

Method Blank Summary **Form 4**

Blank ID: MB for HBN 63859 [IXX/1325]
Blank Lab ID: 158197
Prep Batch: IXX1325

Matrix: Soil-Solid as dry weight
Analysis Date/Time: 01/30/2015 16:08

Results by **EPA 300.0 Modified**

Client Sample ID	Lab Sample ID	Filename	Date Analyzed	Analyst
LCS for HBN 63859 [IXX/1325]	158198	158198x1	01/30/2015 16:28	PSW
BT-SD-03	31500182010	0182_10x10	01/30/2015 16:48	PSW
BT-SD-03(157967MS)	158200	158200x10	01/30/2015 17:08	PSW
BT-SD-03(157967MSD)	158201	158201x10	01/30/2015 17:29	PSW
BT-SD-01	31500182008	0182_8x10	01/30/2015 17:49	PSW
BT-SD-01(157965DUP)	158199	158199x10	01/30/2015 18:09	PSW
BT-SD-02	31500182009	0182_9x10	01/30/2015 18:29	PSW
LCS for HBN 63859 [IXX/1325]	158198	158198x1	02/3/2015 17:27	PSW
BT-SD-03	31500182010	0182_10x1	02/3/2015 17:47	PSW
BT-SD-03(157967MS)	158200	158200x1	02/3/2015 18:07	PSW
BT-SD-03(157967MSD)	158201	158201x1	02/3/2015 18:27	PSW
BT-SD-01	31500182008	0182_8x1	02/3/2015 18:48	PSW
BT-SD-01	31500182008	0182_8x1000	02/3/2015 19:08	PSW
BT-SD-01(157965DUP)	158199	158199x1000	02/3/2015 19:28	PSW
BT-SD-02	31500182009	0182_9x1	02/3/2015 19:48	PSW
BT-SD-02	31500182009	0182_9x1000	02/3/2015 20:08	PSW
LCS for HBN 63859 [IXX/1325]	158198	158198x1	01/30/2015 16:28	PSW
BT-SD-03	31500182010	0182_10x10	01/30/2015 16:48	PSW
BT-SD-03(157967MS)	158200	158200x10	01/30/2015 17:08	PSW
BT-SD-03(157967MSD)	158201	158201x10	01/30/2015 17:29	PSW
BT-SD-01	31500182008	0182_8x10	01/30/2015 17:49	PSW
BT-SD-01(157965DUP)	158199	158199x10	01/30/2015 18:09	PSW
BT-SD-02	31500182009	0182_9x10	01/30/2015 18:29	PSW
LCS for HBN 63859 [IXX/1325]	158198	158198x1	02/3/2015 17:27	PSW
BT-SD-03	31500182010	0182_10x1	02/3/2015 17:47	PSW
BT-SD-03(157967MS)	158200	158200x1	02/3/2015 18:07	PSW
BT-SD-03(157967MSD)	158201	158201x1	02/3/2015 18:27	PSW
BT-SD-01	31500182008	0182_8x1	02/3/2015 18:48	PSW
BT-SD-01	31500182008	0182_8x1000	02/3/2015 19:08	PSW
BT-SD-01(157965DUP)	158199	158199x1000	02/3/2015 19:28	PSW
BT-SD-02	31500182009	0182_9x1	02/3/2015 19:48	PSW
BT-SD-02	31500182009	0182_9x1000	02/3/2015 20:08	PSW

Method Blank

Blank ID: MB for HBN 63859 [IXX/1325]
Blank Lab ID: 158197
QC for Samples:
31500182008, 31500182009, 31500182010

Matrix: Soil-Solid as dry weight

Results by **EPA 300.0 Modified**

Parameter	Result	Qual	LOQ/CL	Units	DF
Chloride	ND		0.300	mg/kg	1
Nitrite as N	ND		0.300	mg/kg	1
Nitrate as N	ND		0.300	mg/kg	1
Ortho-Phosphate as P	ND		1.00	mg/kg	1
Sulfate	ND		1.00	mg/kg	1

Batch Information

Analytical Batch: INO3633
Analytical Method: EPA 300.0 Modified
Instrument: IC2
Analyst: PSW

Prep Batch: IXX1325
Prep Method: EPA 300.0 soils PREP
Prep Date/Time: 1/30/2015 11:25:43AM
Prep Initial Wt./Vol.: 40 g
Prep Extract Vol: 40 mL

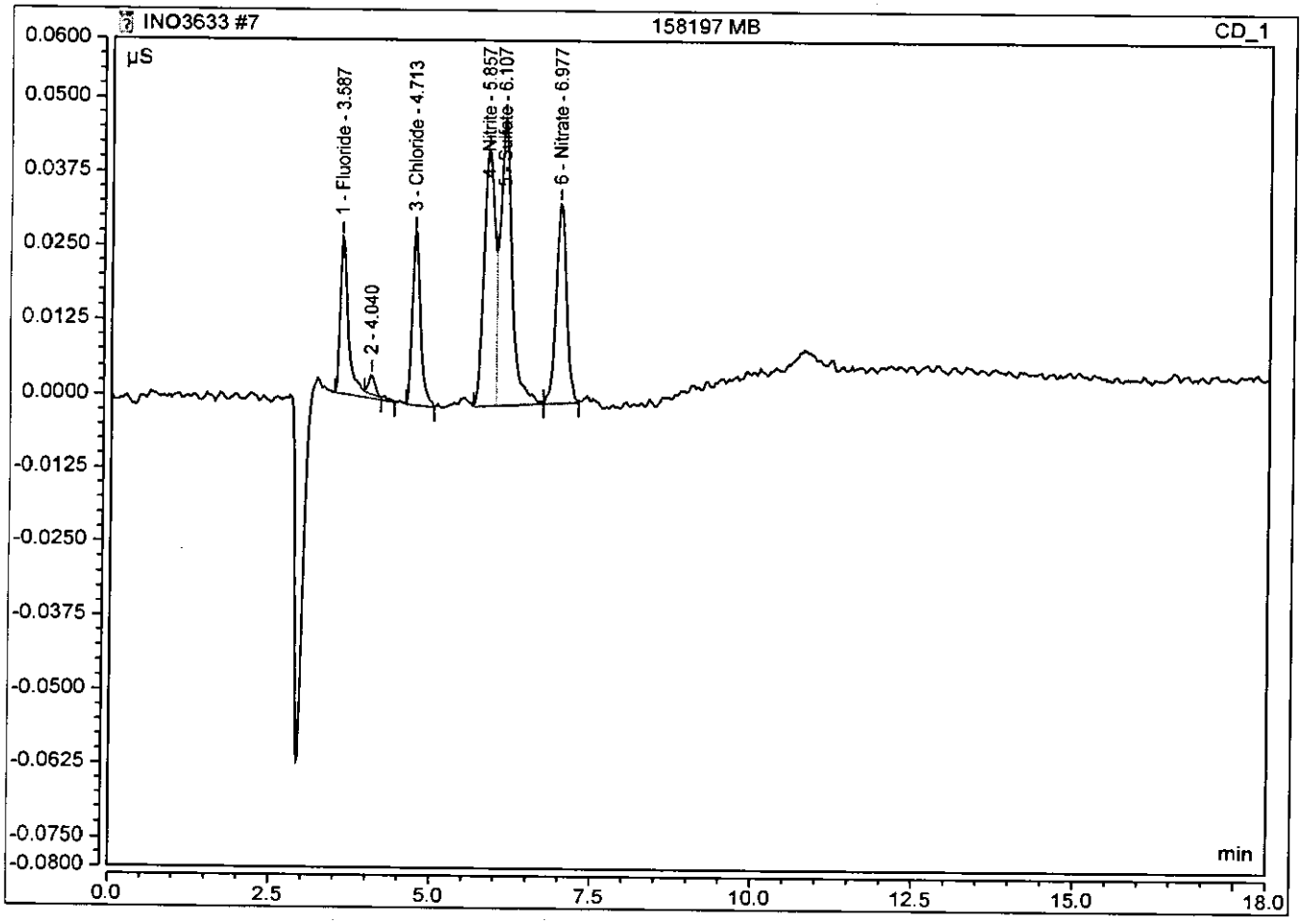
Analytical Batch: INO3638
Analytical Method: EPA 300.0 Modified
Instrument: IC2
Analyst: PSW

Prep Batch: IXX1325
Prep Method: EPA 300.0 soils PREP
Prep Date/Time: 1/30/2015 11:25:43AM
Prep Initial Wt./Vol.: 40 g
Prep Extract Vol: 40 mL

Peak Integration Report

Sample Name:	158197 MB	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 16:08	*Run Time:*	18.00

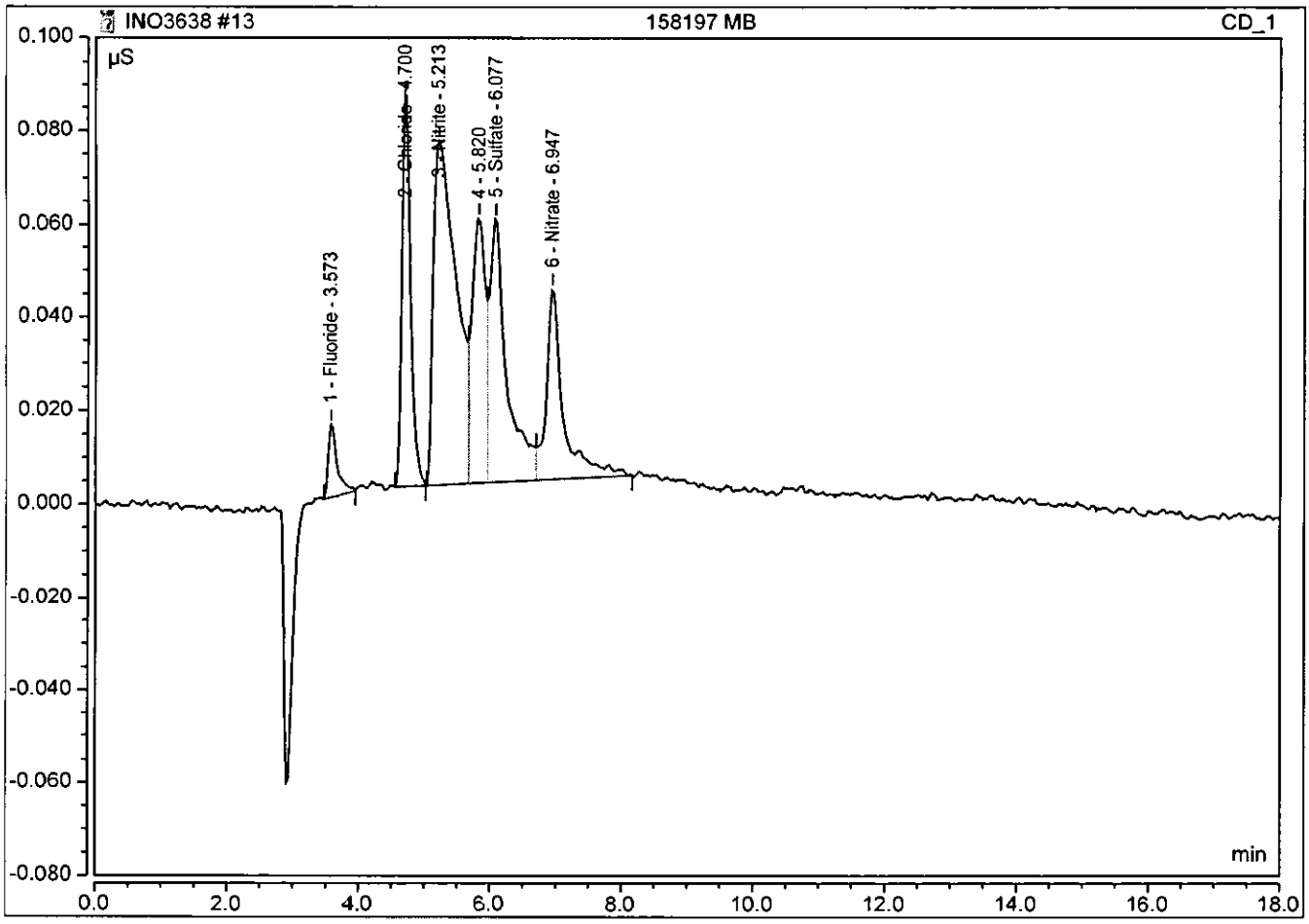
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	BMB	0.004	0.026	0.0168
3	4.71	Chloride	BMB	0.004	0.029	0.0368
4	5.86	Nitrite	BM	0.009	0.043	0.0615
5	6.11	Sulfate	M	0.010	0.048	n.a.
6	6.98	Nitrate	MB	0.006	0.034	0.0152
TOTAL:				0.03	0.18	0.13



Peak Integration Report

Sample Name:	158197 MB	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 17:07	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.57	Fluoride	M	0.002	0.016	0.0169
2	4.70	Chloride	M	0.013	0.084	0.1112
3	5.21	Nitrite	M	0.030	0.074	0.1297
5	6.08	Sulfate	M	0.017	0.057	0.1626
6	6.95	Nitrate	M	0.012	0.041	0.0346
TOTAL:				0.07	0.27	0.46



Blank Spike Summary

Blank Spike ID: LCS for HBN 63859 [IXX/1325]
Blank Spike Lab ID: 158198
Date Analyzed: 01/30/2015 16:28

Matrix: Soil-Solid as dry weight

QC for Samples: 31500182008, 31500182009, 31500182010

Results by **EPA 300.0 Modified**

	Blank Spike (mg/kg)			
Parameter	Spike	Result	Rec (%)	CL
Chloride	20.0	20.5	103	90.0-110
Nitrite as N	3.00	2.99	100	90.0-110
Nitrate as N	4.00	4.05	101	90.0-110
Ortho-Phosphate as P	3.00	2.98	99	90.0-110
Sulfate	20.0	20.2	101	90.0-110

Batch Information

Analytical Batch: **INO3633**
Analytical Method: **EPA 300.0 Modified**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **IXX1325**
Prep Method: **EPA 300.0 soils PREP**
Prep Date/Time: **01/30/2015 11:25**
Spike Init Wt./Vol.: **40 g** Extract Vol: **40 mL**
Dupe Init Wt./Vol.: Extract Vol:

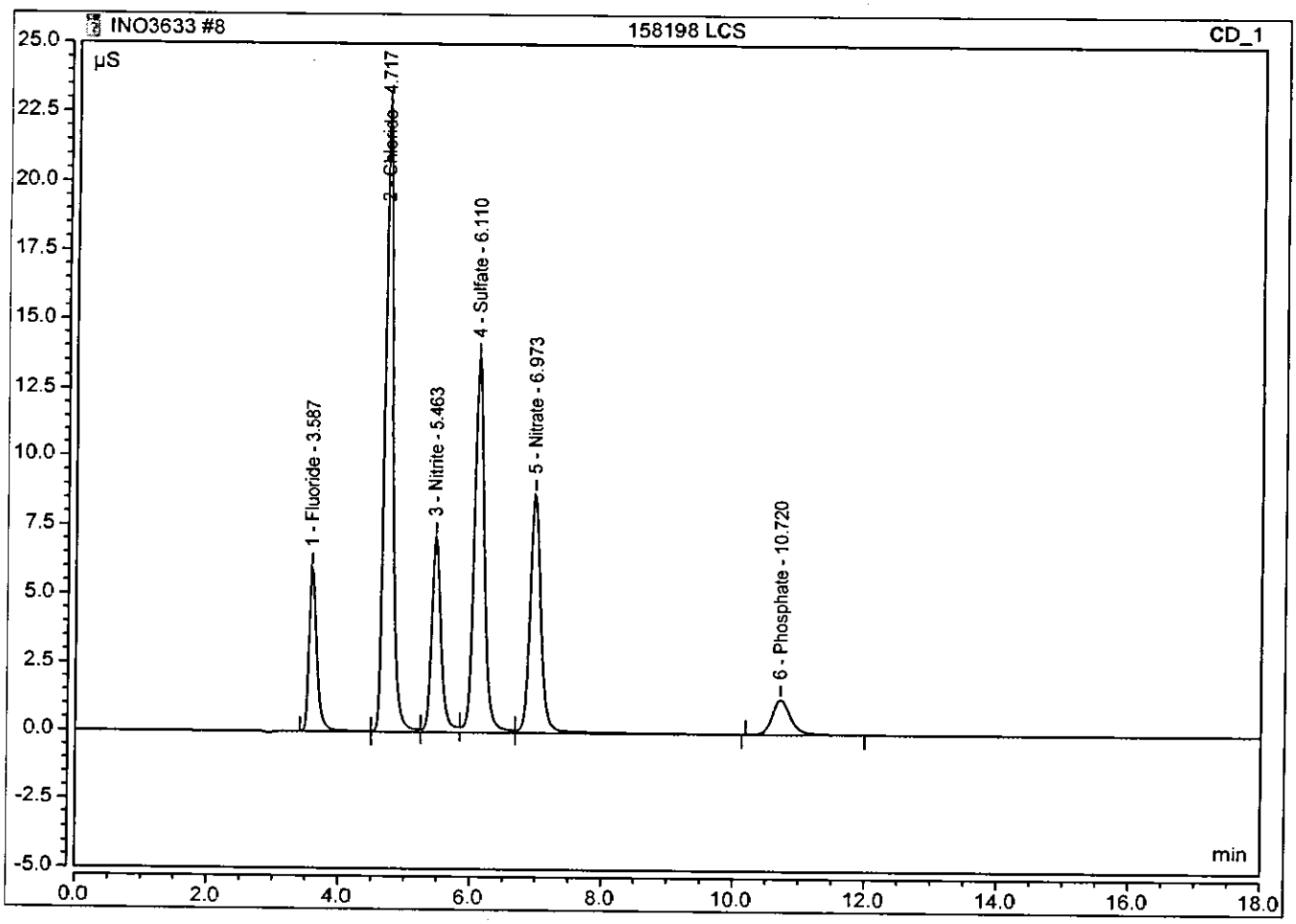
Analytical Batch: **INO3638**
Analytical Method: **EPA 300.0 Modified**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **IXX1325**
Prep Method: **EPA 300.0 soils PREP**
Prep Date/Time: **01/30/2015 11:25**
Spike Init Wt./Vol.: **40 g** Extract Vol: **40 mL**
Dupe Init Wt./Vol.: Extract Vol:

Peak Integration Report

Sample Name:	158198 LCS	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 16:28	*Run Time:*	18.00

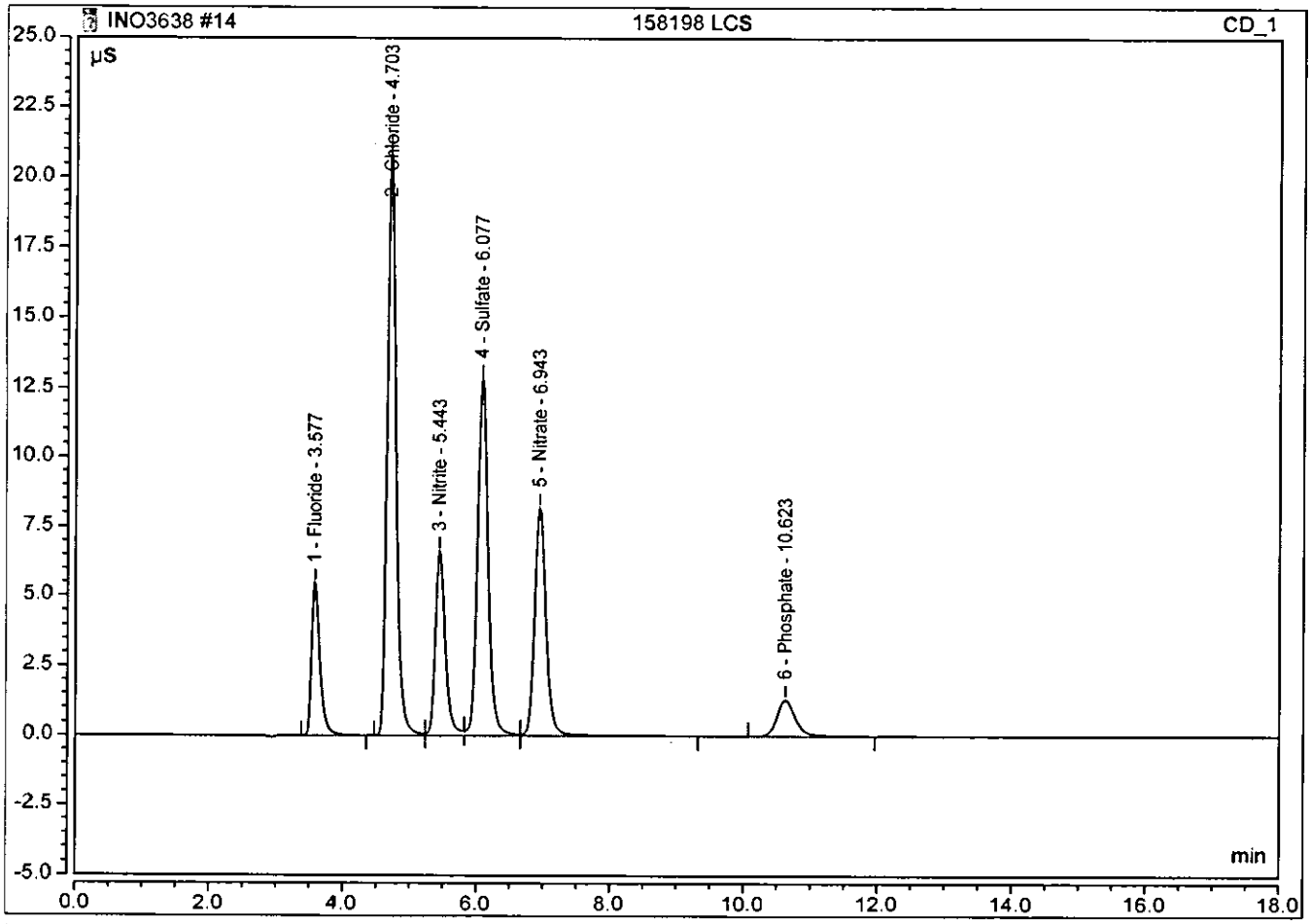
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.820	5.976	3.0304
2	4.72	Chloride	M	3.299	22.779	20.5292
3	5.46	Nitrite	M	1.182	7.118	2.9885
4	6.11	Sulfate	M	2.444	13.630	20.1979
5	6.97	Nitrate	M	1.697	8.694	4.0460
6	10.72	Phosphate	M	0.416	1.262	3.3919
		TOTAL:		9.86	59.46	54.18



Peak Integration Report

Sample Name:	158198 LCS	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 17:27	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.794	5.439	3.0044
2	4.70	Chloride	M	3.219	20.956	20.5874
3	5.44	Nitrite	M	1.143	6.600	3.0007
4	6.08	Sulfate	M	2.365	12.814	20.2750
5	6.94	Nitrate	M	1.631	8.180	4.0283
6	10.62	Phosphate	M	0.417	1.278	2.9813
		TOTAL:		9.57	55.27	53.88



Matrix Spike Summary

Original Sample ID: 31500182010 (BT-SD-03)
MS Sample ID: 158200
MSD Sample ID: 158201

QC for Samples: 31500182008, 31500182009, 31500182010

Analysis Date: 02/03/2015 17:47
Analysis Date: 02/03/2015 18:07
Analysis Date: 02/03/2015 18:27
Matrix: Soil-Solid as dry weight

Results by **EPA 300.0 Modified**

		Matrix Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Chloride	8.00	26.3	37.1	110	26.3	34.8	102	90.0-110	6.6	20.00
Nitrite as N	ND	3.95	3.70	94	3.95	3.44	87	90.0-110	7.0	20.00
Nitrate as N	ND	5.26	6.00	114	5.26	5.58	106	90.0-110	7.3	20.00
Ortho-Phosphate as P	ND	3.95	3.05	77	3.95	2.87	73	90.0-110	6.2	20.00
Sulfate	75.6	26.3	342	1013 *	26.3	329	964 *	90.0-110	3.9	20.00

Batch Information

Analytical Batch: **INO3633**
Analytical Method: **EPA 300.0 Modified**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **IXX1325**
Prep Method: **EPA 300.0 soils PREP**
Prep Date/Time: **01/30/2015 11:25**
MS Init Wt./Vol.: **40 g** Extract Vol.: **40 mL**
MSD Init Wt./Vol.: **40 g** Extract Vol.: **40 mL**

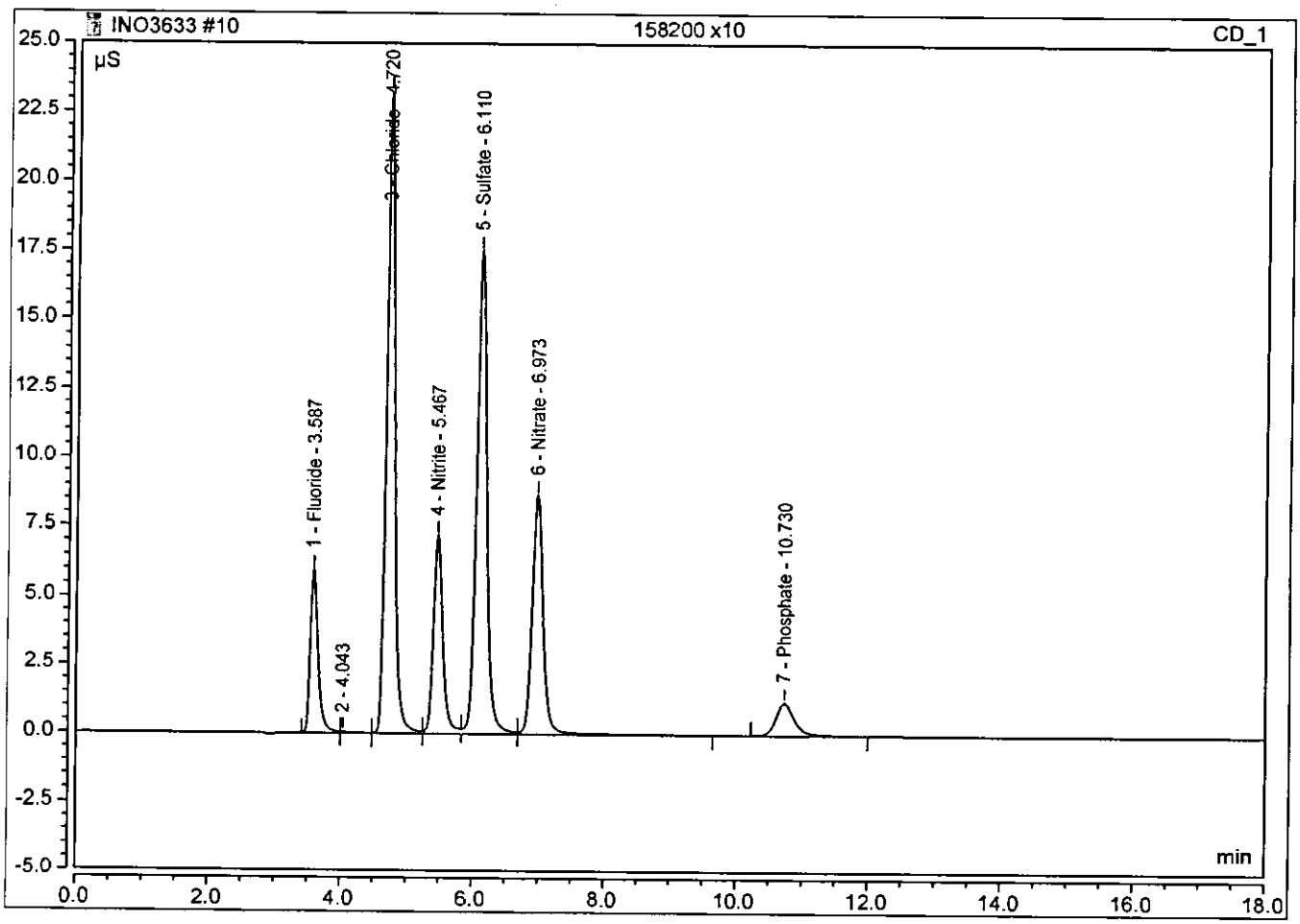
Analytical Batch: **INO3638**
Analytical Method: **EPA 300.0 Modified**
Instrument: **IC2**
Analyst: **PSW**

Prep Batch: **IXX1325**
Prep Method: **EPA 300.0 soils PREP**
Prep Date/Time: **01/30/2015 11:25**
MS Init Wt./Vol.: **40 g** Extract Vol.: **40 mL**
MSD Init Wt./Vol.: **40 g** Extract Vol.: **40 mL**

Peak Integration Report

Sample Name:	**158200 x10**	*Inj. Vol.:*	**10.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**30-Jan-2015 / 17:08**	*Run Time:*	**18.00**

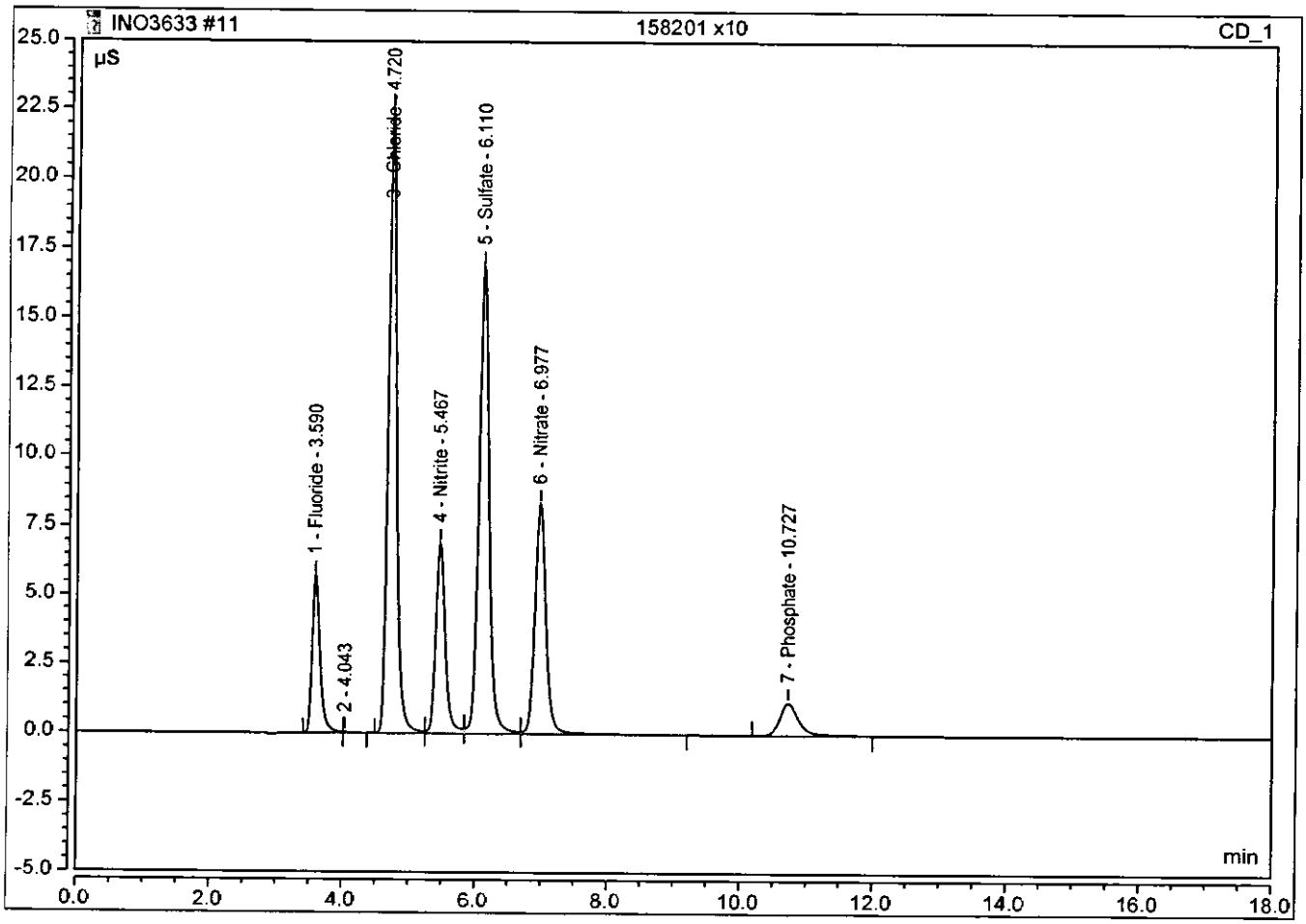
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.815	5.947	3.0109
3	4.72	Chloride	M	3.389	23.281	21.0868
4	5.47	Nitrite	M	1.190	7.170	3.0084
5	6.11	Sulfate	M	3.142	17.504	26.0122
6	6.97	Nitrate	M	1.684	8.655	4.0158
7	10.73	Phosphate	M	0.397	1.189	3.2488
		TOTAL:		10.62	63.75	60.38



Peak Integration Report

Semple Name:	**158201 x10**	*Inj. Vol.:*	**10.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**30-Jan-2015 / 17:29**	*Run Time:*	**18.00**

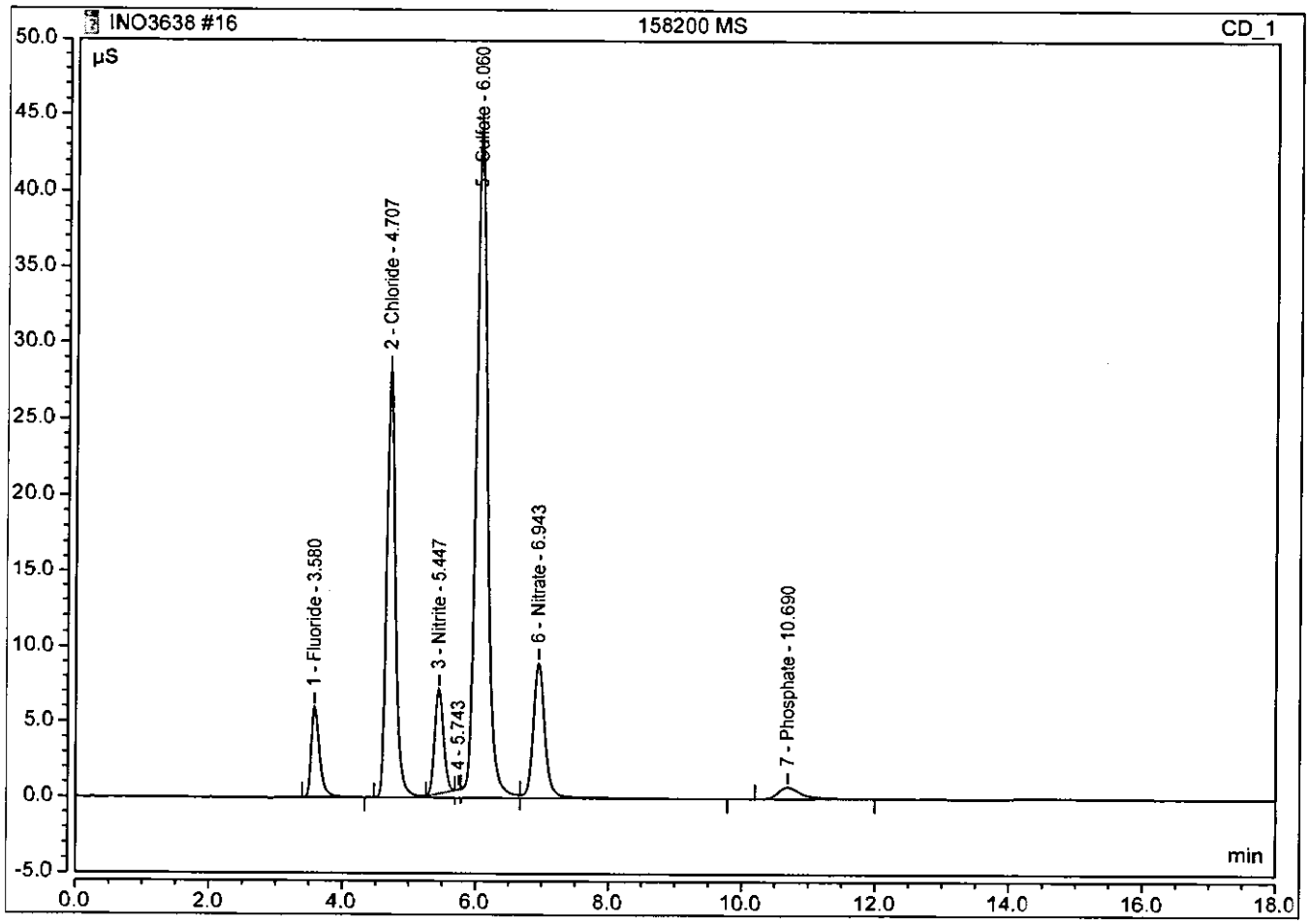
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.784	5.733	2.8968
3	4.72	Chloride	M	3.270	22.501	20.3461
4	5.47	Nitrite	M	1.145	6.924	2.8963
5	6.11	Sulfate	M	3.023	16.895	25.0208
6	6.98	Nitrate	M	1.613	8.356	3.8463
7	10.73	Phosphate	M	0.385	1.149	3.1560
		TOTAL:		10.22	61.56	58.16



Peak Integration Report

Sample Name:	**158200 MS**	*Inj. Vol.:*	**10.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**03-Feb-2015 / 18:07**	*Run Time:*	**18.00**

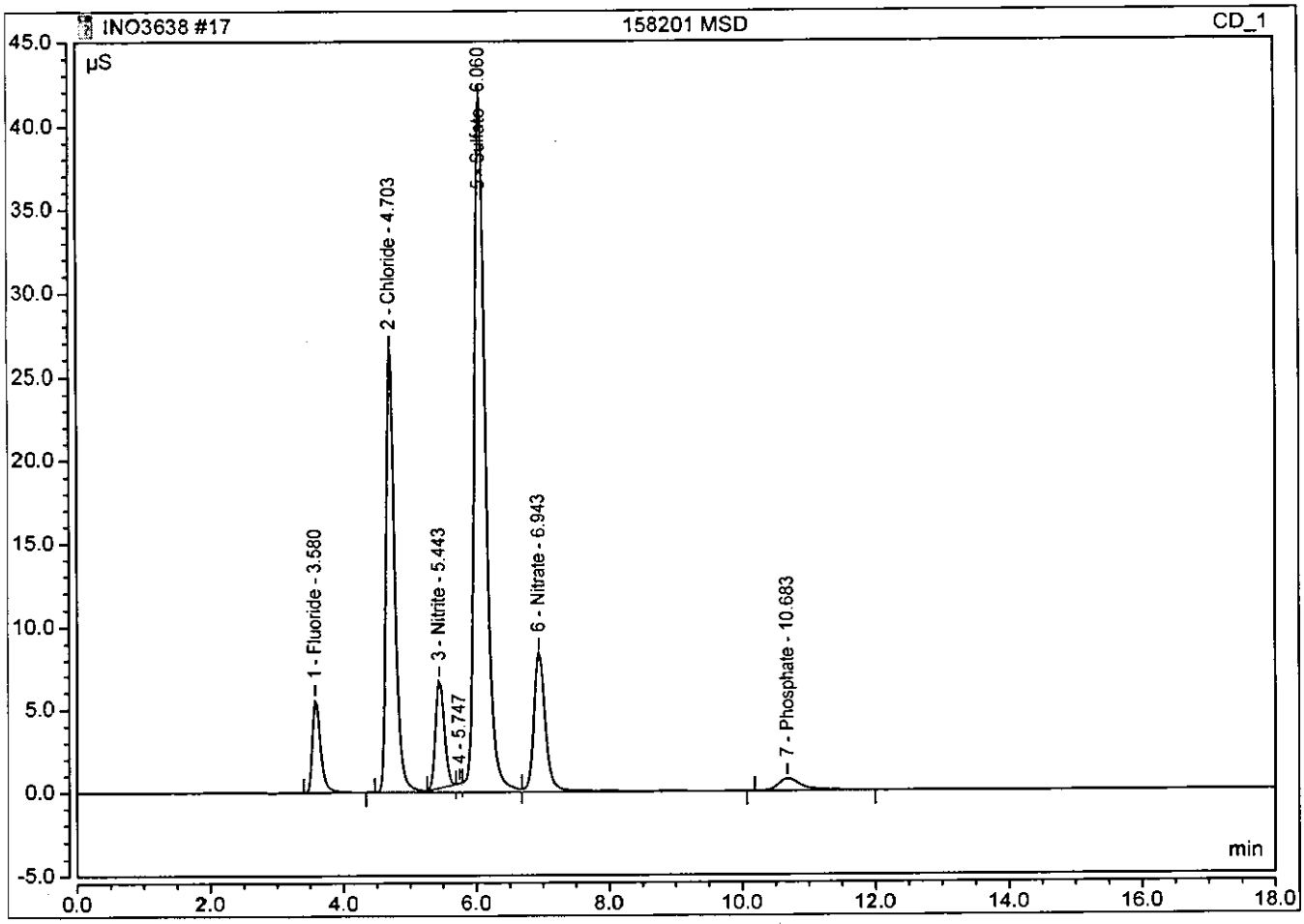
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.866	5.934	3.2759
2	4.71	Chloride	M	4.408	28.153	28.1784
3	5.45	Nitrite	Rd	1.068	6.899	2.8077
5	6.06	Sulfate	M	8.717	44.168	74.7027
6	6.94	Nitrate	M	1.845	8.975	4.5555
7	10.69	Phosphate	M	0.319	0.773	2.3168
TOTAL:				17.22	94.90	115.84



Peak Integration Report

Sample Name:	158201 MSD	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 18:27	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.808	5.596	3.0550
2	4.70	Chloride	M	4.131	26.529	26.4073
3	5.44	Nitrite	Rd	0.994	6.482	2.6167
5	6.06	Sulfate	M	8.139	41.595	69.7491
6	6.94	Nitrate	M	1.715	8.410	4.2366
7	10.68	Phosphate	M	0.299	0.734	2.1825
		TOTAL:		16.09	89.35	108.25



Duplicate Sample Summary

Original Sample ID: 31500182008-A
Duplicate Sample ID: 158199

Analysis Date: 02/03/2015 19:08
Analysis Date: 02/03/2015 19:28
Matrix: Soil-Solid as dry weight

QC for Samples: 31500182008, 31500182009, 31500182010

Results by **EPA 300.0 Modified**

PARAMETER	Original (mg/kg)	Qual	Duplicate (mg/kg)	Qual	RPD (%)	RPD CL
Chloride	12200		11300		8.2	10.00
Sulfate	479		469		2.1	10.00

Batch Information

Analytical Batch: INO3633
Analytical Method: EPA 300.0 Modified
Instrument: IC2
Analyst: PSW

Prep Batch: IXX1325
Prep Method: EPA 300.0 soils PREP
Prep Date/Time: 01/30/2015 11:25

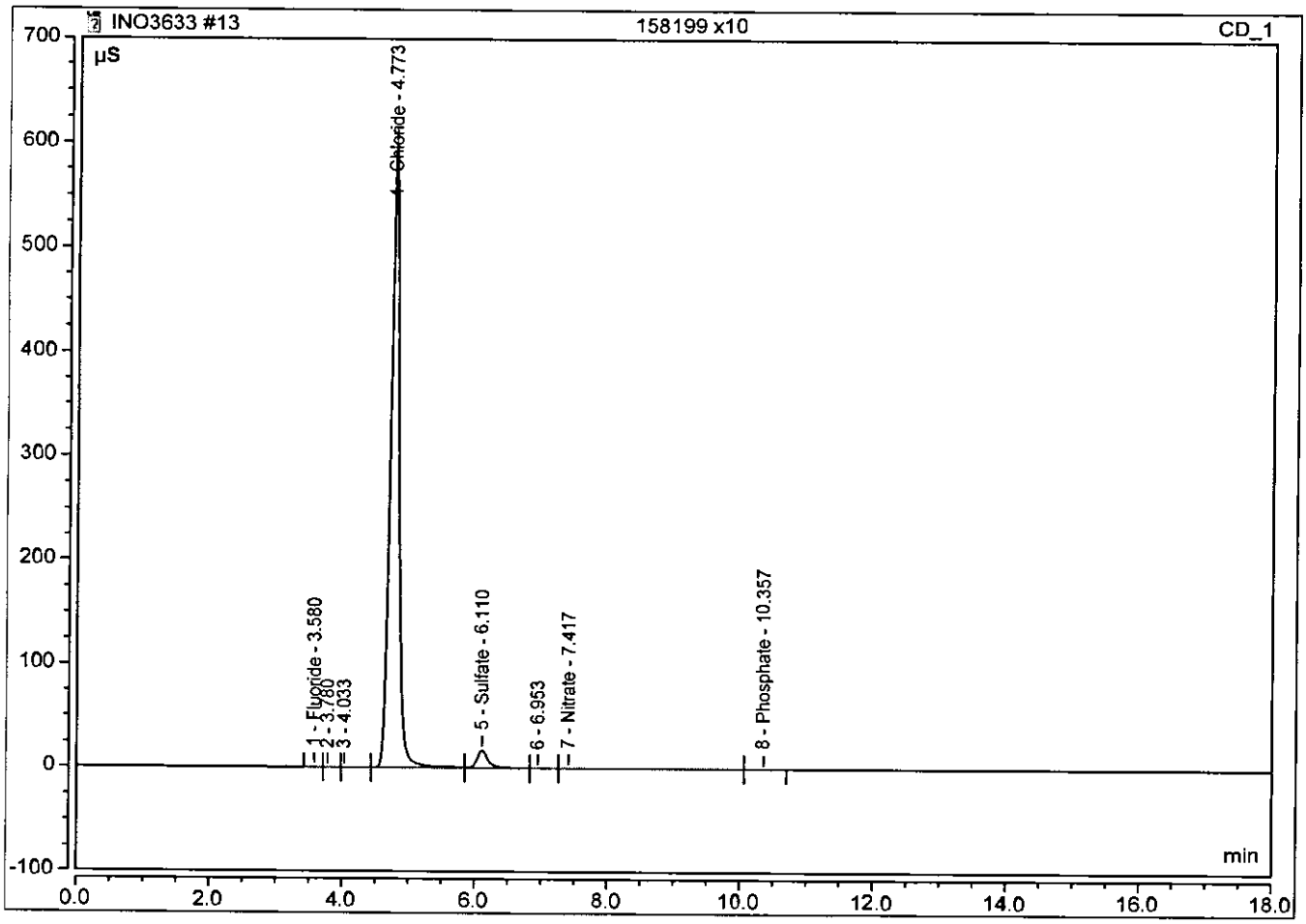
Print Date: 02/06/2015

N.C. Certification # 481

Peak Integration Report

Sample Name:	158199 x10	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 18:09	*Run Time:*	18.00

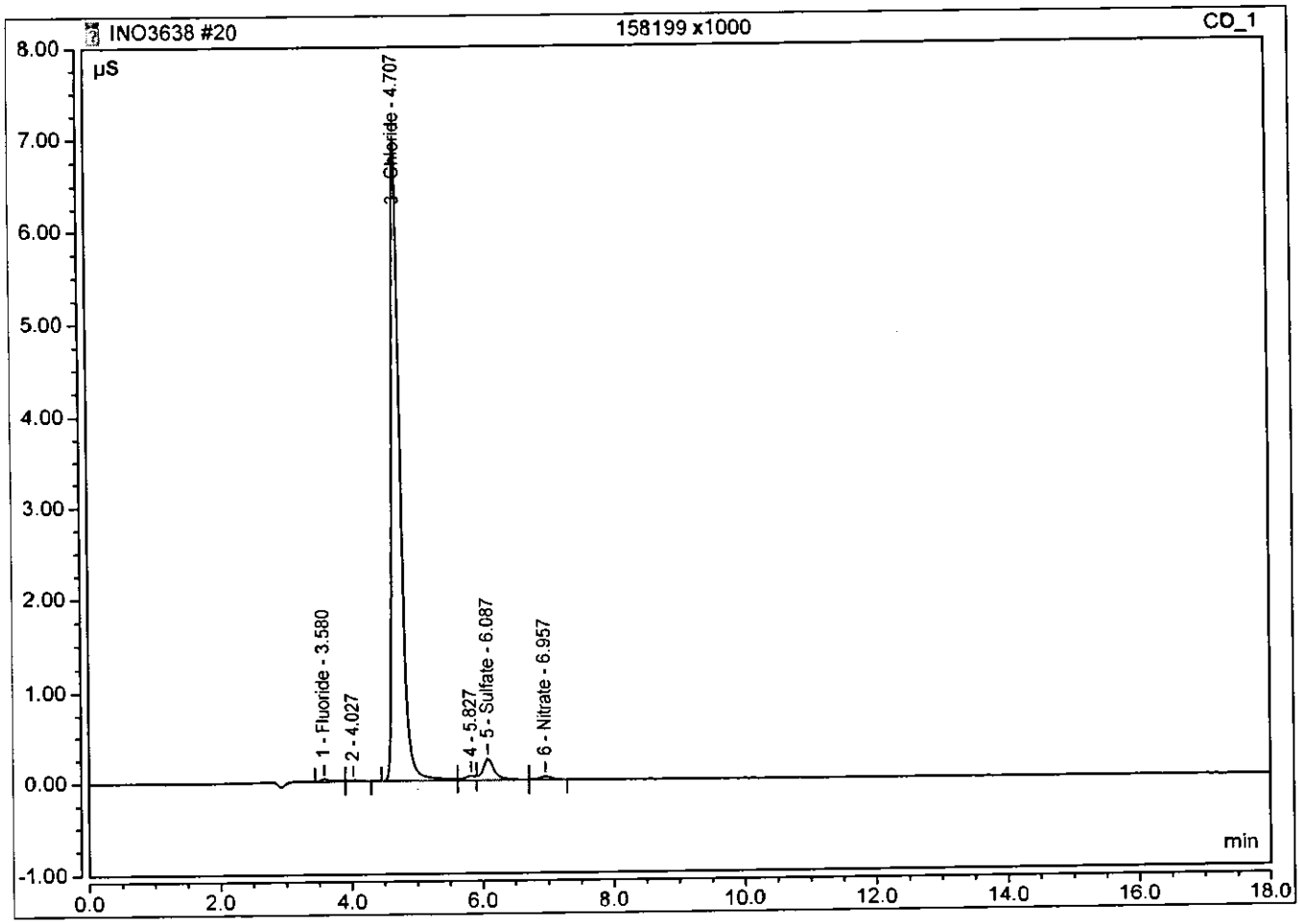
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BM	0.055	0.410	0.2044
4	4.77	Chloride	M	91.648	599.675	569.9643
5	6.11	Sulfate	M	3.431	17.468	28.4165
7	7.42	Nitrate	M	0.047	0.052	0.1117
8	10.36	Phosphate	MB	0.003	0.011	0.3303
TOTAL:				95.18	617.62	599.03



Peak Integration Report

Sample Name:	158199 x1000	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Progrem:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 19:28	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BM	0.006	0.030	0.0309
3	4.71	Chloride	BM	1.063	7.015	6.8199
5	6.09	Sulfate	M	0.048	0.232	0.4314
6	6.96	Nitrate	MB	0.008	0.037	0.0232
TOTAL:				1.13	7.31	7.31



EPA 300.0 Modified
Initial Calibration Data

Print Date: 02/06/2015

N.C. Certification # 481

IC5000_ICAL 122314_300.0

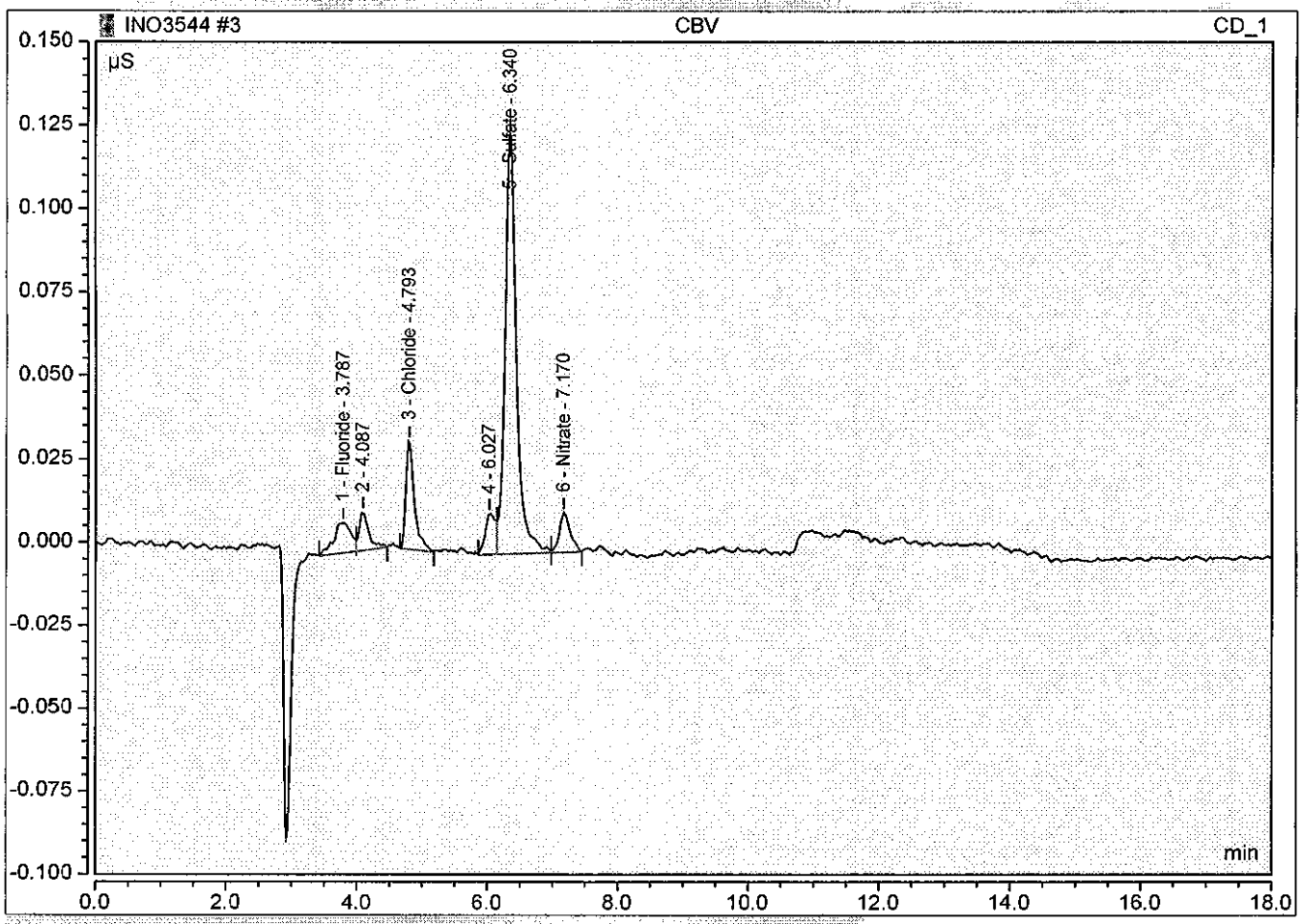
~~IN03544~~

#	CD_1	Name	Type	Level	Position	Volume [µl]	Instrument Method	Processing Method	Status
3		CBV	Calibration Standard	01	BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
4		ICAL1	Calibration Standard	02	BD1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
5		ICAL2	Calibration Standard	03	BD2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
6		ICAL3	Calibration Standard	04	BD3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
7		ICAL4	Calibration Standard	05	BD4	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
8		ICAL5	Calibration Standard	06	BD5	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
9		ICV	Unknown		BA1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
10		ICB	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
11		CCV1	Unknown		BA2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
12		CBV1	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished

Peak Integration Report

Sample Name:	CBV	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 17:55	*Run Time:*	18.00

