

January 9, 2019

Mr. Salvatore Priore
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, New York 12233-7013

Re: Quarterly Progress Report – 4th Quarter 2018
Harriman Inactive Waste Disposal Site #336006

Dear Mr. Priore:

On behalf of the Maybrook and Harriman Environmental Trust (the Trust), this letter, inspection reports, and groundwater monitoring report (attached) provide the fourth quarter of 2018 project progress report for the Harriman Site, located in Harriman, New York (Harriman Site). The NYSDEC had previously designated Michael Mason as its project manager for progress report submittals required by the Consent Decree governing this project, and this designation has not been formally changed. However, in an electronic mail message dated February 2, 2018, the NYSDEC advised the Trust that you have taken on the role of the Harriman site project manager, and therefore, this progress report has been addressed accordingly.

Site Remediation Activities Performed (October - December 2018)

- The biosparging system was shut down on September 10, 2008 in accordance with the Supplemental Remedial Action Work Plan approved by the New York State Department of Environmental Conservation (NYSDEC) on June 18, 2008, and remained off line through the fourth quarter of 2018, per recommendations in prior quarterly reports to the NYSDEC. Because the system was off line, no routine operation and maintenance was necessary during the reporting period. The building housing the biosparge system remains locked and in a generally good state of repair. As reported in the first quarter of 2016 progress report, the biosparge system sustained limited damage during the site demolition activities and with some repairs operation of the system could be restored in the future, if there were a need for the system to be brought back on line.
- Interim cover along the West Branch of the Ramapo River was evaluated as a part of a site inspection performed on October 3, 2018. The interim cover remains in good condition. The cover vegetation is stable, well vegetated, and there are no signs of erosion.

- The parking lot pavement remains generally intact and functioning as a cover. Small potholes were observed in the parking lot area during the October 3, 2018 site inspection, and this information has been provided to ELT-Harriman for future scheduling of maintenance.
- The quarterly well inspection report is also attached for reference. The monitoring well network in the routine five-quarter monitoring program remains in a good state of repair and functional as noted in the attached summary tabulation from the October 3, 2018 inspection. Due to heavy rains and localized flooding during the October 3, 2018 site inspection, monitoring wells MW-7S, MW-6D, and MW-104 could not be accessed for inspection. These wells were checked on December 31, 2018, and are in a good state of repair.
- As described in the second quarter 2016 progress report, product was not observed on the absorbent socks in wells SVE-1, SVE-3, SVE-4, and VER-2 during the December 2015 and March 2016 inspections; therefore, the absorbent socks were removed during the June 2016 inspection, with the intent of checking the wells for sheen or product without the absorbent socks present. Since removal of the absorbent socks in June 2016, the wells have been checked during each inspection for evidence of product or sheen, both visually and with an interface probe, and during the April 2017 inspection, an absorbent sock was placed in VER-2 based on an observed sheen, and an absorbent sock remains in this well as noted in the attached inspection report. Wells SVE-1, SVE-3, and SVE-4 continue to not have any evidence of product or sheen and; therefore, the Trust has discontinued the use of absorbent socks in these wells. Cornerstone, on behalf of the Trust, previously sent a separate letter to the NYSDEC documenting the request to modify the use of absorbent socks.
- In the first quarter of 2012 progress report, the Trust requested that following the April 2012 groundwater sampling event the sampling program be modified to an annual frequency, based on the consistency of the groundwater monitoring data since 2008 when the biosparge system was shut down. Following this request in the April 2012 quarterly progress report, the NYSDEC approved modifying the groundwater monitoring frequency to every five quarters. This approval was provided in an electronic mail message from the NYSDEC to Cornerstone dated May 10, 2012. The NYSDEC approved the frequency of every five quarters, in lieu of annually, so that the groundwater monitoring would occur at different times throughout the year. The list of monitoring wells to be sampled and analytical parameters remain unchanged. The fifth five-quarter routine sampling event was completed during the period of September 5-7, 2018. Groundwater sampling was performed by R&C Formation, Ltd. at 29 wells. Laboratory analyses were completed by TestAmerica. The July 2017 groundwater sampling and analysis report prepared by R&C Formation, Ltd. is attached for reference. The data provided in the attached groundwater monitoring report indicates consistency with prior results and may be summarized as follows:
 - After shutdown of the biosparging system, the data continue to demonstrate an absence of groundwater impacts from the site-specific compounds pyridine, alpha

picoline and 2-aminopyridine at the down-gradient property boundary. In addition, the site-related VOCs (benzene, ethylbenzene, toluene, and xylene [BETX compounds]) were not detected at the down-gradient property boundary.

- The site-related constituent, mercury, was also not detected in any of the monitoring wells except MW-24S, at a concentration of 0.20 ug/L, below the groundwater quality standard.
- Benzene concentrations in groundwater within the main plant area, as illustrated in the attached time series graphs, continue to indicate that conditions are at equilibrium since shutdown of the biosparging system. Overall the benzene trend data show fluctuations typical of past results, and declining concentrations. For instance, monitoring wells MW-16S, MW-20S, MW-33, and MW-37S shown in the attached trend plot are collectively at low-level concentrations, well below historical levels, with the highest detected benzene concentration at 72 ug/L compared to historical levels in the mg/L range. Monitoring wells OW-6 and OW-7 continue to show benzene concentration fluctuations over time, but well below historical highs. Ongoing fluctuations in both groundwater levels and constituent concentrations are anticipated and are consistent with the site conceptual model of residual concentrations in the fine-grained materials at the site. Overall, the data are consistent with the beneficial effects of the past remediation activities, and where fluctuations in concentrations are observed they are consistent with fluctuations exhibited during operation of the biosparge system and are attributable to changes in precipitation and groundwater levels over time.
- The data continue to demonstrate that since shut down of the biosparging system, there is no evidence of an expansion of the plume or exceedance of groundwater quality standards at the down-gradient perimeter. Therefore, groundwater monitoring in accordance with the current program is anticipated to continue, and the next sampling event will be scheduled during the fourth quarter of 2019.
- The IRM groundwater extraction system components remain off-line on standby per the NYSDEC's approval pending the completion of the Supplemental Remedial Action Work Plan, including continued groundwater monitoring, and evaluation of the appropriateness of an ESD. Because of the ELT Harriman, LLC demolition work, the groundwater extraction system components have been dismantled, but the system can be restored, if necessary.

Parking Lot and Other

As of May 14, 2010, the Trust had concluded all work and information transfer requested by the NYSDEC in connection with sampling and delineation of the calcium sulfate material in the Area B parking lot. The Trust, in conjunction with ELT Harriman, LLC submitted a *Site-Wide Characterization Summary Report* on March 7, 2011. The Trust in coordination with ELT Harriman, LLC has conducted both quarterly parking lot and riverbank inspections.

Separately, Nepera, Inc. and Warner-Lambert Company entered into a Stipulation and Order with the NYSDEC for a supplemental remedial investigation and feasibility study for portions of the Harriman Site, which was filed with the Court on December 17, 2013 and so-ordered by the Court on January 24, 2014.

Activities for the 1st Quarter 2019 (January – March 2019)

- Perform the regularly scheduled, quarterly monitoring well, parking lot, and riverbank inspections.

Please do not hesitate to contact us should you have questions or comments on any aspect of this progress report.

Sincerely,

Cornerstone Engineering, Geology, and Land Surveying, PLLC



Gary J. DiPippo, P.E.
Client Services Manager

Enclosures: Inspection Reports
 Trend Plots
 Groundwater Monitoring Report

cc: T. Lahr
 S. Levine
 C. Clark
 J. Jones
 K. Might
 M. Robinson

Former Nepera Plant - Harriman, NY: Quarterly Well Inspection Report

Date 10/3/2018 and 12/31/18

Monitoring Well	Diameter Inches	Finish	Collar	Lid	Plug	Lock	Tag	Casing	Comments	Action Items
MW-1S*	6	Stickup	OK	OK	OK	OK	OK	OK		
MW-2S	4	Stickup	OK	OK	OK	OK	OK	D	Casing is sheared off a few feet below top of ground.	No repair planned, well not in use, possible future abandonment
MW-3S	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-4S	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-5S*	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-7S*	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-8S*	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-9S	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-11S*	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-12S*	2	Flushmount	OK	OK	OK	OK	OK	OK		
MW-13S	2	Flushmount	OK	OK	OK	OK	OK	OK		
MW-16S*	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-20S*	4	Flushmount	OK	OK	OK	OK	OK	OK		
MW-21S	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-24S*	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-25S*	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-27S	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-33S*	2	Flushmount	OK	OK	OK	OK	OK	OK		
MW-35S*	2	Flushmount	OK	OK	OK	OK	OK	OK		
MW-36S	2	Flushmount	OK	OK	OK	OK	OK	OK		
MW-37S*	2	Flushmount	OK	OK	OK	OK	OK	OK		
OW-6	2	Stickup	OK	OK	OK	OK	OK	OK		
OW-7*	2	Stickup	OK	OK	OK	OK	OK	D	PVC inside well casing is detached.	Exercise care when removing plug for sampling so as not to detach casing.
R-1	6		NI	NI	NI	NI	NI	NI	Well no longer exists	
RW-1**	6	Vault	NI	NI	NI	NI	NI	NI		
RW-1R*	6	Vault	OK	OK	OK	OK	OK	OK		
MW-53D*	4	Flushmount	OK	OK	OK	OK	OK	OK		

Former Nepera Plant - Harriman, NY: Quarterly Well Inspection Report

Date 10/3/2018 and 12/31/18

Monitoring Well	Diameter Inches	Finish	Collar	Lid	Plug	Lock	Tag	Casing	Comments	Action Items
PZ-1	2	Stickup	OK	OK	OK	OK	OK	OK		
PZ-2	2	Flushmount	OK	OK	OK	OK	OK	OK	Well abandoned	
PZ-3	2	Flushmount	D	OK	OK	OK	OK	OK		Collar still secure
MW-15S	4	Stickup	OK	OK	OK	OK	OK	OK	Well abandoned	
MW-17S	4	Stickup	OK	OK	OK	OK	OK	D	Outer and inner casing repaired	New lock placed on outer casing.
MW-19S	4	Stickup	OK	OK	OK	OK	OK	D	Well abandoned	
MW-22S(1)	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-23S(1)	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-26S	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-28S(2)	2	Stickup	OK	OK	OK	OK	OK	OK		
MW-29S(2)	2	Stickup	OK	OK	OK	OK	OK	OK		
MW-34	2	Flushmount	OK	OK	OK	OK	OK	OK	Can not access well due to placement of new faceplate.	Well not in use, no repair planned
MW-35AQ	2	Flushmount	OK	OK	OK	OK	OK	OK		
MW-36AQ	2	Flushmount	OK	OK	OK	OK	OK	OK		
MW-37AQ	2	Flushmount	OK	OK	OK	OK	OK	OK		
MW-53S	4	Flushmount	OK	OK	OK	OK	OK	OK		
PZ-4	2	Stickup	OK	OK	OK	OK	OK	OK		
MW-6D*	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-10D	6	Stickup	OK	OK	X	OK	OK	OK	No plug, tubing is tied off inside of well, Inner casing too far down to plug.	
MW-18D	6	Stickup	OK	OK	X	OK	OK	OK	Inner casing too far down to plug.	No repair planned, well not in use, possible future abandonment. New lock placed on outer casing.
MW-20D*	4	Flushmount	OK	OK	OK	OK	OK	OK		
MW-21D	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-23D(1)*	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-25D	4	Stickup	OK	OK	OK	OK	OK	OK		
MW-26D*	2	Stickup	OK	OK	OK	OK	OK	OK		
MW-27D*	6	Stickup	OK	OK	OK	OK	OK	OK		

Former Nepera Plant - Harriman, NY: Quarterly Well Inspection Report

Date 10/3/2018 and 12/31/18

Monitoring Well	Diameter Inches	Finish	Collar	Lid	Plug	Lock	Tag	Casing	Comments	Action Items
R-2D	10	Stickup	NI	NI	NI	NI	NI	NI	Shed removed	Well not In use
R-3D	10	Stickup	OK	OK	X	X	OK	OK	Large metal plate covering well	
MW-101*	2	Flushmount	OK	OK	OK	OK	OK	OK		
MW-102*	2	Stickup	OK	OK	OK	OK	OK	OK		
MW-103*	2	Flushmount	OK	OK	OK	OK	OK	OK		
MW-104*	2	Flushmount	OK	OK	OK	OK	OK	OK		
MW-105*	2	Stickup	OK	OK	OK	OK	OK	OK		
MW-106*	2	Stickup	OK	OK	OK	OK	OK	OK		
20 DR*	2	Flushmount	OK	OK	OK	OK	OK	OK		
Field Technician:									Dan Wheeler	

(1) Off-Site Wells.

X = Item Missing

D = Damaged

(2) Erosion Evaluation Wells

B = Bolts Missing

OK = Acceptable Condition

** RW-1 was replaced by RW-1R

NI = NOT INSPECTED

*Part of Monitoring Program

Note: Wells MW-7S, 6D, and 104 not inspected on 10/3/18 due to heavy rains and localized flooding. These wells were inspected on 12/31/18.

**RIVERBANK INSPECTION FORM
WEST BRANCH OF THE RAMAPO RIVER
MAYBROOK AND HARRIMAN TRUST
HARRIMAN, NEW YORK**

DATE: 03-Oct-18

INSPECTION (Check): ANNUAL

INSPECTOR: Dan Wheeler

QUARTERLY **X**

	STATUS	COMMENTS
IRM COVER AND SILT FENCE		
A. General condition of cover material	<u>Good</u>	Riverbank cover in good condition, no signs of erosion, no white material showing. Well vegetated riverbank slope.
B. Settlement of covered area	<u>OK</u>	Small potholes present in parking lot area, although pavement cover generally remains intact.
C. General condition of silt fence	<u>N/A</u>	Silt fence has been removed from stream bank per NYSDEC approval on January 12, 2016.

SVE/VER Product Measurement Checklist

Recorded By:

Dan Wheeler

Date:

10/3/2018

DTP	DTW
0	0.25
0	0.64
0	0.38
0	0.4 *



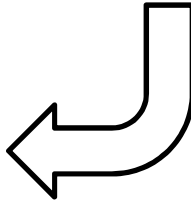
SVE-1
SVE-2
SVE-3
SVE-4



VER-1
VER-2
VER-3
VER-4

DTP	DTW
0	3.01
0	2.86
0	2.99
0	1.84

To Entrance/Exit



NOTE: SVE wells are closer to the side of the road.

VER-1 and SVE-1 are both 4" wells. All others are 2" diameter.

 Indicates absorbent sock in well.

Comments:

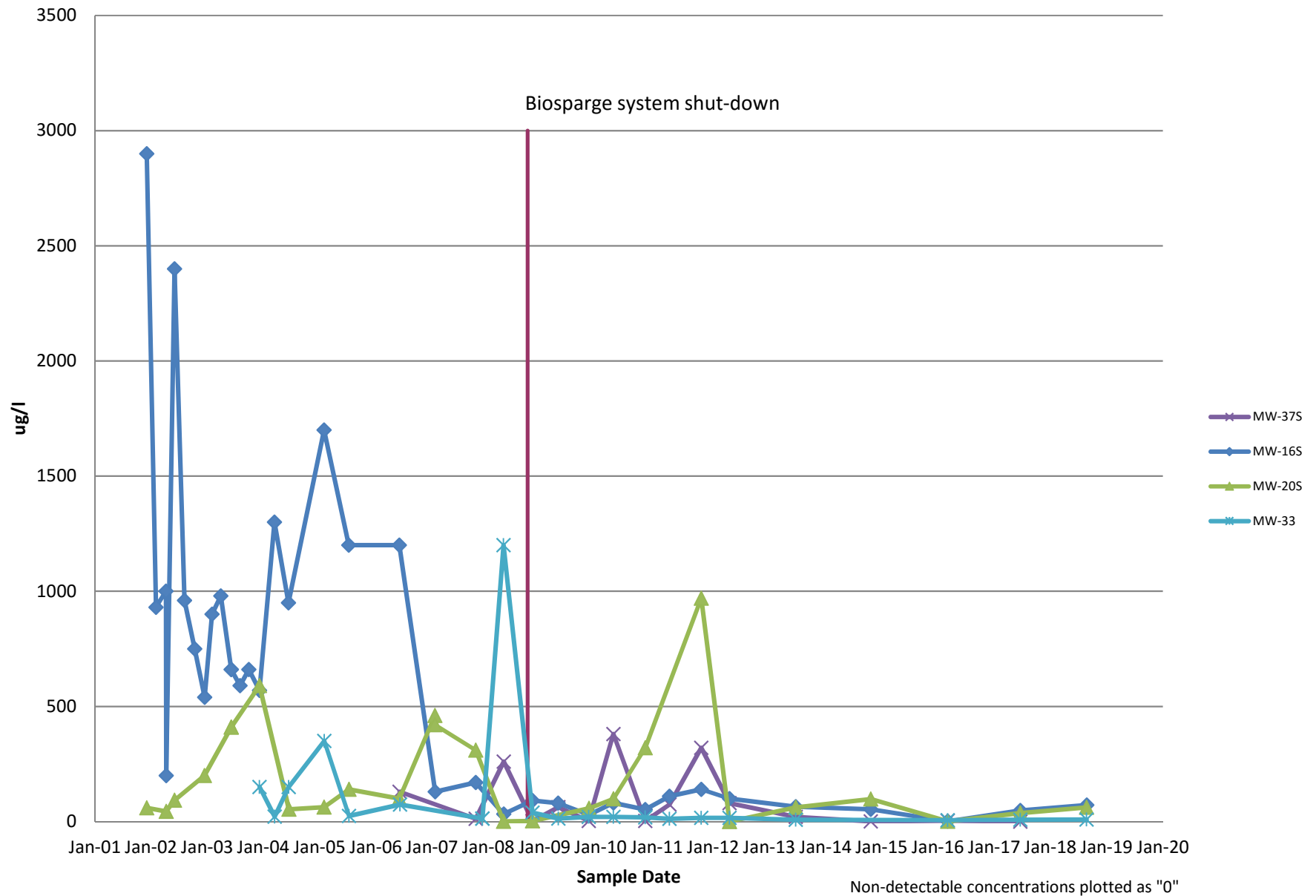
Wells checked for potential presence of product after absorbent socks removed.

Absorbent sock at 25% capacity. Absorbent sock not replaced.

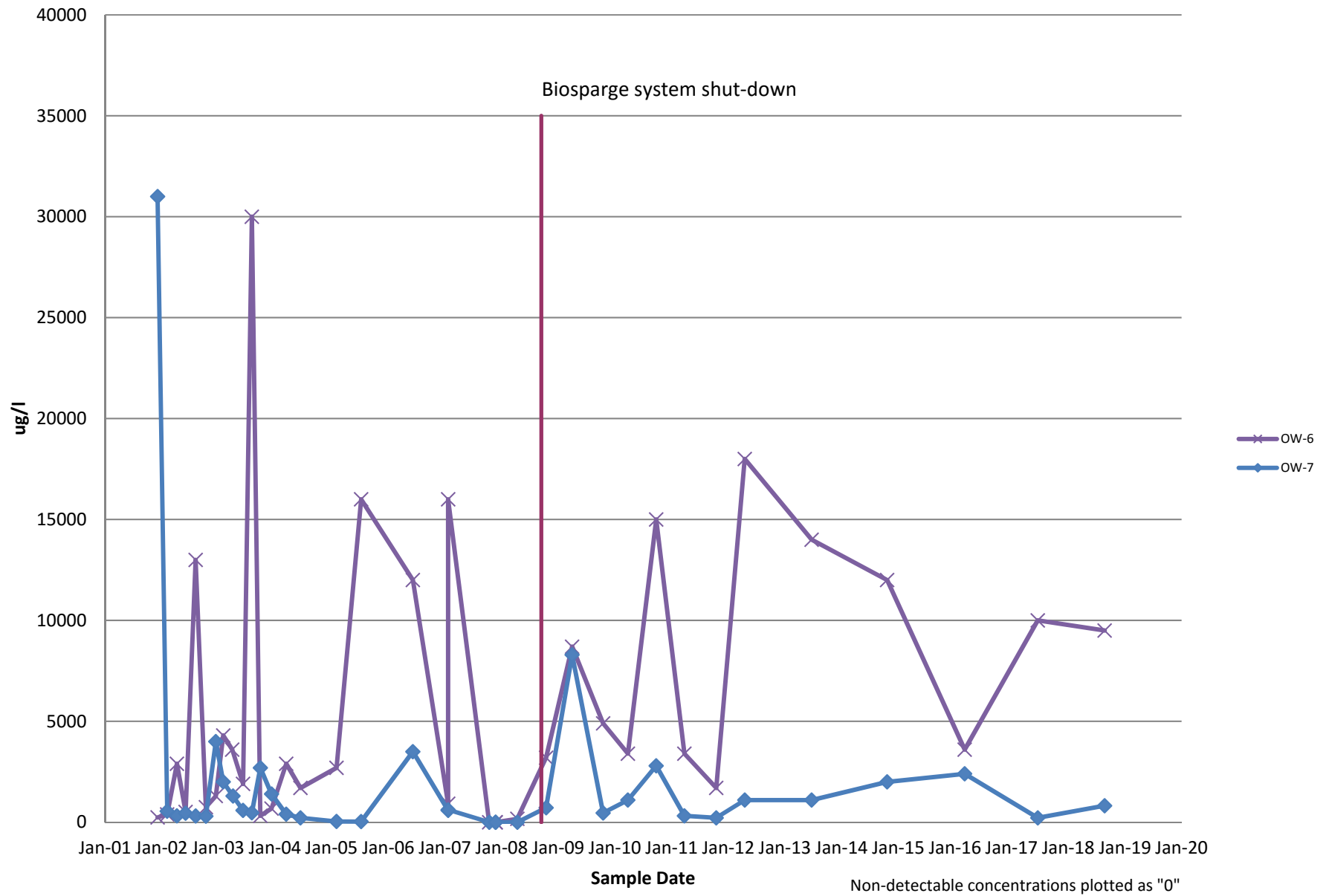
Presence of product or sheen not observed in remaining wells.

* Bottom of SVE-4 partially filled in during prior demolition work. (Bottom at 2.95 ft)

Benzene Concentration with Time



Benzene Concentration with Time



**Groundwater Monitoring Report
Former Nepera Plant
Harriman, New York
September, 2018**

Prepared for:

Maybrook and Harriman Environmental Trust

Prepared by:

**R & C Formation, Ltd.
171 Deer Park Ave. Suite 3
Babylon, New York 11702**

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- Appendix 3. Statement of Procedures for the Calibration of Multi-Parameter Water Quality Monitoring System, Horiba U-22XD
- Appendix 4. Laboratory Analytical Data

Groundwater Monitoring Report Former Nepera Plant Harriman, New York September, 2018

Introduction

This report presents the results of groundwater monitoring activities performed at the Former Nepera Plant, Harriman, New York, September 5-7, 2018. The results of groundwater monitoring activities reported represent the thirteenth event completed following the shut-down of the onsite biosparge system, as approved by NYSDEC, pursuant to the *Conceptual Site Model and Supplemental Remedial Action Work Plan* (HydroQual, May, 2008). The scope-of-work performed, per an agreement with the Maybrook and Harriman Environmental Trust, is presented below. A description of monitoring procedures, quality assurance/quality control protocols and a summary of analytical results follows.

Scope of Work

The scope-of-work performed includes the following items:

- 1) Measurement of groundwater levels in 34 select Overburden Aquifer wells.
- 2) Collection of groundwater samples from 29 monitoring wells installed within 2 hydrogeologic units identified beneath the Former Nepera Plant: *Overburden Aquifer* (MW-1S, MW-5S, MW-7S, MW-8S, MW-11S, MW-12S, MW-16S, MW-20S, MW-24S, MW-25S, MW-33S, MW-35S, MW-37S, OW-6, OW-7, RW-1R, MW-53D, MW-101, MW-102, MW-103, MW-104, MW-105 & MW-106); *Bedrock Aquifer* (MW-6D, MW-20D, MW-23D, MW-26D, MW-27D & MW-20DR).
- 3) Analysis of all collected groundwater samples for *volatile organic compounds* (benzene, toluene, ethylbenzene and xylenes) and *semi-volatile organic compounds* (pyridine, alpha-picoline and 2-aminopyridine); and select ground water samples for *general chemistry* parameters (iron, manganese, sulfate, nitrate, ammonia and mercury).

Monitoring well locations are illustrated in Figure 1.



LEGEND

- MONITORING WELL IN OVERBURDEN
AQUIFER (SAND/GRAVEL)
- MONITORING WELL IN BEDROCK AQUIFER

Title: Monitoring Well Location Map	
Project: Neperalnc. Harriman, New York	Date: 11/05/08
	Figure: 1
R & C Formation, Ltd. Professional Groundwater and Environmental Services 171 Deer Park Ave Suite 3 Babylon, New York 11702	Scale As Shown
	Drawing No.: NI1008-01
	Prepared By: MAC Appr. By: RNC

Monitoring Procedures

Groundwater Level Measurements

The depth-to-water in 34 select Overburden Aquifer monitoring wells was measured September 5, 2018 between the hours of 0800 and 1600 and September 6, 2018 between the hours of 0700 and 0830 utilizing an electronic water level indicator accurate to within 0.01 feet. Note that water level measuring activities were anomalously extended due to overgrown vegetation. Table 1 presents measurements recorded and correlated to mean sea level (via existing reported measuring point elevations).

Groundwater Sampling

Prior to beginning groundwater sampling activities, the concentration of volatile organic compounds within the head-space of on-site monitoring wells, if any, was measured using a photoionization detector (PID) capable of detecting a vapor-phase concentration to within 1 part per million (ppm).

Groundwater sampling methodology includes low-flow purging and the subsequent collection of samples upon the stabilization of measured and recorded field parameters: oxidation-reduction potential, pH, conductivity, temperature, dissolved oxygen and turbidity. A submersible centrifugal pump (Grundfos Redi-Flo2), placed at well-screen (or open borehole) depth with per-well dedicated tubing, was used for both purging and sample collection. Field parameters were measured using a Horiba U-22XD multi-parameter water quality monitoring system and flow-through cell. In addition, all collected samples were field-analyzed for iron+2 via a Hach 1R-18C Test Kit.

As a means to negate the potential for cross-well contamination, the Grundfos Redi-Flo2 was cleaned internally and externally with an Alconox and water solution, followed by a fresh water rinse, between monitoring locations. Furthermore, groundwater samples were collected in the following progression: 1) downgradient (with respect to groundwater flow) perimeter monitoring wells; 2) monitoring wells associated with historically non-detect groundwater analyses; and 3) monitoring wells associated with the historically most impacted groundwater analyses.

Following the completion of each daily sampling event, collected samples were submitted under chain-of-custody control to New York State Certified TestAmerica Analytical Laboratories.

Table 1
Basic Hydrologic Data
Nepera Harriman Site, Harriman, NY
Measured September 5, 2018

Well Number	Measuring Point (feet above MSL)	Depth to Water (feet)	Water Level (feet above MSL)	Screen Interval (feet above and below MSL)
MW-1S	522.77	7.70	515.07	507.77-497.77
MW-2S	530.58	2.96	NA	518.08-508.08
MW-3S	525.70	NA	NA	510.70-500.70
MW-4S	524.74	NA	NA	482.24-472.24
MW-5S	535.26	11.65	523.61	500.26-490.26
MW-7S	524.69	5.90	518.79	498.69-488.69
MW-8S	526.24	2.53	523.71	461.24-456.24
MW-9S	529.59	4.37	525.22	515.59-508.59
MW-11S	527.44	3.11	524.33	482.44-477.44
MW-12S	530.21	4.53	525.68	505.21-495.21
MW-13S	530.36	6.05	524.31	503.36-493.36
MW-16S	*	9.05	523.17	499.71-489.71
MW-20S	528.61	1.19	527.42	511.61-501.61
MW-21S	544.67	51.90	492.77	529.67-519.67
MW-24S	527.86	7.91	519.95	520.36-510.36
MW-25S	535.16	7.42	527.74	512.16-507.16
MW-27S	535.09	11.95	523.14	505.09-500.09
MW-33S	535.74	2.74	533.00	531.74-516.74
MW-35S	524.92	3.55	521.37	499.42-489.42
MW-36S	525.33	4.09	522.94	500.33-490.33
MW-37S	524.99	1.53	523.46	510.99-500.99
OW-6	534.51	6.25	528.26	514.51-504.51
OW-7	534.82	6.84	527.98	514.82-504.82
RW-1R	529.78	8.21	521.57	481.78-473.78
MW-53D	532.31	5.93	526.38	485.31-475.31
PZ-1	544.46	15.15	529.31	517.46-512.46
PZ-2	531.86	A b a n d o n e d		483.86-478.86
PZ-3	525.49	4.37	521.12	495.49-490.49
MW-101	525.94	5.39	520.55	28.00-33.00
MW-102	522.53	4.95	517.58	10.00-20.00
MW-103	533.52	8.19	525.33	50.00-60.00
MW-104	525.63	1.94	523.69	54.00-64.00
MW-105	528.22	5.48	522.74	63.50-68.50
MW-106	533.68	11.68	522.00	38.00-48.00

Notes:

Measured 0800 - 1600 (MW-4S, MW-5S, MW-7S, MW-12S, MW-24S, MW-27S, RW-1R, MW-104 & MW-106 measured 9/6/19 0700-0830)

*Measuring point compromised

NA: Not Available (inaccessible/overgrown)

Observations

Groundwater Sampling Logs documenting, volatile organic compounds, if any, detected within the head-space of on-site monitoring wells, field parameters measured during well-purging activities and the physical characteristics (e.g., color, odor) of sampled groundwater are presented in Appendix 1,

Quality Assurance/Quality Control

Groundwater Level Measurements

The electronic water level indicator utilized was calibrated as shown in: *Electronic Water Level Indicator Calibration Procedures* (see Appendix 2) prior to commencing groundwater level measuring activities

Groundwater Sampling

Prior to each daily sampling event, the Horiba U-22XD multi-parameter water quality monitoring system utilized during groundwater sampling activities was calibrated as described in: *Statement of Procedures for the Calibration of Multi-Parameter Water Quality Monitoring System, Horiba U-22XD*, presented in Appendix 3. In addition, a field blank (FB) was collected to assure the integrity of sampling equipment and procedures.

Groundwater Analysis

Laboratory analytical reports in relation to each of the two daily groundwater sampling events are presented in Appendix 4. Included in the reports are Case Narratives (conformance/nonconformance summary) of QA/QC procedures practiced by TestAmerica Analytical Laboratories. These procedures include instrument calibrations, analyses of method blanks, matrix spike blanks, and the percent-recovery of surrogates (system monitoring compounds).

