



Date Prepared/Revised
07/23/2021

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: 60.37 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.90 ft

Elevation of Water Level: 516.03 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column: 130.02 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): 5/17/2021

Sample Collection Time: 11:56

Sample Collector's Name: Mr. Brian G Shade

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): 3176403001 Final Lab Analysis CompletionDate: 6/17/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 5/17/2021

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	SM20-4500D
BICARBONATE ALKALINITY	30	SM20-2320B
CALCIUM, TOTAL	17.3	SW846 6010B
CALCIUM, DISSOLVED	17.1	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	29	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	56 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	56 ND	SW846 6010B
MAGNESIUM, TOTAL	26.3	SW846 6010B
MAGNESIUM, DISSOLVED	26	SW846 6010B
MANGANESE, TOTAL (ug/l)	63	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	63	SW846 6010B
NITRATE-NITROGEN	29.9	EPA 300
pH-FIELD (SU)	5.31	FIELD
pH-LAB (SU)	5.91	SM20-4500B
POTASSIUM, TOTAL	2.3	SW846 6010B
POTASSIUM, DISSOLVED	2.3	SW846 6010B
SODIUM, TOTAL	24.8	SW846 6010B
SODIUM, DISSOLVED	25	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	645	FIELD
SPEC. COND., LAB (umhos/cm)	455	EPA 120.1
SULFATE	38.9	EPA 300
ALKALINITY	30	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	288	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.8	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.14	SM20- 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 5/17/2021

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. FFMP015W

Sample Date 5/17/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	82	SW846 6010B
BARIUM, DISSOLVED	81	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	35	SW846 6010B
ZINC, DISSOLVED	35	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 5/17/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP015W
Sample Date	5/17/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHAN	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	6.9	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



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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: 34.44 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.20 ft

Elevation of Water Level: 527.86 ft./MSL

Sampling Depth: 85 ft

Volume of Water Column: 81.60 gal

Total Well Depth: 90 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: X Yes No

Well Volumes Purged: 1.3

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

Spring Flow Rate: _____gpm

Sample Date (mm/dd/yy): 5/17/2021

Sample Collection Time: 13:16

Sample Collector's Name: Mr. Brian G Shade

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): 3176403002 Final Lab Analysis CompletionDate: 6/17/2021

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

Comments:

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	0.335	SM20-4500D
BICARBONATE ALKALINITY	41	SM20-2320B
CALCIUM, TOTAL	26.2	SW846 6010B
CALCIUM, DISSOLVED	25.4	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	148	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	120	SW846 6010B
IRON, DISSOLVED (ug/l)	56 ND	SW846 6010B
MAGNESIUM, TOTAL	14.9	SW846 6010B
MAGNESIUM, DISSOLVED	14.2	SW846 6010B
MANGANESE, TOTAL (ug/l)	1500	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	1400	SW846 6010B
NITRATE-NITROGEN	4.8	EPA 300
pH-FIELD (SU)	5.03	FIELD
pH-LAB (SU)	5.76	SM20-4500B
POTASSIUM, TOTAL	3.9	SW846 6010B
POTASSIUM, DISSOLVED	3.8	SW846 6010B
SODIUM, TOTAL	71.3	SW846 6010B
SODIUM, DISSOLVED	70.4	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	965	FIELD
SPEC. COND., LAB (umhos/cm)	637	EPA 120.1
SULFATE	21	EPA 300
ALKALINITY	41	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	356	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	2.4	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	1.96	SM20- 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 5/17/2021

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. FFMP30RW

Sample Date 5/17/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	68	SW846 6010B
BARIUM, DISSOLVED	63	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.53	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	12	SW846 6010B
ZINC, DISSOLVED	12	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP30RW

Sample Date 5/17/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP30RW
Sample Date	5/17/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHANE)	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	11	SW846 6010B
NICKEL	19	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



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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: FFMP04AW X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 15.4 "

Longitude: 76° 27' 26.58"

Depth to Water Level: 33.42 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.52 ft

Elevation of Water Level: 527.3 ft./MSL

Sampling Depth: 146 ft

Volume of Water Column: 393.75 gal

Total Well Depth: 301.52 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 0.6

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 5/17/2021

Sample Collection Time: 14:28

Sample Collector's Name: Mr. Brian G Shade

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): 3176403003 Final Lab Analysis CompletionDate: 7/3/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP04AW

Sample Date 5/17/2021

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	0.31	SM20-4500D
BICARBONATE ALKALINITY	258	SM20-2320B
CALCIUM, TOTAL	144	SW846 6010B
CALCIUM, DISSOLVED	140	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	310	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	56 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	56 ND	SW846 6010B
MAGNESIUM, TOTAL	27.8	SW846 6010B
MAGNESIUM, DISSOLVED	26.1	SW846 6010B
MANGANESE, TOTAL (ug/l)	270	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	270	SW846 6010B
NITRATE-NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.75	FIELD
pH-LAB (SU)	7.5	SM20-4500B
POTASSIUM, TOTAL	2.5	SW846 6010B
POTASSIUM, DISSOLVED	2.3	SW846 6010B
SODIUM, TOTAL	89.2	SW846 6010B
SODIUM, DISSOLVED	86.4	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	2073	FIELD
SPEC. COND., LAB (umhos/cm)	1390	EPA 120.1
SULFATE	47.5	EPA 300
ALKALINITY	258	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	1030	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.3	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.7	SM20- 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 5/17/2021

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 5/17/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	170	SW846 6010B
BARIUM, DISSOLVED	200	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	5.6 ND	SW846 6010B
ZINC, DISSOLVED	5.6 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP04AW

Sample Date 5/17/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP04AW
Sample Date	5/17/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHANE)	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	12	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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 X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X 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: 18.48 ft

Measured from: Land Surface X TOC

Casing Stickup: 0.49 ft

Elevation of Water Level: 498.04 ft./MSL

Sampling Depth: 79 ft

Volume of Water Column: 113.85 gal

Total Well Depth: 96 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X 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): 5/18/2021

Sample Collection Time: 10:27

Sample Collector's Name: Mr. Brian G Shade

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): 3176506001 Final Lab Analysis CompletionDate: 6/17/2021

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

Comments:

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	0.945	SM20-4500D
BICARBONATE ALKALINITY	64	SM20-2320B
CALCIUM, TOTAL	26.6	SW846 6010B
CALCIUM, DISSOLVED	27.1	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	47.2	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	7200	SW846 6010B
IRON, DISSOLVED (ug/l)	5600	SW846 6010B
MAGNESIUM, TOTAL	13.2	SW846 6010B
MAGNESIUM, DISSOLVED	10.2	SW846 6010B
MANGANESE, TOTAL (ug/l)	420	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	450	SW846 6010B
NITRATE-NITROGEN	10.6	EPA 300
pH-FIELD (SU)	5.35	FIELD
pH-LAB (SU)	6.5	SM20-4500B
POTASSIUM, TOTAL	2.2	SW846 6010B
POTASSIUM, DISSOLVED	1.7	SW846 6010B
SODIUM, TOTAL	17.9	SW846 6010B
SODIUM, DISSOLVED	14.1	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	513	FIELD
SPEC. COND., LAB (umhos/cm)	1410	EPA 120.1
SULFATE	5.7	EPA 300
ALKALINITY	64	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	270	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.95	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	6.43	SM20- 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 5/18/2021

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. FFMP033W

Sample Date 5/18/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	50	SW846 6010B
BARIUM, DISSOLVED	51	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	5.6 ND	SW846 6010B
ZINC, DISSOLVED	5.6 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP033W

Sample Date 5/18/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP033W
Sample Date	5/18/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHAN	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	5.6 ND	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

General Reference: Section 273.284
Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Comments:

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	0.168	SM20-4500D
BICARBONATE ALKALINITY	71	SM20-2320B
CALCIUM, TOTAL	70.9	SW846 6010B
CALCIUM, DISSOLVED	71.8	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	181	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	140	SW846 6010B
IRON, DISSOLVED (ug/l)	73	SW846 6010B
MAGNESIUM, TOTAL	20.4	SW846 6010B
MAGNESIUM, DISSOLVED	19.9	SW846 6010B
MANGANESE, TOTAL (ug/l)	190	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	180	SW846 6010B
NITRATE-NITROGEN	1.7	EPA 300
pH-FIELD (SU)	5.2	FIELD
pH-LAB (SU)	6.18	SM20-4500B
POTASSIUM, TOTAL	3.4	SW846 6010B
POTASSIUM, DISSOLVED	3.4	SW846 6010B
SODIUM, TOTAL	51.7	SW846 6010B
SODIUM, DISSOLVED	52	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	1224	FIELD
SPEC. COND., LAB (umhos/cm)	358	EPA 120.1
SULFATE	66.6	EPA 300
ALKALINITY	71	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	600	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.9	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM20- 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 5/18/2021

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. FFMP005W

Sample Date 5/18/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	52	SW846 6010B
BARIUM, DISSOLVED	51	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	5.7	SW846 6010B
ZINC, DISSOLVED	5.6	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP005W

Sample Date 5/18/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP005W
Sample Date	5/18/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHAN	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	5.6 ND	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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: 75.48 ft

Measured from: Land Surface X TOC

Casing Stickup: 3.30 ft

Elevation of Water Level: 471.92 ft./MSL

Sampling Depth: 105 ft

Volume of Water Column: 56.57 gal

Total Well Depth: 114 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: X Yes No

Well Volumes Purged: 2.0

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 5/18/2021

Sample Collection Time: 13:38

Sample Collector's Name: Mr. Brian G Shade

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): 3176506003 Final Lab Analysis CompletionDate: 6/17/2021

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

Comments:

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	0.264	SM20-4500D
BICARBONATE ALKALINITY	72	SM20-2320B
CALCIUM, TOTAL	65.3	SW846 6010B
CALCIUM, DISSOLVED	64	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	154	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	56 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	56 ND	SW846 6010B
MAGNESIUM, TOTAL	18.3	SW846 6010B
MAGNESIUM, DISSOLVED	18.4	SW846 6010B
MANGANESE, TOTAL (ug/l)	900	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	900	SW846 6010B
NITRATE-NITROGEN	0.88	EPA 300
pH-FIELD (SU)	5.33	FIELD
pH-LAB (SU)	5.96	SM20-4500B
POTASSIUM, TOTAL	8.2	SW846 6010B
POTASSIUM, DISSOLVED	8	SW846 6010B
SODIUM, TOTAL	53.2	SW846 6010B
SODIUM, DISSOLVED	54.4	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	1180	FIELD
SPEC. COND., LAB (umhos/cm)	824	EPA 120.1
SULFATE	86.6	EPA 300
ALKALINITY	72	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	606	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	2.1	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.34	SM20- 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 5/18/2021

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. FFMP26RW

Sample Date 5/18/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	94	SW846 6010B
BARIUM, DISSOLVED	91	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	10	SW846 6010B
ZINC, DISSOLVED	9.8	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP26RW

Sample Date 5/18/2021

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

2-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP26RW
Sample Date	5/18/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHAN	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	19	SW846 6010B
NICKEL	5.6 ND	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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 X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X 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: 26.82 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.50 ft

Elevation of Water Level: 449.98 ft./MSL

Sampling Depth: 39 ft

Volume of Water Column: 19.36 gal

Total Well Depth: 40 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 3.2

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 5/18/2021

Sample Collection Time: 14:21

Sample Collector's Name: Mr. Brian G Shade

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): 3176506004 Final Lab Analysis CompletionDate: 6/17/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP025W

Sample Date 5/18/2021

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	0.404	SM20-4500D
BICARBONATE ALKALINITY	37	SM20-2320B
CALCIUM, TOTAL	48.9	SW846 6010B
CALCIUM, DISSOLVED	47.6	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	187	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	56 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	56 ND	SW846 6010B
MAGNESIUM, TOTAL	23.3	SW846 6010B
MAGNESIUM, DISSOLVED	22.8	SW846 6010B
MANGANESE, TOTAL (ug/l)	450	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	430	SW846 6010B
NITRATE-NITROGEN	7.9	EPA 300
pH-FIELD (SU)	5.21	FIELD
pH-LAB (SU)	6.15	SM20-4500B
POTASSIUM, TOTAL	4.2	SW846 6010B
POTASSIUM, DISSOLVED	4.2	SW846 6010B
SODIUM, TOTAL	52.2	SW846 6010B
SODIUM, DISSOLVED	52.4	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	1171	FIELD
SPEC. COND., LAB (umhos/cm)	796	EPA 120.1
SULFATE	30	EPA 300
ALKALINITY	37	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	608	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.6	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.32	SM20- 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 5/18/2021

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. FFMP025W

Sample Date 5/18/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	120	SW846 6010B
BARIUM, DISSOLVED	120	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	11	SW846 6010B
ZINC, DISSOLVED	9.5	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP025W

Sample Date 5/18/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP025W
Sample Date	5/18/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHAN	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	17	SW846 6010B
NICKEL	7.5	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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: 50.78 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.20 ft

Elevation of Water Level: 540.12 ft./MSL

Sampling Depth: 130 ft

Volume of Water Column: 141.61 gal

Total Well Depth: 147.2 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 0.8

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 5/19/2021

Sample Collection Time: 10:21

Sample Collector's Name: Mr. Brian G Shade

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): 3176871001 Final Lab Analysis CompletionDate: 6/27/2021

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

Comments:

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	SM20-4500D
BICARBONATE ALKALINITY	19	SM20-2320B
CALCIUM, TOTAL	18.2	SW846 6010B
CALCIUM, DISSOLVED	16	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	33.4	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	310	SW846 6010B
IRON, DISSOLVED (ug/l)	95	SW846 6010B
MAGNESIUM, TOTAL	15	SW846 6010B
MAGNESIUM, DISSOLVED	14.6	SW846 6010B
MANGANESE, TOTAL (ug/l)	330	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	310	SW846 6010B
NITRATE-NITROGEN	21.8	EPA 300
pH-FIELD (SU)	4.82	FIELD
pH-LAB (SU)	5.72	SM20-4500B
POTASSIUM, TOTAL	1.3	SW846 6010B
POTASSIUM, DISSOLVED	1.3	SW846 6010B
SODIUM, TOTAL	13.6	SW846 6010B
SODIUM, DISSOLVED	12.9	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	469	FIELD
SPEC. COND., LAB (umhos/cm)	275	EPA 120.1
SULFATE	3.2	EPA 300
ALKALINITY	19	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	234	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.97	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.15	SM20- 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 5/19/2021

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. FFMP03AW

Sample Date 5/19/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	46	SW846 6010B
BARIUM, DISSOLVED	54	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	6.4	SW846 6010B
COPPER, DISSOLVED	6.8	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	20	SW846 6010B
ZINC, DISSOLVED	19	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP03AW

Sample Date 5/19/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP03AW
Sample Date	5/19/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHAN	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	9.9	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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 X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X 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: 41.09 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.00 ft

Elevation of Water Level: 439.61 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column: 160.69 gal

Total Well Depth: 150.5 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X 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): 5/19/2021

Sample Collection Time: 11:49

Sample Collector's Name: Mr. Brian G Shade

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): 3176871002 Final Lab Analysis CompletionDate: 6/27/2021

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

Comments:

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	SM20-4500D
BICARBONATE ALKALINITY	98	SM20-2320B
CALCIUM, TOTAL	92.8	SW846 6010B
CALCIUM, DISSOLVED	84.4	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	358	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	100	SW846 6010B
IRON, DISSOLVED (ug/l)	56 ND	SW846 6010B
MAGNESIUM, TOTAL	47	SW846 6010B
MAGNESIUM, DISSOLVED	46.1	SW846 6010B
MANGANESE, TOTAL (ug/l)	1100	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	1100	SW846 6010B
NITRATE-NITROGEN	3.6	EPA 300
pH-FIELD (SU)	5.56	FIELD
pH-LAB (SU)	6.55	SM20-4500B
POTASSIUM, TOTAL	7.5	SW846 6010B
POTASSIUM, DISSOLVED	6.9	SW846 6010B
SODIUM, TOTAL	105	SW846 6010B
SODIUM, DISSOLVED	99.5	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	2092	FIELD
SPEC. COND., LAB (umhos/cm)	1310	EPA 120.1
SULFATE	72	EPA 300
ALKALINITY	98	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	1120	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	3.1	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.26	SM20- 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 5/19/2021

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. FFMP017W

Sample Date 5/19/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	140	SW846 6010B
BARIUM, DISSOLVED	140	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	14	SW846 6010B
ZINC, DISSOLVED	11	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP017W

Sample Date 5/19/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP017W
Sample Date	5/19/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHANE)	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	13	SW846 6010B
NICKEL	8.1	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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 X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X 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: 27.29 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.79 ft

Elevation of Water Level: 444.66 ft./MSL

Sampling Depth: 49 ft

Volume of Water Column: 68.86 gal

Total Well Depth: 132.79 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 1.9

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 5/19/2021

Sample Collection Time: 12:43

Sample Collector's Name: Mr. Brian G Shade

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): 3176871003 Final Lab Analysis CompletionDate: 7/3/2021

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

Comments:

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	SM20-4500D
BICARBONATE ALKALINITY	105	SM20-2320B
CALCIUM, TOTAL	57.1	SW846 6010B
CALCIUM, DISSOLVED	54.5	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	83.3	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	56 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	56 ND	SW846 6010B
MAGNESIUM, TOTAL	6.1	SW846 6010B
MAGNESIUM, DISSOLVED	6.4	SW846 6010B
MANGANESE, TOTAL (ug/l)	5.9	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	7.3	SW846 6010B
NITRATE-NITROGEN	0.28	EPA 300
pH-FIELD (SU)	6.14	FIELD
pH-LAB (SU)	7.26	SM20-4500B
POTASSIUM, TOTAL	0.84	SW846 6010B
POTASSIUM, DISSOLVED	0.85	SW846 6010B
SODIUM, TOTAL	10.7	SW846 6010B
SODIUM, DISSOLVED	10.7	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	657	FIELD
SPEC. COND., LAB (umhos/cm)	383	EPA 120.1
SULFATE	14.8	EPA 300
ALKALINITY	105	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	320	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	2	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.12	SM20- 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 5/19/2021

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. FFMP019W

Sample Date 5/19/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	76	SW846 6010B
BARIUM, DISSOLVED	81	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	5.6 ND	SW846 6010B
ZINC, DISSOLVED	5.6 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP019W

Sample Date 5/19/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP019W
Sample Date	5/19/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHANE)	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	5.6 ND	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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 X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X 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: 26.48 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.46 ft

Elevation of Water Level: 445.72 ft./MSL

Sampling Depth: 40 ft

Volume of Water Column: 16.29 gal

Total Well Depth: 51.43 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 3.3

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

Spring Flow Rate: _____gpm

Sample Date (mm/dd/yy): 5/19/2021

Sample Collection Time: 13:09

Sample Collector's Name: Mr. Brian G Shade

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): 3176871004 Final Lab Analysis CompletionDate: 7/3/2021

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

Comments:

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	SM20-4500D
BICARBONATE ALKALINITY	27	SM20-2320B
CALCIUM, TOTAL	27.8	SW846 6010B
CALCIUM, DISSOLVED	25.9	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	94.2	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	56 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	56 ND	SW846 6010B
MAGNESIUM, TOTAL	16.1	SW846 6010B
MAGNESIUM, DISSOLVED	16	SW846 6010B
MANGANESE, TOTAL (ug/l)	130	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	140	SW846 6010B
NITRATE-NITROGEN	5.3	EPA 300
pH-FIELD (SU)	4.94	FIELD
pH-LAB (SU)	6	SM20-4500B
POTASSIUM, TOTAL	4.3	SW846 6010B
POTASSIUM, DISSOLVED	3.9	SW846 6010B
SODIUM, TOTAL	34.6	SW846 6010B
SODIUM, DISSOLVED	31.8	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	723	FIELD
SPEC. COND., LAB (umhos/cm)	429	EPA 120.1
SULFATE	39.9	EPA 300
ALKALINITY	27	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	360	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.4	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.14	SM20- 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 5/19/2021

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. FFMP018W

Sample Date 5/19/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	65	SW846 6010B
BARIUM, DISSOLVED	66	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	5.5	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	20	SW846 6010B
ZINC, DISSOLVED	17	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP018W

Sample Date 5/19/2021

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

2-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP018W
Sample Date	5/19/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHANE)	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	5.6 ND	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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 X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X 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: 38.26 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.00 ft

Elevation of Water Level: 439.04 ft./MSL

Sampling Depth: 55 ft

Volume of Water Column: 29.73 gal

Total Well Depth: 58.5 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 4.1

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

Spring Flow Rate: _____gpm

Sample Date (mm/dd/yy): 5/19/2021

Sample Collection Time: 14:29

Sample Collector's Name: Mr. Brian G Shade

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): 3176871005 Final Lab Analysis CompletionDate: 7/3/2021

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

Comments:

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	SM20-4500D
BICARBONATE ALKALINITY	14	SM20-2320B
CALCIUM, TOTAL	10	SW846 6010B
CALCIUM, DISSOLVED	9.2	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	49.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	56 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	56 ND	SW846 6010B
MAGNESIUM, TOTAL	8.8	SW846 6010B
MAGNESIUM, DISSOLVED	8.4	SW846 6010B
MANGANESE, TOTAL (ug/l)	21	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	23	SW846 6010B
NITRATE-NITROGEN	4	EPA 300
pH-FIELD (SU)	4.63	FIELD
pH-LAB (SU)	5.94	SM20-4500B
POTASSIUM, TOTAL	2	SW846 6010B
POTASSIUM, DISSOLVED	1.9	SW846 6010B
SODIUM, TOTAL	18.6	SW846 6010B
SODIUM, DISSOLVED	17.7	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	343	FIELD
SPEC. COND., LAB (umhos/cm)	199	EPA 120.1
SULFATE	3.3	EPA 300
ALKALINITY	14	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	176	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.87	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.23	SM20- 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 5/19/2021

