

Project Photographs

Long Term Monitoring, 2017
CAM-F Sarcpa Lake, Nunavut



Photo: 7

Date:

August 20, 2017

Description:

View of grading of cap on southeast side of NHWL, area of revegetation.

Location:

NHWL, Viewpoint 43 (Figure 2)

Direction Taken:

S



Photo: 8

Date:

August 20, 2017

Description:

View of Feature A, northwest edge of landfill cap.

Location:

NHWL, Viewpoint 48 (Figure 2)

Direction Taken:

SW

Project Photographs

Long Term Monitoring, 2017
CAM-F Sarcpa Lake, Nunavut



Photo: 9

Date:

August 20, 2017

Description:

View of Feature B, western corner of NHWL cap.

Location:

NHWL, Viewpoint 49 (Figure 2)

Direction Taken:

W



Photo: 10

Date:

August 20, 2017

Description:

View of Feature C, edge of west landfill corner in background.

Location:

NHWL, Viewpoint 50 (Figure 2)

Direction Taken:

N

Project Photographs

Long Term Monitoring, 2017
CAM-F Sarcpa Lake, Nunavut



Photo: 11

Date:

August 20, 2017

Description:

View of previously identified settlement along the southwest side of the NHL (Feature D).

Location:

NHL, Viewpoint 51 (Figure 2)

Direction Taken:

SE



Photo: 12

Date:

August 20, 2017

Description:

View of partially full, overturned barrels near the cabin.

Location:

NHL

Direction Taken:

SW

APPENDIX B

Thermistor Data



Table B-1: Thermistor Annual Maintenance Log

Contractor name: Arcadis Canada Inc.		Inspection date: 2017-08-19		
Prepared by: Elliott Holden				
Thermistor Information				
Thermistor Number	VT-01	VT-02	VT-03	VT-04
Install date	2007-09-21	2007-09-19	2007-09-16	2007-09-17
Location	CAM-F (SSDF)	CAM-F (SSDF)	CAM-F (SSDF)	CAM-F (SSDF)
Inclination	Vertical	Vertical	Vertical	Vertical
Cable length (m)	7.8	7.8	8.4	8.4
Cable length (m) above ground	3	3	1.5	1.5
No. of beads*	11	11	12	12
Bead Type	44007	44007	44007	44007
UTM Coordinates	N: 7605524 E: 405936	N: 7605544 E: 405886	N: 7605574.5 E: 405956.9	N: 7605594.1 E: 405906.5
Serial no. of datalogger installed in 2017	07060500	07040040	07060501	14000723
Serial no. of datalogger removed in 2017	708141	14000723	08050018	130008014
Logger model	Lakewood Systems Ultra-Logger (RX-16 Revision J-C)			
Thermistor inspection				
Thermistor Number	VT-01	VT-02	VT-03	VT-04
Casing	Good condition	Good condition	Good condition	Good condition
Cover	Good condition	Good condition	Good condition	Good condition
New Dataloggers Installed in 2017	Good condition	Good condition	Good condition	Good condition
Dataloggers Removed in 2017	Good condition	Good condition	Good condition	Good condition
Cable	Good condition	Good condition	Good condition	Good condition
Beads	Operational	Operational	Operational	Operational
Memory Capacity of Datalogger removed in 2017	100%	100%	100%	100%
Battery installation date	Sept. 2017	Sept. 2017	Sept. 2017	Sept. 2017
Battery change date (recommended)	Aug. 2024	Aug. 2024	Aug. 2024	Aug. 2024
Main battery (V)	11.34	11.34	11.34	11.34
Aux battery (V)	12.53	12.90	13.50	13.50
Observations and Proposed Maintenance				
- Standardized Guard locks (40 mm universal-key padlocks, No. 834, key number 102) should be replaced on all four data logger housings				

Table B-2: Manual Thermistor Readings (August 19, 2017)

Analog Channel	Thermistor R (Ohms)	Temperature (°C)		
		Manual	Logged	Difference
VT01	1	8912	12.3022	6.6643
	2	12007	6.1461	7.0643
	3	13912	3.1891	3.1344
	4	16156	0.2408	0.143
	5	17085	-0.8478	-0.9447
	6	18007	-1.8644	-1.9437
	7	18900	-2.7950	-2.8583
	8	19860	-3.7420	-3.8969
	9	20860	-4.6756	-4.8417
	10	21870	-5.5689	-5.7498
	11	22700	-6.2692	-6.5008
	<i>maximum</i>	--	--	5.6
VT02	1	8132	14.2415	7.0293
	2	11225	7.5167	8.1066
	3	12929	4.6538	4.8272
	4	14818	1.9386	1.9322
	5	16466	-0.1301	-0.2068
	6	17494	-1.3062	-1.328
	7	18317	-2.1932	-2.258
	8	19378	-3.2731	-3.3526
	9	20350	-4.2059	-4.2756
	10	21200	-4.9816	-5.1183
	11	21990	-5.6720	-5.8304
	<i>maximum</i>	--	--	7.2
VT03	1	15363	1.2271	1.2487
	2	16646	-0.3418	-0.3337
	3	17479	-1.2896	-1.3433
	4	18425	-2.3063	-2.3406
	5	19682	-3.5704	-3.6243
	6	20680	-4.5113	-4.5502
	7	21660	-5.3870	-5.4976
	8	22440	-6.0530	-6.2135
	9	23270	-6.7338	-6.9096
	10	24010	-7.3183	-7.5304
	11	24520	-7.7095	-7.9738
	12	25110	-8.1510	-8.4261
	<i>maximum</i>	--	--	0.3
VT04	1	15445	1.1225	1.153
	2	16612	-0.3020	-0.2982
	3	17533	-1.3492	-1.3689
	4	18489	-2.3730	-2.3974
	5	19703	-3.5907	-3.6243
	6	20830	-4.6483	-4.6985
	7	21830	-5.5344	-5.6102
	8	22850	-6.3927	-6.5226
	9	23780	-7.1388	-7.31
	10	24630	-7.7927	-8.0183
	11	25870	-8.7028	-9.0235
	12	25290	-8.2833	-8.5777
	<i>maximum</i>	--	--	0.3

