

APPENDIX D

Laboratory COC

Your Project #: 103789-01
Your C.O.C. #: 581869-01-01

Attention: Amy Hsieh

HEMMERA ENVIROCHEM INC.
18th Floor, 4730 Kingsway
Burnaby, BC
Canada V5H 0C6

Report Date: 2019/04/29
Report #: R2715902
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B929735

Received: 2019/04/23, 16:45

Sample Matrix: Water
Samples Received: 5

| Analyses | Quantity | Date | Date | Laboratory Method | Analytical Method |
|---|----------|------------|------------|---------------------|---------------------|
| | | Extracted | Analyzed | | |
| BTEX/MTBE LH, VH, F1 SIM/MS | 5 | N/A | 2019/04/25 | BBY8SOP-00010/11/12 | BCMOE BCLM Jul 2017 |
| Phenols in Water by GCMS | 2 | 2019/04/27 | 2019/04/28 | BBY8SOP-00025, | BCMOE BCLM Jul 2017 |
| F2-F4 in Water when PAH required | 5 | 2019/04/27 | 2019/04/27 | BBY8SOP-00030 | CCME PHC-CWS m |
| Hardness (calculated as CaCO3) | 2 | N/A | 2019/04/26 | BBY WI-00033 | Auto Calc |
| EPH in Water when PAH required | 5 | 2019/04/24 | 2019/04/25 | BBY8SOP-00029 | BCMOE BCLM Mar 2017 |
| Na, K, Ca, Mg, S by CRC ICPMS (diss.) | 2 | N/A | 2019/04/26 | BBY WI-00033 | Auto Calc |
| Elements by CRC ICPMS (dissolved) | 2 | N/A | 2019/04/26 | BBY7SOP-00002 | EPA 6020b R2 m |
| PAH in Water by GC/MS (SIM) | 5 | 2019/04/24 | 2019/04/26 | BBY8SOP-00021 | BCMOE BCLM Jul2017m |
| Total LMW, HMW, Total PAH Calc (1) | 5 | N/A | 2019/04/26 | BBY WI-00033 | Auto Calc |
| Filter and HNO3 Preserve for Metals | 2 | N/A | 2019/04/24 | BBY7 WI-00004 | SM 23 3030B m |
| pH Water (2) | 2 | N/A | 2019/04/25 | BBY6SOP-00026 | SM 22 4500-H+ B m |
| Total Chlorinated Phenols Water Calc. (3) | 2 | 2019/04/24 | 2019/04/29 | BBY WI-00033 | Auto Calc |
| EPH less PAH in Water by GC/FID (4) | 5 | N/A | 2019/04/26 | BBY WI-00033 | Auto Calc |
| Volatile F1-BTEX (5) | 5 | N/A | 2019/04/27 | BBY WI-00033 | Auto Calc |

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025 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. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

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. Maxxam is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

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. When sampling is not conducted by Maxxam, results relate to the supplied samples tested.

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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) Total PAHs in Water include: Quinoline, Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Acridine, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b&j)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(g,h,i)perylene.

(2) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

(3) Total Chlorinated Phenols include (from BC Lab Manual): 2-Chlorophenol, 3-Chlorophenol, 4-Chlorophenol, 4-Chloro-3-Methylphenol, 2,3-Dichlorophenol, 2,4-Dichlorophenol, 2,5-Dichlorophenol, 2,6-Dichlorophenol, 3,4-Dichlorophenol, 3,5-Dichlorophenol, 2,3,4-Trichlorophenol, 2,3,5-Trichlorophenol, 2,3,6-Trichlorophenol, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 3,4,5-Trichlorophenol, 2,3,4,5-Tetrachlorophenol, 2,3,4,6-Tetrachlorophenol, 2,3,5,6-Tetrachlorophenol, Pentachlorophenol.

(4) LEPH = EPH (C10 to C19) - (Acenaphthene + Acridine + Anthracene + Fluorene + Naphthalene + Phenanthrene)

HEPH = EPH (C19 to C32) - (Benzo(a)anthracene + Benzo(a)pyrene + Fluoranthene + Pyrene)

(5) VPH = VH - (Benzene + Toluene + Ethylbenzene + m & p-Xylene + o-Xylene + Styrene)

Encryption Key



Maxxam

29 Apr 2019 15:39:03

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

Gail Pedersen, Key Account Specialist

Email: gpedersen@maxxam.ca

Phone# (604) 734 7276

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Maxxam Job #: B929735
Report Date: 2019/04/29

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

RESULTS OF CHEMICAL ANALYSES OF WATER

| | | | | |
|------------------------------|--------------|---------------------|---------------------|-----------------|
| Maxxam ID | | VO3209 | VO3211 | |
| Sampling Date | | 2019/04/23 12:12 | 2019/04/23 11:33 | |
| COC Number | | 581869-01-01 | 581869-01-01 | |
| | UNITS | BV-11BH-02M | MW08-13 | QC Batch |
| Calculated Parameters | | | | |
| Filter and HNO3 Preservation | N/A | FIELD | FIELD | ONSITE |

Maxxam Job #: B929735
Report Date: 2019/04/29

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

PETROLEUM HYDROCARBONS (CCME)

| | | | | | | | | |
|----------------------------------|--------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------|-----------------|
| Maxxam ID | | VO3207 | VO3208 | VO3209 | VO3210 | VO3211 | | |
| Sampling Date | | 2019/04/23 09:20 | 2019/04/23 10:22 | 2019/04/23 12:12 | 2019/04/23 10:57 | 2019/04/23 11:33 | | |
| COC Number | | 581869-01-01 | 581869-01-01 | 581869-01-01 | 581869-01-01 | 581869-01-01 | | |
| | UNITS | BV-11BH-07M | BV-11BH-08M | BV-11BH-02M | MW08-10 | MW08-13 | RDL | QC Batch |
| Ext. Pet. Hydrocarbon | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/L | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | 0.15 | 9395321 |
| Surrogate Recovery (%) | | | | | | | | |
| O-TERPHENYL (sur.) | % | 84 | 85 | 84 | 84 | 85 | | 9395321 |
| RDL = Reportable Detection Limit | | | | | | | | |

Maxxam Job #: B929735
Report Date: 2019/04/29

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

CCME&CSR BTEX/F1/VPH IN WATER (WATER)

| | | | | | | | | | | | |
|---------------|--------------|---------------------|------------|-----------------|--------------------------------|------------|-----------------|---------------------|---------------------|------------|-----------------|
| Maxxam ID | | VO3207 | | | VO3207 | | | VO3208 | VO3209 | | |
| Sampling Date | | 2019/04/23 09:20 | | | 2019/04/23 09:20 | | | 2019/04/23 10:22 | 2019/04/23 12:12 | | |
| COC Number | | 581869-01-01 | | | 581869-01-01 | | | 581869-01-01 | 581869-01-01 | | |
| | UNITS | BV-11BH-07M | RDL | QC Batch | BV-11BH-07M Lab-Dup | RDL | QC Batch | BV-11BH-08M | BV-11BH-02M | RDL | QC Batch |

| | | | | | | | | | | | |
|------------------------------|------|------|-----|---------|--|--|--|------|------|-----|---------|
| Calculated Parameters | | | | | | | | | | | |
| F1 (C6-C10) - BTEX | ug/L | <300 | 300 | 9391820 | | | | <300 | <300 | 300 | 9391820 |
| VPH (VH6 to 10 - BTEX) | ug/L | <300 | 300 | 9391820 | | | | <300 | <300 | 300 | 9391820 |

| | | | | | | | | | | | |
|-------------------------------|------|-------|------|---------|-------|------|---------|-------|-------|------|---------|
| Volatiles | | | | | | | | | | | |
| Methyl-tert-butylether (MTBE) | ug/L | <4.0 | 4.0 | 9392321 | <4.0 | 4.0 | 9392321 | <4.0 | <4.0 | 4.0 | 9392321 |
| Benzene | ug/L | <0.40 | 0.40 | 9392321 | <0.40 | 0.40 | 9392321 | <0.40 | <0.40 | 0.40 | 9392321 |
| Toluene | ug/L | <0.40 | 0.40 | 9392321 | <0.40 | 0.40 | 9392321 | <0.40 | <0.40 | 0.40 | 9392321 |
| Ethylbenzene | ug/L | <0.40 | 0.40 | 9392321 | <0.40 | 0.40 | 9392321 | <0.40 | <0.40 | 0.40 | 9392321 |
| m & p-Xylene | ug/L | <0.40 | 0.40 | 9392321 | <0.40 | 0.40 | 9392321 | <0.40 | <0.40 | 0.40 | 9392321 |
| o-Xylene | ug/L | <0.40 | 0.40 | 9392321 | <0.40 | 0.40 | 9392321 | <0.40 | <0.40 | 0.40 | 9392321 |
| Styrene | ug/L | <0.40 | 0.40 | 9392321 | <0.40 | 0.40 | 9392321 | <0.40 | <0.40 | 0.40 | 9392321 |
| Xylenes (Total) | ug/L | <0.40 | 0.40 | 9392321 | <0.40 | 0.40 | 9392321 | <0.40 | <0.40 | 0.40 | 9392321 |
| VH C6-C10 | ug/L | <300 | 300 | 9392321 | <300 | 300 | 9392321 | <300 | <300 | 300 | 9392321 |
| LH (C5-C10) | ug/L | <300 | 300 | 9392321 | <300 | 300 | 9392321 | <300 | <300 | 300 | 9392321 |
| F1 (C6-C10) | ug/L | <300 | 300 | 9392321 | <300 | 300 | 9392321 | <300 | <300 | 300 | 9392321 |

| | | | | | | | | | | | |
|-------------------------------|---|-----|--|---------|-----|--|---------|-----|-----|--|---------|
| Surrogate Recovery (%) | | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 103 | | 9392321 | 104 | | 9392321 | 105 | 102 | | 9392321 |
| 4-Bromofluorobenzene (sur.) | % | 97 | | 9392321 | 97 | | 9392321 | 95 | 97 | | 9392321 |
| D4-1,2-Dichloroethane (sur.) | % | 117 | | 9392321 | 129 | | 9392321 | 129 | 110 | | 9392321 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

