2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/13/2023
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

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP015W — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: Manor Township

Sampling Point — Latitude: 39 ° 57 ' 36.43 " — Longitude: 76 ° 27 ' 10.82 "

Depth to Water Level: 63.44 ft — Measured from: ___ Land Surface X 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: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 0.9

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/7/2023 — Sample Collection Time: 10:39

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3316897001 — Final Lab Analysis CompletionDate: 8/24/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP015W
Sample Date	8/7/2023

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	24	SM20-2320B
CALCIUM, TOTAL	32.4	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	40.5	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	28.4	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	15	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	39.8	EPA 300
pH-FIELD (SU)	5.17	FIELD
pH-LAB (SU)	7.58	SM20-4500HB
POTASSIUM, TOTAL	2.5	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	22	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	547	FIELD
SPEC. COND., LAB (umhos/cm)	562	SW846 9050A
SULFATE	25.6	EPA 300
ALKALINITY	24	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	434	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.4	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	8/7/2023

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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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

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SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP03AW — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: Manor Township

Sampling Point — Latitude: 39 ° 57 ' 24.05 " — Longitude: 76 ° 27 ' 30.58 "

Depth to Water Level: 52.82 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 1.20 ft — Elevation of Water Level: 538.08 ft./MSL

Sampling Depth: 130 ft — Volume of Water Column: 138.61 gal

Total Well Depth: 147.2 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 0.8

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/7/2023 — Sample Collection Time: 12:08

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3316897002 — Final Lab Analysis CompletionDate: 8/24/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP03AW
Sample Date	8/7/2023

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE[T]	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	14	SM20-2320B
CALCIUM, TOTAL	21.5	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	39.8	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	16.2	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	380	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	22.4	EPA 300
pH-FIELD (SU)	4.63	FIELD
pH-LAB (SU)	6.48	SM20-4500HB
POTASSIUM, TOTAL	1.5	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	14.6	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	352	FIELD
SPEC. COND., LAB (umhos/cm)	362	SW846 9050A
SULFATE	3.2	EPA 300
ALKALINITY	14	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	282	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	8/7/2023

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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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

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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

Facitlity 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: 71.99 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 1.70 ft — Elevation of Water Level: 465.41 ft./MSL

Sampling Depth: 135 ft — Volume of Water Column: 114.57 gal

Total Well Depth: 150 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/7/2023 — Sample Collection Time: 13:40

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3316897003 — Final Lab Analysis CompletionDate: 8/24/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP005W
Sample Date	8/7/2023

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	58	SM20-2320B
CALCIUM, TOTAL	80.4	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	178	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	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	170	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1.5	EPA 300
pH-FIELD (SU)	5.22	FIELD
pH-LAB (SU)	7.07	SM20-4500HB
POTASSIUM, TOTAL	3.3	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	48.4	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	840	FIELD
SPEC. COND., LAB (umhos/cm)	860	SW846 9050A
SULFATE	69.6	EPA 300
ALKALINITY	58	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	658	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.	FFMP005W
Sample Date	8/7/2023

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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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

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MUNICIPAL WASTE LANDFILL
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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

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP26RW — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: Manor Township

Sampling Point — Latitude: 39 ° 57 ' 11.03 " — Longitude: 76 ° 27 ' 20.3 "

Depth to Water Level: 83.85 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 3.30 ft — Elevation of Water Level: 463.55 ft./MSL

Sampling Depth: 105 ft — Volume of Water Column: 44.28 gal

Total Well Depth: 114 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 1.7

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/7/2023 — Sample Collection Time: 14:46

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3316897004 — Final Lab Analysis CompletionDate: 8/24/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP26RW
Sample Date	8/7/2023

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	60	SM20-2320B
CALCIUM, TOTAL	73.9	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	171	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	120	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	18.8	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	720	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1.3	EPA 300
pH-FIELD (SU)	5.17	FIELD
pH-LAB (SU)	7.51	SM20-4500HB
POTASSIUM, TOTAL	7	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	56.6	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	854	FIELD
SPEC. COND., LAB (umhos/cm)	868	SW846 9050A
SULFATE	88.4	EPA 300
ALKALINITY	60	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	630	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.7	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	1.7	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). Remaining quarterly samples only require total metals analysis.

I.D. No	101389
Monitoring Point No.	FFMP26RW
Sample Date	8/7/2023

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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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

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Site Name: Frey Farm Landfill

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP30RW — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: Manor Township

Sampling Point — Latitude: 39 ° 57 ' 15.52 " — Longitude: 76 ° 27 ' 26.8 "

Depth to Water Level: 36.86 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 2.20 ft — Elevation of Water Level: 525.44 ft./MSL

Sampling Depth: 85 ft — Volume of Water Column: 78.04 gal

Total Well Depth: 90 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 1.5

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/8/2023 — Sample Collection Time: 10:33

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317119001 — Final Lab Analysis CompletionDate: 8/23/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP30RW
Sample Date	8/8/2023

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	42	SM20-2320B
CALCIUM, TOTAL	53	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	283	EPA 300
FLUORIDE	0.5 ND	EPA 300
IRON, TOTAL (ug/l)	140	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	18.4	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	2900	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	4.3	EPA 300
pH-FIELD (SU)	5.18	FIELD
pH-LAB (SU)	7.13	SM20-4500HB
POTASSIUM, TOTAL	6.7	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	115	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1412	FIELD
SPEC. COND., LAB (umhos/cm)	1160	SW846 9050A
SULFATE	43.4	EPA 300
ALKALINITY	42	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	804	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.83	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	3.9	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.	FFMP30RW
Sample Date	8/8/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/13/2023
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

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP04AW — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: Manor Township

Sampling Point — Latitude: 39 ° 57 ' 15.4 " — Longitude: 76 ° 27 ' 26.58 "

Depth to Water Level: 37.32 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 2.52 ft — Elevation of Water Level: 523.4 ft./MSL

Sampling Depth: 146 ft — Volume of Water Column: 388.02 gal

Total Well Depth: 301.52 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 X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/8/2023 — Sample Collection Time: 11:41

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317119002 — Final Lab Analysis CompletionDate: 8/23/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP04AW
Sample Date	8/8/2023

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	195	SM20-2320B
CALCIUM, TOTAL	157	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	312	EPA 300
FLUORIDE	0.5 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	25.5	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	330	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	2.5 ND	EPA 300
pH-FIELD (SU)	7.05	FIELD
pH-LAB (SU)	8.03	SM20-4500HB
POTASSIUM, TOTAL	2.2	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	84.5	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	2030	FIELD
SPEC. COND., LAB (umhos/cm)	1450	SW846 9050A
SULFATE	49.3	EPA 300
ALKALINITY	195	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	1130	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.7	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.5	SM 2130B

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

I.D. No	101389
Monitoring Point No.	FFMP04AW
Sample Date	8/8/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/13/2023
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

Facitlity 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 — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: ___

Sampling Point Latitude: ___ ° ___ ' ___ " — Longitude: ___ ° ___ ' ___ "

Depth to Water Level: 10.86 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: ___ ft — Elevation of Water Level: 462.02 ft./MSL

Sampling Depth: 25.85 ft — Volume of Water Column: ___ gal

Total Well Depth: 121 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 X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/8/2023 — Sample Collection Time: 13:11

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317119003 — Final Lab Analysis CompletionDate: 8/23/2023

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

Comments: ___

I.D. No	101389
Monitoring Point No.	FFMP034W
Sample Date	8/8/2023

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	50	SM20-2320B
CALCIUM, TOTAL	62.2	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	173	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	1400	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	22.2	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	110	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	9.8	EPA 300
pH-FIELD (SU)	5.35	FIELD
pH-LAB (SU)	7.37	SM20-4500HB
POTASSIUM, TOTAL	2.5	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	43.6	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1100	FIELD
SPEC. COND., LAB (umhos/cm)	785	SW846 9050A
SULFATE	28.1	EPA 300
ALKALINITY	50	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	584	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.65	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	40	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	8/8/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/13/2023
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

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP033W — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: MANOR TOWNSHIP

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

Depth to Water Level: 20.65 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 0.49 ft — Elevation of Water Level: 495.87 ft./MSL

Sampling Depth: 79 ft — Volume of Water Column: 110.66 gal

Total Well Depth: 96 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 0.9

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/8/2023 — Sample Collection Time: 14:30

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317119004 — Final Lab Analysis CompletionDate: 8/23/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP033W
Sample Date	8/8/2023

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	42	SM20-2320B
CALCIUM, TOTAL	38.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	80.2	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	8800	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	13.2	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	620	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	8.6	EPA 300
pH-FIELD (SU)	5.5	FIELD
pH-LAB (SU)	7.7	SM20-4500HB
POTASSIUM, TOTAL	1.8	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	18	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	652	FIELD
SPEC. COND., LAB (umhos/cm)	462	SW846 9050A
SULFATE	7.6	EPA 300
ALKALINITY	42	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	348	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	23	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	8/8/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/13/2023
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

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP017W — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: Manor Township

Sampling Point — Latitude: 39 ° 57 ' 8.5 " — Longitude: 76 ° 27 ' 6.17 "

Depth to Water Level: 40.92 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 2.00 ft — Elevation of Water Level: 439.78 ft./MSL

Sampling Depth: 135 ft — Volume of Water Column: 160.93 gal

Total Well Depth: 150.5 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 0.8

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/9/2023 — Sample Collection Time: 10:18

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317312001 — Final Lab Analysis CompletionDate: 8/24/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP017W
Sample Date	8/9/2023

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	115	SM20-2320B
CALCIUM, TOTAL	90.5	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	238	EPA 300
FLUORIDE	0.5 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	33.1	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	1300	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	3.1	EPA 300
pH-FIELD (SU)	5.99	FIELD
pH-LAB (SU)	7.78	SM20-4500HB
POTASSIUM, TOTAL	8	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	83.9	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1633	FIELD
SPEC. COND., LAB (umhos/cm)	1180	SW846 9050A
SULFATE	77.9	EPA 300
ALKALINITY	115	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	782	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	2.8	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	8/9/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/13/2023
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

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP018W — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: Manor Township

Sampling Point — Latitude: 39 ° 57 ' 11.62 " — Longitude: 76 ° 27 ' 5.68 "

Depth to Water Level: 27.42 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 2.46 ft — Elevation of Water Level: 444.78 ft./MSL

Sampling Depth: 40 ft — Volume of Water Column: 15.67 gal

Total Well Depth: 51.43 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 4.5

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/9/2023 — Sample Collection Time: 10:58

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317312002 — Final Lab Analysis CompletionDate: 8/24/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP018W
Sample Date	8/9/2023

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	21	SM20-2320B
CALCIUM, TOTAL	34.2	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	119	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	19.1	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	180	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	4	EPA 300
pH-FIELD (SU)	5.19	FIELD
pH-LAB (SU)	6.98	SM20-4500HB
POTASSIUM, TOTAL	3.8	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	37.6	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	777	FIELD
SPEC. COND., LAB (umhos/cm)	548	SW846 9050A
SULFATE	36	EPA 300
ALKALINITY	21	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	410	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.65	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	8/9/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

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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

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP019W — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: Manor Township

Sampling Point — Latitude: 39 ° 57 ' 11.58 " — Longitude: 76 ° 27 ' 5.75 "

Depth to Water Level: 28.08 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 1.79 ft — Elevation of Water Level: 443.87 ft./MSL

Sampling Depth: 49 ft — Volume of Water Column: 68.35 gal

Total Well Depth: 132.79 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 2.2

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/9/2023 — Sample Collection Time: 11:47

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317312003 — Final Lab Analysis CompletionDate: 8/24/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP019W
Sample Date	8/9/2023

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	67	SM20-2320B
CALCIUM, TOTAL	67.5	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	91.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	6.4	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)	6.44	FIELD
pH-LAB (SU)	7.9	SM20-4500HB
POTASSIUM, TOTAL	1.2	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	11.7	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	648	FIELD
SPEC. COND., LAB (umhos/cm)	479	SW846 9050A
SULFATE	15.3	EPA 300
ALKALINITY	67	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	404	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.77	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	8/9/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

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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

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP029W — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: Manor Township

Sampling Point — Latitude: 39 ° 57 ' 12.93 " — Longitude: 76 ° 27 ' 0.67 "

Depth to Water Level: 39.31 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 2.00 ft — Elevation of Water Level: 437.99 ft./MSL

Sampling Depth: 55 ft — Volume of Water Column: 28.18 gal

Total Well Depth: 58.5 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 2.9

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/9/2023 — Sample Collection Time: 12:42

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317312004 — Final Lab Analysis CompletionDate: 8/24/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP029W
Sample Date	8/9/2023

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	0.149	D6919-09
BICARBONATE ALKALINITY	10	SM20-2320B
CALCIUM, TOTAL	17.9	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	79	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	11.9	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	39	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	3.4	EPA 300
pH-FIELD (SU)	5.12	FIELD
pH-LAB (SU)	6.85	SM20-4500HB
POTASSIUM, TOTAL	2.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	25	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	476	FIELD
SPEC. COND., LAB (umhos/cm)	356	SW846 9050A
SULFATE	7.1	EPA 300
ALKALINITY	10	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	276	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.	FFMP029W
Sample Date	8/9/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

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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

Facitlity 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: 46.57 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 1.91 ft — Elevation of Water Level: 431.66 ft./MSL

Sampling Depth: 135 ft — Volume of Water Column: 137.22 gal

Total Well Depth: 140 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 X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/9/2023 — Sample Collection Time: 14:03

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317312005 — Final Lab Analysis CompletionDate: 8/24/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP036W
Sample Date	8/9/2023

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	101	SM20-2320B
CALCIUM, TOTAL	52.4	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	34.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	970	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	5.1	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	100	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1 ND	EPA 300
pH-FIELD (SU)	7.38	FIELD
pH-LAB (SU)	8.21	SM20-4500HB
POTASSIUM, TOTAL	0.83	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	14.9	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1 ND	FIELD
SPEC. COND., LAB (umhos/cm)	371	SW846 9050A
SULFATE	33.5	EPA 300
ALKALINITY	101	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	254	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	7.8	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.	FFMP036W
Sample Date	8/9/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

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Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facitlity 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

___ 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: 43.35 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 1.45 ft — Elevation of Water Level: 434.21 ft./MSL

Sampling Depth: 65 ft — Volume of Water Column: 39.14 gal

Total Well Depth: 70 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 1.0

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/9/2023 — Sample Collection Time: 14:06

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317312006 — Final Lab Analysis CompletionDate: 8/24/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP035W
Sample Date	8/9/2023

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	125	SM20-2320B
CALCIUM, TOTAL	92.5	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)	100	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	15	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	5.6 ND	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	4.8	EPA 300
pH-FIELD (SU)	6.87	FIELD
pH-LAB (SU)	8.08	SM20-4500HB
POTASSIUM, TOTAL	2.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	35.5	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	758	FIELD
SPEC. COND., LAB (umhos/cm)	769	SW846 9050A
SULFATE	45.5	EPA 300
ALKALINITY	125	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	564	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.73	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	1.8	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	8/9/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/13/2023
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

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP02DW — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: MANOR TOWNSHIP

Sampling Point — Latitude: 39 ° 57 ' 27.74 " — Longitude: 76 ° 27 ' 1.49 "

Depth to Water Level: 20 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: ___ ft — Elevation of Water Level: 489.60 ft./MSL

Sampling Depth: 120 ft — Volume of Water Column: ___ gal

Total Well Depth: 152 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 X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/10/2023 — 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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317650001 — Final Lab Analysis CompletionDate: 8/25/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP02DW
Sample Date	8/10/2023

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	123	SM20-2320B
CALCIUM, TOTAL	148	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	21	EPA 410.4
CHLORIDE	444	EPA 300
FLUORIDE	0.5 ND	EPA 300
IRON, TOTAL (ug/l)	3800	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	22.7	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	580	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	4.3	EPA 300
pH-FIELD (SU)	6.6	FIELD
pH-LAB (SU)	8.06	SM20-4500HB
POTASSIUM, TOTAL	1.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	161	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1793	FIELD
SPEC. COND., LAB (umhos/cm)	1800	SW846 9050A
SULFATE	37.9	EPA 300
ALKALINITY	123	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	1250	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.83	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	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.	FFMP02DW
Sample Date	8/10/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/13/2023
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

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP02SW — X Well ___ Spring ___ Stream ___ Other

___ Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County — Municipality: MANOR TOWNSHIP

Sampling Point — Latitude: 39 ° 57 ' 27.9 " — Longitude: 76 ° 27 ' 1.58 "

Depth to Water Level: 15.83 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: ___ ft — Elevation of Water Level: 494.07 ft./MSL

Sampling Depth: 18 ft — Volume of Water Column: ___ gal

Total Well Depth: 25 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 2.7

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/10/2023 — Sample Collection Time: 11:24

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317650002 — Final Lab Analysis CompletionDate: 8/25/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP02SW
Sample Date	8/10/2023

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	23	SM20-2320B
CALCIUM, TOTAL	19.7	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	30	EPA 410.4
CHLORIDE	59.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	250	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	7.3	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	23	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	11.9	EPA 300
pH-FIELD (SU)	5.18	FIELD
pH-LAB (SU)	7.33	SM20-4500HB
POTASSIUM, TOTAL	4.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	53	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	493	FIELD
SPEC. COND., LAB (umhos/cm)	459	SW846 9050A
SULFATE	44	EPA 300
ALKALINITY	23	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	298	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.4	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	90	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	8/10/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/13/2023
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

Facitlity 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 — X Well ___ Spring ___ Stream ___ Other

X Upgradient/Upstream ___ Downgradient/Downstream

Location (County): Lancaster County — Municipality: MANOR TOWNSHIP

Sampling Point — Latitude: 39 ° 57 ' 31.2 " — Longitude: 76 ° 27 ' 23.53 "

Depth to Water Level: 68.91 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 2.38 ft — Elevation of Water Level: 543.75 ft./MSL

Sampling Depth: 130 ft — Volume of Water Column: 104.41 gal

Total Well Depth: 140 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 0.9

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/10/2023 — Sample Collection Time: 12:50

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317650003 — Final Lab Analysis CompletionDate: 8/25/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP031W
Sample Date	8/10/2023

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	74	SM20-2320B
CALCIUM, TOTAL	45.8	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	26	EPA 410.4
CHLORIDE	20.7	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	4400	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	4.5	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	360	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1 ND	EPA 300
pH-FIELD (SU)	7.77	FIELD
pH-LAB (SU)	8.06	SM20-4500HB
POTASSIUM, TOTAL	1.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	10.2	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	320	FIELD
SPEC. COND., LAB (umhos/cm)	317	SW846 9050A
SULFATE	46.6	EPA 300
ALKALINITY	74	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	194	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	22	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	8/10/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/13/2023
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

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP002W — X Well ___ Spring ___ Stream ___ Other

X Upgradient/Upstream ___ Downgradient/Downstream

Location (County): Lancaster County — Municipality: Manor Township

Sampling Point — Latitude: 39 ° 57 ' 32.25 " — Longitude: 76 ° 27 ' 24.03 "

Depth to Water Level: 69 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 1.60 ft — Elevation of Water Level: 544.20 ft./MSL

Sampling Depth: 85 ft — Volume of Water Column: 147.75 gal

Total Well Depth: 169.6 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 0.9

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/10/2023 — Sample Collection Time: 13:29

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317650004 — Final Lab Analysis CompletionDate: 8/25/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP002W
Sample Date	8/10/2023

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE[T]	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	5 ND	SM20-2320B
CALCIUM, TOTAL	18.1	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	20	EPA 410.4
CHLORIDE	15.6	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	71	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	17.3	EPA 300
pH-FIELD (SU)	4.26	FIELD
pH-LAB (SU)	5.74	SM20-4500HB
POTASSIUM, TOTAL	1.2	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	13.5	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	254	FIELD
SPEC. COND., LAB (umhos/cm)	255	SW846 9050A
SULFATE	13.9	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	216	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.65	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	8/10/2023

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.

2540-FM-BWM0041 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/13/2023
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

Facitlity ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP032W — X Well ___ Spring ___ Stream ___ Other

X Upgradient/Upstream ___ Downgradient/Downstream

Location (County): Lancaster County — Municipality: MANOR TOWNSHIP

Sampling Point — Latitude: 39 ° 57 ' 33.45 " — Longitude: 76 ° 27 ' 17.71 "

Depth to Water Level: 50.86 ft — Measured from: ___ Land Surface X TOC

Casing Stickup: 2.06 ft — Elevation of Water Level: 543.23 ft./MSL

Sampling Depth: 62 ft — Volume of Water Column: 35.45 gal

Total Well Depth: 75 ft — Sampling Method: X Pumped ___ Bailed ___ Grab

Well Purged: X Yes ___ No — Well Volumes Purged: 0.3

Sample Field Filtered (must be 0.45 micron)?: ___ Yes X No

Spring Flow Rate: ___ gpm

Sample Date (mm/dd/yy): 8/10/2023 — Sample Collection Time: 14:02

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 X No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3317650005 — Final Lab Analysis CompletionDate: 8/25/2023

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

Comments:

I.D. No	101389
Monitoring Point No.	FFMP032W
Sample Date	8/10/2023

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	0.486	D6919-09
BICARBONATE ALKALINITY	68	SM20-2320B
CALCIUM, TOTAL	17.1	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	32	EPA 410.4
CHLORIDE	21.9	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	8700	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	5.8	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	640	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1 ND	EPA 300
pH-FIELD (SU)	6.53	FIELD
pH-LAB (SU)	8.05	SM20-4500HB
POTASSIUM, TOTAL	1.6	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	12.7	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	216	FIELD
SPEC. COND., LAB (umhos/cm)	200	SW846 9050A
SULFATE	2 ND	EPA 300
ALKALINITY	68	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	109	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.59	SW846 9060A
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	100	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	8/10/2023

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 3RD QTR 2023 GWMP-FORM 19Q
Workorder 3316897
Report ID 267160 on 8/30/2023

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Aug 07, 2023.

