



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

FORM 19

MUNICIPAL WASTE LANDFILL

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP015W

X	Well	Spring	Stream	Other
---	------	--------	--------	-------

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 36.43 "

Longitude: 76° 27' 10.82"

Depth to Water Level: 62.77 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.90 ft

Elevation of Water Level: 513.63 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column:	126.49	gal
-------------------------	--------	-----

Total Well Depth: 148.9 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: Yes ☒ No ☐

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 11/17/2020

Sample Collection Time: 9:19

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: Yes ☒ No ☐ If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3141380001 Final Lab Analysis CompletionDate: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.13	D6919-09
BICARBONATE ALKALINITY	19	SM20-2320B
CALCIUM, TOTAL	24.7	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	38	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	28.7	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	38	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	35.4	EPA 300
pH-FIELD (SU)	5.19	FIELD
pH-LAB (SU)	5.8	SM20-4500HB
POTASSIUM, TOTAL	2.7	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	24.7	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	566	FIELD
SPEC. COND., LAB (umhos/cm)	480	SW846 9050A
SULFATE	28.9	EPA 300
ALKALINITY	19	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	334	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.2	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP03AW

X	Well	Spring	Stream	Other
---	------	--------	--------	-------

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 24.05 "

Longitude: 76° 27' 30.58"

Depth to Water Level: 58.38 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.20 ft

Elevation of Water Level: 532.52 ft./MSL

Sampling Depth: 130 ft

Volume of Water Column:	130.45	gal
-------------------------	--------	-----

Total Well Depth: 147.2 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: X Yes No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: Yes ☒ No ☐

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 11/17/2020

Sample Collection Time: 10:39

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: Yes ☒ No ☐ If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3141380002 Final Lab Analysis CompletionDate: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP03AW

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	14	SM20-2320B
CALCIUM, TOTAL	18.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	31.6	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	13.7	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	310	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	21.1	EPA 300
pH-FIELD (SU)	4.57	FIELD
pH-LAB (SU)	5.41	SM20-4500HB
POTASSIUM, TOTAL	1.6	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	12.7	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	339	FIELD
SPEC. COND., LAB (umhos/cm)	296	SW846 9050A
SULFATE	3	EPA 300
ALKALINITY	14	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	224	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP03AW

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP30RW

X	Well	Spring	Stream	Other
---	------	--------	--------	-------

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 15.52 "

Longitude: 76° 27' 26.8"

Depth to Water Level: 36.59 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.20 ft

Elevation of Water Level: 525.71 ft./MSL

Sampling Depth: 85 ft

Volume of Water Column:	78.44	gal
-------------------------	-------	-----

Total Well Depth: 90 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: Yes ☒ No ☐

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 11/17/2020

Sample Collection Time: 11:59

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: Yes ☒ No ☐ If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3141380003 Final Lab Analysis CompletionDate: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP30RW

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.511	D6919-09
BICARBONATE ALKALINITY	40	SM20-2320B
CALCIUM, TOTAL	57.9	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	292	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	190	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	19.4	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	3900	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	4.8	EPA 300
pH-FIELD (SU)	5.28	FIELD
pH-LAB (SU)	5.86	SM20-4500HB
POTASSIUM, TOTAL	8.3	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	127	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1151	FIELD
SPEC. COND., LAB (umhos/cm)	1100	SW846 9050A
SULFATE	45.8	EPA 300
ALKALINITY	40	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	670	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.98	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	2.21	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP30RW

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP04AW

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	189	SM20-2320B
CALCIUM, TOTAL	147	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	313	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	25	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	180	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	0.2	EPA 300
pH-FIELD (SU)	6.78	FIELD
pH-LAB (SU)	7.24	SM20-4500HB
POTASSIUM, TOTAL	2.5	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	82	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1497	FIELD
SPEC. COND., LAB (umhos/cm)	1320	SW846 9050A
SULFATE	46	EPA 300
ALKALINITY	149	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	972	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.78	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.39	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP04AW

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP005W

X	Well	Spring	Stream	Other
---	------	--------	--------	-------

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 10.67 "

Longitude: 76° 27' 21.3"

Depth to Water Level: 67.5 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.70 ft

Elevation of Water Level: 469.90 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column:	121.16	gal
-------------------------	--------	-----

Total Well Depth: 150 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: Yes ☒ No ☐

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 11/17/2020

Sample Collection Time: 14:26

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: Yes ☒ No ☐ If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3141380005 Final Lab Analysis CompletionDate: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP005W

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	46	SM20-2320B
CALCIUM, TOTAL	77.5	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	194	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	18.8	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	92	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	2.2	EPA 300
pH-FIELD (SU)	5.41	FIELD
pH-LAB (SU)	5.88	SM20-4500HB
POTASSIUM, TOTAL	3.1	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	46.7	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	907	FIELD
SPEC. COND., LAB (umhos/cm)	804	SW846 9050A
SULFATE	57.1	EPA 300
ALKALINITY	46	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	524	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.2	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP005W

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP26RW

X	Well	Spring	Stream	Other
---	------	--------	--------	-------

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 11.03 "

Longitude: 76° 27' 20.3"

Depth to Water Level: 77.23 ft

Measured from: Land Surface X TOC

Casing Stickup: 3.30 ft

Elevation of Water Level: 470.17 ft./MSL

Sampling Depth: 105 ft

Volume of Water Column:	54.00	gal
-------------------------	-------	-----

Total Well Depth: 114 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: X Yes No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: Yes ☒ No ☐

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 11/17/2020

Sample Collection Time: 15:39

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: Yes ☒ No ☐ If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3141380006 Final Lab Analysis CompletionDate: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP26RW

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.222	D6919-09
BICARBONATE ALKALINITY	49	SM20-2320B
CALCIUM, TOTAL	68.3	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	181	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	18.7	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	540	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1.2	EPA 300
pH-FIELD (SU)	5.32	FIELD
pH-LAB (SU)	5.83	SM20-4500HB
POTASSIUM, TOTAL	7.5	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	58.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	915	FIELD
SPEC. COND., LAB (umhos/cm)	819	SW846 9050A
SULFATE	83.4	EPA 300
ALKALINITY	49	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	470	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.7	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.41	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP26RW

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT**



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP029W

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 12.93 "

Longitude: 76 ° 27 ' 0.67 "

Depth to Water Level: 38.33 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.00 ft

Elevation of Water Level: 438.97 ft./MSL

Sampling Depth: 55 ft

Volume of Water Column: 29.62 gal

Total Well Depth: 58.5 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 11/17/2020

Sample Collection Time: 16:42

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3141380007 Final Lab Analysis CompletionDate: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP029W

Sample Date 11/17/2020

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	11	SM20-2320B
CALCIUM, TOTAL	16.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	76.4	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	10.8	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	41	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	3.8	EPA 300
pH-FIELD (SU)	5.05	FIELD
pH-LAB (SU)	5.64	SM20-4500HB
POTASSIUM, TOTAL	2.5	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	24.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	372	FIELD
SPEC. COND., LAB (umhos/cm)	327	SW846 9050A
SULFATE	9.6	EPA 300
ALKALINITY	11	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	268	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.68	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).
Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP029W

Sample Date 11/17/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP017W

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 8.5 "

Longitude: 76 ° 27 ' 6.17 "

Depth to Water Level: 38.16 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.00 ft

Elevation of Water Level: 442.54 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column: 164.99 gal

Total Well Depth: 150.5 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 11/18/2020

Sample Collection Time: 9:42

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3141737001 Final Lab Analysis CompletionDate: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP017W

Sample Date 11/18/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	52	SM20-2320B
CALCIUM, TOTAL	98.2	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	399	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	43.9	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	1700	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	3.7	EPA 300
pH-FIELD (SU)	5.45	FIELD
pH-LAB (SU)	6.36	SM20-4500HB
POTASSIUM, TOTAL	9.9	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	109	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1614	FIELD
SPEC. COND., LAB (umhos/cm)	1550	SW846 9050A
SULFATE	75.7	EPA 300
ALKALINITY	52	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	870	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	2.8	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.29	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP017W

Sample Date 11/18/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT**



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP028W ☒ Well ☐ Spring ☐ Stream ☐ Other
☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 37 ° 57 ' 21.62 " Longitude: 76 ° 27 ' 0.1 "

Depth to Water Level: 13.37 ft Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.50 ft Elevation of Water Level: 451.63 ft./MSL

Sampling Depth: 50 ft Volume of Water Column: _____ gal

Total Well Depth: 60 ft Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 11/18/2020 Sample Collection Time: 11:14

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3141737002 Final Lab Analysis Completion Date: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments: _____

I.D. No 101389

Monitoring Point No. FFMP028W

Sample Date 11/18/2020

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	26	SM20-2320B
CALCIUM, TOTAL	38.8	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	91.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	16.1	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	7.2	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	14.4	EPA 300
pH-FIELD (SU)	4.91	FIELD
pH-LAB (SU)	5.91	SM20-4500HB
POTASSIUM, TOTAL	2.2	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	25	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	551	FIELD
SPEC. COND., LAB (umhos/cm)	517	SW846 9050A
SULFATE	26.8	EPA 300
ALKALINITY	26	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	246	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.99	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.15	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP028W

Sample Date 11/18/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP025W

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 19.07 "

Longitude: 76 ° 27 ' 1.12 "

Depth to Water Level: 27.76 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 1.50 ft

Elevation of Water Level: 449.04 ft./MSL

Sampling Depth: 39 ft

Volume of Water Column: 17.98 gal

Total Well Depth: 40 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 11/18/2020

Sample Collection Time: 12:16

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3141737003 Final Lab Analysis CompletionDate: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP025W

Sample Date 11/18/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	27	SM20-2320B
CALCIUM, TOTAL	40.3	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	118	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	17.9	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	9.6	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	10.3	EPA 300
pH-FIELD (SU)	4.6	FIELD
pH-LAB (SU)	5.93	SM20-4500HB
POTASSIUM, TOTAL	3	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	31.4	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	598	FIELD
SPEC. COND., LAB (umhos/cm)	587	SW846 9050A
SULFATE	28.2	EPA 300
ALKALINITY	27	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	242	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.2	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.14	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP025W

Sample Date 11/18/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT**



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP033W

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 31.09 "

Longitude: 76 ° 27 ' 4.98 "

Depth to Water Level: 19.41 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 0.49 ft

Elevation of Water Level: 497.11 ft./MSL

Sampling Depth: 79 ft

Volume of Water Column: 112.48 gal

Total Well Depth: 96 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 11/18/2020

Sample Collection Time: 13:41

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3141737004 Final Lab Analysis CompletionDate: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP033W

Sample Date 11/18/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.415	D6919-09
BICARBONATE ALKALINITY	41	SM20-2320B
CALCIUM, TOTAL	26	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	44.8	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	5300	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	9.1	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	380	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	10.9	EPA 300
pH-FIELD (SU)	5.55	FIELD
pH-LAB (SU)	6.16	SM20-4500HB
POTASSIUM, TOTAL	1.6	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	12.9	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	358	FIELD
SPEC. COND., LAB (umhos/cm)	332	SW846 9050A
SULFATE	6.6	EPA 300
ALKALINITY	41	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	142	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	1.79	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP033W

Sample Date 11/18/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT**



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP02DW

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 27.74 "

Longitude: 76 ° 27 ' 1.49 "

Depth to Water Level: 32.39 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: ft

Elevation of Water Level: 477.21 ft./MSL

Sampling Depth: 120 ft

Volume of Water Column: gal

Total Well Depth: 152 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: gpm

Sample Date (mm/dd/yy): 11/18/2020

Sample Collection Time: 16:17

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3141737005 Final Lab Analysis CompletionDate: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP02DW

Sample Date 11/18/2020

FORM 19 **QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	111	SM20-2320B
CALCIUM, TOTAL	120	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	383	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	500	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	20	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	470	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	7.9	EPA 300
pH-FIELD (SU)	7.06	FIELD
pH-LAB (SU)	7.55	SM20-4500HB
POTASSIUM, TOTAL	1.9	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	120	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1556	FIELD
SPEC. COND., LAB (umhos/cm)	1410	SW846 9050A
SULFATE	31.8	EPA 300
ALKALINITY	111	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	822	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.79	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	9.5	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).
Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP02DW

Sample Date 11/18/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT**



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP018W

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 11.62 "

Longitude: 76 ° 27 ' 5.68 "

Depth to Water Level: 26.77 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.46 ft

Elevation of Water Level: 445.43 ft./MSL

Sampling Depth: 40 ft

Volume of Water Column: 16.10 gal

Total Well Depth: 51.43 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 0.9

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 11/19/2020

Sample Collection Time: 9:19

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3142030001 Final Lab Analysis CompletionDate: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP018W

Sample Date 11/19/2020

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	25	SM20-2320B
CALCIUM, TOTAL	31.8	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	101	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	15.4	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	240	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	4.6	EPA 300
pH-FIELD (SU)	4.83	FIELD
pH-LAB (SU)	6.75	SM20-4500HB
POTASSIUM, TOTAL	5.1	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	32.3	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	554	FIELD
SPEC. COND., LAB (umhos/cm)	508	SW846 9050A
SULFATE	36.3	EPA 300
ALKALINITY	25	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	350	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.97	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.39	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP018W

Sample Date 11/19/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT**



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP019W

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 11.58 "

Longitude: 76 ° 27 ' 5.75 "

Depth to Water Level: 27.51 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 1.79 ft

Elevation of Water Level: 444.44 ft./MSL

Sampling Depth: 49 ft

Volume of Water Column: 68.72 gal

Total Well Depth: 132.79 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 11/19/2020

Sample Collection Time: 10:10

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3142030002 Final Lab Analysis CompletionDate: 12/2/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP019W

Sample Date 11/19/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	65	SM20-2320B
CALCIUM, TOTAL	57	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	80.3	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	5.7	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	5.6 ND	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	0.24	EPA 300
pH-FIELD (SU)	6.12	FIELD
pH-LAB (SU)	7.64	SM20-4500HB
POTASSIUM, TOTAL	1.1	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	10.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	463	FIELD
SPEC. COND., LAB (umhos/cm)	445	SW846 9050A
SULFATE	14.9	EPA 300
ALKALINITY	65	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	274	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.3	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.17	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP019W

Sample Date 11/19/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT**



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP031W

☒ Well ☐ Spring ☐ Stream ☐ Other

☒ Upgradient/Upstream ☐ Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39° 57' 31.2"

Longitude: 76° 27' 23.53"

Depth to Water Level: 68.82 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.38 ft

Elevation of Water Level: 543.84 ft./MSL

Sampling Depth: 130 ft

Volume of Water Column: 104.54 gal

Total Well Depth: 140 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 11/19/2020

Sample Collection Time: 11:35

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3142030003 Final Lab Analysis Completion Date: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP031W

Sample Date 11/19/2020

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	70	SM20-2320B
CALCIUM, TOTAL	38.8	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	23.5	EPA 300
FLUORIDE	0.26	EPA 300
IRON, TOTAL (ug/l)	3700	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	3.7	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	350	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	7.5	FIELD
pH-LAB (SU)	7.91	SM20-4500HB
POTASSIUM, TOTAL	1.3	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	9.4	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	328	FIELD
SPEC. COND., LAB (umhos/cm)	293	SW846 9050A
SULFATE	44.6	EPA 300
ALKALINITY	70	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	156	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.57	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	24.1	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP031W