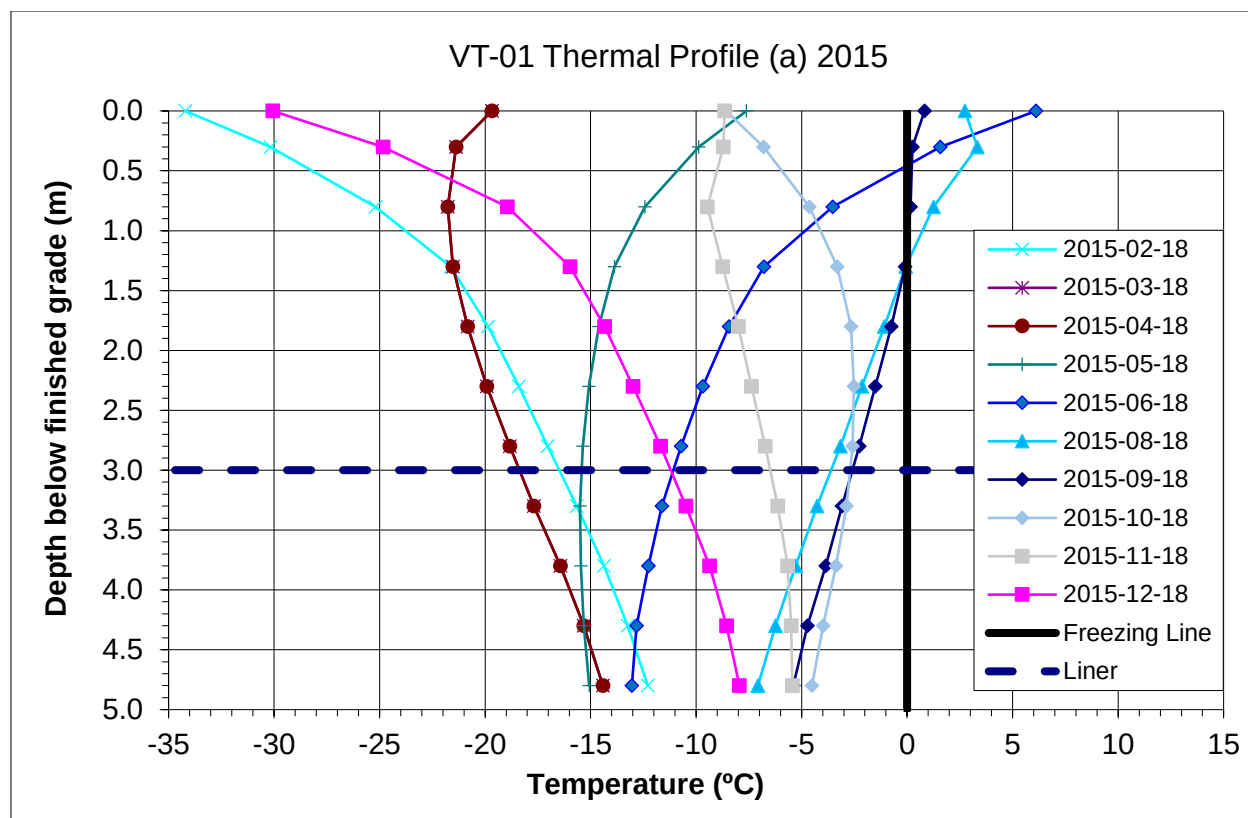


Figure B-1 (a) – VT-01 Thermal Profile in 2015 at the SSDF

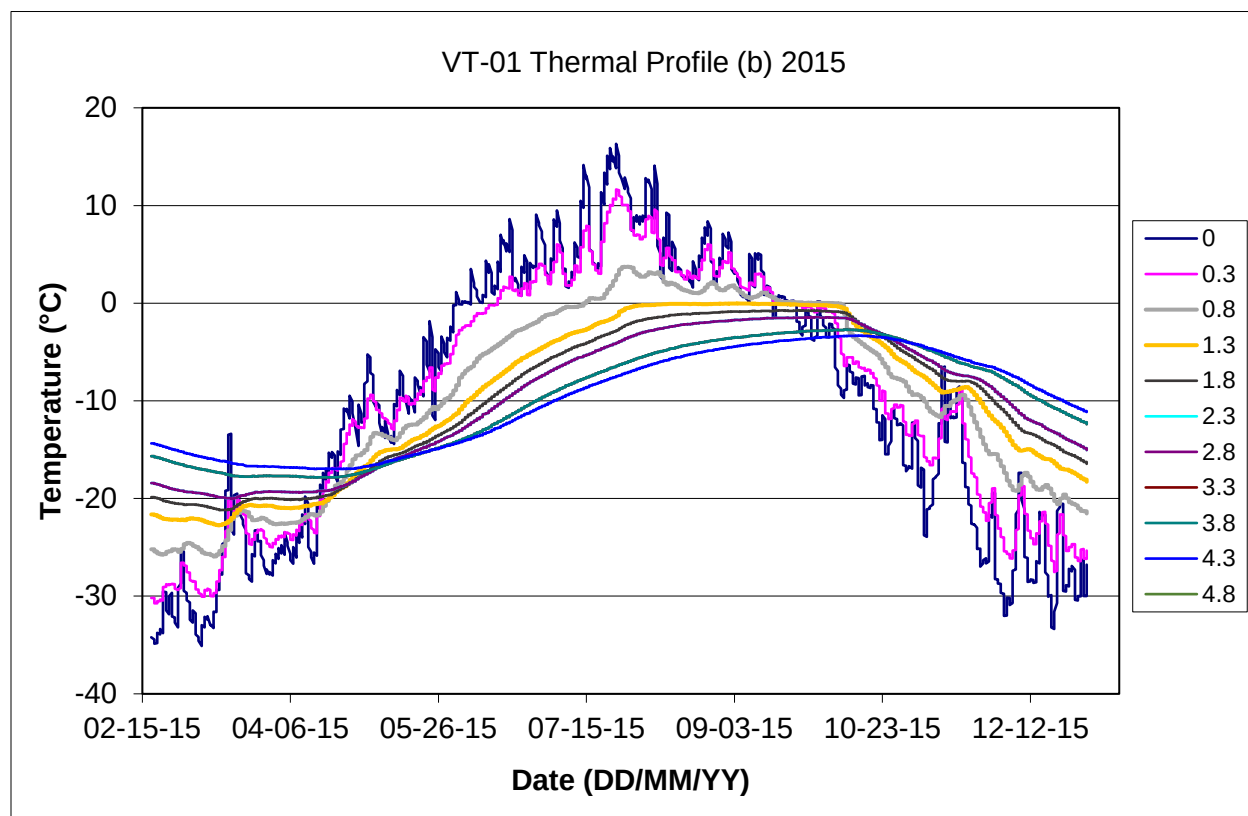


Figure B-1 (b) – VT-01 Thermal Profile in 2015 at the SSDF

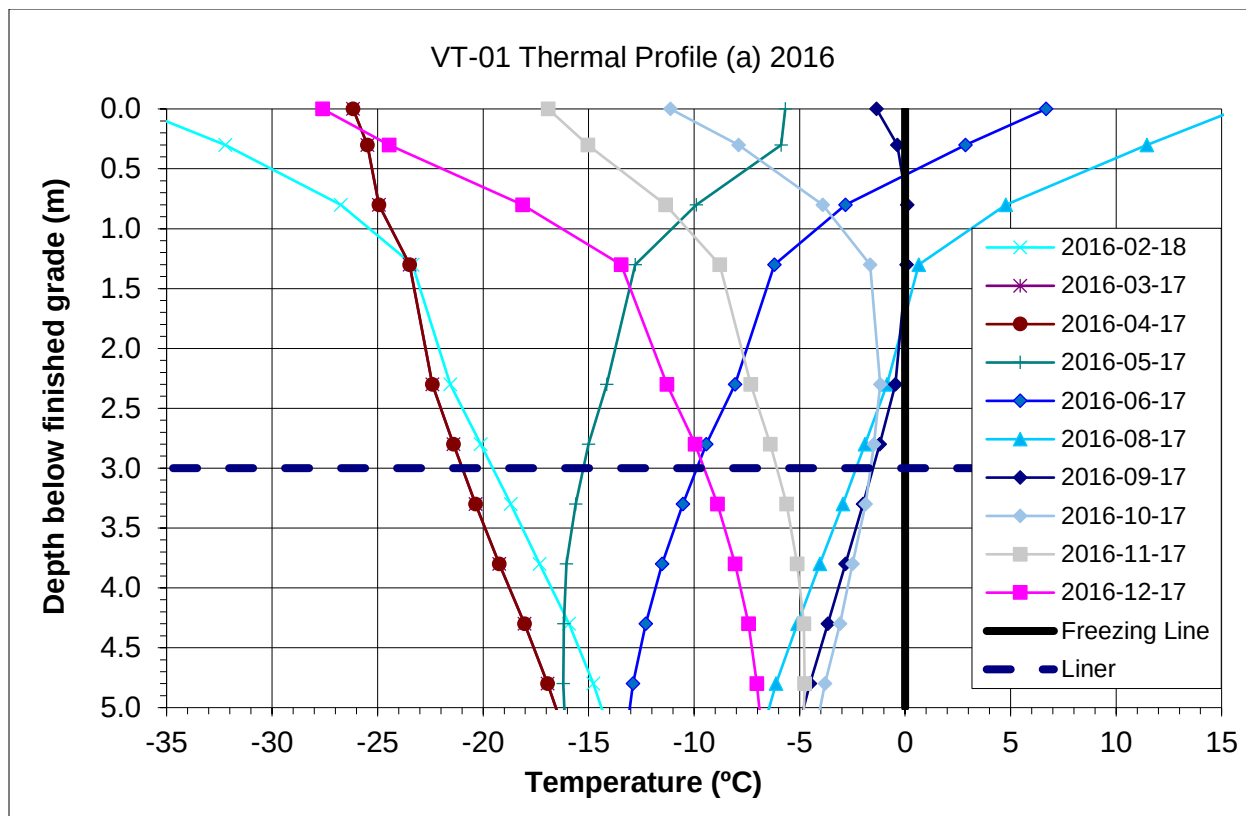


Figure B-2 (a) – VT-01 Thermal Profile in 2016 at the SSDF

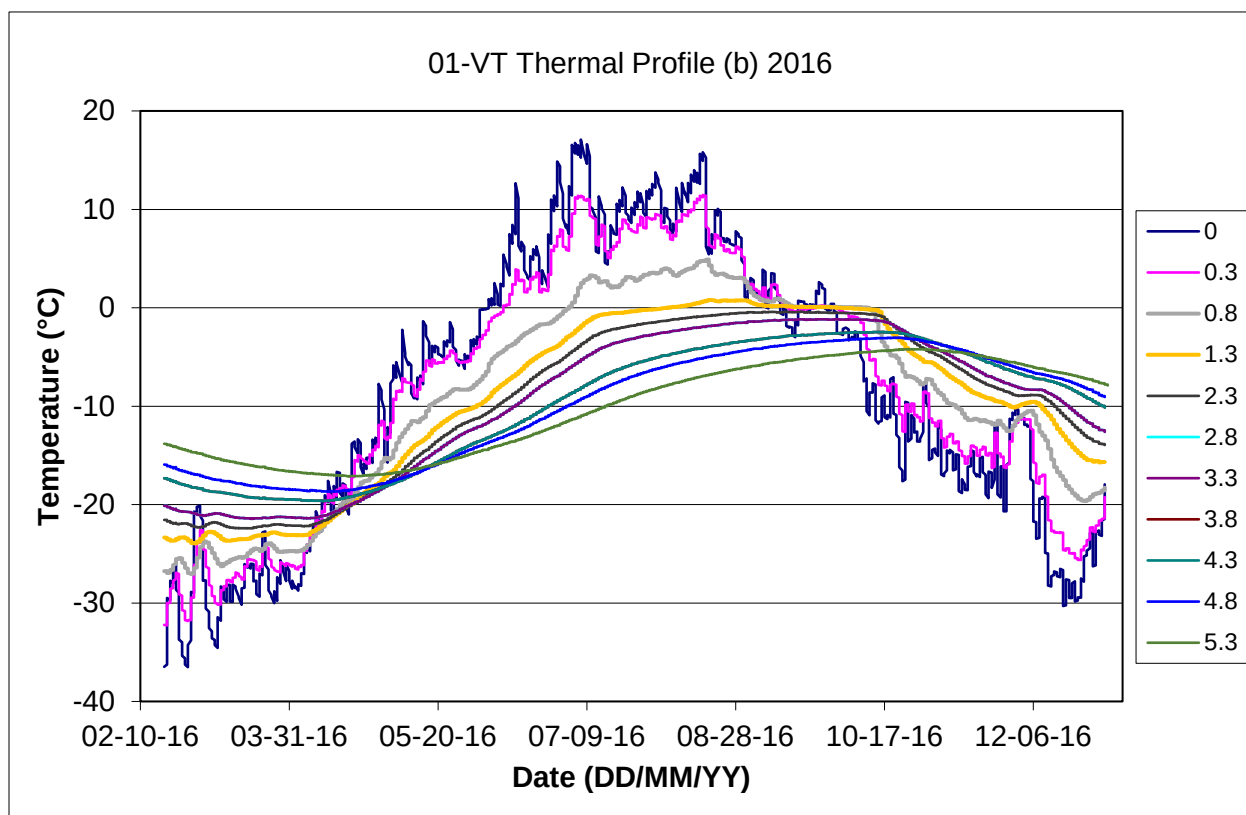


Figure B-2 (b) – VT-01 Thermal Profile in 2016 at the SSDF

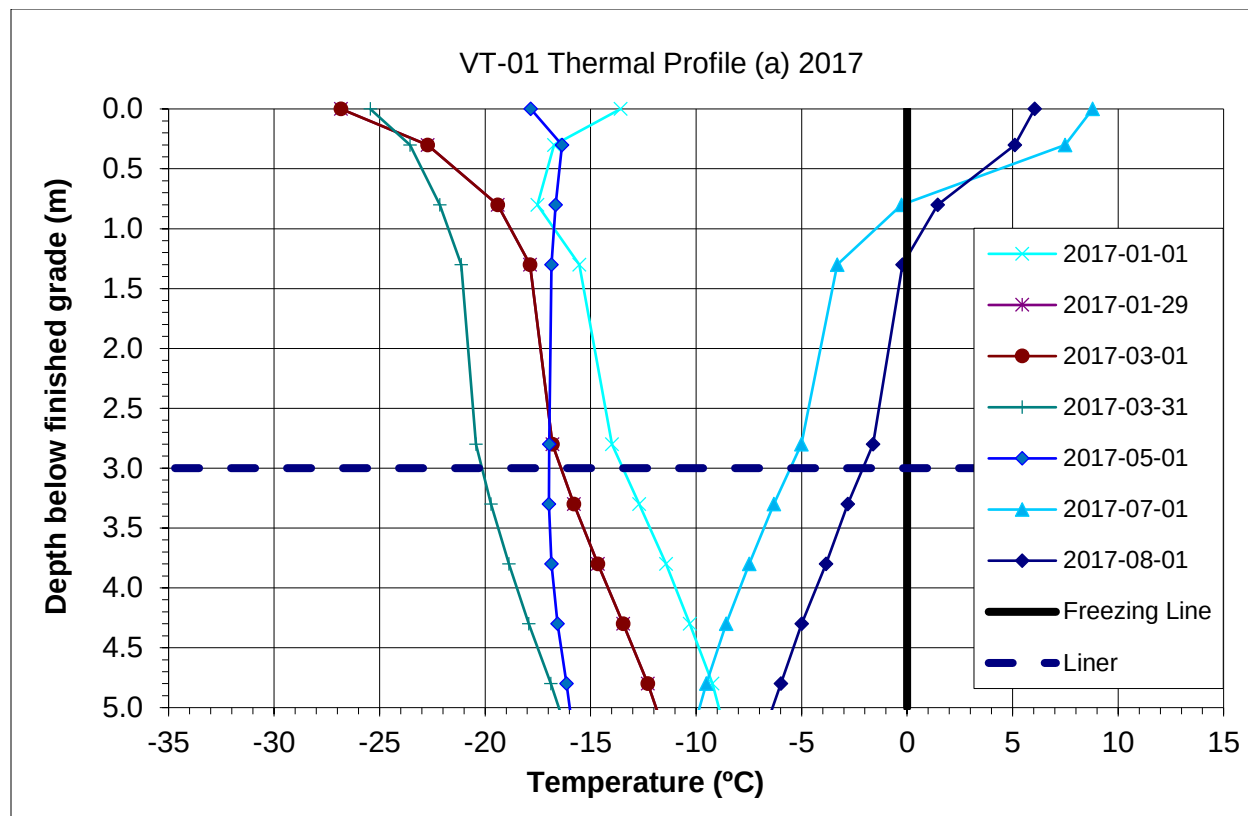


Figure B-3 (a) – VT-01 Thermal Profile in 2017 at the SSDF

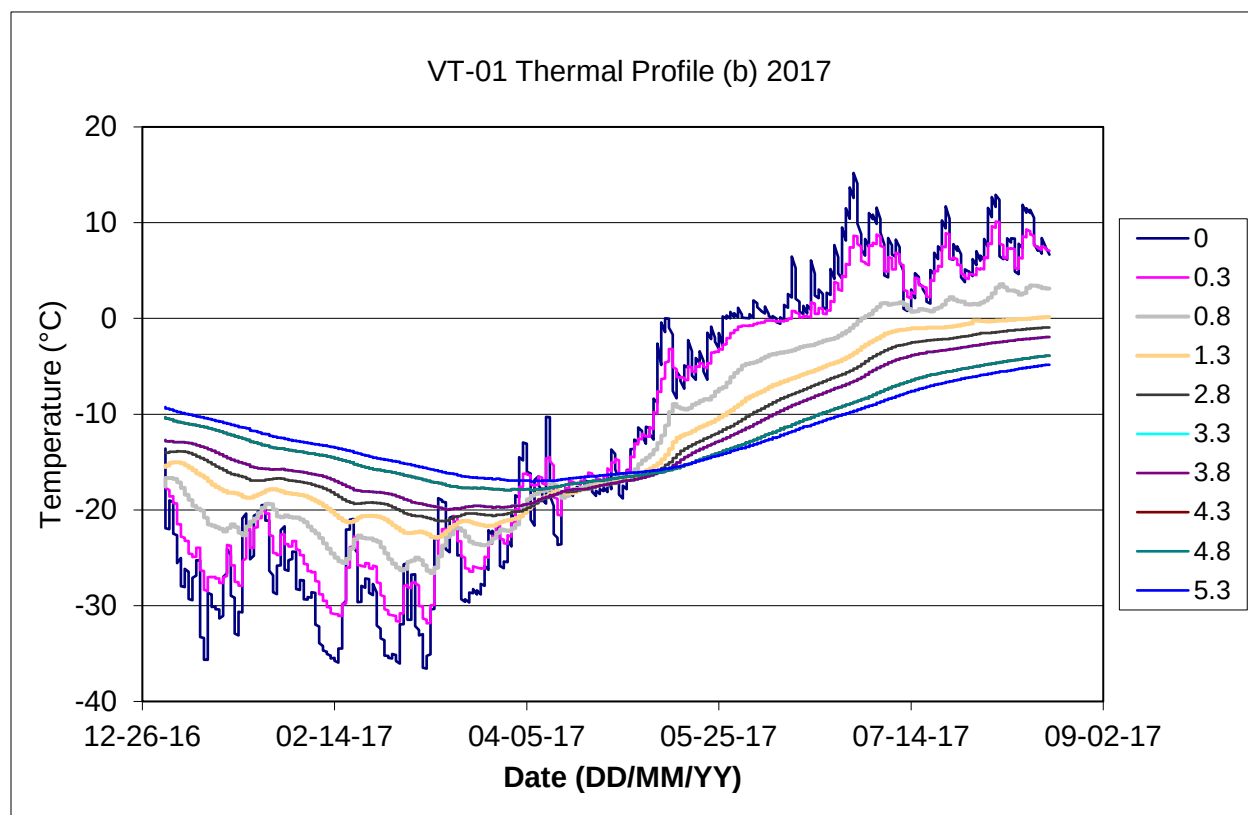


Figure B-3 (b) – VT-01 Thermal Profile in 2017 at the SSDF

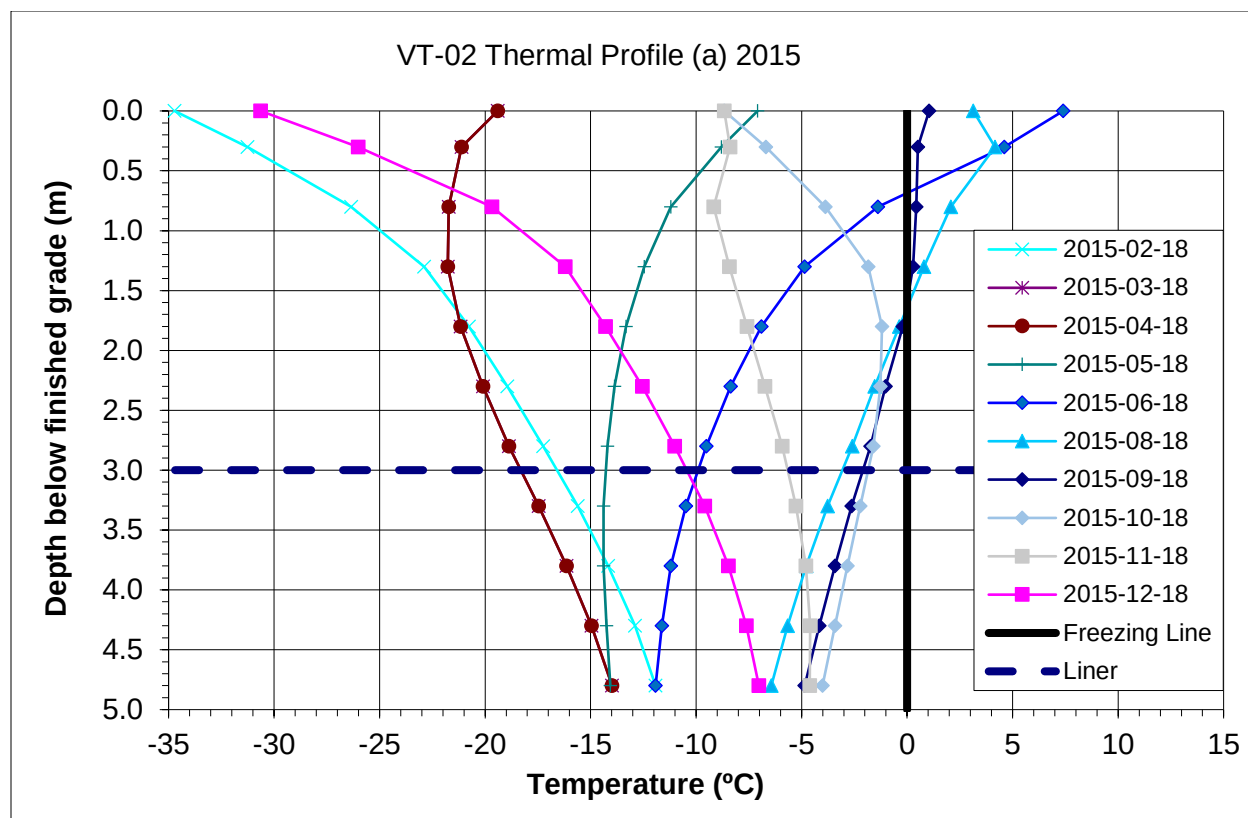


Figure B-4 (a) – VT-02 Thermal Profile in 2015 at the SSDF

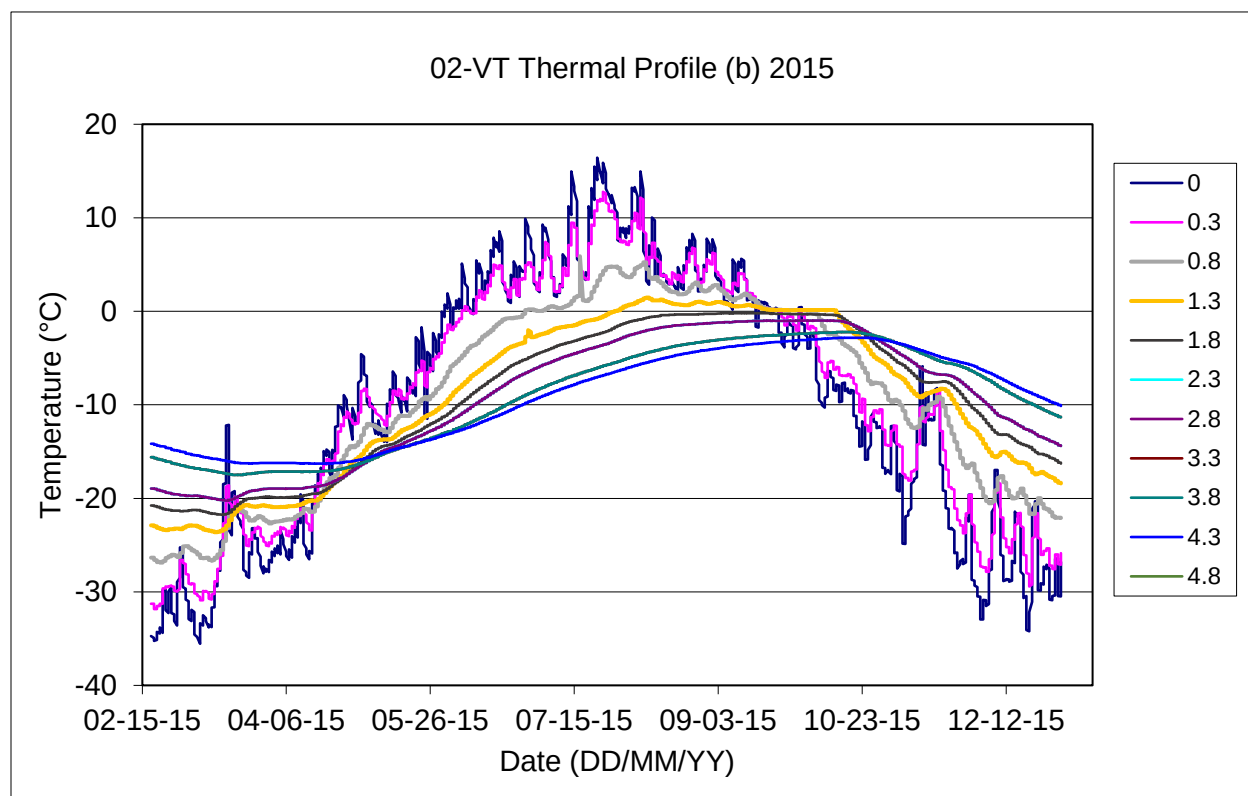


Figure B-4 (b) – VT-02 Thermal Profile in 2015 at the SSDF

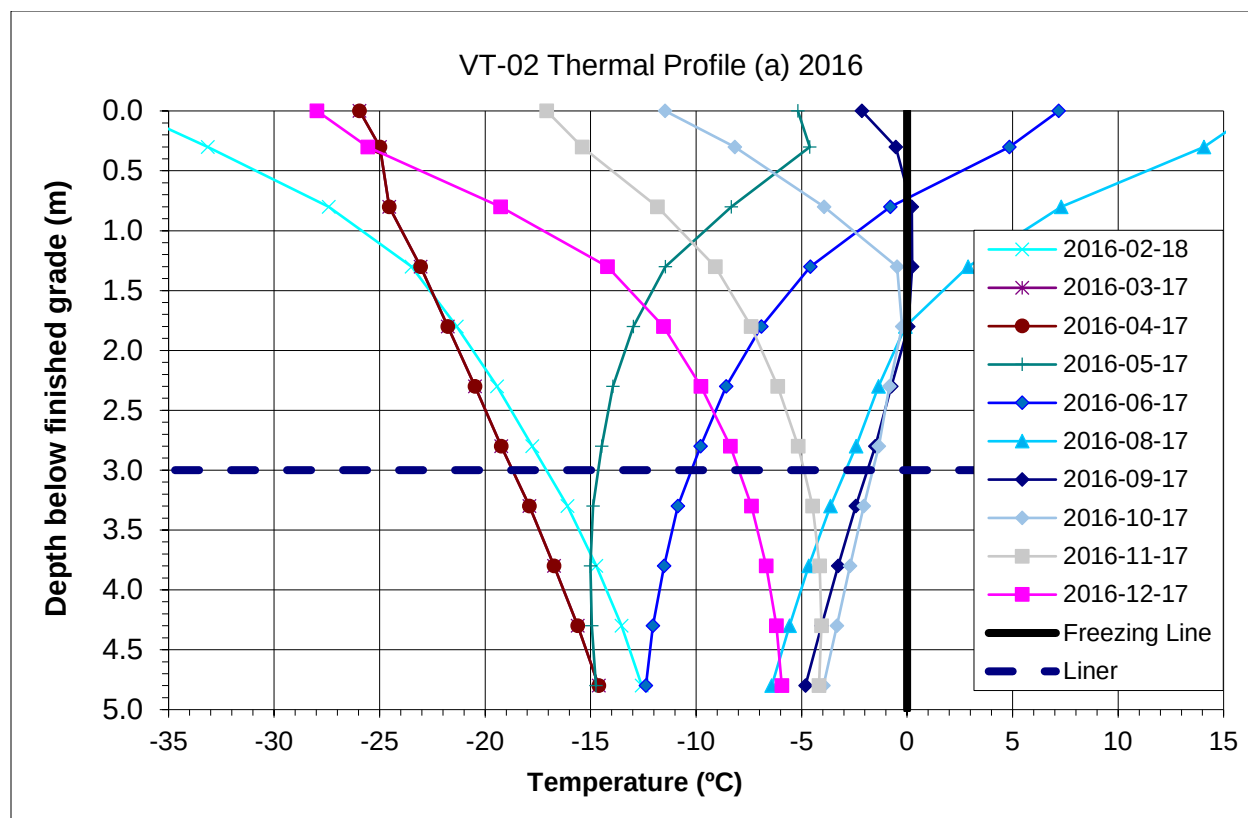


Figure B-5 (a) – VT-02 Thermal Profile in 2016 at the SSDF

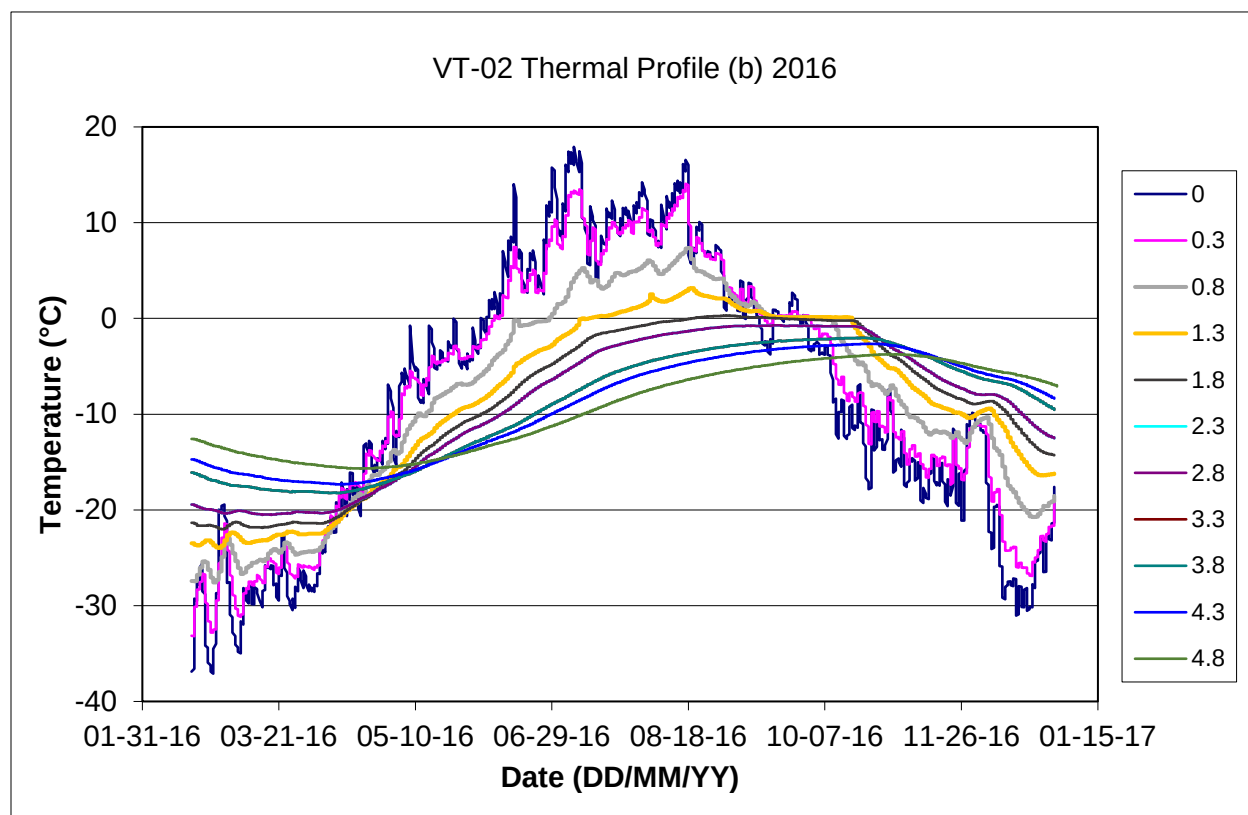


Figure B-5 (b) – VT-02 Thermal Profile in 2016 at the SSDF

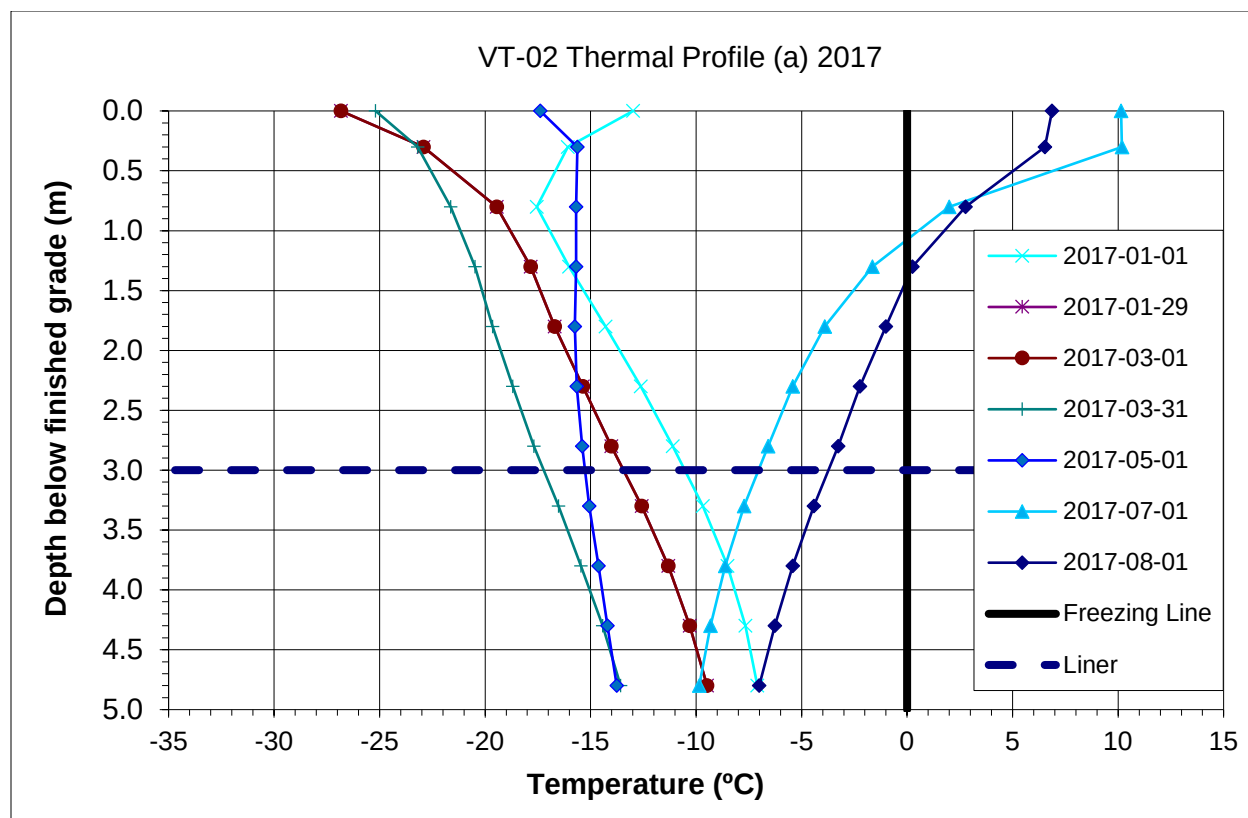


Figure B-6 (a) – VT-02 Thermal Profile in 2017 at the SSDF

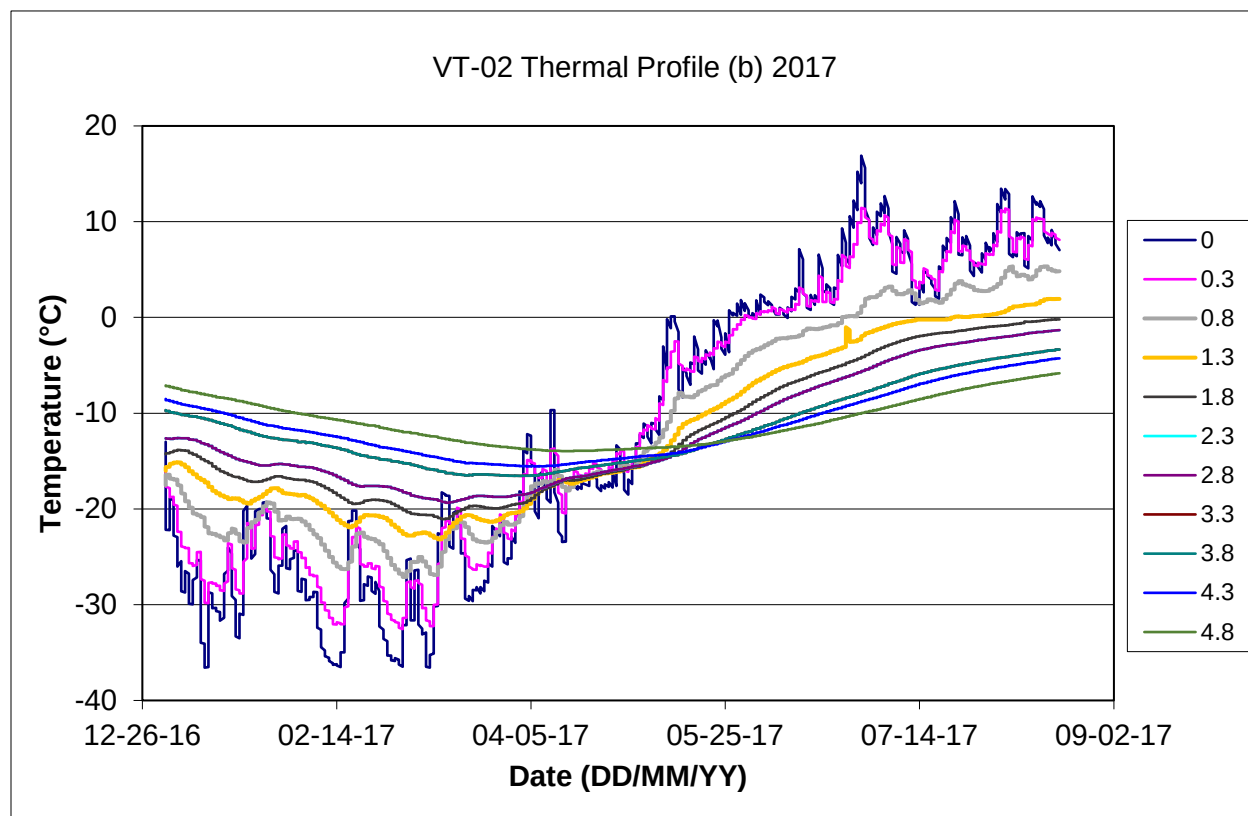


Figure B-6 (b) – VT-02 Thermal Profile in 2017 at the SSDF

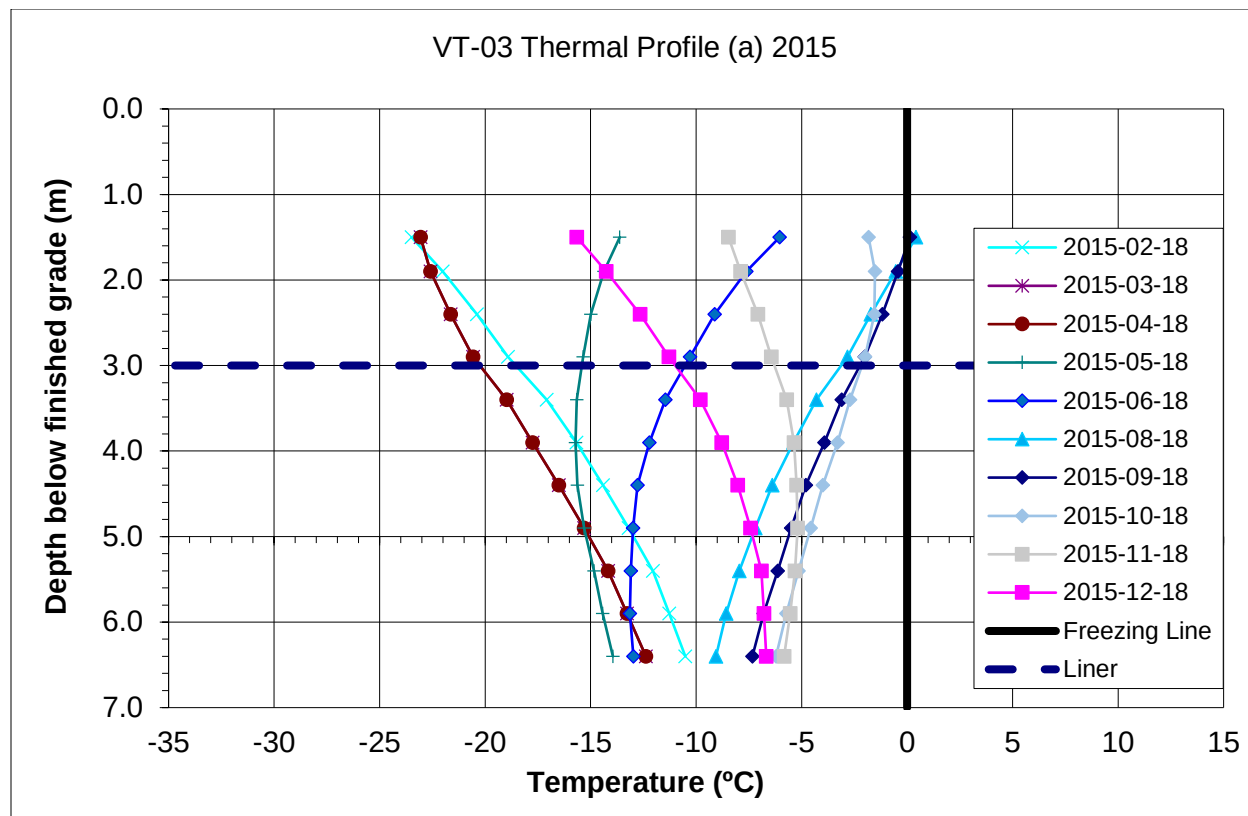


Figure B-7 (a) – VT-03 Thermal Profile in 2015 at the SSDF

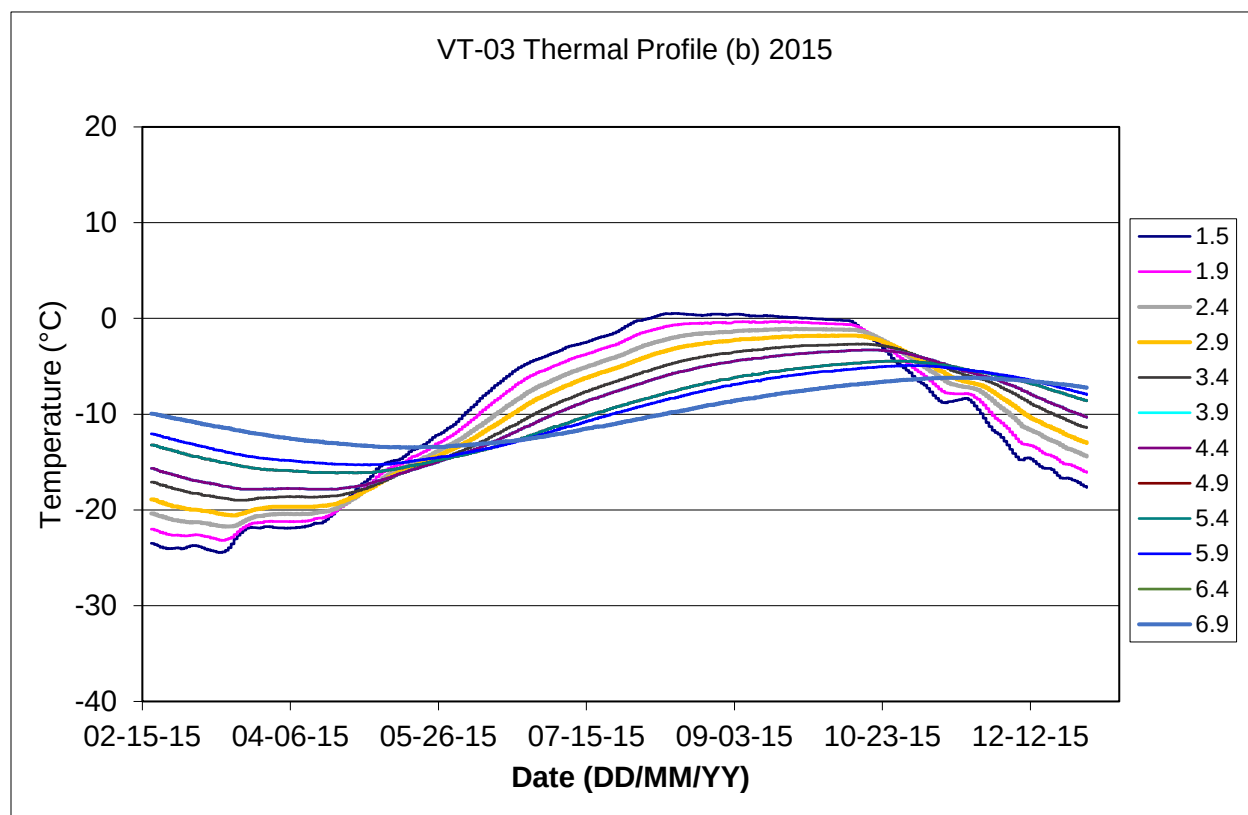


Figure B-7 (b) – VT-03 Thermal Profile in 2015 at the SSDF

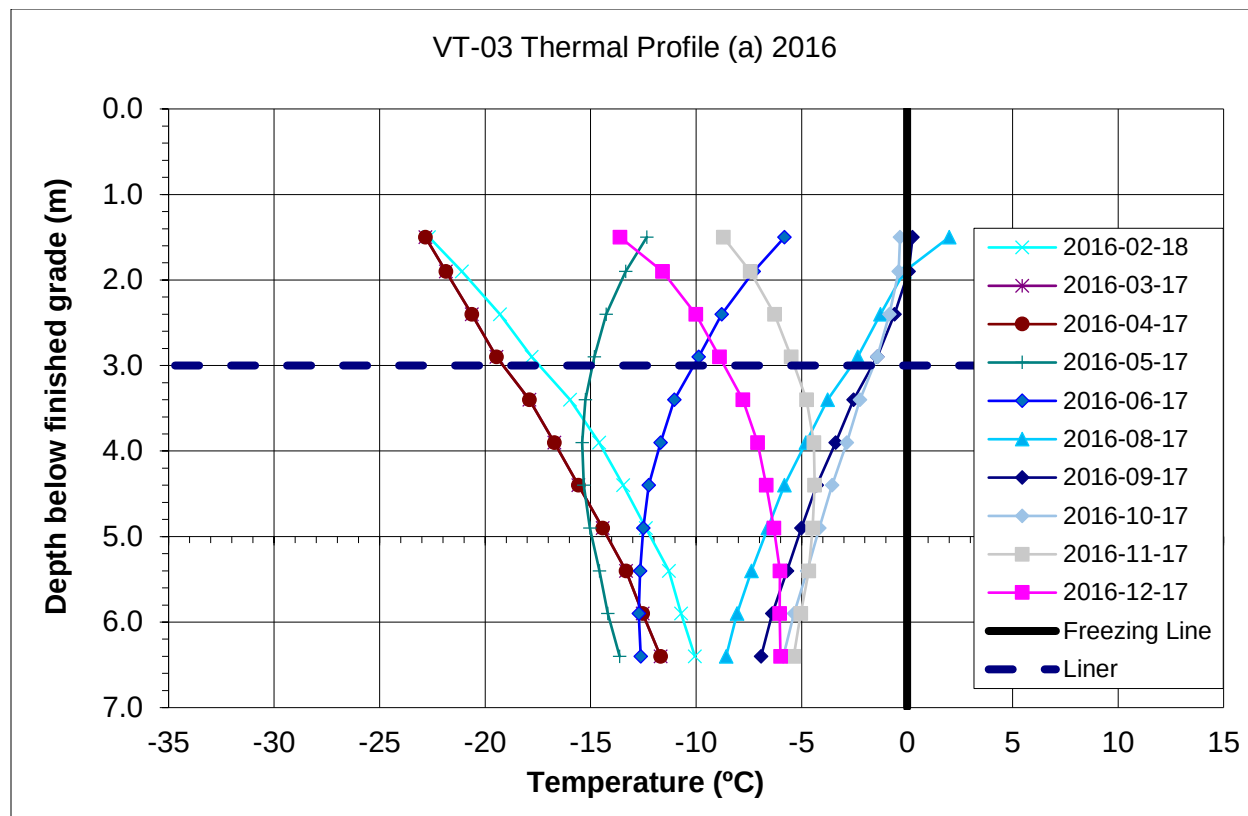


Figure B-8 (a) – VT-03 Thermal Profile in 2016 at the SSDF

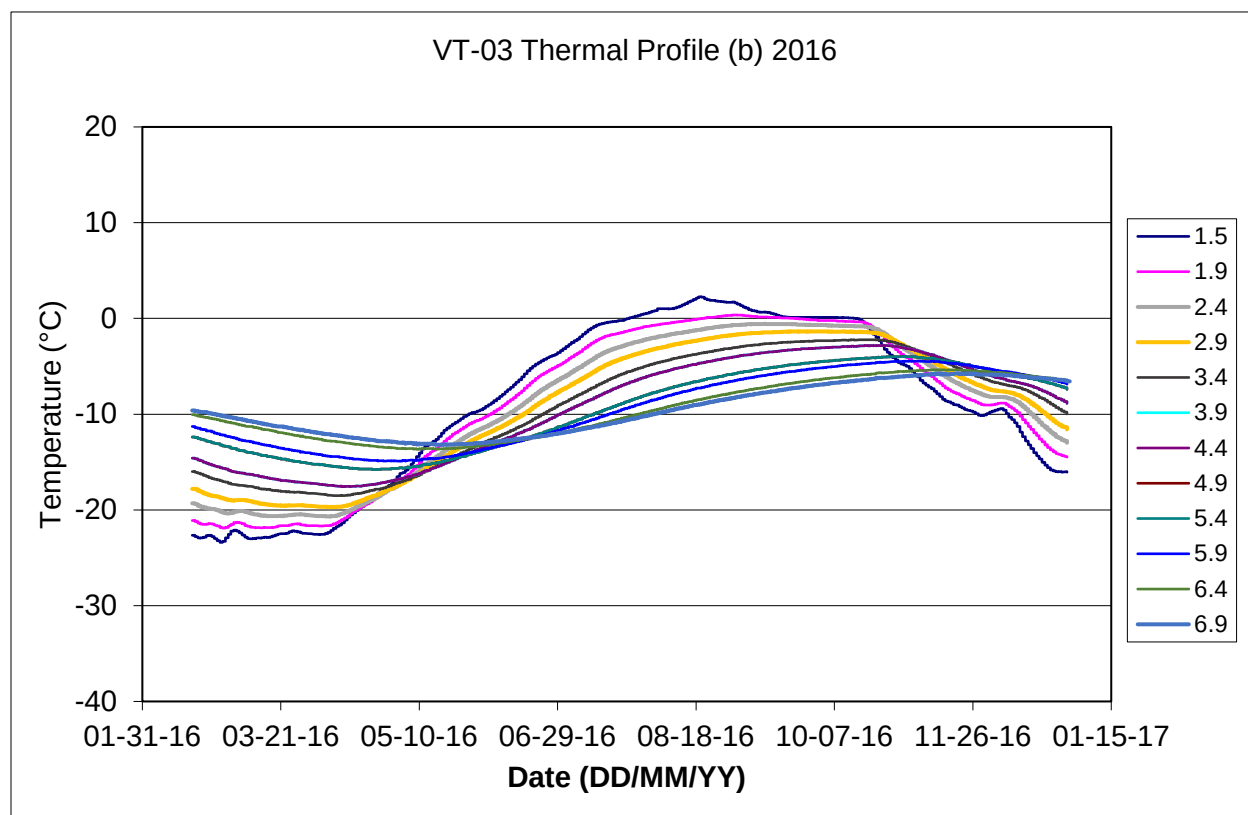


Figure B-8 (b) – VT-03 Thermal Profile in 2016 at the SSDF

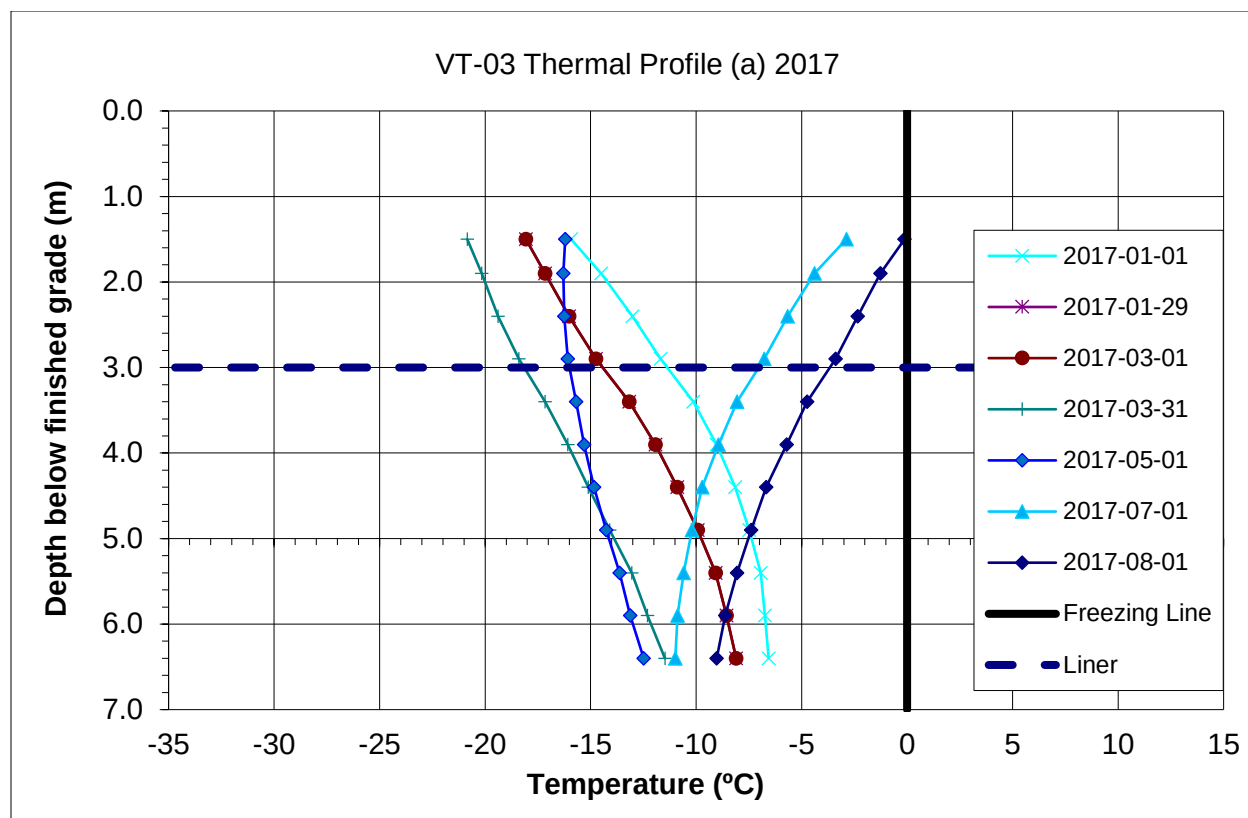


Figure B-9 (a) – VT-03 Thermal Profile in 2017 at the SSDF

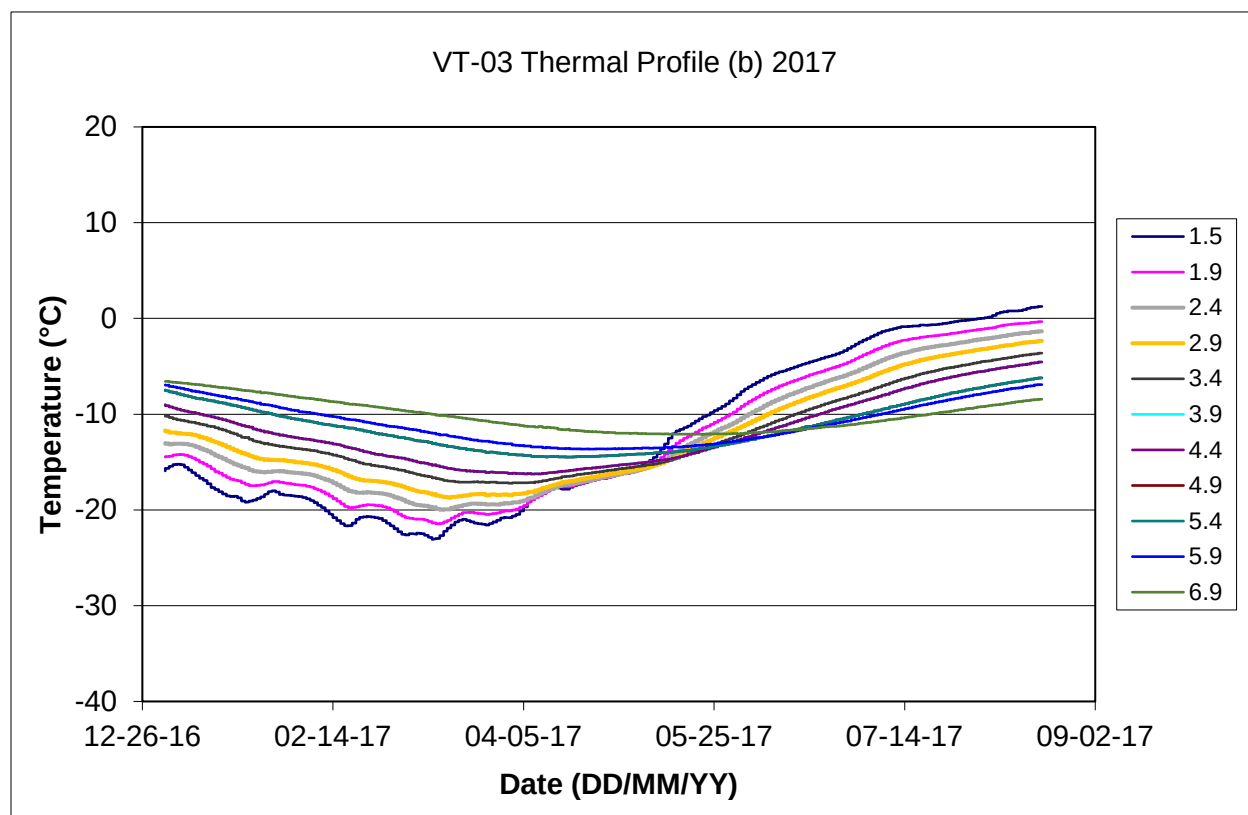


Figure B-9 (b) – VT-03 Thermal Profile in 2017 at the SSDF

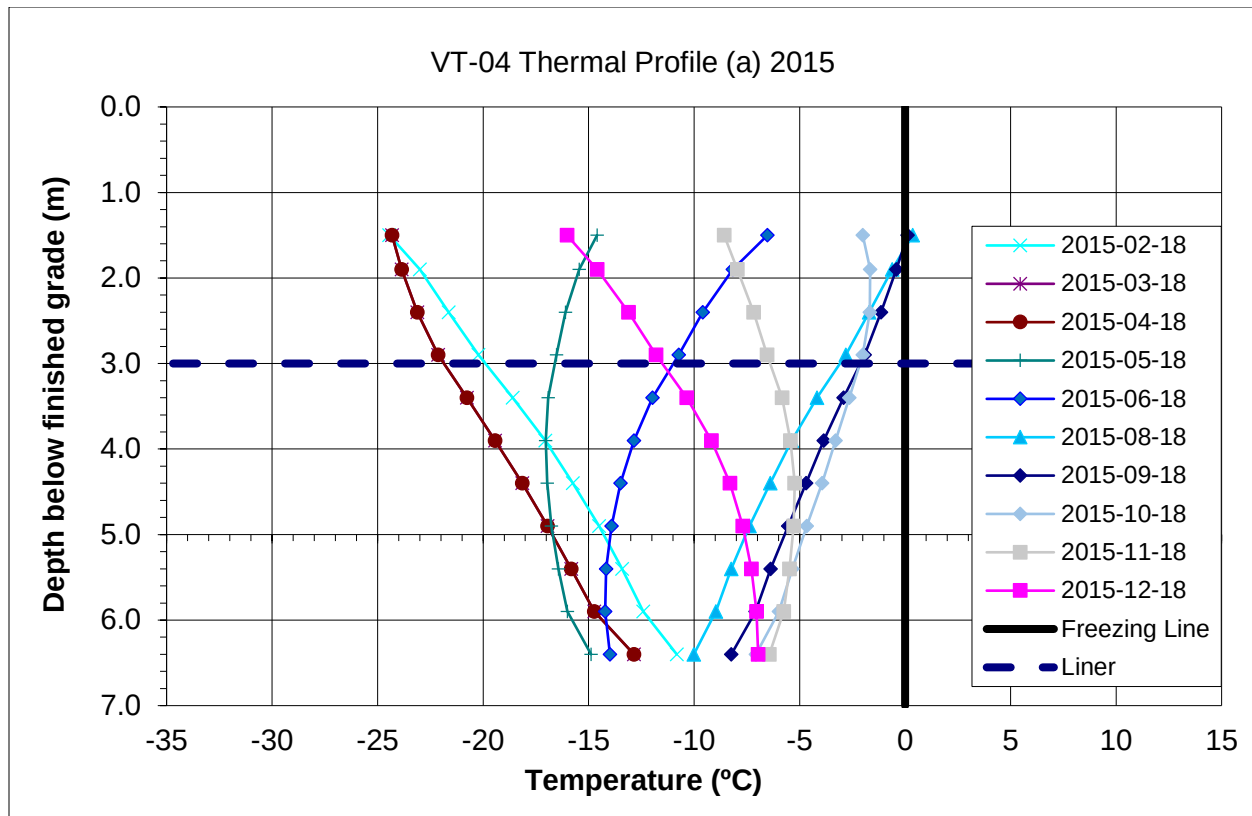


Figure B-10 (a) – VT-04 Thermal Profile in 2015 at the SSDF

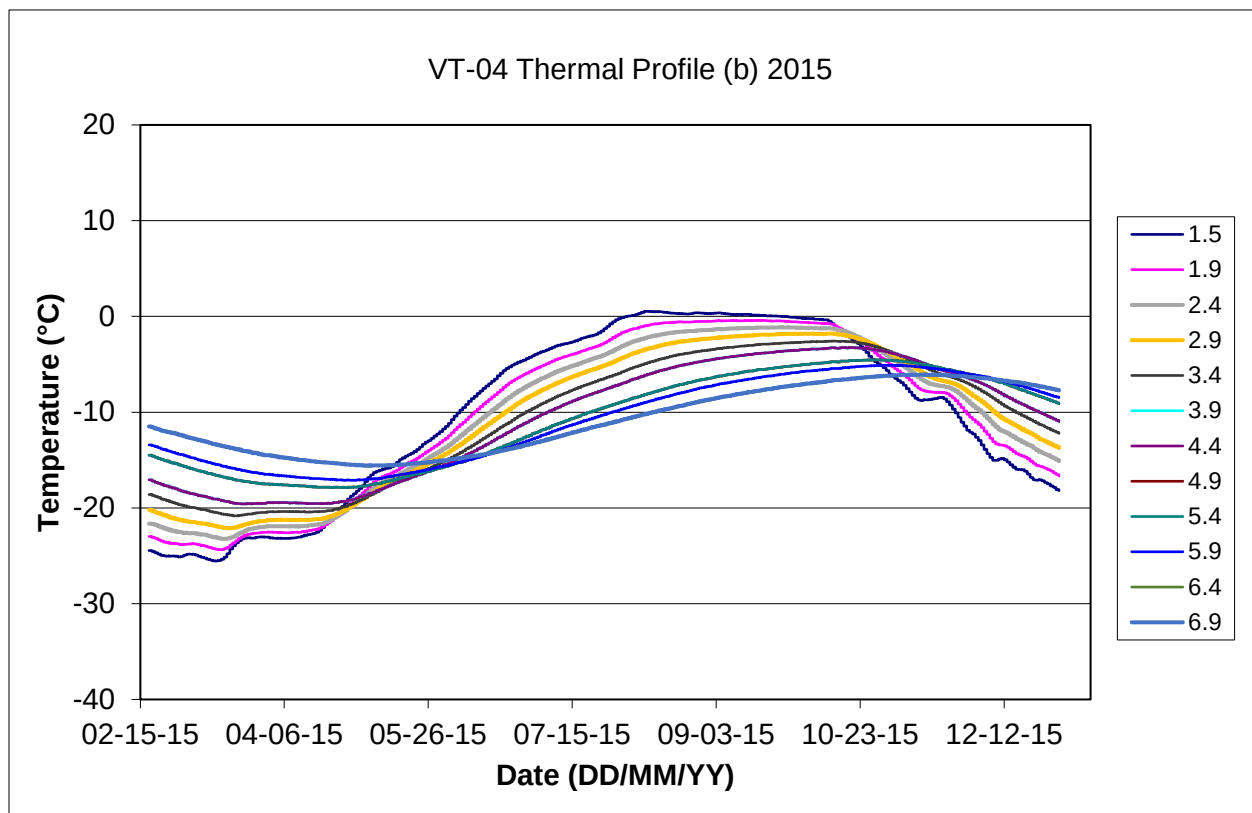


Figure B-10 (b) – VT-04 Thermal Profile in 2015 at the SSDF

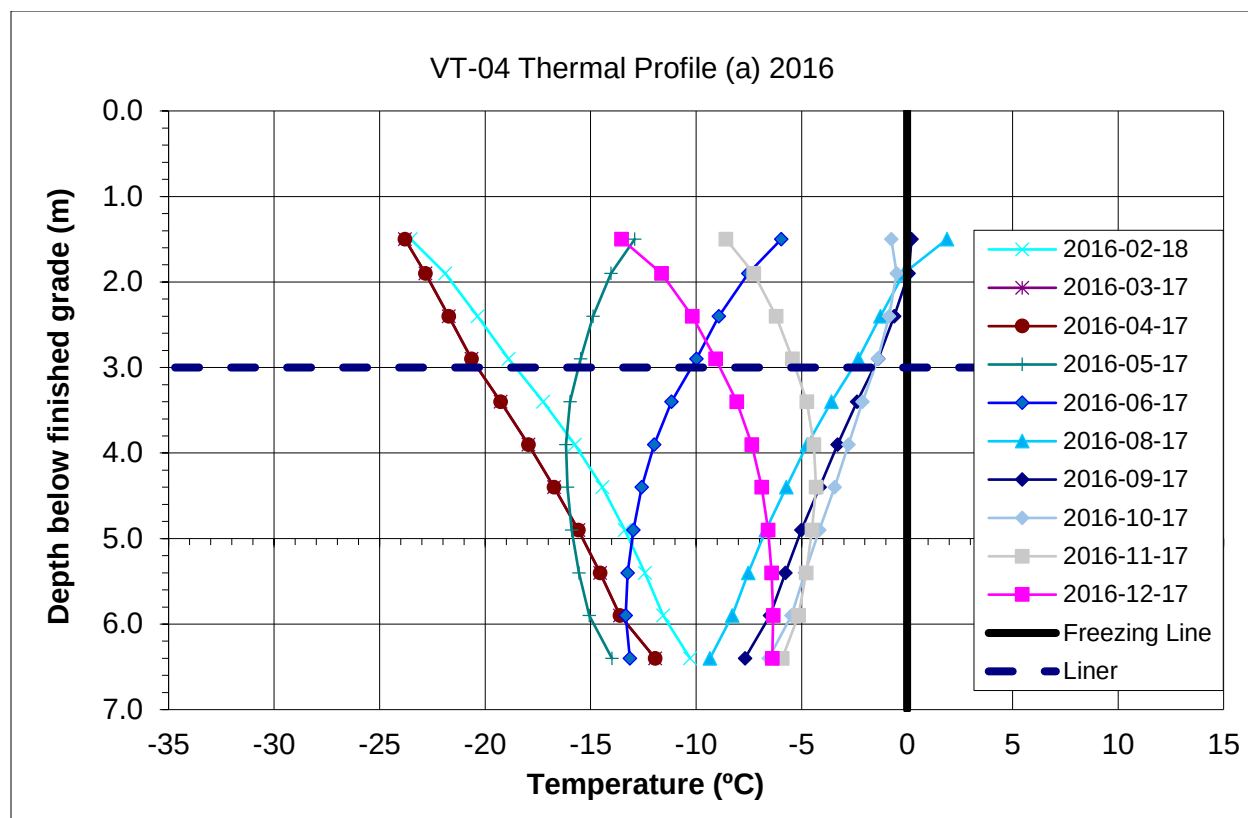


Figure B-11 (a) – VT-04 Thermal Profile in 2016 at the SSDF

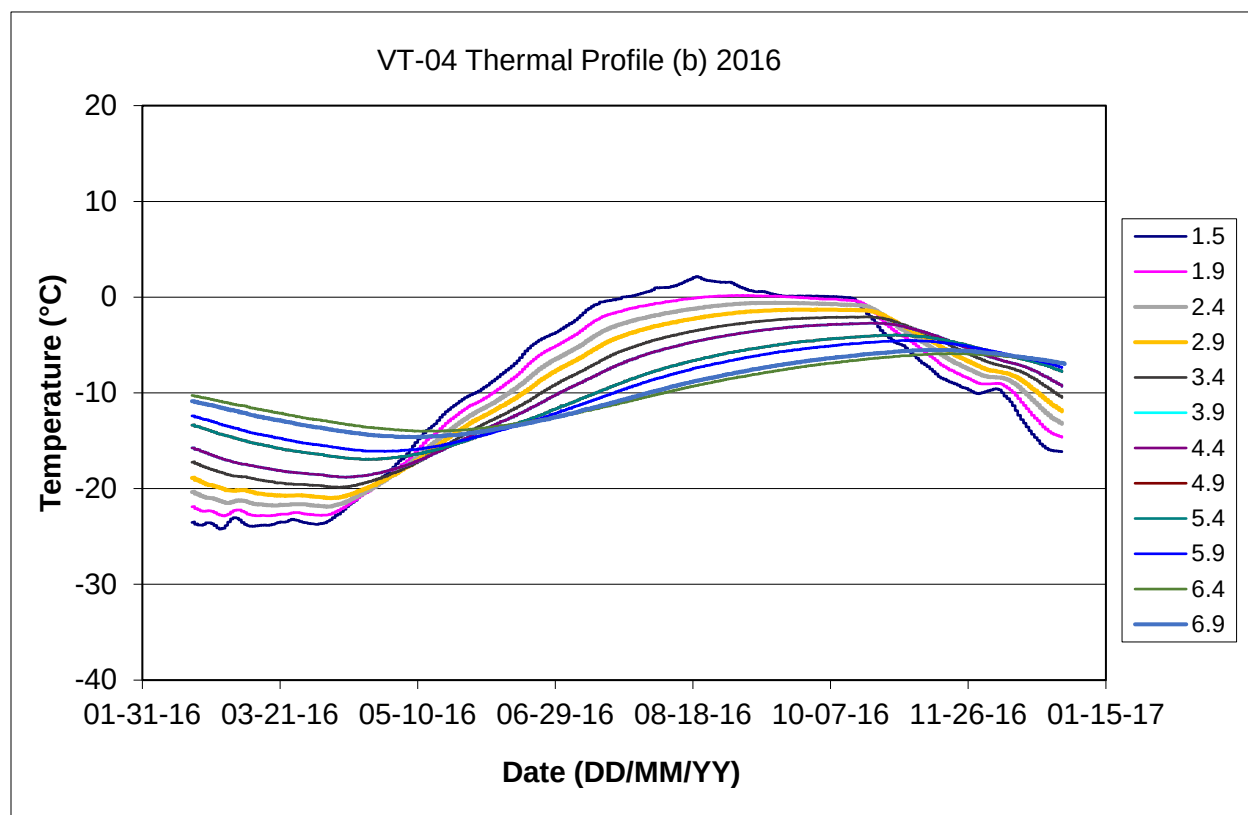


Figure B-11 (b) – VT-04 Thermal Profile in 2016 at the SSDF

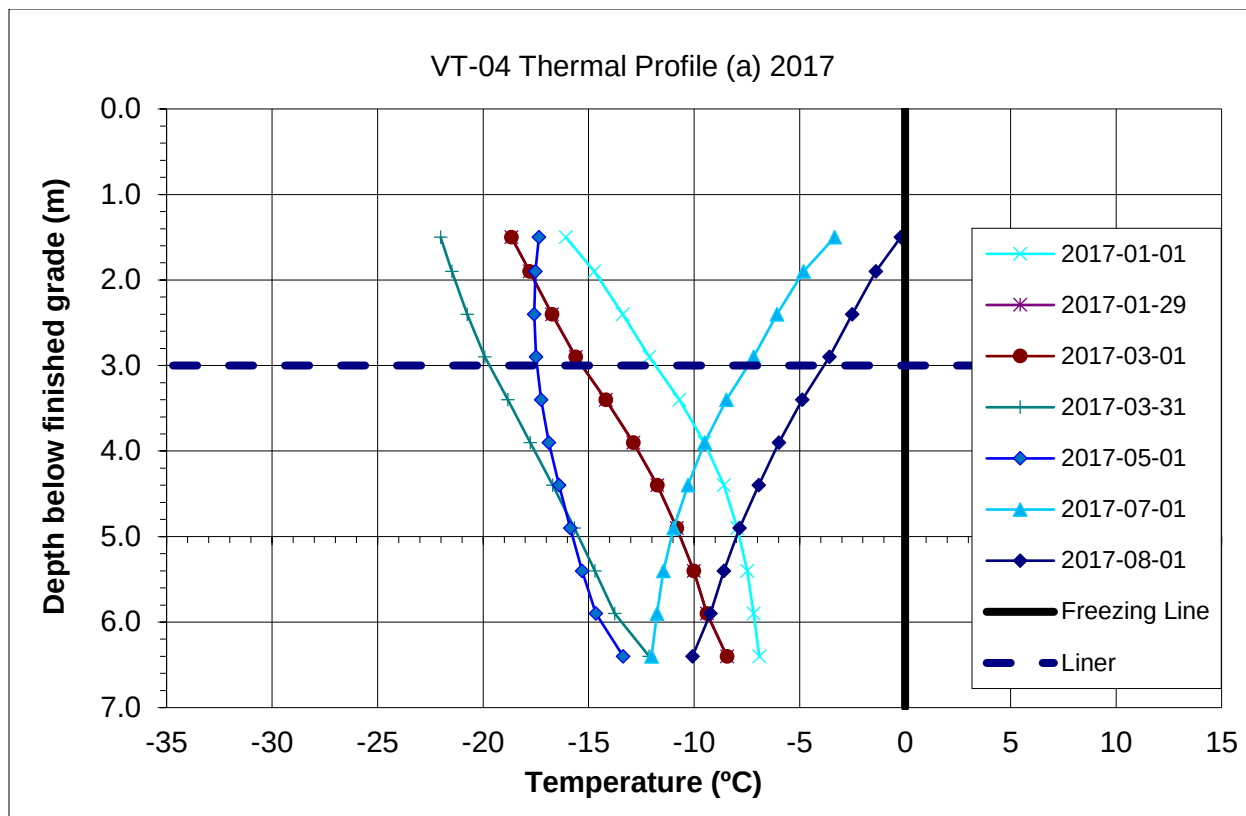


Figure B-12 (a) – VT-04 Thermal Profile in 2017 at the SSDF

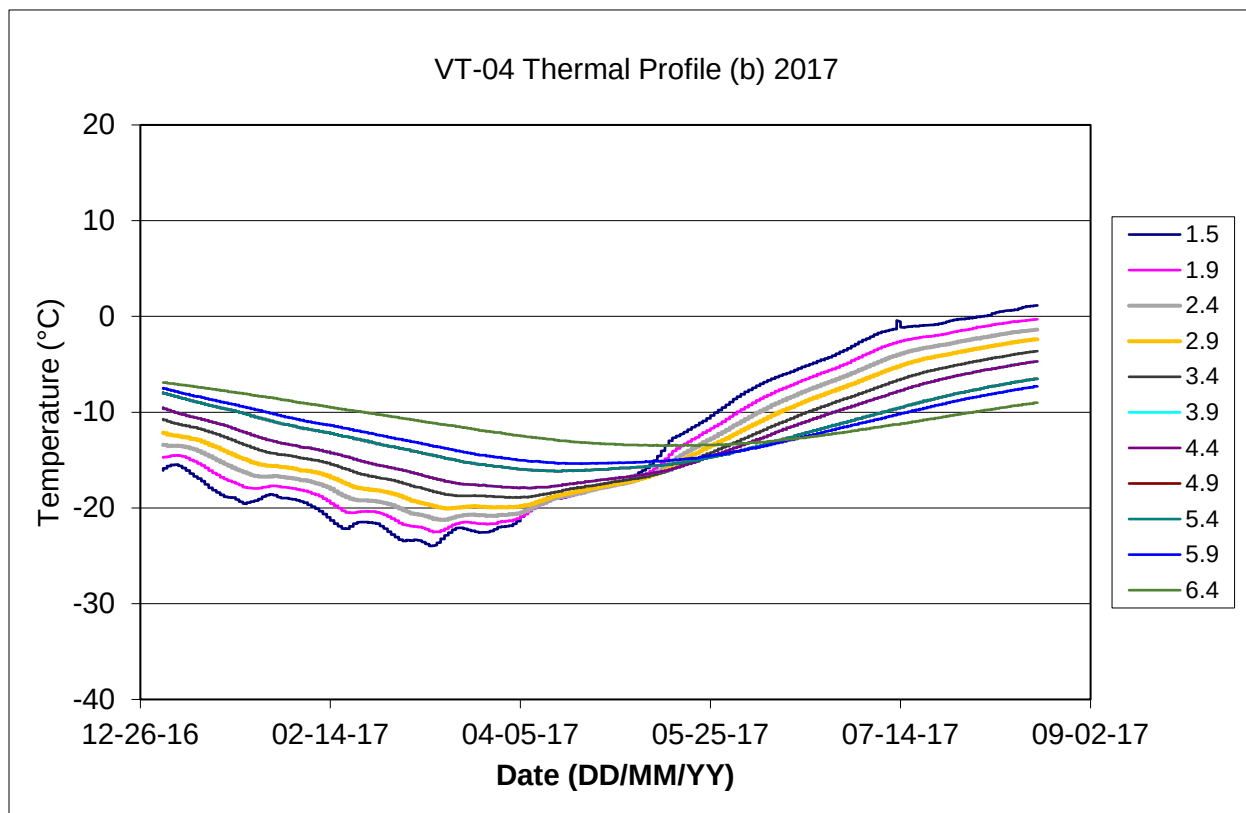


Figure B-12 (b) – VT-04 Thermal Profile in 2017 at the SSDF

APPENDIX D

Laboratory Certificates of Analysis



Your Project #: Dew Line- CAM-F
Site#: 100347-002
Your C.O.C. #: 621542-02-01

Attention:Stephanie Joyce

ARCADIS Canada Inc
329 Churchill Ave N
Suite 200
Ottawa, ON
K1Z 5B8

Report Date: 2017/08/31
Report #: R4683840
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7I3301

Received: 2017/08/24, 10:25

Sample Matrix: Water
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Alkalinity (1)	7	N/A	2017/08/28	CAM SOP-00448	SM 22 2320 B m
Carbonate, Bicarbonate and Hydroxide (1)	1	N/A	2017/08/28	CAM SOP-00102	APHA 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide (1)	6	N/A	2017/08/29	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry (1)	7	N/A	2017/08/28	CAM SOP-00463	EPA 325.2 m
Colour (1)	8	N/A	2017/08/28	CAM SOP-00412	SM 22 2120C m
Conductivity (1)	1	N/A	2017/08/28	CAM SOP-00414	SM 22 2510 m
Conductivity (1)	7	N/A	2017/08/30	CAM SOP-00414	SM 22 2510 m
Petroleum Hydro. CCME F1 & BTEX in Water	8	N/A	2017/08/28	OTT SOP-00002	CCME CWS
Petroleum Hydrocarbons F2-F4 in Water (2)	8	2017/08/25	2017/08/25	OTT SOP-00001	CCME Hydrocarbons
Fluoride (1)	7	2017/08/26	2017/08/28	CAM SOP-00449	SM 22 4500-F C m
Dissolved Mercury (low level) (1)	8	2017/08/28	2017/08/29	CAM SOP-00453	EPA 7470 m
Mercury (low level) (1)	8	2017/08/28	2017/08/29	CAM SOP-00453	EPA 7470 m
Nitrate (NO3) and Nitrite (NO2) in Water (1, 3)	1	N/A	2017/08/28	CAM SOP-00440	SM 22 4500-NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (1, 3)	6	N/A	2017/08/29	CAM SOP-00440	SM 22 4500-NO3I/NO2B
Polychlorinated Biphenyl in Water (1)	7	2017/08/28	2017/08/29	CAM SOP-00309	EPA 8082A m
pH (1)	7	N/A	2017/08/28	CAM SOP-00413	SM 4500H+ B m
pH (1)	1	N/A	2017/08/31	CAM SOP-00413	SM 4500H+ B m
Orthophosphate (1)	7	N/A	2017/08/28	CAM SOP-00461	EPA 365.1 m
Sulphate by Automated Colourimetry (1)	7	N/A	2017/08/28	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (1)	7	2017/08/25	2017/08/25	CAM SOP-00428	SM 22 2540C m
Total Suspended Solids (1)	7	2017/08/25	2017/08/25	CAM SOP-00428	SM 22 2540D m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Your Project #: Dew Line- CAM-F
Site#: 100347-002
Your C.O.C. #: 621542-02-01

Attention:Stephanie Joyce

ARCADIS Canada Inc
329 Churchill Ave N
Suite 200
Ottawa, ON
K1Z 5B8

Report Date: 2017/08/31
Report #: R4683840
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7I3301

Received: 2017/08/24, 10:25

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Analytics Mississauga

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Alison Cameron, Project Manager

Email: ACameron@maxxam.ca

Phone# (613) 274-0573

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

CCME PETROLEUM HYDROCARBONS IN WATER (WATER)

Maxxam ID		EZQ699	EZQ699	EZQ700	EZQ701	EZQ702	EZQ703		
Sampling Date		2017/08/19 05:32	2017/08/19 05:32	2017/08/19	2017/08/20 10:30	2017/08/20 12:00	2017/08/20 13:30		
COC Number		621542-02-01	621542-02-01	621542-02-01	621542-02-01	621542-02-01	621542-02-01		
	UNITS	MW0604	MW0604 Lab-Dup	DUP01	MW0606	MW0605	MW0601	RDL	QC Batch

BTEX & F1 Hydrocarbons

Benzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	5139410