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):
Jordan Bigler - Lancaster County Solid Waste Authority
Ashley Gichuki - Lancaster County Solid Waste Authority
Daniel Brown - Lancaster County Solid Waste Authority
Jeff Musser - Lancaster County Solid Waste Authority

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

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3316897001	FFMP015W	Ground Water	08/07/2023 10:39	08/07/2023 16:00	BGS	Analytical Laboratory Service
3316897002	FFMP03AW	Ground Water	08/07/2023 12:08	08/07/2023 16:00	BGS	Analytical Laboratory Service
3316897003	FFMP005W	Ground Water	08/07/2023 13:40	08/07/2023 16:00	BGS	Analytical Laboratory Service
3316897004	FFMP26RW	Ground Water	08/07/2023 14:46	08/07/2023 16:00	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, including but not limited to the following EPA Method reference revisions:
  EPA 300.1 Rev. 1.0-1997
  EPA 300.0 Rev. 2.1-1993
  EPA 353.2 Rev. 2.0-1993
  EPA 410.4 Rev. 1.0-1993
  EPA 420.4 Rev. 1.0-1993
  EPA 365.1 Rev. 2.0-1993
  EPA 200.7 Rev. 4.4-1994
  EPA 200.8 Rev. 5.4-1994
  EPA 245.1 Rev. 3.0-1994
- 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	Analyte was analyzed past the 48 hour holding time.
3	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.
4	The method blank associated with this sample was positive for lead at 0.15 mg/L. The iron analyte concentration in the sample was below our reporting limit, for this reason, the sample was commented and reported.
5	The concentration of this analyte was greater than 4 times the concentration of the spike added to the matrix spike. According to protocol, the calculation for percent recovery of the matrix spike is not valid.
6	The method blank associated with this sample was positive for lead at 0.15mg/L. The iron analyte concentration in the sample was below our reporting limit, for this reason, the sample was commented and reported.
7	The QC sample type MS for method EPA 300.0 was outside the control limits for the analyte Chloride. The % Recovery was reported as 47.3 and the control limits were 80 to 120.
8	The QC sample type MSD for method EPA 300.0 was outside the control limits for the analyte Chloride. The % Recovery was reported as 39.3 and the control limits were 80 to 120.
9	The QC sample type MS for method EPA 300.0 was outside the control limits for the analyte Sulfate. The % Recovery was reported as 72.2 and the control limits were 80 to 120.
10	The QC sample type MSD for method EPA 300.0 was outside the control limits for the analyte Sulfate. The % Recovery was reported as 65.8 and the control limits were 80 to 120.

Detected Results Summary

Client Sample ID	FFMP015W	Collected	08/07/2023 10:39
Lab Sample ID	3316897001	Lab Receipt	08/07/2023 16:00

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	63.44	Feet		Field	#
Dissolved Oxygen	8.03	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	576.40	Feet		Field	#
Flow Rate	1.86	gal/min		Field	#
Ground Water Elevation	512.96	ft/MSL		Field	#
Oxidation-Reduction Potential	236	mV		Field	#
pH, Field (SM4500B)	5.17	pH_Units		Field	#
Sample Depth	135.00	Feet		Field	#
Specific Conductance, Field	547	umhos/cm	1	Field	#
Temperature	16.09	Deg. C		Field	#
Total Well Depth	149.90	Feet		Field	#
Turbidity, Field	2	NTU	1	Field	#
Volume in Water Column	127.10	Gallons		Field	#
Water Level After Purge	109.42	Feet		Field	#
Well Volumes Purged	0.88	Vol		Field	#
METALS					
Calcium, Total	32.4	mg/L	0.11	SW846 6010C	#
Magnesium, Total	28.4	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.015	mg/L	0.0056	SW846 6010C	#
Potassium, Total	2.5	mg/L	0.56	SW846 6010C	#
Sodium, Total	22.0	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	24	mg/L	5	SM2320B-2011	#
Alkalinity, Total	24	mg/L	5	SM2320B-2011	#
Chloride	40.5	mg/L	2.0	EPA 300.0	#
Nitrate-N	39.8	mg/L	2.5	EPA 300.0	#
pH	7.58	pH_Units		S4500HB-11	#
Specific Conductance	562	umhos/cm	5	SW846 9050A	#
Sulfate	25.6	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	434	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	1.4	mg/L	0.50	SW846 9060A	#

Detected Results Summary

Client Sample ID	FFMP03AW	Collected	08/07/2023 12:08
Lab Sample ID	3316897002	Lab Receipt	08/07/2023 16:00

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	52.82	Feet		Field	#
Dissolved Oxygen	1.06	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	590.90	Feet		Field	#
Flow Rate	1.77	gal/min		Field	#
Ground Water Elevation	538.08	ft/MSL		Field	#
Oxidation-Reduction Potential	259	mV		Field	#
pH, Field (SM4500B)	4.63	pH_Units		Field	#
Sample Depth	130.00	Feet		Field	#
Specific Conductance, Field	352	umhos/cm	1	Field	#
Temperature	15.01	Deg. C		Field	#
Total Well Depth	148.40	Feet		Field	#
Turbidity, Field	2	NTU	1	Field	#
Volume in Water Column	140.50	Gallons		Field	#
Water Level After Purge	83.81	Feet		Field	#
Well Volumes Purged	0.76	Vol		Field	#
METALS					
Calcium, Total	21.5	mg/L	0.11	SW846 6010C	#
Magnesium, Total	16.2	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.38	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.5	mg/L	0.56	SW846 6010C	#
Sodium, Total	14.6	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	14	mg/L	5	SM2320B-2011	#
Alkalinity, Total	14	mg/L	5	SM2320B-2011	#
Chloride	39.8	mg/L	2.0	EPA 300.0	#
Nitrate-N	22.4	mg/L	2.5	EPA 300.0	#
pH	6.48	pH_Units		S4500HB-11	#
Specific Conductance	362	umhos/cm	5	SW846 9050A	#
Sulfate	3.2	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	282	mg/L	25	SM2540C-15	#

Detected Results Summary

Client Sample ID	FFMP005W	Collected	08/07/2023 13:40
Lab Sample ID	3316897003	Lab Receipt	08/07/2023 16:00

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	71.99	Feet		Field	#
Elev Top MW Casing above MSL	537.40	Feet		Field	#
Flow Rate	1.97	gal/min		Field	#
Ground Water Elevation	465.41	ft/MSL		Field	#
Oxidation-Reduction Potential	371	mV		Field	#
pH, Field (SM4500B)	5.22	pH_Units		Field	#
Sample Depth	135.00	Feet		Field	#
Specific Conductance, Field	840	umhos/cm	1	Field	#
Temperature	14.29	Deg. C		Field	#
Total Well Depth	149.70	Feet		Field	#
Turbidity, Field	2	NTU	1	Field	#
Volume in Water Column	114.23	Gallons		Field	#
Water Level After Purge	92.38	Feet		Field	#
Well Volumes Purged	1.03	Vol		Field	#
METALS					
Calcium, Total	80.4	mg/L	0.11	SW846 6010C	#
Magnesium, Total	19.0	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.17	mg/L	0.0056	SW846 6010C	#
Potassium, Total	3.3	mg/L	0.56	SW846 6010C	#
Sodium, Total	48.4	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	58	mg/L	5	SM2320B-2011	#
Alkalinity, Total	58	mg/L	5	SM2320B-2011	#
Chloride	178	mg/L	2.0	EPA 300.0	#
Nitrate-N	1.5	mg/L	1.0	EPA 300.0	#
pH	7.07	pH_Units		S4500HB-11	#
Specific Conductance	860	umhos/cm	5	SW846 9050A	#
Sulfate	69.6	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	658	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	1.3	mg/L	0.50	SW846 9060A	#

Detected Results Summary

Client Sample ID	FFMP26RW	Collected	08/07/2023 14:46
Lab Sample ID	3316897004	Lab Receipt	08/07/2023 16:00

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	83.85	Feet		Field	#
Dissolved Oxygen	0.05	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	547.40	Feet		Field	#
Flow Rate	2.12	gal/min		Field	#
Ground Water Elevation	463.55	ft/MSL		Field	#
Oxidation-Reduction Potential	312	mV		Field	#
pH, Field (SM4500B)	5.17	pH_Units		Field	#
Sample Depth	105.00	Feet		Field	#
Specific Conductance, Field	854	umhos/cm	1	Field	#
Temperature	15.20	Deg. C		Field	#
Total Well Depth	118.30	Feet		Field	#
Turbidity, Field	3	NTU	1	Field	#
Volume in Water Column	50.64	Gallons		Field	#
Water Level After Purge	101.10	Feet		Field	#
Well Volumes Purged	1.67	Vol		Field	#
METALS					
Calcium, Total	73.9	mg/L	0.11	SW846 6010C	#
Iron, Total	0.12	mg/L	0.067	SW846 6010C	#
Magnesium, Total	18.8	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.72	mg/L	0.0056	SW846 6010C	#
Potassium, Total	7.0	mg/L	0.56	SW846 6010C	#
Sodium, Total	56.6	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	60	mg/L	5	SM2320B-2011	#
Alkalinity, Total	60	mg/L	5	SM2320B-2011	#
Chloride	171	mg/L	2.0	EPA 300.0	#
Nitrate-N	1.3	mg/L	1.0	EPA 300.0	#
pH	7.51	pH_Units		S4500HB-11	#
Specific Conductance	868	umhos/cm	5	SW846 9050A	#
Sulfate	88.4	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	630	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	1.7	mg/L	0.50	SW846 9060A	#
Turbidity	1.7	NTU	0.30	SM2130B-2011	#

Results

Client Sample ID	FFMP015W	Collected	08/07/2023 10:39
Lab Sample ID	3316897001	Lab Receipt	08/07/2023 16:00

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	63.44		Feet		Field	1	08/07/2023 10:39	BGS	D
Dissolved Oxygen	8.03		mg/L	0.01	Field	1	08/07/2023 10:39	BGS	D
Elev Top MW Casing above MSL	576.40		Feet		Field	1	08/07/2023 10:39	BGS	D
Flow Rate	1.86		gal/min		Field	1	08/07/2023 10:39	BGS	D
Ground Water Elevation	512.96		ft/MSL		Field	1	08/07/2023 10:39	BGS	D
Oxidation-Reduction Potential	236		mV		Field	1	08/07/2023 10:39	BGS	D
pH, Field (SM4500B)	5.17		pH_Units		Field	1	08/07/2023 10:39	BGS	D
Sample Depth	135.00		Feet		Field	1	08/07/2023 10:39	BGS	D
Specific Conductance, Field	547		umhos/cm	1	Field	1	08/07/2023 10:39	BGS	D
Temperature	16.09		Deg. C		Field	1	08/07/2023 10:39	BGS	D
Total Well Depth	149.90		Feet		Field	1	08/07/2023 10:39	BGS	D
Turbidity, Field	2		NTU	1	Field	1	08/07/2023 10:39	BGS	D
Volume in Water Column	127.10		Gallons		Field	1	08/07/2023 10:39	BGS	D
Water Level After Purge	109.42		Feet		Field	1	08/07/2023 10:39	BGS	D
Well Volumes Purged	0.88		Vol		Field	1	08/07/2023 10:39	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	32.4		mg/L	0.11	SW846 6010C	1	08/10/2023 13:46	AXW	J1
Iron, Total	ND	ND,4	mg/L	0.067	SW846 6010C	1	08/11/2023 12:09	AXW	J1
Magnesium, Total	28.4		mg/L	0.11	SW846 6010C	1	08/10/2023 13:46	AXW	J1
Manganese, Total	0.015		mg/L	0.0056	SW846 6010C	1	08/10/2023 13:46	AXW	J1
Potassium, Total	2.5		mg/L	0.56	SW846 6010C	1	08/10/2023 13:46	AXW	J1
Sodium, Total	22.0		mg/L	0.56	SW846 6010C	1	08/10/2023 13:46	AXW	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	08/11/2023 00:31	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:31	PDK	H

Results

Client Sample ID	FFMP015W	Collected	08/07/2023 10:39
Lab Sample ID	3316897001	Lab Receipt	08/07/2023 16:00

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	95.7%	62 – 133	08/11/2023 00:31	
4-Bromofluorobenzene	460-00-4	101%	79 – 114	08/11/2023 00:31	
Dibromofluoromethane	1868-53-7	97.8%	78 – 116	08/11/2023 00:31	
Toluene-d8	2037-26-5	99.8%	76 – 127	08/11/2023 00:31	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	24		mg/L	5	SM2320B-2011	1	08/15/2023 03:53	JMS	B
Alkalinity, Total	24	1	mg/L	5	SM2320B-2011	1	08/15/2023 03:53	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/22/2023 23:33	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/09/2023 11:35	KMS	A
Chloride	40.5		mg/L	2.0	EPA 300.0	2	08/08/2023 10:41	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/08/2023 10:41	GJB	B
Nitrate-N	39.8	2	mg/L	2.5	EPA 300.0	5	08/15/2023 15:37	J1W	B
pH	7.58	3	pH_Units		S4500HB-11	1	08/15/2023 03:53	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/24/2023 16:33	AKH	G
Specific Conductance	562		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	25.6		mg/L	2.0	EPA 300.0	2	08/08/2023 10:41	GJB	B
Total Dissolved Solids	434		mg/L	25	SM2540C-15	1	08/14/2023 14:00	NML	B
Total Organic Carbon (TOC)	1.4		mg/L	0.50	SW846 9060A	1	08/10/2023 06:07	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	08/07/2023 22:50	NRB	B

Results

Client Sample ID	FFMP03AW	Collected	08/07/2023 12:08
Lab Sample ID	3316897002	Lab Receipt	08/07/2023 16:00

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	52.82		Feet		Field	1	08/07/2023 12:08	BGS	D
Dissolved Oxygen	1.06		mg/L	0.01	Field	1	08/07/2023 12:08	BGS	D
Elev Top MW Casing above MSL	590.90		Feet		Field	1	08/07/2023 12:08	BGS	D
Flow Rate	1.77		gal/min		Field	1	08/07/2023 12:08	BGS	D
Ground Water Elevation	538.08		ft/MSL		Field	1	08/07/2023 12:08	BGS	D
Oxidation-Reduction Potential	259		mV		Field	1	08/07/2023 12:08	BGS	D
pH, Field (SM4500B)	4.63		pH_Units		Field	1	08/07/2023 12:08	BGS	D
Sample Depth	130.00		Feet		Field	1	08/07/2023 12:08	BGS	D
Specific Conductance, Field	352		umhos/cm	1	Field	1	08/07/2023 12:08	BGS	D
Temperature	15.01		Deg. C		Field	1	08/07/2023 12:08	BGS	D
Total Well Depth	148.40		Feet		Field	1	08/07/2023 12:08	BGS	D
Turbidity, Field	2		NTU	1	Field	1	08/07/2023 12:08	BGS	D
Volume in Water Column	140.50		Gallons		Field	1	08/07/2023 12:08	BGS	D
Water Level After Purge	83.81		Feet		Field	1	08/07/2023 12:08	BGS	D
Well Volumes Purged	0.76		Vol		Field	1	08/07/2023 12:08	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	21.5	5	mg/L	0.11	SW846 6010C	1	08/10/2023 13:47	AXW	J1
Iron, Total	ND	ND,4	mg/L	0.067	SW846 6010C	1	08/11/2023 12:14	AXW	J1
Magnesium, Total	16.2	5	mg/L	0.11	SW846 6010C	1	08/10/2023 13:47	AXW	J1
Manganese, Total	0.38		mg/L	0.0056	SW846 6010C	1	08/10/2023 13:47	AXW	J1
Potassium, Total	1.5		mg/L	0.56	SW846 6010C	1	08/10/2023 13:47	AXW	J1
Sodium, Total	14.6		mg/L	0.56	SW846 6010C	1	08/10/2023 13:47	AXW	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	08/11/2023 00:55	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 00:55	PDK	H

Results

Client Sample ID	FFMP03AW	Collected	08/07/2023 12:08
Lab Sample ID	3316897002	Lab Receipt	08/07/2023 16:00

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	96.2%	62 – 133	08/11/2023 00:55	
4-Bromofluorobenzene	460-00-4	100%	79 – 114	08/11/2023 00:55	
Dibromofluoromethane	1868-53-7	98.1%	78 – 116	08/11/2023 00:55	
Toluene-d8	2037-26-5	98.5%	76 – 127	08/11/2023 00:55	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	14		mg/L	5	SM2320B-2011	1	08/10/2023 19:28	JMS	B
Alkalinity, Total	14	1	mg/L	5	SM2320B-2011	1	08/10/2023 19:28	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/22/2023 23:47	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/09/2023 11:35	KMS	A
Chloride	39.8		mg/L	2.0	EPA 300.0	2	08/08/2023 10:52	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/08/2023 10:52	GJB	B
Nitrate-N	22.4	2	mg/L	2.5	EPA 300.0	5	08/15/2023 15:47	J1W	B
pH	6.48	3	pH_Units		S4500HB-11	1	08/10/2023 19:28	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/24/2023 16:37	AKH	G
Specific Conductance	362		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	3.2		mg/L	2.0	EPA 300.0	2	08/08/2023 10:52	GJB	B
Total Dissolved Solids	282		mg/L	25	SM2540C-15	1	08/11/2023 10:00	AKH	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	08/10/2023 06:07	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	08/07/2023 22:50	NRB	B

Results

Client Sample ID	FFMP005W	Collected	08/07/2023 13:40
Lab Sample ID	3316897003	Lab Receipt	08/07/2023 16:00

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	71.99		Feet		Field	1	08/07/2023 13:40	BGS	D
Dissolved Oxygen	ND	ND	mg/L	0.01	Field	1	08/07/2023 13:40	BGS	D
Elev Top MW Casing above MSL	537.40		Feet		Field	1	08/07/2023 13:40	BGS	D
Flow Rate	1.97		gal/min		Field	1	08/07/2023 13:40	BGS	D
Ground Water Elevation	465.41		ft/MSL		Field	1	08/07/2023 13:40	BGS	D
Oxidation-Reduction Potential	371		mV		Field	1	08/07/2023 13:40	BGS	D
pH, Field (SM4500B)	5.22		pH_Units		Field	1	08/07/2023 13:40	BGS	D
Sample Depth	135.00		Feet		Field	1	08/07/2023 13:40	BGS	D
Specific Conductance, Field	840		umhos/cm	1	Field	1	08/07/2023 13:40	BGS	D
Temperature	14.29		Deg. C		Field	1	08/07/2023 13:40	BGS	D
Total Well Depth	149.70		Feet		Field	1	08/07/2023 13:40	BGS	D
Turbidity, Field	2		NTU	1	Field	1	08/07/2023 13:40	BGS	D
Volume in Water Column	114.23		Gallons		Field	1	08/07/2023 13:40	BGS	D
Water Level After Purge	92.38		Feet		Field	1	08/07/2023 13:40	BGS	D
Well Volumes Purged	1.03		Vol		Field	1	08/07/2023 13:40	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	80.4		mg/L	0.11	SW846 6010C	1	08/10/2023 14:05	AXW	J1
Iron, Total	ND	ND,6	mg/L	0.067	SW846 6010C	1	08/11/2023 12:19	AXW	J1
Magnesium, Total	19.0		mg/L	0.11	SW846 6010C	1	08/10/2023 14:05	AXW	J1
Manganese, Total	0.17		mg/L	0.0056	SW846 6010C	1	08/10/2023 14:05	AXW	J1
Potassium, Total	3.3		mg/L	0.56	SW846 6010C	1	08/10/2023 14:05	AXW	J1
Sodium, Total	48.4		mg/L	0.56	SW846 6010C	1	08/10/2023 14:05	AXW	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	08/11/2023 01:18	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:18	PDK	H

Results

Client Sample ID	FFMP005W	Collected	08/07/2023 13:40
Lab Sample ID	3316897003	Lab Receipt	08/07/2023 16:00

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	96.7%	62 – 133	08/11/2023 01:18	
4-Bromofluorobenzene	460-00-4	99%	79 – 114	08/11/2023 01:18	
Dibromofluoromethane	1868-53-7	97.9%	78 – 116	08/11/2023 01:18	
Toluene-d8	2037-26-5	98.4%	76 – 127	08/11/2023 01:18	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	58		mg/L	5	SM2320B-2011	1	08/10/2023 19:40	JMS	B
Alkalinity, Total	58	1	mg/L	5	SM2320B-2011	1	08/10/2023 19:40	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/23/2023 00:01	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/09/2023 11:35	KMS	A
Chloride	178		mg/L	2.0	EPA 300.0	2	08/08/2023 11:02	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/08/2023 11:02	GJB	B
Nitrate-N	1.5		mg/L	1.0	EPA 300.0	2	08/08/2023 11:02	GJB	B
pH	7.07	3	pH_Units		S4500HB-11	1	08/10/2023 19:40	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/24/2023 16:29	AKH	G
Specific Conductance	860		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	69.6		mg/L	2.0	EPA 300.0	2	08/08/2023 11:02	GJB	B
Total Dissolved Solids	658		mg/L	25	SM2540C-15	1	08/14/2023 14:00	NML	B
Total Organic Carbon (TOC)	1.3		mg/L	0.50	SW846 9060A	1	08/10/2023 06:07	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	08/07/2023 22:50	NRB	B