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. FFMP029W

Sample Date 5/19/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	55	SW846 6010B
BARIUM, DISSOLVED	59	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	7.9	SW846 6010B
ZINC, DISSOLVED	5.6 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP029W

Sample Date 5/19/2021

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

2-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP029W
Sample Date	5/19/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHANE)	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	5.6 ND	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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: 65.65 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.38 ft

Elevation of Water Level: 547.01 ft./MSL

Sampling Depth: 130 ft

Volume of Water Column: 109.19 gal

Total Well Depth: 140 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): 5/20/2021

Sample Collection Time: 9:49

Sample Collector's Name: Mr. Brian G Shade

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): 3177220001 Final Lab Analysis CompletionDate: 7/5/2021

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

Comments:

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	0.279	SM20-4500D
BICARBONATE ALKALINITY	100	SM20-2320B
CALCIUM, TOTAL	43	SW846 6010B
CALCIUM, DISSOLVED	44.5	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	23.8	EPA 300
FLUORIDE	0.2	EPA 300
IRON, TOTAL (ug/l)	4100	SW846 6010B
IRON, DISSOLVED (ug/l)	4000	SW846 6010B
MAGNESIUM, TOTAL	4.2	SW846 6010B
MAGNESIUM, DISSOLVED	4.1	SW846 6010B
MANGANESE, TOTAL (ug/l)	340	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	370	SW846 6010B
NITRATE-NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	8.12	FIELD
pH-LAB (SU)	7.68	SM20-4500B
POTASSIUM, TOTAL	1.2	SW846 6010B
POTASSIUM, DISSOLVED	1.2	SW846 6010B
SODIUM, TOTAL	9.2	SW846 6010B
SODIUM, DISSOLVED	9.4	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	461	FIELD
SPEC. COND., LAB (umhos/cm)	260	EPA 120.1
SULFATE	45.4	EPA 300
ALKALINITY	100	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	170	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	22.3	SM20- 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 5/20/2021

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. FFMP031W

Sample Date 5/20/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	35	SW846 6010B
BARIUM, DISSOLVED	39	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	5.6 ND	SW846 6010B
ZINC, DISSOLVED	5.6 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP031W

Sample Date 5/20/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP031W
Sample Date	5/20/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHAN	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	5.6 ND	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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

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

X	Upgradient/Upstream	Downgradient/Downstream
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11	1	1
12	1	1
13	1	1
14	1	1
15	1	1
16	1	1
17	1	1
18	1	1
19	1	1
20	1	1
21	1	1
22	1	1
23	1	1
24	1	1
25	1	1
26	1	1
27	1	1
28	1	1
29	1	1
30	1	1
31	1	1
32	1	1
33	1	1
34	1	1
35	1	1
36	1	1
37	1	1
38	1	1
39	1	1
40	1	1
41	1	1
42	1	1
43	1	1
44	1	1
45	1	1
46	1	1
47	1	1
48	1	1
49	1	1
50	1	1
51	1	1
52	1	1
53	1	1
54	1	1
55	1	1
56	1	1
57	1	1
58	1	1
59	1	1
60	1	1
61	1	1
62	1	1
63	1	1
64	1	1
65	1	1
66	1	1
67	1	1
68	1	1
69	1	1
70	1	1
71	1	1
72	1	1
73	1	1
74	1	1
75	1	1
76	1	1
77	1	1
78	1	1
79	1	1
80	1	1
81	1	1
82	1	1
83	1	1
84	1	1
85	1	1
86	1	1
87	1	1
88	1	1
89	1	1
90	1	1
91	1	1
92	1	1
93	1	1
94	1	1
95	1	1
96	1	1
97	1	1
98	1	1
99	1	1
100	1	1

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 32.25 "

Longitude: 76° 27' 24.03"

Depth to Water Level: 59.66 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.60 ft

Elevation of Water Level: 553.54 ft./MSL

Sampling Depth: 85 ft

Volume of Water Column: 161.46 gal

Total Well Depth: 169.6 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 0.7

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

Spring Flow Rate: _____gpm

Sample Date (mm/dd/yy): 5/20/2021

Sample Collection Time: 10:27

Sample Collector's Name: Mr. Brian G Shade

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): 3177220002 Final Lab Analysis CompletionDate: 7/5/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP002W

Sample Date 5/20/2021

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	SM20-4500D
BICARBONATE ALKALINITY	5 ND	SM20-2320B
CALCIUM, TOTAL	17.7	SW846 6010B
CALCIUM, DISSOLVED	17.7	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	20.3	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	130	SW846 6010B
IRON, DISSOLVED (ug/l)	61	SW846 6010B
MAGNESIUM, TOTAL	7.1	SW846 6010B
MAGNESIUM, DISSOLVED	7.1	SW846 6010B
MANGANESE, TOTAL (ug/l)	230	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	240	SW846 6010B
NITRATE-NITROGEN	20.9	EPA 300
pH-FIELD (SU)	4.44	FIELD
pH-LAB (SU)	5.16	SM20-4500B
POTASSIUM, TOTAL	0.93	SW846 6010B
POTASSIUM, DISSOLVED	0.92	SW846 6010B
SODIUM, TOTAL	13.5	SW846 6010B
SODIUM, DISSOLVED	13.4	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	381	FIELD
SPEC. COND., LAB (umhos/cm)	219	EPA 120.1
SULFATE	11.5	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	226	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.97	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	22.3	SM20- 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 5/20/2021

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. FFMP002W

Sample Date 5/20/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	63	SW846 6010B
BARIUM, DISSOLVED	65	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	10	SW846 6010B
COPPER, DISSOLVED	10	SW846 6010B
LEAD-FLAMELESS, TOTAL	4.2	SW846 6010B
LEAD, DISSOLVED	4.2	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	18	SW846 6010B
ZINC, DISSOLVED	19	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP002W

Sample Date 5/20/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP002W
Sample Date	5/20/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHANE)	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	11	SW846 6010B
NICKEL	15	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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 X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X 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: 18.99 ft

Measured from: Land Surface X TOC

Casing Stickup: _____ ft

Elevation of Water Level: 490.61 ft./MSL

Sampling Depth: 120 ft

Volume of Water Column: _____ gal

Total Well Depth: 152 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: X Yes No

Well Volumes Purged: 0.4

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

Spring Flow Rate: _____gpm

Sample Date (mm/dd/yy): 5/20/2021

Sample Collection Time: 13:11

Sample Collector's Name: Mr. Brian G Shade

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): 3177220003 Final Lab Analysis CompletionDate: 7/5/2021

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

Comments:

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	SM20-4500D
BICARBONATE ALKALINITY	153	SM20-2320B
CALCIUM, TOTAL	133	SW846 6010B
CALCIUM, DISSOLVED	124	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	441	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	1500	SW846 6010B
IRON, DISSOLVED (ug/l)	56 ND	SW846 6010B
MAGNESIUM, TOTAL	23	SW846 6010B
MAGNESIUM, DISSOLVED	22	SW846 6010B
MANGANESE, TOTAL (ug/l)	560	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	540	SW846 6010B
NITRATE-NITROGEN	9.8	EPA 300
pH-FIELD (SU)	7.23	FIELD
pH-LAB (SU)	7.69	SM20-4500B
POTASSIUM, TOTAL	1.9	SW846 6010B
POTASSIUM, DISSOLVED	1.8	SW846 6010B
SODIUM, TOTAL	139	SW846 6010B
SODIUM, DISSOLVED	139	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	2368	FIELD
SPEC. COND., LAB (umhos/cm)	1630	EPA 120.1
SULFATE	35.9	EPA 300
ALKALINITY	153	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	1010	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	11.7	SM20- 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 5/20/2021

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. FFMP02DW

Sample Date 5/20/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	200	SW846 6010B
BARIUM, DISSOLVED	200	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	5.6 ND	SW846 6010B
ZINC, DISSOLVED	5.6 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP02DW

Sample Date 5/20/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP02DW
Sample Date	5/20/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHAN	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	6.2	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

General Reference: Section 273.284
Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

SECTION A. APPLICANT IDENTIFIER

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

Comments:

I.D. No 101389

Monitoring Point No. FFMP02SW

Sample Date 5/20/2021

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	SM20-4500D
BICARBONATE ALKALINITY	15	SM20-2320B
CALCIUM, TOTAL	19.1	SW846 6010B
CALCIUM, DISSOLVED	19.9	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	103	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	3800	SW846 6010B
IRON, DISSOLVED (ug/l)	56 ND	SW846 6010B
MAGNESIUM, TOTAL	8.2	SW846 6010B
MAGNESIUM, DISSOLVED	7.9	SW846 6010B
MANGANESE, TOTAL (ug/l)	35	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	21	SW846 6010B
NITRATE-NITROGEN	14.3	EPA 300
pH-FIELD (SU)	5.27	FIELD
pH-LAB (SU)	5.89	SM20-4500B
POTASSIUM, TOTAL	4.2	SW846 6010B
POTASSIUM, DISSOLVED	4.1	SW846 6010B
SODIUM, TOTAL	69.1	SW846 6010B
SODIUM, DISSOLVED	69.7	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	743	FIELD
SPEC. COND., LAB (umhos/cm)	474	EPA 120.1
SULFATE	34	EPA 300
ALKALINITY	15	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	316	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	2.1	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	77.1	SM20- 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 5/20/2021

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. FFMP02SW

Sample Date 5/20/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	110	SW846 6010B
BARIUM, DISSOLVED	100	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	24	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	8.4	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	3.5	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	23	SW846 6010B
ZINC, DISSOLVED	12	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP02SW

Sample Date 5/20/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP02SW
Sample Date	5/20/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHANE)	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	17	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	3.2	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]

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



Date Prepared/Revised
07/23/2021

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: 12.1 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.50 ft

Elevation of Water Level: 452.9 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: 1.5

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 5/20/2021

Sample Collection Time: 14:59

Sample Collector's Name: Mr. Brian G Shade

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): 3177220005

Final Lab Analysis Completion Date: 7/5/2021

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

Comments: _____

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	SM20-4500D
BICARBONATE ALKALINITY	33	SM20-2320B
CALCIUM, TOTAL	37.4	SW846 6010B
CALCIUM, DISSOLVED	36.9	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	87.5	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	110	SW846 6010B
IRON, DISSOLVED (ug/l)	56 ND	SW846 6010B
MAGNESIUM, TOTAL	16.9	SW846 6010B
MAGNESIUM, DISSOLVED	16.4	SW846 6010B
MANGANESE, TOTAL (ug/l)	6.7	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	6.7	SW846 6010B
NITRATE-NITROGEN	15.6	EPA 300
pH-FIELD (SU)	5.1	FIELD
pH-LAB (SU)	6.07	SM20-4500B
POTASSIUM, TOTAL	2.3	SW846 6010B
POTASSIUM, DISSOLVED	2.2	SW846 6010B
SODIUM, TOTAL	27.1	SW846 6010B
SODIUM, DISSOLVED	26.6	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	745	FIELD
SPEC. COND., LAB (umhos/cm)	445	EPA 120.1
SULFATE	27.3	EPA 300
ALKALINITY	33	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	366	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.61	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.16	SM20- 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 5/20/2021

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. FFMP028W

Sample Date 5/20/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	65	SW846 6010B
BARIUM, DISSOLVED	67	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	15	SW846 6010B
ZINC, DISSOLVED	14	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP028W

Sample Date 5/20/2021

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

2-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1.1	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP028W
Sample Date	5/20/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHANE)	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	5.6 ND	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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

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

X	Upgradient/Upstream	Downgradient/Downstream
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11	1	1
12	1	1
13	1	1
14	1	1
15	1	1
16	1	1
17	1	1
18	1	1
19	1	1
20	1	1
21	1	1
22	1	1
23	1	1
24	1	1
25	1	1
26	1	1
27	1	1
28	1	1
29	1	1
30	1	1
31	1	1
32	1	1
33	1	1
34	1	1
35	1	1
36	1	1
37	1	1
38	1	1
39	1	1
40	1	1
41	1	1
42	1	1
43	1	1
44	1	1
45	1	1
46	1	1
47	1	1
48	1	1
49	1	1
50	1	1
51	1	1
52	1	1
53	1	1
54	1	1
55	1	1
56	1	1
57	1	1
58	1	1
59	1	1
60	1	1
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62	1	1
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64	1	1
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67	1	1
68	1	1
69	1	1
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72	1	1
73	1	1
74	1	1
75	1	1
76	1	1
77	1	1
78	1	1
79	1	1
80	1	1
81	1	1
82	1	1
83	1	1
84	1	1
85	1	1
86	1	1
87	1	1
88	1	1
89	1	1
90	1	1
91	1	1
92	1	1
93	1	1
94	1	1
95	1	1
96	1	1
97	1	1
98	1	1
99	1	1
100	1	1

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 33.45 "

Longitude: 76 ° 27 ' 17.71 "

Depth to Water Level: 49.15 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.06 ft

Elevation of Water Level: 544.94 ft./MSL

Sampling Depth: 62 ft

Volume of Water Column: 37.96 gal

Total Well Depth: 75 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 0.2

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

Spring Flow Rate: _____gpm

Sample Date (mm/dd/yy): 5/21/2021

Sample Collection Time: 9:10

Sample Collector's Name: Mr. Brian G Shade

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): 3177522001 Final Lab Analysis CompletionDate: 7/5/2021

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

Comments:

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	0.622	SM20-4500D
BICARBONATE ALKALINITY	85	SM20-2320B
CALCIUM, TOTAL	14.9	SW846 6010B
CALCIUM, DISSOLVED	14.6	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	22.4	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	7600	SW846 6010B
IRON, DISSOLVED (ug/l)	7000	SW846 6010B
MAGNESIUM, TOTAL	5.7	SW846 6010B
MAGNESIUM, DISSOLVED	5.8	SW846 6010B
MANGANESE, TOTAL (ug/l)	640	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	690	SW846 6010B
NITRATE-NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.94	FIELD
pH-LAB (SU)	7.54	SM20-4500B
POTASSIUM, TOTAL	1.2	SW846 6010B
POTASSIUM, DISSOLVED	1.2	SW846 6010B
SODIUM, TOTAL	12.7	SW846 6010B
SODIUM, DISSOLVED	12.8	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	303	FIELD
SPEC. COND., LAB (umhos/cm)	164	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	85	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	108	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.54	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	93.5	SM20- 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 5/21/2021

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. FFMP032W

Sample Date 5/21/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	5.6 ND	SW846 6010B
BARIUM, DISSOLVED	5.6 ND	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	5.6 ND	SW846 6010B
ZINC, DISSOLVED	5.8	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP032W

Sample Date 5/21/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP032W
Sample Date	5/21/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHANE)	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	5.6 ND	SW846 6010B
NICKEL	5.6 ND	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]



Date Prepared/Revised
07/23/2021

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 X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X 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: _____ ft

Measured from: Land Surface X TOC

Casing Stickup: 1.97 ft

Elevation of Water Level: #Error ft./MSL

Sampling Depth: 135 ft

Volume of Water Column: #Error gal

Total Well Depth: 149.8 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged:

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

Spring Flow Rate: _____gpm

Sample Date (mm/dd/yy): 5/21/2021

Sample Collection Time: 13:20

Sample Collector's Name: Mr. Brian G Shade

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): 3177522002 Final Lab Analysis CompletionDate: 7/5/2021

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

Comments:

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	SM20-4500D
BICARBONATE ALKALINITY	49	SM20-2320B
CALCIUM, TOTAL	88.3	SW846 6010B
CALCIUM, DISSOLVED	87.4	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	339	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	170	SW846 6010B
IRON, DISSOLVED (ug/l)	150	SW846 6010B
MAGNESIUM, TOTAL	33.6	SW846 6010B
MAGNESIUM, DISSOLVED	33.6	SW846 6010B
MANGANESE, TOTAL (ug/l)	1200	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	1300	SW846 6010B
NITRATE-NITROGEN	10	EPA 300
pH-FIELD (SU)	5.52	FIELD
pH-LAB (SU)	6.6	SM20-4500B
POTASSIUM, TOTAL	5	SW846 6010B
POTASSIUM, DISSOLVED	5	SW846 6010B
SODIUM, TOTAL	90.1	SW846 6010B
SODIUM, DISSOLVED	91.2	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	1150	FIELD
SPEC. COND., LAB (umhos/cm)	1170	EPA 120.1
SULFATE	44.4	EPA 300
ALKALINITY	49	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	764	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.5	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.17	SM20- 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 5/21/2021

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. FFMP016W

Sample Date 5/21/2021

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

1-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3.3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	170	SW846 6010B
BARIUM, DISSOLVED	170	SW846 6010B
CADMIUM, TOTAL	1.1 ND	SW846 6010B
CADMIUM, DISSOLVED	1.1 ND	SW846 6010B
CHROMIUM, TOTAL	2.2 ND	SW846 6010B
CHROMIUM, DISSOLVED	2.2 ND	SW846 6010B
COPPER, TOTAL	5.6 ND	SW846 6010B
COPPER, DISSOLVED	5.6 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	2.2 ND	SW846 6010B
LEAD, DISSOLVED	2.2 ND	SW846 6010B
MERCURY, TOTAL	0.6	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	5.6 ND	SW846 6010B
SELENIUM, DISSOLVED	5.6 ND	SW846 6010B
SILVER, TOTAL	2.2 ND	SW846 6010B
SILVER, DISSOLVED	2.2 ND	SW846 6010B
ZINC, TOTAL	11	SW846 6010B
ZINC, DISSOLVED	13	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP016W

Sample Date 5/21/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
BROMOFORM	1 ND	SW846 8260B
BROMOMETHANE	1 ND	SW846 8260B
CARBON TETRACHLORIDE	1 ND	SW846 8260B
CHLOROBENZENE	1 ND	SW846 8260B
CHLOROETHANE	1 ND	SW846 8260B
DIBROMOCHLOROMETHANE	1 ND	SW846 8260B
CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP016W
Sample Date	5/21/2021

FORM 19

ANNUAL WATER QUALITY ANALYSES

SUBTITLE D - Detection Zone Add-On List - When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored annually in the groundwater monitoring wells.

ORGANICS AND METALS (Enter all data in ug/l)

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
ACETONE	10 ND	SW846 8260B
ACRYLONITRILE	5 ND	SW846 8260B
BROMOCHLOROMETHANE (CHLOROBROMOMETHANE)	1 ND	SW846 8260B
BROMODICHLOROMETHANE	1 ND	SW846 8260B
CARBON DISULFIDE	1 ND	SW846 8260B
CHLOROFORM	1 ND	SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE	7 ND	SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE	3 ND	SW846 8260B
2-HEXANONE	5 ND	SW846 8260B
DIBROMOMETHANE	1 ND	SW846 8260B
IODOMETHANE	1 ND	SW846 8260B
STYRENE	1 ND	SW846 8260B
VINYL ACETATE	5 ND	SW846 8260B
ANTIMONY	2.2 ND	SW846 6010B
BERYLLIUM	1.1 ND	SW846 6010B
COBALT	40	SW846 6010B
NICKEL	14	SW846 6010B
THALLIUM	1.1 ND	SW846 6010B
VANADIUM	2.2 ND	SW846 6010B

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

Qualitatively Identified Organic Compounds

List at least ten volatile organic compounds not otherwise identified in this section. Their identification should be based upon those compounds showing the greatest apparent concentration from the peaks of a mass spectrum of each sample. These ten compounds shall be identified but the concentration of each is not required.

[illegible]

June 17, 2021

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:	3176506
Purchase Order:	PO-1000371	Workorder ID:	2ND QTR 2021 FFMP-FORM 19A

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Tuesday, May 18, 2021.

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.

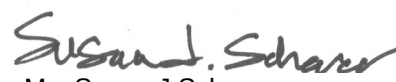
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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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

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**SAMPLE SUMMARY**

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3176506001	FFMP033W	Ground Water	5/18/2021 10:27	5/18/2021 15:50	Mr. Brian G Shade
3176506002	FFMP005W	Ground Water	5/18/2021 12:16	5/18/2021 15:50	Mr. Brian G Shade
3176506003	FFMP26RW	Ground Water	5/18/2021 13:38	5/18/2021 15:50	Mr. Brian G Shade
3176506004	FFMP025W	Ground Water	5/18/2021 14:21	5/18/2021 15:50	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

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

C	Please reference the Project Summary section of this Certificate of Analysis for case narrative comments.
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

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ALS Environmental



301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

PROJECT SUMMARY

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Workorder Comments

Temperature of sample taken at time of sample receipt in the laboratory. See chain of custody for actual temperature.