As a means to assess potential sources of contamination in sample container preparation, method blank water and sample transport, trip blanks (TB) - representative of each daily sampling event - were analyzed for volatile organic compounds. The accuracy of reported analytical results was also evaluated via the analysis of a blind duplicate (DUP) collected from monitoring well OW-6.

Summary of Analytical Results

QA/QC Samples

Volatile organic compounds were not detected in the field blank or any of the two daily trip blanks. Furthermore, neither volatile organic compounds, semi-volatile organic compounds nor general chemistry parameters were detected in the aforementioned field blank. Additionally, analytical results in relation to groundwater sample OW-6 and blind duplicate sample DUP are similar. Consequently, the results of groundwater analyses summarized below are considered valid.

Volatile Organic Compounds

Analytical results for volatile organic compounds - including comparisons with New York State Department of Environmental Conservation (NYSDEC) Class GA Groundwater Standards - are presented on Table 2.

Semi-Volatile Organic Compounds

Analytical results for semi-volatile organic compounds (NYSDEC Class GA Groundwater Standards not established) are presented in Table 3.

General Chemistry

Analytical results for general chemistry parameters - including comparisons with NYSDEC Class GA Groundwater Standards - are presented on Table 4.

Conclusions

The results of September, 2018 groundwater monitoring activities summarized above are similar with those of recent events. Groundwater beneath the central portion of the Former Nepera Plant continues to be impacted, however, the contaminants of concern (e.g., volatile organic compounds), remain confined to the former manufacturing areas and are either not detected, or detected below groundwater standards in groundwater sampled from perimeter wells.

The next sampling event is scheduled for December, 2019. Analytical parameters will consist of BTEX compounds, select SVOC's and general chemistry parameters consistent with those reported herein.

Table 2
Summary of Analytical Results
Former Nepera Plant, Harriman, NY
Sampled September 6-7, 2018
Volatile Organic Compounds
Reported in Micrograms per Liter (µg/L)

	Benzene	Toluene	Ethylbenzene	Xylenes, (Total)
<i>Overburden Aquifer Wells</i>				
MW-1S	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-5S	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-7S	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-8S	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-11S	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-12S	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-16S	72.00	ND(0.38)	ND(0.30)	ND(0.65)
MW-20S	62.00	0.57 J	ND(0.30)	ND(0.65)
MW-24S	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-25S	470.00	1.1 J	ND(0.60)	ND(1.3)
MW-33S	9.20	ND(0.38)	ND(0.30)	ND(0.65)
MW-35S	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-37S	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
OW-6	9,500.00	ND(19.0)	ND(15.0)	ND(33.0)
OW-7	820.00	ND(1.9)	ND(1.5)	ND(3.3)
RW-1R	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-53D	1.00	ND(0.38)	ND(0.30)	ND(0.65)
MW-101	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-102	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-103	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-104	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-105	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-106	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
<i>Bedrock Wells</i>				
MW-6D	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-20D	23.00	ND(0.38)	0.76 J	ND(0.65)
MW-23D	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-26D	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
MW-27D	ND(0.43)	ND(0.38)	ND(0.30)	2.10
MW-20DR	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
<i>QA/QC</i>				
TB (9/6/18)	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
TB (9/7/18)	ND(0.43)	ND(0.25)	ND(0.30)	ND(0.65)
FB	ND(0.43)	ND(0.38)	ND(0.30)	ND(0.65)
DUP	10,000.00	ND(19.00)	ND(15.00)	ND(33.00)
NYSDEC Class GA Standard	1.0	5.0	5.0	5.0

Notes:

ND(): Compound not detected at the method detection limit

J: Indicates an estimated value

NYSDEC Class GA Standards: New York State Department of Environmental Conservation

Ambient Water Quality Standards for Source of Drinking Water Title 6 Part 703 (per August 1999

Amendment)

B: Analyte found in an associated blank

Table 3
Summary of Analytical Results
Former Nepera Plant, Harriman, NY
Sampled September 6-7, 2018
Semi-Volatile Organic Compounds
Reported in Micrograms per Liter (µg/L)

	Pyridine	alpha-Picoline	2-Aminopyridine
<i>Overburden Aquifer Wells</i>			
MW-1S	ND(0.41)	ND(1.40)	ND(10.00)
MW-5S	ND(0.41)	2.6 J	ND(10.00)
MW-7S	ND(0.41)	ND(1.40)	ND(10.00)
MW-8S	ND(0.41)	ND(1.40)	ND(10.00)
MW-11S	ND(0.41)	ND(1.40)	ND(10.00)
MW-12S	ND(0.41)	ND(1.40)	ND(10.00)
MW-16S	ND(0.41)	ND(1.40)	ND(10.00)
MW-20S	0.58 J	ND(1.40)	160.0 J
MW-24S	ND(0.41)	ND(1.40)	ND(10.00)
MW-25S	ND(0.41)	130.0 J	ND(10.00)
MW-33S	ND(2.1)	ND(7.0)	ND(50.00)
MW-35S	ND(0.41)	ND(1.40)	ND(10.00)
MW-37S	ND(0.41)	ND(1.40)	ND(10.00)
OW-6	1.9 J	3,000.0 J	ND(10.00)
OW-7	ND(0.41)	72.0 J	ND(10.00)
RW-1R	ND(4.10)	ND(14.00)	ND(100.00)
MW-53D	ND(2.10)	ND(7.00)	ND(50.00)
MW-101	ND(0.41)	ND(1.40)	ND(10.00)
MW-102	ND(0.41)	ND(1.40)	ND(10.00)
MW-103	ND(0.41)	9.7 J	ND(10.00)
MW-104	ND(0.41)	ND(1.40)	ND(10.00)
MW-105	ND(0.41)	ND(1.40)	ND(10.00)
MW-106	ND(0.41)	ND(1.40)	ND(10.00)
<i>Bedrock Wells</i>			
MW-6D	ND(0.41)	ND(1.40)	ND(10.00)
MW-20D	4.6.0 J	22.0 J	710.0 J
MW-23D	ND(0.41)	ND(1.40)	ND(10.00)
MW-26D	ND(0.41)	ND(1.40)	ND(10.00)
MW-27D	ND(0.41)	ND(1.40)	ND(10.00)
MW-20DR	ND(2.1)	ND(7.0)	ND(50.00)
<i>QA/QC</i>			
FB	ND(0.41)	ND(1.40)	ND(10.00)
DUP	2.0 J	2,800.0 J	ND(10.00)
NYSDEC Class GA Standard	NS	NS	NS

Notes:

ND(): Compound not detected at the method detection limit

J: Indicates an estimated value

NYSDEC Class GA Standards: New York State Department of Environmental Conservation
 Ambient Water Quality Standards for Source of Drinking Water Title 6 Part 703 (per
 August 1999 Amendment)

NS: No NYSDEC Standard Established

B: Analyte found in an associated blank

Table 4
Summary of Analytical Results
Former Nepera Plant, Harriman, NY
Sampled September 6-7, 2018
General Chemistry

	Iron (µg/L)	Manganese (µg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Ammonia (mg/L)	Mercury (µg/L)
<i>Overburden Aquifer Wells</i>						
MW-1S	9,000.00	1,060.00	31.30	ND(0.10)	14.3 B	NA
MW-8S	7,420.00	529.00	14.30	ND(0.10)	10.70	NA
MW-11S	972.00	570.00	11.40	0.031 J	18.00	NA
MW-16S	851.00	213.00	1.39	0.029 J	18.90	NA
MW-20S	2,970.00	1,060.00	60.00	ND(0.10)	64.60	NA
MW-24S	NA	NA	NA	NA	NA	0.20
MW-25S	2,870.00	1,300.00	2.57	ND(0.010)	5.80	NA
MW-33S	99,600.00	1,460.00	22.90	ND(0.10)	174.0 B	NA
MW-35S	7,870.00	2,670.00	1,480.00	0.015 J	1.7 B	NA
MW-37S	11,800.00	1,760.00	107.00	ND(0.10)	18.8 B	NA
OW-6	12,700.00	1,410.00	1.53	ND(0.10)	13.70	NA
OW-7	4,030.00	1,130.00	7.92	ND(0.10)	3.60	NA
RW-1R	10,700.00	943.00	130.00	0.011 J	12.00	NA
MW-53D	5,620.00	351.00	1.92	0.99	28.30	NA
MW-101	3,880.00	1,330.00	259.00	ND(0.010)	9.0 B	NA
MW-102	3,920.00	1,040.00	39.80	0.023 J	7.8 B	NA
MW-103	1,460.00	271.00	18.00	0.23	0.11	NA
MW-104	2,240.00	1,370.00	18.80	ND(0.10)	2.70	NA
MW-105	62,200.00	3,210.00	11.90	ND(0.10)	1.70	NA
MW-106	859.00	681.00	23.10	ND(0.10)	4.10	NA
<i>QA/QC</i>						
FB	ND(150.0)	ND(0.99)	ND(0.60)	ND(0.10)	ND(0.10)	NA
DUP	13,700.00	1,390.00	1.80	ND(0.10)	14.20	NA
NYSDEC Class GA Standard	300.0	300.0	250.0	10.0	2.0	0.7

Notes:

ND(): Compound not detected at the method detection limit

J: Indicates an estimated value

NYSDEC Class GA Standards: New York State Department of Environmental Conservation

Ambient Water Quality Standards for Source of Drinking Water Title 6 Part 703 (per August 1999 Amendment)

NS: No NYSDEC Standard Established

NA: Not Applicable

B: Analyte found in an associated blank

APPENDIX 1

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-1S
Date:	9/6/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	22.56
Water Level Depth (ft):	7.70
Pumping Water Depth (ft):	7.99
Well Diameter (in):	6.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	14.86
Volume of Water in Well (gal):	2140.00
Total Volume Purged (ml):	5,750
Duration of Pumping (min):	23
Odor:	Pungent
Color:	Light Grey
Fe+ ² (mg/L):	0.5

EVACUATION INFORMATION

Purge Method: Low-Flow

Pump On: 10:00

Pump Off: 10:23

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-5S
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	47.30
Water Level Depth (ft):	11.65
Pumping Water Depth (ft):	11.69
Well Diameter (in):	4.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	35.65
Volume of Water in Well (gal):	23.24
Total Volume Purged (ml):	9,000
Duration of Pumping (min):	30
Odor:	None
Color:	Clear
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: Low-Flow

Pump On: 12:45

Pump Off: 13:15

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-6D
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	182.00
Water Level Depth (ft):	12.85
Pumping Water Depth (ft):	NA
Well Diameter (in):	4.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	169.15
Volume of Water in Well (gal):	110.28
Total Volume Purged (ml):	8,400
Duration of Pumping (min):	20
Odor:	None
Color:	Clear
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: Low-Flow

Pump On: 14:40

Pump Off: 15:00

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-7S
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	35.70
Water Level Depth (ft):	5.90
Pumping Water Depth (ft):	6.40
Well Diameter (in):	4.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	29.80
Volume of Water in Well (gal):	19.43
Total Volume Purged (ml):	4,000
Duration of Pumping (min):	20
Odor:	None
Color:	Clear
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: Bailed

Pump On: 14:25

Pump Off: 14:45

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-8S
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	68.60
Water Level Depth (ft):	2.53
Pumping Water Depth (ft):	2.87
Well Diameter (in):	4.00
Well Condition:	Overgrown
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	66.07
Volume of Water in Well (gal):	43.08
Total Volume Purged (ml):	7,500
Duration of Pumping (min):	25
Odor:	None
Color:	Clear
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 11:25

Pump Off: 11:50

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-11S
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	50.65
Water Level Depth (ft):	3.11
Pumping Water Depth (ft):	3.53
Well Diameter (in):	4.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	47.54
Volume of Water in Well (gal):	31.00
Total Volume Purged (L):	6,000
Duration of Pumping (min):	20
Odor:	None
Color:	Clear
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 10:25

Pump Off: 10:45

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-12S
Date:	9/6/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	34.90
Water Level Depth (ft):	4.53
Pumping Water Depth (ft):	9.01
Well Diameter (in):	2.00
Well Condition:	Overgrown
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	30.37
Volume of Water in Well (gal):	4.95
Total Volume Purged (ml):	3,450
Duration of Pumping (min):	23
Odor:	Pungent
Color:	Grey
Fe+ ² (mg/L):	1.0

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 18:55

Pump Off: 19:18

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-16S
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	46.20
Water Level Depth (ft):	9.05
Pumping Water Depth (ft):	9.83
Well Diameter (in):	4.00
Well Condition:	Wasp Infested
PID Reading (ppm):	8.55

WELL WATER INFORMATION

Length of Water Column (ft):	37.15
Volume of Water in Well (gal):	24.22
Total Volume Purged (ml):	4,000
Duration of Pumping (min):	20
Odor:	Pungent
Color:	Clear
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 8:10

Pump Off: 08:30

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-20S
Date:	9/6/18
Sampling Personnel:	SS & SL
Weather:	Overcast, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	27.51
Water Level Depth (ft):	1.19
Pumping Water Depth (ft):	2.31
Well Diameter (in):	4.00
Well Condition:	Good
PID Reading (ppm):	1.80

WELL WATER INFORMATION

Length of Water Column (ft):	26.32
Volume of Water in Well (gal):	17.16
Total Volume Purged (ml):	4,000
Duration of Pumping (min):	20
Odor:	Slightly Pungent
Color:	Clear
Fe+ ² (mg/L):	0.5

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 17:35

Pump Off: 17:55

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-20D
Date:	9/6/18
Sampling Personnel:	SS & SL
Weather:	Clear, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	82.75
Water Level Depth (ft):	1.42
Pumping Water Depth (ft):	5.70
Well Diameter (in):	4.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	81.33
Volume of Water in Well (gal):	53.03
Total Volume Purged (ml):	5,000
Duration of Pumping (min):	25
Odor:	Slightly Pungent
Color:	Clear
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 18:15

Pump Off: 18:40

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-20DR
Date:	9/6/18
Sampling Personnel:	SS & SL
Weather:	Rain, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	97.25
Water Level Depth (ft):	3.95
Pumping Water Depth (ft):	6.06
Well Diameter (in):	2.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	93.30
Volume of Water in Well (gal):	15.21
Total Volume Purged (ml):	3,750
Duration of Pumping (min):	25
Odor:	Pungent
Color:	Clear
Fe+ ² (mg/L):	1.0

EVACUATION INFORMATION

Purge Method: Low-flow

Pump On: 16:15

Pump Off: 16:40

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-23D
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	103.00
Water Level Depth (ft):	6.98
Pumping Water Depth (ft):	8.94
Well Diameter (in):	4.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	96.02
Volume of Water in Well (gal):	62.61
Total Volume Purged (ml):	7,500
Duration of Pumping (min):	25
Odor:	None
Color:	Clear
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 15:50

Pump Off: 16:15

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-24S
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	19.70
Water Level Depth (ft):	7.91
Pumping Water Depth (ft):	9.11
Well Diameter (in):	4.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	11.79
Volume of Water in Well (gal):	7.68
Total Volume Purged (ml):	4,000
Duration of Pumping (min):	20
Odor:	None
Color:	Light Grey
Fe+ ² (mg/L):	1.0

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 15:20

Pump Off: 15:40

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-25S
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	30.85
Water Level Depth (ft):	7.50
Pumping Water Depth (ft):	9.41
Well Diameter (in):	4.00
Well Condition:	Good
PID Reading (ppm):	12.50

WELL WATER INFORMATION

Length of Water Column (ft):	23.35
Volume of Water in Well (gal):	15.22
Total Volume Purged (ml):	10,500
Duration of Pumping (min):	30
Odor:	Pungent
Color:	Clear
Fe+ ² (mg/L):	1.0

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 7:40

Pump Off: 8:10

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-26D
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	141.75
Water Level Depth (ft):	8.61
Pumping Water Depth (ft):	16.82
Well Diameter (in):	2.00
Well Condition:	Good
PID Reading (ppm):	55.70

WELL WATER INFORMATION

Length of Water Column (ft):	133.14
Volume of Water in Well (gal):	21.70
Total Volume Purged (ml):	7,000
Duration of Pumping (min):	35
Odor:	Pungent
Color:	Clear
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 13:45

Pump Off: 14:15

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-27D
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	101.88
Water Level Depth (ft):	11.95
Pumping Water Depth (ft):	11.98
Well Diameter (in):	6.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	89.93
Volume of Water in Well (gal):	131.93
Total Volume Purged (ml):	3,750
Duration of Pumping (min):	25
Odor:	None
Color:	Clear
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: Bailed

Pump On: 12:15

Pump Off: 12:40

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-33S
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	16.40
Water Level Depth (ft):	2.74
Pumping Water Depth (ft):	10.07
Well Diameter (in):	2.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	13.66
Volume of Water in Well (gal):	2.23
Total Volume Purged (ml):	3,750
Duration of Pumping (min):	25
Odor:	Pungent
Color:	Grey
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: None

Pump On: 13:58

Pump Off: 14:23

[illegible]

*Water level meter blocked by pump tubing

Purge Water Disposition: NA

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-35S
Date:	9/6/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	19.20
Water Level Depth (ft):	3.55
Pumping Water Depth (ft):	4.81
Well Diameter (in):	2.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	15.65
Volume of Water in Well (gal):	2.55
Total Volume Purged (ml):	8,400
Duration of Pumping (min):	28
Odor:	None
Color:	Clear
Fe+ ² (mg/L):	1.1

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 12:37

Pump Off: 13:05

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-37S
Date:	9/6/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	23.35
Water Level Depth (ft):	1.53
Pumping Water Depth (ft):	2.20
Well Diameter (in):	2.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	21.82
Volume of Water in Well (gal):	3.56
Total Volume Purged (ml):	6,250
Duration of Pumping (min):	25
Odor:	None
Color:	Clear
Fe+ ² (mg/L):	1.5

EVACUATION INFORMATION

Purge Method: Low-Flow

Pump On: 13:18

Pump Off: 13:40

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	OW-6
Date:	9/6/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	39.20
Water Level Depth (ft):	6.09
Pumping Water Depth (ft):	6.87
Well Diameter (in):	2.00
Well Condition:	Good
PID Reading (ppm):	6.20

WELL WATER INFORMATION

Length of Water Column (ft):	33.11
Volume of Water in Well (gal):	5.40
Total Volume Purged (ml):	3,750
Duration of Pumping (min):	15
Odor:	Pungent
Color:	Light Grey
Fe+ ² (mg/L):	0.5

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 19:30

Pump Off: 19:55

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	OW-7
Date:	9/6/18
Sampling Personnel:	SS & SL
Weather:	Clear, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	30.91
Water Level Depth (ft):	6.84
Pumping Water Depth (ft):	9.02
Well Diameter (in):	2.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	24.07
Volume of Water in Well (gal):	3.92
Total Volume Purged (ml):	6,250
Duration of Pumping (min):	25
Odor:	Pungent
Color:	Light Grey
Fe+ ² (mg/L):	0.5

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 20:10

Pump Off: 20:35

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	RW-1R
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	56.20
Water Level Depth (ft):	8.21
Pumping Water Depth (ft):	9.38
Well Diameter (in):	6.00
Well Condition:	Overgrown
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	47.99
Volume of Water in Well (gal):	70.40
Total Volume Purged (ml):	6,250
Duration of Pumping (min):	25
Odor:	Pungent
Color:	Grey
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 9:40

Pump Off: 10:05

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-53D
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	55.10
Water Level Depth (ft):	5.93
Pumping Water Depth (ft):	9.50
Well Diameter (in):	4.00
Well Condition:	Overgrown
PID Reading (ppm):	2.70

WELL WATER INFORMATION

Length of Water Column (ft):	49.17
Volume of Water in Well (gal):	32.06
Total Volume Purged (ml):	6,000
Duration of Pumping (min):	20
Odor:	None
Color:	Clear
Fe+ ² (mg/L):	1.0

EVACUATION INFORMATION

Purge Method: Low Flow

Pump On: 8:35

Pump Off: 0855

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-101
Date:	9/6/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	32.90
Water Level Depth (ft):	5.39
Pumping Water Depth (ft):	6.01
Well Diameter (in):	2.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	27.51
Volume of Water in Well (gal):	4.48
Total Volume Purged (ml):	8,750
Duration of Pumping (min):	35
Odor:	None
Color:	Grey
Fe+ ² (mg/L):	1.0

EVACUATION INFORMATION

Purge Method: Low-Flow

Pump On: 8:50

Pump Off: 9:25

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-102
Date:	9/6/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	22.10
Water Level Depth (ft):	4.95
Pumping Water Depth (ft):	5.96
Well Diameter (in):	2.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	17.15
Volume of Water in Well (gal):	2.80
Total Volume Purged (ml):	6,000
Duration of Pumping (min):	20
Odor:	None
Color:	Tan
Fe+ ² (mg/L):	1.0

EVACUATION INFORMATION

Purge Method: Low-Flow

Pump On: 10:35

Pump Off: 10:55

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-103
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	60.40
Water Level Depth (ft):	8.39
Pumping Water Depth (ft):	8.46
Well Diameter (in):	2.00
Well Condition:	Good
PID Reading (ppm):	7.80

WELL WATER INFORMATION

Length of Water Column (ft):	52.01
Volume of Water in Well (gal):	8.48
Total Volume Purged (ml):	6,250
Duration of Pumping (min):	25
Odor:	None
Color:	Light Grey
Fe+ ² (mg/L):	0.0

EVACUATION INFORMATION

Purge Method: Low-Flow

Pump On: 7:10

Pump Off: 7:35

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-104
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	65.10
Water Level Depth (ft):	1.94
Pumping Water Depth (ft):	2.05
Well Diameter (in):	2.00
Well Condition:	Good
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	63.16
Volume of Water in Well (gal):	10.30
Total Volume Purged (ml):	5,000
Duration of Pumping (min):	25
Odor:	Slightly Pungent
Color:	Clear
Fe+ ² (mg/L):	1.5

EVACUATION INFORMATION

Purge Method: Low-Flow

Pump On: 9:05

Pump Off: 9:30

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-105
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	70.65
Water Level Depth (ft):	5.48
Pumping Water Depth (ft):	7.21
Well Diameter (in):	2.00
Well Condition:	Overgrown
PID Reading (ppm):	0.00

WELL WATER INFORMATION

Length of Water Column (ft):	65.17
Volume of Water in Well (gal):	10.62
Total Volume Purged (ml):	6,900
Duration of Pumping (min):	23
Odor:	None
Color:	Grey
Fe+ ² (mg/L):	1.0

EVACUATION INFORMATION

Purge Method: Low-Flow

Pump On: 10:55

Pump Off: 11:18

[illegible]

Purge Water Disposition: On Ground

GROUNDWATER SAMPLING LOG

Nepera

Harriman, New York

Well ID:	MW-106
Date:	9/7/18
Sampling Personnel:	SS & SL
Weather:	Sunny, 90°F

Meter Number:	511017
Notes:	

WELL INFORMATION

Well Depth (ft):	40.90
Water Level Depth (ft):	11.68
Pumping Water Depth (ft):	13.15
Well Diameter (in):	2.00
Well Condition:	Good
PID Reading (ppm):	9.30

WELL WATER INFORMATION

Length of Water Column (ft):	29.22
Volume of Water in Well (gal):	4.76
Total Volume Purged (ml):	13,500
Duration of Pumping (min):	27
Odor:	None
Color:	Clear
Fe+ ² (mg/L):	0.5

EVACUATION INFORMATION

Purge Method: Low-Flow

Pump On: 13:20

Pump Off: 13:47

[illegible]

Purge Water Disposition: On Ground

APPENDIX 2

Electronic Water Level Indicator Calibration Procedures

If using an electronic water level indicator, the device must be calibrated prior to each water level monitoring event and a calibration sticker with date of calibration attached. Electronic water level indicators with stretched electric lines (in whole or in part) spliced, or generally in poor condition shall not be used. A battery check must be performed before use.

1. Calibration is accomplished by comparing the marked intervals of the electronic sounding device with an engineer's tape marked in 0.01 foot intervals. The lower 30 feet of the electronic water level wire, which is most subject to stretching, is to be examined. If any five-foot interval of the wire is stretched more than 0.01 feet, the wire shall be replaced.
2. Calibration/inspection procedures must be documented in a calibration logbook or electronic spreadsheet file (in addition to the calibration date noted on a calibration sticker and affixed to the instrument).
3. When multiple water level devices are used to collect synoptic water levels, verification of instrument calibration and measurement techniques shall be checked by having each field technician measure the depth-to-water in a single designated well. All measurements must be within 0.05 feet of each other. If one or more measurements fall outside of this range, determine whether the discrepancy is due to instrumentation or measurement technique problems and make appropriate repairs, substitutions or corrections.

APPENDIX 3

Statement of Procedures for the Calibration of Multi-Parameter Water Quality Monitoring System, Horiba U-22XD

Purpose and Scope

This Statement of Procedures (SOP) presents detailed methodology for the measurement of field parameters including *temperature, conductivity, pH, dissolved oxygen, ORP* and *turbidity*. The purpose of this SOP is to ensure the accurate measurement of these water quality parameters through routine checks and periodic calibration of the Horiba U-22XD by sampling personnel.

Responsibilities

It is the responsibility of assigned sampling personnel to calibrate monitoring equipment at the beginning of each month prior to use, or upon completion of all instrument repairs (Span Calibration). Sampling personnel will also perform a daily instrument check (Zero Calibration). Documentation of calibrations, performance checks, inspection/acceptance and maintenance is the responsibility of field personnel. Periodic (e.g., yearly) factory calibration certificates shall be available for review. Any parameters out of calibration are to be documented and all records generated shall be maintained.

Precautions

Handling of Sensor Probe

Do not shock sensor probe. Sensor will be damaged.

Do not remove protective cover from sensor probe.

Slowly lower sensor probe into sample.

Do not immerse sensor probe to a depth in excess of 300 feet. Excessive hydraulic pressure will cause damage.

Replacement of Batteries and Sensors

Do not replace sensor probe batteries or sensors in atmosphere of high temperature or humidity.

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The sensor probe's battery cover is kept waterproof by use of an O-ring. After confirming that there are no foreign bodies adhering to the O-ring, tighten to indicated position. Do not tighten with O-ring twisted or warped.

Handling of Cable

Do not store cable with connector excessively tensed or bent.

When storing, wipe area around connector dry and cover with rubber cap.

Handling of Control Unit

Do not shock control unit. The control unit will be damaged.

Do not expose control unit to ultraviolet rays for long periods. Ultraviolet rays can damage control unit's LCD display.

Do not use a hair dryer to dry control unit. If control unit becomes wet, dry with soft cloth.

Handling of DO Sensor

In the event of breakage of the DO sensor diaphragm, replace whole DO sensor and diaphragm.

Do not touch caustic internal solution.

When removing DO sensor from sensor probe, attach included short socket.

Handling of Cond/Turb Sensor Unit

When cleaning Cond/Turb sensor unit, use a cotton swab to avoid damage.

Handling pH Sensor

The pH sensor is made of very thin glass. Handle carefully to avoid breakage.

Handling during Transportation

Always store Horiba U-22XD in carrying case to prevent damage.

Calibration

The Horiba U-22XD includes an auto calibration mode (see Operations Manual). However, in order to achieve the highest instrument performance and measurement accuracy, manual calibration techniques described below are recommended. Note: In the event the instruments calibration readings do not come within 10% of standard values, a supervisor must be notified. The instrument is not to be used until repairs are made. Designate instrument with a “**DO NOT USE, OUT OF CALIBRATION**” sticker.

Manual pH Calibration

Zero Calibration

1. Wash sensor using distilled water; pour pH standard solution into calibration beaker; immerse sensor.
2. Press **CAL** key twice in the pH measurement mode. When the instrument enters the manual zero calibration mode, **MAN**, **ZERO** and **CAL** light up (measured temperature is displayed).
3. Use the **UP/DOWN** keys to input value of the pH 7 standard solution at the measured temperature (see reference data, page 100 of Operation Manual).
4. Press **ENT** key. The manual zero calibration starts. The measured value is displayed during calibration and **DATA IN** blinks until the indicated value stabilizes. When the indicated value has stabilized, **DATA IN** lights up and the calibration finishes. Note: When **DATA INN** is blinking, press **CAL** key to cancel calibration or **ENT** key to fix calibration.

Span Calibration

1. Wash sensor using distilled water; pour pH 4 or pH 9 standard solution into calibration beaker; immerse sensor.
2. On the zero calibration of the pH sensor, press **CAL** key to ensure that the control unit is in the manual span calibration mode. **MAN**, **SPAN** and **CAL** light up.
3. Use the **UP/Down** keys to set the value for the pH 4 or pH 9 standard solution at the measured temperature (see reference data, page 100 of Operation Manual).
4. Press the **ENT** key. The manual span calibration starts. The measured value is displayed during calibration and **DATA IN** blinks until the indicated value stabilizes. When the indicated value has stabilized, **DATA IN** lights up and the calibration finishes. Note: When **DATA INN** is blinking, press **CAL** key to cancel calibration or **ENT** key to fix calibration.
5. Press **MEAS** key to return to the measurement mode.

Manual Conductivity Calibration

Zero Calibration

1. Wash sensor using distilled water. Completely remove the water on the sensor and calibrate the instrument in the atmosphere
2. Press **Cal** key twice in the conductivity measurement mode. When the instrument enters the manual zero calibration mode, **MAN**, **ZERO** and **CAL** light up.
3. Use the **UP/DOWN** key to set the value to 0.0.
4. Press the **ENT** key. The manual zero calibration starts. The measured value is displayed during calibration and **DATA IN** blinks until the indicated value stabilizes. When the indicated value has stabilized, **DATA IN** lights up and the calibration finishes. Note: When **DATA INN** is blinking, press **CAL** key to cancel calibration or **ENT** key to fix calibration.

Span Calibration

1. Wash sensor using distilled water; pour standard solution into calibration beaker; immerse sensor.
2. On the zero calibration of the conductivity sensor, press the **CAL** key to ensure that the instrument is in the manual span calibration mode. **MAN**, **SPAN** and **CAL** light up.
3. Use the **UP/Down** keys to set the standard solution value. Note: The sensor automatically identifies the calibration solution and the relevant calibration range (0.90 S/m to 9.99 S/m, 0.090 S/m to 0.999 S/m, 0.0 mS/m to 99.9 mS/m) is displayed via **1**, **2** or **3**.
4. Press the **ENT** key. The manual span calibration starts. The measured value is displayed during calibration and **DATA IN** blinks until the indicated value stabilizes. When the indicated value has stabilized, **DATA IN** lights up and the calibration finishes. Note: When **DATA INN** is blinking, press **CAL** key to cancel calibration or **ENT** key to fix calibration.
5. Press **MEAS** key to return to the measurement mode.