Sample Date 11/19/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT**



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP002W

☒ Well ☐ Spring ☐ Stream ☐ Other

☒ Upgradient/Upstream ☐ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 32.25 "

Longitude: 76 ° 27 ' 24.03 "

Depth to Water Level: 68.29 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 1.60 ft

Elevation of Water Level: 544.91 ft./MSL

Sampling Depth: 85 ft

Volume of Water Column: 148.79 gal

Total Well Depth: 169.6 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 11/19/2020

Sample Collection Time: 12:05

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3142030004 Final Lab Analysis CompletionDate: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP002W

Sample Date 11/19/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	5 ND	SM20-2320B
CALCIUM, TOTAL	18	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	20.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	100	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	7.7	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	230	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	18.9	EPA 300
pH-FIELD (SU)	4.32	FIELD
pH-LAB (SU)	5.34	SM20-4500HB
POTASSIUM, TOTAL	1.6	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	13.3	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	294	FIELD
SPEC. COND., LAB (umhos/cm)	262	SW846 9050A
SULFATE	14.8	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	186	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.63	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.37	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP002W

Sample Date 11/19/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT**



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP032W

☒ Well ☐ Spring ☐ Stream ☐ Other

☒ Upgradient/Upstream ☐ Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 33.45 "

Longitude: 76 ° 27 ' 17.71 "

Depth to Water Level: 50.46 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.06 ft

Elevation of Water Level: 543.63 ft./MSL

Sampling Depth: 62 ft

Volume of Water Column: 36.04 gal

Total Well Depth: 75 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 11/19/2020

Sample Collection Time: 12:48

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3142030005 Final Lab Analysis CompletionDate: 12/2/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP032W

Sample Date 11/19/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.555	D6919-09
BICARBONATE ALKALINITY	67	SM20-2320B
CALCIUM, TOTAL	14.4	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	21.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	8800	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	5.2	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	680	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.7	FIELD
pH-LAB (SU)	7.53	SM20-4500HB
POTASSIUM, TOTAL	1.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	12.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	220	FIELD
SPEC. COND., LAB (umhos/cm)	185	SW846 9050A
SULFATE	2 ND	EPA 300
ALKALINITY	67	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	72	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.67	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	97.5	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP032W

Sample Date 11/19/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT**



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP02SW

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 27.9 "

Longitude: 76 ° 27 ' 1.58 "

Depth to Water Level: 15.73 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: ft

Elevation of Water Level: 494.17 ft./MSL

Sampling Depth: 18 ft

Volume of Water Column: gal

Total Well Depth: 25 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: gpm

Sample Date (mm/dd/yy): 11/19/2020

Sample Collection Time: 13:10

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3142030006 Final Lab Analysis CompletionDate: 12/7/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments:

I.D. No 101389

Monitoring Point No. FFMP02SW

Sample Date 11/19/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	11	SM20-2320B
CALCIUM, TOTAL	26.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	164	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	7300	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	10.5	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	120	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	12.7	EPA 300
pH-FIELD (SU)	5.92	FIELD
pH-LAB (SU)	6.17	SM20-4500HB
POTASSIUM, TOTAL	4.9	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	92.2	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1026	FIELD
SPEC. COND., LAB (umhos/cm)	735	SW846 9050A
SULFATE	31.6	EPA 300
ALKALINITY	11	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	408	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.9	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	669	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

^T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP02SW

Sample Date 11/19/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT**



Date Prepared/Revised
01/13/2021

DEP USE ONLY

Date Received

**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284

Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: FFMP016W ☒ Well ☐ Spring ☐ Stream ☐ Other
☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 19.15 " Longitude: 76 ° 27 ' 0.88 "

Depth to Water Level: 25.5 ft Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 1.97 ft Elevation of Water Level: 449.10 ft./MSL

Sampling Depth: 135 ft Volume of Water Column: 182.55 gal

Total Well Depth: 149.8 ft Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No Well Volumes Purged: _____

Sample Field Filtered (must be 0.45 micron)?: ☐ Yes ☒ No

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 11/19/2020 Sample Collection Time: 13:22

Sample Collector's Name: JACK BORDEN

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3142030007 Final Lab Analysis Completion Date: 12/3/2020

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments: _____

I.D. No 101389

Monitoring Point No. FFMP016W

Sample Date 11/19/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	29	SM20-2320B
CALCIUM, TOTAL	64	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	225	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	25.8	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	75	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	8.8	EPA 300
pH-FIELD (SU)	5.35	FIELD
pH-LAB (SU)	6.54	SM20-4500HB
POTASSIUM, TOTAL	3.7	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	54.4	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	961	FIELD
SPEC. COND., LAB (umhos/cm)	901	SW846 9050A
SULFATE	34	EPA 300
ALKALINITY	29	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	556	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.5	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.36	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

** Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP016W

Sample Date 11/19/2020

FORM 19**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
CIS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
TRANS 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

December 4, 2020

Mr. Daniel Brown
Lancaster County Solid Waste Authority
1299 Hbg Pike, P.O. Box 4425
Lancaster, PA 17604

Certificate of Analysis

Project Name:	FREY FARM	Workorder:	3141737
Purchase Order:	PO1000126	Workorder ID:	4th QTR 2020 GWMP-FORM 19Q

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, November 18, 2020.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Susan J Scherer (Project Coordinator) at (717) 944-5541.

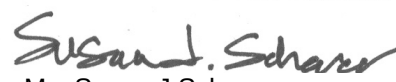
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Ashley Gichuki , Ms. Jordan Gallagher , Mr. Jeff Musser

*This page is included as part of the Analytical Report and
must be retained as a permanent record thereof.*


Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey



SAMPLE SUMMARY

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3141737001	FFMP017W	Ground Water	11/18/2020 09:42	11/18/2020 17:29	JACK BORDEN
3141737002	FFMP028W	Ground Water	11/18/2020 11:14	11/18/2020 17:29	JACK BORDEN
3141737003	FFMP025W	Ground Water	11/18/2020 12:16	11/18/2020 17:29	JACK BORDEN
3141737004	FFMP033W	Ground Water	11/18/2020 13:41	11/18/2020 17:29	JACK BORDEN
3141737005	FFMP02DW	Ground Water	11/18/2020 16:17	11/18/2020 17:29	JACK BORDEN
3141737006	TRIP BLANK	Ground Water	11/18/2020 00:00	11/18/2020 17:29	JACK BORDEN

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

SAMPLE SUMMARY

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141737001**
Sample ID: **FFMP017W**

Date Collected: 11/18/2020 09:42 Matrix: Ground Water
Date Received: 11/18/2020 17:29

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 03:50	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 03:50	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	98.8		%	62 - 133	SW846 8260B			11/21/20 03:50	PDK	G
4-Bromofluorobenzene (S)	105		%	79 - 114	SW846 8260B			11/21/20 03:50	PDK	G
Dibromofluoromethane (S)	96.5		%	78 - 116	SW846 8260B			11/21/20 03:50	PDK	G
Toluene-d8 (S)	94.8		%	76 - 127	SW846 8260B			11/21/20 03:50	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	52		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	52	2	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/1/20 05:17	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 12:05	AK	A
Chloride	399		mg/L	10.0	EPA 300.0			11/24/20 09:56	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/19/20 09:37	MBW	B
Nitrate-N	3.7		mg/L	0.20	EPA 300.0			11/19/20 09:37	MBW	B
pH	6.36	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:07	C_D	11/23/20 14:53	VXF	F
Specific Conductance	1550		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	75.7		mg/L	2.0	EPA 300.0			11/19/20 09:37	MBW	B
Total Dissolved Solids	870		mg/L	5	S2540C-11			11/20/20 13:12	KXH	B
Total Organic Carbon (TOC)	2.8		mg/L	0.50	SW846 9060A			11/24/20 00:30	PAG	D
Turbidity	0.29		NTU	0.10	SM2130B-2011			11/19/20 05:28	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

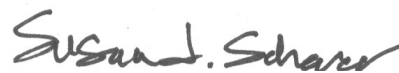
ANALYTICAL RESULTS

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141737001**
Sample ID: **FFMP017W**

Date Collected: 11/18/2020 09:42 Matrix: Ground Water
Date Received: 11/18/2020 17:29

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	98.2		mg/L	0.11	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:08	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:08	SRT	J1
Magnesium, Total	43.9		mg/L	0.11	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:08	SRT	J1
Manganese, Total	1.7		mg/L	0.0056	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:08	SRT	J1
Potassium, Total	9.9		mg/L	0.56	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:08	SRT	J1
Sodium, Total	109		mg/L	0.56	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:08	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	38.16		Feet		Field			11/18/20 09:42	BGS	C
Elev Top MW Casing above MSL	480.70		Feet		Field			11/18/20 09:42	BGS	C
Flow Rate	2.24		gal/min		Field			11/18/20 09:42	BGS	C
Ground Water Elevation	442.54		ft/MSL		Field			11/18/20 09:42	BGS	C
pH, Field (SM4500B)	5.45		pH_Units		Field			11/18/20 09:42	BGS	C
Sample Depth	135.00		Feet		Field			11/18/20 09:42	BGS	C
Specific Conductance, Field	1614		umhos/cm	1	Field			11/18/20 09:42	BGS	C
Temperature	9.00		Deg. C		Field			11/18/20 09:42	BGS	C
Total Well Depth	150.50		Feet		Field			11/18/20 09:42	BGS	C
Volume in Water Column	165.14		Gallons		Field			11/18/20 09:42	BGS	C
Water Level After Purge	44.29		Feet		Field			11/18/20 09:42	BGS	C
Well Volumes Purged	1.00		Vol		Field			11/18/20 09:42	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141737002**

Date Collected: 11/18/2020 11:14

Matrix: Ground Water

Sample ID: **FFMP028W**

Date Received: 11/18/2020 17:29

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 04:13	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 04:13	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	97.1		%	62 - 133	SW846 8260B			11/21/20 04:13	PDK	G
4-Bromofluorobenzene (S)	105		%	79 - 114	SW846 8260B			11/21/20 04:13	PDK	G
Dibromofluoromethane (S)	93.6		%	78 - 116	SW846 8260B			11/21/20 04:13	PDK	G
Toluene-d8 (S)	94.7		%	76 - 127	SW846 8260B			11/21/20 04:13	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	26		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	26	2	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/1/20 05:32	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 12:05	AK	A
Chloride	91.1		mg/L	2.0	EPA 300.0			11/19/20 09:52	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/19/20 09:52	MBW	B
Nitrate-N	14.4		mg/L	0.20	EPA 300.0			11/19/20 09:52	MBW	B
pH	5.91	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:07	C_D	11/23/20 14:53	VXF	F
Specific Conductance	517		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	26.8		mg/L	2.0	EPA 300.0			11/19/20 09:52	MBW	B
Total Dissolved Solids	246		mg/L	5	S2540C-11			11/20/20 13:12	KXH	B
Total Organic Carbon (TOC)	0.99		mg/L	0.50	SW846 9060A			11/24/20 00:30	PAG	D
Turbidity	0.15		NTU	0.10	SM2130B-2011			11/19/20 05:28	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

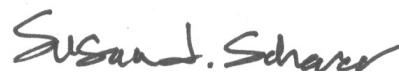
ANALYTICAL RESULTS

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141737002**
Sample ID: **FFMP028W**

Date Collected: 11/18/2020 11:14 Matrix: Ground Water
Date Received: 11/18/2020 17:29

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	38.8		mg/L	0.11	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:11	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:11	SRT	J1
Magnesium, Total	16.1		mg/L	0.11	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:11	SRT	J1
Manganese, Total	0.0072		mg/L	0.0056	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:11	SRT	J1
Potassium, Total	2.2		mg/L	0.56	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:11	SRT	J1
Sodium, Total	25.0		mg/L	0.56	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:11	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	13.37		Feet		Field			11/18/20 11:14	BGS	C
Elev Top MW Casing above MSL	465.00		Feet		Field			11/18/20 11:14	BGS	C
Flow Rate	2.86		gal/min		Field			11/18/20 11:14	BGS	C
Ground Water Elevation	451.63		ft/MSL		Field			11/18/20 11:14	BGS	C
pH, Field (SM4500B)	4.91		pH_Units		Field			11/18/20 11:14	BGS	C
Sample Depth	50.00		Feet		Field			11/18/20 11:14	BGS	C
Specific Conductance, Field	551		umhos/cm	1	Field			11/18/20 11:14	BGS	C
Temperature	9.33		Deg. C		Field			11/18/20 11:14	BGS	C
Total Well Depth	60.00		Feet		Field			11/18/20 11:14	BGS	C
Volume in Water Column	68.55		Gallons		Field			11/18/20 11:14	BGS	C
Water Level After Purge	38.97		Feet		Field			11/18/20 11:14	BGS	C
Well Volumes Purged	1.00		Vol		Field			11/18/20 11:14	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141737003**

Date Collected: 11/18/2020 12:16

Matrix: Ground Water

Sample ID: **FFMP025W**

Date Received: 11/18/2020 17:29

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 04:35	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 04:35	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	94.7		%	62 - 133	SW846 8260B			11/21/20 04:35	PDK	G
4-Bromofluorobenzene (S)	102		%	79 - 114	SW846 8260B			11/21/20 04:35	PDK	G
Dibromofluoromethane (S)	94.8		%	78 - 116	SW846 8260B			11/21/20 04:35	PDK	G
Toluene-d8 (S)	94		%	76 - 127	SW846 8260B			11/21/20 04:35	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	27		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	27	2	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/1/20 05:47	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 14:31	AK	A
Chloride	118		mg/L	2.0	EPA 300.0			11/19/20 11:38	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/19/20 11:38	MBW	B
Nitrate-N	10.3		mg/L	0.20	EPA 300.0			11/19/20 11:38	MBW	B
pH	5.93	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:07	C_D	11/23/20 14:53	VXF	F
Specific Conductance	587		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	28.2		mg/L	2.0	EPA 300.0			11/19/20 11:38	MBW	B
Total Dissolved Solids	242		mg/L	5	S2540C-11			11/20/20 13:12	KXH	B
Total Organic Carbon (TOC)	1.2		mg/L	0.50	SW846 9060A			11/24/20 00:30	PAG	D
Turbidity	0.14		NTU	0.10	SM2130B-2011			11/19/20 05:28	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141737003**
Sample ID: **FFMP025W**

Date Collected: 11/18/2020 12:16 Matrix: Ground Water
Date Received: 11/18/2020 17:29