Toluene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	5139410
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	5139410
o-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	5139410
p+m-Xylene	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	5139410
Total Xylenes	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	5139410
F1 (C6-C10)	ug/L	<25	<25	<25	<25	<25	<25	25	5139410
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	<25	<25	<25	25	5139410

F2-F4 Hydrocarbons

F2 (C10-C16 Hydrocarbons)	ug/L	<100		<100	<100	<100	<100	100	5136038
F3 (C16-C34 Hydrocarbons)	ug/L	<200		<200	<200	<200	<200	200	5136038
F4 (C34-C50 Hydrocarbons)	ug/L	<200		<200	<200	<200	<200	200	5136038
Reached Baseline at C50	ug/L	Yes		Yes	Yes	Yes	Yes		5136038

Surrogate Recovery (%)

1,4-Difluorobenzene	%	78	77	76	80	77	79		5139410
4-Bromofluorobenzene	%	108	95	97	98	99	103		5139410
D10-Ethylbenzene	%	113	123	116	119	108	115		5139410
D4-1,2-Dichloroethane	%	83	80	87	85	80	82		5139410
o-Terphenyl	%	92		91	90	89	90		5136038

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

CCME PETROLEUM HYDROCARBONS IN WATER (WATER)

Maxxam ID		EZQ704		EZQ705	EZQ706		
Sampling Date		2017/08/20		2017/08/20 15:30	2017/08/20 16:00		
COC Number		621542-02-01		621542-02-01	621542-02-01		
	UNITS	DUP02	RDL	MW0603	MW0602	RDL	QC Batch
BTEX & F1 Hydrocarbons							
Benzene	ug/L	<0.20	0.20	<0.20	<0.20	0.20	5139410
Toluene	ug/L	<0.20	0.20	<0.20	<0.20	0.20	5139410
Ethylbenzene	ug/L	<0.20	0.20	<0.20	<0.20	0.20	5139410
o-Xylene	ug/L	<0.20	0.20	<0.20	<0.20	0.20	5139410
p+m-Xylene	ug/L	<0.40	0.40	<0.40	<0.40	0.40	5139410
Total Xylenes	ug/L	<0.40	0.40	<0.40	<0.40	0.40	5139410
F1 (C6-C10)	ug/L	<25	25	<25	<25	25	5139410
F1 (C6-C10) - BTEX	ug/L	<25	25	<25	<25	25	5139410
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/L	<300	300	<100	<100	100	5136038
F3 (C16-C34 Hydrocarbons)	ug/L	<600	600	<200	<200	200	5136038
F4 (C34-C50 Hydrocarbons)	ug/L	<600	600	<200	<200	200	5136038
Reached Baseline at C50	ug/L	Yes		Yes	Yes		5136038
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	77		78	76		5139410
4-Bromofluorobenzene	%	106		106	107		5139410
D10-Ethylbenzene	%	108		116	109		5139410
D4-1,2-Dichloroethane	%	79		81	80		5139410
o-Terphenyl	%	90		100	92		5136038
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							

RESULTS OF ANALYSES OF WATER

Maxxam ID		EZQ699	EZQ700	EZQ700		EZQ701	EZQ702		
Sampling Date		2017/08/19 05:32	2017/08/19	2017/08/19		2017/08/20 10:30	2017/08/20 12:00		
COC Number		621542-02-01	621542-02-01	621542-02-01		621542-02-01	621542-02-01		
	UNITS	MW0604	DUP01	DUP01 Lab-Dup	RDL	MW0606	MW0605	RDL	QC Batch

Calculated Parameters

Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	270	270		1.0	170	190	1.0	5133777
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	2.1	2.4		1.0	1.3	1.5	1.0	5133777

Inorganics

Colour	TCU	<2	3		2	3	3	2	5134100
Conductivity	umho/cm	1500	1400	1400	1.0	1500	1800	1.0	5138195
Total Dissolved Solids	mg/L	1000	996		10	1270	1410	10	5136793
Fluoride (F ⁻)	mg/L	0.78	0.61	0.63	0.10	0.75	0.70	0.10	5138196
Orthophosphate (P)	mg/L	<0.010	<0.010		0.010	<0.010	<0.010	0.010	5137884
pH	pH	7.92	7.97	7.94		7.90	7.94		5138197
Total Suspended Solids	mg/L	<10	<10		10	20	<10	10	5136789
Dissolved Sulphate (SO ₄)	mg/L	520	470		2.0	640	710	5.0	5137883
Alkalinity (Total as CaCO ₃)	mg/L	270	270	270	1.0	170	190	1.0	5138194
Dissolved Chloride (Cl)	mg/L	21	20		1.0	32	48	1.0	5137881
Nitrite (N)	mg/L	<0.010	<0.010		0.010	<0.010	<0.010	0.010	5137977
Nitrate (N)	mg/L	1.54	1.61		0.10	0.51	1.12	0.10	5137977
Nitrate + Nitrite (N)	mg/L	1.54	1.61		0.10	0.51	1.12	0.10	5137977

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

RESULTS OF ANALYSES OF WATER

Maxxam ID		EZQ703		EZQ704	EZQ704		EZQ705		
Sampling Date		2017/08/20 13:30		2017/08/20	2017/08/20		2017/08/20 15:30		
COC Number		621542-02-01		621542-02-01	621542-02-01		621542-02-01		
	UNITS	MW0601	QC Batch	DUP02	DUP02 Lab-Dup	QC Batch	MW0603	RDL	QC Batch

Calculated Parameters

Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	230	5133777	220		5133777		1.0	5133777
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	2.6	5133777	2.3		5133777		1.0	5133777

Inorganics

Colour	TCU	3	5134100	2		5134100	29	2	5134100
Conductivity	umho/cm	620	5138195	610	620	5138180	270	1.0	5141845
Total Dissolved Solids	mg/L	372	5136793	370		5136793		10	
Fluoride (F ⁻)	mg/L	0.57	5138196	0.51	0.54	5138179		0.10	
Orthophosphate (P)	mg/L	<0.010	5137884	<0.010		5137884		0.010	
pH	pH	8.08	5138197	8.05	8.03	5138174	8.39		5144532
Total Suspended Solids	mg/L	<10	5136789	<10		5136789		10	
Dissolved Sulphate (SO ₄)	mg/L	41	5137883	41		5137883		1.0	
Alkalinity (Total as CaCO ₃)	mg/L	230	5138194	230	230	5138181		1.0	
Dissolved Chloride (Cl)	mg/L	8.7	5137881	9.3		5137881		1.0	
Nitrite (N)	mg/L	<0.010	5137977	0.011	<0.010	5137975		0.010	
Nitrate (N)	mg/L	11.6	5137977	13.7	13.2	5137975		0.10	
Nitrate + Nitrite (N)	mg/L	11.6	5137977	13.7	13.2	5137975		0.10	

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

RESULTS OF ANALYSES OF WATER

Maxxam ID		EZQ706		
Sampling Date		2017/08/20 16:00		
COC Number		621542-02-01		
	UNITS	MW0602	RDL	QC Batch
Calculated Parameters				
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	260	1.0	5133777
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	2.2	1.0	5133777
Inorganics				
Colour	TCU	6	2	5134100
Conductivity	umho/cm	580	1.0	5138195
Total Dissolved Solids	mg/L	360	10	5136793
Fluoride (F ⁻)	mg/L	0.15	0.10	5138196
Orthophosphate (P)	mg/L	<0.010	0.010	5137884
pH	pH	7.95		5138197
Total Suspended Solids	mg/L	21	10	5136789
Dissolved Sulphate (SO ₄)	mg/L	32	1.0	5137883
Alkalinity (Total as CaCO ₃)	mg/L	260	1.0	5138194