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506001**
Sample ID: **FFMP033W**

Date Collected: 5/18/2021 10:27 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/20/21 02:52	PDK	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/20/21 02:52	PDK	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/20/21 02:52	PDK	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/20/21 02:52	PDK	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/20/21 02:52	PDK	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/20/21 02:52	PDK	J
Iodomethane	ND	C,3	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/20/21 02:52	PDK	J

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506001**
Sample ID: **FFMP033W**

Date Collected: 5/18/2021 10:27 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/20/21 02:52	PDK	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/20/21 02:52	PDK	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/20/21 02:52	PDK	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 02:52	PDK	J
<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)	104	C	%	62 - 133	SW846 8260B			5/20/21 02:52	PDK	J
4-Bromofluorobenzene (S)	109	C	%	79 - 114	SW846 8260B			5/20/21 02:52	PDK	J
Dibromofluoromethane (S)	93.3	C	%	78 - 116	SW846 8260B			5/20/21 02:52	PDK	J
Toluene-d8 (S)	104	C	%	76 - 127	SW846 8260B			5/20/21 02:52	PDK	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/20/21 02:52	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	64	C	mg/L	5	SM2320B-2011			5/20/21 23:55	MBS	B
Alkalinity, Total	64	C,1	mg/L	5	SM2320B-2011			5/20/21 23:55	MBS	A
Ammonia-N	0.945	C	mg/L	0.100	ASTM D6919-09			5/25/21 02:38	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/21/21 10:25	ALK	C
Chloride	47.2	C	mg/L	2.0	EPA 300.0			5/19/21 09:34	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/19/21 09:34	MBW	B
Nitrate-N	10.6	C	mg/L	0.20	EPA 300.0			5/19/21 09:34	MBW	B
pH	6.50	C,2	pH_Units		S4500HB-11			5/20/21 23:55	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/20/21 16:33	MXF	5/21/21 08:46	MXF	I
Specific Conductance	1410	C	umhos/cm	1	SM2510B-2011			5/19/21 14:12	MBS	B
Sulfate	5.7	C	mg/L	2.0	EPA 300.0			5/19/21 09:34	MBW	B
Total Dissolved Solids	270	C	mg/L	25	S2540C-11			5/20/21 12:04	KMM	B
Total Organic Carbon (TOC)	0.95	C	mg/L	0.50	SM5310B-2011			5/20/21 05:33	PAG	G
Turbidity	6.43	C	NTU	0.10	SM2130B-2011			5/19/21 11:15	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506001**

Date Collected: 5/18/2021 10:27

Matrix: Ground Water

Sample ID: **FFMP033W**

Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/20/21 21:30	SXC	6/12/21 21:32	MSA	D
Barium, Total	0.050	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Barium, Dissolved	0.051	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
Calcium, Total	26.6	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/17/21 14:07	MO	E1
Calcium, Dissolved	27.1	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/17/21 14:07	MO	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
Iron, Total	7.2	C	mg/L	0.056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Iron, Dissolved	5.6	C	mg/L	0.056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
Magnesium, Total	13.2	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Magnesium, Dissolved	10.2	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
Manganese, Total	0.42	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Manganese, Dissolved	0.45	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	5/27/21 07:00	EAD	5/27/21 12:15	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	5/25/21 06:12	EAD	5/25/21 12:08	EAD	D
Nickel, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Potassium, Total	2.2	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Potassium, Dissolved	1.7	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	6/12/21 21:32	MSA	D
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
Sodium, Total	17.9	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Sodium, Dissolved	14.1	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1
Zinc, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:32	MO	E1

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Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506001**
Sample ID: **FFMP033W**

Date Collected: 5/18/2021 10:27 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:37	MO	D
FIELD PARAMETERS										
Depth to Water Level	18.48	C	Feet		Field			5/18/21 10:27	BGS	F
Elev Top MW Casing above MSL	516.52	C	Feet		Field			5/18/21 10:27	BGS	F
Flow Rate	1.82	C	gal/min		Field			5/18/21 10:27	BGS	F
Ground Water Elevation	498.04	C	ft/MSL		Field			5/18/21 10:27	BGS	F
pH, Field (SM4500B)	5.35	C	pH_Units		Field			5/18/21 10:27	BGS	F
Sample Depth	79.00	C	Feet		Field			5/18/21 10:27	BGS	F
Specific Conductance, Field	513	C	umhos/cm	1	Field			5/18/21 10:27	BGS	F
Temperature	15.35	C	Deg. C		Field			5/18/21 10:27	BGS	F
Total Well Depth	100.00	C	Feet		Field			5/18/21 10:27	BGS	F
Volume in Water Column	119.83	C	Gallons		Field			5/18/21 10:27	BGS	F
Water Level After Purge	27.10	C	Feet		Field			5/18/21 10:27	BGS	F
Well Volumes Purged	0.91	C	Vol		Field			5/18/21 10:27	BGS	F



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506002**
Sample ID: **FFMP005W**

Date Collected: 5/18/2021 12:16 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/20/21 03:14	PDK	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/20/21 03:14	PDK	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/20/21 03:14	PDK	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/20/21 03:14	PDK	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/20/21 03:14	PDK	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/20/21 03:14	PDK	J
Iodomethane	ND	C,3	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/20/21 03:14	PDK	J

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506002**
Sample ID: **FFMP005W**

Date Collected: 5/18/2021 12:16 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/20/21 03:14	PDK	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/20/21 03:14	PDK	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/20/21 03:14	PDK	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:14	PDK	J
<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)	103	C	%	62 - 133	SW846 8260B			5/20/21 03:14	PDK	J
4-Bromofluorobenzene (S)	104	C	%	79 - 114	SW846 8260B			5/20/21 03:14	PDK	J
Dibromofluoromethane (S)	91.9	C	%	78 - 116	SW846 8260B			5/20/21 03:14	PDK	J
Toluene-d8 (S)	101	C	%	76 - 127	SW846 8260B			5/20/21 03:14	PDK	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/20/21 03:14	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	71	C	mg/L	5	SM2320B-2011			5/20/21 23:55	MBS	B
Alkalinity, Total	71	C,1	mg/L	5	SM2320B-2011			5/20/21 23:55	MBS	A
Ammonia-N	0.168	C	mg/L	0.100	ASTM D6919-09			5/25/21 03:47	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/21/21 10:25	ALK	C
Chloride	181	C	mg/L	2.0	EPA 300.0			5/19/21 09:49	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/19/21 09:49	MBW	B
Nitrate-N	1.7	C	mg/L	0.20	EPA 300.0			5/19/21 09:49	MBW	B
pH	6.18	C,2	pH_Units		S4500HB-11			5/20/21 23:55	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/20/21 16:33	MXF	5/21/21 08:46	MXF	I
Specific Conductance	358	C	umhos/cm	1	SM2510B-2011			5/19/21 14:12	MBS	B
Sulfate	66.6	C	mg/L	2.0	EPA 300.0			5/19/21 09:49	MBW	B
Total Dissolved Solids	600	C	mg/L	25	S2540C-11			5/20/21 12:04	KMM	B
Total Organic Carbon (TOC)	1.9	C	mg/L	0.50	SM5310B-2011			5/20/21 05:33	PAG	G
Turbidity	ND	C	NTU	0.10	SM2130B-2011			5/19/21 11:15	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506002**
Sample ID: **FFMP005W**

Date Collected: 5/18/2021 12:16 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/20/21 21:30	SXC	6/12/21 21:35	MSA	D
Barium, Total	0.052	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Barium, Dissolved	0.051	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
Calcium, Total	70.9	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/17/21 14:10	MO	E1
Calcium, Dissolved	71.8	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/17/21 14:10	MO	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
Iron, Total	0.14	C	mg/L	0.056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Iron, Dissolved	0.073	C	mg/L	0.056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
Magnesium, Total	20.4	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Magnesium, Dissolved	19.9	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
Manganese, Total	0.19	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Manganese, Dissolved	0.18	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	5/27/21 07:00	EAD	5/27/21 12:16	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	5/25/21 06:12	EAD	5/25/21 12:09	EAD	D
Nickel, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Potassium, Total	3.4	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Potassium, Dissolved	3.4	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	6/12/21 21:35	MSA	D
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
Sodium, Total	51.7	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Sodium, Dissolved	52.0	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1
Zinc, Total	0.0057	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:36	MO	E1

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506002**
Sample ID: **FFMP005W**

Date Collected: 5/18/2021 12:16 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	0.0056	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:41	MO	D
FIELD PARAMETERS										
Depth to Water Level	64.14	C	Feet		Field			5/18/21 12:16	BGS	F
Elev Top MW Casing above MSL	537.40	C	Feet		Field			5/18/21 12:16	BGS	F
Flow Rate	2.08	C	gal/min		Field			5/18/21 12:16	BGS	F
Ground Water Elevation	473.26	C	ft/MSL		Field			5/18/21 12:16	BGS	F
pH, Field (SM4500B)	5.20	C	pH_Units		Field			5/18/21 12:16	BGS	F
Sample Depth	135.00	C	Feet		Field			5/18/21 12:16	BGS	F
Specific Conductance, Field	1224	C	umhos/cm	1	Field			5/18/21 12:16	BGS	F
Temperature	13.63	C	Deg. C		Field			5/18/21 12:16	BGS	F
Total Well Depth	149.70	C	Feet		Field			5/18/21 12:16	BGS	F
Volume in Water Column	125.77	C	Gallons		Field			5/18/21 12:16	BGS	F
Water Level After Purge	82.50	C	Feet		Field			5/18/21 12:16	BGS	F
Well Volumes Purged	1.16	C	Vol		Field			5/18/21 12:16	BGS	F



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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506003**
Sample ID: **FFMP26RW**

Date Collected: 5/18/2021 13:38 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/20/21 03:37	PDK	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/20/21 03:37	PDK	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/20/21 03:37	PDK	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/20/21 03:37	PDK	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/20/21 03:37	PDK	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/20/21 03:37	PDK	J
Iodomethane	ND	C,2	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/20/21 03:37	PDK	J

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506003**
Sample ID: **FFMP26RW**

Date Collected: 5/18/2021 13:38 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/20/21 03:37	PDK	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/20/21 03:37	PDK	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/20/21 03:37	PDK	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:37	PDK	J
<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)	104	C	%	62 - 133	SW846 8260B			5/20/21 03:37	PDK	J
4-Bromofluorobenzene (S)	104	C	%	79 - 114	SW846 8260B			5/20/21 03:37	PDK	J
Dibromofluoromethane (S)	91.4	C	%	78 - 116	SW846 8260B			5/20/21 03:37	PDK	J
Toluene-d8 (S)	104	C	%	76 - 127	SW846 8260B			5/20/21 03:37	PDK	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/20/21 03:37	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	72	C	mg/L	5	SM2320B-2011			5/25/21 23:56	MBS	B
Alkalinity, Total	72	C,3	mg/L	5	SM2320B-2011			5/25/21 23:56	MBS	A
Ammonia-N	0.264	C	mg/L	0.100	ASTM D6919-09			5/25/21 00:07	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/21/21 10:25	ALK	C
Chloride	154	C	mg/L	2.0	EPA 300.0			5/19/21 10:04	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/19/21 10:04	MBW	B
Nitrate-N	0.88	C	mg/L	0.20	EPA 300.0			5/19/21 10:04	MBW	B
pH	5.96	C,1	pH_Units		S4500HB-11			5/20/21 23:55	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/20/21 16:33	MXF	5/21/21 08:46	MXF	I
Specific Conductance	824	C	umhos/cm	1	SM2510B-2011			5/19/21 14:12	MBS	B
Sulfate	86.6	C	mg/L	2.0	EPA 300.0			5/19/21 10:04	MBW	B
Total Dissolved Solids	606	C	mg/L	25	S2540C-11			5/20/21 12:04	KMM	B
Total Organic Carbon (TOC)	2.1	C	mg/L	0.50	SM5310B-2011			5/20/21 11:17	PAG	G
Turbidity	0.34	C	NTU	0.10	SM2130B-2011			5/19/21 11:15	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506003**
Sample ID: **FFMP26RW**

Date Collected: 5/18/2021 13:38 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/20/21 21:30	SXC	6/12/21 21:39	MSA	D
Barium, Total	0.094	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Barium, Dissolved	0.091	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
Calcium, Total	65.3	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/17/21 14:13	MO	E1
Calcium, Dissolved	64.0	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
Cobalt, Total	0.019	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/17/21 14:13	MO	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
Iron, Total	ND	C	mg/L	0.056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
Magnesium, Total	18.3	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Magnesium, Dissolved	18.4	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
Manganese, Total	0.90	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Manganese, Dissolved	0.90	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	5/27/21 07:00	EAD	5/27/21 12:17	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	5/25/21 06:12	EAD	5/25/21 12:11	EAD	D
Nickel, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Potassium, Total	8.2	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Potassium, Dissolved	8.0	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	6/12/21 21:39	MSA	D
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
Sodium, Total	53.2	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Sodium, Dissolved	54.4	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1
Zinc, Total	0.010	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:40	MO	E1

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506003**
Sample ID: **FFMP26RW**

Date Collected: 5/18/2021 13:38 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	0.0098	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:44	MO	D
FIELD PARAMETERS										
Depth to Water Level	75.48	C	Feet		Field			5/18/21 13:38	BGS	F
Elev Top MW Casing above MSL	547.40	C	Feet		Field			5/18/21 13:38	BGS	F
Flow Rate	2.13	C	gal/min		Field			5/18/21 13:38	BGS	F
Ground Water Elevation	471.92	C	ft/MSL		Field			5/18/21 13:38	BGS	F
pH, Field (SM4500B)	5.33	C	pH_Units		Field			5/18/21 13:38	BGS	F
Sample Depth	105.00	C	Feet		Field			5/18/21 13:38	BGS	F
Specific Conductance, Field	1180	C	umhos/cm	1	Field			5/18/21 13:38	BGS	F
Temperature	14.72	C	Deg. C		Field			5/18/21 13:38	BGS	F
Total Well Depth	118.30	C	Feet		Field			5/18/21 13:38	BGS	F
Volume in Water Column	62.95	C	Gallons		Field			5/18/21 13:38	BGS	F
Water Level After Purge	94.77	C	Feet		Field			5/18/21 13:38	BGS	F
Well Volumes Purged	2.03	C	Vol		Field			5/18/21 13:38	BGS	F



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506004**
Sample ID: **FFMP025W**

Date Collected: 5/18/2021 14:21 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/20/21 03:59	PDK	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/20/21 03:59	PDK	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/20/21 03:59	PDK	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/20/21 03:59	PDK	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/20/21 03:59	PDK	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/20/21 03:59	PDK	J
Iodomethane	ND	C,2, 3,4	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506004**

Date Collected: 5/18/2021 14:21

Matrix: Ground Water

Sample ID: **FFMP025W**

Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/20/21 03:59	PDK	J
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/20/21 03:59	PDK	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/20/21 03:59	PDK	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/20/21 03:59	PDK	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 03:59	PDK	J
<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)	102	C	%	62 - 133	SW846 8260B			5/20/21 03:59	PDK	J
4-Bromofluorobenzene (S)	107	C	%	79 - 114	SW846 8260B			5/20/21 03:59	PDK	J
Dibromofluoromethane (S)	92.7	C	%	78 - 116	SW846 8260B			5/20/21 03:59	PDK	J
Toluene-d8 (S)	101	C	%	76 - 127	SW846 8260B			5/20/21 03:59	PDK	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/20/21 03:59	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	37	C	mg/L	5	SM2320B-2011			5/24/21 16:31	MBS	B
Alkalinity, Total	37	C,5	mg/L	5	SM2320B-2011			5/24/21 16:31	MBS	A
Ammonia-N	0.404	C	mg/L	0.100	ASTM D6919-09			5/25/21 03:19	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/21/21 10:25	ALK	C
Chloride	187	C	mg/L	2.0	EPA 300.0			5/19/21 10:19	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/19/21 10:19	MBW	B
Nitrate-N	7.9	C	mg/L	0.20	EPA 300.0			5/19/21 10:19	MBW	B
pH	6.15	C,1	pH_Units		S4500HB-11			5/20/21 23:55	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/20/21 16:33	MXF	5/21/21 08:46	MXF	I
Specific Conductance	796	C	umhos/cm	1	SM2510B-2011			5/19/21 14:12	MBS	B
Sulfate	30.0	C	mg/L	2.0	EPA 300.0			5/19/21 10:19	MBW	B
Total Dissolved Solids	608	C	mg/L	25	S2540C-11			5/20/21 12:04	KMM	B

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506004**
Sample ID: **FFMP025W**

Date Collected: 5/18/2021 14:21 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	1.6	C	mg/L	0.50	SM5310B-2011			5/20/21 11:17	PAG	G
Turbidity	0.32	C	NTU	0.10	SM2130B-2011			5/19/21 11:15	LXZ	B
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/20/21 21:30	SXC	6/12/21 21:42	MSA	D
Barium, Total	0.12	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Barium, Dissolved	0.12	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
Calcium, Total	48.9	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/17/21 14:16	MO	E1
Calcium, Dissolved	47.6	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
Cobalt, Total	0.017	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/17/21 14:16	MO	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
Iron, Total	ND	C	mg/L	0.056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
Magnesium, Total	23.3	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Magnesium, Dissolved	22.8	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
Manganese, Total	0.45	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Manganese, Dissolved	0.43	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	5/27/21 07:00	EAD	5/27/21 12:19	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	5/25/21 06:12	EAD	5/25/21 12:14	EAD	D
Nickel, Total	0.0075	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Potassium, Total	4.2	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Potassium, Dissolved	4.2	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	6/12/21 21:42	MSA	D
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
Sodium, Total	52.2	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Sodium, Dissolved	52.4	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176506004**
Sample ID: **FFMP025W**

Date Collected: 5/18/2021 14:21 Matrix: Ground Water
Date Received: 5/18/2021 15:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Zinc, Total	0.011	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:43	MO	E1
Zinc, Dissolved	0.0095	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:47	MO	D
FIELD PARAMETERS										
Depth to Water Level	26.82	C	Feet		Field			5/18/21 14:21	BGS	F
Elev Top MW Casing above MSL	476.80	C	Feet		Field			5/18/21 14:21	BGS	F
Flow Rate	2.77	C	gal/min		Field			5/18/21 14:21	BGS	F
Ground Water Elevation	449.98	C	ft/MSL		Field			5/18/21 14:21	BGS	F
pH, Field (SM4500B)	5.21	C	pH_Units		Field			5/18/21 14:21	BGS	F
Sample Depth	39.00	C	Feet		Field			5/18/21 14:21	BGS	F
Specific Conductance, Field	1171	C	umhos/cm	1	Field			5/18/21 14:21	BGS	F
Temperature	13.00	C	Deg. C		Field			5/18/21 14:21	BGS	F
Total Well Depth	41.50	C	Feet		Field			5/18/21 14:21	BGS	F
Volume in Water Column	21.58	C	Gallons		Field			5/18/21 14:21	BGS	F
Water Level After Purge	29.54	C	Feet		Field			5/18/21 14:21	BGS	F
Well Volumes Purged	3.20	C	Vol		Field			5/18/21 14:21	BGS	F


Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3176506001	1	FFMP033W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3176506001	2	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.				
3176506001	3	FFMP033W	SW846 8260B	Iodomethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 228 and the control limits were 37 to 128.				
3176506002	1	FFMP005W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3176506002	2	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.				
3176506002	3	FFMP005W	SW846 8260B	Iodomethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 228 and the control limits were 37 to 128.				
3176506003	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.				
3176506003	2	FFMP26RW	SW846 8260B	Iodomethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 228 and the control limits were 37 to 128.				
3176506003	3	FFMP26RW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3176506004	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.				
3176506004	2	FFMP025W	SW846 8260B	Iodomethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 228 and the control limits were 37 to 128.				
3176506004	3	FFMP025W	SW846 8260B	Iodomethane
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 157 and the control limits were 37 to 128.				
3176506004	4	FFMP025W	SW846 8260B	Iodomethane
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 146 and the control limits were 37 to 128.				
3176506004	5	FFMP025W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3176506001	FFMP033W	ASTM D6919-09		
3176506001	FFMP033W	EPA 300.0		
3176506001	FFMP033W	EPA 410.4		
3176506001	FFMP033W	Field		
3176506001	FFMP033W	Lib Search VOC		
3176506001	FFMP033W	S2540C-11		
3176506001	FFMP033W	S4500HB-11		
3176506001	FFMP033W	SM2130B-2011		
3176506001	FFMP033W	SM2320B-2011		
3176506001	FFMP033W	SM2510B-2011		
3176506001	FFMP033W	SM5310B-2011		
3176506001	FFMP033W	SW846 6020A	SW846 3015	
3176506001	FFMP033W	SW846 7470A	SW846 7470A	
3176506001	FFMP033W	SW846 8260B		
3176506001	FFMP033W	SW846 9066	420.4/9066	
3176506002	FFMP005W	ASTM D6919-09		
3176506002	FFMP005W	EPA 300.0		
3176506002	FFMP005W	EPA 410.4		
3176506002	FFMP005W	Field		
3176506002	FFMP005W	Lib Search VOC		
3176506002	FFMP005W	S2540C-11		
3176506002	FFMP005W	S4500HB-11		
3176506002	FFMP005W	SM2130B-2011		
3176506002	FFMP005W	SM2320B-2011		
3176506002	FFMP005W	SM2510B-2011		
3176506002	FFMP005W	SM5310B-2011		
3176506002	FFMP005W	SW846 6020A	SW846 3015	
3176506002	FFMP005W	SW846 7470A	SW846 7470A	
3176506002	FFMP005W	SW846 8260B		
3176506002	FFMP005W	SW846 9066	420.4/9066	
3176506003	FFMP26RW	ASTM D6919-09		
3176506003	FFMP26RW	EPA 300.0		
3176506003	FFMP26RW	EPA 410.4		
3176506003	FFMP26RW	Field		
3176506003	FFMP26RW	Lib Search VOC		
3176506003	FFMP26RW	S2540C-11		
3176506003	FFMP26RW	S4500HB-11		
3176506003	FFMP26RW	SM2130B-2011		
3176506003	FFMP26RW	SM2320B-2011		
3176506003	FFMP26RW	SM2510B-2011		
3176506003	FFMP26RW	SM5310B-2011		
3176506003	FFMP26RW	SW846 6020A	SW846 3015	
3176506003	FFMP26RW	SW846 7470A	SW846 7470A	
3176506003	FFMP26RW	SW846 8260B		
3176506003	FFMP26RW	SW846 9066	420.4/9066	
3176506004	FFMP025W	ASTM D6919-09		

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**ANALYSIS - PREP METHOD CROSS REFERENCE TABLE**

Workorder: 3176506 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3176506004	FFMP025W	EPA 300.0		
3176506004	FFMP025W	EPA 410.4		
3176506004	FFMP025W	Field		
3176506004	FFMP025W	Lib Search VOC		
3176506004	FFMP025W	S2540C-11		
3176506004	FFMP025W	S4500HB-11		
3176506004	FFMP025W	SM2130B-2011		
3176506004	FFMP025W	SM2320B-2011		
3176506004	FFMP025W	SM2510B-2011		
3176506004	FFMP025W	SM5310B-2011		
3176506004	FFMP025W	SW846 6020A	SW846 3015	
3176506004	FFMP025W	SW846 7470A	SW846 7470A	
3176506004	FFMP025W	SW846 8260B		
3176506004	FFMP025W	SW846 9066	420.4/9066	

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301 Fulling Mill Road
Middletown, PA 17057

P: (717) 944-5541

F: (717) 944-1430

3176506

Lancaster County Solid Waste
Authority

Condition of Sample Receipt Form

Client: _____

Initials: BBD

Date: 05/19/21

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

Cooler #: _____

Temperature (°C): 6°C

Thermometer ID: 574

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

July 6, 2021

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:	3176403
Purchase Order:	PO-1000371	Workorder ID:	2ND QTR 2021 FFMP-FORM 19A

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Monday, May 17, 2021.