Maxxam Job #: B929735
Report Date: 2019/04/29

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

CCME&CSR BTEX/F1/VPH IN WATER (WATER)

| Maxxam ID | | VO3210 | VO3211 | | |
|----------------------------------|--------------|---------------------|---------------------|------------|-----------------|
| Sampling Date | | 2019/04/23 10:57 | 2019/04/23 11:33 | | |
| COC Number | | 581869-01-01 | 581869-01-01 | | |
| | UNITS | MW08-10 | MW08-13 | RDL | QC Batch |
| Calculated Parameters | | | | | |
| F1 (C6-C10) - BTEX | ug/L | <300 | <300 | 300 | 9391820 |
| VPH (VH6 to 10 - BTEX) | ug/L | <300 | <300 | 300 | 9391820 |
| Volatiles | | | | | |
| Methyl-tert-butylether (MTBE) | ug/L | <4.0 | <4.0 | 4.0 | 9392321 |
| Benzene | ug/L | <0.40 | <0.40 | 0.40 | 9392321 |
| Toluene | ug/L | <0.40 | <0.40 | 0.40 | 9392321 |
| Ethylbenzene | ug/L | <0.40 | <0.40 | 0.40 | 9392321 |
| m & p-Xylene | ug/L | <0.40 | <0.40 | 0.40 | 9392321 |
| o-Xylene | ug/L | <0.40 | <0.40 | 0.40 | 9392321 |
| Styrene | ug/L | <0.40 | <0.40 | 0.40 | 9392321 |
| Xylenes (Total) | ug/L | <0.40 | <0.40 | 0.40 | 9392321 |
| VH C6-C10 | ug/L | <300 | <300 | 300 | 9392321 |
| LH (C5-C10) | ug/L | <300 | <300 | 300 | 9392321 |
| F1 (C6-C10) | ug/L | <300 | <300 | 300 | 9392321 |
| Surrogate Recovery (%) | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 103 | 104 | | 9392321 |
| 4-Bromofluorobenzene (sur.) | % | 97 | 97 | | 9392321 |
| D4-1,2-Dichloroethane (sur.) | % | 125 | 127 | | 9392321 |
| RDL = Reportable Detection Limit | | | | | |

Maxxam Job #: B929735
Report Date: 2019/04/29

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

CHLORINATED PHENOLS IN WATER (WATER)

| | | | | | |
|----------------------------------|--------------|---------------------|---------------------|------------|-----------------|
| Maxxam ID | | VO3207 | VO3209 | | |
| Sampling Date | | 2019/04/23 09:20 | 2019/04/23 12:12 | | |
| COC Number | | 581869-01-01 | 581869-01-01 | | |
| | UNITS | BV-11BH-07M | BV-11BH-02M | RDL | QC Batch |
| Physical Properties | | | | | |
| pH | pH | 7.62 | 7.72 | | 9392697 |
| Calculated Parameters | | | | | |
| Total Monochlorophenols | ug/L | <0.10 | <0.10 | 0.10 | 9391812 |
| Total Dichlorophenols | ug/L | <0.10 | <0.10 | 0.10 | 9391812 |
| Total Trichlorophenols | ug/L | <0.10 | <0.10 | 0.10 | 9391812 |
| Total Tetrachlorophenols | ug/L | <0.10 | <0.10 | 0.10 | 9391812 |
| Total Chlorophenols | ug/L | <0.10 | <0.10 | 0.10 | 9391812 |
| SEMI-VOLATILE ORGANICS | | | | | |
| 2-chlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 3 & 4-chlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 2,4 + 2,5-Dichlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 2,3-Dichlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 2,6-dichlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 3,5-Dichlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 3,4-Dichlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 2,4,5-trichlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 2,4,6-trichlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 2,3,5-trichlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 2,3,6-Trichlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 2,3,4-trichlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 3,4,5-Trichlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 2,3,4,6-tetrachlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 2,3,4,5-tetrachlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 2,3,5,6-tetrachlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| Pentachlorophenol | ug/L | <0.10 | <0.10 | 0.10 | 9395167 |
| 4-Chloro-3-Methylphenol | ug/L | <10 | <10 | 10 | 9395167 |
| Surrogate Recovery (%) | | | | | |
| 2,4,6-TRIBROMOPHENOL (sur.) | % | 105 | 94 | | 9395167 |
| 2,4-DIBROMOPHENOL (sur.) | % | 100 | 95 | | 9395167 |
| RDL = Reportable Detection Limit | | | | | |

LEPH & HEPH WITH CSR/CCME PAH IN WATER (WATER)

| Maxxam ID | | VO3207 | VO3208 | VO3209 | VO3210 | VO3211 | | |
|--|--------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------|-----------------|
| Sampling Date | | 2019/04/23 09:20 | 2019/04/23 10:22 | 2019/04/23 12:12 | 2019/04/23 10:57 | 2019/04/23 11:33 | | |
| COC Number | | 581869-01-01 | 581869-01-01 | 581869-01-01 | 581869-01-01 | 581869-01-01 | | |
| | UNITS | BV-11BH-07M | BV-11BH-08M | BV-11BH-02M | MW08-10 | MW08-13 | RDL | QC Batch |
| Calculated Parameters | | | | | | | | |
| Low Molecular Weight PAH's | ug/L | 3.6 | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9391539 |
| High Molecular Weight PAH's | ug/L | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9391539 |
| Total PAH | ug/L | 3.6 | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9391539 |
| Polycyclic Aromatics | | | | | | | | |
| Quinoline | ug/L | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9391906 |
| Naphthalene | ug/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9391906 |
| 1-Methylnaphthalene | ug/L | 2.0 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9391906 |
| 2-Methylnaphthalene | ug/L | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9391906 |
| Acenaphthylene | ug/L | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9391906 |
| Acenaphthene | ug/L | 0.63 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9391906 |
| Fluorene | ug/L | 0.86 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9391906 |
| Phenanthrene | ug/L | 0.079 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9391906 |
| Anthracene | ug/L | 0.017 (1) | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9391906 |
| Acridine | ug/L | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9391906 |
| Fluoranthene | ug/L | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9391906 |
| Pyrene | ug/L | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9391906 |
| Benzo(a)anthracene | ug/L | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9391906 |
| Chrysene | ug/L | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9391906 |
| Benzo(b&j)fluoranthene | ug/L | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9391906 |
| Benzo(k)fluoranthene | ug/L | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9391906 |
| Benzo(a)pyrene | ug/L | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9391906 |
| Indeno(1,2,3-cd)pyrene | ug/L | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9391906 |
| Dibenz(a,h)anthracene | ug/L | <0.0030 | <0.0030 | <0.0030 | <0.0030 | <0.0030 | 0.0030 | 9391906 |
| Benzo(g,h,i)perylene | ug/L | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9391906 |
| Calculated Parameters | | | | | | | | |
| LEPH (C10-C19 less PAH) | mg/L | 0.31 | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 | 9391542 |
| HEPH (C19-C32 less PAH) | mg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 | 9391542 |
| Ext. Pet. Hydrocarbon | | | | | | | | |
| EPH (C10-C19) | mg/L | 0.31 | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 | 9391941 |
| EPH (C19-C32) | mg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 | 9391941 |
| Surrogate Recovery (%) | | | | | | | | |
| O-TERPHENYL (sur.) | % | 99 | 100 | 99 | 106 | 106 | | 9391941 |
| RDL = Reportable Detection Limit | | | | | | | | |
| (1) Tentatively identified result and may be potentially biased high due to matrix interference. | | | | | | | | |

Maxxam Job #: B929735
Report Date: 2019/04/29

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

LEPH & HEPH WITH CSR/CCME PAH IN WATER (WATER)

| Maxxam ID | | VO3207 | VO3208 | VO3209 | VO3210 | VO3211 | | |
|----------------------------------|--------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------|-----------------|
| Sampling Date | | 2019/04/23 09:20 | 2019/04/23 10:22 | 2019/04/23 12:12 | 2019/04/23 10:57 | 2019/04/23 11:33 | | |
| COC Number | | 581869-01-01 | 581869-01-01 | 581869-01-01 | 581869-01-01 | 581869-01-01 | | |
| | UNITS | BV-11BH-07M | BV-11BH-08M | BV-11BH-02M | MW08-10 | MW08-13 | RDL | QC Batch |
| D10-ANTHRACENE (sur.) | % | 91 | 94 | 92 | 94 | 96 | | 9391906 |
| D8-ACENAPHTHYLENE (sur.) | % | 92 | 92 | 89 | 89 | 95 | | 9391906 |
| D8-NAPHTHALENE (sur.) | % | 77 | 85 | 83 | 80 | 83 | | 9391906 |
| TERPHENYL-D14 (sur.) | % | 84 | 92 | 89 | 91 | 94 | | 9391906 |
| RDL = Reportable Detection Limit | | | | | | | | |

CSR/CCME DISS. METALS IN WATER W/ CV HG (WATER)

| Maxxam ID | | VO3209 | VO3211 | | |
|----------------------------------|--------------|---------------------|---------------------|------------|-----------------|
| Sampling Date | | 2019/04/23 12:12 | 2019/04/23 11:33 | | |
| COC Number | | 581869-01-01 | 581869-01-01 | | |
| | UNITS | BV-11BH-02M | MW08-13 | RDL | QC Batch |
| Calculated Parameters | | | | | |
| Dissolved Hardness (CaCO3) | mg/L | 111 | 69.5 | 0.50 | 9391345 |
| Dissolved Metals by ICPMS | | | | | |
| Dissolved Aluminum (Al) | ug/L | <3.0 | 45.9 | 3.0 | 9392445 |
| Dissolved Antimony (Sb) | ug/L | <0.50 | <0.50 | 0.50 | 9392445 |
| Dissolved Arsenic (As) | ug/L | 15.3 | 34.8 | 0.10 | 9392445 |
| Dissolved Barium (Ba) | ug/L | 31.5 | 31.8 | 1.0 | 9392445 |
| Dissolved Beryllium (Be) | ug/L | <0.10 | <0.10 | 0.10 | 9392445 |
| Dissolved Bismuth (Bi) | ug/L | <1.0 | <1.0 | 1.0 | 9392445 |
| Dissolved Boron (B) | ug/L | <50 | <50 | 50 | 9392445 |
| Dissolved Cadmium (Cd) | ug/L | <0.010 | <0.010 | 0.010 | 9392445 |
| Dissolved Chromium (Cr) | ug/L | <1.0 | 2.9 | 1.0 | 9392445 |
| Dissolved Cobalt (Co) | ug/L | <0.20 | 2.07 | 0.20 | 9392445 |
| Dissolved Copper (Cu) | ug/L | 0.26 | 0.38 | 0.20 | 9392445 |
| Dissolved Iron (Fe) | ug/L | 16600 | 11400 | 5.0 | 9392445 |
| Dissolved Lead (Pb) | ug/L | <0.20 | <0.20 | 0.20 | 9392445 |
| Dissolved Lithium (Li) | ug/L | <2.0 | 2.2 | 2.0 | 9392445 |
| Dissolved Manganese (Mn) | ug/L | 891 | 417 | 1.0 | 9392445 |
| Dissolved Molybdenum (Mo) | ug/L | <1.0 | 1.5 | 1.0 | 9392445 |
| Dissolved Nickel (Ni) | ug/L | <1.0 | 12.7 | 1.0 | 9392445 |
| Dissolved Selenium (Se) | ug/L | <0.10 | 0.34 | 0.10 | 9392445 |
| Dissolved Silicon (Si) | ug/L | 15500 | 18100 | 100 | 9392445 |
| Dissolved Silver (Ag) | ug/L | <0.020 | <0.020 | 0.020 | 9392445 |
| Dissolved Strontium (Sr) | ug/L | 123 | 61.0 | 1.0 | 9392445 |
| Dissolved Thallium (Tl) | ug/L | <0.010 | <0.010 | 0.010 | 9392445 |
| Dissolved Tin (Sn) | ug/L | <5.0 | <5.0 | 5.0 | 9392445 |
| Dissolved Titanium (Ti) | ug/L | <5.0 | <5.0 | 5.0 | 9392445 |
| Dissolved Uranium (U) | ug/L | <0.10 | <0.10 | 0.10 | 9392445 |
| Dissolved Vanadium (V) | ug/L | <5.0 | 8.2 | 5.0 | 9392445 |
| Dissolved Zinc (Zn) | ug/L | 5.3 | 10.3 | 5.0 | 9392445 |
| Dissolved Zirconium (Zr) | ug/L | 0.16 | 0.89 | 0.10 | 9392445 |
| Dissolved Calcium (Ca) | mg/L | 33.2 | 15.0 | 0.050 | 9391353 |
| Dissolved Magnesium (Mg) | mg/L | 6.73 | 7.78 | 0.050 | 9391353 |
| Dissolved Potassium (K) | mg/L | 1.13 | 1.78 | 0.050 | 9391353 |
| RDL = Reportable Detection Limit | | | | | |