Manual Turbidity Calibration

Zero Calibration

1. Wash sensor using distilled water; pour distilled water into calibration beaker; immerse sensor.
2. Press **Cal** key twice in the turbidity measurement mode. When the instrument enters the manual zero calibration mode, **MAN**, **ZERO** and **CAL** light up.
3. Use the **UP/DOWN** key to set the value to 0.0.

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4. Press the **ENT** key. The manual span calibration starts. The measured value is displayed during calibration and **DATA IN** blinks until the indicated value stabilizes. When the indicated value has stabilized, **DATA IN** lights up and the calibration finishes. Note: When **DATA INN** is blinking, press **CAL** key to cancel calibration or **ENT** key to fix calibration.

Span Calibration

1. Wash sensor using distilled water; pour 100 NTU (or other) solution into calibration beaker; immerse sensor.
2. On the zero calibration of the turbidity sensor, press the **CAL** key to ensure that the instrument is in the manual span calibration mode. **MAN**, **SPAN** and **CAL** light up.
3. Use the **UP/Down** keys to set the value to 100 NTU.
4. Press the **ENT** key. The manual span calibration starts. The measured value is displayed during calibration and **DATA IN** blinks until the indicated value stabilizes. When the indicated value has stabilized, **DATA IN** lights up and the calibration finishes. Note: When **DATA INN** is blinking, press **CAL** key to cancel calibration or **ENT** key to fix calibration.
5. Press **MEAS** key to return to the measurement mode.

Manual Dissolved Oxygen Calibration

Zero Calibration

1. Wash sensor using distilled water; pour 0.0 oxygen solution into calibration beaker; immerse sensor.
2. Press **Cal** key twice in the dissolved oxygen measurement mode. When the instrument enters the manual zero calibration mode, **MAN**, **ZERO** and **CAL** light up.
3. After the display has stabilized, use the **UP/DOWN** keys to set the value to 0.0.
4. Press the **ENT** key. The manual span calibration starts. The measured value is displayed during calibration and **DATA IN** blinks until the indicated value stabilizes. When the indicated value has stabilized, **DATA IN** lights up and the calibration finishes. Note: When **DATA INN** is blinking, press **CAL** key to cancel calibration or **ENT** key to fix calibration.
5. After zero calibration, clean sensor with tap water.

Span Calibration

1. Pour 1 – 2 liters of tap water into suitable flask. Using an air pump, feed air into the water and aerate solution.

2. Wash sensor using distilled water and immerse DO sensor completely into span calibration liquid.
3. On the zero calibration of the DO sensor, press the **CAL** key to ensure that the instrument is in the manual span calibration mode. **MAN**, **SPAN** and **CAL** light up.
4. After the display has stabilized, use the **UP/DOWN** keys to set the amount of saturated dissolved oxygen in water at its water temperature (see reference data, page 56 of Operation Manual for DO value at corresponding temperature).
5. Press the **ENT** key. The manual span calibration starts. The measured value is displayed during calibration and **DATA IN** blinks until the indicated value stabilizes. When the indicated value has stabilized, **DATA IN** lights up and the calibration finishes. Note: When **DATA INN** is blinking, press **CAL** key to cancel calibration or **ENT** key to fix calibration.
6. Press **MEAS** key to return to the measurement mode.

Manual Temperature Calibration

1. Press **CAL** key in the temperature measurement mode. Select the manual calibration mode.
2. Immerse sensor in water with known temperature (i.e., measured with Nation Institute of Technology approved thermometer).
3. Use the **UP/Down** keys to set the temperature value to that of NIT thermometer.
4. Press the **ENT** key. The manual span calibration starts. The measured value is displayed during calibration and **DATA IN** blinks until the indicated value stabilizes. When the indicated value has stabilized, **DATA IN** lights up and the calibration finishes. Note: When **DATA INN** is blinking, press **CAL** key to cancel calibration or **ENT** key to fix calibration.
5. Press **MEAS** key to return to the measurement mode.

Manual ORP Calibration

1. Add 250 ml pure (ion exchange) water to one packet of standard solution.
2. Immerse wash and dried ORP electrode in the ORP standard solution and measure mV value
3. If electrode and meter are working correctly, numerical values within 15 mV or less of those listed in Table 1 of Operation Manual are obtained.
4. If measurements within 15 mV of Table 1 values are not obtained, reference electrode is faulty. Replace.

Implementation and Training

Sampling personnel shall implement this procedure for the calibration and daily performance checks of field monitoring equipment. Staff responsible for implementing this procedure shall be thoroughly familiar with its contents and requirements. It shall be documented by each staff member that they have read and understand the procedure.

APPENDIX 4

ANALYTICAL REPORT

Job Number: 460-164102-1

Job Description: Nepera Harriman, NY

For:

R & C Formation Ltd.

171 Deer Park Ave.,

Suite 3

Babylon, NY 11702

Attention: Mr. Robert Casson



Approved for release.
Allison L. Bennett
Project Manager I
10/8/2018 12:57 PM

Designee for
Melissa Haas, Project Manager I
777 New Durham Road, Edison, NJ, 08817
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melissa.haas@testamericainc.com
10/08/2018
Revision: 1

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Edison Project Manager.

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Job Number: 460-164102-1

Job Description: Nepera Harriman, NY

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

A handwritten signature in black ink that reads "Allison L. Bennett". The signature is written in a cursive style with a horizontal line extending from the end of the name.

Approved for release.
Allison L. Bennett
Project Manager I
10/8/2018 12:57 PM

Designee for
Melissa Haas

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CASE NARRATIVE

Client: R & C Formation Ltd.

Project: Nepera Harriman NY

Report Number: 460-164102-1

Revision 1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

Revision 1 - the original report inadvertently left out iron from the metals reporting list as required by the client. A revision has been issued to include iron by 6010D.

RECEIPT

The samples were received on 9/7/2018 8:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.0° C, 1.3° C and 1.6° C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples Trip Blank (460-164102-1), MW-20S (460-164102-2), MW-20D (460-164102-3), MW-12S (460-164102-4), OW-6 (460-164102-5), OW-7 (460-164102-6), Dup (460-164102-7), MW-5S (460-164102-8), MW-7S (460-164102-9), MW-8S (460-164102-10), MW-11S (460-164102-11), MW-16S (460-164102-12), MW-24S (460-164102-13), MW-25S (460-164102-14), MW-53D (460-164102-15), MW-103 (460-164102-16), MW-104 (460-164102-17), MW-105 (460-164102-18), MW-106 (460-164102-19), MW-6D (460-164102-20), MW-23D (460-164102-21), MW-26D (460-164102-22), MW-27D (460-164102-23), FB (460-164102-24) and RW-1R (460-164102-25) were analyzed for Volatile organic compounds (GC-MS) in accordance with EPA SW-846 Methods 8260C. The samples were analyzed on 09/11/2018, 09/12/2018 and 09/13/2018.

Xylenes, Total failed the recovery criteria high for the Matrix Spike Duplicate (MSD) of sample 460-164126-1 in batch 460-551483.

Refer to the QC report for details.

Samples OW-6 (460-164102-5)[50X], OW-7 (460-164102-6)[5X], Dup (460-164102-7)[50X] and MW-25S (460-164102-14)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the volatiles analysis.

All other quality control parameters were within the acceptance limits.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS)

Samples MW-20S (460-164102-2), MW-20D (460-164102-3), MW-12S (460-164102-4), OW-6 (460-164102-5), OW-7 (460-164102-6), Dup (460-164102-7), MW-5S (460-164102-8), MW-7S (460-164102-9), MW-8S (460-164102-10), MW-11S (460-164102-11), MW-16S (460-164102-12), MW-24S (460-164102-13), MW-25S (460-164102-14), MW-53D (460-164102-15), MW-103 (460-164102-16), MW-104 (460-164102-17), MW-105 (460-164102-18), MW-106 (460-164102-19), MW-6D (460-164102-20), MW-23D (460-164102-21), MW-26D (460-164102-22), MW-27D (460-164102-23), FB (460-164102-24) and RW-1R (460-164102-25) were analyzed for semivolatile organic compounds (GC/MS) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 09/12/2018 and 09/13/2018 and analyzed on 09/17/2018, 09/18/2018 and 09/20/2018.

Surrogate recovery for the following sample was outside control limits: Dup (460-164102-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Samples were inadvertently spiked with ten times the normal internal standard concentration. Final volumes and percent recoveries have been adjusted accordingly. The following samples are impacted: (LCS 480-434198/2-A) and (MB 480-434198/1-A).

Samples were spike at ten times the normal internal standard concentration. Percent recoveries for the internals and surrogates have been adjusted accordingly. There were no detections for target analytes. Therefore, the data has been reported. The following samples are impacted: MW-26D (460-164102-22), MW-27D (460-164102-23) and FB (460-164102-24).

2,4,6-Tribromophenol failed the surrogate recovery criteria high for OW-6 (460-164102-5).

Pyridine failed the recovery criteria low for the Matrix Spike/Matrix Spike Duplicate (MS/MSD) of sample 480-141586-1 in batch 480-435121.

Refer to the QC report for details.

Samples OW-6 (460-164102-5)[100X], OW-7 (460-164102-6)[5X], Dup (460-164102-7)[200X], MW-25S (460-164102-14)[10X], MW-53D (460-164102-15)[5X] and RW-1R (460-164102-25)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the semivolatiles analysis.

All other quality control parameters were within the acceptance limits.

METALS

Samples MW-20S (460-164102-2), OW-6 (460-164102-5), OW-7 (460-164102-6), Dup (460-164102-7), MW-8S (460-164102-10), MW-11S (460-164102-11), MW-16S (460-164102-12), MW-25S (460-164102-14), MW-53D (460-164102-15), MW-103 (460-164102-16), MW-104 (460-164102-17), MW-105 (460-164102-18), MW-106 (460-164102-19), FB (460-164102-24) and RW-1R (460-164102-25) were analyzed for Metals in accordance with 6010D. The samples were prepared on 09/11/2018 and 09/12/2018 and analyzed on 09/11/2018, 09/12/2018 and 09/13/2018.

No difficulties were encountered during the Metals analysis.

All quality control parameters were within the acceptance limits.

TOTAL MERCURY

Sample MW-24S (460-164102-13) was analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 09/13/2018.

No difficulties were encountered during the Hg analysis.

All quality control parameters were within the acceptance limits.

ANIONS

Samples MW-20S (460-164102-2), OW-6 (460-164102-5), OW-7 (460-164102-6), Dup (460-164102-7), MW-8S (460-164102-10), MW-11S (460-164102-11), MW-16S (460-164102-12), MW-25S (460-164102-14), MW-53D (460-164102-15), MW-103 (460-164102-16), MW-104 (460-164102-17), MW-105 (460-164102-18), MW-106 (460-164102-19), FB (460-164102-24) and RW-1R (460-164102-25) were analyzed for anions in accordance with EPA Method 300_ORGFM_28D Anions by Ion Chromatograph. The samples were analyzed on 09/10/2018, 09/11/2018 and 09/12/2018.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 480-433975.

Sulfate failed the recovery criteria low for the MS of sample MW-11SMS (460-164102-11) in batch 460-550992.

Sulfate failed the recovery criteria low for the MSD of sample MW-11SMSD (460-164102-11) in batch 460-550992.

Sulfate failed the recovery criteria high for the MS of sample MW-106MS (460-164102-19) in batch 460-550992.

Sulfate failed the recovery criteria high for the MSD of sample MW-106MSD (460-164102-19) in batch 460-550992.

Refer to the QC report for details.

Samples MW-20S (460-164102-2)[10X], MW-11S (460-164102-11)[10X] and RW-1R (460-164102-25)[100X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the anions analysis.

All other quality control parameters were within the acceptance limits.

AMMONIA

Samples MW-20S (460-164102-2), OW-6 (460-164102-5), OW-7 (460-164102-6), Dup (460-164102-7), MW-8S (460-164102-10), MW-11S (460-164102-11), MW-16S (460-164102-12), MW-25S (460-164102-14), MW-53D (460-164102-15), MW-103 (460-164102-16), MW-104 (460-164102-17), MW-105 (460-164102-18), MW-106 (460-164102-19), FB (460-164102-24) and RW-1R (460-164102-25) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were prepared and analyzed on 09/12/2018 and 09/13/2018.

Samples MW-20S (460-164102-2)[100X], OW-6 (460-164102-5)[10X], Dup (460-164102-7)[10X], MW-8S (460-164102-10)[5X], MW-11S (460-164102-11)[10X], MW-16S (460-164102-12)[10X], MW-25S (460-164102-14)[5X], MW-53D (460-164102-15)[10X], MW-106 (460-164102-19)[2X] and RW-1R (460-164102-25)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the ammonia analysis.

All quality control parameters were within the acceptance limits.

NITROGEN-NITRATE

Samples MW-20S (460-164102-2), OW-6 (460-164102-5), OW-7 (460-164102-6), Dup (460-164102-7), MW-8S (460-164102-10), MW-11S (460-164102-11), MW-16S (460-164102-12), MW-25S (460-164102-14), MW-53D (460-164102-15), MW-103 (460-164102-16), MW-104 (460-164102-17), MW-105 (460-164102-18), MW-106 (460-164102-19), FB (460-164102-24) and RW-1R (460-164102-25) were analyzed for Nitrogen-Nitrate in accordance with SM 4500 NO₃ F. The samples were analyzed on 09/08/2018.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 460-550582 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Refer to the QC report for details.

No other difficulties were encountered during the nitrate analysis.

All other quality control parameters were within the acceptance limits.

EXECUTIVE SUMMARY - Detections

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
460-164102-2	MW-20S					
Benzene		62		1.0	ug/L	8260C
Toluene		0.57	J	1.0	ug/L	8260C
Pyridine		0.58	J	25	ug/L	8270D
Manganese		1060		15.0	ug/L	6010D
Iron		2970		150	ug/L	6010D
Ammonia		64.6		10.0	mg/L	350.1
Sulfate		60.0		6.00	mg/L	300.0
460-164102-3	MW-20D					
Benzene		23		1.0	ug/L	8260C
Ethylbenzene		0.76	J	1.0	ug/L	8260C
2-Picoline		22	J	80	ug/L	8270D
Pyridine		4.6	J	25	ug/L	8270D
460-164102-5	OW-6					
Benzene		9500		50	ug/L	8260C
2-Picoline		3000	J	8000	ug/L	8270D
Pyridine		1.9	J	25	ug/L	8270D
Manganese		1410		15.0	ug/L	6010D
Iron		12700		150	ug/L	6010D
Ammonia		13.7		1.0	mg/L	350.1
Sulfate		1.53		0.60	mg/L	300.0
460-164102-6	OW-7					
Benzene		820		5.0	ug/L	8260C
2-Picoline		72	J	400	ug/L	8270D
Manganese		1130		15.0	ug/L	6010D
Iron		4030		150	ug/L	6010D
Ammonia		3.6		0.10	mg/L	350.1
Sulfate		7.92		0.60	mg/L	300.0
460-164102-7	DUP					
Benzene		10000		50	ug/L	8260C
2-Picoline		2800	J	16000	ug/L	8270D
Pyridine		2.0	J	25	ug/L	8270D
Manganese		1390		15.0	ug/L	6010D
Iron		13700		150	ug/L	6010D
Ammonia		14.2		1.0	mg/L	350.1
Sulfate		1.80		0.60	mg/L	300.0

EXECUTIVE SUMMARY - Detections

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
460-164102-8 2-Picoline	MW-5S	2.6	J	80	ug/L	8270D
460-164102-10 Manganese Iron Ammonia Sulfate	MW-8S	529 7420 10.7 14.3		15.0 150 0.50 0.60	ug/L ug/L mg/L mg/L	6010D 6010D 350.1 300.0
460-164102-11 Manganese Iron Ammonia Nitrate as N Sulfate	MW-11S	570 972 18.0 0.031 11.4	J	15.0 150 1.0 0.10 6.00	ug/L ug/L mg/L mg/L mg/L	6010D 6010D 350.1 SM 4500 NO3 F 300.0
460-164102-12 Benzene Manganese Iron Ammonia Nitrate as N Sulfate	MW-16S	72 213 851 18.9 0.029 1.39	J	1.0 15.0 150 1.0 0.10 0.60	ug/L ug/L ug/L mg/L mg/L mg/L	8260C 6010D 6010D 350.1 SM 4500 NO3 F 300.0
460-164102-13 Mercury	MW-24S	0.20		0.20	ug/L	7470A
460-164102-14 Benzene Toluene 2-Picoline Manganese Iron Ammonia Sulfate	MW-25S	470 1.1 130 1300 2870 5.8 2.57	J J	2.0 2.0 800 15.0 150 0.50 0.60	ug/L ug/L ug/L ug/L ug/L mg/L mg/L	8260C 8260C 8270D 6010D 6010D 350.1 300.0

EXECUTIVE SUMMARY - Detections

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
460-164102-15	MW-53D					
Benzene		1.0		1.0	ug/L	8260C
Manganese		351		15.0	ug/L	6010D
Iron		5620		150	ug/L	6010D
Ammonia		28.3		1.0	mg/L	350.1
Nitrate as N		0.99		0.10	mg/L	SM 4500 NO3 F
Sulfate		1.92		0.60	mg/L	300.0
460-164102-16	MW-103					
2-Picoline		9.7	J	80	ug/L	8270D
Manganese		271		15.0	ug/L	6010D
Iron		1460		150	ug/L	6010D
Ammonia		0.11		0.10	mg/L	350.1
Nitrate as N		0.23		0.10	mg/L	SM 4500 NO3 F
Sulfate		18.0		0.60	mg/L	300.0
460-164102-17	MW-104					
Manganese		1370		15.0	ug/L	6010D
Iron		2240		150	ug/L	6010D
Ammonia		2.7		0.10	mg/L	350.1
Sulfate		18.8		0.60	mg/L	300.0
460-164102-18	MW-105					
Manganese		3210		15.0	ug/L	6010D
Iron		62200		150	ug/L	6010D
Ammonia		1.7		0.10	mg/L	350.1
Sulfate		11.9		0.60	mg/L	300.0
460-164102-19	MW-106					
Manganese		681		15.0	ug/L	6010D
Iron		859		150	ug/L	6010D
Ammonia		4.1		0.20	mg/L	350.1
Sulfate		23.1		0.60	mg/L	300.0
460-164102-23	MW-27D					
Xylenes, Total		2.1		2.0	ug/L	8260C
Pyridine		0.59	J *	25	ug/L	8270D

EXECUTIVE SUMMARY - Detections

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
460-164102-25	RW-1R					
Manganese		943		15.0	ug/L	6010D
Iron		10700		150	ug/L	6010D
Ammonia		12.0		1.0	mg/L	350.1
Nitrate as N		0.011	J	0.10	mg/L	SM 4500 NO3 F
Sulfate		130		60.0	mg/L	300.0

METHOD SUMMARY

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS	TAL EDI	SW846 8260C	
Purge and Trap	TAL EDI		SW846 5030C
Anions, Ion Chromatography	TAL EDI	MCAWW 300.0	
Metals (ICP)	TAL EDI	SW846 6010D	
Preparation, Total Metals	TAL EDI		SW846 3010A
Mercury (CVAA)	TAL EDI	SW846 7470A	
Preparation, Mercury	TAL EDI		SW846 7470A
Nitrogen, Ammonia	TAL EDI	MCAWW 350.1	
Distillation, Ammonia	TAL EDI		Distill/Ammonia
Nitrogen, Nitrate	TAL EDI	SM SM 4500 NO3 F	
Semivolatile Organic Compounds (GC/MS)	TAL BUF	SW846 8270D	
Liquid-Liquid Extraction (Separatory Funnel)	TAL BUF		SW846 3510C

Lab References:

TAL BUF = TestAmerica Buffalo

TAL EDI = TestAmerica Edison

Method References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method	Analyst	Analyst ID
SW846 8260C	Boykin, Kenneth	KLB
SW846 8260C	Collado, Ximena X	XXC
SW846 8260C	Desai, Saurab	SZD
SW846 8270D	Quirk, Patrick J	PJQ
SW846 8270D	Schick, Robert J	RJS
SW846 6010D	Chang, Churn Der	CDC
SW846 7470A	Sheikh, Razia B	RBS
MCAWW 350.1	Mariani, Paul H	PHM
MCAWW 350.1	Vu, Huan	HTV
SM SM 4500 NO3 F	Sanchez, Edgar M	EMS
MCAWW 300.0	Infante, Warleny M	VMI

SAMPLE SUMMARY

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
460-164102-1TB	Trip Blank	Water	09/07/2018 0000	09/07/2018 2000
460-164102-2	MW-20S	Water	09/06/2018 1755	09/07/2018 2000
460-164102-3	MW-20D	Water	09/06/2018 1840	09/07/2018 2000
460-164102-4	MW-12S	Water	09/06/2018 1918	09/07/2018 2000
460-164102-5	OW-6	Water	09/06/2018 1955	09/07/2018 2000
460-164102-6	OW-7	Water	09/06/2018 2035	09/07/2018 2000
460-164102-7	Dup	Water	09/06/2018 1955	09/07/2018 2000
460-164102-8	MW-5S	Water	09/07/2018 1315	09/07/2018 2000
460-164102-9	MW-7S	Water	09/07/2018 1445	09/07/2018 2000
460-164102-10	MW-8S	Water	09/07/2018 1150	09/07/2018 2000
460-164102-11	MW-11S	Water	09/07/2018 1045	09/07/2018 2000
460-164102-12	MW-16S	Water	09/07/2018 0830	09/07/2018 2000
460-164102-13	MW-24S	Water	09/07/2018 1540	09/07/2018 2000
460-164102-14	MW-25S	Water	09/07/2018 0810	09/07/2018 2000
460-164102-15	MW-53D	Water	09/07/2018 0855	09/07/2018 2000
460-164102-16	MW-103	Water	09/07/2018 0735	09/07/2018 2000
460-164102-17	MW-104	Water	09/07/2018 0930	09/07/2018 2000
460-164102-18	MW-105	Water	09/07/2018 1115	09/07/2018 2000
460-164102-19	MW-106	Water	09/07/2018 1345	09/07/2018 2000
460-164102-20	MW-6D	Water	09/07/2018 1500	09/07/2018 2000
460-164102-21	MW-23D	Water	09/07/2018 1615	09/07/2018 2000
460-164102-22	MW-26D	Water	09/07/2018 1415	09/07/2018 2000
460-164102-23	MW-27D	Water	09/07/2018 1240	09/07/2018 2000
460-164102-24FB	FB	Water	09/07/2018 0900	09/07/2018 2000
460-164102-25	RW-1R	Water	09/07/2018 1005	09/07/2018 2000

SAMPLE RESULTS

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: Trip Blank

Lab Sample ID: 460-164102-1TB

Client Matrix: Water

Date Sampled: 09/07/2018 0000

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551202	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10423.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/11/2018 1223			Final Weight/Volume:	5 mL
Prep Date:	09/11/2018 1223				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92		74 - 132
Bromofluorobenzene	90		77 - 124
Toluene-d8 (Surr)	110		80 - 120
Dibromofluoromethane (Surr)	86		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-20S

Lab Sample ID: 460-164102-2

Client Matrix: Water

Date Sampled: 09/06/2018 1755

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-551202

Instrument ID: CVOAMS15

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: T10424.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/11/2018 1251

Final Weight/Volume: 5 mL

Prep Date: 09/11/2018 1251

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	62		0.43	1.0
Toluene	0.57	J	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		74 - 132
Bromofluorobenzene	89		77 - 124
Toluene-d8 (Surr)	110		80 - 120
Dibromofluoromethane (Surr)	84		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-20D

Lab Sample ID: 460-164102-3

Client Matrix: Water

Date Sampled: 09/06/2018 1840

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-551202

Instrument ID: CVOAMS15

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: T10425.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/11/2018 1319

Final Weight/Volume: 5 mL

Prep Date: 09/11/2018 1319

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	23		0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	0.76	J	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		74 - 132
Bromofluorobenzene	88		77 - 124
Toluene-d8 (Surr)	111		80 - 120
Dibromofluoromethane (Surr)	85		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-12S

Lab Sample ID: 460-164102-4

Client Matrix: Water

Date Sampled: 09/06/2018 1918

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551202	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10426.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/11/2018 1348			Final Weight/Volume:	5 mL
Prep Date:	09/11/2018 1348				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		74 - 132
Bromofluorobenzene	88		77 - 124
Toluene-d8 (Surr)	112		80 - 120
Dibromofluoromethane (Surr)	84		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: OW-6

Lab Sample ID: 460-164102-5

Client Matrix: Water

Date Sampled: 09/06/2018 1955

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-551202

Instrument ID: CVOAMS15

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: T10440.D

Dilution: 50

Initial Weight/Volume: 5 mL

Analysis Date: 09/11/2018 2018

Final Weight/Volume: 5 mL

Prep Date: 09/11/2018 2018

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	9500		21	50
Toluene	50	U	19	50
Ethylbenzene	50	U	15	50
Xylenes, Total	100	U	33	100

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89		74 - 132
Bromofluorobenzene	84		77 - 124
Toluene-d8 (Surr)	118		80 - 120
Dibromofluoromethane (Surr)	80		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: OW-7

Lab Sample ID: 460-164102-6

Client Matrix: Water

Date Sampled: 09/06/2018 2035

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-551380

Instrument ID: CVOAMS15

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: T10458.D

Dilution: 5.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/12/2018 0512

Final Weight/Volume: 5 mL

Prep Date: 09/12/2018 0512

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	820		2.1	5.0
Toluene	5.0	U	1.9	5.0
Ethylbenzene	5.0	U	1.5	5.0
Xylenes, Total	10	U	3.3	10

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	88		74 - 132
Bromofluorobenzene	84		77 - 124
Toluene-d8 (Surr)	116		80 - 120
Dibromofluoromethane (Surr)	81		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: Dup

Lab Sample ID: 460-164102-7

Client Matrix: Water

Date Sampled: 09/06/2018 1955

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551483	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10486.D
Dilution:	50			Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 1818			Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 1818				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	10000		21	50
Toluene	50	U	19	50
Ethylbenzene	50	U	15	50
Xylenes, Total	100	U	33	100

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		74 - 132
Bromofluorobenzene	84		77 - 124
Toluene-d8 (Surr)	112		80 - 120
Dibromofluoromethane (Surr)	83		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-5S

Lab Sample ID: 460-164102-8

Client Matrix: Water

Date Sampled: 09/07/2018 1315

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551380	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10455.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 0348			Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 0348				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		74 - 132
Bromofluorobenzene	83		77 - 124
Toluene-d8 (Surr)	117		80 - 120
Dibromofluoromethane (Surr)	81		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-7S

Lab Sample ID: 460-164102-9

Client Matrix: Water

Date Sampled: 09/07/2018 1445

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-551380

Instrument ID: CVOAMS15

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: T10456.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/12/2018 0416

Final Weight/Volume: 5 mL

Prep Date: 09/12/2018 0416

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		74 - 132
Bromofluorobenzene	84		77 - 124
Toluene-d8 (Surr)	115		80 - 120
Dibromofluoromethane (Surr)	82		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-8S

Lab Sample ID: 460-164102-10

Client Matrix: Water

Date Sampled: 09/07/2018 1150

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551202	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10430.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/11/2018 1539			Final Weight/Volume:	5 mL
Prep Date:	09/11/2018 1539				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		74 - 132
Bromofluorobenzene	86		77 - 124
Toluene-d8 (Surr)	113		80 - 120
Dibromofluoromethane (Surr)	82		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-11S

Lab Sample ID: 460-164102-11

Client Matrix: Water

Date Sampled: 09/07/2018 1045

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551202	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10431.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/11/2018 1607			Final Weight/Volume:	5 mL
Prep Date:	09/11/2018 1607				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		74 - 132
Bromofluorobenzene	87		77 - 124
Toluene-d8 (Surr)	115		80 - 120
Dibromofluoromethane (Surr)	83		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-16S

Lab Sample ID: 460-164102-12

Client Matrix: Water

Date Sampled: 09/07/2018 0830

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-551202

Instrument ID: CVOAMS15

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: T10432.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/11/2018 1635

Final Weight/Volume: 5 mL

Prep Date: 09/11/2018 1635

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	72		0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		74 - 132
Bromofluorobenzene	86		77 - 124
Toluene-d8 (Surr)	114		80 - 120
Dibromofluoromethane (Surr)	83		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-24S

Lab Sample ID: 460-164102-13

Client Matrix: Water

Date Sampled: 09/07/2018 1540

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551202	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10433.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/11/2018 1703			Final Weight/Volume:	5 mL
Prep Date:	09/11/2018 1703				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	88		74 - 132
Bromofluorobenzene	86		77 - 124
Toluene-d8 (Surr)	116		80 - 120
Dibromofluoromethane (Surr)	83		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-25S

Lab Sample ID: 460-164102-14

Client Matrix: Water

Date Sampled: 09/07/2018 0810

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551380	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10459.D
Dilution:	2.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 0540			Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 0540				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	470		0.86	2.0
Toluene	1.1	J	0.76	2.0
Ethylbenzene	2.0	U	0.60	2.0
Xylenes, Total	4.0	U	1.3	4.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89		74 - 132
Bromofluorobenzene	84		77 - 124
Toluene-d8 (Surr)	114		80 - 120
Dibromofluoromethane (Surr)	79		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-53D

Lab Sample ID: 460-164102-15

Client Matrix: Water

Date Sampled: 09/07/2018 0855

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551380	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10457.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 0444			Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 0444				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0		0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		74 - 132
Bromofluorobenzene	84		77 - 124
Toluene-d8 (Surr)	115		80 - 120
Dibromofluoromethane (Surr)	82		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-103

Lab Sample ID: 460-164102-16

Client Matrix: Water

Date Sampled: 09/07/2018 0735

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551202	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10436.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/11/2018 1827			Final Weight/Volume:	5 mL
Prep Date:	09/11/2018 1827				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		74 - 132
Bromofluorobenzene	85		77 - 124
Toluene-d8 (Surr)	118		80 - 120
Dibromofluoromethane (Surr)	80		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-104

Lab Sample ID: 460-164102-17

Client Matrix: Water

Date Sampled: 09/07/2018 0930

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551202	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10437.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/11/2018 1855			Final Weight/Volume:	5 mL
Prep Date:	09/11/2018 1855				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		74 - 132
Bromofluorobenzene	85		77 - 124
Toluene-d8 (Surr)	116		80 - 120
Dibromofluoromethane (Surr)	82		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-105