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.

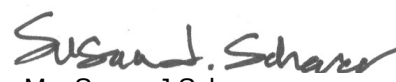
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications 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

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SAMPLE SUMMARY

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3176403001	FFMP015W	Ground Water	5/17/2021 11:56	5/17/2021 15:37	Mr. Brian G Shade
3176403002	FFMP30RW	Ground Water	5/17/2021 13:16	5/17/2021 15:37	Mr. Brian G Shade
3176403003	FFMP04AW	Ground Water	5/17/2021 14:28	5/17/2021 15:37	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

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

C	Please reference the Project Summary section of this Certificate of Analysis for case narrative comments.
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

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PROJECT SUMMARY

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Workorder Comments

Temperature of sample taken at time of sample receipt in the laboratory. See chain of custody for actual temperature.

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176403001**

Date Collected: 5/17/2021 11:56

Matrix: Ground Water

Sample ID: **FFMP015W**

Date Received: 5/17/2021 15:37

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/19/21 23:32	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/19/21 23:32	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/19/21 23:32	VLM	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/19/21 23:32	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/19/21 23:32	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/19/21 23:32	VLM	J
Iodomethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/19/21 23:32	VLM	J

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176403001**
Sample ID: **FFMP015W**

Date Collected: 5/17/2021 11:56 Matrix: Ground Water
Date Received: 5/17/2021 15:37

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/19/21 23:32	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/19/21 23:32	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/19/21 23:32	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:32	VLM	J
<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)	90.2	C	%	62 - 133	SW846 8260B			5/19/21 23:32	VLM	J
4-Bromofluorobenzene (S)	90.9	C	%	79 - 114	SW846 8260B			5/19/21 23:32	VLM	J
Dibromofluoromethane (S)	90.3	C	%	78 - 116	SW846 8260B			5/19/21 23:32	VLM	J
Toluene-d8 (S)	95.5	C	%	76 - 127	SW846 8260B			5/19/21 23:32	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/19/21 23:32	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	30	C	mg/L	5	SM2320B-2011			5/20/21 23:55	MBS	B
Alkalinity, Total	30	C,1	mg/L	5	SM2320B-2011			5/20/21 23:55	MBS	A
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			5/24/21 16:06	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/20/21 12:50	ALK	C
Chloride	29.0	C	mg/L	2.0	EPA 300.0			5/18/21 05:58	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/18/21 05:58	MBW	B
Nitrate-N	29.9	C	mg/L	0.20	EPA 300.0			5/18/21 05:58	MBW	B
pH	5.91	C,2	pH_Units		S4500HB-11			5/20/21 23:55	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/20/21 16:33	MXF	5/21/21 08:46	MXF	I
Specific Conductance	455	C	umhos/cm	1	SM2510B-2011			5/19/21 14:12	MBS	B
Sulfate	38.9	C	mg/L	2.0	EPA 300.0			5/18/21 05:58	MBW	B
Total Dissolved Solids	288	C	mg/L	25	S2540C-11			5/19/21 12:44	KMM	B
Total Organic Carbon (TOC)	1.8	C	mg/L	0.50	SM5310B-2011			5/20/21 05:33	PAG	G
Turbidity	0.14	C	NTU	0.10	SM2130B-2011			5/18/21 07:59	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176403001**
Sample ID: **FFMP015W**

Date Collected: 5/17/2021 11:56 Matrix: Ground Water
Date Received: 5/17/2021 15:37

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Barium, Total	0.082	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Barium, Dissolved	0.081	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Calcium, Total	17.3	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/17/21 13:31	MO	E1
Calcium, Dissolved	17.1	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/17/21 13:31	MO	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Iron, Total	ND	C	mg/L	0.056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Magnesium, Total	26.3	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Magnesium, Dissolved	26.0	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Manganese, Total	0.063	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Manganese, Dissolved	0.063	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	5/26/21 06:18	EAD	5/26/21 11:56	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	5/25/21 06:12	EAD	5/25/21 11:56	EAD	D
Nickel, Total	0.0069	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Potassium, Total	2.3	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Potassium, Dissolved	2.3	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	6/12/21 20:59	MSA	D
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Sodium, Total	24.8	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Sodium, Dissolved	25.0	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1
Zinc, Total	0.035	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:14	MO	E1

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176403001**
Sample ID: **FFMP015W**

Date Collected: 5/17/2021 11:56 Matrix: Ground Water
Date Received: 5/17/2021 15:37

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	0.035	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:11	MO	D
FIELD PARAMETERS										
Depth to Water Level	60.37	C	Feet		Field			5/17/21 11:56	BGS	F
Elev Top MW Casing above MSL	576.40	C	Feet		Field			5/17/21 11:56	BGS	F
Flow Rate	1.81	C	gal/min		Field			5/17/21 11:56	BGS	F
Ground Water Elevation	516.03	C	ft/MSL		Field			5/17/21 11:56	BGS	F
pH, Field (SM4500B)	5.31	C	pH_Units		Field			5/17/21 11:56	BGS	F
Sample Depth	135.00	C	Feet		Field			5/17/21 11:56	BGS	F
Specific Conductance, Field	645	C	umhos/cm	1	Field			5/17/21 11:56	BGS	F
Temperature	15.20	C	Deg. C		Field			5/17/21 11:56	BGS	F
Total Well Depth	149.90	C	Feet		Field			5/17/21 11:56	BGS	F
Volume in Water Column	131.61	C	Gallons		Field			5/17/21 11:56	BGS	F
Water Level After Purge	101.98	C	Feet		Field			5/17/21 11:56	BGS	F
Well Volumes Purged	0.96	C	Vol		Field			5/17/21 11:56	BGS	F



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176403002**

Date Collected: 5/17/2021 13:16

Matrix: Ground Water

Sample ID: **FFMP30RW**

Date Received: 5/17/2021 15:37

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/19/21 23:55	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/19/21 23:55	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/19/21 23:55	VLM	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/19/21 23:55	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/19/21 23:55	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/19/21 23:55	VLM	J
Iodomethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/19/21 23:55	VLM	J

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176403002**
Sample ID: **FFMP30RW**

Date Collected: 5/17/2021 13:16 Matrix: Ground Water
Date Received: 5/17/2021 15:37

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/19/21 23:55	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/19/21 23:55	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/19/21 23:55	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/19/21 23:55	VLM	J
<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	C	%	62 - 133	SW846 8260B			5/19/21 23:55	VLM	J
4-Bromofluorobenzene (S)	89.7	C	%	79 - 114	SW846 8260B			5/19/21 23:55	VLM	J
Dibromofluoromethane (S)	89.7	C	%	78 - 116	SW846 8260B			5/19/21 23:55	VLM	J
Toluene-d8 (S)	95.3	C	%	76 - 127	SW846 8260B			5/19/21 23:55	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/19/21 23:55	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	41	C	mg/L	5	SM2320B-2011			5/20/21 23:55	MBS	B
Alkalinity, Total	41	C,1	mg/L	5	SM2320B-2011			5/20/21 23:55	MBS	A
Ammonia-N	0.335	C	mg/L	0.100	ASTM D6919-09			5/24/21 17:01	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/20/21 12:50	ALK	C
Chloride	148	C	mg/L	2.0	EPA 300.0			5/18/21 06:14	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/18/21 06:14	MBW	B
Nitrate-N	4.8	C	mg/L	0.20	EPA 300.0			5/18/21 06:14	MBW	B
pH	5.76	C,2	pH_Units		S4500HB-11			5/20/21 23:55	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/20/21 16:33	MXF	5/21/21 08:46	MXF	I
Specific Conductance	637	C	umhos/cm	1	SM2510B-2011			5/19/21 14:12	MBS	B
Sulfate	21.0	C	mg/L	2.0	EPA 300.0			5/18/21 06:14	MBW	B
Total Dissolved Solids	356	C	mg/L	25	S2540C-11			5/19/21 12:44	KMM	B
Total Organic Carbon (TOC)	2.4	C	mg/L	0.50	SM5310B-2011			5/20/21 05:33	PAG	G
Turbidity	1.96	C	NTU	0.10	SM2130B-2011			5/18/21 07:59	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176403002**

Date Collected: 5/17/2021 13:16

Matrix: Ground Water

Sample ID: **FFMP30RW**

Date Received: 5/17/2021 15:37

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/20/21 21:30	SXC	6/12/21 21:02	MSA	D
Barium, Total	0.068	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Barium, Dissolved	0.063	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
Calcium, Total	26.2	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/17/21 14:04	MO	E1
Calcium, Dissolved	25.4	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
Chromium, Total	0.0022	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
Cobalt, Total	0.011	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/17/21 14:04	MO	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
Iron, Total	0.12	C	mg/L	0.056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
Magnesium, Total	14.9	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Magnesium, Dissolved	14.2	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
Manganese, Total	1.5	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Manganese, Dissolved	1.4	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
Mercury, Total	0.00053	C	mg/L	0.00050	SW846 7470A	5/26/21 06:18	EAD	5/26/21 11:57	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	5/25/21 06:12	EAD	5/25/21 12:00	EAD	D
Nickel, Total	0.019	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Potassium, Total	3.9	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Potassium, Dissolved	3.8	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	6/12/21 21:02	MSA	D
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
Sodium, Total	71.3	C	mg/L	0.11	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Sodium, Dissolved	70.4	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1
Zinc, Total	0.012	C	mg/L	0.0056	SW846 6020A	5/25/21 18:28	SXC	6/16/21 20:18	MO	E1

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176403002**

Date Collected: 5/17/2021 13:16

Matrix: Ground Water

Sample ID: **FFMP30RW**

Date Received: 5/17/2021 15:37

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	0.012	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:31	MO	D
FIELD PARAMETERS										
Depth to Water Level	34.44	C	Feet		Field			5/17/21 13:16	BGS	F
Elev Top MW Casing above MSL	562.30	C	Feet		Field			5/17/21 13:16	BGS	F
Flow Rate	1.88	C	gal/min		Field			5/17/21 13:16	BGS	F
Ground Water Elevation	527.86	C	ft/MSL		Field			5/17/21 13:16	BGS	F
pH, Field (SM4500B)	5.03	C	pH_Units		Field			5/17/21 13:16	BGS	F
Sample Depth	85.00	C	Feet		Field			5/17/21 13:16	BGS	F
Specific Conductance, Field	965	C	umhos/cm	1	Field			5/17/21 13:16	BGS	F
Temperature	13.98	C	Deg. C		Field			5/17/21 13:16	BGS	F
Total Well Depth	94.20	C	Feet		Field			5/17/21 13:16	BGS	F
Volume in Water Column	87.85	C	Gallons		Field			5/17/21 13:16	BGS	F
Water Level After Purge	44.08	C	Feet		Field			5/17/21 13:16	BGS	F
Well Volumes Purged	1.29	C	Vol		Field			5/17/21 13:16	BGS	F



Ms. Susan J Scherer

Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176403003**
Sample ID: **FFMP04AW**

Date Collected: 5/17/2021 14:28 Matrix: Ground Water
Date Received: 5/17/2021 15:37

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/20/21 00:18	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/20/21 00:18	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/20/21 00:18	VLM	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/20/21 00:18	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/20/21 00:18	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/20/21 00:18	VLM	J
Iodomethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/20/21 00:18	VLM	J

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176403003**
Sample ID: **FFMP04AW**

Date Collected: 5/17/2021 14:28 Matrix: Ground Water
Date Received: 5/17/2021 15:37

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/20/21 00:18	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/20/21 00:18	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/20/21 00:18	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/20/21 00:18	VLM	J
<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)	88.7	C	%	62 - 133	SW846 8260B			5/20/21 00:18	VLM	J
4-Bromofluorobenzene (S)	89.7	C	%	79 - 114	SW846 8260B			5/20/21 00:18	VLM	J
Dibromofluoromethane (S)	90.5	C	%	78 - 116	SW846 8260B			5/20/21 00:18	VLM	J
Toluene-d8 (S)	94.9	C	%	76 - 127	SW846 8260B			5/20/21 00:18	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/20/21 00:18	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	258	C	mg/L	5	SM2320B-2011			5/20/21 23:55	MBS	B
Alkalinity, Total	258	C,1	mg/L	5	SM2320B-2011			5/20/21 23:55	MBS	A
Ammonia-N	0.310	C	mg/L	0.100	ASTM D6919-09			5/24/21 15:53	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/20/21 12:50	ALK	C
Chloride	310	C	mg/L	2.0	EPA 300.0			5/18/21 06:31	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/18/21 06:31	MBW	B
Nitrate-N	ND	C	mg/L	0.20	EPA 300.0			5/18/21 06:31	MBW	B
pH	7.50	C,2	pH_Units		S4500HB-11			5/20/21 23:55	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/20/21 16:33	MXF	5/21/21 08:46	MXF	I
Specific Conductance	1390	C	umhos/cm	1	SM2510B-2011			5/19/21 14:12	MBS	B
Sulfate	47.5	C	mg/L	2.0	EPA 300.0			5/18/21 06:31	MBW	B
Total Dissolved Solids	1030	C	mg/L	25	S2540C-11			5/20/21 12:04	KMM	B
Total Organic Carbon (TOC)	1.3	C	mg/L	0.50	SM5310B-2011			5/20/21 05:33	PAG	G
Turbidity	0.70	C	NTU	0.10	SM2130B-2011			5/18/21 07:59	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176403003**

Date Collected: 5/17/2021 14:28

Matrix: Ground Water

Sample ID: **FFMP04AW**

Date Received: 5/17/2021 15:37

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/20/21 21:30	SXC	6/12/21 21:05	MSA	D
Barium, Total	0.17	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Barium, Dissolved	0.20	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
Calcium, Total	144	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Calcium, Dissolved	140	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
Iron, Total	ND	C	mg/L	0.056	SW846 6020A	5/22/21 16:30	AHI	7/3/21 17:28	MSA	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
Magnesium, Total	27.8	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Magnesium, Dissolved	26.1	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
Manganese, Total	0.27	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Manganese, Dissolved	0.27	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	5/26/21 06:18	EAD	5/26/21 11:58	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	5/25/21 06:12	EAD	5/25/21 12:01	EAD	D
Nickel, Total	0.012	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Potassium, Total	2.5	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Potassium, Dissolved	2.3	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	6/12/21 21:05	MSA	D
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	7/3/21 17:28	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
Sodium, Total	89.2	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Sodium, Dissolved	86.4	C	mg/L	0.11	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1
Zinc, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:38	MSA	E1

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176403003**
Sample ID: **FFMP04AW**

Date Collected: 5/17/2021 14:28 Matrix: Ground Water
Date Received: 5/17/2021 15:37

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/20/21 21:30	SXC	5/31/21 16:34	MO	D
FIELD PARAMETERS										
Depth to Water Level	33.42	C	Feet		Field			5/17/21 14:28	BGS	F
Elev Top MW Casing above MSL	560.72	C	Feet		Field			5/17/21 14:28	BGS	F
Flow Rate	1.79	C	gal/min		Field			5/17/21 14:28	BGS	F
Ground Water Elevation	527.30	C	ft/MSL		Field			5/17/21 14:28	BGS	F
pH, Field (SM4500B)	6.75	C	pH_Units		Field			5/17/21 14:28	BGS	F
Sample Depth	146.00	C	Feet		Field			5/17/21 14:28	BGS	F
Specific Conductance, Field	2073	C	umhos/cm	1	Field			5/17/21 14:28	BGS	F
Temperature	14.38	C	Deg. C		Field			5/17/21 14:28	BGS	F
Total Well Depth	148.50	C	Feet		Field			5/17/21 14:28	BGS	F
Volume in Water Column	169.17	C	Gallons		Field			5/17/21 14:28	BGS	F
Water Level After Purge	78.76	C	Feet		Field			5/17/21 14:28	BGS	F
Well Volumes Purged	0.64	C	Vol		Field			5/17/21 14:28	BGS	F



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3176403001	1	FFMP015W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3176403001	2	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.				
3176403002	1	FFMP30RW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3176403002	2	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.				
3176403003	1	FFMP04AW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3176403003	2	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.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3176403 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3176403001	FFMP015W	ASTM D6919-09		
3176403001	FFMP015W	EPA 300.0		
3176403001	FFMP015W	EPA 410.4		
3176403001	FFMP015W	Field		
3176403001	FFMP015W	Lib Search VOC		
3176403001	FFMP015W	S2540C-11		
3176403001	FFMP015W	S4500HB-11		
3176403001	FFMP015W	SM2130B-2011		
3176403001	FFMP015W	SM2320B-2011		
3176403001	FFMP015W	SM2510B-2011		
3176403001	FFMP015W	SM5310B-2011		
3176403001	FFMP015W	SW846 6020A	SW846 3015	
3176403001	FFMP015W	SW846 7470A	SW846 7470A	
3176403001	FFMP015W	SW846 8260B		
3176403001	FFMP015W	SW846 9066	420.4/9066	
3176403002	FFMP30RW	ASTM D6919-09		
3176403002	FFMP30RW	EPA 300.0		
3176403002	FFMP30RW	EPA 410.4		
3176403002	FFMP30RW	Field		
3176403002	FFMP30RW	Lib Search VOC		
3176403002	FFMP30RW	S2540C-11		
3176403002	FFMP30RW	S4500HB-11		
3176403002	FFMP30RW	SM2130B-2011		
3176403002	FFMP30RW	SM2320B-2011		
3176403002	FFMP30RW	SM2510B-2011		
3176403002	FFMP30RW	SM5310B-2011		
3176403002	FFMP30RW	SW846 6020A	SW846 3015	
3176403002	FFMP30RW	SW846 7470A	SW846 7470A	
3176403002	FFMP30RW	SW846 8260B		
3176403002	FFMP30RW	SW846 9066	420.4/9066	
3176403003	FFMP04AW	ASTM D6919-09		
3176403003	FFMP04AW	EPA 300.0		
3176403003	FFMP04AW	EPA 410.4		
3176403003	FFMP04AW	Field		
3176403003	FFMP04AW	Lib Search VOC		
3176403003	FFMP04AW	S2540C-11		
3176403003	FFMP04AW	S4500HB-11		
3176403003	FFMP04AW	SM2130B-2011		
3176403003	FFMP04AW	SM2320B-2011		
3176403003	FFMP04AW	SM2510B-2011		
3176403003	FFMP04AW	SM5310B-2011		
3176403003	FFMP04AW	SW846 6020A	SW846 3015	
3176403003	FFMP04AW	SW846 7470A	SW846 7470A	
3176403003	FFMP04AW	SW846 8260B		
3176403003	FFMP04AW	SW846 9066	420.4/9066	

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

301 Felling Mill Road • Middletown, PA 17057 • Phone: 717.944.5541 • Fax: 717.944.1430
www.alsenv.com

Client Name: Lancaster County Solid Waste MA

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

Lancaster, PA 17604

Contact: Dan Brown

Phone#: (717) 735-0193

Project Name#: Frey Farm Annual

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

Fax? ☒ -Y No.: (717) 397-9973

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

Sample Date Time

1. FFMP015W 05/17/21 1156 G GW

2. FFMP30RW 05/17/21 1316 G GW

3. FFMP04AW 05/17/21 1428 G GW

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Project Comments:

LOGGED BY (signature):

REVIEWED BY (signature):

Relinquished By / Company Name

Date Time

Received By / Company Name

Date

Time

1. 1299 Harrisburg Pike ALS

5-17-21 1537

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5/17/21

1537

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301 Fulling Mill Road
Middletown, PA 17057

P: (717) 944-5541

F: (717) 944-1430

Condition of Sample Receipt Form

Client: _____ Work Order #: **3176403**

Lancaster County Solid Waste
Authority

S: BHD Date: 05/18/21

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

Cooler #: _____

Temperature (°C): 5°C

Thermometer ID: 574

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

July 20, 2021

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

Certificate of Analysis

Revised Report - 7/20/2021 4:58:34 PM - See workorder comment section for explanation

Project Name:	FREY FARM	Workorder:	3176871
Purchase Order:	PO-1000371	Workorder ID:	2ND QTR 2021 FFMP-FORM 19A

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, May 19, 2021.

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.

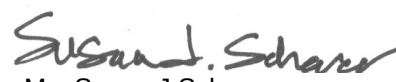
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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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

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SAMPLE SUMMARY

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3176871001	FFMP03AW	Ground Water	5/19/2021 10:21	5/19/2021 15:45	Mr. Brian G Shade
3176871002	FFMP017W	Ground Water	5/19/2021 11:49	5/19/2021 15:45	Mr. Brian G Shade
3176871003	FFMP019W	Ground Water	5/19/2021 12:43	5/19/2021 15:45	Mr. Brian G Shade
3176871004	FFMP018W	Ground Water	5/19/2021 13:09	5/19/2021 15:45	Mr. Brian G Shade
3176871005	FFMP029W	Ground Water	5/19/2021 14:29	5/19/2021 15:45	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

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

C	Please reference the Project Summary section of this Certificate of Analysis for case narrative comments.
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

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PROJECT SUMMARY

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Workorder Comments

Temperature of sample taken at time of sample receipt in the laboratory. See chain of custody for actual temperature.

