



Date Prepared/Revised
01/27/2023

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

General Reference: Section 273.284

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

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP30RW

X	Well	Spring	Stream	Other
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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: 33.64 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.20 ft

Elevation of Water Level: 528.66 ft./MSL

Sampling Depth: 85 ft

Volume of Water Column:	82.77	gal
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Total Well Depth: 90 ft

Sampling Method: X 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): 11/8/2022

Sample Collection Time: 11:02

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): 3272726001 Final Lab Analysis CompletionDate: 11/25/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP30RW

Sample Date 11/8/2022

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	0.47	D6919-09
BICARBONATE ALKALINITY	43	SM20-2320B
CALCIUM, TOTAL	65.3	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	327	EPA 300
FLUORIDE	1 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	20	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	3300	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	4.9	EPA 300
pH-FIELD (SU)	5.32	FIELD
pH-LAB (SU)	6.55	SM20-4500HB
POTASSIUM, TOTAL	8.5	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	135	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1303	FIELD
SPEC. COND., LAB (umhos/cm)	1280	SW846 9050A
SULFATE	48.3	EPA 300
ALKALINITY	43	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	718	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.87	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	2.3	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP30RW

Sample Date 11/8/2022

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP04AW

Sample Date 11/8/2022

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	0.285	D6919-09
BICARBONATE ALKALINITY	181	SM20-2320B
CALCIUM, TOTAL	159	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	325	EPA 300
FLUORIDE	0.5 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	25.2	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	320	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	2.5 ND	EPA 300
pH-FIELD (SU)	6.8	FIELD
pH-LAB (SU)	7.95	SM20-4500HB
POTASSIUM, TOTAL	2.1	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	86.9	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	2079	FIELD
SPEC. COND., LAB (umhos/cm)	1460	SW846 9050A
SULFATE	47.3	EPA 300
ALKALINITY	181	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	892	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.71	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.45	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP04AW

Sample Date 11/8/2022

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.



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QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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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: FFMP035W

X	Well	Spring	Stream	Other
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Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 15.95 "

Longitude: 76 ° 26 ' 57.26 "

Depth to Water Level: 42.93 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.45 ft

Elevation of Water Level: 434.63 ft./MSL

Sampling Depth: 65 ft

Volume of Water Column:	39.76	gal
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Total Well Depth: 70 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): 11/8/2022

Sample Collection Time: 12:34

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): 3272726003 Final Lab Analysis CompletionDate: 11/23/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP035W

Sample Date 11/8/2022

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	0.311	D6919-09
BICARBONATE ALKALINITY	98	SM20-2320B
CALCIUM, TOTAL	78.5	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	126	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	260	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	15.1	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	33	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	5.1	EPA 300
pH-FIELD (SU)	6.67	FIELD
pH-LAB (SU)	7.79	SM20-4500HB
POTASSIUM, TOTAL	3.2	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	38.9	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	983	FIELD
SPEC. COND., LAB (umhos/cm)	740	SW846 9050A
SULFATE	39.6	EPA 300
ALKALINITY	98	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	432	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.2	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	2.8	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP035W

Sample Date 11/8/2022

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.



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QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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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: FFMP036W

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

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 16.03 "

Longitude: 76 ° 26 ' 57.28 "

Depth to Water Level: 45.19 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.91 ft

Elevation of Water Level: 433.04 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column:	139.24	gal
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Total Well Depth: 140 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): 11/8/2022

Sample Collection Time: 12:54

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): 3272726004 Final Lab Analysis CompletionDate: 11/23/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP036W

Sample Date 11/8/2022

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	0.339	D6919-09
BICARBONATE ALKALINITY	91	SM20-2320B
CALCIUM, TOTAL	50.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	33.3	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	1300	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	4.7	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	110	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1 ND	EPA 300
pH-FIELD (SU)	8.03	FIELD
pH-LAB (SU)	8.14	SM20-4500HB
POTASSIUM, TOTAL	1.1	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	14.8	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	460	FIELD
SPEC. COND., LAB (umhos/cm)	364	SW846 9050A
SULFATE	31.1	EPA 300
ALKALINITY	91	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	214	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	12	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP036W

Sample Date 11/8/2022

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

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

T Please indicate detection limit if analyte is not detected.

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



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

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Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP029W

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 12.93 "

Longitude: 76 ° 27 ' 0.67 "

Depth to Water Level: 38.65 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.00 ft

Elevation of Water Level: 438.65 ft./MSL

Sampling Depth: 55 ft

Volume of Water Column: 29.15 gal

Total Well Depth: 58.5 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 3.4

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

Spring Flow Rate: gpm

Sample Date (mm/dd/yy): 11/8/2022

Sample Collection Time: 13:48

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): 3272726005 Final Lab Analysis CompletionDate: 11/23/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP029W

Sample Date 11/8/2022

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	0.312	D6919-09
BICARBONATE ALKALINITY	12	SM20-2320B
CALCIUM, TOTAL	21	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	83.2	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	13.2	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	47	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	3.5	EPA 300
pH-FIELD (SU)	5.12	FIELD
pH-LAB (SU)	6.64	SM20-4500HB
POTASSIUM, TOTAL	2.3	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	30.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	515	FIELD
SPEC. COND., LAB (umhos/cm)	350	SW846 9050A
SULFATE	3.9	EPA 300
ALKALINITY	12	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	202	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.7	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

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I.D. No 101389

Monitoring Point No. FFMP029W

Sample Date 11/8/2022

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
01/27/2023

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

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ 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: 63.44 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 1.90 ft

Elevation of Water Level: 512.96 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column: 125.51 gal

Total Well Depth: 148.9 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.0

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

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 11/9/2022

Sample Collection Time: 10:31

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): 3272990001 Final Lab Analysis CompletionDate: 11/28/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 11/9/2022

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	0.197	D6919-09
BICARBONATE ALKALINITY	26	SM20-2320B
CALCIUM, TOTAL	31.9	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	43.8	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	27.9	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	12	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	65.1 E	EPA 300
pH-FIELD (SU)	5.59	FIELD
pH-LAB (SU)	7.11	SM20-4500HB
POTASSIUM, TOTAL	2	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	21	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	843	FIELD
SPEC. COND., LAB (umhos/cm)	585	SW846 9050A
SULFATE	29.4	EPA 300
ALKALINITY	26	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	326	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.3	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.3 ND	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 11/9/2022

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
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**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

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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: FFMP017W

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 8.5 "

Longitude: 76 ° 27 ' 6.17 "

Depth to Water Level: 41.46 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.00 ft

Elevation of Water Level: 439.24 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column: 160.14 gal

Total Well Depth: 150.5 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 0.9

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

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 11/9/2022

Sample Collection Time: 11:31

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): 3272990002 Final Lab Analysis CompletionDate: 12/2/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP017W

Sample Date 11/9/2022

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	0.516	D6919-09
BICARBONATE ALKALINITY	129	SM20-2320B
CALCIUM, TOTAL	95	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	252	EPA 300
FLUORIDE	0.5 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	39	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	1200	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	4.4	EPA 300
pH-FIELD (SU)	5.98	FIELD
pH-LAB (SU)	7.63	SM20-4500HB
POTASSIUM, TOTAL	6.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	88.5	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	461	FIELD
SPEC. COND., LAB (umhos/cm)	1310	SW846 9050A
SULFATE	79.2	EPA 300
ALKALINITY	129	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	696	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	2.7	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.3 ND	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP017W

Sample Date 11/9/2022

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
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**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

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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: FFMP03AW

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ 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: 53.68 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 1.20 ft

Elevation of Water Level: 537.22 ft./MSL

Sampling Depth: 130 ft

Volume of Water Column: 137.35 gal

Total Well Depth: 147.2 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ 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): 11/9/2022

Sample Collection Time: 11:53

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): 3272990003 Final Lab Analysis CompletionDate: 11/28/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP03AW

Sample Date 11/9/2022

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	0.206	D6919-09
BICARBONATE ALKALINITY	15	SM20-2320B
CALCIUM, TOTAL	20.1	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	35.5	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	15.8	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	370	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN		EPA 300
pH-FIELD (SU)	5.05	FIELD
pH-LAB (SU)	6.74	SM20-4500HB
POTASSIUM, TOTAL	1.5	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	13.9	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	501	FIELD
SPEC. COND., LAB (umhos/cm)	347	SW846 9050A
SULFATE	3.9	EPA 300
ALKALINITY	15	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	202	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.3 ND	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP03AW

Sample Date 11/9/2022

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
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**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

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SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP018W

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 11.62 "

Longitude: 76 ° 27 ' 5.68 "

Depth to Water Level: 26.89 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.46 ft

Elevation of Water Level: 445.31 ft./MSL

Sampling Depth: 40 ft

Volume of Water Column: 16.02 gal

Total Well Depth: 51.43 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 5.0

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

Spring Flow Rate: gpm

Sample Date (mm/dd/yy): 11/9/2022

Sample Collection Time: 12:35

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): 3272990004 Final Lab Analysis CompletionDate: 12/2/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP018W

Sample Date 11/9/2022

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	0.236	D6919-09
BICARBONATE ALKALINITY	19	SM20-2320B
CALCIUM, TOTAL	33.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	126	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	19.4	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	210	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	6	EPA 300
pH-FIELD (SU)	5.19	FIELD
pH-LAB (SU)	6.98	SM20-4500HB
POTASSIUM, TOTAL	4.1	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	37.8	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	211	FIELD
SPEC. COND., LAB (umhos/cm)	594	SW846 9050A
SULFATE	36.7	EPA 300
ALKALINITY	19	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	324	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.58	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.3 ND	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP018W

Sample Date 11/9/2022

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 11/9/2022

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	0.172	D6919-09
BICARBONATE ALKALINITY	62	SM20-2320B
CALCIUM, TOTAL	62.7	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	87.9	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	6.2	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	5.6 ND	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1 ND	EPA 300
pH-FIELD (SU)	6.48	FIELD
pH-LAB (SU)	7.89	SM20-4500HB
POTASSIUM, TOTAL	0.84	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	11	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	677	FIELD
SPEC. COND., LAB (umhos/cm)	471	SW846 9050A
SULFATE	17.2	EPA 300
ALKALINITY	62	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	304	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.3 ND	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP019W

Sample Date 11/9/2022

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

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

T Please indicate detection limit if analyte is not detected.



Date Prepared/Revised
01/27/2023

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

General Reference: Section 273.284

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

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP005W

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

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 10.67 "

Longitude: 76 ° 27 ' 21.3 "

Depth to Water Level: 66.67 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.70 ft

Elevation of Water Level: 470.73 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column:	122.38	gal
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Total Well Depth: 150 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 1.4

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 11/9/2022

Sample Collection Time: 14:22

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): 3272990006 Final Lab Analysis CompletionDate: 12/2/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP005W

Sample Date 11/9/2022

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	0.324	D6919-09
BICARBONATE ALKALINITY	51	SM20-2320B
CALCIUM, TOTAL	83.8	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	199	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	21.1	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	190	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	2.7	EPA 300
pH-FIELD (SU)	5.51	FIELD
pH-LAB (SU)	7.35	SM20-4500HB
POTASSIUM, TOTAL	3.1	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	52.8	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1359	FIELD
SPEC. COND., LAB (umhos/cm)	933	SW846 9050A
SULFATE	75.4	EPA 300
ALKALINITY	51	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	558	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.2	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.3 ND	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP005W

Sample Date 11/9/2022

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
01/27/2023

DEP USE ONLY

Date Received

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

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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: FFMP26RW

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ 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: 76.42 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 3.30 ft

Elevation of Water Level: 470.98 ft./MSL

Sampling Depth: 105 ft

Volume of Water Column: 55.19 gal

Total Well Depth: 114 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.8

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

Spring Flow Rate: gpm

Sample Date (mm/dd/yy): 11/9/2022

Sample Collection Time: 14:13

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): 3272990007 Final Lab Analysis CompletionDate: 12/2/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP26RW

Sample Date 11/9/2022

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	0.323	D6919-09
BICARBONATE ALKALINITY	55	SM20-2320B
CALCIUM, TOTAL	71.8	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	172	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	19.2	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	780	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1.2	EPA 300
pH-FIELD (SU)	5.5	FIELD
pH-LAB (SU)	7.17	SM20-4500HB
POTASSIUM, TOTAL	7.3	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	57.4	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	316	FIELD
SPEC. COND., LAB (umhos/cm)	892	SW846 9050A
SULFATE	93.8	EPA 300
ALKALINITY	55	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	596	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.6	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.85	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP26RW

Sample Date 11/9/2022

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
01/27/2023

DEP USE ONLY

Date Received

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

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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: FFMP034W ☒ Well ☐ Spring ☐ Stream ☐ Other
☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: _____

Sampling Point: Latitude: _____ ° _____ ' _____ " Longitude: _____ ° _____ ' _____ "

Depth to Water Level: 10.62 ft Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: _____ ft Elevation of Water Level: 462.26 ft./MSL

Sampling Depth: 25.85 ft Volume of Water Column: _____ gal

Total Well Depth: 121 ft Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No Well Volumes Purged: 1.1

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 11/10/2022 Sample Collection Time: 11:12

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): 3273347001 Final Lab Analysis Completion Date: 11/28/2022

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

Comments: _____

I.D. No 101389

Monitoring Point No. FFMP034W

Sample Date 11/10/2022

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	53	SM20-2320B
CALCIUM, TOTAL	63	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	180	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	15800	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	22.2	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	220	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	7.5	EPA 300
pH-FIELD (SU)	5.68	FIELD
pH-LAB (SU)	7.89	SM20-4500HB
POTASSIUM, TOTAL	2.5	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	45.6	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1129	FIELD
SPEC. COND., LAB (umhos/cm)	842	SW846 9050A
SULFATE	28.9	EPA 300
ALKALINITY	53	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	592	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.68	SW846 9060A
TOTAL PHENOLICS (ug/l)	60	SW846 9066
TURBIDITY (N.T.U.)	280	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP034W

Sample Date 11/10/2022

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
01/27/2023

DEP USE ONLY

Date Received

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

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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: FFMP033W ☒ Well ☐ Spring ☐ Stream ☐ Other
☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 31.09 " Longitude: 76 ° 27 ' 4.98 "

Depth to Water Level: 21.74 ft Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 0.49 ft Elevation of Water Level: 494.78 ft./MSL

Sampling Depth: 79 ft Volume of Water Column: 109.06 gal

Total Well Depth: 96 ft Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

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

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

Spring Flow Rate: gpm

Sample Date (mm/dd/yy): 11/10/2022 Sample Collection Time: 10:50

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): 3273347002 Final Lab Analysis Completion Date: 11/30/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP033W

Sample Date 11/10/2022

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	1.65	D6919-09
BICARBONATE ALKALINITY	81	SM20-2320B
CALCIUM, TOTAL	35.8	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	60.6	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	31500	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	11.3	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	1300	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1.4	EPA 300
pH-FIELD (SU)	6.46	FIELD
pH-LAB (SU)	8.01	SM20-4500HB
POTASSIUM, TOTAL	1.6	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	15.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	645	FIELD
SPEC. COND., LAB (umhos/cm)	397	SW846 9050A
SULFATE	2 ND	EPA 300
ALKALINITY	81	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	234	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	240	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP033W

Sample Date 11/10/2022

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
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**FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

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Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP002W

☒ Well ☐ Spring ☐ Stream ☐ Other

☒ Upgradient/Upstream ☐ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 32.25 "

Longitude: 76 ° 27 ' 24.03 "

Depth to Water Level: 64.03 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 1.60 ft

Elevation of Water Level: 549.17 ft./MSL

Sampling Depth: 85 ft

Volume of Water Column: 155.05 gal

Total Well Depth: 169.6 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ 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): 11/10/2022

Sample Collection Time: 11:52

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): 3273347003 Final Lab Analysis CompletionDate: 11/28/2022

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	D6919-09
BICARBONATE ALKALINITY	5 ND	SM20-2320B
CALCIUM, TOTAL	16.9	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	17.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	72	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	7.5	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	220	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	18.8	EPA 300
pH-FIELD (SU)	4.53	FIELD
pH-LAB (SU)	5.96	SM20-4500HB
POTASSIUM, TOTAL	1	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	13.3	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	352	FIELD
SPEC. COND., LAB (umhos/cm)	255	SW846 9050A
SULFATE	11.7	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	202	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.9	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP002W

Sample Date 11/10/2022

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
01/27/2023

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: 66.54 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.38 ft

Elevation of Water Level: 546.12 ft./MSL

Sampling Depth: 130 ft

Volume of Water Column: 107.89 gal

Total Well Depth: 140 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.7

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

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 11/10/2022

Sample Collection Time: 12:38

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): 3273347004 Final Lab Analysis CompletionDate: 11/28/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP031W

Sample Date 11/10/2022

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	62	SM20-2320B
CALCIUM, TOTAL	35.2	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	18.5	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	6500	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	3.9	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	270	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1 ND	EPA 300
pH-FIELD (SU)	7.72	FIELD
pH-LAB (SU)	8.16	SM20-4500HB
POTASSIUM, TOTAL	1.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	10.5	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	385	FIELD
SPEC. COND., LAB (umhos/cm)	279	SW846 9050A
SULFATE	41	EPA 300
ALKALINITY	62	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	172	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	70	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP031W

Sample Date 11/10/2022

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 11/10/2022

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	25	SM20-2320B
CALCIUM, TOTAL	16.5	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	39.3	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	430	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	6.7	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	16	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	13.9	EPA 300
pH-FIELD (SU)	5.3	FIELD
pH-LAB (SU)	7.47	SM20-4500HB
POTASSIUM, TOTAL	5.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	41.8	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	575	FIELD
SPEC. COND., LAB (umhos/cm)	387	SW846 9050A
SULFATE	38.3	EPA 300
ALKALINITY	25	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	266	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	2.1	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	13	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP02SW

Sample Date 11/10/2022

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
01/27/2023

DEP USE ONLY

Date Received

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

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

General Reference: Section 273.284

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

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP02DW

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 27.74 "

Longitude: 76 ° 27 ' 1.49 "

Depth to Water Level: 19.39 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: ft

Elevation of Water Level: 490.21 ft./MSL

Sampling Depth: 120 ft

Volume of Water Column: gal

Total Well Depth: 152 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 0.5

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

Spring Flow Rate: gpm

Sample Date (mm/dd/yy): 11/10/2022

Sample Collection Time: 13:57

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): 3273347006 Final Lab Analysis CompletionDate: 11/28/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP02DW

Sample Date 11/10/2022

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	111	SM20-2320B
CALCIUM, TOTAL	139	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	462	EPA 300
FLUORIDE	0.5 ND	EPA 300
IRON, TOTAL (ug/l)	2300	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	22	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	510	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	6.6	EPA 300
pH-FIELD (SU)	7.02	FIELD
pH-LAB (SU)	8.25	SM20-4500HB
POTASSIUM, TOTAL	1.5	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	149	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	2386	FIELD
SPEC. COND., LAB (umhos/cm)	1760	SW846 9050A
SULFATE	38.3	EPA 300
ALKALINITY	111	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	1110	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.8	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	8.6	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP02DW

Sample Date 11/10/2022

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
01/27/2023

DEP USE ONLY

Date Received

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

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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: FFMP032W

☒ Well ☐ Spring ☐ Stream ☐ Other

☒ Upgradient/Upstream ☐ Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 33.45 "

Longitude: 76 ° 27 ' 17.71 "

Depth to Water Level: 49.82 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.06 ft

Elevation of Water Level: 544.27 ft./MSL

Sampling Depth: 62 ft

Volume of Water Column: 36.98 gal

Total Well Depth: 75 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ 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): 11/10/2022

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): 3273347007 Final Lab Analysis CompletionDate: 11/28/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP032W

Sample Date 11/10/2022

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	0.507	D6919-09
BICARBONATE ALKALINITY	64	SM20-2320B
CALCIUM, TOTAL	15.8	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	19.9	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	7200	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	5.6	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	570	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1 ND	EPA 300
pH-FIELD (SU)	6.83	FIELD
pH-LAB (SU)	8.11	SM20-4500HB
POTASSIUM, TOTAL	1.3	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	12.7	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	282	FIELD
SPEC. COND., LAB (umhos/cm)	195	SW846 9050A
SULFATE	2 ND	EPA 300
ALKALINITY	64	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	122	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.54	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	150	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP032W

Sample Date 11/10/2022

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.