Lab Sample ID: 460-164102-18

Client Matrix: Water

Date Sampled: 09/07/2018 1115

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551202	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10438.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/11/2018 1923			Final Weight/Volume:	5 mL
Prep Date:	09/11/2018 1923				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	88		74 - 132
Bromofluorobenzene	83		77 - 124
Toluene-d8 (Surr)	118		80 - 120
Dibromofluoromethane (Surr)	80		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-106

Lab Sample ID: 460-164102-19

Client Matrix: Water

Date Sampled: 09/07/2018 1345

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551202	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10439.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/11/2018 1950			Final Weight/Volume:	5 mL
Prep Date:	09/11/2018 1950				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		74 - 132
Bromofluorobenzene	83		77 - 124
Toluene-d8 (Surr)	117		80 - 120
Dibromofluoromethane (Surr)	82		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-6D

Lab Sample ID: 460-164102-20

Client Matrix: Water

Date Sampled: 09/07/2018 1500

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551698	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10509.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/13/2018 0501			Final Weight/Volume:	5 mL
Prep Date:	09/13/2018 0501				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		74 - 132
Bromofluorobenzene	84		77 - 124
Toluene-d8 (Surr)	110		80 - 120
Dibromofluoromethane (Surr)	85		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-23D

Lab Sample ID: 460-164102-21

Client Matrix: Water

Date Sampled: 09/07/2018 1615

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551483	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10482.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 1626			Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 1626				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		74 - 132
Bromofluorobenzene	83		77 - 124
Toluene-d8 (Surr)	113		80 - 120
Dibromofluoromethane (Surr)	81		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-26D

Lab Sample ID: 460-164102-22

Client Matrix: Water

Date Sampled: 09/07/2018 1415

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551483	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10483.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 1654			Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 1654				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		74 - 132
Bromofluorobenzene	84		77 - 124
Toluene-d8 (Surr)	112		80 - 120
Dibromofluoromethane (Surr)	84		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-27D

Lab Sample ID: 460-164102-23

Client Matrix: Water

Date Sampled: 09/07/2018 1240

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551483	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10484.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 1722			Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 1722				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.1		0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90		74 - 132
Bromofluorobenzene	84		77 - 124
Toluene-d8 (Surr)	112		80 - 120
Dibromofluoromethane (Surr)	83		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: FB

Lab Sample ID: 460-164102-24FB

Client Matrix: Water

Date Sampled: 09/07/2018 0900

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-551483	Instrument ID:	CVOAMS15
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	T10469.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 1022			Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 1022				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89		74 - 132
Bromofluorobenzene	84		77 - 124
Toluene-d8 (Surr)	115		80 - 120
Dibromofluoromethane (Surr)	83		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: RW-1R

Lab Sample ID: 460-164102-25

Client Matrix: Water

Date Sampled: 09/07/2018 1005

Date Received: 09/07/2018 2000

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-551483

Instrument ID: CVOAMS15

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: T10485.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/12/2018 1750

Final Weight/Volume: 5 mL

Prep Date: 09/12/2018 1750

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91		74 - 132
Bromofluorobenzene	85		77 - 124
Toluene-d8 (Surr)	112		80 - 120
Dibromofluoromethane (Surr)	83		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-20S

Lab Sample ID: 460-164102-2

Client Matrix: Water

Date Sampled: 09/06/2018 1755

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6062.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 1825			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	0.58	J	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	76		46 - 120
2-Fluorobiphenyl	81		48 - 120
p-Terphenyl-d14	66		59 - 136
Phenol-d5	39		22 - 120
2-Fluorophenol	70		35 - 120
2,4,6-Tribromophenol	78		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-20S

Lab Sample ID: 460-164102-2

Client Matrix: Water

Date Sampled: 09/06/2018 1755

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6062.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 1825			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	160	J

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-20D

Lab Sample ID: 460-164102-3

Client Matrix: Water

Date Sampled: 09/06/2018 1840

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6063.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 1853			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	22	J	1.4	80
Pyridine	4.6	J	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	86		46 - 120
2-Fluorobiphenyl	86		48 - 120
p-Terphenyl-d14	65		59 - 136
Phenol-d5	48		22 - 120
2-Fluorophenol	71		35 - 120
2,4,6-Tribromophenol	87		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-20D

Lab Sample ID: 460-164102-3

Client Matrix: Water

Date Sampled: 09/06/2018 1840

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6063.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 1853			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	710	J

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-12S

Lab Sample ID: 460-164102-4

Client Matrix: Water

Date Sampled: 09/06/2018 1918

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6064.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 1922			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	86		46 - 120
2-Fluorobiphenyl	89		48 - 120
p-Terphenyl-d14	79		59 - 136
Phenol-d5	53		22 - 120
2-Fluorophenol	73		35 - 120
2,4,6-Tribromophenol	82		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-12S

Lab Sample ID: 460-164102-4

Client Matrix: Water

Date Sampled: 09/06/2018 1918

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6064.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 1922			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: OW-6

Lab Sample ID: 460-164102-5

Client Matrix: Water

Date Sampled: 09/06/2018 1955

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6065.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 1951			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Pyridine	1.9	J	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	93		46 - 120
2-Fluorobiphenyl	84		48 - 120
p-Terphenyl-d14	82		59 - 136
Phenol-d5	54		22 - 120
2-Fluorophenol	73		35 - 120
2,4,6-Tribromophenol	75		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: OW-6

Lab Sample ID: 460-164102-5

Client Matrix: Water

Date Sampled: 09/06/2018 1955

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6065.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 1951			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: OW-6

Lab Sample ID: 460-164102-5

Client Matrix: Water

Date Sampled: 09/06/2018 1955

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434954	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6090.D
Dilution:	100			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 1747	Run Type:	DL	Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	3000	J	140	8000

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	83		46 - 120
2-Fluorobiphenyl	99		48 - 120
p-Terphenyl-d14	74		59 - 136
Phenol-d5	46		22 - 120
2-Fluorophenol	65		35 - 120
2,4,6-Tribromophenol	149	*	41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: OW-7

Lab Sample ID: 460-164102-6

Client Matrix: Water

Date Sampled: 09/06/2018 2035

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6066.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2020			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	90		46 - 120
2-Fluorobiphenyl	90		48 - 120
p-Terphenyl-d14	85		59 - 136
Phenol-d5	54		22 - 120
2-Fluorophenol	75		35 - 120
2,4,6-Tribromophenol	80		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: OW-7

Lab Sample ID: 460-164102-6

Client Matrix: Water

Date Sampled: 09/06/2018 2035

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6066.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2020			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: OW-7

Lab Sample ID: 460-164102-6

Client Matrix: Water

Date Sampled: 09/06/2018 2035

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434954	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6091.D
Dilution:	5.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 1815	Run Type:	DL	Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	72	J	7.0	400

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	83		46 - 120
2-Fluorobiphenyl	90		48 - 120
p-Terphenyl-d14	79		59 - 136
Phenol-d5	50		22 - 120
2-Fluorophenol	75		35 - 120
2,4,6-Tribromophenol	81		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: Dup

Lab Sample ID: 460-164102-7

Client Matrix: Water

Date Sampled: 09/06/2018 1955

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6067.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2049			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Pyridine	2.0	J	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	86		46 - 120
2-Fluorobiphenyl	79		48 - 120
p-Terphenyl-d14	72		59 - 136
Phenol-d5	0	*	22 - 120
2-Fluorophenol	67		35 - 120
2,4,6-Tribromophenol	72		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: Dup

Lab Sample ID: 460-164102-7

Client Matrix: Water

Date Sampled: 09/06/2018 1955

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6067.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2049			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: Dup

Lab Sample ID: 460-164102-7

Client Matrix: Water

Date Sampled: 09/06/2018 1955

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-435410	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6141.D
Dilution:	200			Initial Weight/Volume:	250 mL
Analysis Date:	09/20/2018 1754	Run Type:	DL	Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	2800	J	280	16000

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	71		46 - 120
2-Fluorobiphenyl	89		48 - 120
p-Terphenyl-d14	82		59 - 136
Phenol-d5	51		22 - 120
2-Fluorophenol	53		35 - 120
2,4,6-Tribromophenol	239	*	41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-5S

Lab Sample ID: 460-164102-8

Client Matrix: Water

Date Sampled: 09/07/2018 1315

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6068.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2118			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	2.6	J	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	88		46 - 120
2-Fluorobiphenyl	92		48 - 120
p-Terphenyl-d14	84		59 - 136
Phenol-d5	53		22 - 120
2-Fluorophenol	73		35 - 120
2,4,6-Tribromophenol	85		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-5S

Lab Sample ID: 460-164102-8

Client Matrix: Water

Date Sampled: 09/07/2018 1315

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6068.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2118			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-7S

Lab Sample ID: 460-164102-9

Client Matrix: Water

Date Sampled: 09/07/2018 1445

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6069.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2147			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	89		46 - 120
2-Fluorobiphenyl	94		48 - 120
p-Terphenyl-d14	76		59 - 136
Phenol-d5	54		22 - 120
2-Fluorophenol	72		35 - 120
2,4,6-Tribromophenol	74		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-7S

Lab Sample ID: 460-164102-9

Client Matrix: Water

Date Sampled: 09/07/2018 1445

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6069.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2147			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-8S

Lab Sample ID: 460-164102-10

Client Matrix: Water

Date Sampled: 09/07/2018 1150

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6070.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2216			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	87		46 - 120
2-Fluorobiphenyl	90		48 - 120
p-Terphenyl-d14	84		59 - 136
Phenol-d5	55		22 - 120
2-Fluorophenol	74		35 - 120
2,4,6-Tribromophenol	74		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-8S

Lab Sample ID: 460-164102-10

Client Matrix: Water

Date Sampled: 09/07/2018 1150

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6070.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2216			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-11S

Lab Sample ID: 460-164102-11

Client Matrix: Water

Date Sampled: 09/07/2018 1045

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6071.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2244			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	89		46 - 120
2-Fluorobiphenyl	93		48 - 120
p-Terphenyl-d14	81		59 - 136
Phenol-d5	54		22 - 120
2-Fluorophenol	73		35 - 120
2,4,6-Tribromophenol	80		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-11S

Lab Sample ID: 460-164102-11

Client Matrix: Water

Date Sampled: 09/07/2018 1045

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6071.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2244			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-16S

Lab Sample ID: 460-164102-12

Client Matrix: Water

Date Sampled: 09/07/2018 0830

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6072.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2312			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	83		46 - 120
2-Fluorobiphenyl	86		48 - 120
p-Terphenyl-d14	69		59 - 136
Phenol-d5	50		22 - 120
2-Fluorophenol	69		35 - 120
2,4,6-Tribromophenol	79		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-16S

Lab Sample ID: 460-164102-12

Client Matrix: Water

Date Sampled: 09/07/2018 0830

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6072.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2312			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-24S

Lab Sample ID: 460-164102-13

Client Matrix: Water

Date Sampled: 09/07/2018 1540

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6073.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2341			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	81		46 - 120
2-Fluorobiphenyl	85		48 - 120
p-Terphenyl-d14	78		59 - 136
Phenol-d5	52		22 - 120
2-Fluorophenol	72		35 - 120
2,4,6-Tribromophenol	80		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-24S

Lab Sample ID: 460-164102-13

Client Matrix: Water

Date Sampled: 09/07/2018 1540

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6073.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 2341			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-25S

Lab Sample ID: 460-164102-14

Client Matrix: Water

Date Sampled: 09/07/2018 0810

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6074.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 0009			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	87		46 - 120
2-Fluorobiphenyl	87		48 - 120
p-Terphenyl-d14	71		59 - 136
Phenol-d5	54		22 - 120
2-Fluorophenol	72		35 - 120
2,4,6-Tribromophenol	78		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-25S

Lab Sample ID: 460-164102-14

Client Matrix: Water

Date Sampled: 09/07/2018 0810

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6074.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 0009			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-25S

Lab Sample ID: 460-164102-14

Client Matrix: Water

Date Sampled: 09/07/2018 0810

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434954	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6093.D
Dilution:	10			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 1912	Run Type:	DL	Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	130	J	14	800

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	81		46 - 120
2-Fluorobiphenyl	90		48 - 120
p-Terphenyl-d14	64		59 - 136
Phenol-d5	50		22 - 120
2-Fluorophenol	67		35 - 120
2,4,6-Tribromophenol	75		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-53D

Lab Sample ID: 460-164102-15

Date Sampled: 09/07/2018 0855

Client Matrix: Water

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6075.D
Dilution:	5.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 0037			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	400	U	7.0	400
Pyridine	130	U	2.1	130

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	79		46 - 120
2-Fluorobiphenyl	89		48 - 120
p-Terphenyl-d14	75		59 - 136
Phenol-d5	48		22 - 120
2-Fluorophenol	69		35 - 120
2,4,6-Tribromophenol	75		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-53D

Lab Sample ID: 460-164102-15

Client Matrix: Water

Date Sampled: 09/07/2018 0855

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6075.D
Dilution:	5.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 0037			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	50	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-103

Lab Sample ID: 460-164102-16

Client Matrix: Water

Date Sampled: 09/07/2018 0735

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6076.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 0106			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	9.7	J	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	84		46 - 120
2-Fluorobiphenyl	91		48 - 120
p-Terphenyl-d14	83		59 - 136
Phenol-d5	51		22 - 120
2-Fluorophenol	71		35 - 120
2,4,6-Tribromophenol	74		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-103

Lab Sample ID: 460-164102-16

Client Matrix: Water

Date Sampled: 09/07/2018 0735

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6076.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 0106			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-104

Lab Sample ID: 460-164102-17

Client Matrix: Water

Date Sampled: 09/07/2018 0930

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6077.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 0134			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	82		46 - 120
2-Fluorobiphenyl	89		48 - 120
p-Terphenyl-d14	83		59 - 136
Phenol-d5	51		22 - 120
2-Fluorophenol	72		35 - 120
2,4,6-Tribromophenol	71		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-104

Lab Sample ID: 460-164102-17

Client Matrix: Water

Date Sampled: 09/07/2018 0930

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6077.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 0134			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-105

Lab Sample ID: 460-164102-18

Client Matrix: Water

Date Sampled: 09/07/2018 1115

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6078.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 0203			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	86		46 - 120
2-Fluorobiphenyl	90		48 - 120
p-Terphenyl-d14	87		59 - 136
Phenol-d5	53		22 - 120
2-Fluorophenol	74		35 - 120
2,4,6-Tribromophenol	73		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-105

Lab Sample ID: 460-164102-18

Client Matrix: Water

Date Sampled: 09/07/2018 1115

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6078.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 0203			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-106

Lab Sample ID: 460-164102-19

Client Matrix: Water

Date Sampled: 09/07/2018 1345

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6079.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 0231			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	87		46 - 120
2-Fluorobiphenyl	91		48 - 120
p-Terphenyl-d14	86		59 - 136
Phenol-d5	52		22 - 120
2-Fluorophenol	71		35 - 120
2,4,6-Tribromophenol	78		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-106

Lab Sample ID: 460-164102-19

Client Matrix: Water

Date Sampled: 09/07/2018 1345

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6079.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 0231			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-6D

Lab Sample ID: 460-164102-20

Client Matrix: Water

Date Sampled: 09/07/2018 1500

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434954	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6094.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 1941			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	87		46 - 120
2-Fluorobiphenyl	94		48 - 120
p-Terphenyl-d14	95		59 - 136
Phenol-d5	54		22 - 120
2-Fluorophenol	75		35 - 120
2,4,6-Tribromophenol	78		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-6D

Lab Sample ID: 460-164102-20

Client Matrix: Water

Date Sampled: 09/07/2018 1500

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434954	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6094.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 1941			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-23D

Lab Sample ID: 460-164102-21

Client Matrix: Water

Date Sampled: 09/07/2018 1615

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434954	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6095.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 2009			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	85		46 - 120
2-Fluorobiphenyl	91		48 - 120
p-Terphenyl-d14	86		59 - 136
Phenol-d5	49		22 - 120
2-Fluorophenol	69		35 - 120
2,4,6-Tribromophenol	69		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-23D

Lab Sample ID: 460-164102-21

Client Matrix: Water

Date Sampled: 09/07/2018 1615

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434954	Instrument ID:	HP5973W
Prep Method:	3510C	Prep Batch:	480-433975	Lab File ID:	W6095.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/18/2018 2009			Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-26D

Lab Sample ID: 460-164102-22

Client Matrix: Water

Date Sampled: 09/07/2018 1415

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-435121	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-434198	Lab File ID:	Y019860.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/20/2018 0204			Final Weight/Volume:	1 mL
Prep Date:	09/13/2018 0853			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U *	1.4	80
Pyridine	25	U *	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	98	*	46 - 120
2-Fluorobiphenyl	94	*	48 - 120
p-Terphenyl-d14	83	*	59 - 136
Phenol-d5	51	*	22 - 120
2-Fluorophenol	67	*	35 - 120
2,4,6-Tribromophenol	102	*	41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-26D

Lab Sample ID: 460-164102-22

Client Matrix: Water

Date Sampled: 09/07/2018 1415

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-435121	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-434198	Lab File ID:	Y019860.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/20/2018 0204			Final Weight/Volume:	1 mL
Prep Date:	09/13/2018 0853			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U *

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-27D

Lab Sample ID: 460-164102-23

Client Matrix: Water

Date Sampled: 09/07/2018 1240

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-435121	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-434198	Lab File ID:	Y019861.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/20/2018 0233			Final Weight/Volume:	1 mL
Prep Date:	09/13/2018 0853			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U *	1.4	80
Pyridine	0.59	J *	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	98	*	46 - 120
2-Fluorobiphenyl	96	*	48 - 120
p-Terphenyl-d14	100	*	59 - 136
Phenol-d5	53	*	22 - 120
2-Fluorophenol	69	*	35 - 120
2,4,6-Tribromophenol	99	*	41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-27D

Lab Sample ID: 460-164102-23

Client Matrix: Water

Date Sampled: 09/07/2018 1240

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-435121	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-434198	Lab File ID:	Y019861.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/20/2018 0233			Final Weight/Volume:	1 mL
Prep Date:	09/13/2018 0853			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U *

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: FB

Lab Sample ID: 460-164102-24FB

Client Matrix: Water

Date Sampled: 09/07/2018 0900

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-435121	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-434198	Lab File ID:	Y019862.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/20/2018 0302			Final Weight/Volume:	1 mL
Prep Date:	09/13/2018 0853			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U *	1.4	80
Pyridine	25	U *	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	101	*	46 - 120
2-Fluorobiphenyl	99	*	48 - 120
p-Terphenyl-d14	108	*	59 - 136
Phenol-d5	54	*	22 - 120
2-Fluorophenol	73	*	35 - 120
2,4,6-Tribromophenol	97	*	41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: FB

Lab Sample ID: 460-164102-24FB

Client Matrix: Water

Date Sampled: 09/07/2018 0900

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method: 8270D

Analysis Batch: 480-435121

Instrument ID: HP5973Y

Prep Method: 3510C

Prep Batch: 480-434198

Lab File ID: Y019862.D

Dilution: 1.0

Initial Weight/Volume: 250 mL

Analysis Date: 09/20/2018 0302

Final Weight/Volume: 1 mL

Prep Date: 09/13/2018 0853

Injection Volume: 2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U *

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: RW-1R

Lab Sample ID: 460-164102-25

Client Matrix: Water

Date Sampled: 09/07/2018 1005

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-435121	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-434198	Lab File ID:	Y019863.D
Dilution:	10			Initial Weight/Volume:	250 mL
Analysis Date:	09/20/2018 0331			Final Weight/Volume:	1 mL
Prep Date:	09/13/2018 0853			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	800	U	14	800
Pyridine	250	U	4.1	250

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	80		46 - 120
2-Fluorobiphenyl	89		48 - 120
p-Terphenyl-d14	79		59 - 136
Phenol-d5	47		22 - 120
2-Fluorophenol	69		35 - 120
2,4,6-Tribromophenol	68		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: RW-1R

Lab Sample ID: 460-164102-25

Client Matrix: Water

Date Sampled: 09/07/2018 1005

Date Received: 09/07/2018 2000

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-435121	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-434198	Lab File ID:	Y019863.D
Dilution:	10			Initial Weight/Volume:	250 mL
Analysis Date:	09/20/2018 0331			Final Weight/Volume:	1 mL
Prep Date:	09/13/2018 0853			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	100	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-20S

Lab Sample ID: 460-164102-2

Client Matrix: Water

Date Sampled: 09/06/2018 1755

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-011_TAI

Dilution: 10

Analysis Date: 09/10/2018 1854

Prep Date: N/A

Run Type: DL

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	60.0		3.32	6.00

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: OW-6

Lab Sample ID: 460-164102-5

Client Matrix: Water

Date Sampled: 09/06/2018 1955

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-039_TAI

Dilution: 1.0

Analysis Date: 09/11/2018 0234

Prep Date: N/A

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	1.53		0.33	0.60

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: OW-7

Lab Sample ID: 460-164102-6

Client Matrix: Water

Date Sampled: 09/06/2018 2035

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-015_TAI

Dilution: 1.0

Initial Weight/Volume: 10 mL

Analysis Date: 09/10/2018 2041

Final Weight/Volume:

Prep Date: N/A

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	7.92		0.33	0.60

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: Dup

Lab Sample ID: 460-164102-7

Client Matrix: Water

Date Sampled: 09/06/2018 1955

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-016_TAI

Dilution: 1.0

Analysis Date: 09/10/2018 2054

Prep Date: N/A

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	1.80		0.33	0.60

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-8S

Lab Sample ID: 460-164102-10

Client Matrix: Water

Date Sampled: 09/07/2018 1150

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-017_TAI

Dilution: 1.0

Analysis Date: 09/10/2018 2107

Prep Date: N/A

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	14.3		0.33	0.60

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-11S

Lab Sample ID: 460-164102-11

Client Matrix: Water

Date Sampled: 09/07/2018 1045

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-007_TAI

Dilution: 10

Analysis Date: 09/10/2018 1748

Prep Date: N/A

Run Type: DL

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	11.4		3.32	6.00

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-16S

Lab Sample ID: 460-164102-12

Client Matrix: Water

Date Sampled: 09/07/2018 0830

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-018_TAI

Dilution: 1.0

Initial Weight/Volume: 10 mL

Analysis Date: 09/10/2018 2120

Final Weight/Volume:

Prep Date: N/A

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	1.39		0.33	0.60

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-25S

Lab Sample ID: 460-164102-14

Client Matrix: Water

Date Sampled: 09/07/2018 0810

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-019_TAI

Dilution: 1.0

Analysis Date: 09/10/2018 2133

Prep Date: N/A

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	2.57		0.33	0.60

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-53D

Lab Sample ID: 460-164102-15

Client Matrix: Water

Date Sampled: 09/07/2018 0855

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-020_TAI

Dilution: 1.0

Initial Weight/Volume: 10 mL

Analysis Date: 09/10/2018 2159

Final Weight/Volume:

Prep Date: N/A

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	1.92		0.33	0.60

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-103

Lab Sample ID: 460-164102-16

Client Matrix: Water

Date Sampled: 09/07/2018 0735

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-021_TAI

Dilution: 1.0

Initial Weight/Volume: 10 mL

Analysis Date: 09/10/2018 2212

Final Weight/Volume:

Prep Date: N/A

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	18.0		0.33	0.60

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-104

Lab Sample ID: 460-164102-17

Client Matrix: Water

Date Sampled: 09/07/2018 0930

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-028_TAI

Dilution: 1.0

Analysis Date: 09/10/2018 2343

Prep Date: N/A

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	18.8		0.33	0.60

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-105

Lab Sample ID: 460-164102-18

Client Matrix: Water

Date Sampled: 09/07/2018 1115

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-029_TAI

Dilution: 1.0

Analysis Date: 09/10/2018 2356

Prep Date: N/A

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	11.9		0.33	0.60

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-106

Lab Sample ID: 460-164102-19

Client Matrix: Water

Date Sampled: 09/07/2018 1345

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-022_TAI

Dilution: 1.0

Analysis Date: 09/10/2018 2225

Prep Date: N/A

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	23.1		0.33	0.60

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: FB

Lab Sample ID: 460-164102-24FB

Client Matrix: Water

Date Sampled: 09/07/2018 0900

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550992

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078434-031_TAI

Dilution: 1.0

Initial Weight/Volume: 10 mL

Analysis Date: 09/11/2018 0035

Final Weight/Volume:

Prep Date: N/A

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	0.60	U	0.33	0.60

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: RW-1R

Lab Sample ID: 460-164102-25

Client Matrix: Water

Date Sampled: 09/07/2018 1005

Date Received: 09/07/2018 2000

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-551591

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 102-25 100X_TAIEDIIK

Dilution: 100

Initial Weight/Volume: 10 mL

Analysis Date: 09/12/2018 1814

Run Type: DL

Final Weight/Volume:

Injection Volume: 10 uL

Prep Date: N/A

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	130		33.2	60.0

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-20S

Lab Sample ID: 460-164102-2

Client Matrix: Water

Date Sampled: 09/06/2018 1755

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-551258

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-551267

Lab File ID: 550737D1.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/11/2018 2134

Final Weight/Volume: 50 mL

Prep Date: 09/11/2018 1335

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	1060		0.99	15.0
Iron	2970		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: OW-6

Lab Sample ID: 460-164102-5

Client Matrix: Water

Date Sampled: 09/06/2018 1955

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-551258

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-551267

Lab File ID: 550737D1.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/11/2018 2138

Final Weight/Volume: 50 mL

Prep Date: 09/11/2018 1335

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	1410		0.99	15.0
Iron	12700		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: OW-7

Lab Sample ID: 460-164102-6

Client Matrix: Water

Date Sampled: 09/06/2018 2035

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-551950

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-551523

Lab File ID: 551835D1.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/13/2018 1411

Final Weight/Volume: 50 mL

Prep Date: 09/12/2018 0917

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	1130		0.99	15.0
Iron	4030		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: Dup

Lab Sample ID: 460-164102-7

Client Matrix: Water

Date Sampled: 09/06/2018 1955

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-551950

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-551523

Lab File ID: 551835D1.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/13/2018 1415

Final Weight/Volume: 50 mL

Prep Date: 09/12/2018 0917

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	1390		0.99	15.0
Iron	13700		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-8S

Lab Sample ID: 460-164102-10

Client Matrix: Water

Date Sampled: 09/07/2018 1150

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-551950

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-551523

Lab File ID: 551835D1.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/13/2018 1419

Final Weight/Volume: 50 mL

Prep Date: 09/12/2018 0917

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	529		0.99	15.0
Iron	7420		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-11S

Lab Sample ID: 460-164102-11

Client Matrix: Water

Date Sampled: 09/07/2018 1045

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Prep Method: 3010A

Dilution: 1.0

Analysis Date: 09/13/2018 1403

Prep Date: 09/12/2018 0917

Analysis Batch: 460-551950

Prep Batch: 460-551523

Instrument ID: ICP5

Lab File ID: 551835D1.asc

Initial Weight/Volume: 50 mL

Final Weight/Volume: 50 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	570		0.99	15.0
Iron	972		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-16S

Lab Sample ID: 460-164102-12

Client Matrix: Water

Date Sampled: 09/07/2018 0830

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-551950

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-551523

Lab File ID: 551835D1.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/13/2018 1422

Final Weight/Volume: 50 mL

Prep Date: 09/12/2018 0917

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	213		0.99	15.0
Iron	851		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-24S

Lab Sample ID: 460-164102-13

Client Matrix: Water

Date Sampled: 09/07/2018 1540

Date Received: 09/07/2018 2000

7470A Mercury (CVAA)

Analysis Method: 7470A

Prep Method: 7470A

Dilution: 1.0

Analysis Date: 09/13/2018 1349

Prep Date: 09/13/2018 1132

Analysis Batch: 460-551984

Prep Batch: 460-551906

Instrument ID: LEEMAN6

Lab File ID: 551906hg1.CSV

Initial Weight/Volume: 30 mL

Final Weight/Volume: 30 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Mercury	0.20		0.12	0.20

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-25S

Lab Sample ID: 460-164102-14

Client Matrix: Water

Date Sampled: 09/07/2018 0810

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-551950

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-551523

Lab File ID: 551835D1.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/13/2018 1426

Final Weight/Volume: 50 mL

Prep Date: 09/12/2018 0917

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	1300		0.99	15.0
Iron	2870		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-53D

Lab Sample ID: 460-164102-15

Date Sampled: 09/07/2018 0855

Client Matrix: Water

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-551950

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-551523

Lab File ID: 551835D1.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/13/2018 1430

Final Weight/Volume: 50 mL

Prep Date: 09/12/2018 0917

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	351		0.99	15.0
Iron	5620		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-103

Lab Sample ID: 460-164102-16

Client Matrix: Water

Date Sampled: 09/07/2018 0735

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-551950

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-551523

Lab File ID: 551835D1.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/13/2018 1434

Final Weight/Volume: 50 mL

Prep Date: 09/12/2018 0917

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	271		0.99	15.0
Iron	1460		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-104

Lab Sample ID: 460-164102-17

Client Matrix: Water

Date Sampled: 09/07/2018 0930

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Prep Method: 3010A

Dilution: 1.0

Analysis Date: 09/12/2018 2032

Prep Date: 09/12/2018 0917

Analysis Batch: 460-551594

Prep Batch: 460-551523

Instrument ID: ICP5

Lab File ID: 551520D1.asc

Initial Weight/Volume: 50 mL

Final Weight/Volume: 50 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	1370		0.99	15.0
Iron	2240		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-105

Lab Sample ID: 460-164102-18

Client Matrix: Water

Date Sampled: 09/07/2018 1115

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-551594

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-551523

Lab File ID: 551520D1.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/12/2018 2036

Final Weight/Volume: 50 mL

Prep Date: 09/12/2018 0917

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	3210		0.99	15.0
Iron	62200		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: MW-106

Lab Sample ID: 460-164102-19

Client Matrix: Water

Date Sampled: 09/07/2018 1345

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-551594

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-551523

Lab File ID: 551520D1.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/12/2018 2039

Final Weight/Volume: 50 mL

Prep Date: 09/12/2018 0917

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	681		0.99	15.0
Iron	859		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: FB

Lab Sample ID: 460-164102-24FB

Client Matrix: Water

Date Sampled: 09/07/2018 0900

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-551594

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-551523

Lab File ID: 551520D1.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/12/2018 2043

Final Weight/Volume: 50 mL

Prep Date: 09/12/2018 0917

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	15.0	U	0.99	15.0
Iron	150	U	34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Client Sample ID: RW-1R

Lab Sample ID: 460-164102-25

Client Matrix: Water

Date Sampled: 09/07/2018 1005

Date Received: 09/07/2018 2000

6010D Metals (ICP)