This certificate of analysis was modified to correct the volatile library search reporting on 3176871002 through 3176871004 based on the email inquiries from Jordan Gallagher and Dan Brown. The reported detections were related to antifoam added to the samples in the laboratory prior to the analysis. These invalid detections were removed. SJS 07/20/21

This sample had a library search VOC that seemed to be a lab contaminate due to it only being detected on these samples in this WO, and none in the other WO. Can you please confirm / reject the library search VOC? 07/12/21

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871001**

Date Collected: 5/19/2021 10:21

Matrix: Ground Water

Sample ID: **FFMP03AW**

Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/21/21 01:05	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/21/21 01:05	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Bromochloromethane	ND	C,4	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/21/21 01:05	VLM	J
Carbon Disulfide	ND	C,3	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Carbon Tetrachloride	ND	C,5	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/21/21 01:05	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/21/21 01:05	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/21/21 01:05	VLM	J
Iodomethane	ND	C,2	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/21/21 01:05	VLM	J

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871001**
Sample ID: **FFMP03AW**

Date Collected: 5/19/2021 10:21 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/21/21 01:05	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/21/21 01:05	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/21/21 01:05	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:05	VLM	J
<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)	84.6	C	%	62 - 133	SW846 8260B			5/21/21 01:05	VLM	J
4-Bromofluorobenzene (S)	102	C	%	79 - 114	SW846 8260B			5/21/21 01:05	VLM	J
Dibromofluoromethane (S)	95.6	C	%	78 - 116	SW846 8260B			5/21/21 01:05	VLM	J
Toluene-d8 (S)	90.9	C	%	76 - 127	SW846 8260B			5/21/21 01:05	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/21/21 01:05	CHS	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	19	C	mg/L	5	SM2320B-2011			5/28/21 23:52	MBS	B
Alkalinity, Total	19	C,6	mg/L	5	SM2320B-2011			5/28/21 23:52	MBS	A
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			5/25/21 22:47	JXL	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/21/21 10:25	ALK	C
Chloride	33.4	C	mg/L	2.0	EPA 300.0			5/20/21 13:41	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/20/21 13:41	MBW	B
Nitrate-N	21.8	C	mg/L	0.20	EPA 300.0			5/20/21 13:41	MBW	B
pH	5.72	C,1	pH_Units		S4500HB-11			5/26/21 07:26	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/20/21 16:34	MXF	5/21/21 08:46	MXF	I
Specific Conductance	275	C	umhos/cm	1	SM2510B-2011			5/26/21 14:47	MBS	B
Sulfate	3.2	C	mg/L	2.0	EPA 300.0			5/20/21 13:41	MBW	B
Total Dissolved Solids	234	C	mg/L	25	S2540C-11			5/24/21 13:16	KMM	B
Total Organic Carbon (TOC)	0.97	C	mg/L	0.50	SM5310B-2011			5/22/21 01:37	PAG	G
Turbidity	0.15	C	NTU	0.10	SM2130B-2011			5/20/21 09:57	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871001**
Sample ID: **FFMP03AW**

Date Collected: 5/19/2021 10:21 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Barium, Total	0.046	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Barium, Dissolved	0.054	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Calcium, Total	18.2	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Calcium, Dissolved	16.0	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Copper, Total	0.0064	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Copper, Dissolved	0.0068	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Iron, Total	0.31	C	mg/L	0.056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Iron, Dissolved	0.095	C	mg/L	0.056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 16:56	MO	D
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Magnesium, Total	15.0	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Magnesium, Dissolved	14.6	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Manganese, Total	0.33	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Manganese, Dissolved	0.31	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	5/28/21 06:19	EAD	5/28/21 10:45	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	5/25/21 06:12	EAD	5/25/21 12:20	EAD	D
Nickel, Total	0.0099	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Potassium, Total	1.3	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Potassium, Dissolved	1.3	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Sodium, Total	13.6	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Sodium, Dissolved	12.9	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1
Zinc, Total	0.020	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:51	MSA	E1

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871001**
Sample ID: **FFMP03AW**

Date Collected: 5/19/2021 10:21 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	0.019	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:47	MO	D
FIELD PARAMETERS										
Depth to Water Level	50.78	C	Feet		Field			5/19/21 10:21	BGS	F
Elev Top MW Casing above MSL	590.90	C	Feet		Field			5/19/21 10:21	BGS	F
Flow Rate	1.84	C	gal/min		Field			5/19/21 10:21	BGS	F
Ground Water Elevation	540.12	C	ft/MSL		Field			5/19/21 10:21	BGS	F
pH, Field (SM4500B)	4.82	C	pH_Units		Field			5/19/21 10:21	BGS	F
Sample Depth	130.00	C	Feet		Field			5/19/21 10:21	BGS	F
Specific Conductance, Field	469	C	umhos/cm	1	Field			5/19/21 10:21	BGS	F
Temperature	14.17	C	Deg. C		Field			5/19/21 10:21	BGS	F
Total Well Depth	148.40	C	Feet		Field			5/19/21 10:21	BGS	F
Volume in Water Column	143.50	C	Gallons		Field			5/19/21 10:21	BGS	F
Water Level After Purge	83.63	C	Feet		Field			5/19/21 10:21	BGS	F
Well Volumes Purged	0.77	C	Vol		Field			5/19/21 10:21	BGS	F



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871002**
Sample ID: **FFMP017W**

Date Collected: 5/19/2021 11:49 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/21/21 01:27	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/21/21 01:27	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Bromochloromethane	ND	C,2	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/21/21 01:27	VLM	J
Carbon Disulfide	ND	C,5	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Carbon Tetrachloride	ND	C,3	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/21/21 01:27	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/21/21 01:27	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/21/21 01:27	VLM	J
Iodomethane	ND	C,4	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/21/21 01:27	VLM	J

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871002**
Sample ID: **FFMP017W**

Date Collected: 5/19/2021 11:49 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/21/21 01:27	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/21/21 01:27	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/21/21 01:27	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:27	VLM	J
<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)	84.5	C	%	62 - 133	SW846 8260B			5/21/21 01:27	VLM	J
4-Bromofluorobenzene (S)	101	C	%	79 - 114	SW846 8260B			5/21/21 01:27	VLM	J
Dibromofluoromethane (S)	93.9	C	%	78 - 116	SW846 8260B			5/21/21 01:27	VLM	J
Toluene-d8 (S)	90.2	C	%	76 - 127	SW846 8260B			5/21/21 01:27	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/21/21 01:27	CHS	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	98	C	mg/L	5	SM2320B-2011			5/28/21 23:52	MBS	B
Alkalinity, Total	98	C,6	mg/L	5	SM2320B-2011			5/28/21 23:52	MBS	A
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			5/25/21 23:02	JXL	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/21/21 10:25	ALK	C
Chloride	358	C	mg/L	2.0	EPA 300.0			5/20/21 13:57	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/20/21 13:57	MBW	B
Nitrate-N	3.6	C	mg/L	0.20	EPA 300.0			5/20/21 13:57	MBW	B
pH	6.55	C,1	pH_Units		S4500HB-11			5/26/21 07:26	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/20/21 16:34	MXF	5/21/21 08:46	MXF	I
Specific Conductance	1310	C	umhos/cm	1	SM2510B-2011			5/26/21 14:47	MBS	B
Sulfate	72.0	C	mg/L	2.0	EPA 300.0			5/20/21 13:57	MBW	B
Total Dissolved Solids	1120	C	mg/L	25	S2540C-11			5/24/21 13:16	KMM	B
Total Organic Carbon (TOC)	3.1	C	mg/L	0.50	SM5310B-2011			5/22/21 01:37	PAG	G
Turbidity	0.26	C	NTU	0.10	SM2130B-2011			5/20/21 09:57	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871002**
Sample ID: **FFMP017W**

Date Collected: 5/19/2021 11:49 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Barium, Total	0.14	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Barium, Dissolved	0.14	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Calcium, Total	92.8	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Calcium, Dissolved	84.4	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Cobalt, Total	0.013	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Iron, Total	0.10	C	mg/L	0.056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 16:59	MO	D
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Magnesium, Total	47.0	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Magnesium, Dissolved	46.1	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Manganese, Total	1.1	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Manganese, Dissolved	1.1	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	5/28/21 06:19	EAD	5/28/21 10:47	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	5/28/21 06:19	EAD	5/28/21 10:16	EAD	D
Nickel, Total	0.0081	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Potassium, Total	7.5	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Potassium, Dissolved	6.9	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Sodium, Total	105	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Sodium, Dissolved	99.5	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1
Zinc, Total	0.014	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 20:54	MSA	E1

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871002**
Sample ID: **FFMP017W**

Date Collected: 5/19/2021 11:49 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	0.011	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:50	MO	D
FIELD PARAMETERS										
Depth to Water Level	41.09	C	Feet		Field			5/19/21 11:49	BGS	F
Elev Top MW Casing above MSL	480.70	C	Feet		Field			5/19/21 11:49	BGS	F
Flow Rate	1.98	C	gal/min		Field			5/19/21 11:49	BGS	F
Ground Water Elevation	439.61	C	ft/MSL		Field			5/19/21 11:49	BGS	F
pH, Field (SM4500B)	5.56	C	pH_Units		Field			5/19/21 11:49	BGS	F
Sample Depth	135.00	C	Feet		Field			5/19/21 11:49	BGS	F
Specific Conductance, Field	2092	C	umhos/cm	1	Field			5/19/21 11:49	BGS	F
Temperature	13.16	C	Deg. C		Field			5/19/21 11:49	BGS	F
Total Well Depth	150.50	C	Feet		Field			5/19/21 11:49	BGS	F
Volume in Water Column	160.83	C	Gallons		Field			5/19/21 11:49	BGS	F
Water Level After Purge	48.91	C	Feet		Field			5/19/21 11:49	BGS	F
Well Volumes Purged	0.86	C	Vol		Field			5/19/21 11:49	BGS	F



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871003**
Sample ID: **FFMP019W**

Date Collected: 5/19/2021 12:43 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/21/21 01:49	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/21/21 01:49	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Bromochloromethane	ND	C,5	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/21/21 01:49	VLM	J
Carbon Disulfide	ND	C,4	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Carbon Tetrachloride	ND	C,6	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/21/21 01:49	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/21/21 01:49	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/21/21 01:49	VLM	J
Iodomethane	ND	C,3	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/21/21 01:49	VLM	J

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871003**
Sample ID: **FFMP019W**

Date Collected: 5/19/2021 12:43 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/21/21 01:49	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/21/21 01:49	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/21/21 01:49	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/21/21 01:49	VLM	J
<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)	83	C	%	62 - 133	SW846 8260B			5/21/21 01:49	VLM	J
4-Bromofluorobenzene (S)	102	C	%	79 - 114	SW846 8260B			5/21/21 01:49	VLM	J
Dibromofluoromethane (S)	94.1	C	%	78 - 116	SW846 8260B			5/21/21 01:49	VLM	J
Toluene-d8 (S)	89.4	C	%	76 - 127	SW846 8260B			5/21/21 01:49	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/21/21 01:49	CHS	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	105	C	mg/L	5	SM2320B-2011			5/26/21 07:26	MBS	B
Alkalinity, Total	105	C,1	mg/L	5	SM2320B-2011			5/26/21 07:26	MBS	A
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			5/25/21 23:46	JXL	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/21/21 10:25	ALK	C
Chloride	83.3	C	mg/L	2.0	EPA 300.0			5/20/21 14:13	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/20/21 14:13	MBW	B
Nitrate-N	0.28	C	mg/L	0.20	EPA 300.0			5/20/21 14:13	MBW	B
pH	7.26	C,2	pH_Units		S4500HB-11			5/26/21 07:26	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/20/21 16:34	MXF	5/21/21 08:46	MXF	I
Specific Conductance	383	C	umhos/cm	1	SM2510B-2011			5/26/21 14:47	MBS	B
Sulfate	14.8	C	mg/L	2.0	EPA 300.0			5/20/21 14:13	MBW	B
Total Dissolved Solids	320	C	mg/L	25	S2540C-11			5/24/21 13:16	KMM	B
Total Organic Carbon (TOC)	2.0	C	mg/L	0.50	SM5310B-2011			5/22/21 01:37	PAG	G
Turbidity	0.12	C	NTU	0.10	SM2130B-2011			5/20/21 09:57	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871003**
Sample ID: **FFMP019W**

Date Collected: 5/19/2021 12:43 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Barium, Total	0.076	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Barium, Dissolved	0.081	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Calcium, Total	57.1	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Calcium, Dissolved	54.5	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Iron, Total	ND	C	mg/L	0.056	SW846 6020A	5/22/21 16:30	AHI	7/3/21 17:17	MSA	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 17:02	MO	D
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Magnesium, Total	6.1	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Magnesium, Dissolved	6.4	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Manganese, Total	0.0059	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Manganese, Dissolved	0.0073	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	5/28/21 06:19	EAD	5/28/21 10:48	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	5/28/21 06:19	EAD	5/28/21 10:20	EAD	D
Nickel, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Potassium, Total	0.84	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Potassium, Dissolved	0.85	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	7/3/21 17:17	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Sodium, Total	10.7	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Sodium, Dissolved	10.7	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1
Zinc, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:28	MSA	E1

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871003**
Sample ID: **FFMP019W**

Date Collected: 5/19/2021 12:43 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:53	MO	D
FIELD PARAMETERS										
Depth to Water Level	27.29	C	Feet		Field			5/19/21 12:43	BGS	F
Elev Top MW Casing above MSL	471.95	C	Feet		Field			5/19/21 12:43	BGS	F
Flow Rate	3.18	C	gal/min		Field			5/19/21 12:43	BGS	F
Ground Water Elevation	444.66	C	ft/MSL		Field			5/19/21 12:43	BGS	F
pH, Field (SM4500B)	6.14	C	pH_Units		Field			5/19/21 12:43	BGS	F
Sample Depth	49.00	C	Feet		Field			5/19/21 12:43	BGS	F
Specific Conductance, Field	657	C	umhos/cm	1	Field			5/19/21 12:43	BGS	F
Temperature	14.36	C	Deg. C		Field			5/19/21 12:43	BGS	F
Total Well Depth	132.79	C	Feet		Field			5/19/21 12:43	BGS	F
Volume in Water Column	68.58	C	Gallons		Field			5/19/21 12:43	BGS	F
Water Level After Purge	36.28	C	Feet		Field			5/19/21 12:43	BGS	F
Well Volumes Purged	1.86	C	Vol		Field			5/19/21 12:43	BGS	F



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871004**
Sample ID: **FFMP018W**

Date Collected: 5/19/2021 13:09 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/21/21 02:12	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/21/21 02:12	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Bromochloromethane	ND	C,5	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/21/21 02:12	VLM	J
Carbon Disulfide	ND	C,4	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Carbon Tetrachloride	ND	C,6	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/21/21 02:12	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/21/21 02:12	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/21/21 02:12	VLM	J
Iodomethane	ND	C,3	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/21/21 02:12	VLM	J

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871004**
Sample ID: **FFMP018W**

Date Collected: 5/19/2021 13:09 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/21/21 02:12	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/21/21 02:12	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/21/21 02:12	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:12	VLM	J
<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)	83.9	C	%	62 - 133	SW846 8260B			5/21/21 02:12	VLM	J
4-Bromofluorobenzene (S)	102	C	%	79 - 114	SW846 8260B			5/21/21 02:12	VLM	J
Dibromofluoromethane (S)	94.2	C	%	78 - 116	SW846 8260B			5/21/21 02:12	VLM	J
Toluene-d8 (S)	90.3	C	%	76 - 127	SW846 8260B			5/21/21 02:12	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/21/21 02:12	CHS	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	27	C	mg/L	5	SM2320B-2011			5/26/21 07:26	MBS	B
Alkalinity, Total	27	C,1	mg/L	5	SM2320B-2011			5/26/21 07:26	MBS	A
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			5/26/21 00:01	JXL	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/21/21 10:25	ALK	C
Chloride	94.2	C	mg/L	2.0	EPA 300.0			5/20/21 14:30	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/20/21 14:30	MBW	B
Nitrate-N	5.3	C	mg/L	0.20	EPA 300.0			5/20/21 14:30	MBW	B
pH	6.00	C,2	pH_Units		S4500HB-11			5/26/21 07:26	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/20/21 16:01	MXF	5/21/21 08:46	MXF	I
Specific Conductance	429	C	umhos/cm	1	SM2510B-2011			5/26/21 14:47	MBS	B
Sulfate	39.9	C	mg/L	2.0	EPA 300.0			5/20/21 14:30	MBW	B
Total Dissolved Solids	360	C	mg/L	25	S2540C-11			5/24/21 13:16	KMM	B
Total Organic Carbon (TOC)	1.4	C	mg/L	0.50	SM5310B-2011			5/22/21 01:37	PAG	G
Turbidity	0.14	C	NTU	0.10	SM2130B-2011			5/20/21 09:57	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871004**
Sample ID: **FFMP018W**

Date Collected: 5/19/2021 13:09 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Barium, Total	0.065	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Barium, Dissolved	0.066	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Calcium, Total	27.8	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Calcium, Dissolved	25.9	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Chromium, Dissolved	0.0055	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Iron, Total	ND	C	mg/L	0.056	SW846 6020A	5/22/21 16:30	AHI	7/3/21 17:20	MSA	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 17:05	MO	D
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Magnesium, Total	16.1	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Magnesium, Dissolved	16.0	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Manganese, Total	0.13	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Manganese, Dissolved	0.14	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	5/28/21 06:19	EAD	5/28/21 10:49	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	5/28/21 06:19	EAD	5/28/21 10:21	EAD	D
Nickel, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Potassium, Total	4.3	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Potassium, Dissolved	3.9	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	7/3/21 17:20	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Sodium, Total	34.6	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Sodium, Dissolved	31.8	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1
Zinc, Total	0.020	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:31	MSA	E1

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871004**
Sample ID: **FFMP018W**

Date Collected: 5/19/2021 13:09 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	0.017	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 10:56	MO	D
FIELD PARAMETERS										
Depth to Water Level	26.48	C	Feet		Field			5/19/21 13:09	BGS	F
Elev Top MW Casing above MSL	472.20	C	Feet		Field			5/19/21 13:09	BGS	F
Flow Rate	3.84	C	gal/min		Field			5/19/21 13:09	BGS	F
Ground Water Elevation	445.72	C	ft/MSL		Field			5/19/21 13:09	BGS	F
pH, Field (SM4500B)	4.94	C	pH_Units		Field			5/19/21 13:09	BGS	F
Sample Depth	40.00	C	Feet		Field			5/19/21 13:09	BGS	F
Specific Conductance, Field	723	C	umhos/cm	1	Field			5/19/21 13:09	BGS	F
Temperature	15.45	C	Deg. C		Field			5/19/21 13:09	BGS	F
Total Well Depth	51.46	C	Feet		Field			5/19/21 13:09	BGS	F
Volume in Water Column	16.24	C	Gallons		Field			5/19/21 13:09	BGS	F
Water Level After Purge	29.62	C	Feet		Field			5/19/21 13:09	BGS	F
Well Volumes Purged	3.31	C	Vol		Field			5/19/21 13:09	BGS	F



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871005**
Sample ID: **FFMP029W**

Date Collected: 5/19/2021 14:29 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/21/21 02:34	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/21/21 02:34	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Bromochloromethane	ND	C,5	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/21/21 02:34	VLM	J
Carbon Disulfide	ND	C,4	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Carbon Tetrachloride	ND	C,6	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/21/21 02:34	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/21/21 02:34	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/21/21 02:34	VLM	J
Iodomethane	ND	C,3	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/21/21 02:34	VLM	J

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871005**
Sample ID: **FFMP029W**

Date Collected: 5/19/2021 14:29 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/21/21 02:34	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/21/21 02:34	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/21/21 02:34	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/21/21 02:34	VLM	J
<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)	84.1	C	%	62 - 133	SW846 8260B			5/21/21 02:34	VLM	J
4-Bromofluorobenzene (S)	102	C	%	79 - 114	SW846 8260B			5/21/21 02:34	VLM	J
Dibromofluoromethane (S)	93.9	C	%	78 - 116	SW846 8260B			5/21/21 02:34	VLM	J
Toluene-d8 (S)	89.9	C	%	76 - 127	SW846 8260B			5/21/21 02:34	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/21/21 02:34	CHS	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	14	C	mg/L	5	SM2320B-2011			5/26/21 07:26	MBS	B
Alkalinity, Total	14	C,1	mg/L	5	SM2320B-2011			5/26/21 07:26	MBS	A
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			5/26/21 00:16	JXL	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/21/21 10:25	ALK	C
Chloride	49.1	C	mg/L	2.0	EPA 300.0			5/20/21 14:46	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/20/21 14:46	MBW	B
Nitrate-N	4.0	C	mg/L	0.20	EPA 300.0			5/20/21 14:46	MBW	B
pH	5.94	C,2	pH_Units		S4500HB-11			5/26/21 07:26	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/20/21 16:01	MXF	5/21/21 08:46	MXF	I
Specific Conductance	199	C	umhos/cm	1	SM2510B-2011			5/26/21 14:47	MBS	B
Sulfate	3.3	C	mg/L	2.0	EPA 300.0			5/20/21 14:46	MBW	B
Total Dissolved Solids	176	C	mg/L	25	S2540C-11			5/24/21 13:16	KMM	B
Total Organic Carbon (TOC)	0.87	C	mg/L	0.50	SM5310B-2011			5/22/21 01:37	PAG	G
Turbidity	0.23	C	NTU	0.10	SM2130B-2011			5/20/21 09:57	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871005**