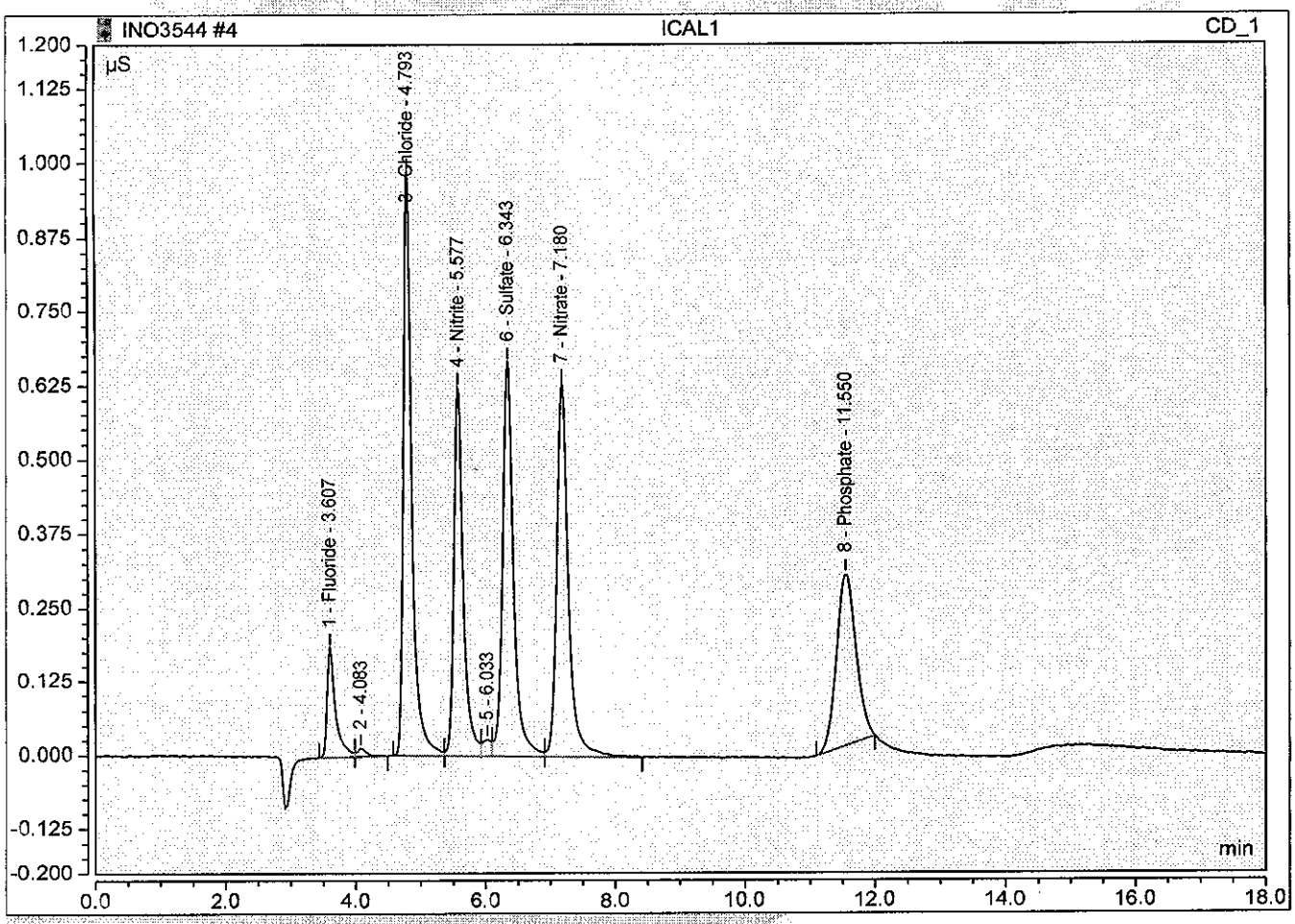
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.79	Fluoride	BM	0.003	0.009	0.0120
3	4.79	Chloride	BMB	0.005	0.032	0.0409
5	6.34	Sulfate	M	0.025	0.126	0.0520
6	7.17	Nitrate	MB	0.002	0.012	0.0055
		TOTAL:		0.04	0.18	0.11



Peak Integration Report

Sample Name:	ICAL1	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 18:15	*Run Time:*	18.00

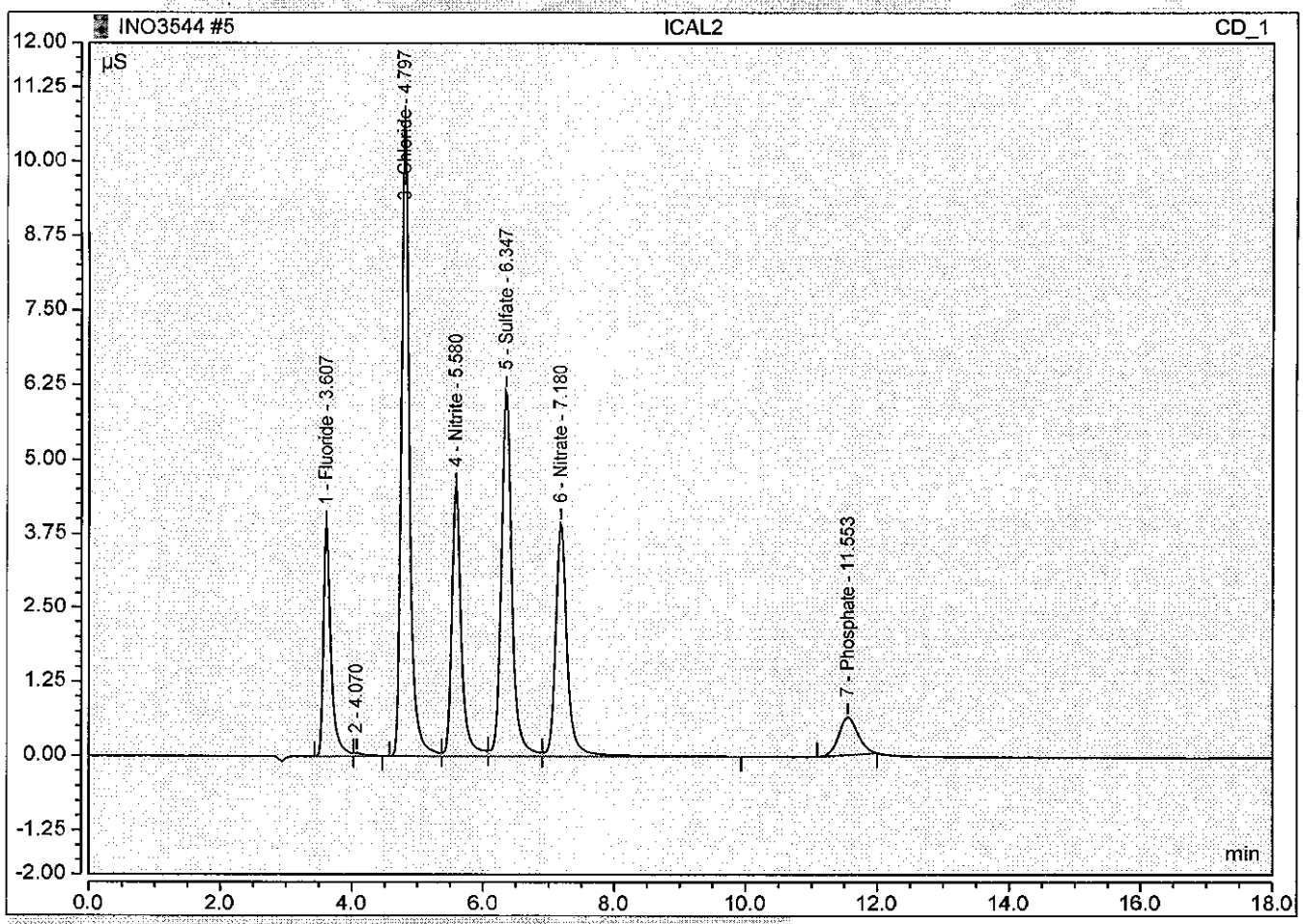
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	M	0.028	0.186	0.1052
3	4.79	Chloride	M	0.148	0.984	0.9307
4	5.58	Nitrite	M	0.104	0.623	0.3002
6	6.34	Sulfate	M	0.130	0.666	0.9213
7	7.18	Nitrate	M	0.132	0.631	0.3144
8	11.55	Phosphate	M	0.101	0.291	1.0551
		TOTAL:		0.64	3.38	3.63



Peak Integration Report

Sample Name:	ICAL2	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 18:36	*Run Time:*	18.00

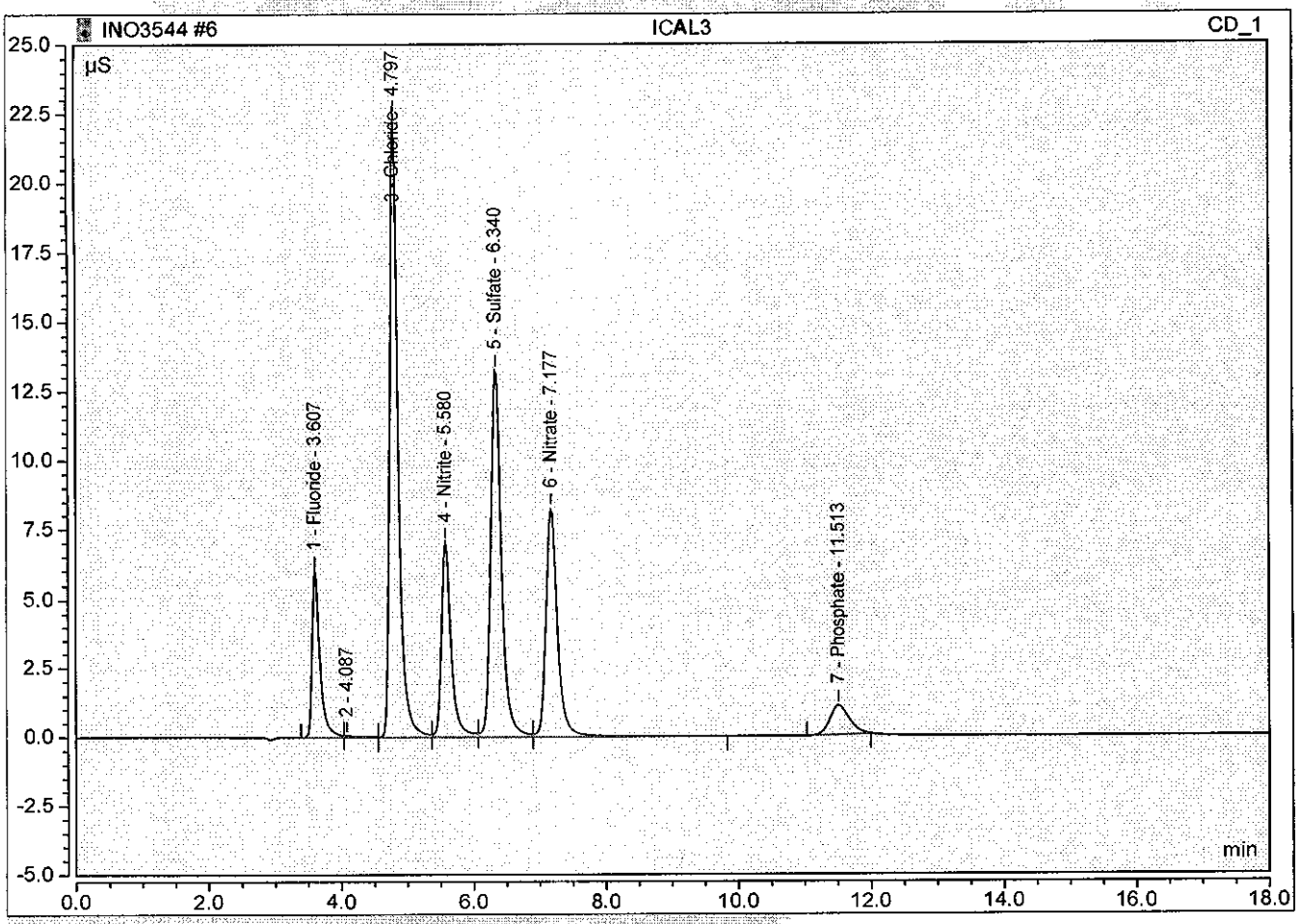
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	BM	0.519	3.882	1.9170
3	4.80	Chloride	BM	1.553	10.696	9.6692
4	5.58	Nitrite	M	0.764	4.546	1.9462
5	6.35	Sulfate	M	1.153	6.160	9.4419
6	7.18	Nitrate	MB	0.810	3.929	1.9318
7	11.55	Phosphate	BMB	0.212	0.626	1.8798
		TOTAL:		5.01	29.84	26.79



Peak Integration Report

Sample Name:	ICAL3	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 18:56	*Run Time:*	18.00

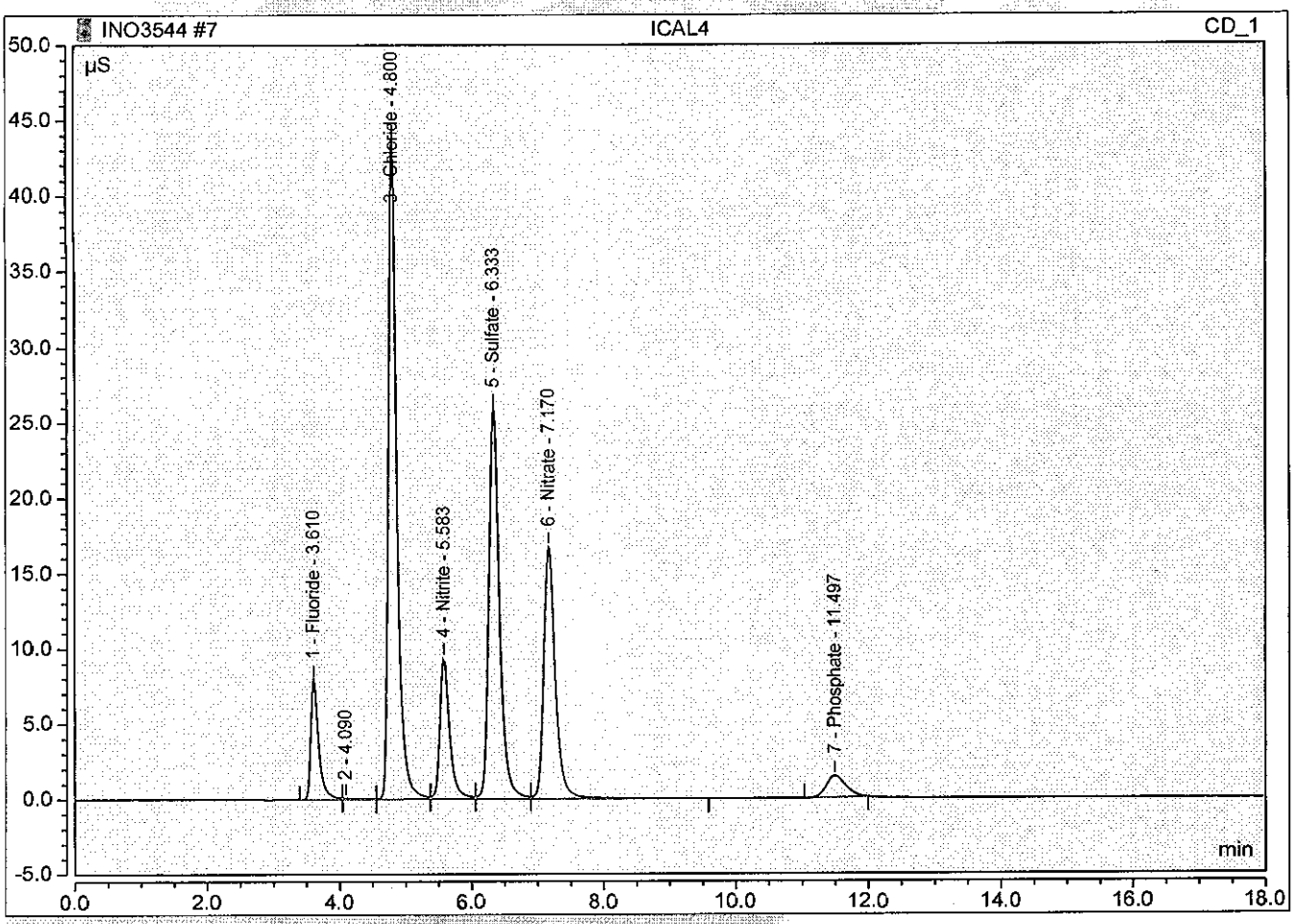
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	BM	0.824	6.002	3.0431
3	4.80	Chloride	M	3.276	22.282	20.3849
4	5.58	Nitrite	M	1.202	7.027	3.0392
5	6.34	Sulfate	M	2.494	13.280	20.6098
6	7.18	Nitrate	MB	1.682	8.260	4.0106
7	11.51	Phosphate	BMB	0.368	1.080	3.0358
		TOTAL:		9.85	57.93	54.12



Peak Integration Report

Sample Name:	ICAL4	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 19:16	*Run Time:*	18.00

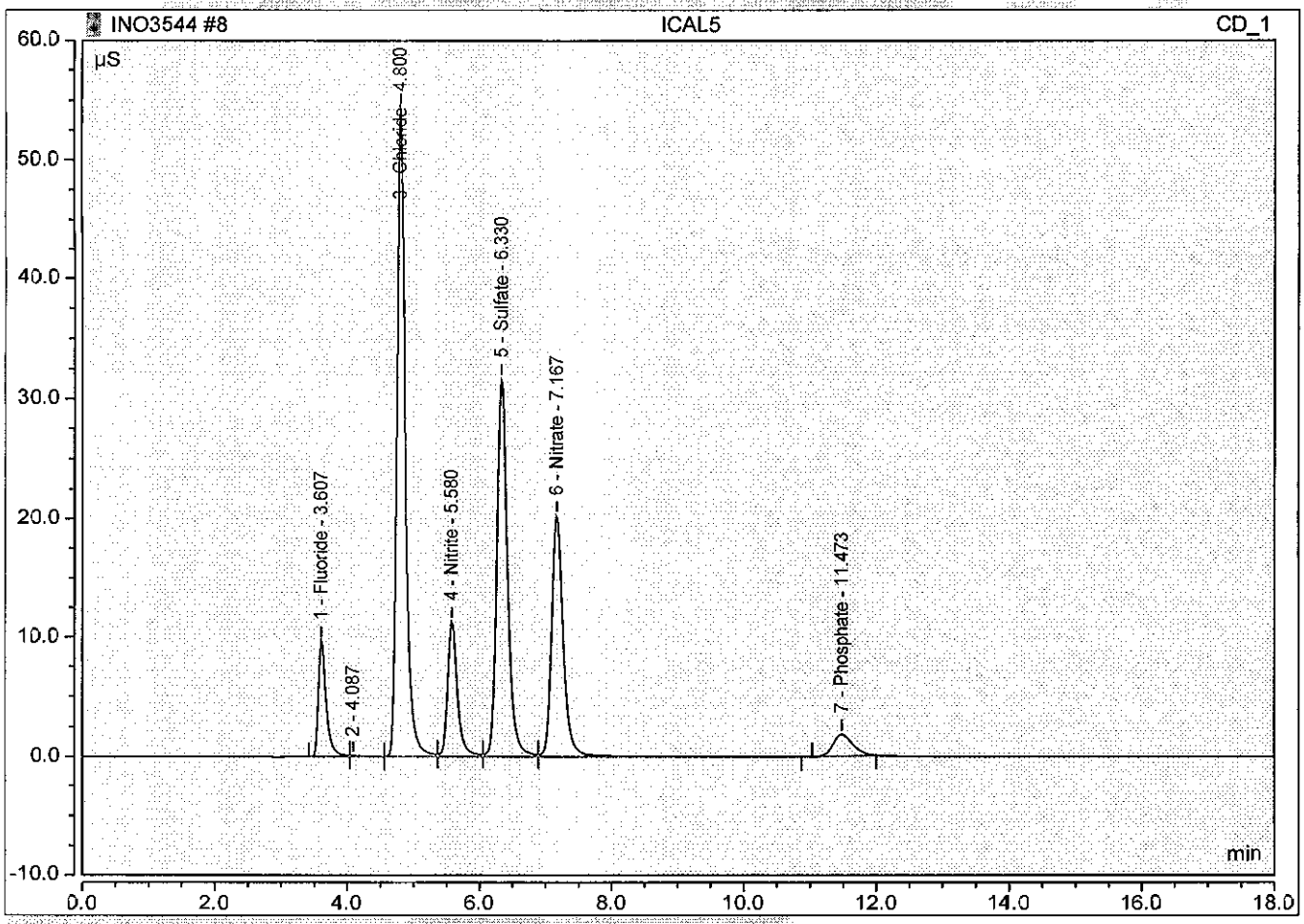
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	BM	1.104	7.951	4.0777
3	4.80	Chloride	M	6.479	43.814	40.3042
4	5.58	Nitrite	M	1.620	9.379	4.0817
5	6.33	Sulfate	M	4.885	25.935	40.5286
6	7.17	Nitrate	MB	3.415	16.734	8.1434
7	11.50	Phosphate	BMB	0.508	1.481	4.0686
		TOTAL:		18.01	105.29	101.20



Peak Integration Report

Sample Name:	ICAL5	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 19:36	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	BM	1.339	9.690	4.9451
3	4.80	Chloride	M	7.985	54.396	49.6702
4	5.58	Nitrite	M	1.961	11.362	4.9326
5	6.33	Sulfate	M	5.956	31.687	49.4464
6	7.17	Nitrate	MB	4.149	20.292	9.8943
7	11.47	Phosphate	BMB	0.628	1.823	4.9607
		TOTAL:		22.02	129.25	123.85



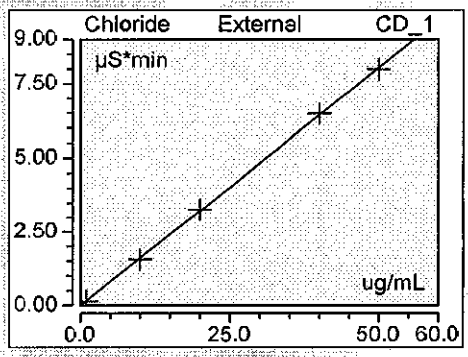
Calibration Batch Report

Sequence:	INO3544	*Injection Volume:*	10.00
Instrument Method:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 19:36	*Run Time:*	17.996667

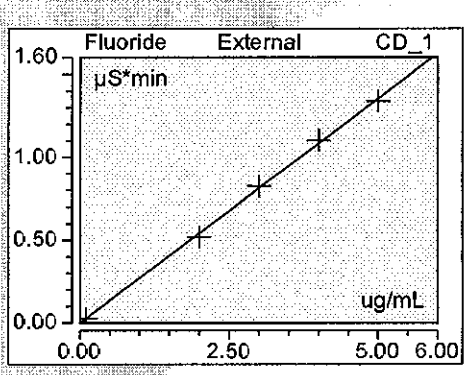
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
Fluoride	Area	in, WithOffse	6.000	0.000	0.271	0.000	99.9140
Chloride	Area	in, WithOffse	6.000	-0.002	0.161	0.000	99.9785
Nitrite	Area	in, WithOffse	5.000	-0.016	0.401	0.000	99.8815
Sulfate	Area	in, WithOffse	6.000	0.019	0.120	0.000	99.9409
Nitrate	Area	in, WithOffse	6.000	0.000	0.419	0.000	99.9571
Phosphate	Area	in, WithOffse	5.000	-0.042	0.135	0.000	99.7503
		AVERAGE:		-0.0068	0.2511	0.0000	99.9037

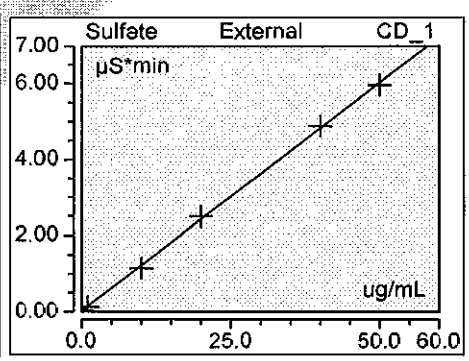
Injection Name Chloride	Ret.Time min Chloride	Area µS*min Chloride	Height µS Chloride	Amount ug/mL Chloride
	CD_1	CD_1	CD_1	CD_1
CBV	4.793	0.0049	0.032	0.041
ICAL1	4.793	0.1480	0.984	0.931
ICAL2	4.797	1.5531	10.696	9.669
ICAL3	4.797	3.2762	22.282	20.385
ICAL4	4.800	6.4792	43.814	40.304
ICAL5	4.800	7.9852	54.396	49.670
Average	4.797			
Rel. Std. Dev.	0.062 %			



Injection Name Fluoride	Ret.Time min Fluoride	Area µS*min Fluoride	Height µS Fluoride	Amount ug/mL Fluoride
	CD_1	CD_1	CD_1	CD_1
CBV	3.787	0.0027	0.009	0.012
ICAL1	3.607	0.0280	0.186	0.105
ICAL2	3.607	0.5188	3.882	1.917
ICAL3	3.607	0.8239	6.002	3.043
ICAL4	3.610	1.1042	7.951	4.078
ICAL5	3.607	1.3392	9.690	4.945
Average	3.637			
Rel. Std. Dev.	2.013 %			

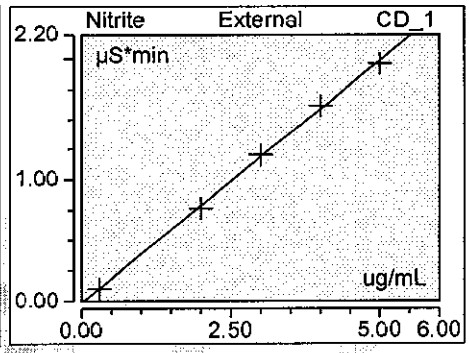


Injection Name Sulfate	Ret.Time min Sulfate	Area µS*min Sulfate	Height µS Sulfate	Amount ug/mL Sulfate
	CD_1	CD_1	CD_1	CD_1
CBV	6.340	0.0254	0.126	0.052
ICAL1	6.343	0.1298	0.666	0.921
ICAL2	6.347	1.1528	6.160	9.442
ICAL3	6.340	2.4937	13.280	20.610
ICAL4	6.333	4.8852	25.935	40.529
ICAL5	6.330	5.9559	31.687	49.446

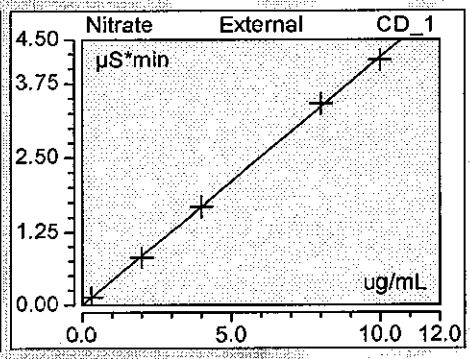


Average	6.339
Rel. Std. Dev.	0.098 %

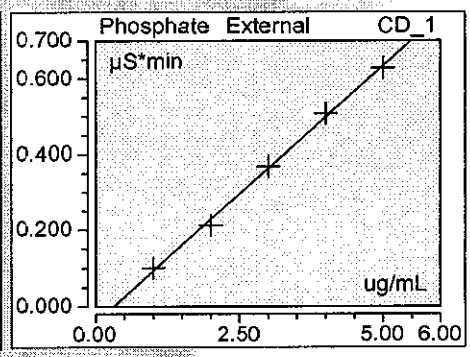
Injection Name Nitrite	Ret.Time min Nitrite	Area µS*min Nitrite	Height µS Nitrite	Amount ug/mL Nitrite
	CD_1	CD_1	CD_1	CD_1
CBV	n.a.	n.a.	n.a.	n.a.
ICAL1	5.577	0.1043	0.623	0.300
ICAL2	5.580	0.7639	4.546	1.946
ICAL3	5.580	1.2020	7.027	3.039
ICAL4	5.583	1.6198	9.379	4.082
ICAL5	5.580	1.9609	11.362	4.933
Average	5.580			
Rel. Std. Dev.	0.042 %			



Injection Name Nitrate	Ret.Time min Nitrate	Area µS*min Nitrate	Height µS Nitrate	Amount ug/mL Nitrate
	CD_1	CD_1	CD_1	CD_1
CBV	7.170	0.0023	0.012	0.006
ICAL1	7.180	0.1318	0.631	0.314
ICAL2	7.180	0.8100	3.929	1.932
ICAL3	7.177	1.6817	8.260	4.011
ICAL4	7.170	3.4147	16.734	8.143
ICAL5	7.167	4.1488	20.292	9.894
Average	7.174			
Rel. Std. Dev.	0.080 %			



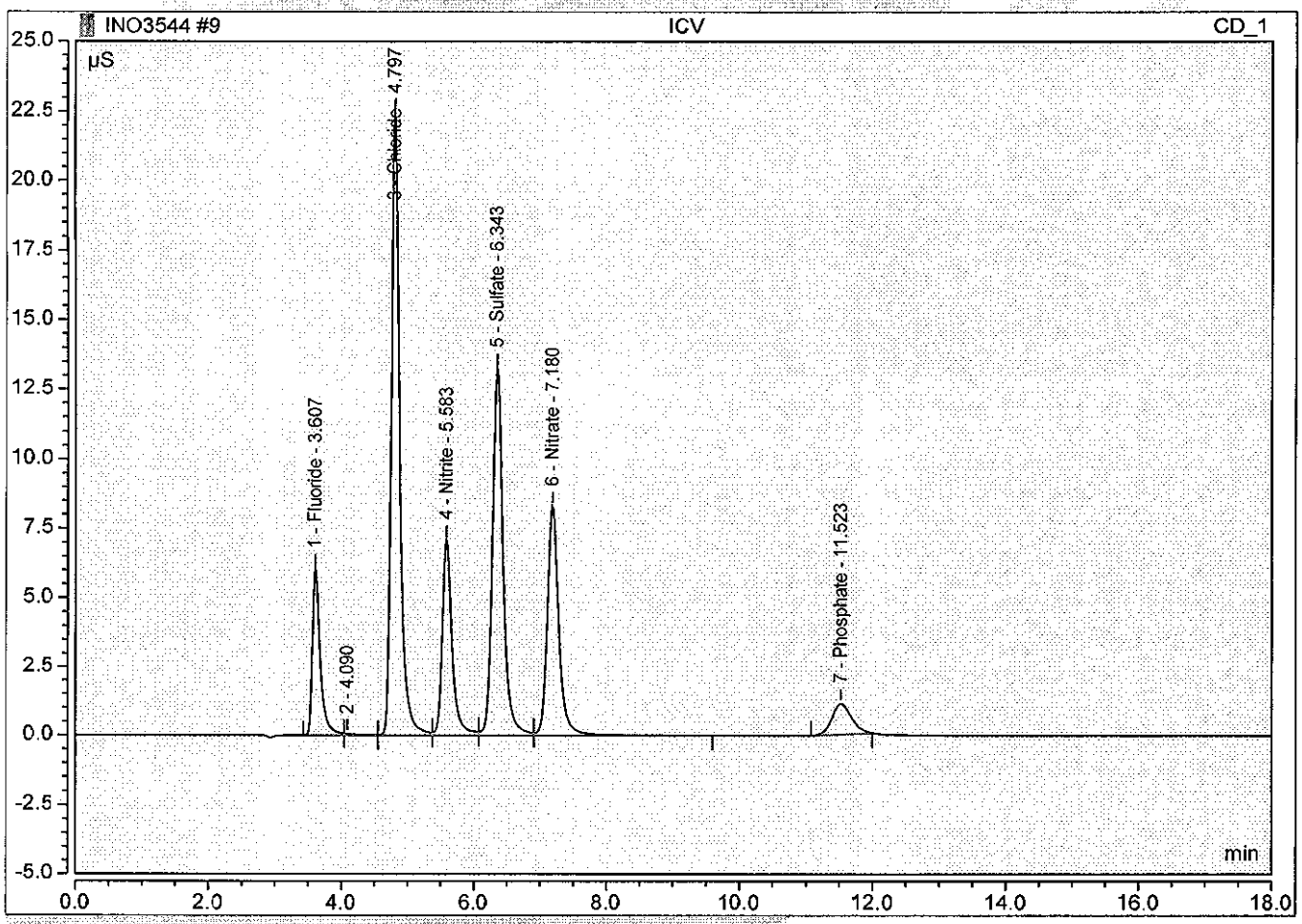
Injection Name Phosphate	Ret.Time min Phosphate	Area µS*min Phosphate	Height µS Phosphate	Amount ug/mL Phosphate
	CD_1	CD_1	CD_1	CD_1
CBV	n.a.	n.a.	n.a.	n.a.
ICAL1	11.550	0.1009	0.291	1.055
ICAL2	11.553	0.2122	0.626	1.880
ICAL3	11.513	0.3683	1.080	3.036
ICAL4	11.497	0.5077	1.481	4.069
ICAL5	11.473	0.6282	1.823	4.961
Average	11.517			
Rel. Std. Dev.	0.299 %			



Peak Integration Report

Sample Name:	ICV	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 19:56	*Run Time:*	18.00

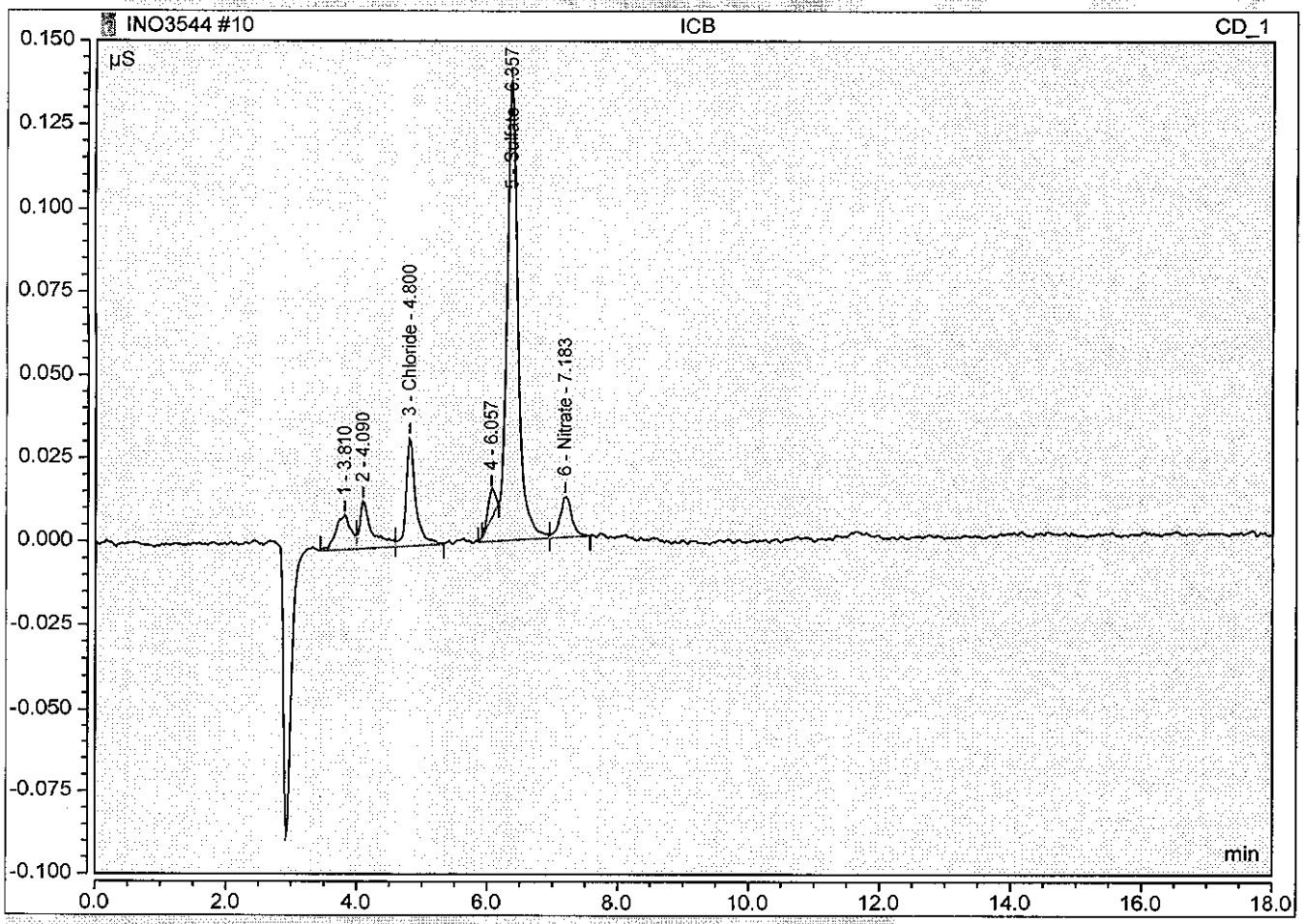
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	BM	0.828	6.043	3.0588
3	4.80	Chloride	M	3.296	22.395	20.5092
4	5.58	Nitrite	M	1.211	7.080	3.0619
5	6.34	Sulfate	M	2.489	13.260	20.5707
6	7.18	Nitrate	MB	1.690	8.311	4.0316
7	11.52	Phosphate	BMB	0.372	1.096	3.0635
		TOTAL:		9.89	58.18	54.30



Peak Integration Report

Sample Name:	ICB	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 20:16	*Run Time:*	18.00

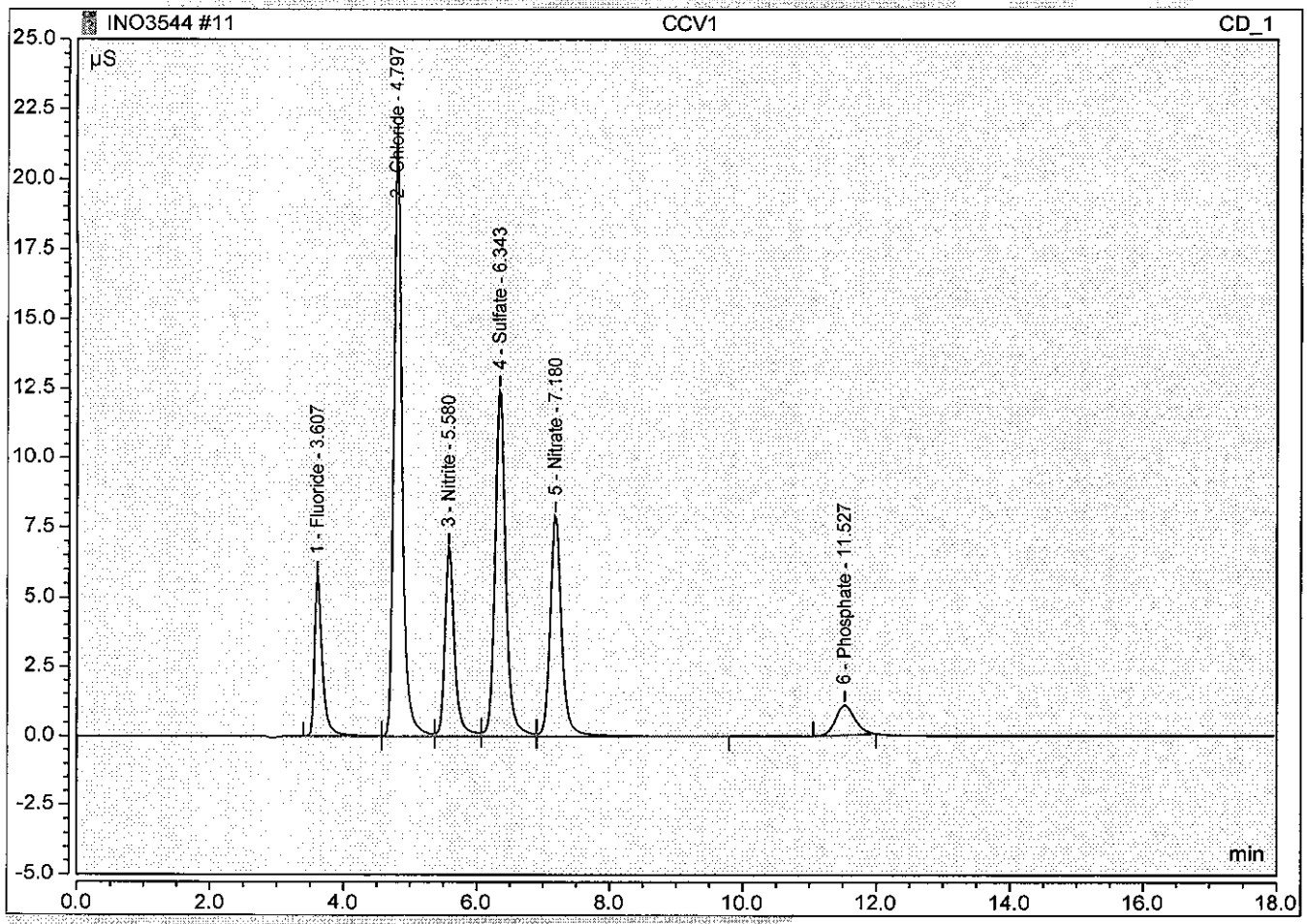
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
3	4.80	Chloride	MB	0.005	0.033	0.0445
5	6.36	Sulfate	BM	0.029	0.137	0.0797
6	7.18	Nitrate	MB	0.003	0.012	0.0061
		TOTAL:		0.04	0.18	0.13



Peak Integration Report

Sample Name:	CCV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 20:36	*Run Time:*	18.00

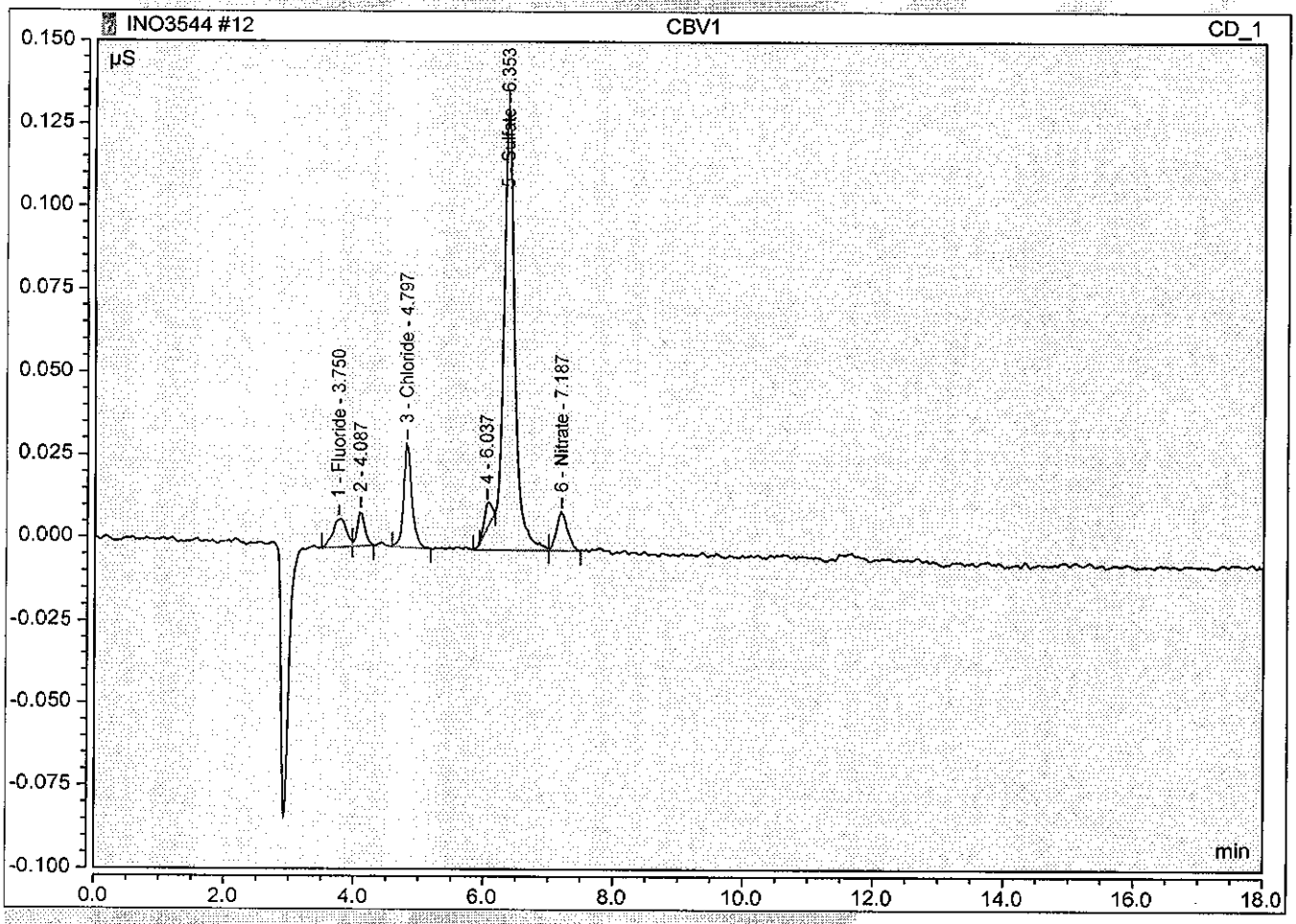
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.61	Fluoride	BM	0.791	5.774	2.9205
2	4.80	Chloride	M	3.104	21.399	19.3127
3	5.58	Nitrite	M	1.142	6.763	2.8894
4	6.34	Sulfate	M	2.310	12.447	19.0780
5	7.18	Nitrate	MB	1.589	7.903	3.7893
6	11.53	Phosphate	BMB	0.351	1.040	2.9109
		TOTAL:		9.29	55.33	50.90



Peak Integration Report

Sample Name:	CBV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	23-Dec-2014 / 20:57	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.75	Fluoride	BM	0.002	0.009	0.0095
3	4.80	Chloride	BMB	0.005	0.031	0.0392
5	6.35	Sulfate	BM	0.028	0.134	0.0760
6	7.19	Nitrate	MB	0.002	0.012	0.0056
		TOTAL:		0.04	0.19	0.13



IC5000-ICAL020315_300.0

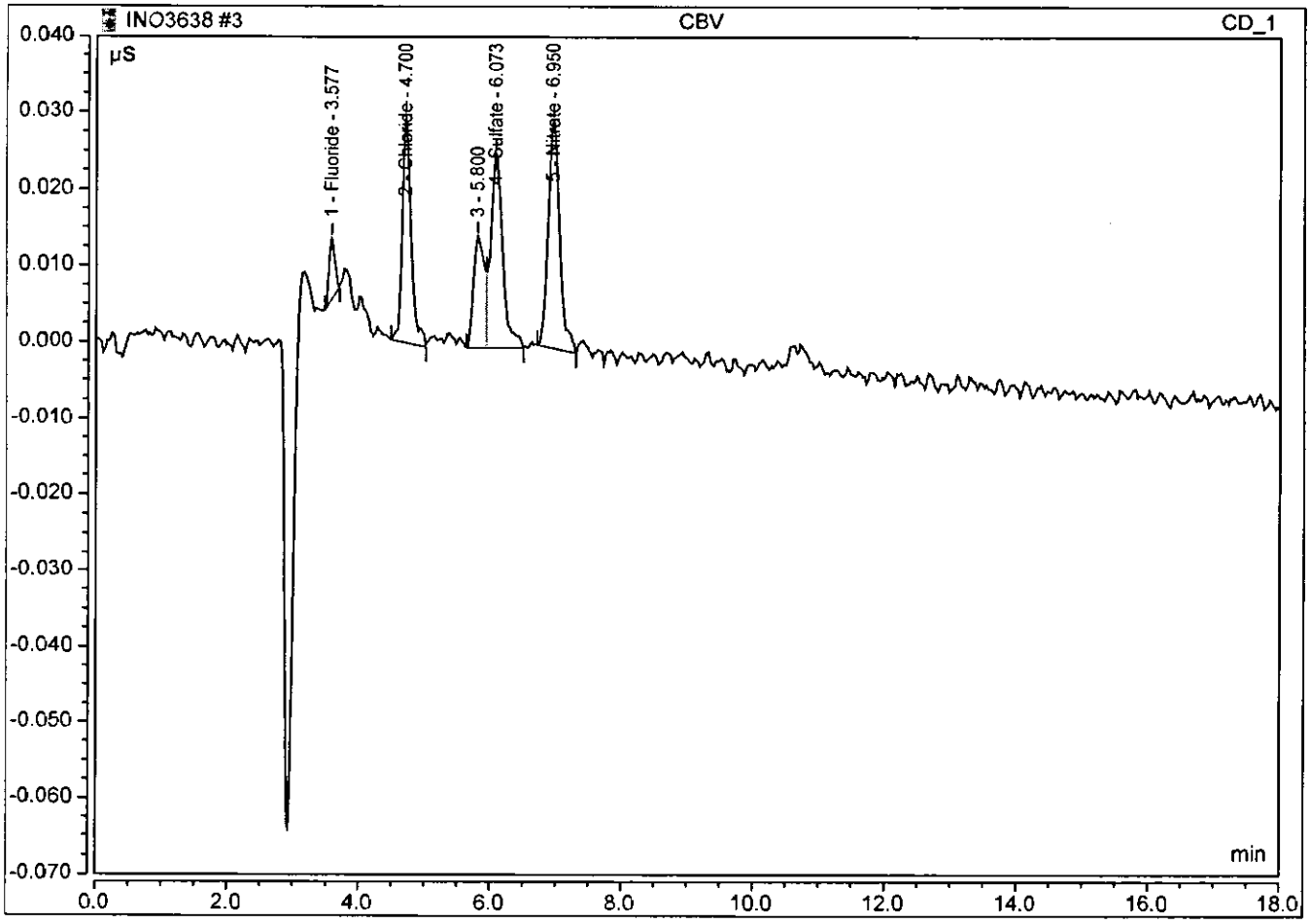
~~IN03638~~

#	CD_1	Name	Type	Level	Position	Volume [µl]	Instrument Method	Processing Method	Status
3		CBV	Calibration Standard	01	BA3	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
4		ICAL1	Calibration Standard	02	BB1	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
5		ICAL2	Calibration Standard	03	BB2	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
6		ICAL3	Calibration Standard	04	BB3	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
7		ICAL4	Calibration Standard	05	BB4	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
8		ICAL5	Calibration Standard	06	BB5	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
9		ICV	Unknown		BA1	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
10		ICB	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
11		CCV1	Unknown		BB3	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
12		CBV1	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished

Peak Integration Report

Sample Name:	**CBV**	*Inj. Vol.:*	**10.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**03-Feb-2015 / 13:45**	*Run Time:*	**18.00**

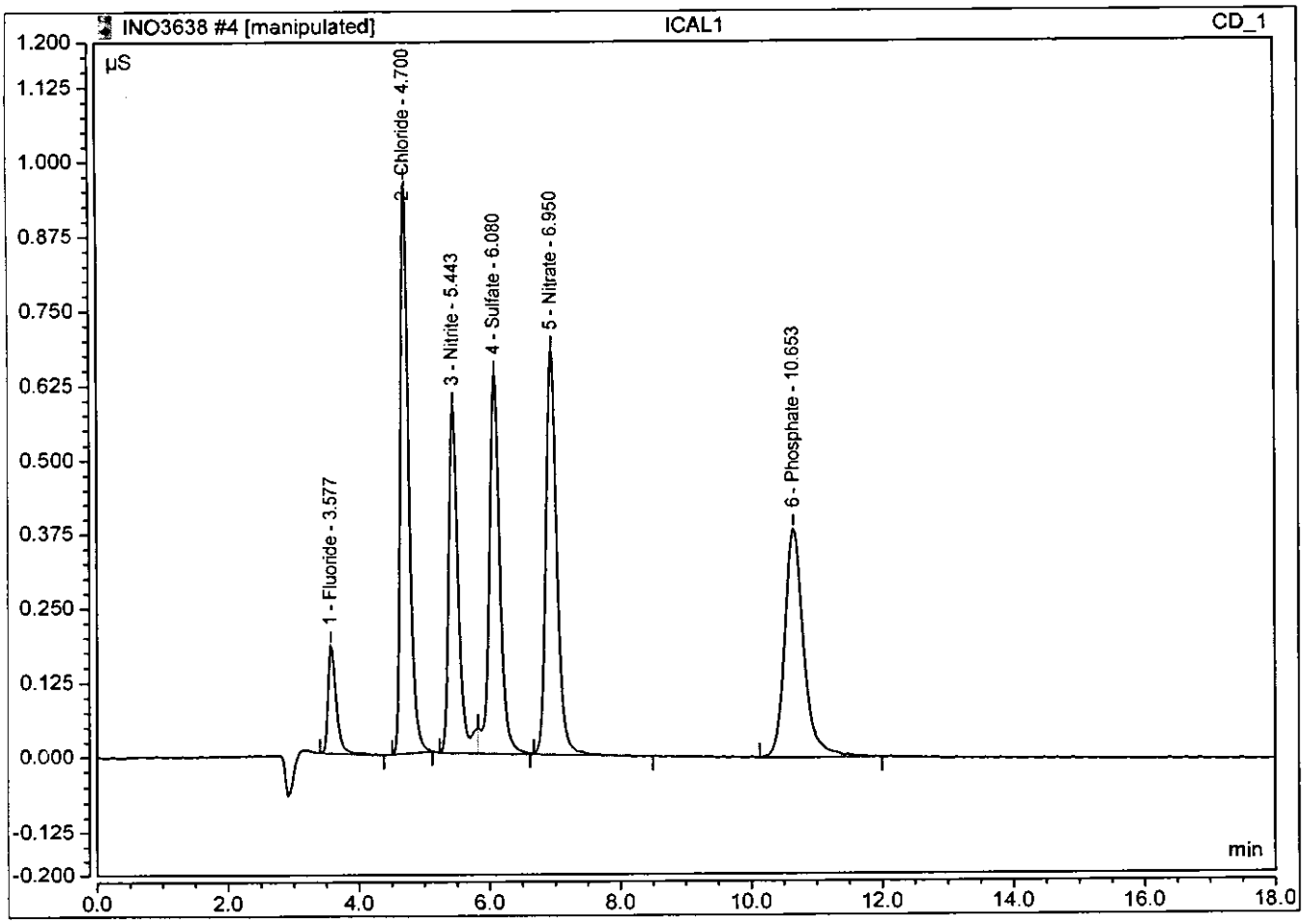
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	**Fluoride**	BMB	0.001	0.008	0.0108
2	4.70	**Chloride**	BMB	0.005	0.030	0.0587
4	6.07	**Sulfate**	MB	0.005	0.026	0.0634
5	6.95	**Nitrate**	BMB	0.006	0.030	0.0191
TOTAL:				0.02	0.09	0.15



Peak Integration Report

Sample Name:	**ICAL1**	*Inj. Vol.:*	**10.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**03-Feb-2015 / 14:06**	*Run Time:*	**18.00**

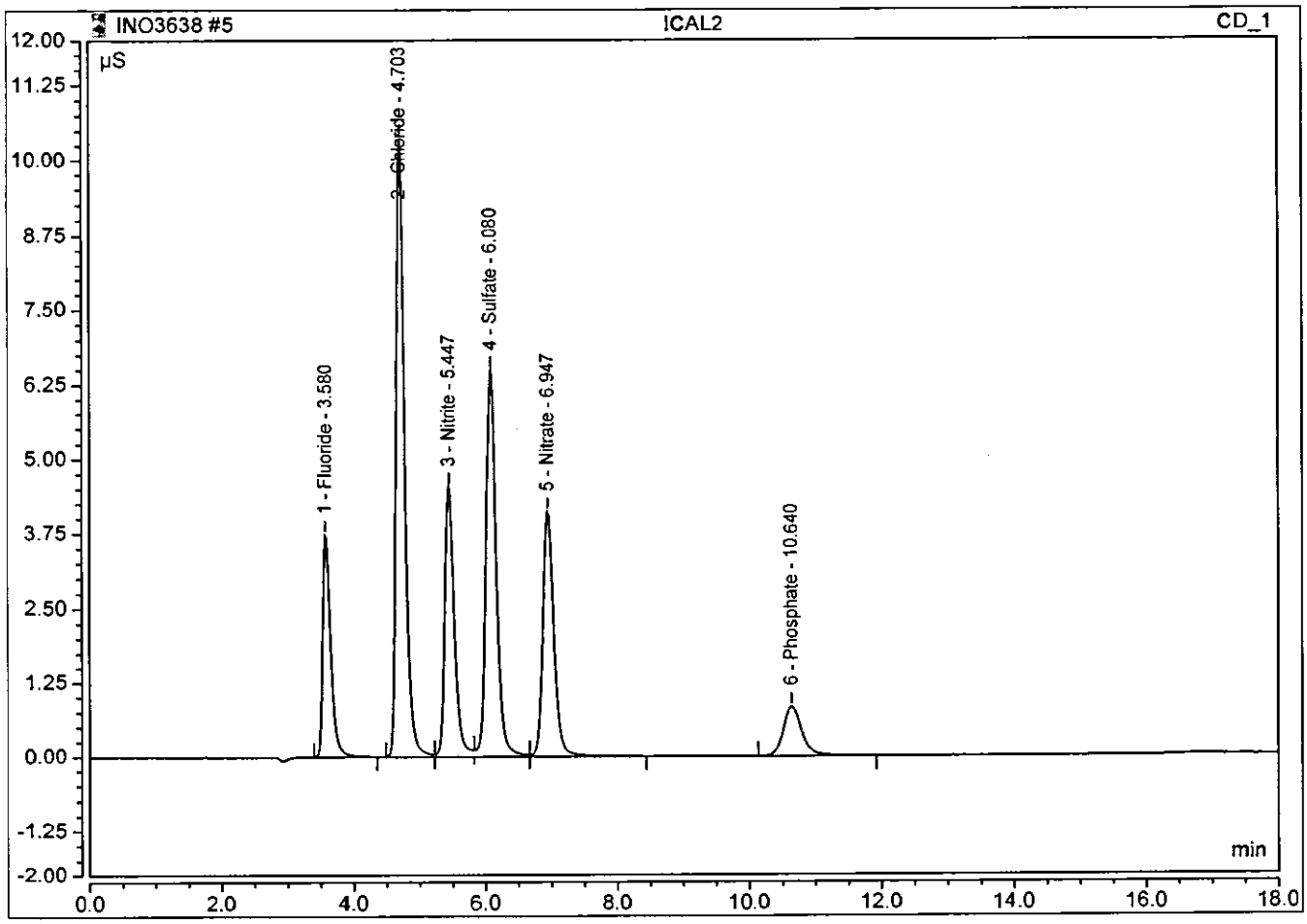
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	MB*	0.026	0.180	0.1069
2	4.70	Chloride	M	0.142	0.958	0.9331
3	5.44	Nitrite	M *	0.099	0.583	0.3082
4	6.08	Sulfate	M *	0.119	0.636	1.0396
5	6.95	Nitrate	MB*	0.131	0.679	0.3281
6	10.65	Phosphate	M	0.129	0.384	1.0318
		TOTAL:		0.65	3.42	3.75