Analysis Method: 6010D

Prep Method: 3010A

Dilution: 1.0

Analysis Date: 09/12/2018 2047

Prep Date: 09/12/2018 0917

Analysis Batch: 460-551594

Prep Batch: 460-551523

Instrument ID: ICP5

Lab File ID: 551520D1.asc

Initial Weight/Volume: 50 mL

Final Weight/Volume: 50 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	943		0.99	15.0
Iron	10700		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: MW-20S

Lab Sample ID: 460-164102-2

Date Sampled: 09/06/2018 1755

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	64.6		mg/L	4.5	10.0	100	350.1
Analysis Batch: 460-551639 Analysis Date: 09/12/2018 1639							
Prep Batch: 460-551487 Prep Date: 09/12/2018 0648							
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550582 Analysis Date: 09/08/2018 1145							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: OW-6

Lab Sample ID: 460-164102-5

Date Sampled: 09/06/2018 1955

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	13.7		mg/L	0.45	1.0	10	350.1
Analysis Batch: 460-551639 Analysis Date: 09/12/2018 1644							
Prep Batch: 460-551487 Prep Date: 09/12/2018 0648							
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550582 Analysis Date: 09/08/2018 1146							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: OW-7

Lab Sample ID: 460-164102-6

Date Sampled: 09/06/2018 2035

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	3.6		mg/L	0.045	0.10	1.0	350.1
	Analysis Batch: 460-551639		Analysis Date: 09/12/2018 1626				
	Prep Batch: 460-551487		Prep Date: 09/12/2018 0648				
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
	Analysis Batch: 460-550582		Analysis Date: 09/08/2018 1146				

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: Dup

Lab Sample ID: 460-164102-7

Date Sampled: 09/06/2018 1955

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	14.2		mg/L	0.45	1.0	10	350.1
	Analysis Batch: 460-551639	Analysis Date: 09/12/2018	1645				
	Prep Batch: 460-551487	Prep Date: 09/12/2018	0648				
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
	Analysis Batch: 460-550582	Analysis Date: 09/08/2018	1147				

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: MW-8S

Lab Sample ID: 460-164102-10

Date Sampled: 09/07/2018 1150

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	10.7		mg/L	0.23	0.50	5.0	350.1
Analysis Batch: 460-551917 Analysis Date: 09/13/2018 1201							
Prep Batch: 460-551833 Prep Date: 09/13/2018 0753							
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550582 Analysis Date: 09/08/2018 1148							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: MW-11S

Lab Sample ID: 460-164102-11

Client Matrix: Water

Date Sampled: 09/07/2018 1045

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	18.0		mg/L	0.45	1.0	10	350.1
Analysis Batch: 460-551917 Analysis Date: 09/13/2018 1206							
Prep Batch: 460-551833 Prep Date: 09/13/2018 0753							
Nitrate as N	0.031	J	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550582 Analysis Date: 09/08/2018 1148							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: MW-16S

Lab Sample ID: 460-164102-12

Date Sampled: 09/07/2018 0830

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	18.9		mg/L	0.45	1.0	10	350.1
Analysis Batch: 460-551917 Analysis Date: 09/13/2018 1208							
Prep Batch: 460-551833 Prep Date: 09/13/2018 0753							
Nitrate as N	0.029	J	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550582 Analysis Date: 09/08/2018 1149							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: MW-25S

Lab Sample ID: 460-164102-14

Date Sampled: 09/07/2018 0810

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	5.8		mg/L	0.23	0.50	5.0	350.1
Analysis Batch: 460-551917 Analysis Date: 09/13/2018 1209							
Prep Batch: 460-551833 Prep Date: 09/13/2018 0753							
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550582 Analysis Date: 09/08/2018 1150							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: MW-53D

Lab Sample ID: 460-164102-15

Date Sampled: 09/07/2018 0855

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	28.3		mg/L	0.45	1.0	10	350.1
Analysis Batch: 460-551917 Analysis Date: 09/13/2018 1211							
Prep Batch: 460-551833 Prep Date: 09/13/2018 0753							
Nitrate as N	0.99		mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550582 Analysis Date: 09/08/2018 1151							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: MW-103

Lab Sample ID: 460-164102-16

Date Sampled: 09/07/2018 0735

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.11		mg/L	0.045	0.10	1.0	350.1
	Analysis Batch: 460-551917		Analysis Date: 09/13/2018 1141				
	Prep Batch: 460-551833		Prep Date: 09/13/2018 0753				
Nitrate as N	0.23		mg/L	0.010	0.10	1.0	SM 4500 NO3 F
	Analysis Batch: 460-550582		Analysis Date: 09/08/2018 1154				

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: MW-104

Lab Sample ID: 460-164102-17

Date Sampled: 09/07/2018 0930

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	2.7		mg/L	0.045	0.10	1.0	350.1
Analysis Batch: 460-551917 Analysis Date: 09/13/2018 1142							
Prep Batch: 460-551833 Prep Date: 09/13/2018 0753							
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550582 Analysis Date: 09/08/2018 1155							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: MW-105

Lab Sample ID: 460-164102-18

Date Sampled: 09/07/2018 1115

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	1.7		mg/L	0.045	0.10	1.0	350.1
Analysis Batch: 460-551917 Analysis Date: 09/13/2018 1144							
Prep Batch: 460-551833 Prep Date: 09/13/2018 0753							
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550582 Analysis Date: 09/08/2018 1156							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: MW-106

Lab Sample ID: 460-164102-19

Date Sampled: 09/07/2018 1345

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	4.1		mg/L	0.090	0.20	2.0	350.1
Analysis Batch: 460-551917 Analysis Date: 09/13/2018 1212							
Prep Batch: 460-551833 Prep Date: 09/13/2018 0753							
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550582 Analysis Date: 09/08/2018 1157							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: FB

Lab Sample ID: 460-164102-24FB

Date Sampled: 09/07/2018 0900

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.10	U	mg/L	0.045	0.10	1.0	350.1
Analysis Batch: 460-551917 Analysis Date: 09/13/2018 1146							
Prep Batch: 460-551833 Prep Date: 09/13/2018 0753							
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550582 Analysis Date: 09/08/2018 1200							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164102-1

General Chemistry

Client Sample ID: RW-1R

Lab Sample ID: 460-164102-25

Date Sampled: 09/07/2018 1005

Client Matrix: Water

Date Received: 09/07/2018 2000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	12.0		mg/L	0.45	1.0	10	350.1
Analysis Batch: 460-551917 Analysis Date: 09/13/2018 1218							
Prep Batch: 460-551833 Prep Date: 09/13/2018 0753							
Nitrate as N	0.011	J	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550582 Analysis Date: 09/08/2018 1157							

DATA REPORTING QUALIFIERS

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Lab Section	Qualifier	Description
GC/MS VOA	U	Analyzed for but not detected.
	J	Indicates an estimated value.
GC/MS Semi VOA	U	Analyzed for but not detected.
	J	Indicates an estimated value.
	*	ISTD response or retention time outside acceptable limits
	*	Surrogate is outside acceptance limits.
HPLC/IC	U	Analyzed for but not detected.
	*	MS or MSD is outside acceptance limits.
Metals	U	Indicates analyzed for but not detected.
General Chemistry	U	Indicates analyzed for but not detected.
	4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
	J	Sample result is greater than the MDL but below the CRDL

QUALITY CONTROL RESULTS

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:460-551202					
LCS 460-551202/3	Lab Control Sample	T	Water	8260C	
LCSD 460-551202/4	Lab Control Sample Duplicate	T	Water	8260C	
MB 460-551202/7	Method Blank	T	Water	8260C	
460-164102-1TB	Trip Blank	T	Water	8260C	
460-164102-2	MW-20S	T	Water	8260C	
460-164102-3	MW-20D	T	Water	8260C	
460-164102-4	MW-12S	T	Water	8260C	
460-164102-5	OW-6	T	Water	8260C	
460-164102-10	MW-8S	T	Water	8260C	
460-164102-11	MW-11S	T	Water	8260C	
460-164102-12	MW-16S	T	Water	8260C	
460-164102-13	MW-24S	T	Water	8260C	
460-164102-16	MW-103	T	Water	8260C	
460-164102-17	MW-104	T	Water	8260C	
460-164102-18	MW-105	T	Water	8260C	
460-164102-19	MW-106	T	Water	8260C	
Analysis Batch:460-551380					
LCS 460-551380/4	Lab Control Sample	T	Water	8260C	
LCSD 460-551380/5	Lab Control Sample Duplicate	T	Water	8260C	
MB 460-551380/9	Method Blank	T	Water	8260C	
460-164102-6	OW-7	T	Water	8260C	
460-164102-8	MW-5S	T	Water	8260C	
460-164102-9	MW-7S	T	Water	8260C	
460-164102-14	MW-25S	T	Water	8260C	
460-164102-15	MW-53D	T	Water	8260C	
Analysis Batch:460-551483					
LCS 460-551483/3	Lab Control Sample	T	Water	8260C	
MB 460-551483/7	Method Blank	T	Water	8260C	
460-164102-7	Dup	T	Water	8260C	
460-164102-21	MW-23D	T	Water	8260C	
460-164102-22	MW-26D	T	Water	8260C	
460-164102-23	MW-27D	T	Water	8260C	
460-164102-24FB	FB	T	Water	8260C	
460-164102-25	RW-1R	T	Water	8260C	
Analysis Batch:460-551698					
LCS 460-551698/3	Lab Control Sample	T	Water	8260C	
LCSD 460-551698/4	Lab Control Sample Duplicate	T	Water	8260C	
MB 460-551698/7	Method Blank	T	Water	8260C	
460-164102-20	MW-6D	T	Water	8260C	

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Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
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Report Basis

T = Total

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 480-433975					
LCS 480-433975/2-A	Lab Control Sample	T	Water	3510C	
LCSD 480-433975/3-A	Lab Control Sample Duplicate	T	Water	3510C	
MB 480-433975/1-A	Method Blank	T	Water	3510C	
460-164102-2	MW-20S	T	Water	3510C	
460-164102-3	MW-20D	T	Water	3510C	
460-164102-4	MW-12S	T	Water	3510C	
460-164102-5	OW-6	T	Water	3510C	
460-164102-5DL	OW-6	T	Water	3510C	
460-164102-6	OW-7	T	Water	3510C	
460-164102-6DL	OW-7	T	Water	3510C	
460-164102-7	Dup	T	Water	3510C	
460-164102-7DL	Dup	T	Water	3510C	
460-164102-8	MW-5S	T	Water	3510C	
460-164102-9	MW-7S	T	Water	3510C	
460-164102-10	MW-8S	T	Water	3510C	
460-164102-11	MW-11S	T	Water	3510C	
460-164102-12	MW-16S	T	Water	3510C	
460-164102-13	MW-24S	T	Water	3510C	
460-164102-14	MW-25S	T	Water	3510C	
460-164102-14DL	MW-25S	T	Water	3510C	
460-164102-15	MW-53D	T	Water	3510C	
460-164102-16	MW-103	T	Water	3510C	
460-164102-17	MW-104	T	Water	3510C	
460-164102-18	MW-105	T	Water	3510C	
460-164102-19	MW-106	T	Water	3510C	
460-164102-20	MW-6D	T	Water	3510C	
460-164102-21	MW-23D	T	Water	3510C	
Prep Batch: 480-434198					
LCS 480-434198/2-A	Lab Control Sample	T	Water	3510C	
MB 480-434198/1-A	Method Blank	T	Water	3510C	
460-164102-22	MW-26D	T	Water	3510C	
460-164102-23	MW-27D	T	Water	3510C	
460-164102-24FB	FB	T	Water	3510C	
460-164102-25	RW-1R	T	Water	3510C	

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Analysis Batch:480-434776					
LCS 480-433975/2-A	Lab Control Sample	T	Water	8270D	480-433975
LCSD 480-433975/3-A	Lab Control Sample Duplicate	T	Water	8270D	480-433975
MB 480-433975/1-A	Method Blank	T	Water	8270D	480-433975
460-164102-2	MW-20S	T	Water	8270D	480-433975
460-164102-3	MW-20D	T	Water	8270D	480-433975
460-164102-4	MW-12S	T	Water	8270D	480-433975
460-164102-5	OW-6	T	Water	8270D	480-433975
460-164102-6	OW-7	T	Water	8270D	480-433975
460-164102-7	Dup	T	Water	8270D	480-433975
460-164102-8	MW-5S	T	Water	8270D	480-433975
460-164102-9	MW-7S	T	Water	8270D	480-433975
460-164102-10	MW-8S	T	Water	8270D	480-433975
460-164102-11	MW-11S	T	Water	8270D	480-433975
460-164102-12	MW-16S	T	Water	8270D	480-433975
460-164102-13	MW-24S	T	Water	8270D	480-433975
460-164102-14	MW-25S	T	Water	8270D	480-433975
460-164102-15	MW-53D	T	Water	8270D	480-433975
460-164102-16	MW-103	T	Water	8270D	480-433975
460-164102-17	MW-104	T	Water	8270D	480-433975
460-164102-18	MW-105	T	Water	8270D	480-433975
460-164102-19	MW-106	T	Water	8270D	480-433975
Analysis Batch:480-434954					
460-164102-5DL	OW-6	T	Water	8270D	480-433975
460-164102-6DL	OW-7	T	Water	8270D	480-433975
460-164102-14DL	MW-25S	T	Water	8270D	480-433975
460-164102-20	MW-6D	T	Water	8270D	480-433975
460-164102-21	MW-23D	T	Water	8270D	480-433975
Analysis Batch:480-435121					
LCS 480-434198/2-A	Lab Control Sample	T	Water	8270D	480-434198
MB 480-434198/1-A	Method Blank	T	Water	8270D	480-434198
460-164102-22	MW-26D	T	Water	8270D	480-434198
460-164102-23	MW-27D	T	Water	8270D	480-434198
460-164102-24FB	FB	T	Water	8270D	480-434198
460-164102-25	RW-1R	T	Water	8270D	480-434198
Analysis Batch:480-435410					
460-164102-7DL	Dup	T	Water	8270D	480-433975

Report Basis

T = Total

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Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:460-551258					
LCS 460-551267/2-A	Lab Control Sample	T	Water	6010D	460-551267
MB 460-551267/1-A	Method Blank	T	Water	6010D	460-551267
460-164102-2	MW-20S	T	Water	6010D	460-551267
460-164102-5	OW-6	T	Water	6010D	460-551267
Prep Batch: 460-551267					
LCS 460-551267/2-A	Lab Control Sample	T	Water	3010A	
MB 460-551267/1-A	Method Blank	T	Water	3010A	
460-164102-2	MW-20S	T	Water	3010A	
460-164102-5	OW-6	T	Water	3010A	
Prep Batch: 460-551523					
LCS 460-551523/2-A	Lab Control Sample	T	Water	3010A	
MB 460-551523/1-A	Method Blank	T	Water	3010A	
460-164102-6	OW-7	T	Water	3010A	
460-164102-7	Dup	T	Water	3010A	
460-164102-10	MW-8S	T	Water	3010A	
460-164102-G-11-B DUDU	Duplicate	T	Water	3010A	
460-164102-G-11-C MSMS	Matrix Spike	T	Water	3010A	
460-164102-11	MW-11S	T	Water	3010A	
460-164102-12	MW-16S	T	Water	3010A	
460-164102-14	MW-25S	T	Water	3010A	
460-164102-15	MW-53D	T	Water	3010A	
460-164102-16	MW-103	T	Water	3010A	
460-164102-17	MW-104	T	Water	3010A	
460-164102-18	MW-105	T	Water	3010A	
460-164102-19	MW-106	T	Water	3010A	
460-164102-24FB	FB	T	Water	3010A	
460-164102-25	RW-1R	T	Water	3010A	
Analysis Batch:460-551594					
460-164102-17	MW-104	T	Water	6010D	460-551523
460-164102-18	MW-105	T	Water	6010D	460-551523
460-164102-19	MW-106	T	Water	6010D	460-551523
460-164102-24FB	FB	T	Water	6010D	460-551523
460-164102-25	RW-1R	T	Water	6010D	460-551523
Prep Batch: 460-551906					
LCS 460-551906/2-A	Lab Control Sample	T	Water	7470A	
MB 460-551906/1-A	Method Blank	T	Water	7470A	
460-164102-13	MW-24S	T	Water	7470A	

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Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:460-551950					
LCS 460-551523/2-A	Lab Control Sample	T	Water	6010D	460-551523
MB 460-551523/1-A	Method Blank	T	Water	6010D	460-551523
460-164102-6	OW-7	T	Water	6010D	460-551523
460-164102-7	Dup	T	Water	6010D	460-551523
460-164102-10	MW-8S	T	Water	6010D	460-551523
460-164102-G-11-B DUDU	Duplicate	T	Water	6010D	460-551523
460-164102-G-11-C MSMS	Matrix Spike	T	Water	6010D	460-551523
460-164102-11	MW-11S	T	Water	6010D	460-551523
460-164102-12	MW-16S	T	Water	6010D	460-551523
460-164102-14	MW-25S	T	Water	6010D	460-551523
460-164102-15	MW-53D	T	Water	6010D	460-551523
460-164102-16	MW-103	T	Water	6010D	460-551523
Analysis Batch:460-551984					
LCS 460-551906/2-A	Lab Control Sample	T	Water	7470A	460-551906
MB 460-551906/1-A	Method Blank	T	Water	7470A	460-551906
460-164102-13	MW-24S	T	Water	7470A	460-551906

Report Basis

T = Total

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:460-550582					
LCSSRM 460-550582/12	LCS-Certified Reference Material	T	Water	SM 4500 NO3 F	
LCSSRM 460-550582/13	LCS-Certified Reference Material	T	Water	SM 4500 NO3 F	
MB 460-550582/11	Method Blank	T	Water	SM 4500 NO3 F	
460-164102-2	MW-20S	T	Water	SM 4500 NO3 F	
460-164102-5	OW-6	T	Water	SM 4500 NO3 F	
460-164102-6	OW-7	T	Water	SM 4500 NO3 F	
460-164102-7	Dup	T	Water	SM 4500 NO3 F	
460-164102-10	MW-8S	T	Water	SM 4500 NO3 F	
460-164102-11	MW-11S	T	Water	SM 4500 NO3 F	
460-164102-12	MW-16S	T	Water	SM 4500 NO3 F	
460-164102-14	MW-25S	T	Water	SM 4500 NO3 F	
460-164102-15	MW-53D	T	Water	SM 4500 NO3 F	
460-164102-16	MW-103	T	Water	SM 4500 NO3 F	
460-164102-17	MW-104	T	Water	SM 4500 NO3 F	
460-164102-18	MW-105	T	Water	SM 4500 NO3 F	
460-164102-19	MW-106	T	Water	SM 4500 NO3 F	
460-164102-24FB	FB	T	Water	SM 4500 NO3 F	
460-164102-25	RW-1R	T	Water	SM 4500 NO3 F	
Prep Batch: 460-551487					
LCS 460-551487/2-A	Lab Control Sample	T	Water	Distill/Ammonia	
MB 460-551487/1-A	Method Blank	T	Water	Distill/Ammonia	
460-164102-2	MW-20S	T	Water	Distill/Ammonia	
460-164102-5	OW-6	T	Water	Distill/Ammonia	
460-164102-6	OW-7	T	Water	Distill/Ammonia	
460-164102-7	Dup	T	Water	Distill/Ammonia	
Analysis Batch:460-551639					
LCS 460-551487/2-A	Lab Control Sample	T	Water	350.1	460-551487
MB 460-551487/1-A	Method Blank	T	Water	350.1	460-551487
460-164102-2	MW-20S	T	Water	350.1	460-551487
460-164102-5	OW-6	T	Water	350.1	460-551487
460-164102-6	OW-7	T	Water	350.1	460-551487
460-164102-7	Dup	T	Water	350.1	460-551487

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Prep Batch: 460-551833					
LCS 460-551833/2-A	Lab Control Sample	T	Water	Distill/Ammonia	
MB 460-551833/1-A	Method Blank	T	Water	Distill/Ammonia	
460-164102-10	MW-8S	T	Water	Distill/Ammonia	
460-164102-10MS	Matrix Spike	T	Water	Distill/Ammonia	
460-164102-10MSD	Matrix Spike Duplicate	T	Water	Distill/Ammonia	
460-164102-11	MW-11S	T	Water	Distill/Ammonia	
460-164102-12	MW-16S	T	Water	Distill/Ammonia	
460-164102-14	MW-25S	T	Water	Distill/Ammonia	
460-164102-15	MW-53D	T	Water	Distill/Ammonia	
460-164102-16	MW-103	T	Water	Distill/Ammonia	
460-164102-17	MW-104	T	Water	Distill/Ammonia	
460-164102-18	MW-105	T	Water	Distill/Ammonia	
460-164102-19	MW-106	T	Water	Distill/Ammonia	
460-164102-24FB	FB	T	Water	Distill/Ammonia	
460-164102-25	RW-1R	T	Water	Distill/Ammonia	
Analysis Batch:460-551917					
LCS 460-551833/2-A	Lab Control Sample	T	Water	350.1	460-551833
MB 460-551833/1-A	Method Blank	T	Water	350.1	460-551833
460-164102-10	MW-8S	T	Water	350.1	460-551833
460-164102-10MS	Matrix Spike	T	Water	350.1	460-551833
460-164102-10MSD	Matrix Spike Duplicate	T	Water	350.1	460-551833
460-164102-11	MW-11S	T	Water	350.1	460-551833
460-164102-12	MW-16S	T	Water	350.1	460-551833
460-164102-14	MW-25S	T	Water	350.1	460-551833
460-164102-15	MW-53D	T	Water	350.1	460-551833
460-164102-16	MW-103	T	Water	350.1	460-551833
460-164102-17	MW-104	T	Water	350.1	460-551833
460-164102-18	MW-105	T	Water	350.1	460-551833
460-164102-19	MW-106	T	Water	350.1	460-551833
460-164102-24FB	FB	T	Water	350.1	460-551833
460-164102-25	RW-1R	T	Water	350.1	460-551833

Report Basis

T = Total

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
HPLC/IC					
Analysis Batch:460-550992					
LCS 460-550992/5	Lab Control Sample	T	Water	300.0	
LCSD 460-550992/6	Lab Control Sample Duplicate	T	Water	300.0	
MB 460-550992/3	Method Blank	T	Water	300.0	
460-164102-2DL	MW-20S	T	Water	300.0	
460-164102-5	OW-6	T	Water	300.0	
460-164102-6	OW-7	T	Water	300.0	
460-164102-7	Dup	T	Water	300.0	
460-164102-10	MW-8S	T	Water	300.0	
460-164102-11DL	MW-11S	T	Water	300.0	
460-164102-11DUDL	Duplicate	T	Water	300.0	
460-164102-11MSDL	Matrix Spike	T	Water	300.0	
460-164102-11MSDDL	Matrix Spike Duplicate	T	Water	300.0	
460-164102-12	MW-16S	T	Water	300.0	
460-164102-14	MW-25S	T	Water	300.0	
460-164102-15	MW-53D	T	Water	300.0	
460-164102-16	MW-103	T	Water	300.0	
460-164102-17	MW-104	T	Water	300.0	
460-164102-18	MW-105	T	Water	300.0	
460-164102-19	MW-106	T	Water	300.0	
460-164102-19DU	Duplicate	T	Water	300.0	
460-164102-19MS	Matrix Spike	T	Water	300.0	
460-164102-19MSD	Matrix Spike Duplicate	T	Water	300.0	
460-164102-24FB	FB	T	Water	300.0	
460-164102-25	RW-1R	T	Water	300.0	
Analysis Batch:460-551591					
LCS 460-551591/5	Lab Control Sample	T	Water	300.0	
LCSD 460-551591/6	Lab Control Sample Duplicate	T	Water	300.0	
MB 460-551591/3	Method Blank	T	Water	300.0	
460-164102-25DL	RW-1R	T	Water	300.0	

Report Basis

T = Total

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Surrogate Recovery Report**8260C Volatile Organic Compounds by GC/MS****Client Matrix: Water**

Lab Sample ID	Client Sample ID	DCA %Rec	BFB %Rec	TOL %Rec	DBFM %Rec
460-164102-1	Trip Blank	92	90	110	86
460-164102-2	MW-20S	91	89	110	84
460-164102-3	MW-20D	91	88	111	85
460-164102-4	MW-12S	90	88	112	84
460-164102-5	OW-6	89	84	118	80
460-164102-6	OW-7	88	84	116	81
460-164102-7	Dup	91	84	112	83
460-164102-8	MW-5S	91	83	117	81
460-164102-9	MW-7S	90	84	115	82
460-164102-10	MW-8S	91	86	113	82
460-164102-11	MW-11S	90	87	115	83
460-164102-12	MW-16S	91	86	114	83
460-164102-13	MW-24S	88	86	116	83
460-164102-14	MW-25S	89	84	114	79
460-164102-15	MW-53D	90	84	115	82
460-164102-16	MW-103	90	85	118	80
460-164102-17	MW-104	90	85	116	82
460-164102-18	MW-105	88	83	118	80
460-164102-19	MW-106	90	83	117	82
460-164102-20	MW-6D	91	84	110	85
460-164102-21	MW-23D	90	83	113	81
460-164102-22	MW-26D	90	84	112	84
460-164102-23	MW-27D	90	84	112	83
460-164102-24	FB	89	84	115	83
460-164102-25	RW-1R	91	85	112	83
MB 460-551202/7		92	91	110	88
MB 460-551380/9		89	84	116	82
MB 460-551483/7		93	84	114	83
MB 460-551698/7		90	85	112	84

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	74-132
BFB = Bromofluorobenzene	77-124
TOL = Toluene-d8 (Surr)	80-120
DBFM = Dibromofluoromethane (Surr)	72-131

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Surrogate Recovery Report**8260C Volatile Organic Compounds by GC/MS****Client Matrix: Water**

Lab Sample ID	Client Sample ID	DCA %Rec	BFB %Rec	TOL %Rec	DBFM %Rec
LCS 460-551202/3		91	94	106	87
LCS 460-551380/4		90	87	117	83
LCS 460-551483/3		86	86	116	80
LCS 460-551698/3		87	85	112	82
LCSD 460-551202/4		90	92	107	87
LCSD 460-551380/5		86	84	119	80
LCSD 460-551698/4		87	85	111	82

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	74-132
BFB = Bromofluorobenzene	77-124
TOL = Toluene-d8 (Surr)	80-120
DBFM = Dibromofluoromethane (Surr)	72-131

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Surrogate Recovery Report

8270D Semivolatile Organic Compounds (GC/MS)Client Matrix: Water

Lab Sample ID	Client Sample ID	NBZ %Rec	FBP %Rec	TPHd14 %Rec	PHL %Rec	2FP %Rec	TBP %Rec
460-164102-2	MW-20S	76	81	66	39	70	78
460-164102-3	MW-20D	86	86	65	48	71	87
460-164102-4	MW-12S	86	89	79	53	73	82
460-164102-5	OW-6	93	84	82	54	73	75
460-164102-5 DL	OW-6 DL	83	99	74	46	65	149*
460-164102-6	OW-7	90	90	85	54	75	80
460-164102-6 DL	OW-7 DL	83	90	79	50	75	81
460-164102-7	Dup	86	79	72	0*	67	72
460-164102-7 DL	Dup DL	71	89	82	51	53	239*
460-164102-8	MW-5S	88	92	84	53	73	85
460-164102-9	MW-7S	89	94	76	54	72	74
460-164102-10	MW-8S	87	90	84	55	74	74
460-164102-11	MW-11S	89	93	81	54	73	80
460-164102-12	MW-16S	83	86	69	50	69	79
460-164102-13	MW-24S	81	85	78	52	72	80
460-164102-14	MW-25S	87	87	71	54	72	78
460-164102-14 DL	MW-25S DL	81	90	64	50	67	75
460-164102-15	MW-53D	79	89	75	48	69	75
460-164102-16	MW-103	84	91	83	51	71	74
460-164102-17	MW-104	82	89	83	51	72	71
460-164102-18	MW-105	86	90	87	53	74	73
460-164102-19	MW-106	87	91	86	52	71	78
460-164102-20	MW-6D	87	94	95	54	75	78
460-164102-21	MW-23D	85	91	86	49	69	69
460-164102-22	MW-26D	98*	94*	83*	51*	67*	102*
460-164102-23	MW-27D	98*	96*	100*	53*	69*	99*
460-164102-24	FB	101*	99*	108*	54*	73*	97*
460-164102-25	RW-1R	80	89	79	47	69	68
MB 480-433975/1-A		88	93	104	58	78	72

Surrogate	Acceptance Limits
NBZ = Nitrobenzene-d5	46-120
FBP = 2-Fluorobiphenyl	48-120
TPHd14 = p-Terphenyl-d14	59-136
PHL = Phenol-d5	22-120
2FP = 2-Fluorophenol	35-120
TBP = 2,4,6-Tribromophenol	41-120

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Surrogate Recovery Report

8270D Semivolatile Organic Compounds (GC/MS)Client Matrix: Water

Lab Sample ID	Client Sample ID	NBZ %Rec	FBP %Rec	TPHd14 %Rec	PHL %Rec	2FP %Rec	TBP %Rec
MB 480-434198/1-A		100*	97*	108*	53*	71*	87*
LCS 480-433975/2-A		90	90	94	62	77	91
LCS 480-434198/2-A		99*	94*	105*	60*	74*	113*
LCSD 480-433975/3-A		77	79	87	56	68	83

Surrogate	Acceptance Limits
NBZ = Nitrobenzene-d5	46-120
FBP = 2-Fluorobiphenyl	48-120
TPHd14 = p-Terphenyl-d14	59-136
PHL = Phenol-d5	22-120
2FP = 2-Fluorophenol	35-120
TBP = 2,4,6-Tribromophenol	41-120

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 460-551202

Method: 8260C

Preparation: 5030C

Lab Sample ID: MB 460-551202/7
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/11/2018 1155
Prep Date: 09/11/2018 1155
Leach Date: N/A

Analysis Batch: 460-551202
Prep Batch: N/A
Leach Batch: N/A
Units: ug/L

Instrument ID: CVOAMS15
Lab File ID: T10422.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92	74 - 132
Bromofluorobenzene	91	77 - 124
Toluene-d8 (Surr)	110	80 - 120
Dibromofluoromethane (Surr)	88	72 - 131

Lab Control Sample/

Method: 8260C

Lab Control Sample Duplicate Recovery Report - Batch: 460-551202

Preparation: 5030C

LCS Lab Sample ID: LCS 460-551202/3
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/11/2018 0948
Prep Date: 09/11/2018 0948
Leach Date: N/A

Analysis Batch: 460-551202
Prep Batch: N/A
Leach Batch: N/A
Units: ug/L

Instrument ID: CVOAMS15
Lab File ID: T10418.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
5 mL