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

Analytical Results Report For

Lancaster County Solid Waste Authority

Project 4TH QTR 2022 GWMP-FORM 19Q

Workorder 3272726

Report ID 209718 on 11/29/2022

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Nov 08, 2022.

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 Susan 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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Susan Scherer

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

Susan Scherer
Project Coordinator

(ALS Digital Signature)



Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3272726001	FFMP30RW	Ground Water	11/08/2022 11:02	11/08/2022 15:40	BGS	Analytical Laboratory Service
3272726002	FFMP04AW	Ground Water	11/08/2022 10:58	11/08/2022 15:40	BGS	Analytical Laboratory Service
3272726003	FFMP035W	Ground Water	11/08/2022 12:34	11/08/2022 15:40	BGS	Analytical Laboratory Service
3272726004	FFMP036W	Ground Water	11/08/2022 12:54	11/08/2022 15:40	BGS	Analytical Laboratory Service
3272726005	FFMP029W	Ground Water	11/08/2022 13:48	11/08/2022 15:40	BGS	Analytical Laboratory Service



Reference

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).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136.
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- 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 preformed 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.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
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
#	Please reference the result in the Results Section for analyte-level flags.



Project Notations

Sample Notations

Lab ID Sample ID

Result Notations

Notation Ref.	
1	The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.
2	The QC sample type MS for method EPA 300.0 was outside the control limits for the analyte Fluoride. The % Recovery was reported as 76.0 and the control limits were 80 to 120.
3	The QC sample type MSD for method EPA 300.0 was outside the control limits for the analyte Fluoride. The % Recovery was reported as 75.1 and the control limits were 80 to 120.
4	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.
5	The QC type CRDL for method SW846 6010C was outside the control limits for the analyte Potassium. The % RSD was reported as 42.13 and the control limits were 0 to 20. A1S 11-14-2022
6	The QC type CRDL for method SW846 6010C was outside the control limits for the analyte Sodium. The % recovery was reported as 161 and the control limits were 70 to 130. A1S 11-14-2022
7	The QC sample type MS for method SW846 9066 was outside the control limits for the analyte Phenolics. The % Recovery was reported as 84.5 and the control limits were 90 to 110.
8	The QC sample type MSD for method SW846 9066 was outside the control limits for the analyte Phenolics. The % Recovery was reported as 87.2 and the control limits were 90 to 110.



Detected Results Summary

Client Sample ID	FFMP30RW	Collected	11/08/2022 11:02		
Lab Sample ID	3272726001	Lab Receipt	11/08/2022 15:40		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	33.64	Feet		Field	#
Dissolved Oxygen	1.00	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	562.30	Feet		Field	#
Flow Rate	1.92	gal/min		Field	#
Ground Water Elevation	528.66	ft/MSL		Field	#
Oxidation-Reduction Potential	302	mV		Field	#
pH, Field (SM4500B)	5.32	pH_Units		Field	#
Sample Depth	85.00	Feet		Field	#
Specific Conductance, Field	1303	umhos/cm	1	Field	#
Temperature	13.74	Deg. C		Field	#
Total Well Depth	94.20	Feet		Field	#
Turbidity, Field	6	NTU	1	Field	#
Volume in Water Column	89.02	Gallons		Field	#
Water Level After Purge	62.46	Feet		Field	#
Well Volumes Purged	1.29	Vol		Field	#
METALS					
Calcium, Total	65.3	mg/L	0.11	SW846 6010C	#
Magnesium, Total	20.0	mg/L	0.11	SW846 6010C	#
Manganese, Total	3.3	mg/L	0.0056	SW846 6010C	#
Potassium, Total	8.5	mg/L	0.56	SW846 6010C	#
Sodium, Total	135	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	43	mg/L	5	SM2320B-2011	#
Alkalinity, Total	43	mg/L	5	SM2320B-2011	#
Ammonia-N	0.470	mg/L	0.100	ASTM D6919-09	#
Chloride	327	mg/L	10.0	EPA 300.0	#
Nitrate-N	4.9	mg/L	1.0	EPA 300.0	#
pH	6.55	pH_Units		S4500HB-11	#
Specific Conductance	1280	umhos/cm	1	SW846 9050A	#
Sulfate	48.3	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	718	mg/L	25	S2540C-11	#
Total Organic Carbon (TOC)	0.87	mg/L	0.50	SW846 9060A	#
Turbidity	2.3	NTU	0.30	SM2130B-2011	#



Detected Results Summary

Client Sample ID	FFMP04AW	Collected	11/08/2022 10:58		
Lab Sample ID	3272726002	Lab Receipt	11/08/2022 15:40		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	32.96	Feet		Field	#
Dissolved Oxygen	0.05	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	560.72	Feet		Field	#
Flow Rate	1.82	gal/min		Field	#
Ground Water Elevation	527.76	ft/MSL		Field	#
Oxidation-Reduction Potential	77	mV		Field	#
pH, Field (SM4500B)	6.80	pH_Units		Field	#
Sample Depth	146.00	Feet		Field	#
Specific Conductance, Field	2079	umhos/cm	1	Field	#
Temperature	13.87	Deg. C		Field	#
Total Well Depth	148.50	Feet		Field	#
Volume in Water Column	169.84	Gallons		Field	#
Water Level After Purge	82.93	Feet		Field	#
Well Volumes Purged	0.64	Vol		Field	#
METALS					
Calcium, Total	159	mg/L	0.11	SW846 6010C	#
Magnesium, Total	25.2	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.32	mg/L	0.0056	SW846 6010C	#
Potassium, Total	2.1	mg/L	0.56	SW846 6010C	#
Sodium, Total	86.9	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	181	mg/L	5	SM2320B-2011	#
Alkalinity, Total	181	mg/L	5	SM2320B-2011	#
Ammonia-N	0.285	mg/L	0.100	ASTM D6919-09	#
Chloride	325	mg/L	5.0	EPA 300.0	#
pH	7.95	pH_Units		S4500HB-11	#
Specific Conductance	1460	umhos/cm	1	SW846 9050A	#
Sulfate	47.3	mg/L	5.0	EPA 300.0	#
Total Dissolved Solids	892	mg/L	25	S2540C-11	#
Total Organic Carbon (TOC)	0.71	mg/L	0.50	SW846 9060A	#
Turbidity	0.45	NTU	0.30	SM2130B-2011	#



Detected Results Summary

Client Sample ID	FFMP035W	Collected	11/08/2022 12:34		
Lab Sample ID	3272726003	Lab Receipt	11/08/2022 15:40		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	42.93	Feet		Field	#
Dissolved Oxygen	3.48	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	477.56	Feet		Field	#
Flow Rate	0.69	gal/min		Field	#
Ground Water Elevation	434.63	ft/MSL		Field	#
Oxidation-Reduction Potential	126	mV		Field	#
pH, Field (SM4500B)	6.67	pH_Units		Field	#
Sample Depth	65.00	Feet		Field	#
Specific Conductance, Field	983	umhos/cm	1	Field	#
Temperature	15.77	Deg. C		Field	#
Total Well Depth	71.80	Feet		Field	#
Turbidity, Field	1	NTU	1	Field	#
Volume in Water Column	42.44	Gallons		Field	#
Water Level After Purge	54.44	Feet		Field	#
Well Volumes Purged	0.65	Vol		Field	#
METALS					
Calcium, Total	78.5	mg/L	0.11	SW846 6010C	#
Iron, Total	0.26	mg/L	0.067	SW846 6010C	#
Magnesium, Total	15.1	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.033	mg/L	0.0056	SW846 6010C	#
Potassium, Total	3.2	mg/L	0.56	SW846 6010C	#
Sodium, Total	38.9	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	98	mg/L	5	SM2320B-2011	#
Alkalinity, Total	98	mg/L	5	SM2320B-2011	#
Ammonia-N	0.311	mg/L	0.100	ASTM D6919-09	#
Chloride	126	mg/L	2.0	EPA 300.0	#
Nitrate-N	5.1	mg/L	1.0	EPA 300.0	#
pH	7.79	pH_Units		S4500HB-11	#
Specific Conductance	740	umhos/cm	1	SW846 9050A	#
Sulfate	39.6	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	432	mg/L	25	S2540C-11	#
Total Organic Carbon (TOC)	1.2	mg/L	0.50	SW846 9060A	#
Turbidity	2.8	NTU	0.30	SM2130B-2011	#



Detected Results Summary

Client Sample ID	FFMP036W	Collected	11/08/2022 12:54		
Lab Sample ID	3272726004	Lab Receipt	11/08/2022 15:40		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	45.19	Feet		Field	#
Dissolved Oxygen	0.03	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	478.23	Feet		Field	#
Flow Rate	1.52	gal/min		Field	#
Ground Water Elevation	433.04	ft/MSL		Field	#
Oxidation-Reduction Potential	-224	mV		Field	#
pH, Field (SM4500B)	8.03	pH_Units		Field	#
Sample Depth	135.00	Feet		Field	#
Specific Conductance, Field	460	umhos/cm	1	Field	#
Temperature	13.91	Deg. C		Field	#
Total Well Depth	142.60	Feet		Field	#
Turbidity, Field	3	NTU	1	Field	#
Volume in Water Column	143.19	Gallons		Field	#
Water Level After Purge	71.84	Feet		Field	#
Well Volumes Purged	0.74	Vol		Field	#
METALS					
Calcium, Total	50.6	mg/L	0.11	SW846 6010C	#
Iron, Total	1.3	mg/L	0.067	SW846 6010C	#
Magnesium, Total	4.7	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.11	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.1	mg/L	0.56	SW846 6010C	#
Sodium, Total	14.8	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	91	mg/L	5	SM2320B-2011	#
Alkalinity, Total	91	mg/L	5	SM2320B-2011	#
Ammonia-N	0.339	mg/L	0.100	ASTM D6919-09	#
Chloride	33.3	mg/L	2.0	EPA 300.0	#
pH	8.14	pH_Units		S4500HB-11	#
Specific Conductance	364	umhos/cm	1	SW846 9050A	#
Sulfate	31.1	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	214	mg/L	25	S2540C-11	#
Turbidity	12	NTU	0.30	SM2130B-2011	#



Detected Results Summary

Client Sample ID	FFMP029W	Collected	11/08/2022 13:48		
Lab Sample ID	3272726005	Lab Receipt	11/08/2022 15:40		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	38.65	Feet		Field	#
Dissolved Oxygen	5.41	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	477.30	Feet		Field	#
Flow Rate	2.76	gal/min		Field	#
Ground Water Elevation	438.65	ft/MSL		Field	#
Oxidation-Reduction Potential	270	mV		Field	#
pH, Field (SM4500B)	5.12	pH_Units		Field	#
Sample Depth	55.00	Feet		Field	#
Specific Conductance, Field	515	umhos/cm	1	Field	#
Temperature	14.57	Deg. C		Field	#
Total Well Depth	60.50	Feet		Field	#
Volume in Water Column	32.12	Gallons		Field	#
Water Level After Purge	44.42	Feet		Field	#
Well Volumes Purged	3.44	Vol		Field	#
METALS					
Calcium, Total	21.0	mg/L	0.11	SW846 6010C	#
Magnesium, Total	13.2	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.047	mg/L	0.0056	SW846 6010C	#
Potassium, Total	2.3	mg/L	0.56	SW846 6010C	#
Sodium, Total	30.1	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	12	mg/L	5	SM2320B-2011	#
Alkalinity, Total	12	mg/L	5	SM2320B-2011	#
Ammonia-N	0.312	mg/L	0.100	ASTM D6919-09	#
Chloride	83.2	mg/L	2.0	EPA 300.0	#
Nitrate-N	3.5	mg/L	1.0	EPA 300.0	#
pH	6.64	pH_Units		S4500HB-11	#
Specific Conductance	350	umhos/cm	1	SW846 9050A	#
Sulfate	3.9	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	202	mg/L	25	S2540C-11	#
Turbidity	0.70	NTU	0.30	SM2130B-2011	#



Results

Client Sample ID	FFMP30RW	Collected	11/08/2022 11:02
Lab Sample ID	3272726001	Lab Receipt	11/08/2022 15:40

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	33.64		Feet		Field	1	11/08/2022 11:02	BGS	D
Dissolved Oxygen	1.00		mg/L	0.01	Field	1	11/08/2022 11:02	BGS	D
Elev Top MW Casing above MSL	562.30		Feet		Field	1	11/08/2022 11:02	BGS	D
Flow Rate	1.92		gal/min		Field	1	11/08/2022 11:02	BGS	D
Ground Water Elevation	528.66		ft/MSL		Field	1	11/08/2022 11:02	BGS	D
Oxidation-Reduction Potential	302		mV		Field	1	11/08/2022 11:02	BGS	D
pH, Field (SM4500B)	5.32		pH_Units		Field	1	11/08/2022 11:02	BGS	D
Sample Depth	85.00		Feet		Field	1	11/08/2022 11:02	BGS	D
Specific Conductance, Field	1303		umhos/cm	1	Field	1	11/08/2022 11:02	BGS	D
Temperature	13.74		Deg. C		Field	1	11/08/2022 11:02	BGS	D
Total Well Depth	94.20		Feet		Field	1	11/08/2022 11:02	BGS	D
Turbidity, Field	6		NTU	1	Field	1	11/08/2022 11:02	BGS	D
Volume in Water Column	89.02		Gallons		Field	1	11/08/2022 11:02	BGS	D
Water Level After Purge	62.46		Feet		Field	1	11/08/2022 11:02	BGS	D
Well Volumes Purged	1.29		Vol		Field	1	11/08/2022 11:02	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	65.3		mg/L	0.11	SW846 6010C	1	11/11/2022 19:06	A1S	J1
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	11/11/2022 19:06	A1S	J1
Magnesium, Total	20.0		mg/L	0.11	SW846 6010C	1	11/11/2022 19:06	A1S	J1
Manganese, Total	3.3		mg/L	0.0056	SW846 6010C	1	11/11/2022 19:06	A1S	J1
Potassium, Total	8.5	5	mg/L	0.56	SW846 6010C	1	11/11/2022 19:06	A1S	J1
Sodium, Total	135	6	mg/L	0.56	SW846 6010C	1	11/11/2022 19:06	A1S	J1

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:22	PDK	H



Results

Client Sample ID	FFMP30RW	Collected	11/08/2022 11:02
Lab Sample ID	3272726001	Lab Receipt	11/08/2022 15:40

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			101%	62 – 133		11/19/2022 03:22		
4-Bromofluorobenzene	460-00-4			106%	79 – 114		11/19/2022 03:22		
Dibromofluoromethane	1868-53-7			91.7%	78 – 116		11/19/2022 03:22		
Toluene-d8	2037-26-5			97.3%	76 – 127		11/19/2022 03:22		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	43		mg/L	5	SM2320B-2011	1	11/09/2022 18:56	NML	B
Alkalinity, Total	43	1	mg/L	5	SM2320B-2011	1	11/09/2022 18:56	NML	B
Ammonia-N	0.470		mg/L	0.100	ASTM D6919-09	10	11/12/2022 05:41	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/18/2022 12:16	KMS	A
Chloride	327		mg/L	10.0	EPA 300.0	10	11/25/2022 12:09	GJB	B
Fluoride	ND	ND,2,3	mg/L	1.0	EPA 300.0	10	11/23/2022 05:26	GJB	B
Nitrate-N	4.9		mg/L	1.0	EPA 300.0	2	11/09/2022 16:32	J1W	B
pH	6.55	4	pH_Units		S4500HB-11	1	11/09/2022 18:56	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/14/2022 16:33	AKH	G
Specific Conductance	1280		umhos/cm	1	SW846 9050A	1	11/10/2022 09:45	JXL	B
Sulfate	48.3		mg/L	2.0	EPA 300.0	2	11/09/2022 16:32	J1W	B
Total Dissolved Solids	718		mg/L	25	S2540C-11	1	11/10/2022 09:45	SMS	B
Total Organic Carbon (TOC)	0.87		mg/L	0.50	SW846 9060A	1	11/09/2022 23:47	PAG	E
Turbidity	2.3		NTU	0.30	SM2130B-2011	1	11/09/2022 02:10	NRB	B



Results

Client Sample ID	FFMP04AW	Collected	11/08/2022 10:58
Lab Sample ID	3272726002	Lab Receipt	11/08/2022 15:40

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	32.96		Feet		Field	1	11/08/2022 10:58	BGS	D
Dissolved Oxygen	0.05		mg/L	0.01	Field	1	11/08/2022 10:58	BGS	D
Elev Top MW Casing above MSL	560.72		Feet		Field	1	11/08/2022 10:58	BGS	D
Flow Rate	1.82		gal/min		Field	1	11/08/2022 10:58	BGS	D
Ground Water Elevation	527.76		ft/MSL		Field	1	11/08/2022 10:58	BGS	D
Oxidation-Reduction Potential	77		mV		Field	1	11/08/2022 10:58	BGS	D
pH, Field (SM4500B)	6.80		pH_Units		Field	1	11/08/2022 10:58	BGS	D
Sample Depth	146.00		Feet		Field	1	11/08/2022 10:58	BGS	D
Specific Conductance, Field	2079		umhos/cm	1	Field	1	11/08/2022 10:58	BGS	D
Temperature	13.87		Deg. C		Field	1	11/08/2022 10:58	BGS	D
Total Well Depth	148.50		Feet		Field	1	11/08/2022 10:58	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	11/08/2022 10:58	BGS	D
Volume in Water Column	169.84		Gallons		Field	1	11/08/2022 10:58	BGS	D
Water Level After Purge	82.93		Feet		Field	1	11/08/2022 10:58	BGS	D
Well Volumes Purged	0.64		Vol		Field	1	11/08/2022 10:58	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	159		mg/L	0.11	SW846 6010C	1	11/11/2022 19:07	A1S	J1
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	11/11/2022 19:07	A1S	J1
Magnesium, Total	25.2		mg/L	0.11	SW846 6010C	1	11/11/2022 19:07	A1S	J1
Manganese, Total	0.32		mg/L	0.0056	SW846 6010C	1	11/11/2022 19:07	A1S	J1
Potassium, Total	2.1	5	mg/L	0.56	SW846 6010C	1	11/11/2022 19:07	A1S	J1
Sodium, Total	86.9	6	mg/L	0.56	SW846 6010C	1	11/11/2022 19:07	A1S	J1

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 03:45	PDK	H



Results

Client Sample ID	FFMP04AW	Collected	11/08/2022 10:58
Lab Sample ID	3272726002	Lab Receipt	11/08/2022 15:40

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			100%	62 – 133		11/19/2022 03:45		
4-Bromofluorobenzene	460-00-4			104%	79 – 114		11/19/2022 03:45		
Dibromofluoromethane	1868-53-7			92.8%	78 – 116		11/19/2022 03:45		
Toluene-d8	2037-26-5			97.3%	76 – 127		11/19/2022 03:45		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	181		mg/L	5	SM2320B-2011	1	11/09/2022 19:08	NML	B
Alkalinity, Total	181	1	mg/L	5	SM2320B-2011	1	11/09/2022 19:08	NML	B
Ammonia-N	0.285		mg/L	0.100	ASTM D6919-09	10	11/12/2022 05:00	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/18/2022 12:16	KMS	A
Chloride	325		mg/L	5.0	EPA 300.0	5	11/09/2022 16:42	J1W	B
Fluoride	ND	ND	mg/L	0.50	EPA 300.0	5	11/23/2022 06:23	GJB	B
Nitrate-N	ND	ND	mg/L	2.5	EPA 300.0	5	11/09/2022 16:42	J1W	B
pH	7.95	4	pH_Units		S4500HB-11	1	11/09/2022 19:08	NML	B
Phenolics	ND	ND,7,8	mg/L	0.004	SW846 9066	1	11/14/2022 16:58	AKH	G
Specific Conductance	1460		umhos/cm	1	SW846 9050A	1	11/10/2022 09:45	JXL	B
Sulfate	47.3		mg/L	5.0	EPA 300.0	5	11/09/2022 16:42	J1W	B
Total Dissolved Solids	892		mg/L	25	S2540C-11	1	11/10/2022 09:45	SMS	B
Total Organic Carbon (TOC)	0.71		mg/L	0.50	SW846 9060A	1	11/09/2022 23:47	PAG	E
Turbidity	0.45		NTU	0.30	SM2130B-2011	1	11/09/2022 02:10	NRB	B



Results

Client Sample ID	FFMP035W	Collected	11/08/2022 12:34
Lab Sample ID	3272726003	Lab Receipt	11/08/2022 15:40