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	40.3		mg/L	0.11	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:15	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:15	SRT	J1
Magnesium, Total	17.9		mg/L	0.11	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:15	SRT	J1
Manganese, Total	0.0096		mg/L	0.0056	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:15	SRT	J1
Potassium, Total	3.0		mg/L	0.56	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:15	SRT	J1
Sodium, Total	31.4		mg/L	0.56	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:15	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	27.76		Feet		Field			11/18/20 12:16	BGS	C
Elev Top MW Casing above MSL	476.80		Feet		Field			11/18/20 12:16	BGS	C
Flow Rate	2.92		gal/min		Field			11/18/20 12:16	BGS	C
Ground Water Elevation	449.04		ft/MSL		Field			11/18/20 12:16	BGS	C
pH, Field (SM4500B)	4.60		pH_Units		Field			11/18/20 12:16	BGS	C
Sample Depth	39.00		Feet		Field			11/18/20 12:16	BGS	C
Specific Conductance, Field	598		umhos/cm	1	Field			11/18/20 12:16	BGS	C
Temperature	9.23		Deg. C		Field			11/18/20 12:16	BGS	C
Total Well Depth	41.50		Feet		Field			11/18/20 12:16	BGS	C
Volume in Water Column	20.20		Gallons		Field			11/18/20 12:16	BGS	C
Water Level After Purge	29.01		Feet		Field			11/18/20 12:16	BGS	C
Well Volumes Purged	1.01		Vol		Field			11/18/20 12:16	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141737004**
Sample ID: **FFMP033W**

Date Collected: 11/18/2020 13:41 Matrix: Ground Water
Date Received: 11/18/2020 17:29

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 04:58	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 04:58	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	95.8		%	62 - 133	SW846 8260B			11/21/20 04:58	PDK	G
4-Bromofluorobenzene (S)	104		%	79 - 114	SW846 8260B			11/21/20 04:58	PDK	G
Dibromofluoromethane (S)	94.3		%	78 - 116	SW846 8260B			11/21/20 04:58	PDK	G
Toluene-d8 (S)	94		%	76 - 127	SW846 8260B			11/21/20 04:58	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	41		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	41	2	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	0.415		mg/L	0.100	ASTM D6919-09			12/1/20 06:02	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 14:31	AK	A
Chloride	44.8		mg/L	2.0	EPA 300.0			11/19/20 11:53	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/19/20 11:53	MBW	B
Nitrate-N	10.9		mg/L	0.20	EPA 300.0			11/19/20 11:53	MBW	B
pH	6.16	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:07	C_D	11/23/20 14:53	VXF	F
Specific Conductance	332		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	6.6		mg/L	2.0	EPA 300.0			11/19/20 11:53	MBW	B
Total Dissolved Solids	142		mg/L	5	S2540C-11			11/20/20 13:12	KXH	B
Total Organic Carbon (TOC)	ND		mg/L	0.50	SW846 9060A			11/24/20 00:30	PAG	D
Turbidity	1.79		NTU	0.10	SM2130B-2011			11/19/20 05:28	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141737004**

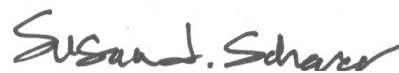
Date Collected: 11/18/2020 13:41

Matrix: Ground Water

Sample ID: **FFMP033W**

Date Received: 11/18/2020 17:29

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	26.0		mg/L	0.11	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:19	SRT	J1
Iron, Total	5.3		mg/L	0.067	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:19	SRT	J1
Magnesium, Total	9.1		mg/L	0.11	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:19	SRT	J1
Manganese, Total	0.38		mg/L	0.0056	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:19	SRT	J1
Potassium, Total	1.6		mg/L	0.56	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:19	SRT	J1
Sodium, Total	12.9		mg/L	0.56	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:19	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	19.41		Feet		Field			11/18/20 13:41	BGS	C
Elev Top MW Casing above MSL	516.52		Feet		Field			11/18/20 13:41	BGS	C
Flow Rate	1.88		gal/min		Field			11/18/20 13:41	BGS	C
Ground Water Elevation	497.11		ft/MSL		Field			11/18/20 13:41	BGS	C
pH, Field (SM4500B)	5.55		pH_Units		Field			11/18/20 13:41	BGS	C
Sample Depth	79.00		Feet		Field			11/18/20 13:41	BGS	C
Specific Conductance, Field	358		umhos/cm	1	Field			11/18/20 13:41	BGS	C
Temperature	10.89		Deg. C		Field			11/18/20 13:41	BGS	C
Total Well Depth	100.00		Feet		Field			11/18/20 13:41	BGS	C
Volume in Water Column	118.47		Gallons		Field			11/18/20 13:41	BGS	C
Water Level After Purge	31.26		Feet		Field			11/18/20 13:41	BGS	C
Well Volumes Purged	1.00		Vol		Field			11/18/20 13:41	BGS	C



Ms. Susan J Scherer

Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141737005**
Sample ID: **FFMP02DW**

Date Collected: 11/18/2020 16:17 Matrix: Ground Water
Date Received: 11/18/2020 17:29

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 05:21	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 05:21	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	95.6		%	62 - 133	SW846 8260B			11/21/20 05:21	PDK	G
4-Bromofluorobenzene (S)	102		%	79 - 114	SW846 8260B			11/21/20 05:21	PDK	G
Dibromofluoromethane (S)	95.6		%	78 - 116	SW846 8260B			11/21/20 05:21	PDK	G
Toluene-d8 (S)	92.5		%	76 - 127	SW846 8260B			11/21/20 05:21	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	111		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	111	2	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/1/20 06:17	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 14:31	AK	A
Chloride	383		mg/L	5.0	EPA 300.0			11/24/20 10:11	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/19/20 12:08	MBW	B
Nitrate-N	7.9		mg/L	0.20	EPA 300.0			11/19/20 12:08	MBW	B
pH	7.55	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:07	C_D	11/23/20 14:53	VXF	F
Specific Conductance	1410		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	31.8		mg/L	2.0	EPA 300.0			11/19/20 12:08	MBW	B
Total Dissolved Solids	822		mg/L	5	S2540C-11			11/20/20 13:12	KXH	B
Total Organic Carbon (TOC)	0.79		mg/L	0.50	SW846 9060A			11/24/20 00:30	PAG	D
Turbidity	9.50		NTU	0.10	SM2130B-2011			11/19/20 05:28	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141737005**

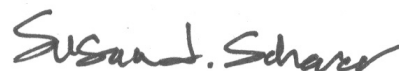
Date Collected: 11/18/2020 16:17

Matrix: Ground Water

Sample ID: **FFMP02DW**

Date Received: 11/18/2020 17:29

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	120		mg/L	0.11	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:22	SRT	J1
Iron, Total	0.50		mg/L	0.067	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:22	SRT	J1
Magnesium, Total	20.0		mg/L	0.11	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:22	SRT	J1
Manganese, Total	0.47		mg/L	0.0056	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:22	SRT	J1
Potassium, Total	1.9		mg/L	0.56	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:22	SRT	J1
Sodium, Total	120		mg/L	0.56	SW846 6010C	11/23/20 20:50	SXC	11/24/20 15:22	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	32.39		Feet		Field			11/18/20 16:17	BGS	C
Elev Top MW Casing above MSL	509.60		Feet		Field			11/18/20 16:17	BGS	C
Flow Rate	2.20		gal/min		Field			11/18/20 16:17	BGS	C
Ground Water Elevation	477.21		ft/MSL		Field			11/18/20 16:17	BGS	C
pH, Field (SM4500B)	7.06		pH_Units		Field			11/18/20 16:17	BGS	C
Sample Depth	120.00		Feet		Field			11/18/20 16:17	BGS	C
Specific Conductance, Field	1556		umhos/cm	1	Field			11/18/20 16:17	BGS	C
Temperature	9.49		Deg. C		Field			11/18/20 16:17	BGS	C
Total Well Depth	153.00		Feet		Field			11/18/20 16:17	BGS	C
Volume in Water Column	177.30		Gallons		Field			11/18/20 16:17	BGS	C
Water Level After Purge	76.38		Feet		Field			11/18/20 16:17	BGS	C
Well Volumes Purged	1.01		Vol		Field			11/18/20 16:17	BGS	C



Ms. Susan J Scherer

Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

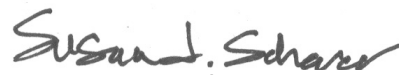
ANALYTICAL RESULTS

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141737006**
Sample ID: **TRIP BLANK**

Date Collected: 11/18/2020 00:00 Matrix: Ground Water
Date Received: 11/18/2020 17:29

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 00:27	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 00:27	PDK	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	95		%	62 - 133	SW846 8260B			11/21/20 00:27	PDK	A
4-Bromofluorobenzene (S)	103		%	79 - 114	SW846 8260B			11/21/20 00:27	PDK	A
Dibromofluoromethane (S)	94		%	78 - 116	SW846 8260B			11/21/20 00:27	PDK	A
Toluene-d8 (S)	93.7		%	76 - 127	SW846 8260B			11/21/20 00:27	PDK	A



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3141737001	1	FFMP017W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3141737001	2	FFMP017W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3141737002	1	FFMP028W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3141737002	2	FFMP028W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3141737003	1	FFMP025W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3141737003	2	FFMP025W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3141737004	1	FFMP033W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3141737004	2	FFMP033W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3141737005	1	FFMP02DW	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3141737005	2	FFMP02DW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3141737001	FFMP017W	ASTM D6919-09		
3141737001	FFMP017W	EPA 300.0		
3141737001	FFMP017W	EPA 410.4		
3141737001	FFMP017W	Field		
3141737001	FFMP017W	S2540C-11		
3141737001	FFMP017W	S4500HB-11		
3141737001	FFMP017W	SM2130B-2011		
3141737001	FFMP017W	SM2320B-2011		
3141737001	FFMP017W	SW846 6010C	SW846 3015	
3141737001	FFMP017W	SW846 8260B		
3141737001	FFMP017W	SW846 9050A		
3141737001	FFMP017W	SW846 9060A		
3141737001	FFMP017W	SW846 9066	420.4/9066	
3141737002	FFMP028W	ASTM D6919-09		
3141737002	FFMP028W	EPA 300.0		
3141737002	FFMP028W	EPA 410.4		
3141737002	FFMP028W	Field		
3141737002	FFMP028W	S2540C-11		
3141737002	FFMP028W	S4500HB-11		
3141737002	FFMP028W	SM2130B-2011		
3141737002	FFMP028W	SM2320B-2011		
3141737002	FFMP028W	SW846 6010C	SW846 3015	
3141737002	FFMP028W	SW846 8260B		
3141737002	FFMP028W	SW846 9050A		
3141737002	FFMP028W	SW846 9060A		
3141737002	FFMP028W	SW846 9066	420.4/9066	
3141737003	FFMP025W	ASTM D6919-09		
3141737003	FFMP025W	EPA 300.0		
3141737003	FFMP025W	EPA 410.4		
3141737003	FFMP025W	Field		
3141737003	FFMP025W	S2540C-11		
3141737003	FFMP025W	S4500HB-11		
3141737003	FFMP025W	SM2130B-2011		
3141737003	FFMP025W	SM2320B-2011		
3141737003	FFMP025W	SW846 6010C	SW846 3015	
3141737003	FFMP025W	SW846 8260B		
3141737003	FFMP025W	SW846 9050A		
3141737003	FFMP025W	SW846 9060A		
3141737003	FFMP025W	SW846 9066	420.4/9066	
3141737004	FFMP033W	ASTM D6919-09		
3141737004	FFMP033W	EPA 300.0		
3141737004	FFMP033W	EPA 410.4		
3141737004	FFMP033W	Field		
3141737004	FFMP033W	S2540C-11		
3141737004	FFMP033W	S4500HB-11		
3141737004	FFMP033W	SM2130B-2011		

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey



ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3141737 4th QTR 2020 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3141737004	FFMP033W	SM2320B-2011		
3141737004	FFMP033W	SW846 6010C	SW846 3015	
3141737004	FFMP033W	SW846 8260B		
3141737004	FFMP033W	SW846 9050A		
3141737004	FFMP033W	SW846 9060A		
3141737004	FFMP033W	SW846 9066	420.4/9066	
3141737005	FFMP02DW	ASTM D6919-09		
3141737005	FFMP02DW	EPA 300.0		
3141737005	FFMP02DW	EPA 410.4		
3141737005	FFMP02DW	Field		
3141737005	FFMP02DW	S2540C-11		
3141737005	FFMP02DW	S4500HB-11		
3141737005	FFMP02DW	SM2130B-2011		
3141737005	FFMP02DW	SM2320B-2011		
3141737005	FFMP02DW	SW846 6010C	SW846 3015	
3141737005	FFMP02DW	SW846 8260B		
3141737005	FFMP02DW	SW846 9050A		
3141737005	FFMP02DW	SW846 9060A		
3141737005	FFMP02DW	SW846 9066	420.4/9066	
3141737006	TRIP BLANK	SW846 8260B		

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey



Generated by ALS

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
SAMPLER. INSTRUCTIONS ON THE BACK.

34 Dogwood Lane • Middletown, PA 17057 • 717-944-5541 • Fax: 717-944-1430

Client Name: Lancaster County Solid Waste MA

Address: 1299 Harrisburg Pike, P.O. Box 4424

Lancaster, PA 17604

Contact: Mark Reider

Phone#: (717) 735-0193

Project Name#: Frey Farm Quarry (GWMP)

Bill To: Lancaster County Solid Waste MA

TAT ☒ Normal-Standard TAT is 10-12 business days.
☐ Rush-Subject to ALS approval and surcharges.

Date Required: _____ Approved By: _____

Email? ☒ Y mreider@LCSWMA.com

Fax? ☒ Y No.: (717) 397-9973

Sample Description/Location (as it will appear on the lab report)

Sample Date Time

1. FFMP Ø17W 11.18.20 0942 G GW 2 1 2 X X 1 1 1 1

2. FFMP Ø28W 11.18.20 1114 G GW 2 1 2 X X 1 1 1 1

3. FFMP Ø25W 11.18.20 1216 G GW 2 1 2 X X 1 1 1 1

4. FFMP Ø33W 11.18.20 1341 G GW 2 1 2 X X 1 1 1 1

5. FFMP Ø22W 11.18.20 1617 G GW 2 1 2 X X 1 1 1 1

6. FFMP Ø22SW 11.18.20 G GW 2 1 2 X X 1 1 1 1

7. TRIP BLANK 11.18.20 2

8.

9.

10.

Project Comments: Sample - J.B.

Relinquished By/Company Name

Date Time

1. 11.18.20 1729 2 60m 11/19/20 1729

3.

4.

5.

6.

7.

8.

9.

10.

Matrix: A=Air; DW=Drinking Water; GW=Groundwater; OL=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057



1 of 1

3 1 4 1 7 3 7 *

by Receiving Lab)

Cooler Temp: 0 Therm ID: 525

No. of Coolers: Y N Initial

Custody Seals Present?

(If present) Seals Intact?

Received on Ice?

COC Labels Complete/Accurate?

Cont. in Good Cond.?

Correct Containers?

Correct Sample Volumes?

Correct Preservation?

Headspace/Volatiles?

Courier/Tracking #:

Sample/COC Comments

Enter Number of Containers Per Sample or Field Results Below.

Field Measurements

VOC - Form 190

Sample Depth for AUX Data

NH₃-N, COD

Metals: Fe, Mn, Na, Ca, K, Mg

pH, Cl, SPC, F, SO₄, TDS, NO₃

Turb.