Date Collected: 5/19/2021 14:29

Matrix: Ground Water

Sample ID: **FFMP029W**

Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Barium, Total	0.055	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Barium, Dissolved	0.059	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Calcium, Total	10.0	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Calcium, Dissolved	9.2	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Iron, Total	ND	C	mg/L	0.056	SW846 6020A	5/22/21 16:30	AHI	7/3/21 17:24	MSA	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 17:08	MO	D
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Magnesium, Total	8.8	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Magnesium, Dissolved	8.4	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Manganese, Total	0.021	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Manganese, Dissolved	0.023	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	5/28/21 06:19	EAD	5/28/21 10:50	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	5/28/21 06:19	EAD	5/28/21 10:22	EAD	D
Nickel, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Potassium, Total	2.0	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Potassium, Dissolved	1.9	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	7/3/21 17:24	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Sodium, Total	18.6	C	mg/L	0.11	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Sodium, Dissolved	17.7	C	mg/L	0.11	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1
Zinc, Total	0.0079	C	mg/L	0.0056	SW846 6020A	5/22/21 16:30	AHI	6/27/21 21:34	MSA	E1

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3176871005**
Sample ID: **FFMP029W**

Date Collected: 5/19/2021 14:29 Matrix: Ground Water
Date Received: 5/19/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/23/21 16:40	SXC	6/17/21 11:00	MO	D
FIELD PARAMETERS										
Depth to Water Level	38.26	C	Feet		Field			5/19/21 14:29	BGS	F
Elev Top MW Casing above MSL	477.30	C	Feet		Field			5/19/21 14:29	BGS	F
Flow Rate	2.22	C	gal/min		Field			5/19/21 14:29	BGS	F
Ground Water Elevation	439.04	C	ft/MSL		Field			5/19/21 14:29	BGS	F
pH, Field (SM4500B)	4.63	C	pH_Units		Field			5/19/21 14:29	BGS	F
Sample Depth	55.00	C	Feet		Field			5/19/21 14:29	BGS	F
Specific Conductance, Field	343	C	umhos/cm	1	Field			5/19/21 14:29	BGS	F
Temperature	15.03	C	Deg. C		Field			5/19/21 14:29	BGS	F
Total Well Depth	60.50	C	Feet		Field			5/19/21 14:29	BGS	F
Volume in Water Column	32.69	C	Gallons		Field			5/19/21 14:29	BGS	F
Water Level After Purge	44.49	C	Feet		Field			5/19/21 14:29	BGS	F
Well Volumes Purged	4.08	C	Vol		Field			5/19/21 14:29	BGS	F



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3176871001	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.				
3176871001	2	FFMP03AW	SW846 8260B	Iodomethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 131 and the control limits were 37 to 128.				
3176871001	3	FFMP03AW	SW846 8260B	Carbon Disulfide
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Carbon Disulfide. The % Recovery was reported as 135 and the control limits were 57 to 131.				
3176871001	4	FFMP03AW	SW846 8260B	Bromochloromethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Bromochloromethane. The % Recovery was reported as 123 and the control limits were 73 to 117.				
3176871001	5	FFMP03AW	SW846 8260B	Carbon Tetrachloride
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Carbon Tetrachloride. The % Recovery was reported as 133 and the control limits were 62 to 132.				
3176871001	6	FFMP03AW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3176871002	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.				
3176871002	2	FFMP017W	SW846 8260B	Bromochloromethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Bromochloromethane. The % Recovery was reported as 123 and the control limits were 73 to 117.				
3176871002	3	FFMP017W	SW846 8260B	Carbon Tetrachloride
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Carbon Tetrachloride. The % Recovery was reported as 133 and the control limits were 62 to 132.				
3176871002	4	FFMP017W	SW846 8260B	Iodomethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 131 and the control limits were 37 to 128.				
3176871002	5	FFMP017W	SW846 8260B	Carbon Disulfide
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Carbon Disulfide. The % Recovery was reported as 135 and the control limits were 57 to 131.				
3176871002	6	FFMP017W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3176871003	1	FFMP019W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3176871003	2	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.				
3176871003	3	FFMP019W	SW846 8260B	Iodomethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 131 and the control limits were 37 to 128.				

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ANALYTICAL RESULTS

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

3176871003	4	FFMP019W	SW846 8260B	Carbon Disulfide
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Carbon Disulfide. The % Recovery was reported as 135 and the control limits were 57 to 131.				
3176871003	5	FFMP019W	SW846 8260B	Bromochloromethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Bromochloromethane. The % Recovery was reported as 123 and the control limits were 73 to 117.				
3176871003	6	FFMP019W	SW846 8260B	Carbon Tetrachloride
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Carbon Tetrachloride. The % Recovery was reported as 133 and the control limits were 62 to 132.				
3176871004	1	FFMP018W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3176871004	2	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.				
3176871004	3	FFMP018W	SW846 8260B	Iodomethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 131 and the control limits were 37 to 128.				
3176871004	4	FFMP018W	SW846 8260B	Carbon Disulfide
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Carbon Disulfide. The % Recovery was reported as 135 and the control limits were 57 to 131.				
3176871004	5	FFMP018W	SW846 8260B	Bromochloromethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Bromochloromethane. The % Recovery was reported as 123 and the control limits were 73 to 117.				
3176871004	6	FFMP018W	SW846 8260B	Carbon Tetrachloride
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Carbon Tetrachloride. The % Recovery was reported as 133 and the control limits were 62 to 132.				
3176871005	1	FFMP029W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3176871005	2	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.				
3176871005	3	FFMP029W	SW846 8260B	Iodomethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 131 and the control limits were 37 to 128.				
3176871005	4	FFMP029W	SW846 8260B	Carbon Disulfide
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Carbon Disulfide. The % Recovery was reported as 135 and the control limits were 57 to 131.				
3176871005	5	FFMP029W	SW846 8260B	Bromochloromethane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Bromochloromethane. The % Recovery was reported as 123 and the control limits were 73 to 117.				
3176871005	6	FFMP029W	SW846 8260B	Carbon Tetrachloride
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Carbon Tetrachloride. The % Recovery was reported as 133 and the control limits were 62 to 132.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3176871001	FFMP03AW	ASTM D6919-09		
3176871001	FFMP03AW	EPA 300.0		
3176871001	FFMP03AW	EPA 410.4		
3176871001	FFMP03AW	Field		
3176871001	FFMP03AW	Lib Search VOC		
3176871001	FFMP03AW	S2540C-11		
3176871001	FFMP03AW	S4500HB-11		
3176871001	FFMP03AW	SM2130B-2011		
3176871001	FFMP03AW	SM2320B-2011		
3176871001	FFMP03AW	SM2510B-2011		
3176871001	FFMP03AW	SM5310B-2011		
3176871001	FFMP03AW	SW846 6020A	SW846 3015	
3176871001	FFMP03AW	SW846 7470A	SW846 7470A	
3176871001	FFMP03AW	SW846 8260B		
3176871001	FFMP03AW	SW846 9066	420.4/9066	
3176871002	FFMP017W	ASTM D6919-09		
3176871002	FFMP017W	EPA 300.0		
3176871002	FFMP017W	EPA 410.4		
3176871002	FFMP017W	Field		
3176871002	FFMP017W	Lib Search VOC		
3176871002	FFMP017W	S2540C-11		
3176871002	FFMP017W	S4500HB-11		
3176871002	FFMP017W	SM2130B-2011		
3176871002	FFMP017W	SM2320B-2011		
3176871002	FFMP017W	SM2510B-2011		
3176871002	FFMP017W	SM5310B-2011		
3176871002	FFMP017W	SW846 6020A	SW846 3015	
3176871002	FFMP017W	SW846 7470A	SW846 7470A	
3176871002	FFMP017W	SW846 8260B		
3176871002	FFMP017W	SW846 9066	420.4/9066	
3176871003	FFMP019W	ASTM D6919-09		
3176871003	FFMP019W	EPA 300.0		
3176871003	FFMP019W	EPA 410.4		
3176871003	FFMP019W	Field		
3176871003	FFMP019W	Lib Search VOC		
3176871003	FFMP019W	S2540C-11		
3176871003	FFMP019W	S4500HB-11		
3176871003	FFMP019W	SM2130B-2011		
3176871003	FFMP019W	SM2320B-2011		
3176871003	FFMP019W	SM2510B-2011		
3176871003	FFMP019W	SM5310B-2011		
3176871003	FFMP019W	SW846 6020A	SW846 3015	
3176871003	FFMP019W	SW846 7470A	SW846 7470A	
3176871003	FFMP019W	SW846 8260B		
3176871003	FFMP019W	SW846 9066	420.4/9066	
3176871004	FFMP018W	ASTM D6919-09		

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3176871 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3176871004	FFMP018W	EPA 300.0		
3176871004	FFMP018W	EPA 410.4		
3176871004	FFMP018W	Field		
3176871004	FFMP018W	Lib Search VOC		
3176871004	FFMP018W	S2540C-11		
3176871004	FFMP018W	S4500HB-11		
3176871004	FFMP018W	SM2130B-2011		
3176871004	FFMP018W	SM2320B-2011		
3176871004	FFMP018W	SM2510B-2011		
3176871004	FFMP018W	SM5310B-2011		
3176871004	FFMP018W	SW846 6020A	SW846 3015	
3176871004	FFMP018W	SW846 7470A	SW846 7470A	
3176871004	FFMP018W	SW846 8260B		
3176871004	FFMP018W	SW846 9066	420.4/9066	
3176871005	FFMP029W	ASTM D6919-09		
3176871005	FFMP029W	EPA 300.0		
3176871005	FFMP029W	EPA 410.4		
3176871005	FFMP029W	Field		
3176871005	FFMP029W	Lib Search VOC		
3176871005	FFMP029W	S2540C-11		
3176871005	FFMP029W	S4500HB-11		
3176871005	FFMP029W	SM2130B-2011		
3176871005	FFMP029W	SM2320B-2011		
3176871005	FFMP029W	SM2510B-2011		
3176871005	FFMP029W	SM5310B-2011		
3176871005	FFMP029W	SW846 6020A	SW846 3015	
3176871005	FFMP029W	SW846 7470A	SW846 7470A	
3176871005	FFMP029W	SW846 8260B		
3176871005	FFMP029W	SW846 9066	420.4/9066	

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301 Fulling Mill Road
Middletown, PA 17057

P: (717) 944-5541

F: (717) 944-1430

3176871

ion of Sample Receipt Form

Lancaster County Solid Waste
Authority

Client: _____ Wo: _____

Initials: BBD

Date: 05/20/21

- | | | | |
|--|--------------------------------------|--------------------------------------|-------------------------------------|
| 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? 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..... | | ☒ 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): 1°C

Thermometer ID: 573

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

July 6, 2021

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:	3177522
Purchase Order:	PO-1000371	Workorder ID:	2ND QTR 2021 FFMP-FORM 19A

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 21, 2021.

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.

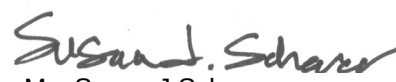
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications 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

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SAMPLE SUMMARY

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3177522001	FFMP032W	Ground Water	5/21/2021 09:10	5/21/2021 15:35	Mr. Brian G Shade
3177522002	FFMP016W	Ground Water	5/21/2021 13:20	5/21/2021 15:35	Mr. Brian G Shade
3177522003	FIELD BLANK	Water	5/21/2021 13:44	5/21/2021 15:35	Mr. Brian G Shade
3177522004	TRIP BLANK	Water	5/21/2021 15:35	5/21/2021 15:35	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

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

C	Please reference the Project Summary section of this Certificate of Analysis for case narrative comments.
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

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ALS Environmental



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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

PROJECT SUMMARY

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Workorder Comments

Temperature of sample taken at time of sample receipt in the laboratory. See chain of custody for actual temperature.

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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522001**
Sample ID: **FFMP032W**

Date Collected: 5/21/2021 09:10 Matrix: Ground Water
Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 04:44	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/25/21 04:44	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 04:44	VLM	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/25/21 04:44	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/25/21 04:44	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/25/21 04:44	VLM	J
Iodomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/25/21 04:44	VLM	J

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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522001**
Sample ID: **FFMP032W**

Date Collected: 5/21/2021 09:10 Matrix: Ground Water
Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/25/21 04:44	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/25/21 04:44	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/25/21 04:44	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:44	VLM	J
<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)	90	C	%	62 - 133	SW846 8260B			5/25/21 04:44	VLM	J
4-Bromofluorobenzene (S)	89.8	C	%	79 - 114	SW846 8260B			5/25/21 04:44	VLM	J
Dibromofluoromethane (S)	93.7	C	%	78 - 116	SW846 8260B			5/25/21 04:44	VLM	J
Toluene-d8 (S)	95.2	C	%	76 - 127	SW846 8260B			5/25/21 04:44	VLM	J

LIBRARY SEARCH - VOLATILES

No TIC's Detected C Lib Search VOC 5/25/21 04:44 CPK J

WET CHEMISTRY

Alkalinity, Bicarbonate	85	C	mg/L	5	SM2320B-2011			5/29/21 10:52	MBS	B
Alkalinity, Total	85	C,1	mg/L	5	SM2320B-2011			5/29/21 10:52	MBS	A
Ammonia-N	0.622	C	mg/L	0.100	ASTM D6919-09			5/27/21 09:35	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/27/21 14:27	ALK	C
Chloride	22.4	C	mg/L	2.0	EPA 300.0			5/22/21 11:58	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/22/21 11:58	MBW	B
Nitrate-N	ND	C	mg/L	0.20	EPA 300.0			5/22/21 11:58	MBW	B
pH	7.54	C,2	pH_Units		S4500HB-11			5/29/21 10:52	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/25/21 17:16	MXF	5/26/21 09:24	MXF	I
Specific Conductance	164	C	umhos/cm	1	SM2510B-2011			5/26/21 14:47	MBS	B
Sulfate	ND	C	mg/L	2.0	EPA 300.0			5/22/21 11:58	MBW	B
Total Dissolved Solids	108	C	mg/L	25	S2540C-11			5/26/21 14:22	KMM	B
Total Organic Carbon (TOC)	0.54	C	mg/L	0.50	SM5310B-2011			5/27/21 09:38	PAG	G
Turbidity	93.5	C	NTU	0.10	SM2130B-2011			5/22/21 08:31	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522001**
Sample ID: **FFMP032W**

Date Collected: 5/21/2021 09:10 Matrix: Ground Water
Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:43	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Barium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Barium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:43	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Calcium, Total	14.9	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Calcium, Dissolved	14.6	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Iron, Total	7.6	C	mg/L	0.056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Iron, Dissolved	7.0	C	mg/L	0.056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/5/21 15:25	MSA	D1
Magnesium, Total	5.7	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Magnesium, Dissolved	5.8	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Manganese, Total	0.64	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Manganese, Dissolved	0.69	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	6/3/21 21:07	SXC	6/4/21 07:30	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	6/7/21 05:39	EAD	6/7/21 11:25	EAD	D
Nickel, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Potassium, Total	1.2	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Potassium, Dissolved	1.2	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:43	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Sodium, Total	12.7	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1
Sodium, Dissolved	12.8	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:43	MSA	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:43	MSA	E1
Zinc, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:56	MSA	E1

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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522001**

Date Collected: 5/21/2021 09:10

Matrix: Ground Water

Sample ID: **FFMP032W**

Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	0.0058	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:32	MSA	D1
FIELD PARAMETERS										
Depth to Water Level	49.15	C	Feet		Field			5/21/21 09:10	BGS	F
Elev Top MW Casing above MSL	594.09	C	Feet		Field			5/21/21 09:10	BGS	F
Flow Rate	0.75	C	gal/min		Field			5/21/21 09:10	BGS	F
Ground Water Elevation	544.94	C	ft/MSL		Field			5/21/21 09:10	BGS	F
pH, Field (SM4500B)	6.94	C	pH_Units		Field			5/21/21 09:10	BGS	F
Sample Depth	62.00	C	Feet		Field			5/21/21 09:10	BGS	F
Specific Conductance, Field	303	C	umhos/cm	1	Field			5/21/21 09:10	BGS	F
Temperature	14.65	C	Deg. C		Field			5/21/21 09:10	BGS	F
Total Well Depth	77.60	C	Feet		Field			5/21/21 09:10	BGS	F
Volume in Water Column	41.82	C	Gallons		Field			5/21/21 09:10	BGS	F
Water Level After Purge	52.06	C	Feet		Field			5/21/21 09:10	BGS	F
Well Volumes Purged	0.21	C	Vol		Field			5/21/21 09:10	BGS	F



Ms. Susan J Scherer

Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522002**

Date Collected: 5/21/2021 13:20

Matrix: Ground Water

Sample ID: **FFMP016W**

Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 05:08	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/25/21 05:08	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 05:08	VLM	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/25/21 05:08	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/25/21 05:08	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/25/21 05:08	VLM	J
Iodomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/25/21 05:08	VLM	J

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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522002**

Date Collected: 5/21/2021 13:20

Matrix: Ground Water

Sample ID: **FFMP016W**

Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/25/21 05:08	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/25/21 05:08	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/25/21 05:08	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 05:08	VLM	J
<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)	90.6	C	%	62 - 133	SW846 8260B			5/25/21 05:08	VLM	J
4-Bromofluorobenzene (S)	88.1	C	%	79 - 114	SW846 8260B			5/25/21 05:08	VLM	J
Dibromofluoromethane (S)	92.9	C	%	78 - 116	SW846 8260B			5/25/21 05:08	VLM	J
Toluene-d8 (S)	94.3	C	%	76 - 127	SW846 8260B			5/25/21 05:08	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/25/21 05:18	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	49	C	mg/L	5	SM2320B-2011			5/29/21 10:52	MBS	B
Alkalinity, Total	49	C,1	mg/L	5	SM2320B-2011			5/29/21 10:52	MBS	A
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			5/27/21 10:04	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/27/21 14:27	ALK	C
Chloride	339	C	mg/L	5.0	EPA 300.0			5/27/21 05:52	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/22/21 12:12	MBW	B
Nitrate-N	10.0	C	mg/L	0.20	EPA 300.0			5/22/21 12:12	MBW	B
pH	6.60	C,2	pH_Units		S4500HB-11			5/29/21 10:52	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/25/21 17:16	MXF	5/26/21 09:24	MXF	I
Specific Conductance	1170	C	umhos/cm	1	SM2510B-2011			5/26/21 14:47	MBS	B
Sulfate	44.4	C	mg/L	2.0	EPA 300.0			5/22/21 12:12	MBW	B
Total Dissolved Solids	764	C	mg/L	25	S2540C-11			5/27/21 12:17	BBD	B
Total Organic Carbon (TOC)	1.5	C	mg/L	0.50	SM5310B-2011			5/27/21 09:38	PAG	G
Turbidity	0.17	C	NTU	0.10	SM2130B-2011			5/22/21 08:31	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522002**
Sample ID: **FFMP016W**

Date Collected: 5/21/2021 13:20 Matrix: Ground Water
Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:47	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Barium, Total	0.17	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Barium, Dissolved	0.17	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:47	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Calcium, Total	88.3	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Calcium, Dissolved	87.4	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Cobalt, Total	0.040	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Iron, Total	0.17	C	mg/L	0.056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Iron, Dissolved	0.15	C	mg/L	0.056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/5/21 15:28	MSA	D1
Magnesium, Total	33.6	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Magnesium, Dissolved	33.6	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Manganese, Total	1.2	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Manganese, Dissolved	1.3	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Mercury, Total	0.00060	C	mg/L	0.00050	SW846 7470A	6/3/21 21:07	SXC	6/4/21 07:31	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	6/7/21 05:39	EAD	6/7/21 11:28	EAD	D
Nickel, Total	0.014	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Potassium, Total	5.0	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Potassium, Dissolved	5.0	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:47	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Sodium, Total	90.1	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1
Sodium, Dissolved	91.2	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:47	MSA	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:47	MSA	E1
Zinc, Total	0.011	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:59	MSA	E1

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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522002**

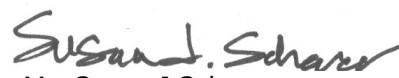
Date Collected: 5/21/2021 13:20

Matrix: Ground Water

Sample ID: **FFMP016W**

Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	0.013	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:36	MSA	D1
FIELD PARAMETERS										
Elev Top MW Casing above MSL	474.60	C	Feet		Field			5/21/21 13:20	BGS	F
Ground Water Elevation	474.60	C	ft/MSL		Field			5/21/21 13:20	BGS	F
pH, Field (SM4500B)	5.52	C	pH_Units		Field			5/21/21 13:20	BGS	F
Sample Depth	135.00	C	Feet		Field			5/21/21 13:20	BGS	F
Specific Conductance, Field	1150	C	umhos/cm	1	Field			5/21/21 13:20	BGS	F
Temperature	13.50	C	Deg. C		Field			5/21/21 13:20	BGS	F
Total Well Depth	149.80	C	Feet		Field			5/21/21 13:20	BGS	F
Volume in Water Column	0.00	C	Gallons		Field			5/21/21 13:20	BGS	F



Ms. Susan J Scherer

Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522003**
Sample ID: **FIELD BLANK**

Date Collected: 5/21/2021 13:44 Matrix: Water
Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 00:51	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/25/21 00:51	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 00:51	VLM	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/25/21 00:51	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/25/21 00:51	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/25/21 00:51	VLM	J
Iodomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/25/21 00:51	VLM	J

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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522003**
Sample ID: **FIELD BLANK**

Date Collected: 5/21/2021 13:44 Matrix: Water
Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/25/21 00:51	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/25/21 00:51	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/25/21 00:51	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:51	VLM	J
<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)	89.1	C	%	62 - 133	SW846 8260B			5/25/21 00:51	VLM	J
4-Bromofluorobenzene (S)	87.2	C	%	79 - 114	SW846 8260B			5/25/21 00:51	VLM	J
Dibromofluoromethane (S)	92.1	C	%	78 - 116	SW846 8260B			5/25/21 00:51	VLM	J
Toluene-d8 (S)	94.3	C	%	76 - 127	SW846 8260B			5/25/21 00:51	VLM	J