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	42.93		Feet		Field	1	11/08/2022 12:34	BGS	D
Dissolved Oxygen	3.48		mg/L	0.01	Field	1	11/08/2022 12:34	BGS	D
Elev Top MW Casing above MSL	477.56		Feet		Field	1	11/08/2022 12:34	BGS	D
Flow Rate	0.69		gal/min		Field	1	11/08/2022 12:34	BGS	D
Ground Water Elevation	434.63		ft/MSL		Field	1	11/08/2022 12:34	BGS	D
Oxidation-Reduction Potential	126		mV		Field	1	11/08/2022 12:34	BGS	D
pH, Field (SM4500B)	6.67		pH_Units		Field	1	11/08/2022 12:34	BGS	D
Sample Depth	65.00		Feet		Field	1	11/08/2022 12:34	BGS	D
Specific Conductance, Field	983		umhos/cm	1	Field	1	11/08/2022 12:34	BGS	D
Temperature	15.77		Deg. C		Field	1	11/08/2022 12:34	BGS	D
Total Well Depth	71.80		Feet		Field	1	11/08/2022 12:34	BGS	D
Turbidity, Field	1		NTU	1	Field	1	11/08/2022 12:34	BGS	D
Volume in Water Column	42.44		Gallons		Field	1	11/08/2022 12:34	BGS	D
Water Level After Purge	54.44		Feet		Field	1	11/08/2022 12:34	BGS	D
Well Volumes Purged	0.65		Vol		Field	1	11/08/2022 12:34	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	78.5		mg/L	0.11	SW846 6010C	1	11/11/2022 19:08	A1S	J1
Iron, Total	0.26		mg/L	0.067	SW846 6010C	1	11/11/2022 19:08	A1S	J1
Magnesium, Total	15.1		mg/L	0.11	SW846 6010C	1	11/11/2022 19:08	A1S	J1
Manganese, Total	0.033		mg/L	0.0056	SW846 6010C	1	11/11/2022 19:08	A1S	J1
Potassium, Total	3.2	5	mg/L	0.56	SW846 6010C	1	11/11/2022 19:08	A1S	J1
Sodium, Total	38.9		mg/L	0.56	SW846 6010C	1	11/15/2022 19:35	A1S	J1

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:08	PDK	H



Results

Client Sample ID	FFMP035W	Collected	11/08/2022 12:34
Lab Sample ID	3272726003	Lab Receipt	11/08/2022 15:40

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			102%	62 – 133		11/19/2022 04:08		
4-Bromofluorobenzene	460-00-4			106%	79 – 114		11/19/2022 04:08		
Dibromofluoromethane	1868-53-7			91.9%	78 – 116		11/19/2022 04:08		
Toluene-d8	2037-26-5			98.6%	76 – 127		11/19/2022 04:08		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	98		mg/L	5	SM2320B-2011	1	11/09/2022 19:19	NML	B
Alkalinity, Total	98	1	mg/L	5	SM2320B-2011	1	11/09/2022 19:19	NML	B
Ammonia-N	0.311		mg/L	0.100	ASTM D6919-09	10	11/12/2022 06:08	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/18/2022 12:16	KMS	A
Chloride	126		mg/L	2.0	EPA 300.0	2	11/09/2022 16:53	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/23/2022 06:34	GJB	B
Nitrate-N	5.1		mg/L	1.0	EPA 300.0	2	11/09/2022 16:53	J1W	B
pH	7.79	4	pH_Units		S4500HB-11	1	11/09/2022 19:19	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/14/2022 17:07	AKH	G
Specific Conductance	740		umhos/cm	1	SW846 9050A	1	11/10/2022 09:45	JXL	B
Sulfate	39.6		mg/L	2.0	EPA 300.0	2	11/09/2022 16:53	J1W	B
Total Dissolved Solids	432		mg/L	25	S2540C-11	1	11/10/2022 09:45	SMS	B
Total Organic Carbon (TOC)	1.2		mg/L	0.50	SW846 9060A	1	11/09/2022 23:47	PAG	E
Turbidity	2.8		NTU	0.30	SM2130B-2011	1	11/09/2022 02:10	NRB	B



Results

Client Sample ID	FFMP036W	Collected	11/08/2022 12:54
Lab Sample ID	3272726004	Lab Receipt	11/08/2022 15:40

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	45.19		Feet		Field	1	11/08/2022 12:54	BGS	D
Dissolved Oxygen	0.03		mg/L	0.01	Field	1	11/08/2022 12:54	BGS	D
Elev Top MW Casing above MSL	478.23		Feet		Field	1	11/08/2022 12:54	BGS	D
Flow Rate	1.52		gal/min		Field	1	11/08/2022 12:54	BGS	D
Ground Water Elevation	433.04		ft/MSL		Field	1	11/08/2022 12:54	BGS	D
Oxidation-Reduction Potential	-224		mV		Field	1	11/08/2022 12:54	BGS	D
pH, Field (SM4500B)	8.03		pH_Units		Field	1	11/08/2022 12:54	BGS	D
Sample Depth	135.00		Feet		Field	1	11/08/2022 12:54	BGS	D
Specific Conductance, Field	460		umhos/cm	1	Field	1	11/08/2022 12:54	BGS	D
Temperature	13.91		Deg. C		Field	1	11/08/2022 12:54	BGS	D
Total Well Depth	142.60		Feet		Field	1	11/08/2022 12:54	BGS	D
Turbidity, Field	3		NTU	1	Field	1	11/08/2022 12:54	BGS	D
Volume in Water Column	143.19		Gallons		Field	1	11/08/2022 12:54	BGS	D
Water Level After Purge	71.84		Feet		Field	1	11/08/2022 12:54	BGS	D
Well Volumes Purged	0.74		Vol		Field	1	11/08/2022 12:54	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	50.6		mg/L	0.11	SW846 6010C	1	11/11/2022 19:09	A1S	J1
Iron, Total	1.3		mg/L	0.067	SW846 6010C	1	11/11/2022 19:09	A1S	J1
Magnesium, Total	4.7		mg/L	0.11	SW846 6010C	1	11/11/2022 19:09	A1S	J1
Manganese, Total	0.11		mg/L	0.0056	SW846 6010C	1	11/11/2022 19:09	A1S	J1
Potassium, Total	1.1	5	mg/L	0.56	SW846 6010C	1	11/11/2022 19:09	A1S	J1
Sodium, Total	14.8		mg/L	0.56	SW846 6010C	1	11/15/2022 19:37	A1S	J1

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:31	PDK	H



Results

Client Sample ID	FFMP036W	Collected	11/08/2022 12:54
Lab Sample ID	3272726004	Lab Receipt	11/08/2022 15:40

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			101%	62 – 133		11/19/2022 04:31		
4-Bromofluorobenzene	460-00-4			106%	79 – 114		11/19/2022 04:31		
Dibromofluoromethane	1868-53-7			92.8%	78 – 116		11/19/2022 04:31		
Toluene-d8	2037-26-5			98%	76 – 127		11/19/2022 04:31		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	91		mg/L	5	SM2320B-2011	1	11/09/2022 20:03	NML	B
Alkalinity, Total	91	1	mg/L	5	SM2320B-2011	1	11/09/2022 20:03	NML	B
Ammonia-N	0.339		mg/L	0.100	ASTM D6919-09	10	11/12/2022 05:55	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/14/2022 14:15	KMS	A
Chloride	33.3		mg/L	2.0	EPA 300.0	2	11/09/2022 17:03	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/23/2022 06:45	GJB	B
Nitrate-N	ND	ND	mg/L	1.0	EPA 300.0	2	11/09/2022 17:03	J1W	B
pH	8.14	4	pH_Units		S4500HB-11	1	11/09/2022 20:03	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/14/2022 17:10	AKH	G
Specific Conductance	364		umhos/cm	1	SW846 9050A	1	11/10/2022 09:45	JXL	B
Sulfate	31.1		mg/L	2.0	EPA 300.0	2	11/09/2022 17:03	J1W	B
Total Dissolved Solids	214		mg/L	25	S2540C-11	1	11/10/2022 09:45	SMS	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	11/09/2022 23:47	PAG	E
Turbidity	12		NTU	0.30	SM2130B-2011	1	11/09/2022 02:10	NRB	B



Results

Client Sample ID	FFMP029W	Collected	11/08/2022 13:48
Lab Sample ID	3272726005	Lab Receipt	11/08/2022 15:40

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	38.65		Feet		Field	1	11/08/2022 13:48	BGS	D
Dissolved Oxygen	5.41		mg/L	0.01	Field	1	11/08/2022 13:48	BGS	D
Elev Top MW Casing above MSL	477.30		Feet		Field	1	11/08/2022 13:48	BGS	D
Flow Rate	2.76		gal/min		Field	1	11/08/2022 13:48	BGS	D
Ground Water Elevation	438.65		ft/MSL		Field	1	11/08/2022 13:48	BGS	D
Oxidation-Reduction Potential	270		mV		Field	1	11/08/2022 13:48	BGS	D
pH, Field (SM4500B)	5.12		pH_Units		Field	1	11/08/2022 13:48	BGS	D
Sample Depth	55.00		Feet		Field	1	11/08/2022 13:48	BGS	D
Specific Conductance, Field	515		umhos/cm	1	Field	1	11/08/2022 13:48	BGS	D
Temperature	14.57		Deg. C		Field	1	11/08/2022 13:48	BGS	D
Total Well Depth	60.50		Feet		Field	1	11/08/2022 13:48	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	11/08/2022 13:48	BGS	D
Volume in Water Column	32.12		Gallons		Field	1	11/08/2022 13:48	BGS	D
Water Level After Purge	44.42		Feet		Field	1	11/08/2022 13:48	BGS	D
Well Volumes Purged	3.44		Vol		Field	1	11/08/2022 13:48	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	21.0		mg/L	0.11	SW846 6010C	1	11/11/2022 19:10	A1S	J
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	11/11/2022 19:10	A1S	J
Magnesium, Total	13.2		mg/L	0.11	SW846 6010C	1	11/11/2022 19:10	A1S	J
Manganese, Total	0.047		mg/L	0.0056	SW846 6010C	1	11/11/2022 19:10	A1S	J
Potassium, Total	2.3	5	mg/L	0.56	SW846 6010C	1	11/11/2022 19:10	A1S	J
Sodium, Total	30.1		mg/L	0.56	SW846 6010C	1	11/15/2022 19:38	A1S	J

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 04:53	PDK	H



Results

Client Sample ID	FFMP029W	Collected	11/08/2022 13:48
Lab Sample ID	3272726005	Lab Receipt	11/08/2022 15:40

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			99.3%	62 – 133		11/19/2022 04:53		
4-Bromofluorobenzene	460-00-4			106%	79 – 114		11/19/2022 04:53		
Dibromofluoromethane	1868-53-7			93.4%	78 – 116		11/19/2022 04:53		
Toluene-d8	2037-26-5			96.1%	76 – 127		11/19/2022 04:53		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	12		mg/L	5	SM2320B-2011	1	11/09/2022 20:15	NML	B
Alkalinity, Total	12	1	mg/L	5	SM2320B-2011	1	11/09/2022 20:15	NML	B
Ammonia-N	0.312		mg/L	0.100	ASTM D6919-09	10	11/12/2022 05:14	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/18/2022 12:16	KMS	A
Chloride	83.2		mg/L	2.0	EPA 300.0	2	11/09/2022 17:13	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/23/2022 06:57	GJB	B
Nitrate-N	3.5		mg/L	1.0	EPA 300.0	2	11/09/2022 17:13	J1W	B
pH	6.64	4	pH_Units		S4500HB-11	1	11/09/2022 20:15	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/14/2022 17:13	AKH	G
Specific Conductance	350		umhos/cm	1	SW846 9050A	1	11/10/2022 09:45	JXL	B
Sulfate	3.9		mg/L	2.0	EPA 300.0	2	11/09/2022 17:13	J1W	B
Total Dissolved Solids	202		mg/L	25	S2540C-11	1	11/10/2022 09:45	SMS	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	11/09/2022 23:47	PAG	E
Turbidity	0.70		NTU	0.30	SM2130B-2011	1	11/09/2022 02:10	NRB	B



Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3272726001	FFMP30RW	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3272726002	FFMP04AW	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3272726003	FFMP035W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	



Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3272726004	FFMP036W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3272726005	FFMP029W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3272726001	FFMP30RW	N/A	N/A	N/A		Field	913842
		SW846 3015A	906384	11/11/2022 00:42	ANN	SW846 6010C	906757
		N/A	N/A	N/A		SW846 8260B	910875
		N/A	N/A	N/A		ASTM D6919-09	906975
		N/A	N/A	N/A		EPA 300.0	904992
		N/A	N/A	N/A		EPA 300.0	913295
		N/A	N/A	N/A		EPA 300.0	912167
		N/A	N/A	N/A		EPA 410.4	910200
		N/A	N/A	N/A		S2540C-11	904887
		N/A	N/A	N/A		S4500HB-11	904021
		N/A	N/A	N/A		SM2130B-2011	904875
		N/A	N/A	N/A		SM2320B-2011	904021
		N/A	N/A	N/A		SW846 9050A	905121
		N/A	N/A	N/A		SW846 9060A	905078
		SW846 9066	905603	11/10/2022 14:00	AKH	SW846 9066	906677
3272726002	FFMP04AW	N/A	N/A	N/A		Field	913842
		SW846 3015A	906384	11/11/2022 00:42	ANN	SW846 6010C	906757
		N/A	N/A	N/A		SW846 8260B	910875
		N/A	N/A	N/A		ASTM D6919-09	906975
		N/A	N/A	N/A		EPA 300.0	904992
		N/A	N/A	N/A		EPA 300.0	912167
		N/A	N/A	N/A		EPA 410.4	910200
		N/A	N/A	N/A		S2540C-11	904887
		N/A	N/A	N/A		S4500HB-11	904021
		N/A	N/A	N/A		SM2130B-2011	904875
		N/A	N/A	N/A		SM2320B-2011	904021
		N/A	N/A	N/A		SW846 9050A	905121
		N/A	N/A	N/A		SW846 9060A	905078
		SW846 9066	905604	11/10/2022 14:00	AKH	SW846 9066	906677
3272726003	FFMP035W	N/A	N/A	N/A		Field	913842
		SW846 3015A	906384	11/11/2022 00:42	ANN	SW846 6010C	906757
		SW846 3015A	906384	11/11/2022 00:42	ANN	SW846 6010C	908887
		N/A	N/A	N/A		SW846 8260B	910875
		N/A	N/A	N/A		ASTM D6919-09	906975
		N/A	N/A	N/A		EPA 300.0	912167
		N/A	N/A	N/A		EPA 300.0	904992
		N/A	N/A	N/A		EPA 410.4	910200
		N/A	N/A	N/A		S2540C-11	904887
		N/A	N/A	N/A		S4500HB-11	904021
		N/A	N/A	N/A		SM2130B-2011	904875
		N/A	N/A	N/A		SM2320B-2011	904021
		N/A	N/A	N/A		SW846 9050A	905121
		N/A	N/A	N/A		SW846 9060A	905079
		SW846 9066	905604	11/10/2022 14:00	AKH	SW846 9066	906677
3272726004	FFMP036W	N/A	N/A	N/A		Field	913842
		SW846 3015A	906384	11/11/2022 00:42	ANN	SW846 6010C	906757
		SW846 3015A	906384	11/11/2022 00:42	ANN	SW846 6010C	908887
		N/A	N/A	N/A		SW846 8260B	910875
		N/A	N/A	N/A		ASTM D6919-09	906975
		N/A	N/A	N/A		EPA 300.0	904992
		N/A	N/A	N/A		EPA 300.0	912167
		N/A	N/A	N/A		EPA 410.4	908589
		N/A	N/A	N/A		S2540C-11	904887
		N/A	N/A	N/A		S4500HB-11	904021
		N/A	N/A	N/A		SM2130B-2011	904875
		N/A	N/A	N/A		SM2320B-2011	904021
		N/A	N/A	N/A		SW846 9050A	905121
		N/A	N/A	N/A		SW846 9060A	905079
		SW846 9066	905604	11/10/2022 14:00	AKH	SW846 9066	906677



Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3272726005	FFMP029W	N/A	N/A	N/A		Field	913842
		SW846 3015A	906384	11/11/2022 00:42	ANN	SW846 6010C	906757
		SW846 3015A	906384	11/11/2022 00:42	ANN	SW846 6010C	908887
		N/A	N/A	N/A		SW846 8260B	910875
		N/A	N/A	N/A		ASTM D6919-09	906975
		N/A	N/A	N/A		EPA 300.0	904992
		N/A	N/A	N/A		EPA 300.0	912167
		N/A	N/A	N/A		EPA 410.4	910200
		N/A	N/A	N/A		S2540C-11	904887
		N/A	N/A	N/A		S4500HB-11	904021
		N/A	N/A	N/A		SM2130B-2011	904875
		N/A	N/A	N/A		SM2320B-2011	904021
		N/A	N/A	N/A		SW846 9050A	905121
		N/A	N/A	N/A		SW846 9060A	905079
		SW846 9066	905604	11/10/2022 14:00	AKH	SW846 9066	906677



34 Dogwood Lane • Middletown, PA 17057 • Phone: 717-944-5641 • Fax: 717-944-1430 • www.alsglobal.com

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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 Quarterly (GWMP)

Bill To: Lancaster County Solid Waste MA

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

Date Required: Approved By:

Email? ☒ Y ☐ N dbrown@LCSWMA.com

Fax? ☒ Y ☐ N No.: (717) 397-9973

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time
1. FFMP030RW	11/08/22	1102
2. FFMP04AW	11/08/22	1058
3. FFMP035W	11/08/22	1234
4. FFMP036W	11/08/22	1254
5. FFMP029W	11/08/22	1348
6		
7		
8		
9		
10		

Project Comments:

LOGGED BY (signature):

REVIEWED BY (signature):

Relinquished By / Company Name

Date

Time

Received By / Company Name

Date

Time

11/08/22 1540

11/08/22 1540

11/08/22 1540

11/08/22 1540

11/08/22 1540

11/08/22 1540

11/08/22 1540

CHAIN OF CUSTODY/

REQUEST FOR ANALYSIS

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

Container Type	AG	AW	CG	PL	PL	PL	PL
Container Size	40 ml	125 ml	40 ml	---	250 ml	125 ml	500 ml
Preservative	HCl	H2SO4	HCl	---	H2SO4	HNO3	None

ANALYSES/METHOD REQUESTED

Field Measurements	VOC - Form 190	O-H	NH3-N, COD	Metals: Fe, Mn, Na, Ca, K, Mg	PH, Cl, SpC, F, SO4, TDS, NO3, Turb.	Alkalinity Bicarbonate
Enter Number of Containers Per Sample or Field Results Below.						
1	2	1	1	2	1	1
2	2	1	1	2	1	1
3	2	1	1	2	1	1
4	2	1	1	2	1	1
5	2	1	1	2	1	1
6	2	1	1	2	1	1
7						
8						
9						
10						

3272726

Logged By: SLS
PM: SJB



Receipt Information (completed by Receiving Lab)

Cooler Temp: 7 Therm ID: 570

No. of Coolers: Y N Initial

Custody Seals Present? ☐

Temp Taken By:

WO Temp (°C)

Therm ID:

Receipt Info Completed By:

Cooler Custody Seal Intact

Sample Custody Seal Intact

Received on Ice

Cooler & Samples Intact

Correct Containers Provided

Sample Label/COC Agree

Adequate Sample Volumes

VOA Headspace Present

Voa Trip Blank

NIS 4 Days?

Rad Screen (uCi)

Courier/Tracking #:

SDWA Compliance

PWSID

WV Containers 0-6°C

ALS Field Services: ☐ Pickup ☐ Labor
☐ Composite Sampling ☐ Rental Equipment
☐ Other:

Data		Special Processing	State Samples Collected In
Deliverables	☐ Standard	USACE ☐	☐ NY
	☐ CLP-like	Navy ☐	☐ NJ
	☐ USACE		☒ PA
	☐		☐ NC
	☐		☐
Reportable to PADEP?		Sample Disposal	
	Yes ☐	Lab ☒	
PWSID #		Special ☐	
EDDS: Format Type-			

* Matrix - Al=Air, DW=Drinking Water, GW=Groundwater, Ol=Oil, OL=Other Liquid, SL=Sludge, SO=Soil; WP=Wipe; WW=Wastewater

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

Rev 8/04



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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

Analytical Results Report For

Lancaster County Solid Waste Authority

Project 4TH QTR 2022 GWMP-FORM 19Q

Workorder 3272990

Report ID 211889 on 12/8/2022

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Nov 09, 2022.