Maxxam Job #: B929735
Report Date: 2019/04/29

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

CSR/CCME DISS. METALS IN WATER W/ CV HG (WATER)

| | | | | | |
|----------------------------------|--------------|---------------------|---------------------|------------|-----------------|
| Maxxam ID | | VO3209 | VO3211 | | |
| Sampling Date | | 2019/04/23 12:12 | 2019/04/23 11:33 | | |
| COC Number | | 581869-01-01 | 581869-01-01 | | |
| | UNITS | BV-11BH-02M | MW08-13 | RDL | QC Batch |
| Dissolved Sodium (Na) | mg/L | 4.81 | 5.95 | 0.050 | 9391353 |
| Dissolved Sulphur (S) | mg/L | <3.0 | <3.0 | 3.0 | 9391353 |
| RDL = Reportable Detection Limit | | | | | |

Maxxam Job #: B929735
Report Date: 2019/04/29

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B929735
Report Date: 2019/04/29

QUALITY ASSURANCE REPORT

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

| QC Batch | Parameter | Date | Matrix Spike | | Spiked Blank | | Method Blank | | RPD | |
|----------|------------------------------|------------|--------------|-----------|--------------|-----------|--------------|-------|-----------|-----------|
| | | | % Recovery | QC Limits | % Recovery | QC Limits | Value | UNITS | Value (%) | QC Limits |
| 9391906 | D10-ANTHRACENE (sur.) | 2019/04/25 | 93 | 50 - 140 | 99 | 50 - 140 | 95 | % | | |
| 9391906 | D8-ACENAPHTHYLENE (sur.) | 2019/04/25 | 90 | 50 - 140 | 96 | 50 - 140 | 90 | % | | |
| 9391906 | D8-NAPHTHALENE (sur.) | 2019/04/25 | 85 | 50 - 140 | 90 | 50 - 140 | 82 | % | | |
| 9391906 | TERPHENYL-D14 (sur.) | 2019/04/25 | 93 | 50 - 140 | 98 | 50 - 140 | 96 | % | | |
| 9391941 | O-TERPHENYL (sur.) | 2019/04/25 | 105 | 60 - 140 | 103 | 60 - 140 | 109 | % | | |
| 9392321 | 1,4-Difluorobenzene (sur.) | 2019/04/25 | 99 | 70 - 130 | 99 | 70 - 130 | 103 | % | | |
| 9392321 | 4-Bromofluorobenzene (sur.) | 2019/04/25 | 97 | 70 - 130 | 96 | 70 - 130 | 94 | % | | |
| 9392321 | D4-1,2-Dichloroethane (sur.) | 2019/04/25 | 112 | 70 - 130 | 115 | 70 - 130 | 119 | % | | |
| 9395167 | 2,4,6-TRIBROMOPHENOL (sur.) | 2019/04/28 | | | 98 | 10 - 123 | 92 | % | | |
| 9395167 | 2,4-DIBROMOPHENOL (sur.) | 2019/04/28 | | | 98 | 21 - 100 | 93 | % | | |
| 9395321 | O-TERPHENYL (sur.) | 2019/04/27 | | | 88 | 50 - 130 | 88 | % | | |
| 9391906 | 1-Methylnaphthalene | 2019/04/25 | 85 | 50 - 140 | 89 | 50 - 140 | <0.050 | ug/L | 11 | 40 |
| 9391906 | 2-Methylnaphthalene | 2019/04/25 | 83 | 50 - 140 | 87 | 50 - 140 | <0.10 | ug/L | 18 | 40 |
| 9391906 | Acenaphthene | 2019/04/25 | 89 | 50 - 140 | 93 | 50 - 140 | <0.050 | ug/L | NC | 40 |
| 9391906 | Acenaphthylene | 2019/04/25 | 87 | 50 - 140 | 91 | 50 - 140 | <0.050 | ug/L | NC | 40 |
| 9391906 | Acridine | 2019/04/25 | 98 | 50 - 140 | 97 | 50 - 140 | <0.050 | ug/L | NC | 40 |
| 9391906 | Anthracene | 2019/04/25 | 91 | 50 - 140 | 96 | 50 - 140 | <0.010 | ug/L | NC | 40 |
| 9391906 | Benzo(a)anthracene | 2019/04/25 | 89 | 50 - 140 | 90 | 50 - 140 | <0.010 | ug/L | NC | 40 |
| 9391906 | Benzo(a)pyrene | 2019/04/25 | 91 | 50 - 140 | 96 | 50 - 140 | <0.0050 | ug/L | NC | 40 |
| 9391906 | Benzo(b&j)fluoranthene | 2019/04/25 | 90 | 50 - 140 | 95 | 50 - 140 | <0.030 | ug/L | NC | 40 |
| 9391906 | Benzo(g,h,i)perylene | 2019/04/25 | 49 (1) | 50 - 140 | 101 | 50 - 140 | <0.050 | ug/L | NC | 40 |
| 9391906 | Benzo(k)fluoranthene | 2019/04/25 | 94 | 50 - 140 | 104 | 50 - 140 | <0.050 | ug/L | NC | 40 |
| 9391906 | Chrysene | 2019/04/25 | 92 | 50 - 140 | 94 | 50 - 140 | <0.020 | ug/L | NC | 40 |
| 9391906 | Dibenz(a,h)anthracene | 2019/04/25 | 51 | 50 - 140 | 105 | 50 - 140 | <0.0030 | ug/L | NC | 40 |
| 9391906 | Fluoranthene | 2019/04/25 | 90 | 50 - 140 | 93 | 50 - 140 | <0.020 | ug/L | NC | 40 |
| 9391906 | Fluorene | 2019/04/25 | 94 | 50 - 140 | 98 | 50 - 140 | <0.050 | ug/L | NC | 40 |
| 9391906 | Indeno(1,2,3-cd)pyrene | 2019/04/25 | 50 | 50 - 140 | 100 | 50 - 140 | <0.050 | ug/L | NC | 40 |
| 9391906 | Naphthalene | 2019/04/25 | 78 | 50 - 140 | 81 | 50 - 140 | <0.10 | ug/L | NC | 40 |
| 9391906 | Phenanthrene | 2019/04/25 | 90 | 50 - 140 | 94 | 50 - 140 | <0.050 | ug/L | NC | 40 |
| 9391906 | Pyrene | 2019/04/25 | 91 | 50 - 140 | 95 | 50 - 140 | <0.020 | ug/L | 16 | 40 |
| 9391906 | Quinoline | 2019/04/25 | 107 | 50 - 140 | 105 | 50 - 140 | <0.020 | ug/L | NC | 40 |
| 9391941 | EPH (C10-C19) | 2019/04/25 | 104 | 60 - 140 | 99 | 70 - 130 | <0.20 | mg/L | NC | 30 |
| 9391941 | EPH (C19-C32) | 2019/04/25 | 122 | 60 - 140 | 115 | 70 - 130 | <0.20 | mg/L | 9.5 | 30 |

Maxxam Job #: B929735
Report Date: 2019/04/29

QUALITY ASSURANCE REPORT(CONT'D)