Peak Integration Report

Sample Name:	ICAL2	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120614	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 14:26	*Run Time:*	18.00

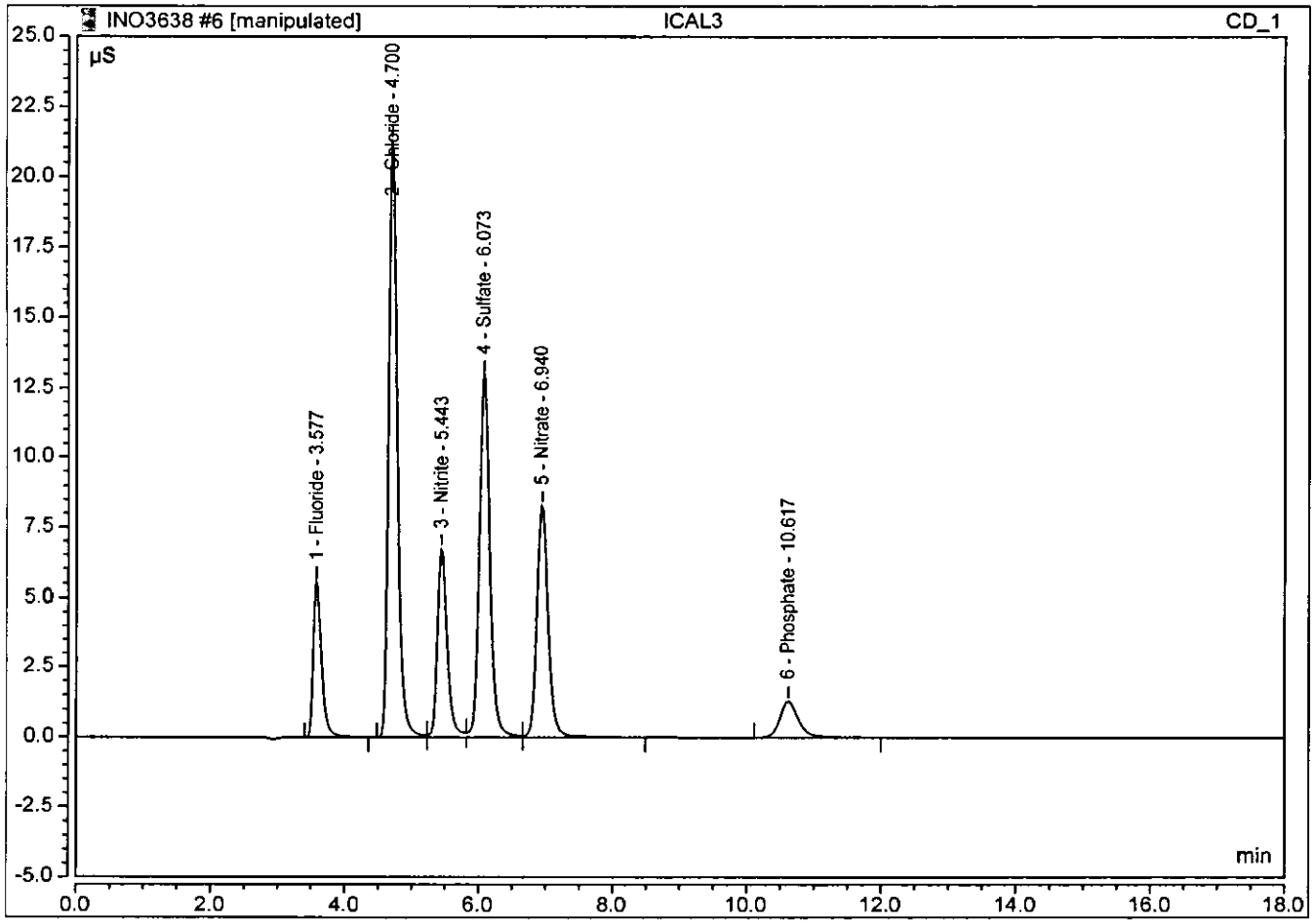
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.530	3.729	2.0081
2	4.70	Chloride	M	1.562	10.368	10.0058
3	5.45	Nitrite	M	0.762	4.526	2.0184
4	6.08	Sulfate	M	1.176	6.477	10.0947
5	6.95	Nitrate	M	0.801	4.110	1.9818
6	10.64	Phosphate	M	0.270	0.827	1.9857
		TOTAL:		5.10	30.04	28.09



Peak Integration Report

Sample Name:	ICAL3	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 14:46	*Run Time:*	18.00

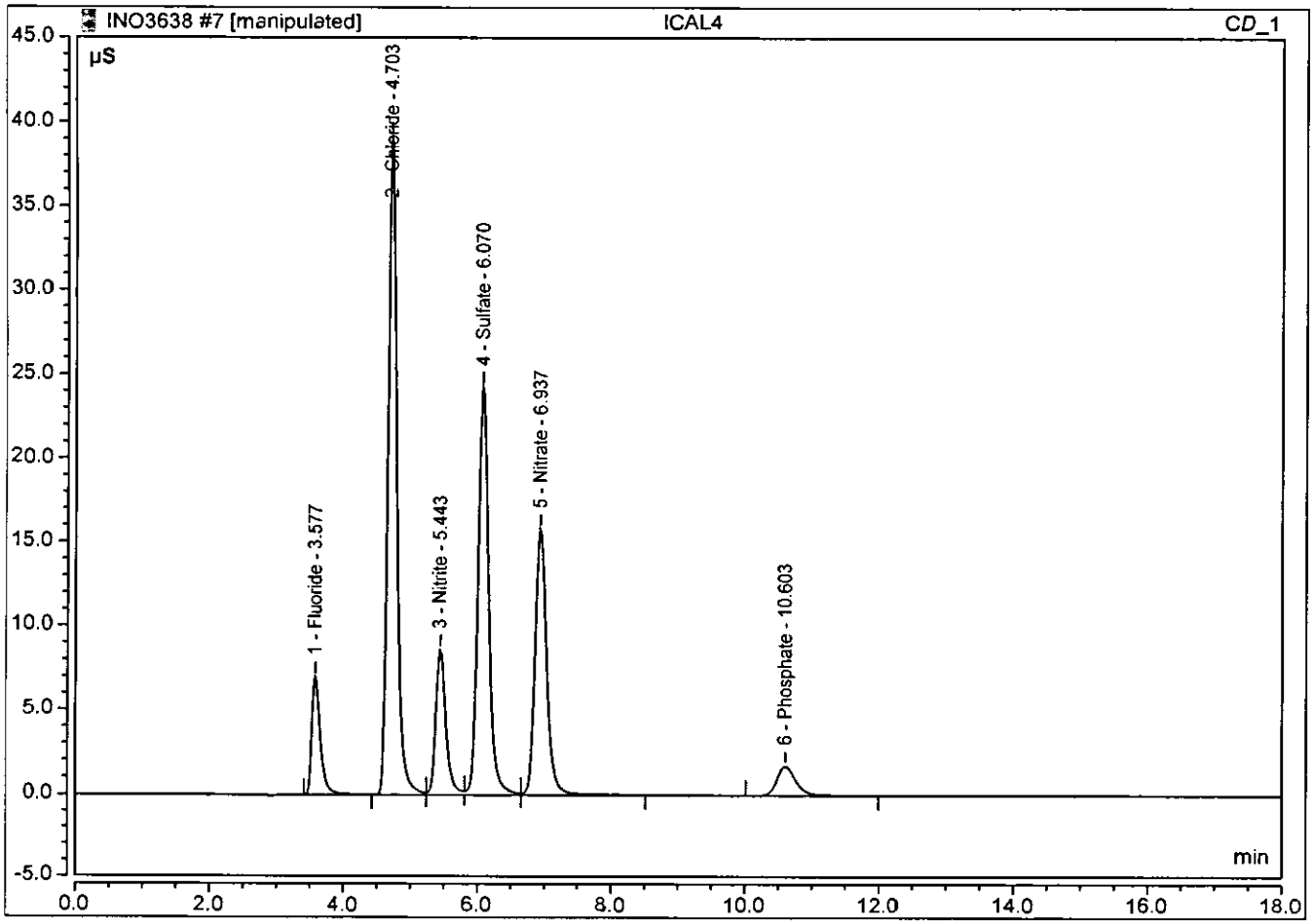
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.794	5.543	3.0037
2	4.70	Chloride	M	3.208	21.268	20.5179
3	5.44	Nitrite	M	1.140	6.706	2.9941
4	6.07	Sulfate	M	2.353	12.960	20.1754
5	6.94	Nitrate	MB*	1.620	8.283	4.0004
6	10.62	Phosphate	M	0.423	1.298	3.0229
		TOTAL:		9.54	56.06	53.71



Peak Integration Report

Sample Name:	ICAL4	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 15:06	*Run Time:*	18.00

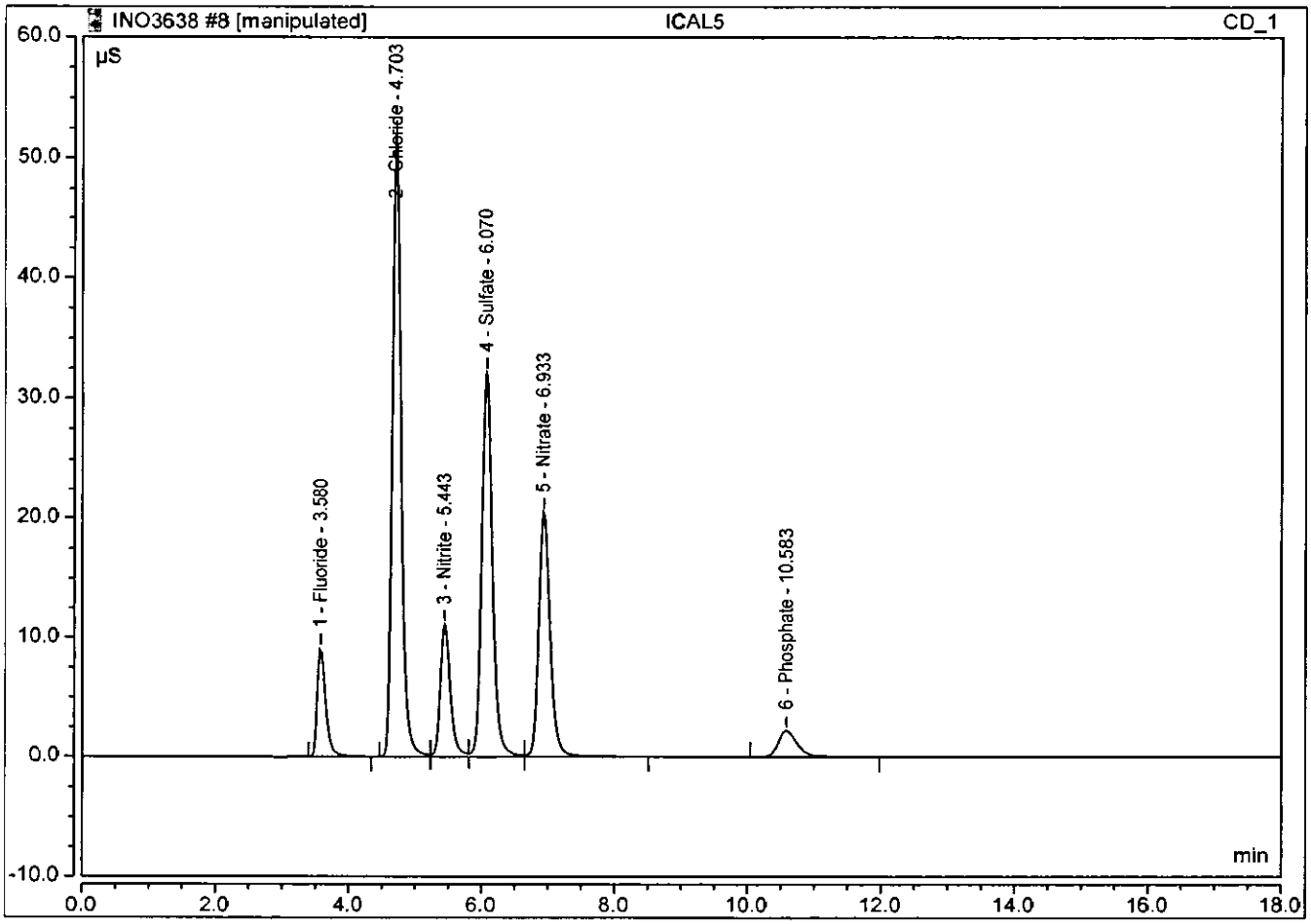
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	Ru	1.026	6.975	3.8805
2	4.70	Chloride	M	6.018	39.103	38.4576
3	5.44	Nitrite	M	1.498	8.589	3.9179
4	6.07	Sulfate	M	4.502	24.293	38.5844
5	6.94	Nitrate	M *	3.176	15.775	7.8396
6	10.60	Phosphate	M	0.548	1.656	3.8700
TOTAL:				16.77	96.39	96.55



Peak Integration Report

Sample Name:	ICAL5	*Inj. Vol.:*	10.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 15:26	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	1.347	9.074	5.0900
2	4.70	Chloride	M	7.986	51.970	51.0269
3	5.44	Nitrite	M	1.941	11.064	5.0613
4	6.07	Sulfate	M	5.956	32.143	51.0426
5	6.93	Nitrate	MB*	4.104	20.490	10.1310
6	10.58	Phosphate	M	0.727	2.206	5.0896
		TOTAL:		22.06	126.95	127.44



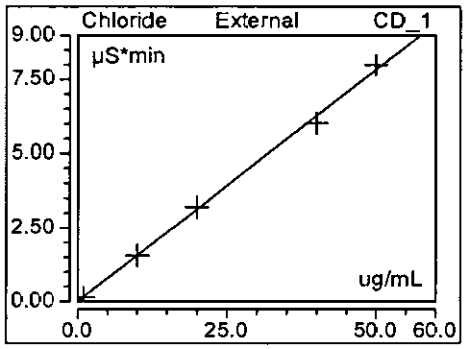
Calibration Batch Report

Sequence:	INO3638	*Injection Volume:*	10.00
Instrument Method:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 15:26	*Run Time:*	18

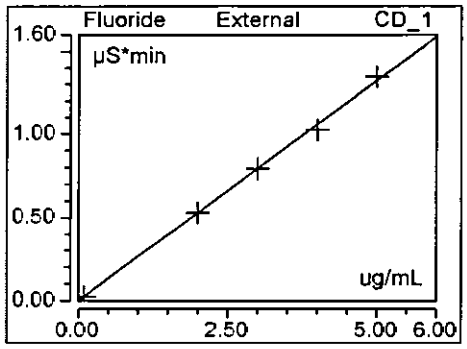
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
Fluoride	Area	in, WithOffse	6.000	-0.002	0.265	0.000	99.8918
Chloride	Area	in, WithOffse	6.000	-0.005	0.157	0.000	99.8286
Nitrite	Area	in, WithOffse	5.000	-0.020	0.388	0.000	99.9172
Sulfate	Area	in, WithOffse	6.000	-0.002	0.117	0.000	99.8551
Nitrate	Area	in, WithOffse	6.000	-0.002	0.405	0.000	99.9482
Phosphate	Area	in, WithOffse	5.000	-0.023	0.147	0.000	99.7340
		AVERAGE:		-0.0089	0.2464	0.0000	99.8625

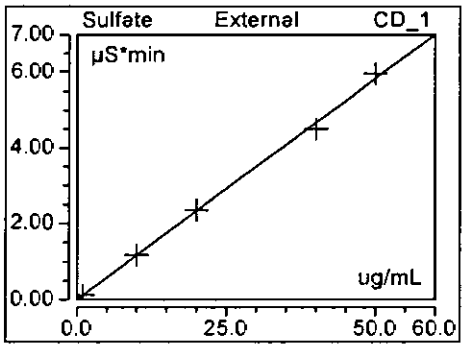
Injection Name Chloride	Ret.Time min Chloride	Area µS*min Chloride	Height µS Chloride	Amount ug/mL Chloride
	CD_1	CD_1	CD_1	CD_1
CBV	4.700	0.0046	0.030	0.059
ICAL1	4.700	0.1415	0.958	0.933
ICAL2	4.703	1.5622	10.368	10.006
ICAL3	4.700	3.2083	21.268	20.518
ICAL4	4.703	6.0175	39.103	38.458
ICAL5	4.703	7.9858	51.970	51.027
Average	4.702			
Rel. Std. Dev.	0.039 %			



Injection Name Fluoride	Ret.Time min Fluoride	Area µS*min Fluoride	Height µS Fluoride	Amount ug/mL Fluoride
	CD_1	CD_1	CD_1	CD_1
CBV	3.577	0.0008	0.008	0.011
ICAL1	3.577	0.0263	0.180	0.107
ICAL2	3.580	0.5302	3.729	2.008
ICAL3	3.577	0.7941	5.543	3.004
ICAL4	3.577	1.0264	6.975	3.881
ICAL5	3.580	1.3470	9.074	5.090
Average	3.578			
Rel. Std. Dev.	0.048 %			

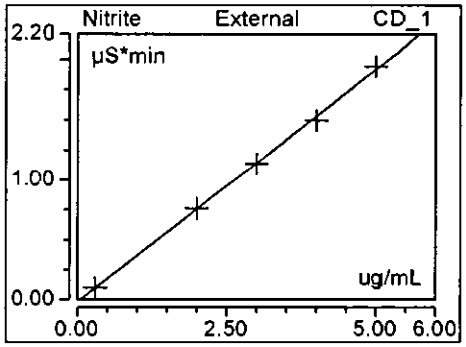


Injection Name Sulfate	Ret.Time min Sulfate	Area µS*min Sulfate	Height µS Sulfate	Amount ug/mL Sulfate
	CD_1	CD_1	CD_1	CD_1
CBV	6.073	0.0054	0.026	0.063
ICAL1	6.080	0.1194	0.636	1.040
ICAL2	6.080	1.1763	6.477	10.095
ICAL3	6.073	2.3529	12.960	20.175
ICAL4	6.070	4.5016	24.293	38.584
ICAL5	6.070	5.9558	32.143	51.043

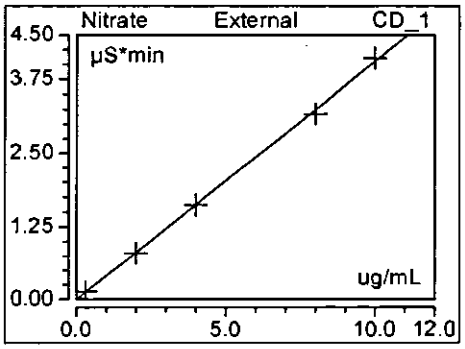


Average	6.074
Rel. Std. Dev.	0.075 %

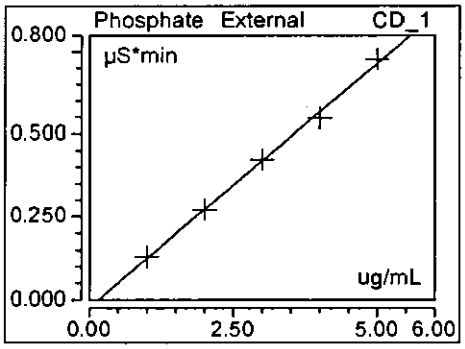
Injection Name Nitrite	Ret.Time min Nitrite	Area µS*min Nitrite	Height µS Nitrite	Amount ug/mL Nitrite
	CD_1	CD_1	CD_1	CD_1
CBV	n.a.	n.a.	n.a.	n.a.
ICAL1	5.443	0.0991	0.583	0.308
ICAL2	5.447	0.7618	4.526	2.018
ICAL3	5.443	1.1400	6.706	2.994
ICAL4	5.443	1.4980	8.589	3.918
ICAL5	5.443	1.9411	11.064	5.061
Average	5.444			
Rel. Std. Dev.	0.027 %			



Injection Name Nitrate	Ret.Time min Nitrate	Area µS*min Nitrate	Height µS Nitrate	Amount ug/mL Nitrate
	CD_1	CD_1	CD_1	CD_1
CBV	6.950	0.0060	0.030	0.019
ICAL1	6.950	0.1313	0.679	0.328
ICAL2	6.947	0.8015	4.110	1.982
ICAL3	6.940	1.6196	8.283	4.000
ICAL4	6.937	3.1756	15.775	7.840
ICAL5	6.933	4.1043	20.490	10.131
Average	6.943			
Rel. Std. Dev.	0.103 %			



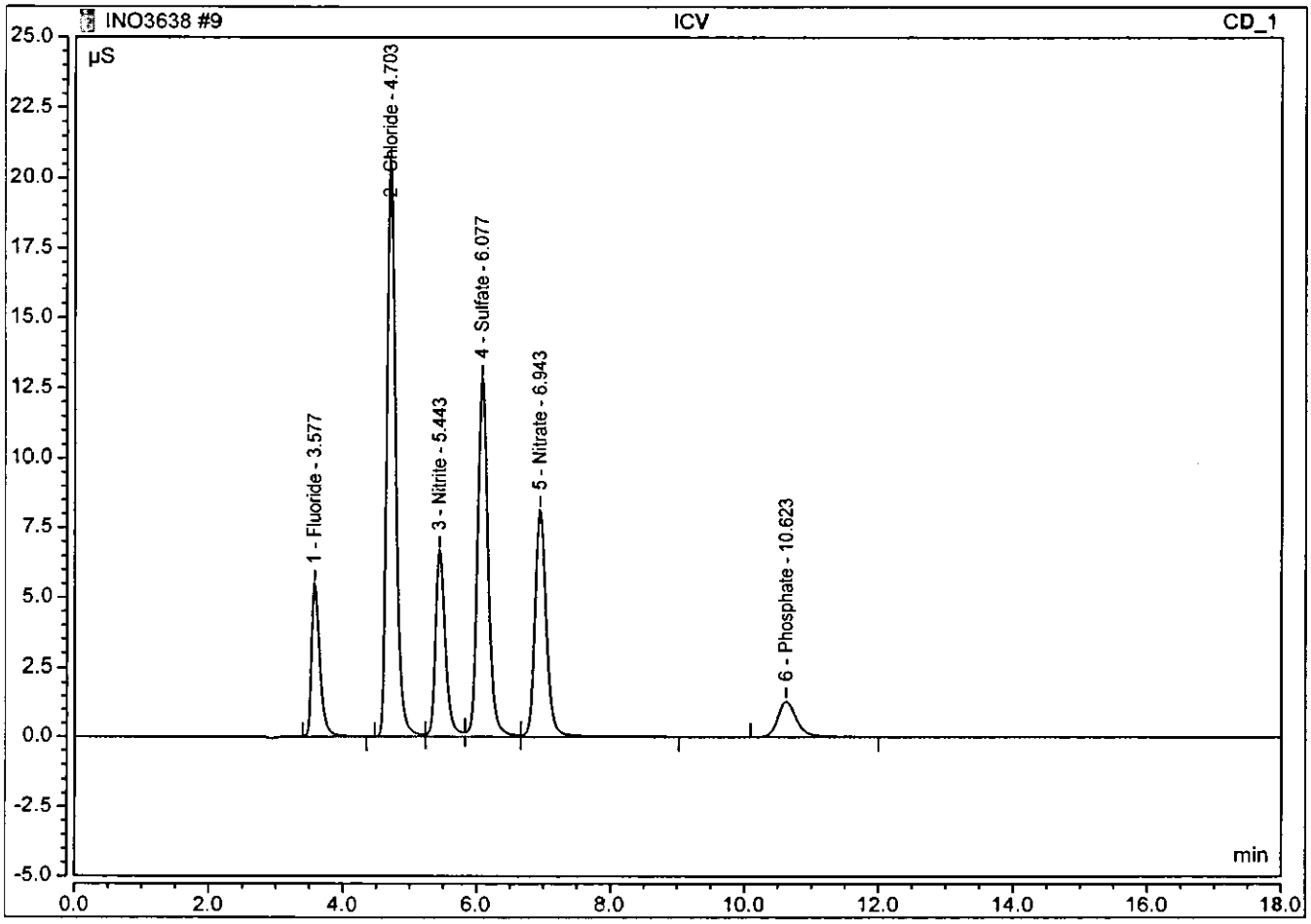
Injection Name Phosphate	Ret.Time min Phosphate	Area µS*min Phosphate	Height µS Phosphate	Amount ug/mL Phosphate
	CD_1	CD_1	CD_1	CD_1
CBV	n.a.	n.a.	n.a.	n.a.
ICAL1	10.653	0.1293	0.384	1.032
ICAL2	10.640	0.2699	0.827	1.986
ICAL3	10.617	0.4228	1.298	3.023
ICAL4	10.603	0.5477	1.656	3.870
ICAL5	10.583	0.7275	2.206	5.090
Average	10.619			
Rel. Std. Dev.	0.264 %			



Peak Integration Report

Sample Name:	**ICV**	*Inj. Vol.:*	**10.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**03-Feb-2015 / 15:46**	*Run Time:*	**18.00**

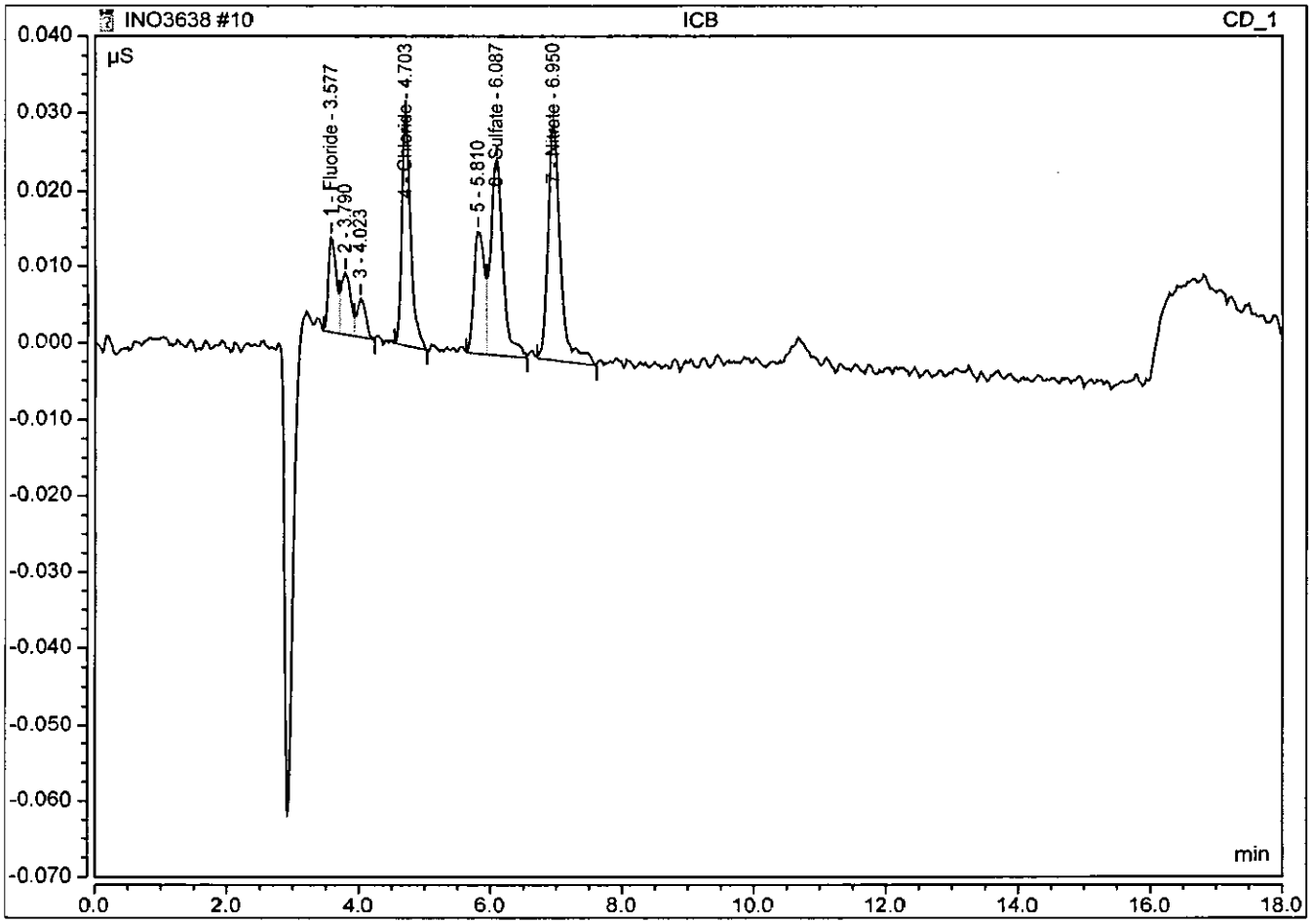
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.798	5.462	3.0167
2	4.70	Chloride	M	3.162	20.637	20.2227
3	5.44	Nitrite	M	1.149	6.662	3.0182
4	6.08	Sulfate	M	2.357	12.818	20.2141
5	6.94	Nitrate	M	1.616	8.125	3.9903
6	10.62	Phosphate	M	0.425	1.301	3.0393
		TOTAL:		9.51	55.01	53.50



Peak Integration Report

Sample Name:	ICB	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 16:06	*Run Time:*	18.00

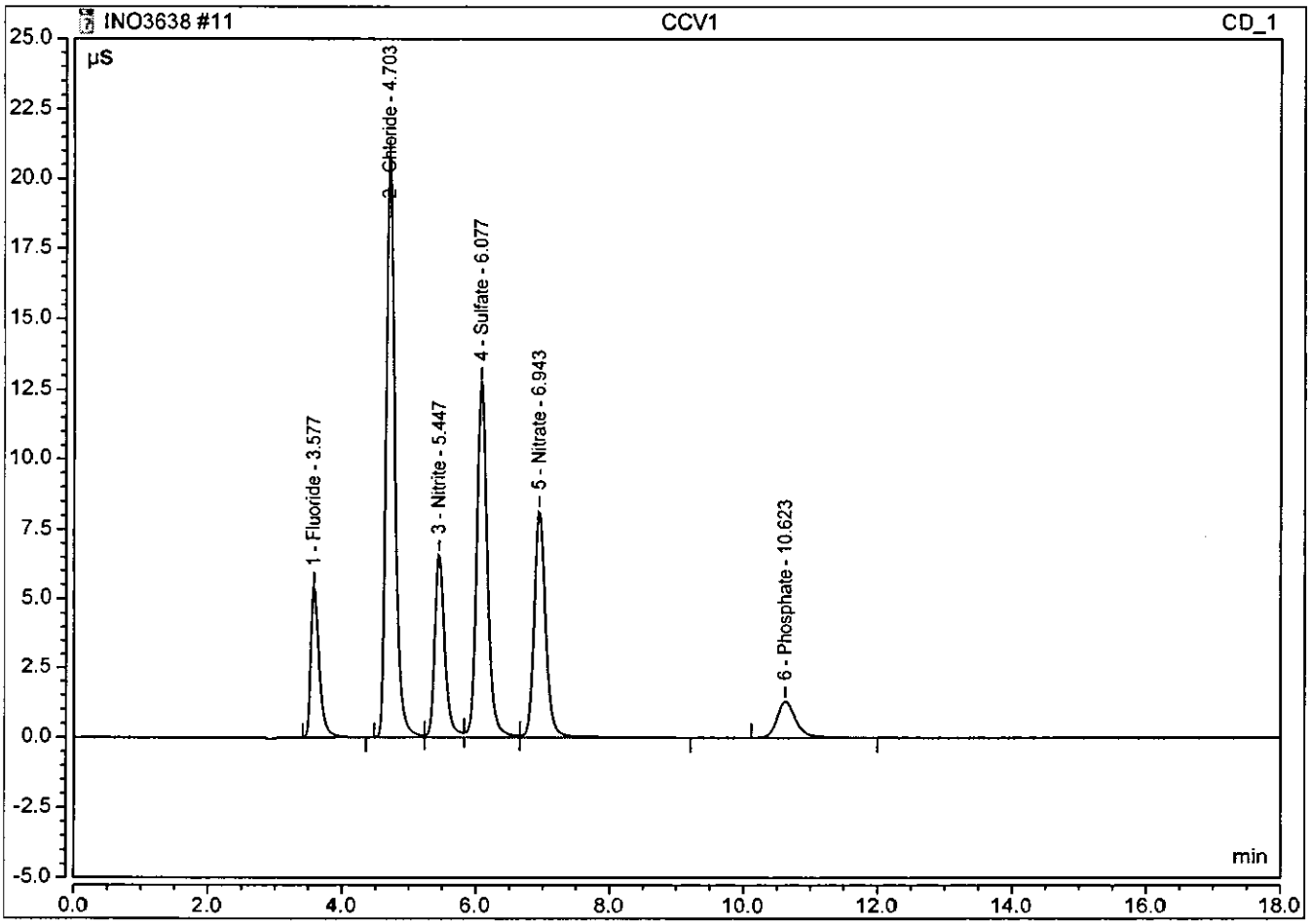
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BM	0.002	0.012	0.0142
4	4.70	Chloride	BMB	0.005	0.030	0.0592
6	6.09	Sulfate	MB	0.006	0.026	0.0647
7	6.95	Nitrate	BMB	0.007	0.031	0.0210
TOTAL:				0.02	0.10	0.16



Peak Integration Report

Sample Name:	CCV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 16:27	*Run Time:*	18.00

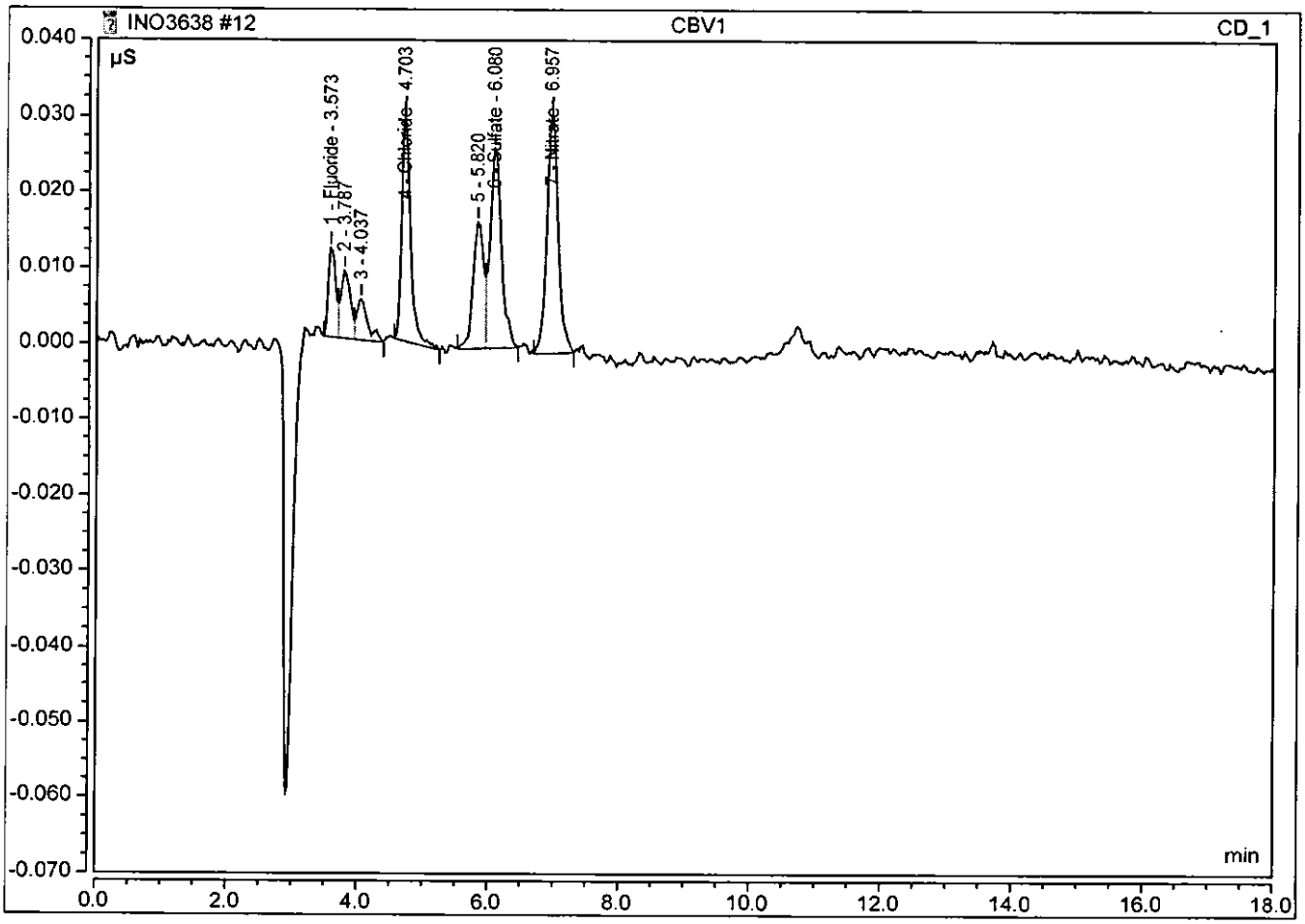
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.793	5.415	2.9982
2	4.70	Chloride	M	3.208	20.874	20.5174
3	5.45	Nitrite	M	1.142	6.590	3.0000
4	6.08	Sulfate	M	2.355	12.740	20.1924
5	6.94	Nitrate	M	1.631	8.159	4.0275
6	10.62	Phosphate	M	0.424	1.282	3.0297
TOTAL:				9.55	55.06	53.77



Peak Integration Report

Sample Name:	CBV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 16:47	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.57	Fluoride	BM	0.002	0.012	0.0136
4	4.70	Chloride	BMB	0.005	0.030	0.0590
6	6.08	Sulfate	MB	0.005	0.027	0.0619
7	6.96	Nitrate	BMB	0.006	0.032	0.0199
TOTAL:				0.02	0.10	0.15



EPA 300.0 Modified
Prep, Standard, Run Logs

Print Date: 02/06/2015

N.C. Certification # 481

Batch Review Report

Queue IXX **Batch** 1325 **Rule** E300.0-IXX 3

Run Sequence

	Lab Sample ID	Cust Sample ID	Collect Date	Date Analyzed
1	158197	MB for HBN 63859 [IXX/1325]		01/30/2015 11:25
2	158198	LCS for HBN 63859 [IXX/1325]		01/30/2015 11:25
3	31500182008	BT-SD-01	01/25/2015 03:45	01/30/2015 11:25
4	158199	BT-SD-01(157965DUP)	01/25/2015 03:45	01/30/2015 11:25
5	31500182009	BT-SD-02	01/25/2015 04:30	01/30/2015 11:25
6	31500182010	BT-SD-03	01/25/2015 05:00	01/30/2015 11:25
7	158200	BT-SD-03(157967MS)	01/25/2015 05:00	01/30/2015 11:25
8	158201	BT-SD-03(157967MSD)	01/25/2015 05:00	01/30/2015 11:25

Lab ID 158197 Cust Sample ID MB for HBN 63859 [IXX/1325]

Sample Info Schedule: 944807 Type MB Collect Date Receive Date 1/30/2015 Container Prep Cont.
Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:
Analysis Info CC: OK Batch: 1325 Method: EPA 300.0 soils PREP IVOL/WT: 40 g FVOL: 40 mL Analyst: PSW Run Date: 01/30/15 11:25 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		40	DK	g											
Final Extract Volume		40	DK	mL											

Lab ID 158198 Cust Sample ID LCS for HBN 63859 [IXX/1325]

Sample Info Schedule: 944809 Type LCS Collect Date Receive Date 1/30/2015 Container Prep Cont.
Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:
Analysis Info CC: OK Batch: 1325 Method: EPA 300.0 soils PREP IVOL/WT: 40 g FVOL: 40 mL Analyst: PSW Run Date: 01/30/15 11:25 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		40	OK	g											
Final Extract Volume		40	OK	mL											

Lab ID 31500182008 Cust Sample ID BT-SD-01

Sample Info Schedule: 944374 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182008-A Prep Cont.
Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:
Analysis Info CC: OK Batch: 1325 Method: EPA 300.0 soils PREP IVOL/WT: 40 g FVOL: 40 mL Analyst: PSW Run Date: 01/30/15 11:25 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		40	OK	g											
Final Extract Volume		40	OK	mL											

Lab ID 158199 Cust Sample ID BT-SD-01(157965DUP)

Sample Info Schedule: 944811 Type DUP Collect Date 1/25/2015 Receive Date 1/29/2015 Container Prep Cont.
Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:
Analysis Info CC: OK Batch: 1325 Method: EPA 300.0 soils PREP IVOL/WT: 40 g FVOL: 40 mL Analyst: PSW Run Date: 01/30/15 11:25 AM DF:

Queue: IXX Batch: 1325 Lab ID: 158199 Schedule: 944811 Type: DUP

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		40	OK	g											
Final Extract Volume		40	OK	mL											

Lab ID 31500182009 Cust Sample ID BT-SD-02

Sample Info Schedule: 944376 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182009-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1325 Method: EPA 300.0 soils PREP IVOL/WT: 40 g FVOL: 40 mL Analyst: PSW Run Date: 01/30/15 11:25 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		40	OK	g											
Final Extract Volume		40	OK	mL											

Lab ID 31500182010 Cust Sample ID BT-SD-03

Sample Info Schedule: 944378 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182010-A Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1325 Method: EPA 300.0 soils PREP IVOL/WT: 40 g FVOL: 40 mL Analyst: PSW Run Date: 01/30/15 11:25 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		40	OK	g											
Final Extract Volume		40	OK	mL											

Lab ID 158200 Cust Sample ID BT-SD-03(157967MS)

Sample Info Schedule: 944813 Type MS Collect Date 1/25/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1325 Method: EPA 300.0 soils PREP IVOL/WT: 40 g FVOL: 40 mL Analyst: PSW Run Date: 01/30/15 11:25 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		40	OK	g											
Final Extract Volume		40	OK	mL											

Lab ID 158201 Cust Sample ID BT-SD-03(157967MSD)

Sample Info Schedule: 944815 Type MSD Collect Date 1/25/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1325 Method: EPA 300.0 soils PREP IVOL/WT: 40 g FVOL: 40 mL Analyst: PSW Run Date: 01/30/15 11:25 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Weight		40	OK	g											
Final Extract Volume		40	OK	mL											

INO3633

#	CD_1	Name	Type	Level	Position	Volume [µl]	Instrument Method	Processing Method	Status
3		ICV - PO_4	Unknown		BA1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
4		ICB ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
5		CCV1 - PO_4	Unknown		BA2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
6		CBV1 ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
7		158197 MB ✓	Unknown		BA4	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
8		158198 LCS - PO_4	Unknown		BA5	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
9		0182_10 x10 - Cl 1x	Unknown		BA6	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
10		158200 x10 - Cl 1x	Unknown		BA7	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
11		158201 x10 Cl 1x	Unknown		BA8	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
12		0182_8 x10 - Cl 1000x	Unknown 1x NO_2 NO_3 PO_4		BB1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
13		158199 x10 - Cl x100	Unknown "		BB1	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
14		0182_9 x10 - Cl 1000x	Unknown "		BB3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
15		CCV2 - PO_4	Unknown		BA2	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished
16		CBV2 ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL12231...	Finished

INO3638

#	CD_1	Name	Type	Level	Position	Volume [µl]	Instrument Method	Processing Method	Status
9		ICV ✓	Unknown		BA1	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
10		ICB ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
11		CCV1 ✓	Unknown		BB3	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
12		CBV1 ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
13		158197 MB ✓	Unknown		BA4	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
14		158198 LCS ✓	Unknown		BA5	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
15		0182_10 - SO_4	Unknown		BC1	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
16		158200 MS ✓	Unknown		BC2	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
17		158201 MSD ✓	Unknown		BC3	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
18		0182_8 - SO_4^{2-} Cl^-	Unknown		BC4	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
19		0182_8 x1000 ✓	Unknown		BC5	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
20		158199 x1000 ✓	Unknown		BC6	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
21		0182_9 - SO_4 Cl^-	Unknown		BC7	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
22		0182_9 x1000 ✓	Unknown		BC8	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
23		CCV2 ✓	Unknown		BB3	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished
24		CBV2 ✓	Unknown		BA3	10.0	300.0 RUN METHO...	IC5000_ICAL02031...	Finished

EPA 300.0 Modified
Continuing Calibration Data

Print Date: 02/06/2015

N.C. Certification # 481

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Absolute Standard

Batch ID: INO3633

Continuing Cal Source: Environmental Express

Analyte	ICV 1/30/15 14:47			CCV1 1/30/15 15:28			CCV2 1/30/15 18:49			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Chloride	20	21	103.8	20	21	103.3	20	21	104.9	90-110
Nitrite	3	3	100.1	3	3	99.8	3	3	101.0	90-110
Nitrate	4	4	100.7	4	4	100.1	4	4	101.5	90-110
Phosphate	3	3	3498617*	3	3	113.4768	3	3	115.7859	90-110
Sulfate	20	20	101.3	20	20	100.7	20	20	102.3	90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Absolute Standard

Batch ID: INO3638

Continuing Cal Source: Environmental Express

Analyte	ICV 2/3/15 15:46			CCV1 2/3/15 16:27			CCV2 2/3/15 20:28			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Chloride	20	20	101.1	20	21	102.6	20	22	107.5	90-110
Nitrite	3	3	100.6	3	3	100.0	3	3	104.4	90-110
Nitrate	4	4	99.8	4	4	100.7	4	4	105.3	90-110
Phosphate	3	3	101.3	3	3	101.0	3	3	102.9	90-110
Sulfate	20	20	101.1	20	20	101.0	20	21	105.5	90-110

Comments:

FORM IIA - METALS

BLANKS

Lab Name: SGS North America

Batch ID: INO3633

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)							
			CBV1		CBV2					
	1/30/15 15:08	C	1/30/15 15:48	C	1/30/15 19:09	C		C		
Chloride	1.0	U	1.0	U	1.0	U				
Nitrite	0.3	U	0.3	U	0.3	U				
Nitrate	0.3	U	0.3	U	0.3	U				
Phosphate	1.0	U	1.0	U	1.0	U				
Sulfate	1.0	U	1.0	U	1.0	U				

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: INO3638

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)							
			CBV1		CBV2					
	2/3/15 16:06	C	2/3/15 16:47	C	2/3/15 20:48	C		C		
Chloride	1.0	U	1.0	U	1.0	U				
Nitrite	0.3	U	0.3	U	0.3	U				
Nitrate	0.3	U	0.3	U	0.3	U				
Phosphate	1.0	U	1.0	U	1.0	U				
Sulfate	1.0	U	1.0	U	1.0	U				

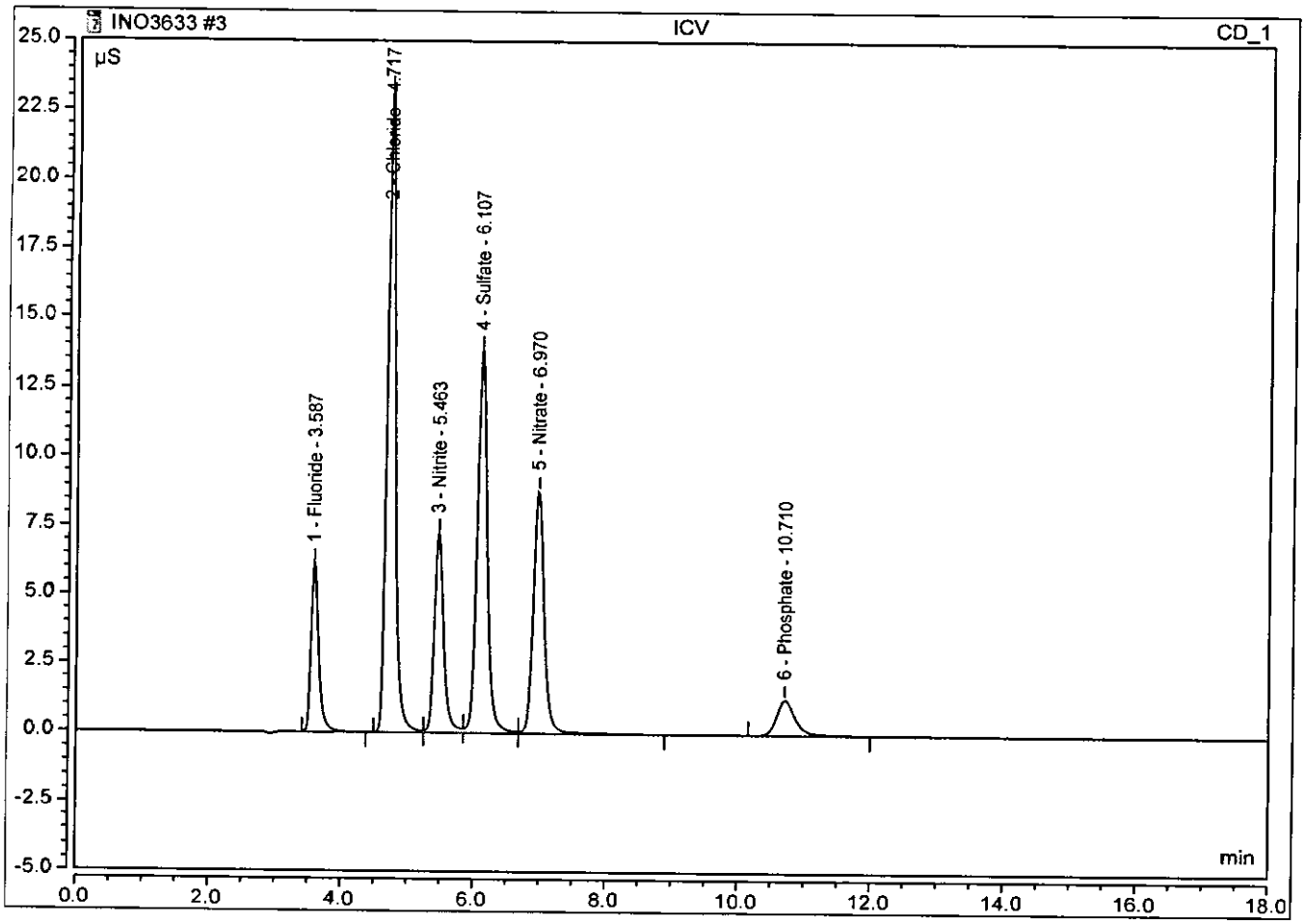
Comments:

FORM III - METALS

Peak Integration Report

Sample Name:	ICV	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 14:47	*Run Time:*	18.00

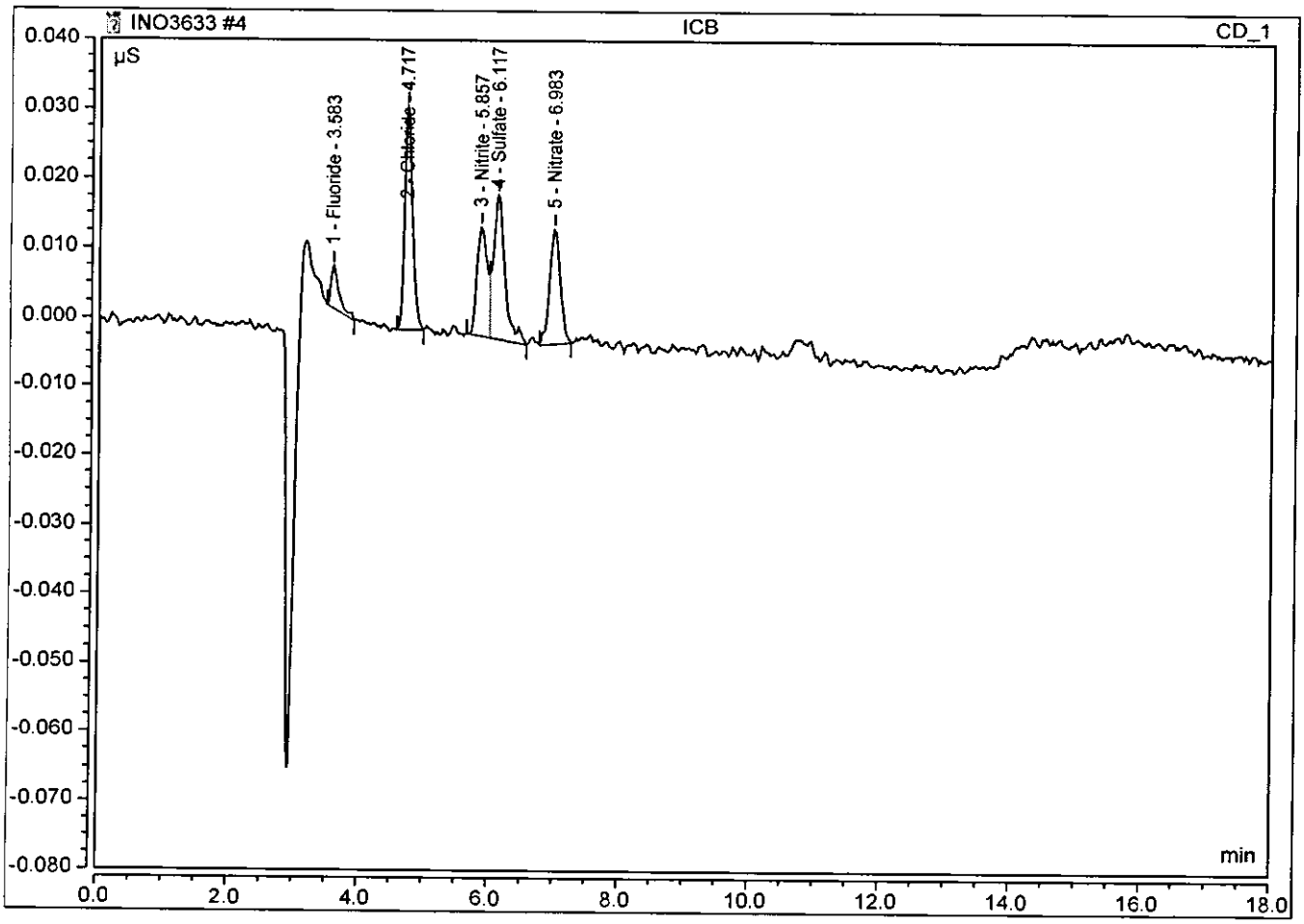
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	BMB	0.822	6.138	3.0378
2	4.72	Chloride	BM	3.335	23.216	20.7501
3	5.46	Nitrite	M	1.187	7.256	3.0022
4	6.11	Sulfate	M	2.452	13.813	20.2624
5	6.97	Nitrate	MB	1.688	8.822	4.0260
6	10.71	Phosphate	BMB	0.421	1.273	3.4288
TOTAL:				9.91	60.52	54.51



Peak Integration Report

Sample Name:	ICB	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 15:08	*Run Time:*	18.00

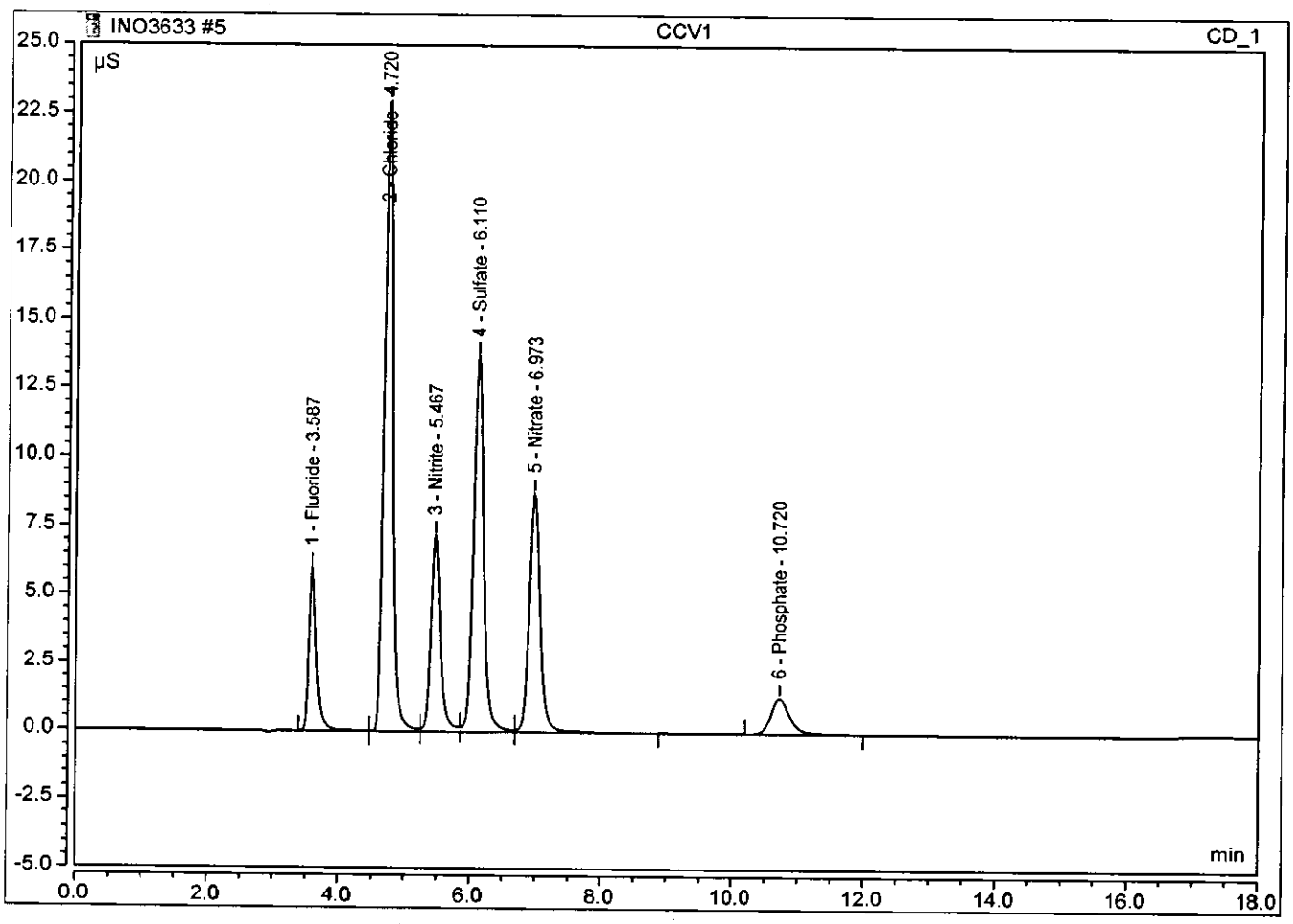
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.001	0.006	0.0050
2	4.72	Chloride	M	0.004	0.032	0.0380
3	5.86	Nitrite	M	0.003	0.016	0.0473
4	6.12	Sulfate	M	0.004	0.021	n.a.
5	6.98	Nitrate	M	0.003	0.017	0.0077
		TOTAL:		0.02	0.09	0.10



