



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised  
04/12/2022

DEP USE ONLY

Date Received

FORM 19  
MUNICIPAL WASTE LANDFILL  
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP015W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

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

Depth to Water Level: 62.36 ft Measured from:  Land Surface  TOC

Casing Stickup: 1.90 ft Elevation of Water Level: 514.04 ft./MSL

Sampling Depth: 135 ft Volume of Water Column: 127.10 gal

Total Well Depth: 148.9 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 0.9

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/7/2022 Sample Collection Time: 11:49

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226067001 Final Lab Analysis Completion Date: 2/18/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 2/7/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.368	D6919-09
BICARBONATE ALKALINITY	24	SM20-2320B
CALCIUM, TOTAL	26.1	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	45.6	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	34.4	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	30	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	47.6 E	EPA 300
pH-FIELD (SU)	5.54	FIELD
pH-LAB (SU)	6.44	SM20-4500HB
POTASSIUM, TOTAL	2.6	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	23.9	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	607	FIELD
SPEC. COND., LAB (umhos/cm)	663	SW846 9050A
SULFATE	29.6	EPA 300
ALKALINITY	24	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	346	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.3	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 2/7/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
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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Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP03AW  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

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

Depth to Water Level: 52.68 ft Measured from:  Land Surface  TOC

Casing Stickup: 1.20 ft Elevation of Water Level: 538.22 ft./MSL

Sampling Depth: 130 ft Volume of Water Column: 138.82 gal

Total Well Depth: 147.2 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 0.8

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/7/2022 Sample Collection Time: 13:08

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  No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226067002 Final Lab Analysis Completion Date: 2/19/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP03AW

Sample Date 2/7/2022

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

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

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.227	D6919-09
BICARBONATE ALKALINITY	19	SM20-2320B
CALCIUM, TOTAL	18.3	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	34	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	14.1	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	360	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	23.6 E	EPA 300
pH-FIELD (SU)	5.22	FIELD
pH-LAB (SU)	6.05	SM20-4500HB
POTASSIUM, TOTAL	1.5	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	13.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	330	FIELD
SPEC. COND., LAB (umhos/cm)	335	SW846 9050A
SULFATE	2.9	EPA 300
ALKALINITY	19	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	180	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

I.D. No 101389

Monitoring Point No. FFMP03AW

Sample Date 2/7/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
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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General Reference: Section 273.284  
Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP005W  Well  Spring  Stream  Other  
 Upgradient/Upstream  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: 61.03 ft Measured from:  Land Surface  TOC

Casing Stickup: 1.70 ft Elevation of Water Level: 476.37 ft./MSL

Sampling Depth: 135 ft Volume of Water Column: 130.67 gal

Total Well Depth: 150 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 1.0

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/7/2022 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  No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226067003 Final Lab Analysis Completion Date: 2/19/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP005W

Sample Date 2/7/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	53	SM20-2320B
CALCIUM, TOTAL	83.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	201	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	22	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	190	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1.7	EPA 300
pH-FIELD (SU)	5.43	FIELD
pH-LAB (SU)	6.41	SM20-4500HB
POTASSIUM, TOTAL	3.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	56.4	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	947	FIELD
SPEC. COND., LAB (umhos/cm)	1020	SW846 9050A
SULFATE	84.5	EPA 300
ALKALINITY	53	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	572	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.3	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.



I.D. No 101389

Monitoring Point No. FFMP005W

Sample Date 2/7/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
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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BUREAU OF WASTE MANAGEMENT

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**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP26RW  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

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

Depth to Water Level: 69.77 ft Measured from:  Land Surface  TOC

Casing Stickup: 3.30 ft Elevation of Water Level: 477.63 ft./MSL

Sampling Depth: 105 ft Volume of Water Column: 64.96 gal

Total Well Depth: 114 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 1.8

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/8/2022 Sample Collection Time: 11:11

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226373001 Final Lab Analysis Completion Date: 2/17/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP26RW