Alkalinity Bicarbonate

ALS Field Services: ☐ Pickup ☐ Labor

☐ Composite Sampling ☐ Rental Equipment

☐ Other:

Standard

CLP-like

USACE

Deliverables

State Samples Collected In

USACE

Navy

NY

NJ

PA

NC

Sample Disposal

Lab

Special

Reportable to PADEP?

Yes

PWSID #

EDDS: Format Type

Matrix: A=Air; DW=Drinking Water; GW=Groundwater; OL=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 8/04

ALS



301 Fulling Mill Road
Middletown, PA 17057
P: (717) 944-5541
F: (717) 944-1430

Condition of Sample Receipt Form

Client: See COC Work Order #: 3141737 Initials: SW Date: 11/20/20

1. Were airbills / tracking numbers present and recorded?.....	NONE	YES	NO
Tracking number: _____			
2. Are Custody Seals on shipping containers intact?.....	NONE	YES	NO
3. Are Custody Seals on sample containers intact?.....	NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present?.....	YES	YES	NO
5. Are the COC and bottle labels complete, legible and in agreement?.....	YES	YES	NO
5a. Does the COC contain sample locations?.....	YES	YES	NO
5b. Does the COC contain date and time of sample collection for all samples?.....	YES	YES	NO
5c. Does the COC contain sample collectors name?.....	YES	YES	NO
5d. Does the COC note the type(s) of preservation for all bottles?.....	YES	YES	NO
5e. Does the COC note the number of bottles submitted for each sample?.....	YES	YES	NO
5f. Does the COC note the type of sample, composite or grab?.....	YES	YES	NO
5g. Does the COC note the matrix of the sample(s)?.....	YES	YES	NO
6. Are all aqueous samples requiring preservation preserved correctly? ¹	N/A	YES	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?.....	YES	YES	NO
8. Are all samples within holding times for the requested analyses?.....	YES	YES	NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.).....	YES	YES	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?.....	N/A	YES	NO
11. Were the samples received on ice?.....	YES	YES	NO
12. Were sample temperatures measured at 0.0-6.0°C.....	YES	YES	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below.....	YES	YES	NO
13a. Are the samples required for SDWA compliance reporting?.....	N/A	YES	NO
13b. Did the client provide a SDWA PWS ID#?.....	N/A	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?.....	N/A	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?.....	N/A	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?.....	N/A	YES	NO

Cooler #: _____
Temperature (°C): 5.0
Thermometer ID: SOS
Radiological (µCi): _____

COMMENTS (Required for all NO responses above and any sample non-conformance):

¹Final determination of correct preservation for analysis such as volatiles, microbiology, and oil and grease is made by the analytical department at the time of or following the analysis.

December 8, 2020

Mr. Daniel Brown
Lancaster County Solid Waste Authority
1299 Hbg Pike, P.O. Box 4425
Lancaster, PA 17604

Certificate of Analysis

Project Name:	FREY FARM	Workorder:	3142030
Purchase Order:	PO1000126	Workorder ID:	4th QTR 2020 GWMP-FORM 19Q

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Thursday, November 19, 2020.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Susan J Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Ashley Gichuki , Ms. Jordan Gallagher , Mr. Jeff Musser

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.


Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

SAMPLE SUMMARY

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3142030001	FFMP018W	Ground Water	11/19/2020 09:19	11/19/2020 17:30	JACK BORDEN
3142030002	FFMP019W	Ground Water	11/19/2020 10:10	11/19/2020 17:30	JACK BORDEN
3142030003	FFMP031W	Ground Water	11/19/2020 11:35	11/19/2020 17:30	JACK BORDEN
3142030004	FFMP002W	Ground Water	11/19/2020 12:05	11/19/2020 17:30	JACK BORDEN
3142030005	FFMP032W	Ground Water	11/19/2020 12:48	11/19/2020 17:30	JACK BORDEN
3142030006	FFMP02SW	Ground Water	11/19/2020 13:10	11/19/2020 17:30	JACK BORDEN
3142030007	FFMP016W	Ground Water	11/19/2020 13:22	11/19/2020 17:30	JACK BORDEN
3142030008	FIELD BLANK	Ground Water	11/19/2020 09:19	11/19/2020 17:30	JACK BORDEN
3142030009	FIELD BLANK	Ground Water	11/19/2020 09:19	11/19/2020 17:30	JACK BORDEN
3142030010	TRIP BLANK	Ground Water	11/19/2020 09:19	11/19/2020 17:30	JACK BORDEN

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

SAMPLE SUMMARY

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030001**

Date Collected: 11/19/2020 09:19

Matrix: Ground Water

Sample ID: **FFMP018W**

Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
1,1-Dichloroethene	ND	2	ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
Methylene Chloride	ND	3,4	ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/23/20 05:58	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 05:58	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	77.3		%	62 - 133	SW846 8260B			11/23/20 05:58	PDK	G
4-Bromofluorobenzene (S)	85		%	79 - 114	SW846 8260B			11/23/20 05:58	PDK	G
Dibromofluoromethane (S)	87.4		%	78 - 116	SW846 8260B			11/23/20 05:58	PDK	G
Toluene-d8 (S)	92.1		%	76 - 127	SW846 8260B			11/23/20 05:58	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	25		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	25	5	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/2/20 22:30	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 14:31	AK	A
Chloride	101		mg/L	2.0	EPA 300.0			11/20/20 10:40	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/20/20 10:40	MBW	B
Nitrate-N	4.6		mg/L	0.20	EPA 300.0			11/20/20 10:40	MBW	B
pH	6.75	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:06	C_D	11/23/20 14:53	VXF	F
Specific Conductance	508		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	36.3		mg/L	2.0	EPA 300.0			11/20/20 10:40	MBW	B
Total Dissolved Solids	350		mg/L	5	S2540C-11			11/23/20 12:46	KXH	B
Total Organic Carbon (TOC)	0.97		mg/L	0.50	SW846 9060A			11/24/20 15:20	PAG	D
Turbidity	0.39		NTU	0.10	SM2130B-2011			11/20/20 08:12	DXC	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030001**
Sample ID: **FFMP018W**

Date Collected: 11/19/2020 09:19 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	31.8		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:28	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:28	SRT	J1
Magnesium, Total	15.4		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:28	SRT	J1
Manganese, Total	0.24		mg/L	0.0056	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:28	SRT	J1
Potassium, Total	5.1		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:28	SRT	J1
Sodium, Total	32.3		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:28	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	26.77		Feet		Field			11/19/20 09:20	BGS	C
Elev Top MW Casing above MSL	472.20		Feet		Field			11/19/20 09:20	BGS	C
Flow Rate	4.66		gal/min		Field			11/19/20 09:20	BGS	C
Ground Water Elevation	445.43		ft/MSL		Field			11/19/20 09:20	BGS	C
pH, Field (SM4500B)	4.83		pH_Units		Field			11/19/20 09:20	BGS	C
Sample Depth	40.00		Feet		Field			11/19/20 09:20	BGS	C
Specific Conductance, Field	554		umhos/cm	1	Field			11/19/20 09:20	BGS	C
Temperature	11.20		Deg. C		Field			11/19/20 09:20	BGS	C
Total Well Depth	51.46		Feet		Field			11/19/20 09:20	BGS	C
Volume in Water Column	16.05		Gallons		Field			11/19/20 09:20	BGS	C
Water Level After Purge	28.75		Feet		Field			11/19/20 09:20	BGS	C
Well Volumes Purged	0.87		Vol		Field			11/19/20 09:20	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030002**
Sample ID: **FFMP019W**

Date Collected: 11/19/2020 10:10 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/23/20 06:21	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 06:21	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	81.6		%	62 - 133	SW846 8260B			11/23/20 06:21	PDK	G
4-Bromofluorobenzene (S)	86.3		%	79 - 114	SW846 8260B			11/23/20 06:21	PDK	G
Dibromofluoromethane (S)	91.1		%	78 - 116	SW846 8260B			11/23/20 06:21	PDK	G
Toluene-d8 (S)	96.5		%	76 - 127	SW846 8260B			11/23/20 06:21	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	65		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	65	2	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/2/20 22:44	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/2/20 14:45	AK	A
Chloride	80.3		mg/L	2.0	EPA 300.0			11/20/20 10:55	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/20/20 10:55	MBW	B
Nitrate-N	0.24		mg/L	0.20	EPA 300.0			11/20/20 10:55	MBW	B
pH	7.64	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:06	C_D	11/23/20 14:53	VXF	F
Specific Conductance	445		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	14.9		mg/L	2.0	EPA 300.0			11/20/20 10:55	MBW	B
Total Dissolved Solids	274		mg/L	5	S2540C-11			11/23/20 12:46	KXH	B
Total Organic Carbon (TOC)	1.3		mg/L	0.50	SW846 9060A			11/24/20 20:07	PAG	D
Turbidity	0.17		NTU	0.10	SM2130B-2011			11/20/20 08:12	DXC	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030002**
Sample ID: **FFMP019W**

Date Collected: 11/19/2020 10:10 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	57.0		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:32	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:32	SRT	J1
Magnesium, Total	5.7		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:32	SRT	J1
Manganese, Total	ND		mg/L	0.0056	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:32	SRT	J1
Potassium, Total	1.1		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:32	SRT	J1
Sodium, Total	10.1		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:32	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	27.51		Feet		Field			11/19/20 10:10	BGS	C
Elev Top MW Casing above MSL	471.95		Feet		Field			11/19/20 10:10	BGS	C
Flow Rate	4.40		gal/min		Field			11/19/20 10:10	BGS	C
Ground Water Elevation	444.44		ft/MSL		Field			11/19/20 10:10	BGS	C
pH, Field (SM4500B)	6.12		pH_Units		Field			11/19/20 10:10	BGS	C
Sample Depth	49.00		Feet		Field			11/19/20 10:10	BGS	C
Specific Conductance, Field	463		umhos/cm	1	Field			11/19/20 10:10	BGS	C
Temperature	10.13		Deg. C		Field			11/19/20 10:10	BGS	C
Total Well Depth	132.79		Feet		Field			11/19/20 10:10	BGS	C
Volume in Water Column	68.43		Gallons		Field			11/19/20 10:10	BGS	C
Water Level After Purge	38.02		Feet		Field			11/19/20 10:10	BGS	C
Well Volumes Purged	1.03		Vol		Field			11/19/20 10:10	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030003**

Date Collected: 11/19/2020 11:35

Matrix: Ground Water

Sample ID: **FFMP031W**

Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/23/20 06:45	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 06:45	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	81.2		%	62 - 133	SW846 8260B			11/23/20 06:45	PDK	G
4-Bromofluorobenzene (S)	85.1		%	79 - 114	SW846 8260B			11/23/20 06:45	PDK	G
Dibromofluoromethane (S)	91.1		%	78 - 116	SW846 8260B			11/23/20 06:45	PDK	G
Toluene-d8 (S)	92.8		%	76 - 127	SW846 8260B			11/23/20 06:45	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	70		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	70	2	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/2/20 22:58	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 14:31	AK	A
Chloride	23.5		mg/L	2.0	EPA 300.0			11/20/20 11:11	MBW	B
Fluoride	0.26		mg/L	0.20	EPA 300.0			11/20/20 11:11	MBW	B
Nitrate-N	ND		mg/L	0.20	EPA 300.0			11/20/20 11:11	MBW	B
pH	7.91	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:06	C_D	11/23/20 14:53	VXF	F
Specific Conductance	293		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	44.6		mg/L	2.0	EPA 300.0			11/20/20 11:11	MBW	B
Total Dissolved Solids	156		mg/L	5	S2540C-11			11/23/20 12:46	KXH	B
Total Organic Carbon (TOC)	0.57		mg/L	0.50	SW846 9060A			11/24/20 20:07	PAG	D
Turbidity	24.1		NTU	0.10	SM2130B-2011			11/20/20 08:12	DXC	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

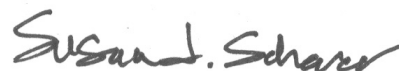
ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030003**
Sample ID: **FFMP031W**

Date Collected: 11/19/2020 11:35 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	38.8		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:36	SRT	J1
Iron, Total	3.7		mg/L	0.067	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:36	SRT	J1
Magnesium, Total	3.7		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:36	SRT	J1
Manganese, Total	0.35		mg/L	0.0056	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:36	SRT	J1
Potassium, Total	1.3		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:36	SRT	J1
Sodium, Total	9.4		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:36	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	68.82		Feet		Field			11/19/20 11:35	BGS	C
Elev Top MW Casing above MSL	612.66		Feet		Field			11/19/20 11:35	BGS	C
Flow Rate	1.51		gal/min		Field			11/19/20 11:35	BGS	C
Ground Water Elevation	543.84		ft/MSL		Field			11/19/20 11:35	BGS	C
pH, Field (SM4500B)	7.50		pH_Units		Field			11/19/20 11:35	BGS	C
Sample Depth	130.00		Feet		Field			11/19/20 11:35	BGS	C
Specific Conductance, Field	328		umhos/cm	1	Field			11/19/20 11:35	BGS	C
Temperature	10.36		Deg. C		Field			11/19/20 11:35	BGS	C
Total Well Depth	142.70		Feet		Field			11/19/20 11:35	BGS	C
Volume in Water Column	108.60		Gallons		Field			11/19/20 11:35	BGS	C
Water Level After Purge	98.45		Feet		Field			11/19/20 11:35	BGS	C
Well Volumes Purged	1.00		Vol		Field			11/19/20 11:35	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030004**
Sample ID: **FFMP002W**

Date Collected: 11/19/2020 12:05 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/23/20 07:08	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 07:08	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	78.5		%	62 - 133	SW846 8260B			11/23/20 07:08	PDK	G
4-Bromofluorobenzene (S)	94		%	79 - 114	SW846 8260B			11/23/20 07:08	PDK	G
Dibromofluoromethane (S)	87.5		%	78 - 116	SW846 8260B			11/23/20 07:08	PDK	G
Toluene-d8 (S)	94.7		%	76 - 127	SW846 8260B			11/23/20 07:08	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	ND	2	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/2/20 23:11	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 17:16	AK	A
Chloride	20.1		mg/L	2.0	EPA 300.0			11/20/20 11:27	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/20/20 11:27	MBW	B
Nitrate-N	18.9		mg/L	0.20	EPA 300.0			11/20/20 11:27	MBW	B
pH	5.34	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:06	C_D	11/23/20 14:53	VXF	F
Specific Conductance	262		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	14.8		mg/L	2.0	EPA 300.0			11/20/20 11:27	MBW	B
Total Dissolved Solids	186		mg/L	5	S2540C-11			11/23/20 12:46	KXH	B
Total Organic Carbon (TOC)	0.63		mg/L	0.50	SW846 9060A			11/24/20 20:07	PAG	D
Turbidity	0.37		NTU	0.10	SM2130B-2011			11/20/20 08:12	DXC	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

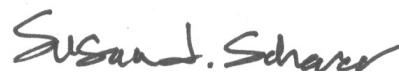
ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030004**
Sample ID: **FFMP002W**