Results

Client Sample ID	FFMP26RW	Collected	08/07/2023 14:46
Lab Sample ID	3316897004	Lab Receipt	08/07/2023 16:00

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	83.85		Feet		Field	1	08/07/2023 14:46	BGS	D
Dissolved Oxygen	0.05		mg/L	0.01	Field	1	08/07/2023 14:46	BGS	D
Elev Top MW Casing above MSL	547.40		Feet		Field	1	08/07/2023 14:46	BGS	D
Flow Rate	2.12		gal/min		Field	1	08/07/2023 14:46	BGS	D
Ground Water Elevation	463.55		ft/MSL		Field	1	08/07/2023 14:46	BGS	D
Oxidation-Reduction Potential	312		mV		Field	1	08/07/2023 14:46	BGS	D
pH, Field (SM4500B)	5.17		pH_Units		Field	1	08/07/2023 14:46	BGS	D
Sample Depth	105.00		Feet		Field	1	08/07/2023 14:46	BGS	D
Specific Conductance, Field	854		umhos/cm	1	Field	1	08/07/2023 14:46	BGS	D
Temperature	15.20		Deg. C		Field	1	08/07/2023 14:46	BGS	D
Total Well Depth	118.30		Feet		Field	1	08/07/2023 14:46	BGS	D
Turbidity, Field	3		NTU	1	Field	1	08/07/2023 14:46	BGS	D
Volume in Water Column	50.64		Gallons		Field	1	08/07/2023 14:46	BGS	D
Water Level After Purge	101.10		Feet		Field	1	08/07/2023 14:46	BGS	D
Well Volumes Purged	1.67		Vol		Field	1	08/07/2023 14:46	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	73.9		mg/L	0.11	SW846 6010C	1	08/10/2023 14:06	AXW	J1
Iron, Total	0.12		mg/L	0.067	SW846 6010C	1	08/15/2023 11:44	AXW	J3
Magnesium, Total	18.8		mg/L	0.11	SW846 6010C	1	08/10/2023 14:06	AXW	J1
Manganese, Total	0.72		mg/L	0.0056	SW846 6010C	1	08/10/2023 14:06	AXW	J1
Potassium, Total	7.0		mg/L	0.56	SW846 6010C	1	08/10/2023 14:06	AXW	J1
Sodium, Total	56.6		mg/L	0.56	SW846 6010C	1	08/10/2023 14:06	AXW	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	08/11/2023 01:41	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 01:41	PDK	H

Results

Client Sample ID	FFMP26RW	Collected	08/07/2023 14:46
Lab Sample ID	3316897004	Lab Receipt	08/07/2023 16:00

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	98.1%	62 – 133	08/11/2023 01:41	
4-Bromofluorobenzene	460-00-4	101%	79 – 114	08/11/2023 01:41	
Dibromofluoromethane	1868-53-7	99.3%	78 – 116	08/11/2023 01:41	
Toluene-d8	2037-26-5	98.2%	76 – 127	08/11/2023 01:41	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	60		mg/L	5	SM2320B-2011	1	08/21/2023 12:35	JMS	B
Alkalinity, Total	60	1	mg/L	5	SM2320B-2011	1	08/21/2023 12:35	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/22/2023 23:19	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/09/2023 11:35	KMS	A
Chloride	171	7,8	mg/L	2.0	EPA 300.0	2	08/08/2023 11:13	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/08/2023 11:13	GJB	B
Nitrate-N	1.3		mg/L	1.0	EPA 300.0	2	08/08/2023 11:13	GJB	B
pH	7.51	3	pH_Units		S4500HB-11	1	08/21/2023 12:35	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/24/2023 16:40	AKH	G
Specific Conductance	868		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	88.4	9,10	mg/L	2.0	EPA 300.0	2	08/08/2023 11:13	GJB	B
Total Dissolved Solids	630		mg/L	25	SM2540C-15	1	08/14/2023 14:00	NML	B
Total Organic Carbon (TOC)	1.7		mg/L	0.50	SW846 9060A	1	08/10/2023 06:07	PAG	E
Turbidity	1.7		NTU	0.30	SM2130B-2011	1	08/07/2023 22:50	NRB	B

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3316897001	FFMP015W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3316897002	FFMP03AW	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3316897003	FFMP005W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3316897004	FFMP26RW	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	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
3316897001	FFMP015W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1041441	08/08/2023 01:15	ANN	SW846 6010C	1044839
		SW846 3015A	1041441	08/08/2023 01:15	ANN	SW846 6010C	1045069
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050268
		N/A	N/A	N/A		EPA 300.0	1041540
		N/A	N/A	N/A		EPA 300.0	1048141
		N/A	N/A	N/A		EPA 410.4	1042850
		N/A	N/A	N/A		S4500HB-11	1047929
		N/A	N/A	N/A		SM2130B-2011	1041442
		N/A	N/A	N/A		SM2320B-2011	1047929
		N/A	N/A	N/A		SM2540C-15	1047911
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1043024
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1050786
3316897002	FFMP03AW	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1041441	08/08/2023 01:15	ANN	SW846 6010C	1044839
		SW846 3015A	1041441	08/08/2023 01:15	ANN	SW846 6010C	1045069
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050268
		N/A	N/A	N/A		EPA 300.0	1041540
		N/A	N/A	N/A		EPA 300.0	1048141
		N/A	N/A	N/A		EPA 410.4	1042850
		N/A	N/A	N/A		S4500HB-11	1044439
		N/A	N/A	N/A		SM2130B-2011	1041442
		N/A	N/A	N/A		SM2320B-2011	1044439
		N/A	N/A	N/A		SM2540C-15	1044938
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1043024
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1050786
3316897003	FFMP005W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1041441	08/08/2023 01:15	ANN	SW846 6010C	1044839
		SW846 3015A	1041441	08/08/2023 01:15	ANN	SW846 6010C	1045069
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050268
		N/A	N/A	N/A		EPA 300.0	1041540
		N/A	N/A	N/A		EPA 410.4	1042850
		N/A	N/A	N/A		S4500HB-11	1044439
		N/A	N/A	N/A		SM2130B-2011	1041442
		N/A	N/A	N/A		SM2320B-2011	1044439
		N/A	N/A	N/A		SM2540C-15	1047911
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1043024
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1050786
3316897004	FFMP26RW	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1041441	08/08/2023 01:15	ANN	SW846 6010C	1044839
		SW846 3015A	1047438	08/14/2023 03:40	ANN	SW846 6010C	1048181
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050268
		N/A	N/A	N/A		EPA 300.0	1041540
		N/A	N/A	N/A		EPA 410.4	1042850
		N/A	N/A	N/A		S4500HB-11	1050104
		N/A	N/A	N/A		SM2130B-2011	1041442
		N/A	N/A	N/A		SM2320B-2011	1050104
		N/A	N/A	N/A		SM2540C-15	1047911
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1043024
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1050786

ALS Environmental

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

3316897

Logged By: SLS

PM: SJB

1 of 1

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

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 [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.

Date Required: _____ **Approved By:** _____

Email? [X] -Y dbrown@LCSWMA.com

Fax? [X] -Y No.: (717) 397-9973

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

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-OH	VOC - Form 19Q	Field Measurements	Sample Depth for AUX Data	NH3-N, COD	Metals: Fe, Mn, Na, Ca, K, Mg	pH, Cl, SpC, F, SO4, TDS, NO3, Turb.	Alkalinity Bicarbonate	
					Enter Number of Containers Per Sample or Field Results Below.									
1. FFMP015W	08/07/23	1039	G	GW	2	1	2	x	x	1	2	1	1	
2. FFMP03AW	08/07/23	1208	G	GW	2	1	2	x	x	1	2	1	1	
3. FFMP005W	08/07/23	1340	G	GW	2	1	2	x	x	1	2	1	1	
4. FFMP26RW	08/07/23	1446	G	GW	2	1	2	x	x	1	2	1	1	
5														
6														
7														
8														
9														
10														

(leted by Receiving Lab)

Cooler Temp: 1.0 Therm ID: TH-569

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Ac...			

Temp By: ME | WO Temp (°C) 1° | Therm ID 5IA

	DPB	
Receipt Info Completed By:		
Cooler Custody Seal Intact	Y N NA	
Sample Custody Seal Intact	Y N NA	
Received on Ice	Y N NA	
Cooler & Samples Intact	Y N	
Correct Containers Provided	Y N	
Sample Label/COC Agree	Y N	
Adequate Sample Volumes	Y N	
CR6 Samples Filtered	Y N NA	
OP Samples Filtered	Y N NA	
VOA Trip Blank	Y N NA	
NJ≤ 4 Days?	Y N	
Rad Screen (uCi)		
Courier/Tracking #:		
	Y N	
SDWA Compliance		
PWSID		
WV Containers 0-6°C	Y N NA	

ALS Field Services: ☐Pickup ☐Labor
☐Composite_Sampling ☐Rental_Equipment
☐Other: _____

Project Comments:

LOGGED BY(signature): DATE: TIME:

REVIEWED BY(signature): DATE: TIME:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] AWS	8-7-23	1800	2 [signature]	8/7/23	1600
3			4		
5			6		
7			8		
9			10		

Data Deliverables: ☐Standard ☐CLP-like ☐USACE ☐

Special Processing: USACE ☐ Navy ☐ ☐

State Samples Collected In: ☐NY ☐NJ [X]PA ☐NC ☐

Reportable to PADEP? Yes ☐ PWSID # _____

Sample Disposal: Lab [X] Special ☐

EDDS: Format Type- _____

* G=Grab; C=Composite

**Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=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

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 3RD QTR 2023 GWMP-FORM 19Q
Workorder 3317119
Report ID 266437 on 8/25/2023

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Aug 08, 2023.

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):
Jordan Bigler - Lancaster County Solid Waste Authority
Ashley Gichuki - Lancaster County Solid Waste Authority
Daniel Brown - Lancaster County Solid Waste Authority
Jeff Musser - Lancaster County Solid Waste Authority

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

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3317119001	FFMP30RW	Ground Water	08/08/2023 10:33	08/08/2023 15:06	BGS	Analytical Laboratory Service
3317119002	FFMP04AW	Ground Water	08/08/2023 11:41	08/08/2023 15:06	BGS	Analytical Laboratory Service
3317119003	FFMP034W	Ground Water	08/08/2023 13:11	08/08/2023 15:06	BGS	Analytical Laboratory Service
3317119004	FFMP033W	Ground Water	08/08/2023 14:30	08/08/2023 15:06	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, including but not limited to the following EPA Method reference revisions:
  EPA 300.1 Rev. 1.0-1997
  EPA 300.0 Rev. 2.1-1993
  EPA 353.2 Rev. 2.0-1993
  EPA 410.4 Rev. 1.0-1993
  EPA 420.4 Rev. 1.0-1993
  EPA 365.1 Rev. 2.0-1993
  EPA 200.7 Rev. 4.4-1994
  EPA 200.8 Rev. 5.4-1994
  EPA 245.1 Rev. 3.0-1994
- 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 EPA 300.0 was outside the control limits for the analyte Chloride. The % Recovery was reported as 28.5 and the control limits were 80 to 120.
4	The QC sample type MS for method EPA 300.0 was outside the control limits for the analyte Fluoride. The % Recovery was reported as 72.2 and the control limits were 80 to 120.
5	The QC sample type MS for method EPA 300.0 was outside the control limits for the analyte Nitrate-N. The % Recovery was reported as 59.5 and the control limits were 80 to 120.

Detected Results Summary

Client Sample ID	FFMP30RW	Collected	08/08/2023 10:33
Lab Sample ID	3317119001	Lab Receipt	08/08/2023 15:06

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	36.86	Feet		Field	#
Dissolved Oxygen	1.26	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	562.30	Feet		Field	#
Flow Rate	2.15	gal/min		Field	#
Ground Water Elevation	525.44	ft/MSL		Field	#
Oxidation-Reduction Potential	245	mV		Field	#
pH, Field (SM4500B)	5.18	pH_Units		Field	#
Sample Depth	85.00	Feet		Field	#
Specific Conductance, Field	1412	umhos/cm	1	Field	#
Temperature	14.21	Deg. C		Field	#
Total Well Depth	94.20	Feet		Field	#
Turbidity, Field	6	NTU	1	Field	#
Volume in Water Column	84.29	Gallons		Field	#
Water Level After Purge	65.27	Feet		Field	#
Well Volumes Purged	1.53	Vol		Field	#
METALS					
Calcium, Total	53.0	mg/L	0.11	SW846 6010C	#
Iron, Total	0.14	mg/L	0.067	SW846 6010C	#
Magnesium, Total	18.4	mg/L	0.11	SW846 6010C	#
Manganese, Total	2.9	mg/L	0.0056	SW846 6010C	#
Potassium, Total	6.7	mg/L	0.56	SW846 6010C	#
Sodium, Total	115	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	42	mg/L	5	SM2320B-2011	#
Alkalinity, Total	42	mg/L	5	SM2320B-2011	#
Chloride	283	mg/L	5.0	EPA 300.0	#
Nitrate-N	4.3	mg/L	2.5	EPA 300.0	#
pH	7.13	pH_Units		S4500HB-11	#
Specific Conductance	1160	umhos/cm	5	SW846 9050A	#
Sulfate	43.4	mg/L	5.0	EPA 300.0	#
Total Dissolved Solids	804	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	0.83	mg/L	0.50	SW846 9060A	#
Turbidity	3.9	NTU	0.30	SM2130B-2011	#

Detected Results Summary

Client Sample ID	FFMP04AW	Collected	08/08/2023 11:41
Lab Sample ID	3317119002	Lab Receipt	08/08/2023 15:06

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	37.32	Feet		Field	#
Elev Top MW Casing above MSL	560.72	Feet		Field	#
Flow Rate	1.85	gal/min		Field	#
Ground Water Elevation	523.40	ft/MSL		Field	#
Oxidation-Reduction Potential	120	mV		Field	#
pH, Field (SM4500B)	7.05	pH_Units		Field	#
Sample Depth	146.00	Feet		Field	#
Specific Conductance, Field	2030	umhos/cm	1	Field	#
Temperature	14.73	Deg. C		Field	#
Total Well Depth	148.50	Feet		Field	#
Turbidity, Field	1	NTU	1	Field	#
Volume in Water Column	163.43	Gallons		Field	#
Water Level After Purge	80.21	Feet		Field	#
Well Volumes Purged	0.68	Vol		Field	#
METALS					
Calcium, Total	157	mg/L	0.11	SW846 6010C	#
Magnesium, Total	25.5	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.33	mg/L	0.0056	SW846 6010C	#
Potassium, Total	2.2	mg/L	0.56	SW846 6010C	#
Sodium, Total	84.5	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	195	mg/L	5	SM2320B-2011	#
Alkalinity, Total	195	mg/L	5	SM2320B-2011	#
Chloride	312	mg/L	5.0	EPA 300.0	#
pH	8.03	pH_Units		S4500HB-11	#
Specific Conductance	1450	umhos/cm	5	SW846 9050A	#
Sulfate	49.3	mg/L	5.0	EPA 300.0	#
Total Dissolved Solids	1130	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	0.70	mg/L	0.50	SW846 9060A	#
Turbidity	0.50	NTU	0.30	SM2130B-2011	#

Detected Results Summary

Client Sample ID	FFMP034W	Collected	08/08/2023 13:11
Lab Sample ID	3317119003	Lab Receipt	08/08/2023 15:06

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	10.86	Feet		Field	#
Dissolved Oxygen	1.70	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	472.88	Feet		Field	#
Flow Rate	1.71	gal/min		Field	#
Ground Water Elevation	462.02	ft/MSL		Field	#
Oxidation-Reduction Potential	170	mV		Field	#
pH, Field (SM4500B)	5.35	pH_Units		Field	#
Sample Depth	25.85	Feet		Field	#
Specific Conductance, Field	1100	umhos/cm	1	Field	#
Temperature	14.47	Deg. C		Field	#
Total Well Depth	121.00	Feet		Field	#
Turbidity, Field	11	NTU	1	Field	#
Volume in Water Column	161.91	Gallons		Field	#
Water Level After Purge	19.45	Feet		Field	#
Well Volumes Purged	0.74	Vol		Field	#
METALS					
Calcium, Total	62.2	mg/L	0.11	SW846 6010C	#
Iron, Total	1.4	mg/L	0.067	SW846 6010C	#
Magnesium, Total	22.2	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.11	mg/L	0.0056	SW846 6010C	#
Potassium, Total	2.5	mg/L	0.56	SW846 6010C	#
Sodium, Total	43.6	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	50	mg/L	5	SM2320B-2011	#
Alkalinity, Total	50	mg/L	5	SM2320B-2011	#
Chloride	173	mg/L	2.0	EPA 300.0	#
Nitrate-N	9.8	mg/L	1.0	EPA 300.0	#
pH	7.37	pH_Units		S4500HB-11	#
Specific Conductance	785	umhos/cm	5	SW846 9050A	#
Sulfate	28.1	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	584	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	0.65	mg/L	0.50	SW846 9060A	#
Turbidity	40	NTU	0.30	SM2130B-2011	#

Detected Results Summary

Client Sample ID	FFMP033W	Collected	08/08/2023 14:30
Lab Sample ID	3317119004	Lab Receipt	08/08/2023 15:06

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	20.65	Feet		Field	#
Dissolved Oxygen	0.88	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	516.52	Feet		Field	#
Flow Rate	1.75	gal/min		Field	#
Ground Water Elevation	495.87	ft/MSL		Field	#
Oxidation-Reduction Potential	65	mV		Field	#
pH, Field (SM4500B)	5.50	pH_Units		Field	#
Sample Depth	79.00	Feet		Field	#
Specific Conductance, Field	652	umhos/cm	1	Field	#
Temperature	15.66	Deg. C		Field	#
Total Well Depth	100.00	Feet		Field	#
Turbidity, Field	25	NTU	1	Field	#
Volume in Water Column	116.64	Gallons		Field	#
Water Level After Purge	36.78	Feet		Field	#
Well Volumes Purged	0.90	Vol		Field	#
METALS					
Calcium, Total	38.6	mg/L	0.11	SW846 6010C	#
Iron, Total	8.8	mg/L	0.067	SW846 6010C	#
Magnesium, Total	13.2	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.62	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.8	mg/L	0.56	SW846 6010C	#
Sodium, Total	18.0	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	42	mg/L	5	SM2320B-2011	#
Alkalinity, Total	42	mg/L	5	SM2320B-2011	#
Chloride	80.2	mg/L	2.0	EPA 300.0	#
Nitrate-N	8.6	mg/L	1.0	EPA 300.0	#
pH	7.70	pH_Units		S4500HB-11	#
Specific Conductance	462	umhos/cm	5	SW846 9050A	#
Sulfate	7.6	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	348	mg/L	25	SM2540C-15	#
Turbidity	23	NTU	0.30	SM2130B-2011	#

Results

Client Sample ID	FFMP30RW	Collected	08/08/2023 10:33
Lab Sample ID	3317119001	Lab Receipt	08/08/2023 15:06

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	36.86		Feet		Field	1	08/08/2023 10:33	BGS	D
Dissolved Oxygen	1.26		mg/L	0.01	Field	1	08/08/2023 10:33	BGS	D
Elev Top MW Casing above MSL	562.30		Feet		Field	1	08/08/2023 10:33	BGS	D
Flow Rate	2.15		gal/min		Field	1	08/08/2023 10:33	BGS	D
Ground Water Elevation	525.44		ft/MSL		Field	1	08/08/2023 10:33	BGS	D
Oxidation-Reduction Potential	245		mV		Field	1	08/08/2023 10:33	BGS	D
pH, Field (SM4500B)	5.18		pH_Units		Field	1	08/08/2023 10:33	BGS	D
Sample Depth	85.00		Feet		Field	1	08/08/2023 10:33	BGS	D
Specific Conductance, Field	1412		umhos/cm	1	Field	1	08/08/2023 10:33	BGS	D
Temperature	14.21		Deg. C		Field	1	08/08/2023 10:33	BGS	D
Total Well Depth	94.20		Feet		Field	1	08/08/2023 10:33	BGS	D
Turbidity, Field	6		NTU	1	Field	1	08/08/2023 10:33	BGS	D
Volume in Water Column	84.29		Gallons		Field	1	08/08/2023 10:33	BGS	D
Water Level After Purge	65.27		Feet		Field	1	08/08/2023 10:33	BGS	D
Well Volumes Purged	1.53		Vol		Field	1	08/08/2023 10:33	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	53.0		mg/L	0.11	SW846 6010C	1	08/10/2023 12:10	AXW	J1
Iron, Total	0.14		mg/L	0.067	SW846 6010C	1	08/10/2023 12:10	AXW	J1
Magnesium, Total	18.4		mg/L	0.11	SW846 6010C	1	08/10/2023 12:10	AXW	J1
Manganese, Total	2.9		mg/L	0.0056	SW846 6010C	1	08/10/2023 12:10	AXW	J1
Potassium, Total	6.7		mg/L	0.56	SW846 6010C	1	08/10/2023 12:10	AXW	J1
Sodium, Total	115		mg/L	0.56	SW846 6010C	1	08/10/2023 12:10	AXW	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	08/11/2023 02:04	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:04	PDK	H