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

| QC Batch | Parameter | Date | Matrix Spike | | Spiked Blank | | Method Blank | | RPD | |
|----------|-------------------------------|------------|--------------|-----------|--------------|-----------|--------------|-------|-----------|-----------|
| | | | % Recovery | QC Limits | % Recovery | QC Limits | Value | UNITS | Value (%) | QC Limits |
| 9392321 | Benzene | 2019/04/25 | 112 | 70 - 130 | 110 | 70 - 130 | <0.40 | ug/L | NC | 30 |
| 9392321 | Ethylbenzene | 2019/04/25 | 112 | 70 - 130 | 109 | 70 - 130 | <0.40 | ug/L | NC | 30 |
| 9392321 | F1 (C6-C10) | 2019/04/25 | | | 106 | 70 - 130 | <300 | ug/L | NC | 30 |
| 9392321 | LH (C5-C10) | 2019/04/25 | | | | | <300 | ug/L | NC | 30 |
| 9392321 | m & p-Xylene | 2019/04/25 | 108 | 70 - 130 | 105 | 70 - 130 | <0.40 | ug/L | NC | 30 |
| 9392321 | Methyl-tert-butylether (MTBE) | 2019/04/25 | 111 | 70 - 130 | 109 | 70 - 130 | <4.0 | ug/L | NC | 30 |
| 9392321 | o-Xylene | 2019/04/25 | 110 | 70 - 130 | 107 | 70 - 130 | <0.40 | ug/L | NC | 30 |
| 9392321 | Styrene | 2019/04/25 | 114 | 70 - 130 | 113 | 70 - 130 | <0.40 | ug/L | NC | 30 |
| 9392321 | Toluene | 2019/04/25 | 106 | 70 - 130 | 103 | 70 - 130 | <0.40 | ug/L | NC | 30 |
| 9392321 | VH C6-C10 | 2019/04/25 | | | 102 | 70 - 130 | <300 | ug/L | NC | 30 |
| 9392321 | Xylenes (Total) | 2019/04/25 | | | | | <0.40 | ug/L | NC | 30 |
| 9392445 | Dissolved Aluminum (Al) | 2019/04/26 | 99 | 80 - 120 | 101 | 80 - 120 | <3.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Antimony (Sb) | 2019/04/26 | 96 | 80 - 120 | 95 | 80 - 120 | <0.50 | ug/L | NC | 20 |
| 9392445 | Dissolved Arsenic (As) | 2019/04/26 | 102 | 80 - 120 | 99 | 80 - 120 | <0.10 | ug/L | NC | 20 |
| 9392445 | Dissolved Barium (Ba) | 2019/04/26 | NC | 80 - 120 | 97 | 80 - 120 | <1.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Beryllium (Be) | 2019/04/26 | 93 | 80 - 120 | 96 | 80 - 120 | <0.10 | ug/L | NC | 20 |
| 9392445 | Dissolved Bismuth (Bi) | 2019/04/26 | 91 | 80 - 120 | 96 | 80 - 120 | <1.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Boron (B) | 2019/04/26 | 97 | 80 - 120 | 103 | 80 - 120 | <50 | ug/L | NC | 20 |
| 9392445 | Dissolved Cadmium (Cd) | 2019/04/26 | 94 | 80 - 120 | 96 | 80 - 120 | <0.010 | ug/L | NC | 20 |
| 9392445 | Dissolved Chromium (Cr) | 2019/04/26 | 91 | 80 - 120 | 93 | 80 - 120 | <1.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Cobalt (Co) | 2019/04/26 | 87 | 80 - 120 | 92 | 80 - 120 | <0.20 | ug/L | NC | 20 |
| 9392445 | Dissolved Copper (Cu) | 2019/04/26 | 82 | 80 - 120 | 91 | 80 - 120 | <0.20 | ug/L | NC | 20 |
| 9392445 | Dissolved Iron (Fe) | 2019/04/26 | 93 | 80 - 120 | 95 | 80 - 120 | <5.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Lead (Pb) | 2019/04/26 | 96 | 80 - 120 | 94 | 80 - 120 | <0.20 | ug/L | NC | 20 |
| 9392445 | Dissolved Lithium (Li) | 2019/04/26 | 92 | 80 - 120 | 94 | 80 - 120 | <2.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Manganese (Mn) | 2019/04/26 | 94 | 80 - 120 | 96 | 80 - 120 | <1.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Molybdenum (Mo) | 2019/04/26 | NC | 80 - 120 | 93 | 80 - 120 | <1.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Nickel (Ni) | 2019/04/26 | 84 | 80 - 120 | 92 | 80 - 120 | <1.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Selenium (Se) | 2019/04/26 | 95 | 80 - 120 | 95 | 80 - 120 | <0.10 | ug/L | NC | 20 |
| 9392445 | Dissolved Silicon (Si) | 2019/04/26 | 107 | 80 - 120 | 110 | 80 - 120 | <100 | ug/L | NC | 20 |
| 9392445 | Dissolved Silver (Ag) | 2019/04/26 | 93 | 80 - 120 | 97 | 80 - 120 | <0.020 | ug/L | NC | 20 |
| 9392445 | Dissolved Strontium (Sr) | 2019/04/26 | NC | 80 - 120 | 102 | 80 - 120 | <1.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Thallium (Tl) | 2019/04/26 | 96 | 80 - 120 | 97 | 80 - 120 | <0.010 | ug/L | NC | 20 |

Maxxam Job #: B929735
Report Date: 2019/04/29

QUALITY ASSURANCE REPORT(CONT'D)

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

| QC Batch | Parameter | Date | Matrix Spike | | Spiked Blank | | Method Blank | | RPD | |
|----------|---------------------------|------------|--------------|-----------|--------------|-----------|--------------|-------|-----------|-----------|
| | | | % Recovery | QC Limits | % Recovery | QC Limits | Value | UNITS | Value (%) | QC Limits |
| 9392445 | Dissolved Tin (Sn) | 2019/04/26 | 97 | 80 - 120 | 98 | 80 - 120 | <5.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Titanium (Ti) | 2019/04/26 | 99 | 80 - 120 | 98 | 80 - 120 | <5.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Uranium (U) | 2019/04/26 | 106 | 80 - 120 | 96 | 80 - 120 | <0.10 | ug/L | NC | 20 |
| 9392445 | Dissolved Vanadium (V) | 2019/04/26 | 96 | 80 - 120 | 93 | 80 - 120 | <5.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Zinc (Zn) | 2019/04/26 | 84 | 80 - 120 | 93 | 80 - 120 | <5.0 | ug/L | NC | 20 |
| 9392445 | Dissolved Zirconium (Zr) | 2019/04/26 | 104 | 80 - 120 | 98 | 80 - 120 | <0.10 | ug/L | NC | 20 |
| 9392697 | pH | 2019/04/25 | | | 101 | 97 - 103 | | | 0.36 | 20 |
| 9395167 | 2,3,4,5-tetrachlorophenol | 2019/04/28 | | | 92 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 2,3,4,6-tetrachlorophenol | 2019/04/28 | | | 94 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 2,3,4-trichlorophenol | 2019/04/28 | | | 97 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 2,3,5,6-tetrachlorophenol | 2019/04/28 | | | 89 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 2,3,5-trichlorophenol | 2019/04/28 | | | 97 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 2,3,6-Trichlorophenol | 2019/04/28 | | | 94 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 2,3-Dichlorophenol | 2019/04/28 | | | 100 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 2,4 + 2,5-Dichlorophenol | 2019/04/28 | | | 98 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 2,4,5-trichlorophenol | 2019/04/28 | | | 89 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 2,4,6-trichlorophenol | 2019/04/28 | | | 95 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 2,6-dichlorophenol | 2019/04/28 | | | 103 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 2-chlorophenol | 2019/04/28 | | | 95 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 3 & 4-chlorophenol | 2019/04/28 | | | 88 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 3,4,5-Trichlorophenol | 2019/04/28 | | | 98 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 3,4-Dichlorophenol | 2019/04/28 | | | 100 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 3,5-Dichlorophenol | 2019/04/28 | | | 98 | 60 - 130 | <0.10 | ug/L | | |
| 9395167 | 4-Chloro-3-Methylphenol | 2019/04/28 | | | 91 | 60 - 130 | <10 | ug/L | | |
| 9395167 | Pentachlorophenol | 2019/04/28 | | | 94 | 60 - 130 | <0.10 | ug/L | | |

Maxxam Job #: B929735
Report Date: 2019/04/29

QUALITY ASSURANCE REPORT(CONT'D)

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

| QC Batch | Parameter | Date | Matrix Spike | | Spiked Blank | | Method Blank | | RPD | |
|--|---------------------------|------------|--------------|-----------|--------------|-----------|--------------|-------|-----------|-----------|
| | | | % Recovery | QC Limits | % Recovery | QC Limits | Value | UNITS | Value (%) | QC Limits |
| 9395321 | F2 (C10-C16 Hydrocarbons) | 2019/04/27 | | | 80 | 70 - 130 | <0.15 | mg/L | | |
| <p>Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.</p> <p>Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.</p> <p>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.</p> <p>Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.</p> <p>Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.</p> <p>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)</p> <p>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).</p> <p>(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.</p> | | | | | | | | | | |

Maxxam Job #: B929735
Report Date: 2019/04/29

HEMMERA ENVIROCHEM INC.
Client Project #: 103789-01

VALIDATION SIGNATURE PAGE

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



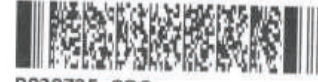
Jose Cueva, Supervisor, Organics-VOC & HC



Rob Reinert, B.Sc., 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.

| | | | | | |
|--------------------|---|---------------------------|---|----------------------------|-----------|
| INVOICE TO: | | Report Information | | Project Information | |
| Company Name | #1480 HEMMERA ENVIROCHEM INC. | Company Name | | Quotation # | |
| Contact Name | Accounts Payable | Contact Name | Amy Hsieh | P.O. # | |
| Address | 18th Floor, 4730 Kingsway Burnaby BC V5H 0C6 | Address | | Project # | 103789-01 |
| Phone | (604) 669-0424 Ext: 224 Fax: (866) 281-1803 | Phone | | Project Name | |
| Email | accounts-payable@hemmera.com | Email | ahsieh@hemmera.com, lara.paul@hemmera.com | Site # | |
| | | | | Sampled By | |



B929735_COC



C#581869-01-01

Bottle Order #:
581869
Project Manager:
Dan Woolger

| | | | |
|---|----------------------|--|---|
| Regulatory Criteria: <input checked="" type="checkbox"/> CSR <input checked="" type="checkbox"/> CCME <input type="checkbox"/> BC Water Quality <input type="checkbox"/> Other: _____ | Special Instructions | ANALYSIS REQUESTED (PLEASE BE SPECIFIC) | Turnaround Time (TAT) Required: Please provide advance notice for rush projects |
| | | Metals Field Filtered? (Y/N) | Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. <input checked="" type="checkbox"/> Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details. |
| | | BC LEPH/HEPH Petroleum Hydrocarbons | Job Specific Rush TAT (if applies to entire submission) |
| | | Chlorinated Phenols (Total) in Water - Calc | 1 DAY <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input type="checkbox"/> Date Required: _____ <input type="checkbox"/> |
| | | VOCs, SVH, F1, LH in Water by HS GC/MS, VPH, ETV, F1, F2 | Rush Confirmation Number: _____ (call lab for #) |
| | | CSR Dissolved Metals (No CV-Hg) in Water | |
| | | CSR VOC + VPH in Soil - Field Preserved | |

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

| Sample Barcode Label | Sample (Location) Identification | Date Sampled | Time Sampled | Matrix | Metals Field Filtered? (Y/N) | BC LEPH/HEPH Petroleum Hydrocarbons | Chlorinated Phenols (Total) in Water - Calc | VOCs, SVH, F1, LH in Water by HS GC/MS, VPH, ETV, F1, F2 | CSR Dissolved Metals (No CV-Hg) in Water | CSR VOC + VPH in Soil - Field Preserved | # of Bottles | Comments |
|----------------------|----------------------------------|--------------|--------------|--------|------------------------------|-------------------------------------|---|--|--|---|--------------|----------|
| 1 | BV-11BH-07M | 2019/04/23 | 09:20 | W | X | X | X | | | | 6 | |
| 2 | BV-11BH-08M | | 10:22 | W | X | | X | | | | 5 | |
| 3 | BV-11BH-02M | | 12:12 | W | X | X | X | X | | | 7 | |
| 4 | MW08-10 | | 10:57 | W | X | | X | | | | 5 | |
| 5 | MW08-13 | | 11:33 | W | X | | X | X | | | 6 | |
| 6 | | | | W | | | | | | | | |
| 7 | | | | W | | | | | | | | |
| 8 | | | | W | | | | | | | | |
| 9 | | | | W | | | | | | | | |
| 10 | | | | W | | | | | | | | |

| | | | | | | |
|--|------------------------------|---------------|---|------------------------------|---------------|-------------------------------|
| RELINQUISHED BY: (Signature/Print) <i>Amy Hsieh</i> | Date: (YY/MM/DD) 19/04/23 | Time 16:45 | RECEIVED BY: (Signature/Print) <i>KENNETH GOLDBERG</i> | Date: (YY/MM/DD) 19/04/23 | Time 16:45 | # jars used and not submitted |
|--|------------------------------|---------------|---|------------------------------|---------------|-------------------------------|