Date Collected: 11/19/2020 12:05 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	18.0		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:40	SRT	J1
Iron, Total	0.10		mg/L	0.067	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:40	SRT	J1
Magnesium, Total	7.7		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:40	SRT	J1
Manganese, Total	0.23		mg/L	0.0056	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:40	SRT	J1
Potassium, Total	1.6		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:40	SRT	J1
Sodium, Total	13.3		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:40	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	68.29		Feet		Field			11/19/20 12:05	BGS	C
Elev Top MW Casing above MSL	613.20		Feet		Field			11/19/20 12:05	BGS	C
Flow Rate	1.31		gal/min		Field			11/19/20 12:05	BGS	C
Ground Water Elevation	544.91		ft/MSL		Field			11/19/20 12:05	BGS	C
pH, Field (SM4500B)	4.32		pH_Units		Field			11/19/20 12:05	BGS	C
Sample Depth	85.00		Feet		Field			11/19/20 12:05	BGS	C
Specific Conductance, Field	294		umhos/cm	1	Field			11/19/20 12:05	BGS	C
Temperature	9.95		Deg. C		Field			11/19/20 12:05	BGS	C
Total Well Depth	90.02		Feet		Field			11/19/20 12:05	BGS	C
Volume in Water Column	31.94		Gallons		Field			11/19/20 12:05	BGS	C
Water Level After Purge	81.51		Feet		Field			11/19/20 12:05	BGS	C
Well Volumes Purged	0.98		Vol		Field			11/19/20 12:05	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030005**

Date Collected: 11/19/2020 12:48

Matrix: Ground Water

Sample ID: **FFMP032W**

Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/23/20 07:32	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 07:32	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	78.4		%	62 - 133	SW846 8260B			11/23/20 07:32	PDK	G
4-Bromofluorobenzene (S)	89.2		%	79 - 114	SW846 8260B			11/23/20 07:32	PDK	G
Dibromofluoromethane (S)	87.7		%	78 - 116	SW846 8260B			11/23/20 07:32	PDK	G
Toluene-d8 (S)	93.9		%	76 - 127	SW846 8260B			11/23/20 07:32	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	67		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	67	2	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	0.555		mg/L	0.100	ASTM D6919-09			12/2/20 23:25	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/2/20 14:45	AK	A
Chloride	21.1		mg/L	2.0	EPA 300.0			11/20/20 11:43	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/20/20 11:43	MBW	B
Nitrate-N	ND		mg/L	0.20	EPA 300.0			11/20/20 11:43	MBW	B
pH	7.53	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:06	C_D	11/23/20 14:53	VXF	F
Specific Conductance	185		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	ND		mg/L	2.0	EPA 300.0			11/20/20 11:43	MBW	B
Total Dissolved Solids	72		mg/L	5	S2540C-11			11/23/20 12:46	KXH	B
Total Organic Carbon (TOC)	0.67		mg/L	0.50	SW846 9060A			11/24/20 20:07	PAG	D
Turbidity	97.5		NTU	0.10	SM2130B-2011			11/20/20 08:12	DXC	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030005**
Sample ID: **FFMP032W**

Date Collected: 11/19/2020 12:48 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	14.4		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:43	SRT	J1
Iron, Total	8.8		mg/L	0.067	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:43	SRT	J1
Magnesium, Total	5.2		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:43	SRT	J1
Manganese, Total	0.68		mg/L	0.0056	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:43	SRT	J1
Potassium, Total	1.4		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:43	SRT	J1
Sodium, Total	12.1		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:43	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	50.46		Feet		Field			11/19/20 12:48	BGS	C
Elev Top MW Casing above MSL	594.09		Feet		Field			11/19/20 12:48	BGS	C
Flow Rate	0.70		gal/min		Field			11/19/20 12:48	BGS	C
Ground Water Elevation	543.63		ft/MSL		Field			11/19/20 12:48	BGS	C
pH, Field (SM4500B)	6.70		pH_Units		Field			11/19/20 12:48	BGS	C
Sample Depth	62.00		Feet		Field			11/19/20 12:48	BGS	C
Specific Conductance, Field	220		umhos/cm	1	Field			11/19/20 12:48	BGS	C
Temperature	10.29		Deg. C		Field			11/19/20 12:48	BGS	C
Total Well Depth	77.60		Feet		Field			11/19/20 12:48	BGS	C
Volume in Water Column	39.90		Gallons		Field			11/19/20 12:48	BGS	C
Water Level After Purge	57.50		Feet		Field			11/19/20 12:48	BGS	C
Well Volumes Purged	1.00		Vol		Field			11/19/20 12:48	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030006**
Sample ID: **FFMP02SW**

Date Collected: 11/19/2020 13:10 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/23/20 03:25	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 03:25	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	92.3		%	62 - 133	SW846 8260B			11/23/20 03:25	PDK	G
4-Bromofluorobenzene (S)	106		%	79 - 114	SW846 8260B			11/23/20 03:25	PDK	G
Dibromofluoromethane (S)	91.1		%	78 - 116	SW846 8260B			11/23/20 03:25	PDK	G
Toluene-d8 (S)	92.7		%	76 - 127	SW846 8260B			11/23/20 03:25	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	11		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	11	2	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/3/20 00:06	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/7/20 18:33	NJA	A
Chloride	164		mg/L	2.0	EPA 300.0			11/20/20 13:34	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/20/20 13:34	MBW	B
Nitrate-N	12.7		mg/L	0.20	EPA 300.0			11/20/20 13:34	MBW	B
pH	6.17	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:06	C_D	11/23/20 14:53	VXF	F
Specific Conductance	735		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	31.6		mg/L	2.0	EPA 300.0			11/20/20 13:34	MBW	B
Total Dissolved Solids	408		mg/L	5	S2540C-11			11/23/20 12:46	KXH	B
Total Organic Carbon (TOC)	1.9		mg/L	0.50	SW846 9060A			11/24/20 20:07	PAG	D
Turbidity	669		NTU	0.10	SM2130B-2011			11/20/20 08:12	DXC	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030006**
Sample ID: **FFMP02SW**

Date Collected: 11/19/2020 13:10 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	26.6		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:47	SRT	J1
Iron, Total	7.3		mg/L	0.067	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:47	SRT	J1
Magnesium, Total	10.5		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:47	SRT	J1
Manganese, Total	0.12		mg/L	0.0056	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:47	SRT	J1
Potassium, Total	4.9		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:47	SRT	J1
Sodium, Total	92.2		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:47	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	15.73		Feet		Field			11/19/20 14:17	BGS	C
Elev Top MW Casing above MSL	509.90		Feet		Field			11/19/20 14:17	BGS	C
Flow Rate	1.11		gal/min		Field			11/19/20 14:17	BGS	C
Ground Water Elevation	494.17		ft/MSL		Field			11/19/20 14:17	BGS	C
pH, Field (SM4500B)	5.92		pH_Units		Field			11/19/20 14:17	BGS	C
Sample Depth	18.00		Feet		Field			11/19/20 14:17	BGS	C
Specific Conductance, Field	1026		umhos/cm	1	Field			11/19/20 14:17	BGS	C
Temperature	8.15		Deg. C		Field			11/19/20 14:17	BGS	C
Total Well Depth	22.70		Feet		Field			11/19/20 14:17	BGS	C
Volume in Water Column	4.53		Gallons		Field			11/19/20 14:17	BGS	C
Water Level After Purge	19.20		Feet		Field			11/19/20 14:17	BGS	C
Well Volumes Purged	0.98		Vol		Field			11/19/20 14:17	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030007**

Date Collected: 11/19/2020 13:22

Matrix: Ground Water

Sample ID: **FFMP016W**

Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/23/20 03:47	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 03:47	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	94.5		%	62 - 133	SW846 8260B			11/23/20 03:47	PDK	G
4-Bromofluorobenzene (S)	105		%	79 - 114	SW846 8260B			11/23/20 03:47	PDK	G
Dibromofluoromethane (S)	91.9		%	78 - 116	SW846 8260B			11/23/20 03:47	PDK	G
Toluene-d8 (S)	91.2		%	76 - 127	SW846 8260B			11/23/20 03:47	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	29		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	29	2	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/3/20 00:20	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/2/20 14:45	AK	A
Chloride	225		mg/L	5.0	EPA 300.0			11/24/20 14:26	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/20/20 13:50	MBW	B
Nitrate-N	8.8		mg/L	0.20	EPA 300.0			11/20/20 13:50	MBW	B
pH	6.54	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:06	C_D	11/23/20 14:53	VXF	F
Specific Conductance	901		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	34.0		mg/L	2.0	EPA 300.0			11/20/20 13:50	MBW	B
Total Dissolved Solids	556		mg/L	5	S2540C-11			11/23/20 12:46	KXH	B
Total Organic Carbon (TOC)	1.5		mg/L	0.50	SW846 9060A			11/25/20 01:09	PAG	D
Turbidity	0.36		NTU	0.10	SM2130B-2011			11/20/20 08:12	DXC	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

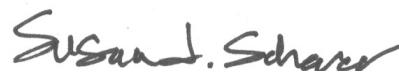
ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030007**
Sample ID: **FFMP016W**

Date Collected: 11/19/2020 13:22 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	64.0		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:51	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:51	SRT	J1
Magnesium, Total	25.8		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:51	SRT	J1
Manganese, Total	0.075		mg/L	0.0056	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:51	SRT	J1
Potassium, Total	3.7		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:51	SRT	J1
Sodium, Total	54.4		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:51	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	25.50		Feet		Field			11/19/20 13:22	BGS	C
Elev Top MW Casing above MSL	474.60		Feet		Field			11/19/20 13:22	BGS	C
Ground Water Elevation	449.10		ft/MSL		Field			11/19/20 13:22	BGS	C
pH, Field (SM4500B)	5.35		pH_Units		Field			11/19/20 13:22	BGS	C
Sample Depth	135.00		Feet		Field			11/19/20 13:22	BGS	C
Specific Conductance, Field	961		umhos/cm	1	Field			11/19/20 13:22	BGS	C
Temperature	9.67		Deg. C		Field			11/19/20 13:22	BGS	C
Total Well Depth	149.80		Feet		Field			11/19/20 13:22	BGS	C
Volume in Water Column	0.00		Gallons		Field			11/19/20 13:22	BGS	C


Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030008**
Sample ID: **FIELD BLANK**

Date Collected: 11/19/2020 09:19 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/23/20 00:46	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 00:46	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	93.3		%	62 - 133	SW846 8260B			11/23/20 00:46	PDK	G
4-Bromofluorobenzene (S)	106		%	79 - 114	SW846 8260B			11/23/20 00:46	PDK	G
Dibromofluoromethane (S)	90.8		%	78 - 116	SW846 8260B			11/23/20 00:46	PDK	G
Toluene-d8 (S)	91.9		%	76 - 127	SW846 8260B			11/23/20 00:46	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	96		mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	B
Alkalinity, Total	96	2	mg/L	5	SM2320B-2011			11/22/20 07:50	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/3/20 00:34	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/2/20 14:45	AK	A
Chloride	ND		mg/L	1.0	EPA 300.0			11/20/20 14:06	MBW	B
Fluoride	ND		mg/L	0.10	EPA 300.0			11/20/20 14:06	MBW	B
Nitrate-N	ND		mg/L	0.10	EPA 300.0			11/20/20 14:06	MBW	B
pH	7.95	1	pH_Units		S4500HB-11			11/22/20 07:50	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/20/20 13:06	C_D	11/23/20 14:53	VXF	F
Specific Conductance	356		umhos/cm	1	SW846 9050A			11/22/20 07:50	R2B	B
Sulfate	ND		mg/L	1.0	EPA 300.0			11/20/20 14:06	MBW	B
Total Dissolved Solids	177	3	mg/L	5	S2540C-11			11/30/20 11:28	KXH	B
Total Organic Carbon (TOC)	0.64		mg/L	0.50	SW846 9060A			11/25/20 01:09	PAG	D
Turbidity	ND		NTU	0.10	SM2130B-2011			11/21/20 06:36	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey



ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030008**
Sample ID: **FIELD BLANK**

Date Collected: 11/19/2020 09:19 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	36.6		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:54	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:54	SRT	J1
Magnesium, Total	9.2		mg/L	0.11	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:54	SRT	J1
Manganese, Total	ND		mg/L	0.0056	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:54	SRT	J1
Potassium, Total	4.0		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:54	SRT	J1
Sodium, Total	21.0		mg/L	0.56	SW846 6010C	11/23/20 23:05	SXC	11/24/20 16:54	SRT	J1

Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

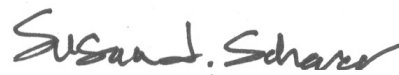
ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030009**
Sample ID: **FIELD BLANK**

Date Collected: 11/19/2020 09:19 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
Toluene	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/23/20 01:09	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 01:09	PDK	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	95.8		%	62 - 133	SW846 8260B			11/23/20 01:09	PDK	A
4-Bromofluorobenzene (S)	103		%	79 - 114	SW846 8260B			11/23/20 01:09	PDK	A
Dibromofluoromethane (S)	90.9		%	78 - 116	SW846 8260B			11/23/20 01:09	PDK	A
Toluene-d8 (S)	91.9		%	76 - 127	SW846 8260B			11/23/20 01:09	PDK	A



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

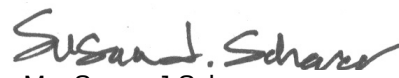
ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3142030010**
Sample ID: **TRIP BLANK**

Date Collected: 11/19/2020 09:19 Matrix: Ground Water
Date Received: 11/19/2020 17:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
Toluene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/23/20 00:24	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/23/20 00:24	PDK	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	95.1		%	62 - 133	SW846 8260B			11/23/20 00:24	PDK	A
4-Bromofluorobenzene (S)	105		%	79 - 114	SW846 8260B			11/23/20 00:24	PDK	A
Dibromofluoromethane (S)	94.1		%	78 - 116	SW846 8260B			11/23/20 00:24	PDK	A
Toluene-d8 (S)	92.1		%	76 - 127	SW846 8260B			11/23/20 00:24	PDK	A


Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3142030001	1	FFMP018W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3142030001	2	FFMP018W	SW846 8260B	1,1-Dichloroethene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,1-Dichloroethene. The % Recovery was reported as 129 and the control limits were 63 to 128.				
3142030001	3	FFMP018W	SW846 8260B	Methylene Chloride
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 128 and the control limits were 76 to 121.				
3142030001	4	FFMP018W	SW846 8260B	Methylene Chloride
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 126 and the control limits were 76 to 121.				
3142030001	5	FFMP018W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3142030002	1	FFMP019W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3142030002	2	FFMP019W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3142030003	1	FFMP031W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3142030003	2	FFMP031W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3142030004	1	FFMP002W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3142030004	2	FFMP002W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3142030005	1	FFMP032W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3142030005	2	FFMP032W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3142030006	1	FFMP02SW	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3142030006	2	FFMP02SW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3142030007	1	FFMP016W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

3142030007	2	FFMP016W	SM2320B-2011	Alkalinity, Total
-------------------	---	----------	--------------	-------------------

The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

3142030008	1	FIELD BLANK	S4500HB-11	pH
-------------------	---	-------------	------------	----

The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.