Sample Date 2/8/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.13	D6919-09
BICARBONATE ALKALINITY	57	SM20-2320B
CALCIUM, TOTAL	73	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	169	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	19.7	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	870	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1 ND	EPA 300
pH-FIELD (SU)	5.31	FIELD
pH-LAB (SU)	6.53	SM20-4500HB
POTASSIUM, TOTAL	8.8	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	59.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	873	FIELD
SPEC. COND., LAB (umhos/cm)	920	SW846 9050A
SULFATE	89.7	EPA 300
ALKALINITY	57	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	504	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.7	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.45	SM 2130B

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I.D. No 101389

Monitoring Point No. FFMP26RW

Sample Date 2/8/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
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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Monitoring Point Number: FFMP029W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

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

Depth to Water Level: 37.96 ft Measured from:  Land Surface  TOC

Casing Stickup: 2.00 ft Elevation of Water Level: 439.34 ft./MSL

Sampling Depth: 55 ft Volume of Water Column: 30.17 gal

Total Well Depth: 58.5 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 4.0

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/8/2022 Sample Collection Time: 12:30

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  No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226373002 Final Lab Analysis CompletionDate: 2/17/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP029W

Sample Date 2/8/2022

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

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

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.161	D6919-09
BICARBONATE ALKALINITY	12	SM20-2320B
CALCIUM, TOTAL	16.5	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	84.7	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	10.8	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	40	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	3.9	EPA 300
pH-FIELD (SU)	4.91	FIELD
pH-LAB (SU)	6.32	SM20-4500HB
POTASSIUM, TOTAL	2.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	24.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	344	FIELD
SPEC. COND., LAB (umhos/cm)	348	SW846 9050A
SULFATE	10.5	EPA 300
ALKALINITY	12	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	216	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.3	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

I.D. No 101389

Monitoring Point No. FFMP029W

Sample Date 2/8/2022

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised  
04/12/2022

DEP USE ONLY

Date Received

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

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP036W  Well  Spring  Stream  Other  
 Upgradient/Upstream  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: 44.2 ft Measured from:  Land Surface  TOC

Casing Stickup: 1.91 ft Elevation of Water Level: 434.03 ft./MSL

Sampling Depth: 135 ft Volume of Water Column: 140.70 gal

Total Well Depth: 140 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 0.8

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/8/2022 Sample Collection Time: 13:57

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226373003 Final Lab Analysis CompletionDate: 2/17/2022

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

Comments: \_\_\_\_\_



I.D. No 101389

Monitoring Point No. FFMP036W

Sample Date 2/8/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.159	D6919-09
BICARBONATE ALKALINITY	67	SM20-2320B
CALCIUM, TOTAL	29.8	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	33.5	EPA 300
FLUORIDE	0.44	EPA 300
IRON, TOTAL (ug/l)	2700	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	3.8	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	150	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1 ND	EPA 300
pH-FIELD (SU)	8.44	FIELD
pH-LAB (SU)	8.04	SM20-4500HB
POTASSIUM, TOTAL	2.3	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	14.9	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	265	FIELD
SPEC. COND., LAB (umhos/cm)	258	SW846 9050A
SULFATE	18.9	EPA 300
ALKALINITY	67	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	146	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.71	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	23.3	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP036W

Sample Date 2/8/2022

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

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

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP035W  Well  Spring  Stream  Other  
 Upgradient/Upstream  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: 43.12 ft Measured from:  Land Surface  TOC

Casing Stickup: 1.45 ft Elevation of Water Level: 434.44 ft./MSL

Sampling Depth: 65 ft Volume of Water Column: 39.48 gal

Total Well Depth: 70 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 0.8

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/8/2022 Sample Collection Time: 14:59

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226373004 Final Lab Analysis Completion Date: 2/17/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP035W

Sample Date 2/8/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.29	D6919-09
BICARBONATE ALKALINITY	128	SM20-2320B
CALCIUM, TOTAL	103	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	222	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	22.1	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	240	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	3.9	EPA 300
pH-FIELD (SU)	6.68	FIELD
pH-LAB (SU)	7.68	SM20-4500HB
POTASSIUM, TOTAL	5.3	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	64.3	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1081	FIELD
SPEC. COND., LAB (umhos/cm)	1170	SW846 9050A
SULFATE	52.5	EPA 300
ALKALINITY	128	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	648	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.3	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.52	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 2/8/2022