Peak Integration Report

Sample Name:	CCV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 15:28	*Run Time:*	18.00

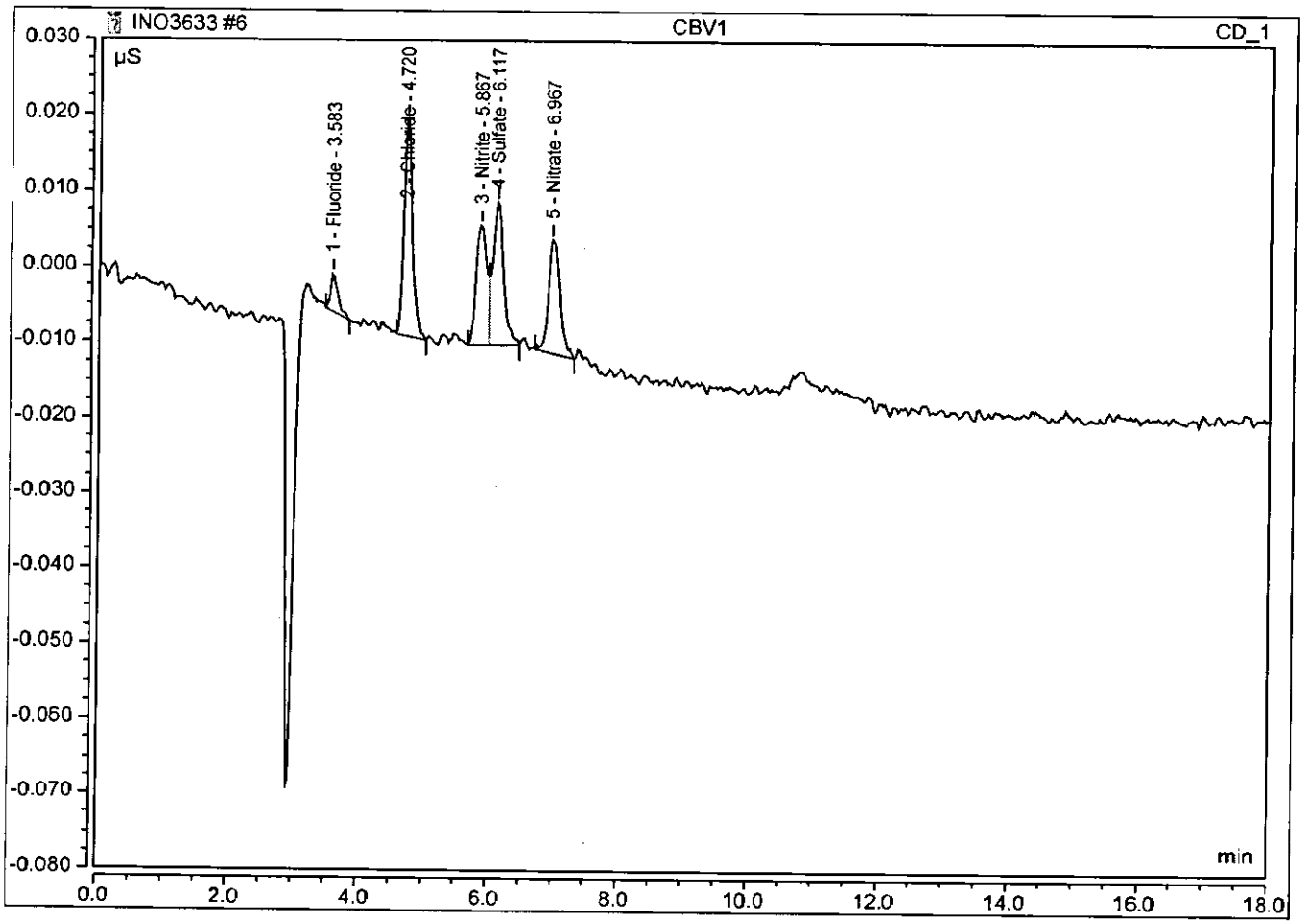
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.822	6.025	3.0374
2	4.72	Chloride	M	3.320	22.979	20.6561
3	5.47	Nitrite	M	1.184	7.177	2.9948
4	6.11	Sulfate	M	2.438	13.677	20.1481
5	6.97	Nitrate	M	1.678	8.727	4.0030
6	10.72	Phosphate	M	0.418	1.262	3.4043
TOTAL:				9.86	59.85	54.24



Peak Integration Report

Sample Name:	CBV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 15:48	*Run Time:*	18.00

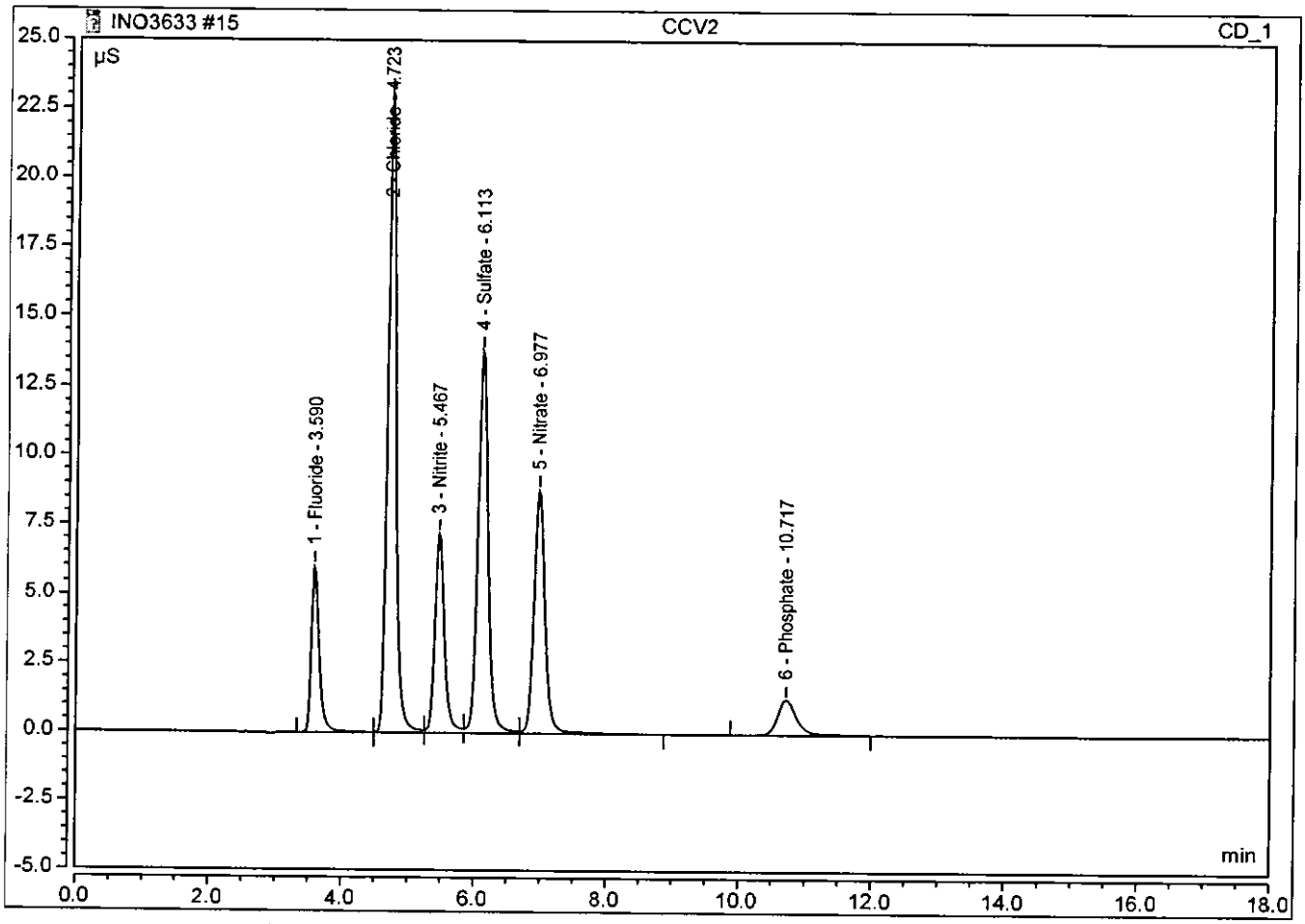
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BMB	0.001	0.005	0.0043
2	4.72	Chloride	BMB	0.004	0.029	0.0367
3	5.87	Nitrite	BM	0.003	0.016	0.0477
4	6.12	Sulfate	MB	0.004	0.019	n.a.
5	6.97	Nitrate	BMB	0.003	0.015	0.0074
TOTAL:				0.01	0.08	0.10



Peak Integration Report

Sample Name:	CCV2	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	30-Jan-2015 / 18:49	*Run Time:*	18.00

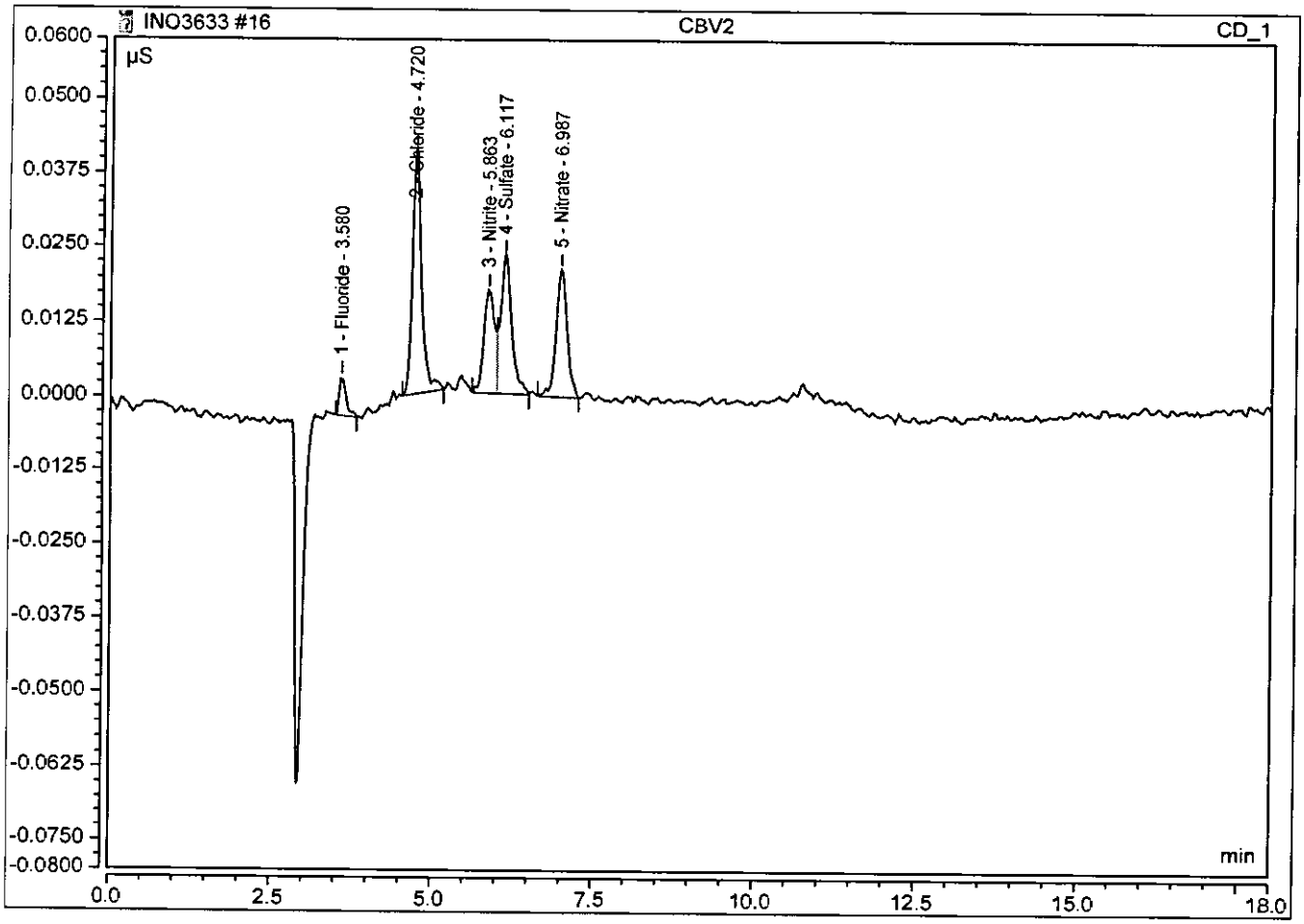
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.59	Fluoride	M	0.834	6.001	3.0806
2	4.72	Chloride	M	3.373	23.074	20.9843
3	5.47	Nitrite	M	1.199	7.195	3.0311
4	6.11	Sulfate	M	2.476	13.805	20.4604
5	6.98	Nitrate	M	1.702	8.789	4.0596
6	10.72	Phosphate	M	0.427	1.281	3.4736
		TOTAL:		10.01	60.14	55.09



Peak Integration Report

Sample Name:	**CBV2**	*Inj. Vol.:*	**10.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**300.0 RUN METHOD120814**	*Operator:*	**SGS North America In**
Inj. Date / Time:	**30-Jan-2015 / 19:09**	*Run Time:*	**18.00**

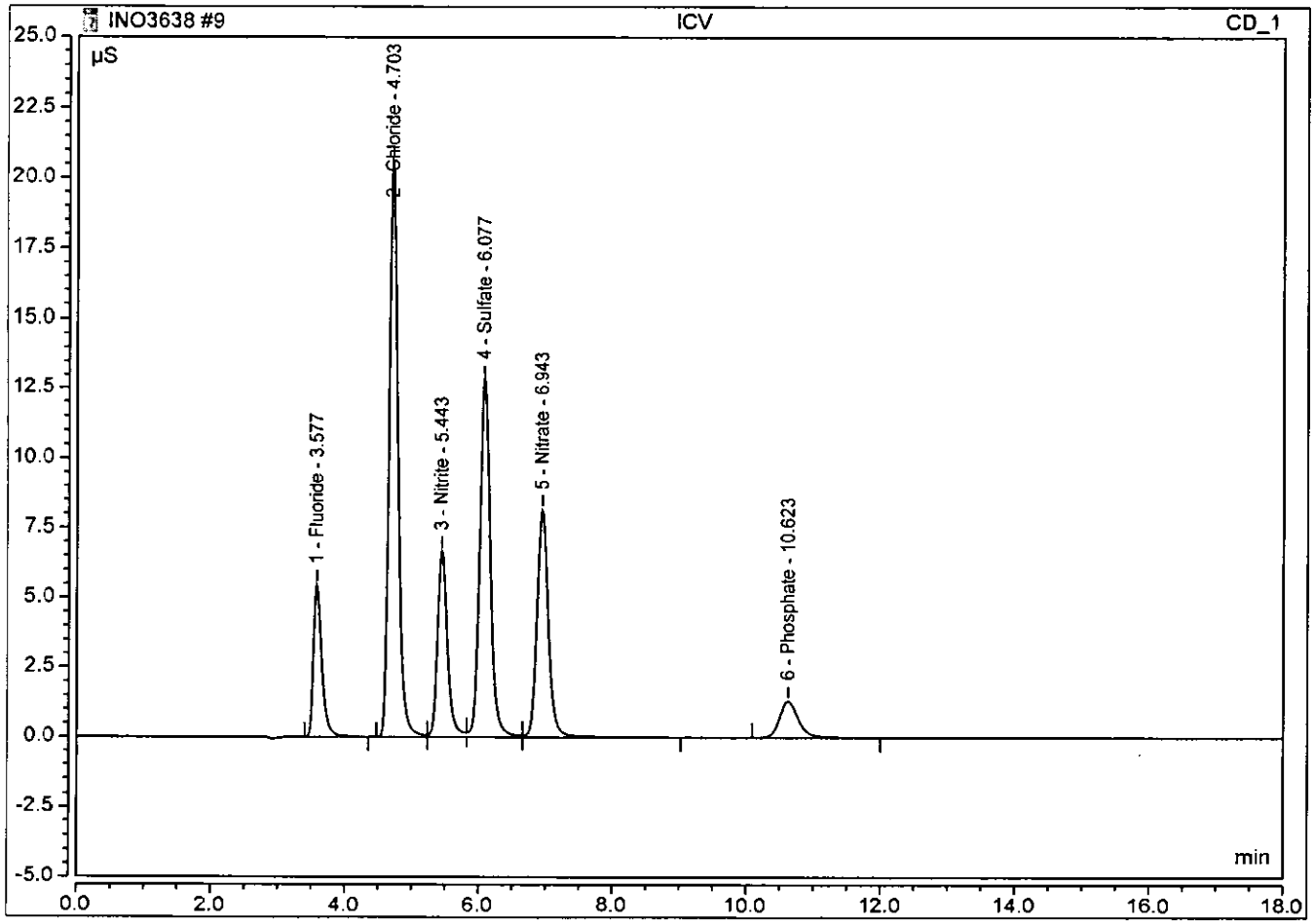
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BMB	0.001	0.006	0.0048
2	4.72	Chloride	BMB	0.007	0.041	0.0513
3	5.86	Nitrite	BM	0.003	0.017	0.0484
4	6.12	Sulfate	MB	0.005	0.023	n.a.
5	6.99	Nitrate	BMB	0.004	0.021	0.0102
		TOTAL:		0.02	0.11	0.11



Peak Integration Report

Sample Name:	ICV	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 15:46	*Run Time:*	18.00

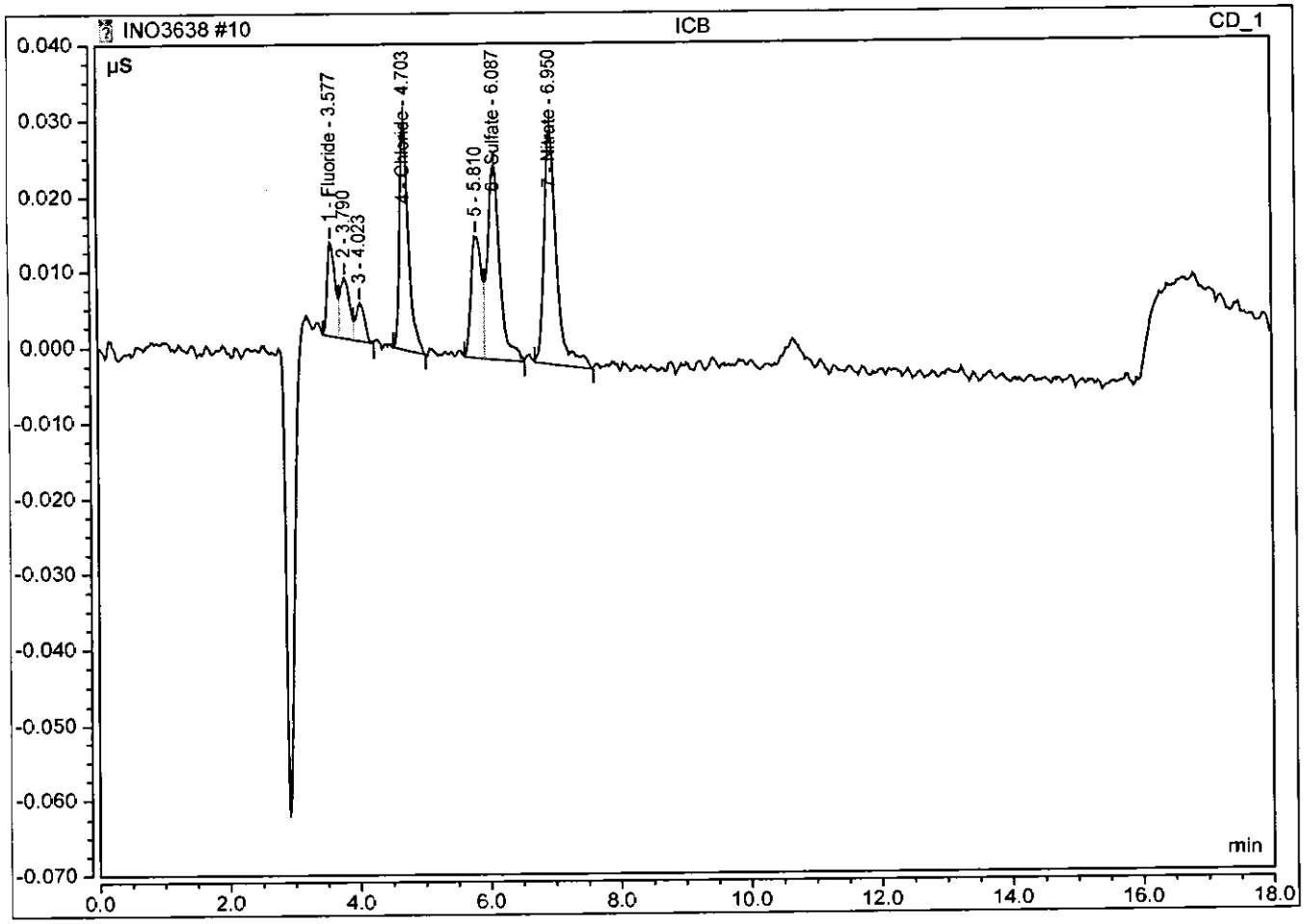
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.798	5.462	3.0167
2	4.70	Chloride	M	3.162	20.637	20.2227
3	5.44	Nitrite	M	1.149	6.662	3.0182
4	6.08	Sulfate	M	2.357	12.818	20.2141
5	6.94	Nitrate	M	1.616	8.125	3.9903
6	10.62	Phosphate	M	0.425	1.301	3.0393
TOTAL:				9.51	55.01	53.50



Peak Integration Report

Sample Name:	ICB	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 16:06	*Run Time:*	18.00

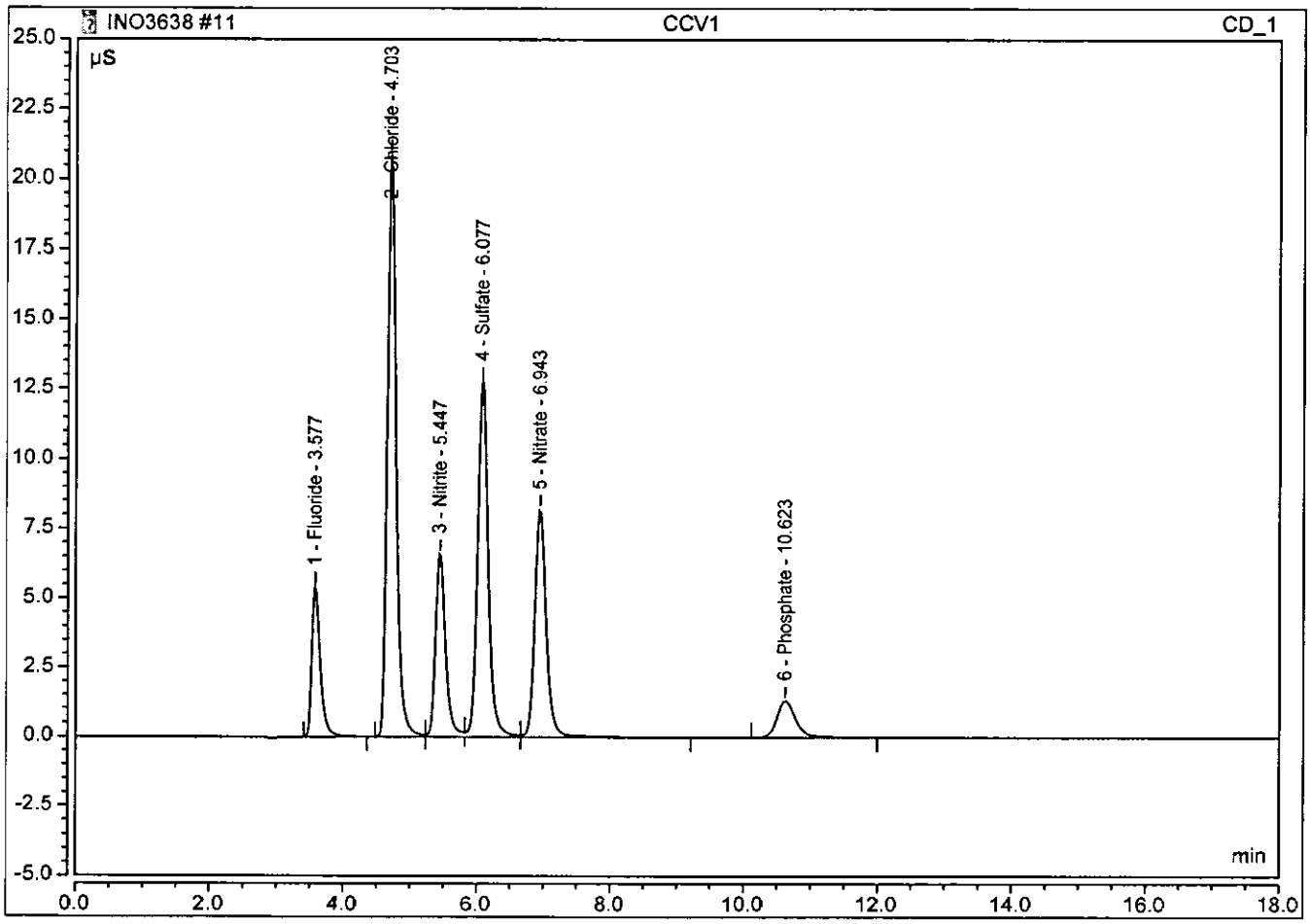
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BM	0.002	0.012	0.0142
4	4.70	Chloride	BMB	0.005	0.030	0.0592
6	6.09	Sulfate	MB	0.006	0.026	0.0647
7	6.95	Nitrate	BMB	0.007	0.031	0.0210
TOTAL:				0.02	0.10	0.16



Peak Integration Report

Sample Name:	CCV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 16:27	*Run Time:*	18.00

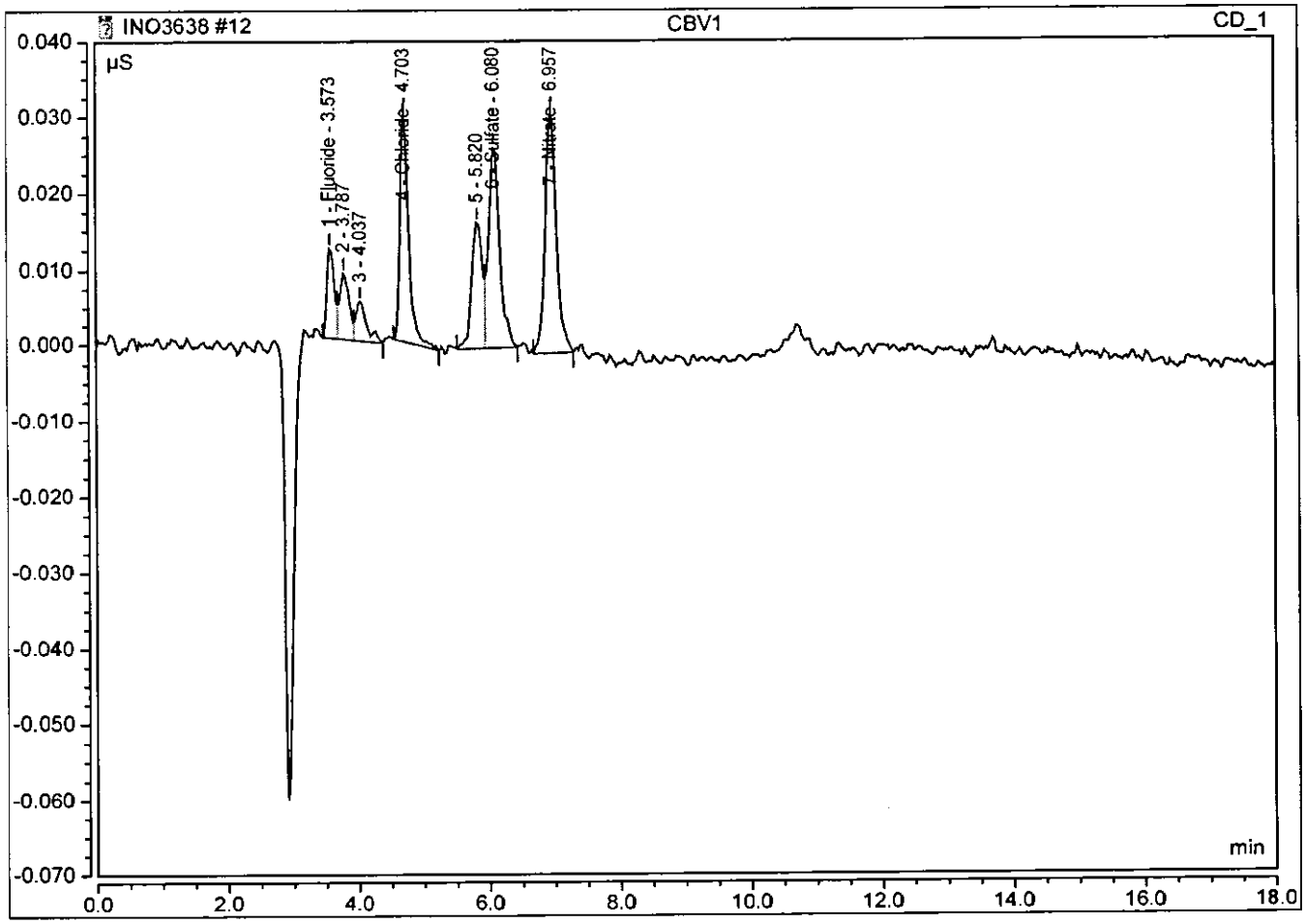
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.793	5.415	2.9982
2	4.70	Chloride	M	3.208	20.874	20.5174
3	5.45	Nitrite	M	1.142	6.590	3.0000
4	6.08	Sulfate	M	2.355	12.740	20.1924
5	6.94	Nitrate	M	1.631	8.159	4.0275
6	10.62	Phosphate	M	0.424	1.282	3.0297
TOTAL:				9.55	55.06	53.77



Peak Integration Report

Sample Name:	CBV1	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 16:47	*Run Time:*	18.00

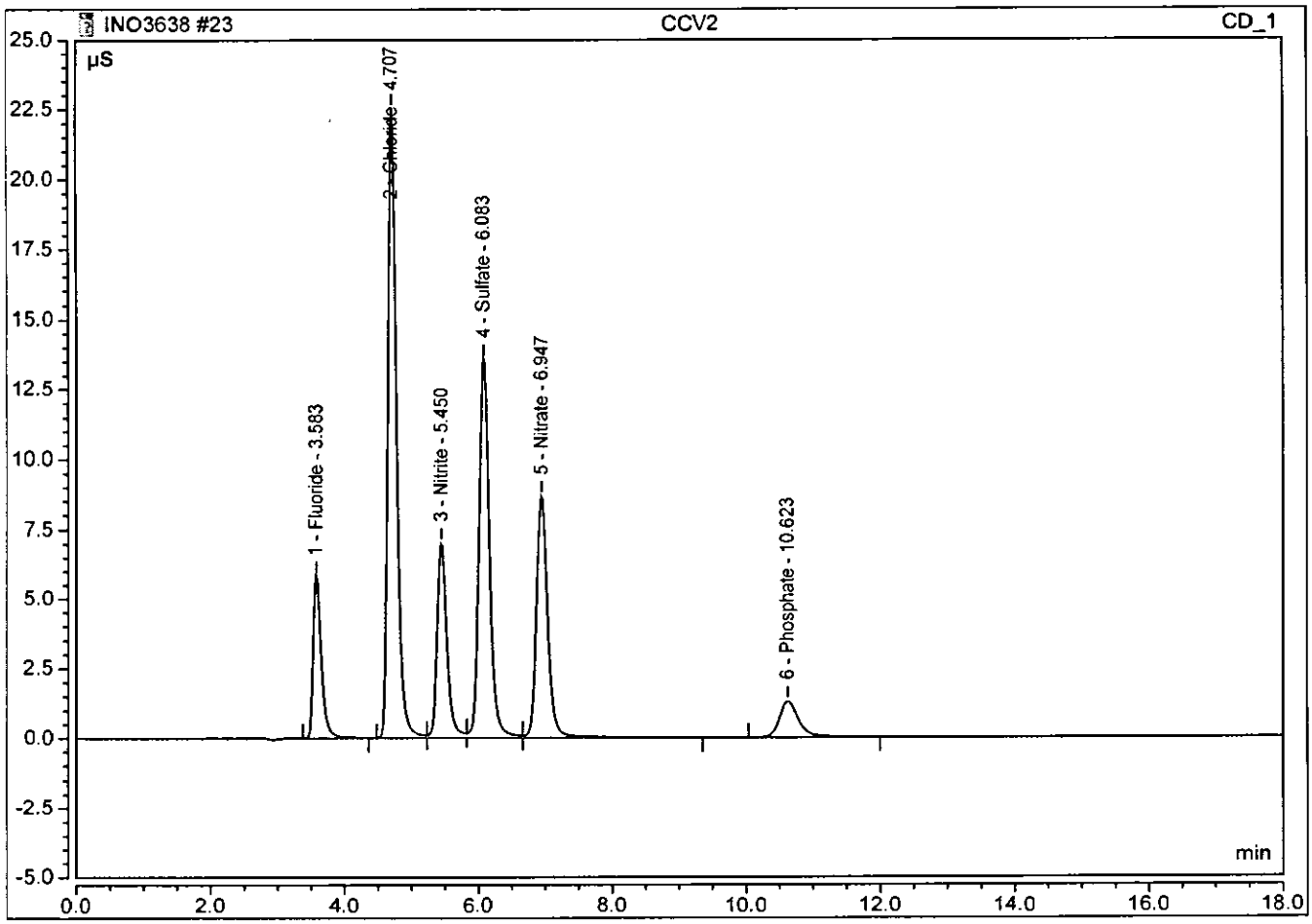
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.57	Fluoride	BM	0.002	0.012	0.0136
4	4.70	Chloride	BMB	0.005	0.030	0.0590
6	6.08	Sulfate	MB	0.005	0.027	0.0619
7	6.96	Nitrate	BMB	0.006	0.032	0.0199
TOTAL:				0.02	0.10	0.15



Peak Integration Report

Sample Name:	CCV2	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 20:28	*Run Time:*	18.00

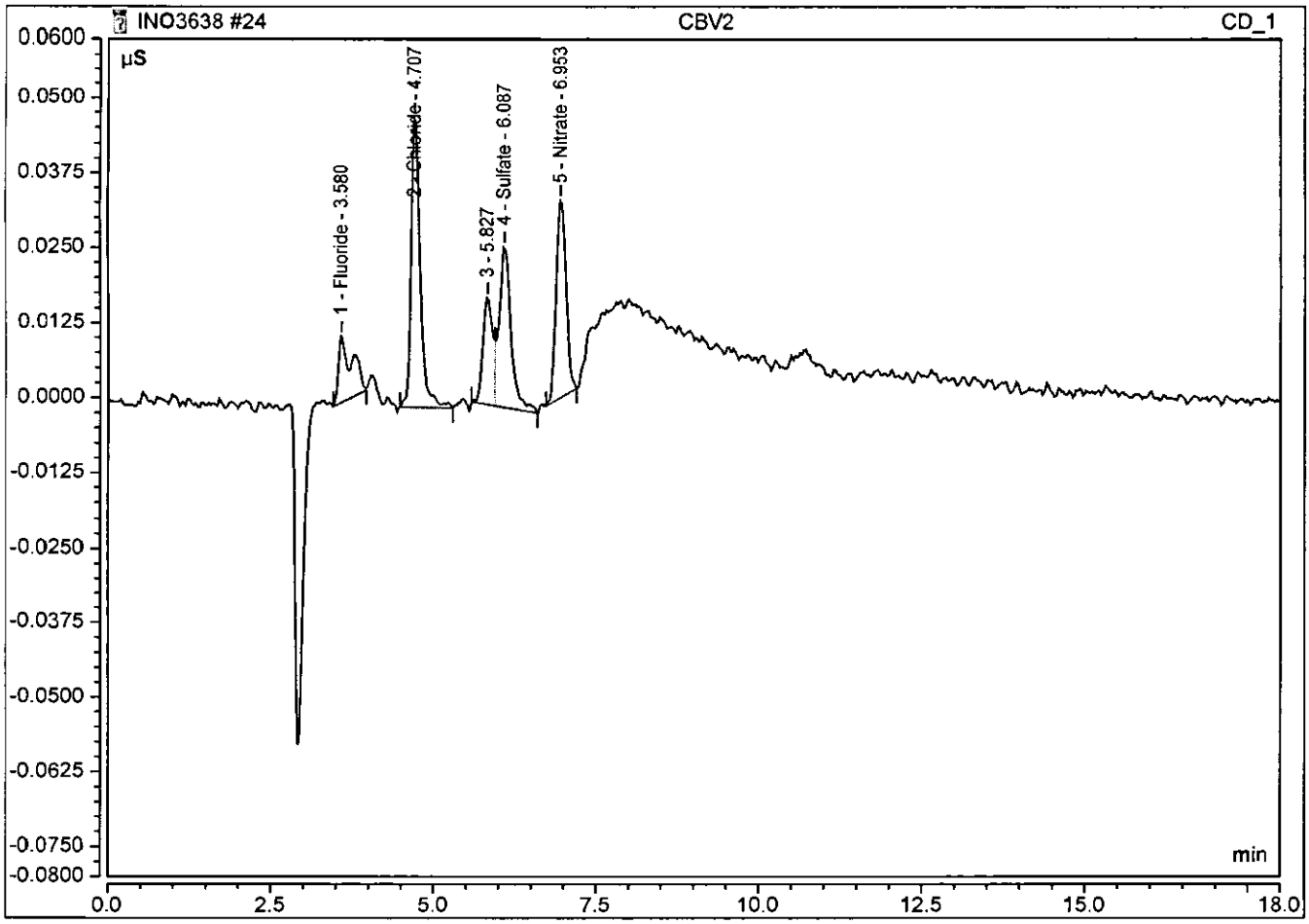
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	M	0.827	5.835	3.1278
2	4.71	Chloride	M	3.362	22.508	21.5007
3	5.45	Nitrite	M	1.194	7.041	3.1325
4	6.08	Sulfate	M	2.461	13.582	21.1041
5	6.95	Nitrate	M	1.705	8.685	4.2116
6	10.62	Phosphate	M	0.432	1.304	3.0860
TOTAL:				9.98	58.95	56.16



Peak Integration Report

Sample Name:	CBV2	*Inj. Vol.:*	10.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	300.0 RUN METHOD120814	*Operator:*	SGS North America In
Inj. Date / Time:	03-Feb-2015 / 20:48	*Run Time:*	18.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount ug/mL
1	3.58	Fluoride	BMB	0.003	0.011	0.0173
2	4.71	Chloride	BMB	0.008	0.048	0.0791
4	6.09	Sulfate	MB	0.006	0.027	0.0654
5	6.95	Nitrate	BMB	0.006	0.033	0.0186
		TOTAL:		0.02	0.12	0.18



SM 2320-B

Sample Data

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-01**

Client Sample ID: **BT-SW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182001-A
Lab Project ID: 31500182

Collection Date: 01/24/2015 13:30
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 2320-B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Bicarbonate Alkalinity	**761**		5.00	mg/L	1	01/30/2015 16:41
Carbonate Alkalinity	ND		5.00	mg/L	1	01/30/2015 16:41
Hydroxide Alkalinity	ND		5.00	mg/L	1	01/30/2015 16:41
Phenolphthalein Alkalinity	ND		5.00	mg/L	1	01/30/2015 16:41
Total Alkalinity	**761**		5.00	mg/L	1	01/30/2015 16:41

Batch Information

Analytical Batch: **INO3635**
Analytical Method: **SM 2320-B**
Instrument: **ATIT1**
Analyst: **PSW**

Prep Batch: **INO3635**
Prep Method: **SM 2320-B**
Prep Date/Time: **01/30/2015 16:41**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Method ID	2320	**Sample series ID**	--
Date / Time	01/30/2015 15:52:45	**User Name**	Administrator

All results

Sample 9/18	0182-1
R1 (Temperature)	19.600
R2 (Initial pH)	7.633
R3 (Total mL to pH 8.3)	0.000
R4 (Alkalinity @ 8.3)	0.000
R5 (mL of H_2SO_4 to 4.5)	15.531
R6 (Alkalinity @ 4.5)	767.231
R7 (mLs to 4.2)	15.714
R8 (Total Alkalinity)	758.191
R9 (Titrant)	0.0494

Sample data

Sample 9/18	
Number	9
ID 1	0182-1
Sample size	50 mL
Density	1.0 g/mL
Correction factor	1.0
Temperature	25.0 °C
Comment	
User Name	Administrator
Sample Start	01/30/2015 16:41:43

(1)	Modified	(6)	srel above max srel for multiple determination
(2)	Excluded	(7)	Value out of range, not saved in setup.
(3)	Outside limits	(8)	Sample data out of range.
(4)	Resource expired.	(9)	Standard evaluation used.
(5)	srel above max srel		

Results of **BT-SW-02**

Client Sample ID: **BT-SW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182002-A
Lab Project ID: 31500182

Collection Date: 01/24/2015 16:50
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 2320-B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Bicarbonate Alkalinity	**602**		5.00	mg/L	1	01/30/2015 17:16
Carbonate Alkalinity	ND		5.00	mg/L	1	01/30/2015 17:16
Hydroxide Alkalinity	ND		5.00	mg/L	1	01/30/2015 17:16
Phenolphthalein Alkalinity	ND		5.00	mg/L	1	01/30/2015 17:16
Total Alkalinity	**602**		5.00	mg/L	1	01/30/2015 17:16

Batch Information

Analytical Batch: **INO3635**
Analytical Method: **SM 2320-B**
Instrument: **ATIT1**
Analyst: **PSW**

Prep Batch: **INO3635**
Prep Method: **SM 2320-B**
Prep Date/Time: **01/30/2015 17:16**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Method ID	2320	**Sample series ID**	--
Date / Time	01/30/2015 15:52:45	**User Name**	Administrator

All results

Sample 10/18	0182-2
R1 (Temperature)	20.400
R2 (Initial pH)	7.653
R3 (Total mL to pH 8.3)	0.000
R4 (Alkalinity @ 8.3)	0.000
R5 (mL of H_2SO_4 to 4.5)	12.294
R6 (Alkalinity @ 4.5)	607.324
R7 (mLs to 4.2)	12.426
R8 (Total Alkalinity)	600.803
R9 (Titrant)	0.0494

Sample data

Sample 10/18	
Number	10
ID 1	0182-2
Sample size	50 mL
Density	1.0 g/mL
Correction factor	1.0
Temperature	25.0 °C
Comment	
User Name	Administrator
Sample Start	01/30/2015 17:16:41

(1) Modified
(2) Excluded
(3) Outside limits
(4) Resource expired.
(5) srel above max srel
(6) srel above max srel for multiple determination
(7) Value out of range, not saved in setup.
(8) Sample data out of range.
(9) Standard evaluation used.

Results of **BT-SW-03**

Client Sample ID: **BT-SW-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182003-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 2320-B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Bicarbonate Alkalinity	**697**		5.00	mg/L	1	01/30/2015 17:45
Carbonate Alkalinity	ND		5.00	mg/L	1	01/30/2015 17:45
Hydroxide Alkalinity	ND		5.00	mg/L	1	01/30/2015 17:45
Phenolphthalein Alkalinity	ND		5.00	mg/L	1	01/30/2015 17:45
Total Alkalinity	**697**		5.00	mg/L	1	01/30/2015 17:45

Batch Information

Analytical Batch: **INO3635**
Analytical Method: **SM 2320-B**
Instrument: **ATIT1**
Analyst: **PSW**

Prep Batch: **INO3635**
Prep Method: **SM 2320-B**
Prep Date/Time: **01/30/2015 17:45**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Method ID	2320	Sample series ID	--
Date / Time	01/30/2015 15:52:45	User Name	Administrator

All results

Sample 11/18	0182-3
R1 (Temperature)	21.000
R2 (Initial pH)	7.956
R3 (Total mL to pH 8.3)	0.000
R4 (Alkalinity @ 8.3)	0.000
R5 (mL of H_2SO_4 to 4.5)	14.225
R6 (Alkalinity @ 4.5)	702.715
R7 (mLs to 4.2)	14.398
R8 (Total Alkalinity)	694.169
R9 (Titrant)	0.0494

Sample data

Sample 11/18	
Number	11
ID 1	0182-3
Sample size	50 mL
Density	1.0 g/mL
Correction factor	1.0
Temperature	25.0 °C
Comment	
User Name	Administrator
Sample Start	01/30/2015 17:45:01

(1) Modified
(2) Excluded
(3) Outside limits
(4) Resource expired.
(5) srel above max srel
(6) srel above max srel for multiple determination
(7) Value out of range, not saved in setup.
(8) Sample data out of range.
(9) Standard evaluation used.

Results of **BT-SW-04**

Client Sample ID: **BT-SW-04**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182004-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:15
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 2320-B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Bicarbonate Alkalinity	**562**		5.00	mg/L	1	01/30/2015 18:17
Carbonate Alkalinity	ND		5.00	mg/L	1	01/30/2015 18:17
Hydroxide Alkalinity	ND		5.00	mg/L	1	01/30/2015 18:17
Phenolphthalein Alkalinity	ND		5.00	mg/L	1	01/30/2015 18:17
Total Alkalinity	**562**		5.00	mg/L	1	01/30/2015 18:17

Batch Information

Analytical Batch: **INO3635**
Analytical Method: **SM 2320-B**
Instrument: **ATIT1**
Analyst: **PSW**

Prep Batch: **INO3635**
Prep Method: **SM 2320-B**
Prep Date/Time: **01/30/2015 18:17**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Method ID	2320	**Sample series ID**	--
Date / Time	01/30/2015 15:52:45	**User Name**	Administrator

All results

Sample 12/18	0182-4
R1 (Temperature)	21.800
R2 (Initial pH)	7.884
R3 (Total mL to pH 8.3)	0.000
R4 (Alkalinity @ 8.3)	0.000
R5 (mL of H_2SO_4 to 4.5)	11.469
R6 (Alkalinity @ 4.5)	566.569
R7 (mLs to 4.2)	11.597
R8 (Total Alkalinity)	560.245
R9 (Titrant)	0.0494

Sample data

Sample 12/18	
Number	12
ID 1	0182-4
Sample size	50 mL
Density	1.0 g/mL
Correction factor	1.0
Temperature	25.0 °C
Comment	
User Name	Administrator
Sample Start	01/30/2015 18:17:18

(1) Modified
(2) Excluded
(3) Outside limits
(4) Resource expired.
(5) srel above max srel
(6) srel above max srel for multiple determination
(7) Value out of range, not saved in setup.
(8) Sample data out of range.
(9) Standard evaluation used.

Results of **BT-SW-05**

Client Sample ID: **BT-SW-05**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182005-A
Lab Project ID: 31500182

Collection Date: 01/26/2015 09:10
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 2320-B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Bicarbonate Alkalinity	**549**		5.00	mg/L	1	01/30/2015 18:43
Carbonate Alkalinity	ND		5.00	mg/L	1	01/30/2015 18:43
Hydroxide Alkalinity	ND		5.00	mg/L	1	01/30/2015 18:43
Phenolphthalein Alkalinity	ND		5.00	mg/L	1	01/30/2015 18:43
Total Alkalinity	**549**		5.00	mg/L	1	01/30/2015 18:43

Batch Information

Analytical Batch: **INO3635**
Analytical Method: **SM 2320-B**
Instrument: **ATIT1**
Analyst: **PSW**

Prep Batch: **INO3635**
Prep Method: **SM 2320-B**
Prep Date/Time: **01/30/2015 18:43**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Method ID	2320	**Sample series ID**	--
Date / Time	01/30/2015 15:52:45	**User Name**	Administrator

All results

Sample 13/18	0182-5
R1 (Temperature)	21.900
R2 (Initial pH)	7.960
R3 (Total mL to pH 8.3)	0.000
R4 (Alkalinity @ 8.3)	0.000
R5 (mL of H_2SO_4 to 4.5)	11.202
R6 (Alkalinity @ 4.5)	553.379
R7 (mLs to 4.2)	11.329
R8 (Total Alkalinity)	547.105
R9 (Titrant)	0.0494

Sample data

Sample 13/18	
Number	13
ID 1	0182-5
Sample size	50 mL
Density	1.0 g/mL
Correction factor	1.0
Temperature	25.0 °C
Comment	
User Name	Administrator
Sample Start	01/30/2015 18:43:56

(1) Modified
(2) Excluded
(3) Outside limits
(4) Resource expired.
(5) srel above max srel
(6) srel above max srel for multiple determination
(7) Value out of range, not saved in setup.
(8) Sample data out of range.
(9) Standard evaluation used.

Results of **BT-SW-06**

Client Sample ID: **BT-SW-06**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182006-A
Lab Project ID: 31500182

Collection Date: 01/26/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 2320-B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Bicarbonate Alkalinity	**327**		5.00	mg/L	1	01/30/2015 19:09
Carbonate Alkalinity	ND		5.00	mg/L	1	01/30/2015 19:09
Hydroxide Alkalinity	ND		5.00	mg/L	1	01/30/2015 19:09
Phenolphthalein Alkalinity	ND		5.00	mg/L	1	01/30/2015 19:09
Total Alkalinity	**327**		5.00	mg/L	1	01/30/2015 19:09

Batch Information

Analytical Batch: **INO3635**
Analytical Method: **SM 2320-B**
Instrument: **ATIT1**
Analyst: **PSW**

Prep Batch: **INO3635**
Prep Method: **SM 2320-B**
Prep Date/Time: **01/30/2015 19:09**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Method ID	2320	**Sample series ID**	--
Date / Time	01/30/2015 15:52:45	**User Name**	Administrator

All results

Sample 14/18	0182-6
R1 (Temperature)	21.200
R2 (Initial pH)	7.933
R3 (Total mL to pH 8.3)	0.000
R4 (Alkalinity @ 8.3)	0.000
R5 (mL of H_2SO_4 to 4.5)	6.679
R6 (Alkalinity @ 4.5)	329.943
R7 (mLs to 4.2)	6.776
R8 (Total Alkalinity)	325.151
R9 (Titrant)	0.0494

Sample data

Sample 14/18	
Number	14
ID 1	0182-6
Sample size	50 mL
Density	1.0 g/mL
Correction factor	1.0
Temperature	25.0 °C
Comment	
User Name	Administrator
Sample Start	01/30/2015 19:09:59

(1) Modified
(2) Excluded
(3) Outside limits
(4) Resource expired.
(5) srel above max srel
(6) srel above max srel for multiple determination
(7) Value out of range, not saved in setup.
(8) Sample data out of range.
(9) Standard evaluation used.

Results of **BT-SW-DUP**

Client Sample ID: **BT-SW-DUP**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182007-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 00:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 2320-B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Bicarbonate Alkalinity	**564**		5.00	mg/L	1	01/30/2015 19:26
Carbonate Alkalinity	ND		5.00	mg/L	1	01/30/2015 19:26
Hydroxide Alkalinity	ND		5.00	mg/L	1	01/30/2015 19:26
Phenolphthalein Alkalinity	ND		5.00	mg/L	1	01/30/2015 19:26
Total Alkalinity	**564**		5.00	mg/L	1	01/30/2015 19:26

Batch Information

Analytical Batch: **INO3635**
Analytical Method: **SM 2320-B**
Instrument: **ATIT1**
Analyst: **PSW**

Prep Batch: **INO3635**
Prep Method: **SM 2320-B**
Prep Date/Time: **01/30/2015 19:26**
Prep Initial Wt./Vol.: **50 mL**
Prep Extract Vol: **50 mL**

Method ID	2320	**Sample series ID**	--
Date / Time	01/30/2015 15:52:45	**User Name**	Administrator

All results

Sample 15/18	0182-7
R1 (Temperature)	21.700
R2 (Initial pH)	8.012
R3 (Total mL to pH 8.3)	0.000
R4 (Alkalinity @ 8.3)	0.000
R5 (mL of H_2SO_4 to 4.5)	11.516
R6 (Alkalinity @ 4.5)	568.890
R7 (mLs to 4.2)	11.647
R8 (Total Alkalinity)	562.419
R9 (Titrant)	0.0494

Sample data

Sample 15/18	
Number	15
ID 1	0182-7
Sample size	50 mL
Density	1.0 g/mL
Correction factor	1.0
Temperature	25.0 °C
Comment	
User Name	Administrator
Sample Start	01/30/2015 19:26:51

(1)	Modified	(6)	srel above max srel for multiple determination
(2)	Excluded	(7)	Value out of range, not saved in setup.
(3)	Outside limits	(8)	Sample data out of range.
(4)	Resource expired.	(9)	Standard evaluation used.
(5)	srel above max srel		

Results of **BT-PW-01**

Client Sample ID: **BT-PW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182011-A
Lab Project ID: 31500182

Collection Date: 01/24/2015 14:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 2320-B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Bicarbonate Alkalinity	**104**		25.0	mg/L	1	01/30/2015 19:53
Carbonate Alkalinity	ND		25.0	mg/L	1	01/30/2015 19:53
Hydroxide Alkalinity	ND		25.0	mg/L	1	01/30/2015 19:53
Phenolphthalein Alkalinity	ND		25.0	mg/L	1	01/30/2015 19:53
Total Alkalinity	**104**		25.0	mg/L	1	01/30/2015 19:53

Batch Information

Analytical Batch: **INO3635**
Analytical Method: **SM 2320-B**
Instrument: **ATIT1**
Analyst: **PSW**

Prep Batch: **INO3635**
Prep Method: **SM 2320-B**
Prep Date/Time: **01/30/2015 19:53**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **50 mL**

Method ID	2320	Sample series ID	--
Date / Time	01/30/2015 15:52:45	User Name	Administrator

All results

Sample 16/18	0182-11
R1 (Temperature)	21.600
R2 (Initial pH)	6.531
R3 (Total mL to pH 8.3)	0.000
R4 (Alkalinity @ 8.3)	0.000
R5 (mL of H_2SO_4 to 4.5)	0.423
R6 (Alkalinity @ 4.5)	104.481
R7 (mLs to 4.2)	0.487
R8 (Total Alkalinity)	88.673
R9 (Titrant)	0.0494

Sample data

Sample 16/18	
Number	16
ID 1	0182-11
Sample size	10 mL
Density	1.0 g/mL
Correction factor	1.0
Temperature	25.0 °C
Comment	
User Name	Administrator
Sample Start	01/30/2015 19:53:35

(1) Modified
(2) Excluded
(3) Outside limits
(4) Resource expired.
(5) srel above max srel
(6) srel above max srel for multiple determination
(7) Value out of range, not saved in setup.
(8) Sample data out of range.
(9) Standard evaluation used.