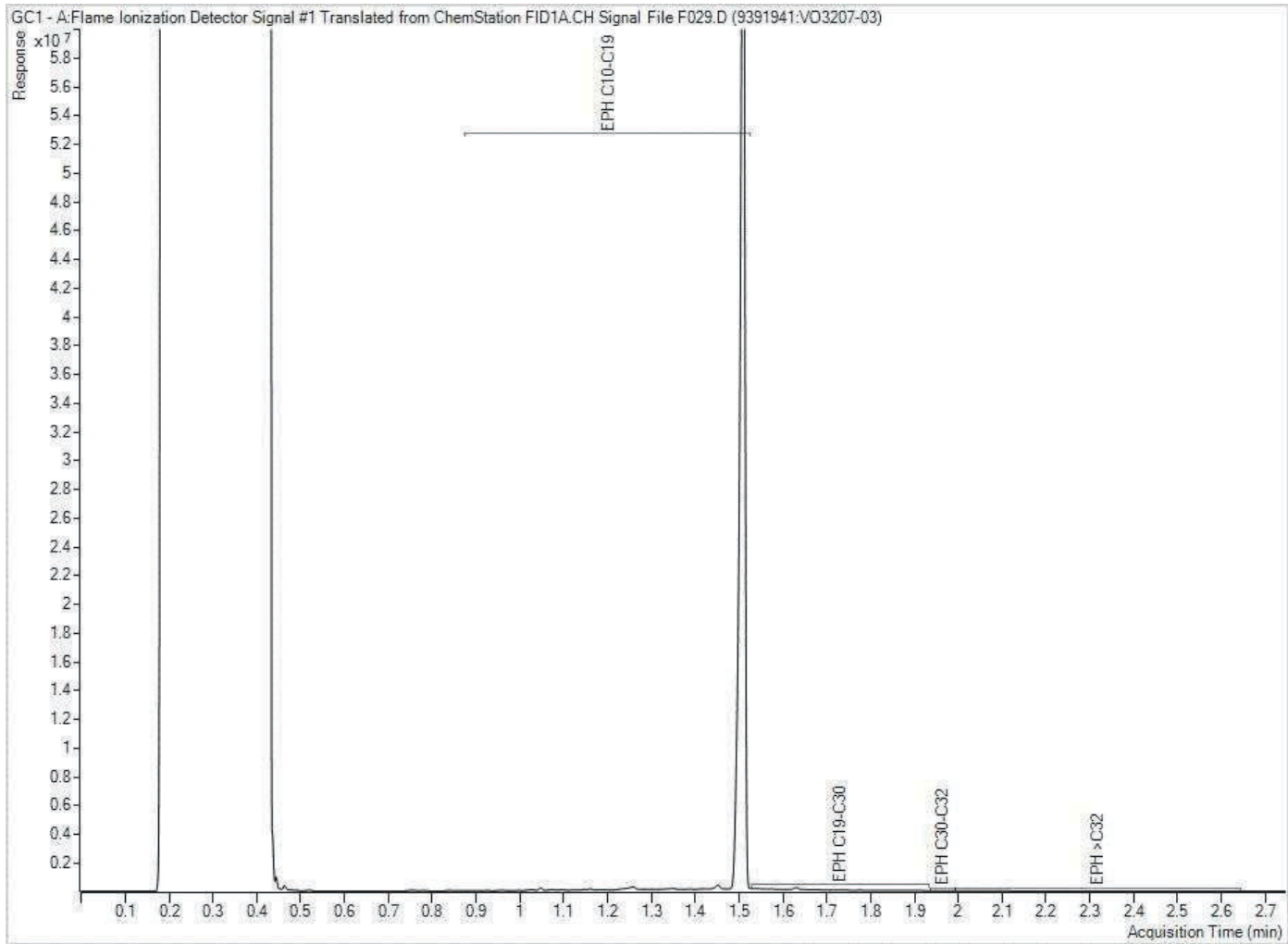
| | | |
|---|---|--|
| Time Sensitive <input type="checkbox"/> | Temperature (°C) on Receipt 13, 14, 12 | Custody Seal Intact on Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|---|---|--|

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.

White: Maxxam Yellow: Client
ICE IN COOLER

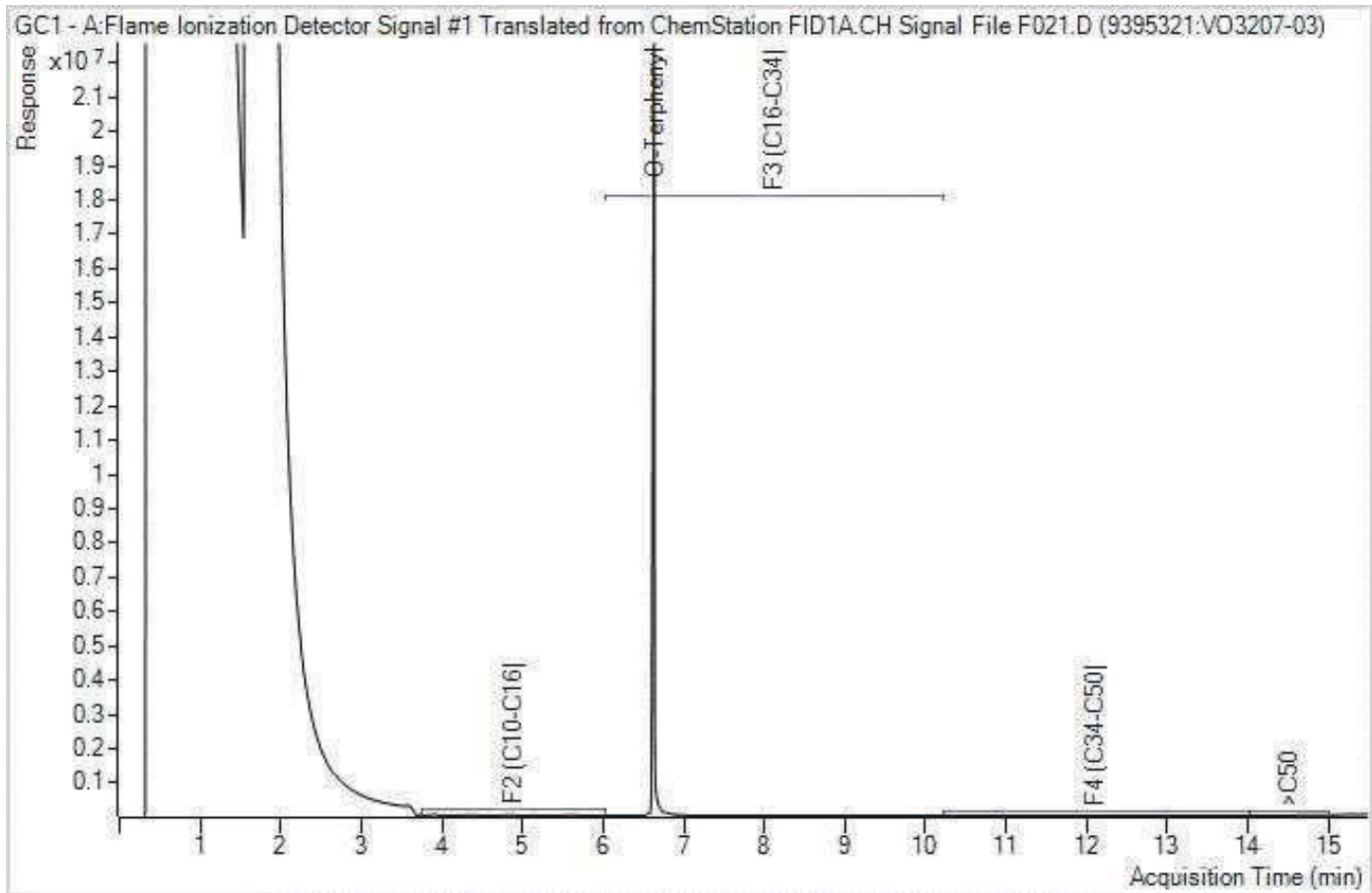
0934

EPH in Water when PAH required Chromatogram



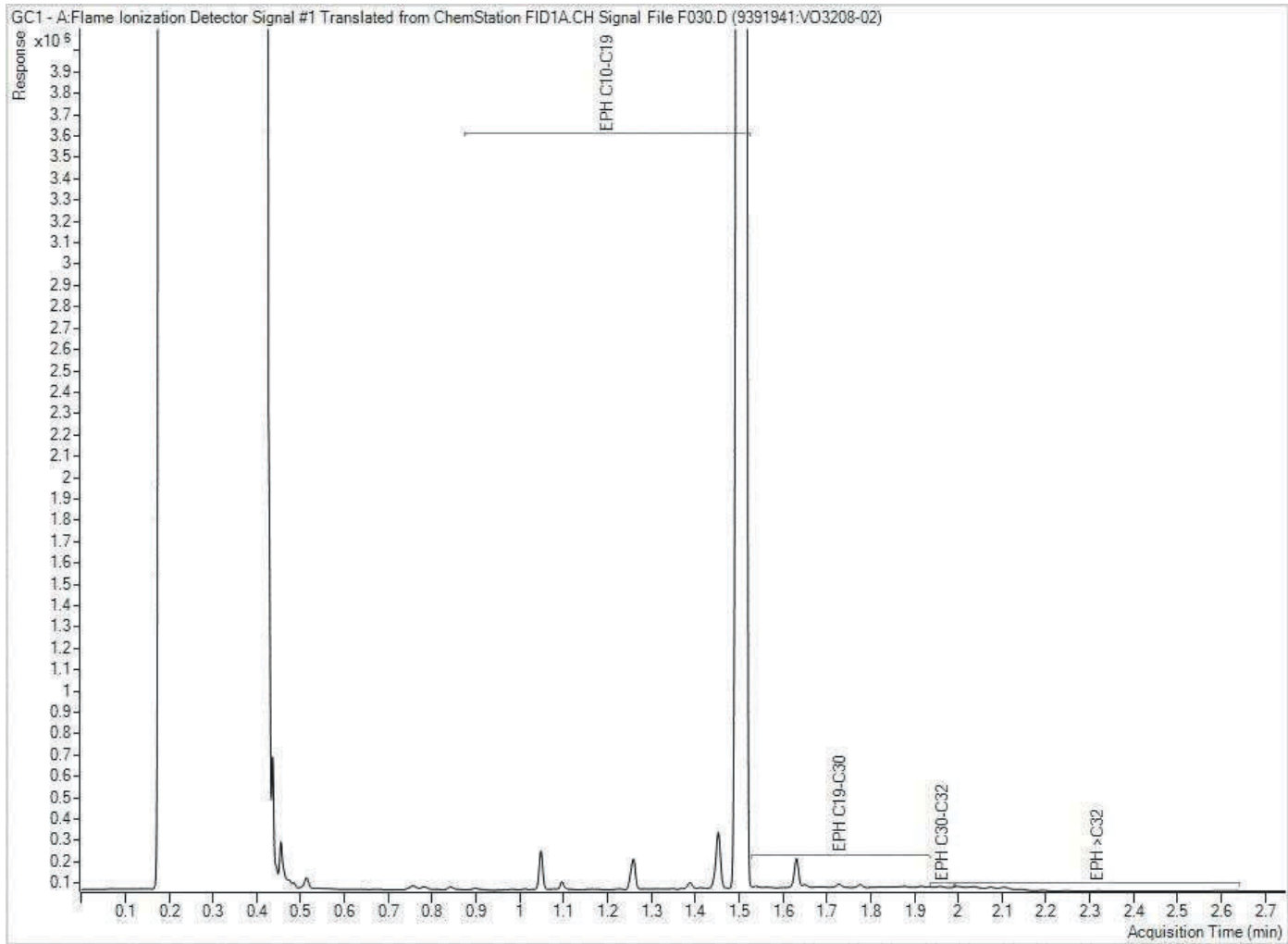
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