3142030008	2	FIELD BLANK	SM2320B-2011	Alkalinity, Total
-------------------	---	-------------	--------------	-------------------

The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

3142030008	3	FIELD BLANK	S2540C-11	Total Dissolved Solids
-------------------	---	-------------	-----------	------------------------

The sample was originally run within hold time, but required further analysis that exceeded hold time.

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3142030001	FFMP018W	ASTM D6919-09		
3142030001	FFMP018W	EPA 300.0		
3142030001	FFMP018W	EPA 410.4		
3142030001	FFMP018W	Field		
3142030001	FFMP018W	S2540C-11		
3142030001	FFMP018W	S4500HB-11		
3142030001	FFMP018W	SM2130B-2011		
3142030001	FFMP018W	SM2320B-2011		
3142030001	FFMP018W	SW846 6010C	SW846 3015	
3142030001	FFMP018W	SW846 8260B		
3142030001	FFMP018W	SW846 9050A		
3142030001	FFMP018W	SW846 9060A		
3142030001	FFMP018W	SW846 9066	420.4/9066	
3142030002	FFMP019W	ASTM D6919-09		
3142030002	FFMP019W	EPA 300.0		
3142030002	FFMP019W	EPA 410.4		
3142030002	FFMP019W	Field		
3142030002	FFMP019W	S2540C-11		
3142030002	FFMP019W	S4500HB-11		
3142030002	FFMP019W	SM2130B-2011		
3142030002	FFMP019W	SM2320B-2011		
3142030002	FFMP019W	SW846 6010C	SW846 3015	
3142030002	FFMP019W	SW846 8260B		
3142030002	FFMP019W	SW846 9050A		
3142030002	FFMP019W	SW846 9060A		
3142030002	FFMP019W	SW846 9066	420.4/9066	
3142030003	FFMP031W	ASTM D6919-09		
3142030003	FFMP031W	EPA 300.0		
3142030003	FFMP031W	EPA 410.4		
3142030003	FFMP031W	Field		
3142030003	FFMP031W	S2540C-11		
3142030003	FFMP031W	S4500HB-11		
3142030003	FFMP031W	SM2130B-2011		
3142030003	FFMP031W	SM2320B-2011		
3142030003	FFMP031W	SW846 6010C	SW846 3015	
3142030003	FFMP031W	SW846 8260B		
3142030003	FFMP031W	SW846 9050A		
3142030003	FFMP031W	SW846 9060A		
3142030003	FFMP031W	SW846 9066	420.4/9066	
3142030004	FFMP002W	ASTM D6919-09		
3142030004	FFMP002W	EPA 300.0		
3142030004	FFMP002W	EPA 410.4		
3142030004	FFMP002W	Field		
3142030004	FFMP002W	S2540C-11		
3142030004	FFMP002W	S4500HB-11		
3142030004	FFMP002W	SM2130B-2011		

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3142030004	FFMP002W	SM2320B-2011		
3142030004	FFMP002W	SW846 6010C	SW846 3015	
3142030004	FFMP002W	SW846 8260B		
3142030004	FFMP002W	SW846 9050A		
3142030004	FFMP002W	SW846 9060A		
3142030004	FFMP002W	SW846 9066	420.4/9066	
3142030005	FFMP032W	ASTM D6919-09		
3142030005	FFMP032W	EPA 300.0		
3142030005	FFMP032W	EPA 410.4		
3142030005	FFMP032W	Field		
3142030005	FFMP032W	S2540C-11		
3142030005	FFMP032W	S4500HB-11		
3142030005	FFMP032W	SM2130B-2011		
3142030005	FFMP032W	SM2320B-2011		
3142030005	FFMP032W	SW846 6010C	SW846 3015	
3142030005	FFMP032W	SW846 8260B		
3142030005	FFMP032W	SW846 9050A		
3142030005	FFMP032W	SW846 9060A		
3142030005	FFMP032W	SW846 9066	420.4/9066	
3142030006	FFMP02SW	ASTM D6919-09		
3142030006	FFMP02SW	EPA 300.0		
3142030006	FFMP02SW	EPA 410.4		
3142030006	FFMP02SW	Field		
3142030006	FFMP02SW	S2540C-11		
3142030006	FFMP02SW	S4500HB-11		
3142030006	FFMP02SW	SM2130B-2011		
3142030006	FFMP02SW	SM2320B-2011		
3142030006	FFMP02SW	SW846 6010C	SW846 3015	
3142030006	FFMP02SW	SW846 8260B		
3142030006	FFMP02SW	SW846 9050A		
3142030006	FFMP02SW	SW846 9060A		
3142030006	FFMP02SW	SW846 9066	420.4/9066	
3142030007	FFMP016W	ASTM D6919-09		
3142030007	FFMP016W	EPA 300.0		
3142030007	FFMP016W	EPA 410.4		
3142030007	FFMP016W	Field		
3142030007	FFMP016W	S2540C-11		
3142030007	FFMP016W	S4500HB-11		
3142030007	FFMP016W	SM2130B-2011		
3142030007	FFMP016W	SM2320B-2011		
3142030007	FFMP016W	SW846 6010C	SW846 3015	
3142030007	FFMP016W	SW846 8260B		
3142030007	FFMP016W	SW846 9050A		
3142030007	FFMP016W	SW846 9060A		
3142030007	FFMP016W	SW846 9066	420.4/9066	
3142030008	FIELD BLANK	ASTM D6919-09		

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey



ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3142030 4th QTR 2020 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3142030008	FIELD BLANK	EPA 300.0		
3142030008	FIELD BLANK	EPA 410.4		
3142030008	FIELD BLANK	S2540C-11		
3142030008	FIELD BLANK	S4500HB-11		
3142030008	FIELD BLANK	SM2130B-2011		
3142030008	FIELD BLANK	SM2320B-2011		
3142030008	FIELD BLANK	SW846 6010C	SW846 3015	
3142030008	FIELD BLANK	SW846 8260B		
3142030008	FIELD BLANK	SW846 9050A		
3142030008	FIELD BLANK	SW846 9060A		
3142030008	FIELD BLANK	SW846 9066	420.4/9066	
3142030009	FIELD BLANK	SW846 8260B		
3142030010	TRIP BLANK	SW846 8260B		

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey



301 Fulling Mill Road
Middletown, PA 17057

P: (717) 944-5541

F: (717) 944-1430

Condition of Sample Receipt Form

Client: LCGW Work Order #: 3142030 Initials: ES Date: 11/20/20

1. Were airbills / tracking numbers present and recorded?..... NONE YES NO
Tracking number: _____
2. Are Custody Seals on shipping containers intact?..... NONE YES NO
3. Are Custody Seals on sample containers intact?..... NONE YES NO
4. Is there a COC (Chain-of-Custody) present?..... YES NO
5. Are the COC and bottle labels complete, legible and in agreement?..... YES NO
- 5a. Does the COC contain sample locations?..... YES NO
- 5b. Does the COC contain date and time of sample collection for all samples?..... YES NO
- 5c. Does the COC contain sample collectors name?..... YES NO
- 5d. Does the COC note the type(s) of preservation for all bottles?..... YES NO
- 5e. Does the COC note the number of bottles submitted for each sample?..... YES NO
- 5f. Does the COC note the type of sample, composite or grab?..... YES NO
- 5g. Does the COC note the matrix of the sample(s)?..... YES NO
6. Are all aqueous samples requiring preservation preserved correctly?..... N/A YES NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?..... YES NO
8. Are all samples within holding times for the requested analyses?..... YES NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)..... YES NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?..... N/A YES NO
11. Were the samples received on ice?..... YES NO
12. Were sample temperatures measured at 0.0-6.0°C..... YES NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below..... YES NO
- 13a. Are the samples required for SDWA compliance reporting?..... N/A YES NO
- 13b. Did the client provide a SDWA PWS ID#?..... N/A YES NO
- 13c. Are all aqueous unpreserved SDWA samples pH 5-9?..... N/A YES NO
- 13d. Did the client provide the SDWA sample location ID/Description?..... N/A YES NO
- 13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?..... N/A YES NO

Cooler #: _____

Temperature (°C): 0

Thermometer ID: 525

Radiological (µCi): _____

COMMENTS (Required for all NO responses above and any sample non-conformance):

³ Final determination of correct preservation for analysis such as volatiles, microbiology, and oil and grease is made in the analytical department at the time of or following the analysis

December 4, 2020

Mr. Daniel Brown
Lancaster County Solid Waste Authority
1299 Hbg Pike, P.O. Box 4425
Lancaster, PA 17604

Certificate of Analysis

Project Name:	FREY FARM	Workorder:	3141380
Purchase Order:	PO1000126	Workorder ID:	4th QTR 2020 GWMP-FORM 19Q

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Tuesday, November 17, 2020.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Susan J Scherer (Project Coordinator) at (717) 944-5541.

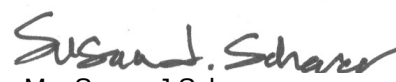
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Ashley Gichuki , Ms. Jordan Gallagher , Mr. Jeff Musser

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.


Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

SAMPLE SUMMARY

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3141380001	FFMP015W	Ground Water	11/17/2020 09:19	11/17/2020 17:40	JACK BORDEN
3141380002	FFMP03AW	Ground Water	11/17/2020 10:39	11/17/2020 17:40	JACK BORDEN
3141380003	FFMP30RW	Ground Water	11/17/2020 11:59	11/17/2020 17:40	JACK BORDEN
3141380004	FFMP04AW	Ground Water	11/17/2020 13:09	11/17/2020 17:40	JACK BORDEN
3141380005	FFMP005W	Ground Water	11/17/2020 14:26	11/17/2020 17:40	JACK BORDEN
3141380006	FFMP26RW	Ground Water	11/17/2020 15:39	11/17/2020 17:40	JACK BORDEN
3141380007	FFMP029W	Ground Water	11/17/2020 16:42	11/17/2020 17:40	JACK BORDEN
3141380008	TRIP BLANK	Ground Water	11/17/2020 09:19	11/17/2020 17:40	JACK BORDEN

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

SAMPLE SUMMARY

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380001**
Sample ID: **FFMP015W**

Date Collected: 11/17/2020 09:19 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 02:32	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 02:32	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	93.4		%	62 - 133	SW846 8260B			11/21/20 02:32	PDK	G
4-Bromofluorobenzene (S)	101		%	79 - 114	SW846 8260B			11/21/20 02:32	PDK	G
Dibromofluoromethane (S)	89.5		%	78 - 116	SW846 8260B			11/21/20 02:32	PDK	G
Toluene-d8 (S)	88.8		%	76 - 127	SW846 8260B			11/21/20 02:32	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	19		mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	B
Alkalinity, Total	19	2	mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	I
Ammonia-N	0.130		mg/L	0.100	ASTM D6919-09			11/30/20 15:03	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 17:16	AK	A
Chloride	38.0		mg/L	2.0	EPA 300.0			11/18/20 10:50	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/18/20 10:50	MBW	B
Nitrate-N	35.4	3	mg/L	1.0	EPA 300.0			11/24/20 05:32	MBW	B
pH	5.80	1	pH_Units		S4500HB-11			11/19/20 23:51	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/18/20 17:00	VXF	11/18/20 16:25	VXF	F
Specific Conductance	480		umhos/cm	1	SW846 9050A			11/19/20 23:51	R2B	B
Sulfate	28.9		mg/L	2.0	EPA 300.0			11/18/20 10:50	MBW	B
Total Dissolved Solids	334		mg/L	5	S2540C-11			11/19/20 10:58	KXH	B
Total Organic Carbon (TOC)	1.2		mg/L	0.50	SW846 9060A			11/20/20 18:39	PAG	D
Turbidity	ND		NTU	0.10	SM2130B-2011			11/18/20 07:30	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380001**
Sample ID: **FFMP015W**

Date Collected: 11/17/2020 09:19 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	24.7		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:25	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:25	SRT	J1
Magnesium, Total	28.7		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:25	SRT	J1
Manganese, Total	0.038		mg/L	0.0056	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:25	SRT	J1
Potassium, Total	2.7		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:25	SRT	J1
Sodium, Total	24.7		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:25	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	62.77		Feet		Field			11/17/20 09:19	BGS	C
Elev Top MW Casing above MSL	576.40		Feet		Field			11/17/20 09:19	BGS	C
Flow Rate	1.94		gal/min		Field			11/17/20 09:19	BGS	C
Ground Water Elevation	513.63		ft/MSL		Field			11/17/20 09:19	BGS	C
pH, Field (SM4500B)	5.19		pH_Units		Field			11/17/20 09:19	BGS	C
Sample Depth	135.00		Feet		Field			11/17/20 09:19	BGS	C
Specific Conductance, Field	566		umhos/cm	1	Field			11/17/20 09:19	BGS	C
Temperature	10.34		Deg. C		Field			11/17/20 09:19	BGS	C
Total Well Depth	149.90		Feet		Field			11/17/20 09:19	BGS	C
Volume in Water Column	128.08		Gallons		Field			11/17/20 09:19	BGS	C
Water Level After Purge	110.90		Feet		Field			11/17/20 09:19	BGS	C
Well Volumes Purged	1.00		Vol		Field			11/17/20 09:19	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380002**
Sample ID: **FFMP03AW**

Date Collected: 11/17/2020 10:39 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 02:54	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 02:54	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	95.7		%	62 - 133	SW846 8260B			11/21/20 02:54	PDK	G
4-Bromofluorobenzene (S)	105		%	79 - 114	SW846 8260B			11/21/20 02:54	PDK	G
Dibromofluoromethane (S)	90.6		%	78 - 116	SW846 8260B			11/21/20 02:54	PDK	G
Toluene-d8 (S)	89.6		%	76 - 127	SW846 8260B			11/21/20 02:54	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	14		mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	B
Alkalinity, Total	14	2	mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			11/30/20 14:51	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 17:16	AK	A
Chloride	31.6		mg/L	2.0	EPA 300.0			11/18/20 11:11	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/18/20 11:11	MBW	B
Nitrate-N	21.1	3	mg/L	0.50	EPA 300.0			11/24/20 05:47	MBW	B
pH	5.41	1	pH_Units		S4500HB-11			11/19/20 23:51	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/18/20 17:00	VXF	11/18/20 16:25	VXF	F
Specific Conductance	296		umhos/cm	1	SW846 9050A			11/19/20 23:51	R2B	B
Sulfate	3.0		mg/L	2.0	EPA 300.0			11/18/20 11:11	MBW	B
Total Dissolved Solids	224		mg/L	5	S2540C-11			11/19/20 10:58	KXH	B
Total Organic Carbon (TOC)	ND		mg/L	0.50	SW846 9060A			11/20/20 18:39	PAG	D
Turbidity	ND		NTU	0.10	SM2130B-2011			11/18/20 07:30	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

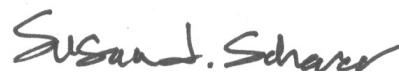
ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380002**
Sample ID: **FFMP03AW**