Results of **BT-PW-02**

Client Sample ID: **BT-PW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182012-A
Lab Project ID: 31500182

Collection Date: 01/25/2015 10:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 2320-B**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Bicarbonate Alkalinity	**87.7**		25.0	mg/L	1	01/30/2015 19:57
Carbonate Alkalinity	ND		25.0	mg/L	1	01/30/2015 19:57
Hydroxide Alkalinity	ND		25.0	mg/L	1	01/30/2015 19:57
Phenolphthalein Alkalinity	ND		25.0	mg/L	1	01/30/2015 19:57
Total Alkalinity	**87.7**		25.0	mg/L	1	01/30/2015 19:57

Batch Information

Analytical Batch: **INO3635**
Analytical Method: **SM 2320-B**
Instrument: **ATIT1**
Analyst: **PSW**

Prep Batch: **INO3635**
Prep Method: **SM 2320-B**
Prep Date/Time: **01/30/2015 19:57**
Prep Initial Wt./Vol.: **10 mL**
Prep Extract Vol: **50 mL**

Method ID	2320	Sample series ID	--
Date / Time	01/30/2015 15:52:45	User Name	Administrator

All results

Sample 17/18	0182-12
R1 (Temperature)	20.900
R2 (Initial pH)	6.492
R3 (Total mL to pH 8.3)	0.000
R4 (Alkalinity @ 8.3)	0.000
R5 (mL of H_2SO_4 to 4.5)	0.358
R6 (Alkalinity @ 4.5)	88.426
R7 (mLs to 4.2)	0.425
R8 (Total Alkalinity)	71.877
R9 (Titrant)	0.0494

Sample data

Sample 17/18

Number	17
ID 1	0182-12
Sample size	10 mL
Density	1.0 g/mL
Correction factor	1.0
Temperature	25.0 °C
Comment	
User Name	Administrator
Sample Start	01/30/2015 19:57:45

(1)	Modified	(6)	srel above max srel for multiple determination
(2)	Excluded	(7)	Value out of range, not saved in setup.
(3)	Outside limits	(8)	Sample data out of range.
(4)	Resource expired.	(9)	Standard evaluation used.
(5)	srel above max srel		

SM 2320-B
QC, Blanks Data

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: SM 2320-B

Prep Method: SM 2320-B
Prep Batch: INO3635
Prep Date: 01/30/2015 15:52

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 63867 [INO/3635]	158223	01/30/2015 15:52	INO3635	ATIT1	PSW
LCS for HBN 63867 [INO/3635]	158224	01/30/2015 15:55	INO3635	ATIT1	PSW
BT-SW-01	31500182001	01/30/2015 16:41	INO3635	ATIT1	PSW
BT-SW-02	31500182002	01/30/2015 17:16	INO3635	ATIT1	PSW
BT-SW-03	31500182003	01/30/2015 17:45	INO3635	ATIT1	PSW
BT-SW-04	31500182004	01/30/2015 18:17	INO3635	ATIT1	PSW
BT-SW-05	31500182005	01/30/2015 18:43	INO3635	ATIT1	PSW
BT-SW-06	31500182006	01/30/2015 19:09	INO3635	ATIT1	PSW
BT-SW-DUP	31500182007	01/30/2015 19:26	INO3635	ATIT1	PSW
BT-PW-01	31500182011	01/30/2015 19:53	INO3635	ATIT1	PSW
BT-PW-02	31500182012	01/30/2015 19:57	INO3635	ATIT1	PSW
BT-PW-02(157969DUP)	158225	01/30/2015 20:01	INO3635	ATIT1	PSW

Method Blank Summary **Form 4**

Blank ID: MB for HBN 63867 [INO/3635]
Blank Lab ID: 158223
Prep Batch: INO3635

Matrix: Water
Analysis Date/Time: 01/30/2015 15:52

Results by **SM 2320-B**

Client Sample ID	Lab Sample ID	Filename	Date Analyzed	Analyst
LCS for HBN 63867 [INO/3635]	158224		01/30/2015 15:55	PSW
BT-SW-01	31500182001		01/30/2015 16:41	PSW
BT-SW-02	31500182002		01/30/2015 17:16	PSW
BT-SW-03	31500182003		01/30/2015 17:45	PSW
BT-SW-04	31500182004		01/30/2015 18:17	PSW
BT-SW-05	31500182005		01/30/2015 18:43	PSW
BT-SW-06	31500182006		01/30/2015 19:09	PSW
BT-SW-DUP	31500182007		01/30/2015 19:26	PSW
BT-PW-01	31500182011		01/30/2015 19:53	PSW
BT-PW-02	31500182012		01/30/2015 19:57	PSW
BT-PW-02(157969DUP)	158225		01/30/2015 20:01	PSW

Method Blank

Blank ID: MB for HBN 63867 [INO/3635]
Matrix: Water
Blank Lab ID: 158223
QC for Samples:
31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SM 2320-B**

Parameter	Result	Qual	LOQ/CL	Units	DF
Phenolphthalein Alkalinity	ND		5.00	mg/L	1
Total Alkalinity	ND		5.00	mg/L	1
Hydroxide Alkalinity	ND		5.00	mg/L	1
Carbonate Alkalinity	ND		5.00	mg/L	1
Bicarbonate Alkalinity	ND		5.00	mg/L	1

Batch Information

Analytical Batch: INO3635
Analytical Method: SM 2320-B
Instrument: ATIT1
Analyst: PSW

Prep Batch: INO3635
Prep Method: SM 2320-B
Prep Date/Time: 1/30/2015 3:52:00PM
Prep Initial Wt./Vol.: 50 mL
Prep Extract Vol: 50 mL

Method ID	2320	Sample series ID	--
Date / Time	01/30/2015 15:52:45	User Name	Administrator

All results

Sample 1/18	158223 MB
R1 (Temperature)	22.400
R2 (Initial pH)	4.993
R3 (Total mL to pH 8.3)	0.000
R4 (Alkalinity @ 8.3)	0.000
R5 (mL of H_2SO_4 to 4.5)	0.029
R6 (Alkalinity @ 4.5)	1.433
R7 (mLs to 4.2)	0.060
R8 (Total Alkalinity)	-0.099
R9 (Titrant)	0.0494

Sample data

Sample 1/18

Number	1
ID 1	158223 MB
Sample size	50 mL
Density	1.0 g/mL
Correction factor	1.0
Temperature	25.0 °C
Comment	
Startp. (Rondo/1A)	1
User Name	Administrator
Sample Start	01/30/2015 15:52:45

(1)	Modified	(6)	srel above max srel for multiple determination
(2)	Excluded	(7)	Value out of range, not saved in setup.
(3)	Outside limits	(8)	Sample data out of range.
(4)	Resource expired.	(9)	Standard evaluation used.
(5)	srel above max srel		

Blank Spike Summary

Blank Spike ID: LCS for HBN 63867 [INO/3635]
Blank Spike Lab ID: 158224
Date Analyzed: 01/30/2015 15:55

Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SM 2320-B**

	Blank Spike (mg/L)			
Parameter	Spike	Result	Rec (%)	CL
Total Alkalinity	500	503	99.4	75-125

Batch Information

Analytical Batch: **INO3635**
Analytical Method: SM 2320-B
Instrument: ATIT1
Analyst: PSW

Prep Batch: INO3635
Prep Method: SM 2320-B
Prep Date/Time: 01/30/2015 3:55:00PM
Prep Init Wt./Vol.: 5**0 mL**
Prep Extract Vol: 50 mL

Method ID	2320	**Sample series ID**	--
Date / Time	01/30/2015 15:52:45	**User Name**	Administrator

All results

Sample 2/18	158224 LCS
R1 (Temperature)	22.400
R2 (Initial pH)	10.762
R3 (Total mL to pH 8.3)	5.131
R4 (Alkalinity @ 8.3)	253.471
R5 (mL of H_2SO_4 to 4.5)	10.262
R6 (Alkalinity @ 4.5)	506.943
R7 (mLs to 4.2)	10.351
R8 (Total Alkalinity)	502.546
R9 (Titrant)	0.0494

Sample data

Sample 2/18	
Number	2
ID 1	158224 LCS
Sample size	50 mL
Density	1.0 g/mL
Correction factor	1.0
Temperature	25.0 °C
Comment	
User Name	Administrator
Sample Start	01/30/2015 15:55:34

(1)	Modified	(6)	srel above max srel for multiple determination
(2)	Excluded	(7)	Value out of range, not saved in setup.
(3)	Outside limits	(8)	Sample data out of range.
(4)	Resource expired.	(9)	Standard evaluation used.
(5)	srel above max srel		

Duplicate Sample Summary

Original Sample ID: 31500182012-A
Duplicate Sample ID: 158225

Analysis Date: 01/30/2015 19:57
Analysis Date: 01/30/2015 20:01
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SM 2320-B**

PARAMETER	Original (mg/L)	Qual	Duplicate (mg/L)	Qual	RPD (%)	RPD CL
Bicarbonate Alkalinity	87.7		88.4		0.80	20.0
Carbonate Alkalinity	ND		ND			
Hydroxide Alkalinity	ND		ND			
Phenolphthalein Alkalinity	ND		ND			
Total Alkalinity	87.7		88.4		0.80	20.0

Batch Information

Analytical Batch: INO3635
Analytical Method: SM 2320-B
Instrument: ATIT1
Analyst: PSW

Print Date: 02/06/2015

N.C. Certification # 481

Method ID	2320	**Sample series ID**	--
Date / Time	01/30/2015 15:52:45	**User Name**	Administrator

All results

Sample 18/18	158225 DUP
R1 (Temperature)	20.800
R2 (Initial pH)	6.517
R3 (Total mL to pH 8.3)	0.000
R4 (Alkalinity @ 8.3)	0.000
R5 (mL of H_2SO_4 to 4.5)	0.361
R6 (Alkalinity @ 4.5)	89.167
R7 (mLs to 4.2)	0.429
R8 (Total Alkalinity)	72.371
R9 (Titrant)	0.0494

Sample data

Sample 18/18	
Number	18
ID 1	158225 DUP
Sample size	10 mL
Density	1.0 g/mL
Correction factor	1.0
Temperature	25.0 °C
Comment	
User Name	Administrator
Sample Start	01/30/2015 20:01:50

(1)	Modified	(6)	srel above max srel for multiple determination
(2)	Excluded	(7)	Value out of range, not saved in setup.
(3)	Outside limits	(8)	Sample data out of range.
(4)	Resource expired.	(9)	Standard evaluation used.
(5)	srel above max srel		

SM 2320-B
Initial Calibration Data

Print Date: 02/06/2015

N.C. Certification # 481

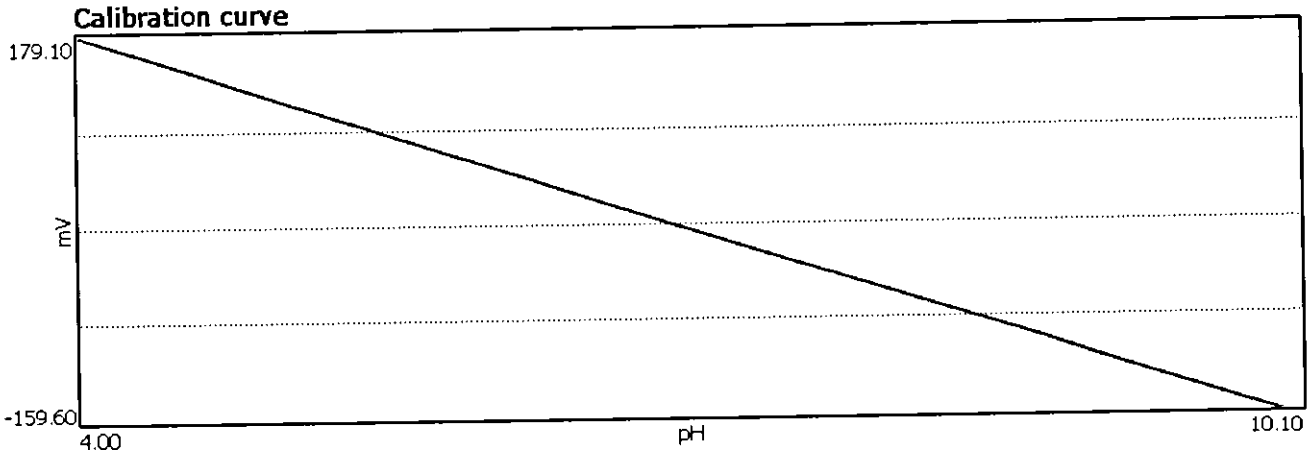
Method ID	100	Sample series ID	--
Date / Time	01/30/2015 14:57:47	User Name	Administrator

Raw results

008 Calibration

Calib. temperature	21.5 °C
Number of segments	1
Slope (TCalib)	-56.40 mV/pH
Zero point	7.161 pH

Calibration curve



(1) Modified
(2) Excluded
(3) Outside limits
(4) Resource expired.
(5) srel above max srel
(6) srel above max srel for multiple determination
(7) Value out of range, not saved in setup.
(8) Sample data out of range.
(9) Standard evaluation used.

Method ID	400	**Sample series ID**	--
Date / Time	01/30/2015 15:27:25	**User Name**	Administrator

All results

R2 (Mean Titer)	0.049 --

(1)	Modified	(6)	srel above max srel for multiple determination
(2)	Excluded	(7)	Value out of range, not saved in setup.
(3)	Outside limits	(8)	Sample data out of range.
(4)	Resource expired.	(9)	Standard evaluation used.
(5)	srel above max srel		

SM 2320-B
Prep, Standard, Run Logs

Print Date: 02/06/2015

N.C. Certification # 481

SGS

5500 Business Drive
Wilmington, NC 28405

Alkalinity as CaCO3

SM 2320 B

Record ID: 151 | INO Batch: 3635 | Titrator: ATIT1 | Standard ID: R-4883

Analyst: PSW | Acid Normality: 0.049 | Analysis Date: 1/30/2015

Type	Sample ID	Time	Vol	pH	Titer 8.3	Titer 4.5	Titer 4.2	Phenol p	Hydrox	Carb	Bicarb	Total
MB	158223	15:52	50	4.993	0.000	0.029	0.060	0.00	0.10	0.00	-0.10	-0.10
LCS	158224	15:55	50	10.762	5.131	10.262	10.351	251.42	0.00	502.84	0.00	502.84
SAMPLE	31500171001	16:14	10	6.431	0.000	0.673	0.772	0.00	0.00	0.00	164.89	164.89
SAMPLE	31500171002	16:19	10	6.517	0.000	0.541	0.640	0.00	0.00	0.00	132.55	132.55
SAMPLE	31500171003	16:23	10	6.437	0.000	0.566	0.663	0.00	0.00	0.00	138.67	138.67
SAMPLE	31500171004	16:28	10	6.424	0.000	0.581	0.688	0.00	0.00	0.00	142.35	142.35
SAMPLE	31500171005	16:32	10	6.512	0.000	0.503	0.607	0.00	0.00	0.00	123.24	123.24
SAMPLE	31500171006	16:37	10	6.431	0.000	0.539	0.639	0.00	0.00	0.00	132.06	132.06
SAMPLE	31500182001	16:41	50	7.633	0.000	15.531	15.714	0.00	0.00	0.00	761.02	761.02
SAMPLE	31500182002	17:16	50	7.653	0.000	12.294	12.426	0.00	0.00	0.00	602.41	602.41
SAMPLE	31500182003	17:45	50	7.956	0.000	14.225	14.398	0.00	0.00	0.00	697.03	697.03
SAMPLE	31500182004	18:17	50	7.884	0.000	11.469	11.597	0.00	0.00	0.00	561.98	561.98
SAMPLE	31500182005	18:43	50	7.960	0.000	11.202	11.329	0.00	0.00	0.00	548.90	548.90
SAMPLE	31500182006	19:09	50	7.933	0.000	6.679	6.776	0.00	0.00	0.00	327.27	327.27
SAMPLE	31500182007	19:26	50	8.012	0.000	11.516	11.647	0.00	0.00	0.00	564.28	564.28
SAMPLE	31500182011	19:53	10	6.531	0.000	0.423	0.487	0.00	0.00	0.00	103.64	103.64
SAMPLE	31500182012	19:57	10	6.492	0.000	0.358	0.425	0.00	0.00	0.00	87.71	87.71
DUP	158225	20:01	10	6.517	0.000	0.361	0.429	0.00	0.00	0.00	88.45	88.45

Reviewed By
2-2-15

2-2-15

Analyst Signature | ***Date***

Analyst signature indicates that the data printed is a true representation of volumes and concentrations encountered in the analytical process.

The calculation of Alkalinity is: $\frac{N * V * 50{,}000}{S}$

Total Alkalinities < 20mg/L are calculated as: $\frac{(2 * B - C) * N * 50{,}000}{S}$

Where:
N = Normality of acid
V = Volume of titrant to pH end point
S = Sample Volume (mL)
B = mL titer to pH 4.5
C = mL titer to pH 4.2

Phenolpthalein is calculated at pH end point 8.3. Total is calculated at pH end point 4.5. Other relationships are as follows:

	Hydroxide	Carbonate	Bicarbonate
P=0	0	0	T
P<0.5*T	0	2P	T-2P
P=0.5*T	0	2P	0
P>0.5*T	2P-T	2(T-P)	0
P=T	T	0	0

P = Phenolpthatein
T = Total

Printed: 2/2/2015 9:28:28 AM

SM 4500-NH3-F

Sample Data

Print Date: 02/06/2015

N.C. Certification # 481

Results of **BT-SW-01**

Client Sample ID: **BT-SW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182001-G
Lab Project ID: 31500182

Collection Date: 01/24/2015 13:30
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 4500-NH3-F**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Ammonia as N	**4.01**		0.100	mg/L	1	02/4/2015 9:04

Batch Information

Analytical Batch: **INO3644**
Analytical Method: **SM 4500-NH3-F**
Instrument: **DA1**
Analyst: **PSW**

Prep Batch: **IXX1328**
Prep Method: **Lachat 10-204-00-1-X**
Prep Date/Time: **02/04/2015 11:06**
Prep Initial Wt./Vol.: **6 mL**
Prep Extract Vol: **6 mL**

Results of **BT-SW-02**

Client Sample ID: **BT-SW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182002-G
Lab Project ID: 31500182

Collection Date: 01/24/2015 16:50
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 4500-NH3-F**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Ammonia as N	**0.628**		0.100	mg/L	1	02/4/2015 9:05

Batch Information

Analytical Batch: **INO3644**
Analytical Method: **SM 4500-NH3-F**
Instrument: **DA1**
Analyst: **PSW**

Prep Batch: **IXX1328**
Prep Method: **Lachat 10-204-00-1-X**
Prep Date/Time: **02/04/2015 11:06**
Prep Initial Wt./Vol.: **6 mL**
Prep Extract Vol: **6 mL**

Results of **BT-SW-03**

Client Sample ID: **BT-SW-03**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182003-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 4500-NH3-F**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Ammonia as N	**0.405**		0.100	mg/L	1	02/4/2015 9:05

Batch Information

Analytical Batch: **INO3644**
Analytical Method: **SM 4500-NH3-F**
Instrument: **DA1**
Analyst: **PSW**

Prep Batch: **IXX1328**
Prep Method: **Lachat 10-204-00-1-X**
Prep Date/Time: **02/04/2015 11:06**
Prep Initial Wt./Vol.: **6 mL**
Prep Extract Vol: **6 mL**

Results of **BT-SW-04**

Client Sample ID: **BT-SW-04**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182004-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 17:15
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 4500-NH3-F**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Ammonia as N	**1.04**		0.100	mg/L	1	02/4/2015 9:06

Batch Information

Analytical Batch: **INO3644**
Analytical Method: **SM 4500-NH3-F**
Instrument: **DA1**
Analyst: **PSW**

Prep Batch: **IXX1328**
Prep Method: **Lachat 10-204-00-1-X**
Prep Date/Time: **02/04/2015 11:06**
Prep Initial Wt./Vol.: **6 mL**
Prep Extract Vol: **6 mL**

Results of **BT-SW-05**

Client Sample ID: **BT-SW-05**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182005-G
Lab Project ID: 31500182

Collection Date: 01/26/2015 09:10
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 4500-NH3-F**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Ammonia as N	**0.597**		0.100	mg/L	1	02/4/2015 9:06

Batch Information

Analytical Batch: **INO3644**
Analytical Method: **SM 4500-NH3-F**
Instrument: **DA1**
Analyst: **PSW**

Prep Batch: **IXX1328**
Prep Method: **Lachat 10-204-00-1-X**
Prep Date/Time: **02/04/2015 11:06**
Prep Initial Wt./Vol.: **6 mL**
Prep Extract Vol: **6 mL**

Results of **BT-SW-06**

Client Sample ID: **BT-SW-06**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182006-G
Lab Project ID: 31500182

Collection Date: 01/26/2015 11:45
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 4500-NH3-F**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Ammonia as N	**3.18**		0.100	mg/L	1	02/4/2015 9:06

Batch Information

Analytical Batch: **INO3644**
Analytical Method: **SM 4500-NH3-F**
Instrument: **DA1**
Analyst: **PSW**

Prep Batch: **IXX1328**
Prep Method: **Lachat 10-204-00-1-X**
Prep Date/Time: **02/04/2015 11:06**
Prep Initial Wt./Vol.: **6 mL**
Prep Extract Vol: **6 mL**

Results of **BT-SW-DUP**

Client Sample ID: **BT-SW-DUP**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182007-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 00:00
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 4500-NH3-F**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Ammonia as N	**1.04**		0.100	mg/L	1	02/4/2015 9:07

Batch Information

Analytical Batch: **INO3644**
Analytical Method: **SM 4500-NH3-F**
Instrument: **DA1**
Analyst: **PSW**

Prep Batch: **IXX1328**
Prep Method: **Lachat 10-204-00-1-X**
Prep Date/Time: **02/04/2015 11:06**
Prep Initial Wt./Vol.: **6 mL**
Prep Extract Vol: **6 mL**

Results of **BT-PW-01**

Client Sample ID: **BT-PW-01**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182011-G
Lab Project ID: 31500182

Collection Date: 01/24/2015 14:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 4500-NH3-F**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Ammonia as N	**96.2**		10.0	mg/L	100	02/4/2015 9:07

Batch Information

Analytical Batch: **INO3644**
Analytical Method: **SM 4500-NH3-F**
Instrument: **DA1**
Analyst: **PSW**

Prep Batch: **IXX1328**
Prep Method: **Lachat 10-204-00-1-X**
Prep Date/Time: **02/04/2015 11:06**
Prep Initial Wt./Vol.: **6 mL**
Prep Extract Vol: **6 mL**

Results of **BT-PW-02**

Client Sample ID: **BT-PW-02**
Client Project ID: **Blacktail Creek**
Lab Sample ID: 31500182012-G
Lab Project ID: 31500182

Collection Date: 01/25/2015 10:20
Received Date: 01/29/2015 10:15
Matrix: Water

Results by **SM 4500-NH3-F**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Ammonia as N	**99.7**		10.0	mg/L	100	02/4/2015 9:08

Batch Information

Analytical Batch: **INO3644**
Analytical Method: **SM 4500-NH3-F**
Instrument: **DA1**
Analyst: **PSW**

Prep Batch: **IXX1328**
Prep Method: **Lachat 10-204-00-1-X**
Prep Date/Time: **02/04/2015 11:06**
Prep Initial Wt./Vol.: **6 mL**
Prep Extract Vol: **6 mL**

SM 4500-NH3-F
QC, Blanks Data

Print Date: 02/06/2015

N.C. Certification # 481

Batch Summary

Analytical Method: SM 4500-NH3-F

Prep Method: Lachat 10-204-00-1-X
Prep Batch: IXX1328
Prep Date: 02/04/2015 10:42

Client Sample ID	Lab Sample ID	Analysis Date	Analytical Batch	Instrument	Analyst
MB for HBN 64864 [IXX/1328]	158622	02/04/2015 09:03	INO3644	DA1	PSW
LCS for HBN 64864 [IXX/1328]	158623	02/04/2015 09:03	INO3644	DA1	PSW
LCSD for HBN 64864 [IXX/1328]	158624	02/04/2015 09:03	INO3644	DA1	PSW
AM-OU3B-SW2-096(157703MS)	158625	02/04/2015 09:04	INO3644	DA1	PSW
AM-OU3B-SW2-096(157703MSD)	158626	02/04/2015 09:04	INO3644	DA1	PSW
BT-SW-01	31500182001	02/04/2015 09:04	INO3644	DA1	PSW
BT-SW-02	31500182002	02/04/2015 09:05	INO3644	DA1	PSW
BT-SW-03	31500182003	02/04/2015 09:05	INO3644	DA1	PSW
BT-SW-04	31500182004	02/04/2015 09:06	INO3644	DA1	PSW
BT-SW-05	31500182005	02/04/2015 09:06	INO3644	DA1	PSW
BT-SW-06	31500182006	02/04/2015 09:06	INO3644	DA1	PSW
BT-SW-DUP	31500182007	02/04/2015 09:07	INO3644	DA1	PSW
BT-SW-DUP(157964DUP)	158627	02/04/2015 09:07	INO3644	DA1	PSW
BT-PW-01	31500182011	02/04/2015 09:07	INO3644	DA1	PSW
BT-PW-02	31500182012	02/04/2015 09:08	INO3644	DA1	PSW

Method Blank Summary **Form 4**

Blank ID: MB for HBN 64864 [IXX/1328]
Blank Lab ID: 158622
Prep Batch: IXX1328

Matrix: Water
Analysis Date/Time: 02/4/2015 09:03

Results by **SM 4500-NH3-F**

Client Sample ID	Lab Sample ID	Filename	Date Analyzed	Analyst
LCS for HBN 64864 [IXX/1328]	158623		02/4/2015 09:03	PSW
LCSD for HBN 64864 [IXX/1328]	158624		02/4/2015 09:03	PSW
AM-OU3B-SW2-096(157703MS)	158625		02/4/2015 09:04	PSW
AM-OU3B-SW2-096(157703MSD)	158626		02/4/2015 09:04	PSW
BT-SW-01	31500182001		02/4/2015 09:04	PSW
BT-SW-02	31500182002		02/4/2015 09:05	PSW
BT-SW-03	31500182003		02/4/2015 09:05	PSW
BT-SW-04	31500182004		02/4/2015 09:06	PSW
BT-SW-05	31500182005		02/4/2015 09:06	PSW
BT-SW-06	31500182006		02/4/2015 09:06	PSW
BT-SW-DUP	31500182007		02/4/2015 09:07	PSW
BT-SW-DUP(157964DUP)	158627		02/4/2015 09:07	PSW
BT-PW-01	31500182011		02/4/2015 09:07	PSW
BT-PW-02	31500182012		02/4/2015 09:08	PSW

Method Blank

Blank ID: MB for HBN 64864 [IXX/1328]
Matrix: Water
Blank Lab ID: 158622
QC for Samples:
31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SM 4500-NH3-F**

Parameter	Result	Qual	LOQ/CL	Units	DF
Ammonia as N	ND		0.100	mg/L	1

Batch Information

Analytical Batch: INO3644
Analytical Method: SM 4500-NH3-F
Instrument: DA1
Analyst: PSW

Prep Batch: IXX1328
Prep Method: Lachat 10-204-00-1-X
Prep Date/Time: 2/4/2015 10:42:03AM
Prep Initial Wt./Vol.: 6 mL
Prep Extract Vol: 6 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 64864 [IXX/1328]
Blank Spike Lab ID: 158623
Date Analyzed: 02/04/2015 09:03

Spike Duplicate ID: LCSD for HBN 64864 [IXX/1328]
Spike Duplicate Lab ID: 158624
Date Analyzed: 02/04/2015 09:03
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SM 4500-NH3-F**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Ammonia as N	2.50	2.51	100	2.50	2.47	98.7	75.0-125	1.6	25.00

Batch Information

Analytical Batch: **INO3644**
Analytical Method: **SM 4500-NH3-F**
Instrument: **DA1**
Analyst: **PSW**

Prep Batch: **IXX1328**
Prep Method: **Lachat 10-204-00-1-X**
Prep Date/Time: **02/04/2015 10:42**
Spike Init Wt./Vol.: **6 mL** Extract Vol: **6 mL**
Dupe Init Wt./Vol.: **6 mL** Extract Vol: **6 mL**

Duplicate Sample Summary

Original Sample ID: 31500182007-G
Duplicate Sample ID: 158627

Analysis Date: 02/04/2015 09:07
Analysis Date: 02/04/2015 09:07
Matrix: Water

QC for Samples: 31500182001, 31500182002, 31500182003, 31500182004, 31500182005, 31500182006, 31500182007, 31500182011, 31500182012

Results by **SM 4500-NH3-F**

PARAMETER	Original (mg/L)	Qual	Duplicate (mg/L)	Qual	RPD (%)	RPD CL
Ammonia as N	1.04		0.862		19	20

Batch Information

Analytical Batch: INO3644
Analytical Method: SM 4500-NH3-F
Instrument: DA1
Analyst: PSW

Prep Batch: IXX1328
Prep Method: Lachat 10-204-00-1-X
Prep Date/Time: 02/04/2015 11:06

SM 4500-NH3-F
Initial Calibration Data

Print Date: 02/06/2015

N.C. Certification # 481

SGS North America Inc.
AquaKem#1

11/17/2014 13:26

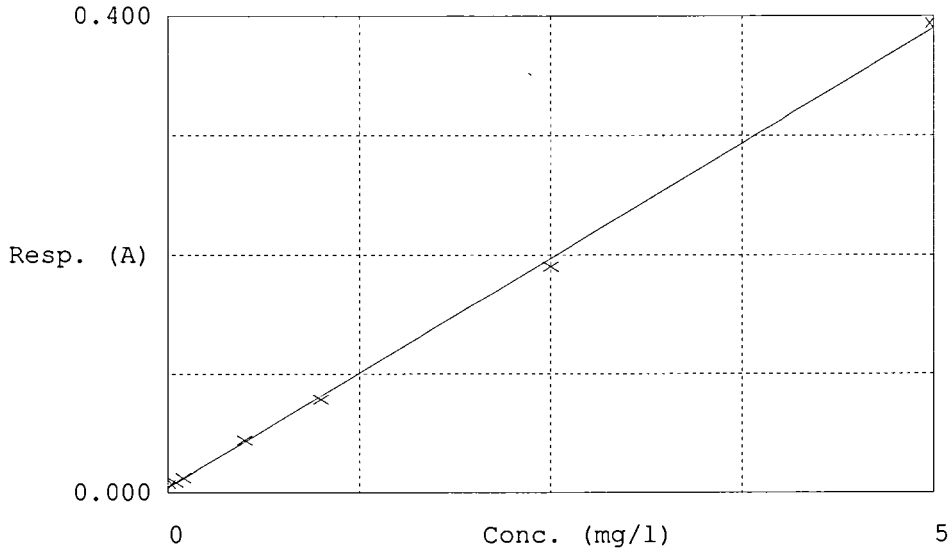
Test NH3-New

Accepted - -

Factor 12.95
Bias 0.004

Coeff. of det. 0.999335

Errors QC rule violated



	Calibrator	Response	Calc. con.	Conc.	Errors
1	0.0 blank	0.007	0.03834	0.00000	
2	NH3 5.0	0.009	0.06041	0.05000	
3	NH3 5.0	0.012	0.10797	0.10000	
4	NH3 5.0	0.044	0.51960	0.50000	
5	NH3 5.0	0.078	0.96257	1.00000	
6	NH3 5.0	0.190	2.41168	2.50000	
7	NH3 5.0	0.394	5.04942	5.00000	
8	1 A- ICV(contro	0.209	2.65550	2.50000	Dil. limit high
9	2 A- CCV(contro	0.209	2.65079	2.50000	Dil. limit high
10	3 A- CBV(contro	0.009	0.05639	0.00000	Rule 1 violated
11	3 A- CBV(contro	0.008	0.05599	0.00000	Rule 1 violated

SM 4500-NH3-F
Prep, Standard, Run Logs

Print Date: 02/06/2015

N.C. Certification # 481

Batch Review Report

Queue IXX Batch 1328 Rule SM4500-NHP

SGS

Run Sequence

	Lab Sample ID	Cust Sample ID	Collect Date	Date Analyzed
1	158622	MB for HBN 64864 [IXX/1328]		02/04/2015 10:42
2	158623	LCS for HBN 64864 [IXX/1328]		02/04/2015 10:42
3	158624	LCSD for HBN 64864 [IXX/1328]		02/04/2015 10:42
4	31500153001	AM-OU3B-SW2-096	01/26/2015 10:30	02/04/2015 11:06
5	158625	AM-OU3B-SW2-096(157703MS)	01/26/2015 10:30	02/04/2015 11:06
6	158626	AM-OU3B-SW2-096(157703MSD)	01/26/2015 10:30	02/04/2015 11:06
7	31500182001	BT-SW-01	01/24/2015 01:30	02/04/2015 11:06
8	31500182002	BT-SW-02	01/24/2015 04:50	02/04/2015 11:06
9	31500182003	BT-SW-03	01/25/2015 11:45	02/04/2015 11:06
10	31500182004	BT-SW-04	01/25/2015 05:15	02/04/2015 11:06
11	31500182005	BT-SW-05	01/26/2015 09:10	02/04/2015 11:06
12	31500182006	BT-SW-06	01/26/2015 11:45	02/04/2015 11:06
13	31500182007	BT-SW-DUP	01/25/2015 12:00	02/04/2015 11:06
14	158627	BT-SW-DUP(157964DUP)	01/25/2015 12:00	02/04/2015 11:06
15	31500182011	BT-PW-01	01/24/2015 02:20	02/04/2015 11:06
16	31500182012	BT-PW-02	01/25/2015 10:20	02/04/2015 11:06

Distillation Tubes : A17117A

Borate Buffer : R-3834

0.04N H_2SO_4 Trapping Solution : R-3831

Phenol/MeOH : R- 4976

Oxidizing Solution : R- 4977

Primary Std : D-581

Distillation Block Temp : 125°C

Queue	IXX	Batch	1328	Comments
SAMPLE	31500182002	Use this sample for MS		

Lab ID 158622 Cust Sample ID MB for HBN 64864 [IXX/1328]

Sample Info Schedule: 947182 Type MB Collect Date Receive Date 2/4/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 10:42 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 158623 Cust Sample ID LCS for HBN 64864 [IXX/1328]

Sample Info Schedule: 947184 Type LCS Collect Date Receive Date 2/4/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 10:42 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 158624 Cust Sample ID LCSD for HBN 64864 [IXX/1328]

Sample Info Schedule: 947186 Type LCSD Collect Date Receive Date 2/4/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 10:42 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 31500153001 Cust Sample ID AM-OU3B-SW2-096

Sample Info Schedule: 941903 Type SAMPLE Collect Date 1/26/2015 Receive Date 1/27/2015 Container 31500153001-B Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 0.12 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		0.12	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 158625 **Cust Sample ID AM-OU3B-SW2-096(157703MS)**

Sample Info Schedule: 947188 Type MS Collect Date 1/26/2015 Receive Date 1/27/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 0.12 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		0.12	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 158626 **Cust Sample ID AM-OU3B-SW2-096(157703MSD)**

Sample Info Schedule: 947190 Type MSD Collect Date 1/26/2015 Receive Date 1/27/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 0.12 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		0.12	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 31500182001 **Cust Sample ID BT-SW-01**

Sample Info Schedule: 943782 Type SAMPLE Collect Date 1/24/2015 Receive Date 1/29/2015 Container 31500182001-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 31500182002 Cust Sample ID BT-SW-02

Sample Info Schedule: 943797 Type SAMPLE Collect Date 1/24/2015 Receive Date 1/29/2015 Container 31500182002-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 31500182003 Cust Sample ID BT-SW-03

Sample Info Schedule: 943812 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182003-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 31500182004 Cust Sample ID BT-SW-04

Sample Info Schedule: 943827 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182004-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 31500182005 Cust Sample ID BT-SW-05

Sample Info Schedule: 943842 Type SAMPLE Collect Date 1/26/2015 Receive Date 1/29/2015 Container 31500182005-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 31500182006 Cust Sample ID BT-SW-06

Sample Info Schedule: 943857 Type SAMPLE Collect Date 1/26/2015 Receive Date 1/29/2015 Container 31500182006-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 31500182007 Cust Sample ID BT-SW-DUP

Sample Info Schedule: 943872 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182007-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 158627 Cust Sample ID BT-SW-DUP(157964DUP)

Sample Info Schedule: 947192 Type DUP Collect Date 1/25/2015 Receive Date 1/29/2015 Container Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 31500182011 Cust Sample ID BT-PW-01

Sample Info Schedule: 943914 Type SAMPLE Collect Date 1/24/2015 Receive Date 1/29/2015 Container 31500182011-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

Lab ID 31500182012 Cust Sample ID BT-PW-02

Sample Info Schedule: 943929 Type SAMPLE Collect Date 1/25/2015 Receive Date 1/29/2015 Container 31500182012-G Prep Cont.

Prep Info Queue: Batch: Method: IVOL/WT: FVOL: Analyst: Prep Date:

Analysis Info CC: OK Batch: 1328 Method: Lachat 10-204-00-1-X IVOL/WT: 6 mL FVOL: 6 mL Analyst: PSW Run Date: 02/04/15 11:06 AM DF:

Compound Name	T	Posted Result *	CC	Units	Cmp Text	Reported Result	Dry	Units	Qual	RL	MDL	PQL	Spiked	QC Result	Limits *
Initial Volume		6	OK	mL											
Final Extract Volume		6	OK	mL											

INO 3644

Test results AquaKem 7.0 Page: 1

SGS North America Inc.
AquaKem#1

2/5/2015 8:11

Test: NH3-New

Sample Id	Result	Dil. 1 +	Response	Errors
2 A- CCV	2.5364	0.0	0.200	Dil. limit high
3 A- CBV	0.0975	0.0	0.012	Rule 1 violated
158622 MB	0.0798	0.0	0.010	
31500182003	0.4045	0.0	0.035	
2 A- CCV	2.6155	0.0	0.206	Dil. limit high
3 A- CBV	0.0383	0.0	0.007	Rule 1 violated
31500182011 100x	130.0418	0.0	10.043	Abs. high, Init abs., Dil
31500182012	130.0357	0.0	10.043	Abs. high, Init abs., Dil
2 A- CCV	2.5287	0.0	0.199	Dil. limit high
3 A- CBV	0.0265	0.0	0.006	Rule 1 violated
158623 LCS	2.5092	3.0	0.053	
158624 LCSD	2.4680	3.0	0.052	
31500182001	4.0079	3.0	0.082	
31500182002	0.6277	3.0	0.016	
31500182004	1.0370	3.0	0.024	
2 A- CCV	2.5655	0.0	0.202	Dil. limit high
3 A- CBV	0.0443	0.0	0.008	Rule 1 violated
2 A- CCV	2.5533	0.0	0.201	Dil. limit high
3 A- CBV	0.0603	0.0	0.009	Rule 1 violated
31500153001	1.8291	3.0	0.039	
158625 MS	4.2517	3.0	0.086	
158626 MSD	4.2595	3.0	0.086	
31500182005	0.5968	3.0	0.016	
31500182006	3.1767	3.0	0.065	
31500182007	1.0369	3.0	0.024	
158627 DUP	0.8623	3.0	0.021	
2 A- CCV	2.5690	0.0	0.202	Dil. limit high
3 A- CBV	0.0353	0.0	0.007	Rule 1 violated
2 A- CCV	2.5844	0.0	0.204	Dil. limit high
3 A- CBV	0.0315	0.0	0.007	Rule 1 violated
31500182011 x100	0.9624	3.0	0.023	
31500182012 x100	0.9967	3.0	0.023	
2 A- CCV	2.6255	0.0	0.207	Dil. limit high
3 A- CBV	0.0386	0.0	0.007	Rule 1 violated

N	18
Mean	16.0658
SD	41.48567
CV%	258.22

SM 4500-NH3-F
Continuing Calibration Data

Print Date: 02/06/2015

N.C. Certification # 481

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Absolute Standard

Batch ID: INO3644

Continuing Cal Source: Environmental Express

Analyte	ICV			CCV1			CCV2			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Ammonia	2.5	2.66	106.2	2.5	2.54	101.5	2.5	2.62	104.6	90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Absolute Standard

Batch ID: INO3644

Continuing Cal Source: Environmental Express

Analyte	ICV			CCV3			CCV4			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Ammonia	2.5	2.66	106.2	2.5	2.53	101.1	2.5	2.57	102.6	90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Absolute Standard

Batch ID: INO3644

Continuing Cal Source: Environmental Express

Analyte	ICV			CCV5			CCV6			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Ammonia	2.5	2.66	106.2	2.5	2.55	102.1	2.5	2.57	102.8	90-110

Comments:

FORM IIA - METALS

2A
INITIAL CALIBRATION AND CONTINUING CALIBRATION

Lab Name: SGS North America

Initial Cal Source Absolute Standard

Batch ID: INO3644

Continuing Cal Source: Environmental Express

Analyte	ICV			CCV7			CCV8			LIMITS REC.
	TV	FV	%REC	TV	FV	%REC	TV	FV	%REC	
Ammonia	2.5	2.66	106.2	2.5	2.58	103.4	2.5	2.63	105.0	90-110

Comments:

FORM IIA - METALS

BLANKS

Lab Name: SGS North America

Batch ID: INO3644

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) CBV1	C	CBV2	C	CCB3	C		
Ammonia	0.1	U	0.1	U	0.1	U	0.1	U		

Comments:

FORM III - METALS

3
BLANKS

Lab Name: SGS North America

Batch ID: INO3644

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) CBV5	C	CBV6	C	CCB7	C		
Ammonia	0.1	U	0.1	U	0.1	U	0.1	U		

Comments:

FORM III - METALS

BLANKS

Lab Name: SGS North America

Batch ID: INO3644

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) CBV8	C	0	C	0	C		
Ammonia	0.1	U	0.1	U						

Comments:

FORM III - METALS

APPENDIX C
STANTEC ANALYTICAL RESULTS, SUMMARY OF DETECTIONS

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)						
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**
BCST_DUP001-012815	1/28/15 0:01	BC_200	SW8260B	Trimethylbenzene, 1,2,4-	1.37	ug/l
BCST_DUP002-012915	1/29/15 0:01	BC_103	SW8260B	Trimethylbenzene, 1,2,4-	1.47	ug/l
BCST_DUP003-020415	2/4/15 0:01	BC_200	SW8260B	Trimethylbenzene, 1,2,4-	1.43	ug/l
BCST_SS3FP-012415	1/24/15 11:10	Free Product	SW8260B	Acetone	201	ug/l
BCST_SW100-012515	1/25/15 11:45	BC_100	SW8260B	Acetone	36.2	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Acetone	360	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Butylbenzene, n-	1.63	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Butylbenzene, sec- (2-Phenylbutane)	1.28	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Carbon Disulfide	1.86	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Isopropylbenzene	2.87	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Isopropyltoluene, p- (Cymene)	1.61	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Naphthalene	6.67	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Propylbenzene, n-	2.88	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Trimethylbenzene, 1,2,4-	26.1	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Trimethylbenzene, 1,3,5-	5.81	ug/l
BCST_SW103_012315	1/23/15 9:25	BC_103	SW8260B	Acetone	326	ug/l
BCST_SW103-012115	1/21/15 9:30	BC_103	SW8260B	Acetone	269	ug/l
BCST_SW103-012215	1/22/15 10:00	BC_103	SW8260B	Acetone	281	ug/l
BCST_SW103-012215	1/22/15 10:00	BC_103	SW8260B	Trimethylbenzene, 1,2,4-	1.19	ug/l
BCST_SW103-012415	1/24/15 12:00	BC_103	SW8260B	Acetone	115	ug/l
BCST_SW103-012515	1/25/15 9:10	BC_103	SW8260B	Acetone	84.6	ug/l
BCST_SW103-012515	1/25/15 9:10	BC_103	SW8260B	Trimethylbenzene, 1,2,4-	1.16	ug/l
BCST_SW103-012615	1/26/15 10:30	BC_103	SW8260B	Acetone	142	ug/l
BCST_SW103-012715	1/27/15 10:00	BC_103	SW8260B	Trimethylbenzene, 1,2,4-	2.28	ug/l
BCST_SW103-012815	1/28/15 9:35	BC_103	SW8260B	Trimethylbenzene, 1,2,4-	1.26	ug/l
BCST_SW103-012915	1/29/15 9:50	BC_103	SW8260B	Trimethylbenzene, 1,2,4-	1.34	ug/l
BCST_SW103-020415	2/4/15 8:45	BC_103	SW8260B	Trimethylbenzene, 1,2,4-	1.26	ug/l
BCST_SW103-020515	2/5/15 8:40	BC_103	SW8260B	Trimethylbenzene, 1,2,4-	1.44	ug/l
BCST_SW103-02062015	2/6/15 8:30	BC_103	SW8260B	Trimethylbenzene, 1,2,4-	1.48	ug/l
BCST_SW106-012715	1/27/15 11:45	BC_106	SW8260B	Acetone	65	ug/l
BCST_SW106-012715	1/27/15 11:45	BC_106	SW8260B	Trimethylbenzene, 1,2,4-	6.43	ug/l

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)						
BCST_SW106-012715	1/27/15 11:45	BC_106	SW8260B	Trimethylbenzene, 1,3,5-	1.55	ug/l
BCST_SW106-012815	1/28/15 11:10	BC_106	SW8260B	Trimethylbenzene, 1,2,4-	3.25	ug/l
BCST_SW106-012915	1/29/15 11:00	BC_106	SW8260B	Trimethylbenzene, 1,2,4-	1.82	ug/l
BCST_SW106-013015	1/30/15 10:30	BC_106	SW8260B	Trimethylbenzene, 1,2,4-	1.1	ug/l
BCST_SW106-02062015	2/6/15 9:30	BC_106	SW8260B	Trimethylbenzene, 1,2,4-	1.18	ug/l
BCST_SW200_012315	1/23/15 10:00	BC_200	SW8260B	Acetone	232	ug/l
BCST_SW200-011815	1/18/15 10:30	BC_200	SW8260B	Acetone	320	ug/l
BCST_SW200-011815	1/18/15 10:30	BC_200	SW8260B	Trimethylbenzene, 1,2,4-	2.18	ug/l
BCST_SW200-012115	1/21/15 9:50	BC_200	SW8260B	Acetone	270	ug/l
BCST_SW200-012115	1/21/15 9:50	BC_200	SW8260B	Trimethylbenzene, 1,2,4-	1.06	ug/l
BCST_SW200-012215	1/22/15 10:30	BC_200	SW8260B	Acetone	313	ug/l
BCST_SW200-012215	1/22/15 10:30	BC_200	SW8260B	Trimethylbenzene, 1,2,4-	1.57	ug/l
BCST_SW200-012415	1/24/15 12:20	BC_200	SW8260B	Acetone	148	ug/l
BCST_SW200-012515	1/25/15 9:25	BC_200	SW8260B	Acetone	68.4	ug/l
BCST_SW200-012615	1/26/15 10:50	BC_200	SW8260B	Acetone	141	ug/l
BCST_SW200-012715	1/27/15 10:45	BC_200	SW8260B	Trimethylbenzene, 1,2,4-	2.22	ug/l
BCST_SW200-012815	1/28/15 10:05	BC_200	SW8260B	Trimethylbenzene, 1,2,4-	1.42	ug/l
BCST_SW200-012915	1/29/15 10:05	BC_200	SW8260B	Trimethylbenzene, 1,2,4-	1.41	ug/l
BCST_SW200-020415	2/4/15 9:05	BC_200	SW8260B	Trimethylbenzene, 1,2,4-	1.36	ug/l
BCST_SW200-020515	2/5/15 9:10	BC_200	SW8260B	Trimethylbenzene, 1,2,4-	2.2	ug/l
BCST_SW200-02062015	2/6/15 8:50	BC_200	SW8260B	Trimethylbenzene, 1,2,4-	1.68	ug/l
BCST_SW301-011615	1/16/15 11:15	BC_301	SW8260B	Acetone	34.7	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8260B	Acetone	29.1	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8260B	Butylbenzene, n-	1.77	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8260B	Butylbenzene, sec- (2-Phenylbutane)	1.03	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8260B	Isopropylbenzene	1.12	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8260B	Isopropyltoluene, p- (Cymene)	1.85	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8260B	Naphthalene	14.5	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8260B	Propylbenzene, n-	1.17	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8260B	Trimethylbenzene, 1,2,4-	29.6	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8260B	Trimethylbenzene, 1,3,5-	5.08	ug/l
BCST-DW001-012815	1/28/15 14:10	BC_DW001	SW8260B	Isopropylbenzene	4.75	ug/l
BCST-DW001-012815	1/28/15 14:10	BC_DW001	SW8260B	Propylbenzene, n-	1.76	ug/l

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)						
BT-SW-04/BC111	1/25/15 17:15	BC_111	SW8260B	Acetone	40.1	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8260B	Acetone	1570	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8260B	Isopropylbenzene	1.41 J	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8260B	Isopropyltoluene, p- (Cymene)	1 J	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8260B	Methyl Ethyl Ketone (MEK)	106 J	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8260B	Naphthalene	9.33 J	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8260B	Propylbenzene, n-	1.58 J	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8260B	Trimethylbenzene, 1,2,4-	13.7 J	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8260B	Trimethylbenzene, 1,3,5-	2.76 J	ug/l
South Valve Set	1/15/15 10:30	South Valve Set	SW8260B	Acetone	2150	ug/l
South Valve Set	1/15/15 10:30	South Valve Set	SW8260B	Isopropylbenzene	1.51	ug/l
South Valve Set	1/15/15 10:30	South Valve Set	SW8260B	Methyl Ethyl Ketone (MEK)	130	ug/l
South Valve Set	1/15/15 10:30	South Valve Set	SW8260B	Naphthalene	5.85	ug/l
South Valve Set	1/15/15 10:30	South Valve Set	SW8260B	Trimethylbenzene, 1,2,4-	7.23	ug/l
South Valve Set	1/15/15 10:30	South Valve Set	SW8260B	Trimethylbenzene, 1,3,5-	1.47	ug/l
State Produced	1/25/15 10:20	State Produced	SW8260B	Acetone	1060	ug/l
State Produced	1/25/15 10:20	State Produced	SW8260B	Isopropylbenzene	2.47	ug/l
State Produced	1/25/15 10:20	State Produced	SW8260B	Isopropyltoluene, p- (Cymene)	1.07	ug/l
State Produced	1/25/15 10:20	State Produced	SW8260B	Methyl Ethyl Ketone (MEK)	424	ug/l
State Produced	1/25/15 10:20	State Produced	SW8260B	Methyl Isobutyl Ketone (MIBK)	12.6	ug/l
State Produced	1/25/15 10:20	State Produced	SW8260B	Naphthalene	18.1	ug/l
State Produced	1/25/15 10:20	State Produced	SW8260B	Propylbenzene, n-	2.85	ug/l
State Produced	1/25/15 10:20	State Produced	SW8260B	Trimethylbenzene, 1,2,4-	27.5	ug/l
State Produced	1/25/15 10:20	State Produced	SW8260B	Trimethylbenzene, 1,3,5-	5.3	ug/l
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW8260B	Acetone	554	ug/l
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW8260B	Trimethylbenzene, 1,2,4-	2.31	ug/l
SWST_106-G-01142015	1/14/15 15:45	BC_106	SW8260B	Acetone	31.7	ug/l
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW8260B	Acetone	648	ug/l
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW8260B	Trimethylbenzene, 1,2,4-	3.52	ug/l

J: estimated value

Note: no ND Stream HHV or EPA MCL set for these analytes

* results presented are limited to detections; analysis included all analytes on method list

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)						
Sample Name	**Sample Date Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8270	Cresol (All Isomers)	12.1	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8270	Methylnaphthalene, 1-	7.96	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8270	Methylnaphthalene, 2-	8.16	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8270	Naphthalene	3.08	ug/l
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8270	Phenol	10.7	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8270	Methylnaphthalene, 1-	16.1	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8270	Methylnaphthalene, 2-	17.4	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8270	Naphthalene	4.37	ug/l
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8270	Phenanthrene	2.51	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8270	Cresol (All Isomers)	68.9 J	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8270	Cresol, m & p- (Methylphenol, 3&4-)	34.1 J	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8270	Cresol, o- (Methylphenol, 2-)	34.7	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8270	Dimethylphenol, 2,4-	15.6	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8270	Methylnaphthalene, 1-	24.5 J	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8270	Methylnaphthalene, 2-	28.1 J	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8270	Naphthalene	8.3 J	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8270	Phenanthrene	5.85 J	ug/l
Moling Produced	1/24/15 14:30	Moling Produced	SW8270	Phenol	102 J	ug/l
South Valve Set	1/15/15 10:30	South Valve Set	SW8270	Cresol (All Isomers)	84.1	ug/l
South Valve Set	1/15/15 10:30	South Valve Set	SW8270	Cresol, m & p- (Methylphenol, 3&4-)	42.5	ug/l
South Valve Set	1/15/15 10:30	South Valve Set	SW8270	Cresol, o- (Methylphenol, 2-)	41.6	ug/l
South Valve Set	1/15/15 10:30	South Valve Set	SW8270	Dimethylphenol, 2,4-	19.9	ug/l
South Valve Set	1/15/15 10:30	South Valve Set	SW8270	Naphthalene	2.28	ug/l
South Valve Set	1/15/15 10:30	South Valve Set	SW8270	Phenol	78.7 J	ug/l
State Produced	1/25/15 10:20	State Produced	SW8270	Cresol (All Isomers)	91.4 J	ug/l
State Produced	1/25/15 10:20	State Produced	SW8270	Cresol, m & p- (Methylphenol, 3&4-)	44.7 J	ug/l
State Produced	1/25/15 10:20	State Produced	SW8270	Cresol, o- (Methylphenol, 2-)	46.7	ug/l
State Produced	1/25/15 10:20	State Produced	SW8270	Dimethylphenol, 2,4-	30.5	ug/l
State Produced	1/25/15 10:20	State Produced	SW8270	Methylnaphthalene, 1-	4.48	ug/l
State Produced	1/25/15 10:20	State Produced	SW8270	Methylnaphthalene, 2-	4.66	ug/l
State Produced	1/25/15 10:20	State Produced	SW8270	Naphthalene	7.47	ug/l
State Produced	1/25/15 10:20	State Produced	SW8270	Phenol	79.9 J	ug/l

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)						
Sample Name	**Sample Date Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW8270	Cresol (All Isomers)	15.3 J	ug/l
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW8270	Phenol	11 J	ug/l

J: estimated value

Note: no ND Stream HHV or EPA MCL set for these analytes

* results presented are limited to detections; analysis included all analytes on method list

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST OW001 020115	2/1/15 15:55	OW001	SW6020	Arsenic	**0.0252**	mg/l	0.01	0.01	
BCST OW001 020115	2/1/15 15:55	OW001	SW6020	Barium	0.0659	mg/l		2	
BCST OW001 020115	2/1/15 15:55	OW001	SW6010	Calcium	417	mg/l			
BCST OW001 020115	2/1/15 15:55	OW001	SW6020	Chromium (Total)	0.0316	mg/l		0.1	
BCST OW001 020115	2/1/15 15:55	OW001	SW6010	Iron	**17.6**	mg/l			0.03
BCST OW001 020115	2/1/15 15:55	OW001	SW6010	Magnesium	280	mg/l			
BCST OW001 020115	2/1/15 15:55	OW001	SW6010	Manganese	**1.39**	mg/l			0.05
BCST OW001 020115	2/1/15 15:55	OW001	SW6010	Potassium	21	mg/l			
BCST OW001 020115	2/1/15 15:55	OW001	SW6010	Sodium	931	mg/l			
BCST_DUP 403-013115	1/31/15 0:01	SW_403	SW6020	Barium	0.0586	mg/l		2	
BCST_DUP 404-020115	2/1/15 0:01	SW_403	SW6020	Barium	0.0578 J	mg/l		2	
BCST_DUP 405-020115	2/1/15 0:01	SW_402	SW6020	Barium	0.101 J	mg/l		2	
BCST_DUP 406-020215	2/2/15 0:01	SW_405	SW6020	Barium	0.0659 J	mg/l		2	
BCST_DUP 407-020215	2/2/15 0:01	SCD3	SW6020	Barium	0.104	mg/l		2	
BCST_DUP 408-0203-15	2/3/15 0:01	SW_404	SW6020	Barium	0.179	mg/l		2	
BCST_DWFLC-012215	1/22/15 14:40	BC_FLC	SW6010	Calcium	17.1	mg/l			
BCST_DWFLC-012215	1/22/15 14:40	BC_FLC	SW6010	Iron	**3.66**	mg/l			0.03
BCST_DWFLC-012215	1/22/15 14:40	BC_FLC	SW6010	Sodium	748	mg/l			
BCST_GWNH1-011915	1/19/15 16:45	BC_NH1	E200.8	Arsenic	**0.0309**	mg/l	0.01	0.01	
BCST_GWNH1-011915	1/19/15 16:45	BC_NH1	E200.8	Barium	0.0147	mg/l		2	
BCST_GWNH1-011915	1/19/15 16:45	BC_NH1	E200.8	Cadmium	0.000165	mg/l		5	
BCST_GWNH1-011915	1/19/15 16:45	BC_NH1	E200.7	Calcium	95.4	mg/l			
BCST_GWNH1-011915	1/19/15 16:45	BC_NH1	E200.8	Copper	0.00196	mg/l	1	1.3	
BCST_GWNH1-011915	1/19/15 16:45	BC_NH1	E200.7	Iron	**3.61**	mg/l			0.03
BCST_GWNH1-011915	1/19/15 16:45	BC_NH1	E200.7	Magnesium	49.8	mg/l			
BCST_GWNH1-011915	1/19/15 16:45	BC_NH1	E200.7	Manganese	**0.104**	mg/l			0.05
BCST_GWNH1-011915	1/19/15 16:45	BC_NH1	E200.7	Sodium	266	mg/l			
BCST_GWNH1-011915	1/19/15 16:45	BC_NH1	E200.7	Zinc	0.0393	mg/l	7.4		
BCST_GWNH2-011915	1/19/15 16:17	BC_NH2	E200.8	Arsenic	0.00289	mg/l	0.01	0.01	
BCST_GWNH2-011915	1/19/15 16:17	BC_NH2	E200.8	Barium	0.0128	mg/l		2	
BCST_GWNH2-011915	1/19/15 16:17	BC_NH2	E200.8	Cadmium	0.000103	mg/l		5	