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 Susan 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 Global.
ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):

Ashley Gichuki - Lancaster County Solid Waste Authority
Daniel Brown - Lancaster County Solid Waste Authority
Jordan Gallagher - Lancaster County Solid Waste Authority
Jeff Musser - Lancaster County Solid Waste Authority

Susan Scherer

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

Susan Scherer
Project Coordinator

(ALS Digital Signature)



Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3272990001	FFMP015W	Ground Water	11/09/2022 10:31	11/09/2022 15:40	BGS	Analytical Laboratory Service
3272990002	FFMP017W	Ground Water	11/09/2022 11:31	11/09/2022 15:40	BGS	Analytical Laboratory Service
3272990003	FFMP03AW	Ground Water	11/09/2022 11:53	11/09/2022 15:40	BGS	Analytical Laboratory Service
3272990004	FFMP018W	Ground Water	11/09/2022 12:35	11/09/2022 15:40	BGS	Analytical Laboratory Service
3272990005	FFMP019W	Ground Water	11/09/2022 12:51	11/09/2022 15:40	BGS	Analytical Laboratory Service
3272990006	FFMP005W	Ground Water	11/09/2022 14:22	11/09/2022 15:40	BGS	Analytical Laboratory Service
3272990007	FFMP26RW	Ground Water	11/09/2022 14:13	11/09/2022 15:40	BGS	Analytical Laboratory Service



Reference

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).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136.
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- 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 preformed 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.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
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
#	Please reference the result in the Results Section for analyte-level flags.



Project Notations

Sample Notations

Lab ID

Sample ID

Result Notations

Notation Ref.	
E	Result reported exceeds instrument calibration
1	The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.
2	The QC sample type CCVL for method EPA 300.0 was outside the control limits for the analyte Nitrate-N. The % Recovery was reported as 114 and the control limits were 90 to 110.
3	This sample was reran out of hold within the instrument's calibration range, for the analyte Nitrate-N, and confirms the initial in-hold reported result.
4	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.



Detected Results Summary

Client Sample ID	FFMP015W	Collected	11/09/2022 10:31		
Lab Sample ID	3272990001	Lab Receipt	11/09/2022 15:40		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	63.44	Feet		Field	#
Dissolved Oxygen	7.83	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	576.40	Feet		Field	#
Flow Rate	1.85	gal/min		Field	#
Ground Water Elevation	512.96	ft/MSL		Field	#
Oxidation-Reduction Potential	235	mV		Field	#
pH, Field (SM4500B)	5.59	pH_Units		Field	#
Sample Depth	135.00	Feet		Field	#
Specific Conductance, Field	843	umhos/cm	1	Field	#
Temperature	15.50	Deg. C		Field	#
Total Well Depth	149.90	Feet		Field	#
Volume in Water Column	127.10	Gallons		Field	#
Water Level After Purge	109.07	Feet		Field	#
Well Volumes Purged	1.02	Vol		Field	#
METALS					
Calcium, Total	31.9	mg/L	0.11	SW846 6010C	#
Magnesium, Total	27.9	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.012	mg/L	0.0056	SW846 6010C	#
Potassium, Total	2.0	mg/L	0.56	SW846 6010C	#
Sodium, Total	21.0	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	26	mg/L	5	SM2320B-2011	#
Alkalinity, Total	26	mg/L	5	SM2320B-2011	#
Ammonia-N	0.197	mg/L	0.100	ASTM D6919-09	#
Chloride	43.8	mg/L	2.0	EPA 300.0	#
Nitrate-N	65.1	mg/L	1.0	EPA 300.0	#
pH	7.11	pH_Units		S4500HB-11	#
Specific Conductance	585	umhos/cm	1	SW846 9050A	#
Sulfate	29.4	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	326	mg/L	25	S2540C-11	#
Total Organic Carbon (TOC)	1.3	mg/L	0.50	SW846 9060A	#



Detected Results Summary

Client Sample ID	FFMP017W	Collected	11/09/2022 11:31		
Lab Sample ID	3272990002	Lab Receipt	11/09/2022 15:40		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	41.46	Feet		Field	#
Dissolved Oxygen	0.01	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	480.70	Feet		Field	#
Flow Rate	2.08	gal/min		Field	#
Ground Water Elevation	439.24	ft/MSL		Field	#
Oxidation-Reduction Potential	225	mV		Field	#
pH, Field (SM4500B)	5.98	pH_Units		Field	#
Sample Depth	135.00	Feet		Field	#
Specific Conductance, Field	461	umhos/cm	1	Field	#
Temperature	12.95	Deg. C		Field	#
Total Well Depth	150.50	Feet		Field	#
Volume in Water Column	160.29	Gallons		Field	#
Water Level After Purge	51.49	Feet		Field	#
Well Volumes Purged	0.91	Vol		Field	#
METALS					
Calcium, Total	95.0	mg/L	0.11	SW846 6010C	#
Magnesium, Total	39.0	mg/L	0.11	SW846 6010C	#
Manganese, Total	1.2	mg/L	0.0056	SW846 6010C	#
Potassium, Total	6.4	mg/L	0.56	SW846 6010C	#
Sodium, Total	88.5	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	129	mg/L	5	SM2320B-2011	#
Alkalinity, Total	129	mg/L	5	SM2320B-2011	#
Ammonia-N	0.516	mg/L	0.100	ASTM D6919-09	#
Chloride	252	mg/L	25.0	EPA 300.0	#
Nitrate-N	4.4	mg/L	2.5	EPA 300.0	#
pH	7.63	pH_Units		S4500HB-11	#
Specific Conductance	1310	umhos/cm	1	SW846 9050A	#
Sulfate	79.2	mg/L	5.0	EPA 300.0	#
Total Dissolved Solids	696	mg/L	25	S2540C-11	#
Total Organic Carbon (TOC)	2.7	mg/L	0.50	SW846 9060A	#



Detected Results Summary

Client Sample ID	FFMP03AW	Collected	11/09/2022 11:53		
Lab Sample ID	3272990003	Lab Receipt	11/09/2022 15:40		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	53.68	Feet		Field	#
Dissolved Oxygen	1.13	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	590.90	Feet		Field	#
Flow Rate	1.78	gal/min		Field	#
Ground Water Elevation	537.22	ft/MSL		Field	#
Oxidation-Reduction Potential	310	mV		Field	#
pH, Field (SM4500B)	5.05	pH_Units		Field	#
Sample Depth	130.00	Feet		Field	#
Specific Conductance, Field	501	umhos/cm	1	Field	#
Temperature	14.19	Deg. C		Field	#
Total Well Depth	148.40	Feet		Field	#
Volume in Water Column	139.24	Gallons		Field	#
Water Level After Purge	85.15	Feet		Field	#
Well Volumes Purged	0.77	Vol		Field	#
METALS					
Calcium, Total	20.1	mg/L	0.11	SW846 6010C	#
Magnesium, Total	15.8	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.37	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.5	mg/L	0.56	SW846 6010C	#
Sodium, Total	13.9	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	15	mg/L	5	SM2320B-2011	#
Alkalinity, Total	15	mg/L	5	SM2320B-2011	#
Ammonia-N	0.206	mg/L	0.100	ASTM D6919-09	#
Chloride	35.5	mg/L	2.0	EPA 300.0	#
pH	6.74	pH_Units		S4500HB-11	#
Specific Conductance	347	umhos/cm	1	SW846 9050A	#
Sulfate	3.9	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	202	mg/L	25	S2540C-11	#



Detected Results Summary

Client Sample ID	FFMP018W	Collected	11/09/2022 12:35		
Lab Sample ID	3272990004	Lab Receipt	11/09/2022 15:40		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	26.89	Feet		Field	#
Dissolved Oxygen	1.10	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	472.20	Feet		Field	#
Flow Rate	4.00	gal/min		Field	#
Ground Water Elevation	445.31	ft/MSL		Field	#
Oxidation-Reduction Potential	282	mV		Field	#
pH, Field (SM4500B)	5.19	pH_Units		Field	#
Sample Depth	40.00	Feet		Field	#
Specific Conductance, Field	211	umhos/cm	1	Field	#
Temperature	14.94	Deg. C		Field	#
Total Well Depth	51.46	Feet		Field	#
Volume in Water Column	15.97	Gallons		Field	#
Water Level After Purge	27.84	Feet		Field	#
Well Volumes Purged	5.01	Vol		Field	#
METALS					
Calcium, Total	33.6	mg/L	0.11	SW846 6010C	#
Magnesium, Total	19.4	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.21	mg/L	0.0056	SW846 6010C	#
Potassium, Total	4.1	mg/L	0.56	SW846 6010C	#
Sodium, Total	37.8	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	19	mg/L	5	SM2320B-2011	#
Alkalinity, Total	19	mg/L	5	SM2320B-2011	#
Ammonia-N	0.236	mg/L	0.100	ASTM D6919-09	#
Chloride	126	mg/L	10.0	EPA 300.0	#
Nitrate-N	6.0	mg/L	1.0	EPA 300.0	#
pH	6.98	pH_Units		S4500HB-11	#
Specific Conductance	594	umhos/cm	1	SW846 9050A	#
Sulfate	36.7	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	324	mg/L	25	S2540C-11	#
Total Organic Carbon (TOC)	0.58	mg/L	0.50	SW846 9060A	#



Detected Results Summary

Client Sample ID	FFMP019W	Collected	11/09/2022 12:51		
Lab Sample ID	3272990005	Lab Receipt	11/09/2022 15:40		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	27.66	Feet		Field	#
Dissolved Oxygen	0.10	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	471.95	Feet		Field	#
Flow Rate	4.06	gal/min		Field	#
Ground Water Elevation	444.29	ft/MSL		Field	#
Oxidation-Reduction Potential	178	mV		Field	#
pH, Field (SM4500B)	6.48	pH_Units		Field	#
Sample Depth	49.00	Feet		Field	#
Specific Conductance, Field	677	umhos/cm	1	Field	#
Temperature	13.88	Deg. C		Field	#
Total Well Depth	132.79	Feet		Field	#
Volume in Water Column	68.33	Gallons		Field	#
Water Level After Purge	37.63	Feet		Field	#
Well Volumes Purged	2.38	Vol		Field	#
METALS					
Calcium, Total	62.7	mg/L	0.11	SW846 6010C	#
Magnesium, Total	6.2	mg/L	0.11	SW846 6010C	#
Potassium, Total	0.84	mg/L	0.56	SW846 6010C	#
Sodium, Total	11.0	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	62	mg/L	5	SM2320B-2011	#
Alkalinity, Total	62	mg/L	5	SM2320B-2011	#
Ammonia-N	0.172	mg/L	0.100	ASTM D6919-09	#
Chloride	87.9	mg/L	5.0	EPA 300.0	#
pH	7.89	pH_Units		S4500HB-11	#
Specific Conductance	471	umhos/cm	1	SW846 9050A	#
Sulfate	17.2	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	304	mg/L	25	S2540C-11	#



Detected Results Summary

Client Sample ID	FFMP005W	Collected	11/09/2022 14:22		
Lab Sample ID	3272990006	Lab Receipt	11/09/2022 15:40		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	66.67	Feet		Field	#
Dissolved Oxygen	0.10	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	537.40	Feet		Field	#
Flow Rate	2.43	gal/min		Field	#
Ground Water Elevation	470.73	ft/MSL		Field	#
Oxidation-Reduction Potential	531	mV		Field	#
pH, Field (SM4500B)	5.51	pH_Units		Field	#
Sample Depth	135.00	Feet		Field	#
Specific Conductance, Field	1359	umhos/cm	1	Field	#
Temperature	13.61	Deg. C		Field	#
Total Well Depth	149.70	Feet		Field	#
Volume in Water Column	122.05	Gallons		Field	#
Water Level After Purge	81.96	Feet		Field	#
Well Volumes Purged	1.39	Vol		Field	#
METALS					
Calcium, Total	83.8	mg/L	0.11	SW846 6010C	#
Magnesium, Total	21.1	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.19	mg/L	0.0056	SW846 6010C	#
Potassium, Total	3.1	mg/L	0.56	SW846 6010C	#
Sodium, Total	52.8	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	51	mg/L	5	SM2320B-2011	#
Alkalinity, Total	51	mg/L	5	SM2320B-2011	#
Ammonia-N	0.324	mg/L	0.100	ASTM D6919-09	#
Chloride	199	mg/L	10.0	EPA 300.0	#
Nitrate-N	2.7	mg/L	1.0	EPA 300.0	#
pH	7.35	pH_Units		S4500HB-11	#
Specific Conductance	933	umhos/cm	1	SW846 9050A	#
Sulfate	75.4	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	558	mg/L	25	S2540C-11	#
Total Organic Carbon (TOC)	1.2	mg/L	0.50	SW846 9060A	#



Detected Results Summary

Client Sample ID	FFMP26RW	Collected	11/09/2022 14:13		
Lab Sample ID	3272990007	Lab Receipt	11/09/2022 15:40		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	76.42	Feet		Field	#
Elev Top MW Casing above MSL	547.40	Feet		Field	#
Flow Rate	2.75	gal/min		Field	#
Ground Water Elevation	470.98	ft/MSL		Field	#
Oxidation-Reduction Potential	452	mV		Field	#
pH, Field (SM4500B)	5.50	pH_Units		Field	#
Sample Depth	105.00	Feet		Field	#
Specific Conductance, Field	316	umhos/cm	1	Field	#
Temperature	14.32	Deg. C		Field	#
Total Well Depth	118.30	Feet		Field	#
Volume in Water Column	61.56	Gallons		Field	#
Water Level After Purge	97.08	Feet		Field	#
Well Volumes Purged	1.79	Vol		Field	#
METALS					
Calcium, Total	71.8	mg/L	0.11	SW846 6010C	#
Magnesium, Total	19.2	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.78	mg/L	0.0056	SW846 6010C	#
Potassium, Total	7.3	mg/L	0.56	SW846 6010C	#
Sodium, Total	57.4	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	55	mg/L	5	SM2320B-2011	#
Alkalinity, Total	55	mg/L	5	SM2320B-2011	#
Ammonia-N	0.323	mg/L	0.100	ASTM D6919-09	#
Chloride	172	mg/L	10.0	EPA 300.0	#
Nitrate-N	1.2	mg/L	1.0	EPA 300.0	#
pH	7.17	pH_Units		S4500HB-11	#
Specific Conductance	892	umhos/cm	1	SW846 9050A	#
Sulfate	93.8	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	596	mg/L	25	S2540C-11	#
Total Organic Carbon (TOC)	1.6	mg/L	0.50	SW846 9060A	#
Turbidity	0.85	NTU	0.30	SM2130B-2011	#



Results

Client Sample ID	FFMP015W	Collected	11/09/2022 10:31
Lab Sample ID	3272990001	Lab Receipt	11/09/2022 15:40

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	63.44		Feet		Field	1	11/09/2022 10:31	BGS	D
Dissolved Oxygen	7.83		mg/L	0.01	Field	1	11/09/2022 10:31	BGS	D
Elev Top MW Casing above MSL	576.40		Feet		Field	1	11/09/2022 10:31	BGS	D
Flow Rate	1.85		gal/min		Field	1	11/09/2022 10:31	BGS	D
Ground Water Elevation	512.96		ft/MSL		Field	1	11/09/2022 10:31	BGS	D
Oxidation-Reduction Potential	235		mV		Field	1	11/09/2022 10:31	BGS	D
pH, Field (SM4500B)	5.59		pH_Units		Field	1	11/09/2022 10:31	BGS	D
Sample Depth	135.00		Feet		Field	1	11/09/2022 10:31	BGS	D
Specific Conductance, Field	843		umhos/cm	1	Field	1	11/09/2022 10:31	BGS	D
Temperature	15.50		Deg. C		Field	1	11/09/2022 10:31	BGS	D
Total Well Depth	149.90		Feet		Field	1	11/09/2022 10:31	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	11/09/2022 10:31	BGS	D
Volume in Water Column	127.10		Gallons		Field	1	11/09/2022 10:31	BGS	D
Water Level After Purge	109.07		Feet		Field	1	11/09/2022 10:31	BGS	D
Well Volumes Purged	1.02		Vol		Field	1	11/09/2022 10:31	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	31.9		mg/L	0.11	SW846 6010C	1	11/28/2022 11:35	A1S	J3
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	11/28/2022 11:35	A1S	J3
Magnesium, Total	27.9		mg/L	0.11	SW846 6010C	1	11/28/2022 11:35	A1S	J3
Manganese, Total	0.012		mg/L	0.0056	SW846 6010C	1	11/28/2022 11:35	A1S	J3
Potassium, Total	2.0		mg/L	0.56	SW846 6010C	1	11/28/2022 11:35	A1S	J3
Sodium, Total	21.0		mg/L	0.56	SW846 6010C	1	11/28/2022 11:35	A1S	J3

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:16	PDK	H



Results

Client Sample ID	FFMP015W	Collected	11/09/2022 10:31
Lab Sample ID	3272990001	Lab Receipt	11/09/2022 15:40

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			101%	62 – 133		11/19/2022 05:16		
4-Bromofluorobenzene	460-00-4			104%	79 – 114		11/19/2022 05:16		
Dibromofluoromethane	1868-53-7			92.3%	78 – 116		11/19/2022 05:16		
Toluene-d8	2037-26-5			96.6%	76 – 127		11/19/2022 05:16		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	26		mg/L	5	SM2320B-2011	1	11/11/2022 23:25	NML	B
Alkalinity, Total	26	1	mg/L	5	SM2320B-2011	1	11/11/2022 23:25	NML	B
Ammonia-N	0.197		mg/L	0.100	ASTM D6919-09	10	11/16/2022 08:00	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/18/2022 14:40	KMS	A
Chloride	43.8		mg/L	2.0	EPA 300.0	2	11/10/2022 21:28	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/10/2022 21:28	J1W	B
Nitrate-N	65.1	E,2,3	mg/L	1.0	EPA 300.0	2	11/10/2022 21:28	J1W	B
pH	7.11	4	pH_Units		S4500HB-11	1	11/11/2022 23:25	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/14/2022 18:33	AKH	G
Specific Conductance	585		umhos/cm	1	SW846 9050A	1	11/14/2022 08:40	JXL	B
Sulfate	29.4		mg/L	2.0	EPA 300.0	2	11/10/2022 21:28	J1W	B
Total Dissolved Solids	326		mg/L	25	S2540C-11	1	11/11/2022 09:28	SMS	B
Total Organic Carbon (TOC)	1.3		mg/L	0.50	SW846 9060A	1	11/11/2022 15:40	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	11/09/2022 23:18	NRB	B



Results

Client Sample ID	FFMP017W	Collected	11/09/2022 11:31
Lab Sample ID	3272990002	Lab Receipt	11/09/2022 15:40

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	41.46		Feet		Field	1	11/09/2022 11:31	BGS	D
Dissolved Oxygen	0.01		mg/L	0.01	Field	1	11/09/2022 11:31	BGS	D
Elev Top MW Casing above MSL	480.70		Feet		Field	1	11/09/2022 11:31	BGS	D
Flow Rate	2.08		gal/min		Field	1	11/09/2022 11:31	BGS	D
Ground Water Elevation	439.24		ft/MSL		Field	1	11/09/2022 11:31	BGS	D
Oxidation-Reduction Potential	225		mV		Field	1	11/09/2022 11:31	BGS	D
pH, Field (SM4500B)	5.98		pH_Units		Field	1	11/09/2022 11:31	BGS	D
Sample Depth	135.00		Feet		Field	1	11/09/2022 11:31	BGS	D
Specific Conductance, Field	461		umhos/cm	1	Field	1	11/09/2022 11:31	BGS	D
Temperature	12.95		Deg. C		Field	1	11/09/2022 11:31	BGS	D
Total Well Depth	150.50		Feet		Field	1	11/09/2022 11:31	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	11/09/2022 11:31	BGS	D
Volume in Water Column	160.29		Gallons		Field	1	11/09/2022 11:31	BGS	D
Water Level After Purge	51.49		Feet		Field	1	11/09/2022 11:31	BGS	D
Well Volumes Purged	0.91		Vol		Field	1	11/09/2022 11:31	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	95.0		mg/L	0.11	SW846 6010C	1	11/28/2022 11:36	A1S	J3
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	11/28/2022 11:36	A1S	J3
Magnesium, Total	39.0		mg/L	0.11	SW846 6010C	1	11/28/2022 11:36	A1S	J3
Manganese, Total	1.2		mg/L	0.0056	SW846 6010C	1	11/28/2022 11:36	A1S	J3
Potassium, Total	6.4		mg/L	0.56	SW846 6010C	1	11/28/2022 11:36	A1S	J3
Sodium, Total	88.5		mg/L	0.56	SW846 6010C	1	11/28/2022 11:36	A1S	J3