Results

Client Sample ID	FFMP30RW	Collected	08/08/2023 10:33
Lab Sample ID	3317119001	Lab Receipt	08/08/2023 15:06

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	97.1%	62 – 133	08/11/2023 02:04	
4-Bromofluorobenzene	460-00-4	99.1%	79 – 114	08/11/2023 02:04	
Dibromofluoromethane	1868-53-7	97.1%	78 – 116	08/11/2023 02:04	
Toluene-d8	2037-26-5	99%	76 – 127	08/11/2023 02:04	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	42		mg/L	5	SM2320B-2011	1	08/11/2023 19:32	JMS	B
Alkalinity, Total	42	1	mg/L	5	SM2320B-2011	1	08/11/2023 19:32	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/23/2023 14:13	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/11/2023 11:36	KMS	A
Chloride	283		mg/L	5.0	EPA 300.0	5	08/09/2023 12:44	GJB	B
Fluoride	ND	ND	mg/L	0.50	EPA 300.0	5	08/09/2023 12:44	GJB	B
Nitrate-N	4.3		mg/L	2.5	EPA 300.0	5	08/09/2023 12:44	GJB	B
pH	7.13	2	pH_Units		S4500HB-11	1	08/11/2023 19:32	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 13:01	AKH	G
Specific Conductance	1160		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	43.4		mg/L	5.0	EPA 300.0	5	08/09/2023 12:44	GJB	B
Total Dissolved Solids	804		mg/L	25	SM2540C-15	1	08/14/2023 15:00	AKH	B
Total Organic Carbon (TOC)	0.83		mg/L	0.50	SW846 9060A	1	08/11/2023 05:04	PAG	E
Turbidity	3.9		NTU	0.30	SM2130B-2011	1	08/08/2023 22:25	NRB	B

Results

Client Sample ID	FFMP04AW	Collected	08/08/2023 11:41
Lab Sample ID	3317119002	Lab Receipt	08/08/2023 15:06

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	37.32		Feet		Field	1	08/08/2023 11:41	BGS	D
Dissolved Oxygen	ND	ND	mg/L	0.01	Field	1	08/08/2023 11:41	BGS	D
Elev Top MW Casing above MSL	560.72		Feet		Field	1	08/08/2023 11:41	BGS	D
Flow Rate	1.85		gal/min		Field	1	08/08/2023 11:41	BGS	D
Ground Water Elevation	523.40		ft/MSL		Field	1	08/08/2023 11:41	BGS	D
Oxidation-Reduction Potential	120		mV		Field	1	08/08/2023 11:41	BGS	D
pH, Field (SM4500B)	7.05		pH_Units		Field	1	08/08/2023 11:41	BGS	D
Sample Depth	146.00		Feet		Field	1	08/08/2023 11:41	BGS	D
Specific Conductance, Field	2030		umhos/cm	1	Field	1	08/08/2023 11:41	BGS	D
Temperature	14.73		Deg. C		Field	1	08/08/2023 11:41	BGS	D
Total Well Depth	148.50		Feet		Field	1	08/08/2023 11:41	BGS	D
Turbidity, Field	1		NTU	1	Field	1	08/08/2023 11:41	BGS	D
Volume in Water Column	163.43		Gallons		Field	1	08/08/2023 11:41	BGS	D
Water Level After Purge	80.21		Feet		Field	1	08/08/2023 11:41	BGS	D
Well Volumes Purged	0.68		Vol		Field	1	08/08/2023 11:41	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	157		mg/L	0.11	SW846 6010C	1	08/10/2023 12:11	AXW	J1
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	08/10/2023 12:11	AXW	J1
Magnesium, Total	25.5		mg/L	0.11	SW846 6010C	1	08/10/2023 12:11	AXW	J1
Manganese, Total	0.33		mg/L	0.0056	SW846 6010C	1	08/10/2023 12:11	AXW	J1
Potassium, Total	2.2		mg/L	0.56	SW846 6010C	1	08/10/2023 12:11	AXW	J1
Sodium, Total	84.5		mg/L	0.56	SW846 6010C	1	08/10/2023 12:11	AXW	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	08/11/2023 02:27	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:27	PDK	H

Results

Client Sample ID	FFMP04AW	Collected	08/08/2023 11:41
Lab Sample ID	3317119002	Lab Receipt	08/08/2023 15:06

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	98.3%	62 – 133	08/11/2023 02:27	
4-Bromofluorobenzene	460-00-4	99.3%	79 – 114	08/11/2023 02:27	
Dibromofluoromethane	1868-53-7	98.8%	78 – 116	08/11/2023 02:27	
Toluene-d8	2037-26-5	98.5%	76 – 127	08/11/2023 02:27	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	195		mg/L	5	SM2320B-2011	1	08/11/2023 19:44	JMS	B
Alkalinity, Total	195	1	mg/L	5	SM2320B-2011	1	08/11/2023 19:44	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/23/2023 13:31	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/11/2023 11:36	KMS	A
Chloride	312		mg/L	5.0	EPA 300.0	5	08/09/2023 12:55	GJB	B
Fluoride	ND	ND	mg/L	0.50	EPA 300.0	5	08/09/2023 12:55	GJB	B
Nitrate-N	ND	ND	mg/L	2.5	EPA 300.0	5	08/09/2023 12:55	GJB	B
pH	8.03	2	pH_Units		S4500HB-11	1	08/11/2023 19:44	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 12:33	AKH	G
Specific Conductance	1450		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	49.3		mg/L	5.0	EPA 300.0	5	08/09/2023 12:55	GJB	B
Total Dissolved Solids	1130		mg/L	25	SM2540C-15	1	08/14/2023 15:00	AKH	B
Total Organic Carbon (TOC)	0.70		mg/L	0.50	SW846 9060A	1	08/11/2023 05:04	PAG	E
Turbidity	0.50		NTU	0.30	SM2130B-2011	1	08/08/2023 22:25	NRB	B

Results

Client Sample ID	FFMP034W	Collected	08/08/2023 13:11
Lab Sample ID	3317119003	Lab Receipt	08/08/2023 15:06

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	10.86		Feet		Field	1	08/08/2023 13:11	BGS	D
Dissolved Oxygen	1.70		mg/L	0.01	Field	1	08/08/2023 13:11	BGS	D
Elev Top MW Casing above MSL	472.88		Feet		Field	1	08/08/2023 13:11	BGS	D
Flow Rate	1.71		gal/min		Field	1	08/08/2023 13:11	BGS	D
Ground Water Elevation	462.02		ft/MSL		Field	1	08/08/2023 13:11	BGS	D
Oxidation-Reduction Potential	170		mV		Field	1	08/08/2023 13:11	BGS	D
pH, Field (SM4500B)	5.35		pH_Units		Field	1	08/08/2023 13:11	BGS	D
Sample Depth	25.85		Feet		Field	1	08/08/2023 13:11	BGS	D
Specific Conductance, Field	1100		umhos/cm	1	Field	1	08/08/2023 13:11	BGS	D
Temperature	14.47		Deg. C		Field	1	08/08/2023 13:11	BGS	D
Total Well Depth	121.00		Feet		Field	1	08/08/2023 13:11	BGS	D
Turbidity, Field	11		NTU	1	Field	1	08/08/2023 13:11	BGS	D
Volume in Water Column	161.91		Gallons		Field	1	08/08/2023 13:11	BGS	D
Water Level After Purge	19.45		Feet		Field	1	08/08/2023 13:11	BGS	D
Well Volumes Purged	0.74		Vol		Field	1	08/08/2023 13:11	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	62.2		mg/L	0.11	SW846 6010C	1	08/10/2023 12:12	AXW	J1
Iron, Total	1.4		mg/L	0.067	SW846 6010C	1	08/10/2023 12:12	AXW	J1
Magnesium, Total	22.2		mg/L	0.11	SW846 6010C	1	08/10/2023 12:12	AXW	J1
Manganese, Total	0.11		mg/L	0.0056	SW846 6010C	1	08/10/2023 12:12	AXW	J1
Potassium, Total	2.5		mg/L	0.56	SW846 6010C	1	08/10/2023 12:12	AXW	J1
Sodium, Total	43.6		mg/L	0.56	SW846 6010C	1	08/10/2023 12:12	AXW	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	08/11/2023 02:51	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 02:51	PDK	H

Results

Client Sample ID	FFMP034W	Collected	08/08/2023 13:11
Lab Sample ID	3317119003	Lab Receipt	08/08/2023 15:06

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	97%	62 – 133	08/11/2023 02:51	
4-Bromofluorobenzene	460-00-4	96.6%	79 – 114	08/11/2023 02:51	
Dibromofluoromethane	1868-53-7	97.5%	78 – 116	08/11/2023 02:51	
Toluene-d8	2037-26-5	98.6%	76 – 127	08/11/2023 02:51	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	50		mg/L	5	SM2320B-2011	1	08/11/2023 15:51	JMS	B
Alkalinity, Total	50	1	mg/L	5	SM2320B-2011	1	08/11/2023 15:51	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/23/2023 13:59	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/11/2023 11:36	KMS	A
Chloride	173	3	mg/L	2.0	EPA 300.0	2	08/09/2023 13:05	GJB	B
Fluoride	ND	ND,4	mg/L	0.20	EPA 300.0	2	08/09/2023 13:05	GJB	B
Nitrate-N	9.8	5	mg/L	1.0	EPA 300.0	2	08/09/2023 13:05	GJB	B
pH	7.37	2	pH_Units		S4500HB-11	1	08/11/2023 15:51	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 12:40	AKH	G
Specific Conductance	785		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	28.1		mg/L	2.0	EPA 300.0	2	08/09/2023 13:05	GJB	B
Total Dissolved Solids	584		mg/L	25	SM2540C-15	1	08/14/2023 15:00	AKH	B
Total Organic Carbon (TOC)	0.65		mg/L	0.50	SW846 9060A	1	08/11/2023 05:04	PAG	E
Turbidity	40		NTU	0.30	SM2130B-2011	1	08/08/2023 22:25	NRB	B

Results

Client Sample ID	FFMP033W	Collected	08/08/2023 14:30
Lab Sample ID	3317119004	Lab Receipt	08/08/2023 15:06

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	20.65		Feet		Field	1	08/08/2023 14:30	BGS	D
Dissolved Oxygen	0.88		mg/L	0.01	Field	1	08/08/2023 14:30	BGS	D
Elev Top MW Casing above MSL	516.52		Feet		Field	1	08/08/2023 14:30	BGS	D
Flow Rate	1.75		gal/min		Field	1	08/08/2023 14:30	BGS	D
Ground Water Elevation	495.87		ft/MSL		Field	1	08/08/2023 14:30	BGS	D
Oxidation-Reduction Potential	65		mV		Field	1	08/08/2023 14:30	BGS	D
pH, Field (SM4500B)	5.50		pH_Units		Field	1	08/08/2023 14:30	BGS	D
Sample Depth	79.00		Feet		Field	1	08/08/2023 14:30	BGS	D
Specific Conductance, Field	652		umhos/cm	1	Field	1	08/08/2023 14:30	BGS	D
Temperature	15.66		Deg. C		Field	1	08/08/2023 14:30	BGS	D
Total Well Depth	100.00		Feet		Field	1	08/08/2023 14:30	BGS	D
Turbidity, Field	25		NTU	1	Field	1	08/08/2023 14:30	BGS	D
Volume in Water Column	116.64		Gallons		Field	1	08/08/2023 14:30	BGS	D
Water Level After Purge	36.78		Feet		Field	1	08/08/2023 14:30	BGS	D
Well Volumes Purged	0.90		Vol		Field	1	08/08/2023 14:30	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	38.6		mg/L	0.11	SW846 6010C	1	08/10/2023 12:13	AXW	J1
Iron, Total	8.8		mg/L	0.067	SW846 6010C	1	08/10/2023 12:13	AXW	J1
Magnesium, Total	13.2		mg/L	0.11	SW846 6010C	1	08/10/2023 12:13	AXW	J1
Manganese, Total	0.62		mg/L	0.0056	SW846 6010C	1	08/10/2023 12:13	AXW	J1
Potassium, Total	1.8		mg/L	0.56	SW846 6010C	1	08/10/2023 12:13	AXW	J1
Sodium, Total	18.0		mg/L	0.56	SW846 6010C	1	08/10/2023 12:13	AXW	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	08/11/2023 03:14	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:14	PDK	H

Results

Client Sample ID	FFMP033W	Collected	08/08/2023 14:30
Lab Sample ID	3317119004	Lab Receipt	08/08/2023 15:06

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	96%	62 – 133	08/11/2023 03:14	
4-Bromofluorobenzene	460-00-4	102%	79 – 114	08/11/2023 03:14	
Dibromofluoromethane	1868-53-7	98%	78 – 116	08/11/2023 03:14	
Toluene-d8	2037-26-5	98.4%	76 – 127	08/11/2023 03:14	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	42		mg/L	5	SM2320B-2011	1	08/22/2023 01:25	JMS	B
Alkalinity, Total	42	1	mg/L	5	SM2320B-2011	1	08/22/2023 01:25	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/23/2023 13:45	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/11/2023 11:36	KMS	A
Chloride	80.2		mg/L	2.0	EPA 300.0	2	08/09/2023 15:42	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/09/2023 15:42	GJB	B
Nitrate-N	8.6		mg/L	1.0	EPA 300.0	2	08/09/2023 15:42	GJB	B
pH	7.70	2	pH_Units		S4500HB-11	1	08/22/2023 01:25	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 12:37	AKH	G
Specific Conductance	462		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	7.6		mg/L	2.0	EPA 300.0	2	08/09/2023 15:42	GJB	B
Total Dissolved Solids	348		mg/L	25	SM2540C-15	1	08/14/2023 15:00	AKH	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	08/11/2023 05:04	PAG	E
Turbidity	23		NTU	0.30	SM2130B-2011	1	08/08/2023 22:25	NRB	B

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3317119001	FFMP30RW	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3317119002	FFMP04AW	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3317119003	FFMP034W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3317119004	FFMP033W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	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
3317119001	FFMP30RW	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1042538	08/09/2023 01:38	ANN	SW846 6010C	1044539
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050293
		N/A	N/A	N/A		EPA 300.0	1042859
		N/A	N/A	N/A		EPA 410.4	1045652
		N/A	N/A	N/A		S4500HB-11	1045706
		N/A	N/A	N/A		SM2130B-2011	1042341
		N/A	N/A	N/A		SM2320B-2011	1045706
		N/A	N/A	N/A		SM2540C-15	1047913
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1045054
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116
3317119002	FFMP04AW	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1042538	08/09/2023 01:38	ANN	SW846 6010C	1044539
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050293
		N/A	N/A	N/A		EPA 300.0	1042859
		N/A	N/A	N/A		EPA 410.4	1045652
		N/A	N/A	N/A		S4500HB-11	1045706
		N/A	N/A	N/A		SM2130B-2011	1042341
		N/A	N/A	N/A		SM2320B-2011	1045706
		N/A	N/A	N/A		SM2540C-15	1047913
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1045054
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116
3317119003	FFMP034W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1042538	08/09/2023 01:38	ANN	SW846 6010C	1044539
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050293
		N/A	N/A	N/A		EPA 300.0	1042859
		N/A	N/A	N/A		EPA 410.4	1045652
		N/A	N/A	N/A		S4500HB-11	1045706
		N/A	N/A	N/A		SM2130B-2011	1042341
		N/A	N/A	N/A		SM2320B-2011	1045706
		N/A	N/A	N/A		SM2540C-15	1047913
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1045054
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116
3317119004	FFMP033W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1042538	08/09/2023 01:38	ANN	SW846 6010C	1044539
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050293
		N/A	N/A	N/A		EPA 300.0	1042859
		N/A	N/A	N/A		EPA 410.4	1045652
		N/A	N/A	N/A		S4500HB-11	1050104
		N/A	N/A	N/A		SM2130B-2011	1042341
		N/A	N/A	N/A		SM2320B-2011	1050104
		N/A	N/A	N/A		SM2540C-15	1047913
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1045054
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116

8/25/2023 3:45 PM

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

3317119

Logged By: SLS
PM: SJB

1 of 1

ALS Environmental
34 Dogwood Lane • Middletown, PA 17057 • Phone: 717-944-5541 • Fax: 717-944-1430 • www.alsglobal.com
301 Fulling Mill Road • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

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

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 [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.
Date Required: _____ **Approved By:** _____
Email? [X] -Y dbrown@LCSWMA.com
Fax? [X] -Y No.: (717) 397-9973

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

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-OH	VOC - Form 19Q	Field Measurements	Sample Depth for AUX Data	NH3-N, COD	Metals: Fe, Mn, Na, Ca, K, Mg	pH, Cl, SpC, F, SO4, TDS, NO3, Turb.	Alkalinity Bicarbonate	
					Enter Number of Containers Per Sample or Field Results Below.									
1. FFMP30RW	08/08/23	1033	G	GW	2	1	2	x	x	1	2	1	1	
2. FFMP04AW	08/08/23	1141	G	GW	2	1	2	x	x	1	2	1	1	
3. FFMP034W	08/08/23	1311	G	GW	2	1	2	x	x	1	2	1	1	
4. FFMP033W	08/08/23	1430	G	GW	2	1	2	x	x	1	2	1	1	
5														
6														
7														
8														
9														
10														

Project Comments:

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] ALS	8/8/23	1600	2 [signature]	8.8.23	1536
3			4		
5			6		
7			8		
9			10		

(To be completed by Receiving Lab)

Cooler Temp: _____ Therm ID: _____
No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			

Temp By: DB | WO Temp (°C): 4° | Therm ID: 570

Receipt Info Completed By:	DPB	
Cooler Custody Seal Intact	Y N	NA
Sample Custody Seal Intact	Y N	NA
Received on Ice	Y N	NA
Cooler & Samples Intact	Y N	
Correct Containers Provided	Y N	
Sample Label/COC Agree	Y N	
Adequate Sample Volumes	Y N	
CR6 Samples Filtered	Y N	NA
OP Samples Filtered	Y N	NA
VOA Trip Blank	Y N	NA
NJ≤ 4 Days?	Y N	
Rad Screen (uCi)		
Courier/Tracking #:		
SDWA Compliance	Y N	
PWSID		
WV Containers 0-6°C	Y N	NA

ALS Field Services: ☐Pickup ☐Labor
☐Composite_Sampling ☐Rental_Equipment
☐Other: _____

Data Deliverables: [ ] Standard [ ] CLP-like [ ] USACE [ ]

Special Processing: USACE [ ] Navy [ ] [ ]

State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ]

Reportable to PADEP? Yes [ ]
PWSID #

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type-

* G=Grab; C=Composite **Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=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

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 3RD QTR 2023 GWMP-FORM 19Q
Workorder 3317312
Report ID 266458 on 8/25/2023

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Aug 09, 2023.

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):
Jordan Bigler - Lancaster County Solid Waste Authority
Ashley Gichuki - Lancaster County Solid Waste Authority
Daniel Brown - Lancaster County Solid Waste Authority
Jeff Musser - Lancaster County Solid Waste Authority

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

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3317312001	FFMP017W	Ground Water	08/09/2023 10:18	08/09/2023 15:42	BGS	Analytical Laboratory Service
3317312002	FFMP018W	Ground Water	08/09/2023 10:58	08/09/2023 15:42	BGS	Analytical Laboratory Service
3317312003	FFMP019W	Ground Water	08/09/2023 11:47	08/09/2023 15:42	BGS	Analytical Laboratory Service
3317312004	FFMP029W	Ground Water	08/09/2023 12:42	08/09/2023 15:42	BGS	Analytical Laboratory Service
3317312005	FFMP036W	Ground Water	08/09/2023 14:03	08/09/2023 15:42	BGS	Analytical Laboratory Service
3317312006	FFMP035W	Ground Water	08/09/2023 14:06	08/09/2023 15:42	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, including but not limited to the following EPA Method reference revisions:
  EPA 300.1 Rev. 1.0-1997
  EPA 300.0 Rev. 2.1-1993
  EPA 353.2 Rev. 2.0-1993
  EPA 410.4 Rev. 1.0-1993
  EPA 420.4 Rev. 1.0-1993
  EPA 365.1 Rev. 2.0-1993
  EPA 200.7 Rev. 4.4-1994
  EPA 200.8 Rev. 5.4-1994
  EPA 245.1 Rev. 3.0-1994
- 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 concentration of this analyte was greater than 4 times the concentration of the spike added to the matrix spike. According to protocol, the calculation for percent recovery of the matrix spike is not valid.
4	The QC sample type MSD for method EPA 300.0 was outside the control limits for the analyte Chloride. The % Recovery was reported as 127 and the control limits were 80 to 120.
5	The QC sample type MSD for method EPA 300.0 was outside the control limits for the analyte Nitrate-N. The % Recovery was reported as 124 and the control limits were 80 to 120.