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST_GWNH2-011915	1/19/15 16:17	BC_NH2	E200.7	Calcium	223	mg/l			
BCST_GWNH2-011915	1/19/15 16:17	BC_NH2	E200.8	Copper	0.00218	mg/l	1	1.3	
BCST_GWNH2-011915	1/19/15 16:17	BC_NH2	E200.7	Iron	**9.18**	mg/l			0.03
BCST_GWNH2-011915	1/19/15 16:17	BC_NH2	E200.8	Lead	0.00112	mg/l		15	
BCST_GWNH2-011915	1/19/15 16:17	BC_NH2	E200.7	Magnesium	107	mg/l			
BCST_GWNH2-011915	1/19/15 16:17	BC_NH2	E200.7	Manganese	**0.524**	mg/l			0.05
BCST_GWNH2-011915	1/19/15 16:17	BC_NH2	E200.7	Sodium	210	mg/l			
BCST_GWNH2-011915	1/19/15 16:17	BC_NH2	E200.7	Zinc	0.0643	mg/l	7.4		
BCST_SCD002-013115	1/31/15 12:15	SCD2	SW6020	Barium	0.0435	mg/l		2	
BCST_SCD002-020115	2/1/15 13:10	SCD2	SW6020	Barium	0.093	mg/l		2	
BCST_SCD002-020215	2/2/15 11:45	SCD2	SW6020	Barium	0.157	mg/l		2	
BCST_SCD002-0203-15	2/3/15 11:55	SCD2	SW6020	Barium	0.0877	mg/l		2	
BCST_SCD003-013115	1/31/15 10:40	SCD3	SW6020	Barium	0.0691	mg/l		2	
BCST_SCD003-020115	2/1/15 11:00	SCD3	SW6020	Barium	0.161	mg/l		2	
BCST_SCD003-020215	2/2/15 10:45	SCD3	SW6020	Barium	0.114	mg/l		2	
BCST_SCD003-0203-15	2/3/15 13:00	SCD3	SW6020	Barium	0.157	mg/l		2	
BCST_SW 400-013115	1/31/15 13:35	SW_400	SW6020	Barium	0.0933	mg/l		2	
BCST_SW 400-020115	2/1/15 8:55	SW_400	SW6020	Barium	0.0423	mg/l		2	
BCST_SW 400-020215	2/2/15 8:45	SW_400	SW6020	Barium	0.0887	mg/l		2	
BCST_SW 400-0203-15	2/3/15 8:40	SW_400	SW6020	Barium	0.0627	mg/l		2	
BCST_SW 401-013115	1/31/15 13:05	SW_401	SW6020	Barium	0.181	mg/l		2	
BCST_SW 401-020115	2/1/15 13:20	SW_401	SW6020	Barium	0.422	mg/l		2	
BCST_SW 401-020215	2/2/15 12:15	SW_401	SW6020	Barium	0.115	mg/l		2	
BCST_SW 401-0203-15	2/3/15 11:15	SW_401	SW6020	Barium	0.345	mg/l		2	
BCST_SW 402-013115	1/31/15 11:40	SW_402	SW6020	Barium	0.0684	mg/l		2	
BCST_SW 402-020115	2/1/15 13:00	SW_402	SW6020	Barium	0.0549	mg/l		2	
BCST_SW 402-020215	2/2/15 9:10	SW_402	SW6020	Barium	0.0822	mg/l		2	
BCST_SW 402-0203-15	2/3/15 9:00	SW_402	SW6020	Barium	0.343	mg/l		2	
BCST_SW 403-013115	1/31/15 11:20	SW_403	SW6020	Barium	0.0538	mg/l		2	
BCST_SW 403-020115	2/1/15 11:50	SW_403	SW6020	Barium	0.0578	mg/l		2	
BCST_SW 403-020215	2/2/15 11:30	SW_403	SW6020	Barium	0.0478	mg/l		2	
BCST_SW 403-0203-15	2/3/15 12:30	SW_403	SW6020	Barium	0.0616	mg/l		2	

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST_SW 404-013115	1/31/15 11:05	SW_404	SW6020	Barium	**2.51**	mg/l		2	
BCST_SW 404-020115	2/1/15 11:20	SW_404	SW6020	Barium	**5.45 J**	mg/l		2	
BCST_SW 404-020215	2/2/15 10:58	SW_404	SW6020	Barium	0.204	mg/l		2	
BCST_SW 404-0203-15	2/3/15 12:43	SW_404	SW6020	Barium	0.205	mg/l		2	
BCST_SW 405-013115	1/31/15 9:30	SW_405	SW6020	Barium	0.0468	mg/l		2	
BCST_SW 405-020115	2/1/15 9:20	SW_405	SW6020	Barium	0.0414 J	mg/l		2	
BCST_SW 405-020215	2/2/15 9:25	SW_405	SW6020	Barium	0.0469	mg/l		2	
BCST_SW 405-0203-15	2/3/15 9:15	SW_405	SW6020	Barium	0.0685	mg/l		2	
BCST_SW 406-013115	1/31/15 14:25	SW_406	SW6020	Barium	0.519	mg/l		2	
BCST_SW 406-020115	2/1/15 16:25	SW_406	SW6020	Barium	0.203	mg/l		2	
BCST_SW 406-020215	2/2/15 14:25	SW_406	SW6020	Barium	0.0483 J	mg/l		2	
BCST_SW 406-0203-15	2/3/15 14:15	SW_406	SW6020	Barium	0.0923	mg/l		2	
BCST_SW 407-013115	1/31/15 14:55	SW_407	SW6020	Barium	1.36	mg/l		2	
BCST_SW 407-020115	2/1/15 14:40	SW_407	SW6020	Barium	0.0631	mg/l		2	
BCST_SW 407-020215	2/2/15 14:35	SW_407	SW6020	Barium	0.101	mg/l		2	
BCST_SW 407-0203-15	2/3/15 14:00	SW_407	SW6020	Barium	0.159	mg/l		2	
BCST_SW 408-013115	1/31/15 13:15	SW_408	SW6020	Barium	**2.09**	mg/l		2	
BCST_SW 408-020115	2/1/15 13:30	SW_408	SW6020	Barium	**4.35**	mg/l		2	
BCST_SW 408-020215	2/2/15 12:30	SW_408	SW6020	Barium	**2.43**	mg/l		2	
BCST_SW 408-0203-15	2/3/15 10:55	SW_408	SW6020	Barium	**2.91**	mg/l		2	
BCST_SW 409-013115	1/31/15 11:05	SW_409	SW6020	Barium	0.0664	mg/l		2	
BCST_SW 409-020115	2/1/15 15:30	SW_409	SW6020	Barium	0.449	mg/l		2	
BCST_SW 409-020215	2/2/15 8:25	SW_409	SW6020	Barium	1.59	mg/l		2	
BCST_SW 409-0203-15	2/3/15 8:15	SW_409	SW6020	Barium	0.168	mg/l		2	
BCST_SW 410-013115	1/31/15 8:50	SW_410	SW6020	Barium	0.1	mg/l		2	
BCST_SW 410-020115	2/1/15 15:15	SW_410	SW6020	Barium	0.0775	mg/l		2	
BCST_SW 410-020215	2/2/15 15:20	SW_410	SW6020	Barium	0.0688	mg/l		2	
BCST_SW 410-0203-15	2/3/15 10:23	SW_410	SW6020	Barium	0.0699	mg/l		2	
BCST_SW 411-013115	1/31/15 15:33	SW_411	SW6020	Barium	0.79	mg/l		2	
BCST_SW 411-020115	2/1/15 15:00	SW_411	SW6020	Barium	0.276	mg/l		2	
BCST_SW 411-020215	2/2/15 15:00	SW_411	SW6020	Barium	0.317	mg/l		2	
BCST_SW 411-0203-15	2/3/15 10:10	SW_411	SW6020	Barium	0.111	mg/l		2	

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST_SW100-012515	1/25/15 11:45	BC_100	SW6020	Arsenic	**0.073**	mg/l	0.01	0.01	
BCST_SW100-012515	1/25/15 11:45	BC_100	SW6020	Barium	0.032	mg/l		2	
BCST_SW100-012515	1/25/15 11:45	BC_100	SW6010	Sodium	978	mg/l			
BCST_SW102-011715	1/17/15 11:15	BC_102	SW6020	Barium	0.187	mg/l		2	
BCST_SW102-011715	1/17/15 11:15	BC_102	SW6010	Boron	6.61	mg/l			
BCST_SW102-011715	1/17/15 11:15	BC_102	SW6010	Calcium	337	mg/l			
BCST_SW102-011715	1/17/15 11:15	BC_102	SW6010	Iron	**0.677**	mg/l			0.03
BCST_SW102-011715	1/17/15 11:15	BC_102	SW6010	Magnesium	50.9	mg/l			
BCST_SW102-011715	1/17/15 11:15	BC_102	SW6010	Manganese	**0.369**	mg/l			0.05
BCST_SW102-011715	1/17/15 11:15	BC_102	SW6010	Potassium	118	mg/l			
BCST_SW102-011715	1/17/15 11:15	BC_102	SW6010	Sodium	1820	mg/l			
BCST_SW102-011715	1/17/15 11:15	BC_102	SW6020	Thallium	**0.00218**	mg/l	0.00024	0.002	
BCST_SW106-012915	1/29/15 11:00	BC_106	SW6020	Barium	0.00998	mg/l		2	
BCST_SW107-011815	1/18/15 16:30	BC_107	SW6020	Barium	0.00384	mg/l		2	
BCST_SW107-011815	1/18/15 16:30	BC_107	SW6010	Calcium	14.4	mg/l			
BCST_SW107-011815	1/18/15 16:30	BC_107	SW6010	Magnesium	7.59	mg/l			
BCST_SW107-011815	1/18/15 16:30	BC_107	SW6010	Manganese	0.0359	mg/l			0.05
BCST_SW107-011815	1/18/15 16:30	BC_107	SW6010	Sodium	26.9	mg/l			
BCST_SW109-011615	1/16/15 14:00	BC_109	SW6020	Barium	0.03	mg/l		2	
BCST_SW109-011615	1/16/15 14:00	BC_109	SW6010	Calcium	134	mg/l			
BCST_SW109-011615	1/16/15 14:00	BC_109	SW6010	Iron	**1.24**	mg/l			0.03
BCST_SW109-011615	1/16/15 14:00	BC_109	SW6010	Magnesium	73.2	mg/l			
BCST_SW109-011615	1/16/15 14:00	BC_109	SW6010	Manganese	**0.336**	mg/l			0.05
BCST_SW109-011615	1/16/15 14:00	BC_109	SW6010	Sodium	305	mg/l			
BCST_SW110-011815	1/18/15 12:00	BC_110	SW6020	Barium	0.00382	mg/l		2	
BCST_SW110-011815	1/18/15 12:00	BC_110	SW6010	Calcium	17.1 J	mg/l			
BCST_SW110-011815	1/18/15 12:00	BC_110	SW6010	Iron	**0.149**	mg/l			0.03
BCST_SW110-011815	1/18/15 12:00	BC_110	SW6010	Magnesium	9.4 J	mg/l			
BCST_SW110-011815	1/18/15 12:00	BC_110	SW6010	Manganese	0.0455	mg/l			0.05
BCST_SW110-011815	1/18/15 12:00	BC_110	SW6010	Potassium	1.24	mg/l			
BCST_SW110-011815	1/18/15 12:00	BC_110	SW6010	Sodium	43.2	mg/l			
BCST_SW111-011715	1/17/15 13:40	BC_111	SW6020	Barium	0.00376	mg/l		2	

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST_SW111-011715	1/17/15 13:40	BC_111	SW6010	Calcium	15.4	mg/l			
BCST_SW111-011715	1/17/15 13:40	BC_111	SW6010	Iron	**0.103**	mg/l			0.03
BCST_SW111-011715	1/17/15 13:40	BC_111	SW6010	Magnesium	8.62	mg/l			
BCST_SW111-011715	1/17/15 13:40	BC_111	SW6010	Manganese	0.0453	mg/l			0.05
BCST_SW111-011715	1/17/15 13:40	BC_111	SW6010	Potassium	1.15	mg/l			
BCST_SW111-011715	1/17/15 13:40	BC_111	SW6010	Sodium	43.6	mg/l			
BCST_SW112-011815	1/18/15 13:45	BC_112	SW6020	Barium	0.00511	mg/l		2	
BCST_SW112-011815	1/18/15 13:45	BC_112	SW6010	Boron	0.0603	mg/l			
BCST_SW112-011815	1/18/15 13:45	BC_112	SW6010	Calcium	20.5	mg/l			
BCST_SW112-011815	1/18/15 13:45	BC_112	SW6010	Magnesium	11.8	mg/l			
BCST_SW112-011815	1/18/15 13:45	BC_112	SW6010	Manganese	**0.0608**	mg/l			0.05
BCST_SW112-011815	1/18/15 13:45	BC_112	SW6010	Potassium	1.96	mg/l			
BCST_SW112-011815	1/18/15 13:45	BC_112	SW6010	Sodium	61.4	mg/l			
BCST_SW113-020215	2/2/15 15:10	BC_113	SW6020	Barium	0.039	mg/l		2	
BCST_SW113-020215	2/2/15 15:10	BC_113	SW6010	Calcium	160 J	mg/l			
BCST_SW113-020215	2/2/15 15:10	BC_113	SW6020	Chromium (Total)	0.0527	mg/l		0.1	
BCST_SW113-020215	2/2/15 15:10	BC_113	SW6010	Magnesium	127	mg/l			
BCST_SW113-020215	2/2/15 15:10	BC_113	SW6010	Manganese	**0.191**	mg/l			0.05
BCST_SW113-020215	2/2/15 15:10	BC_113	SW6010	Potassium	29.4	mg/l			
BCST_SW113-020215	2/2/15 15:10	BC_113	SW6010	Sodium	217	mg/l			
BCST_SW114-011815	1/18/15 14:35	BC_114	SW6020	Barium	0.00365	mg/l		2	
BCST_SW114-011815	1/18/15 14:35	BC_114	SW6010	Calcium	13.6	mg/l			
BCST_SW114-011815	1/18/15 14:35	BC_114	SW6010	Magnesium	7.89	mg/l			
BCST_SW114-011815	1/18/15 14:35	BC_114	SW6010	Manganese	0.0395	mg/l			0.05
BCST_SW114-011815	1/18/15 14:35	BC_114	SW6010	Potassium	1.23	mg/l			
BCST_SW114-011815	1/18/15 14:35	BC_114	SW6010	Sodium	41	mg/l			
BCST_SW115-011815	1/18/15 15:00	BC_115	SW6020	Barium	0.00602	mg/l		2	
BCST_SW115-011815	1/18/15 15:00	BC_115	SW6010	Boron	0.0839	mg/l			
BCST_SW115-011815	1/18/15 15:00	BC_115	SW6010	Calcium	20	mg/l			
BCST_SW115-011815	1/18/15 15:00	BC_115	SW6010	Magnesium	11.7	mg/l			
BCST_SW115-011815	1/18/15 15:00	BC_115	SW6010	Manganese	0.0459	mg/l			0.05

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST_SW115-011815	1/18/15 15:00	BC_115	SW6010	Potassium	2.09	mg/l			
BCST_SW115-011815	1/18/15 15:00	BC_115	SW6010	Sodium	67.4	mg/l			
BCST_SW116-011715	1/17/15 16:40	BC_116	SW6020	Barium	0.00639	mg/l		2	
BCST_SW116-011715	1/17/15 16:40	BC_116	SW6010	Boron	0.106	mg/l			
BCST_SW116-011715	1/17/15 16:40	BC_116	SW6010	Calcium	20.3	mg/l			
BCST_SW116-011715	1/17/15 16:40	BC_116	SW6010	Magnesium	11.7	mg/l			
BCST_SW116-011715	1/17/15 16:40	BC_116	SW6010	Manganese	0.0385	mg/l			0.05
BCST_SW116-011715	1/17/15 16:40	BC_116	SW6010	Potassium	2.42	mg/l			
BCST_SW116-011715	1/17/15 16:40	BC_116	SW6010	Sodium	71.3	mg/l			
BCST_SW117-011815	1/18/15 13:25	BC_117	SW6020	Barium	0.00882	mg/l		2	
BCST_SW117-011815	1/18/15 13:25	BC_117	SW6010	Boron	0.0636	mg/l			
BCST_SW117-011815	1/18/15 13:25	BC_117	SW6010	Calcium	13.1	mg/l			
BCST_SW117-011815	1/18/15 13:25	BC_117	SW6010	Iron	**0.131**	mg/l			0.03
BCST_SW117-011815	1/18/15 13:25	BC_117	SW6010	Magnesium	10.3	mg/l			
BCST_SW117-011815	1/18/15 13:25	BC_117	SW6010	Manganese	**0.0618**	mg/l			0.05
BCST_SW117-011815	1/18/15 13:25	BC_117	SW6010	Potassium	1.72	mg/l			
BCST_SW117-011815	1/18/15 13:25	BC_117	SW6010	Sodium	71.3	mg/l			
BCST_SW118-011815	1/18/15 11:00	BC_118	SW6020	Barium	0.00813	mg/l		2	
BCST_SW118-011815	1/18/15 11:00	BC_118	SW6010	Boron	0.125	mg/l			
BCST_SW118-011815	1/18/15 11:00	BC_118	SW6010	Calcium	20	mg/l			
BCST_SW118-011815	1/18/15 11:00	BC_118	SW6010	Magnesium	11.6	mg/l			
BCST_SW118-011815	1/18/15 11:00	BC_118	SW6010	Manganese	0.0357	mg/l			0.05
BCST_SW118-011815	1/18/15 11:00	BC_118	SW6010	Potassium	2.71	mg/l			
BCST_SW118-011815	1/18/15 11:00	BC_118	SW6010	Sodium	70.7	mg/l			
BCST_SW119-011815	1/18/15 12:30	BC_119	SW6020	Barium	0.0156	mg/l		2	
BCST_SW119-011815	1/18/15 12:30	BC_119	SW6010	Boron	0.212	mg/l			
BCST_SW119-011815	1/18/15 12:30	BC_119	SW6010	Calcium	27.7	mg/l			
BCST_SW119-011815	1/18/15 12:30	BC_119	SW6010	Iron	**0.11**	mg/l			0.03
BCST_SW119-011815	1/18/15 12:30	BC_119	SW6010	Magnesium	15.1	mg/l			
BCST_SW119-011815	1/18/15 12:30	BC_119	SW6010	Manganese	**0.109**	mg/l			0.05
BCST_SW119-011815	1/18/15 12:30	BC_119	SW6010	Potassium	4.86	mg/l			
BCST_SW119-011815	1/18/15 12:30	BC_119	SW6010	Sodium	116	mg/l			

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST_SW300-011615	1/16/15 10:15	BC_300	SW6020	Barium	0.0304	mg/l		2	
BCST_SW300-011615	1/16/15 10:15	BC_300	SW6010	Calcium	133 J	mg/l			
BCST_SW300-011615	1/16/15 10:15	BC_300	SW6010	Magnesium	74.4 J	mg/l			
BCST_SW300-011615	1/16/15 10:15	BC_300	SW6010	Manganese	**0.391**	mg/l			0.05
BCST_SW300-011615	1/16/15 10:15	BC_300	SW6010	Potassium	11	mg/l			
BCST_SW300-011615	1/16/15 10:15	BC_300	SW6010	Sodium	370 J	mg/l			
BCST_SW301-011615	1/16/15 11:15	BC_301	SW6020	Barium	0.0341	mg/l		2	
BCST_SW301-011615	1/16/15 11:15	BC_301	SW6010	Calcium	138	mg/l			
BCST_SW301-011615	1/16/15 11:15	BC_301	SW6010	Magnesium	76.7	mg/l			
BCST_SW301-011615	1/16/15 11:15	BC_301	SW6010	Manganese	**0.394**	mg/l			0.05
BCST_SW301-011615	1/16/15 11:15	BC_301	SW6010	Potassium	11	mg/l			
BCST_SW301-011615	1/16/15 11:15	BC_301	SW6010	Sodium	388	mg/l			
BCST_SW309-012415	1/24/15 13:30	BC_309	SW6020	Arsenic	**0.0784**	mg/l	0.01	0.01	
BCST_SW309-012415	1/24/15 13:30	BC_309	SW6020	Barium	0.0648	mg/l		2	
BCST_SW309-012415	1/24/15 13:30	BC_309	SW6010	Calcium	277	mg/l			
BCST_SW309-012415	1/24/15 13:30	BC_309	SW6010	Magnesium	229	mg/l			
BCST_SW309-012415	1/24/15 13:30	BC_309	SW6010	Sodium	1290	mg/l			
BCST_SW400-012415	1/24/15 13:05	SW_400	SW6020	Barium	0.0681	mg/l		2	
BCST_SW401-012415	1/24/15 12:50	SW_401	SW6020	Barium	0.162	mg/l		2	
BCST_SW401-012615	1/26/15 18:20	SW_401	SW6020	Barium	0.0677	mg/l		2	
BCST_SW402-012415	1/24/15 13:25	SW_402	SW6020	Barium	0.707	mg/l		2	
BCST_SW403-012415	1/24/15 12:00	SW_403	SW6020	Barium	0.728	mg/l		2	
BCST_SW404-012415	1/24/15 11:45	SW_404	SW6020	Barium	0.792	mg/l		2	
BCST_SW405-012415	1/24/15 11:30	SW_405	SW6020	Barium	2	mg/l		2	
BCST_SW406-012415	1/24/15 11:15	SW_406	SW6020	Barium	0.778	mg/l		2	
BCST_SW407-012415	1/24/15 11:00	SW_407	SW6020	Barium	0.646	mg/l		2	
BCST_WSF01_012315	1/23/15 12:50	BC_WSF01	SW6020	Barium	0.0407	mg/l		2	
BCST_WSF01_012315	1/23/15 12:50	BC_WSF01	SW6010	Boron	1.02	mg/l			
BCST_WSF01_012315	1/23/15 12:50	BC_WSF01	SW6010	Calcium	250	mg/l			
BCST_WSF01_012315	1/23/15 12:50	BC_WSF01	SW6010	Magnesium	221	mg/l			
BCST_WSF01_012315	1/23/15 12:50	BC_WSF01	SW6010	Potassium	16.9	mg/l			
BCST_WSF01_012315	1/23/15 12:50	BC_WSF01	SW6010	Sodium	636 J	mg/l			

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST_WSF02_012315	1/23/15 13:35	BC_WSF02	SW6020	Barium	0.0302	mg/l		2	
BCST_WSF02_012315	1/23/15 13:35	BC_WSF02	SW6010	Boron	0.852	mg/l			
BCST_WSF02_012315	1/23/15 13:35	BC_WSF02	SW6010	Calcium	192	mg/l			
BCST_WSF02_012315	1/23/15 13:35	BC_WSF02	SW6010	Magnesium	172	mg/l			
BCST_WSF02_012315	1/23/15 13:35	BC_WSF02	SW6010	Potassium	12.9	mg/l			
BCST_WSF02_012315	1/23/15 13:35	BC_WSF02	SW6010	Sodium	493	mg/l			
BCST-DUP 402-013015	1/30/15 0:01	SW_409	SW6020	Barium	0.242 J	mg/l		2	
BCST-DUP 409-020415	2/4/15 0:01	SW_408	SW6020	Barium	**3.2 J**	mg/l		2	
BCST-DUP 410-020415	2/4/15 0:01	SW_407	SW6020	Barium	0.165 J	mg/l		2	
BCST-DUP 411-020515	2/5/15 0:01	SCD2	SW6020	Barium	0.0814	mg/l		2	
BCST-DUP400-012815	1/28/15 0:01	SW_411	SW6020	Barium	0.0554 J	mg/l		2	
BCST-DUP401-012915	1/29/15 0:01	SW_406	SW6020	Barium	0.00493	mg/l		2	
BCST-DUP412-020615	2/6/15 0:01	SW_402	SW6020	Barium	0.0414	mg/l		2	
BCST-DUP413-020615	2/6/15 0:01	SW_410	SW6020	Barium	0.555 J	mg/l		2	
BCST-DUP414-020715	2/7/15 0:01	SW_401	SW6020	Barium	0.104 J	mg/l		2	
BCST-DUP415-020815	2/8/15 0:01	SW_405	SW6020	Barium	0.0785	mg/l		2	
BCST-DUP416-020915	2/9/15 0:01	SW_408	SW6020	Barium	**3.85 J**	mg/l		2	
BCST-DW001-012815	1/28/15 14:10	BC_DW001	SW6020	Arsenic	**0.0686**	mg/l	0.01	0.01	
BCST-DW001-012815	1/28/15 14:10	BC_DW001	SW6010	Sodium	364 J	mg/l			
BCST-DW002-012815	1/28/15 14:15	BC_DW002	SW6020	Arsenic	**0.0714**	mg/l	0.01	0.01	
BCST-DW002-012815	1/28/15 14:15	BC_DW002	SW6020	Barium	0.0891	mg/l		2	
BCST-DW002-012815	1/28/15 14:15	BC_DW002	SW6010	Calcium	104	mg/l			
BCST-DW002-012815	1/28/15 14:15	BC_DW002	SW6010	Magnesium	89.4	mg/l			
BCST-DW002-012815	1/28/15 14:15	BC_DW002	SW6010	Manganese	**0.384**	mg/l			0.05
BCST-DW002-012815	1/28/15 14:15	BC_DW002	SW6010	Sodium	195 J	mg/l			
BCST-DW003-012815	1/28/15 14:44	BC_DW003	SW6020	Arsenic	**0.0653**	mg/l	0.01	0.01	
BCST-DW003-012815	1/28/15 14:44	BC_DW003	SW6020	Barium	0.0246	mg/l		2	
BCST-DW003-012815	1/28/15 14:44	BC_DW003	SW6010	Calcium	124	mg/l			
BCST-DW003-012815	1/28/15 14:44	BC_DW003	SW6010	Iron	**2.69**	mg/l			0.03
BCST-DW003-012815	1/28/15 14:44	BC_DW003	SW6010	Magnesium	92.4	mg/l			
BCST-DW003-012815	1/28/15 14:44	BC_DW003	SW6010	Potassium	11.2	mg/l			
BCST-DW003-012815	1/28/15 14:44	BC_DW003	SW6010	Sodium	670 J	mg/l			

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST-SCD 002-020515	2/5/15 11:35	SCD2	SW6020	Barium	0.0817	mg/l		2	
BCST-SCD 003-020515	2/5/15 10:45	SCD3	SW6020	Barium	0.116	mg/l		2	
BCST-SCD002-012815	1/28/15 12:35	SCD2	SW6020	Barium	0.00965	mg/l		2	
BCST-SCD002-012915	1/29/15 13:50	SCD2	SW6020	Barium	0.00586	mg/l		2	
BCST-SCD002-013015	1/30/15 15:20	SCD2	SW6020	Barium	0.107	mg/l		2	
BCST-SCD002-020415	2/4/15 12:05	SCD2	SW6020	Barium	0.12	mg/l		2	
BCST-SCD002-020615	2/6/15 11:06	SCD2	SW6020	Barium	0.105	mg/l		2	
BCST-SCD002-020715	2/7/15 10:40	SCD2	SW6020	Barium	0.0652	mg/l		2	
BCST-SCD002-020815	2/8/15 11:37	SCD2	SW6020	Barium	0.348	mg/l		2	
BCST-SCD003-012815	1/28/15 11:18	SCD3	SW6020	Barium	0.00665	mg/l		2	
BCST-SCD003-012915	1/29/15 12:45	SCD3	SW6020	Barium	0.00648	mg/l		2	
BCST-SCD003-013015	1/30/15 13:58	SCD3	SW6020	Barium	0.0642	mg/l		2	
BCST-SCD003-020415	2/4/15 10:15	SCD3	SW6020	Barium	0.0655	mg/l		2	
BCST-SCD003-020615	2/6/15 9:50	SCD3	SW6020	Barium	0.0626	mg/l		2	
BCST-SCD003-020715	2/7/15 9:17	SCD3	SW6020	Barium	0.0779	mg/l		2	
BCST-SCD003-020815	2/8/15 9:51	SCD3	SW6020	Barium	0.0556	mg/l		2	
BCST-SW 400-012915	1/29/15 15:25	SW_400	SW6020	Barium	0.00518	mg/l		2	
BCST-SW- 400-013015	1/30/15 16:15	SW_400	SW6020	Barium	0.037	mg/l		2	
BCST-SW 400-020415	2/4/15 8:50	SW_400	SW6020	Barium	0.0507	mg/l		2	
BCST-SW 400-020515	2/5/15 9:10	SW_400	SW6020	Barium	0.175	mg/l		2	
BCST-SW 401-012915	1/29/15 14:55	SW_401	SW6020	Barium	0.00519	mg/l		2	
BCST-SW- 401-013015	1/30/15 15:55	SW_401	SW6020	Barium	0.0791	mg/l		2	
BCST-SW 401-020415	2/4/15 12:20	SW_401	SW6020	Barium	0.18	mg/l		2	
BCST-SW 401-020515	2/5/15 11:55	SW_401	SW6020	Barium	0.0918	mg/l		2	
BCST-SW 402-012915	1/29/15 14:00	SW_402	SW6020	Barium	0.00989	mg/l		2	
BCST-SW- 402-013015	1/30/15 15:10	SW_402	SW6020	Barium	0.0866 J	mg/l		2	
BCST-SW 402-020415	2/4/15 9:10	SW_402	SW6020	Barium	0.583	mg/l		2	
BCST-SW 402-020515	2/5/15 9:23	SW_402	SW6020	Barium	**3.43**	mg/l		2	
BCST-SW 403-012915	1/29/15 13:25	SW_403	SW6020	Barium	0.00696	mg/l		2	
BCST-SW- 403-013015	1/30/15 14:50	SW_403	SW6020	Barium	0.0548	mg/l		2	
BCST-SW 403-020415	2/4/15 11:37	SW_403	SW6020	Barium	0.0526	mg/l		2	
BCST-SW 403-020515	2/5/15 11:20	SW_403	SW6020	Barium	0.0671	mg/l		2	

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST-SW 404-012915	1/29/15 13:05	SW_404	SW6020	Barium	0.105	mg/l		2	
BCST-SW- 404-013015	1/30/15 14:35	SW_404	SW6020	Barium	1.14	mg/l		2	
BCST-SW 404-020415	2/4/15 11:00	SW_404	SW6020	Barium	0.178	mg/l		2	
BCST-SW 404-020515	2/5/15 11:05	SW_404	SW6020	Barium	0.651	mg/l		2	
BCST-SW 405-012915	1/29/15 12:35	SW_405	SW6020	Barium	0.00677	mg/l		2	
BCST-SW- 405-013015	1/30/15 14:45	SW_405	SW6020	Barium	0.0536	mg/l		2	
BCST-SW 405-020415	2/4/15 9:20	SW_405	SW6020	Barium	0.066	mg/l		2	
BCST-SW 405-020515	2/5/15 9:40	SW_405	SW6020	Barium	0.0567	mg/l		2	
BCST-SW 406-012915	1/29/15 12:15	SW_406	SW6020	Barium	0.00455	mg/l		2	
BCST-SW- 406-013015	1/30/15 13:26	SW_406	SW6020	Barium	0.0524	mg/l		2	
BCST-SW 406-020415	2/4/15 13:20	SW_406	SW6020	Barium	0.0763	mg/l		2	
BCST-SW 406-020515	2/5/15 13:00	SW_406	SW6020	Barium	0.0609	mg/l		2	
BCST-SW 407-012915	1/29/15 11:43	SW_407	SW6020	Barium	0.00681	mg/l		2	
BCST-SW- 407-013015	1/30/15 13:10	SW_407	SW6020	Barium	0.105	mg/l		2	
BCST-SW 407-020415	2/4/15 13:35	SW_407	SW6020	Barium	0.102	mg/l		2	
BCST-SW 407-020515	2/5/15 13:15	SW_407	SW6020	Barium	0.405	mg/l		2	
BCST-SW 408-012915	1/29/15 14:40	SW_408	SW6020	Barium	0.653	mg/l		2	
BCST-SW- 408-013015	1/30/15 15:45	SW_408	SW6020	Barium	**2.06**	mg/l		2	
BCST-SW 408-020415	2/4/15 12:30	SW_408	SW6020	Barium	**3.53**	mg/l		2	
BCST-SW 408-020515	2/5/15 12:05	SW_408	SW6020	Barium	**4.38**	mg/l		2	
BCST-SW 409-012915	1/29/15 10:30	SW_409	SW6020	Barium	0.00926	mg/l		2	
BCST-SW- 409-013015	1/30/15 11:45	SW_409	SW6020	Barium	0.244	mg/l		2	
BCST-SW 409-020415	2/4/15 8:12	SW_409	SW6020	Barium	0.227	mg/l		2	
BCST-SW 409-020515	2/5/15 8:50	SW_409	SW6020	Barium	1.91	mg/l		2	
BCST-SW 410-012915	1/29/15 10:50	SW_410	SW6020	Barium	0.00743	mg/l		2	
BCST-SW- 410-013015	1/30/15 12:25	SW_410	SW6020	Barium	0.0914	mg/l		2	
BCST-SW 410-020415	2/4/15 14:35	SW_410	SW6020	Barium	0.106	mg/l		2	
BCST-SW 410-020515	2/5/15 14:10	SW_410	SW6020	Barium	**2.06**	mg/l		2	
BCST-SW 411-012915	1/29/15 11:10	SW_411	SW6020	Barium	0.066	mg/l		2	
BCST-SW- 411-013015	1/30/15 12:45	SW_411	SW6020	Barium	0.152	mg/l		2	
BCST-SW 411-020415	2/4/15 14:15	SW_411	SW6020	Barium	0.0835	mg/l		2	
BCST-SW 411-020515	2/5/15 14:00	SW_411	SW6020	Barium	0.0963	mg/l		2	

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST-SW303-013115	1/31/15 14:00	BC_303	SW6010	Aluminum	2.63	mg/l			
BCST-SW303-013115	1/31/15 14:00	BC_303	SW6020	Barium	0.115	mg/l		2	
BCST-SW303-013115	1/31/15 14:00	BC_303	SW6010	Boron	1.73	mg/l			
BCST-SW303-013115	1/31/15 14:00	BC_303	SW6010	Calcium	241	mg/l			
BCST-SW303-013115	1/31/15 14:00	BC_303	SW6020	Chromium (Total)	**0.11**	mg/l		0.1	
BCST-SW303-013115	1/31/15 14:00	BC_303	SW6010	Iron	**3.59**	mg/l			0.03
BCST-SW303-013115	1/31/15 14:00	BC_303	SW6010	Magnesium	134	mg/l			
BCST-SW303-013115	1/31/15 14:00	BC_303	SW6010	Manganese	**0.615**	mg/l			0.05
BCST-SW303-013115	1/31/15 14:00	BC_303	SW6010	Potassium	35.6	mg/l			
BCST-SW303-013115	1/31/15 14:00	BC_303	SW6010	Sodium	823	mg/l			
BCST-SW400-012815	1/28/15 14:45	SW_400	SW6020	Barium	0.033	mg/l		2	
BCST-SW400-020615	2/6/15 9:18	SW_400	SW6020	Barium	0.0287	mg/l		2	
BCST-SW400-020715	2/7/15 8:40	SW_400	SW6020	Barium	0.0398	mg/l		2	
BCST-SW401-012715	1/27/15 14:30	SW_401	SW6020	Barium	0.0953	mg/l		2	
BCST-SW401-012815	1/28/15 13:30	SW_401	SW6020	Barium	0.0051	mg/l		2	
BCST-SW401-020615	2/6/15 11:22	SW_401	SW6020	Barium	0.277	mg/l		2	
BCST-SW401-020715	2/7/15 11:00	SW_401	SW6020	Barium	0.158 J	mg/l		2	
BCST-SW402-012615	1/26/15 13:35	SW_402	SW6020	Barium	0.0997	mg/l		2	
BCST-SW402-012715	1/27/15 13:15	SW_402	SW6020	Barium	0.0702	mg/l		2	
BCST-SW402-012815	1/28/15 12:25	SW_402	SW6020	Barium	0.00515	mg/l		2	
BCST-SW402-020615	2/6/15 9:35	SW_402	SW6020	Barium	0.0402	mg/l		2	
BCST-SW402-020715	2/7/15 8:55	SW_402	SW6020	Barium	0.048	mg/l		2	
BCST-SW403-012615	1/26/15 13:15	SW_403	SW6020	Barium	0.175	mg/l		2	
BCST-SW403-012715	1/27/15 12:55	SW_403	SW6020	Barium	0.19	mg/l		2	
BCST-SW403-012815	1/28/15 12:00	SW_403	SW6020	Barium	0.00634	mg/l		2	
BCST-SW403-020615	2/6/15 10:55	SW_403	SW6020	Barium	0.0456	mg/l		2	
BCST-SW403-020715	2/7/15 10:25	SW_403	SW6020	Barium	0.101	mg/l		2	
BCST-SW404-012615	1/26/15 12:40	SW_404	SW6020	Barium	1.83	mg/l		2	
BCST-SW404-012715	1/27/15 12:30	SW_404	SW6020	Barium	0.18	mg/l		2	
BCST-SW404-012815	1/28/15 11:38	SW_404	SW6020	Barium	0.022	mg/l		2	
BCST-SW404-020615	2/6/15 10:28	SW_404	SW6020	Barium	0.497	mg/l		2	

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST-SW404-020715	2/7/15 9:55	SW_404	SW6020	Barium	0.125	mg/l		2	
BCST-SW405-012615	1/26/15 12:25	SW_405	SW6020	Barium	0.687	mg/l		2	
BCST-SW405-012715	1/27/15 11:50	SW_405	SW6020	Barium	0.109	mg/l		2	
BCST-SW405-012815	1/28/15 11:05	SW_405	SW6020	Barium	0.00774	mg/l		2	
BCST-SW405-020615	2/6/15 10:10	SW_405	SW6020	Barium	0.0567	mg/l		2	
BCST-SW405-020715	2/7/15 9:30	SW_405	SW6020	Barium	0.0764	mg/l		2	
BCST-SW406-012615	1/26/15 11:55	SW_406	SW6020	Barium	0.388	mg/l		2	
BCST-SW406-012715	1/27/15 11:00	SW_406	SW6020	Barium	0.144	mg/l		2	
BCST-SW406-012815	1/28/15 10:45	SW_406	SW6020	Barium	0.00585	mg/l		2	
BCST-SW406-020615	2/6/15 12:53	SW_406	SW6020	Barium	0.0487	mg/l		2	
BCST-SW406-020715	2/7/15 11:43	SW_406	SW6020	Barium	0.078	mg/l		2	
BCST-SW407-012615	1/26/15 11:15	SW_407	SW6020	Barium	0.556	mg/l		2	
BCST-SW407-012715	1/27/15 10:25	SW_407	SW6020	Barium	0.262	mg/l		2	
BCST-SW407-012815	1/28/15 10:05	SW_407	SW6020	Barium	0.0239	mg/l		2	
BCST-SW407-020615	2/6/15 13:15	SW_407	SW6020	Barium	**2.6**	mg/l		2	
BCST-SW407-020715	2/7/15 12:03	SW_407	SW6020	Barium	0.11	mg/l		2	
BCST-SW408-012715	1/27/15 15:30	SW_408	SW6020	Barium	**5.12**	mg/l		2	
BCST-SW408-012815	1/28/15 13:45	SW_408	SW6020	Barium	0.518	mg/l		2	
BCST-SW408-020615	2/6/15 11:30	SW_408	SW6020	Barium	**4.71**	mg/l		2	
BCST-SW408-020715	2/7/15 11:20	SW_408	SW6020	Barium	**3.79**	mg/l		2	
BCST-SW409-012715	1/27/15 15:55	SW_409	SW6020	Barium	0.261	mg/l		2	
BCST-SW409-012815	1/28/15 16:20	SW_409	SW6020	Barium	0.0143	mg/l		2	
BCST-SW409-020615	2/6/15 8:36	SW_409	SW6020	Barium	**2.55**	mg/l		2	
BCST-SW409-020715	2/7/15 8:15	SW_409	SW6020	Barium	0.9	mg/l		2	
BCST-SW410-012715	1/27/15 16:02	SW_410	SW6020	Barium	0.319	mg/l		2	
BCST-SW410-012815	1/28/15 16:00	SW_410	SW6020	Barium	0.0469	mg/l		2	
BCST-SW410-020615	2/6/15 13:55	SW_410	SW6020	Barium	0.424 J	mg/l		2	
BCST-SW410-020715	2/7/15 14:58	SW_410	SW6020	Barium	0.22	mg/l		2	
BCST-SW411-012715	1/27/15 16:14	SW_411	SW6020	Barium	0.295	mg/l		2	
BCST-SW411-012815	1/28/15 15:20	SW_411	SW6020	Barium	0.0723 J	mg/l		2	
BCST-SW411-020615	2/6/15 13:29	SW_411	SW6020	Barium	0.125	mg/l		2	
BCST-SW411-020715	2/7/15 14:45	SW_411	SW6020	Barium	0.118	mg/l		2	

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BCST-SW412-012815	1/28/15 16:30	SW_412	SW6020	Barium	0.0213	mg/l		2	
BCST-SWSW400-020815	2/8/15 9:30	SW_400	SW6020	Barium	0.0411	mg/l		2	
BCST-SWSW401-020815	2/8/15 11:47	SW_401	SW6020	Barium	0.103	mg/l		2	
BCST-SWSW402-020815	2/8/15 9:43	SW_402	SW6020	Barium	5.2	mg/l		2	
BCST-SWSW403-020815	2/8/15 11:20	SW_403	SW6020	Barium	0.0957	mg/l		2	
BCST-SWSW404-020815	2/8/15 11:06	SW_404	SW6020	Barium	1.23	mg/l		2	
BCST-SWSW405-020815	2/8/15 10:37	SW_405	SW6020	Barium	0.0814	mg/l		2	
BCST-SWSW406-020815	2/8/15 12:19	SW_406	SW6020	Barium	0.071	mg/l		2	
BCST-SWSW407-020815	2/8/15 13:30	SW_407	SW6020	Barium	0.0729	mg/l		2	
BCST-SWSW408-020815	2/8/15 11:58	SW_408	SW6020	Barium	2.9	mg/l		2	
BCST-SWSW408-020915	2/9/15 9:55	SW_408	SW6020	Barium	**2.89 J**	mg/l		2	
BCST-SWSW408-021015	2/10/15 10:50	SW_408	SW6020	Barium	**3.89 J**	mg/l		2	
BCST-SWSW408-021115	2/11/15 10:33	SW_408	SW6020	Barium	**4.77 J**	mg/l		2	
BCST-SWSW409-020815	2/8/15 8:47	SW_409	SW6020	Barium	0.587	mg/l		2	
BCST-SWSW410-020815	2/8/15 14:25	SW_410	SW6020	Barium	0.106	mg/l		2	
BCST-SWSW411-020815	2/8/15 13:52	SW_411	SW6020	Barium	0.12	mg/l		2	
BCST-SWSW413-020915	2/9/15 8:27	SW_413	SW6020	Barium	1.62	mg/l		2	
BCST-SWSW413-021015	2/10/15 8:28	SW_413	SW6020	Barium	1.1	mg/l		2	
BCST-SWSW413-021115	2/11/15 8:03	SW_413	SW6020	Barium	1.02	mg/l		2	
BT-SW-04/BC111	1/25/15 17:15	BC_111	SW6020	Barium	0.0279	mg/l		2	
BT-SW-04/BC111	1/25/15 17:15	BC_111	SW6010	Calcium	105 J	mg/l			
BT-SW-04/BC111	1/25/15 17:15	BC_111	SW6010	Magnesium	68.5 J	mg/l			
BT-SW-04/BC111	1/25/15 17:15	BC_111	SW6010	Manganese	**0.204**	mg/l			0.05
BT-SW-04/BC111	1/25/15 17:15	BC_111	SW6010	Sodium	290 J	mg/l			
BT-SW-05/BC111	1/26/15 9:10	BC_111	SW6020	Barium	0.0274	mg/l		2	
BT-SW-05/BC111	1/26/15 9:10	BC_111	SW6010	Calcium	108	mg/l			
BT-SW-05/BC111	1/26/15 9:10	BC_111	SW6010	Iron	**1.03**	mg/l			0.03
BT-SW-05/BC111	1/26/15 9:10	BC_111	SW6010	Magnesium	71.2	mg/l			
BT-SW-05/BC111	1/26/15 9:10	BC_111	SW6010	Manganese	**0.238**	mg/l			0.05
BT-SW-05/BC111	1/26/15 9:10	BC_111	SW6010	Potassium	10	mg/l			
BT-SW-05/BC111	1/26/15 9:10	BC_111	SW6010	Sodium	300	mg/l			
BT-SW-06/1804 Bridge	1/26/15 11:45	SW-06/1804 Bridge	SW6020	Barium	0.0617	mg/l		2	

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
BT-SW-06/1804 Bridge	1/26/15 11:45	SW-06/1804 Bridge	SW6010	Calcium	85.1	mg/l			
BT-SW-06/1804 Bridge	1/26/15 11:45	SW-06/1804 Bridge	SW6010	Magnesium	43.4	mg/l			
BT-SW-06/1804 Bridge	1/26/15 11:45	SW-06/1804 Bridge	SW6010	Manganese	**0.226**	mg/l			0.05
BT-SW-06/1804 Bridge	1/26/15 11:45	SW-06/1804 Bridge	SW6010	Sodium	193	mg/l			
LMRST-SW121-020715	2/7/15 14:05	LMRST_SW_121	SW6020	Barium	0.0487	mg/l		2	
LMRST-SW122-020715	2/7/15 16:05	LMRST_SW_122	SW6020	Barium	0.0555	mg/l		2	
LMST-SW303-020715	2/7/15 9:30	BC_303	SW6020	Barium	0.0611	mg/l		2	
LMST-SW303-020715	2/7/15 9:30	BC_303	SW6010	Boron	0.606	mg/l			
LMST-SW303-020715	2/7/15 9:30	BC_303	SW6010	Calcium	143	mg/l			
LMST-SW303-020715	2/7/15 9:30	BC_303	SW6010	Iron	**1.04**	mg/l			0.03
LMST-SW303-020715	2/7/15 9:30	BC_303	SW6010	Magnesium	98.4	mg/l			
LMST-SW303-020715	2/7/15 9:30	BC_303	SW6010	Manganese	**0.226**	mg/l			0.05
LMST-SW303-020715	2/7/15 9:30	BC_303	SW6010	Potassium	27.2	mg/l			
LMST-SW303-020715	2/7/15 9:30	BC_303	SW6020	Silver	0.0224	mg/l			
LMST-SW303-020715	2/7/15 9:30	BC_303	SW6010	Sodium	312	mg/l			
LMST-SW304-020715	2/7/15 10:30	BC_304	SW6010	Aluminum	1.27	mg/l			
LMST-SW304-020715	2/7/15 10:30	BC_304	SW6020	Barium	0.0655	mg/l		2	
LMST-SW304-020715	2/7/15 10:30	BC_304	SW6010	Calcium	68.4	mg/l			
LMST-SW304-020715	2/7/15 10:30	BC_304	SW6010	Iron	**1.15**	mg/l			0.03
LMST-SW304-020715	2/7/15 10:30	BC_304	SW6010	Magnesium	34	mg/l			
LMST-SW304-020715	2/7/15 10:30	BC_304	SW6010	Sodium	99.6	mg/l			
LMST-SW305-020715	2/7/15 11:15	BC_305	SW6020	Barium	0.046	mg/l		2	
LMST-SW305-020715	2/7/15 11:15	BC_305	SW6010	Calcium	71.5	mg/l			
LMST-SW305-020715	2/7/15 11:15	BC_305	SW6010	Magnesium	47.2	mg/l			
LMST-SW305-020715	2/7/15 11:15	BC_305	SW6010	Potassium	11.2	mg/l			
LMST-SW305-020715	2/7/15 11:15	BC_305	SW6010	Sodium	146	mg/l			
LMST-SW306-020715	2/7/15 13:30	BC_306	SW6020	Barium	0.0575	mg/l		2	
LMST-SW306-020715	2/7/15 13:30	BC_306	SW6010	Calcium	59.7	mg/l			
LMST-SW306-020715	2/7/15 13:30	BC_306	SW6010	Magnesium	29	mg/l			
LMST-SW306-020715	2/7/15 13:30	BC_306	SW6010	Sodium	81	mg/l			
LMST-SW307-020715	2/7/15 12:15	BC_307	SW6020	Barium	0.05	mg/l		2	
LMST-SW307-020715	2/7/15 12:15	BC_307	SW6010	Calcium	82	mg/l			

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
LMST-SW307-020715	2/7/15 12:15	BC_307	SW6010	Magnesium	52.6	mg/l			
LMST-SW307-020715	2/7/15 12:15	BC_307	SW6010	Potassium	13.4	mg/l			
LMST-SW307-020715	2/7/15 12:15	BC_307	SW6010	Sodium	165	mg/l			
Moling Produced	1/24/15 14:30	Moling Produced	SW6020	Barium	**23.4**	mg/l		2	
Moling Produced	1/24/15 14:30	Moling Produced	SW6010	Boron	452	mg/l			
Moling Produced	1/24/15 14:30	Moling Produced	SW6010	Calcium	21400	mg/l			
Moling Produced	1/24/15 14:30	Moling Produced	SW6020	Chromium (Total)	**0.436**	mg/l		0.1	
Moling Produced	1/24/15 14:30	Moling Produced	SW6010	Iron	**125**	mg/l			0.03
Moling Produced	1/24/15 14:30	Moling Produced	SW6010	Magnesium	1660	mg/l			
Moling Produced	1/24/15 14:30	Moling Produced	SW6010	Manganese	**12.5**	mg/l			0.05
Moling Produced	1/24/15 14:30	Moling Produced	SW6010	Potassium	8320	mg/l			
Moling Produced	1/24/15 14:30	Moling Produced	SW6010	Sodium	116000	mg/l			
SCD-002-012515	1/25/15 16:15	SCD2	SW6020	Barium	0.0373	mg/l		2	
SCD-002-012615	1/26/15 13:50	SCD2	SW6020	Barium	0.126	mg/l		2	
SCD-002-012715	1/27/15 13:30	SCD2	SW6020	Barium	0.105	mg/l		2	
SCD-003-012515	1/25/15 15:36	SCD3	SW6020	Barium	0.495	mg/l		2	
SCD-003-012615	1/26/15 12:15	SCD3	SW6020	Barium	0.686	mg/l		2	
SCD-003-012715	1/27/15 11:58	SCD3	SW6020	Barium	0.137	mg/l		2	
South Valve Set	1/15/15 10:30	South Valve Set	SW6020	Barium	**13.8**	mg/l		2	
South Valve Set	1/15/15 10:30	South Valve Set	SW6010	Boron	379	mg/l			
South Valve Set	1/15/15 10:30	South Valve Set	SW6010	Calcium	16200	mg/l			
South Valve Set	1/15/15 10:30	South Valve Set	SW6010	Iron	**62.4**	mg/l			0.03
South Valve Set	1/15/15 10:30	South Valve Set	SW6010	Magnesium	1310	mg/l			
South Valve Set	1/15/15 10:30	South Valve Set	SW6010	Manganese	**7.82**	mg/l			0.05
South Valve Set	1/15/15 10:30	South Valve Set	SW6010	Potassium	6400	mg/l			
South Valve Set	1/15/15 10:30	South Valve Set	SW6010	Sodium	67600	mg/l			
State Produced	1/25/15 10:20	State Produced	SW6020	Arsenic	**0.183**	mg/l	0.01	0.01	
State Produced	1/25/15 10:20	State Produced	SW6020	Barium	**20.8**	mg/l		2	
State Produced	1/25/15 10:20	State Produced	SW6010	Boron	372	mg/l			
State Produced	1/25/15 10:20	State Produced	SW6010	Calcium	18100	mg/l			
State Produced	1/25/15 10:20	State Produced	SW6010	Iron	**140**	mg/l			0.03

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
State Produced	1/25/15 10:20	State Produced	SW6010	Magnesium	1340	mg/l			
State Produced	1/25/15 10:20	State Produced	SW6010	Manganese	**57.3**	mg/l			0.05
State Produced	1/25/15 10:20	State Produced	SW6010	Potassium	6900	mg/l			
State Produced	1/25/15 10:20	State Produced	SW6010	Sodium	93100	mg/l			
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW6020	Barium	1.51	mg/l		2	
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW6010	Boron	89.9	mg/l			
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW6010	Calcium	6870 J	mg/l			
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW6010	Iron	**27.4**	mg/l			0.03
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW6010	Magnesium	1020	mg/l			
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW6010	Manganese	**15.1**	mg/l			0.05
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW6010	Potassium	2260 J	mg/l			
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW6010	Sodium	28300	mg/l			
SWST_106-G-01142015	1/14/15 15:45	BC_106	SW6010	Aluminum	0.506	mg/l			
SWST_106-G-01142015	1/14/15 15:45	BC_106	SW6020	Barium	0.145	mg/l		2	
SWST_106-G-01142015	1/14/15 15:45	BC_106	SW6010	Boron	5.62	mg/l			
SWST_106-G-01142015	1/14/15 15:45	BC_106	SW6010	Calcium	483	mg/l			
SWST_106-G-01142015	1/14/15 15:45	BC_106	SW6010	Magnesium	185	mg/l			
SWST_106-G-01142015	1/14/15 15:45	BC_106	SW6010	Manganese	**0.825**	mg/l			0.05
SWST_106-G-01142015	1/14/15 15:45	BC_106	SW6010	Potassium	113	mg/l			
SWST_106-G-01142015	1/14/15 15:45	BC_106	SW6010	Sodium	2130	mg/l			
SWST_108-F-01142015	1/14/15 16:00	BC_108	SW6020	Barium	0.0402	mg/l		2	
SWST_108-F-01142015	1/14/15 16:00	BC_108	SW6010	Calcium	148	mg/l			
SWST_108-F-01142015	1/14/15 16:00	BC_108	SW6010	Magnesium	81.7	mg/l			
SWST_108-F-01142015	1/14/15 16:00	BC_108	SW6010	Manganese	**0.35**	mg/l			0.05
SWST_108-F-01142015	1/14/15 16:00	BC_108	SW6010	Potassium	9.66	mg/l			
SWST_108-F-01142015	1/14/15 16:00	BC_108	SW6010	Sodium	390	mg/l			
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW6020	Barium	2.11	mg/l		2	
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW6010	Boron	134	mg/l			
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW6010	Calcium	6870	mg/l			
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW6010	Iron	**17.5**	mg/l			0.03
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW6010	Magnesium	1070	mg/l			
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW6010	Manganese	**15.7**	mg/l			0.05

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)									
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**	**EPA MCL**	**EPA Secondary MCL**
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW6010	Potassium	2180	mg/l			
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW6010	Sodium	39100	mg/l			
SYLTE-FRAC TANK 01-012415	1/24/15 14:40	SYLTE-FRAC TANK 1	SW6020	Barium	0.295	mg/l		2	
SYLTE-FRAC TANK 01-012515	1/25/15 17:40	SYLTE-FRAC TANK 1	SW6020	Barium	0.12	mg/l		2	
SYLTE-FRAC TANK 01-012615	1/26/15 15:40	SYLTE-FRAC TANK 1	SW6020	Barium	0.147	mg/l		2	
SYLTE-FRAC TANK 02-012415	1/24/15 14:50	SYLTE-FRAC TANK 2	SW6020	Barium	0.27	mg/l		2	
SYLTE-FRAC TANK 03-012415	1/24/15 15:00	SYLTE-FRAC TANK 3	SW6020	Barium	0.314	mg/l		2	
SYLTE-FRAC TANK 03-012515	1/25/15 17:50	SYLTE-FRAC TANK 3	SW6020	Barium	0.131	mg/l		2	
SYLTE-FRAC TANK 03-012615	1/26/15 15:45	SYLTE-FRAC TANK 3	SW6020	Barium	0.126	mg/l		2	
SYLTE-FRAC TANK 05-012515	1/25/15 18:05	SYLTE-FRAC TANK 5	SW6020	Barium	0.206	mg/l		2	
SYLTE-FRAC TANK 05-012615	1/26/15 15:50	SYLTE-FRAC TANK 5	SW6020	Barium	0.128	mg/l		2	
SYLTE-FRAC TANK 07-012515	1/25/15 18:20	SYLTE-FRAC TANK 7	SW6020	Barium	0.206	mg/l		2	
SYLTE-FRAC TANK 07-012615	1/26/15 15:55	SYLTE-FRAC TANK 7	SW6020	Barium	0.111	mg/l		2	

J: estimated value

Bold: result exceeds one or more benchmarks

* results presented are limited to detections; analysis included all analytes on method list

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)							
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**WY Water Cleanup Level [1]**
BCST_SW100-012515	1/25/15 11:45	BC_100	SW8015	ORO C24-C40	116	ug/l	
BCST_SW100-012515	1/25/15 11:45	BC_100	SW8015	PHC - diesel (C10-C28)	158	ug/l	1,100
BCST_SW118-012015	1/20/15 14:00	BC_118	SW8015	PHC - diesel (C10-C28)	139 J	ug/l	1,100
BCST_SW119-012015	1/20/15 13:15	BC_119	SW8015	PHC - diesel (C10-C28)	199 J	ug/l	1,100
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8015	ORO C24-C40	2960 J	ug/l	
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8015	PHC - diesel (C10-C28)	**5510 J**	ug/l	1,100
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8015	PHC - Gasoline (C6-C10)	271	ug/l	6,600
BT-SW-06/1804 Bridge	1/26/15 11:45	SW-06/1804 Bridge	SW8015	PHC - diesel (C10-C28)	105	ug/l	1,100
Moling Produced	1/24/15 14:30	Moling Produced	SW8015	ORO C24-C40	2180 J	ug/l	
Moling Produced	1/24/15 14:30	Moling Produced	SW8015	PHC - diesel (C10-C28)	**5200 J**	ug/l	1,100
Moling Produced	1/24/15 14:30	Moling Produced	SW8015	PHC - Gasoline (C6-C10)	1570	ug/l	6,600
State Produced	1/25/15 10:20	State Produced	SW8015	PHC - diesel (C10-C28)	**1220 J**	ug/l	1,100
State Produced	1/25/15 10:20	State Produced	SW8015	PHC - Gasoline (C6-C10)	3490	ug/l	6,600