F2-F4 in Water when PAH required Chromatogram



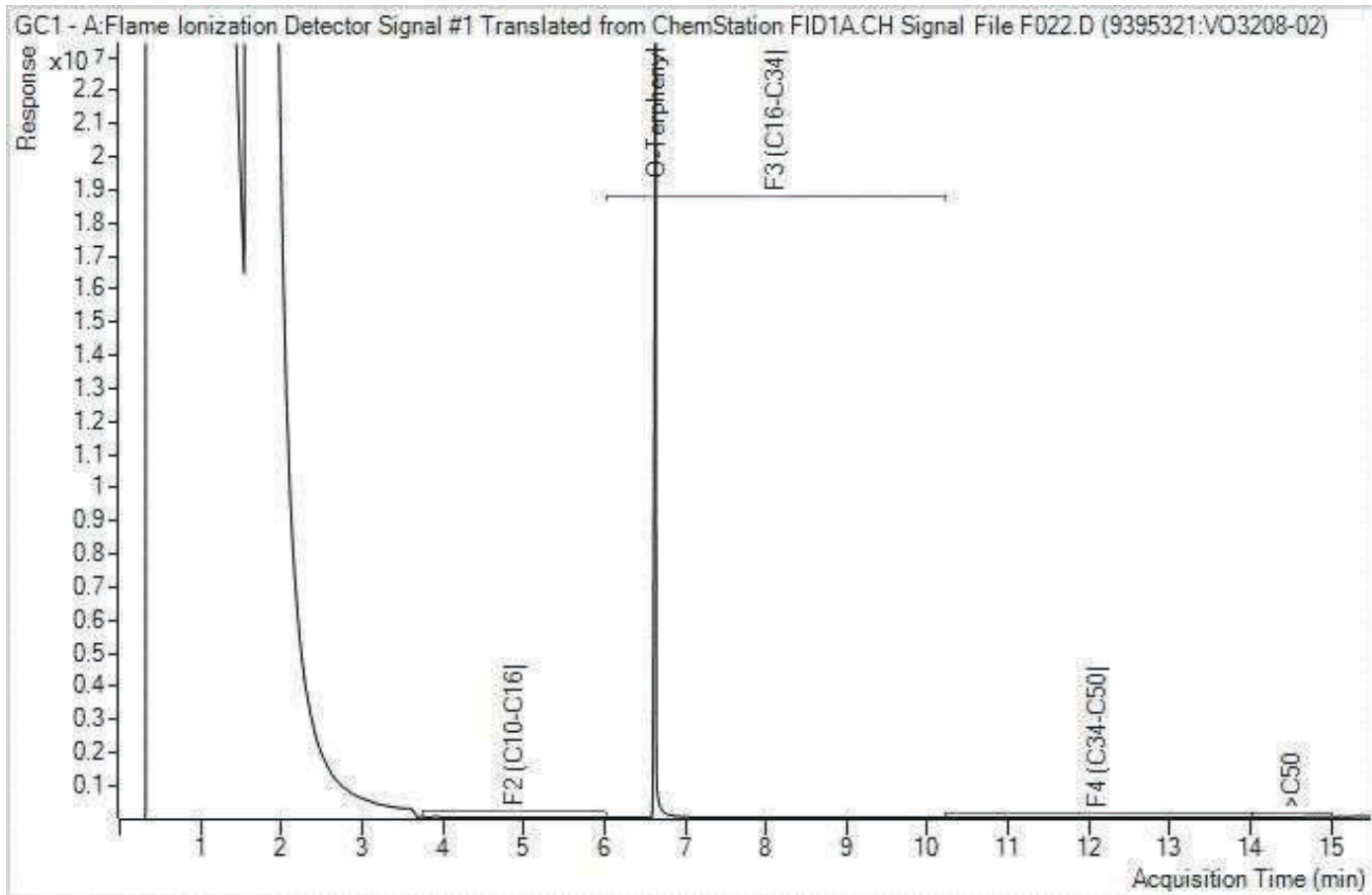
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Water when PAH required Chromatogram



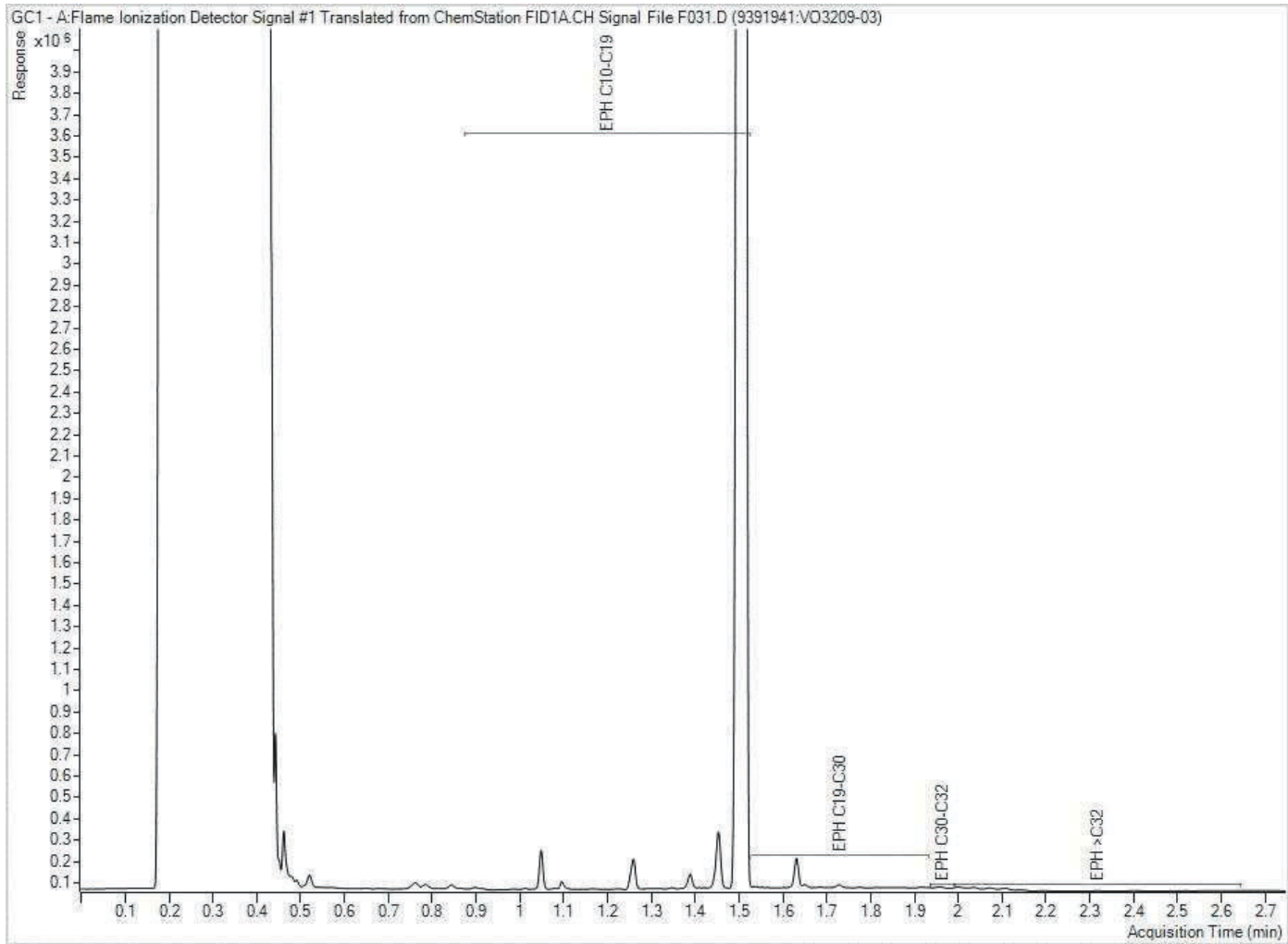
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