Detected Results Summary

Client Sample ID	FFMP017W	Collected	08/09/2023 10:18
Lab Sample ID	3317312001	Lab Receipt	08/09/2023 15:42

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	40.92	Feet		Field	#
Dissolved Oxygen	0.08	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	480.70	Feet		Field	#
Flow Rate	2.10	gal/min		Field	#
Ground Water Elevation	439.78	ft/MSL		Field	#
Oxidation-Reduction Potential	169	mV		Field	#
pH, Field (SM4500B)	5.99	pH_Units		Field	#
Sample Depth	135.00	Feet		Field	#
Specific Conductance, Field	1633	umhos/cm	1	Field	#
Temperature	13.20	Deg. C		Field	#
Total Well Depth	150.50	Feet		Field	#
Turbidity, Field	1	NTU	1	Field	#
Volume in Water Column	161.08	Gallons		Field	#
Water Level After Purge	50.12	Feet		Field	#
Well Volumes Purged	0.78	Vol		Field	#
METALS					
Calcium, Total	90.5	mg/L	0.11	SW846 6010C	#
Magnesium, Total	33.1	mg/L	0.11	SW846 6010C	#
Manganese, Total	1.3	mg/L	0.0056	SW846 6010C	#
Potassium, Total	8.0	mg/L	0.56	SW846 6010C	#
Sodium, Total	83.9	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	115	mg/L	5	SM2320B-2011	#
Alkalinity, Total	115	mg/L	5	SM2320B-2011	#
Chloride	238	mg/L	5.0	EPA 300.0	#
Nitrate-N	3.1	mg/L	2.5	EPA 300.0	#
pH	7.78	pH_Units		S4500HB-11	#
Specific Conductance	1180	umhos/cm	5	SW846 9050A	#
Sulfate	77.9	mg/L	5.0	EPA 300.0	#
Total Dissolved Solids	782	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	2.8	mg/L	0.50	SW846 9060A	#

Detected Results Summary

Client Sample ID	FFMP018W	Collected	08/09/2023 10:58
Lab Sample ID	3317312002	Lab Receipt	08/09/2023 15:42

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	27.42	Feet		Field	#
Dissolved Oxygen	3.40	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	472.20	Feet		Field	#
Flow Rate	3.54	gal/min		Field	#
Ground Water Elevation	444.78	ft/MSL		Field	#
Oxidation-Reduction Potential	208	mV		Field	#
pH, Field (SM4500B)	5.19	pH_Units		Field	#
Sample Depth	40.00	Feet		Field	#
Specific Conductance, Field	777	umhos/cm	1	Field	#
Temperature	15.17	Deg. C		Field	#
Total Well Depth	51.46	Feet		Field	#
Turbidity, Field	1	NTU	1	Field	#
Volume in Water Column	15.63	Gallons		Field	#
Water Level After Purge	29.11	Feet		Field	#
Well Volumes Purged	4.53	Vol		Field	#
METALS					
Calcium, Total	34.2	mg/L	0.11	SW846 6010C	#
Magnesium, Total	19.1	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.18	mg/L	0.0056	SW846 6010C	#
Potassium, Total	3.8	mg/L	0.56	SW846 6010C	#
Sodium, Total	37.6	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	21	mg/L	5	SM2320B-2011	#
Alkalinity, Total	21	mg/L	5	SM2320B-2011	#
Chloride	119	mg/L	2.0	EPA 300.0	#
Nitrate-N	4.0	mg/L	1.0	EPA 300.0	#
pH	6.98	pH_Units		S4500HB-11	#
Specific Conductance	548	umhos/cm	5	SW846 9050A	#
Sulfate	36.0	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	410	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	0.65	mg/L	0.50	SW846 9060A	#

Detected Results Summary

Client Sample ID	FFMP019W	Collected	08/09/2023 11:47
Lab Sample ID	3317312003	Lab Receipt	08/09/2023 15:42

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	28.08	Feet		Field	#
Dissolved Oxygen	0.11	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	471.95	Feet		Field	#
Flow Rate	3.68	gal/min		Field	#
Ground Water Elevation	443.87	ft/MSL		Field	#
Oxidation-Reduction Potential	0.2	mV		Field	#
pH, Field (SM4500B)	6.44	pH_Units		Field	#
Sample Depth	49.00	Feet		Field	#
Specific Conductance, Field	648	umhos/cm	1	Field	#
Temperature	14.44	Deg. C		Field	#
Total Well Depth	132.79	Feet		Field	#
Turbidity, Field	1	NTU	1	Field	#
Volume in Water Column	68.06	Gallons		Field	#
Water Level After Purge	37.21	Feet		Field	#
Well Volumes Purged	2.16	Vol		Field	#
METALS					
Calcium, Total	67.5	mg/L	0.11	SW846 6010C	#
Magnesium, Total	6.4	mg/L	0.11	SW846 6010C	#
Potassium, Total	1.2	mg/L	0.56	SW846 6010C	#
Sodium, Total	11.7	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	67	mg/L	5	SM2320B-2011	#
Alkalinity, Total	67	mg/L	5	SM2320B-2011	#
Chloride	91.1	mg/L	2.0	EPA 300.0	#
pH	7.90	pH_Units		S4500HB-11	#
Specific Conductance	479	umhos/cm	5	SW846 9050A	#
Sulfate	15.3	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	404	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	0.77	mg/L	0.50	SW846 9060A	#

Detected Results Summary

Client Sample ID	FFMP029W	Collected	08/09/2023 12:42
Lab Sample ID	3317312004	Lab Receipt	08/09/2023 15:42

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	39.31	Feet		Field	#
Dissolved Oxygen	5.13	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	477.30	Feet		Field	#
Flow Rate	2.27	gal/min		Field	#
Ground Water Elevation	437.99	ft/MSL		Field	#
Oxidation-Reduction Potential	181	mV		Field	#
pH, Field (SM4500B)	5.12	pH_Units		Field	#
Sample Depth	55.00	Feet		Field	#
Specific Conductance, Field	476	umhos/cm	1	Field	#
Temperature	14.89	Deg. C		Field	#
Total Well Depth	60.50	Feet		Field	#
Turbidity, Field	1	NTU	1	Field	#
Volume in Water Column	31.15	Gallons		Field	#
Water Level After Purge	44.73	Feet		Field	#
Well Volumes Purged	2.92	Vol		Field	#
METALS					
Calcium, Total	17.9	mg/L	0.11	SW846 6010C	#
Magnesium, Total	11.9	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.039	mg/L	0.0056	SW846 6010C	#
Potassium, Total	2.4	mg/L	0.56	SW846 6010C	#
Sodium, Total	25.0	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	10	mg/L	5	SM2320B-2011	#
Alkalinity, Total	10	mg/L	5	SM2320B-2011	#
Ammonia-N	0.149	mg/L	0.100	ASTM D6919-17	#
Chloride	79.0	mg/L	2.0	EPA 300.0	#
Nitrate-N	3.4	mg/L	1.0	EPA 300.0	#
pH	6.85	pH_Units		S4500HB-11	#
Specific Conductance	356	umhos/cm	5	SW846 9050A	#
Sulfate	7.1	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	276	mg/L	25	SM2540C-15	#

Detected Results Summary

Client Sample ID	FFMP036W	Collected	08/09/2023 14:03
Lab Sample ID	3317312005	Lab Receipt	08/09/2023 15:42

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	46.57	Feet		Field	#
Dissolved Oxygen	6.93	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	478.23	Feet		Field	#
Flow Rate	1.48	gal/min		Field	#
Ground Water Elevation	431.66	ft/MSL		Field	#
Oxidation-Reduction Potential	176	mV		Field	#
pH, Field (SM4500B)	7.38	pH_Units		Field	#
Sample Depth	135.00	Feet		Field	#
Temperature	25.23	Deg. C		Field	#
Total Well Depth	142.60	Feet		Field	#
Turbidity, Field	194	NTU	1	Field	#
Volume in Water Column	141.16	Gallons		Field	#
Water Level After Purge	73.36	Feet		Field	#
Well Volumes Purged	0.63	Vol		Field	#
METALS					
Calcium, Total	52.4	mg/L	0.11	SW846 6010C	#
Iron, Total	0.97	mg/L	0.067	SW846 6010C	#
Magnesium, Total	5.1	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.10	mg/L	0.0056	SW846 6010C	#
Potassium, Total	0.83	mg/L	0.56	SW846 6010C	#
Sodium, Total	14.9	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	101	mg/L	5	SM2320B-2011	#
Alkalinity, Total	101	mg/L	5	SM2320B-2011	#
Chloride	34.1	mg/L	2.0	EPA 300.0	#
pH	8.21	pH_Units		S4500HB-11	#
Specific Conductance	371	umhos/cm	5	SW846 9050A	#
Sulfate	33.5	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	254	mg/L	25	SM2540C-15	#
Turbidity	7.8	NTU	0.30	SM2130B-2011	#

Detected Results Summary

Client Sample ID	FFMP035W	Collected	08/09/2023 14:06
Lab Sample ID	3317312006	Lab Receipt	08/09/2023 15:42

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	43.35	Feet		Field	#
Dissolved Oxygen	2.68	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	434.21	ft/MSL		Field	#
Oxidation-Reduction Potential	60	mV		Field	#
pH, Field (SM4500B)	6.87	pH_Units		Field	#
Sample Depth	65.00	Feet		Field	#
Specific Conductance, Field	758	umhos/cm	1	Field	#
Temperature	18.24	Deg. C		Field	#
Total Well Depth	71.80	Feet		Field	#
Turbidity, Field	3	NTU	1	Field	#
Volume in Water Column	41.82	Gallons		Field	#
Water Level After Purge	47.74	Feet		Field	#
Well Volumes Purged	0.99	Vol		Field	#
METALS					
Calcium, Total	92.5	mg/L	0.11	SW846 6010C	#
Iron, Total	0.10	mg/L	0.067	SW846 6010C	#
Magnesium, Total	15.0	mg/L	0.11	SW846 6010C	#
Potassium, Total	2.4	mg/L	0.56	SW846 6010C	#
Sodium, Total	35.5	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	125	mg/L	5	SM2320B-2011	#
Alkalinity, Total	125	mg/L	5	SM2320B-2011	#
Chloride	126	mg/L	2.0	EPA 300.0	#
Nitrate-N	4.8	mg/L	1.0	EPA 300.0	#
pH	8.08	pH_Units		S4500HB-11	#
Specific Conductance	769	umhos/cm	5	SW846 9050A	#
Sulfate	45.5	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	564	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	0.73	mg/L	0.50	SW846 9060A	#
Turbidity	1.8	NTU	0.30	SM2130B-2011	#

Results

Client Sample ID	FFMP017W	Collected	08/09/2023 10:18
Lab Sample ID	3317312001	Lab Receipt	08/09/2023 15:42

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	40.92		Feet		Field	1	08/09/2023 10:18	BGS	D
Dissolved Oxygen	0.08		mg/L	0.01	Field	1	08/09/2023 10:18	BGS	D
Elev Top MW Casing above MSL	480.70		Feet		Field	1	08/09/2023 10:18	BGS	D
Flow Rate	2.10		gal/min		Field	1	08/09/2023 10:18	BGS	D
Ground Water Elevation	439.78		ft/MSL		Field	1	08/09/2023 10:18	BGS	D
Oxidation-Reduction Potential	169		mV		Field	1	08/09/2023 10:18	BGS	D
pH, Field (SM4500B)	5.99		pH_Units		Field	1	08/09/2023 10:18	BGS	D
Sample Depth	135.00		Feet		Field	1	08/09/2023 10:18	BGS	D
Specific Conductance, Field	1633		umhos/cm	1	Field	1	08/09/2023 10:18	BGS	D
Temperature	13.20		Deg. C		Field	1	08/09/2023 10:18	BGS	D
Total Well Depth	150.50		Feet		Field	1	08/09/2023 10:18	BGS	D
Turbidity, Field	1		NTU	1	Field	1	08/09/2023 10:18	BGS	D
Volume in Water Column	161.08		Gallons		Field	1	08/09/2023 10:18	BGS	D
Water Level After Purge	50.12		Feet		Field	1	08/09/2023 10:18	BGS	D
Well Volumes Purged	0.78		Vol		Field	1	08/09/2023 10:18	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	90.5		mg/L	0.11	SW846 6010C	1	08/11/2023 11:12	AXW	J1
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	08/11/2023 11:12	AXW	J1
Magnesium, Total	33.1		mg/L	0.11	SW846 6010C	1	08/11/2023 11:12	AXW	J1
Manganese, Total	1.3		mg/L	0.0056	SW846 6010C	1	08/11/2023 11:12	AXW	J1
Potassium, Total	8.0		mg/L	0.56	SW846 6010C	1	08/11/2023 11:12	AXW	J1
Sodium, Total	83.9		mg/L	0.56	SW846 6010C	1	08/11/2023 11:12	AXW	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	08/11/2023 03:37	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 03:37	PDK	H

Results

Client Sample ID	FFMP017W	Collected	08/09/2023 10:18
Lab Sample ID	3317312001	Lab Receipt	08/09/2023 15:42

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	96.3%	62 – 133	08/11/2023 03:37	
4-Bromofluorobenzene	460-00-4	101%	79 – 114	08/11/2023 03:37	
Dibromofluoromethane	1868-53-7	98.7%	78 – 116	08/11/2023 03:37	
Toluene-d8	2037-26-5	98.5%	76 – 127	08/11/2023 03:37	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	115		mg/L	5	SM2320B-2011	1	08/12/2023 04:09	JMS	B
Alkalinity, Total	115	1	mg/L	5	SM2320B-2011	1	08/12/2023 04:09	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/24/2023 22:10	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/11/2023 11:36	KMS	A
Chloride	238		mg/L	5.0	EPA 300.0	5	08/10/2023 16:03	GJB	B
Fluoride	ND	ND	mg/L	0.50	EPA 300.0	5	08/10/2023 16:03	GJB	B
Nitrate-N	3.1		mg/L	2.5	EPA 300.0	5	08/10/2023 16:03	GJB	B
pH	7.78	2	pH_Units		S4500HB-11	1	08/12/2023 04:09	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 13:07	AKH	G
Specific Conductance	1180		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	77.9		mg/L	5.0	EPA 300.0	5	08/10/2023 16:03	GJB	B
Total Dissolved Solids	782		mg/L	25	SM2540C-15	1	08/16/2023 19:09	GJB	B
Total Organic Carbon (TOC)	2.8		mg/L	0.50	SW846 9060A	1	08/11/2023 05:04	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	08/09/2023 23:40	NRB	B

Results

Client Sample ID	FFMP018W	Collected	08/09/2023 10:58
Lab Sample ID	3317312002	Lab Receipt	08/09/2023 15:42

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	27.42		Feet		Field	1	08/09/2023 10:58	BGS	D
Dissolved Oxygen	3.40		mg/L	0.01	Field	1	08/09/2023 10:58	BGS	D
Elev Top MW Casing above MSL	472.20		Feet		Field	1	08/09/2023 10:58	BGS	D
Flow Rate	3.54		gal/min		Field	1	08/09/2023 10:58	BGS	D
Ground Water Elevation	444.78		ft/MSL		Field	1	08/09/2023 10:58	BGS	D
Oxidation-Reduction Potential	208		mV		Field	1	08/09/2023 10:58	BGS	D
pH, Field (SM4500B)	5.19		pH_Units		Field	1	08/09/2023 10:58	BGS	D
Sample Depth	40.00		Feet		Field	1	08/09/2023 10:58	BGS	D
Specific Conductance, Field	777		umhos/cm	1	Field	1	08/09/2023 10:58	BGS	D
Temperature	15.17		Deg. C		Field	1	08/09/2023 10:58	BGS	D
Total Well Depth	51.46		Feet		Field	1	08/09/2023 10:58	BGS	D
Turbidity, Field	1		NTU	1	Field	1	08/09/2023 10:58	BGS	D
Volume in Water Column	15.63		Gallons		Field	1	08/09/2023 10:58	BGS	D
Water Level After Purge	29.11		Feet		Field	1	08/09/2023 10:58	BGS	D
Well Volumes Purged	4.53		Vol		Field	1	08/09/2023 10:58	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	34.2	3	mg/L	0.11	SW846 6010C	1	08/11/2023 11:13	AXW	J1
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	08/11/2023 11:13	AXW	J1
Magnesium, Total	19.1	3	mg/L	0.11	SW846 6010C	1	08/11/2023 11:13	AXW	J1
Manganese, Total	0.18		mg/L	0.0056	SW846 6010C	1	08/11/2023 11:13	AXW	J1
Potassium, Total	3.8		mg/L	0.56	SW846 6010C	1	08/11/2023 11:13	AXW	J1
Sodium, Total	37.6		mg/L	0.56	SW846 6010C	1	08/11/2023 11:13	AXW	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	08/11/2023 04:00	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:00	PDK	H

Results

Client Sample ID	FFMP018W	Collected	08/09/2023 10:58
Lab Sample ID	3317312002	Lab Receipt	08/09/2023 15:42

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	96.1%	62 – 133	08/11/2023 04:00	
4-Bromofluorobenzene	460-00-4	101%	79 – 114	08/11/2023 04:00	
Dibromofluoromethane	1868-53-7	98%	78 – 116	08/11/2023 04:00	
Toluene-d8	2037-26-5	98.4%	76 – 127	08/11/2023 04:00	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	21		mg/L	5	SM2320B-2011	1	08/11/2023 20:00	JMS	B
Alkalinity, Total	21	1	mg/L	5	SM2320B-2011	1	08/11/2023 20:00	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/24/2023 23:05	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/11/2023 11:36	KMS	A
Chloride	119		mg/L	2.0	EPA 300.0	2	08/10/2023 16:13	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/10/2023 16:13	GJB	B
Nitrate-N	4.0		mg/L	1.0	EPA 300.0	2	08/10/2023 16:13	GJB	B
pH	6.98	2	pH_Units		S4500HB-11	1	08/11/2023 20:00	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 13:03	AKH	G
Specific Conductance	548		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	36.0		mg/L	2.0	EPA 300.0	2	08/10/2023 16:13	GJB	B
Total Dissolved Solids	410		mg/L	25	SM2540C-15	1	08/16/2023 19:09	GJB	B
Total Organic Carbon (TOC)	0.65		mg/L	0.50	SW846 9060A	1	08/11/2023 05:04	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	08/09/2023 23:40	NRB	B

Results

Client Sample ID	FFMP019W	Collected	08/09/2023 11:47
Lab Sample ID	3317312003	Lab Receipt	08/09/2023 15:42

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	28.08		Feet		Field	1	08/09/2023 11:47	BGS	D
Dissolved Oxygen	0.11		mg/L	0.01	Field	1	08/09/2023 11:47	BGS	D
Elev Top MW Casing above MSL	471.95		Feet		Field	1	08/09/2023 11:47	BGS	D
Flow Rate	3.68		gal/min		Field	1	08/09/2023 11:47	BGS	D
Ground Water Elevation	443.87		ft/MSL		Field	1	08/09/2023 11:47	BGS	D
Oxidation-Reduction Potential	0.2		mV		Field	1	08/09/2023 11:47	BGS	D
pH, Field (SM4500B)	6.44		pH_Units		Field	1	08/09/2023 11:47	BGS	D
Sample Depth	49.00		Feet		Field	1	08/09/2023 11:47	BGS	D
Specific Conductance, Field	648		umhos/cm	1	Field	1	08/09/2023 11:47	BGS	D
Temperature	14.44		Deg. C		Field	1	08/09/2023 11:47	BGS	D
Total Well Depth	132.79		Feet		Field	1	08/09/2023 11:47	BGS	D
Turbidity, Field	1		NTU	1	Field	1	08/09/2023 11:47	BGS	D
Volume in Water Column	68.06		Gallons		Field	1	08/09/2023 11:47	BGS	D
Water Level After Purge	37.21		Feet		Field	1	08/09/2023 11:47	BGS	D
Well Volumes Purged	2.16		Vol		Field	1	08/09/2023 11:47	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	67.5		mg/L	0.11	SW846 6010C	1	08/11/2023 11:18	AXW	J1
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	08/11/2023 11:18	AXW	J1
Magnesium, Total	6.4		mg/L	0.11	SW846 6010C	1	08/11/2023 11:18	AXW	J1
Manganese, Total	ND	ND	mg/L	0.0056	SW846 6010C	1	08/11/2023 11:18	AXW	J1
Potassium, Total	1.2		mg/L	0.56	SW846 6010C	1	08/11/2023 11:18	AXW	J1
Sodium, Total	11.7		mg/L	0.56	SW846 6010C	1	08/11/2023 11:18	AXW	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	08/11/2023 04:23	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:23	PDK	H

Results

Client Sample ID	FFMP019W	Collected	08/09/2023 11:47
Lab Sample ID	3317312003	Lab Receipt	08/09/2023 15:42