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 05:39	PDK	H



Results

Client Sample ID	FFMP017W	Collected	11/09/2022 11:31
Lab Sample ID	3272990002	Lab Receipt	11/09/2022 15:40

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			99.4%	62 – 133		11/19/2022 05:39		
4-Bromofluorobenzene	460-00-4			106%	79 – 114		11/19/2022 05:39		
Dibromofluoromethane	1868-53-7			93.6%	78 – 116		11/19/2022 05:39		
Toluene-d8	2037-26-5			96.4%	76 – 127		11/19/2022 05:39		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	129		mg/L	5	SM2320B-2011	1	11/12/2022 00:11	NML	B
Alkalinity, Total	129	1	mg/L	5	SM2320B-2011	1	11/12/2022 00:11	NML	B
Ammonia-N	0.516		mg/L	0.100	ASTM D6919-09	10	11/16/2022 08:14	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/18/2022 14:40	KMS	A
Chloride	252		mg/L	25.0	EPA 300.0	25	12/02/2022 19:24	AXW	B
Fluoride	ND	ND	mg/L	0.50	EPA 300.0	5	11/10/2022 21:40	J1W	B
Nitrate-N	4.4	2	mg/L	2.5	EPA 300.0	5	11/10/2022 21:40	J1W	B
pH	7.63	4	pH_Units		S4500HB-11	1	11/12/2022 00:11	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/14/2022 18:54	AKH	G
Specific Conductance	1310		umhos/cm	1	SW846 9050A	1	11/14/2022 08:40	JXL	B
Sulfate	79.2		mg/L	5.0	EPA 300.0	5	11/10/2022 21:40	J1W	B
Total Dissolved Solids	696		mg/L	25	S2540C-11	1	11/11/2022 09:28	SMS	B
Total Organic Carbon (TOC)	2.7		mg/L	0.50	SW846 9060A	1	11/11/2022 15:40	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	11/09/2022 23:18	NRB	B



Results

Client Sample ID	FFMP03AW	Collected	11/09/2022 11:53
Lab Sample ID	3272990003	Lab Receipt	11/09/2022 15:40

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	53.68		Feet		Field	1	11/09/2022 11:53	BGS	D
Dissolved Oxygen	1.13		mg/L	0.01	Field	1	11/09/2022 11:53	BGS	D
Elev Top MW Casing above MSL	590.90		Feet		Field	1	11/09/2022 11:53	BGS	D
Flow Rate	1.78		gal/min		Field	1	11/09/2022 11:53	BGS	D
Ground Water Elevation	537.22		ft/MSL		Field	1	11/09/2022 11:53	BGS	D
Oxidation-Reduction Potential	310		mV		Field	1	11/09/2022 11:53	BGS	D
pH, Field (SM4500B)	5.05		pH_Units		Field	1	11/09/2022 11:53	BGS	D
Sample Depth	130.00		Feet		Field	1	11/09/2022 11:53	BGS	D
Specific Conductance, Field	501		umhos/cm	1	Field	1	11/09/2022 11:53	BGS	D
Temperature	14.19		Deg. C		Field	1	11/09/2022 11:53	BGS	D
Total Well Depth	148.40		Feet		Field	1	11/09/2022 11:53	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	11/09/2022 11:53	BGS	D
Volume in Water Column	139.24		Gallons		Field	1	11/09/2022 11:53	BGS	D
Water Level After Purge	85.15		Feet		Field	1	11/09/2022 11:53	BGS	D
Well Volumes Purged	0.77		Vol		Field	1	11/09/2022 11:53	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	20.1		mg/L	0.11	SW846 6010C	1	11/28/2022 11:37	A1S	J3
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	11/28/2022 11:37	A1S	J3
Magnesium, Total	15.8		mg/L	0.11	SW846 6010C	1	11/28/2022 11:37	A1S	J3
Manganese, Total	0.37		mg/L	0.0056	SW846 6010C	1	11/28/2022 11:37	A1S	J3
Potassium, Total	1.5		mg/L	0.56	SW846 6010C	1	11/28/2022 11:37	A1S	J3
Sodium, Total	13.9		mg/L	0.56	SW846 6010C	1	11/28/2022 11:37	A1S	J3

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:02	PDK	H



Results

Client Sample ID	FFMP03AW	Collected	11/09/2022 11:53
Lab Sample ID	3272990003	Lab Receipt	11/09/2022 15:40

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			102%	62 – 133		11/19/2022 06:02		
4-Bromofluorobenzene	460-00-4			109%	79 – 114		11/19/2022 06:02		
Dibromofluoromethane	1868-53-7			95.1%	78 – 116		11/19/2022 06:02		
Toluene-d8	2037-26-5			100%	76 – 127		11/19/2022 06:02		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	15		mg/L	5	SM2320B-2011	1	11/12/2022 00:23	NML	B
Alkalinity, Total	15	1	mg/L	5	SM2320B-2011	1	11/12/2022 00:23	NML	B
Ammonia-N	0.206		mg/L	0.100	ASTM D6919-09	10	11/16/2022 07:46	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/18/2022 14:40	KMS	A
Chloride	35.5		mg/L	2.0	EPA 300.0	2	11/10/2022 21:51	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/10/2022 21:51	J1W	B
pH	6.74	4	pH_Units		S4500HB-11	1	11/12/2022 00:23	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/14/2022 18:57	AKH	G
Specific Conductance	347		umhos/cm	1	SW846 9050A	1	11/14/2022 08:40	JXL	B
Sulfate	3.9		mg/L	2.0	EPA 300.0	2	11/10/2022 21:51	J1W	B
Total Dissolved Solids	202		mg/L	25	S2540C-11	1	11/11/2022 09:28	SMS	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	11/11/2022 15:40	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	11/09/2022 23:18	NRB	B



Results

Client Sample ID	FFMP018W	Collected	11/09/2022 12:35
Lab Sample ID	3272990004	Lab Receipt	11/09/2022 15:40

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	26.89		Feet		Field	1	11/09/2022 12:40	BGS	D
Dissolved Oxygen	1.10		mg/L	0.01	Field	1	11/09/2022 12:40	BGS	D
Elev Top MW Casing above MSL	472.20		Feet		Field	1	11/09/2022 12:40	BGS	D
Flow Rate	4.00		gal/min		Field	1	11/09/2022 12:40	BGS	D
Ground Water Elevation	445.31		ft/MSL		Field	1	11/09/2022 12:40	BGS	D
Oxidation-Reduction Potential	282		mV		Field	1	11/09/2022 12:40	BGS	D
pH, Field (SM4500B)	5.19		pH_Units		Field	1	11/09/2022 12:40	BGS	D
Sample Depth	40.00		Feet		Field	1	11/09/2022 12:40	BGS	D
Specific Conductance, Field	211		umhos/cm	1	Field	1	11/09/2022 12:40	BGS	D
Temperature	14.94		Deg. C		Field	1	11/09/2022 12:40	BGS	D
Total Well Depth	51.46		Feet		Field	1	11/09/2022 12:40	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	11/09/2022 12:40	BGS	D
Volume in Water Column	15.97		Gallons		Field	1	11/09/2022 12:40	BGS	D
Water Level After Purge	27.84		Feet		Field	1	11/09/2022 12:40	BGS	D
Well Volumes Purged	5.01		Vol		Field	1	11/09/2022 12:40	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	33.6		mg/L	0.11	SW846 6010C	1	11/28/2022 13:56	A1S	J3
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	11/28/2022 13:56	A1S	J3
Magnesium, Total	19.4		mg/L	0.11	SW846 6010C	1	11/28/2022 13:56	A1S	J3
Manganese, Total	0.21		mg/L	0.0056	SW846 6010C	1	11/28/2022 13:56	A1S	J3
Potassium, Total	4.1		mg/L	0.56	SW846 6010C	1	11/28/2022 13:56	A1S	J3
Sodium, Total	37.8		mg/L	0.56	SW846 6010C	1	11/28/2022 13:56	A1S	J3

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:24	PDK	H



Results

Client Sample ID	FFMP018W	Collected	11/09/2022 12:35
Lab Sample ID	3272990004	Lab Receipt	11/09/2022 15:40

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			99.9%	62 – 133		11/19/2022 06:24		
4-Bromofluorobenzene	460-00-4			107%	79 – 114		11/19/2022 06:24		
Dibromofluoromethane	1868-53-7			92.6%	78 – 116		11/19/2022 06:24		
Toluene-d8	2037-26-5			97.5%	76 – 127		11/19/2022 06:24		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	19		mg/L	5	SM2320B-2011	1	11/12/2022 00:34	NML	B
Alkalinity, Total	19	1	mg/L	5	SM2320B-2011	1	11/12/2022 00:34	NML	B
Ammonia-N	0.236		mg/L	0.100	ASTM D6919-09	10	11/16/2022 08:27	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/18/2022 14:40	KMS	A
Chloride	126		mg/L	10.0	EPA 300.0	10	12/02/2022 19:42	AXW	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/10/2022 22:03	J1W	B
Nitrate-N	6.0	2	mg/L	1.0	EPA 300.0	2	11/10/2022 22:03	J1W	B
pH	6.98	4	pH_Units		S4500HB-11	1	11/12/2022 00:34	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/14/2022 19:00	AKH	G
Specific Conductance	594		umhos/cm	1	SW846 9050A	1	11/14/2022 08:40	JXL	B
Sulfate	36.7		mg/L	2.0	EPA 300.0	2	11/10/2022 22:03	J1W	B
Total Dissolved Solids	324		mg/L	25	S2540C-11	1	11/11/2022 09:28	SMS	B
Total Organic Carbon (TOC)	0.58		mg/L	0.50	SW846 9060A	1	11/11/2022 15:40	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	11/09/2022 23:18	NRB	B



Results

Client Sample ID	FFMP019W	Collected	11/09/2022 12:51
Lab Sample ID	3272990005	Lab Receipt	11/09/2022 15:40

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	27.66		Feet		Field	1	11/09/2022 12:51	BGS	D
Dissolved Oxygen	0.10		mg/L	0.01	Field	1	11/09/2022 12:51	BGS	D
Elev Top MW Casing above MSL	471.95		Feet		Field	1	11/09/2022 12:51	BGS	D
Flow Rate	4.06		gal/min		Field	1	11/09/2022 12:51	BGS	D
Ground Water Elevation	444.29		ft/MSL		Field	1	11/09/2022 12:51	BGS	D
Oxidation-Reduction Potential	178		mV		Field	1	11/09/2022 12:51	BGS	D
pH, Field (SM4500B)	6.48		pH_Units		Field	1	11/09/2022 12:51	BGS	D
Sample Depth	49.00		Feet		Field	1	11/09/2022 12:51	BGS	D
Specific Conductance, Field	677		umhos/cm	1	Field	1	11/09/2022 12:51	BGS	D
Temperature	13.88		Deg. C		Field	1	11/09/2022 12:51	BGS	D
Total Well Depth	132.79		Feet		Field	1	11/09/2022 12:51	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	11/09/2022 12:51	BGS	D
Volume in Water Column	68.33		Gallons		Field	1	11/09/2022 12:51	BGS	D
Water Level After Purge	37.63		Feet		Field	1	11/09/2022 12:51	BGS	D
Well Volumes Purged	2.38		Vol		Field	1	11/09/2022 12:51	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	62.7		mg/L	0.11	SW846 6010C	1	11/28/2022 11:39	A1S	J3
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	11/28/2022 11:39	A1S	J3
Magnesium, Total	6.2		mg/L	0.11	SW846 6010C	1	11/28/2022 11:39	A1S	J3
Manganese, Total	ND	ND	mg/L	0.0056	SW846 6010C	1	11/28/2022 11:39	A1S	J3
Potassium, Total	0.84		mg/L	0.56	SW846 6010C	1	11/28/2022 11:39	A1S	J3
Sodium, Total	11.0		mg/L	0.56	SW846 6010C	1	11/28/2022 11:39	A1S	J3

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 06:47	PDK	H



Results

Client Sample ID	FFMP019W	Collected	11/09/2022 12:51
Lab Sample ID	3272990005	Lab Receipt	11/09/2022 15:40

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			102%	62 – 133		11/19/2022 06:47		
4-Bromofluorobenzene	460-00-4			107%	79 – 114		11/19/2022 06:47		
Dibromofluoromethane	1868-53-7			94%	78 – 116		11/19/2022 06:47		
Toluene-d8	2037-26-5			98.3%	76 – 127		11/19/2022 06:47		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	62		mg/L	5	SM2320B-2011	1	11/12/2022 00:45	NML	B
Alkalinity, Total	62	1	mg/L	5	SM2320B-2011	1	11/12/2022 00:45	NML	B
Ammonia-N	0.172		mg/L	0.100	ASTM D6919-09	10	11/16/2022 07:19	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/18/2022 14:40	KMS	A
Chloride	87.9		mg/L	5.0	EPA 300.0	5	12/02/2022 19:52	AXW	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/10/2022 22:14	J1W	B
Nitrate-N	ND	ND,2	mg/L	1.0	EPA 300.0	2	11/10/2022 22:14	J1W	B
pH	7.89	4	pH_Units		S4500HB-11	1	11/12/2022 00:45	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/14/2022 19:03	AKH	G
Specific Conductance	471		umhos/cm	1	SW846 9050A	1	11/14/2022 08:40	JXL	B
Sulfate	17.2		mg/L	2.0	EPA 300.0	2	11/10/2022 22:14	J1W	B
Total Dissolved Solids	304		mg/L	25	S2540C-11	1	11/11/2022 09:28	SMS	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	11/11/2022 15:40	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	11/09/2022 23:18	NRB	B



Results

Client Sample ID	FFMP005W	Collected	11/09/2022 14:22
Lab Sample ID	3272990006	Lab Receipt	11/09/2022 15:40

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	66.67		Feet		Field	1	11/09/2022 14:22	BGS	D
Dissolved Oxygen	0.10		mg/L	0.01	Field	1	11/09/2022 14:22	BGS	D
Elev Top MW Casing above MSL	537.40		Feet		Field	1	11/09/2022 14:22	BGS	D
Flow Rate	2.43		gal/min		Field	1	11/09/2022 14:22	BGS	D
Ground Water Elevation	470.73		ft/MSL		Field	1	11/09/2022 14:22	BGS	D
Oxidation-Reduction Potential	531		mV		Field	1	11/09/2022 14:22	BGS	D
pH, Field (SM4500B)	5.51		pH_Units		Field	1	11/09/2022 14:22	BGS	D
Sample Depth	135.00		Feet		Field	1	11/09/2022 14:22	BGS	D
Specific Conductance, Field	1359		umhos/cm	1	Field	1	11/09/2022 14:22	BGS	D
Temperature	13.61		Deg. C		Field	1	11/09/2022 14:22	BGS	D
Total Well Depth	149.70		Feet		Field	1	11/09/2022 14:22	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	11/09/2022 14:22	BGS	D
Volume in Water Column	122.05		Gallons		Field	1	11/09/2022 14:22	BGS	D
Water Level After Purge	81.96		Feet		Field	1	11/09/2022 14:22	BGS	D
Well Volumes Purged	1.39		Vol		Field	1	11/09/2022 14:22	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	83.8		mg/L	0.11	SW846 6010C	1	11/28/2022 11:40	A1S	J3
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	11/28/2022 11:40	A1S	J3
Magnesium, Total	21.1		mg/L	0.11	SW846 6010C	1	11/28/2022 11:40	A1S	J3
Manganese, Total	0.19		mg/L	0.0056	SW846 6010C	1	11/28/2022 11:40	A1S	J3
Potassium, Total	3.1		mg/L	0.56	SW846 6010C	1	11/28/2022 11:40	A1S	J3
Sodium, Total	52.8		mg/L	0.56	SW846 6010C	1	11/28/2022 11:40	A1S	J3

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:10	PDK	H



Results

Client Sample ID	FFMP005W	Collected	11/09/2022 14:22
Lab Sample ID	3272990006	Lab Receipt	11/09/2022 15:40

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			99.3%	62 – 133		11/19/2022 07:10		
4-Bromofluorobenzene	460-00-4			106%	79 – 114		11/19/2022 07:10		
Dibromofluoromethane	1868-53-7			94.2%	78 – 116		11/19/2022 07:10		
Toluene-d8	2037-26-5			97.1%	76 – 127		11/19/2022 07:10		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	51		mg/L	5	SM2320B-2011	1	11/12/2022 00:56	NML	B
Alkalinity, Total	51	1	mg/L	5	SM2320B-2011	1	11/12/2022 00:56	NML	B
Ammonia-N	0.324		mg/L	0.100	ASTM D6919-09	10	11/16/2022 05:43	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/18/2022 14:40	KMS	A
Chloride	199		mg/L	10.0	EPA 300.0	10	12/02/2022 20:01	AXW	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/10/2022 23:12	J1W	B
Nitrate-N	2.7	2	mg/L	1.0	EPA 300.0	2	11/10/2022 23:12	J1W	B
pH	7.35	4	pH_Units		S4500HB-11	1	11/12/2022 00:56	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/14/2022 19:07	AKH	G
Specific Conductance	933		umhos/cm	1	SW846 9050A	1	11/14/2022 08:40	JXL	B
Sulfate	75.4		mg/L	2.0	EPA 300.0	2	11/10/2022 23:12	J1W	B
Total Dissolved Solids	558		mg/L	25	S2540C-11	1	11/11/2022 09:28	SMS	B
Total Organic Carbon (TOC)	1.2		mg/L	0.50	SW846 9060A	1	11/11/2022 15:40	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	11/09/2022 23:18	NRB	B



Results

Client Sample ID	FFMP26RW	Collected	11/09/2022 14:13
Lab Sample ID	3272990007	Lab Receipt	11/09/2022 15:40

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	76.42		Feet		Field	1	11/09/2022 14:13	BGS	D
Dissolved Oxygen	ND	ND	mg/L	0.01	Field	1	11/09/2022 14:13	BGS	D
Elev Top MW Casing above MSL	547.40		Feet		Field	1	11/09/2022 14:13	BGS	D
Flow Rate	2.75		gal/min		Field	1	11/09/2022 14:13	BGS	D
Ground Water Elevation	470.98		ft/MSL		Field	1	11/09/2022 14:13	BGS	D
Oxidation-Reduction Potential	452		mV		Field	1	11/09/2022 14:13	BGS	D
pH, Field (SM4500B)	5.50		pH_Units		Field	1	11/09/2022 14:13	BGS	D
Sample Depth	105.00		Feet		Field	1	11/09/2022 14:13	BGS	D
Specific Conductance, Field	316		umhos/cm	1	Field	1	11/09/2022 14:13	BGS	D
Temperature	14.32		Deg. C		Field	1	11/09/2022 14:13	BGS	D
Total Well Depth	118.30		Feet		Field	1	11/09/2022 14:13	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	11/09/2022 14:13	BGS	D
Volume in Water Column	61.56		Gallons		Field	1	11/09/2022 14:13	BGS	D
Water Level After Purge	97.08		Feet		Field	1	11/09/2022 14:13	BGS	D
Well Volumes Purged	1.79		Vol		Field	1	11/09/2022 14:13	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	71.8		mg/L	0.11	SW846 6010C	1	11/28/2022 11:42	A1S	J3
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	11/28/2022 11:42	A1S	J3
Magnesium, Total	19.2		mg/L	0.11	SW846 6010C	1	11/28/2022 11:42	A1S	J3
Manganese, Total	0.78		mg/L	0.0056	SW846 6010C	1	11/28/2022 11:42	A1S	J3
Potassium, Total	7.3		mg/L	0.56	SW846 6010C	1	11/28/2022 11:42	A1S	J3
Sodium, Total	57.4		mg/L	0.56	SW846 6010C	1	11/28/2022 11:42	A1S	J3