J: estimated value

Note: no ND Stream HHV or EPA MCL set for these analytes

* results presented are limited to detections; analysis included all analytes on method list

[1]: Wyoming Water cleanup level used for reference because no federal benchmark is available

Bold: result exceeds one or more benchmarks

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)							
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**
BCST_SS3FP-012415	1/24/15 11:10	Free Product	SW8260B	Benzene	**5.13**	ug/l	5
BCST_SS3FP-012415	1/24/15 11:10	Free Product	SW8260B	Toluene	2.17	ug/l	1000
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Benzene	**49.4**	ug/l	5
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Ethylbenzene	7.08	ug/l	530
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Toluene	37.4	ug/l	1000
BCST_SW102-011715	1/17/15 11:15	BC_102	SW8260B	Xylenes, Total	44.2	ug/l	10,000
BCST_SW103_012315	1/23/15 9:25	BC_103	SW8260B	Benzene	**6.53**	ug/l	5
BCST_SW103_012315	1/23/15 9:25	BC_103	SW8260B	Toluene	1.85	ug/l	1000
BCST_SW103-012115	1/21/15 9:30	BC_103	SW8260B	Benzene	**6.8**	ug/l	5
BCST_SW103-012115	1/21/15 9:30	BC_103	SW8260B	Toluene	1.78	ug/l	1000
BCST_SW103-012215	1/22/15 10:00	BC_103	SW8260B	Benzene	**7.3**	ug/l	5
BCST_SW103-012215	1/22/15 10:00	BC_103	SW8260B	Toluene	2.27	ug/l	1000
BCST_SW103-012415	1/24/15 12:00	BC_103	SW8260B	Benzene	4.82	ug/l	5
BCST_SW103-012415	1/24/15 12:00	BC_103	SW8260B	Toluene	1.57	ug/l	1000
BCST_SW103-012515	1/25/15 9:10	BC_103	SW8260B	Benzene	**6.06**	ug/l	5
BCST_SW103-012515	1/25/15 9:10	BC_103	SW8260B	Toluene	2.59	ug/l	1000
BCST_SW103-012615	1/26/15 10:30	BC_103	SW8260B	Benzene	4.94	ug/l	5
BCST_SW103-012615	1/26/15 10:30	BC_103	SW8260B	Toluene	1.49	ug/l	1000
BCST_SW103-012715	1/27/15 10:00	BC_103	SW8260B	Benzene	1.44	ug/l	5
BCST_SW103-012715	1/27/15 10:00	BC_103	SW8260B	Toluene	1.19	ug/l	1000
BCST_SW106-012715	1/27/15 11:45	BC_106	SW8260B	Benzene	4.86	ug/l	5
BCST_SW106-012715	1/27/15 11:45	BC_106	SW8260B	Toluene	3.87	ug/l	1000
BCST_SW106-012715	1/27/15 11:45	BC_106	SW8260B	Xylenes, Total	6.29	ug/l	10,000
BCST_SW200_012315	1/23/15 10:00	BC_200	SW8260B	Benzene	3.59	ug/l	5
BCST_SW200_012315	1/23/15 10:00	BC_200	SW8260B	Toluene	1.59	ug/l	1000
BCST_SW200-011815	1/18/15 10:30	BC_200	SW8260B	Benzene	**8.16**	ug/l	5
BCST_SW200-011815	1/18/15 10:30	BC_200	SW8260B	Toluene	3.95	ug/l	1000
BCST_SW200-011815	1/18/15 10:30	BC_200	SW8260B	Xylenes, Total	3.52	ug/l	10,000

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)							
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**
BCST_SW200-011915	1/19/15 12:45	BC_200	SW8260B	Benzene	**5.37**	ug/l	5
BCST_SW200-011915	1/19/15 12:45	BC_200	SW8260B	Toluene	2.44	ug/l	1000
BCST_SW200-012115	1/21/15 9:50	BC_200	SW8260B	Benzene	**5.4**	ug/l	5
BCST_SW200-012115	1/21/15 9:50	BC_200	SW8260B	Toluene	2.28	ug/l	1000
BCST_SW200-012215	1/22/15 10:30	BC_200	SW8260B	Benzene	**6.23**	ug/l	5
BCST_SW200-012215	1/22/15 10:30	BC_200	SW8260B	Toluene	3.31	ug/l	1000
BCST_SW200-012415	1/24/15 12:20	BC_200	SW8260B	Benzene	3.8	ug/l	5
BCST_SW200-012415	1/24/15 12:20	BC_200	SW8260B	Toluene	1.61	ug/l	1000
BCST_SW200-012515	1/25/15 9:25	BC_200	SW8260B	Benzene	2.68	ug/l	5
BCST_SW200-012515	1/25/15 9:25	BC_200	SW8260B	Toluene	1.16	ug/l	1000
BCST_SW200-012615	1/26/15 10:50	BC_200	SW8260B	Benzene	3.4	ug/l	5
BCST_SW200-012615	1/26/15 10:50	BC_200	SW8260B	Toluene	1.85	ug/l	1000
BCST_SW200-012715	1/27/15 10:45	BC_200	SW8260B	Benzene	1.29	ug/l	5
BCST_SW200-012715	1/27/15 10:45	BC_200	SW8260B	Toluene	1.16	ug/l	1000
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8260B	Ethylbenzene	1.45	ug/l	530
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8260B	Toluene	3.54	ug/l	1000
BCST_SW309-012415	1/24/15 13:30	BC_309	SW8260B	Xylenes, Total	12.6	ug/l	10,000
BCST_SWBCDUP06-021015	2/10/15 0:01	BC_103	SW8260B	Benzene	1.01	ug/l	5
BCST-DW001-012815	1/28/15 14:10	BC_DW001	SW8260B	Ethylbenzene	1.66	ug/l	530
Moling Produced	1/24/15 14:30	Moling Produced	SW8260B	Benzene	**338 J**	ug/l	5
Moling Produced	1/24/15 14:30	Moling Produced	SW8260B	Ethylbenzene	11.9 J	ug/l	530
Moling Produced	1/24/15 14:30	Moling Produced	SW8260B	Toluene	198 J	ug/l	1000
Moling Produced	1/24/15 14:30	Moling Produced	SW8260B	Xylenes, Total	70.2 J	ug/l	10,000

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 1/14/15-2/11/15)							
Sample Name	**Sample Date_Time**	**Location**	**Analytical Group**	**Chemical Name**	**Result**	**Result Unit**	**ND Stream Class I and II HHV**
South Valve Set	1/15/15 10:30	South Valve Set	SW8260B	Benzene	**541**	ug/l	5
South Valve Set	1/15/15 10:30	South Valve Set	SW8260B	Ethylbenzene	14.2	ug/l	530
South Valve Set	1/15/15 10:30	South Valve Set	SW8260B	Toluene	294	ug/l	1000
South Valve Set	1/15/15 10:30	South Valve Set	SW8260B	Xylenes, Total	72.5	ug/l	10,000
State Produced	1/25/15 10:20	State Produced	SW8260B	Benzene	**431**	ug/l	5
State Produced	1/25/15 10:20	State Produced	SW8260B	Ethylbenzene	25.6	ug/l	530
State Produced	1/25/15 10:20	State Produced	SW8260B	Toluene	390	ug/l	1000
State Produced	1/25/15 10:20	State Produced	SW8260B	Xylenes, Total	144	ug/l	10,000
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW8260B	Benzene	**18.8**	ug/l	5
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW8260B	Toluene	6.17	ug/l	1000
SWST_103-C-01142015	1/14/15 12:30	BC_103	SW8260B	Xylenes, Total	4.87	ug/l	10,000
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW8260B	Benzene	**20.8**	ug/l	5
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW8260B	Ethylbenzene	1.35	ug/l	530
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW8260B	Toluene	9.48	ug/l	1000
SWST_200-D-01142015	1/14/15 13:55	BC_200	SW8260B	Xylenes, Total	8.38	ug/l	10,000

J: estimated value

Bold: result exceeds one or more benchmarks

* results presented are limited to detections; analysis included all analytes on method list

Blacktail Creek Spill Final Stantec Ground Water Sampling Results* (Sampling Period: 2/12/15-3/2/15)								
Sample Name	**Sample Date**	**Location**	**Chemical Name**	**Result**	**Result Uni**	**RDL**	**Qualifier**	**Analytical Group**
VOCs								
BCST-GW-IT011-021815	2/18/15	BC_IT011	Acetone	1100	ug/l	250		SW8260B
BCST-GW-IT013-021815	2/18/15	BC_IT013	Acetone	281	ug/l	25		SW8260B
BCST-GW-IT014-021715	2/17/15	BC_IT014	Acetone	302	ug/l	25		SW8260B
BCST-GW-IT015-021715	2/17/15	BC_IT015	Acetone	439	ug/l	25		SW8260B
BCST-GW-IT10-20150215	2/15/15	BC_IT010	Acetone	228	ug/l	25		SW8260B
BCST-GW-IT12-20150215	2/15/15	BC_IT012	Acetone	663	ug/l	25		SW8260B
BCST-GW-IT7-20150215	2/15/15	BC_IT007	Acetone	41.8	ug/l	25		SW8260B
BCST-GW-IT011-021815	2/18/15	BC_IT011	Benzene	48	ug/l	1		SW8260B
BCST-GW-IT013-021815	2/18/15	BC_IT013	Benzene	24.8	ug/l	1		SW8260B
BCST-GW-IT014-021715	2/17/15	BC_IT014	Benzene	22.9	ug/l	1		SW8260B
BCST-GW-IT015-021715	2/17/15	BC_IT015	Benzene	17.3	ug/l	1		SW8260B
BCST-GW-IT10-20150215	2/15/15	BC_IT010	Benzene	2.62	ug/l	1		SW8260B
BCST-GW-IT12-20150215	2/15/15	BC_IT012	Benzene	1.33	ug/l	1		SW8260B
BCST-GW-IT011-021815	2/18/15	BC_IT011	Carbon Disulfide	1.32	ug/l	1		SW8260B
BCST-GW-IT011-021815	2/18/15	BC_IT011	Toluene	2.54	ug/l	1		SW8260B
BCST-GW-IT013-021815	2/18/15	BC_IT013	Toluene	1.47	ug/l	1		SW8260B
BCST-GW-IT014-021715	2/17/15	BC_IT014	Toluene	1.87	ug/l	1		SW8260B
BCST-GW-IT015-021715	2/17/15	BC_IT015	Toluene	1.23	ug/l	1		SW8260B
INORGANIC IONS								
BCST-GW-IT011-021815	2/18/15	BC_IT011	Bromide	479	mg/l	20		SW9056
BCST-GW-IT013-021815	2/18/15	BC_IT013	Bromide	346	mg/l	2		SW9056
BCST-GW-IT014-021715	2/17/15	BC_IT014	Bromide	255	mg/l	10		SW9056
BCST-GW-IT015-021715	2/17/15	BC_IT015	Bromide	213	mg/l	10		SW9056
BCST-GW-IT10-20150215	2/15/15	BC_IT010	Bromide	189	mg/l	10		SW9056
BCST-GW-IT12-20150215	2/15/15	BC_IT012	Bromide	496	mg/l	10		SW9056
BCST-GW-IT7-20150215	2/15/15	BC_IT007	Bromide	71.4	mg/l	5		SW9056
BCST-6W-IT001-021515	2/15/15	BC_IT001	Chloride	128000	mg/l	2000		SW9056
BCST-6W-IT002-021515	2/15/15	BC_IT002	Chloride	179000	mg/l	2000		SW9056
BCST-6W-IT003-021515	2/15/15	BC_IT003	Chloride	85000	mg/l	2000		SW9056
BCST-6W-IT004-021515	2/15/15	BC_IT004	Chloride	39300	mg/l	1000		SW9056
BCST-6W-IT005-021515	2/15/15	BC_IT005	Chloride	109000	mg/l	2000		SW9056

BCST-GW015-IT-20150228	2/28/15	BC_IT015	Chloride	65900	mg/l	500		SW9056
BCST-GW016-IT-20150228	2/28/15	BC_IT016	Chloride	39000	mg/l	500		SW9056
BCST-GW-DP001A(20)021315	2/13/15	DP001A	Chloride	23.6	mg/l	1		SW9056
BCST-GW-DP001B(4)021315	2/13/15	DP001B	Chloride	740	mg/l	10		SW9056
BCST-GW-DP002A(20)021315	2/13/15	DP002A	Chloride	19.5	mg/l	1		SW9056
BCST-GW-DP002B(4)021315	2/13/15	DP002B	Chloride	25.2	mg/l	10		SW9056
BCST-GW-DP003A(20)021415	2/14/15	DP003A	Chloride	2660	mg/l	20		SW9056
BCST-GW-DP003B(8)021415	2/14/15	DP003B	Chloride	771	mg/l	10		SW9056
BCST-GW-DP004A(20)021515	2/15/15	DP004A	Chloride	6.56	mg/l	1		SW9056
BCST-GW-DP004B(8)021515	2/15/15	DP004B	Chloride	13	mg/l	10		SW9056
BCST-GW-DP005A(20)021615	2/16/15	DP005A	Chloride	43600	mg/l	100		SW9056
BCST-GW-DP005B(8)021615	2/16/15	DP005B	Chloride	18300	mg/l	50		SW9056
BCST-GW-DP006B(8)021615	2/16/15	DP006B	Chloride	32300	mg/l	100		SW9056
BCST-GW-DP007A(20)021615	2/16/15	DP007A	Chloride	119	mg/l	10		SW9056
BCST-GW-DP007B(8)021615	2/16/15	DP007B	Chloride	109000	mg/l	500		SW9056
BCST-GW-IT001-021615	2/16/15	BC_IT001	Chloride	125000	mg/l	5000		SW9056
BCST-GW-IT001-021715	2/17/15	BC_IT001	Chloride	191000	mg/l	500		SW9056
BCST-GW-IT001-021815	2/18/15	BC_IT001	Chloride	149000	mg/l	2000		SW9056
BCST-GW-IT001-021915	2/19/15	BC_IT001	Chloride	181000	mg/l	2000		SW9056
BCST-GW-IT001-022015	2/20/15	BC_IT001	Chloride	113000	mg/l	1000		SW9056
BCST-GW-IT001-02212015	2/21/15	BC_IT001	Chloride	126000	mg/l	2000		SW9056
BCST-GW-IT001-02222015	2/22/15	BC_IT001	Chloride	139000	mg/l	2000		SW9056
BCST-GW-IT001-02232015	2/23/15	BC_IT001	Chloride	129000	mg/l	400		SW9056
BCST-GW-IT001-20150224	2/24/15	BC_IT001	Chloride	189000	mg/l	500		SW9056
BCST-GW-IT001-20150225	2/25/15	BC_IT001	Chloride	144000	mg/l	500		SW9056
BCST-GW-IT001-20150226	2/26/15	BC_IT001	Chloride	127000	mg/l	1000		SW9056
BCST-GW-IT001-20150227	2/27/15	BC_IT001	Chloride	138000	mg/l	500		SW9056
BCST-GW-IT001-20150228	2/28/15	BC_IT001	Chloride	129000	mg/l	1000		SW9056
BCST-GW-IT001-20150301	3/1/15	BC_IT001	Chloride	139000	mg/l	500		SW9056
BCST-GW-IT001-20150302	3/2/15	BC_IT001	Chloride	122000	mg/l	2000		SW9056
BCST-GW-IT002-021615	2/16/15	BC_IT002	Chloride	151000	mg/l	5000		SW9056
BCST-GW-IT002-021715	2/17/15	BC_IT002	Chloride	213000	mg/l	500		SW9056
BCST-GW-IT002-021815	2/18/15	BC_IT002	Chloride	156000	mg/l	2000		SW9056
BCST-GW-IT002-021915	2/19/15	BC_IT002	Chloride	151000	mg/l	2000		SW9056
BCST-GW-IT002-022015	2/20/15	BC_IT002	Chloride	124000	mg/l	1000		SW9056
BCST-GW-IT002-02212015	2/21/15	BC_IT002	Chloride	129000	mg/l	2000		SW9056

BCST-GW-IT002-02222015	2/22/15	BC_IT002	Chloride	145000	mg/l	500		SW9056
BCST-GW-IT002-02232015	2/23/15	BC_IT002	Chloride	153000	mg/l	400		SW9056
BCST-GW-IT002-20150224	2/24/15	BC_IT002	Chloride	141000	mg/l	500		SW9056
BCST-GW-IT002-20150225	2/25/15	BC_IT002	Chloride	159000	mg/l	500		SW9056
BCST-GW-IT002-20150226	2/26/15	BC_IT002	Chloride	143000	mg/l	1000		SW9056
BCST-GW-IT002-20150227	2/27/15	BC_IT002	Chloride	136000	mg/l	500		SW9056
BCST-GW-IT002-20150228	2/28/15	BC_IT002	Chloride	138000	mg/l	1000		SW9056
BCST-GW-IT002-20150301	3/1/15	BC_IT002	Chloride	133000	mg/l	500		SW9056
BCST-GW-IT002-20150302	3/2/15	BC_IT002	Chloride	140000	mg/l	5000		SW9056
BCST-GW-IT003-021615	2/16/15	BC_IT003	Chloride	100000	mg/l	5000		SW9056
BCST-GW-IT003-021715	2/17/15	BC_IT003	Chloride	146000	mg/l	500		SW9056
BCST-GW-IT003-021815	2/18/15	BC_IT003	Chloride	116000	mg/l	2000		SW9056
BCST-GW-IT003-021915	2/19/15	BC_IT003	Chloride	135000	mg/l	2000		SW9056
BCST-GW-IT003-022015	2/20/15	BC_IT003	Chloride	115000	mg/l	1000		SW9056
BCST-GW-IT003-02212015	2/21/15	BC_IT003	Chloride	111000	mg/l	2000		SW9056
BCST-GW-IT003-02222015	2/22/15	BC_IT003	Chloride	148000	mg/l	500		SW9056
BCST-GW-IT003-02232015	2/23/15	BC_IT003	Chloride	120000	mg/l	400		SW9056
BCST-GW-IT003-20150224	2/24/15	BC_IT003	Chloride	159000	mg/l	500		SW9056
BCST-GW-IT003-20150225	2/25/15	BC_IT003	Chloride	133000	mg/l	500		SW9056
BCST-GW-IT003-20150226	2/26/15	BC_IT003	Chloride	120000	mg/l	1000		SW9056
BCST-GW-IT003-20150227	2/27/15	BC_IT003	Chloride	106000	mg/l	500		SW9056
BCST-GW-IT003-20150228	2/28/15	BC_IT003	Chloride	174000	mg/l	1000		SW9056
BCST-GW-IT003-20150301	3/1/15	BC_IT003	Chloride	105000	mg/l	500		SW9056
BCST-GW-IT003-20150302	3/2/15	BC_IT003	Chloride	107000	mg/l	2000		SW9056
BCST-GW-IT004-021615	2/16/15	BC_IT004	Chloride	35000	mg/l	2000		SW9056
BCST-GW-IT004-021715	2/17/15	BC_IT004	Chloride	45000	mg/l	200		SW9056
BCST-GW-IT004-021815	2/18/15	BC_IT004	Chloride	54700	mg/l	1000		SW9056
BCST-GW-IT004-021915	2/19/15	BC_IT004	Chloride	20900	mg/l	500		SW9056
BCST-GW-IT004-022015	2/20/15	BC_IT004	Chloride	74300	mg/l	500		SW9056
BCST-GW-IT004-02212015	2/21/15	BC_IT004	Chloride	27500	mg/l	500		SW9056
BCST-GW-IT004-02222015	2/22/15	BC_IT004	Chloride	27600	mg/l	100		SW9056
BCST-GW-IT004-02232015	2/23/15	BC_IT004	Chloride	36900	mg/l	200		SW9056
BCST-GW-IT004-20150224	2/24/15	BC_IT004	Chloride	25500	mg/l	200		SW9056
BCST-GW-IT004-20150225	2/25/15	BC_IT004	Chloride	55200	mg/l	200		SW9056
BCST-GW-IT004-20150226	2/26/15	BC_IT004	Chloride	51600	mg/l	400		SW9056
BCST-GW-IT004-20150227	2/27/15	BC_IT004	Chloride	48200	mg/l	200		SW9056

BCST-GW-IT004-20150228	2/28/15	BC_IT004	Chloride	44200	mg/l	500		SW9056
BCST-GW-IT004-20150301	3/1/15	BC_IT004	Chloride	14500	mg/l	100		SW9056
BCST-GW-IT004-20150302	3/2/15	BC_IT004	Chloride	14800	mg/l	500		SW9056
BCST-GW-IT005-021615	2/16/15	BC_IT005	Chloride	99900	mg/l	5000		SW9056
BCST-GW-IT005-021715	2/17/15	BC_IT005	Chloride	42700	mg/l	200		SW9056
BCST-GW-IT005-021815	2/18/15	BC_IT005	Chloride	134000	mg/l	2000		SW9056
BCST-GW-IT005-021915	2/19/15	BC_IT005	Chloride	117000	mg/l	2000		SW9056
BCST-GW-IT005-022015	2/20/15	BC_IT005	Chloride	100000	mg/l	500		SW9056
BCST-GW-IT005-02212015	2/21/15	BC_IT005	Chloride	102000	mg/l	2000		SW9056
BCST-GW-IT005-02222015	2/22/15	BC_IT005	Chloride	138000	mg/l	500		SW9056
BCST-GW-IT005-02232015	2/23/15	BC_IT005	Chloride	41900	mg/l	200		SW9056
BCST-GW-IT005-20150224	2/24/15	BC_IT005	Chloride	118000	mg/l	500		SW9056
BCST-GW-IT005-20150225	2/25/15	BC_IT005	Chloride	96300	mg/l	500		SW9056
BCST-GW-IT005-20150226	2/26/15	BC_IT005	Chloride	87400	mg/l	500		SW9056
BCST-GW-IT005-20150227	2/27/15	BC_IT005	Chloride	235000	mg/l	500		SW9056
BCST-GW-IT005-20150228	2/28/15	BC_IT005	Chloride	106000	mg/l	1000		SW9056
BCST-GW-IT005-20150301	3/1/15	BC_IT005	Chloride	92900	mg/l	1000		SW9056
BCST-GW-IT005-20150302	3/2/15	BC_IT005	Chloride	84500	mg/l	2000	J	SW9056
BCST-GW-IT006-021615	2/16/15	BC_IT006	Chloride	31.4	mg/l	5		SW9056
BCST-GW-IT006-021715	2/17/15	BC_IT006	Chloride	63.8	mg/l	10		SW9056
BCST-GW-IT006-021815	2/18/15	BC_IT006	Chloride	46.7	mg/l	5		SW9056
BCST-GW-IT006-021915	2/19/15	BC_IT006	Chloride	189	mg/l	10		SW9056
BCST-GW-IT006-022015	2/20/15	BC_IT006	Chloride	114	mg/l	10		SW9056
BCST-GW-IT006-02212015	2/21/15	BC_IT006	Chloride	101000	mg/l	2000		SW9056
BCST-GW-IT006-02222015	2/22/15	BC_IT006	Chloride	28.2	mg/l	1		SW9056
BCST-GW-IT006-02232015	2/23/15	BC_IT006	Chloride	16.9	mg/l	1		SW9056
BCST-GW-IT006-20150224	2/24/15	BC_IT006	Chloride	74.4	mg/l	1		SW9056
BCST-GW-IT006-20150225	2/25/15	BC_IT006	Chloride	204	mg/l	5		SW9056
BCST-GW-IT006-20150226	2/26/15	BC_IT006	Chloride	150	mg/l	1		SW9056
BCST-GW-IT006-20150227	2/27/15	BC_IT006	Chloride	634	mg/l	10		SW9056
BCST-GW-IT006-20150228	2/28/15	BC_IT006	Chloride	519	mg/l	100		SW9056
BCST-GW-IT006-20150301	3/1/15	BC_IT006	Chloride	393	mg/l	10		SW9056
BCST-GW-IT006-20150302	3/2/15	BC_IT006	Chloride	115	mg/l	1		SW9056
BCST-GW-IT007-021615	2/16/15	BC_IT007	Chloride	7840	mg/l	200		SW9056
BCST-GW-IT007-021815	2/18/15	BC_IT007	Chloride	8400	mg/l	500		SW9056
BCST-GW-IT007-021915	2/19/15	BC_IT007	Chloride	9560	mg/l	500		SW9056

BCST-GW-IT007-022015	2/20/15	BC_IT007	Chloride	15100	mg/l	200		SW9056
BCST-GW-IT007-02212015	2/21/15	BC_IT007	Chloride	12200	mg/l	200		SW9056
BCST-GW-IT007-02222015	2/22/15	BC_IT007	Chloride	13100	mg/l	100		SW9056
BCST-GW-IT007-02232015	2/23/15	BC_IT007	Chloride	13300	mg/l	100		SW9056
BCST-GW-IT007-20150224	2/24/15	BC_IT007	Chloride	10100	mg/l	50		SW9056
BCST-GW-IT007-20150225	2/25/15	BC_IT007	Chloride	8320	mg/l	50		SW9056
BCST-GW-IT007-20150226	2/26/15	BC_IT007	Chloride	9330	mg/l	50		SW9056
BCST-GW-IT007-20150227	2/27/15	BC_IT007	Chloride	9850	mg/l	100		SW9056
BCST-GW-IT007-20150228	2/28/15	BC_IT007	Chloride	10000	mg/l	200		SW9056
BCST-GW-IT007-20150301	3/1/15	BC_IT007	Chloride	11100	mg/l	100		SW9056
BCST-GW-IT007-20150302	3/2/15	BC_IT007	Chloride	13300	mg/l	500		SW9056
BCST-GW-IT008-021615	2/16/15	BC_IT008	Chloride	42.9	mg/l	5		SW9056
BCST-GW-IT008-021715	2/17/15	BC_IT008	Chloride	75.4	mg/l	10		SW9056
BCST-GW-IT008-021815	2/18/15	BC_IT008	Chloride	289	mg/l	10		SW9056
BCST-GW-IT008-021915	2/19/15	BC_IT008	Chloride	63.8	mg/l	1		SW9056
BCST-GW-IT008-022015	2/20/15	BC_IT008	Chloride	59.2	mg/l	10		SW9056
BCST-GW-IT008-02212015	2/21/15	BC_IT008	Chloride	60.2	mg/l	1	J	SW9056
BCST-GW-IT008-02222015	2/22/15	BC_IT008	Chloride	138	mg/l	20		SW9056
BCST-GW-IT008-02232015	2/23/15	BC_IT008	Chloride	154	mg/l	10		SW9056
BCST-GW-IT008-20150224	2/24/15	BC_IT008	Chloride	189	mg/l	10		SW9056
BCST-GW-IT008-20150225	2/25/15	BC_IT008	Chloride	300	mg/l	5		SW9056
BCST-GW-IT008-20150226	2/26/15	BC_IT008	Chloride	316	mg/l	20		SW9056
BCST-GW-IT008-20150227	2/27/15	BC_IT008	Chloride	309	mg/l	1	J	SW9056
BCST-GW-IT008-20150228	2/28/15	BC_IT008	Chloride	239	mg/l	50		SW9056
BCST-GW-IT008-20150301	3/1/15	BC_IT008	Chloride	289	mg/l	10		SW9056
BCST-GW-IT008-20150302	3/2/15	BC_IT008	Chloride	277	mg/l	10		SW9056
BCST-GW-IT010-021615	2/16/15	BC_IT010	Chloride	56100	mg/l	2000		SW9056
BCST-GW-IT010-021715	2/17/15	BC_IT010	Chloride	67100	mg/l	200		SW9056
BCST-GW-IT010-021815	2/18/15	BC_IT010	Chloride	51000	mg/l	1000		SW9056
BCST-GW-IT010-021915	2/19/15	BC_IT010	Chloride	60700	mg/l	5000		SW9056
BCST-GW-IT010-022015	2/20/15	BC_IT010	Chloride	40200	mg/l	500		SW9056
BCST-GW-IT010-02212015	2/21/15	BC_IT010	Chloride	39100	mg/l	1000		SW9056
BCST-GW-IT010-02222015	2/22/15	BC_IT010	Chloride	54900	mg/l	200		SW9056
BCST-GW-IT010-02232015	2/23/15	BC_IT010	Chloride	92100	mg/l	200		SW9056
BCST-GW-IT010-20150224	2/24/15	BC_IT010	Chloride	45000	mg/l	100		SW9056
BCST-GW-IT010-20150225	2/25/15	BC_IT010	Chloride	79200	mg/l	200		SW9056

BCST-GW-IT010-20150226	2/26/15	BC_IT010	Chloride	34300	mg/l	200		SW9056
BCST-GW-IT010-20150227	2/27/15	BC_IT010	Chloride	43700	mg/l	200		SW9056
BCST-GW-IT010-20150228	2/28/15	BC_IT010	Chloride	64000	mg/l	500		SW9056
BCST-GW-IT010-20150301	3/1/15	BC_IT010	Chloride	60600	mg/l	400		SW9056
BCST-GW-IT010-20150302	3/2/15	BC_IT010	Chloride	28700	mg/l	500		SW9056
BCST-GW-IT011-021815	2/18/15	BC_IT011	Chloride	254000	mg/l	2000		SW9056
BCST-GW-IT011-021915	2/19/15	BC_IT011	Chloride	146000	mg/l	2000		SW9056
BCST-GW-IT011-022015	2/20/15	BC_IT011	Chloride	121000	mg/l	1000		SW9056
BCST-GW-IT011-02212015	2/21/15	BC_IT011	Chloride	121000	mg/l	2000		SW9056
BCST-GW-IT011-02222015	2/22/15	BC_IT011	Chloride	154000	mg/l	500		SW9056
BCST-GW-IT011-02232015	2/23/15	BC_IT011	Chloride	127000	mg/l	400		SW9056
BCST-GW-IT011-20150224	2/24/15	BC_IT011	Chloride	111000	mg/l	500		SW9056
BCST-GW-IT011-20150225	2/25/15	BC_IT011	Chloride	92200	mg/l	500		SW9056
BCST-GW-IT011-20150226	2/26/15	BC_IT011	Chloride	88000	mg/l	500		SW9056
BCST-GW-IT011-20150227	2/27/15	BC_IT011	Chloride	82700	mg/l	200		SW9056
BCST-GW-IT011-20150228	2/28/15	BC_IT011	Chloride	72000	mg/l	500		SW9056
BCST-GW-IT011-20150301	3/1/15	BC_IT011	Chloride	76800	mg/l	200		SW9056
BCST-GW-IT011-20150302	3/2/15	BC_IT011	Chloride	76400	mg/l	1000		SW9056
BCST-GW-IT012-021615	2/16/15	BC_IT012	Chloride	67500	mg/l	2000		SW9056
BCST-GW-IT012-021715	2/17/15	BC_IT012	Chloride	83200	mg/l	200		SW9056
BCST-GW-IT012-021815	2/18/15	BC_IT012	Chloride	89700	mg/l	1000		SW9056
BCST-GW-IT012-021915	2/19/15	BC_IT012	Chloride	61900	mg/l	1000		SW9056
BCST-GW-IT012-022015	2/20/15	BC_IT012	Chloride	57800	mg/l	1000		SW9056
BCST-GW-IT012-02212015	2/21/15	BC_IT012	Chloride	44200	mg/l	1000		SW9056
BCST-GW-IT012-02222015	2/22/15	BC_IT012	Chloride	55000	mg/l	200		SW9056
BCST-GW-IT012-02232015	2/23/15	BC_IT012	Chloride	47200	mg/l	200		SW9056
BCST-GW-IT012-20150224	2/24/15	BC_IT012	Chloride	47400	mg/l	1000		SW9056
BCST-GW-IT012-20150225	2/25/15	BC_IT012	Chloride	44000	mg/l	200		SW9056
BCST-GW-IT012-20150226	2/26/15	BC_IT012	Chloride	61300	mg/l	500		SW9056
BCST-GW-IT012-20150227	2/27/15	BC_IT012	Chloride	45900	mg/l	200		SW9056
BCST-GW-IT012-20150228	2/28/15	BC_IT012	Chloride	43600	mg/l	500		SW9056
BCST-GW-IT012-20150301	3/1/15	BC_IT012	Chloride	52300	mg/l	200		SW9056
BCST-GW-IT012-20150302	3/2/15	BC_IT012	Chloride	48100	mg/l	1000		SW9056
BCST-GW-IT013-021815	2/18/15	BC_IT013	Chloride	71800	mg/l	500		SW9056
BCST-GW-IT013-021915	2/19/15	BC_IT013	Chloride	73400	mg/l	1000		SW9056
BCST-GW-IT013-022015	2/20/15	BC_IT013	Chloride	87100	mg/l	1000		SW9056

BCST-GW-IT013-02212015	2/21/15	BC_IT013	Chloride	62700	mg/l	1000		SW9056
BCST-GW-IT013-02222015	2/22/15	BC_IT013	Chloride	83100	mg/l	200		SW9056
BCST-GW-IT013-02232015	2/23/15	BC_IT013	Chloride	53700	mg/l	200		SW9056
BCST-GW-IT013-20150224	2/24/15	BC_IT013	Chloride	50500	mg/l	1000		SW9056
BCST-GW-IT013-20150225	2/25/15	BC_IT013	Chloride	52600	mg/l	200		SW9056
BCST-GW-IT013-20150226	2/26/15	BC_IT013	Chloride	56900	mg/l	500		SW9056
BCST-GW-IT013-20150227	2/27/15	BC_IT013	Chloride	44500	mg/l	200		SW9056
BCST-GW-IT013-20150228	2/28/15	BC_IT013	Chloride	40800	mg/l	500		SW9056
BCST-GW-IT013-20150301	3/1/15	BC_IT013	Chloride	36000	mg/l	200		SW9056
BCST-GW-IT013-20150302	3/2/15	BC_IT013	Chloride	31400	mg/l	1000		SW9056
BCST-GW-IT014-021715	2/17/15	BC_IT014	Chloride	77200	mg/l	500		SW9056
BCST-GW-IT014-021815	2/18/15	BC_IT014	Chloride	67700	mg/l	1000		SW9056
BCST-GW-IT014-021915	2/19/15	BC_IT014	Chloride	83900	mg/l	1000		SW9056
BCST-GW-IT014-022015	2/20/15	BC_IT014	Chloride	53300	mg/l	500		SW9056
BCST-GW-IT014-02212015	2/21/15	BC_IT014	Chloride	54800	mg/l	1000		SW9056
BCST-GW-IT014-02222015	2/22/15	BC_IT014	Chloride	48200	mg/l	200		SW9056
BCST-GW-IT014-02232015	2/23/15	BC_IT014	Chloride	39000	mg/l	100		SW9056
BCST-GW-IT014-20150224	2/24/15	BC_IT014	Chloride	47500	mg/l	100		SW9056
BCST-GW-IT014-20150225	2/25/15	BC_IT014	Chloride	40900	mg/l	200		SW9056
BCST-GW-IT014-20150226	2/26/15	BC_IT014	Chloride	47800	mg/l	500		SW9056
BCST-GW-IT014-20150227	2/27/15	BC_IT014	Chloride	32200	mg/l	100		SW9056
BCST-GW-IT014-20150228	2/28/15	BC_IT014	Chloride	35400	mg/l	500		SW9056
BCST-GW-IT014-20150301	3/1/15	BC_IT014	Chloride	35800	mg/l	200		SW9056
BCST-GW-IT014-20150302	3/2/15	BC_IT014	Chloride	34100	mg/l	1000		SW9056
BCST-GW-IT015-021715	2/17/15	BC_IT015	Chloride	57200	mg/l	500		SW9056
BCST-GW-IT015-021815	2/18/15	BC_IT015	Chloride	68700	mg/l	1000		SW9056
BCST-GW-IT015-021915	2/19/15	BC_IT015	Chloride	92600	mg/l	1000	J	SW9056
BCST-GW-IT015-022015	2/20/15	BC_IT015	Chloride	71200	mg/l	1000		SW9056
BCST-GW-IT015-02212015	2/21/15	BC_IT015	Chloride	57200	mg/l	1000		SW9056
BCST-GW-IT015-02222015	2/22/15	BC_IT015	Chloride	70800	mg/l	200		SW9056
BCST-GW-IT015-02232015	2/23/15	BC_IT015	Chloride	64200	mg/l	200		SW9056
BCST-GW-IT015-20150224	2/24/15	BC_IT015	Chloride	71300	mg/l	1000		SW9056
BCST-GW-IT015-20150225	2/25/15	BC_IT015	Chloride	70700	mg/l	200		SW9056
BCST-GW-IT015-20150226	2/26/15	BC_IT015	Chloride	68300	mg/l	200		SW9056
BCST-GW-IT015-20150227	2/27/15	BC_IT015	Chloride	77300	mg/l	200		SW9056
BCST-GW-IT015-20150301	3/1/15	BC_IT015	Chloride	67000	mg/l	200		SW9056

BCST-GW-IT015-20150302	3/2/15	BC_IT015	Chloride	66800	mg/l	2000		SW9056
BCST-GW-IT016-02212015	2/21/15	BC_IT016	Chloride	62300	mg/l	1000		SW9056
BCST-GW-IT016-02222015	2/22/15	BC_IT016	Chloride	79800	mg/l	500		SW9056
BCST-GW-IT016-02232015	2/23/15	BC_IT016	Chloride	54900	mg/l	200		SW9056
BCST-GW-IT016-20150224	2/24/15	BC_IT016	Chloride	67300	mg/l	1000		SW9056
BCST-GW-IT016-20150225	2/25/15	BC_IT016	Chloride	51400	mg/l	200		SW9056
BCST-GW-IT016-20150226	2/26/15	BC_IT016	Chloride	55900	mg/l	200		SW9056
BCST-GW-IT016-20150227	2/27/15	BC_IT016	Chloride	38400	mg/l	500		SW9056
BCST-GW-IT016-20150301	3/1/15	BC_IT016	Chloride	39100	mg/l	200		SW9056
BCST-GW-IT016-20150302	3/2/15	BC_IT016	Chloride	36300	mg/l	1000		SW9056
BCST-GW-IT017-022015	2/20/15	BC_IT017	Chloride	49400	mg/l	1000		SW9056
BCST-GW-IT017-02212015	2/21/15	BC_IT017	Chloride	33900	mg/l	1000		SW9056
BCST-GW-IT017-02222015	2/22/15	BC_IT017	Chloride	63100	mg/l	200		SW9056
BCST-GW-IT017-02232015	2/23/15	BC_IT017	Chloride	55800	mg/l	200		SW9056
BCST-GW-IT017-20150224	2/24/15	BC_IT017	Chloride	54700	mg/l	1000		SW9056
BCST-GW-IT017-20150225	2/25/15	BC_IT017	Chloride	54100	mg/l	200		SW9056
BCST-GW-IT017-20150226	2/26/15	BC_IT017	Chloride	55200	mg/l	200		SW9056
BCST-GW-IT017-20150227	2/27/15	BC_IT017	Chloride	58100	mg/l	500		SW9056
BCST-GW-IT017-20150228	2/28/15	BC_IT017	Chloride	49500	mg/l	500		SW9056
BCST-GW-IT017-20150301	3/1/15	BC_IT017	Chloride	44300	mg/l	200		SW9056
BCST-GW-IT017-20150302	3/2/15	BC_IT017	Chloride	49200	mg/l	1000		SW9056
BCST-GW-IT018-022015	2/20/15	BC_IT018	Chloride	51300	mg/l	1000		SW9056
BCST-GW-IT018-02212015	2/21/15	BC_IT018	Chloride	40300	mg/l	1000		SW9056
BCST-GW-IT018-02222015	2/22/15	BC_IT018	Chloride	47000	mg/l	200		SW9056
BCST-GW-IT018-02232015	2/23/15	BC_IT018	Chloride	43800	mg/l	100		SW9056
BCST-GW-IT018-20150224	2/24/15	BC_IT018	Chloride	36400	mg/l	500		SW9056
BCST-GW-IT018-20150225	2/25/15	BC_IT018	Chloride	38400	mg/l	1000		SW9056
BCST-GW-IT018-20150226	2/26/15	BC_IT018	Chloride	35800	mg/l	100		SW9056
BCST-GW-IT018-20150227	2/27/15	BC_IT018	Chloride	37700	mg/l	500		SW9056
BCST-GW-IT018-20150228	2/28/15	BC_IT018	Chloride	38700	mg/l	500		SW9056
BCST-GW-IT018-20150301	3/1/15	BC_IT018	Chloride	36200	mg/l	200		SW9056
BCST-GW-IT018-20150302	3/2/15	BC_IT018	Chloride	33500	mg/l	1000		SW9056
BCST-GW-IT019-022015	2/20/15	BC_IT019	Chloride	123000	mg/l	2000		SW9056
BCST-GW-IT019-02212015	2/21/15	BC_IT019	Chloride	89200	mg/l	1000		SW9056
BCST-GW-IT019-02222015	2/22/15	BC_IT019	Chloride	124000	mg/l	500		SW9056
BCST-GW-IT019-02232015	2/23/15	BC_IT019	Chloride	107000	mg/l	1000		SW9056

BCST-GW-IT019-20150224	2/24/15	BC_IT019	Chloride	103000	mg/l	2000		SW9056
BCST-GW-IT019-20150225	2/25/15	BC_IT019	Chloride	116000	mg/l	500		SW9056
BCST-GW-IT019-20150226	2/26/15	BC_IT019	Chloride	106000	mg/l	500		SW9056
BCST-GW-IT019-20150227	2/27/15	BC_IT019	Chloride	104000	mg/l	1000		SW9056
BCST-GW-IT019-20150228	2/28/15	BC_IT019	Chloride	108000	mg/l	1000		SW9056
BCST-GW-IT019-20150301	3/1/15	BC_IT019	Chloride	112000	mg/l	500		SW9056
BCST-GW-IT019-20150302	3/2/15	BC_IT019	Chloride	109000	mg/l	5000		SW9056
BCST-GW-IT020-022015	2/20/15	BC_IT020	Chloride	101000	mg/l	2000		SW9056
BCST-GW-IT020-02212015	2/21/15	BC_IT020	Chloride	88600	mg/l	1000		SW9056
BCST-GW-IT020-02222015	2/22/15	BC_IT020	Chloride	98900	mg/l	500		SW9056
BCST-GW-IT020-02232015	2/23/15	BC_IT020	Chloride	103000	mg/l	400		SW9056
BCST-GW-IT020-20150224	2/24/15	BC_IT020	Chloride	97100	mg/l	200		SW9056
BCST-GW-IT020-20150225	2/25/15	BC_IT020	Chloride	98500	mg/l	500		SW9056
BCST-GW-IT020-20150226	2/26/15	BC_IT020	Chloride	98900	mg/l	500		SW9056
BCST-GW-IT020-20150227	2/27/15	BC_IT020	Chloride	99900	mg/l	1000		SW9056
BCST-GW-IT020-20150228	2/28/15	BC_IT020	Chloride	98800	mg/l	1000		SW9056
BCST-GW-IT020-20150301	3/1/15	BC_IT020	Chloride	99100	mg/l	500		SW9056
BCST-GW-IT020-20150302	3/2/15	BC_IT020	Chloride	99500	mg/l	5000		SW9056
BCST-GW-IT021-20150225	2/25/15	BC_ITS021	Chloride	135000	mg/l	2000		SW9056
BCST-GW-IT021-20150226	2/26/15	BC_ITS021	Chloride	129000	mg/l	500		SW9056
BCST-GW-IT021-20150227	2/27/15	BC_ITS021	Chloride	129000	mg/l	1000		SW9056
BCST-GW-IT021-20150228	2/28/15	BC_IT021	Chloride	132000	mg/l	1000		SW9056
BCST-GW-IT021-20150301	3/1/15	BC_IT021	Chloride	110000	mg/l	500		SW9056
BCST-GW-IT021-20150302	3/2/15	BC_IT021	Chloride	139000	mg/l	5000		SW9056
BCST-GW-IT10-20150215	2/15/15	BC_IT010	Chloride	30700	mg/l	100		SW9056
BCST-GW-IT12-20150215	2/15/15	BC_IT012	Chloride	72500	mg/l	500		SW9056
BCST-GW-IT6-20150215	2/15/15	BC_IT006	Chloride	30.4	mg/l	10		SW9056
BCST-GW-IT7-20150215	2/15/15	BC_IT007	Chloride	11700	mg/l	50		SW9056
BCST-GW-IT8-20150215	2/15/15	BC_IT008	Chloride	37.5	mg/l	10		SW9056
BCST-GW-MW006-022015	2/20/15	MW006	Chloride	56700	mg/l	2000		SW9056
BCST-GW-MW007-022015	2/20/15	MW007	Chloride	88800	mg/l	1000		SW9056
BCST-GW-MW009-022015	2/20/15	MW009	Chloride	22500	mg/l	500		SW9056
BCST-GW-MW010-022015	2/20/15	MW010	Chloride	55300	mg/l	2000		SW9056
BCST-GW-MW011-022015	2/20/15	MW011	Chloride	145000	mg/l	5000		SW9056
BCST-IT001021215	2/12/15	BC_IT001	Chloride	144000	mg/l	2000		SW9056
BCST-IT001021315	2/13/15	BC_IT001	Chloride	195000	mg/l	500		SW9056

BCST-IT002021215	2/12/15	BC_IT002	Chloride	126000	mg/l	2000		SW9056
BCST-IT002021315	2/13/15	BC_IT002	Chloride	224000	mg/l	500		SW9056
BCST-IT003021215	2/12/15	BC_IT003	Chloride	101000	mg/l	2000		SW9056
BCST-IT003021315	2/13/15	BC_IT003	Chloride	163000	mg/l	500	J	SW9056
BCST-IT004021215	2/12/15	BC_IT004	Chloride	56400	mg/l	1000		SW9056
BCST-IT004021315	2/13/15	BC_IT004	Chloride	65200	mg/l	200		SW9056
BCST-IT005021215	2/12/15	BC_IT005	Chloride	107000	mg/l	2000		SW9056
BCST-IT005021315	2/13/15	BC_IT005	Chloride	165000	mg/l	500		SW9056
BCST-MW003-021415	2/14/15	MW003	Chloride	38.3	mg/l	1		SW9056
BCST-GW-IT011-021815	2/18/15	BC_IT011	Fluoride	3.59	mg/l	2		SW9056
BCST-GW-IT013-021815	2/18/15	BC_IT013	Fluoride	2.42	mg/l	0.5		SW9056
BCST-GW-IT014-021715	2/17/15	BC_IT014	Fluoride	1.93	mg/l	1		SW9056
BCST-GW-IT015-021715	2/17/15	BC_IT015	Fluoride	1.15	mg/l	1		SW9056
BCST-GW-IT011-021815	2/18/15	BC_IT011	Sulfate	643	mg/l	20		SW9056
BCST-GW-IT013-021815	2/18/15	BC_IT013	Sulfate	1200	mg/l	20		SW9056
BCST-GW-IT014-021715	2/17/15	BC_IT014	Sulfate	1430	mg/l	10		SW9056
BCST-GW-IT015-021715	2/17/15	BC_IT015	Sulfate	1350	mg/l	10		SW9056
BCST-GW-IT10-20150215	2/15/15	BC_IT010	Sulfate	3680	mg/l	100		SW9056
BCST-GW-IT12-20150215	2/15/15	BC_IT012	Sulfate	1230	mg/l	100		SW9056
BCST-GW-IT6-20150215	2/15/15	BC_IT006	Sulfate	3880	mg/l	10		SW9056
BCST-GW-IT7-20150215	2/15/15	BC_IT007	Sulfate	2290	mg/l	50		SW9056
BCST-GW-IT8-20150215	2/15/15	BC_IT008	Sulfate	2700	mg/l	10		SW9056

* results presented are limited to organics and inorganic ion detections; analysis included all analytes on method list

J: estimated value

Blacktail Creek Spill Final Stantec Surface Water Sampling Results* (Sampling Period: 2/12/15-3/2/15)								
Sample Name	**Sample Date**	**Location**	**Chemical Name**	**Result**	**Result Unit**	**RDL**	**Qualifier**	**Analytical Group**
DRO								
BCST-SW-BC106-022315	2/23/15	BC_106	PHC - diesel (C10-C28)	155	ug/l	96.2		SW8015
VOCS								
BCST-SW-BC103-021915	2/19/15	BC_103	Benzene	1.16	ug/l	1		SW8260B
BCST_SW-BC103-022115	2/21/15	BC_103	Trimethylbenzene, 1,2,4-	1.37	ug/l	1		SW8260B
BCST_SW-BC103-022215	2/22/15	BC_103	Trimethylbenzene, 1,2,4-	1.11	ug/l	1		SW8260B
INORGANIC IONS								
BCST_SW-BC100-021615	2/16/15	BC_100	Bromide	0.218	mg/l	0.1		SW9056
BCST_SW-BC103-021615	2/16/15	BC_103	Bromide	8.11	mg/l	0.1		SW9056
BCST_SW-BC106-021615	2/16/15	BC_106	Bromide	12.1	mg/l	0.1		SW9056
BCST_SW-BC108.1-021615	2/16/15	BC_108.1	Bromide	2.15	mg/l	0.1		SW9056
BCST_SW-BC108-021615	2/16/15	BC_108	Bromide	0.68	mg/l	0.1		SW9056
BCST_SW-BC109-021615	2/16/15	BC_109	Bromide	0.824	mg/l	0.1		SW9056
BCST_SW-BC110-021615	2/16/15	BC_110	Bromide	0.837	mg/l	0.1		SW9056
BCST_SW-BC112-021615	2/16/15	BC_112	Bromide	5.88	mg/l	0.1		SW9056
BCST_SW-BC114-021615	2/16/15	BC_114	Bromide	0.483	mg/l	0.1		SW9056
BCST_SW-BC115-021615	2/16/15	BC_115	Bromide	0.61	mg/l	0.1		SW9056
BCST_SW-BC116-021615	2/16/15	BC_116	Bromide	0.556	mg/l	0.1		SW9056
BCST_SW-BC117-021615	2/16/15	BC_117	Bromide	0.35	mg/l	0.1		SW9056
BCST_SW-BC118-021615	2/16/15	BC_118	Bromide	0.983	mg/l	0.1		SW9056
BCST_SW-BC119-021615	2/16/15	BC_119	Bromide	0.139	mg/l	0.1		SW9056
BCST_SW-BC200-021615	2/16/15	BC_200	Bromide	8.55	mg/l	0.1		SW9056
BCST-SW-103-021715	2/17/15	BC_103	Bromide	6.76	mg/l	1		SW9056
BCST-SW-106-021715	2/17/15	BC_106	Bromide	8.59	mg/l	1		SW9056
BCST-SW-200-021715	2/17/15	BC_200	Bromide	10.3	mg/l	1		SW9056
BCST_SW-BC100-021615	2/16/15	BC_100	Chloride	19.3	mg/l	1		SW9056
BCST_SWBC103-021515	2/15/15	BC_103	Chloride	1390	mg/l	50		SW9056
BCST_SW-BC103-021615	2/16/15	BC_103	Chloride	1190	mg/l	10		SW9056
BCST_SW-BC103-021815	2/18/15	BC_103	Chloride	1220	mg/l	10		SW9056
BCST_SW-BC103-022215	2/22/15	BC_103	Chloride	978	mg/l	20		SW9056
BCST_SWBC106-021515	2/15/15	BC_106	Chloride	1400	mg/l	50		SW9056
BCST_SW-BC106-021615	2/16/15	BC_106	Chloride	1640	mg/l	10		SW9056

BCST_SW-BC106-021815	2/18/15	BC_106	Chloride	1860	mg/l	10		SW9056
BCST_SW-BC106-022115	2/21/15	BC_106	Chloride	1490	mg/l	10		SW9056
BCST_SW-BC106-022215	2/22/15	BC_106	Chloride	1540	mg/l	50		SW9056
BCST_SW-BC106-022815	2/28/15	BC_106	Chloride	1910	mg/l	50		SW9056
BCST_SW-BC107-021615	2/16/15	BC_107	Chloride	7.82	mg/l	1		SW9056
BCST_SW-BC108.1-021615	2/16/15	BC_108.1	Chloride	291	mg/l	1		SW9056
BCST_SW-BC108.1-022115	2/21/15	BC_108.1	Chloride	2110	mg/l	50		SW9056
BCST_SW-BC108.1-022215	2/22/15	BC_108.1	Chloride	2170	mg/l	50		SW9056
BCST_SW-BC108-021615	2/16/15	BC_108	Chloride	78.4	mg/l	1		SW9056
BCST_SW-BC109-021615	2/16/15	BC_109	Chloride	144	mg/l	1		SW9056
BCST_SW-BC110-021615	2/16/15	BC_110	Chloride	156	mg/l	1		SW9056
BCST_SW-BC112-021615	2/16/15	BC_112	Chloride	887	mg/l	10		SW9056
BCST_SW-BC114-021615	2/16/15	BC_114	Chloride	111	mg/l	1		SW9056
BCST_SW-BC115-021615	2/16/15	BC_115	Chloride	111	mg/l	1		SW9056
BCST_SW-BC116-021615	2/16/15	BC_116	Chloride	118	mg/l	1		SW9056
BCST_SW-BC117-021615	2/16/15	BC_117	Chloride	136	mg/l	1		SW9056
BCST_SW-BC118-021615	2/16/15	BC_118	Chloride	268	mg/l	1		SW9056
BCST_SW-BC119-021615	2/16/15	BC_119	Chloride	80.8	mg/l	1		SW9056
BCST_SWBC200-021515	2/15/15	BC_200	Chloride	1040	mg/l	50		SW9056
BCST_SW-BC200-021615	2/16/15	BC_200	Chloride	1250	mg/l	10		SW9056
BCST_SW-BC200-021815	2/18/15	BC_200	Chloride	1700	mg/l	10		SW9056
BCST_SW-BC200-022115	2/21/15	BC_200	Chloride	1380	mg/l	10		SW9056
BCST_SW-BC200-022215	2/22/15	BC_200	Chloride	1330	mg/l	50		SW9056
BCST-SCD003-021215	2/12/15	SCD3	Chloride	1320	mg/l	10		SW9056
BCST-SCD003-021315	2/13/15	SCD3	Chloride	1310	mg/l	10		SW9056
BCST-SW-103-021715	2/17/15	BC_103	Chloride	1760	mg/l	10		SW9056
BCST-SW-106-021715	2/17/15	BC_106	Chloride	2150	mg/l	10		SW9056
BCST-SW-200-021715	2/17/15	BC_200	Chloride	2490	mg/l	10		SW9056
BCST-SW-BC100-022315	2/23/15	BC_100	Chloride	20.3	mg/l	1		SW9056
BCST-SW-BC101-022315	2/23/15	BC_101	Chloride	21.5	mg/l	1		SW9056
BCST-SWBC103-021415	2/14/15	BC_103	Chloride	1280	mg/l	10		SW9056
BCST-SW-BC103-021915	2/19/15	BC_103	Chloride	1680	mg/l	5		SW9056
BCST-SW-BC103-022315	2/23/15	BC_103	Chloride	559	mg/l	10		SW9056
BCST-SW-BC106-021915	2/19/15	BC_106	Chloride	1680	mg/l	5		SW9056
BCST-SW-BC106-022015	2/20/15	BC_106	Chloride	1640	mg/l	10		SW9056
BCST-SW-BC106-022315	2/23/15	BC_106	Chloride	1600	mg/l	10		SW9056