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	97.9%	62 – 133	08/11/2023 04:23	
4-Bromofluorobenzene	460-00-4	98.9%	79 – 114	08/11/2023 04:23	
Dibromofluoromethane	1868-53-7	97.2%	78 – 116	08/11/2023 04:23	
Toluene-d8	2037-26-5	98.3%	76 – 127	08/11/2023 04:23	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	67		mg/L	5	SM2320B-2011	1	08/12/2023 00:45	JMS	B
Alkalinity, Total	67	1	mg/L	5	SM2320B-2011	1	08/12/2023 00:45	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/24/2023 22:24	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/11/2023 11:36	KMS	A
Chloride	91.1		mg/L	2.0	EPA 300.0	2	08/10/2023 16:24	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/10/2023 16:24	GJB	B
Nitrate-N	ND	ND	mg/L	1.0	EPA 300.0	2	08/10/2023 16:24	GJB	B
pH	7.90	2	pH_Units		S4500HB-11	1	08/12/2023 00:45	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 13:10	AKH	G
Specific Conductance	479		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	15.3		mg/L	2.0	EPA 300.0	2	08/10/2023 16:24	GJB	B
Total Dissolved Solids	404		mg/L	25	SM2540C-15	1	08/16/2023 19:09	GJB	B
Total Organic Carbon (TOC)	0.77		mg/L	0.50	SW846 9060A	1	08/11/2023 05:04	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	08/09/2023 23:40	NRB	B

Results

Client Sample ID	FFMP029W	Collected	08/09/2023 12:42
Lab Sample ID	3317312004	Lab Receipt	08/09/2023 15:42

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	39.31		Feet		Field	1	08/09/2023 12:42	BGS	D
Dissolved Oxygen	5.13		mg/L	0.01	Field	1	08/09/2023 12:42	BGS	D
Elev Top MW Casing above MSL	477.30		Feet		Field	1	08/09/2023 12:42	BGS	D
Flow Rate	2.27		gal/min		Field	1	08/09/2023 12:42	BGS	D
Ground Water Elevation	437.99		ft/MSL		Field	1	08/09/2023 12:42	BGS	D
Oxidation-Reduction Potential	181		mV		Field	1	08/09/2023 12:42	BGS	D
pH, Field (SM4500B)	5.12		pH_Units		Field	1	08/09/2023 12:42	BGS	D
Sample Depth	55.00		Feet		Field	1	08/09/2023 12:42	BGS	D
Specific Conductance, Field	476		umhos/cm	1	Field	1	08/09/2023 12:42	BGS	D
Temperature	14.89		Deg. C		Field	1	08/09/2023 12:42	BGS	D
Total Well Depth	60.50		Feet		Field	1	08/09/2023 12:42	BGS	D
Turbidity, Field	1		NTU	1	Field	1	08/09/2023 12:42	BGS	D
Volume in Water Column	31.15		Gallons		Field	1	08/09/2023 12:42	BGS	D
Water Level After Purge	44.73		Feet		Field	1	08/09/2023 12:42	BGS	D
Well Volumes Purged	2.92		Vol		Field	1	08/09/2023 12:42	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	17.9		mg/L	0.11	SW846 6010C	1	08/11/2023 11:19	AXW	J1
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	08/11/2023 11:19	AXW	J1
Magnesium, Total	11.9		mg/L	0.11	SW846 6010C	1	08/11/2023 11:19	AXW	J1
Manganese, Total	0.039		mg/L	0.0056	SW846 6010C	1	08/11/2023 11:19	AXW	J1
Potassium, Total	2.4		mg/L	0.56	SW846 6010C	1	08/11/2023 11:19	AXW	J1
Sodium, Total	25.0		mg/L	0.56	SW846 6010C	1	08/11/2023 11:19	AXW	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	08/11/2023 04:46	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 04:46	PDK	H

Results

Client Sample ID	FFMP029W	Collected	08/09/2023 12:42
Lab Sample ID	3317312004	Lab Receipt	08/09/2023 15:42

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	98.3%	62 – 133	08/11/2023 04:46	
4-Bromofluorobenzene	460-00-4	102%	79 – 114	08/11/2023 04:46	
Dibromofluoromethane	1868-53-7	98%	78 – 116	08/11/2023 04:46	
Toluene-d8	2037-26-5	98.8%	76 – 127	08/11/2023 04:46	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	10		mg/L	5	SM2320B-2011	1	08/12/2023 00:58	JMS	B
Alkalinity, Total	10	1	mg/L	5	SM2320B-2011	1	08/12/2023 00:58	JMS	B
Ammonia-N	0.149		mg/L	0.100	ASTM D6919-17	10	08/24/2023 22:37	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/11/2023 11:36	KMS	A
Chloride	79.0	4	mg/L	2.0	EPA 300.0	2	08/10/2023 16:34	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/10/2023 16:34	GJB	B
Nitrate-N	3.4	5	mg/L	1.0	EPA 300.0	2	08/10/2023 16:34	GJB	B
pH	6.85	2	pH_Units		S4500HB-11	1	08/12/2023 00:58	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 13:20	AKH	G
Specific Conductance	356		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	7.1		mg/L	2.0	EPA 300.0	2	08/10/2023 16:34	GJB	B
Total Dissolved Solids	276		mg/L	25	SM2540C-15	1	08/16/2023 19:09	GJB	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	08/15/2023 04:22	PAG	E
Turbidity	ND	ND	NTU	0.30	SM2130B-2011	1	08/09/2023 23:40	NRB	B

Results

Client Sample ID	FFMP036W	Collected	08/09/2023 14:03
Lab Sample ID	3317312005	Lab Receipt	08/09/2023 15:42

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	46.57		Feet		Field	1	08/10/2023 09:36	BGS	D
Dissolved Oxygen	6.93		mg/L	0.01	Field	1	08/10/2023 09:36	BGS	D
Elev Top MW Casing above MSL	478.23		Feet		Field	1	08/10/2023 09:36	BGS	D
Flow Rate	1.48		gal/min		Field	1	08/10/2023 09:36	BGS	D
Ground Water Elevation	431.66		ft/MSL		Field	1	08/10/2023 09:36	BGS	D
Oxidation-Reduction Potential	176		mV		Field	1	08/10/2023 09:36	BGS	D
pH, Field (SM4500B)	7.38		pH_Units		Field	1	08/10/2023 09:36	BGS	D
Sample Depth	135.00		Feet		Field	1	08/10/2023 09:36	BGS	D
Specific Conductance, Field	ND	ND	umhos/cm	1	Field	1	08/10/2023 09:36	BGS	D
Temperature	25.23		Deg. C		Field	1	08/10/2023 09:36	BGS	D
Total Well Depth	142.60		Feet		Field	1	08/10/2023 09:36	BGS	D
Turbidity, Field	194		NTU	1	Field	1	08/10/2023 09:36	BGS	D
Volume in Water Column	141.16		Gallons		Field	1	08/10/2023 09:36	BGS	D
Water Level After Purge	73.36		Feet		Field	1	08/10/2023 09:36	BGS	D
Well Volumes Purged	0.63		Vol		Field	1	08/10/2023 09:36	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	52.4		mg/L	0.11	SW846 6010C	1	08/11/2023 11:33	AXW	J1
Iron, Total	0.97		mg/L	0.067	SW846 6010C	1	08/11/2023 11:33	AXW	J1
Magnesium, Total	5.1		mg/L	0.11	SW846 6010C	1	08/11/2023 11:33	AXW	J1
Manganese, Total	0.10		mg/L	0.0056	SW846 6010C	1	08/11/2023 11:33	AXW	J1
Potassium, Total	0.83		mg/L	0.56	SW846 6010C	1	08/11/2023 11:33	AXW	J1
Sodium, Total	14.9		mg/L	0.56	SW846 6010C	1	08/11/2023 11:33	AXW	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	08/11/2023 05:10	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:10	PDK	H

Results

Client Sample ID	FFMP036W	Collected	08/09/2023 14:03
Lab Sample ID	3317312005	Lab Receipt	08/09/2023 15:42

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	08/11/2023 05:10	
4-Bromofluorobenzene	460-00-4	103%	79 – 114	08/11/2023 05:10	
Dibromofluoromethane	1868-53-7	99.1%	78 – 116	08/11/2023 05:10	
Toluene-d8	2037-26-5	99.2%	76 – 127	08/11/2023 05:10	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	101		mg/L	5	SM2320B-2011	1	08/12/2023 01:09	JMS	B
Alkalinity, Total	101	1	mg/L	5	SM2320B-2011	1	08/12/2023 01:09	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/24/2023 20:32	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/11/2023 11:36	KMS	A
Chloride	34.1		mg/L	2.0	EPA 300.0	2	08/10/2023 15:40	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/10/2023 15:40	GJB	B
Nitrate-N	ND	ND	mg/L	1.0	EPA 300.0	2	08/10/2023 15:40	GJB	B
pH	8.21	2	pH_Units		S4500HB-11	1	08/12/2023 01:09	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 13:53	AKH	G
Specific Conductance	371		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	33.5		mg/L	2.0	EPA 300.0	2	08/10/2023 15:40	GJB	B
Total Dissolved Solids	254		mg/L	25	SM2540C-15	1	08/16/2023 19:09	GJB	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	08/15/2023 04:22	PAG	E
Turbidity	7.8		NTU	0.30	SM2130B-2011	1	08/09/2023 23:40	NRB	B

Results

Client Sample ID	FFMP035W	Collected	08/09/2023 14:06
Lab Sample ID	3317312006	Lab Receipt	08/09/2023 15:42

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	43.35		Feet		Field	1	08/09/2023 14:06	BGS	D
Dissolved Oxygen	2.68		mg/L	0.01	Field	1	08/09/2023 14:06	BGS	D
Elev Top MW Casing above MSL	477.56		Feet		Field	1	08/09/2023 14:06	BGS	D
Flow Rate	0.69		gal/min		Field	1	08/09/2023 14:06	BGS	D
Ground Water Elevation	434.21		ft/MSL		Field	1	08/09/2023 14:06	BGS	D
Oxidation-Reduction Potential	60		mV		Field	1	08/09/2023 14:06	BGS	D
pH, Field (SM4500B)	6.87		pH_Units		Field	1	08/09/2023 14:06	BGS	D
Sample Depth	65.00		Feet		Field	1	08/09/2023 14:06	BGS	D
Specific Conductance, Field	758		umhos/cm	1	Field	1	08/09/2023 14:06	BGS	D
Temperature	18.24		Deg. C		Field	1	08/09/2023 14:06	BGS	D
Total Well Depth	71.80		Feet		Field	1	08/09/2023 14:06	BGS	D
Turbidity, Field	3		NTU	1	Field	1	08/09/2023 14:06	BGS	D
Volume in Water Column	41.82		Gallons		Field	1	08/09/2023 14:06	BGS	D
Water Level After Purge	47.74		Feet		Field	1	08/09/2023 14:06	BGS	D
Well Volumes Purged	0.99		Vol		Field	1	08/09/2023 14:06	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	92.5		mg/L	0.11	SW846 6010C	1	08/11/2023 11:35	AXW	J1
Iron, Total	0.10		mg/L	0.067	SW846 6010C	1	08/11/2023 11:35	AXW	J1
Magnesium, Total	15.0		mg/L	0.11	SW846 6010C	1	08/11/2023 11:35	AXW	J1
Manganese, Total	ND	ND	mg/L	0.0056	SW846 6010C	1	08/11/2023 11:35	AXW	J1
Potassium, Total	2.4		mg/L	0.56	SW846 6010C	1	08/11/2023 11:35	AXW	J1
Sodium, Total	35.5		mg/L	0.56	SW846 6010C	1	08/11/2023 11:35	AXW	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	08/11/2023 05:33	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/11/2023 05:33	PDK	H

Results

Client Sample ID	FFMP035W	Collected	08/09/2023 14:06
Lab Sample ID	3317312006	Lab Receipt	08/09/2023 15:42

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	08/11/2023 05:33	
4-Bromofluorobenzene	460-00-4	99.1%	79 – 114	08/11/2023 05:33	
Dibromofluoromethane	1868-53-7	98.3%	78 – 116	08/11/2023 05:33	
Toluene-d8	2037-26-5	97%	76 – 127	08/11/2023 05:33	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	125		mg/L	5	SM2320B-2011	1	08/12/2023 01:21	JMS	B
Alkalinity, Total	125	1	mg/L	5	SM2320B-2011	1	08/12/2023 01:21	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/24/2023 22:51	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	08/11/2023 11:36	KMS	A
Chloride	126		mg/L	2.0	EPA 300.0	2	08/10/2023 15:51	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/10/2023 15:51	GJB	B
Nitrate-N	4.8		mg/L	1.0	EPA 300.0	2	08/10/2023 15:51	GJB	B
pH	8.08	2	pH_Units		S4500HB-11	1	08/12/2023 01:21	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 14:13	AKH	G
Specific Conductance	769		umhos/cm	5	SW846 9050A	1	08/21/2023 11:30	JXL	B
Sulfate	45.5		mg/L	2.0	EPA 300.0	2	08/10/2023 15:51	GJB	B
Total Dissolved Solids	564		mg/L	25	SM2540C-15	1	08/16/2023 19:09	GJB	B
Total Organic Carbon (TOC)	0.73		mg/L	0.50	SW846 9060A	1	08/15/2023 04:22	PAG	E
Turbidity	1.8		NTU	0.30	SM2130B-2011	1	08/09/2023 23:40	NRB	B

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3317312001	FFMP017W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3317312002	FFMP018W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3317312003	FFMP019W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3317312004	FFMP029W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3317312005	FFMP036W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3317312006	FFMP035W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	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
3317312001	FFMP017W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1043140	08/10/2023 02:25	ANN	SW846 6010C	1045667
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050298
		N/A	N/A	N/A		EPA 300.0	1044640
		N/A	N/A	N/A		EPA 410.4	1045652
		N/A	N/A	N/A		S4500HB-11	1045706
		N/A	N/A	N/A		SM2130B-2011	1043237
		N/A	N/A	N/A		SM2320B-2011	1045706
		N/A	N/A	N/A		SM2540C-15	1048790
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1045055
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116
3317312002	FFMP018W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1043140	08/10/2023 02:25	ANN	SW846 6010C	1045667
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050298
		N/A	N/A	N/A		EPA 300.0	1044640
		N/A	N/A	N/A		EPA 410.4	1045652
		N/A	N/A	N/A		S4500HB-11	1045706
		N/A	N/A	N/A		SM2130B-2011	1043237
		N/A	N/A	N/A		SM2320B-2011	1045706
		N/A	N/A	N/A		SM2540C-15	1048790
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1045055
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116
3317312003	FFMP019W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1043140	08/10/2023 02:25	ANN	SW846 6010C	1045667
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050298
		N/A	N/A	N/A		EPA 300.0	1044640
		N/A	N/A	N/A		EPA 410.4	1045652
		N/A	N/A	N/A		S4500HB-11	1045706
		N/A	N/A	N/A		SM2130B-2011	1043237
		N/A	N/A	N/A		SM2320B-2011	1045706
		N/A	N/A	N/A		SM2540C-15	1048790
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1045055
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116
3317312004	FFMP029W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1043140	08/10/2023 02:25	ANN	SW846 6010C	1045667
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050298
		N/A	N/A	N/A		EPA 300.0	1044640
		N/A	N/A	N/A		EPA 410.4	1045652
		N/A	N/A	N/A		S4500HB-11	1045706
		N/A	N/A	N/A		SM2130B-2011	1043237
		N/A	N/A	N/A		SM2320B-2011	1045706
		N/A	N/A	N/A		SM2540C-15	1048790
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1048065
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3317312005	FFMP036W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1043140	08/10/2023 02:25	ANN	SW846 6010C	1045667
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050296
		N/A	N/A	N/A		EPA 300.0	1045086
		N/A	N/A	N/A		EPA 410.4	1045652
		N/A	N/A	N/A		S4500HB-11	1045706
		N/A	N/A	N/A		SM2130B-2011	1043237
		N/A	N/A	N/A		SM2320B-2011	1045706
		N/A	N/A	N/A		SM2540C-15	1048790
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1048065
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116
3317312006	FFMP035W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1043140	08/10/2023 02:25	ANN	SW846 6010C	1045667
		N/A	N/A	N/A		SW846 8260B	1045115
		N/A	N/A	N/A		ASTM D6919-17	1050298
		N/A	N/A	N/A		EPA 300.0	1045086
		N/A	N/A	N/A		EPA 410.4	1045652
		N/A	N/A	N/A		S4500HB-11	1045706
		N/A	N/A	N/A		SM2130B-2011	1043237
		N/A	N/A	N/A		SM2320B-2011	1045706
		N/A	N/A	N/A		SM2540C-15	1048790
		N/A	N/A	N/A		SW846 9050A	1050136
		N/A	N/A	N/A		SW846 9060A	1048065
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116

ALS Environmental
34 Dogwood Lane • Middletown, PA 17057 • Phone: 717-944-5541 • Fax: 717-948-1430 • www.alsglobal.com

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by A

3317312

Logged By: SLS
PM: SJB

2

1 of 1

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

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

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 [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.

Date Required: _____ **Approved By:** _____

Email? [X] -Y dbrown@LCSWMA.com

Fax? [X] -Y No.: (717) 397-9973

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

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Sample or Field Results Below.

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-OH	VOC - Form 19Q	Field Measurements	Sample Depth for AUX Data	NH3-N, COD	Metals: Fe, Mn, Na, Ca, K, Mg	pH, Cl, SpC, F, SO4, TDS, NO3, Turb.	Alkalinity Bicarbonate	
1. FFMP017W	08/09/23	1018	G	GW	2	1	2	x	x	1	2	1	1	
2. FFMP018W	08/09/23	1058	G	GW	2	1	2	x	x	1	2	1	1	
3. FFMP019W	08/09/23	1147	G	GW	2	1	2	x	x	1	2	1	1	
4. FFMP029W	08/09/23	1242	G	GW	2	1	2	x	x	1	2	1	1	
5. FFMP036W	08/09/23	1403	G	GW	2	1	2	x	x	1	2	1	1	
6. FFMP035W	08/09/23	1406	G	GW	2	1	2	x	x	1	2	1	1	
7														
8														
9														
10														

Project Comments:

Receipt Information (completed by Receiving Lab)

Cooler Temp: _____ Therm ID: _____

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Legible?			

Temp By: DPB | WO Temp (°C): 1° | Therm ID: 510

Receipt Info Completed By: DPB			
Cooler Custody Seal Intact	Y	N	NA
Sample Custody Seal Intact	Y	N	NA
Received on Ice	Y	N	NA
Cooler & Samples Intact	Y	N	
Correct Containers Provided	Y	N	
Sample Label/COC Agree	Y	N	
Adequate Sample Volumes	Y	N	
CR6 Samples Filtered	Y	N	NA
OP Samples Filtered	Y	N	NA
VOA Trip Blank	Y	N	NA
NJ≤ 4 Days?	Y	N	
Rad Screen (uCi)			
Courier/Tracking #:			
SDWA Compliance	Y	N	
PWSID			
WV Containers 0-6°C	Y	N	NA

ALS Field Services: ☐Pickup ☐Labor ☐Composite_Sampling ☐Rental_Equipment ☐Other: _____

LOGGED BY(signature): DATE: TIME:

REVIEWED BY(signature): DATE: TIME:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
[illegible] RELINQUISHED BY ALS	8.9.23	1542	2	8-9-23	1542
			4		
			6		
			8		
			10		

Data Deliverables: ☐Standard ☐CLP-like ☐USACE ☐

Special Processing: USACE ☐ Navy ☐ ☐

State Samples Collected In: ☐NY ☐NJ [X] PA ☐NC ☐

Reportable to PADEP? Yes ☐ PWSID #

Sample Disposal: Lab [X] Special ☐

EDDS: Format Type-

* G=Grab; C=Composite

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

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

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 3RD QTR 2023 GWMP-FORM 19Q
Workorder 3317650
Report ID 266477 on 8/25/2023

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Aug 10, 2023.

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):
Jordan Bigler - Lancaster County Solid Waste Authority
Ashley Gichuki - Lancaster County Solid Waste Authority
Daniel Brown - Lancaster County Solid Waste Authority
Jeff Musser - Lancaster County Solid Waste Authority

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

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3317650001	FFMP02DW	Ground Water	08/10/2023 10:50	08/10/2023 15:15	BGS	Analytical Laboratory Service
3317650002	FFMP02SW	Ground Water	08/10/2023 11:24	08/10/2023 15:15	BGS	Analytical Laboratory Service
3317650003	FFMP031W	Ground Water	08/10/2023 12:50	08/10/2023 15:15	BGS	Analytical Laboratory Service
3317650004	FFMP002W	Ground Water	08/10/2023 13:29	08/10/2023 15:15	BGS	Analytical Laboratory Service
3317650005	FFMP032W	Ground Water	08/10/2023 14:02	08/10/2023 15:15	BGS	Analytical Laboratory Service
3317650006	FIELD BLANK	Water	08/10/2023 14:08	08/10/2023 15:15	BGS	Analytical Laboratory Service
3317650007	TRIP BLANK	Water	08/10/2023 15:15	08/10/2023 15:15	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, including but not limited to the following EPA Method reference revisions:
  EPA 300.1 Rev. 1.0-1997
  EPA 300.0 Rev. 2.1-1993
  EPA 353.2 Rev. 2.0-1993
  EPA 410.4 Rev. 1.0-1993
  EPA 420.4 Rev. 1.0-1993
  EPA 365.1 Rev. 2.0-1993
  EPA 200.7 Rev. 4.4-1994
  EPA 200.8 Rev. 5.4-1994
  EPA 245.1 Rev. 3.0-1994
- 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 concentration of this analyte was greater than 4 times the concentration of the spike added to the matrix spike. According to protocol, the calculation for percent recovery of the matrix spike is not valid.