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/19/2022 07:33	PDK	H



Results

Client Sample ID	FFMP26RW	Collected	11/09/2022 14:13
Lab Sample ID	3272990007	Lab Receipt	11/09/2022 15:40

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			98.4%	62 – 133		11/19/2022 07:33		
4-Bromofluorobenzene	460-00-4			109%	79 – 114		11/19/2022 07:33		
Dibromofluoromethane	1868-53-7			92.2%	78 – 116		11/19/2022 07:33		
Toluene-d8	2037-26-5			98.1%	76 – 127		11/19/2022 07:33		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	55		mg/L	5	SM2320B-2011	1	11/12/2022 01:07	NML	B
Alkalinity, Total	55	1	mg/L	5	SM2320B-2011	1	11/12/2022 01:07	NML	B
Ammonia-N	0.323		mg/L	0.100	ASTM D6919-09	10	11/16/2022 07:33	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/18/2022 14:40	KMS	A
Chloride	172		mg/L	10.0	EPA 300.0	10	12/02/2022 20:11	AXW	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/10/2022 23:24	J1W	B
Nitrate-N	1.2	2	mg/L	1.0	EPA 300.0	2	11/10/2022 23:24	J1W	B
pH	7.17	4	pH_Units		S4500HB-11	1	11/12/2022 01:07	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/14/2022 19:10	AKH	G
Specific Conductance	892		umhos/cm	1	SW846 9050A	1	11/14/2022 08:40	JXL	B
Sulfate	93.8		mg/L	2.0	EPA 300.0	2	11/10/2022 23:24	J1W	B
Total Dissolved Solids	596		mg/L	25	S2540C-11	1	11/14/2022 11:35	SMS	B
Total Organic Carbon (TOC)	1.6		mg/L	0.50	SW846 9060A	1	11/11/2022 15:40	PAG	E
Turbidity	0.85		NTU	0.30	SM2130B-2011	1	11/09/2022 23:18	NRB	B



Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3272990001	FFMP015W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3272990002	FFMP017W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3272990003	FFMP03AW	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3272990004	FFMP018W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	



Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3272990005	FFMP019W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3272990006	FFMP005W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3272990007	FFMP26RW	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3272990001	FFMP015W	N/A	N/A	N/A	ANN	Field	913842
		SW846 3015A	912185	11/27/2022 23:10		SW846 6010C	913877
		N/A	N/A	N/A		SW846 8260B	910875
		N/A	N/A	N/A		ASTM D6919-09	909059
		N/A	N/A	N/A		EPA 300.0	905589
		N/A	N/A	N/A		EPA 410.4	910328
		N/A	N/A	N/A		S2540C-11	905481
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	905172
		N/A	N/A	N/A		SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	906879
		N/A	N/A	N/A		SW846 9060A	906743
3272990002	FFMP017W	SW846 9066	905604	11/10/2022 14:00	AKH	SW846 9066	906677
		N/A	N/A	N/A		Field	913842
		SW846 3015A	912185	11/27/2022 23:10		SW846 6010C	913877
		N/A	N/A	N/A		SW846 8260B	910875
		N/A	N/A	N/A		ASTM D6919-09	909059
		N/A	N/A	N/A		EPA 300.0	905589
		N/A	N/A	N/A		EPA 300.0	916009
		N/A	N/A	N/A		EPA 410.4	910328
		N/A	N/A	N/A		S2540C-11	905481
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	905172
		N/A	N/A	N/A		SM2320B-2011	905688
3272990003	FFMP03AW	N/A	N/A	N/A	ANN	SW846 9050A	906879
		N/A	N/A	N/A		SW846 9060A	906743
		SW846 9066	905604	11/10/2022 14:00		SW846 9066	906677
		N/A	N/A	N/A		Field	913842
		SW846 3015A	912185	11/27/2022 23:10		SW846 6010C	913877
		N/A	N/A	N/A		SW846 8260B	910875
		N/A	N/A	N/A		ASTM D6919-09	909059
		N/A	N/A	N/A		EPA 300.0	905589
		N/A	N/A	N/A		EPA 410.4	910328
		N/A	N/A	N/A		S2540C-11	905481
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	905172
3272990004	FFMP018W	N/A	N/A	N/A	ANN	SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	906879
		N/A	N/A	N/A		SW846 9060A	906743
		SW846 9066	905604	11/10/2022 14:00		SW846 9066	906677
		N/A	N/A	N/A		Field	913842
		SW846 3015A	912185	11/27/2022 23:10		SW846 6010C	913877
		N/A	N/A	N/A		SW846 8260B	910875
		N/A	N/A	N/A		ASTM D6919-09	909059
		N/A	N/A	N/A		EPA 300.0	905589
		N/A	N/A	N/A		EPA 300.0	916009
		N/A	N/A	N/A		EPA 410.4	910328
		N/A	N/A	N/A		S2540C-11	905481



Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3272990005	FFMP019W	N/A	N/A	N/A	ANN	Field	913842
		SW846 3015A	912185	11/27/2022 23:10		SW846 6010C	913877
		N/A	N/A	N/A		SW846 8260B	910875
		N/A	N/A	N/A		ASTM D6919-09	909059
		N/A	N/A	N/A		EPA 300.0	905589
		N/A	N/A	N/A		EPA 300.0	916009
		N/A	N/A	N/A		EPA 410.4	910328
		N/A	N/A	N/A		S2540C-11	905481
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	905172
		N/A	N/A	N/A		SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	906879
		N/A	N/A	N/A		SW846 9060A	906743
		SW846 9066	906679	11/10/2022 14:00		SW846 9066	906677
3272990006	FFMP005W	N/A	N/A	N/A	ANN	Field	913842
		SW846 3015A	912185	11/27/2022 23:10		SW846 6010C	913877
		N/A	N/A	N/A		SW846 8260B	910875
		N/A	N/A	N/A		ASTM D6919-09	909048
		N/A	N/A	N/A		EPA 300.0	905589
		N/A	N/A	N/A		EPA 300.0	916009
		N/A	N/A	N/A		EPA 410.4	910328
		N/A	N/A	N/A		S2540C-11	905481
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	905172
		N/A	N/A	N/A		SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	906879
		N/A	N/A	N/A		SW846 9060A	906743
		SW846 9066	906679	11/10/2022 14:00		SW846 9066	906677
3272990007	FFMP26RW	N/A	N/A	N/A	ANN	Field	913842
		SW846 3015A	912185	11/27/2022 23:10		SW846 6010C	913877
		N/A	N/A	N/A		SW846 8260B	910875
		N/A	N/A	N/A		ASTM D6919-09	909059
		N/A	N/A	N/A		EPA 300.0	905589
		N/A	N/A	N/A		EPA 300.0	916009
		N/A	N/A	N/A		EPA 410.4	910328
		N/A	N/A	N/A		S2540C-11	906589
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	905172
		N/A	N/A	N/A		SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	906879
		N/A	N/A	N/A		SW846 9060A	906743
		SW846 9066	906679	11/10/2022 14:00		SW846 9066	906677



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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

Analytical Results Report For

Lancaster County Solid Waste Authority

Project 4TH QTR 2022 GWMP-FORM 19Q

Workorder 3273347

Report ID 210638 on 12/2/2022

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Nov 10, 2022.

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 Susan 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 Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):

Ashley Gichuki - Lancaster County Solid Waste Authority
Daniel Brown - Lancaster County Solid Waste Authority
Jordan Gallagher - Lancaster County Solid Waste Authority
Jeff Musser - Lancaster County Solid Waste Authority

Susan Scherer

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

Susan Scherer
Project Coordinator

(ALS Digital Signature)



Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3273347001	FFMP034W	Ground Water	11/10/2022 11:12	11/10/2022 15:35	BGS	Analytical Laboratory Service
3273347002	FFMP033W	Ground Water	11/10/2022 10:50	11/10/2022 15:35	BGS	Analytical Laboratory Service
3273347003	FFMP002W	Ground Water	11/10/2022 11:52	11/10/2022 15:35	BGS	Analytical Laboratory Service
3273347004	FFMP031W	Ground Water	11/10/2022 12:38	11/10/2022 15:35	BGS	Analytical Laboratory Service
3273347005	FFMP02SW	Ground Water	11/10/2022 13:15	11/10/2022 15:35	BGS	Analytical Laboratory Service
3273347006	FFMP02DW	Ground Water	11/10/2022 13:57	11/10/2022 15:35	BGS	Analytical Laboratory Service
3273347007	FFMP032W	Ground Water	11/10/2022 13:38	11/10/2022 15:35	BGS	Analytical Laboratory Service
3273347008	FIELD BLANK	Water	11/10/2022 14:15	11/10/2022 15:35	BGS	Analytical Laboratory Service
3273347009	TRIP BLANK	Water	11/10/2022 00:00	11/10/2022 15:35	BGS	Analytical Laboratory Service



Reference

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).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136.
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- 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 preformed 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.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
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
#	Please reference the result in the Results Section for analyte-level flags.



Project Notations

Sample Notations

Lab ID Sample ID

Result Notations

Notation Ref.	
1	The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.
2	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.
3	The QC sample type MS for method SW846 9066 was outside the control limits for the analyte Phenolics. The % Recovery was reported as 81.3 and the control limits were 90 to 110.
4	The QC sample type MSD for method SW846 9066 was outside the control limits for the analyte Phenolics. The % Recovery was reported as 72.6 and the control limits were 90 to 110.
5	The QC sample type MSD for method SW846 9066 was outside the control limits for the analyte Phenolics. The RPD was reported as 11.3 and the upper control limit is 10.
6	The surrogate 4-Bromofluorobenzene for method SW846 8260B was outside of control limits. The % Recovery was reported as 116 and the control limits were 79 to 114. This result was reported at a dilution of 1.
7	The QC sample type MSD for method EPA 300.0 was outside the control limits for the analyte Sulfate. The % Recovery was reported as 124 and the control limits were 80 to 120.



Detected Results Summary

Client Sample ID	FFMP034W	Collected	11/10/2022 11:12		
Lab Sample ID	3273347001	Lab Receipt	11/10/2022 15:35		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	10.62	Feet		Field	#
Dissolved Oxygen	2.00	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	472.88	Feet		Field	#
Flow Rate	1.92	gal/min		Field	#
Ground Water Elevation	462.26	ft/MSL		Field	#
Oxidation-Reduction Potential	149	mV		Field	#
pH, Field (SM4500B)	5.68	pH_Units		Field	#
Sample Depth	25.85	Feet		Field	#
Specific Conductance, Field	1129	umhos/cm	1	Field	#
Temperature	14.80	Deg. C		Field	#
Total Well Depth	121.00	Feet		Field	#
Turbidity, Field	13	NTU	1	Field	#
Volume in Water Column	162.26	Gallons		Field	#
Water Level After Purge	15.26	Feet		Field	#
Well Volumes Purged	1.06	Vol		Field	#
METALS					
Calcium, Total	63.0	mg/L	0.11	SW846 6010C	#
Iron, Total	15.8	mg/L	0.067	SW846 6010C	#
Magnesium, Total	22.2	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.22	mg/L	0.0056	SW846 6010C	#
Potassium, Total	2.5	mg/L	0.56	SW846 6010C	#
Sodium, Total	45.6	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	53	mg/L	5	SM2320B-2011	#
Alkalinity, Total	53	mg/L	5	SM2320B-2011	#
Chloride	180	mg/L	2.0	EPA 300.0	#
Nitrate-N	7.5	mg/L	1.0	EPA 300.0	#
pH	7.89	pH_Units		S4500HB-11	#
Phenolics	0.06	mg/L	0.04	SW846 9066	#
Specific Conductance	842	umhos/cm	1	SW846 9050A	#
Sulfate	28.9	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	592	mg/L	25	S2540C-11	#
Total Organic Carbon (TOC)	0.68	mg/L	0.50	SW846 9060A	#
Turbidity	280	NTU	0.30	SM2130B-2011	#



Detected Results Summary

Client Sample ID	FFMP033W	Collected	11/10/2022 10:50		
Lab Sample ID	3273347002	Lab Receipt	11/10/2022 15:35		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	21.74	Feet		Field	#
Elev Top MW Casing above MSL	516.52	Feet		Field	#
Flow Rate	2.02	gal/min		Field	#
Ground Water Elevation	494.78	ft/MSL		Field	#
Oxidation-Reduction Potential	-106	mV		Field	#
pH, Field (SM4500B)	6.46	pH_Units		Field	#
Sample Depth	79.00	Feet		Field	#
Specific Conductance, Field	645	umhos/cm	1	Field	#
Temperature	16.38	Deg. C		Field	#
Total Well Depth	100.00	Feet		Field	#
Turbidity, Field	41	NTU	1	Field	#
Volume in Water Column	115.04	Gallons		Field	#
Water Level After Purge	26.20	Feet		Field	#
Well Volumes Purged	1.05	Vol		Field	#
METALS					
Calcium, Total	35.8	mg/L	0.11	SW846 6010C	#
Iron, Total	31.5	mg/L	0.067	SW846 6010C	#
Magnesium, Total	11.3	mg/L	0.11	SW846 6010C	#
Manganese, Total	1.3	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.6	mg/L	0.56	SW846 6010C	#
Sodium, Total	15.1	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	81	mg/L	5	SM2320B-2011	#
Alkalinity, Total	81	mg/L	5	SM2320B-2011	#
Ammonia-N	1.65	mg/L	0.100	ASTM D6919-09	#
Chloride	60.6	mg/L	2.0	EPA 300.0	#
Nitrate-N	1.4	mg/L	1.0	EPA 300.0	#
pH	8.01	pH_Units		S4500HB-11	#
Specific Conductance	397	umhos/cm	1	SW846 9050A	#
Total Dissolved Solids	234	mg/L	25	S2540C-11	#
Turbidity	240	NTU	0.30	SM2130B-2011	#



Detected Results Summary

Client Sample ID	FFMP002W	Collected	11/10/2022 11:52		
Lab Sample ID	3273347003	Lab Receipt	11/10/2022 15:35		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	64.03	Feet		Field	#
Dissolved Oxygen	6.83	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	613.20	Feet		Field	#
Flow Rate	1.58	gal/min		Field	#
Ground Water Elevation	549.17	ft/MSL		Field	#
Oxidation-Reduction Potential	362	mV		Field	#
pH, Field (SM4500B)	4.53	pH_Units		Field	#
Sample Depth	85.00	Feet		Field	#
Specific Conductance, Field	352	umhos/cm	1	Field	#
Temperature	14.79	Deg. C		Field	#
Total Well Depth	90.02	Feet		Field	#
Turbidity, Field	1	NTU	1	Field	#
Volume in Water Column	38.21	Gallons		Field	#
Water Level After Purge	80.02	Feet		Field	#
Well Volumes Purged	0.83	Vol		Field	#
METALS					
Calcium, Total	16.9	mg/L	0.11	SW846 6010C	#
Iron, Total	0.072	mg/L	0.067	SW846 6010C	#
Magnesium, Total	7.5	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.22	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.0	mg/L	0.56	SW846 6010C	#
Sodium, Total	13.3	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Chloride	17.1	mg/L	2.0	EPA 300.0	#
Nitrate-N	18.8	mg/L	1.0	EPA 300.0	#
pH	5.96	pH_Units		S4500HB-11	#
Specific Conductance	255	umhos/cm	1	SW846 9050A	#
Sulfate	11.7	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	202	mg/L	25	S2540C-11	#
Turbidity	0.90	NTU	0.30	SM2130B-2011	#



Detected Results Summary

Client Sample ID	FFMP031W	Collected	11/10/2022 12:38		
Lab Sample ID	3273347004	Lab Receipt	11/10/2022 15:35		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	66.54	Feet		Field	#
Dissolved Oxygen	0.27	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	612.66	Feet		Field	#
Flow Rate	2.90	gal/min		Field	#
Ground Water Elevation	546.12	ft/MSL		Field	#
Oxidation-Reduction Potential	-39	mV		Field	#
pH, Field (SM4500B)	7.72	pH_Units		Field	#
Sample Depth	130.00	Feet		Field	#
Specific Conductance, Field	385	umhos/cm	1	Field	#
Temperature	15.31	Deg. C		Field	#
Total Well Depth	142.70	Feet		Field	#
Turbidity, Field	84	NTU	1	Field	#
Volume in Water Column	111.96	Gallons		Field	#
Water Level After Purge	108.62	Feet		Field	#
Well Volumes Purged	1.68	Vol		Field	#
METALS					
Calcium, Total	35.2	mg/L	0.11	SW846 6010C	#
Iron, Total	6.5	mg/L	0.067	SW846 6010C	#
Magnesium, Total	3.9	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.27	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.4	mg/L	0.56	SW846 6010C	#
Sodium, Total	10.5	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	62	mg/L	5	SM2320B-2011	#
Alkalinity, Total	62	mg/L	5	SM2320B-2011	#
Chloride	18.5	mg/L	2.0	EPA 300.0	#
pH	8.16	pH_Units		S4500HB-11	#
Specific Conductance	279	umhos/cm	1	SW846 9050A	#
Sulfate	41.0	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	172	mg/L	25	S2540C-11	#
Turbidity	70	NTU	0.30	SM2130B-2011	#



Detected Results Summary

Client Sample ID	FFMP02SW	Collected	11/10/2022 13:15		
Lab Sample ID	3273347005	Lab Receipt	11/10/2022 15:35		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	15.49	Feet		Field	#
Dissolved Oxygen	2.95	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	509.90	Feet		Field	#
Flow Rate	1.00	gal/min		Field	#
Ground Water Elevation	494.41	ft/MSL		Field	#
Oxidation-Reduction Potential	198	mV		Field	#
pH, Field (SM4500B)	5.30	pH_Units		Field	#
Sample Depth	18.00	Feet		Field	#
Specific Conductance, Field	575	umhos/cm	1	Field	#
Temperature	18.49	Deg. C		Field	#
Total Well Depth	22.70	Feet		Field	#
Turbidity, Field	19	NTU	1	Field	#
Volume in Water Column	4.69	Gallons		Field	#
Water Level After Purge	17.44	Feet		Field	#
Well Volumes Purged	2.98	Vol		Field	#
METALS					
Calcium, Total	16.5	mg/L	0.11	SW846 6010C	#
Iron, Total	0.43	mg/L	0.067	SW846 6010C	#
Magnesium, Total	6.7	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.016	mg/L	0.0056	SW846 6010C	#
Potassium, Total	5.4	mg/L	0.56	SW846 6010C	#
Sodium, Total	41.8	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	25	mg/L	5	SM2320B-2011	#
Alkalinity, Total	25	mg/L	5	SM2320B-2011	#
Chloride	39.3	mg/L	2.0	EPA 300.0	#
Nitrate-N	13.9	mg/L	1.0	EPA 300.0	#
pH	7.47	pH_Units		S4500HB-11	#
Specific Conductance	387	umhos/cm	1	SW846 9050A	#
Sulfate	38.3	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	266	mg/L	25	S2540C-11	#
Total Organic Carbon (TOC)	2.1	mg/L	0.50	SW846 9060A	#
Turbidity	13	NTU	0.30	SM2130B-2011	#



Detected Results Summary

Client Sample ID	FFMP02DW	Collected	11/10/2022 13:57		
Lab Sample ID	3273347006	Lab Receipt	11/10/2022 15:35		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	19.39	Feet		Field	#
Dissolved Oxygen	1.21	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	509.60	Feet		Field	#
Flow Rate	1.74	gal/min		Field	#
Ground Water Elevation	490.21	ft/MSL		Field	#
Oxidation-Reduction Potential	87	mV		Field	#
pH, Field (SM4500B)	7.02	pH_Units		Field	#
Sample Depth	120.00	Feet		Field	#
Specific Conductance, Field	2386	umhos/cm	1	Field	#
Temperature	14.81	Deg. C		Field	#
Total Well Depth	153.00	Feet		Field	#
Turbidity, Field	12	NTU	1	Field	#
Volume in Water Column	196.41	Gallons		Field	#
Water Level After Purge	49.35	Feet		Field	#
Well Volumes Purged	0.53	Vol		Field	#
METALS					
Calcium, Total	139	mg/L	0.11	SW846 6010C	#
Iron, Total	2.3	mg/L	0.067	SW846 6010C	#
Magnesium, Total	22.0	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.51	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.5	mg/L	0.56	SW846 6010C	#
Sodium, Total	149	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	111	mg/L	5	SM2320B-2011	#
Alkalinity, Total	111	mg/L	5	SM2320B-2011	#
Chloride	462	mg/L	5.0	EPA 300.0	#
Nitrate-N	6.6	mg/L	2.5	EPA 300.0	#
pH	8.25	pH_Units		S4500HB-11	#
Specific Conductance	1760	umhos/cm	1	SW846 9050A	#
Sulfate	38.3	mg/L	5.0	EPA 300.0	#
Total Dissolved Solids	1110	mg/L	25	S2540C-11	#
Total Organic Carbon (TOC)	0.80	mg/L	0.50	SW846 9060A	#
Turbidity	8.6	NTU	0.30	SM2130B-2011	#