Date Collected: 11/17/2020 10:39 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	18.6		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:29	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:29	SRT	J1
Magnesium, Total	13.7		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:29	SRT	J1
Manganese, Total	0.31		mg/L	0.0056	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:29	SRT	J1
Potassium, Total	1.6		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:29	SRT	J1
Sodium, Total	12.7		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:29	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	58.38		Feet		Field			11/17/20 10:36	BGS	C
Elev Top MW Casing above MSL	590.90		Feet		Field			11/17/20 10:36	BGS	C
Flow Rate	1.92		gal/min		Field			11/17/20 10:36	BGS	C
Ground Water Elevation	532.52		ft/MSL		Field			11/17/20 10:36	BGS	C
pH, Field (SM4500B)	4.57		pH_Units		Field			11/17/20 10:36	BGS	C
Sample Depth	130.00		Feet		Field			11/17/20 10:36	BGS	C
Specific Conductance, Field	339		umhos/cm	1	Field			11/17/20 10:36	BGS	C
Temperature	9.80		Deg. C		Field			11/17/20 10:36	BGS	C
Total Well Depth	148.40		Feet		Field			11/17/20 10:36	BGS	C
Volume in Water Column	132.33		Gallons		Field			11/17/20 10:36	BGS	C
Water Level After Purge	85.77		Feet		Field			11/17/20 10:36	BGS	C
Well Volumes Purged	1.00		Vol		Field			11/17/20 10:36	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380003**
Sample ID: **FFMP30RW**

Date Collected: 11/17/2020 11:59 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
1,1-Dichloroethene	ND	2	ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
trans-1,2-Dichloroethene	ND	3	ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 03:17	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 03:17	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	93.6		%	62 - 133	SW846 8260B			11/21/20 03:17	PDK	G
4-Bromofluorobenzene (S)	104		%	79 - 114	SW846 8260B			11/21/20 03:17	PDK	G
Dibromofluoromethane (S)	90.4		%	78 - 116	SW846 8260B			11/21/20 03:17	PDK	G
Toluene-d8 (S)	89.6		%	76 - 127	SW846 8260B			11/21/20 03:17	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	40		mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	B
Alkalinity, Total	40	4	mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	I
Ammonia-N	0.511		mg/L	0.100	ASTM D6919-09			11/30/20 15:29	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 17:16	AK	A
Chloride	292		mg/L	5.0	EPA 300.0			11/24/20 06:03	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/18/20 11:31	MBW	B
Nitrate-N	4.8		mg/L	0.20	EPA 300.0			11/18/20 11:31	MBW	B
pH	5.86	1	pH_Units		S4500HB-11			11/19/20 23:51	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/18/20 17:00	VXF	11/18/20 16:25	VXF	F
Specific Conductance	1100		umhos/cm	1	SW846 9050A			11/19/20 23:51	R2B	B
Sulfate	45.8		mg/L	2.0	EPA 300.0			11/18/20 11:31	MBW	B
Total Dissolved Solids	670		mg/L	5	S2540C-11			11/19/20 10:58	KXH	B
Total Organic Carbon (TOC)	0.98		mg/L	0.50	SW846 9060A			11/20/20 18:39	PAG	D
Turbidity	2.21		NTU	0.10	SM2130B-2011			11/18/20 07:30	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

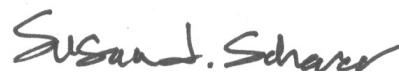
ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380003**
Sample ID: **FFMP30RW**

Date Collected: 11/17/2020 11:59 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	57.9		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:32	SRT	J1
Iron, Total	0.19		mg/L	0.067	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:32	SRT	J1
Magnesium, Total	19.4		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:32	SRT	J1
Manganese, Total	3.9		mg/L	0.0056	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:32	SRT	J1
Potassium, Total	8.3		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:32	SRT	J1
Sodium, Total	127		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:32	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	36.59		Feet		Field			11/17/20 11:59	BGS	C
Elev Top MW Casing above MSL	562.30		Feet		Field			11/17/20 11:59	BGS	C
Flow Rate	2.19		gal/min		Field			11/17/20 11:59	BGS	C
Ground Water Elevation	525.71		ft/MSL		Field			11/17/20 11:59	BGS	C
pH, Field (SM4500B)	5.28		pH_Units		Field			11/17/20 11:59	BGS	C
Sample Depth	85.00		Feet		Field			11/17/20 11:59	BGS	C
Specific Conductance, Field	1151		umhos/cm	1	Field			11/17/20 11:59	BGS	C
Temperature	9.65		Deg. C		Field			11/17/20 11:59	BGS	C
Total Well Depth	94.20		Feet		Field			11/17/20 11:59	BGS	C
Volume in Water Column	84.69		Gallons		Field			11/17/20 11:59	BGS	C
Water Level After Purge	65.93		Feet		Field			11/17/20 11:59	BGS	C
Well Volumes Purged	1.01		Vol		Field			11/17/20 11:59	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380004**
Sample ID: **FFMP04AW**

Date Collected: 11/17/2020 13:09 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 03:40	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 03:40	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	95.4		%	62 - 133	SW846 8260B			11/21/20 03:40	PDK	G
4-Bromofluorobenzene (S)	103		%	79 - 114	SW846 8260B			11/21/20 03:40	PDK	G
Dibromofluoromethane (S)	90.5		%	78 - 116	SW846 8260B			11/21/20 03:40	PDK	G
Toluene-d8 (S)	90.3		%	76 - 127	SW846 8260B			11/21/20 03:40	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	189		mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	B
Alkalinity, Total	149	2	mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/1/20 18:07	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 17:16	AK	A
Chloride	313		mg/L	5.0	EPA 300.0			11/24/20 06:29	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/18/20 13:33	MBW	B
Nitrate-N	0.20		mg/L	0.20	EPA 300.0			11/18/20 13:33	MBW	B
pH	7.24	1	pH_Units		S4500HB-11			11/19/20 23:51	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/18/20 17:00	VXF	11/18/20 16:25	VXF	F
Specific Conductance	1320		umhos/cm	1	SW846 9050A			11/19/20 23:51	R2B	B
Sulfate	46.0		mg/L	2.0	EPA 300.0			11/18/20 13:33	MBW	B
Total Dissolved Solids	972		mg/L	5	S2540C-11			11/19/20 10:58	KXH	B
Total Organic Carbon (TOC)	0.78		mg/L	0.50	SW846 9060A			11/20/20 18:39	PAG	D
Turbidity	0.39		NTU	0.10	SM2130B-2011			11/18/20 07:30	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380004**
Sample ID: **FFMP04AW**

Date Collected: 11/17/2020 13:09 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	147		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:36	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:36	SRT	J1
Magnesium, Total	25.0		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:36	SRT	J1
Manganese, Total	0.18		mg/L	0.0056	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:36	SRT	J1
Potassium, Total	2.5		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:36	SRT	J1
Sodium, Total	82.0		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:36	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	37.34		Feet		Field			11/17/20 13:09	BGS	C
Elev Top MW Casing above MSL	560.72		Feet		Field			11/17/20 13:09	BGS	C
Flow Rate	1.92		gal/min		Field			11/17/20 13:09	BGS	C
Ground Water Elevation	523.38		ft/MSL		Field			11/17/20 13:09	BGS	C
pH, Field (SM4500B)	6.78		pH_Units		Field			11/17/20 13:09	BGS	C
Sample Depth	146.00		Feet		Field			11/17/20 13:09	BGS	C
Specific Conductance, Field	1497		umhos/cm	1	Field			11/17/20 13:09	BGS	C
Temperature	9.51		Deg. C		Field			11/17/20 13:09	BGS	C
Total Well Depth	148.50		Feet		Field			11/17/20 13:09	BGS	C
Volume in Water Column	163.41		Gallons		Field			11/17/20 13:09	BGS	C
Water Level After Purge	82.08		Feet		Field			11/17/20 13:09	BGS	C
Well Volumes Purged	1.00		Vol		Field			11/17/20 13:09	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380005**
Sample ID: **FFMP005W**

Date Collected: 11/17/2020 14:26 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 04:03	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 04:03	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	95.5		%	62 - 133	SW846 8260B			11/21/20 04:03	PDK	G
4-Bromofluorobenzene (S)	102		%	79 - 114	SW846 8260B			11/21/20 04:03	PDK	G
Dibromofluoromethane (S)	90.3		%	78 - 116	SW846 8260B			11/21/20 04:03	PDK	G
Toluene-d8 (S)	89.9		%	76 - 127	SW846 8260B			11/21/20 04:03	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	46		mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	B
Alkalinity, Total	46	2	mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			11/30/20 15:55	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 17:16	AK	A
Chloride	194		mg/L	2.0	EPA 300.0			11/18/20 13:54	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/18/20 13:54	MBW	B
Nitrate-N	2.2		mg/L	0.20	EPA 300.0			11/18/20 13:54	MBW	B
pH	5.88	1	pH_Units		S4500HB-11			11/19/20 23:51	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/18/20 17:00	VXF	11/18/20 16:25	VXF	F
Specific Conductance	804		umhos/cm	1	SW846 9050A			11/19/20 23:51	R2B	B
Sulfate	57.1		mg/L	2.0	EPA 300.0			11/18/20 13:54	MBW	B
Total Dissolved Solids	524		mg/L	5	S2540C-11			11/19/20 10:58	KXH	B
Total Organic Carbon (TOC)	1.2		mg/L	0.50	SW846 9060A			11/20/20 18:39	PAG	D
Turbidity	ND		NTU	0.10	SM2130B-2011			11/18/20 07:30	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380005**
Sample ID: **FFMP005W**

Date Collected: 11/17/2020 14:26 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	77.5		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:47	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:47	SRT	J1
Magnesium, Total	18.8		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:47	SRT	J1
Manganese, Total	0.092		mg/L	0.0056	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:47	SRT	J1
Potassium, Total	3.1		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:47	SRT	J1
Sodium, Total	46.7		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:47	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	67.50		Feet		Field			11/17/20 14:26	BGS	C
Elev Top MW Casing above MSL	537.40		Feet		Field			11/17/20 14:26	BGS	C
Flow Rate	1.84		gal/min		Field			11/17/20 14:26	BGS	C
Ground Water Elevation	469.90		ft/MSL		Field			11/17/20 14:26	BGS	C
pH, Field (SM4500B)	5.41		pH_Units		Field			11/17/20 14:26	BGS	C
Sample Depth	135.00		Feet		Field			11/17/20 14:26	BGS	C
Specific Conductance, Field	907		umhos/cm	1	Field			11/17/20 14:26	BGS	C
Temperature	9.51		Deg. C		Field			11/17/20 14:26	BGS	C
Total Well Depth	149.70		Feet		Field			11/17/20 14:26	BGS	C
Volume in Water Column	120.83		Gallons		Field			11/17/20 14:26	BGS	C
Water Level After Purge	81.92		Feet		Field			11/17/20 14:26	BGS	C
Well Volumes Purged	1.00		Vol		Field			11/17/20 14:26	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380006**
Sample ID: **FFMP26RW**

Date Collected: 11/17/2020 15:39 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 04:25	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 04:25	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	94.8		%	62 - 133	SW846 8260B			11/21/20 04:25	PDK	G
4-Bromofluorobenzene (S)	101		%	79 - 114	SW846 8260B			11/21/20 04:25	PDK	G
Dibromofluoromethane (S)	90.2		%	78 - 116	SW846 8260B			11/21/20 04:25	PDK	G
Toluene-d8 (S)	89.3		%	76 - 127	SW846 8260B			11/21/20 04:25	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	49		mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	B
Alkalinity, Total	49	2	mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	I
Ammonia-N	0.222		mg/L	0.100	ASTM D6919-09			12/1/20 16:03	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 17:16	AK	A
Chloride	181		mg/L	2.0	EPA 300.0			11/18/20 14:14	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/18/20 14:14	MBW	B
Nitrate-N	1.2		mg/L	0.20	EPA 300.0			11/18/20 14:14	MBW	B
pH	5.83	1	pH_Units		S4500HB-11			11/19/20 23:51	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/18/20 17:00	VXF	11/18/20 16:25	VXF	F
Specific Conductance	819		umhos/cm	1	SW846 9050A			11/19/20 23:51	R2B	B
Sulfate	83.4		mg/L	2.0	EPA 300.0			11/18/20 14:14	MBW	B
Total Dissolved Solids	470		mg/L	5	S2540C-11			11/19/20 10:58	KXH	B
Total Organic Carbon (TOC)	1.7		mg/L	0.50	SW846 9060A			11/20/20 18:39	PAG	D
Turbidity	0.41		NTU	0.10	SM2130B-2011			11/18/20 07:30	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

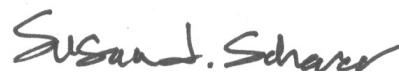
ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380006**
Sample ID: **FFMP26RW**

Date Collected: 11/17/2020 15:39 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	68.3		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:50	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:50	SRT	J1
Magnesium, Total	18.7		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:50	SRT	J1
Manganese, Total	0.54		mg/L	0.0056	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:50	SRT	J1
Potassium, Total	7.5		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:50	SRT	J1
Sodium, Total	58.1		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:50	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	77.23		Feet		Field			11/17/20 15:34	BGS	C
Elev Top MW Casing above MSL	547.40		Feet		Field			11/17/20 15:34	BGS	C
Flow Rate	1.97		gal/min		Field			11/17/20 15:34	BGS	C
Ground Water Elevation	470.17		ft/MSL		Field			11/17/20 15:34	BGS	C
pH, Field (SM4500B)	5.32		pH_Units		Field			11/17/20 15:34	BGS	C
Sample Depth	105.00		Feet		Field			11/17/20 15:34	BGS	C
Specific Conductance, Field	915		umhos/cm	1	Field			11/17/20 15:34	BGS	C
Temperature	10.30		Deg. C		Field			11/17/20 15:34	BGS	C
Total Well Depth	118.30		Feet		Field			11/17/20 15:34	BGS	C
Volume in Water Column	60.37		Gallons		Field			11/17/20 15:34	BGS	C
Water Level After Purge	97.04		Feet		Field			11/17/20 15:34	BGS	C
Well Volumes Purged	1.01		Vol		Field			11/17/20 15:34	BGS	C



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380007**
Sample ID: **FFMP029W**