Detected Results Summary

Client Sample ID	FFMP02DW	Collected	08/10/2023 10:50
Lab Sample ID	3317650001	Lab Receipt	08/10/2023 15:15

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	20.00	Feet		Field	#
Elev Top MW Casing above MSL	509.60	Feet		Field	#
Flow Rate	2.30	gal/min		Field	#
Ground Water Elevation	489.60	ft/MSL		Field	#
Oxidation-Reduction Potential	-49	mV		Field	#
pH, Field (SM4500B)	6.60	pH_Units		Field	#
Sample Depth	120.00	Feet		Field	#
Specific Conductance, Field	1793	umhos/cm	1	Field	#
Temperature	14.73	Deg. C		Field	#
Total Well Depth	153.00	Feet		Field	#
Turbidity, Field	69	NTU	1	Field	#
Volume in Water Column	195.51	Gallons		Field	#
Water Level After Purge	77.05	Feet		Field	#
Well Volumes Purged	0.71	Vol		Field	#
METALS					
Calcium, Total	148	mg/L	0.11	SW846 6010C	#
Iron, Total	3.8	mg/L	0.067	SW846 6010C	#
Magnesium, Total	22.7	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.58	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.4	mg/L	0.56	SW846 6010C	#
Sodium, Total	161	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	123	mg/L	5	SM2320B-2011	#
Alkalinity, Total	123	mg/L	5	SM2320B-2011	#
Chemical Oxygen Demand (COD)	21	mg/L	15	EPA 410.4	#
Chloride	444	mg/L	5.0	EPA 300.0	#
Nitrate-N	4.3	mg/L	2.5	EPA 300.0	#
pH	8.06	pH_Units		S4500HB-11	#
Specific Conductance	1800	umhos/cm	5	SW846 9050A	#
Sulfate	37.9	mg/L	5.0	EPA 300.0	#
Total Dissolved Solids	1250	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	0.83	mg/L	0.50	SW846 9060A	#
Turbidity	45	NTU	0.30	SM2130B-2011	#

Detected Results Summary

Client Sample ID	FFMP02SW	Collected	08/10/2023 11:24
Lab Sample ID	3317650002	Lab Receipt	08/10/2023 15:15

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	15.83	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	494.07	ft/MSL		Field	#
Oxidation-Reduction Potential	200	mV		Field	#
pH, Field (SM4500B)	5.18	pH_Units		Field	#
Sample Depth	18.00	Feet		Field	#
Specific Conductance, Field	493	umhos/cm	1	Field	#
Temperature	18.50	Deg. C		Field	#
Total Well Depth	22.70	Feet		Field	#
Turbidity, Field	29	NTU	1	Field	#
Volume in Water Column	4.47	Gallons		Field	#
Water Level After Purge	17.75	Feet		Field	#
Well Volumes Purged	2.69	Vol		Field	#
METALS					
Calcium, Total	19.7	mg/L	0.11	SW846 6010C	#
Iron, Total	0.25	mg/L	0.067	SW846 6010C	#
Magnesium, Total	7.3	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.023	mg/L	0.0056	SW846 6010C	#
Potassium, Total	4.4	mg/L	0.56	SW846 6010C	#
Sodium, Total	53.0	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	23	mg/L	5	SM2320B-2011	#
Alkalinity, Total	23	mg/L	5	SM2320B-2011	#
Chemical Oxygen Demand (COD)	30	mg/L	15	EPA 410.4	#
Chloride	59.1	mg/L	2.0	EPA 300.0	#
Nitrate-N	11.9	mg/L	1.0	EPA 300.0	#
pH	7.33	pH_Units		S4500HB-11	#
Specific Conductance	459	umhos/cm	5	SW846 9050A	#
Sulfate	44.0	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	298	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	1.4	mg/L	0.50	SW846 9060A	#
Turbidity	90	NTU	0.30	SM2130B-2011	#

Detected Results Summary

Client Sample ID	FFMP031W	Collected	08/10/2023 12:50
Lab Sample ID	3317650003	Lab Receipt	08/10/2023 15:15

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	68.91	Feet		Field	#
Elev Top MW Casing above MSL	612.66	Feet		Field	#
Flow Rate	1.70	gal/min		Field	#
Ground Water Elevation	543.75	ft/MSL		Field	#
Oxidation-Reduction Potential	-312	mV		Field	#
pH, Field (SM4500B)	7.77	pH_Units		Field	#
Sample Depth	130.00	Feet		Field	#
Specific Conductance, Field	320	umhos/cm	1	Field	#
Temperature	16.10	Deg. C		Field	#
Total Well Depth	142.70	Feet		Field	#
Turbidity, Field	69	NTU	1	Field	#
Volume in Water Column	108.47	Gallons		Field	#
Water Level After Purge	107.61	Feet		Field	#
Well Volumes Purged	0.94	Vol		Field	#
METALS					
Calcium, Total	45.8	mg/L	0.11	SW846 6010C	#
Iron, Total	4.4	mg/L	0.067	SW846 6010C	#
Magnesium, Total	4.5	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.36	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.4	mg/L	0.56	SW846 6010C	#
Sodium, Total	10.2	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	74	mg/L	5	SM2320B-2011	#
Alkalinity, Total	74	mg/L	5	SM2320B-2011	#
Chemical Oxygen Demand (COD)	26	mg/L	15	EPA 410.4	#
Chloride	20.7	mg/L	2.0	EPA 300.0	#
pH	8.06	pH_Units		S4500HB-11	#
Specific Conductance	317	umhos/cm	5	SW846 9050A	#
Sulfate	46.6	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	194	mg/L	25	SM2540C-15	#
Turbidity	22	NTU	0.30	SM2130B-2011	#

Detected Results Summary

Client Sample ID	FFMP002W	Collected	08/10/2023 13:29
Lab Sample ID	3317650004	Lab Receipt	08/10/2023 15:15

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	69.00	Feet		Field	#
Dissolved Oxygen	4.38	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	613.20	Feet		Field	#
Flow Rate	1.40	gal/min		Field	#
Ground Water Elevation	544.20	ft/MSL		Field	#
Oxidation-Reduction Potential	358	mV		Field	#
pH, Field (SM4500B)	4.26	pH_Units		Field	#
Sample Depth	85.00	Feet		Field	#
Specific Conductance, Field	254	umhos/cm	1	Field	#
Temperature	15.50	Deg. C		Field	#
Total Well Depth	90.02	Feet		Field	#
Turbidity, Field	1	NTU	1	Field	#
Volume in Water Column	30.90	Gallons		Field	#
Water Level After Purge	81.77	Feet		Field	#
Well Volumes Purged	0.91	Vol		Field	#
METALS					
Calcium, Total	18.1	mg/L	0.11	SW846 6010C	#
Iron, Total	0.071	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	1.2	mg/L	0.56	SW846 6010C	#
Sodium, Total	13.5	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Chemical Oxygen Demand (COD)	20	mg/L	15	EPA 410.4	#
Chloride	15.6	mg/L	2.0	EPA 300.0	#
Nitrate-N	17.3	mg/L	1.0	EPA 300.0	#
pH	5.74	pH_Units		S4500HB-11	#
Specific Conductance	255	umhos/cm	5	SW846 9050A	#
Sulfate	13.9	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	216	mg/L	25	SM2540C-15	#
Turbidity	0.65	NTU	0.30	SM2130B-2011	#

Detected Results Summary

Client Sample ID	FFMP032W	Collected	08/10/2023 14:02
Lab Sample ID	3317650005	Lab Receipt	08/10/2023 15:15

Compound	Result	Units	RDL	Method	Flag
FIELD PARAMETERS					
Depth to Water Level	50.86	Feet		Field	#
Dissolved Oxygen	0.11	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	543.23	ft/MSL		Field	#
Oxidation-Reduction Potential	-116	mV		Field	#
pH, Field (SM4500B)	6.53	pH_Units		Field	#
Sample Depth	62.00	Feet		Field	#
Specific Conductance, Field	216	umhos/cm	1	Field	#
Temperature	15.94	Deg. C		Field	#
Total Well Depth	77.60	Feet		Field	#
Turbidity, Field	12	NTU	1	Field	#
Volume in Water Column	39.31	Gallons		Field	#
Water Level After Purge	57.73	Feet		Field	#
Well Volumes Purged	0.31	Vol		Field	#
METALS					
Calcium, Total	17.1	mg/L	0.11	SW846 6010C	#
Iron, Total	8.7	mg/L	0.067	SW846 6010C	#
Magnesium, Total	5.8	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.64	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.6	mg/L	0.56	SW846 6010C	#
Sodium, Total	12.7	mg/L	0.56	SW846 6010C	#
WET CHEMISTRY					
Alkalinity, Bicarbonate	68	mg/L	5	SM2320B-2011	#
Alkalinity, Total	68	mg/L	5	SM2320B-2011	#
Ammonia-N	0.486	mg/L	0.100	ASTM D6919-17	#
Chemical Oxygen Demand (COD)	32	mg/L	15	EPA 410.4	#
Chloride	21.9	mg/L	2.0	EPA 300.0	#
pH	8.05	pH_Units		S4500HB-11	#
Specific Conductance	200	umhos/cm	5	SW846 9050A	#
Total Dissolved Solids	109	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	0.59	mg/L	0.50	SW846 9060A	#
Turbidity	100	NTU	0.30	SM2130B-2011	#

Detected Results Summary

Client Sample ID	FIELD BLANK	Collected	08/10/2023 14:08
Lab Sample ID	3317650006	Lab Receipt	08/10/2023 15:15

Compound	Result	Units	RDL	Method	Flag
WET CHEMISTRY					
Ammonia-N	0.056	mg/L	0.010	ASTM D6919-17	#
Chemical Oxygen Demand (COD)	29	mg/L	15	EPA 410.4	#
pH	5.49	pH_Units		S4500HB-11	#
Turbidity	0.70	NTU	0.30	SM2130B-2011	#

Results

Client Sample ID	FFMP02DW	Collected	08/10/2023 10:50
Lab Sample ID	3317650001	Lab Receipt	08/10/2023 15:15

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	20.00		Feet		Field	1	08/10/2023 10:50	BGS	D
Dissolved Oxygen	ND	ND	mg/L	0.01	Field	1	08/10/2023 10:50	BGS	D
Elev Top MW Casing above MSL	509.60		Feet		Field	1	08/10/2023 10:50	BGS	D
Flow Rate	2.30		gal/min		Field	1	08/10/2023 10:50	BGS	D
Ground Water Elevation	489.60		ft/MSL		Field	1	08/10/2023 10:50	BGS	D
Oxidation-Reduction Potential	-49		mV		Field	1	08/10/2023 10:50	BGS	D
pH, Field (SM4500B)	6.60		pH_Units		Field	1	08/10/2023 10:50	BGS	D
Sample Depth	120.00		Feet		Field	1	08/10/2023 10:50	BGS	D
Specific Conductance, Field	1793		umhos/cm	1	Field	1	08/10/2023 10:50	BGS	D
Temperature	14.73		Deg. C		Field	1	08/10/2023 10:50	BGS	D
Total Well Depth	153.00		Feet		Field	1	08/10/2023 10:50	BGS	D
Turbidity, Field	69		NTU	1	Field	1	08/10/2023 10:50	BGS	D
Volume in Water Column	195.51		Gallons		Field	1	08/10/2023 10:50	BGS	D
Water Level After Purge	77.05		Feet		Field	1	08/10/2023 10:50	BGS	D
Well Volumes Purged	0.71		Vol		Field	1	08/10/2023 10:50	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	148		mg/L	0.11	SW846 6010C	1	08/15/2023 11:49	AXW	J2
Iron, Total	3.8		mg/L	0.067	SW846 6010C	1	08/15/2023 11:49	AXW	J2
Magnesium, Total	22.7		mg/L	0.11	SW846 6010C	1	08/15/2023 11:49	AXW	J2
Manganese, Total	0.58		mg/L	0.0056	SW846 6010C	1	08/15/2023 11:49	AXW	J2
Potassium, Total	1.4		mg/L	0.56	SW846 6010C	1	08/15/2023 11:49	AXW	J2
Sodium, Total	161		mg/L	0.56	SW846 6010C	1	08/15/2023 11:49	AXW	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	08/12/2023 03:54	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 03:54	PDK	H

Results

Client Sample ID	FFMP02DW	Collected	08/10/2023 10:50
Lab Sample ID	3317650001	Lab Receipt	08/10/2023 15:15

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	97.9%	62 – 133	08/12/2023 03:54	
4-Bromofluorobenzene	460-00-4	99%	79 – 114	08/12/2023 03:54	
Dibromofluoromethane	1868-53-7	99.4%	78 – 116	08/12/2023 03:54	
Toluene-d8	2037-26-5	98.2%	76 – 127	08/12/2023 03:54	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	123		mg/L	5	SM2320B-2011	1	08/14/2023 20:03	JMS	B
Alkalinity, Total	123	1	mg/L	5	SM2320B-2011	1	08/14/2023 20:03	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/25/2023 06:59	NML	A
Chemical Oxygen Demand (COD)	21		mg/L	15	EPA 410.4	1	08/14/2023 11:55	KMS	A
Chloride	444		mg/L	5.0	EPA 300.0	5	08/11/2023 20:04	GJB	B
Fluoride	ND	ND	mg/L	0.50	EPA 300.0	5	08/11/2023 20:04	GJB	B
Nitrate-N	4.3		mg/L	2.5	EPA 300.0	5	08/11/2023 20:04	GJB	B
pH	8.06	2	pH_Units		S4500HB-11	1	08/14/2023 20:03	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 14:56	AKH	G
Specific Conductance	1800		umhos/cm	5	SW846 9050A	1	08/22/2023 10:30	JXL	B
Sulfate	37.9		mg/L	5.0	EPA 300.0	5	08/11/2023 20:04	GJB	B
Total Dissolved Solids	1250		mg/L	25	SM2540C-15	1	08/17/2023 19:12	GJB	B
Total Organic Carbon (TOC)	0.83		mg/L	0.50	SW846 9060A	1	08/16/2023 03:50	PAG	E
Turbidity	45		NTU	0.30	SM2130B-2011	1	08/10/2023 23:15	NRB	B

Results

Client Sample ID	FFMP02SW	Collected	08/10/2023 11:24
Lab Sample ID	3317650002	Lab Receipt	08/10/2023 15:15

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	15.83		Feet		Field	1	08/10/2023 11:24	BGS	D
Dissolved Oxygen	2.95		mg/L	0.01	Field	1	08/10/2023 11:24	BGS	D
Elev Top MW Casing above MSL	509.90		Feet		Field	1	08/10/2023 11:24	BGS	D
Flow Rate	1.00		gal/min		Field	1	08/10/2023 11:24	BGS	D
Ground Water Elevation	494.07		ft/MSL		Field	1	08/10/2023 11:24	BGS	D
Oxidation-Reduction Potential	200		mV		Field	1	08/10/2023 11:24	BGS	D
pH, Field (SM4500B)	5.18		pH_Units		Field	1	08/10/2023 11:24	BGS	D
Sample Depth	18.00		Feet		Field	1	08/10/2023 11:24	BGS	D
Specific Conductance, Field	493		umhos/cm	1	Field	1	08/10/2023 11:24	BGS	D
Temperature	18.50		Deg. C		Field	1	08/10/2023 11:24	BGS	D
Total Well Depth	22.70		Feet		Field	1	08/10/2023 11:24	BGS	D
Turbidity, Field	29		NTU	1	Field	1	08/10/2023 11:24	BGS	D
Volume in Water Column	4.47		Gallons		Field	1	08/10/2023 11:24	BGS	D
Water Level After Purge	17.75		Feet		Field	1	08/10/2023 11:24	BGS	D
Well Volumes Purged	2.69		Vol		Field	1	08/10/2023 11:24	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	19.7		mg/L	0.11	SW846 6010C	1	08/15/2023 11:50	AXW	J2
Iron, Total	0.25		mg/L	0.067	SW846 6010C	1	08/15/2023 11:50	AXW	J2
Magnesium, Total	7.3		mg/L	0.11	SW846 6010C	1	08/15/2023 11:50	AXW	J2
Manganese, Total	0.023		mg/L	0.0056	SW846 6010C	1	08/15/2023 11:50	AXW	J2
Potassium, Total	4.4		mg/L	0.56	SW846 6010C	1	08/15/2023 11:50	AXW	J2
Sodium, Total	53.0		mg/L	0.56	SW846 6010C	1	08/15/2023 11:50	AXW	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	08/12/2023 04:17	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:17	PDK	H

Results

Client Sample ID	FFMP02SW	Collected	08/10/2023 11:24
Lab Sample ID	3317650002	Lab Receipt	08/10/2023 15:15

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	98.6%	62 – 133	08/12/2023 04:17	
4-Bromofluorobenzene	460-00-4	99.8%	79 – 114	08/12/2023 04:17	
Dibromofluoromethane	1868-53-7	98.5%	78 – 116	08/12/2023 04:17	
Toluene-d8	2037-26-5	97.9%	76 – 127	08/12/2023 04:17	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	23		mg/L	5	SM2320B-2011	1	08/14/2023 20:17	JMS	B
Alkalinity, Total	23	1	mg/L	5	SM2320B-2011	1	08/14/2023 20:17	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/25/2023 07:13	NML	A
Chemical Oxygen Demand (COD)	30		mg/L	15	EPA 410.4	1	08/14/2023 11:55	KMS	A
Chloride	59.1		mg/L	2.0	EPA 300.0	2	08/11/2023 20:14	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/11/2023 20:14	GJB	B
Nitrate-N	11.9		mg/L	1.0	EPA 300.0	2	08/11/2023 20:14	GJB	B
pH	7.33	2	pH_Units		S4500HB-11	1	08/14/2023 20:17	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 14:53	AKH	G
Specific Conductance	459		umhos/cm	5	SW846 9050A	1	08/22/2023 10:30	JXL	B
Sulfate	44.0		mg/L	2.0	EPA 300.0	2	08/11/2023 20:14	GJB	B
Total Dissolved Solids	298		mg/L	25	SM2540C-15	1	08/17/2023 19:12	GJB	B
Total Organic Carbon (TOC)	1.4		mg/L	0.50	SW846 9060A	1	08/16/2023 03:50	PAG	E
Turbidity	90		NTU	0.30	SM2130B-2011	1	08/10/2023 23:15	NRB	B

Results

Client Sample ID	FFMP031W	Collected	08/10/2023 12:50
Lab Sample ID	3317650003	Lab Receipt	08/10/2023 15:15

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	68.91		Feet		Field	1	08/10/2023 12:50	BGS	D
Dissolved Oxygen	ND	ND	mg/L	0.01	Field	1	08/10/2023 12:50	BGS	D
Elev Top MW Casing above MSL	612.66		Feet		Field	1	08/10/2023 12:50	BGS	D
Flow Rate	1.70		gal/min		Field	1	08/10/2023 12:50	BGS	D
Ground Water Elevation	543.75		ft/MSL		Field	1	08/10/2023 12:50	BGS	D
Oxidation-Reduction Potential	-312		mV		Field	1	08/10/2023 12:50	BGS	D
pH, Field (SM4500B)	7.77		pH_Units		Field	1	08/10/2023 12:50	BGS	D
Sample Depth	130.00		Feet		Field	1	08/10/2023 12:50	BGS	D
Specific Conductance, Field	320		umhos/cm	1	Field	1	08/10/2023 12:50	BGS	D
Temperature	16.10		Deg. C		Field	1	08/10/2023 12:50	BGS	D
Total Well Depth	142.70		Feet		Field	1	08/10/2023 12:50	BGS	D
Turbidity, Field	69		NTU	1	Field	1	08/10/2023 12:50	BGS	D
Volume in Water Column	108.47		Gallons		Field	1	08/10/2023 12:50	BGS	D
Water Level After Purge	107.61		Feet		Field	1	08/10/2023 12:50	BGS	D
Well Volumes Purged	0.94		Vol		Field	1	08/10/2023 12:50	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	45.8		mg/L	0.11	SW846 6010C	1	08/15/2023 11:51	AXW	J2
Iron, Total	4.4		mg/L	0.067	SW846 6010C	1	08/15/2023 11:51	AXW	J2
Magnesium, Total	4.5		mg/L	0.11	SW846 6010C	1	08/15/2023 11:51	AXW	J2
Manganese, Total	0.36		mg/L	0.0056	SW846 6010C	1	08/15/2023 11:51	AXW	J2
Potassium, Total	1.4		mg/L	0.56	SW846 6010C	1	08/15/2023 11:51	AXW	J2
Sodium, Total	10.2		mg/L	0.56	SW846 6010C	1	08/15/2023 11:51	AXW	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	08/12/2023 04:40	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 04:40	PDK	H

Results

Client Sample ID	FFMP031W	Collected	08/10/2023 12:50
Lab Sample ID	3317650003	Lab Receipt	08/10/2023 15:15