F2-F4 in Water when PAH required Chromatogram



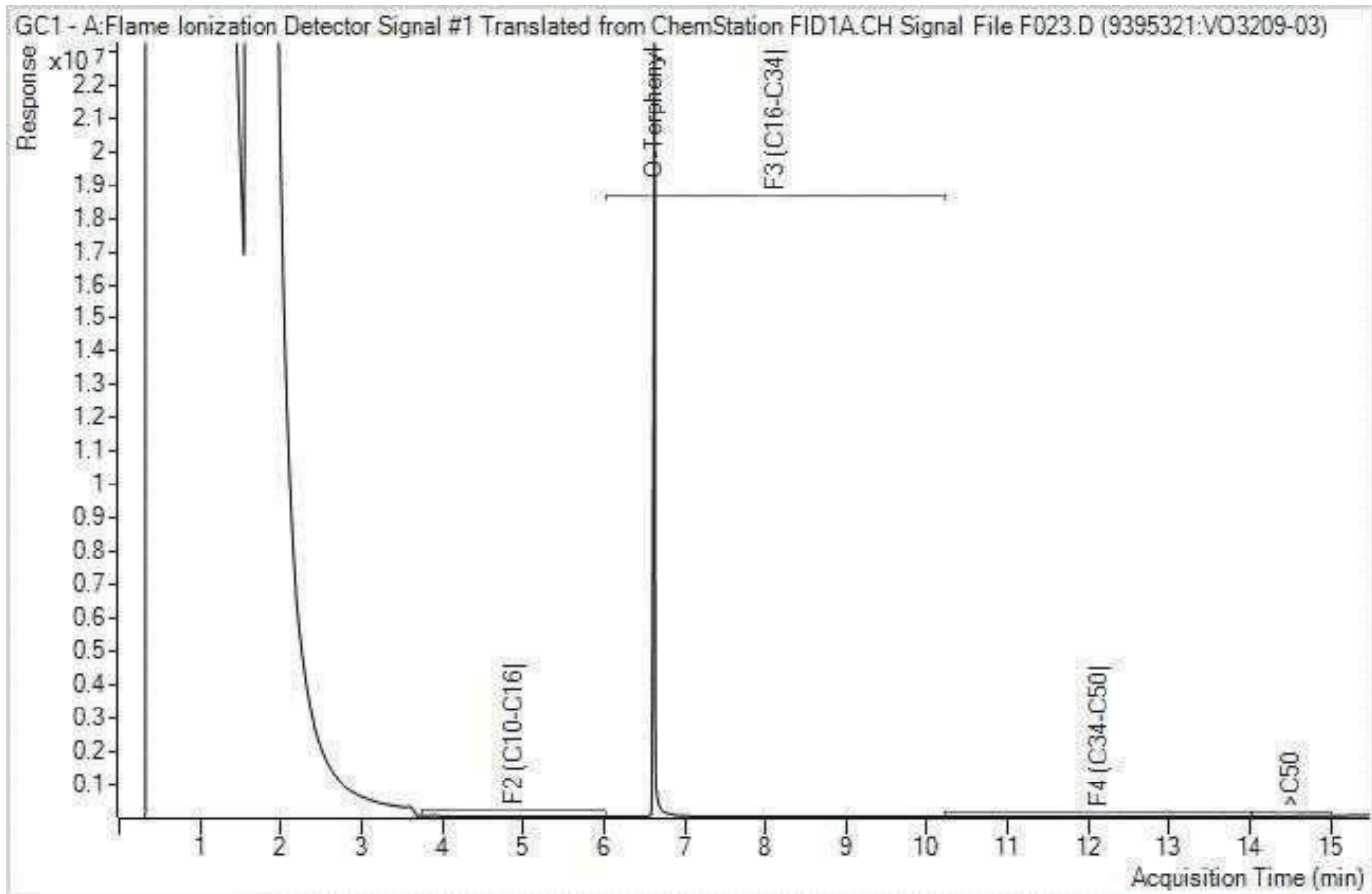
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Water when PAH required Chromatogram



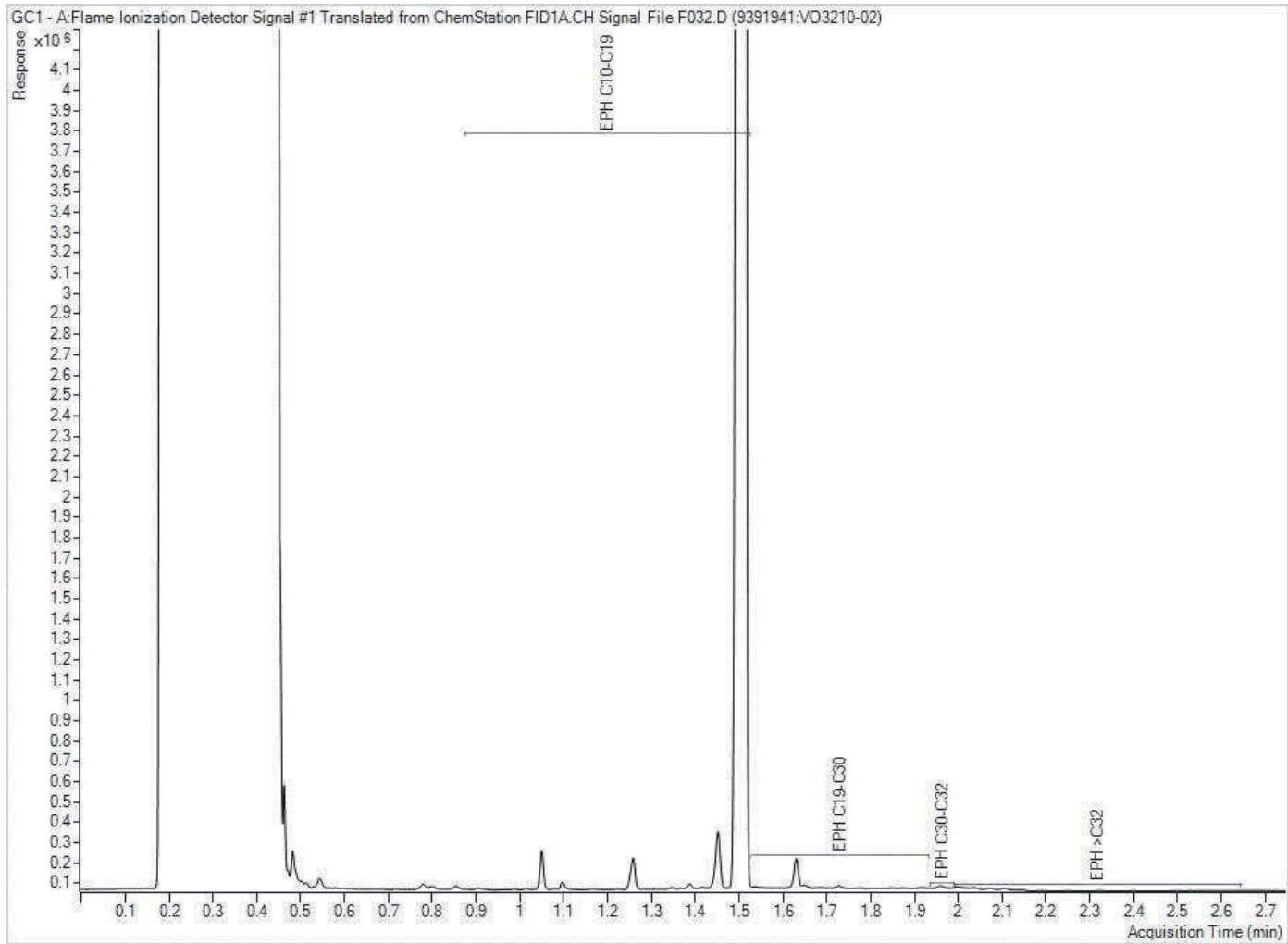
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

F2-F4 in Water when PAH required Chromatogram



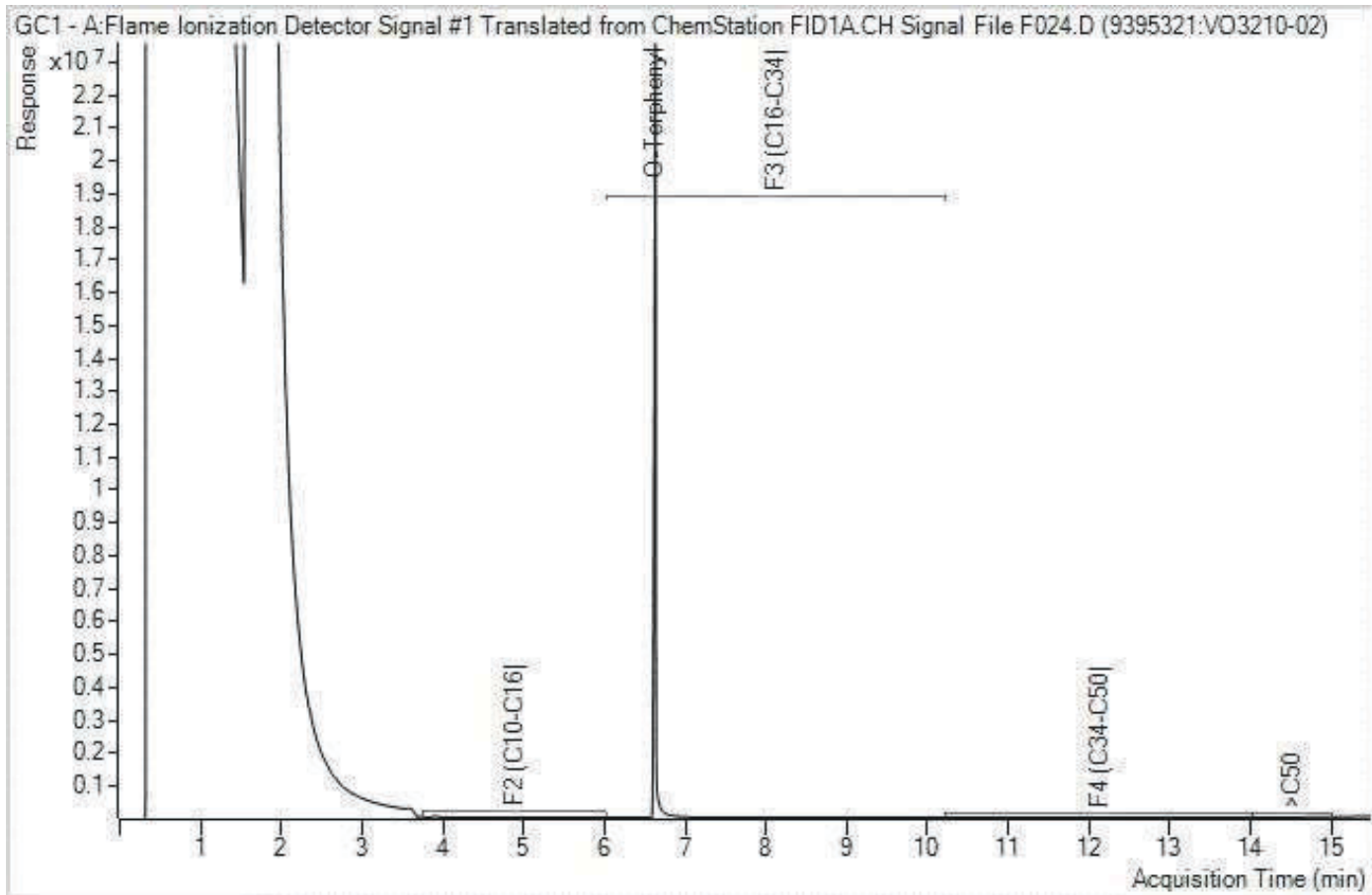
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Water when PAH required Chromatogram