LCSD Lab Sample ID: LCSD 460-551202/4
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/11/2018 1032
Prep Date: 09/11/2018 1032
Leach Date: N/A

Analysis Batch: 460-551202
Prep Batch: N/A
Leach Batch: N/A
Units: ug/L

Instrument ID: CVOAMS15
Lab File ID: T10419.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL
5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Benzene	96	97	77 - 121	1	30		
Toluene	95	93	80 - 120	2	30		
Ethylbenzene	97	95	80 - 120	2	30		
Xylenes, Total	96	96	80 - 120	0	30		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
1,2-Dichloroethane-d4 (Surr)	91		90		74 - 132		
Bromofluorobenzene	94		92		77 - 124		
Toluene-d8 (Surr)	106		107		80 - 120		

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 460-551380

Method: 8260C

Preparation: 5030C

Lab Sample ID:	MB 460-551380/9	Analysis Batch:	460-551380	Instrument ID:	CVOAMS15
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T10451.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 0156	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 0156				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89	74 - 132
Bromofluorobenzene	84	77 - 124
Toluene-d8 (Surr)	116	80 - 120
Dibromofluoromethane (Surr)	82	72 - 131

Lab Control Sample/

Method: 8260C

Lab Control Sample Duplicate Recovery Report - Batch: 460-551380

Preparation: 5030C

LCS Lab Sample ID:	LCS 460-551380/4	Analysis Batch:	460-551380	Instrument ID:	CVOAMS15
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T10446.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/11/2018 2336	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/11/2018 2336				5 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 460-551380/5	Analysis Batch:	460-551380	Instrument ID:	CVOAMS15
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T10447.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 0004	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 0004				5 mL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Benzene	106	111	77 - 121	4	30		
Toluene	103	110	80 - 120	6	30		
Ethylbenzene	108	110	80 - 120	2	30		
Xylenes, Total	110	110	80 - 120	1	30		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
1,2-Dichloroethane-d4 (Surr)	90		86		74 - 132		
Bromofluorobenzene	87		84		77 - 124		
Toluene-d8 (Surr)	117		119		80 - 120		

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 460-551483

Method: 8260C

Preparation: 5030C

Lab Sample ID:	MB 460-551483/7	Analysis Batch:	460-551483	Instrument ID:	CVOAMS15
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T10468.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 0954	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 0954				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93	74 - 132
Bromofluorobenzene	84	77 - 124
Toluene-d8 (Surr)	114	80 - 120
Dibromofluoromethane (Surr)	83	72 - 131

Lab Control Sample - Batch: 460-551483

Method: 8260C

Preparation: 5030C

Lab Sample ID:	LCS 460-551483/3	Analysis Batch:	460-551483	Instrument ID:	CVOAMS15
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T10464.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 0802	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 0802				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	20.0	21.1	106	77 - 121	
Toluene	20.0	20.6	103	80 - 120	
Ethylbenzene	20.0	20.8	104	80 - 120	
Xylenes, Total	40.0	41.9	105	80 - 120	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	86	74 - 132
Bromofluorobenzene	86	77 - 124
Toluene-d8 (Surr)	116	80 - 120

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 460-551698

Method: 8260C

Preparation: 5030C

Lab Sample ID:	MB 460-551698/7	Analysis Batch:	460-551698	Instrument ID:	CVOAMS15
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T10496.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 2257	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 2257				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	90	74 - 132
Bromofluorobenzene	85	77 - 124
Toluene-d8 (Surr)	112	80 - 120
Dibromofluoromethane (Surr)	84	72 - 131

Lab Control Sample/

Method: 8260C

Lab Control Sample Duplicate Recovery Report - Batch: 460-551698

Preparation: 5030C

LCS Lab Sample ID:	LCS 460-551698/3	Analysis Batch:	460-551698	Instrument ID:	CVOAMS15
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T10492.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 2106	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 2106				5 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 460-551698/4	Analysis Batch:	460-551698	Instrument ID:	CVOAMS15
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	T10493.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/12/2018 2134	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/12/2018 2134				5 mL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Benzene	108	111	77 - 121	3	30		
Toluene	104	108	80 - 120	4	30		
Ethylbenzene	103	106	80 - 120	3	30		
Xylenes, Total	106	108	80 - 120	2	30		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
1,2-Dichloroethane-d4 (Surr)	87		87		74 - 132		
Bromofluorobenzene	85		85		77 - 124		
Toluene-d8 (Surr)	112		111		80 - 120		

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 480-433975

Method: 8270D

Preparation: 3510C

Lab Sample ID:	MB 480-433975/1-A	Analysis Batch:	480-434776	Instrument ID:	HP5973W
Client Matrix:	Water	Prep Batch:	480-433975	Lab File ID:	W6059.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	09/17/2018 1659	Units:	ug/L	Final Weight/Volume:	1 mL
Prep Date:	09/12/2018 0900			Injection Volume:	2 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	88	46 - 120
2-Fluorobiphenyl	93	48 - 120
p-Terphenyl-d14	104	59 - 136
Phenol-d5	58	22 - 120
2-Fluorophenol	78	35 - 120
2,4,6-Tribromophenol	72	41 - 120

Method Blank TICs- Batch: 480-433975

Cas Number	Analyte	RT	Est. Result (ug)	Qual
504-29-0	2-Aminopyridine TIC	7.09	10	U

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Lab Control Sample/

Lab Control Sample Duplicate Recovery Report - Batch: 480-433975

Method: 8270D

Preparation: 3510C

LCS Lab Sample ID: LCS 480-433975/2-A	Analysis Batch: 480-434776	Instrument ID: HP5973W
Client Matrix: Water	Prep Batch: 480-433975	Lab File ID: W6060.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 250 mL
Analysis Date: 09/17/2018 1728	Units: ug/L	Final Weight/Volume: 1 mL
Prep Date: 09/12/2018 0900		Injection Volume: 2 uL
Leach Date: N/A		

LCSD Lab Sample ID: LCSD 480-433975/3-A	Analysis Batch: 480-434776	Instrument ID: HP5973W
Client Matrix: Water	Prep Batch: 480-433975	Lab File ID: W6061.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 250 mL
Analysis Date: 09/17/2018 1756	Units: ug/L	Final Weight/Volume: 1 mL
Prep Date: 09/12/2018 0900		Injection Volume: 2 uL
Leach Date: N/A		

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Pyridine	60	56	10 - 120	7	49		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
Nitrobenzene-d5	90		77		46 - 120		
2-Fluorobiphenyl	90		79		48 - 120		
p-Terphenyl-d14	94		87		59 - 136		
Phenol-d5	62		56		22 - 120		
2-Fluorophenol	77		68		35 - 120		
2,4,6-Tribromophenol	91		83		41 - 120		

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 480-434198

Method: 8270D

Preparation: 3510C

Lab Sample ID:	MB 480-434198/1-A	Analysis Batch:	480-435121	Instrument ID:	HP5973Y
Client Matrix:	Water	Prep Batch:	480-434198	Lab File ID:	Y019855.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	09/19/2018 2341	Units:	ug/L	Final Weight/Volume:	1 mL
Prep Date:	09/13/2018 0853			Injection Volume:	2 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
2-Picoline	80	U *	1.4	80
Pyridine	25	U *	0.41	25

Surrogate	% Rec		Acceptance Limits
Nitrobenzene-d5	100	*	46 - 120
2-Fluorobiphenyl	97	*	48 - 120
p-Terphenyl-d14	108	*	59 - 136
Phenol-d5	53	*	22 - 120
2-Fluorophenol	71	*	35 - 120
2,4,6-Tribromophenol	87	*	41 - 120

Method Blank TICs- Batch: 480-434198

Cas Number	Analyte	RT	Est. Result (ug)	Qual
504-29-0	2-Aminopyridine TIC	5.15	10	U *

Lab Control Sample - Batch: 480-434198

Method: 8270D

Preparation: 3510C

Lab Sample ID:	LCS 480-434198/2-A	Analysis Batch:	480-435121	Instrument ID:	HP5973Y
Client Matrix:	Water	Prep Batch:	480-434198	Lab File ID:	Y019856.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	09/20/2018 0010	Units:	ug/L	Final Weight/Volume:	1 mL
Prep Date:	09/13/2018 0853			Injection Volume:	2 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Pyridine	64.0	41.8	65	10 - 120	*

Surrogate	% Rec		Acceptance Limits
Nitrobenzene-d5	99	*	46 - 120
2-Fluorobiphenyl	94	*	48 - 120
p-Terphenyl-d14	105	*	59 - 136
Phenol-d5	60	*	22 - 120
2-Fluorophenol	74	*	35 - 120
2,4,6-Tribromophenol	113	*	41 - 120

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 460-550992

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 460-550992/3	Analysis Batch:	460-550992	Instrument ID:	IC 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MB_TAIEDIIC2_Anions_
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	09/10/2018 1652	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	10 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Sulfate	0.60	U	0.33	0.60

Lab Control Sample/

Lab Control Sample Duplicate Recovery Report - Batch: 460-550992

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 460-550992/5	Analysis Batch:	460-550992	Instrument ID:	IC 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	LCS_TAIEDIIC2_Anions
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	09/10/2018 1722	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	10 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 460-550992/6	Analysis Batch:	460-550992	Instrument ID:	IC 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	LCS_TAIEDIIC2_Anions
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	09/10/2018 1735	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	10 uL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Sulfate	104	100	90 - 110	4	15		

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 460-550992

Method: 300.0
Preparation: N/A

MS Lab Sample ID: 460-164102-11DL	Analysis Batch: 460-550992	Instrument ID: IC 2
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 460-0078434-009_TAIE
Dilution: 10	Leach Batch: N/A	Initial Weight/Volume: 10 mL
Analysis Date: 09/10/2018 1827	Run Type: DL	Final Weight/Volume:
Prep Date: N/A		Injection Volume: 10 uL
Leach Date: N/A		

MSD Lab Sample ID: 460-164102-11DL	Analysis Batch: 460-550992	Instrument ID: IC 2
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 460-0078434-010_TAIE
Dilution: 10	Leach Batch: N/A	Initial Weight/Volume: 10 mL
Analysis Date: 09/10/2018 1841	Run Type: DL	Final Weight/Volume:
Prep Date: N/A		Injection Volume: 10 uL
Leach Date: N/A		

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Sulfate	81	84	90 - 110	1	15	*	*

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 460-550992

Method: 300.0
Preparation: N/A

MS Lab Sample ID: 460-164102-19	Analysis Batch: 460-550992	Instrument ID: IC 2
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 460-0078434-024_TAIE
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 10 mL
Analysis Date: 09/10/2018 2251		Final Weight/Volume:
Prep Date: N/A		Injection Volume: 10 uL
Leach Date: N/A		

MSD Lab Sample ID: 460-164102-19	Analysis Batch: 460-550992	Instrument ID: IC 2
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 460-0078434-027_TAIE
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 10 mL
Analysis Date: 09/10/2018 2330		Final Weight/Volume:
Prep Date: N/A		Injection Volume: 10 uL
Leach Date: N/A		

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Sulfate	875	882	90 - 110	0	15	*	*

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Duplicate - Batch: 460-550992

Method: 300.0
Preparation: N/A

Lab Sample ID:	460-164102-11DL	Analysis Batch:	460-550992	Instrument ID:	IC 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	460-0078434-008_TAIE
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	09/10/2018 1814	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A	Run Type:	DL	Injection Volume:	10 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Sulfate	11.4	11.38	0.3	15	

Duplicate - Batch: 460-550992

Method: 300.0
Preparation: N/A

Lab Sample ID:	460-164102-19	Analysis Batch:	460-550992	Instrument ID:	IC 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	460-0078434-023_TAIE
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	09/10/2018 2238	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	10 uL
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Sulfate	23.1	23.13	0	15	

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 460-551591

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 460-551591/3	Analysis Batch:	460-551591	Instrument ID:	IC 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MB_TAIEDIIC2_Anions_
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	09/12/2018 1254	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	10 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Sulfate	0.60	U	0.33	0.60

Lab Control Sample/

Lab Control Sample Duplicate Recovery Report - Batch: 460-551591

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 460-551591/5	Analysis Batch:	460-551591	Instrument ID:	IC 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	LCS_TAIEDIIC2_Anions
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	09/12/2018 1320	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	10 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 460-551591/6	Analysis Batch:	460-551591	Instrument ID:	IC 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	LCS_TAIEDIIC2_Anions
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	09/12/2018 1333	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	10 uL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Sulfate	102	100	90 - 110	2	15		

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 460-551267

Method: 6010D

Preparation: 3010A

Lab Sample ID:	MB 460-551267/1-A	Analysis Batch:	460-551258	Instrument ID:	ICP5
Client Matrix:	Water	Prep Batch:	460-551267	Lab File ID:	550737D1.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	09/11/2018 1946	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	09/11/2018 1332				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Manganese	15.0	U	0.99	15.0
Iron	150	U	34.2	150

Lab Control Sample - Batch: 460-551267

Method: 6010D

Preparation: 3010A

Lab Sample ID:	LCS 460-551267/2-A	Analysis Batch:	460-551258	Instrument ID:	ICP5
Client Matrix:	Water	Prep Batch:	460-551267	Lab File ID:	550737D1.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	09/11/2018 1950	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	09/11/2018 1332				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Manganese	500	514.4	103	80 - 120	
Iron	1000	1070	107	80 - 120	

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 460-551523

Method: 6010D

Preparation: 3010A

Lab Sample ID:	MB 460-551523/1-A	Analysis Batch:	460-551950	Instrument ID:	ICP5
Client Matrix:	Water	Prep Batch:	460-551523	Lab File ID:	551835D1.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	09/13/2018 1359	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	09/12/2018 0917				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Manganese	15.0	U	0.99	15.0
Iron	150	U	34.2	150

Lab Control Sample - Batch: 460-551523

Method: 6010D

Preparation: 3010A

Lab Sample ID:	LCS 460-551523/2-A	Analysis Batch:	460-551950	Instrument ID:	ICP5
Client Matrix:	Water	Prep Batch:	460-551523	Lab File ID:	551835D1.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	09/13/2018 1343	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	09/12/2018 0917				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Manganese	500	508.2	102	80 - 120	
Iron	1000	1052	105	80 - 120	

Matrix Spike - Batch: 460-551523

Method: 6010D

Preparation: 3010A

Lab Sample ID:	460-164102-G-11-C MS	Analysis Batch:	460-551950	Instrument ID:	ICP5
Client Matrix:	Water	Prep Batch:	460-551523	Lab File ID:	551835D1.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	09/13/2018 1336	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	09/12/2018 0917				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Manganese	567	500	1062	99	75 - 125	
Iron	956	1000	1980	102	75 - 125	

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Duplicate - Batch: 460-551523

Method: 6010D
Preparation: 3010A

Lab Sample ID:	460-164102-G-11-B DU	Analysis Batch:	460-551950	Instrument ID:	ICP5
Client Matrix:	Water	Prep Batch:	460-551523	Lab File ID:	551835D1.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	09/13/2018 1339	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	09/12/2018 0917				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Manganese	567	551.0	3	20	
Iron	956	939.4	2	20	

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 460-551906

Method: 7470A

Preparation: 7470A

Lab Sample ID:	MB 460-551906/1-A	Analysis Batch:	460-551984	Instrument ID:	LEEMAN6
Client Matrix:	Water	Prep Batch:	460-551906	Lab File ID:	551906hg1.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	09/13/2018 1303	Units:	ug/L	Final Weight/Volume:	30 mL
Prep Date:	09/13/2018 1132				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.20	U	0.12	0.20

Lab Control Sample - Batch: 460-551906

Method: 7470A

Preparation: 7470A

Lab Sample ID:	LCS 460-551906/2-A	Analysis Batch:	460-551984	Instrument ID:	LEEMAN6
Client Matrix:	Water	Prep Batch:	460-551906	Lab File ID:	551906hg1.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	09/13/2018 1305	Units:	ug/L	Final Weight/Volume:	30 mL
Prep Date:	09/13/2018 1132				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	1.00	0.965	96	80 - 120	

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 460-551487

Method: 350.1

Preparation: Distill/Ammonia

Lab Sample ID: MB 460-551487/1-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/12/2018 1559
Prep Date: 09/12/2018 0648
Leach Date: N/A

Analysis Batch: 460-551639
Prep Batch: 460-551487
Leach Batch: N/A
Units: mg/L

Instrument ID: Lachat2
Lab File ID: A180912.FDT
Initial Weight/Volume: 50.0 mL
Final Weight/Volume: 50.0 mL

Analyte	Result	Qual	MDL	RL
Ammonia	0.10	U	0.045	0.10

Lab Control Sample - Batch: 460-551487

Method: 350.1

Preparation: Distill/Ammonia

Lab Sample ID: LCS 460-551487/2-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/12/2018 1600
Prep Date: 09/12/2018 0648
Leach Date: N/A

Analysis Batch: 460-551639
Prep Batch: 460-551487
Leach Batch: N/A
Units: mg/L

Instrument ID: Lachat2
Lab File ID: A180912.FDT
Initial Weight/Volume: 50.0 mL
Final Weight/Volume: 50.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	1.00	1.05	105	89 - 113	

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 460-551833

Method: 350.1

Preparation: Distill/Ammonia

Lab Sample ID: MB 460-551833/1-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/13/2018 1123
Prep Date: 09/13/2018 0753
Leach Date: N/A

Analysis Batch: 460-551917
Prep Batch: 460-551833
Leach Batch: N/A
Units: mg/L

Instrument ID: Lachat2
Lab File ID: A180913.FDT
Initial Weight/Volume: 50.0 mL
Final Weight/Volume: 50.0 mL

Analyte	Result	Qual	MDL	RL
Ammonia	0.10	U	0.045	0.10

Lab Control Sample - Batch: 460-551833

Method: 350.1

Preparation: Distill/Ammonia

Lab Sample ID: LCS 460-551833/2-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/13/2018 1125
Prep Date: 09/13/2018 0753
Leach Date: N/A

Analysis Batch: 460-551917
Prep Batch: 460-551833
Leach Batch: N/A
Units: mg/L

Instrument ID: Lachat2
Lab File ID: A180913.FDT
Initial Weight/Volume: 50.0 mL
Final Weight/Volume: 50.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	1.00	1.03	103	89 - 113	

Matrix Spike/

Matrix Spike Duplicate Recovery Report - Batch: 460-551833

Method: 350.1

Preparation: Distill/Ammonia

MS Lab Sample ID: 460-164102-10
Client Matrix: Water
Dilution: 10
Analysis Date: 09/13/2018 1204
Prep Date: 09/13/2018 0753
Leach Date: N/A

Analysis Batch: 460-551917
Prep Batch: 460-551833
Leach Batch: N/A

Instrument ID: Lachat2
Lab File ID: A180913.FDT
Initial Weight/Volume: 50.0 mL
Final Weight/Volume: 50.0 mL

MSD Lab Sample ID: 460-164102-10
Client Matrix: Water
Dilution: 10
Analysis Date: 09/13/2018 1205
Prep Date: 09/13/2018 0753
Leach Date: N/A

Analysis Batch: 460-551917
Prep Batch: 460-551833
Leach Batch: N/A

Instrument ID: Lachat2
Lab File ID: A180913.FDT
Initial Weight/Volume: 50.0 mL
Final Weight/Volume: 50.0 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Ammonia	145	161	89 - 113	1	17	4	4

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Method Blank - Batch: 460-550582

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID:	MB 460-550582/11	Analysis Batch:	460-550582	Instrument ID:	Lachat 4
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_9-8-2018_11-21-48
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	09/08/2018 1134	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate as N	0.10	U	0.010	0.10

LCS-Certified Reference Material - Batch: 460-550582

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID:	LCSSRM 460-550582/12	Analysis Batch:	460-550582	Instrument ID:	Lachat 4
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_9-8-2018_11-21-48
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	09/08/2018 1135	Units:	mg/L	Final Weight/Volume:	10.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N	0.750	0.717	95.6	79.5 - 120.0	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

SHORT HOLD

Page 1 of 4

7 New Durham Road
New Jersey 08817
(732) 549-3900 Fax: (732) 549-3679

Name (for report and invoice) Bob Casen		Samplers Name (Printed) Stephen Levine		Site/Project Identification Nepera	
Company Ric Formation		P. O. #		State (Location of site): NJ: ☐ NY: ☒ Other: ☐	
Address 171 New Park Ave Ste 3		Analysis Turnaround Time Standard ☒ Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐		Regulatory Program:	
City Babylon NY		State NY		LAB USE ONLY Job No: 164102 Project No:	
Phone 631-482-9590		Fax 631-482-9593		Sample Numbers	
Sample Identification	Date	Time	Matrix	No. of Cont.	
Top Blank	9/7/18	-	AO	2	1
MW-203	9/6/18	1755	1	9	2
MW-200	9/6/18	1840	1	5	3
MW-125	9/6/18	1918	1	95	4
MW-0 MW-6	9/6/18	1955	1	9	5
MW-7	9/6/18	2035	1	9	6
DUP	9/6/18	1955	1	9	7
MW-15	9/7/18	1315	1	5	8
MW-55	9/7/18	1315	1	5	8
MW-75	9/7/18	1445	1	5	9

Preservation Used: 1 = ICE, 2 = HCl, 3 = H₂SO₄, 4 = HNO₃, 5 = NaOH
6 = Other _____ 7 = Other _____

Soil: _____ Water: _____

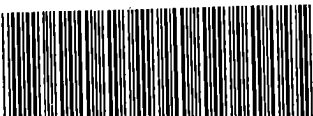
Special Instructions: **Aspirator Above Pipeline to Sample Area, Nitrate, Manganese, Water Metals Filtered (Yes/No)? NO**

Relinquished by	Company	Date / Time	Received by	Company
[Signature]	Ric Formation	9/7/18 12000	[Signature]	12000
Relinquished by	Company	Date / Time	Received by	Company
[Signature]	Ric Formation	9/7/18 12000	[Signature]	12000
Relinquished by	Company	Date / Time	Received by	Company
[Signature]	Ric Formation	9/7/18 12000	[Signature]	12000
Relinquished by	Company	Date / Time	Received by	Company
[Signature]	Ric Formation	9/7/18 12000	[Signature]	12000

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0715)



460-164102 Chain of Custody

TestAmerica

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-8900 Fax: (732) 549-3679

THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Page 2 of 4

Name (for report and invoice) Bob Casson		Sampler's Name (Printed) Stephen Leane		Site/Project Identification Alcoa Limerick NY	
Company Rx Formulation		P. O. #		State (Location of site): NJ ☐ NY ☒ Other: ☐	
Address 171 Deer Park Ave Ste 3		Analysis Turnaround Time Standard ☒ Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐		Regulatory Program: ☐	
City Belvidere NY 11701		Phone 631-442-0596		Fax 631-442-4593	
Sample Identification		Date	Time	Matrix	No. of Cont.
MW-83	9/7/14	1150	AQ	q	q
MW-115		1045	q	X	X
MW-165		0430	q	X	X
MW-245		1540	q	X	X
MW-253		0810	q	X	X
MW-335		0855	q	X	X
MW-530			q	X	X
MW-101			q	X	X
MW-102			q	X	X
MW-103		0735	q	X	X
Preservation Used: 1 = ICE, 2 = HCl, 3 = H ₂ SO ₄ , 4 = HNO ₃ , 5 = NaOH		Soil:		Water:	
6 = Other _____, 7 = Other _____					

Special Instructions: **Find alpha, beta, gamma, and delta, nitrate, manganese** Water Metals Filtered (Yes/No)? **NO**

Relinquished by	Company	Date / Time	Received by	Company
Rx Formulation	Rx Formulation	9/7/14 1200	(1) Stephen Leane	10/2
Relinquished by	Company	Date / Time	Received by	Company
2)			2)	9/1/2016
Relinquished by	Company	Date / Time	Received by	Company
3)			3)	
Relinquished by	Company	Date / Time	Received by	Company
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132), Massachusetts (M-NJ312), North Carolina (No. 578)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-8900 Fax: (732) 549-3679

Page 3 of 4

Name (for report and invoice) <u>Bob Gerson</u>		Samplers Name (Printed) <u>Stephen Levine</u>		Site/Project Identification <u>Wagner Harmon NY</u>	
Company <u>Rtc Formation</u>		P. O. #		State (Location of site): NJ: ☐ NY: ☒ Other: ☐	
Address <u>171 Deer Park Ave Ste 3</u>		Analysis Turnaround Time Standard ☒ Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐		Regulatory Program: ☐ DKOP: ☐	
City <u>Belvidere NY 11262</u>		State		LAB USE ONLY Job No: <u>169102</u> Project No:	
Phone <u>631-441-9596</u>		Fax <u>631-441-9593</u>			
Sample Identification	Date	Time	Matrix	No. of Cont.	ANALYSIS REQUESTED (ENTER X BELOW TO INDICATE REQUEST)
MW-104	9/7/14	0930	HQ	9	BTEX
MW-105		1115		9	SVOC*
MW-106		1345		9	Gen Chem*
MW-6D		1500		5	
MW-23D		1615		5	
MW-26D		1415		5	
MW-27D		1240		5	
FB		0900		8	
MW-355	9/6/14			9	
MW-375	9/6/14			9	
Preservation Used: 0 = ICE, 1 = HCl, 3 = H ₂ SO ₄ , 4 = HNO ₃ , 5 = NaOH					Soil: ☐
6 = Other					Water: ☐
Special Instructions * Under alpha particle 2-curve procedure ** Select ammonia nitrate mercury Water Metals Filtered (Yes/No)? <u>NO</u>					
Relinquished by	Company	Date / Time	Received by	Company	
<u>[Signature]</u>	<u>Rtc Formation</u>	<u>9/7/14 1200</u>	<u>[Signature]</u>	<u>[Signature]</u>	
Relinquished by	Company	Date / Time	Received by	Company	
				<u>9/1/16</u>	<u>Seco</u>
Relinquished by	Company	Date / Time	Received by	Company	
Relinquished by	Company	Date / Time	Received by	Company	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0715)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

Page 4 of 13

Name (for report and invoice)

Bob Casson

Samplers Name (Printed)

Stephen Levine

Site/Project Identification

Nepera Hampton

Company

R+C Formation

P.O. #

1

State (Location of site):

NJ

Regulatory Program:

Other:

DKAP: ☐

Address

171 Deer Park Ave Ste 3

Analysis Turnaround Time

Standard ☒

Rush Charges Authorized For:

2 Week ☐

1 Week ☐

Other ☐

ANALYSIS REQUESTED (ENTER X BELOW TO INDICATE REQUEST)

BTEX ☒

SVOC ☒

Gen Chem ☒

LAB USE ONLY

Project No:

Job No:

164102

Sample Numbers

25

City

Scoblen NY 11761

State

NY

Phone

631-482-9540

Fax

631-482-9543

Sample Identification

MM-300

MM-260R

RC-1R

Date

9/6/18

9/6/18

9/7/18

Time

11:00

11:00

10:05

Matrix

44

5

9

No. of

5

5

1

Preservation Used: 0 = ICE, 1 = HCl, 2 = H₂SO₄, 3 = HNO₃, 4 = NaOH

6 = Other, 7 = Other

Soil:

Water:

Special Instructions

Pyridine, Alpha-nitro, 2-amino-2-pyridine

Soil: 11/18/2018

Company: R+C Formation

Date / Time: 9/7/18

Received by: 11/18/2018

Company: R+C Formation

Date / Time: 9/7/2018

Received by: 9/7/2018

Company: R+C Formation

Date / Time: 9/7/2018

Received by: 9/7/2018

Company: R+C Formation

Date / Time: 9/7/2018

Job Number:

164102

TestAmerica Edison
Receipt Temperature and pH Log

Page 1 of 2

Number of Coolers: 3

IR Gun # 9

Cooler Temperatures

RAW		CORRECTED		RAW		CORRECTED		RAW		CORRECTED	
Cooler #1	°C	Cooler #1	°C	Cooler #4	°C	Cooler #4	°C	Cooler #7	°C	Cooler #7	°C
Cooler #2	10.3	Cooler #2	10.3	Cooler #5	10.3	Cooler #5	10.3	Cooler #8	10.3	Cooler #8	10.3
Cooler #3	10.3	Cooler #3	10.3	Cooler #6	10.3	Cooler #6	10.3	Cooler #9	10.3	Cooler #9	10.3

TALS Sample Number	Ammonia (pH<2)	COD (pH<2)	Nitrate (pH<2)	Nitrite (pH<2)	Metals (pH<2)	Hardness (pH<2)	Pest (pH 5-9)	EPH or OAM (pH<2)	Phenols (pH<2)	Sulfide (pH>9)	TKN (pH<2)	TOC (pH<2)	Total Cyanide (pH>12)	Total Phos (pH<2)	Other	Other
2	12				12											
5	12				12											
6	12				12											
7	12				12											
10	12				12											
11	12				12											
12	12				12											
13	12				12											
14	12				12											
15	12				12											
16	12				12											
17	12				12											
18	12				12											

If pH adjustments are required record the information below:

Sample No(s), adjusted: _____

Preservative Name/Conc.: _____

Volume of Preservative used (ml): _____

Lot # of Preservative(s): _____

Expiration Date: _____

The appropriate Project Manager and Department Manager should be notified about the samples which were pH adjusted.
* Samples for Metal analysis which are out of compliance must be acidified at least 24 hours prior to analysis.

Initials: _____

Date: _____

6/6/18

164107



10

RAW	CORRECTED
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
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90	90
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93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

	Nitrate		EPR or		Total	
Ammونيا	COD	* Nitrite	GAM	Phenols	Cyanide	Other
	Metals	Hardness	Pest	Sulfide	TKN	
					TOC	
					Total Phos	Other

If pH adjustments are required record the information below:

Volume of Preservative used (ml):

Expiration Date:

* Samples for Metal analysis which are out of compliance must be acidified at least 24 hours prior to analysis.