Dissolved Chloride (Cl)	mg/L	5.4	1.0	5137881
Nitrite (N)	mg/L	<0.010	0.010	5137977
Nitrate (N)	mg/L	2.68	0.10	5137977
Nitrate + Nitrite (N)	mg/L	2.68	0.10	5137977
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EZQ699	EZQ700	EZQ701	EZQ702	EZQ703	EZQ704		
Sampling Date		2017/08/19 05:32	2017/08/19	2017/08/20 10:30	2017/08/20 12:00	2017/08/20 13:30	2017/08/20		
COC Number		621542-02-01	621542-02-01	621542-02-01	621542-02-01	621542-02-01	621542-02-01		
	UNITS	MW0604	DUP01	MW0606	MW0605	MW0601	DUP02	RDL	QC Batch

Metals

Mercury (Hg)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	5138656
Dissolved Mercury (Hg)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	5136916

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Maxxam ID		EZQ705	EZQ706		
Sampling Date		2017/08/20 15:30	2017/08/20 16:00		
COC Number		621542-02-01	621542-02-01		
	UNITS	MW0603	MW0602	RDL	QC Batch

Metals

Mercury (Hg)	ug/L	<0.01	<0.01	0.01	5138656
Dissolved Mercury (Hg)	ug/L	<0.01	<0.01	0.01	5136916

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

O.REG 153 PCBS (WATER)

Maxxam ID		EZQ699	EZQ700	EZQ701	EZQ702	EZQ703	EZQ704		
Sampling Date		2017/08/19 05:32	2017/08/19	2017/08/20 10:30	2017/08/20 12:00	2017/08/20 13:30	2017/08/20		
COC Number		621542-02-01	621542-02-01	621542-02-01	621542-02-01	621542-02-01	621542-02-01		
	UNITS	MW0604	DUP01	MW0606	MW0605	MW0601	DUP02	RDL	QC Batch

PCBs									
Aroclor 1242	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	5139354
Aroclor 1248	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	5139354
Aroclor 1254	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	5139354
Aroclor 1260	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	5139354
Total PCB	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	5139354

Surrogate Recovery (%)									
Decachlorobiphenyl	%	92	93	87	96	91	103		5139354

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		EZQ706		
Sampling Date		2017/08/20 16:00		
COC Number		621542-02-01		
	UNITS	MW0602	RDL	QC Batch

PCBs				
Aroclor 1242	ug/L	<0.05	0.05	5139354
Aroclor 1248	ug/L	<0.05	0.05	5139354
Aroclor 1254	ug/L	<0.05	0.05	5139354
Aroclor 1260	ug/L	<0.05	0.05	5139354
Total PCB	ug/L	<0.05	0.05	5139354

Surrogate Recovery (%)				
Decachlorobiphenyl	%	91		5139354

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

TEST SUMMARY

Maxxam ID: EZQ699
Sample ID: MW0604
Matrix: Water

Collected: 2017/08/19
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5138194	N/A	2017/08/28	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	5133777	N/A	2017/08/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	5137881	N/A	2017/08/28	Deonarine Ramnarine
Colour	SPEC	5134100	N/A	2017/08/28	Viorica Rotaru
Conductivity	AT	5138195	N/A	2017/08/30	Yogesh Patel
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	5139410	N/A	2017/08/28	Liliana Gaburici
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5136038	2017/08/25	2017/08/25	Paul Rubinato
Fluoride	ISE	5138196	2017/08/26	2017/08/28	Yogesh Patel
Dissolved Mercury (low level)	CV/AA	5136916	2017/08/28	2017/08/29	Ron Morrison
Mercury (low level)	CV/AA	5138656	2017/08/28	2017/08/29	Ron Morrison
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	5137977	N/A	2017/08/29	Chandra Nandlal
Polychlorinated Biphenyl in Water	GC/ECD	5139354	2017/08/28	2017/08/29	Dawn Alarie
pH	AT	5138197	N/A	2017/08/28	Yogesh Patel
Orthophosphate	KONE	5137884	N/A	2017/08/28	Deonarine Ramnarine
Sulphate by Automated Colourimetry	KONE	5137883	N/A	2017/08/28	Deonarine Ramnarine
Total Dissolved Solids	BAL	5136793	2017/08/25	2017/08/25	Xue Zheng Li(Scott)
Total Suspended Solids	BAL	5136789	2017/08/25	2017/08/25	Xue Zheng Li(Scott)

Maxxam ID: EZQ699 Dup
Sample ID: MW0604
Matrix: Water

Collected: 2017/08/19
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	5139410	N/A	2017/08/28	Liliana Gaburici

Maxxam ID: EZQ700
Sample ID: DUP01
Matrix: Water

Collected: 2017/08/19
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5138194	N/A	2017/08/28	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	5133777	N/A	2017/08/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	5137881	N/A	2017/08/28	Deonarine Ramnarine
Colour	SPEC	5134100	N/A	2017/08/28	Viorica Rotaru
Conductivity	AT	5138195	N/A	2017/08/30	Yogesh Patel
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	5139410	N/A	2017/08/28	Liliana Gaburici
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5136038	2017/08/25	2017/08/25	Paul Rubinato
Fluoride	ISE	5138196	2017/08/26	2017/08/28	Yogesh Patel
Dissolved Mercury (low level)	CV/AA	5136916	2017/08/28	2017/08/29	Ron Morrison
Mercury (low level)	CV/AA	5138656	2017/08/28	2017/08/29	Ron Morrison
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	5137977	N/A	2017/08/29	Chandra Nandlal
Polychlorinated Biphenyl in Water	GC/ECD	5139354	2017/08/28	2017/08/29	Dawn Alarie
pH	AT	5138197	N/A	2017/08/28	Yogesh Patel
Orthophosphate	KONE	5137884	N/A	2017/08/28	Deonarine Ramnarine
Sulphate by Automated Colourimetry	KONE	5137883	N/A	2017/08/28	Deonarine Ramnarine

TEST SUMMARY

Maxxam ID: EZQ700
Sample ID: DUP01
Matrix: Water

Collected: 2017/08/19
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Dissolved Solids	BAL	5136793	2017/08/25	2017/08/25	Xue Zheng Li(Scott)
Total Suspended Solids	BAL	5136789	2017/08/25	2017/08/25	Xue Zheng Li(Scott)

Maxxam ID: EZQ700 Dup
Sample ID: DUP01
Matrix: Water

Collected: 2017/08/19
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5138194	N/A	2017/08/28	Yogesh Patel
Conductivity	AT	5138195	N/A	2017/08/30	Yogesh Patel
Fluoride	ISE	5138196	2017/08/26	2017/08/28	Yogesh Patel
pH	AT	5138197	N/A	2017/08/28	Yogesh Patel