Detected Results Summary

Client Sample ID	FFMP032W	Collected	11/10/2022 13:38		
Lab Sample ID	3273347007	Lab Receipt	11/10/2022 15:35		
Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	49.82	Feet		Field	#
Dissolved Oxygen	0.51	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	594.09	Feet		Field	#
Flow Rate	0.75	gal/min		Field	#
Ground Water Elevation	544.27	ft/MSL		Field	#
Oxidation-Reduction Potential	-95	mV		Field	#
pH, Field (SM4500B)	6.83	pH_Units		Field	#
Sample Depth	62.00	Feet		Field	#
Specific Conductance, Field	282	umhos/cm	1	Field	#
Temperature	15.54	Deg. C		Field	#
Total Well Depth	77.60	Feet		Field	#
Turbidity, Field	141	NTU	1	Field	#
Volume in Water Column	40.84	Gallons		Field	#
Water Level After Purge	58.49	Feet		Field	#
Well Volumes Purged	0.37	Vol		Field	#
METALS					
Calcium, Total	15.8	mg/L	0.11	SW846 6010C	#
Iron, Total	7.2	mg/L	0.067	SW846 6010C	#
Magnesium, Total	5.6	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.57	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.3	mg/L	0.56	SW846 6010C	#
Sodium, Total	12.7	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	64	mg/L	5	SM2320B-2011	#
Alkalinity, Total	64	mg/L	5	SM2320B-2011	#
Ammonia-N	0.507	mg/L	0.100	ASTM D6919-09	#
Chloride	19.9	mg/L	2.0	EPA 300.0	#
pH	8.11	pH_Units		S4500HB-11	#
Specific Conductance	195	umhos/cm	1	SW846 9050A	#
Total Dissolved Solids	122	mg/L	25	S2540C-11	#
Total Organic Carbon (TOC)	0.54	mg/L	0.50	SW846 9060A	#
Turbidity	150	NTU	0.30	SM2130B-2011	#



Detected Results Summary

Client Sample ID	FIELD BLANK	Collected	11/10/2022 14:15
Lab Sample ID	3273347008	Lab Receipt	11/10/2022 15:35

Compound	Result	Units	RDL	Method	Flag
WET CHEMISTRY					
pH	5.75	pH_Units		S4500HB-11	#
Specific Conductance	1	umhos/cm	1	SW846 9050A	#



Results

Client Sample ID	FFMP034W	Collected	11/10/2022 11:12
Lab Sample ID	3273347001	Lab Receipt	11/10/2022 15:35

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	10.62		Feet		Field	1	11/10/2022 11:13	BGS	D
Dissolved Oxygen	2.00		mg/L	0.01	Field	1	11/10/2022 11:13	BGS	D
Elev Top MW Casing above MSL	472.88		Feet		Field	1	11/10/2022 11:13	BGS	D
Flow Rate	1.92		gal/min		Field	1	11/10/2022 11:13	BGS	D
Ground Water Elevation	462.26		ft/MSL		Field	1	11/10/2022 11:13	BGS	D
Oxidation-Reduction Potential	149		mV		Field	1	11/10/2022 11:13	BGS	D
pH, Field (SM4500B)	5.68		pH_Units		Field	1	11/10/2022 11:13	BGS	D
Sample Depth	25.85		Feet		Field	1	11/10/2022 11:13	BGS	D
Specific Conductance, Field	1129		umhos/cm	1	Field	1	11/10/2022 11:13	BGS	D
Temperature	14.80		Deg. C		Field	1	11/10/2022 11:13	BGS	D
Total Well Depth	121.00		Feet		Field	1	11/10/2022 11:13	BGS	D
Turbidity, Field	13		NTU	1	Field	1	11/10/2022 11:13	BGS	D
Volume in Water Column	162.26		Gallons		Field	1	11/10/2022 11:13	BGS	D
Water Level After Purge	15.26		Feet		Field	1	11/10/2022 11:13	BGS	D
Well Volumes Purged	1.06		Vol		Field	1	11/10/2022 11:13	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	63.0		mg/L	0.11	SW846 6010C	1	11/28/2022 11:43	A1S	J3
Iron, Total	15.8		mg/L	0.067	SW846 6010C	1	11/28/2022 11:43	A1S	J3
Magnesium, Total	22.2		mg/L	0.11	SW846 6010C	1	11/28/2022 11:43	A1S	J3
Manganese, Total	0.22		mg/L	0.0056	SW846 6010C	1	11/28/2022 11:43	A1S	J3
Potassium, Total	2.5		mg/L	0.56	SW846 6010C	1	11/28/2022 11:43	A1S	J3
Sodium, Total	45.6		mg/L	0.56	SW846 6010C	1	11/28/2022 11:43	A1S	J3

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:44	PDK	H



Results

Client Sample ID	FFMP034W	Collected	11/10/2022 11:12
Lab Sample ID	3273347001	Lab Receipt	11/10/2022 15:35

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			99.5%	62 – 133		11/20/2022 23:44		
4-Bromofluorobenzene	460-00-4			98.5%	79 – 114		11/20/2022 23:44		
Dibromofluoromethane	1868-53-7			93.9%	78 – 116		11/20/2022 23:44		
Toluene-d8	2037-26-5			97.8%	76 – 127		11/20/2022 23:44		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	53		mg/L	5	SM2320B-2011	1	11/12/2022 14:17	NML	B
Alkalinity, Total	53	1	mg/L	5	SM2320B-2011	1	11/12/2022 14:17	NML	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-09	10	11/17/2022 13:37	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/23/2022 14:02	KMS	A
Chloride	180		mg/L	2.0	EPA 300.0	2	11/12/2022 08:48	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/12/2022 08:48	J1W	B
Nitrate-N	7.5		mg/L	1.0	EPA 300.0	2	11/12/2022 08:48	J1W	B
pH	7.89	2	pH_Units		S4500HB-11	1	11/12/2022 14:17	NML	B
Phenolics	0.06		mg/L	0.04	SW846 9066	10	11/18/2022 13:28	AKH	G
Specific Conductance	842		umhos/cm	1	SW846 9050A	1	11/14/2022 09:05	JXL	B
Sulfate	28.9		mg/L	2.0	EPA 300.0	2	11/12/2022 08:48	J1W	B
Total Dissolved Solids	592		mg/L	25	S2540C-11	1	11/14/2022 12:21	SMS	B
Total Organic Carbon (TOC)	0.68		mg/L	0.50	SW846 9060A	1	11/15/2022 03:52	PAG	E
Turbidity	280		NTU	0.30	SM2130B-2011	1	11/12/2022 04:40	NRB	B



Results

Client Sample ID	FFMP033W	Collected	11/10/2022 10:50
Lab Sample ID	3273347002	Lab Receipt	11/10/2022 15:35

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	21.74		Feet		Field	1	11/10/2022 10:50	BGS	D
Dissolved Oxygen	ND	ND	mg/L	0.01	Field	1	11/10/2022 10:50	BGS	D
Elev Top MW Casing above MSL	516.52		Feet		Field	1	11/10/2022 10:50	BGS	D
Flow Rate	2.02		gal/min		Field	1	11/10/2022 10:50	BGS	D
Ground Water Elevation	494.78		ft/MSL		Field	1	11/10/2022 10:50	BGS	D
Oxidation-Reduction Potential	-106		mV		Field	1	11/10/2022 10:50	BGS	D
pH, Field (SM4500B)	6.46		pH_Units		Field	1	11/10/2022 10:50	BGS	D
Sample Depth	79.00		Feet		Field	1	11/10/2022 10:50	BGS	D
Specific Conductance, Field	645		umhos/cm	1	Field	1	11/10/2022 10:50	BGS	D
Temperature	16.38		Deg. C		Field	1	11/10/2022 10:50	BGS	D
Total Well Depth	100.00		Feet		Field	1	11/10/2022 10:50	BGS	D
Turbidity, Field	41		NTU	1	Field	1	11/10/2022 10:50	BGS	D
Volume in Water Column	115.04		Gallons		Field	1	11/10/2022 10:50	BGS	D
Water Level After Purge	26.20		Feet		Field	1	11/10/2022 10:50	BGS	D
Well Volumes Purged	1.05		Vol		Field	1	11/10/2022 10:50	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	35.8		mg/L	0.11	SW846 6010C	1	11/28/2022 11:44	A1S	J2
Iron, Total	31.5		mg/L	0.067	SW846 6010C	1	11/28/2022 11:44	A1S	J2
Magnesium, Total	11.3		mg/L	0.11	SW846 6010C	1	11/28/2022 11:44	A1S	J2
Manganese, Total	1.3		mg/L	0.0056	SW846 6010C	1	11/28/2022 11:44	A1S	J2
Potassium, Total	1.6		mg/L	0.56	SW846 6010C	1	11/28/2022 11:44	A1S	J2
Sodium, Total	15.1		mg/L	0.56	SW846 6010C	1	11/28/2022 11:44	A1S	J2

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:06	PDK	H



Results

Client Sample ID	FFMP033W	Collected	11/10/2022 10:50
Lab Sample ID	3273347002	Lab Receipt	11/10/2022 15:35

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			99.6%	62 – 133		11/21/2022 00:06		
4-Bromofluorobenzene	460-00-4			98.6%	79 – 114		11/21/2022 00:06		
Dibromofluoromethane	1868-53-7			93.6%	78 – 116		11/21/2022 00:06		
Toluene-d8	2037-26-5			98.2%	76 – 127		11/21/2022 00:06		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	81		mg/L	5	SM2320B-2011	1	11/12/2022 14:28	NML	B
Alkalinity, Total	81	1	mg/L	5	SM2320B-2011	1	11/12/2022 14:28	NML	B
Ammonia-N	1.65		mg/L	0.100	ASTM D6919-09	10	11/22/2022 13:13	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/21/2022 12:56	KMS	A
Chloride	60.6		mg/L	2.0	EPA 300.0	2	11/12/2022 08:58	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/12/2022 08:58	J1W	B
Nitrate-N	1.4		mg/L	1.0	EPA 300.0	2	11/12/2022 08:58	J1W	B
pH	8.01	2	pH_Units		S4500HB-11	1	11/12/2022 14:28	NML	B
Phenolics	ND	ND,3,4,5	mg/L	0.004	SW846 9066	1	11/30/2022 15:13	AKH	G
Specific Conductance	397		umhos/cm	1	SW846 9050A	1	11/14/2022 09:05	JXL	B
Sulfate	ND	ND	mg/L	2.0	EPA 300.0	2	11/12/2022 08:58	J1W	B
Total Dissolved Solids	234		mg/L	25	S2540C-11	1	11/14/2022 12:21	SMS	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	11/15/2022 03:52	PAG	E
Turbidity	240		NTU	0.30	SM2130B-2011	1	11/12/2022 04:40	NRB	B



Results

Client Sample ID	FFMP002W	Collected	11/10/2022 11:52
Lab Sample ID	3273347003	Lab Receipt	11/10/2022 15:35

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	64.03		Feet		Field	1	11/10/2022 11:52	BGS	D
Dissolved Oxygen	6.83		mg/L	0.01	Field	1	11/10/2022 11:52	BGS	D
Elev Top MW Casing above MSL	613.20		Feet		Field	1	11/10/2022 11:52	BGS	D
Flow Rate	1.58		gal/min		Field	1	11/10/2022 11:52	BGS	D
Ground Water Elevation	549.17		ft/MSL		Field	1	11/10/2022 11:52	BGS	D
Oxidation-Reduction Potential	362		mV		Field	1	11/10/2022 11:52	BGS	D
pH, Field (SM4500B)	4.53		pH_Units		Field	1	11/10/2022 11:52	BGS	D
Sample Depth	85.00		Feet		Field	1	11/10/2022 11:52	BGS	D
Specific Conductance, Field	352		umhos/cm	1	Field	1	11/10/2022 11:52	BGS	D
Temperature	14.79		Deg. C		Field	1	11/10/2022 11:52	BGS	D
Total Well Depth	90.02		Feet		Field	1	11/10/2022 11:52	BGS	D
Turbidity, Field	1		NTU	1	Field	1	11/10/2022 11:52	BGS	D
Volume in Water Column	38.21		Gallons		Field	1	11/10/2022 11:52	BGS	D
Water Level After Purge	80.02		Feet		Field	1	11/10/2022 11:52	BGS	D
Well Volumes Purged	0.83		Vol		Field	1	11/10/2022 11:52	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	16.9		mg/L	0.11	SW846 6010C	1	11/28/2022 11:45	A1S	J2
Iron, Total	0.072		mg/L	0.067	SW846 6010C	1	11/28/2022 11:45	A1S	J2
Magnesium, Total	7.5		mg/L	0.11	SW846 6010C	1	11/28/2022 11:45	A1S	J2
Manganese, Total	0.22		mg/L	0.0056	SW846 6010C	1	11/28/2022 11:45	A1S	J2
Potassium, Total	1.0		mg/L	0.56	SW846 6010C	1	11/28/2022 11:45	A1S	J2
Sodium, Total	13.3		mg/L	0.56	SW846 6010C	1	11/28/2022 11:45	A1S	J2

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:29	PDK	H



Results

Client Sample ID	FFMP002W	Collected	11/10/2022 11:52
Lab Sample ID	3273347003	Lab Receipt	11/10/2022 15:35

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			98.2%	62 – 133		11/21/2022 00:29		
4-Bromofluorobenzene	460-00-4			116**	79 – 114		11/21/2022 00:29		6
Dibromofluoromethane	1868-53-7			91%	78 – 116		11/21/2022 00:29		
Toluene-d8	2037-26-5			87.3%	76 – 127		11/21/2022 00:29		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	ND	ND	mg/L	5	SM2320B-2011	1	11/12/2022 14:38	NML	B
Alkalinity, Total	ND	ND,1	mg/L	5	SM2320B-2011	1	11/12/2022 14:38	NML	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-09	10	11/17/2022 15:26	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/21/2022 12:43	KMS	A
Chloride	17.1		mg/L	2.0	EPA 300.0	2	11/12/2022 09:09	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/12/2022 09:09	J1W	B
Nitrate-N	18.8		mg/L	1.0	EPA 300.0	2	11/12/2022 09:09	J1W	B
pH	5.96	2	pH_Units		S4500HB-11	1	11/12/2022 14:38	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/18/2022 14:01	AKH	G
Specific Conductance	255		umhos/cm	1	SW846 9050A	1	11/15/2022 09:40	JXL	B
Sulfate	11.7		mg/L	2.0	EPA 300.0	2	11/12/2022 09:09	J1W	B
Total Dissolved Solids	202		mg/L	25	S2540C-11	1	11/14/2022 12:21	SMS	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	11/15/2022 03:52	PAG	E
Turbidity	0.90		NTU	0.30	SM2130B-2011	1	11/12/2022 04:40	NRB	B



Results

Client Sample ID	FFMP031W	Collected	11/10/2022 12:38
Lab Sample ID	3273347004	Lab Receipt	11/10/2022 15:35

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	66.54		Feet		Field	1	11/10/2022 12:43	BGS	D
Dissolved Oxygen	0.27		mg/L	0.01	Field	1	11/10/2022 12:43	BGS	D
Elev Top MW Casing above MSL	612.66		Feet		Field	1	11/10/2022 12:43	BGS	D
Flow Rate	2.90		gal/min		Field	1	11/10/2022 12:43	BGS	D
Ground Water Elevation	546.12		ft/MSL		Field	1	11/10/2022 12:43	BGS	D
Oxidation-Reduction Potential	-39		mV		Field	1	11/10/2022 12:43	BGS	D
pH, Field (SM4500B)	7.72		pH_Units		Field	1	11/10/2022 12:43	BGS	D
Sample Depth	130.00		Feet		Field	1	11/10/2022 12:43	BGS	D
Specific Conductance, Field	385		umhos/cm	1	Field	1	11/10/2022 12:43	BGS	D
Temperature	15.31		Deg. C		Field	1	11/10/2022 12:43	BGS	D
Total Well Depth	142.70		Feet		Field	1	11/10/2022 12:43	BGS	D
Turbidity, Field	84		NTU	1	Field	1	11/10/2022 12:43	BGS	D
Volume in Water Column	111.96		Gallons		Field	1	11/10/2022 12:43	BGS	D
Water Level After Purge	108.62		Feet		Field	1	11/10/2022 12:43	BGS	D
Well Volumes Purged	1.68		Vol		Field	1	11/10/2022 12:43	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	35.2		mg/L	0.11	SW846 6010C	1	11/28/2022 11:49	A1S	J2
Iron, Total	6.5		mg/L	0.067	SW846 6010C	1	11/28/2022 11:49	A1S	J2
Magnesium, Total	3.9		mg/L	0.11	SW846 6010C	1	11/28/2022 11:49	A1S	J2
Manganese, Total	0.27		mg/L	0.0056	SW846 6010C	1	11/28/2022 11:49	A1S	J2
Potassium, Total	1.4		mg/L	0.56	SW846 6010C	1	11/28/2022 11:49	A1S	J2
Sodium, Total	10.5		mg/L	0.56	SW846 6010C	1	11/28/2022 11:49	A1S	J2

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 00:52	PDK	H



Results

Client Sample ID	FFMP031W	Collected	11/10/2022 12:38
Lab Sample ID	3273347004	Lab Receipt	11/10/2022 15:35

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			99.4%	62 – 133		11/21/2022 00:52		
4-Bromofluorobenzene	460-00-4			97.4%	79 – 114		11/21/2022 00:52		
Dibromofluoromethane	1868-53-7			92%	78 – 116		11/21/2022 00:52		
Toluene-d8	2037-26-5			97.4%	76 – 127		11/21/2022 00:52		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	62		mg/L	5	SM2320B-2011	1	11/12/2022 14:47	NML	B
Alkalinity, Total	62	1	mg/L	5	SM2320B-2011	1	11/12/2022 14:47	NML	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-09	10	11/17/2022 15:13	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/23/2022 14:02	KMS	A
Chloride	18.5		mg/L	2.0	EPA 300.0	2	11/12/2022 09:19	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/12/2022 09:19	J1W	B
Nitrate-N	ND	ND	mg/L	1.0	EPA 300.0	2	11/12/2022 09:19	J1W	B
pH	8.16	2	pH_Units		S4500HB-11	1	11/12/2022 14:47	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/18/2022 13:35	AKH	G
Specific Conductance	279		umhos/cm	1	SW846 9050A	1	11/15/2022 09:40	JXL	B
Sulfate	41.0	7	mg/L	2.0	EPA 300.0	2	11/12/2022 09:19	J1W	B
Total Dissolved Solids	172		mg/L	25	S2540C-11	1	11/14/2022 12:21	SMS	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	11/15/2022 03:52	PAG	E
Turbidity	70		NTU	0.30	SM2130B-2011	1	11/12/2022 04:40	NRB	B



Results

Client Sample ID	FFMP02SW	Collected	11/10/2022 13:15
Lab Sample ID	3273347005	Lab Receipt	11/10/2022 15:35