8

81/70/30

Chain of Custody Record



Client Information (Sub Contract Lab)				Lab PM: Haas, Melissa Carrier Tracking No(s): 460-52599.1																																																																																	
Client Contact: Shipping/Receiving Phone: melissa.haas@testamerica.com E-Mail: melissa.haas@testamerica.com				State of Origin: New York Page: 1 of 3																																																																																	
Company: TestAmerica Laboratories, Inc. Address: 10 Hazelwood Drive, Amherst NY, 14228-2298 Phone: 716-691-2600(Tel) 716-691-7991(Fax) Email: Nepera Harriman NY				Job #: 460-164102-1 Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4.5, Z - other (specify)																																																																																	
Due Date Requested: 9/17/2018 TAT Requested (days): PO #, WO #, Project #, SSOW#				Analysis Requested: 8270D/3610C_LVI SVOC - Client Specific List																																																																																	
Sample Identification - Client ID (Lab ID)				Total Number of Containers																																																																																	
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Sample</th> <th>Sample Date</th> <th>Sample Time</th> <th>Sample Type (C=Comp, G=grab)</th> <th>Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)</th> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> <th>Special Instructions/Note:</th> </tr> </thead> <tbody> <tr> <td>MW-20S (460-164102-2)</td> <td>9/6/18</td> <td>17:55 Eastern</td> <td></td> <td>Water</td> <td></td> <td>X</td> <td>2-Aminopyridine is a targeted TIC.</td> </tr> <tr> <td>MW-20D (460-164102-3)</td> <td>9/6/18</td> <td>18:40 Eastern</td> <td></td> <td>Water</td> <td></td> <td>X</td> <td>2-Aminopyridine is a targeted TIC.</td> </tr> <tr> <td>MW-12S (460-164102-4)</td> <td>9/6/18</td> <td>19:18 Eastern</td> <td></td> <td>Water</td> <td></td> <td>X</td> <td>2-Aminopyridine is a targeted TIC.</td> </tr> <tr> <td>OW-6 (460-164102-5)</td> <td>9/6/18</td> <td>19:55 Eastern</td> <td></td> <td>Water</td> <td></td> <td>X</td> <td>2-Aminopyridine is a targeted TIC.</td> </tr> <tr> <td>OW-7 (460-164102-6)</td> <td>9/6/18</td> <td>20:35 Eastern</td> <td></td> <td>Water</td> <td></td> <td>X</td> <td>2-Aminopyridine is a targeted TIC.</td> </tr> <tr> <td>Dup (460-164102-7)</td> <td>9/6/18</td> <td>19:55 Eastern</td> <td></td> <td>Water</td> <td></td> <td>X</td> <td>2-Aminopyridine is a targeted TIC.</td> </tr> <tr> <td>MW-5S (460-164102-8)</td> <td>9/7/18</td> <td>13:15 Eastern</td> <td></td> <td>Water</td> <td></td> <td>X</td> <td>2-Aminopyridine is a targeted TIC.</td> </tr> <tr> <td>MW-7S (460-164102-9)</td> <td>9/7/18</td> <td>14:45 Eastern</td> <td></td> <td>Water</td> <td></td> <td>X</td> <td>2-Aminopyridine is a targeted TIC.</td> </tr> <tr> <td>MW-8S (460-164102-10)</td> <td>9/7/18</td> <td>11:50 Eastern</td> <td></td> <td>Water</td> <td></td> <td>X</td> <td>2-Aminopyridine is a targeted TIC.</td> </tr> </tbody> </table>				Sample	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Special Instructions/Note:	MW-20S (460-164102-2)	9/6/18	17:55 Eastern		Water		X	2-Aminopyridine is a targeted TIC.	MW-20D (460-164102-3)	9/6/18	18:40 Eastern		Water		X	2-Aminopyridine is a targeted TIC.	MW-12S (460-164102-4)	9/6/18	19:18 Eastern		Water		X	2-Aminopyridine is a targeted TIC.	OW-6 (460-164102-5)	9/6/18	19:55 Eastern		Water		X	2-Aminopyridine is a targeted TIC.	OW-7 (460-164102-6)	9/6/18	20:35 Eastern		Water		X	2-Aminopyridine is a targeted TIC.	Dup (460-164102-7)	9/6/18	19:55 Eastern		Water		X	2-Aminopyridine is a targeted TIC.	MW-5S (460-164102-8)	9/7/18	13:15 Eastern		Water		X	2-Aminopyridine is a targeted TIC.	MW-7S (460-164102-9)	9/7/18	14:45 Eastern		Water		X	2-Aminopyridine is a targeted TIC.	MW-8S (460-164102-10)	9/7/18	11:50 Eastern		Water		X	2-Aminopyridine is a targeted TIC.	Special Instructions/Note:	
Sample	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Special Instructions/Note:																																																																														
MW-20S (460-164102-2)	9/6/18	17:55 Eastern		Water		X	2-Aminopyridine is a targeted TIC.																																																																														
MW-20D (460-164102-3)	9/6/18	18:40 Eastern		Water		X	2-Aminopyridine is a targeted TIC.																																																																														
MW-12S (460-164102-4)	9/6/18	19:18 Eastern		Water		X	2-Aminopyridine is a targeted TIC.																																																																														
OW-6 (460-164102-5)	9/6/18	19:55 Eastern		Water		X	2-Aminopyridine is a targeted TIC.																																																																														
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Dup (460-164102-7)	9/6/18	19:55 Eastern		Water		X	2-Aminopyridine is a targeted TIC.																																																																														
MW-5S (460-164102-8)	9/7/18	13:15 Eastern		Water		X	2-Aminopyridine is a targeted TIC.																																																																														
MW-7S (460-164102-9)	9/7/18	14:45 Eastern		Water		X	2-Aminopyridine is a targeted TIC.																																																																														
MW-8S (460-164102-10)	9/7/18	11:50 Eastern		Water		X	2-Aminopyridine is a targeted TIC.																																																																														
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months																																																																																	
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2				Special Instructions/QC Requirements:																																																																																	
Empty Kit Relinquished by: 9/10/18 1800				Date: 9/10/18																																																																																	
Relinquished by: 9/10/18 1800				Date/Time: 9/10/18 1800																																																																																	
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Relinquished by:				Date/Time:																																																																																	
Custody Seals Intact: Yes				Cooler Temperature(s) °C and Other Remarks: 3.8																																																																																	

[illegible]

Login Sample Receipt Checklist

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Login Number: 164102

List Source: TestAmerica Edison

List Number: 1

Creator: Villanueva, Angelica P

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $\leq 6\text{mm}$ (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: R & C Formation Ltd.

Job Number: 460-164102-1

Login Number: 164102
List Number: 2
Creator: Hulbert, Michael J

List Source: TestAmerica Buffalo
List Creation: 09/11/18 05:06 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.8 #1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	False	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

ANALYTICAL REPORT

Job Number: 460-164001-1

Job Description: Nepera Harrimon, NY

For:
R & C Formation Ltd.
171 Deer Park Ave.,
Suite 3
Babylon, NY 11702
Attention: Mr. Robert Casson



Approved for release.
Allison L. Bennett
Project Manager I
10/8/2018 12:55 PM

Designee for
Melissa Haas, Project Manager I
777 New Durham Road, Edison, NJ, 08817
(203)944-1310
melissa.haas@testamericainc.com
10/08/2018
Revision: 1

The test results in this report meet all NELAP requirements unless specified within the case narrative. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Edison Project Manager.

TestAmerica Edison Certifications and Approvals: Connecticut: CTDOH #PH-0200, New Jersey: NJDEP (NELAP) #12028, New York: NYDOH (NELAP) #11452, NYDOH (ELAP) #11452, Pennsylvania: PADEP (NELAP) 68-00522 and Rhode Island: RIDOH LA000132

TestAmerica Laboratories, Inc.

TestAmerica Edison 777 New Durham Road, Edison, NJ 08817
Tel (732) 549-3900 Fax (732) 549-3679 www.testamericainc.com



Job Number: 460-164001-1

Job Description: Nepera Harrimon, NY

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Approved for release.
Allison L. Bennett
Project Manager I
10/8/2018 12:55 PM

Designee for
Melissa Haas

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CASE NARRATIVE

Client: R & C Formation Ltd.

Project: Nepera Harrimon, NY

Report Number: 460-164001-1

Revision 1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

Revision 1 - the original report inadvertently left out iron from the metals reporting list as required by the client. A revision has been issued to include iron by 6010D.

RECEIPT

The samples were received on 9/6/2018 7:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2° C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. The client confirmed that all samples were collected on 9/6/18, not 9/4-9/5 as indicated on the COC.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples Trip Blank (460-164001-1), MW-101 (460-164001-2), MW-1s (460-164001-3), MW-102 (460-164001-4), MW-35s (460-164001-5), MW-37s (460-164001-6), MW-33s (460-164001-7) and MW-20DR (460-164001-8) were analyzed for Volatile organic compounds (GC-MS) in accordance with EPA SW-846 Methods 8260C. The samples were analyzed on 09/07/2018, 09/08/2018 and 09/13/2018.

The surrogate recovery for the laboratory control sample duplicate (LCSD) associated with batch 550458 was outside control limits. All associated sample surrogates fell within acceptance criteria; therefore, the data have been reported.

The continuing calibration verification (CCV) associated with batch 460-551812 recovered outside control limits for 1,2-Dichloroethane-d4 surrogate. All associated surrogate recoveries were within control limits.

Refer to the QC report for details.

No other difficulties were encountered during the volatiles analysis.

All other quality control parameters were within the acceptance limits.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS)

Samples MW-101 (460-164001-2), MW-1s (460-164001-3), MW-102 (460-164001-4), MW-35s (460-164001-5), MW-37s (460-164001-6), MW-33s (460-164001-7) and MW-20DR (460-164001-8) were analyzed for semivolatile organic compounds (GC/MS) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 09/11/2018 and analyzed on 09/13/2018.

The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 480-433843 and analytical

batch 480-434255 recovered outside control limits for the following surrogate: 2,4,6-Tribromophenol. This surrogate is biased high and no detections were found for associated analytes in the following affected samples: MW-101 (460-164001-2), MW-1s (460-164001-3), MW-102 (460-164001-4), MW-35s (460-164001-5), MW-37s (460-164001-6), MW-33s (460-164001-7) and MW-20DR (460-164001-8). Therefore, the data has been reported.

Due to the matrix, the initial volume(s) used for the following sample deviated from the standard procedure: MW-33s (460-164001-7). The reporting limits (RLs) have been adjusted proportionately.

Refer to the QC report for details.

Sample MW-20DR (460-164001-8)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the semivolatiles analysis.

All other quality control parameters were within the acceptance limits.

METALS

Samples MW-101 (460-164001-2), MW-1s (460-164001-3), MW-102 (460-164001-4), MW-35s (460-164001-5), MW-37s (460-164001-6) and MW-33s (460-164001-7) were analyzed for Metals in accordance with 6010D. The samples were prepared and analyzed on 09/10/2018.

No difficulties were encountered during the Metals analysis.

All quality control parameters were within the acceptance limits.

ANIONS

Samples MW-101 (460-164001-2), MW-1s (460-164001-3), MW-102 (460-164001-4), MW-35s (460-164001-5), MW-37s (460-164001-6) and MW-33s (460-164001-7) were analyzed for anions in accordance with EPA Method 300_ORGFM_28D Anions by Ion Chromatograph. The samples were analyzed on 09/08/2018.

Sulfate failed the recovery criteria high for the Matrix Spike/Matrix Spike Duplicate (MS/MSD) of sample 460-164018-1 in batch 460-550485.

Sulfate failed the recovery criteria high for the MS/MSD of sample 460-164053-1 in batch 460-550485.

Refer to the QC report for details.

Samples MW-101 (460-164001-2)[10X], MW-1s (460-164001-3)[10X], MW-102 (460-164001-4)[10X], MW-35s (460-164001-5)[100X], MW-37s (460-164001-6)[10X] and MW-33s (460-164001-7)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the anions analysis.

All other quality control parameters were within the acceptance limits.

AMMONIA

Samples MW-101 (460-164001-2), MW-1s (460-164001-3), MW-102 (460-164001-4), MW-35s (460-164001-5), MW-37s (460-164001-6) and MW-33s (460-164001-7) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were prepared on 09/08/2018 and analyzed on 09/10/2018.

The method blank for 550981 contained Ammonia above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Ammonia failed the recovery criteria high for the MS/MSD of sample 460-163663-1 in batch 460-550981.

Refer to the QC report for details.

Samples MW-101 (460-164001-2)[10X], MW-1s (460-164001-3)[10X], MW-102 (460-164001-4)[5X], MW-37s (460-164001-6)[10X] and MW-33s (460-164001-7)[50X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the ammonia analysis.

All other quality control parameters were within the acceptance limits.

NITROGEN-NITRATE

Samples MW-101 (460-164001-2), MW-1s (460-164001-3), MW-102 (460-164001-4), MW-35s (460-164001-5), MW-37s (460-164001-6) and MW-33s (460-164001-7) were analyzed for Nitrogen-Nitrate in accordance with SM 4500 NO₃ F. The samples were analyzed on 09/07/2018.

Nitrate as N failed the recovery criteria low for the MS/MSD of sample 460-163985-2 in batch 460-550336.

Refer to the QC report for details.

No other difficulties were encountered during the nitrate analysis.

All other quality control parameters were within the acceptance limits.

EXECUTIVE SUMMARY - Detections

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
460-164001-2	MW-101					
Manganese		1330		15.0	ug/L	6010D
Iron		3880		150	ug/L	6010D
Ammonia		9.0	B	1.0	mg/L	350.1
Sulfate		259		6.00	mg/L	300.0
460-164001-3	MW-1S					
Manganese		1060		15.0	ug/L	6010D
Iron		9000		150	ug/L	6010D
Ammonia		14.3	B	1.0	mg/L	350.1
Sulfate		31.3		6.00	mg/L	300.0
460-164001-4	MW-102					
Pyridine		0.41	J	25	ug/L	8270D
Manganese		1040		15.0	ug/L	6010D
Iron		3920		150	ug/L	6010D
Ammonia		7.8	B	0.50	mg/L	350.1
Nitrate as N		0.023	J	0.10	mg/L	SM 4500 NO3 F
Sulfate		39.8		6.00	mg/L	300.0
460-164001-5	MW-35S					
Manganese		2670		15.0	ug/L	6010D
Iron		7870		150	ug/L	6010D
Ammonia		1.7	B	0.10	mg/L	350.1
Nitrate as N		0.015	J	0.10	mg/L	SM 4500 NO3 F
Sulfate		1480		60.0	mg/L	300.0
460-164001-6	MW-37S					
Manganese		1760		15.0	ug/L	6010D
Iron		11800		150	ug/L	6010D
Ammonia		18.8	B	1.0	mg/L	350.1
Sulfate		107		6.00	mg/L	300.0
460-164001-7	MW-33S					
Benzene		9.2		1.0	ug/L	8260C
Manganese		1460		15.0	ug/L	6010D
Iron		99600		150	ug/L	6010D
Ammonia		174	B	25.0	mg/L	350.1
Sulfate		22.9		6.00	mg/L	300.0

METHOD SUMMARY

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS	TAL EDI	SW846 8260C	
Purge and Trap	TAL EDI		SW846 5030C
Anions, Ion Chromatography	TAL EDI	MCAWW 300.0	
Metals (ICP)	TAL EDI	SW846 6010D	
Preparation, Total Metals	TAL EDI		SW846 3010A
Nitrogen, Ammonia	TAL EDI	MCAWW 350.1	
Distillation, Ammonia	TAL EDI		Distill/Ammonia
Nitrogen, Nitrate	TAL EDI	SM SM 4500 NO3 F	
Semivolatile Organic Compounds (GC/MS)	TAL BUF	SW846 8270D	
Liquid-Liquid Extraction (Separatory Funnel)	TAL BUF		SW846 3510C

Lab References:

TAL BUF = TestAmerica Buffalo

TAL EDI = TestAmerica Edison

Method References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Method	Analyst	Analyst ID
SW846 8260C	Desai, Saurab	SZD
SW846 8260C	Sarmiento, Daniel	DAS
SW846 8270D	Schick, Robert J	RJS
SW846 6010D	Huang, Yixin	YZH
MCAWW 350.1	Vu, Huan	HTV
SM SM 4500 NO3 F	Mariani, Paul H	PHM
MCAWW 300.0	Infante, Warleny M	VMI

SAMPLE SUMMARY

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
460-164001-1TB	Trip Blank	Water	09/06/2018 0000	09/06/2018 1955
460-164001-2	MW-101	Water	09/06/2018 0925	09/06/2018 1955
460-164001-3	MW-1s	Water	09/06/2018 1023	09/06/2018 1955
460-164001-4	MW-102	Water	09/06/2018 1055	09/06/2018 1955
460-164001-5	MW-35s	Water	09/06/2018 1305	09/06/2018 1955
460-164001-6	MW-37s	Water	09/06/2018 1340	09/06/2018 1955
460-164001-7	MW-33s	Water	09/06/2018 1423	09/06/2018 1955
460-164001-8	MW-20DR	Water	09/06/2018 1640	09/06/2018 1955

SAMPLE RESULTS

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: Trip Blank

Lab Sample ID: 460-164001-1TB

Client Matrix: Water

Date Sampled: 09/06/2018 0000

Date Received: 09/06/2018 1955

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-550458

Instrument ID: CVOAMS11

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: N71572.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/07/2018 2309

Final Weight/Volume: 5 mL

Prep Date: 09/07/2018 2309

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	100		74 - 132
Bromofluorobenzene	92		77 - 124
Toluene-d8 (Surr)	107		80 - 120
Dibromofluoromethane (Surr)	95		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-101

Lab Sample ID: 460-164001-2

Client Matrix: Water

Date Sampled: 09/06/2018 0925

Date Received: 09/06/2018 1955

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-550588

Instrument ID: CVOAMS11

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: N71601.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/08/2018 2012

Final Weight/Volume: 5 mL

Prep Date: 09/08/2018 2012

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	109		74 - 132
Bromofluorobenzene	95		77 - 124
Toluene-d8 (Surr)	109		80 - 120
Dibromofluoromethane (Surr)	104		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-1s

Lab Sample ID: 460-164001-3

Client Matrix: Water

Date Sampled: 09/06/2018 1023

Date Received: 09/06/2018 1955

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	460-550458	Instrument ID:	CVOAMS11
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N71577.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/08/2018 0100			Final Weight/Volume:	5 mL
Prep Date:	09/08/2018 0100				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89		74 - 132
Bromofluorobenzene	82		77 - 124
Toluene-d8 (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	87		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-102

Lab Sample ID: 460-164001-4

Client Matrix: Water

Date Sampled: 09/06/2018 1055

Date Received: 09/06/2018 1955

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-551812

Instrument ID: CVOAMS13

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: P50496.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/13/2018 1941

Final Weight/Volume: 5 mL

Prep Date: 09/13/2018 1941

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	86		74 - 132
Bromofluorobenzene	91		77 - 124
Toluene-d8 (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	96		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-35s

Lab Sample ID: 460-164001-5

Client Matrix: Water

Date Sampled: 09/06/2018 1305

Date Received: 09/06/2018 1955

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-550458

Instrument ID: CVOAMS11

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: N71578.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/08/2018 0122

Final Weight/Volume: 5 mL

Prep Date: 09/08/2018 0122

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99		74 - 132
Bromofluorobenzene	93		77 - 124
Toluene-d8 (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	96		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-37s

Lab Sample ID: 460-164001-6

Client Matrix: Water

Date Sampled: 09/06/2018 1340

Date Received: 09/06/2018 1955

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-550458

Instrument ID: CVOAMS11

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: N71579.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/08/2018 0144

Final Weight/Volume: 5 mL

Prep Date: 09/08/2018 0144

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89		74 - 132
Bromofluorobenzene	82		77 - 124
Toluene-d8 (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	89		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-33s

Lab Sample ID: 460-164001-7

Client Matrix: Water

Date Sampled: 09/06/2018 1423

Date Received: 09/06/2018 1955

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-550458

Instrument ID: CVOAMS11

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: N71580.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/08/2018 0206

Final Weight/Volume: 5 mL

Prep Date: 09/08/2018 0206

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	9.2		0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	87		74 - 132
Bromofluorobenzene	78		77 - 124
Toluene-d8 (Surr)	89		80 - 120
Dibromofluoromethane (Surr)	85		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-20DR

Lab Sample ID: 460-164001-8

Client Matrix: Water

Date Sampled: 09/06/2018 1640

Date Received: 09/06/2018 1955

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analysis Batch: 460-550588

Instrument ID: CVOAMS11

Prep Method: 5030C

Prep Batch: N/A

Lab File ID: N71602.D

Dilution: 1.0

Initial Weight/Volume: 5 mL

Analysis Date: 09/08/2018 2035

Final Weight/Volume: 5 mL

Prep Date: 09/08/2018 2035

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	109		74 - 132
Bromofluorobenzene	93		77 - 124
Toluene-d8 (Surr)	111		80 - 120
Dibromofluoromethane (Surr)	106		72 - 131

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-101

Lab Sample ID: 460-164001-2

Client Matrix: Water

Date Sampled: 09/06/2018 0925

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019718.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/13/2018 1745			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	86		46 - 120
2-Fluorobiphenyl	107		48 - 120
p-Terphenyl-d14	103		59 - 136
Phenol-d5	49		22 - 120
2-Fluorophenol	70		35 - 120
2,4,6-Tribromophenol	104		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-101

Lab Sample ID: 460-164001-2

Client Matrix: Water

Date Sampled: 09/06/2018 0925

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019718.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/13/2018 1745			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-1s

Lab Sample ID: 460-164001-3

Client Matrix: Water

Date Sampled: 09/06/2018 1023

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019719.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/13/2018 1813			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	83		46 - 120
2-Fluorobiphenyl	106		48 - 120
p-Terphenyl-d14	105		59 - 136
Phenol-d5	50		22 - 120
2-Fluorophenol	71		35 - 120
2,4,6-Tribromophenol	100		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-1s

Lab Sample ID: 460-164001-3

Client Matrix: Water

Date Sampled: 09/06/2018 1023

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019719.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/13/2018 1813			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-102

Lab Sample ID: 460-164001-4

Client Matrix: Water

Date Sampled: 09/06/2018 1055

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019720.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/13/2018 1842			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	0.41	J	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	98		46 - 120
2-Fluorobiphenyl	119		48 - 120
p-Terphenyl-d14	121		59 - 136
Phenol-d5	56		22 - 120
2-Fluorophenol	81		35 - 120
2,4,6-Tribromophenol	112		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-102

Lab Sample ID: 460-164001-4

Client Matrix: Water

Date Sampled: 09/06/2018 1055

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019720.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/13/2018 1842			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-35s

Lab Sample ID: 460-164001-5

Client Matrix: Water

Date Sampled: 09/06/2018 1305

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019721.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/13/2018 1911			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	86		46 - 120
2-Fluorobiphenyl	107		48 - 120
p-Terphenyl-d14	101		59 - 136
Phenol-d5	52		22 - 120
2-Fluorophenol	75		35 - 120
2,4,6-Tribromophenol	106		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-35s

Lab Sample ID: 460-164001-5

Client Matrix: Water

Date Sampled: 09/06/2018 1305

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019721.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/13/2018 1911			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-37s

Lab Sample ID: 460-164001-6

Client Matrix: Water

Date Sampled: 09/06/2018 1340

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019722.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/13/2018 1939			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	85		46 - 120
2-Fluorobiphenyl	107		48 - 120
p-Terphenyl-d14	104		59 - 136
Phenol-d5	52		22 - 120
2-Fluorophenol	72		35 - 120
2,4,6-Tribromophenol	92		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-37s

Lab Sample ID: 460-164001-6

Client Matrix: Water

Date Sampled: 09/06/2018 1340

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019722.D
Dilution:	1.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/13/2018 1939			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	10	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-33s

Lab Sample ID: 460-164001-7

Client Matrix: Water

Date Sampled: 09/06/2018 1423

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019723.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	09/13/2018 2008			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	400	U	7.0	400
Pyridine	130	U	2.1	130

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	83		46 - 120
2-Fluorobiphenyl	105		48 - 120
p-Terphenyl-d14	101		59 - 136
Phenol-d5	47		22 - 120
2-Fluorophenol	69		35 - 120
2,4,6-Tribromophenol	105		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-33s

Lab Sample ID: 460-164001-7

Client Matrix: Water

Date Sampled: 09/06/2018 1423

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019723.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	09/13/2018 2008			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	50	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-20DR

Lab Sample ID: 460-164001-8

Client Matrix: Water

Date Sampled: 09/06/2018 1640

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-434255	Instrument ID:	HP5973Y
Prep Method:	3510C	Prep Batch:	480-433843	Lab File ID:	Y019724.D
Dilution:	5.0			Initial Weight/Volume:	250 mL
Analysis Date:	09/13/2018 2036			Final Weight/Volume:	1 mL
Prep Date:	09/11/2018 1425			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
2-Picoline	400	U	7.0	400
Pyridine	130	U	2.1	130

Surrogate	%Rec	Qualifier	Acceptance Limits
Nitrobenzene-d5	65		46 - 120
2-Fluorobiphenyl	92		48 - 120
p-Terphenyl-d14	78		59 - 136
Phenol-d5	37		22 - 120
2-Fluorophenol	59		35 - 120
2,4,6-Tribromophenol	74		41 - 120

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-20DR

Lab Sample ID: 460-164001-8

Client Matrix: Water

Date Sampled: 09/06/2018 1640

Date Received: 09/06/2018 1955

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method: 8270D

Analysis Batch: 480-434255

Instrument ID: HP5973Y

Prep Method: 3510C

Prep Batch: 480-433843

Lab File ID: Y019724.D

Dilution: 5.0

Initial Weight/Volume: 250 mL

Analysis Date: 09/13/2018 2036

Final Weight/Volume: 1 mL

Prep Date: 09/11/2018 1425

Injection Volume: 2 uL

Targeted Tentatively Identified Compounds

Cas Number	Analyte	Est. Result (ug/L)	Qualifier
504-29-0	2-Aminopyridine TIC	50	U

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-101

Lab Sample ID: 460-164001-2

Client Matrix: Water

Date Sampled: 09/06/2018 0925

Date Received: 09/06/2018 1955

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550485

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078327-012_TAI

Dilution: 10

Analysis Date: 09/08/2018 0038

Prep Date: N/A

Run Type: DL

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	259		3.32	6.00

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-1s

Lab Sample ID: 460-164001-3

Client Matrix: Water

Date Sampled: 09/06/2018 1023

Date Received: 09/06/2018 1955

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550485

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078327-015_TAI

Dilution: 10

Analysis Date: 09/08/2018 0117

Prep Date: N/A

Run Type: DL

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	31.3		3.32	6.00

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-102

Lab Sample ID: 460-164001-4

Client Matrix: Water

Date Sampled: 09/06/2018 1055

Date Received: 09/06/2018 1955

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550485

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078327-016_TAI

Dilution: 10

Initial Weight/Volume: 10 mL

Analysis Date: 09/08/2018 0131

Run Type: DL

Final Weight/Volume:

Injection Volume: 10 uL

Prep Date: N/A

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	39.8		3.32	6.00

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-35s

Lab Sample ID: 460-164001-5

Client Matrix: Water

Date Sampled: 09/06/2018 1305

Date Received: 09/06/2018 1955

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550485

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078327-017_TAI

Dilution: 100

Analysis Date: 09/08/2018 0703

Prep Date: N/A

Run Type: DL2

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	1480		33.2	60.0

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-37s

Lab Sample ID: 460-164001-6

Client Matrix: Water

Date Sampled: 09/06/2018 1340

Date Received: 09/06/2018 1955

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550485

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078327-018_TAI

Dilution: 10

Analysis Date: 09/08/2018 0158

Prep Date: N/A

Run Type: DL

Initial Weight/Volume: 10 mL

Final Weight/Volume:

Injection Volume: 10 uL

Analyte

Result (mg/L)

Qualifier

MDL

RL

Sulfate

107

3.32

6.00

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-33s

Lab Sample ID: 460-164001-7

Client Matrix: Water

Date Sampled: 09/06/2018 1423

Date Received: 09/06/2018 1955

300.0 Anions, Ion Chromatography

Analysis Method: 300.0

N/A

Analysis Batch: 460-550485

Prep Batch: N/A

Instrument ID: IC 2

Lab File ID: 460-0078327-019_TAI

Dilution: 10

Initial Weight/Volume: 10 mL

Analysis Date: 09/08/2018 0212

Run Type: DL

Final Weight/Volume:

Prep Date: N/A

Injection Volume: 10 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Sulfate	22.9		3.32	6.00

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-101

Lab Sample ID: 460-164001-2

Client Matrix: Water

Date Sampled: 09/06/2018 0925

Date Received: 09/06/2018 1955

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-550969

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-550902

Lab File ID: 550822.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/10/2018 1541

Final Weight/Volume: 50 mL

Prep Date: 09/10/2018 1011

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	1330		0.99	15.0
Iron	3880		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-1s

Lab Sample ID: 460-164001-3

Client Matrix: Water

Date Sampled: 09/06/2018 1023

Date Received: 09/06/2018 1955

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-550969

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-550902

Lab File ID: 550822.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/10/2018 1545

Final Weight/Volume: 50 mL

Prep Date: 09/10/2018 1011

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	1060		0.99	15.0
Iron	9000		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-102

Lab Sample ID: 460-164001-4

Client Matrix: Water

Date Sampled: 09/06/2018 1055

Date Received: 09/06/2018 1955

6010D Metals (ICP)

Analysis Method: 6010D

Prep Method: 3010A

Dilution: 1.0

Analysis Date: 09/10/2018 1549

Prep Date: 09/10/2018 1011

Analysis Batch: 460-550969

Prep Batch: 460-550902

Instrument ID: ICP5

Lab File ID: 550822.asc

Initial Weight/Volume: 50 mL

Final Weight/Volume: 50 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	1040		0.99	15.0
Iron	3920		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-35s

Lab Sample ID: 460-164001-5

Client Matrix: Water

Date Sampled: 09/06/2018 1305

Date Received: 09/06/2018 1955

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-550969

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-550902

Lab File ID: 550822.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/10/2018 1552

Final Weight/Volume: 50 mL

Prep Date: 09/10/2018 1011

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	2670		0.99	15.0
Iron	7870		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-37s

Lab Sample ID: 460-164001-6

Client Matrix: Water

Date Sampled: 09/06/2018 1340

Date Received: 09/06/2018 1955

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-550969

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-550902

Lab File ID: 550822.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/10/2018 1556

Final Weight/Volume: 50 mL

Prep Date: 09/10/2018 1011

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	1760		0.99	15.0
Iron	11800		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Client Sample ID: MW-33s

Lab Sample ID: 460-164001-7

Client Matrix: Water

Date Sampled: 09/06/2018 1423

Date Received: 09/06/2018 1955

6010D Metals (ICP)

Analysis Method: 6010D

Analysis Batch: 460-550969

Instrument ID: ICP5

Prep Method: 3010A

Prep Batch: 460-550902

Lab File ID: 550822.asc

Dilution: 1.0

Initial Weight/Volume: 50 mL

Analysis Date: 09/10/2018 1600

Final Weight/Volume: 50 mL

Prep Date: 09/10/2018 1011

Analyte	Result (ug/L)	Qualifier	MDL	RL
Manganese	1460		0.99	15.0
Iron	99600		34.2	150

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

General Chemistry

Client Sample ID: MW-101

Lab Sample ID: 460-164001-2

Date Sampled: 09/06/2018 0925

Client Matrix: Water

Date Received: 09/06/2018 1955

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	9.0	B	mg/L	0.45	1.0	10	350.1
Analysis Batch: 460-550981 Analysis Date: 09/10/2018 1555							
Prep Batch: 460-550617 Prep Date: 09/08/2018 1601							
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550336 Analysis Date: 09/07/2018 0744							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

General Chemistry

Client Sample ID: MW-1s

Lab Sample ID: 460-164001-3

Date Sampled: 09/06/2018 1023

Client Matrix: Water

Date Received: 09/06/2018 1955

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	14.3	B	mg/L	0.45	1.0	10	350.1
Analysis Batch: 460-550981 Analysis Date: 09/10/2018 1556							
Prep Batch: 460-550617 Prep Date: 09/08/2018 1601							
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550336 Analysis Date: 09/07/2018 0745							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

General Chemistry

Client Sample ID: MW-102

Lab Sample ID: 460-164001-4

Client Matrix: Water

Date Sampled: 09/06/2018 1055

Date Received: 09/06/2018 1955

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	7.8	B	mg/L	0.23	0.50	5.0	350.1
Analysis Batch: 460-550981 Analysis Date: 09/10/2018 1558							
Prep Batch: 460-550617 Prep Date: 09/08/2018 1601							
Nitrate as N	0.023	J	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550336 Analysis Date: 09/07/2018 0745							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

General Chemistry

Client Sample ID: MW-35s

Lab Sample ID: 460-164001-5

Date Sampled: 09/06/2018 1305

Client Matrix: Water

Date Received: 09/06/2018 1955

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	1.7	B	mg/L	0.045	0.10	1.0	350.1
Analysis Batch: 460-550981 Analysis Date: 09/10/2018 1540							
Prep Batch: 460-550617 Prep Date: 09/08/2018 1601							
Nitrate as N	0.015	J	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550336 Analysis Date: 09/07/2018 0746							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

General Chemistry

Client Sample ID: MW-37s

Lab Sample ID: 460-164001-6

Date Sampled: 09/06/2018 1340

Client Matrix: Water

Date Received: 09/06/2018 1955

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	18.8	B	mg/L	0.45	1.0	10	350.1
Analysis Batch: 460-550981 Analysis Date: 09/10/2018 1559							
Prep Batch: 460-550617 Prep Date: 09/08/2018 1601							
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550336 Analysis Date: 09/07/2018 0747							

Analytical Data

Client: R & C Formation Ltd.