Maxxam ID: EZQ701
Sample ID: MW0606
Matrix: Water

Collected: 2017/08/20
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5138194	N/A	2017/08/28	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	5133777	N/A	2017/08/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	5137881	N/A	2017/08/28	Deonarine Ramnarine
Colour	SPEC	5134100	N/A	2017/08/28	Viorica Rotaru
Conductivity	AT	5138195	N/A	2017/08/30	Yogesh Patel
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	5139410	N/A	2017/08/28	Liliana Gaburici
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5136038	2017/08/25	2017/08/25	Paul Rubinato
Fluoride	ISE	5138196	2017/08/26	2017/08/28	Yogesh Patel
Dissolved Mercury (low level)	CV/AA	5136916	2017/08/28	2017/08/29	Ron Morrison
Mercury (low level)	CV/AA	5138656	2017/08/28	2017/08/29	Ron Morrison
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	5137977	N/A	2017/08/29	Chandra Nandlal
Polychlorinated Biphenyl in Water	GC/ECD	5139354	2017/08/28	2017/08/29	Dawn Alarie
pH	AT	5138197	N/A	2017/08/28	Yogesh Patel
Orthophosphate	KONE	5137884	N/A	2017/08/28	Deonarine Ramnarine
Sulphate by Automated Colourimetry	KONE	5137883	N/A	2017/08/28	Deonarine Ramnarine
Total Dissolved Solids	BAL	5136793	2017/08/25	2017/08/25	Xue Zheng Li(Scott)
Total Suspended Solids	BAL	5136789	2017/08/25	2017/08/25	Xue Zheng Li(Scott)

Maxxam ID: EZQ702
Sample ID: MW0605
Matrix: Water

Collected: 2017/08/20
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5138194	N/A	2017/08/28	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	5133777	N/A	2017/08/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	5137881	N/A	2017/08/28	Deonarine Ramnarine
Colour	SPEC	5134100	N/A	2017/08/28	Viorica Rotaru
Conductivity	AT	5138195	N/A	2017/08/30	Yogesh Patel

TEST SUMMARY

Maxxam ID: EZQ702
Sample ID: MW0605
Matrix: Water

Collected: 2017/08/20
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	5139410	N/A	2017/08/28	Liliana Gaburici
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5136038	2017/08/25	2017/08/25	Paul Rubinato
Fluoride	ISE	5138196	2017/08/26	2017/08/28	Yogesh Patel
Dissolved Mercury (low level)	CV/AA	5136916	2017/08/28	2017/08/29	Ron Morrison
Mercury (low level)	CV/AA	5138656	2017/08/28	2017/08/29	Ron Morrison
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	5137977	N/A	2017/08/29	Chandra Nandlal
Polychlorinated Biphenyl in Water	GC/ECD	5139354	2017/08/28	2017/08/29	Dawn Alarie
pH	AT	5138197	N/A	2017/08/28	Yogesh Patel
Orthophosphate	KONE	5137884	N/A	2017/08/28	Deonarine Ramnarine
Sulphate by Automated Colourimetry	KONE	5137883	N/A	2017/08/28	Deonarine Ramnarine
Total Dissolved Solids	BAL	5136793	2017/08/25	2017/08/25	Xue Zheng Li(Scott)
Total Suspended Solids	BAL	5136789	2017/08/25	2017/08/25	Xue Zheng Li(Scott)

Maxxam ID: EZQ703
Sample ID: MW0601
Matrix: Water

Collected: 2017/08/20
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5138194	N/A	2017/08/28	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	5133777	N/A	2017/08/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	5137881	N/A	2017/08/28	Deonarine Ramnarine
Colour	SPEC	5134100	N/A	2017/08/28	Viorica Rotaru
Conductivity	AT	5138195	N/A	2017/08/30	Yogesh Patel
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	5139410	N/A	2017/08/28	Liliana Gaburici
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5136038	2017/08/25	2017/08/25	Paul Rubinato
Fluoride	ISE	5138196	2017/08/26	2017/08/28	Yogesh Patel
Dissolved Mercury (low level)	CV/AA	5136916	2017/08/28	2017/08/29	Ron Morrison
Mercury (low level)	CV/AA	5138656	2017/08/28	2017/08/29	Ron Morrison
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	5137977	N/A	2017/08/29	Chandra Nandlal
Polychlorinated Biphenyl in Water	GC/ECD	5139354	2017/08/28	2017/08/29	Dawn Alarie
pH	AT	5138197	N/A	2017/08/28	Yogesh Patel
Orthophosphate	KONE	5137884	N/A	2017/08/28	Deonarine Ramnarine
Sulphate by Automated Colourimetry	KONE	5137883	N/A	2017/08/28	Deonarine Ramnarine
Total Dissolved Solids	BAL	5136793	2017/08/25	2017/08/25	Xue Zheng Li(Scott)
Total Suspended Solids	BAL	5136789	2017/08/25	2017/08/25	Xue Zheng Li(Scott)

Maxxam ID: EZQ704
Sample ID: DUP02
Matrix: Water

Collected: 2017/08/20
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5138181	N/A	2017/08/28	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	5133777	N/A	2017/08/28	Automated Statchk
Chloride by Automated Colourimetry	KONE	5137881	N/A	2017/08/28	Deonarine Ramnarine
Colour	SPEC	5134100	N/A	2017/08/28	Viorica Rotaru

TEST SUMMARY

Maxxam ID: EZQ704
Sample ID: DUP02
Matrix: Water

Collected: 2017/08/20
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	5138180	N/A	2017/08/28	Yogesh Patel
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	5139410	N/A	2017/08/28	Liliana Gaburici
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5136038	2017/08/25	2017/08/25	Paul Rubinato
Fluoride	ISE	5138179	2017/08/26	2017/08/28	Yogesh Patel
Dissolved Mercury (low level)	CV/AA	5136916	2017/08/28	2017/08/29	Ron Morrison
Mercury (low level)	CV/AA	5138656	2017/08/28	2017/08/29	Ron Morrison
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	5137975	N/A	2017/08/28	Chandra Nandlal
Polychlorinated Biphenyl in Water	GC/ECD	5139354	2017/08/28	2017/08/29	Dawn Alarie
pH	AT	5138174	N/A	2017/08/28	Yogesh Patel
Orthophosphate	KONE	5137884	N/A	2017/08/28	Deonarine Ramnarine
Sulphate by Automated Colourimetry	KONE	5137883	N/A	2017/08/28	Deonarine Ramnarine
Total Dissolved Solids	BAL	5136793	2017/08/25	2017/08/25	Xue Zheng Li(Scott)
Total Suspended Solids	BAL	5136789	2017/08/25	2017/08/25	Xue Zheng Li(Scott)

Maxxam ID: EZQ704 Dup
Sample ID: DUP02
Matrix: Water

Collected: 2017/08/20
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5138181	N/A	2017/08/28	Yogesh Patel
Conductivity	AT	5138180	N/A	2017/08/28	Yogesh Patel
Fluoride	ISE	5138179	2017/08/26	2017/08/28	Yogesh Patel
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	5137975	N/A	2017/08/28	Chandra Nandlal
pH	AT	5138174	N/A	2017/08/28	Yogesh Patel

Maxxam ID: EZQ705
Sample ID: MW0603
Matrix: Water

Collected: 2017/08/20
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	SPEC	5134100	N/A	2017/08/28	Viorica Rotaru
Conductivity	AT	5141845	N/A	2017/08/30	Yogesh Patel
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	5139410	N/A	2017/08/28	Liliana Gaburici
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5136038	2017/08/25	2017/08/25	Paul Rubinato
Dissolved Mercury (low level)	CV/AA	5136916	2017/08/28	2017/08/29	Ron Morrison
Mercury (low level)	CV/AA	5138656	2017/08/28	2017/08/29	Ron Morrison
pH	AT	5144532	N/A	2017/08/31	Tahir Anwar

Maxxam ID: EZQ706
Sample ID: MW0602
Matrix: Water

Collected: 2017/08/20
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5138194	N/A	2017/08/28	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	5133777	N/A	2017/08/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	5137881	N/A	2017/08/28	Deonarine Ramnarine

TEST SUMMARY

Maxxam ID: EZQ706
Sample ID: MW0602
Matrix: Water

Collected: 2017/08/20
Shipped:
Received: 2017/08/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	SPEC	5134100	N/A	2017/08/28	Viorica Rotaru
Conductivity	AT	5138195	N/A	2017/08/30	Yogesh Patel
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	5139410	N/A	2017/08/28	Liliana Gaburici
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5136038	2017/08/25	2017/08/25	Paul Rubinato
Fluoride	ISE	5138196	2017/08/26	2017/08/28	Yogesh Patel
Dissolved Mercury (low level)	CV/AA	5136916	2017/08/28	2017/08/29	Ron Morrison
Mercury (low level)	CV/AA	5138656	2017/08/28	2017/08/29	Ron Morrison
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	5137977	N/A	2017/08/29	Chandra Nandlal
Polychlorinated Biphenyl in Water	GC/ECD	5139354	2017/08/28	2017/08/29	Dawn Alarie
pH	AT	5138197	N/A	2017/08/28	Yogesh Patel
Orthophosphate	KONE	5137884	N/A	2017/08/28	Deonarine Ramnarine
Sulphate by Automated Colourimetry	KONE	5137883	N/A	2017/08/28	Deonarine Ramnarine
Total Dissolved Solids	BAL	5136793	2017/08/25	2017/08/25	Xue Zheng Li(Scott)
Total Suspended Solids	BAL	5136789	2017/08/25	2017/08/25	Xue Zheng Li(Scott)

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.3°C
Package 2	6.0°C

Sample EZQ704 [DUP02] : F2-F4 Analysis: Sample has low volume. Reporting limits were adjusted accordingly

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

ARCADIS Canada Inc
Client Project #: Dew Line- CAM-F
Sampler Initials: KM

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
5136038	o-Terphenyl	2017/08/25	82	30 - 130	90	30 - 130	89	%				
5139354	Decachlorobiphenyl	2017/08/29	97	60 - 130	87	60 - 130	94	%				
5139410	1,4-Difluorobenzene	2017/08/28	77	70 - 130	77	70 - 130	77	%				
5139410	4-Bromofluorobenzene	2017/08/28	98	70 - 130	107	70 - 130	108	%				
5139410	D10-Ethylbenzene	2017/08/28	124	70 - 130	119	70 - 130	119	%				
5139410	D4-1,2-Dichloroethane	2017/08/28	85	70 - 130	79	70 - 130	81	%				
5134100	Colour	2017/08/28			101	80 - 120	<2	TCU	NC	25		
5136038	F2 (C10-C16 Hydrocarbons)	2017/08/25	89	50 - 130	94	80 - 120	<100	ug/L	34	50		
5136038	F3 (C16-C34 Hydrocarbons)	2017/08/25	89	50 - 130	94	80 - 120	<200	ug/L	NC	50		
5136038	F4 (C34-C50 Hydrocarbons)	2017/08/25	89	50 - 130	94	80 - 120	<200	ug/L	NC	50		
5136789	Total Suspended Solids	2017/08/25					<10	mg/L	NC	25	97	85 - 115
5136793	Total Dissolved Solids	2017/08/25					<10	mg/L	9.5	25	101	90 - 110
5136916	Dissolved Mercury (Hg)	2017/08/29	107	75 - 125	105	80 - 120	<0.01	ug/L	NC	20		
5137881	Dissolved Chloride (Cl)	2017/08/28	NC	80 - 120	104	80 - 120	<1.0	mg/L	1.6	20		
5137883	Dissolved Sulphate (SO4)	2017/08/28	NC	75 - 125	104	80 - 120	<1.0	mg/L	2.0	20		
5137884	Orthophosphate (P)	2017/08/28	107	75 - 125	99	80 - 120	<0.010	mg/L	NC	25		
5137975	Nitrate (N)	2017/08/28	NC	80 - 120	111	80 - 120	<0.10	mg/L	3.6	20		
5137975	Nitrite (N)	2017/08/28	110	80 - 120	108	80 - 120	<0.010	mg/L	8.6	20		
5137977	Nitrate (N)	2017/08/29	103	80 - 120	103	80 - 120	<0.10	mg/L	NC	20		
5137977	Nitrite (N)	2017/08/29	104	80 - 120	104	80 - 120	<0.010	mg/L	NC	20		
5138174	pH	2017/08/28			101	98 - 103			0.19	N/A		
5138179	Fluoride (F-)	2017/08/28	104	80 - 120	107	80 - 120	<1.0	mg/L	6.2	20		
5138180	Conductivity	2017/08/28			101	85 - 115	<1.0	umho/cm	0.33	25		
5138181	Alkalinity (Total as CaCO3)	2017/08/28			96	85 - 115	<1.0	mg/L	0.31	20		
5138194	Alkalinity (Total as CaCO3)	2017/08/28			95	85 - 115	<1.0	mg/L	0.78	20		
5138195	Conductivity	2017/08/30			101	85 - 115	<1.0	umho/cm	0.15	25		
5138196	Fluoride (F-)	2017/08/28	101	80 - 120	100	80 - 120	<0.10	mg/L	2.8	20		
5138197	pH	2017/08/28			101	98 - 103			0.41	N/A		
5138656	Mercury (Hg)	2017/08/29	101	75 - 125	106	80 - 120	<0.01	ug/L	NC	20		

QUALITY ASSURANCE REPORT(CONT'D)

ARCADIS Canada Inc
Client Project #: Dew Line- CAM-F
Sampler Initials: KM

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
5139354	Aroclor 1242	2017/08/29					<0.05	ug/L				
5139354	Aroclor 1248	2017/08/29					<0.05	ug/L				
5139354	Aroclor 1254	2017/08/29					<0.05	ug/L				
5139354	Aroclor 1260	2017/08/29	96	60 - 130	90	60 - 130	<0.05	ug/L				
5139354	Total PCB	2017/08/29	96	60 - 130	90	60 - 130	<0.05	ug/L	NC	40		
5139410	Benzene	2017/08/28	96	70 - 130	94	70 - 130	<0.20	ug/L	NC	40		
5139410	Ethylbenzene	2017/08/28	96	70 - 130	93	70 - 130	<0.20	ug/L	NC	40		
5139410	F1 (C6-C10) - BTEX	2017/08/28					<25	ug/L	NC	40		
5139410	F1 (C6-C10)	2017/08/28	98	70 - 130	99	70 - 130	<25	ug/L	NC	40		
5139410	o-Xylene	2017/08/28	97	70 - 130	94	70 - 130	<0.20	ug/L	NC	40		
5139410	p+m-Xylene	2017/08/28	101	70 - 130	96	70 - 130	<0.40	ug/L	NC	40		
5139410	Toluene	2017/08/28	91	70 - 130	87	70 - 130	<0.20	ug/L	NC	40		
5139410	Total Xylenes	2017/08/28					<0.40	ug/L	NC	40		
5141845	Conductivity	2017/08/30			101	85 - 115	<1.0	umho/cm	0.48	25		
5144532	pH	2017/08/31			102	98 - 103			0.20	N/A		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

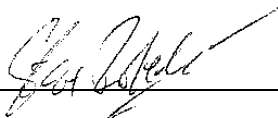
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Cristina Carriere, Scientific Service Specialist



Steve Roberts, Ottawa Lab Manager

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Maxxam Analytics International Corporation o/a Maxxam Analytics
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CHAIN OF CUSTODY RECORD

Page of

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#10988 ARCADIS Canada Inc	Company Name:	Arcadis Canada Inc.	Quotation #:	B73261	Maxxam Job #:	Bottle Order #:
Attention:	Invoices Attention	Attention:	Stephanie Joyce	P.O. #:			
Address:	329 Churchill Ave N Suite 200 Ottawa ON K1Z 5B8	Address:	329 Churchill Ave N Ottawa ON K1Z 5B8	Project:	Dew Line- CAM-F		
Tel:	(613) 721-0555 x	Tel:	613-721-0555	Project Name:	100347-002	COC #:	
Email:	invoicestottawa@arcadis.com, barb.adelman@arcadis-c	Email:	sjoyce@franzenvironmental.com	Site #:	KM/EL		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY					ANALYSIS REQUESTED (PLEASE BE SPECIFIC)										Turnaround Time (TAT) Required:	
Regulation 153 (2011)					Other Regulations					Special Instructions					Please provide advance notice for rush projects	
☒ Table 1	☒ Res/Park	☐ Medium/Fine	☒ CCME	☐ Sanitary Sewer Bylaw											Regular (Standard) TAT:	
☐ Table 2	☐ Ind/Comm	☐ Coarse	☐ Reg 558	☐ Storm Sewer Bylaw											(will be applied if Rush TAT is not specified):	
☐ Table 3	☐ Agri/Other	☐ For RSC	☐ MISA	Municipality											Standard TAT = 5-7 Working days for most tests.	
☐ Table			☐ PWQO												Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.	
Include Criteria on Certificate of Analysis (Y/N)?															Job Specific Rush TAT (if applies to entire submission)	
															Date Required: Time Required:	
															Rush Confirmation Number: (call lab for #)	
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle):	O Reg 153 Petroleum Hydrocarbons (Water)	Total ICMS Metals for CCME CEGW for SW	Mercury (low level)	Diox. ICMS Metals for Federal Int. GWQG	Dissolved Mercury (low level)	Major Ion	Total Dissolved Solids, Total Suspended Solids	pH Colour & Conductivity	O Reg 153 PCBs (Water)	# of Bottles	Comments
1	MW06004	2017/08/19	532	GW	X	X	X	X	X	X	X	X	X	X	12	
2	DUP01	2017/08/19		GW	X	X	X	X	X	X	X	X	X	X	12	
3	MW06006	2017/08/20	1030	GW	X	X	X	X	X	X	X	X	X	X	12	
4	MW06005	2017/08/20	1200	GW	X	X	X	X	X	X	X	X	X	X	12	
5	MW06001	2017/08/20	1330	GW	X	X	X	X	X	X	X	X	X	X	12	
6	DUP02	2017/08/20		GW	X	X	X	X	X	X	X	X	X	X	12	
7	MW06003	2017/08/20	1530	GW	X	X	X	X	X	X		X			8	- some sediment in sample - limited sample recovery f2-f4
8	MW06002	2017/08/20	1600	GW	X	X	X	X	X	X	X	X	X	X	12	
9																
10																ON Ice

* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only				
K. MARAIS / K. MARAIS		17/08/21	11:00	K. MARAIS		2017/08/24	10:25		Time Sensitive	Temperature (°C) on Recept	Custody Seal	Yes	No
										6.6/7/21/05	Present	X	
											Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO MAXXAM'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.MAXXAM.CA/TERMS.

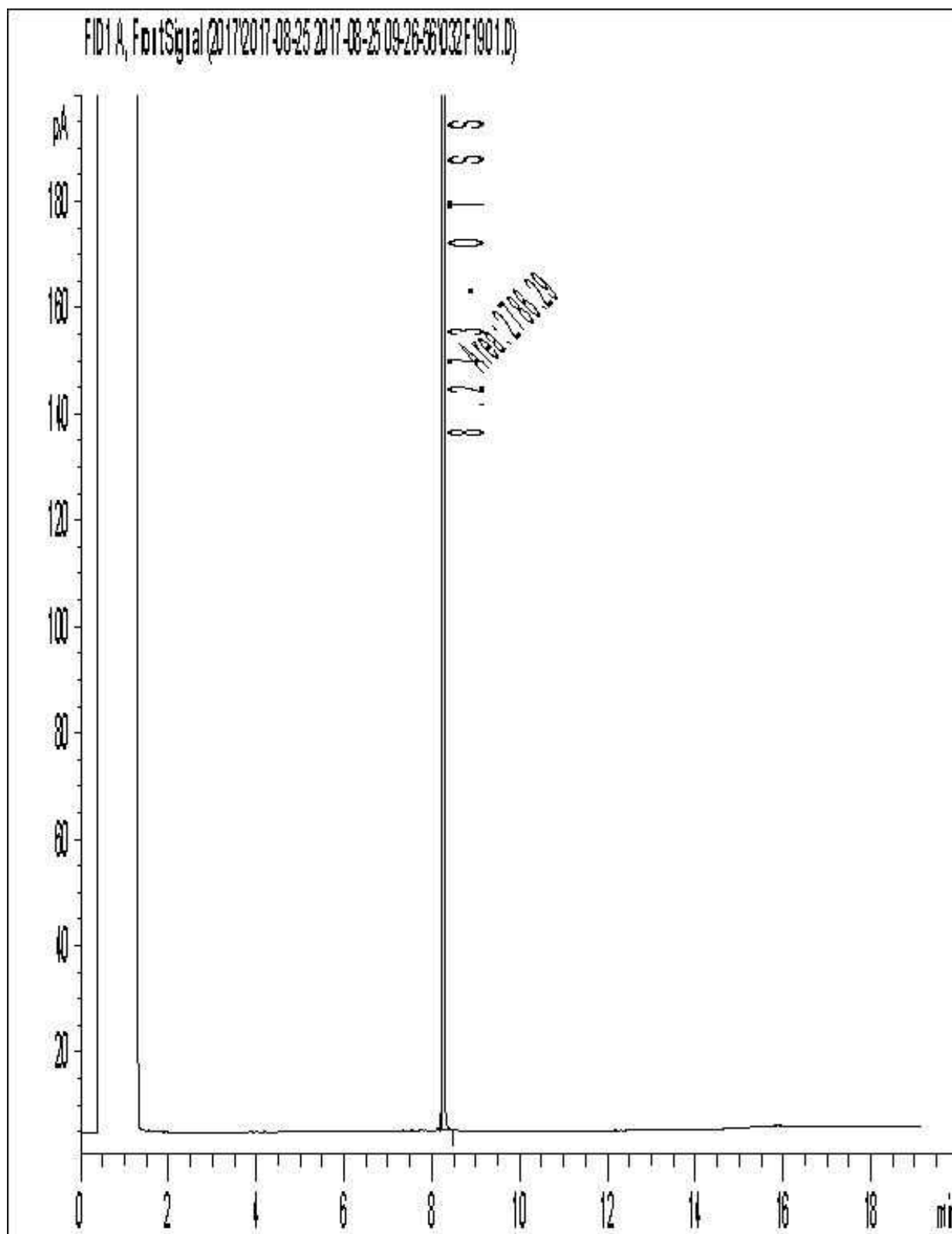
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT HTTP://MAXXAM.CA/WP-CONTENT/UPLOADS/ONTARIO-COC.PDF.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