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	08/12/2023 04:40	
4-Bromofluorobenzene	460-00-4	102%	79 – 114	08/12/2023 04:40	
Dibromofluoromethane	1868-53-7	99.6%	78 – 116	08/12/2023 04:40	
Toluene-d8	2037-26-5	97.5%	76 – 127	08/12/2023 04:40	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	74		mg/L	5	SM2320B-2011	1	08/14/2023 20:28	JMS	B
Alkalinity, Total	74	1	mg/L	5	SM2320B-2011	1	08/14/2023 20:28	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/25/2023 07:27	NML	A
Chemical Oxygen Demand (COD)	26		mg/L	15	EPA 410.4	1	08/14/2023 11:55	KMS	A
Chloride	20.7		mg/L	2.0	EPA 300.0	2	08/11/2023 20:24	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/11/2023 20:24	GJB	B
Nitrate-N	ND	ND	mg/L	1.0	EPA 300.0	2	08/11/2023 20:24	GJB	B
pH	8.06	2	pH_Units		S4500HB-11	1	08/14/2023 20:28	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 15:40	AKH	G
Specific Conductance	317		umhos/cm	5	SW846 9050A	1	08/22/2023 10:30	JXL	B
Sulfate	46.6		mg/L	2.0	EPA 300.0	2	08/11/2023 20:24	GJB	B
Total Dissolved Solids	194		mg/L	25	SM2540C-15	1	08/17/2023 19:12	GJB	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	08/16/2023 03:50	PAG	E
Turbidity	22		NTU	0.30	SM2130B-2011	1	08/10/2023 23:15	NRB	B

Results

Client Sample ID	FFMP002W	Collected	08/10/2023 13:29
Lab Sample ID	3317650004	Lab Receipt	08/10/2023 15:15

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	69.00		Feet		Field	1	08/10/2023 13:29	BGS	D
Dissolved Oxygen	4.38		mg/L	0.01	Field	1	08/10/2023 13:29	BGS	D
Elev Top MW Casing above MSL	613.20		Feet		Field	1	08/10/2023 13:29	BGS	D
Flow Rate	1.40		gal/min		Field	1	08/10/2023 13:29	BGS	D
Ground Water Elevation	544.20		ft/MSL		Field	1	08/10/2023 13:29	BGS	D
Oxidation-Reduction Potential	358		mV		Field	1	08/10/2023 13:29	BGS	D
pH, Field (SM4500B)	4.26		pH_Units		Field	1	08/10/2023 13:29	BGS	D
Sample Depth	85.00		Feet		Field	1	08/10/2023 13:29	BGS	D
Specific Conductance, Field	254		umhos/cm	1	Field	1	08/10/2023 13:29	BGS	D
Temperature	15.50		Deg. C		Field	1	08/10/2023 13:29	BGS	D
Total Well Depth	90.02		Feet		Field	1	08/10/2023 13:29	BGS	D
Turbidity, Field	1		NTU	1	Field	1	08/10/2023 13:29	BGS	D
Volume in Water Column	30.90		Gallons		Field	1	08/10/2023 13:29	BGS	D
Water Level After Purge	81.77		Feet		Field	1	08/10/2023 13:29	BGS	D
Well Volumes Purged	0.91		Vol		Field	1	08/10/2023 13:29	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	18.1	3	mg/L	0.11	SW846 6010C	1	08/15/2023 11:52	AXW	J2
Iron, Total	0.071		mg/L	0.067	SW846 6010C	1	08/15/2023 11:52	AXW	J2
Magnesium, Total	7.5		mg/L	0.11	SW846 6010C	1	08/15/2023 11:52	AXW	J2
Manganese, Total	0.22		mg/L	0.0056	SW846 6010C	1	08/15/2023 11:52	AXW	J2
Potassium, Total	1.2		mg/L	0.56	SW846 6010C	1	08/15/2023 11:52	AXW	J2
Sodium, Total	13.5		mg/L	0.56	SW846 6010C	1	08/15/2023 11:52	AXW	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	08/12/2023 05:03	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:03	PDK	H

Results

Client Sample ID	FFMP002W	Collected	08/10/2023 13:29
Lab Sample ID	3317650004	Lab Receipt	08/10/2023 15:15

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	08/12/2023 05:03	
4-Bromofluorobenzene	460-00-4	98.6%	79 – 114	08/12/2023 05:03	
Dibromofluoromethane	1868-53-7	102%	78 – 116	08/12/2023 05:03	
Toluene-d8	2037-26-5	98.8%	76 – 127	08/12/2023 05:03	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	ND	ND	mg/L	5	SM2320B-2011	1	08/14/2023 20:38	JMS	B
Alkalinity, Total	ND	ND,1	mg/L	5	SM2320B-2011	1	08/14/2023 20:38	JMS	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	08/25/2023 06:45	NML	A
Chemical Oxygen Demand (COD)	20		mg/L	15	EPA 410.4	1	08/14/2023 11:55	KMS	A
Chloride	15.6		mg/L	2.0	EPA 300.0	2	08/11/2023 20:35	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/11/2023 20:35	GJB	B
Nitrate-N	17.3		mg/L	1.0	EPA 300.0	2	08/11/2023 20:35	GJB	B
pH	5.74	2	pH_Units		S4500HB-11	1	08/14/2023 20:38	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 14:47	AKH	G
Specific Conductance	255		umhos/cm	5	SW846 9050A	1	08/22/2023 10:30	JXL	B
Sulfate	13.9		mg/L	2.0	EPA 300.0	2	08/11/2023 20:35	GJB	B
Total Dissolved Solids	216		mg/L	25	SM2540C-15	1	08/17/2023 19:12	GJB	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	08/16/2023 03:50	PAG	E
Turbidity	0.65		NTU	0.30	SM2130B-2011	1	08/10/2023 23:15	NRB	B

Results

Client Sample ID	FFMP032W	Collected	08/10/2023 14:02
Lab Sample ID	3317650005	Lab Receipt	08/10/2023 15:15

FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	50.86		Feet		Field	1	08/10/2023 14:02	BGS	D
Dissolved Oxygen	0.11		mg/L	0.01	Field	1	08/10/2023 14:02	BGS	D
Elev Top MW Casing above MSL	594.09		Feet		Field	1	08/10/2023 14:02	BGS	D
Flow Rate	0.75		gal/min		Field	1	08/10/2023 14:02	BGS	D
Ground Water Elevation	543.23		ft/MSL		Field	1	08/10/2023 14:02	BGS	D
Oxidation-Reduction Potential	-116		mV		Field	1	08/10/2023 14:02	BGS	D
pH, Field (SM4500B)	6.53		pH_Units		Field	1	08/10/2023 14:02	BGS	D
Sample Depth	62.00		Feet		Field	1	08/10/2023 14:02	BGS	D
Specific Conductance, Field	216		umhos/cm	1	Field	1	08/10/2023 14:02	BGS	D
Temperature	15.94		Deg. C		Field	1	08/10/2023 14:02	BGS	D
Total Well Depth	77.60		Feet		Field	1	08/10/2023 14:02	BGS	D
Turbidity, Field	12		NTU	1	Field	1	08/10/2023 14:02	BGS	D
Volume in Water Column	39.31		Gallons		Field	1	08/10/2023 14:02	BGS	D
Water Level After Purge	57.73		Feet		Field	1	08/10/2023 14:02	BGS	D
Well Volumes Purged	0.31		Vol		Field	1	08/10/2023 14:02	BGS	D

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	17.1		mg/L	0.11	SW846 6010C	1	08/15/2023 12:14	AXW	J2
Iron, Total	8.7		mg/L	0.067	SW846 6010C	1	08/15/2023 12:14	AXW	J2
Magnesium, Total	5.8		mg/L	0.11	SW846 6010C	1	08/15/2023 12:14	AXW	J2
Manganese, Total	0.64		mg/L	0.0056	SW846 6010C	1	08/15/2023 12:14	AXW	J2
Potassium, Total	1.6		mg/L	0.56	SW846 6010C	1	08/15/2023 12:14	AXW	J2
Sodium, Total	12.7		mg/L	0.56	SW846 6010C	1	08/15/2023 12:14	AXW	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	08/12/2023 05:26	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 05:26	PDK	H

Results

Client Sample ID	FFMP032W	Collected	08/10/2023 14:02
Lab Sample ID	3317650005	Lab Receipt	08/10/2023 15:15

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	98.9%	62 – 133	08/12/2023 05:26	
4-Bromofluorobenzene	460-00-4	99.6%	79 – 114	08/12/2023 05:26	
Dibromofluoromethane	1868-53-7	99.8%	78 – 116	08/12/2023 05:26	
Toluene-d8	2037-26-5	96.8%	76 – 127	08/12/2023 05:26	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	68		mg/L	5	SM2320B-2011	1	08/14/2023 20:50	JMS	B
Alkalinity, Total	68	1	mg/L	5	SM2320B-2011	1	08/14/2023 20:50	JMS	B
Ammonia-N	0.486		mg/L	0.100	ASTM D6919-17	10	08/25/2023 06:04	NML	A
Chemical Oxygen Demand (COD)	32		mg/L	15	EPA 410.4	1	08/14/2023 11:55	KMS	A
Chloride	21.9		mg/L	2.0	EPA 300.0	2	08/11/2023 20:45	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/11/2023 20:45	GJB	B
Nitrate-N	ND	ND	mg/L	1.0	EPA 300.0	2	08/11/2023 20:45	GJB	B
pH	8.05	2	pH_Units		S4500HB-11	1	08/14/2023 20:50	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 15:47	AKH	G
Specific Conductance	200		umhos/cm	5	SW846 9050A	1	08/22/2023 10:30	JXL	B
Sulfate	ND	ND	mg/L	2.0	EPA 300.0	2	08/11/2023 20:45	GJB	B
Total Dissolved Solids	109		mg/L	25	SM2540C-15	1	08/17/2023 19:12	GJB	B
Total Organic Carbon (TOC)	0.59		mg/L	0.50	SW846 9060A	1	08/16/2023 03:50	PAG	E
Turbidity	100		NTU	0.30	SM2130B-2011	1	08/10/2023 23:15	NRB	B

Results

Client Sample ID	FIELD BLANK	Collected	08/10/2023 14:08
Lab Sample ID	3317650006	Lab Receipt	08/10/2023 15:15

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	ND	ND	mg/L	0.11	SW846 6010C	1	08/15/2023 12:15	AXW	J2
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	08/15/2023 12:15	AXW	J2
Magnesium, Total	ND	ND	mg/L	0.11	SW846 6010C	1	08/15/2023 12:15	AXW	J2
Manganese, Total	ND	ND	mg/L	0.0056	SW846 6010C	1	08/15/2023 12:15	AXW	J2
Potassium, Total	ND	ND	mg/L	0.56	SW846 6010C	1	08/15/2023 12:15	AXW	J2
Sodium, Total	ND	ND	mg/L	0.56	SW846 6010C	1	08/15/2023 12:15	AXW	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	08/12/2023 01:35	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:35	PDK	H

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	100%	62 – 133	08/12/2023 01:35	
4-Bromofluorobenzene	460-00-4	101%	79 – 114	08/12/2023 01:35	
Dibromofluoromethane	1868-53-7	101%	78 – 116	08/12/2023 01:35	
Toluene-d8	2037-26-5	97.9%	76 – 127	08/12/2023 01:35	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	ND	ND	mg/L	5	SM2320B-2011	1	08/14/2023 20:59	JMS	B
Alkalinity, Total	ND	ND,1	mg/L	5	SM2320B-2011	1	08/14/2023 20:59	JMS	B
Ammonia-N	0.056		mg/L	0.010	ASTM D6919-17	1	08/25/2023 05:50	NML	A
Chemical Oxygen Demand (COD)	29		mg/L	15	EPA 410.4	1	08/14/2023 11:55	KMS	A
Chloride	ND	ND	mg/L	2.0	EPA 300.0	2	08/11/2023 21:27	GJB	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	08/11/2023 21:27	GJB	B
Nitrate-N	ND	ND	mg/L	1.0	EPA 300.0	2	08/11/2023 21:27	GJB	B
pH	5.49	2	pH_Units		S4500HB-11	1	08/14/2023 20:59	JMS	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	08/17/2023 15:43	AKH	G

Results

Client Sample ID	FIELD BLANK	Collected	08/10/2023 14:08
Lab Sample ID	3317650006	Lab Receipt	08/10/2023 15:15

WET CHEMISTRY (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Specific Conductance	ND	ND	umhos/cm	5	SW846 9050A	1	08/22/2023 10:30	JXL	B
Sulfate	ND	ND	mg/L	2.0	EPA 300.0	2	08/11/2023 21:27	GJB	B
Total Dissolved Solids	ND	ND	mg/L	25	SM2540C-15	1	08/17/2023 19:12	GJB	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	08/16/2023 03:50	PAG	E
Turbidity	0.70		NTU	0.30	SM2130B-2011	1	08/10/2023 23:15	NRB	B

Results

Client Sample ID	TRIP BLANK	Collected	08/10/2023 15:15
Lab Sample ID	3317650007	Lab Receipt	08/10/2023 15:15

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	08/12/2023 01:12	PDK	A
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	08/12/2023 01:12	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	62 – 133	08/12/2023 01:12	
4-Bromofluorobenzene	460-00-4	98%	79 – 114	08/12/2023 01:12	
Dibromofluoromethane	1868-53-7	103%	78 – 116	08/12/2023 01:12	
Toluene-d8	2037-26-5	97.2%	76 – 127	08/12/2023 01:12	

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3317650001	FFMP02DW	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3317650002	FFMP02SW	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3317650003	FFMP031W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3317650004	FFMP002W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3317650005	FFMP032W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3317650006	FIELD BLANK	SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3317650007	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
3317650001	FFMP02DW	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1047438	08/14/2023 03:40	ANN	SW846 6010C	1048181
		N/A	N/A	N/A		SW846 8260B	1046438
		N/A	N/A	N/A		ASTM D6919-17	1051100
		N/A	N/A	N/A		EPA 300.0	1045842
		N/A	N/A	N/A		EPA 410.4	1047861
		N/A	N/A	N/A		S4500HB-11	1047929
		N/A	N/A	N/A		SM2130B-2011	1045113
		N/A	N/A	N/A		SM2320B-2011	1047929
		N/A	N/A	N/A		SM2540C-15	1049121
		N/A	N/A	N/A		SW846 9050A	1050167
		N/A	N/A	N/A		SW846 9060A	1048293
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116
3317650002	FFMP02SW	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1047438	08/14/2023 03:40	ANN	SW846 6010C	1048181
		N/A	N/A	N/A		SW846 8260B	1046438
		N/A	N/A	N/A		ASTM D6919-17	1051100
		N/A	N/A	N/A		EPA 300.0	1045842
		N/A	N/A	N/A		EPA 410.4	1047861
		N/A	N/A	N/A		S4500HB-11	1047929
		N/A	N/A	N/A		SM2130B-2011	1045113
		N/A	N/A	N/A		SM2320B-2011	1047929
		N/A	N/A	N/A		SM2540C-15	1049121
		N/A	N/A	N/A		SW846 9050A	1050167
		N/A	N/A	N/A		SW846 9060A	1048293
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116
3317650003	FFMP031W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1047438	08/14/2023 03:40	ANN	SW846 6010C	1048181
		N/A	N/A	N/A		SW846 8260B	1046438
		N/A	N/A	N/A		ASTM D6919-17	1051100
		N/A	N/A	N/A		EPA 300.0	1045842
		N/A	N/A	N/A		EPA 410.4	1047861
		N/A	N/A	N/A		S4500HB-11	1047929
		N/A	N/A	N/A		SM2130B-2011	1045113
		N/A	N/A	N/A		SM2320B-2011	1047929
		N/A	N/A	N/A		SM2540C-15	1049121
		N/A	N/A	N/A		SW846 9050A	1050167
		N/A	N/A	N/A		SW846 9060A	1048293
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116
3317650004	FFMP002W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1047438	08/14/2023 03:40	ANN	SW846 6010C	1048181
		N/A	N/A	N/A		SW846 8260B	1046438
		N/A	N/A	N/A		ASTM D6919-17	1051100
		N/A	N/A	N/A		EPA 300.0	1045842
		N/A	N/A	N/A		EPA 410.4	1047861
		N/A	N/A	N/A		S4500HB-11	1047929
		N/A	N/A	N/A		SM2130B-2011	1045113
		N/A	N/A	N/A		SM2320B-2011	1047929
		N/A	N/A	N/A		SM2540C-15	1049121
		N/A	N/A	N/A		SW846 9050A	1050167
		N/A	N/A	N/A		SW846 9060A	1048293
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3317650005	FFMP032W	N/A	N/A	N/A		Field	1050260
		SW846 3015A	1047438	08/14/2023 03:40	ANN	SW846 6010C	1048181
		N/A	N/A	N/A		SW846 8260B	1046438
		N/A	N/A	N/A		ASTM D6919-17	1051100
		N/A	N/A	N/A		EPA 300.0	1045842
		N/A	N/A	N/A		EPA 410.4	1047861
		N/A	N/A	N/A		S4500HB-11	1047929
		N/A	N/A	N/A		SM2130B-2011	1045113
		N/A	N/A	N/A		SM2320B-2011	1047929
		N/A	N/A	N/A		SM2540C-15	1049121
		N/A	N/A	N/A		SW846 9050A	1050167
		N/A	N/A	N/A		SW846 9060A	1048293
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116
3317650006	FIELD BLANK	SW846 3015A	1047438	08/14/2023 03:40	ANN	SW846 6010C	1048181
		N/A	N/A	N/A		SW846 8260B	1046438
		N/A	N/A	N/A		ASTM D6919-17	1051100
		N/A	N/A	N/A		EPA 300.0	1045842
		N/A	N/A	N/A		EPA 410.4	1047861
		N/A	N/A	N/A		S4500HB-11	1047929
		N/A	N/A	N/A		SM2130B-2011	1045113
		N/A	N/A	N/A		SM2320B-2011	1047929
		N/A	N/A	N/A		SM2540C-15	1049121
		N/A	N/A	N/A		SW846 9050A	1050167
		N/A	N/A	N/A		SW846 9060A	1048293
		SW846 9066	1048837	08/17/2023 09:51	AKH	SW846 9066	1049116
3317650007	TRIP BLANK	N/A	N/A	N/A		SW846 8260B	1046438

ALS Environmental
34 Dogwood Lane • Middletown, PA 17057 • Phone: 717-944-5541 • Fax: 717-944-1430 • www.alsglobal.com

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

3317650
Logged By: SLS
PM: SJB

1 of 1

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

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 [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.

Date Required: _____ **Approved By:** _____

Email? [X] -Y dbrown@LCSWMA.com

Fax? [X] -Y No.: (717) 397-9973

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

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-OH	VOC - Form 19Q	Field Measurements	Sample Depth for AUX Data	NH3-N, COD	Metals: Fe, Mn, Na, Ca, K, Mg	pH, Cl, SpC, F, SO4, TDS, NO3, Turb.	Alkalinity Bicarbonate	
					Enter Number of Containers Per Sample or Field Results Below.									
1. FFMP02DW	08/10/23	1050	G	GW	2	1	2	x	x	1	2	1	1	
2. FFMP02SW	08/10/23	1124	G	GW	2	1	2	x	x	1	2	1	1	
3. FFMP031W	08/10/23	1250	G	GW	2	1	2	x	x	1	2	1	1	
4. FFMP002W	08/10/23	1329	G	GW	2	1	2	x	x	1	2	1	1	
5. FFMP032W	08/10/23	1402	G	GW	2	1	2	x	x	1	2	1	1	
6. Field Blank	08/10/23	1408	G	GW	2	1	2	x	x	1	2	1	1	
7. Trip Blank	08/10/23	1515	G	GW			2							
8														
9														
10														

(Completed by Receiving Lab)

Cooler Temp: _____ Therm ID: _____

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			

Temp By: DAB | WO Temp (°C): 1° | Therm ID: 510

Receipt Info Completed By: DPB

Cooler Custody Seal Intact	Y	N	NA
Sample Custody Seal Intact	Y	N	NA
Received on Ice	Y	N	NA
Cooler & Samples Intact	Y	N	
Correct Containers Provided	Y	N	
Sample Label/COC Agree	Y	N	
Adequate Sample Volumes	Y	N	
CR6 Samples Filtered	Y	N	NA
OP Samples Filtered	Y	N	NA
VOA Trip Blank	Y	N	NA
NJ≤ 4 Days?	Y	N	
Rad Screen (uCi)			
Courier/Tracking #:			
SDWA Compliance	Y	N	
PWSID			
WV Containers 0-6°C	Y	N	NA

ALS Field Services: ☐Pickup ☐Labor ☐Composite_Sampling ☐Rental_Equipment ☐Other: _____

Project Comments:

LOGGED BY(signature): _____ DATE: _____ TIME: _____

REVIEWED BY(signature): _____ DATE: _____ TIME: _____

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [illegible] AHS	8-10-23	1550	2	8/10/23	1515
3			4		
5			6		
7			8		
9			10		

Data Deliverables: ☐Standard ☐CLP-like ☐USACE ☐

Special Processing: USACE ☐ Navy ☐ ☐

State Samples Collected In: ☐NY ☐NJ [X] PA ☐NC ☐

Reportable to PADEP? Yes ☐ PWSID # _____

Sample Disposal: Lab [X] Special ☐

EDDS: Format Type- _____

* G=Grab; C=Composite

**Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=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