LIBRARY SEARCH - VOLATILES

No TIC's Detected C Lib Search VOC 5/25/21 00:51 CPK J

WET CHEMISTRY

Alkalinity, Bicarbonate	ND	C	mg/L	5	SM2320B-2011			5/29/21 10:52	MBS	B
Alkalinity, Total	ND	C,1	mg/L	5	SM2320B-2011			5/29/21 10:52	MBS	A
Ammonia-N	ND	C,4	mg/L	0.010	ASTM D6919-09			5/28/21 06:37	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/27/21 14:27	ALK	C
Chloride	ND	C	mg/L	1.0	EPA 300.0			5/22/21 12:26	MBW	B
Fluoride	ND	C	mg/L	0.10	EPA 300.0			5/22/21 12:26	MBW	B
Nitrate-N	ND	C	mg/L	0.10	EPA 300.0			5/22/21 12:26	MBW	B
pH	5.57	C,2	pH_Units		S4500HB-11			5/29/21 10:52	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/25/21 17:16	MXF	5/26/21 09:24	MXF	I
Specific Conductance	13	C	umhos/cm	1	SM2510B-2011			5/26/21 14:47	MBS	B
Sulfate	ND	C	mg/L	1.0	EPA 300.0			5/22/21 12:26	MBW	B
Total Dissolved Solids	ND	C	mg/L	25	S2540C-11			5/27/21 12:17	BBD	B
Total Organic Carbon (TOC)	ND	C	mg/L	0.50	SM5310B-2011			5/27/21 09:38	PAG	G
Turbidity	ND	C,3	NTU	0.10	SM2130B-2011			5/22/21 08:31	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522003**
Sample ID: **FIELD BLANK**

Date Collected: 5/21/2021 13:44 Matrix: Water
Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:50	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Barium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Barium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:50	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Calcium, Total	ND	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Calcium, Dissolved	ND	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Iron, Total	ND	C	mg/L	0.056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/5/21 15:32	MSA	D1
Magnesium, Total	ND	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Magnesium, Dissolved	ND	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Manganese, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Manganese, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	6/3/21 21:07	SXC	6/4/21 07:32	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	6/7/21 05:39	EAD	6/7/21 11:30	EAD	D
Nickel, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Potassium, Total	ND	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Potassium, Dissolved	ND	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:50	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Sodium, Total	ND	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1
Sodium, Dissolved	ND	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:50	MSA	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:50	MSA	E1
Zinc, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 17:03	MSA	E1

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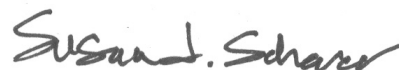
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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522003**
Sample ID: **FIELD BLANK**Date Collected: 5/21/2021 13:44 Matrix: Water
Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:39	MSA	D1


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
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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522004**
Sample ID: **TRIP BLANK**

Date Collected: 5/21/2021 15:35 Matrix: Water
Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 00:28	VLM	A
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/25/21 00:28	VLM	A
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Bromomethane	1.0	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 00:28	VLM	A
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/25/21 00:28	VLM	A
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/25/21 00:28	VLM	A
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/25/21 00:28	VLM	A
Iodomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/25/21 00:28	VLM	A

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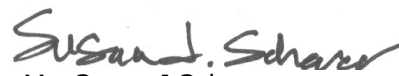
ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177522004**
Sample ID: **TRIP BLANK**

Date Collected: 5/21/2021 15:35 Matrix: Water
Date Received: 5/21/2021 15:35

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/25/21 00:28	VLM	A
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	A
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/25/21 00:28	VLM	A
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/25/21 00:28	VLM	A
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 00:28	VLM	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)	87.8	C	%	62 - 133	SW846 8260B			5/25/21 00:28	VLM	A
4-Bromofluorobenzene (S)	90.5	C	%	79 - 114	SW846 8260B			5/25/21 00:28	VLM	A
Dibromofluoromethane (S)	93.1	C	%	78 - 116	SW846 8260B			5/25/21 00:28	VLM	A
Toluene-d8 (S)	95	C	%	76 - 127	SW846 8260B			5/25/21 00:28	VLM	A
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/25/21 00:28	CPK	A


Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3177522001	1	FFMP032W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3177522001	2	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.				
3177522002	1	FFMP016W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3177522002	2	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.				
3177522003	1	FIELD BLANK	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3177522003	2	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.				
3177522003	3	FIELD BLANK	SM2130B-2011	Turbidity
Originally analyzed in batch 255168 with final NTU of 0.0817. LKZ 6/8/21				
3177522003	4	FIELD BLANK	ASTM D6919-09	Ammonia-N
The QC sample type CCVH for method ASTM D6919-09 was outside the control limits for the analyte Ammonia-N. The % Recovery was reported as 0 and the control limits were 85 to 115.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3177522 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3177522001	FFMP032W	ASTM D6919-09		
3177522001	FFMP032W	EPA 300.0		
3177522001	FFMP032W	EPA 410.4		
3177522001	FFMP032W	Field		
3177522001	FFMP032W	Lib Search VOC		
3177522001	FFMP032W	S2540C-11		
3177522001	FFMP032W	S4500HB-11		
3177522001	FFMP032W	SM2130B-2011		
3177522001	FFMP032W	SM2320B-2011		
3177522001	FFMP032W	SM2510B-2011		
3177522001	FFMP032W	SM5310B-2011		
3177522001	FFMP032W	SW846 6020A	SW846 3015	
3177522001	FFMP032W	SW846 7470A	SW846 7470A	
3177522001	FFMP032W	SW846 8260B		
3177522001	FFMP032W	SW846 9066	420.4/9066	
3177522002	FFMP016W	ASTM D6919-09		
3177522002	FFMP016W	EPA 300.0		
3177522002	FFMP016W	EPA 410.4		
3177522002	FFMP016W	Field		
3177522002	FFMP016W	Lib Search VOC		
3177522002	FFMP016W	S2540C-11		
3177522002	FFMP016W	S4500HB-11		
3177522002	FFMP016W	SM2130B-2011		
3177522002	FFMP016W	SM2320B-2011		
3177522002	FFMP016W	SM2510B-2011		
3177522002	FFMP016W	SM5310B-2011		
3177522002	FFMP016W	SW846 6020A	SW846 3015	
3177522002	FFMP016W	SW846 7470A	SW846 7470A	
3177522002	FFMP016W	SW846 8260B		
3177522002	FFMP016W	SW846 9066	420.4/9066	
3177522003	FIELD BLANK	ASTM D6919-09		
3177522003	FIELD BLANK	EPA 300.0		
3177522003	FIELD BLANK	EPA 410.4		
3177522003	FIELD BLANK	Lib Search VOC		
3177522003	FIELD BLANK	S2540C-11		
3177522003	FIELD BLANK	S4500HB-11		
3177522003	FIELD BLANK	SM2130B-2011		
3177522003	FIELD BLANK	SM2320B-2011		
3177522003	FIELD BLANK	SM2510B-2011		
3177522003	FIELD BLANK	SM5310B-2011		
3177522003	FIELD BLANK	SW846 6020A	SW846 3015	
3177522003	FIELD BLANK	SW846 7470A	SW846 7470A	
3177522003	FIELD BLANK	SW846 8260B		
3177522003	FIELD BLANK	SW846 9066	420.4/9066	
3177522004	TRIP BLANK	Lib Search VOC		
3177522004	TRIP BLANK	SW846 8260B		

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301 Fulling Mill Road
Middletown, PA 17057
P: (717) 944-554
F: (717) 944-1430

3177522

Lancaster County Solid Waste
Authority

Continuation of Sample Receipt Form

Client:

Initials:

AS

Date:

5/21/21

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):

4

Thermometer ID:

574

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.

July 6, 2021

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:	3177220
Purchase Order:	PO-1000371	Workorder ID:	2ND QTR 2021 FFMP-FORM 19A

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Thursday, May 20, 2021.

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.

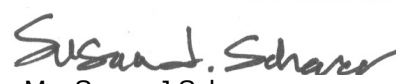
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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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

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**SAMPLE SUMMARY**

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3177220001	FFMP031W	Ground Water	5/20/2021 09:49	5/20/2021 16:22	Mr. Brian G Shade
3177220002	FFMP002W	Ground Water	5/20/2021 10:27	5/20/2021 16:22	Mr. Brian G Shade
3177220003	FFMP02DW	Ground Water	5/20/2021 13:11	5/20/2021 16:22	Mr. Brian G Shade
3177220004	FFMP02SW	Ground Water	5/20/2021 13:37	5/20/2021 16:22	Mr. Brian G Shade
3177220005	FFMP028W	Ground Water	5/20/2021 14:59	5/20/2021 16:22	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

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

C	Please reference the Project Summary section of this Certificate of Analysis for case narrative comments.
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

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

PROJECT SUMMARY

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Workorder Comments

Temperature of sample taken at time of sample receipt in the laboratory. See chain of custody for actual temperature.

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220001**

Date Collected: 5/20/2021 09:49

Matrix: Ground Water

Sample ID: **FFMP031W**

Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 02:48	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/25/21 02:48	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 02:48	VLM	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/25/21 02:48	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/25/21 02:48	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/25/21 02:48	VLM	J
Iodomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/25/21 02:48	VLM	J

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220001**
Sample ID: **FFMP031W**

Date Collected: 5/20/2021 09:49 Matrix: Ground Water
Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/25/21 02:48	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/25/21 02:48	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/25/21 02:48	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 02:48	VLM	J
<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	C	%	62 - 133	SW846 8260B			5/25/21 02:48	VLM	J
4-Bromofluorobenzene (S)	89.3	C	%	79 - 114	SW846 8260B			5/25/21 02:48	VLM	J
Dibromofluoromethane (S)	92.7	C	%	78 - 116	SW846 8260B			5/25/21 02:48	VLM	J
Toluene-d8 (S)	91.9	C	%	76 - 127	SW846 8260B			5/25/21 02:48	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/25/21 02:48	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	100	C	mg/L	5	SM2320B-2011			5/27/21 21:24	MBS	B
Alkalinity, Total	100	C,1	mg/L	5	SM2320B-2011			5/27/21 21:24	MBS	A
Ammonia-N	0.279	C	mg/L	0.100	ASTM D6919-09			5/28/21 03:51	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/25/21 10:07	ALK	C
Chloride	23.8	C	mg/L	2.0	EPA 300.0			5/21/21 10:38	MBW	B
Fluoride	0.20	C	mg/L	0.20	EPA 300.0			5/21/21 10:38	MBW	B
Nitrate-N	ND	C	mg/L	0.20	EPA 300.0			5/21/21 10:38	MBW	B
pH	7.68	C,2	pH_Units		S4500HB-11			5/27/21 21:24	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/25/21 17:16	MXF	5/26/21 09:24	MXF	I
Specific Conductance	260	C	umhos/cm	1	SM2510B-2011			5/26/21 14:47	MBS	B
Sulfate	45.4	C	mg/L	2.0	EPA 300.0			5/21/21 10:38	MBW	B
Total Dissolved Solids	170	C	mg/L	25	S2540C-11			5/26/21 12:11	KMM	B
Total Organic Carbon (TOC)	ND	C	mg/L	0.50	SM5310B-2011			5/25/21 13:25	PAG	G
Turbidity	22.3	C	NTU	0.10	SM2130B-2011			5/21/21 07:39	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220001**

Date Collected: 5/20/2021 09:49

Matrix: Ground Water

Sample ID: **FFMP031W**

Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:07	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Barium, Total	0.035	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Barium, Dissolved	0.039	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Calcium, Total	43.0	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Calcium, Dissolved	44.5	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Iron, Total	4.1	C	mg/L	0.056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Iron, Dissolved	4.0	C	mg/L	0.056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/5/21 15:07	MSA	D1
Magnesium, Total	4.2	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Magnesium, Dissolved	4.1	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Manganese, Total	0.34	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Manganese, Dissolved	0.37	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	6/3/21 21:07	SXC	6/4/21 07:22	EAD	E
Mercury, Dissolved	ND	C,3,4,5	mg/L	0.00050	SW846 7470A	6/7/21 05:39	EAD	6/7/21 11:16	EAD	D
Nickel, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Potassium, Total	1.2	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Potassium, Dissolved	1.2	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Sodium, Total	9.2	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Sodium, Dissolved	9.4	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:07	MSA	E1

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220001**

Date Collected: 5/20/2021 09:49

Matrix: Ground Water

Sample ID: **FFMP031W**

Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:08	MSA	E1
Zinc, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:11	MSA	D1
FIELD PARAMETERS										
Depth to Water Level	65.65	C	Feet		Field			5/20/21 09:49	BGS	F
Elev Top MW Casing above MSL	612.66	C	Feet		Field			5/20/21 09:49	BGS	F
Flow Rate	1.81	C	gal/min		Field			5/20/21 09:49	BGS	F
Ground Water Elevation	547.01	C	ft/MSL		Field			5/20/21 09:49	BGS	F
pH, Field (SM4500B)	8.12	C	pH_Units		Field			5/20/21 09:49	BGS	F
Sample Depth	130.00	C	Feet		Field			5/20/21 09:49	BGS	F
Specific Conductance, Field	461	C	umhos/cm	1	Field			5/20/21 09:49	BGS	F
Temperature	16.11	C	Deg. C		Field			5/20/21 09:49	BGS	F
Total Well Depth	142.70	C	Feet		Field			5/20/21 09:49	BGS	F
Volume in Water Column	113.26	C	Gallons		Field			5/20/21 09:49	BGS	F
Water Level After Purge	101.57	C	Feet		Field			5/20/21 09:49	BGS	F
Well Volumes Purged	0.96	C	Vol		Field			5/20/21 09:49	BGS	F



Ms. Susan J Scherer

Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220002**

Date Collected: 5/20/2021 10:27

Matrix: Ground Water

Sample ID: **FFMP002W**

Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 03:11	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/25/21 03:11	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Bromochloromethane	ND	C,4	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 03:11	VLM	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/25/21 03:11	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
trans-1,4-Dichloro-2-butene	ND	C,6,7	ug/L	3.0	SW846 8260B			5/25/21 03:11	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/25/21 03:11	VLM	J
Iodomethane	ND	C,3	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220002**

Date Collected: 5/20/2021 10:27

Matrix: Ground Water

Sample ID: **FFMP002W**

Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/25/21 03:11	VLM	J
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/25/21 03:11	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Trichloroethene	ND	C,5	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/25/21 03:11	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/25/21 03:11	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:11	VLM	J
<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)	88.1	C	%	62 - 133	SW846 8260B			5/25/21 03:11	VLM	J
4-Bromofluorobenzene (S)	88	C	%	79 - 114	SW846 8260B			5/25/21 03:11	VLM	J
Dibromofluoromethane (S)	92.2	C	%	78 - 116	SW846 8260B			5/25/21 03:11	VLM	J
Toluene-d8 (S)	93	C	%	76 - 127	SW846 8260B			5/25/21 03:11	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/25/21 03:11	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND	C	mg/L	5	SM2320B-2011			5/27/21 21:24	MBS	B
Alkalinity, Total	ND	C,1	mg/L	5	SM2320B-2011			5/27/21 21:24	MBS	A
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			5/28/21 04:07	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/25/21 10:07	ALK	C
Chloride	20.3	C	mg/L	2.0	EPA 300.0			5/21/21 10:53	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/21/21 10:53	MBW	B
Nitrate-N	20.9	C	mg/L	0.20	EPA 300.0			5/21/21 10:53	MBW	B
pH	5.16	C,2	pH_Units		S4500HB-11			5/27/21 21:24	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/25/21 17:16	MXF	5/26/21 09:24	MXF	I
Specific Conductance	219	C	umhos/cm	1	SM2510B-2011			5/26/21 14:47	MBS	B
Sulfate	11.5	C	mg/L	2.0	EPA 300.0			5/21/21 10:53	MBW	B
Total Dissolved Solids	226	C	mg/L	25	S2540C-11			5/25/21 12:31	BBD	B

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220002**
Sample ID: **FFMP002W**

Date Collected: 5/20/2021 10:27 Matrix: Ground Water
Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	0.97	C	mg/L	0.50	SM5310B-2011			5/25/21 13:25	PAG	G
Turbidity	22.3	C	NTU	0.10	SM2130B-2011			5/21/21 07:39	LXZ	B
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:10	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Barium, Total	0.063	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Barium, Dissolved	0.065	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Calcium, Total	17.7	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Calcium, Dissolved	17.7	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Cobalt, Total	0.011	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Copper, Total	0.010	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Copper, Dissolved	0.010	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Iron, Total	0.13	C	mg/L	0.056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Iron, Dissolved	0.061	C	mg/L	0.056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Lead, Total	0.0042	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Lead, Dissolved	0.0042	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/5/21 15:10	MSA	D1
Magnesium, Total	7.1	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Magnesium, Dissolved	7.1	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Manganese, Total	0.23	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Manganese, Dissolved	0.24	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	6/3/21 21:07	SXC	6/4/21 07:23	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	6/7/21 05:39	EAD	6/7/21 11:20	EAD	D
Nickel, Total	0.015	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Potassium, Total	0.93	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Potassium, Dissolved	0.92	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Sodium, Total	13.5	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Sodium, Dissolved	13.4	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220002**
Sample ID: **FFMP002W**

Date Collected: 5/20/2021 10:27 Matrix: Ground Water
Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:10	MSA	E1
Zinc, Total	0.018	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:13	MSA	E1
Zinc, Dissolved	0.019	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:18	MSA	D1
FIELD PARAMETERS										
Depth to Water Level	59.66	C	Feet		Field			5/20/21 10:27	BGS	F
Elev Top MW Casing above MSL	613.20	C	Feet		Field			5/20/21 10:27	BGS	F
Flow Rate	1.25	C	gal/min		Field			5/20/21 10:27	BGS	F
Ground Water Elevation	553.54	C	ft/MSL		Field			5/20/21 10:27	BGS	F
pH, Field (SM4500B)	4.44	C	pH_Units		Field			5/20/21 10:27	BGS	F
Sample Depth	85.00	C	Feet		Field			5/20/21 10:27	BGS	F
Specific Conductance, Field	381	C	umhos/cm	1	Field			5/20/21 10:27	BGS	F
Temperature	15.00	C	Deg. C		Field			5/20/21 10:27	BGS	F
Total Well Depth	90.02	C	Feet		Field			5/20/21 10:27	BGS	F
Volume in Water Column	44.63	C	Gallons		Field			5/20/21 10:27	BGS	F
Water Level After Purge	74.78	C	Feet		Field			5/20/21 10:27	BGS	F
Well Volumes Purged	0.70	C	Vol		Field			5/20/21 10:27	BGS	F


Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220003**

Date Collected: 5/20/2021 13:11

Matrix: Ground Water

Sample ID: **FFMP02DW**

Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 03:34	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/25/21 03:34	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 03:34	VLM	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/25/21 03:34	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/25/21 03:34	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/25/21 03:34	VLM	J
Iodomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/25/21 03:34	VLM	J

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220003**
Sample ID: **FFMP02DW**

Date Collected: 5/20/2021 13:11 Matrix: Ground Water
Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/25/21 03:34	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/25/21 03:34	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/25/21 03:34	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:34	VLM	J
<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	C	%	62 - 133	SW846 8260B			5/25/21 03:34	VLM	J
4-Bromofluorobenzene (S)	87.6	C	%	79 - 114	SW846 8260B			5/25/21 03:34	VLM	J
Dibromofluoromethane (S)	92.3	C	%	78 - 116	SW846 8260B			5/25/21 03:34	VLM	J
Toluene-d8 (S)	92.9	C	%	76 - 127	SW846 8260B			5/25/21 03:34	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/25/21 03:34	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	153	C	mg/L	5	SM2320B-2011			5/27/21 21:24	MBS	B
Alkalinity, Total	153	C,1	mg/L	5	SM2320B-2011			5/27/21 21:24	MBS	A
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			5/28/21 04:21	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/25/21 10:07	ALK	C
Chloride	441	C	mg/L	2.0	EPA 300.0			5/21/21 15:55	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/21/21 15:55	MBW	B
Nitrate-N	9.8	C	mg/L	0.20	EPA 300.0			5/21/21 15:55	MBW	B
pH	7.69	C,2	pH_Units		S4500HB-11			5/27/21 21:24	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/25/21 17:16	MXF	5/26/21 09:24	MXF	I
Specific Conductance	1630	C	umhos/cm	5	SM2510B-2011			6/2/21 14:16	MBS	B
Sulfate	35.9	C	mg/L	2.0	EPA 300.0			5/21/21 15:55	MBW	B
Total Dissolved Solids	1010	C	mg/L	25	S2540C-11			5/28/21 12:53	BBD	B
Total Organic Carbon (TOC)	1.0	C	mg/L	0.50	SM5310B-2011			5/25/21 13:25	PAG	G
Turbidity	11.7	C	NTU	0.10	SM2130B-2011			5/21/21 07:42	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220003**
Sample ID: **FFMP02DW**

Date Collected: 5/20/2021 13:11 Matrix: Ground Water
Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:13	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Barium, Total	0.20	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Barium, Dissolved	0.20	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Calcium, Total	133	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Calcium, Dissolved	124	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Iron, Total	1.5	C	mg/L	0.056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/5/21 15:14	MSA	D1
Magnesium, Total	23.0	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Magnesium, Dissolved	22.0	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Manganese, Total	0.56	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Manganese, Dissolved	0.54	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	6/3/21 21:07	SXC	6/4/21 07:24	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	6/7/21 05:39	EAD	6/7/21 11:21	EAD	D
Nickel, Total	0.0062	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Potassium, Total	1.9	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Potassium, Dissolved	1.8	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Sodium, Total	139	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Sodium, Dissolved	139	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:13	MSA	E1
Zinc, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:16	MSA	E1