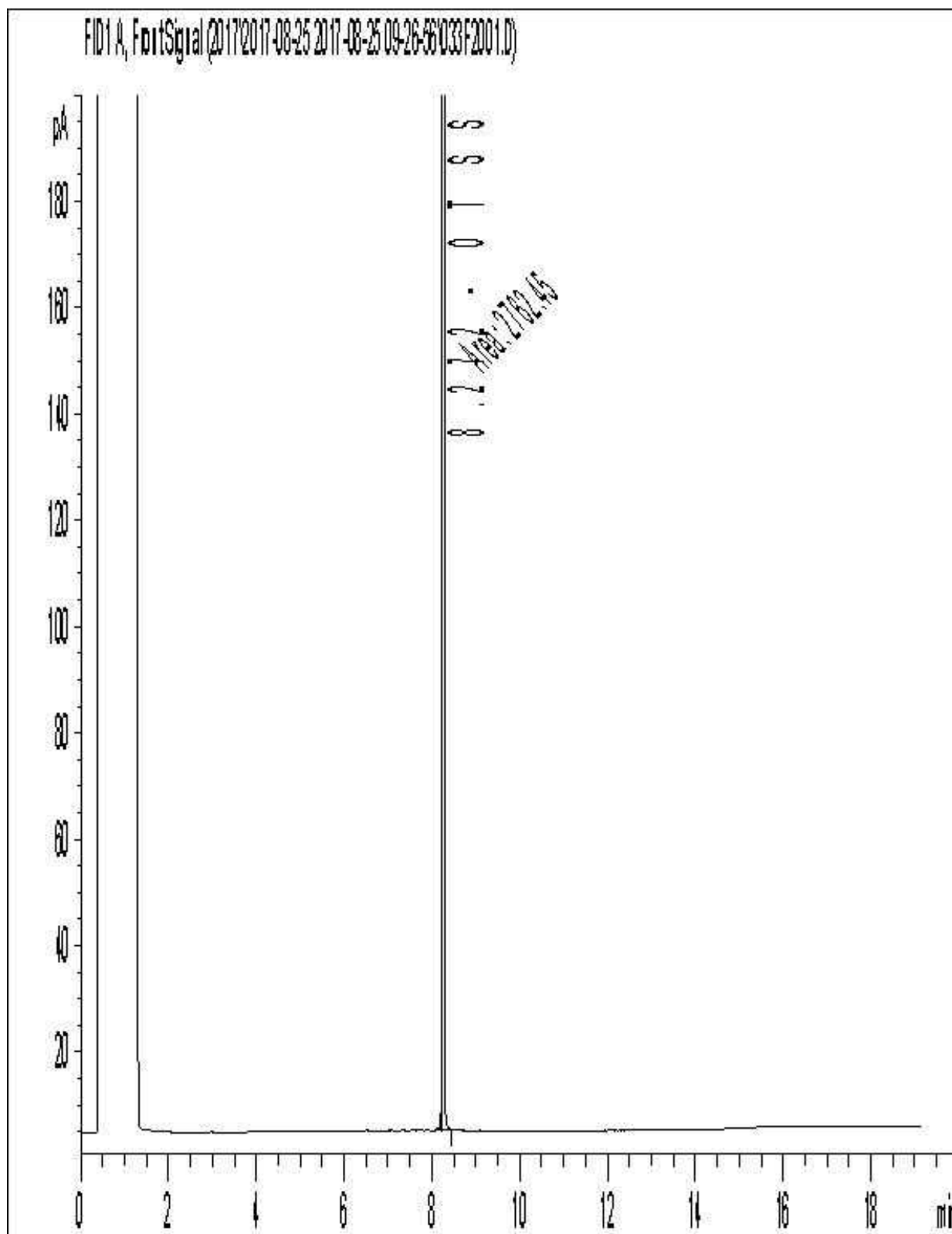
White: Maxxa Yellow: Client

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



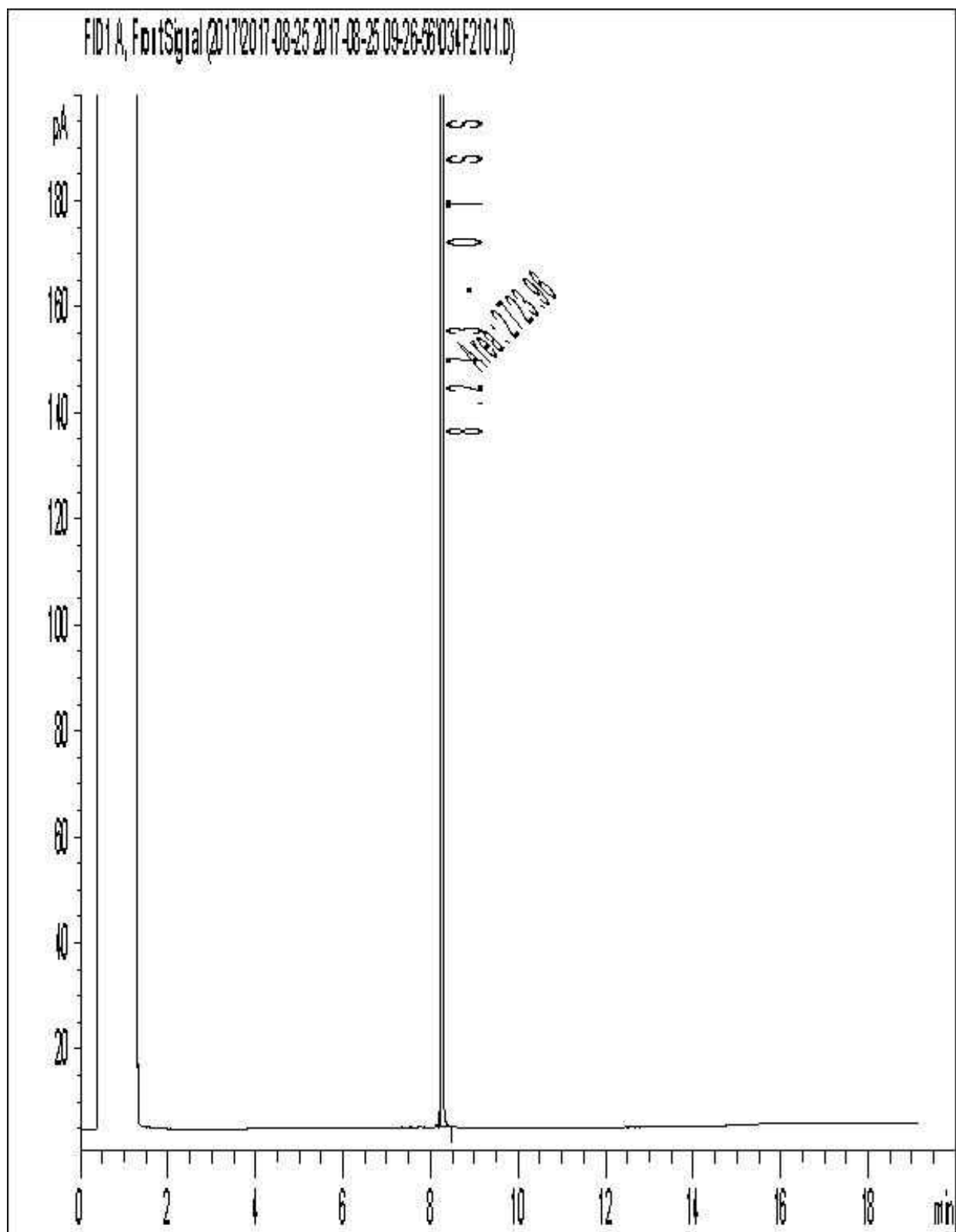
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



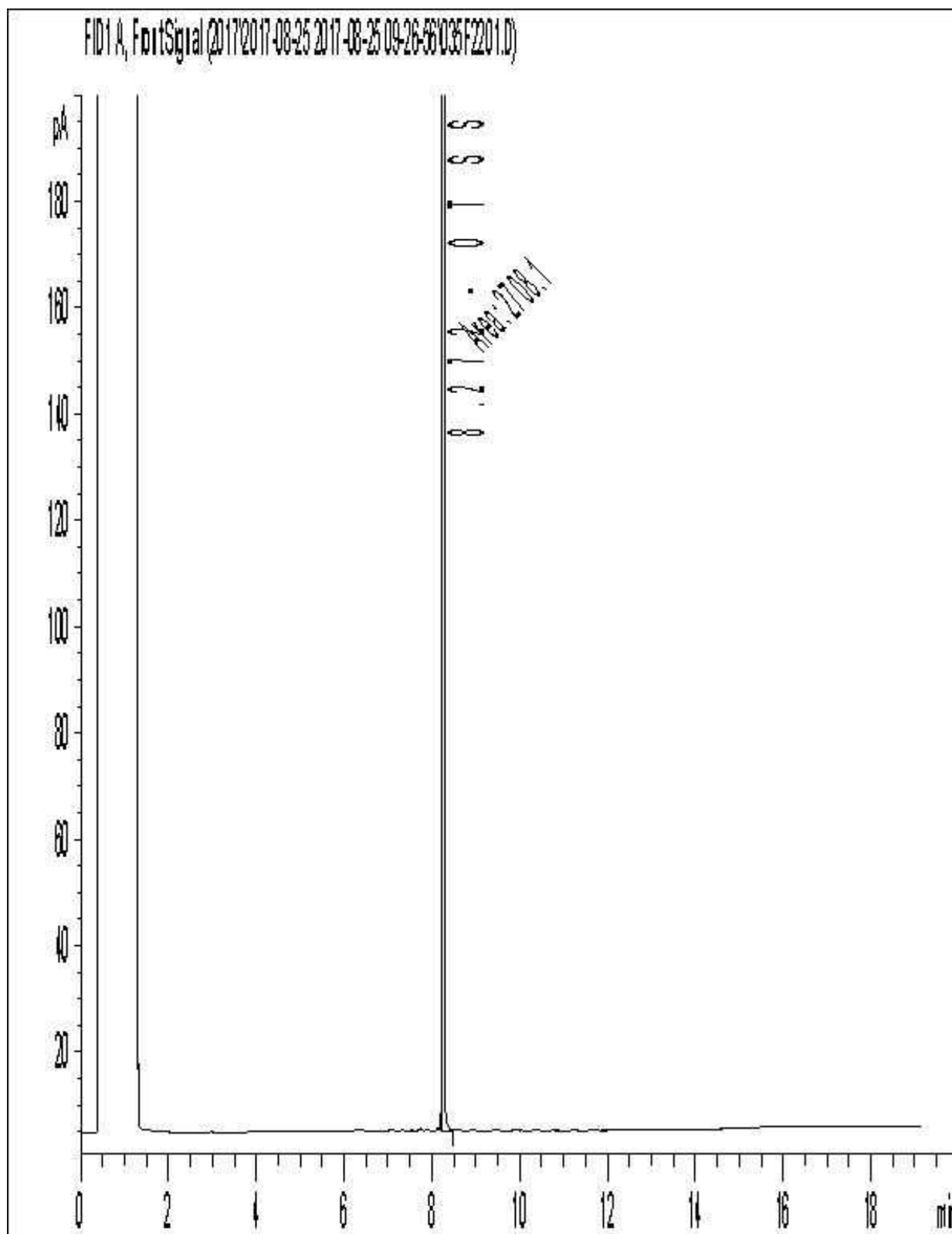
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



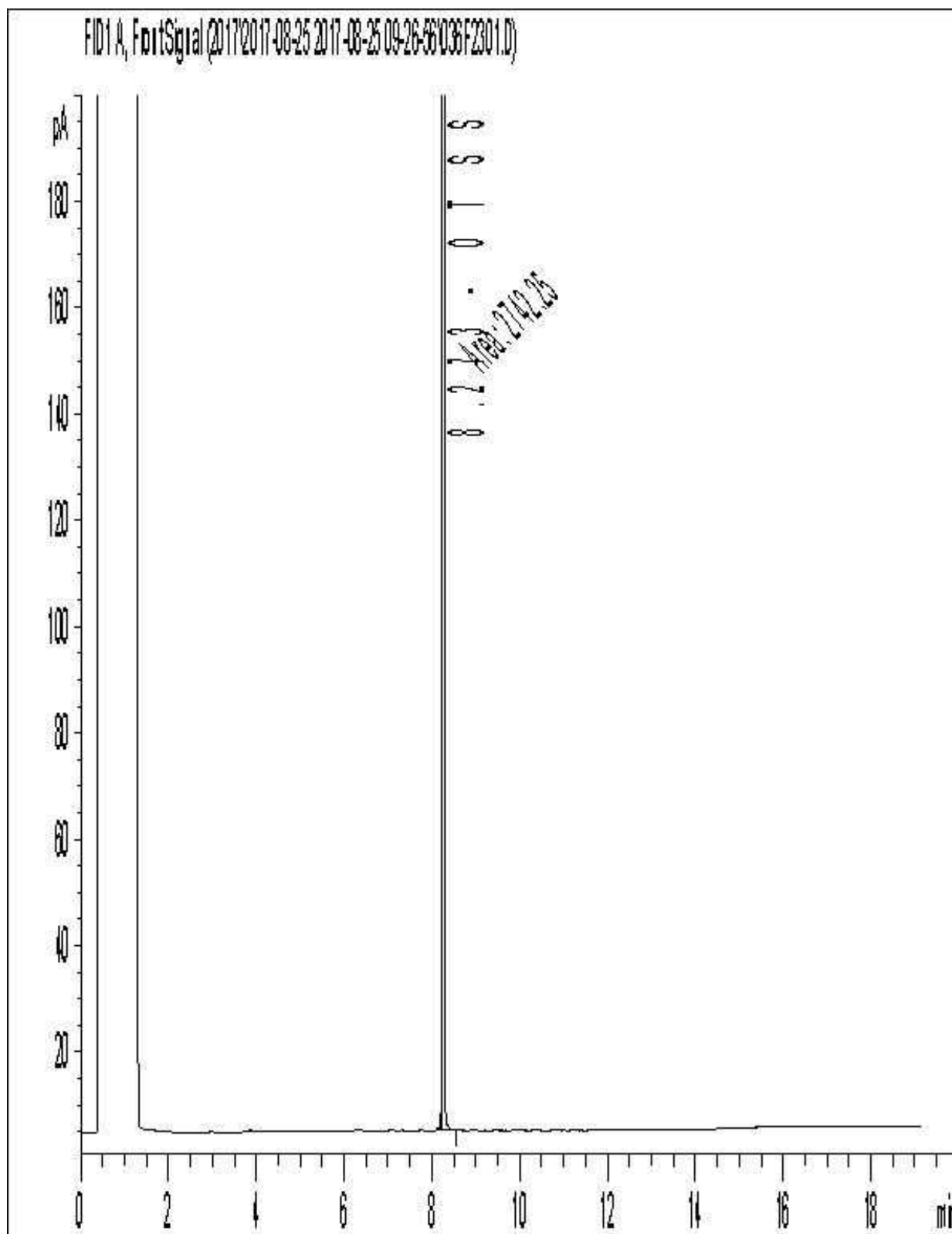
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



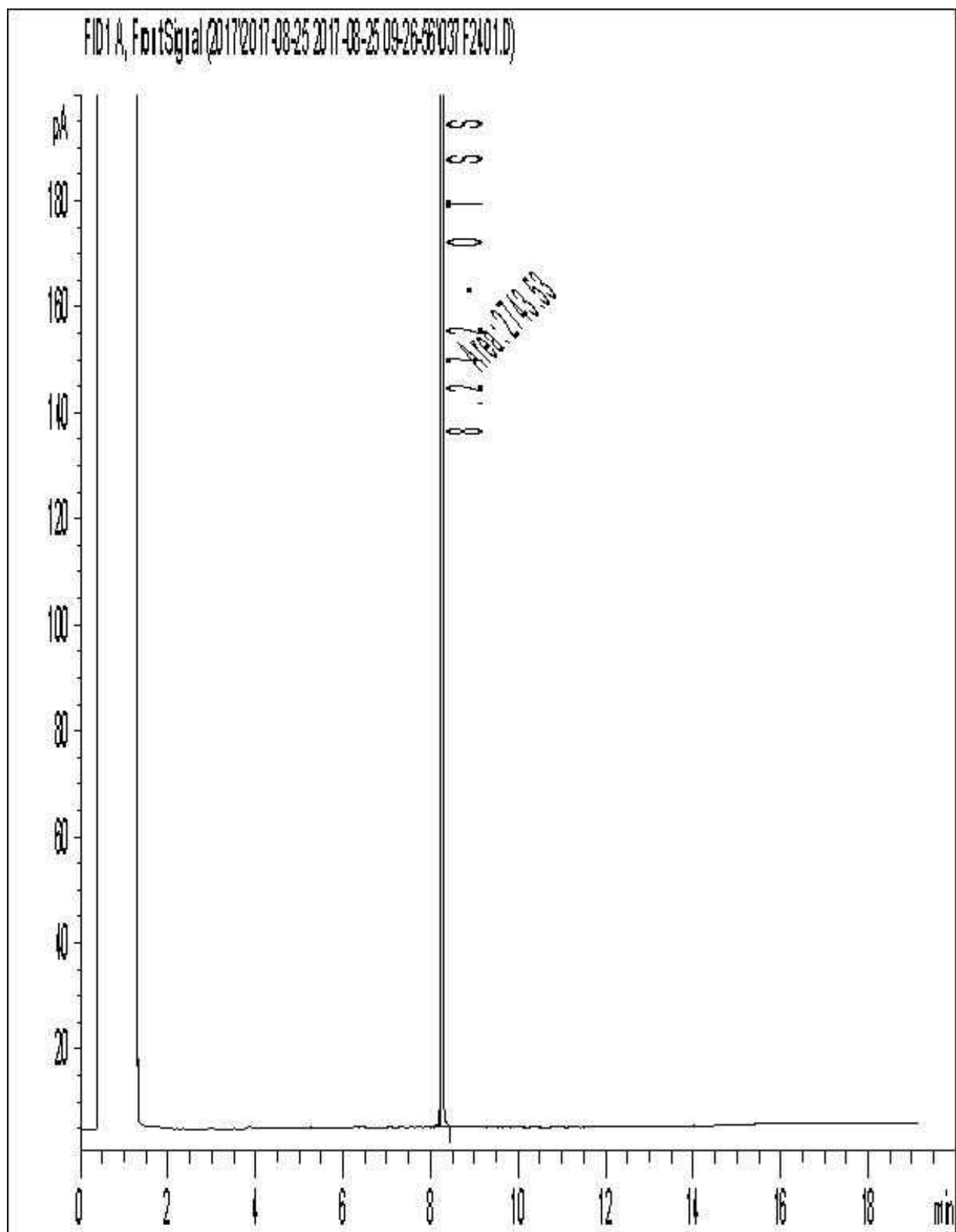
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



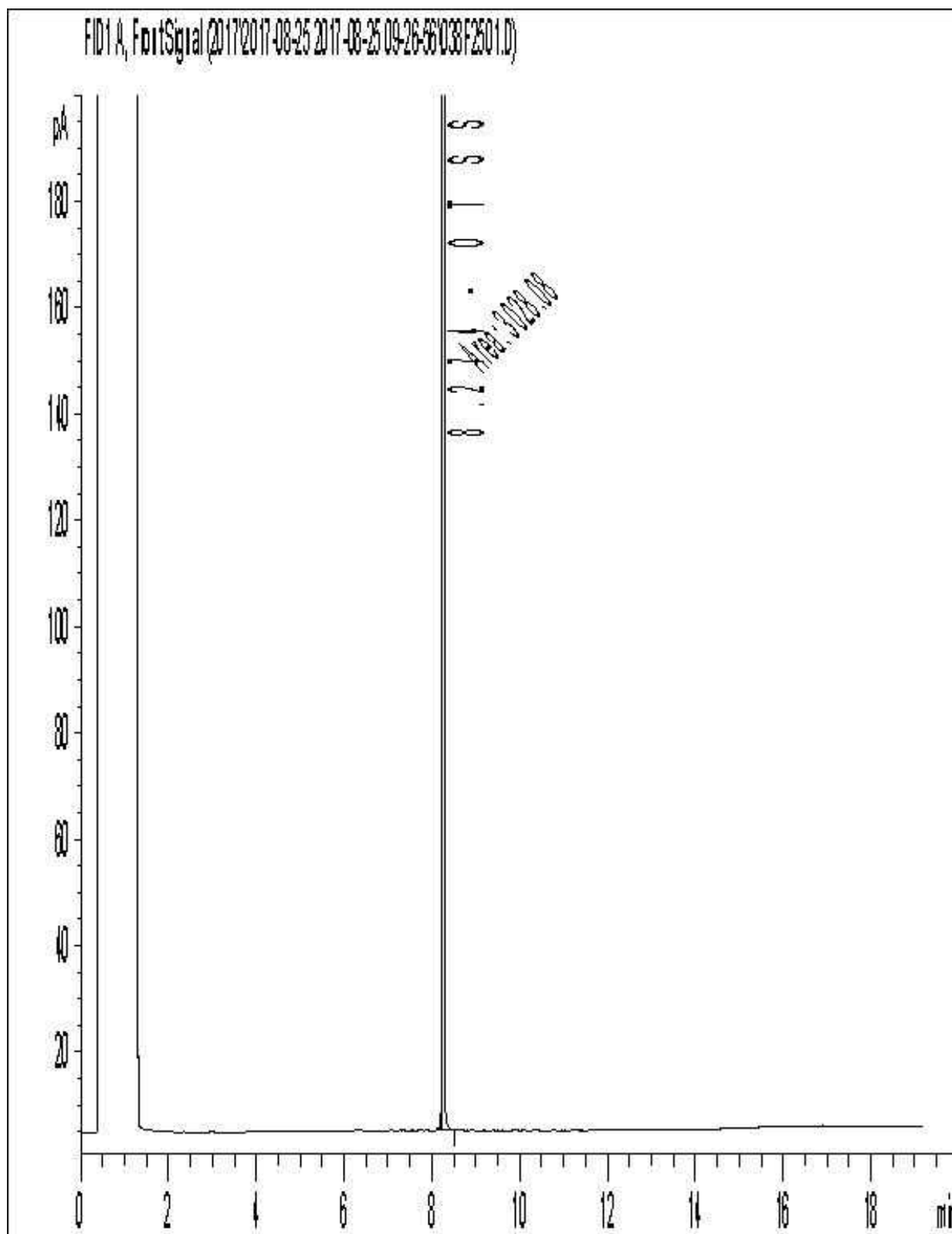
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



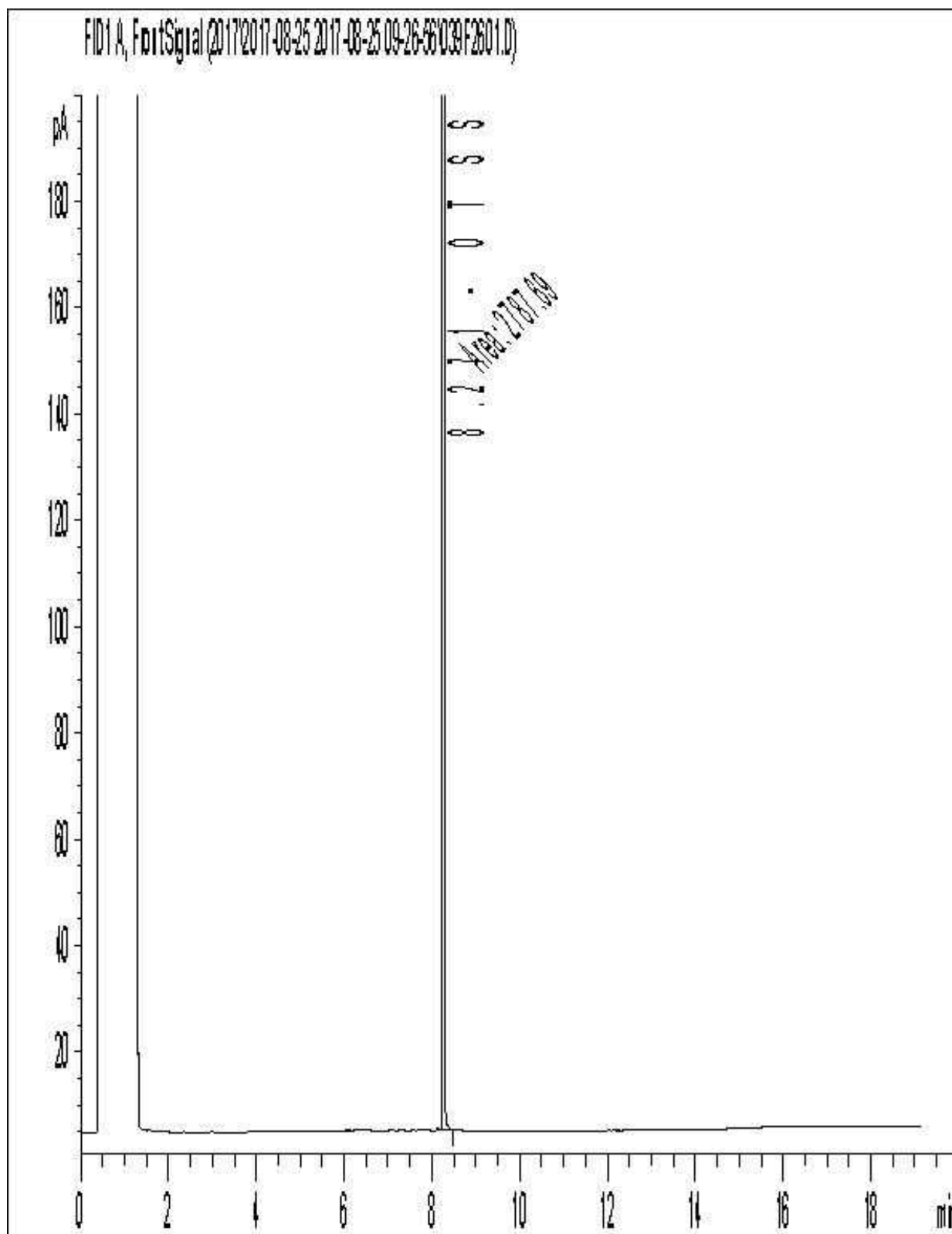
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: MB7I3301
Site#: 100347-002
Site Location: DEW LINE-CAM-F
Your C.O.C. #: B7I3301-M058-01-01

Attention: Alison Cameron

MAXXAM ANALYTICS
OTTAWA
32 COLONNADE RD N
UNIT 1000
NEPEAN, ON
CANADA K2E7J6

Report Date: 2017/08/31
Report #: R2437394
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772645

Received: 2017/08/25, 08:30

Sample Matrix: Water
Samples Received: 8

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Hardness Total (calculated as CaCO ₃)	8	N/A	2017/08/30	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO ₃)	8	N/A	2017/08/30	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	8	N/A	2017/08/30	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	8	N/A	2017/08/30	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Digested LL (total)	2	2017/08/29	2017/08/29	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	8	N/A	2017/08/30	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	2	N/A	2017/08/29	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	4	N/A	2017/08/30	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Filter and HNO ₃ Preserve for Metals	8	N/A	2017/08/30	BBY7 WI-00004	BCMOE Reqs 08/14

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: MB7I3301
Site#: 100347-002
Site Location: DEW LINE-CAM-F
Your C.O.C. #: B7I3301-M058-01-01

Attention: Alison Cameron

MAXXAM ANALYTICS
OTTAWA
32 COLONNADE RD N
UNIT 1000
NEPEAN, ON
CANADA K2E7J6

Report Date: 2017/08/31
Report #: R2437394
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772645
Received: 2017/08/25, 08:30

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Amandeep Nagra, Account Specialist

Email: ANagra@maxxam.ca

Phone# (604)639-2602

=====

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Maxxam Job #: B772645
Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB7I3301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU9067	RU9068	RU9069	RU9070	
Sampling Date		2017/08/19 05:32	2017/08/19	2017/08/20 10:30	2017/08/20 12:00	
COC Number		B7I3301-M058-01-01	B7I3301-M058-01-01	B7I3301-M058-01-01	B7I3301-M058-01-01	
	UNITS	MW0604 (EZQ699)	DUP01 (EZQ700)	MW0606 (EZQ701)	MW0605 (EZQ702)	QC Batch

Calculated Parameters						
Filter and HNO3 Preservation	N/A	FIELD	FIELD	FIELD	FIELD	ONSITE

Maxxam ID		RU9071	RU9072	RU9073	RU9074	
Sampling Date		2017/08/20 13:30	2017/08/20	2017/08/20 15:30	2017/08/20 16:00	
COC Number		B7I3301-M058-01-01	B7I3301-M058-01-01	B7I3301-M058-01-01	B7I3301-M058-01-01	
	UNITS	MW0601 (EZQ703)	DUP02 (EZQ704)	MW0603 (EZQ705)	MW0602 (EZQ706)	QC Batch

Calculated Parameters						
Filter and HNO3 Preservation	N/A	FIELD	FIELD	FIELD	FIELD	ONSITE

Maxxam Job #: B772645
Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB713301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

LOW LEVEL DISSOLVED METALS IN WATER (WATER)