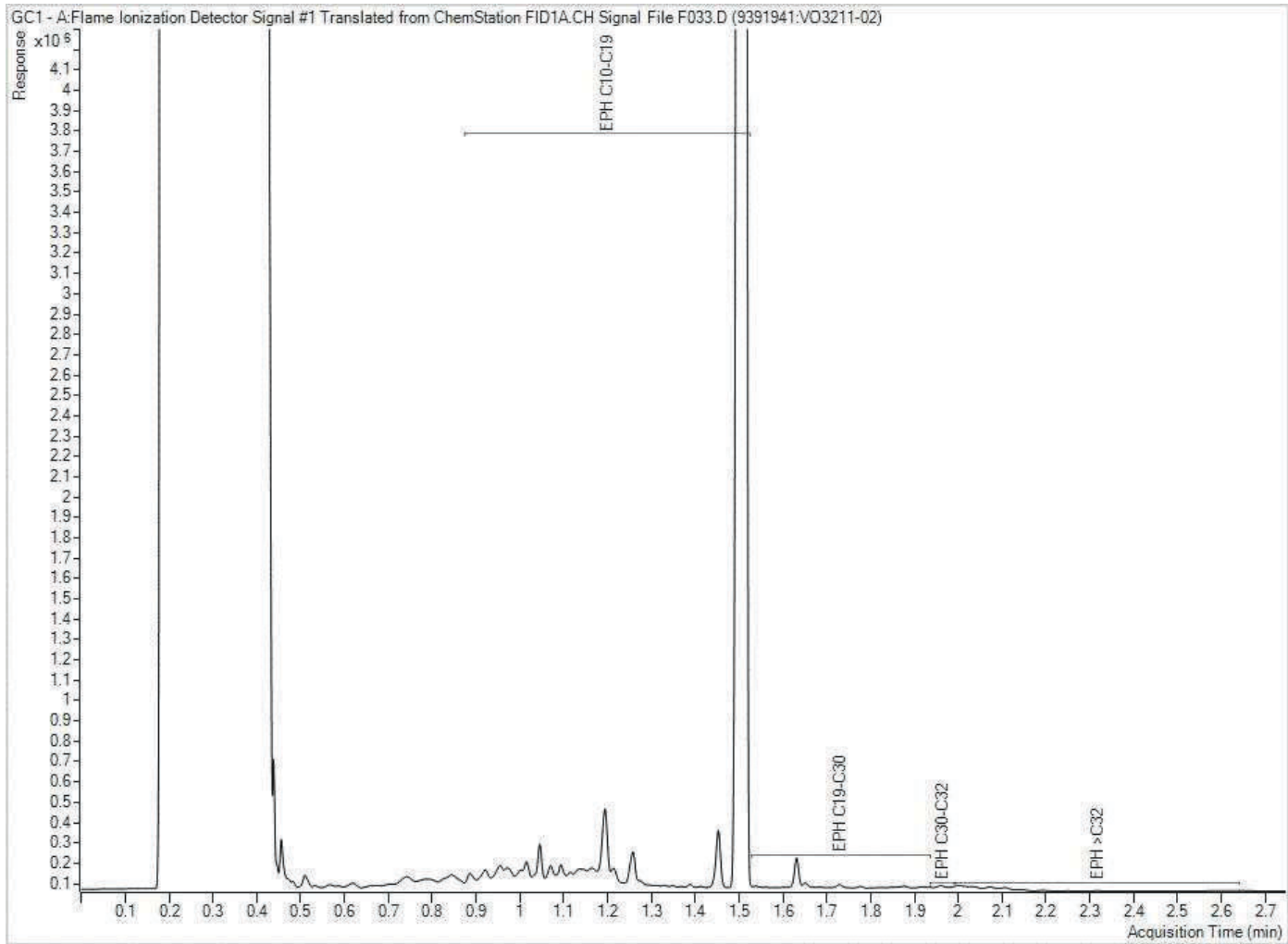
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

F2-F4 in Water when PAH required Chromatogram



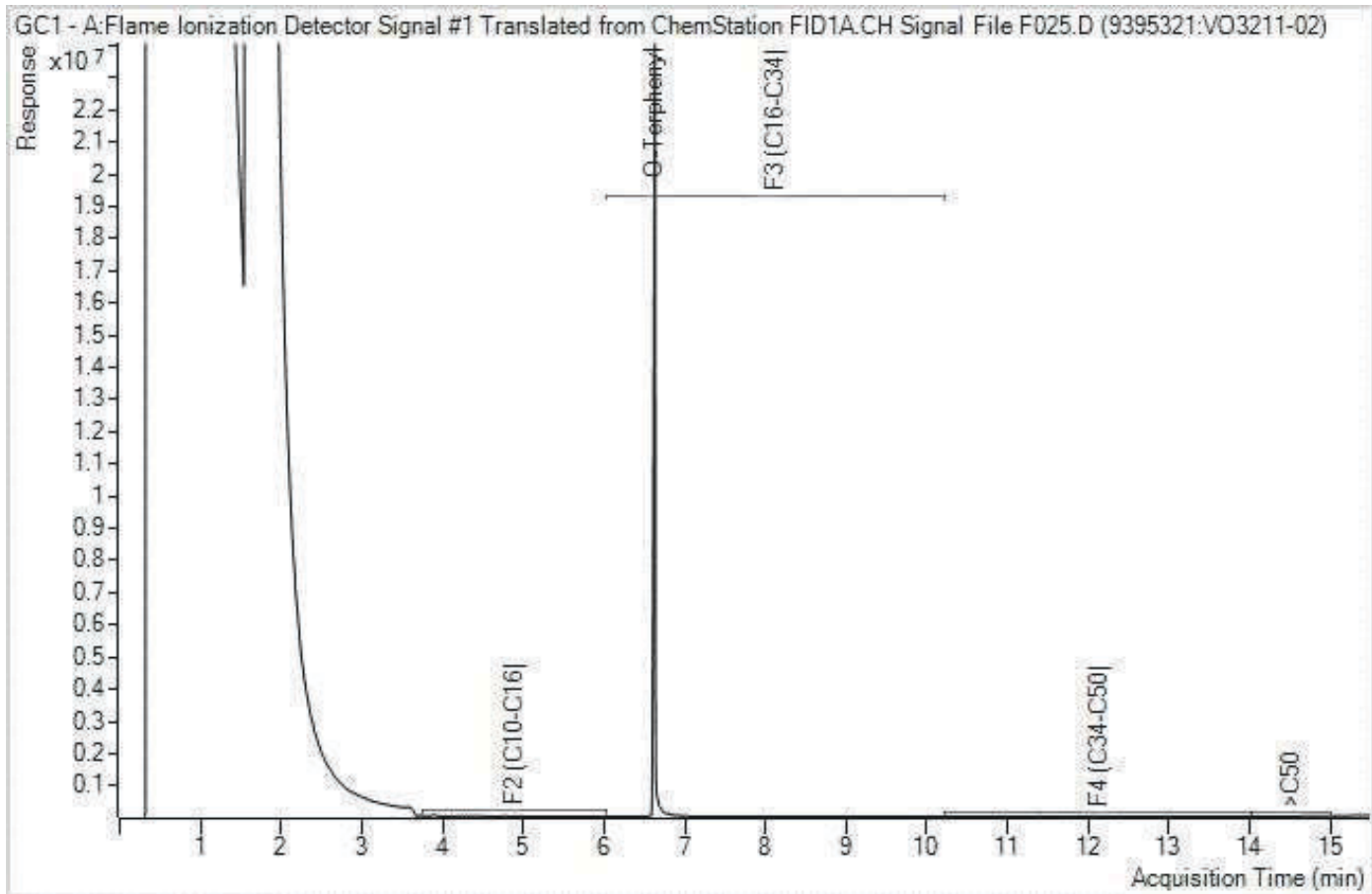
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EPH in Water when PAH required Chromatogram



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F2-F4 in Water when PAH required Chromatogram



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

INVOICE TO:

Company Name: #1480 HEMMERA ENVIROCHEM INC.
 Contact Name: Accounts Payable
 Address: 18th Floor, 4730 Kingsway
 Burnaby BC V5H 0C6
 Phone: (604) 669-0424 Ext: 224 Fax: (866) 281-1803
 Email: accounts-payable@hemmera.com

Report Information

Company Name: _____
 Contact Name: Amy Hsieh
 Address: _____
 Phone: _____ Fax: _____
 Email: ahsieh@hemmera.com, lora.paul@hemmera.com

Project Information

Quotation #: _____
 P.O. #: _____
 Project #: 103789-01
 Project Name: _____
 Site #: _____
 Sampled By: _____



B929735_COC



C#581869-01-01

Bottle Order #:
581869
Project Manager:
Dan Woolger

Regulatory Criteria:

CSR
 CCME
 BC Water Quality
 Other _____

Special Instructions

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

| Metals Field Filtered? (Y/N) | BC LEPH/HEPH Petroleum Hydrocarbons | Chlorinated Phenols (Totals) in Water - Calc. | VOCs, SVH, F1, LH in Water by HS GC/MS; VPH, BTEX, F1, F2 | CSR Dissolved Metals (No CV-Hg) in Water | CSR VOC + VPH in Soil - Field Preserved |
|------------------------------|-------------------------------------|---|---|--|---|
| | X | X | X | | |
| | X | | X | | |
| | X | X | X | X | |
| | X | | X | | |
| | X | | X | X | |

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT:
 (will be applied if Rush TAT is not specified):
 Standard TAT = 5-7 Working days for most tests.
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
 1 DAY 2 Day 3 Day Date Required: _____

Rush Confirmation Number: _____ (call lab for #)

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

| Sample Barcode Label | Sample (Location) Identification | Date Sampled | Time Sampled | Matrix |
|----------------------|----------------------------------|--------------|--------------|--------|
| 1 | BV-11BH-07M | 2019/04/23 | 09:20 | W |
| 2 | BV-11BH-08M | ↓ | 10:22 | W |
| 3 | BV-11BH-02M | | 12:12 | W |
| 4 | MW08-10 | | 10:57 | W |
| 5 | MW08-13 | | 11:33 | W |
| 6 | | | | W |
| 7 | | | W | |
| 8 | | | W | |
| 9 | | | W | |
| 10 | | | W | |

| # of Bottles | Comments |
|--------------|----------|
| 6 | |
| 5 | |
| 7 | |
| 5 | |
| 6 | |

RELINQUISHED BY: (Signature/Print)

 Date: (YY/MM/DD) 19/04/23
 Time 16:45

RECEIVED BY: (Signature/Print)

 Date: (YY/MM/DD) 19/04/23
 Time 16:45

jars used and not submitted

Lab Use Only

Time Sensitive Temperature (°C) on Receipt 13, 14, 12
 Custody Seal Intact on Cooler? Yes No

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0934

ICE IN COOLER