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	15.49		Feet		Field	1	11/10/2022 13:15	BGS	D
Dissolved Oxygen	2.95		mg/L	0.01	Field	1	11/10/2022 13:15	BGS	D
Elev Top MW Casing above MSL	509.90		Feet		Field	1	11/10/2022 13:15	BGS	D
Flow Rate	1.00		gal/min		Field	1	11/10/2022 13:15	BGS	D
Ground Water Elevation	494.41		ft/MSL		Field	1	11/10/2022 13:15	BGS	D
Oxidation-Reduction Potential	198		mV		Field	1	11/10/2022 13:15	BGS	D
pH, Field (SM4500B)	5.30		pH_Units		Field	1	11/10/2022 13:15	BGS	D
Sample Depth	18.00		Feet		Field	1	11/10/2022 13:15	BGS	D
Specific Conductance, Field	575		umhos/cm	1	Field	1	11/10/2022 13:15	BGS	D
Temperature	18.49		Deg. C		Field	1	11/10/2022 13:15	BGS	D
Total Well Depth	22.70		Feet		Field	1	11/10/2022 13:15	BGS	D
Turbidity, Field	19		NTU	1	Field	1	11/10/2022 13:15	BGS	D
Volume in Water Column	4.69		Gallons		Field	1	11/10/2022 13:15	BGS	D
Water Level After Purge	17.44		Feet		Field	1	11/10/2022 13:15	BGS	D
Well Volumes Purged	2.98		Vol		Field	1	11/10/2022 13:15	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	16.5		mg/L	0.11	SW846 6010C	1	11/28/2022 17:07	A1S	J2
Iron, Total	0.43		mg/L	0.067	SW846 6010C	1	11/28/2022 17:07	A1S	J2
Magnesium, Total	6.7		mg/L	0.11	SW846 6010C	1	11/28/2022 17:07	A1S	J2
Manganese, Total	0.016		mg/L	0.0056	SW846 6010C	1	11/28/2022 17:07	A1S	J2
Potassium, Total	5.4		mg/L	0.56	SW846 6010C	1	11/28/2022 17:07	A1S	J2
Sodium, Total	41.8		mg/L	0.56	SW846 6010C	1	11/28/2022 17:07	A1S	J2

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:15	PDK	H



Results

Client Sample ID	FFMP02SW	Collected	11/10/2022 13:15
Lab Sample ID	3273347005	Lab Receipt	11/10/2022 15:35

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			99.1%	62 – 133		11/21/2022 01:15		
4-Bromofluorobenzene	460-00-4			107%	79 – 114		11/21/2022 01:15		
Dibromofluoromethane	1868-53-7			93.3%	78 – 116		11/21/2022 01:15		
Toluene-d8	2037-26-5			98.4%	76 – 127		11/21/2022 01:15		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	25		mg/L	5	SM2320B-2011	1	11/12/2022 14:58	NML	B
Alkalinity, Total	25	1	mg/L	5	SM2320B-2011	1	11/12/2022 14:58	NML	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-09	10	11/17/2022 13:23	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/21/2022 12:43	KMS	A
Chloride	39.3		mg/L	2.0	EPA 300.0	2	11/12/2022 10:11	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/12/2022 10:11	J1W	B
Nitrate-N	13.9		mg/L	1.0	EPA 300.0	2	11/12/2022 10:11	J1W	B
pH	7.47	2	pH_Units		S4500HB-11	1	11/12/2022 14:58	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/18/2022 13:38	AKH	G
Specific Conductance	387		umhos/cm	1	SW846 9050A	1	11/15/2022 09:40	JXL	B
Sulfate	38.3		mg/L	2.0	EPA 300.0	2	11/12/2022 10:11	J1W	B
Total Dissolved Solids	266		mg/L	25	S2540C-11	1	11/14/2022 12:21	SMS	B
Total Organic Carbon (TOC)	2.1		mg/L	0.50	SW846 9060A	1	11/15/2022 03:52	PAG	E
Turbidity	13		NTU	0.30	SM2130B-2011	1	11/12/2022 04:40	NRB	B



Results

Client Sample ID	FFMP02DW	Collected	11/10/2022 13:57
Lab Sample ID	3273347006	Lab Receipt	11/10/2022 15:35

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	19.39		Feet		Field	1	11/10/2022 13:57	BGS	D
Dissolved Oxygen	1.21		mg/L	0.01	Field	1	11/10/2022 13:57	BGS	D
Elev Top MW Casing above MSL	509.60		Feet		Field	1	11/10/2022 13:57	BGS	D
Flow Rate	1.74		gal/min		Field	1	11/10/2022 13:57	BGS	D
Ground Water Elevation	490.21		ft/MSL		Field	1	11/10/2022 13:57	BGS	D
Oxidation-Reduction Potential	87		mV		Field	1	11/10/2022 13:57	BGS	D
pH, Field (SM4500B)	7.02		pH_Units		Field	1	11/10/2022 13:57	BGS	D
Sample Depth	120.00		Feet		Field	1	11/10/2022 13:57	BGS	D
Specific Conductance, Field	2386		umhos/cm	1	Field	1	11/10/2022 13:57	BGS	D
Temperature	14.81		Deg. C		Field	1	11/10/2022 13:57	BGS	D
Total Well Depth	153.00		Feet		Field	1	11/10/2022 13:57	BGS	D
Turbidity, Field	12		NTU	1	Field	1	11/10/2022 13:57	BGS	D
Volume in Water Column	196.41		Gallons		Field	1	11/10/2022 13:57	BGS	D
Water Level After Purge	49.35		Feet		Field	1	11/10/2022 13:57	BGS	D
Well Volumes Purged	0.53		Vol		Field	1	11/10/2022 13:57	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	139		mg/L	0.11	SW846 6010C	1	11/28/2022 17:08	A1S	J2
Iron, Total	2.3		mg/L	0.067	SW846 6010C	1	11/28/2022 17:08	A1S	J2
Magnesium, Total	22.0		mg/L	0.11	SW846 6010C	1	11/28/2022 17:08	A1S	J2
Manganese, Total	0.51		mg/L	0.0056	SW846 6010C	1	11/28/2022 17:08	A1S	J2
Potassium, Total	1.5		mg/L	0.56	SW846 6010C	1	11/28/2022 17:08	A1S	J2
Sodium, Total	149		mg/L	0.56	SW846 6010C	1	11/28/2022 17:08	A1S	J2

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 01:37	PDK	H



Results

Client Sample ID	FFMP02DW	Collected	11/10/2022 13:57
Lab Sample ID	3273347006	Lab Receipt	11/10/2022 15:35

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			101%	62 – 133		11/21/2022 01:37		
4-Bromofluorobenzene	460-00-4			105%	79 – 114		11/21/2022 01:37		
Dibromofluoromethane	1868-53-7			91.9%	78 – 116		11/21/2022 01:37		
Toluene-d8	2037-26-5			88.3%	76 – 127		11/21/2022 01:37		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	111		mg/L	5	SM2320B-2011	1	11/12/2022 15:48	NML	B
Alkalinity, Total	111	1	mg/L	5	SM2320B-2011	1	11/12/2022 15:48	NML	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-09	10	11/17/2022 14:45	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/21/2022 12:43	KMS	A
Chloride	462		mg/L	5.0	EPA 300.0	5	11/12/2022 10:22	J1W	B
Fluoride	ND	ND	mg/L	0.50	EPA 300.0	5	11/12/2022 10:22	J1W	B
Nitrate-N	6.6		mg/L	2.5	EPA 300.0	5	11/12/2022 10:22	J1W	B
pH	8.25	2	pH_Units		S4500HB-11	1	11/12/2022 15:48	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/18/2022 13:25	AKH	G
Specific Conductance	1760		umhos/cm	1	SW846 9050A	1	11/15/2022 09:40	JXL	B
Sulfate	38.3		mg/L	5.0	EPA 300.0	5	11/12/2022 10:22	J1W	B
Total Dissolved Solids	1110		mg/L	25	S2540C-11	1	11/14/2022 12:21	SMS	B
Total Organic Carbon (TOC)	0.80		mg/L	0.50	SW846 9060A	1	11/15/2022 03:52	PAG	E
Turbidity	8.6		NTU	0.30	SM2130B-2011	1	11/12/2022 05:20	NRB	B



Results

Client Sample ID	FFMP032W	Collected	11/10/2022 13:38
Lab Sample ID	3273347007	Lab Receipt	11/10/2022 15:35

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	49.82		Feet		Field	1	11/10/2022 13:44	BGS	D
Dissolved Oxygen	0.51		mg/L	0.01	Field	1	11/10/2022 13:44	BGS	D
Elev Top MW Casing above MSL	594.09		Feet		Field	1	11/10/2022 13:44	BGS	D
Flow Rate	0.75		gal/min		Field	1	11/10/2022 13:44	BGS	D
Ground Water Elevation	544.27		ft/MSL		Field	1	11/10/2022 13:44	BGS	D
Oxidation-Reduction Potential	-95		mV		Field	1	11/10/2022 13:44	BGS	D
pH, Field (SM4500B)	6.83		pH_Units		Field	1	11/10/2022 13:44	BGS	D
Sample Depth	62.00		Feet		Field	1	11/10/2022 13:44	BGS	D
Specific Conductance, Field	282		umhos/cm	1	Field	1	11/10/2022 13:44	BGS	D
Temperature	15.54		Deg. C		Field	1	11/10/2022 13:44	BGS	D
Total Well Depth	77.60		Feet		Field	1	11/10/2022 13:44	BGS	D
Turbidity, Field	141		NTU	1	Field	1	11/10/2022 13:44	BGS	D
Volume in Water Column	40.84		Gallons		Field	1	11/10/2022 13:44	BGS	D
Water Level After Purge	58.49		Feet		Field	1	11/10/2022 13:44	BGS	D
Well Volumes Purged	0.37		Vol		Field	1	11/10/2022 13:44	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	15.8		mg/L	0.11	SW846 6010C	1	11/28/2022 17:09	A1S	J2
Iron, Total	7.2		mg/L	0.067	SW846 6010C	1	11/28/2022 17:09	A1S	J2
Magnesium, Total	5.6		mg/L	0.11	SW846 6010C	1	11/28/2022 17:09	A1S	J2
Manganese, Total	0.57		mg/L	0.0056	SW846 6010C	1	11/28/2022 17:09	A1S	J2
Potassium, Total	1.3		mg/L	0.56	SW846 6010C	1	11/28/2022 17:09	A1S	J2
Sodium, Total	12.7		mg/L	0.56	SW846 6010C	1	11/28/2022 17:09	A1S	J2

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/21/2022 02:00	PDK	H



Results

Client Sample ID	FFMP032W	Collected	11/10/2022 13:38
Lab Sample ID	3273347007	Lab Receipt	11/10/2022 15:35

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
SURROGATES									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			100%	62 – 133		11/21/2022 02:00		
4-Bromofluorobenzene	460-00-4			106%	79 – 114		11/21/2022 02:00		
Dibromofluoromethane	1868-53-7			94.5%	78 – 116		11/21/2022 02:00		
Toluene-d8	2037-26-5			97.6%	76 – 127		11/21/2022 02:00		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	64		mg/L	5	SM2320B-2011	1	11/12/2022 15:38	NML	B
Alkalinity, Total	64	1	mg/L	5	SM2320B-2011	1	11/12/2022 15:38	NML	B
Ammonia-N	0.507		mg/L	0.100	ASTM D6919-09	10	11/17/2022 14:32	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/21/2022 12:43	KMS	A
Chloride	19.9		mg/L	2.0	EPA 300.0	2	11/12/2022 10:32	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/12/2022 10:32	J1W	B
Nitrate-N	ND	ND	mg/L	1.0	EPA 300.0	2	11/12/2022 10:32	J1W	B
pH	8.11	2	pH_Units		S4500HB-11	1	11/12/2022 15:38	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/18/2022 13:31	AKH	G
Specific Conductance	195		umhos/cm	1	SW846 9050A	1	11/15/2022 09:40	JXL	B
Sulfate	ND	ND	mg/L	2.0	EPA 300.0	2	11/12/2022 10:32	J1W	B
Total Dissolved Solids	122		mg/L	25	S2540C-11	1	11/14/2022 12:21	SMS	B
Total Organic Carbon (TOC)	0.54		mg/L	0.50	SW846 9060A	1	11/15/2022 03:52	PAG	E
Turbidity	150		NTU	0.30	SM2130B-2011	1	11/12/2022 04:40	NRB	B



Results

Client Sample ID	FIELD BLANK	Collected	11/10/2022 14:15
Lab Sample ID	3273347008	Lab Receipt	11/10/2022 15:35

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	ND	ND	mg/L	0.11	SW846 6010C	1	11/28/2022 17:10	A1S	J2
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	11/28/2022 17:10	A1S	J2
Magnesium, Total	ND	ND	mg/L	0.11	SW846 6010C	1	11/28/2022 17:10	A1S	J2
Manganese, Total	ND	ND	mg/L	0.0056	SW846 6010C	1	11/28/2022 17:10	A1S	J2
Potassium, Total	ND	ND	mg/L	0.56	SW846 6010C	1	11/28/2022 17:10	A1S	J2
Sodium, Total	ND	ND	mg/L	0.56	SW846 6010C	1	11/28/2022 17:10	A1S	J2

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/20/2022 23:21	PDK	H

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	62 - 133	11/20/2022 23:21	
4-Bromofluorobenzene	460-00-4	112%	79 - 114	11/20/2022 23:21	
Dibromofluoromethane	1868-53-7	94.5%	78 - 116	11/20/2022 23:21	
Toluene-d8	2037-26-5	99.9%	76 - 127	11/20/2022 23:21	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	ND	ND	mg/L	5	SM2320B-2011	1	11/11/2022 12:31	NML	B
Alkalinity, Total	ND	ND,1	mg/L	5	SM2320B-2011	1	11/11/2022 12:31	NML	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-09	1	11/17/2022 13:51	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	11/21/2022 12:43	KMS	A
Chloride	ND	ND	mg/L	2.0	EPA 300.0	2	11/12/2022 10:42	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	11/12/2022 10:42	J1W	B
Nitrate-N	ND	ND	mg/L	1.0	EPA 300.0	2	11/12/2022 10:42	J1W	B
pH	5.75	2	pH_Units		S4500HB-11	1	11/11/2022 12:31	NML	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	11/18/2022 14:11	AKH	G



Results

Client Sample ID	FIELD BLANK	Collected	11/10/2022 14:15
Lab Sample ID	3273347008	Lab Receipt	11/10/2022 15:35

WET CHEMISTRY (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Specific Conductance	1		umhos/cm	1	SW846 9050A	1	11/15/2022 09:40	JXL	B
Sulfate	ND	ND	mg/L	2.0	EPA 300.0	2	11/12/2022 10:42	J1W	B
Total Dissolved Solids	ND	ND	mg/L	25	S2540C-11	1	11/14/2022 12:21	SMS	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	11/15/2022 03:52	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	11/12/2022 05:20	NRB	B



Results

Client Sample ID	TRIP BLANK	Collected	11/10/2022 00:00
Lab Sample ID	3273347009	Lab Receipt	11/10/2022 15:35

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	11/17/2022 18:09	TMP	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	62 – 133	11/17/2022 18:09	
4-Bromofluorobenzene	460-00-4	106%	79 – 114	11/17/2022 18:09	
Dibromofluoromethane	1868-53-7	92.2%	78 – 116	11/17/2022 18:09	
Toluene-d8	2037-26-5	98%	76 – 127	11/17/2022 18:09	



Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3273347001	FFMP034W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3273347002	FFMP033W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3273347003	FFMP002W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3273347004	FFMP031W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	



Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3273347005	FFMP02SW	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3273347006	FFMP02DW	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3273347007	FFMP032W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3273347008	FIELD BLANK	SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3273347009	TRIP BLANK	SW846 8260B	N/A	



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3273347001	FFMP034W	N/A	N/A	N/A	ANN	Field	913842
		SW846 3015A	912185	11/27/2022 23:10		SW846 6010C	913877
		N/A	N/A	N/A		SW846 8260B	911526
		N/A	N/A	N/A		ASTM D6919-09	909308
		N/A	N/A	N/A		EPA 300.0	906692
		N/A	N/A	N/A		EPA 410.4	912300
		N/A	N/A	N/A		S2540C-11	908059
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	907774
		N/A	N/A	N/A		SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	908175
		N/A	N/A	N/A		SW846 9060A	908923
		SW846 9066	910404	11/18/2022 10:00		SW846 9066	910287
3273347002	FFMP033W	N/A	N/A	N/A	ANN	Field	913842
		SW846 3015A	912185	11/27/2022 23:10		SW846 6010C	913877
		N/A	N/A	N/A		SW846 8260B	911526
		N/A	N/A	N/A		ASTM D6919-09	911648
		N/A	N/A	N/A		EPA 300.0	906692
		N/A	N/A	N/A		EPA 410.4	911625
		N/A	N/A	N/A		S2540C-11	908059
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	907774
		N/A	N/A	N/A		SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	908175
		N/A	N/A	N/A		SW846 9060A	908923
		SW846 9066	914167	11/30/2022 07:38		SW846 9066	914500
3273347003	FFMP002W	N/A	N/A	N/A	ANN	Field	913842
		SW846 3015A	912185	11/27/2022 23:10		SW846 6010C	913877
		N/A	N/A	N/A		SW846 8260B	911526
		N/A	N/A	N/A		ASTM D6919-09	909308
		N/A	N/A	N/A		EPA 300.0	906692
		N/A	N/A	N/A		EPA 410.4	911600
		N/A	N/A	N/A		S2540C-11	908059
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	907774
		N/A	N/A	N/A		SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	908949
		N/A	N/A	N/A		SW846 9060A	908923
		SW846 9066	910404	11/18/2022 10:00		SW846 9066	910287
3273347004	FFMP031W	N/A	N/A	N/A	ANN	Field	913842
		SW846 3015A	912185	11/27/2022 23:10		SW846 6010C	913877
		N/A	N/A	N/A		SW846 8260B	911526
		N/A	N/A	N/A		ASTM D6919-09	909308
		N/A	N/A	N/A		EPA 300.0	906692
		N/A	N/A	N/A		EPA 410.4	912300
		N/A	N/A	N/A		S2540C-11	908059
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	907774
		N/A	N/A	N/A		SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	908949
		N/A	N/A	N/A		SW846 9060A	908923
		SW846 9066	910404	11/18/2022 10:00		SW846 9066	910287



Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3273347005	FFMP02SW	N/A	N/A	N/A	JSE	Field	913842
		SW846 3015A	913211	11/28/2022 14:42		SW846 6010C	914007
		N/A	N/A	N/A		SW846 8260B	911526
		N/A	N/A	N/A		ASTM D6919-09	909308
		N/A	N/A	N/A		EPA 300.0	906692
		N/A	N/A	N/A		EPA 410.4	911600
		N/A	N/A	N/A		S2540C-11	908059
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	907774
		N/A	N/A	N/A		SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	908949
		N/A	N/A	N/A		SW846 9060A	908923
		SW846 9066	910404	11/18/2022 10:00	AKH	SW846 9066	910287
3273347006	FFMP02DW	N/A	N/A	N/A	JSE	Field	913842
		SW846 3015A	913211	11/28/2022 14:42		SW846 6010C	914007
		N/A	N/A	N/A		SW846 8260B	911526
		N/A	N/A	N/A		ASTM D6919-09	909308
		N/A	N/A	N/A		EPA 300.0	906692
		N/A	N/A	N/A		EPA 410.4	911600
		N/A	N/A	N/A		S2540C-11	908059
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	907974
		N/A	N/A	N/A		SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	908949
		N/A	N/A	N/A		SW846 9060A	908923
		SW846 9066	910404	11/18/2022 10:00	AKH	SW846 9066	910287
3273347007	FFMP032W	N/A	N/A	N/A	JSE	Field	913842
		SW846 3015A	913211	11/28/2022 14:42		SW846 6010C	914007
		N/A	N/A	N/A		SW846 8260B	911526
		N/A	N/A	N/A		ASTM D6919-09	909308
		N/A	N/A	N/A		EPA 300.0	906692
		N/A	N/A	N/A		EPA 410.4	911600
		N/A	N/A	N/A		S2540C-11	908059
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	907774
		N/A	N/A	N/A		SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	908949
		N/A	N/A	N/A		SW846 9060A	908923
		SW846 9066	910404	11/18/2022 10:00	AKH	SW846 9066	910287
3273347008	FIELD BLANK	SW846 3015A	913211	11/28/2022 14:42	JSE	SW846 6010C	914007
		N/A	N/A	N/A		SW846 8260B	911526
		N/A	N/A	N/A		ASTM D6919-09	909308
		N/A	N/A	N/A		EPA 300.0	906692
		N/A	N/A	N/A		EPA 410.4	911600
		N/A	N/A	N/A		S2540C-11	908059
		N/A	N/A	N/A		S4500HB-11	905688
		N/A	N/A	N/A		SM2130B-2011	907974
		N/A	N/A	N/A		SM2320B-2011	905688
		N/A	N/A	N/A		SW846 9050A	908949
		N/A	N/A	N/A		SW846 9060A	908923
		SW846 9066	910404	11/18/2022 10:00	AKH	SW846 9066	910287
3273347009	TRIP BLANK	N/A	N/A	N/A		SW846 8260B	909671