Maxxam ID		RU9067	RU9068	RU9069		
Sampling Date		2017/08/19 05:32	2017/08/19	2017/08/20 10:30		
COC Number		B713301-M058-01-01	B713301-M058-01-01	B713301-M058-01-01		
	UNITS	MW0604 (EZQ699)	DUP01 (EZQ700)	MW0606 (EZQ701)	RDL	QC Batch
Misc. Inorganics						
Dissolved Hardness (CaCO ₃)	mg/L	641	625	831	0.50	8738120
Dissolved Metals by ICPMS						
Dissolved Aluminum (Al)	ug/L	3.79	3.78	6.51	0.50	8740280
Dissolved Antimony (Sb)	ug/L	0.202	0.213	0.058	0.020	8740280
Dissolved Arsenic (As)	ug/L	0.177	0.166	0.257	0.020	8740280
Dissolved Barium (Ba)	ug/L	13.3	13.3	23.2	0.020	8740280
Dissolved Beryllium (Be)	ug/L	<0.010	<0.010	<0.010	0.010	8740280
Dissolved Bismuth (Bi)	ug/L	<0.0050	<0.0050	<0.0050	0.0050	8740280
Dissolved Boron (B)	ug/L	65	68	55	10	8740280
Dissolved Cadmium (Cd)	ug/L	0.0140	0.0170	0.0220	0.0050	8740280
Dissolved Chromium (Cr)	ug/L	0.11	<0.10	0.14	0.10	8740280
Dissolved Cobalt (Co)	ug/L	1.20	1.16	0.311	0.0050	8740280
Dissolved Copper (Cu)	ug/L	4.64	4.47	3.46	0.050	8740280
Dissolved Iron (Fe)	ug/L	<1.0	<1.0	3.3	1.0	8740280
Dissolved Lead (Pb)	ug/L	<0.0050	<0.0050	0.0630	0.0050	8740280
Dissolved Lithium (Li)	ug/L	61.5	60.5	70.4	0.50	8740280
Dissolved Manganese (Mn)	ug/L	45.5	43.6	15.2	0.050	8740280
Dissolved Molybdenum (Mo)	ug/L	13.2	13.0	10.1	0.050	8740280
Dissolved Nickel (Ni)	ug/L	6.47	6.31	4.27	0.020	8740280
Dissolved Selenium (Se)	ug/L	0.535	0.549	3.13	0.040	8740280
Dissolved Silicon (Si)	ug/L	2440	2330	2310	50	8740280
Dissolved Silver (Ag)	ug/L	<0.0050	<0.0050	<0.0050	0.0050	8740280
Dissolved Strontium (Sr)	ug/L	329	324	395	0.050	8740280
Dissolved Thallium (Tl)	ug/L	0.0110	0.0110	0.0050	0.0020	8740280
Dissolved Tin (Sn)	ug/L	<0.20	<0.20	0.49	0.20	8740280
Dissolved Titanium (Ti)	ug/L	<0.50	<0.50	<0.50	0.50	8740280
Dissolved Uranium (U)	ug/L	148	142	212	0.0020	8740280
Dissolved Vanadium (V)	ug/L	<0.20	<0.20	0.29	0.20	8740280
Dissolved Zinc (Zn)	ug/L	22.1	21.8	123	0.10	8740280
Dissolved Zirconium (Zr)	ug/L	0.14	0.15	0.17	0.10	8740280
Dissolved Calcium (Ca)	mg/L	87.4	88.2	102	0.050	8738650
RDL = Reportable Detection Limit						

Maxxam Job #: B772645
Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB7I3301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

LOW LEVEL DISSOLVED METALS IN WATER (WATER)

Maxxam ID		RU9067	RU9068	RU9069		
Sampling Date		2017/08/19 05:32	2017/08/19	2017/08/20 10:30		
COC Number		B7I3301-M058-01-01	B7I3301-M058-01-01	B7I3301-M058-01-01		
	UNITS	MW0604 (EZQ699)	DUP01 (EZQ700)	MW0606 (EZQ701)	RDL	QC Batch
Dissolved Magnesium (Mg)	mg/L	103	98.4	140	0.050	8738650
Dissolved Potassium (K)	mg/L	10.6	10.4	9.97	0.050	8738650
Dissolved Sodium (Na)	mg/L	53.2	51.6	32.6	0.050	8738650
Dissolved Sulphur (S)	mg/L	149	145	222	3.0	8738650
RDL = Reportable Detection Limit						

Maxxam Job #: B772645
Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB713301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

LOW LEVEL DISSOLVED METALS IN WATER (WATER)

Maxxam ID		RU9070		RU9071	RU9072		
Sampling Date		2017/08/20 12:00		2017/08/20 13:30	2017/08/20		
COC Number		B713301-M058-01-01		B713301-M058-01-01	B713301-M058-01-01		
	UNITS	MW0605 (EZQ702)	QC Batch	MW0601 (EZQ703)	DUP02 (EZQ704)	RDL	QC Batch

Misc. Inorganics							
Dissolved Hardness (CaCO ₃)	mg/L	951	8738120	235	225	0.50	8738120
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	ug/L	7.83 (1)	8743477	1.85	1.97	0.50	8740280
Dissolved Antimony (Sb)	ug/L	0.057	8740280	0.108	0.111	0.020	8740280
Dissolved Arsenic (As)	ug/L	0.364	8740280	0.300	0.326	0.020	8740280
Dissolved Barium (Ba)	ug/L	31.7	8740280	24.8	23.9	0.020	8740280
Dissolved Beryllium (Be)	ug/L	<0.010	8740280	<0.010	<0.010	0.010	8740280
Dissolved Bismuth (Bi)	ug/L	<0.0050	8740280	<0.0050	<0.0050	0.0050	8740280
Dissolved Boron (B)	ug/L	51	8740280	15	15	10	8740280
Dissolved Cadmium (Cd)	ug/L	0.0260	8743477	0.0050	0.0050	0.0050	8740280
Dissolved Chromium (Cr)	ug/L	0.14	8740280	0.19	0.17	0.10	8740280
Dissolved Cobalt (Co)	ug/L	0.496	8740280	365	358	0.0050	8740280
Dissolved Copper (Cu)	ug/L	4.43	8740280	9.85	9.57	0.050	8740280
Dissolved Iron (Fe)	ug/L	6.9 (1)	8743477	<1.0	2.5	1.0	8740280
Dissolved Lead (Pb)	ug/L	0.0640 (1)	8743477	<0.0050	<0.0050	0.0050	8740280
Dissolved Lithium (Li)	ug/L	69.3	8740280	22.3	21.6	0.50	8740280
Dissolved Manganese (Mn)	ug/L	11.4	8740280	65.2	63.6	0.050	8740280
Dissolved Molybdenum (Mo)	ug/L	5.49	8740280	8.62	8.84	0.050	8740280
Dissolved Nickel (Ni)	ug/L	3.84	8740280	23.0	22.8	0.020	8740280
Dissolved Selenium (Se)	ug/L	0.460	8740280	0.136	0.144	0.040	8740280
Dissolved Silicon (Si)	ug/L	2600	8740280	2360	2380	50	8740280
Dissolved Silver (Ag)	ug/L	<0.0050	8740280	<0.0050	<0.0050	0.0050	8740280
Dissolved Strontium (Sr)	ug/L	493	8740280	93.7	89.1	0.050	8740280
Dissolved Thallium (Tl)	ug/L	0.0230	8740280	0.0060	0.0050	0.0020	8740280
Dissolved Tin (Sn)	ug/L	0.91	8740280	<0.20	<0.20	0.20	8740280
Dissolved Titanium (Ti)	ug/L	<0.50	8740280	<0.50	<0.50	0.50	8740280
Dissolved Uranium (U)	ug/L	267	8740280	7.34	7.25	0.0020	8740280
Dissolved Vanadium (V)	ug/L	<0.20	8740280	<0.20	<0.20	0.20	8740280
Dissolved Zinc (Zn)	ug/L	43.1	8740280	546	525	0.10	8740280
Dissolved Zirconium (Zr)	ug/L	0.42	8740280	<0.10	<0.10	0.10	8740280

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Reanalysis yields similar results.

Maxxam Job #: B772645
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MAXXAM ANALYTICS
Client Project #: MB7I3301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

LOW LEVEL DISSOLVED METALS IN WATER (WATER)

Maxxam ID		RU9070		RU9071	RU9072		
Sampling Date		2017/08/20 12:00		2017/08/20 13:30	2017/08/20		
COC Number		B7I3301-M058-01-01		B7I3301-M058-01-01	B7I3301-M058-01-01		
	UNITS	MW0605 (EZQ702)	QC Batch	MW0601 (EZQ703)	DUP02 (EZQ704)	RDL	QC Batch
Dissolved Calcium (Ca)	mg/L	126	8738650	57.6	55.4	0.050	8738650
Dissolved Magnesium (Mg)	mg/L	155	8738650	22.2	21.1	0.050	8738650
Dissolved Potassium (K)	mg/L	10.2	8738650	8.29	7.81	0.050	8738650
Dissolved Sodium (Na)	mg/L	40.7	8738650	27.9	27.6	0.050	8738650
Dissolved Sulphur (S)	mg/L	248	8738650	12.6	13.2	3.0	8738650
RDL = Reportable Detection Limit							

Maxxam Job #: B772645
Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB713301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

LOW LEVEL DISSOLVED METALS IN WATER (WATER)

Maxxam ID		RU9073		RU9074		
Sampling Date		2017/08/20 15:30		2017/08/20 16:00		
COC Number		B713301-M058-01-01		B713301-M058-01-01		
	UNITS	MW0603 (EZQ705)	QC Batch	MW0602 (EZQ706)	RDL	QC Batch
Misc. Inorganics						
Dissolved Hardness (CaCO ₃)	mg/L	123	8738120	269	0.50	8738120
Dissolved Metals by ICPMS						
Dissolved Aluminum (Al)	ug/L	5.63 (1)	8743477	4.34	0.50	8740280
Dissolved Antimony (Sb)	ug/L	0.330	8740280	0.326	0.020	8740280
Dissolved Arsenic (As)	ug/L	0.262	8743477	0.203	0.020	8740280
Dissolved Barium (Ba)	ug/L	25.6	8740280	45.5	0.020	8740280
Dissolved Beryllium (Be)	ug/L	<0.010	8740280	<0.010	0.010	8740280
Dissolved Bismuth (Bi)	ug/L	<0.0050	8740280	<0.0050	0.0050	8740280
Dissolved Boron (B)	ug/L	<10	8740280	996	10	8740280
Dissolved Cadmium (Cd)	ug/L	0.0190	8740280	0.0240	0.0050	8740280
Dissolved Chromium (Cr)	ug/L	0.19	8740280	9.08	0.10	8740280
Dissolved Cobalt (Co)	ug/L	0.234	8740280	0.0670	0.0050	8740280
Dissolved Copper (Cu)	ug/L	18.5	8740280	4.50	0.050	8740280
Dissolved Iron (Fe)	ug/L	9.0 (1)	8743477	7.8	1.0	8740280
Dissolved Lead (Pb)	ug/L	0.0850 (1)	8743477	0.0800	0.0050	8740280
Dissolved Lithium (Li)	ug/L	4.24	8740280	6.69	0.50	8740280
Dissolved Manganese (Mn)	ug/L	4.12	8740280	0.966	0.050	8740280
Dissolved Molybdenum (Mo)	ug/L	1.33	8740280	1.06	0.050	8740280
Dissolved Nickel (Ni)	ug/L	4.58	8740280	1.03	0.020	8740280
Dissolved Selenium (Se)	ug/L	0.154	8740280	0.095	0.040	8740280
Dissolved Silicon (Si)	ug/L	2600	8740280	2970	50	8740280
Dissolved Silver (Ag)	ug/L	0.0150	8740280	<0.0050	0.0050	8740280
Dissolved Strontium (Sr)	ug/L	86.2	8740280	89.6	0.050	8740280
Dissolved Thallium (Tl)	ug/L	0.0060	8740280	0.0020	0.0020	8740280
Dissolved Tin (Sn)	ug/L	8.42 (1)	8743477	4.43 (1)	0.20	8743477
Dissolved Titanium (Ti)	ug/L	0.52	8740280	<0.50	0.50	8740280
Dissolved Uranium (U)	ug/L	5.90	8740280	9.65	0.0020	8740280
Dissolved Vanadium (V)	ug/L	0.51	8740280	0.34	0.20	8740280
Dissolved Zinc (Zn)	ug/L	125	8743477	106	0.10	8740280
Dissolved Zirconium (Zr)	ug/L	0.60	8740280	0.57	0.10	8740280
RDL = Reportable Detection Limit						
(1) Dissolved greater than total. Reanalysis yields similar results.						

Maxxam Job #: B772645
Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB7I3301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

LOW LEVEL DISSOLVED METALS IN WATER (WATER)

Maxxam ID		RU9073		RU9074		
Sampling Date		2017/08/20 15:30		2017/08/20 16:00		
COC Number		B7I3301-M058-01-01		B7I3301-M058-01-01		
	UNITS	MW0603 (EZQ705)	QC Batch	MW0602 (EZQ706)	RDL	QC Batch
Dissolved Calcium (Ca)	mg/L	33.1	8738650	80.5	0.050	8738650
Dissolved Magnesium (Mg)	mg/L	9.84	8738650	16.5	0.050	8738650
Dissolved Potassium (K)	mg/L	4.67	8738650	4.66	0.050	8738650
Dissolved Sodium (Na)	mg/L	8.88	8738650	13.4	0.050	8738650
Dissolved Sulphur (S)	mg/L	<3.0	8738650	10.3	3.0	8738650
RDL = Reportable Detection Limit						

Maxxam Job #: B772645
Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB7I3301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

LOW LEVEL TOTAL METALS IN WATER (WATER)

Maxxam ID		RU9067	RU9067	RU9068	RU9070		
Sampling Date		2017/08/19 05:32	2017/08/19 05:32	2017/08/19	2017/08/20 12:00		
COC Number		B7I3301-M058-01-01	B7I3301-M058-01-01	B7I3301-M058-01-01	B7I3301-M058-01-01		
	UNITS	MW0604 (EZQ699)	MW0604 (EZQ699) Lab-Dup	DUP01 (EZQ700)	MW0605 (EZQ702)	RDL	QC Batch

Calculated Parameters							
Total Hardness (CaCO ₃)	mg/L	635	N/A	653	942	0.50	8738119
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	14.6	14.1	11.3	6.06	0.50	8740446
Total Antimony (Sb)	ug/L	0.207	0.201	0.199	0.054	0.020	8740446
Total Arsenic (As)	ug/L	0.177	0.152	0.184	0.349	0.020	8740446
Total Barium (Ba)	ug/L	13.2	13.6	13.5	31.3	0.020	8740446
Total Beryllium (Be)	ug/L	<0.010	<0.010	<0.010	<0.010	0.010	8740446
Total Bismuth (Bi)	ug/L	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8740446
Total Boron (B)	ug/L	70	68	72	47	10	8740446
Total Cadmium (Cd)	ug/L	0.0200	0.0200	0.0170	0.0220	0.0050	8740446
Total Chromium (Cr)	ug/L	0.12	0.12	<0.10	0.13	0.10	8740446
Total Cobalt (Co)	ug/L	1.25	1.22	1.27	0.507	0.0050	8740446
Total Copper (Cu)	ug/L	4.74	4.61	4.74	4.09	0.050	8740446
Total Iron (Fe)	ug/L	17.7	17.5	12.6	1.8	1.0	8740446
Total Lead (Pb)	ug/L	0.0200	0.0200	0.0180	0.0110	0.0050	8740446
Total Lithium (Li)	ug/L	64.1	61.4	66.0	64.9	0.50	8740446
Total Manganese (Mn)	ug/L	47.5	46.9	49.9	10.4	0.050	8740446
Total Molybdenum (Mo)	ug/L	13.0	13.3	13.2	4.97	0.050	8740446
Total Nickel (Ni)	ug/L	6.80	6.58	7.15	4.24	0.020	8740446
Total Selenium (Se)	ug/L	0.521	0.521	0.513	0.485	0.040	8740446
Total Silicon (Si)	ug/L	2450	2530	2340	2620	50	8740446
Total Silver (Ag)	ug/L	0.0100	0.0100	0.0110	0.0180	0.0050	8740446
Total Strontium (Sr)	ug/L	324	335	343	470	0.050	8740446
Total Thallium (Tl)	ug/L	0.0120	0.0120	0.0120	0.0210	0.0020	8740446
Total Tin (Sn)	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	8740446
Total Titanium (Ti)	ug/L	0.56	0.57	0.60	<0.50	0.50	8740446
Total Uranium (U)	ug/L	154	151	159	256	0.0020	8740446
Total Vanadium (V)	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	8740446
Total Zinc (Zn)	ug/L	22.6	22.0	20.8	40.0	0.10	8740446

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

Maxxam Job #: B772645
Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB7I3301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

LOW LEVEL TOTAL METALS IN WATER (WATER)

Maxxam ID		RU9067	RU9067	RU9068	RU9070		
Sampling Date		2017/08/19 05:32	2017/08/19 05:32	2017/08/19	2017/08/20 12:00		
COC Number		B7I3301-M058-01-01	B7I3301-M058-01-01	B7I3301-M058-01-01	B7I3301-M058-01-01		
	UNITS	MW0604 (EZQ699)	MW0604 (EZQ699) Lab-Dup	DUP01 (EZQ700)	MW0605 (EZQ702)	RDL	QC Batch
Total Zirconium (Zr)	ug/L	<0.10	<0.10	<0.10	0.28	0.10	8740446
Total Calcium (Ca)	mg/L	87.3	N/A	89.1	130	0.050	8738937
Total Magnesium (Mg)	mg/L	101	N/A	104	150	0.050	8738937
Total Potassium (K)	mg/L	10.2	N/A	10.2	9.56	0.050	8738937
Total Sodium (Na)	mg/L	51.7	N/A	51.8	39.6	0.050	8738937
Total Sulphur (S)	mg/L	161	N/A	163	258	3.0	8738937

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

Maxxam Job #: B772645
Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB713301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

LOW LEVEL TOTAL METALS IN WATER (WATER)

Maxxam ID		RU9071	RU9072	RU9073		
Sampling Date		2017/08/20 13:30	2017/08/20	2017/08/20 15:30		
COC Number		B713301-M058-01-01	B713301-M058-01-01	B713301-M058-01-01		
	UNITS	MW0601 (EZQ703)	DUP02 (EZQ704)	MW0603 (EZQ705)	RDL	QC Batch
Calculated Parameters						
Total Hardness (CaCO3)	mg/L	226	227	121	0.50	8738119
Total Metals by ICPMS						
Total Aluminum (Al)	ug/L	30.8	20.9	4.11	0.50	8740446
Total Antimony (Sb)	ug/L	0.108	0.108	0.302	0.020	8740446
Total Arsenic (As)	ug/L	0.289	0.286	0.215	0.020	8740446
Total Barium (Ba)	ug/L	24.4	24.8	21.5	0.020	8740446
Total Beryllium (Be)	ug/L	<0.010	<0.010	<0.010	0.010	8740446
Total Bismuth (Bi)	ug/L	<0.0050	<0.0050	<0.0050	0.0050	8740446
Total Boron (B)	ug/L	16	16	<10	10	8740446
Total Cadmium (Cd)	ug/L	<0.0050	<0.0050	0.0060	0.0050	8740446
Total Chromium (Cr)	ug/L	0.25	0.22	0.20	0.10	8740446
Total Cobalt (Co)	ug/L	363	349	0.267	0.0050	8740446
Total Copper (Cu)	ug/L	10.7	10.4	16.6	0.050	8740446
Total Iron (Fe)	ug/L	26.0	25.5	7.4	1.0	8740446
Total Lead (Pb)	ug/L	0.0180	0.0230	0.0570	0.0050	8740446
Total Lithium (Li)	ug/L	22.4	22.8	4.10	0.50	8740446
Total Manganese (Mn)	ug/L	68.6	66.6	3.41	0.050	8740446
Total Molybdenum (Mo)	ug/L	8.86	9.00	1.34	0.050	8740446
Total Nickel (Ni)	ug/L	24.1	23.3	5.46	0.020	8740446
Total Selenium (Se)	ug/L	0.145	0.128	0.145	0.040	8740446
Total Silicon (Si)	ug/L	2430	2440	2680	50	8740446
Total Silver (Ag)	ug/L	0.0180	0.0110	0.0180	0.0050	8740446
Total Strontium (Sr)	ug/L	89.4	89.4	92.0	0.050	8740446
Total Thallium (Tl)	ug/L	0.0050	0.0060	0.0060	0.0020	8740446
Total Tin (Sn)	ug/L	<0.20	<0.20	<0.20	0.20	8740446
Total Titanium (Ti)	ug/L	1.03	1.17	<0.50	0.50	8740446
Total Uranium (U)	ug/L	7.58	7.86	5.72	0.0020	8740446
Total Vanadium (V)	ug/L	<0.20	<0.20	0.53	0.20	8740446
Total Zinc (Zn)	ug/L	484	483	103	0.10	8740446
Total Zirconium (Zr)	ug/L	<0.10	0.17	0.60	0.10	8740446
RDL = Reportable Detection Limit						

Maxxam Job #: B772645
Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB7I3301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

LOW LEVEL TOTAL METALS IN WATER (WATER)

Maxxam ID		RU9071	RU9072	RU9073		
Sampling Date		2017/08/20 13:30	2017/08/20	2017/08/20 15:30		
COC Number		B7I3301-M058-01-01	B7I3301-M058-01-01	B7I3301-M058-01-01		
	UNITS	MW0601 (EZQ703)	DUP02 (EZQ704)	MW0603 (EZQ705)	RDL	QC Batch
Total Calcium (Ca)	mg/L	55.0	55.1	30.6	0.050	8738937
Total Magnesium (Mg)	mg/L	21.5	21.7	10.7	0.050	8738937
Total Potassium (K)	mg/L	7.99	7.73	4.64	0.050	8738937
Total Sodium (Na)	mg/L	29.5	28.6	8.89	0.050	8738937
Total Sulphur (S)	mg/L	13.6	13.4	<3.0	3.0	8738937
RDL = Reportable Detection Limit						

Maxxam Job #: B772645
Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB713301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

LL TOTAL METALS (DIGESTED) IN WATER

Maxxam ID		RU9069		RU9074		
Sampling Date		2017/08/20 10:30		2017/08/20 16:00		
COC Number		B713301-M058-01-01		B713301-M058-01-01		
	UNITS	MW0606 (EZQ701)	QC Batch	MW0602 (EZQ706)	RDL	QC Batch
Calculated Parameters						
Total Hardness (CaCO ₃)	mg/L	746	8738119	277	0.50	8738933
Total Metals by ICPMS						
Total Aluminum (Al)	ug/L	164	8741540	1140	3.0	8741540
Total Antimony (Sb)	ug/L	0.062	8741540	0.313	0.020	8741540
Total Arsenic (As)	ug/L	0.289	8741540	0.222	0.020	8741540
Total Barium (Ba)	ug/L	25.0	8741540	46.9	0.050	8741540
Total Beryllium (Be)	ug/L	0.010	8741540	0.031	0.010	8741540
Total Bismuth (Bi)	ug/L	<0.010	8741540	<0.010	0.010	8741540
Total Boron (B)	ug/L	50	8741540	1000	10	8741540
Total Cadmium (Cd)	ug/L	0.0300	8741540	0.0190	0.0050	8741540
Total Chromium (Cr)	ug/L	1.38	8741540	11.1	0.10	8741540
Total Cobalt (Co)	ug/L	0.422	8741540	0.141	0.010	8741540
Total Copper (Cu)	ug/L	4.64	8741540	4.02	0.10	8741540
Total Iron (Fe)	ug/L	183	8741540	402	5.0	8741540
Total Lead (Pb)	ug/L	0.187	8741540	0.418	0.020	8741540
Total Lithium (Li)	ug/L	59.6	8741540	6.85	0.50	8741540
Total Manganese (Mn)	ug/L	17.7	8741540	4.06	0.10	8741540
Total Molybdenum (Mo)	ug/L	8.62	8741540	1.08	0.050	8741540
Total Nickel (Ni)	ug/L	5.42	8741540	1.90	0.10	8741540
Total Selenium (Se)	ug/L	3.40	8741540	0.095	0.040	8741540
Total Silicon (Si)	ug/L	2680	8741540	5910	50	8741540
Total Silver (Ag)	ug/L	0.021	8741540	0.032	0.010	8741540
Total Strontium (Sr)	ug/L	342	8741540	91.3	0.050	8741540
Total Thallium (Tl)	ug/L	0.0080	8741540	0.0040	0.0020	8741540
Total Tin (Sn)	ug/L	0.20	8741540	<0.20	0.20	8741540
Total Titanium (Ti)	ug/L	8.6	8741540	12.3	2.0	8741540
Total Uranium (U)	ug/L	181	8741540	9.98	0.0050	8741540
Total Vanadium (V)	ug/L	0.55	8741540	0.60	0.20	8741540
Total Zinc (Zn)	ug/L	157	8741540	159	1.0	8741540
Total Zirconium (Zr)	ug/L	0.30	8741540	1.65	0.10	8741540
Total Calcium (Ca)	mg/L	104	8738937	82.9	0.25	8738937
RDL = Reportable Detection Limit						

Maxxam Job #: B772645
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MAXXAM ANALYTICS
Client Project #: MB7I3301
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Sampler Initials: KM

LL TOTAL METALS (DIGESTED) IN WATER

Maxxam ID		RU9069		RU9074		
Sampling Date		2017/08/20 10:30		2017/08/20 16:00		
COC Number		B7I3301-M058-01-01		B7I3301-M058-01-01		
	UNITS	MW0606 (EZQ701)	QC Batch	MW0602 (EZQ706)	RDL	QC Batch
Total Magnesium (Mg)	mg/L	118	8738937	17.1	0.25	8738937
Total Potassium (K)	mg/L	8.68	8738937	4.50	0.25	8738937
Total Sodium (Na)	mg/L	30.7	8738937	13.5	0.25	8738937
Total Sulphur (S)	mg/L	206	8738937	10.0	3.0	8738937
RDL = Reportable Detection Limit						

Maxxam Job #: B772645
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MAXXAM ANALYTICS
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Sampler Initials: KM

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.7°C
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LL TOTAL METALS (DIGESTED) IN WATER Comments

Method Blank Elements by ICPMS Digested LL (total): Method Blank exceeds acceptance limits for (Tungsten) - 2X RDL acceptable for low level metals determination.

Sample RU9070, Elements by ICPMS Low Level (dissolved): Test repeated.

Sample RU9073, Elements by ICPMS Low Level (dissolved): Test repeated.

Sample RU9074, Elements by ICPMS Low Level (dissolved): Test repeated.

Results relate only to the items tested.