Job Number: 460-164001-1

General Chemistry

Client Sample ID: MW-33s

Lab Sample ID: 460-164001-7

Date Sampled: 09/06/2018 1423

Client Matrix: Water

Date Received: 09/06/2018 1955

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	174	B	mg/L	11.3	25.0	50	350.1
Analysis Batch: 460-550981 Analysis Date: 09/10/2018 1601							
Prep Batch: 460-550617 Prep Date: 09/08/2018 1601							
Nitrate as N	0.10	U	mg/L	0.010	0.10	1.0	SM 4500 NO3 F
Analysis Batch: 460-550336 Analysis Date: 09/07/2018 0747							

DATA REPORTING QUALIFIERS

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Lab Section	Qualifier	Description
GC/MS VOA	U	Analyzed for but not detected.
	*	Surrogate is outside acceptance limits.
GC/MS Semi VOA	U	Analyzed for but not detected.
	J	Indicates an estimated value.
	*	Surrogate is outside acceptance limits.
HPLC/IC	U	Analyzed for but not detected.
Metals	U	Indicates analyzed for but not detected.
General Chemistry	B	Compound was found in the blank and sample.
	U	Indicates analyzed for but not detected.
	J	Sample result is greater than the MDL but below the CRDL

QUALITY CONTROL RESULTS

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:460-550458					
LCS 460-550458/4	Lab Control Sample	T	Water	8260C	
LCSD 460-550458/5	Lab Control Sample Duplicate	T	Water	8260C	
MB 460-550458/8	Method Blank	T	Water	8260C	
460-164001-1TB	Trip Blank	T	Water	8260C	
460-164001-3	MW-1s	T	Water	8260C	
460-164001-5	MW-35s	T	Water	8260C	
460-164001-6	MW-37s	T	Water	8260C	
460-164001-7	MW-33s	T	Water	8260C	
Analysis Batch:460-550588					
LCS 460-550588/3	Lab Control Sample	T	Water	8260C	
LCSD 460-550588/4	Lab Control Sample Duplicate	T	Water	8260C	
MB 460-550588/7	Method Blank	T	Water	8260C	
460-164001-2	MW-101	T	Water	8260C	
460-164001-8	MW-20DR	T	Water	8260C	
Analysis Batch:460-551812					
LCS 460-551812/29	Lab Control Sample	T	Water	8260C	
LCSD 460-551812/30	Lab Control Sample Duplicate	T	Water	8260C	
MB 460-551812/8	Method Blank	T	Water	8260C	
460-164001-4	MW-102	T	Water	8260C	

Report Basis

T = Total

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 480-433843					
LCS 480-433843/2-A	Lab Control Sample	T	Water	3510C	
LCSD 480-433843/3-A	Lab Control Sample Duplicate	T	Water	3510C	
MB 480-433843/1-A	Method Blank	T	Water	3510C	
460-164001-2	MW-101	T	Water	3510C	
460-164001-3	MW-1s	T	Water	3510C	
460-164001-4	MW-102	T	Water	3510C	
460-164001-5	MW-35s	T	Water	3510C	
460-164001-6	MW-37s	T	Water	3510C	
460-164001-7	MW-33s	T	Water	3510C	
460-164001-8	MW-20DR	T	Water	3510C	
Analysis Batch:480-434255					
LCS 480-433843/2-A	Lab Control Sample	T	Water	8270D	480-433843
LCSD 480-433843/3-A	Lab Control Sample Duplicate	T	Water	8270D	480-433843
MB 480-433843/1-A	Method Blank	T	Water	8270D	480-433843
460-164001-2	MW-101	T	Water	8270D	480-433843
460-164001-3	MW-1s	T	Water	8270D	480-433843
460-164001-4	MW-102	T	Water	8270D	480-433843
460-164001-5	MW-35s	T	Water	8270D	480-433843
460-164001-6	MW-37s	T	Water	8270D	480-433843
460-164001-7	MW-33s	T	Water	8270D	480-433843
460-164001-8	MW-20DR	T	Water	8270D	480-433843

Report Basis

T = Total

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 460-550902					
LCS 460-550902/2-A	Lab Control Sample	T	Water	3010A	
MB 460-550902/1-A	Method Blank	T	Water	3010A	
460-164001-2	MW-101	T	Water	3010A	
460-164001-3	MW-1s	T	Water	3010A	
460-164001-4	MW-102	T	Water	3010A	
460-164001-5	MW-35s	T	Water	3010A	
460-164001-6	MW-37s	T	Water	3010A	
460-164001-7	MW-33s	T	Water	3010A	
Analysis Batch:460-550969					
LCS 460-550902/2-A	Lab Control Sample	T	Water	6010D	460-550902
MB 460-550902/1-A	Method Blank	T	Water	6010D	460-550902
460-164001-2	MW-101	T	Water	6010D	460-550902
460-164001-3	MW-1s	T	Water	6010D	460-550902
460-164001-4	MW-102	T	Water	6010D	460-550902
460-164001-5	MW-35s	T	Water	6010D	460-550902
460-164001-6	MW-37s	T	Water	6010D	460-550902
460-164001-7	MW-33s	T	Water	6010D	460-550902

Report Basis

T = Total

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:460-550336					
LCSSRM 460-550336/12	LCS-Certified Reference Material	T	Water	SM 4500 NO3 F	
LCSSRM 460-550336/13	LCS-Certified Reference Material	T	Water	SM 4500 NO3 F	
LCSSRM 460-550336/39	LCS-Certified Reference Material	T	Water	SM 4500 NO3 F	
MB 460-550336/11	Method Blank	T	Water	SM 4500 NO3 F	
MB 460-550336/38	Method Blank	T	Water	SM 4500 NO3 F	
460-164001-2	MW-101	T	Water	SM 4500 NO3 F	
460-164001-3	MW-1s	T	Water	SM 4500 NO3 F	
460-164001-4	MW-102	T	Water	SM 4500 NO3 F	
460-164001-5	MW-35s	T	Water	SM 4500 NO3 F	
460-164001-6	MW-37s	T	Water	SM 4500 NO3 F	
460-164001-7	MW-33s	T	Water	SM 4500 NO3 F	
Prep Batch: 460-550617					
LCS 460-550617/2-A	Lab Control Sample	T	Water	Distill/Ammonia	
MB 460-550617/1-A	Method Blank	T	Water	Distill/Ammonia	
460-164001-2	MW-101	T	Water	Distill/Ammonia	
460-164001-3	MW-1s	T	Water	Distill/Ammonia	
460-164001-4	MW-102	T	Water	Distill/Ammonia	
460-164001-5	MW-35s	T	Water	Distill/Ammonia	
460-164001-6	MW-37s	T	Water	Distill/Ammonia	
460-164001-7	MW-33s	T	Water	Distill/Ammonia	
Analysis Batch:460-550981					
LCS 460-550617/2-A	Lab Control Sample	T	Water	350.1	460-550617
MB 460-550617/1-A	Method Blank	T	Water	350.1	460-550617
460-164001-2	MW-101	T	Water	350.1	460-550617
460-164001-3	MW-1s	T	Water	350.1	460-550617
460-164001-4	MW-102	T	Water	350.1	460-550617
460-164001-5	MW-35s	T	Water	350.1	460-550617
460-164001-6	MW-37s	T	Water	350.1	460-550617
460-164001-7	MW-33s	T	Water	350.1	460-550617

Report Basis

T = Total

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
HPLC/IC					
Analysis Batch:460-550485					
LCS 460-550485/5	Lab Control Sample	T	Water	300.0	
LCSD 460-550485/6	Lab Control Sample Duplicate	T	Water	300.0	
MB 460-550485/3	Method Blank	T	Water	300.0	
460-164001-2DL	MW-101	T	Water	300.0	
460-164001-3DL	MW-1s	T	Water	300.0	
460-164001-4DL	MW-102	T	Water	300.0	
460-164001-5DL2	MW-35s	T	Water	300.0	
460-164001-6DL	MW-37s	T	Water	300.0	
460-164001-7DL	MW-33s	T	Water	300.0	

Report Basis

T = Total

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Surrogate Recovery Report

8260C Volatile Organic Compounds by GC/MS

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	BFB %Rec	TOL %Rec	DBFM %Rec
460-164001-1	Trip Blank	100	92	107	95
460-164001-2	MW-101	109	95	109	104
460-164001-3	MW-1s	89	82	93	87
460-164001-4	MW-102	86	91	94	96
460-164001-5	MW-35s	99	93	104	96
460-164001-6	MW-37s	89	82	93	89
460-164001-7	MW-33s	87	78	89	85
460-164001-8	MW-20DR	109	93	111	106
MB 460-550458/8		100	93	106	96
MB 460-550588/7		110	94	108	104
MB 460-551812/8		85	82	90	95
LCS 460-550458/4		96	97	108	94
LCS 460-550588/3		108	100	110	103
LCS 460-551812/29		87	100	92	97
LCSD 460-550458/5		72*	74*	83	75
LCSD 460-550588/4		106	101	108	102
LCSD 460-551812/30		85	100	92	96

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	74-132
BFB = Bromofluorobenzene	77-124
TOL = Toluene-d8 (Surr)	80-120
DBFM = Dibromofluoromethane (Surr)	72-131

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Surrogate Recovery Report

8270D Semivolatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	NBZ %Rec	FBP %Rec	TPHd14 %Rec	PHL %Rec	2FP %Rec	TBP %Rec
460-164001-2	MW-101	86	107	103	49	70	104
460-164001-3	MW-1s	83	106	105	50	71	100
460-164001-4	MW-102	98	119	121	56	81	112
460-164001-5	MW-35s	86	107	101	52	75	106
460-164001-6	MW-37s	85	107	104	52	72	92
460-164001-7	MW-33s	83	105	101	47	69	105
460-164001-8	MW-20DR	65	92	78	37	59	74
MB 480-433843/1-A		84	104	109	49	71	84
LCS 480-433843/2-A		83	103	106	56	75	107
LCSD 480-433843/3-A		95	118	124	63	83	130*

Surrogate	Acceptance Limits
NBZ = Nitrobenzene-d5	46-120
FBP = 2-Fluorobiphenyl	48-120
TPHd14 = p-Terphenyl-d14	59-136
PHL = Phenol-d5	22-120
2FP = 2-Fluorophenol	35-120
TBP = 2,4,6-Tribromophenol	41-120

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Method Blank - Batch: 460-550458

Method: 8260C

Preparation: 5030C

Lab Sample ID:	MB 460-550458/8	Analysis Batch:	460-550458	Instrument ID:	CVOAMS11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N71571.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/07/2018 2247	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/07/2018 2247				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	100	74 - 132
Bromofluorobenzene	93	77 - 124
Toluene-d8 (Surr)	106	80 - 120
Dibromofluoromethane (Surr)	96	72 - 131

Lab Control Sample/

Method: 8260C

Lab Control Sample Duplicate Recovery Report - Batch: 460-550458

Preparation: 5030C

LCS Lab Sample ID:	LCS 460-550458/4	Analysis Batch:	460-550458	Instrument ID:	CVOAMS11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N71567.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/07/2018 2101	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/07/2018 2101				5 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 460-550458/5	Analysis Batch:	460-550458	Instrument ID:	CVOAMS11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N71568.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/07/2018 2123	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/07/2018 2123				5 mL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Benzene	116	113	77 - 121	2	30		
Toluene	110	108	80 - 120	1	30		
Ethylbenzene	107	107	80 - 120	0	30		
Xylenes, Total	103	103	80 - 120	0	30		
Surrogate	LCS % Rec		LCSD % Rec	Acceptance Limits			
1,2-Dichloroethane-d4 (Surr)	96		72	*	74 - 132		
Bromofluorobenzene	97		74	*	77 - 124		
Toluene-d8 (Surr)	108		83		80 - 120		

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Method Blank - Batch: 460-550588

Method: 8260C

Preparation: 5030C

Lab Sample ID:	MB 460-550588/7	Analysis Batch:	460-550588	Instrument ID:	CVOAMS11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N71600.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/08/2018 1950	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/08/2018 1950				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	110	74 - 132
Bromofluorobenzene	94	77 - 124
Toluene-d8 (Surr)	108	80 - 120
Dibromofluoromethane (Surr)	104	72 - 131

Lab Control Sample/

Method: 8260C

Lab Control Sample Duplicate Recovery Report - Batch: 460-550588

Preparation: 5030C

LCS Lab Sample ID:	LCS 460-550588/3	Analysis Batch:	460-550588	Instrument ID:	CVOAMS11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N71596.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/08/2018 1821	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/08/2018 1821				5 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 460-550588/4	Analysis Batch:	460-550588	Instrument ID:	CVOAMS11
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N71597.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/08/2018 1843	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/08/2018 1843				5 mL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Benzene	117	111	77 - 121	5	30		
Toluene	109	104	80 - 120	5	30		
Ethylbenzene	106	101	80 - 120	5	30		
Xylenes, Total	99	95	80 - 120	5	30		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
1,2-Dichloroethane-d4 (Surr)	108		106		74 - 132		
Bromofluorobenzene	100		101		77 - 124		
Toluene-d8 (Surr)	110		108		80 - 120		

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Method Blank - Batch: 460-551812

Method: 8260C
Preparation: 5030C

Lab Sample ID:	MB 460-551812/8	Analysis Batch:	460-551812	Instrument ID:	CVOAMS13
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P50486.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/13/2018 1517	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/13/2018 1517				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Benzene	1.0	U	0.43	1.0
Toluene	1.0	U	0.38	1.0
Ethylbenzene	1.0	U	0.30	1.0
Xylenes, Total	2.0	U	0.65	2.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	85	74 - 132
Bromofluorobenzene	82	77 - 124
Toluene-d8 (Surr)	90	80 - 120
Dibromofluoromethane (Surr)	95	72 - 131

Lab Control Sample/

Method: 8260C

Lab Control Sample Duplicate Recovery Report - Batch: 460-551812 Preparation: 5030C

LCS Lab Sample ID:	LCS 460-551812/29	Analysis Batch:	460-551812	Instrument ID:	CVOAMS13
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P50491.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/13/2018 1729	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/13/2018 1729				5 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 460-551812/30	Analysis Batch:	460-551812	Instrument ID:	CVOAMS13
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	P50492.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	09/13/2018 1756	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	09/13/2018 1756				5 mL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Benzene	95	104	77 - 121	9	30		
Toluene	94	103	80 - 120	9	30		
Ethylbenzene	96	103	80 - 120	8	30		
Xylenes, Total	94	102	80 - 120	9	30		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
1,2-Dichloroethane-d4 (Surr)	87		85		74 - 132		
Bromofluorobenzene	100		100		77 - 124		
Toluene-d8 (Surr)	92		92		80 - 120		

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Method Blank - Batch: 480-433843

Method: 8270D

Preparation: 3510C

Lab Sample ID: MB 480-433843/1-A
 Client Matrix: Water
 Dilution: 1.0
 Analysis Date: 09/13/2018 1618
 Prep Date: 09/11/2018 1425
 Leach Date: N/A

Analysis Batch: 480-434255
 Prep Batch: 480-433843
 Leach Batch: N/A
 Units: ug/L

Instrument ID: HP5973Y
 Lab File ID: Y019715.D
 Initial Weight/Volume: 250 mL
 Final Weight/Volume: 1 mL
 Injection Volume: 2 uL

Analyte	Result	Qual	MDL	RL
2-Picoline	80	U	1.4	80
Pyridine	25	U	0.41	25

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	84	46 - 120
2-Fluorobiphenyl	104	48 - 120
p-Terphenyl-d14	109	59 - 136
Phenol-d5	49	22 - 120
2-Fluorophenol	71	35 - 120
2,4,6-Tribromophenol	84	41 - 120

Method Blank TICs- Batch: 480-433843

Cas Number	Analyte	RT	Est. Result (ug)	Qual
504-29-0	2-Aminopyridine TIC	5.18	10	U

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Lab Control Sample/

Lab Control Sample Duplicate Recovery Report - Batch: 480-433843

Method: 8270D

Preparation: 3510C

LCS Lab Sample ID: LCS 480-433843/2-A	Analysis Batch: 480-434255	Instrument ID: HP5973Y
Client Matrix: Water	Prep Batch: 480-433843	Lab File ID: Y019716.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 250 mL
Analysis Date: 09/13/2018 1647	Units: ug/L	Final Weight/Volume: 1 mL
Prep Date: 09/11/2018 1425		Injection Volume: 2 uL
Leach Date: N/A		

LCSD Lab Sample ID: LCSD 480-433843/3-A	Analysis Batch: 480-434255	Instrument ID: HP5973Y
Client Matrix: Water	Prep Batch: 480-433843	Lab File ID: Y019717.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 250 mL
Analysis Date: 09/13/2018 1716	Units: ug/L	Final Weight/Volume: 1 mL
Prep Date: 09/11/2018 1425		Injection Volume: 2 uL
Leach Date: N/A		

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Pyridine	47	56	10 - 120	17	49		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
Nitrobenzene-d5	83		95		46 - 120		
2-Fluorobiphenyl	103		118		48 - 120		
p-Terphenyl-d14	106		124		59 - 136		
Phenol-d5	56		63		22 - 120		
2-Fluorophenol	75		83		35 - 120		
2,4,6-Tribromophenol	107		130	*	41 - 120		

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Method Blank - Batch: 460-550485

Method: 300.0
Preparation: N/A

Lab Sample ID:	MB 460-550485/3	Analysis Batch:	460-550485	Instrument ID:	IC 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	MB_TAIEDIIC2_Anions_
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	09/07/2018 2223	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	10 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Sulfate	0.60	U	0.33	0.60

Lab Control Sample/

Lab Control Sample Duplicate Recovery Report - Batch: 460-550485

Method: 300.0
Preparation: N/A

LCS Lab Sample ID:	LCS 460-550485/5	Analysis Batch:	460-550485	Instrument ID:	IC 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	LCS_TAIEDIIC2_Anions
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	09/07/2018 2306	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	10 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 460-550485/6	Analysis Batch:	460-550485	Instrument ID:	IC 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	LCS_TAIEDIIC2_Anions
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	09/07/2018 2319	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	10 uL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Sulfate	100	100	90 - 110	0	15		

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Method Blank - Batch: 460-550902

Method: 6010D

Preparation: 3010A

Lab Sample ID: MB 460-550902/1-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/10/2018 1444
Prep Date: 09/10/2018 1011
Leach Date: N/A

Analysis Batch: 460-550969
Prep Batch: 460-550902
Leach Batch: N/A
Units: ug/L

Instrument ID: ICP5
Lab File ID: 550822.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Manganese	15.0	U	0.99	15.0
Iron	150	U	34.2	150

Lab Control Sample - Batch: 460-550902

Method: 6010D

Preparation: 3010A

Lab Sample ID: LCS 460-550902/2-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/10/2018 1448
Prep Date: 09/10/2018 1011
Leach Date: N/A

Analysis Batch: 460-550969
Prep Batch: 460-550902
Leach Batch: N/A
Units: ug/L

Instrument ID: ICP5
Lab File ID: 550822.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Manganese	500	498.2	100	80 - 120	
Iron	1000	1062	106	80 - 120	

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Method Blank - Batch: 460-550617

Method: 350.1

Preparation: Distill/Ammonia

Lab Sample ID: MB 460-550617/1-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/10/2018 1516
Prep Date: 09/08/2018 1601
Leach Date: N/A

Analysis Batch: 460-550981
Prep Batch: 460-550617
Leach Batch: N/A
Units: mg/L

Instrument ID: Lachat2
Lab File ID: A180910.FDT
Initial Weight/Volume: 50.0 mL
Final Weight/Volume: 50.0 mL

Analyte	Result	Qual	MDL	RL
Ammonia	0.0658	J	0.045	0.10

Lab Control Sample - Batch: 460-550617

Method: 350.1

Preparation: Distill/Ammonia

Lab Sample ID: LCS 460-550617/2-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/10/2018 1517
Prep Date: 09/08/2018 1601
Leach Date: N/A

Analysis Batch: 460-550981
Prep Batch: 460-550617
Leach Batch: N/A
Units: mg/L

Instrument ID: Lachat2
Lab File ID: A180910.FDT
Initial Weight/Volume: 50.0 mL
Final Weight/Volume: 50.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	1.00	1.10	110	89 - 113	

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Method Blank - Batch: 460-550336

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: MB 460-550336/11
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/07/2018 0742
Prep Date: N/A
Leach Date: N/A

Analysis Batch: 460-550336
Prep Batch: N/A
Leach Batch: N/A
Units: mg/L

Instrument ID: Lachat 4
Lab File ID: OM_9-7-2018_07-29-19
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Result	Qual	MDL	RL
Nitrate as N	0.10	U	0.010	0.10

Method Blank - Batch: 460-550336

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: MB 460-550336/38
Client Matrix: Water
Dilution: 1.0
Analysis Date: 09/07/2018 0804
Prep Date: N/A
Leach Date: N/A

Analysis Batch: 460-550336
Prep Batch: N/A
Leach Batch: N/A
Units: mg/L

Instrument ID: Lachat 4
Lab File ID: OM_9-7-2018_07-29-19
Initial Weight/Volume:
Final Weight/Volume:

Analyte	Result	Qual	MDL	RL
Nitrate as N	0.10	U	0.010	0.10

Quality Control Results

Client: R & C Formation Ltd.

Job Number: 460-164001-1

LCS-Certified Reference Material - Batch: 460-550336

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: LCSSRM 460-550336/12 Analysis Batch: 460-550336
Client Matrix: Water Prep Batch: N/A
Dilution: 1.0 Leach Batch: N/A
Analysis Date: 09/07/2018 0742 Units: mg/L
Prep Date: N/A
Leach Date: N/A

Instrument ID: Lachat 4
Lab File ID: OM_9-7-2018_07-29-19
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N	0.750	0.741	98.8	79.5 - 120.0	

LCS-Certified Reference Material - Batch: 460-550336

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: LCSSRM 460-550336/39 Analysis Batch: 460-550336
Client Matrix: Water Prep Batch: N/A
Dilution: 1.0 Leach Batch: N/A
Analysis Date: 09/07/2018 0805 Units: mg/L
Prep Date: N/A
Leach Date: N/A

Instrument ID: Lachat 4
Lab File ID: OM_9-7-2018_07-29-19
Initial Weight/Volume:
Final Weight/Volume: 10 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N	0.750	0.730	97.3	79.5 - 120.0	

TestAmerica

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Page 1 of 1

Name (for report and invoice) Bob Lessen		Samplers Name (Printed) Stephen Levine		Site/Project Identification Medea Harmon NY	
Company Ric Formation Ltd.		P.O. #		State (Location of site): NJ: ☐ NY: ☒	
Address 171 Deer Park Ave Ste. 3		Analysis Turnaround Time Standard ☒ Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐		Regulatory Program:	
City Babylon NY 11702		Phone 631-482-9546		Fax 631-482-9543	
Sample Identification		Date	Time	Matrix	No. of Cont.
Trip Blank		9/4-9/5/08	0925	AG	4
MW-101			0925	q	1
MW-15			1023	q	1
MW-102			1055	q	1
MW-355			1305	q	1
MW-375			1340	q	1
MW-335			1423	q	1
MW-20 DR			1646	q	1
Preservation Used: (1) ICE, (2) HCl, (3) H ₂ SO ₄ , (4) HNO ₃ , 5 = NaOH		Soil:		Water:	
6 = Other		7 = Other			
Special Instructions <i>Aspirine, alpha-Picoline, 3-aminopyridine, 4-sulfate, ammonia nitrate, manganese</i>					
Relinquished by	Company	Date / Time	Received by	Company	Water Metals Filtered (Yes/No)?
<i>[Signature]</i>	RC Formation	9/10/17/08	<i>[Signature]</i>	THASSON	17-25
Relinquished by	Company	Date / Time	Received by	Company	
<i>[Signature]</i>	THASSON	9/16/18	<i>[Signature]</i>	THASSON	
Relinquished by	Company	Date / Time	Received by	Company	
<i>[Signature]</i>	Company		<i>[Signature]</i>	Company	
Relinquished by	Company	Date / Time	Received by	Company	
<i>[Signature]</i>	Company		<i>[Signature]</i>	Company	
Relinquished by	Company	Date / Time	Received by	Company	
<i>[Signature]</i>	Company		<i>[Signature]</i>	Company	

LAB USE ONLY	
Job No:	164001
Project No:	
Sample Numbers	1 2 3 4 5 6 7 8



460-164001 Chain of Custody

SHORT HOLD

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132)

Massachusetts (M-NL312), North Carolina (No. 578)

Exm 7 9 3.20c

TAL-0016 (07/15)

164001

Number of Coolers		IR Gun #		Cooler Temperatures							
7		7									
				RAW		CORRECTED		RAW		CORRECTED	
Cooler #1	25.2 °C		25.2 °C	Cooler #4		°C		°C	Cooler #7		°C
Cooler #2		°C		Cooler #5		°C		°C	Cooler #8		°C
Cooler #3		°C		Cooler #6		°C		°C	Cooler #9		°C

[illegible]

If pH adjustments are required record the information below:

Sample No(s), adjusted: _____

Preservative Name/Conc.: _____

Volume of Preservative used (ml): _____

Lot # of Preservative(s): _____

Expiration Date: _____

The appropriate Project Manager and Department Manager should be notified about the samples which were pH adjusted

Samples for Metal analysis which are out of compliance must be acidified at least 24 hours prior to analysis

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:				
Client Contact		Phone:	Haas, Melissa	State of Origin:	460-52585.1				
Shipping/Receiving			E-Mail:	New York	Page: 1 of 1				
Company:		TestAmerica Laboratories, Inc.		Accreditations Required (See note):	Job #:				
Address:		10 Hazelwood Drive,		NELAP - New York	460-164001-1				
City:		Amherst		Preservation Codes:					
State, Zip:		NY, 14228-2298		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)					
Phone:		716-691-2600(Tel) 716-691-7991(Fax)		Other:					
Email:									
Project Name:		Nepera Harrimon, NY							
Site:									
Due Date Requested:		9/12/2018		Analysis Requested					
TAT Requested (days):									
PO #:									
WO #:									
Project #:		46009639							
SSOW#:									
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water, I=oil, B=BI=issue, A=At)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	82/70D/35/10C, LVI SVOC - Client Specific List	Total Number of Containers	Special Instructions/Note:
MW-101 (460-164001-2)	9/5/18	09:25 Eastern		Water			X	2	2-Aminopyridine is a targeted TIC.
MW-1s (460-164001-3)	9/5/18	10:23 Eastern		Water			X	2	2-Aminopyridine is a targeted TIC.
MW-102 (460-164001-4)	9/5/18	10:55 Eastern		Water			X	2	2-Aminopyridine is a targeted TIC.
MW-35s (460-164001-5)	9/5/18	13:05 Eastern		Water			X	2	2-Aminopyridine is a targeted TIC.
MW-37s (460-164001-6)	9/5/18	13:40 Eastern		Water			X	2	2-Aminopyridine is a targeted TIC.
MW-33s (460-164001-7)	9/5/18	14:23 Eastern		Water			X	2	2-Aminopyridine is a targeted TIC.
MW-20DR (460-164001-8)	9/5/18	16:40 Eastern		Water			X	2	2-Aminopyridine is a targeted TIC.
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any charges to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.									
Possible Hazard Identification									
Unconfirmed									
Deliverable Requested: I, II, III, IV, Other (specify)									
Primary Deliverable Rank: 2									
Empty Kit Relinquished by:									
Date:									
Time:									
Relinquished by:									
Date/Time: 9/7/18 1800									
Company: +Asd.									
Relinquished by:									
Date/Time:									
Company:									
Relinquished by:									
Date/Time:									
Company:									
Custody Seals Intact:									
Custody Seal No.:									
Cooler Temperature(s) °C and Other Remarks: 3.3 #									

Login Sample Receipt Checklist

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Login Number: 164001
List Number: 1
Creator: Villanueva, Angelica P

List Source: TestAmerica Edison

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is ≤ 6 mm (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: R & C Formation Ltd.

Job Number: 460-164001-1

Login Number: 164001
List Number: 2
Creator: Hulbert, Michael J

List Source: TestAmerica Buffalo
List Creation: 09/10/18 03:58 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3 #1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	False	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	