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220003**
Sample ID: **FFMP02DW**

Date Collected: 5/20/2021 13:11 Matrix: Ground Water
Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:21	MSA	D1
FIELD PARAMETERS										
Depth to Water Level	18.99	C	Feet		Field			5/20/21 12:08	BGS	F
Elev Top MW Casing above MSL	509.60	C	Feet		Field			5/20/21 12:08	BGS	F
Flow Rate	1.34	C	gal/min		Field			5/20/21 12:08	BGS	F
Ground Water Elevation	490.61	C	ft/MSL		Field			5/20/21 12:08	BGS	F
pH, Field (SM4500B)	7.23	C	pH_Units		Field			5/20/21 12:08	BGS	F
Sample Depth	120.00	C	Feet		Field			5/20/21 12:08	BGS	F
Specific Conductance, Field	2368	C	umhos/cm	1	Field			5/20/21 12:08	BGS	F
Temperature	19.63	C	Deg. C		Field			5/20/21 12:08	BGS	F
Total Well Depth	153.00	C	Feet		Field			5/20/21 12:08	BGS	F
Volume in Water Column	196.99	C	Gallons		Field			5/20/21 12:08	BGS	F
Water Level After Purge	49.82	C	Feet		Field			5/20/21 12:08	BGS	F
Well Volumes Purged	0.41	C	Vol		Field			5/20/21 12:08	BGS	F



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220004**
Sample ID: **FFMP02SW**

Date Collected: 5/20/2021 13:37 Matrix: Ground Water
Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 03:57	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/25/21 03:57	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Bromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 03:57	VLM	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/25/21 03:57	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/25/21 03:57	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/25/21 03:57	VLM	J
Iodomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/25/21 03:57	VLM	J

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220004**
Sample ID: **FFMP02SW**

Date Collected: 5/20/2021 13:37 Matrix: Ground Water
Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/25/21 03:57	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/25/21 03:57	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/25/21 03:57	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 03:57	VLM	J
<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)	96.2	C	%	62 - 133	SW846 8260B			5/25/21 03:57	VLM	J
4-Bromofluorobenzene (S)	88.1	C	%	79 - 114	SW846 8260B			5/25/21 03:57	VLM	J
Dibromofluoromethane (S)	94	C	%	78 - 116	SW846 8260B			5/25/21 03:57	VLM	J
Toluene-d8 (S)	91.4	C	%	76 - 127	SW846 8260B			5/25/21 03:57	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/25/21 03:57	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	15	C	mg/L	5	SM2320B-2011			5/27/21 21:24	MBS	B
Alkalinity, Total	15	C,1	mg/L	5	SM2320B-2011			5/27/21 21:24	MBS	A
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			5/28/21 04:36	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/25/21 10:07	ALK	C
Chloride	103	C	mg/L	2.0	EPA 300.0			5/21/21 16:11	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/21/21 16:11	MBW	B
Nitrate-N	14.3	C	mg/L	0.20	EPA 300.0			5/21/21 16:11	MBW	B
pH	5.89	C,2	pH_Units		S4500HB-11			5/27/21 21:24	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/25/21 17:16	MXF	5/26/21 09:24	MXF	I
Specific Conductance	474	C	umhos/cm	1	SM2510B-2011			5/26/21 14:47	MBS	B
Sulfate	34.0	C	mg/L	2.0	EPA 300.0			5/21/21 16:11	MBW	B
Total Dissolved Solids	316	C	mg/L	25	S2540C-11			5/25/21 12:31	BBD	B
Total Organic Carbon (TOC)	2.1	C	mg/L	0.50	SM5310B-2011			5/25/21 13:25	PAG	G
Turbidity	77.1	C	NTU	0.10	SM2130B-2011			5/21/21 07:42	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220004**
Sample ID: **FFMP02SW**

Date Collected: 5/20/2021 13:37 Matrix: Ground Water
Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:16	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Barium, Total	0.11	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Barium, Dissolved	0.10	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Calcium, Total	19.1	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Calcium, Dissolved	19.9	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Chromium, Total	0.024	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Copper, Total	0.0084	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Iron, Total	3.8	C	mg/L	0.056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Lead, Total	0.0035	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/5/21 15:18	MSA	D1
Magnesium, Total	8.2	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Magnesium, Dissolved	7.9	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Manganese, Total	0.035	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Manganese, Dissolved	0.021	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	6/3/21 21:07	SXC	6/4/21 07:25	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	6/7/21 05:39	EAD	6/7/21 11:22	EAD	D
Nickel, Total	0.017	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Potassium, Total	4.2	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Potassium, Dissolved	4.1	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Sodium, Total	69.1	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Sodium, Dissolved	69.7	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1
Vanadium, Total	0.0032	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:16	MSA	E1
Zinc, Total	0.023	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:20	MSA	E1

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Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220004**
Sample ID: **FFMP02SW**

Date Collected: 5/20/2021 13:37 Matrix: Ground Water
Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	0.012	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:25	MSA	D1
FIELD PARAMETERS										
Depth to Water Level	16.31	C	Feet		Field			5/20/21 13:37	BGS	F
Elev Top MW Casing above MSL	509.90	C	Feet		Field			5/20/21 13:37	BGS	F
Flow Rate	1.00	C	gal/min		Field			5/20/21 13:37	BGS	F
Ground Water Elevation	493.59	C	ft/MSL		Field			5/20/21 13:37	BGS	F
pH, Field (SM4500B)	5.27	C	pH_Units		Field			5/20/21 13:37	BGS	F
Sample Depth	20.00	C	Feet		Field			5/20/21 13:37	BGS	F
Specific Conductance, Field	743	C	umhos/cm	1	Field			5/20/21 13:37	BGS	F
Temperature	15.68	C	Deg. C		Field			5/20/21 13:37	BGS	F
Total Well Depth	22.70	C	Feet		Field			5/20/21 13:37	BGS	F
Volume in Water Column	4.15	C	Gallons		Field			5/20/21 13:37	BGS	F
Water Level After Purge	18.66	C	Feet		Field			5/20/21 13:37	BGS	F
Well Volumes Purged	2.88	C	Vol		Field			5/20/21 13:37	BGS	F



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220005**

Date Collected: 5/20/2021 14:59

Matrix: Ground Water

Sample ID: **FFMP028W**

Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 04:21	VLM	J
Acrylonitrile	ND	C	ug/L	5.0	SW846 8260B			5/25/21 04:21	VLM	J
Benzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Bromochloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Bromodichloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Bromoform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Bromomethane	1.1	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
2-Butanone	ND	C	ug/L	10.0	SW846 8260B			5/25/21 04:21	VLM	J
Carbon Disulfide	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Carbon Tetrachloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Chlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Chlorodibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Chloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Chloroform	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Chloromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
3-Chloro-1-propene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
1,2-Dibromo-3-chloropropane	ND	C	ug/L	7.0	SW846 8260B			5/25/21 04:21	VLM	J
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Dibromomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
trans-1,4-Dichloro-2-butene	ND	C	ug/L	3.0	SW846 8260B			5/25/21 04:21	VLM	J
1,2-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
1,3-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
1,4-Dichlorobenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Dichlorodifluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
1,2-Dichloropropane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
cis-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
trans-1,3-Dichloropropene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
2-Hexanone	ND	C	ug/L	5.0	SW846 8260B			5/25/21 04:21	VLM	J
Iodomethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
4-Methyl-2-Pentanone(MIBK)	ND	C	ug/L	5.0	SW846 8260B			5/25/21 04:21	VLM	J

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220005**

Date Collected: 5/20/2021 14:59

Matrix: Ground Water

Sample ID: **FFMP028W**

Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Styrene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
1,1,1,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
1,1,2,2-Tetrachloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Toluene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			5/25/21 04:21	VLM	J
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
1,1,2-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
Trichlorofluoromethane	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
1,2,3-Trichloropropane	ND	C	ug/L	2.0	SW846 8260B			5/25/21 04:21	VLM	J
Vinyl Acetate	ND	C	ug/L	5.0	SW846 8260B			5/25/21 04:21	VLM	J
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			5/25/21 04:21	VLM	J
<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)	89.5	C	%	62 - 133	SW846 8260B			5/25/21 04:21	VLM	J
4-Bromofluorobenzene (S)	90.4	C	%	79 - 114	SW846 8260B			5/25/21 04:21	VLM	J
Dibromofluoromethane (S)	94.9	C	%	78 - 116	SW846 8260B			5/25/21 04:21	VLM	J
Toluene-d8 (S)	95.8	C	%	76 - 127	SW846 8260B			5/25/21 04:21	VLM	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.	C			Lib Search VOC			5/25/21 04:21	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	33	C	mg/L	5	SM2320B-2011			5/27/21 21:24	MBS	B
Alkalinity, Total	33	C,1	mg/L	5	SM2320B-2011			5/27/21 21:24	MBS	A
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			5/28/21 04:51	ALK	C
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			5/25/21 10:07	ALK	C
Chloride	87.5	C	mg/L	2.0	EPA 300.0			5/21/21 16:26	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			5/21/21 16:26	MBW	B
Nitrate-N	15.6	C	mg/L	0.20	EPA 300.0			5/21/21 16:26	MBW	B
pH	6.07	C,2	pH_Units		S4500HB-11			5/27/21 21:24	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	5/25/21 17:16	MXF	5/26/21 09:24	MXF	I
Specific Conductance	445	C	umhos/cm	1	SM2510B-2011			5/26/21 14:47	MBS	B
Sulfate	27.3	C	mg/L	2.0	EPA 300.0			5/21/21 16:26	MBW	B
Total Dissolved Solids	366	C	mg/L	25	S2540C-11			5/25/21 12:31	BBD	B
Total Organic Carbon (TOC)	0.61	C	mg/L	0.50	SM5310B-2011			5/27/21 01:10	PAG	G
Turbidity	0.16	C	NTU	0.10	SM2130B-2011			5/21/21 07:42	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220005**

Date Collected: 5/20/2021 14:59

Matrix: Ground Water

Sample ID: **FFMP028W**

Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Antimony, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:19	MSA	E1
Arsenic, Total	ND	C	mg/L	0.0033	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Arsenic, Dissolved	ND	C	mg/L	0.0030	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Barium, Total	0.065	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Barium, Dissolved	0.067	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Beryllium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Cadmium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Cadmium, Dissolved	ND	C	mg/L	0.0011	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Calcium, Total	37.4	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Calcium, Dissolved	36.9	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Chromium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Chromium, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Cobalt, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Copper, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Copper, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Iron, Total	0.11	C	mg/L	0.056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Iron, Dissolved	ND	C	mg/L	0.056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Lead, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Lead, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/5/21 15:21	MSA	D1
Magnesium, Total	16.9	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Magnesium, Dissolved	16.4	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Manganese, Total	0.0067	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Manganese, Dissolved	0.0067	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Mercury, Total	ND	C	mg/L	0.00050	SW846 7470A	6/3/21 21:07	SXC	6/4/21 07:26	EAD	E
Mercury, Dissolved	ND	C	mg/L	0.00050	SW846 7470A	6/7/21 05:39	EAD	6/7/21 11:23	EAD	D
Nickel, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Potassium, Total	2.3	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Potassium, Dissolved	2.2	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Selenium, Total	ND	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Selenium, Dissolved	ND	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Silver, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Silver, Dissolved	ND	C	mg/L	0.0022	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Sodium, Total	27.1	C	mg/L	0.11	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Sodium, Dissolved	26.6	C	mg/L	0.11	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
Thallium, Total	ND	C	mg/L	0.0011	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1
Vanadium, Total	ND	C	mg/L	0.0022	SW846 6020A	5/26/21 21:13	SXC	7/5/21 18:19	MSA	E1
Zinc, Total	0.015	C	mg/L	0.0056	SW846 6020A	5/26/21 21:13	SXC	7/5/21 16:24	MSA	E1

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID: **3177220005**
Sample ID: **FFMP028W**

Date Collected: 5/20/2021 14:59 Matrix: Ground Water
Date Received: 5/20/2021 16:22

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Zinc, Dissolved	0.014	C	mg/L	0.0056	SW846 6020A	5/27/21 17:25	SXC	7/3/21 18:28	MSA	D1
FIELD PARAMETERS										
Depth to Water Level	12.10	C	Feet		Field			5/20/21 14:59	BGS	F
Elev Top MW Casing above MSL	465.00	C	Feet		Field			5/20/21 14:59	BGS	F
Flow Rate	1.74	C	gal/min		Field			5/20/21 14:59	BGS	F
Ground Water Elevation	452.90	C	ft/MSL		Field			5/20/21 14:59	BGS	F
pH, Field (SM4500B)	5.10	C	pH_Units		Field			5/20/21 14:59	BGS	F
Sample Depth	50.00	C	Feet		Field			5/20/21 14:59	BGS	F
Specific Conductance, Field	745	C	umhos/cm	1	Field			5/20/21 14:59	BGS	F
Temperature	14.45	C	Deg. C		Field			5/20/21 14:59	BGS	F
Total Well Depth	60.00	C	Feet		Field			5/20/21 14:59	BGS	F
Volume in Water Column	70.41	C	Gallons		Field			5/20/21 14:59	BGS	F
Water Level After Purge	23.30	C	Feet		Field			5/20/21 14:59	BGS	F
Well Volumes Purged	1.48	C	Vol		Field			5/20/21 14:59	BGS	F



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3177220001	1	FFMP031W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3177220001	2	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.				
3177220001	3	FFMP031W	SW846 7470A	Mercury, Dissolved
The QC sample type MS for method SW846 7470A was outside the control limits for the analyte Mercury, Dissolved. The % Recovery was reported as 132 and the control limits were 70 to 130.				
3177220001	4	FFMP031W	SW846 7470A	Mercury, Dissolved
The QC sample type MSD for method SW846 7470A was outside the control limits for the analyte Mercury, Dissolved. The % Recovery was reported as 204 and the control limits were 70 to 130.				
3177220001	5	FFMP031W	SW846 7470A	Mercury, Dissolved
The QC sample type MSD for method SW846 7470A was outside the control limits for the analyte Mercury, Dissolved. The RPD was reported as 43.1 and the upper control limit is 20.				
3177220002	1	FFMP002W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3177220002	2	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.				
3177220002	3	FFMP002W	SW846 8260B	Iodomethane
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Iodomethane. The RPD was reported as 27.2 and the upper control limit is 27.				
3177220002	4	FFMP002W	SW846 8260B	Bromochloromethane
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Bromochloromethane. The % Recovery was reported as 120 and the control limits were 73 to 117.				
3177220002	5	FFMP002W	SW846 8260B	Trichloroethene
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Trichloroethene. The RPD was reported as 19.4 and the upper control limit is 18.				
3177220002	6	FFMP002W	SW846 8260B	trans-1,4-Dichloro-2-butene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte trans-1,4-Dichloro-2-butene. The % Recovery was reported as 53.9 and the control limits were 60 to 141.				
3177220002	7	FFMP002W	SW846 8260B	trans-1,4-Dichloro-2-butene
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte trans-1,4-Dichloro-2-butene. The % Recovery was reported as 52.1 and the control limits were 60 to 141.				
3177220003	1	FFMP02DW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3177220003	2	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.				
3177220004	1	FFMP02SW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				

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ANALYTICAL RESULTS

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

3177220004	2	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.				
3177220005	1	FFMP028W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
3177220005	2	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.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3177220001	FFMP031W	ASTM D6919-09		
3177220001	FFMP031W	EPA 300.0		
3177220001	FFMP031W	EPA 410.4		
3177220001	FFMP031W	Field		
3177220001	FFMP031W	Lib Search VOC		
3177220001	FFMP031W	S2540C-11		
3177220001	FFMP031W	S4500HB-11		
3177220001	FFMP031W	SM2130B-2011		
3177220001	FFMP031W	SM2320B-2011		
3177220001	FFMP031W	SM2510B-2011		
3177220001	FFMP031W	SM5310B-2011		
3177220001	FFMP031W	SW846 6020A	SW846 3015	
3177220001	FFMP031W	SW846 7470A	SW846 7470A	
3177220001	FFMP031W	SW846 8260B		
3177220001	FFMP031W	SW846 9066	420.4/9066	
3177220002	FFMP002W	ASTM D6919-09		
3177220002	FFMP002W	EPA 300.0		
3177220002	FFMP002W	EPA 410.4		
3177220002	FFMP002W	Field		
3177220002	FFMP002W	Lib Search VOC		
3177220002	FFMP002W	S2540C-11		
3177220002	FFMP002W	S4500HB-11		
3177220002	FFMP002W	SM2130B-2011		
3177220002	FFMP002W	SM2320B-2011		
3177220002	FFMP002W	SM2510B-2011		
3177220002	FFMP002W	SM5310B-2011		
3177220002	FFMP002W	SW846 6020A	SW846 3015	
3177220002	FFMP002W	SW846 7470A	SW846 7470A	
3177220002	FFMP002W	SW846 8260B		
3177220002	FFMP002W	SW846 9066	420.4/9066	
3177220003	FFMP02DW	ASTM D6919-09		
3177220003	FFMP02DW	EPA 300.0		
3177220003	FFMP02DW	EPA 410.4		
3177220003	FFMP02DW	Field		
3177220003	FFMP02DW	Lib Search VOC		
3177220003	FFMP02DW	S2540C-11		
3177220003	FFMP02DW	S4500HB-11		
3177220003	FFMP02DW	SM2130B-2011		
3177220003	FFMP02DW	SM2320B-2011		
3177220003	FFMP02DW	SM2510B-2011		
3177220003	FFMP02DW	SM5310B-2011		
3177220003	FFMP02DW	SW846 6020A	SW846 3015	
3177220003	FFMP02DW	SW846 7470A	SW846 7470A	
3177220003	FFMP02DW	SW846 8260B		
3177220003	FFMP02DW	SW846 9066	420.4/9066	
3177220004	FFMP02SW	ASTM D6919-09		

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3177220 2ND QTR 2021 FFMP-FORM 19A

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3177220004	FFMP02SW	EPA 300.0		
3177220004	FFMP02SW	EPA 410.4		
3177220004	FFMP02SW	Field		
3177220004	FFMP02SW	Lib Search VOC		
3177220004	FFMP02SW	S2540C-11		
3177220004	FFMP02SW	S4500HB-11		
3177220004	FFMP02SW	SM2130B-2011		
3177220004	FFMP02SW	SM2320B-2011		
3177220004	FFMP02SW	SM2510B-2011		
3177220004	FFMP02SW	SM5310B-2011		
3177220004	FFMP02SW	SW846 6020A	SW846 3015	
3177220004	FFMP02SW	SW846 7470A	SW846 7470A	
3177220004	FFMP02SW	SW846 8260B		
3177220004	FFMP02SW	SW846 9066	420.4/9066	
3177220005	FFMP028W	ASTM D6919-09		
3177220005	FFMP028W	EPA 300.0		
3177220005	FFMP028W	EPA 410.4		
3177220005	FFMP028W	Field		
3177220005	FFMP028W	Lib Search VOC		
3177220005	FFMP028W	S2540C-11		
3177220005	FFMP028W	S4500HB-11		
3177220005	FFMP028W	SM2130B-2011		
3177220005	FFMP028W	SM2320B-2011		
3177220005	FFMP028W	SM2510B-2011		
3177220005	FFMP028W	SM5310B-2011		
3177220005	FFMP028W	SW846 6020A	SW846 3015	
3177220005	FFMP028W	SW846 7470A	SW846 7470A	
3177220005	FFMP028W	SW846 8260B		
3177220005	FFMP028W	SW846 9066	420.4/9066	

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301 Filling Mill Road • Middletown, PA 17057 • Phone: 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS



3177220

id by Receiving Lab)

Cooler Temp: 5 Therm ID: 574

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/Volatilities?

Courier/Tracking #:

Sample/COC Comments

Enter Number of Containers Per Sample or Field Results Below.

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	Matrix	TOC	O-H	VOC (Form 19A) + LS	Field Measurements	Sample Depth for AUX Data	Disolved: Fe, Mn, Na, Ba, Cr, Cu, Pb, Mg, K, Zn, As, Cd, Se, Ag, Hg, Ca	Metals: Fe, Mn, Na, Ba, Cr, Cu, Pb, Mg, K, Zn, As, Cd, Se, Ag, Hg, Ca	pH, Cl, SPC, F, SO ₄ , TDS, NO ₃ , Turb.	Alkalinity, HCO ₃
1. FFMP031W	05/20/21	0949	G GW	2	1	2	X	X	1	1	1	1
2. FFMP002W	05/20/21	1027	G GW	2	1	2	X	X	1	1	1	1
3. FFMP02DW	05/20/21	1311	G GW	2	1	2	X	X	1	1	1	1
4. FFMP02SW	05/20/21	1337	G GW	2	1	2	X	X	1	1	1	1
5. FFMP028W	05/20/21	1459	G GW	2	1	2	X	X	1	1	1	1
6												
7												
8												
9												
10												

Project Comments: LOGGED BY (signature): DATE: TIME: REVIEWED BY (signature): DATE: TIME:

Relinquished By / Company Name: 5/20/21 1622

Received By / Company Name: 5/20/21 1622

State Samples Collected In: USACE Navy PA NC

Special Processing: USACE Navy Lab Special

Reportable to PADEP? Yes PWSID # EDDS: Format Type-

ALS Field Services: Composite_Sampling Rental_Equipment Other:

Matrix: - AI=Air; DW=Drinking Water; GW=Groundwater; OL=Oil; SL=Sludge; SO=Soil; WP=Waste Water

G=Grab; C=Composite

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

Rev 8/04



301 Fulling Mill Road
Middletown, PA 17057

P: (717) 944-5541

F: (717) 944-1430

3177220

Lancaster County Solid Waste
Authority

tion of Sample Receipt Form

Client:

Wo

Initials:

BBD

Date:

05/21/21

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?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..... 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):

Thermometer ID:

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