Maxxam Job #: B772645
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MAXXAM ANALYTICS
Client Project #: MB713301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

QUALITY ASSURANCE REPORT

QA/QC									
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits	
8740280	AD5	Matrix Spike	Dissolved Aluminum (Al)	2017/08/30		108	%	80 - 120	
			Dissolved Antimony (Sb)	2017/08/30		99	%	80 - 120	
			Dissolved Arsenic (As)	2017/08/30		100	%	80 - 120	
			Dissolved Barium (Ba)	2017/08/30		102	%	80 - 120	
			Dissolved Beryllium (Be)	2017/08/30		103	%	80 - 120	
			Dissolved Bismuth (Bi)	2017/08/30		97	%	80 - 120	
			Dissolved Boron (B)	2017/08/30		101	%	80 - 120	
			Dissolved Cadmium (Cd)	2017/08/30		97	%	80 - 120	
			Dissolved Chromium (Cr)	2017/08/30		103	%	80 - 120	
			Dissolved Cobalt (Co)	2017/08/30		100	%	80 - 120	
			Dissolved Copper (Cu)	2017/08/30		101	%	80 - 120	
			Dissolved Iron (Fe)	2017/08/30		103	%	80 - 120	
			Dissolved Lead (Pb)	2017/08/30		102	%	80 - 120	
			Dissolved Lithium (Li)	2017/08/30		107	%	80 - 120	
			Dissolved Manganese (Mn)	2017/08/30		102	%	80 - 120	
			Dissolved Molybdenum (Mo)	2017/08/30		97	%	80 - 120	
			Dissolved Nickel (Ni)	2017/08/30		100	%	80 - 120	
			Dissolved Selenium (Se)	2017/08/30		101	%	80 - 120	
			Dissolved Silver (Ag)	2017/08/30		105	%	80 - 120	
			Dissolved Strontium (Sr)	2017/08/30		98	%	80 - 120	
			Dissolved Thallium (Tl)	2017/08/30		98	%	80 - 120	
			Dissolved Tin (Sn)	2017/08/30		95	%	80 - 120	
			Dissolved Titanium (Ti)	2017/08/30		99	%	80 - 120	
			Dissolved Uranium (U)	2017/08/30		104	%	80 - 120	
			Dissolved Vanadium (V)	2017/08/30		101	%	80 - 120	
			Dissolved Zinc (Zn)	2017/08/30		104	%	80 - 120	
8740280	AD5	Spiked Blank	Dissolved Aluminum (Al)	2017/08/30		109	%	80 - 120	
			Dissolved Antimony (Sb)	2017/08/30		104	%	80 - 120	
			Dissolved Arsenic (As)	2017/08/30		103	%	80 - 120	
			Dissolved Barium (Ba)	2017/08/30		106	%	80 - 120	
			Dissolved Beryllium (Be)	2017/08/30		106	%	80 - 120	
			Dissolved Bismuth (Bi)	2017/08/30		99	%	80 - 120	
			Dissolved Boron (B)	2017/08/30		105	%	80 - 120	
			Dissolved Cadmium (Cd)	2017/08/30		101	%	80 - 120	
			Dissolved Chromium (Cr)	2017/08/30		104	%	80 - 120	
			Dissolved Cobalt (Co)	2017/08/30		102	%	80 - 120	
			Dissolved Copper (Cu)	2017/08/30		104	%	80 - 120	
			Dissolved Iron (Fe)	2017/08/30		103	%	80 - 120	
			Dissolved Lead (Pb)	2017/08/30		104	%	80 - 120	
			Dissolved Lithium (Li)	2017/08/30		107	%	80 - 120	
			Dissolved Manganese (Mn)	2017/08/30		104	%	80 - 120	
			Dissolved Molybdenum (Mo)	2017/08/30		103	%	80 - 120	
			Dissolved Nickel (Ni)	2017/08/30		103	%	80 - 120	
			Dissolved Selenium (Se)	2017/08/30		102	%	80 - 120	
			Dissolved Silver (Ag)	2017/08/30		109	%	80 - 120	
			Dissolved Strontium (Sr)	2017/08/30		105	%	80 - 120	
			Dissolved Thallium (Tl)	2017/08/30		99	%	80 - 120	
			Dissolved Tin (Sn)	2017/08/30		99	%	80 - 120	
			Dissolved Titanium (Ti)	2017/08/30		105	%	80 - 120	
			Dissolved Uranium (U)	2017/08/30		104	%	80 - 120	
			Dissolved Vanadium (V)	2017/08/30		103	%	80 - 120	
			Dissolved Zinc (Zn)	2017/08/30		105	%	80 - 120	

Maxxam Job #: B772645
Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB713301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8740280	AD5	Method Blank	Dissolved Aluminum (Al)	2017/08/30	<0.50		ug/L	
			Dissolved Antimony (Sb)	2017/08/30	<0.020		ug/L	
			Dissolved Arsenic (As)	2017/08/30	<0.020		ug/L	
			Dissolved Barium (Ba)	2017/08/30	<0.020		ug/L	
			Dissolved Beryllium (Be)	2017/08/30	<0.010		ug/L	
			Dissolved Bismuth (Bi)	2017/08/30	<0.0050		ug/L	
			Dissolved Boron (B)	2017/08/30	<10		ug/L	
			Dissolved Cadmium (Cd)	2017/08/30	<0.0050		ug/L	
			Dissolved Chromium (Cr)	2017/08/30	<0.10		ug/L	
			Dissolved Cobalt (Co)	2017/08/30	<0.0050		ug/L	
			Dissolved Copper (Cu)	2017/08/30	<0.050		ug/L	
			Dissolved Iron (Fe)	2017/08/30	<1.0		ug/L	
			Dissolved Lead (Pb)	2017/08/30	<0.0050		ug/L	
			Dissolved Lithium (Li)	2017/08/30	<0.50		ug/L	
			Dissolved Manganese (Mn)	2017/08/30	<0.050		ug/L	
			Dissolved Molybdenum (Mo)	2017/08/30	<0.050		ug/L	
			Dissolved Nickel (Ni)	2017/08/30	<0.020		ug/L	
			Dissolved Selenium (Se)	2017/08/30	<0.040		ug/L	
			Dissolved Silicon (Si)	2017/08/30	<50		ug/L	
			Dissolved Silver (Ag)	2017/08/30	<0.0050		ug/L	
			Dissolved Strontium (Sr)	2017/08/30	<0.050		ug/L	
			Dissolved Thallium (Tl)	2017/08/30	<0.0020		ug/L	
			Dissolved Tin (Sn)	2017/08/30	<0.20		ug/L	
			Dissolved Titanium (Ti)	2017/08/30	<0.50		ug/L	
			Dissolved Uranium (U)	2017/08/30	<0.0020		ug/L	
			Dissolved Vanadium (V)	2017/08/30	<0.20		ug/L	
			Dissolved Zinc (Zn)	2017/08/30	<0.10		ug/L	
			Dissolved Zirconium (Zr)	2017/08/30	<0.10		ug/L	
8740280	AD5	RPD	Dissolved Aluminum (Al)	2017/08/30	NC		%	20
			Dissolved Antimony (Sb)	2017/08/30	NC		%	20
			Dissolved Arsenic (As)	2017/08/30	NC		%	20
			Dissolved Barium (Ba)	2017/08/30	NC		%	20
			Dissolved Beryllium (Be)	2017/08/30	NC		%	20
			Dissolved Bismuth (Bi)	2017/08/30	NC		%	20
			Dissolved Boron (B)	2017/08/30	NC		%	20
			Dissolved Cadmium (Cd)	2017/08/30	NC		%	20
			Dissolved Chromium (Cr)	2017/08/30	NC		%	20
			Dissolved Cobalt (Co)	2017/08/30	NC		%	20
			Dissolved Copper (Cu)	2017/08/30	NC		%	20
			Dissolved Iron (Fe)	2017/08/30	NC		%	20
			Dissolved Lead (Pb)	2017/08/30	NC		%	20
			Dissolved Lithium (Li)	2017/08/30	NC		%	20
			Dissolved Manganese (Mn)	2017/08/30	NC		%	20
			Dissolved Molybdenum (Mo)	2017/08/30	NC		%	20
			Dissolved Nickel (Ni)	2017/08/30	NC		%	20
			Dissolved Selenium (Se)	2017/08/30	NC		%	20
			Dissolved Silicon (Si)	2017/08/30	6.4		%	20
			Dissolved Silver (Ag)	2017/08/30	NC		%	20
			Dissolved Strontium (Sr)	2017/08/30	NC		%	20
			Dissolved Thallium (Tl)	2017/08/30	NC		%	20
			Dissolved Tin (Sn)	2017/08/30	NC		%	20
			Dissolved Titanium (Ti)	2017/08/30	NC		%	20

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Report Date: 2017/08/31

MAXXAM ANALYTICS
Client Project #: MB7I3301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8740446	AD5	Matrix Spike [RU9067-01]	Dissolved Uranium (U)	2017/08/30	NC		%	20
			Dissolved Vanadium (V)	2017/08/30	NC		%	20
			Dissolved Zinc (Zn)	2017/08/30	NC		%	20
			Dissolved Zirconium (Zr)	2017/08/30	NC		%	20
			Total Aluminum (Al)	2017/08/29		110	%	80 - 120
			Total Antimony (Sb)	2017/08/29		100	%	80 - 120
			Total Arsenic (As)	2017/08/29		105	%	80 - 120
			Total Barium (Ba)	2017/08/29		NC	%	80 - 120
			Total Beryllium (Be)	2017/08/29		102	%	80 - 120
			Total Bismuth (Bi)	2017/08/29		97	%	80 - 120
			Total Boron (B)	2017/08/29		100	%	80 - 120
			Total Cadmium (Cd)	2017/08/29		98	%	80 - 120
			Total Chromium (Cr)	2017/08/29		103	%	80 - 120
			Total Cobalt (Co)	2017/08/29		99	%	80 - 120
			Total Copper (Cu)	2017/08/29		94	%	80 - 120
			Total Iron (Fe)	2017/08/29		99	%	80 - 120
			Total Lead (Pb)	2017/08/29		102	%	80 - 120
			Total Lithium (Li)	2017/08/29		NC	%	80 - 120
			Total Manganese (Mn)	2017/08/29		NC	%	80 - 120
			Total Molybdenum (Mo)	2017/08/29		NC	%	80 - 120
			Total Nickel (Ni)	2017/08/29		95	%	80 - 120
			Total Selenium (Se)	2017/08/29		103	%	80 - 120
			Total Silver (Ag)	2017/08/29		103	%	80 - 120
			Total Strontium (Sr)	2017/08/29		NC	%	80 - 120
			Total Thallium (Tl)	2017/08/29		99	%	80 - 120
			Total Tin (Sn)	2017/08/29		100	%	80 - 120
			Total Titanium (Ti)	2017/08/29		102	%	80 - 120
			Total Uranium (U)	2017/08/29		NC	%	80 - 120
			Total Vanadium (V)	2017/08/29		106	%	80 - 120
			Total Zinc (Zn)	2017/08/29		NC	%	80 - 120
8740446	AD5	Spiked Blank	Total Aluminum (Al)	2017/08/29		110	%	80 - 120
			Total Antimony (Sb)	2017/08/29		104	%	80 - 120
			Total Arsenic (As)	2017/08/29		105	%	80 - 120
			Total Barium (Ba)	2017/08/29		105	%	80 - 120
			Total Beryllium (Be)	2017/08/29		107	%	80 - 120
			Total Bismuth (Bi)	2017/08/29		101	%	80 - 120
			Total Boron (B)	2017/08/29		104	%	80 - 120
			Total Cadmium (Cd)	2017/08/29		102	%	80 - 120
			Total Chromium (Cr)	2017/08/29		106	%	80 - 120
			Total Cobalt (Co)	2017/08/29		104	%	80 - 120
			Total Copper (Cu)	2017/08/29		105	%	80 - 120
			Total Iron (Fe)	2017/08/29		104	%	80 - 120
			Total Lead (Pb)	2017/08/29		106	%	80 - 120
			Total Lithium (Li)	2017/08/29		109	%	80 - 120
			Total Manganese (Mn)	2017/08/29		108	%	80 - 120
			Total Molybdenum (Mo)	2017/08/29		105	%	80 - 120
			Total Nickel (Ni)	2017/08/29		105	%	80 - 120
			Total Selenium (Se)	2017/08/29		104	%	80 - 120
			Total Silver (Ag)	2017/08/29		109	%	80 - 120
			Total Strontium (Sr)	2017/08/29		103	%	80 - 120
			Total Thallium (Tl)	2017/08/29		102	%	80 - 120
			Total Tin (Sn)	2017/08/29		99	%	80 - 120

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MAXXAM ANALYTICS
Client Project #: MB713301
Site Location: DEW LINE-CAM-F
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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8740446	AD5	Method Blank	Total Titanium (Ti)	2017/08/29		97	%	80 - 120
			Total Uranium (U)	2017/08/29		105	%	80 - 120
			Total Vanadium (V)	2017/08/29		107	%	80 - 120
			Total Zinc (Zn)	2017/08/29		106	%	80 - 120
			Total Aluminum (Al)	2017/08/29	<0.50		ug/L	
			Total Antimony (Sb)	2017/08/29	<0.020		ug/L	
			Total Arsenic (As)	2017/08/29	<0.020		ug/L	
			Total Barium (Ba)	2017/08/29	<0.020		ug/L	
			Total Beryllium (Be)	2017/08/29	<0.010		ug/L	
			Total Bismuth (Bi)	2017/08/29	<0.0050		ug/L	
			Total Boron (B)	2017/08/29	<10		ug/L	
			Total Cadmium (Cd)	2017/08/29	<0.0050		ug/L	
			Total Chromium (Cr)	2017/08/29	<0.10		ug/L	
			Total Cobalt (Co)	2017/08/29	<0.0050		ug/L	
			Total Copper (Cu)	2017/08/29	<0.050		ug/L	
			Total Iron (Fe)	2017/08/29	<1.0		ug/L	
			Total Lead (Pb)	2017/08/29	<0.0050		ug/L	
			Total Lithium (Li)	2017/08/29	<0.50		ug/L	
			Total Manganese (Mn)	2017/08/29	<0.050		ug/L	
			Total Molybdenum (Mo)	2017/08/29	<0.050		ug/L	
			Total Nickel (Ni)	2017/08/29	<0.020		ug/L	
			Total Selenium (Se)	2017/08/29	<0.040		ug/L	
			Total Silicon (Si)	2017/08/29	<50		ug/L	
			Total Silver (Ag)	2017/08/29	<0.0050		ug/L	
			Total Strontium (Sr)	2017/08/29	<0.050		ug/L	
			Total Thallium (Tl)	2017/08/29	<0.0020		ug/L	
			Total Tin (Sn)	2017/08/29	<0.20		ug/L	
			Total Titanium (Ti)	2017/08/29	<0.50		ug/L	
			Total Uranium (U)	2017/08/29	<0.0020		ug/L	
			Total Vanadium (V)	2017/08/29	<0.20		ug/L	
			Total Zinc (Zn)	2017/08/29	<0.10		ug/L	
			Total Zirconium (Zr)	2017/08/29	<0.10		ug/L	
8740446	AD5	RPD [RU9067-01]	Total Aluminum (Al)	2017/08/30	3.6		%	20
			Total Antimony (Sb)	2017/08/30	2.9		%	20
			Total Arsenic (As)	2017/08/30	15		%	20
			Total Barium (Ba)	2017/08/30	2.9		%	20
			Total Beryllium (Be)	2017/08/30	NC		%	20
			Total Bismuth (Bi)	2017/08/30	NC		%	20
			Total Boron (B)	2017/08/30	2.4		%	20
			Total Cadmium (Cd)	2017/08/30	NC		%	20
			Total Chromium (Cr)	2017/08/30	1.7		%	20
			Total Cobalt (Co)	2017/08/30	2.2		%	20
			Total Copper (Cu)	2017/08/30	2.7		%	20
			Total Iron (Fe)	2017/08/30	0.99		%	20
			Total Lead (Pb)	2017/08/30	NC		%	20
			Total Lithium (Li)	2017/08/30	4.3		%	20
			Total Manganese (Mn)	2017/08/30	1.3		%	20
			Total Molybdenum (Mo)	2017/08/30	2.4		%	20
			Total Nickel (Ni)	2017/08/30	3.3		%	20
			Total Selenium (Se)	2017/08/30	0		%	20
			Total Silicon (Si)	2017/08/30	3.1		%	20
			Total Silver (Ag)	2017/08/30	NC		%	20

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MAXXAM ANALYTICS
Client Project #: MB713301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8741540	AD5	Matrix Spike	Total Strontium (Sr)	2017/08/30	3.2		%	20
			Total Thallium (Tl)	2017/08/30	0		%	20
			Total Tin (Sn)	2017/08/30	NC		%	20
			Total Titanium (Ti)	2017/08/30	1.4		%	20
			Total Uranium (U)	2017/08/30	1.6		%	20
			Total Vanadium (V)	2017/08/30	NC		%	20
			Total Zinc (Zn)	2017/08/30	2.3		%	20
			Total Zirconium (Zr)	2017/08/30	NC		%	20
			Total Aluminum (Al)	2017/08/29		114	%	80 - 120
			Total Antimony (Sb)	2017/08/29		104	%	80 - 120
			Total Arsenic (As)	2017/08/29		104	%	80 - 120
			Total Barium (Ba)	2017/08/29		NC	%	80 - 120
			Total Beryllium (Be)	2017/08/29		108	%	80 - 120
			Total Bismuth (Bi)	2017/08/29		95	%	80 - 120
			Total Boron (B)	2017/08/29		101	%	80 - 120
			Total Cadmium (Cd)	2017/08/29		103	%	80 - 120
			Total Chromium (Cr)	2017/08/29		103	%	80 - 120
			Total Cobalt (Co)	2017/08/29		99	%	80 - 120
			Total Copper (Cu)	2017/08/29		100	%	80 - 120
			Total Iron (Fe)	2017/08/29		NC	%	80 - 120
			Total Lead (Pb)	2017/08/29		103	%	80 - 120
			Total Lithium (Li)	2017/08/29		105	%	80 - 120
			Total Manganese (Mn)	2017/08/29		102	%	80 - 120
			Total Molybdenum (Mo)	2017/08/29		103	%	80 - 120
			Total Nickel (Ni)	2017/08/29		99	%	80 - 120
			Total Selenium (Se)	2017/08/29		104	%	80 - 120
			Total Silver (Ag)	2017/08/29		104	%	80 - 120
			Total Strontium (Sr)	2017/08/29		NC	%	80 - 120
			Total Thallium (Tl)	2017/08/29		100	%	80 - 120
			Total Tin (Sn)	2017/08/29		92	%	80 - 120
			Total Titanium (Ti)	2017/08/29		96	%	80 - 120
			Total Uranium (U)	2017/08/29		108	%	80 - 120
			Total Vanadium (V)	2017/08/29		103	%	80 - 120
			Total Zinc (Zn)	2017/08/29		106	%	80 - 120
8741540	AD5	Spiked Blank	Total Aluminum (Al)	2017/08/29		105	%	80 - 120
			Total Antimony (Sb)	2017/08/29		98	%	80 - 120
			Total Arsenic (As)	2017/08/29		99	%	80 - 120
			Total Barium (Ba)	2017/08/29		100	%	80 - 120
			Total Beryllium (Be)	2017/08/29		99	%	80 - 120
			Total Bismuth (Bi)	2017/08/29		96	%	80 - 120
			Total Boron (B)	2017/08/29		97	%	80 - 120
			Total Cadmium (Cd)	2017/08/29		97	%	80 - 120
			Total Chromium (Cr)	2017/08/29		97	%	80 - 120
			Total Cobalt (Co)	2017/08/29		96	%	80 - 120
			Total Copper (Cu)	2017/08/29		97	%	80 - 120
			Total Iron (Fe)	2017/08/29		100	%	80 - 120
			Total Lead (Pb)	2017/08/29		102	%	80 - 120
			Total Lithium (Li)	2017/08/29		100	%	80 - 120
			Total Manganese (Mn)	2017/08/29		101	%	80 - 120
			Total Molybdenum (Mo)	2017/08/29		99	%	80 - 120
			Total Nickel (Ni)	2017/08/29		96	%	80 - 120
			Total Selenium (Se)	2017/08/29		99	%	80 - 120

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MAXXAM ANALYTICS
Client Project #: MB713301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8741540	AD5	Method Blank	Total Silver (Ag)	2017/08/29		102	%	80 - 120
			Total Strontium (Sr)	2017/08/29		97	%	80 - 120
			Total Thallium (Tl)	2017/08/29		97	%	80 - 120
			Total Tin (Sn)	2017/08/29		100	%	80 - 120
			Total Titanium (Ti)	2017/08/29		92	%	80 - 120
			Total Uranium (U)	2017/08/29		102	%	80 - 120
			Total Vanadium (V)	2017/08/29		98	%	80 - 120
			Total Zinc (Zn)	2017/08/29		99	%	80 - 120
			Total Aluminum (Al)	2017/08/29	<3.0		ug/L	
			Total Antimony (Sb)	2017/08/29	<0.020		ug/L	
			Total Arsenic (As)	2017/08/29	<0.020		ug/L	
			Total Barium (Ba)	2017/08/29	<0.050		ug/L	
			Total Beryllium (Be)	2017/08/29	<0.010		ug/L	
			Total Bismuth (Bi)	2017/08/29	<0.010		ug/L	
			Total Boron (B)	2017/08/29	<10		ug/L	
			Total Cadmium (Cd)	2017/08/29	<0.0050		ug/L	
			Total Chromium (Cr)	2017/08/29	<0.10		ug/L	
			Total Cobalt (Co)	2017/08/29	<0.010		ug/L	
			Total Copper (Cu)	2017/08/29	<0.10		ug/L	
			Total Iron (Fe)	2017/08/29	<5.0		ug/L	
			Total Lead (Pb)	2017/08/29	<0.020		ug/L	
			Total Lithium (Li)	2017/08/29	<0.50		ug/L	
			Total Manganese (Mn)	2017/08/29	<0.10		ug/L	
			Total Molybdenum (Mo)	2017/08/29	<0.050		ug/L	
			Total Nickel (Ni)	2017/08/29	<0.10		ug/L	
			Total Selenium (Se)	2017/08/29	<0.040		ug/L	
			Total Silicon (Si)	2017/08/29	<50		ug/L	
			Total Silver (Ag)	2017/08/29	<0.010		ug/L	
			Total Strontium (Sr)	2017/08/29	<0.050		ug/L	
			Total Thallium (Tl)	2017/08/29	<0.0020		ug/L	
			Total Tin (Sn)	2017/08/29	<0.20		ug/L	
			Total Titanium (Ti)	2017/08/29	<2.0		ug/L	
			Total Uranium (U)	2017/08/29	<0.0050		ug/L	
			Total Vanadium (V)	2017/08/29	<0.20		ug/L	
			Total Zinc (Zn)	2017/08/29	<1.0		ug/L	
			Total Zirconium (Zr)	2017/08/29	<0.10		ug/L	
8741540	AD5	RPD	Total Aluminum (Al)	2017/08/30	4.1		%	20
			Total Antimony (Sb)	2017/08/30	14		%	20
			Total Arsenic (As)	2017/08/30	11		%	20
			Total Barium (Ba)	2017/08/30	5.6		%	20
			Total Beryllium (Be)	2017/08/30	NC		%	20
			Total Bismuth (Bi)	2017/08/30	NC		%	20
			Total Boron (B)	2017/08/30	NC		%	20
			Total Cadmium (Cd)	2017/08/30	0		%	20
			Total Chromium (Cr)	2017/08/30	8.0		%	20
			Total Cobalt (Co)	2017/08/30	4.4		%	20
			Total Copper (Cu)	2017/08/30	4.7		%	20
			Total Iron (Fe)	2017/08/30	0.021		%	20
			Total Lead (Pb)	2017/08/30	1.1		%	20
			Total Lithium (Li)	2017/08/30	6.9		%	20
			Total Manganese (Mn)	2017/08/30	3.4		%	20
			Total Molybdenum (Mo)	2017/08/30	1.9		%	20

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MAXXAM ANALYTICS
Client Project #: MB713301
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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8743477	AD5	Spiked Blank	Total Nickel (Ni)	2017/08/30	0.88		%	20
			Total Selenium (Se)	2017/08/30	1.7		%	20
			Total Silicon (Si)	2017/08/30	4.0		%	20
			Total Silver (Ag)	2017/08/30	NC		%	20
			Total Strontium (Sr)	2017/08/30	1.4		%	20
			Total Thallium (Tl)	2017/08/30	NC		%	20
			Total Tin (Sn)	2017/08/30	NC		%	20
			Total Titanium (Ti)	2017/08/30	9.9		%	20
			Total Uranium (U)	2017/08/30	5.2		%	20
			Total Vanadium (V)	2017/08/30	NC		%	20
			Total Zinc (Zn)	2017/08/30	0.55		%	20
			Total Zirconium (Zr)	2017/08/30	NC		%	20
			Dissolved Aluminum (Al)	2017/08/31		107	%	80 - 120
			Dissolved Arsenic (As)	2017/08/31		100	%	80 - 120
			Dissolved Cadmium (Cd)	2017/08/31		100	%	80 - 120
8743477	AD5	Method Blank	Dissolved Iron (Fe)	2017/08/31		102	%	80 - 120
			Dissolved Lead (Pb)	2017/08/31		99	%	80 - 120
			Dissolved Tin (Sn)	2017/08/31		93	%	80 - 120
			Dissolved Zinc (Zn)	2017/08/31		100	%	80 - 120
			Dissolved Aluminum (Al)	2017/08/31	<0.50		ug/L	
			Dissolved Arsenic (As)	2017/08/31	<0.020		ug/L	
			Dissolved Cadmium (Cd)	2017/08/31	<0.0050		ug/L	
			Dissolved Iron (Fe)	2017/08/31	<1.0		ug/L	
			Dissolved Lead (Pb)	2017/08/31	<0.0050		ug/L	
			Dissolved Tin (Sn)	2017/08/31	<0.20		ug/L	
			Dissolved Zinc (Zn)	2017/08/31	<0.10		ug/L	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

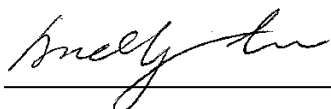
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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MAXXAM ANALYTICS
Client Project #: MB7I3301
Site Location: DEW LINE-CAM-F
Sampler Initials: KM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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