Date Collected: 11/17/2020 16:42 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
Toluene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/21/20 04:48	PDK	G
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/21/20 04:48	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	94.9		%	62 - 133	SW846 8260B			11/21/20 04:48	PDK	G
4-Bromofluorobenzene (S)	102		%	79 - 114	SW846 8260B			11/21/20 04:48	PDK	G
Dibromofluoromethane (S)	89.1		%	78 - 116	SW846 8260B			11/21/20 04:48	PDK	G
Toluene-d8 (S)	89.4		%	76 - 127	SW846 8260B			11/21/20 04:48	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	11		mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	B
Alkalinity, Total	11	2	mg/L	5	SM2320B-2011			11/19/20 23:51	R2B	I
Ammonia-N	ND		mg/L	0.100	ASTM D6919-09			12/1/20 12:09	JXL	A
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			12/3/20 17:16	AK	A
Chloride	76.4		mg/L	2.0	EPA 300.0			11/18/20 14:34	MBW	B
Fluoride	ND		mg/L	0.20	EPA 300.0			11/18/20 14:34	MBW	B
Nitrate-N	3.8		mg/L	0.20	EPA 300.0			11/18/20 14:34	MBW	B
pH	5.64	1	pH_Units		S4500HB-11			11/19/20 23:51	R2B	B
Phenolics	ND		mg/L	0.005	SW846 9066	11/18/20 17:00	VXF	11/18/20 16:25	VXF	F
Specific Conductance	327		umhos/cm	1	SW846 9050A			11/19/20 23:51	R2B	B
Sulfate	9.6		mg/L	2.0	EPA 300.0			11/18/20 14:34	MBW	B
Total Dissolved Solids	268		mg/L	5	S2540C-11			11/19/20 10:58	KXH	B
Total Organic Carbon (TOC)	0.68		mg/L	0.50	SW846 9060A			11/20/20 18:39	PAG	D
Turbidity	ND		NTU	0.10	SM2130B-2011			11/18/20 07:30	R2B	B

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380007**

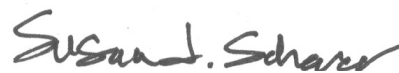
Date Collected: 11/17/2020 16:42

Matrix: Ground Water

Sample ID: **FFMP029W**

Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	16.6		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:54	SRT	J1
Iron, Total	ND		mg/L	0.067	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:54	SRT	J1
Magnesium, Total	10.8		mg/L	0.11	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:54	SRT	J1
Manganese, Total	0.041		mg/L	0.0056	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:54	SRT	J1
Potassium, Total	2.5		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:54	SRT	J1
Sodium, Total	24.1		mg/L	0.56	SW846 6010C	11/21/20 15:20	AHI	11/23/20 16:54	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	38.33		Feet		Field			11/17/20 16:42	BGS	C
Elev Top MW Casing above MSL	477.30		Feet		Field			11/17/20 16:42	BGS	C
Flow Rate	2.53		gal/min		Field			11/17/20 16:42	BGS	C
Ground Water Elevation	438.97		ft/MSL		Field			11/17/20 16:42	BGS	C
pH, Field (SM4500B)	5.05		pH_Units		Field			11/17/20 16:42	BGS	C
Sample Depth	55.00		Feet		Field			11/17/20 16:42	BGS	C
Specific Conductance, Field	372		umhos/cm	1	Field			11/17/20 16:42	BGS	C
Temperature	10.48		Deg. C		Field			11/17/20 16:42	BGS	C
Total Well Depth	60.50		Feet		Field			11/17/20 16:42	BGS	C
Volume in Water Column	32.59		Gallons		Field			11/17/20 16:42	BGS	C
Water Level After Purge	45.58		Feet		Field			11/17/20 16:42	BGS	C
Well Volumes Purged	1.01		Vol		Field			11/17/20 16:42	BGS	C



Ms. Susan J Scherer

Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

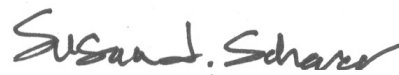
ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID: **3141380008**
Sample ID: **TRIP BLANK**

Date Collected: 11/17/2020 09:19 Matrix: Ground Water
Date Received: 11/17/2020 17:40

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
Toluene	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			11/20/20 23:09	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
Trichloroethene	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			11/20/20 23:09	PDK	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	93.7		%	62 - 133	SW846 8260B			11/20/20 23:09	PDK	A
4-Bromofluorobenzene (S)	103		%	79 - 114	SW846 8260B			11/20/20 23:09	PDK	A
Dibromofluoromethane (S)	89.6		%	78 - 116	SW846 8260B			11/20/20 23:09	PDK	A
Toluene-d8 (S)	89.8		%	76 - 127	SW846 8260B			11/20/20 23:09	PDK	A



Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3141380001	1	FFMP015W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3141380001	2	FFMP015W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3141380001	3	FFMP015W	EPA 300.0	Nitrate-N
The sample was originally run within hold time, but required further analysis that exceeded hold time.				
3141380002	1	FFMP03AW	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3141380002	2	FFMP03AW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3141380002	3	FFMP03AW	EPA 300.0	Nitrate-N
The sample was originally run within hold time, but required further analysis that exceeded hold time.				
3141380003	1	FFMP30RW	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3141380003	2	FFMP30RW	SW846 8260B	1,1-Dichloroethene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,1-Dichloroethene. The % Recovery was reported as 131 and the control limits were 63 to 128.				
3141380003	3	FFMP30RW	SW846 8260B	trans-1,2-Dichloroethene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte trans-1,2-Dichloroethene. The % Recovery was reported as 123 and the control limits were 71 to 122.				
3141380003	4	FFMP30RW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3141380004	1	FFMP04AW	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3141380004	2	FFMP04AW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3141380005	1	FFMP005W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3141380005	2	FFMP005W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3141380006	1	FFMP26RW	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3141380006	2	FFMP26RW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey



ANALYTICAL RESULTS

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

3141380007	1	FFMP029W	S4500HB-11	pH
-------------------	---	----------	------------	----

The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.

3141380007	2	FFMP029W	SM2320B-2011	Alkalinity, Total
-------------------	---	----------	--------------	-------------------

The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3141380001	FFMP015W	ASTM D6919-09		
3141380001	FFMP015W	EPA 300.0		
3141380001	FFMP015W	EPA 410.4		
3141380001	FFMP015W	Field		
3141380001	FFMP015W	S2540C-11		
3141380001	FFMP015W	S4500HB-11		
3141380001	FFMP015W	SM2130B-2011		
3141380001	FFMP015W	SM2320B-2011		
3141380001	FFMP015W	SW846 6010C	SW846 3015	
3141380001	FFMP015W	SW846 8260B		
3141380001	FFMP015W	SW846 9050A		
3141380001	FFMP015W	SW846 9060A		
3141380001	FFMP015W	SW846 9066	420.4/9066	
3141380002	FFMP03AW	ASTM D6919-09		
3141380002	FFMP03AW	EPA 300.0		
3141380002	FFMP03AW	EPA 410.4		
3141380002	FFMP03AW	Field		
3141380002	FFMP03AW	S2540C-11		
3141380002	FFMP03AW	S4500HB-11		
3141380002	FFMP03AW	SM2130B-2011		
3141380002	FFMP03AW	SM2320B-2011		
3141380002	FFMP03AW	SW846 6010C	SW846 3015	
3141380002	FFMP03AW	SW846 8260B		
3141380002	FFMP03AW	SW846 9050A		
3141380002	FFMP03AW	SW846 9060A		
3141380002	FFMP03AW	SW846 9066	420.4/9066	
3141380003	FFMP30RW	ASTM D6919-09		
3141380003	FFMP30RW	EPA 300.0		
3141380003	FFMP30RW	EPA 410.4		
3141380003	FFMP30RW	Field		
3141380003	FFMP30RW	S2540C-11		
3141380003	FFMP30RW	S4500HB-11		
3141380003	FFMP30RW	SM2130B-2011		
3141380003	FFMP30RW	SM2320B-2011		
3141380003	FFMP30RW	SW846 6010C	SW846 3015	
3141380003	FFMP30RW	SW846 8260B		
3141380003	FFMP30RW	SW846 9050A		
3141380003	FFMP30RW	SW846 9060A		
3141380003	FFMP30RW	SW846 9066	420.4/9066	
3141380004	FFMP04AW	ASTM D6919-09		
3141380004	FFMP04AW	EPA 300.0		
3141380004	FFMP04AW	EPA 410.4		
3141380004	FFMP04AW	Field		
3141380004	FFMP04AW	S2540C-11		
3141380004	FFMP04AW	S4500HB-11		
3141380004	FFMP04AW	SM2130B-2011		

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3141380 4th QTR 2020 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3141380004	FFMP04AW	SM2320B-2011		
3141380004	FFMP04AW	SW846 6010C	SW846 3015	
3141380004	FFMP04AW	SW846 8260B		
3141380004	FFMP04AW	SW846 9050A		
3141380004	FFMP04AW	SW846 9060A		
3141380004	FFMP04AW	SW846 9066	420.4/9066	
3141380005	FFMP005W	ASTM D6919-09		
3141380005	FFMP005W	EPA 300.0		
3141380005	FFMP005W	EPA 410.4		
3141380005	FFMP005W	Field		
3141380005	FFMP005W	S2540C-11		
3141380005	FFMP005W	S4500HB-11		
3141380005	FFMP005W	SM2130B-2011		
3141380005	FFMP005W	SM2320B-2011		
3141380005	FFMP005W	SW846 6010C	SW846 3015	
3141380005	FFMP005W	SW846 8260B		
3141380005	FFMP005W	SW846 9050A		
3141380005	FFMP005W	SW846 9060A		
3141380005	FFMP005W	SW846 9066	420.4/9066	
3141380006	FFMP26RW	ASTM D6919-09		
3141380006	FFMP26RW	EPA 300.0		
3141380006	FFMP26RW	EPA 410.4		
3141380006	FFMP26RW	Field		
3141380006	FFMP26RW	S2540C-11		
3141380006	FFMP26RW	S4500HB-11		
3141380006	FFMP26RW	SM2130B-2011		
3141380006	FFMP26RW	SM2320B-2011		
3141380006	FFMP26RW	SW846 6010C	SW846 3015	
3141380006	FFMP26RW	SW846 8260B		
3141380006	FFMP26RW	SW846 9050A		
3141380006	FFMP26RW	SW846 9060A		
3141380006	FFMP26RW	SW846 9066	420.4/9066	
3141380007	FFMP029W	ASTM D6919-09		
3141380007	FFMP029W	EPA 300.0		
3141380007	FFMP029W	EPA 410.4		
3141380007	FFMP029W	Field		
3141380007	FFMP029W	S2540C-11		
3141380007	FFMP029W	S4500HB-11		
3141380007	FFMP029W	SM2130B-2011		
3141380007	FFMP029W	SM2320B-2011		
3141380007	FFMP029W	SW846 6010C	SW846 3015	
3141380007	FFMP029W	SW846 8260B		
3141380007	FFMP029W	SW846 9050A		
3141380007	FFMP029W	SW846 9060A		
3141380007	FFMP029W	SW846 9066	420.4/9066	
3141380008	TRIP BLANK	SW846 8260B		

ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay
Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

**CHAIN OF CUSTODY/
 REQUEST FOR ANALYSIS**
**ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
 SAMPLER. INSTRUCTIONS ON THE BACK.**

1 of 1

Client Name: Lancaster County Solid Waste MA		Container Type	AG	AN	CG	PL	PL	PL	PL
Address: 1299 Harrisburg Pike, P.O. Box 4424		Container Size	40 ml	500 ml	40 ml	500 ml	500 ml	500 ml	500 ml
Lancaster, PA 17604		Preservative	HCl	H2SO4	HCl	H2SO4	HNO3	None	None
Contact: Mark Reider		ANALYSES/METHOD REQUESTED							
Phone#: (717) 735-0193		Field Measurements							
Project Name#: Frey Farm Quarterly (GWMP)		Sample Depth for AUX Data							
Bill To: Lancaster County Solid Waste MA		Enter Number of Containers Per Sample or Field Results Below.							
TAT ☒ Normal-Standard TAT is 10-12 business days.		VOC - Form 190							
☐ Rush-Subject to ALS approval and surcharges.		pH, Cl, SPC, F, SO4, TDS, NO3							
Date Required: _____ Approved By: _____		Metals: Fe, Mn, Na, Ca, K, Mg							
Email? ☒ Y mreider@LCSWMA.com		Alkalinity Bicarbonate							
Fax? ☒ Y No.: (717) 397-9973		Turb.							
Sample Description/Location (as it will appear on the lab report)		Sample Date		Time					
1. FFMP Ø15 W		11.17.20		0919		G GW 2 1 2 X X 1 1 1 1			
2. FFMP Ø3 AW		11.17.20		1039		G GW Z 1 Z X X 1 1 1 1			
3. FFMP Ø3 RW		11.17.20		1159		G GW Z 1 Z X X 1 1 1 1			
4. FFMP Ø4 AW		11.17.20		1309		G GW Z 1 Z X X 1 1 1 1			
5. FFMP ØØ5 W		11.17.20		1420		G GW Z 1 Z X X 1 1 1 1			
6. FFMP 26 RW		11.17.20		1539		G GW Z 1 Z X X 1 1 1 1			
7. FFMP Ø29 W		11.17.20		1642		G GW Z 1 Z X X 1 1 1 1			
8. Trip Blgnd									
9. Trip Blgnd									
10. Trip Blgnd									
Project Comments:		LOGGED BY (signature):		REVIEWED BY (signature):					
Relinquished By / Company Name		Date		Time		Received By / Company Name		Date	
1. [Signature]		11.17.20		17402		TS		11/17/20 1740	
3. [Signature]				4					
5. [Signature]				6					
7. [Signature]				8					
9. [Signature]				10					



301 Fulling Mill Road
Middletown, PA 17057
P: (717) 944-5541
F: (717) 944-1430

Condition of Sample Receipt Form

Client: LCSWMA Work Order #: 3141380 Initials: AKB Date: 11/18/2018

1. Were airbills / tracking numbers present and recorded? NONE YES NO
Tracking number: _____
2. Are Custody Seals on shipping containers intact? NONE YES NO
3. Are Custody Seals on sample containers intact? NONE YES NO
4. Is there a COC (Chain-of-Custody) present? YES NO
5. Are the COC and bottle labels complete, legible and in agreement? YES NO
- 5a. Does the COC contain sample locations? YES NO
- 5b. Does the COC contain date and time of sample collection for all samples? YES NO
- 5c. Does the COC contain sample collectors name? 1st line of relinquished by YES NO
- 5d. Does the COC note the type(s) of preservation for all bottles? YES NO
- 5e. Does the COC note the number of bottles submitted for each sample? YES NO
- 5f. Does the COC note the type of sample, composite or grab? YES NO
- 5g. Does the COC note the matrix of the sample(s)? YES NO
6. Are all aqueous samples requiring preservation preserved correctly? ¹ N/A YES NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume? YES NO
8. Are all samples within holding times for the requested analyses? YES NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.) YES NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)? N/A YES NO
11. Were the samples received on ice? YES NO
12. Were sample temperatures measured at 0.0-6.0°C AKB YES NO
13. Are the samples DW matrix? If YES, fill out Reportable Drinking Water questions below 11/18/2018 YES NO
- 13a. Are the samples required for SDWA compliance reporting? N/A YES NO
- 13b. Did the client provide a SDWA PWS ID#? N/A YES NO
- 13c. Are all aqueous unpreserved SDWA samples pH 5-9? N/A YES NO
- 13d. Did the client provide the SDWA sample location ID/Description? N/A YES NO
- 13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)? N/A YES NO

Cooler #: _____

Temperature (°C): 4 _____

Thermometer ID: 309 _____

Radiological (µCi): _____

COMMENTS (Required for all NO responses above and any sample non-conformance):

¹Final determination of correct preservation for analysis such as volatiles, microbiology, and oil and grease is made in the analytical department at the time of or following the analysis