BCST-SW-BC106-022415	2/24/15	BC_106	Chloride	1690	mg/l	10		SW9056
BCST-SW-BC106-022515	2/25/15	BC_106	Chloride	1620	mg/l	50		SW9056
BCST-SW-BC106-022615	2/26/15	BC_106	Chloride	1610	mg/l	20		SW9056
BCST-SW-BC106-022715	2/27/15	BC_106	Chloride	1900	mg/l	100		SW9056
BCST-SW-BC107-022415	2/24/15	BC_107	Chloride	7.78	mg/l	1		SW9056
BCST-SW-BC108.1-022015	2/20/15	BC_108.1	Chloride	1880	mg/l	10		SW9056
BCST-SW-BC108-022315	2/23/15	BC_108	Chloride	13.1	mg/l	1		SW9056
BCST-SW-BC109-022315	2/23/15	BC_109	Chloride	19.2	mg/l	1		SW9056
BCST-SW-BC110-022315	2/23/15	BC_110	Chloride	18.9	mg/l	1		SW9056
BCST-SW-BC112-022415	2/24/15	BC_112	Chloride	21	mg/l	1		SW9056
BCST-SW-BC113-022415	2/24/15	BC_113	Chloride	19	mg/l	1		SW9056
BCST-SW-BC114-022315	2/23/15	BC_114	Chloride	24.4	mg/l	1		SW9056
BCST-SW-BC115-022415	2/24/15	BC_115	Chloride	36.1	mg/l	1		SW9056
BCST-SW-BC116-022415	2/24/15	BC_116	Chloride	45.7	mg/l	1		SW9056
BCST-SW-BC117-022415	2/24/15	BC_117	Chloride	92	mg/l	10		SW9056
BCST-SW-BC118-022415	2/24/15	BC_118	Chloride	86.2	mg/l	10		SW9056
BCST-SW-BC119-022415	2/24/15	BC_119	Chloride	53.6	mg/l	1		SW9056
BCST-SWBC200-021415	2/14/15	BC_200	Chloride	1310	mg/l	10		SW9056
BCST-SW-BC200-021915	2/19/15	BC_200	Chloride	1980	mg/l	5		SW9056
BCST-SW-BC200-022015	2/20/15	BC_200	Chloride	1870	mg/l	20		SW9056
BCST-SW-BC200-022315	2/23/15	BC_200	Chloride	41.9	mg/l	1		SW9056
BCST-SW-BC200-022415	2/24/15	BC_200	Chloride	962	mg/l	10		SW9056
BCST-SW-BC201-022415	2/24/15	BC_201	Chloride	606	mg/l	10		SW9056
BCST-SW-SCD003-021515	2/15/15	SCD3	Chloride	1020	mg/l	10		SW9056
BCST-SWSW405-021215	2/12/15	SW_405	Chloride	1340	mg/l	10		SW9056
BCST-SWSW405-021315	2/13/15	SW_405	Chloride	1500	mg/l	10		SW9056
BCST-SW-SW405-021515	2/15/15	SW_405	Chloride	1010	mg/l	10		SW9056
BCST-SWSW406-021215	2/12/15	SW_406	Chloride	1180	mg/l	20		SW9056
BCST-SWSW406-021315	2/13/15	SW_406	Chloride	1470	mg/l	10		SW9056
BCST-SW-SW406-021515	2/15/15	SW_406	Chloride	1090	mg/l	10		SW9056
BCST-SWSW407-021315	2/13/15	SW_407	Chloride	1470	mg/l	10		SW9056
BCST-SW-SW407-021515	2/15/15	SW_407	Chloride	1080	mg/l	10		SW9056
BCST-SWSW408-021215	2/12/15	SW_408	Chloride	161000	mg/l	500		SW9056
BCST-SWSW408-021315	2/13/15	SW_408	Chloride	168000	mg/l	500		SW9056
BCST-SW-SW408-021515	2/15/15	SW_408	Chloride	93600	mg/l	200		SW9056
BCST-SWSW409-021315	2/13/15	SW_409	Chloride	1040	mg/l	10		SW9056

BCST-SW-SW409-021515	2/15/15	SW_409	Chloride	119	mg/l	10		SW9056
BCST-SWSW410-021215	2/12/15	SW_410	Chloride	1390	mg/l	10		SW9056
BCST-SWSW410-021315	2/13/15	SW_410	Chloride	1580	mg/l	10		SW9056
BCST-SWSW410-021415	2/14/15	SW_410	Chloride	1540	mg/l	10		SW9056
BCST-SW-SW410-021515	2/15/15	SW_410	Chloride	1350	mg/l	10		SW9056
BCST-SWSW411-021215	2/12/15	SW_411	Chloride	1380	mg/l	10		SW9056
BCST-SWSW411-021315	2/13/15	SW_411	Chloride	1420	mg/l	10		SW9056
BCST-SWSW411-021415	2/14/15	SW_411	Chloride	1280	mg/l	10		SW9056
BCST-SW-SW411-021515	2/15/15	SW_411	Chloride	1140	mg/l	10		SW9056
BCST-SWSW413-021215	2/12/15	SW_413	Chloride	47600	mg/l	200		SW9056
BCST-SWSW413-021315	2/13/15	SW_413	Chloride	9640	mg/l	20		SW9056
BCST-SWSW413-021415	2/14/15	SW_413	Chloride	7880	mg/l	50		SW9056
BCST-SW-SW413-021515	2/15/15	SW_413	Chloride	32700	mg/l	100		SW9056
BCST-SWSW500-021415	2/14/15	SW_500	Chloride	1280	mg/l	10		SW9056

* results presented are limited to organics and inorganic ion detections; analysis included all analytes on method list

J: estimated value

APPENDIX D
COMPILED AGENCY RESULTS

Blacktail Creek
Preliminary Water Sampling Results
ND DOH and US ACE
[Full Dataset]

Agency	Location	Location Description	Date	Time	Analyte	Result	Qual	Units	ND WQS Acute	ND WQS Chronic	ND Class II Stream MCL
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Alkalinity, Total (as CaCO3)	857		mg/L			
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Alkalinity, Total (as CaCO3)	4.6		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 85	1/ 9/15	16:30	Alkalinity, Total (as CaCO3)	6.8		mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/20/15	17:15	Alkalinity, Total (as CaCO3)	931		mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/16/15	12:00	Alkalinity, Total (as CaCO3)	1210		mg/L			
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Alkalinity, Total (as CaCO3)	592		mg/L			
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Alkalinity, Total (as CaCO3)	647		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:10	Alkalinity, Total (as CaCO3)	6.7		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:00	Alkalinity, Total (as CaCO3)	574		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:05	Alkalinity, Total (as CaCO3)	574		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/16/15	11:30	Alkalinity, Total (as CaCO3)	621		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Alkalinity, Total (as CaCO3)	624		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Alkalinity, Total (as CaCO3)	633		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Alkalinity, Total (as CaCO3)	654		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Alkalinity, Total (as CaCO3)	3.3	U	mg/L			
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Alkalinity, Total (as CaCO3)	659		mg/L			
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Alkalinity, Total (as CaCO3)	696		mg/L			
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Alkalinity, Total (as CaCO3)	900		mg/L			
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Alkalinity, Total (as CaCO3)	731		mg/L			
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Alkalinity, Total (as CaCO3)	784		mg/L			
ND DOH	119	Little Muddy R. @ 1804	1/15/15	10:10	Alkalinity, Total (as CaCO3)	4.6		mg/L			
ND DOH	119	Little Muddy R. @ 1805	1/10/15	9:00	Alkalinity, Total (as CaCO3)	747		mg/L			
ND DOH	119	Little Muddy R. @ 1806	1/12/15	18:00	Alkalinity, Total (as CaCO3)	775		mg/L			
ND DOH	119	Little Muddy R. @ 1807	1/15/15	10:00	Alkalinity, Total (as CaCO3)	813		mg/L			
ND DOH	119	Little Muddy R. @ 1808	1/15/15	10:05	Alkalinity, Total (as CaCO3)	825		mg/L			
ND DOH	119.5	Little Muddy R. RR Bridge	1/21/2015	13:15	Alkalinity, Total (as CaCO3)	254		mg/L			
ND DOH	120	Little Muddy R. Nr Confluence with Lake Sakakawea	1/15/15		Alkalinity, Total (as CaCO3)	793		mg/L			
ND DOH	121	Missouri R. Nr Confluence with Little Muddy R.	1/15/15		Alkalinity, Total (as CaCO3)	767		mg/L			
USACE	1LOWMARSH		12/10/2014	9:20	Alkalinity, Total (as CaCO3)	552		mg/L			
USACE	2PSZID		12/10/2014	9:45	Alkalinity, Total (as CaCO3)	534		mg/L			
USACE	3TTFZID		12/10/2014	10:20	Alkalinity, Total (as CaCO3)	534		mg/L			
USACE	4MIXBOUND		12/10/2014	10:30	Alkalinity, Total (as CaCO3)	545		mg/L			
USACE	5MORSCMP		12/10/2014	12:20	Alkalinity, Total (as CaCO3)	445		mg/L			
USACE	6MORLMCONF		12/10/2014	12:00	Alkalinity, Total (as CaCO3)	487		mg/L			
ND DOH	1	Source "collected out of the pipe"	1/ 9/15	12:02	Ammonia as N	1870		mg/L			
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Ammonia as N	0.5		mg/L			
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Ammonia as N	0.03	U	mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 86	1/ 9/15	16:20	Ammonia as N	714		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 87	1/ 9/15	16:25	Ammonia as N	730		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 88	1/ 8/15	16:15	Ammonia as N	796		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 89	1/ 9/15	16:30	Ammonia as N	0.03	U	mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/ 9/15	13:25	Ammonia as N	407		mg/L			
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Ammonia as N	0.61		mg/L			
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Ammonia as N	0.88		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Ammonia as N	0.6		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Ammonia as N	0.61		mg/L			

Blacktail Creek
Preliminary Water Sampling Results
ND DOH and US ACE
[Full Dataset]

Agency	Location	Location Description	Date	Time	Analyte	Result	Qual	Units	ND WQS Acute	ND WQS Chronic	ND Class II Stream MCL
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Ammonia as N	0.89		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Ammonia as N	0.03	U	mg/L			
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Ammonia as N	1.52		mg/L			
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Ammonia as N	2.85		mg/L			
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Ammonia as N	0.75		mg/L			
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Ammonia as N	6.18		mg/L			
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Ammonia as N	5.74		mg/L			
ND DOH	119	Little Muddy R. @ 1809	1/12/15	18:00	Ammonia as N	9.03		mg/L			
ND DOH	119	Little Muddy R. @ 1810	1/10/15	9:00	Ammonia as N	14.1		mg/L			
USACE	1LOWMARSH		12/10/2014	9:20	Ammonia as N	**6.94**		mg/L	4.71*	1.43*	
USACE	2PSZID		12/10/2014	9:45	Ammonia as N	**6.44**		mg/L	5.73*	1.71*	
USACE	3TTFZID		12/10/2014	10:20	Ammonia as N	**6.3**		mg/L	6.95*	2.02*	
USACE	4MIXBOUND		12/10/2014	10:30	Ammonia as N	**6.47**		mg/L	8.41*	2.36*	
USACE	5MORSCMP		12/10/2014	12:20	Ammonia as N	**5.84**		mg/L	10.13*	2.73*	
USACE	6MORLMCONF		12/10/2014	12:00	Ammonia as N	**5.74**		mg/L	8.41*	2.36*	
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Anion Sum	67.42					
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Anion Sum	0.242					
ND DOH	103	Blacktail Cr 100 yards west of Hwy 90	1/ 9/15	16:30	Anion Sum	0.439					
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/20/15	17:15	Anion Sum	42.5					
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/16/15	12:00	Anion Sum	61.59					
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Anion Sum	23.4					
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Anion Sum	26.46					
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Anion Sum	0.219					
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:10	Anion Sum	0.272					
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:05	Anion Sum	23.07					
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:00	Anion Sum	23.24					
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Anion Sum	24.6					
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Anion Sum	25.09					
ND DOH	109	Little Muddy R. @ 66th ST.	1/16/15	11:30	Anion Sum	25.18					
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Anion Sum	25.75					
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Anion Sum	28.56					
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Anion Sum	34.59					
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Anion Sum	52.17					
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Anion Sum	47.99					
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Anion Sum	48.01					
ND DOH	119	Little Muddy R. @ 1811	1/15/15	10:10	Anion Sum	0.24					
ND DOH	119	Little Muddy R. @ 1812	1/15/15	10:00	Anion Sum	36.07					
ND DOH	119	Little Muddy R. @ 1813	1/15/15	10:05	Anion Sum	55.09					
ND DOH	119	Little Muddy R. @ 1814	1/10/15	9:00	Anion Sum	74.46					
ND DOH	119	Little Muddy R. @ 1815	1/12/15	18:00	Anion Sum	74.62					
ND DOH	119.5	Little Muddy R. RR Bridge	1/21/2015	13:15	Anion Sum	10.86					
ND DOH	120	Little Muddy R. Nr Confluence with Lake Sakakawea	1/15/15		Anion Sum	66.06					
ND DOH	121	Missouri R. Nr Confluence with Little Muddy R.	1/15/15		Anion Sum	38.22					
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Bicarbonate	1050		mg/L			
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Bicarbonate	6		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 91	1/ 9/15	16:30	Bicarbonate	8		mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/20/15	17:15	Bicarbonate	1140		mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/16/15	12:00	Bicarbonate	1470		mg/L			
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Bicarbonate	722		mg/L			

Blacktail Creek
Preliminary Water Sampling Results
ND DOH and US ACE
[Full Dataset]

Agency	Location	Location Description	Date	Time	Analyte	Result	Qual	Units	ND WQS Acute	ND WQS Chronic	ND Class II Stream MCL
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Bicarbonate	789		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Bicarbonate	4		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:10	Bicarbonate	8		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:00	Bicarbonate	701		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:05	Bicarbonate	701		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/16/15	11:30	Bicarbonate	758		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Bicarbonate	761		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Bicarbonate	772		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Bicarbonate	797		mg/L			
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Bicarbonate	804		mg/L			
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Bicarbonate	850		mg/L			
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Bicarbonate	1100		mg/L			
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Bicarbonate	892		mg/L			
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Bicarbonate	957		mg/L			
ND DOH	119	Little Muddy R. @ 1816	1/15/15	10:10	Bicarbonate	6		mg/L			
ND DOH	119	Little Muddy R. @ 1817	1/10/15	9:00	Bicarbonate	912		mg/L			
ND DOH	119	Little Muddy R. @ 1818	1/12/15	18:00	Bicarbonate	946		mg/L			
ND DOH	119	Little Muddy R. @ 1819	1/15/15	10:00	Bicarbonate	992		mg/L			
ND DOH	119	Little Muddy R. @ 1820	1/15/15	10:05	Bicarbonate	1010		mg/L			
ND DOH	119.5	Little Muddy R. RR Bridge	1/21/2015	13:15	Bicarbonate	310		mg/L			
ND DOH	120	Little Muddy R. Nr Confluence with Lake Sakakawea	1/15/15		Bicarbonate	967		mg/L			
ND DOH	121	Missouri R. Nr Confluence with Little Muddy R.	1/15/15		Bicarbonate	936		mg/L			
USACE	1LOWMARSH		12/10/2014	9:20	Carbonaceous BOD	5		mg/L			
USACE	2PSZID		12/10/2014	9:45	Carbonaceous BOD	4		mg/L			
USACE	3TTFZID		12/10/2014	10:20	Carbonaceous BOD	5		mg/L			
USACE	4MIXBOUND		12/10/2014	10:30	Carbonaceous BOD	5		mg/L			
USACE	5MORSCMP		12/10/2014	12:20	Carbonaceous BOD	4		mg/L			
USACE	6MORLMCONF		12/10/2014	12:00	Carbonaceous BOD	4		mg/L			
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Carbonate	1	U	mg/L			
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Carbonate	1	U	mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 92	1/ 9/15	16:30	Carbonate	1	U	mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/16/15	12:00	Carbonate	1	U	mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/20/15	17:15	Carbonate	1	U	mg/L			
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Carbonate	1	U	mg/L			
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Carbonate	1	U	mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Carbonate	1	U	mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Carbonate	1	U	mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Carbonate	1	U	mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Carbonate	1	U	mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/16/15	11:30	Carbonate	1	U	mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:00	Carbonate	1	U	mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:05	Carbonate	1	U	mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:10	Carbonate	1	U	mg/L			
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Carbonate	1	U	mg/L			
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Carbonate	1	U	mg/L			
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Carbonate	1	U	mg/L			
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Carbonate	1	U	mg/L			
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Carbonate	1	U	mg/L			
ND DOH	119	Little Muddy R. @ 1821	1/10/15	9:00	Carbonate	1	U	mg/L			
ND DOH	119	Little Muddy R. @ 1822	1/12/15	18:00	Carbonate	1	U	mg/L			
ND DOH	119	Little Muddy R. @ 1823	1/15/15	10:00	Carbonate	1	U	mg/L			
ND DOH	119	Little Muddy R. @ 1824	1/15/15	10:05	Carbonate	1	U	mg/L			

Blacktail Creek
Preliminary Water Sampling Results
ND DOH and US ACE
[Full Dataset]

Agency	Location	Location Description	Date	Time	Analyte	Result	Qual	Units	ND WQS Acute	ND WQS Chronic	ND Class II Stream MCL
ND DOH	119	Little Muddy R. @ 1825	1/15/15	10:10	Carbonate	1	U	mg/L			
ND DOH	119.5	Little Muddy R. RR Bridge	1/21/2015	13:15	Carbonate	1	U	mg/L			
ND DOH	120	Little Muddy R. Nr Confluence with Lake Sakakawea	1/15/15		Carbonate	1	U	mg/L			
ND DOH	121	Missouri R. Nr Confluence with Little Muddy R.	1/15/15		Carbonate	1	U	mg/L			
ND DOH	1	Source "collected out of the pipe"	1/ 9/15	12:02	Cation Sum	4989					
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Cation Sum	63.92					
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Cation Sum	0.339					
ND DOH	103	Blacktail Cr 100 yards west of Hwy 93	1/ 9/15	16:30	Cation Sum	0.339					
ND DOH	103	Blacktail Cr 100 yards west of Hwy 94	1/ 9/15	16:20	Cation Sum	2016					
ND DOH	103	Blacktail Cr 100 yards west of Hwy 95	1/ 9/15	16:25	Cation Sum	2039					
ND DOH	103	Blacktail Cr 100 yards west of Hwy 96	1/ 8/15	16:15	Cation Sum	2084					
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/20/15	17:15	Cation Sum	44.32					
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/16/15	12:00	Cation Sum	59.76					
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/ 9/15	13:25	Cation Sum	1179					
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Cation Sum	23.24					
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Cation Sum	24.91					
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Cation Sum	0.339					
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:10	Cation Sum	0.339					
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Cation Sum	23.29					
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Cation Sum	23.57					
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:00	Cation Sum	23.57					
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:05	Cation Sum	24.05					
ND DOH	109	Little Muddy R. @ 66th ST.	1/16/15	11:30	Cation Sum	24.48					
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Cation Sum	24.66					
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Cation Sum	26.98					
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Cation Sum	34.46					
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Cation Sum	54.05					
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Cation Sum	47.51					
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Cation Sum	46.74					
ND DOH	119	Little Muddy R. @ 1826	1/15/15	10:10	Cation Sum	0.339					
ND DOH	119	Little Muddy R. @ 1827	1/15/15	10:05	Cation Sum	48.79					
ND DOH	119	Little Muddy R. @ 1828	1/15/15	10:00	Cation Sum	69.23					
ND DOH	119	Little Muddy R. @ 1829	1/10/15	9:00	Cation Sum	76.41					
ND DOH	119	Little Muddy R. @ 1830	1/12/15	18:00	Cation Sum	77.17					
ND DOH	119.5	Little Muddy R. RR Bridge	1/21/2015	13:15	Cation Sum	11.49					
ND DOH	120	Little Muddy R. Nr Confluence with Lake Sakakawea	1/15/15		Cation Sum	64.31					
ND DOH	121	Missouri R. Nr Confluence with Little Muddy R.	1/15/15		Cation Sum	37.39					
USACE	1LOWMARSH		12/10/2014	9:20	Chloride	73		mg/L			250
USACE	2PSZID		12/10/2014	9:45	Chloride	82		mg/L			250
USACE	3TTFZID		12/10/2014	10:20	Chloride	74		mg/L			250
USACE	4MIXBOUND		12/10/2014	10:30	Chloride	77		mg/L			250
USACE	5MORSCMP		12/10/2014	12:20	Chloride	62		mg/L			250
USACE	6MORLMCONF		12/10/2014	12:00	Chloride	69		mg/L			250
ND DOH	1	Source "collected out of the pipe"	1/ 9/15	12:02	Chlorine	176000		mg/L			
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Chlorine	32.3		mg/L			

Blacktail Creek
Preliminary Water Sampling Results
ND DOH and US ACE
[Full Dataset]

Agency	Location	Location Description	Date	Time	Analyte	Result	Qual	Units	ND WQS Acute	ND WQS Chronic	ND Class II Stream MCL
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Chlorine	1	U	mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 97	1/ 9/15	16:30	Chlorine	6.85		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 98	1/ 8/15	16:15	Chlorine	71100		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 99	1/ 9/15	16:20	Chlorine	73200		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 100	1/ 9/15	16:25	Chlorine	73700		mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/20/15	17:15	Chlorine	160		mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/16/15	12:00	Chlorine	529		mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/ 9/15	13:25	Chlorine	39700		mg/L			
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Chlorine	15.2		mg/L			
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Chlorine	23.2		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Chlorine	1.37		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Chlorine	9.6		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Chlorine	10.3		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:05	Chlorine	11.3		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:00	Chlorine	11.5		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/16/15	11:30	Chlorine	13.1		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Chlorine	25.4		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:10	Chlorine	1	U	mg/L			
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Chlorine	80.9		mg/L			
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Chlorine	217		mg/L			
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Chlorine	23.5		mg/L			
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Chlorine	603		mg/L			
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Chlorine	541		mg/L			
ND DOH	119	Little Muddy R. @ 1831	1/15/15	10:00	Chlorine	461		mg/L			
ND DOH	119	Little Muddy R. @ 1832	1/15/15	10:05	Chlorine	812		mg/L			
ND DOH	119	Little Muddy R. @ 1833	1/12/15	18:00	Chlorine	1460		mg/L			
ND DOH	119	Little Muddy R. @ 1834	1/10/15	9:00	Chlorine	1480		mg/L			
ND DOH	119	Little Muddy R. @ 1835	1/15/15	10:10	Chlorine	1	U	mg/L			
ND DOH	119.5	Little Muddy R. RR Bridge	1/21/2015	13:15	Chlorine	22.1		mg/L			
ND DOH	120	Little Muddy R. Nr Confluence with Lake Sakakawea	1/15/15		Chlorine	1180		mg/L			
ND DOH	121	Missouri R. Nr Confluence with Little Muddy R.	1/15/15		Chlorine	374		mg/L			
USACE	1LOWMARSH		12/10/2014	9:20	Colored Dissolved Organic Matter (CDOM)	182		ug/L			
USACE	2PSZID		12/10/2014	9:45	Colored Dissolved Organic Matter (CDOM)	180		ug/L			
USACE	3TTFZID		12/10/2014	10:20	Colored Dissolved Organic Matter (CDOM)	177		ug/L			
USACE	4MIXBOUND		12/10/2014	10:30	Colored Dissolved Organic Matter (CDOM)	179		ug/L			
USACE	5MORSCMP		12/10/2014	12:20	Colored Dissolved Organic Matter (CDOM)	144		ug/L			
USACE	6MORLMCONF		12/10/2014	12:00	Colored Dissolved Organic Matter (CDOM)	160		ug/L			
ND DOH	1	Source "collected out of the pipe"	1/ 9/15	12:02	Fluorine	1000	U	mg/L			4
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Fluorine	0.3	U	mg/L			4
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Fluorine	0.05	U	mg/L			4
ND DOH	103	Blacktail Cr 100 yards west of Hwy 101	1/ 9/15	16:30	Fluorine	0.05	U	mg/L			4
ND DOH	103	Blacktail Cr 100 yards west of Hwy 102	1/ 8/15	16:15	Fluorine	1000	U	mg/L			4
ND DOH	103	Blacktail Cr 100 yards west of Hwy 103	1/ 9/15	16:20	Fluorine	1000	U	mg/L			4
ND DOH	103	Blacktail Cr 100 yards west of Hwy 104	1/ 9/15	16:25	Fluorine	1000	U	mg/L			4

Blacktail Creek
Preliminary Water Sampling Results
ND DOH and US ACE
[Full Dataset]

Agency	Location	Location Description	Date	Time	Analyte	Result	Qual	Units	ND WQS Acute	ND WQS Chronic	ND Class II Stream MCL
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/16/15	12:00	Fluorine	0.62		mg/L			4
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/ 9/15	13:25	Fluorine	1.5	U	mg/L			4
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Fluorine	0.225		mg/L			4
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Fluorine	0.36		mg/L			4
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Fluorine	0.235		mg/L			4
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Fluorine	0.252		mg/L			4
ND DOH	109	Little Muddy R. @ 66th ST.	1/16/15	11:30	Fluorine	0.34		mg/L			4
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Fluorine	0.357		mg/L			4
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Fluorine	0.05	U	mg/L			4
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Fluorine	0.366		mg/L			4
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Fluorine	0.3	U	mg/L			4
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Fluorine	0.3	U	mg/L			4
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Fluorine	0.3	U	mg/L			4
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Fluorine	0.314		mg/L			4
ND DOH	119	Little Muddy R. @ 1836	1/12/15	18:00	Fluorine	0.51		mg/L			4
ND DOH	119	Little Muddy R. @ 1837	1/15/15	10:00	Fluorine	0.64		mg/L			4
ND DOH	119	Little Muddy R. @ 1838	1/15/15	10:05	Fluorine	0.85		mg/L			4
ND DOH	119	Little Muddy R. @ 1839	1/15/15	10:10	Fluorine	0.1	U	mg/L			4
ND DOH	119	Little Muddy R. @ 1840	1/10/15	9:00	Fluorine	0.6	U	mg/L			4
ND DOH	120	Little Muddy R. Nr Confluence with Lake Sakakawea	1/15/15		Fluorine	0.69		mg/L			4
ND DOH	121	Missouri R. Nr Confluence with Little Muddy R.	1/15/15		Fluorine	1.05		mg/L			4
ND DOH	1	Source "collected out of the pipe"	1/ 9/15	12:02	Hardness	41900		mg/L			
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Hardness	1310		mg/L			
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Hardness	9		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 105	1/ 9/15	16:30	Hardness	9		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 106	1/ 9/15	16:20	Hardness	19200		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 107	1/ 9/15	16:25	Hardness	19500		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 108	1/ 8/15	16:15	Hardness	19800		mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/20/15	17:15	Hardness	1040		mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/16/15	12:00	Hardness	1360		mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/ 9/15	13:25	Hardness	11200		mg/L			
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Hardness	630		mg/L			
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Hardness	601		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Hardness	9		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:10	Hardness	9		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:00	Hardness	583		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:05	Hardness	584		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/16/15	11:30	Hardness	597		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Hardness	599		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Hardness	601		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Hardness	606		mg/L			
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Hardness	610		mg/L			
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Hardness	722		mg/L			
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Hardness	1400		mg/L			
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Hardness	874		mg/L			

Blacktail Creek
Preliminary Water Sampling Results
ND DOH and US ACE
[Full Dataset]

Agency	Location	Location Description	Date	Time	Analyte	Result	Qual	Units	ND WQS Acute	ND WQS Chronic	ND Class II Stream MCL
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Hardness	848		mg/L			
ND DOH	119	Little Muddy R. @ 1841	1/15/15	10:10	Hardness	9		mg/L			
ND DOH	119	Little Muddy R. @ 1842	1/15/15	10:05	Hardness	845		mg/L			
ND DOH	119	Little Muddy R. @ 1843	1/15/15	10:00	Hardness	1160		mg/L			
ND DOH	119	Little Muddy R. @ 1844	1/12/15	18:00	Hardness	1170		mg/L			
ND DOH	119	Little Muddy R. @ 1845	1/10/15	9:00	Hardness	1180		mg/L			
ND DOH	119.5	Little Muddy R. RR Bridge	1/21/2015	13:15	Hardness	330		mg/L			
ND DOH	120	Little Muddy R. Nr Confluence with Lake Sakakawea	1/15/15		Hardness	1050		mg/L			
ND DOH	121	Missouri R. Nr Confluence with Little Muddy R.	1/15/15		Hardness	715		mg/L			
ND DOH	1	Source "collected out of the pipe"	1/ 9/15	12:02	Nitrate/Nitrite Nitrogen	0.03	U	mg/L			1
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Nitrate/Nitrite Nitrogen	0.53		mg/L			1
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Nitrate/Nitrite Nitrogen	0.03	U	mg/L			1
ND DOH	103	Blacktail Cr 100 yards west of Hwy 109	1/ 8/15	16:15	Nitrate/Nitrite Nitrogen	0.4		mg/L			1
ND DOH	103	Blacktail Cr 100 yards west of Hwy 110	1/ 9/15	16:20	Nitrate/Nitrite Nitrogen	0.9		mg/L			1
ND DOH	103	Blacktail Cr 100 yards west of Hwy 111	1/ 9/15	16:25	Nitrate/Nitrite Nitrogen	0.03	U	mg/L			1
ND DOH	103	Blacktail Cr 100 yards west of Hwy 112	1/ 9/15	16:30	Nitrate/Nitrite Nitrogen	0.03	U	mg/L			1
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/ 9/15	13:25	Nitrate/Nitrite Nitrogen	0.3		mg/L			1
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Nitrate/Nitrite Nitrogen	0.26		mg/L			1
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Nitrate/Nitrite Nitrogen	0.19		mg/L			1
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Nitrate/Nitrite Nitrogen	0.18		mg/L			1
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Nitrate/Nitrite Nitrogen	0.23		mg/L			1
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Nitrate/Nitrite Nitrogen	0.24		mg/L			1
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Nitrate/Nitrite Nitrogen	0.03	U	mg/L			1
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Nitrate/Nitrite Nitrogen	0.15		mg/L			1
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Nitrate/Nitrite Nitrogen	0.23		mg/L			1
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Nitrate/Nitrite Nitrogen	0.68		mg/L			1
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Nitrate/Nitrite Nitrogen	0.3		mg/L			1
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Nitrate/Nitrite Nitrogen	0.67		mg/L			1
ND DOH	119	Little Muddy R. @ 1846	1/12/15	18:00	Nitrate/Nitrite Nitrogen	0.56		mg/L			1
ND DOH	119	Little Muddy R. @ 1847	1/10/15	9:00	Nitrate/Nitrite Nitrogen	0.88		mg/L			1
USACE	1LOWMARSH		12/10/2014	9:20	Nitrate/Nitrite Nitrogen	0.42		mg/L			1
USACE	2PSZID		12/10/2014	9:45	Nitrate/Nitrite Nitrogen	0.44		mg/L			1
USACE	3TTFZID		12/10/2014	10:20	Nitrate/Nitrite Nitrogen	0.41		mg/L			1
USACE	4MIXBOUND		12/10/2014	10:30	Nitrate/Nitrite Nitrogen	0.4		mg/L			1
USACE	5MORSCMP		12/10/2014	12:20	Nitrate/Nitrite Nitrogen	0.36		mg/L			1
USACE	6MORLMCONF		12/10/2014	12:00	Nitrate/Nitrite Nitrogen	0.38		mg/L			1
USACE	1LOWMARSH		12/10/2014	9:20	Orthophosphate (Dissolved)	1.06		mg/L			
USACE	2PSZID		12/10/2014	9:45	Orthophosphate (Dissolved)	0.93		mg/L			
USACE	3TTFZID		12/10/2014	10:20	Orthophosphate (Dissolved)	0.92		mg/L			
USACE	4MIXBOUND		12/10/2014	10:30	Orthophosphate (Dissolved)	0.97		mg/L			
USACE	5MORSCMP		12/10/2014	12:20	Orthophosphate (Dissolved)	0.81		mg/L			
USACE	6MORLMCONF		12/10/2014	12:00	Orthophosphate (Dissolved)	0.86		mg/L			
ND DOH	1	Source "collected out of the pipe"	1/ 9/15	12:02	Phosphorus	1		mg/L			
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Phosphorus	0.06		mg/L			
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Phosphorus	0.02	U	mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 113	1/ 9/15	16:20	Phosphorus	1		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 114	1/ 8/15	16:15	Phosphorus	3		mg/L			

Blacktail Creek
Preliminary Water Sampling Results
ND DOH and US ACE
[Full Dataset]

Agency	Location	Location Description	Date	Time	Analyte	Result	Qual	Units	ND WQS Acute	ND WQS Chronic	ND Class II Stream MCL
ND DOH	103	Blacktail Cr 100 yards west of Hwy 115	1/ 9/15	16:25	Phosphorus	0.02	U	mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 116	1/ 9/15	16:30	Phosphorus	0.02	U	mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/ 9/15	13:25	Phosphorus	0.6		mg/L			
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Phosphorus	0.03		mg/L			
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Phosphorus	0.02		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Phosphorus	0.02		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Phosphorus	0.02		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Phosphorus	0.03		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Phosphorus	0.02	U	mg/L			
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Phosphorus	0.02		mg/L			
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Phosphorus	0.02		mg/L			
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Phosphorus	0.03		mg/L			
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Phosphorus	0.03		mg/L			
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Phosphorus	0.04		mg/L			
ND DOH	119	Little Muddy R. @ 1848	1/12/15	18:00	Phosphorus	0.06		mg/L			
ND DOH	119	Little Muddy R. @ 1849	1/10/15	9:00	Phosphorus	0.09		mg/L			
USACE	1LOWMARSH		12/10/2014	9:20	Phosphorus (Total Dissolved)	1.13		mg/L			
USACE	2PSZID		12/10/2014	9:45	Phosphorus (Total Dissolved)	0.99		mg/L			
USACE	3TTFZID		12/10/2014	10:20	Phosphorus (Total Dissolved)	1		mg/L			
USACE	4MIXBOUND		12/10/2014	10:30	Phosphorus (Total Dissolved)	1.07		mg/L			
USACE	5MORSCMP		12/10/2014	12:20	Phosphorus (Total Dissolved)	0.88		mg/L			
USACE	6MORLMCONF		12/10/2014	12:00	Phosphorus (Total Dissolved)	0.92		mg/L			
USACE	1LOWMARSH		12/10/2014	9:20	Phosphorus (Total)	1.37		mg/L			
USACE	2PSZID		12/10/2014	9:45	Phosphorus (Total)	1.23		mg/L			
USACE	3TTFZID		12/10/2014	10:20	Phosphorus (Total)	1.2		mg/L			
USACE	4MIXBOUND		12/10/2014	10:30	Phosphorus (Total)	1.28		mg/L			
USACE	5MORSCMP		12/10/2014	12:20	Phosphorus (Total)	1.07		mg/L			
USACE	6MORLMCONF		12/10/2014	12:00	Phosphorus (Total)	1.12		mg/L			
ND DOH	1	Source "collected out of the pipe"	1/ 9/15	12:02	Silicon Dioxide	36.5		mg/L			
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Silicon Dioxide	24.9		mg/L			
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Silicon Dioxide	2	U	mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 117	1/ 9/15	16:30	Silicon Dioxide	2	U	mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 118	1/ 8/15	16:15	Silicon Dioxide	200	U	mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 119	1/ 9/15	16:20	Silicon Dioxide	200	U	mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 120	1/ 9/15	16:25	Silicon Dioxide	200	U	mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/20/15	17:15	Silicon Dioxide	49.8		mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/16/15	12:00	Silicon Dioxide	73.1		mg/L			
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/ 9/15	13:25	Silicon Dioxide	200	U	mg/L			
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Silicon Dioxide	32.2		mg/L			
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Silicon Dioxide	28.6		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:00	Silicon Dioxide	27.7		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:05	Silicon Dioxide	28.1		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/16/15	11:30	Silicon Dioxide	28.5		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Silicon Dioxide	28.9		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Silicon Dioxide	29		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Silicon Dioxide	29.7		mg/L			

Blacktail Creek
Preliminary Water Sampling Results
ND DOH and US ACE
[Full Dataset]

Agency	Location	Location Description	Date	Time	Analyte	Result	Qual	Units	ND WQS Acute	ND WQS Chronic	ND Class II Stream MCL
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Silicon Dioxide	2	U	mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:10	Silicon Dioxide	2	U	mg/L			
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Silicon Dioxide	28.2		mg/L			
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Silicon Dioxide	30.6		mg/L			
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Silicon Dioxide	23.5		mg/L			
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Silicon Dioxide	29.9		mg/L			
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Silicon Dioxide	30.3		mg/L			
ND DOH	119	Little Muddy R. @ 1850	1/15/15	10:05	Silicon Dioxide	27.9		mg/L			
ND DOH	119	Little Muddy R. @ 1851	1/12/15	18:00	Silicon Dioxide	31.3		mg/L			
ND DOH	119	Little Muddy R. @ 1852	1/10/15	9:00	Silicon Dioxide	32.8		mg/L			
ND DOH	119	Little Muddy R. @ 1853	1/15/15	10:00	Silicon Dioxide	34.8		mg/L			
ND DOH	119	Little Muddy R. @ 1854	1/15/15	10:10	Silicon Dioxide	2	U	mg/L			
ND DOH	119.5	Little Muddy R. RR Bridge	1/21/2015	13:15	Silicon Dioxide	12.1		mg/L			
ND DOH	120	Little Muddy R. Nr Confluence with Lake Sakakawea	1/15/15		Silicon Dioxide	27.9		mg/L			
ND DOH	121	Missouri R. Nr Confluence with Little Muddy R.	1/15/15		Silicon Dioxide	25.4		mg/L			
ND DOH	1	Source "collected out of the pipe"	1/ 9/15	12:02	Sodium	**80.1**		%			60
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Sodium	58.4		%			60
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Sodium	38.5		%			60
ND DOH	103	Blacktail Cr 100 yards west of Hwy 129	1/ 8/15	16:15	Sodium	**78.2**		%			60
ND DOH	103	Blacktail Cr 100 yards west of Hwy 130	1/ 9/15	16:20	Sodium	**78.2**		%			60
ND DOH	103	Blacktail Cr 100 yards west of Hwy 131	1/ 9/15	16:25	Sodium	**78.2**		%			60
ND DOH	103	Blacktail Cr 100 yards west of Hwy 132	1/ 9/15	16:30	Sodium	38.5		%			60
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/ 9/15	13:25	Sodium	78.1		%			60
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/16/15	12:00	Sodium	52.8		%			60
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/20/15	17:15	Sodium	51.7		%			60
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Sodium	44.6		%			60
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Sodium	50.7		%			60
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Sodium	50.4		%			60
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Sodium	47.5		%			60
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Sodium	47.3		%			60
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Sodium	38.5		%			60
ND DOH	109	Little Muddy R. @ 66th ST.	1/16/15	11:30	Sodium	50.2		%			60
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:00	Sodium	49.4		%			60
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:05	Sodium	50.4		%			60
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:10	Sodium	38.5		%			60
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Sodium	53.6		%			60
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Sodium	56.7		%			60
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Sodium	47.4		%			60
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Sodium	**61.5**		%			60
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Sodium	**62.1**		%			60
ND DOH	119	Little Muddy R. @ 1862	1/10/15	9:00	Sodium	**67.1**		%			60
ND DOH	119	Little Muddy R. @ 1863	1/12/15	18:00	Sodium	**67.6**		%			60
ND DOH	119	Little Muddy R. @ 1864	1/15/15	10:00	Sodium	**64.6**		%			60
ND DOH	119	Little Muddy R. @ 1865	1/15/15	10:05	Sodium	**63.4**		%			60
ND DOH	119	Little Muddy R. @ 1866	1/15/15	10:10	Sodium	38.5		%			60
ND DOH	119.5	Little Muddy R. RR Bridge	1/21/2015	13:15	Sodium	41.2		%			60
ND DOH	120	Little Muddy R. Nr Confluence with Lake Sakakawea	1/15/15		Sodium	**65.6**		%			60

Blacktail Creek
Preliminary Water Sampling Results
ND DOH and US ACE
[Full Dataset]

Agency	Location	Location Description	Date	Time	Analyte	Result	Qual	Units	ND WQS Acute	ND WQS Chronic	ND Class II Stream MCL
ND DOH	121	Missouri R. Nr Confluence with Little Muddy R.	1/15/15		Sodium	59.9		%			60
ND DOH	1	Source "collected out of the pipe"	1/ 9/15	12:02	Sulfate	**1000**	U	mg/L			450
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	Sulfate	**2360**		mg/L			450
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	Sulfate	1	U	mg/L			450
ND DOH	103	Blacktail Cr 100 yards west of Hwy 121	1/ 8/15	16:15	Sulfate	**1460**		mg/L			450
ND DOH	103	Blacktail Cr 100 yards west of Hwy 122	1/ 9/15	16:20	Sulfate	**1870**		mg/L			450
ND DOH	103	Blacktail Cr 100 yards west of Hwy 123	1/ 9/15	16:25	Sulfate	**1870**		mg/L			450
ND DOH	103	Blacktail Cr 100 yards west of Hwy 124	1/ 9/15	16:30	Sulfate	1	U	mg/L			450
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/20/15	17:15	Sulfate	**922**		mg/L			450
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/16/15	12:00	Sulfate	**1080**		mg/L			450
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/ 9/15	13:25	Sulfate	**1260**		mg/L			450
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	Sulfate	**529**		mg/L			450
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	Sulfate	**613**		mg/L			450
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:05	Sulfate	**536**		mg/L			450
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:00	Sulfate	**544**		mg/L			450
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	Sulfate	**559**		mg/L			450
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	Sulfate	**563**		mg/L			450
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	Sulfate	**589**		mg/L			450
ND DOH	109	Little Muddy R. @ 66th ST.	1/16/15	11:30	Sulfate	**590**		mg/L			450
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	Sulfate	1	U	mg/L			450
ND DOH	109	Little Muddy R. @ 66th ST.	1/20/15	16:10	Sulfate	1	U	mg/L			450
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	Sulfate	**624**		mg/L			450
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	Sulfate	**693**		mg/L			450
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	Sulfate	**1600**		mg/L			450
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	Sulfate	**781**		mg/L			450
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	Sulfate	**813**		mg/L			450
ND DOH	119	Little Muddy R. @ 1855	1/15/15	10:00	Sulfate	323		mg/L			450
ND DOH	119	Little Muddy R. @ 1856	1/15/15	10:05	Sulfate	**747**		mg/L			450
ND DOH	119	Little Muddy R. @ 1857	1/10/15	9:00	Sulfate	**848**		mg/L			450
ND DOH	119	Little Muddy R. @ 1858	1/12/15	18:00	Sulfate	**857**		mg/L			450
ND DOH	119	Little Muddy R. @ 1859	1/15/15	10:10	Sulfate	1	U	mg/L			450
ND DOH	119.5	Little Muddy R. RR Bridge	1/21/2015	13:15	Sulfate	243		mg/L			450
ND DOH	120	Little Muddy R. Nr Confluence with Lake Sakakawea	1/15/15		Sulfate	**810**		mg/L			450
ND DOH	121	Missouri R. Nr Confluence with Little Muddy R.	1/15/15		Sulfate	**588**		mg/L			450
ND DOH	1	Source "collected out of the pipe"	1/ 9/15	12:02	TKN	2040		mg/L			
ND DOH	100	Blacktail Cr @ 137th Ave	1/ 8/15	15:35	TKN	1.45		mg/L			
ND DOH	101	Blacktail Cr @ Spill Site	1/ 7/15	16:40	TKN	0.08	U	mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 125	1/ 9/15	16:20	TKN	762		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 126	1/ 9/15	16:25	TKN	776		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 127	1/ 8/15	16:15	TKN	846		mg/L			
ND DOH	103	Blacktail Cr 100 yards west of Hwy 128	1/ 9/15	16:30	TKN	0.08	U	mg/L			

Blacktail Creek
Preliminary Water Sampling Results
ND DOH and US ACE
[Full Dataset]

Agency	Location	Location Description	Date	Time	Analyte	Result	Qual	Units	ND WQS Acute	ND WQS Chronic	ND Class II Stream MCL
ND DOH	106	Blacktail Cr. Nr Confluence Little Muddy	1/ 9/15	13:25	TKN	461		mg/L			
ND DOH	107	Little Muddy R. @ 68th St.	1/ 9/15	12:45	TKN	0.92		mg/L			
ND DOH	108	Little Muddy R. Nr. Confluence with Blacktail CR	1/ 9/15	16:30	TKN	1.19		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:30	TKN	0.87		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:35	TKN	0.94		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 7/15	17:35	TKN	1.17		mg/L			
ND DOH	109	Little Muddy R. @ 66th ST.	1/ 9/15	14:40	TKN	0.08	U	mg/L			
ND DOH	110	Little Muddy R. @ 65th St.	1/ 9/15	17:15	TKN	2.02		mg/L			
ND DOH	112	Little Muddy R. @ 62nd St.	1/10/15	13:15	TKN	3.4		mg/L			
ND DOH	113	Cow Creek @ 135th Ave.	1/10/15	12:30	TKN	1.68		mg/L			
ND DOH	114	Little Muddy R. @ 60th ST.	1/10/15	11:45	TKN	7.66		mg/L			
ND DOH	118	Little Muddy R. @ 42nd St.	1/10/15	15:15	TKN	6.72		mg/L			
ND DOH	119	Little Muddy R. @ 1860	1/12/15	18:00	TKN	15		mg/L			
ND DOH	119	Little Muddy R. @ 1861	1/10/15	9:00	TKN	15.6		mg/L			
USACE	1LOWMARSH		12/10/2014	9:20	Total Dissolved Solids	1380		mg/L			
USACE	2PSZID		12/10/2014	9:45	Total Dissolved Solids	1350		mg/L			
USACE	3TTFZID		12/10/2014	10:20	Total Dissolved Solids	1340		mg/L			
USACE	4MIXBOUND		12/10/2014	10:30	Total Dissolved Solids	1340		mg/L			
USACE	5MORSCMP		12/10/2014	12:20	Total Dissolved Solids	1160		mg/L			
USACE	6MORLMCONF		12/10/2014	12:00	Total Dissolved Solids	1290		mg/L			
USACE	1LOWMARSH		12/10/2014	9:20	Total Kjeldahl Nitrogen	9.43		mg/L			
USACE	2PSZID		12/10/2014	9:45	Total Kjeldahl Nitrogen	8.29		mg/L			
USACE	3TTFZID		12/10/2014	10:20	Total Kjeldahl Nitrogen	8.04		mg/L			
USACE	4MIXBOUND		12/10/2014	10:30	Total Kjeldahl Nitrogen	8.01		mg/L			
USACE	5MORSCMP		12/10/2014	12:20	Total Kjeldahl Nitrogen	7.01		mg/L			
USACE	6MORLMCONF		12/10/2014	12:00	Total Kjeldahl Nitrogen	7.64		mg/L			
USACE	1LOWMARSH		12/10/2014	9:20	Total Organic Carbon	15.4		mg/L			
USACE	2PSZID		12/10/2014	9:45	Total Organic Carbon	15.2		mg/L			
USACE	3TTFZID		12/10/2014	10:20	Total Organic Carbon	15.9		mg/L			
USACE	4MIXBOUND		12/10/2014	10:30	Total Organic Carbon	15.9		mg/L			
USACE	5MORSCMP		12/10/2014	12:20	Total Organic Carbon	13.3		mg/L			
USACE	6MORLMCONF		12/10/2014	12:00	Total Organic Carbon	14.3		mg/L			
USACE	1LOWMARSH		12/10/2014	9:20	Total Suspended Solids	14		mg/L			
USACE	2PSZID		12/10/2014	9:45	Total Suspended Solids	24		mg/L			
USACE	3TTFZID		12/10/2014	10:20	Total Suspended Solids	36		mg/L			
USACE	4MIXBOUND		12/10/2014	10:30	Total Suspended Solids	10		mg/L			
USACE	5MORSCMP		12/10/2014	12:20	Total Suspended Solids	14		mg/L			
USACE	6MORLMCONF		12/10/2014	12:00	Total Suspended Solids	22		mg/L			

*calculated based on water temperature and pH

US ACE
Sampling Location Field Parameters

Station	Date	Time	Thickness (in.)	Ice Temp. (Celsius)	Oxygen (mg/L)	Oxygen (% Sat)	pH	Cond (uS)	Specific Reduction Potential	Turbidity (ntu)
1LOWMARSH	10-12-14	9:20	2	1.5	12.5	93.2	8.3	1980	325	9.2
2PSZID	10-12-14	9:45	0	0.5	12.9	93.9	8.2	1991	313	10.7
3TTFZID	10-12-14	10:20	24	0.5	13.1	93.8	8.1	1590	318	10.2
4MIXBOUND	10-12-14	10:30	8	0.7	13.0	94.8	8.0	1998	319	10.0
5MORSCMP	10-12-14	12:20	8	0.5	13.6	98.6	7.9	1694	313	11.2
6MORLMCONF	10-12-14	12:00	20	0.3	13.2	95.0	8.0	1861	312	14.4

Blacktail Creek Spill
ND DOH Preliminary Water Samplinng Metals Results

	Analyte	**Aluminum**	**Antimony**	**Arsenic**	**Barium**	**Beryllium**	**Boron**	**Bromine**	**Cadmium**	**Calcium**	**Chromium**	**Copper**
	CAS_NO	7429-90-5	7440-36-0	7440-38-2	7440-39-3	7440-41-7	7440-42-8	7726-95-6	7440-43-9	7440-70-2	7440-47-3	7440-50-8
	ND Stream Class I and II HHV		**5.6**	**10**		**4**			**5**			**1000**
	EPA MCL		**6**	**10**	**2000**	**4**			**5**		**100**	**1300**
	Result_Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	mg/L	ug/L	ug/L
SampNo	**Location**											
15-C10	**103**	5000 U	100 U	**203**	3970	100 U	143000	267	100 U	6600	100 U	268
15-C11	**1 (collected out of pipe)**	500 U	100 U	**548**	18400	100 U	388000	717	100 U	14900	100 U	**2830**
15-C12	**107**	443	5 U	5.65	53.1	5 U	254	0.185	5 U	136	5 U	15.4
15-C13	**106**	5000 U	100 U	**109**	1450	100 U	81900	165	100 U	3680	100 U	338
15-C16	**103**	5000 U	100 U	**175**	3190	100 U	134000	312	100 U	6220	100 U	486
15-C17	**103**	5000 U	100 U	**171**	3240	100 U	134000	349	100 U	6340	100 U	493
15-C18	**103**	50 U	5 U	5 U	10.2	5 U	88	0.05 U	5 U	2 U	5 U	5 U
15-C19	**109**	50 U	5 U	5 U	34.9	5 U	240	0.177	5 U	125	5 U	5 U
15-C20	**109**	50 U	5 U	5 U	35.6	5 U	242	0.16	5 U	126	5 U	5 U
15-C21	**109**	50 U	5 U	5 U	5 U	5 U	68	0.05 U	5 U	2 U	5 U	5 U
15-C22	**108**	50 U	5 U	5 U	33.8	5 U	291	0.242	5 U	124	5 U	5 U
15-C23	**110**	50 U	5 U	5 U	32.9	5 U	402	0.484	5 U	127	5 U	5 U
15-C24	**119**	660	5 U	7.51	125	5 U	3210	6.03	5 U	266	5 U	24.3
15-C25	**114**	50 U	5 U	5 U	65.2	5 U	1830	2.73	5 U	185	5 U	10
15-C26	**112**	220	5 U	5 U	44.1	5 U	922	0.192	5 U	220	5 U	7.09
15-C27	**112**	50 U	5 U	5 U	44.2	5 U	764	1.12	5 U	150	5 U	5 U
15-C28	**118**	97	5 U	5 U	68.4	5 U	1640	2.43	5 U	176	5 U	6.73
15-C29	**119**	500 U	5 U	7.78	123	5 U	3160	5.53	5 U	264	5 U	9.23
15-C30	**119**		5 U	9.23	113	5 U		4.51	5 U	249	5 U	6.82
15-C31	**119**	442	5 U	9.23	111	5 U	1670		5 U	181	5 U	6.9
15-C32	**119**	50 U	5 U	5 U	5 U	5 U	50 U	0.05 U	5 U	2 U	5 U	5 U
15-C33	**120**		5 U	8.8	124	5 U			5 U	234	5 U	8.49
15-C34	**121**	200	5 U	9.67	102	5 U	1080	1.57	5 U	148	5 U	5.43
15-C35	**109**	50 U	5 U	5 U	30.7	5 U	263	0.151	5 U	123	5 U	5 U
15-C36	**106**	4090	5 U	8.09	203	5 U	2050	2.48	5 U	307	5 U	10.2
15-C41	**109**	50 U	5 U	5 U	36.4	5 U	229		5 U	119	5 U	5 U
15-C42	**109**	52	5 U	5 U	37.3	5 U	230		5 U	120	5 U	5 U
15-C43	**109**	50 U	5 U	5 U	5.88	5 U	50 U		5 U	2 U	5 U	5 U
15-C44	**106**	50 U	5 U	6.31	58	5 U	593		5 U	211	5 U	5 U
15-C45	**119.5**	300	5 U	5 U	56.3	5 U	179		5 U	74.6	5 U	5 U
15-C7	**101**	50 U	5 U	5 U	25.9	5 U	62	0.05 U	5 U	2 U	5 U	5 U
15-C8	**109**	50 U	5 U	5 U	40.6	5 U	281	0.247	5 U	123	5 U	5 U
15-C9	**100**	96	5 U	5 U	53.4	5 U	398	0.226	5 U	204	5 U	6.42

U: analyte not detected at or above DL

Bold: result exceeded one or both benchmarks

Blacktail Creek Spill
ND DOH Preliminary Water Samplinng Metals Results

	Analyte	Iron	Lead	Magnesium	Manganese	Nickel	Potassium	Selenium	Silver	Sodium	Strontium	Thallium	Zinc
	CAS_NO	7439-89-6	7439-92-1	7439-95-4	7439-96-5	7440-02-0	9/7/7440	7782-49-2	7440-22-4	7440-23-5	7440-24-6	7440-28-0	7440-66-6
	ND Stream Class I and II HHV		**15**			**100**		**50**				**0.24**	**7400**
	EPA MCL		**15**					**50**				**2**	
	Result_Units	mg/L	ug/L	mg/L	mg/L	ug/L	mg/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L
SampNo	**Location**												
15-C10	**103**	26.8	100 U	793	9.96	**151**	2250	983	100 U	37500	451000	100 U	364
15-C11	**1 (collected out of pipe)**	48.5	200 U	1130	7.48	**380**	5880	**2180**	100 U	92000	1040000	200 U	419
15-C12	**107**	1.68	5 U	70.5	0.4	5 U	8.8	5 U	5 U	239	1030	5 U	5.42
15-C13	**106**	5 U	100 U	477	4.16	100 U	1310	**490**	100 U	21200	267000	100 U	145
15-C16	**103**	23.2	100 U	885	12.4	141	2090	**863**	100 U	36300	422000	100 U	310
15-C17	**103**	22.9	100 U	880	12.4	143	2100	**878**	100 U	36700	424000	100 U	217
15-C18	**103**	0.05 U	5 U	1 U	0.01 U	5 U	1 U	5 U	5 U	3 U	50 U	5 U	5 U
15-C19	**109**	0.771	5 U	71.3	0.319	5 U	8.1	5 U	5 U	258	989	5 U	5 U
15-C20	**109**	0.751	5 U	69.5	0.31	5 U	8.1	5 U	5 U	254	971	5 U	5 U
15-C21	**109**	0.05 U	5 U	1 U	0.01 U	5 U	1 U	5 U	5 U	3 U	50 U	5 U	5 U
15-C22	**108**	1.13	5 U	70.6	0.32	5 U	8.8	5 U	5 U	291	1150	5 U	5 U
15-C23	**110**	0.913	5 U	71.1	0.344	5 U	10.6	5 U	5 U	333	1620	5 U	5 U
15-C24	**119**	1.17	5 U	126	0.347	11.8	54.4	17.9	5 U	1180	9910	5 U	50.3
15-C25	**114**	0.549	5 U	99.9	0.313	5.94	29.2	9.49	5 U	673	5260	5 U	9.67
15-C26	**112**	0.491	5 U	206	0.121	19.1	14.6	5 U	5 U	590	2780	5 U	7.52
15-C27	**112**	0.27	5 U	84.4	0.367	8.45	16.6	5 U	5 U	450	2670	5 U	5 U
15-C28	**118**	0.581	5 U	99.1	0.262	5.8	27.7	9.71	5 U	668		5 U	5.67
15-C29	**119**	0.629	5 U	125	0.344	7.27	57.3	23.5	5 U	1200	10700	5 U	6.27
15-C30	**119**	0.896	5 U	131	0.85	7.27	45.8	12.9	5 U	1030	7290	5 U	7.17
15-C31	**119**	0.733	5 U	95.5	0.698	7.18	34.7	8.88	5 U	712	5150	5 U	7.53
15-C32	**119**	0.05 U	5 U	1 U	0.01 U	5 U	1 U	5 U	5 U	3 U	50 U	5 U	5 U
15-C33	**120**	0.765	5 U	112	0.626	7.72	44.5	14	5 U	971	7570	5 U	6.07
15-C34	**121**	0.696	5 U	83.8	0.929	6.62	24.6	7.49	5 U	516	3140	5 U	7.83
15-C35	**109**	1.23	5 U	70.4	0.326	5 U	8.3	5 U	5 U	283	1040	5 U	5 U
15-C36	**106**	12.1	5 U	143	0.955	12.2	40.1	7.96	5 U	726	6180	5 U	65
15-C41	**109**	1.14	5 U	69.5	0.296	5 U	8.6	5 U	5 U	268	914	5 U	12.6
15-C42	**109**	1.11	5 U	69	0.294	5 U	8.6	5 U	5 U	279	954	5 U	5 U
15-C43	**109**	0.05 U	5 U	1 U	0.01 U	5 U	1 U	5 U	5 U	3 U	50 U	5 U	5 U
15-C44	**106**	0.461	5 U	125	0.487	5 U	18.8	5 U	5 U	528		5 U	5.23
15-C45	**119.5**	0.282	5 U	34.8	0.122	5 U	5.5	5 U	5 U	109	753	5 U	5 U
15-C7	**101**	0.05 U	5 U	1 U	0.01 U	5 U	1 U	5 U	5 U	3 U	50 U	5 U	54
15-C8	**109**	1.08	5 U	70.9	0.311	5 U	8.6	5 U	5 U	286	1160	5 U	5 U
15-C9	**100**	0.655	5 U	195	0.466	6.23	10.1	5 U	5 U	859	2420	5 U	42.4

U: analyte not detected at or above DL

Bold: result exceeded one or both benchmarks