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

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

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP30RW  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

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

Depth to Water Level: 34.91 ft Measured from:  Land Surface  TOC

Casing Stickup: 2.20 ft Elevation of Water Level: 527.39 ft./MSL

Sampling Depth: 85 ft Volume of Water Column: 80.91 gal

Total Well Depth: 90 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 1.8

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/9/2022 Sample Collection Time: 11:02

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226533001 Final Lab Analysis CompletionDate: 2/18/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP30RW

Sample Date 2/9/2022

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

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

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.243	D6919-09
BICARBONATE ALKALINITY	31	SM20-2320B
CALCIUM, TOTAL	40.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	223	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	200	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	17.8	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	2700	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	5.3	EPA 300
pH-FIELD (SU)	5.66	FIELD
pH-LAB (SU)	6.72	SM20-4500HB
POTASSIUM, TOTAL	6.7	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	107	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	869	FIELD
SPEC. COND., LAB (umhos/cm)	384	SW846 9050A
SULFATE	32.3	EPA 300
ALKALINITY	31	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	494	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.75	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	4.05	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 2/9/2022

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

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

T Please indicate detection limit if analyte is not detected.





COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

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

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP04AW  Well  Spring  Stream  Other  
 Upgradient/Upstream  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: 35.25 ft Measured from:  Land Surface  TOC

Casing Stickup: 2.52 ft Elevation of Water Level: 525.47 ft./MSL

Sampling Depth: 146 ft Volume of Water Column: 391.06 gal

Total Well Depth: 301.52 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 0.6

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/9/2022 Sample Collection Time: 12:13

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226533002 Final Lab Analysis CompletionDate: 2/17/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP04AW

Sample Date 2/9/2022

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

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

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.103	D6919-09
BICARBONATE ALKALINITY	182	SM20-2320B
CALCIUM, TOTAL	143	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	313	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	26.4	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	280	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1 ND	EPA 300
pH-FIELD (SU)	7	FIELD
pH-LAB (SU)	7.92	SM20-4500HB
POTASSIUM, TOTAL	2.8	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	85.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1420	FIELD
SPEC. COND., LAB (umhos/cm)	1000	SW846 9050A
SULFATE	48.7	EPA 300
ALKALINITY	182	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	856	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.76	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.42	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 2/9/2022

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised  
04/12/2022

DEP USE ONLY

Date Received

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

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

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP034W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County

Municipality: \_\_\_\_\_

Sampling Point: Latitude: \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " Longitude: \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "

Depth to Water Level: 10 ft Measured from:  Land Surface  TOC

Casing Stickup: \_\_\_\_\_ ft Elevation of Water Level: 462.88 ft./MSL

Sampling Depth: 25.85 ft Volume of Water Column: \_\_\_\_\_ gal

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

Well Purged:  Yes  No Well Volumes Purged: 0.9

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

Spring Flow Rate: \_\_\_\_\_ gpm

Sample Date (mm/dd/yy): 2/9/2022 Sample Collection Time: 13:59

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226533003 Final Lab Analysis Completion Date: 3/2/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP034W

Sample Date 2/9/2022

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

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

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.62	D6919-09
BICARBONATE ALKALINITY	40	SM20-2320B
CALCIUM, TOTAL	68.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	199	EPA 300
FLUORIDE	1 ND	EPA 300
IRON, TOTAL (ug/l)	4400	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	26.3	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	140	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	8	EPA 300
pH-FIELD (SU)	5.79	FIELD
pH-LAB (SU)	7.02	SM20-4500HB
POTASSIUM, TOTAL	3.8	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	52.8	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	868	FIELD
SPEC. COND., LAB (umhos/cm)	936	SW846 9050A
SULFATE	31.3	EPA 300
ALKALINITY	40	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	546	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.83	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	93.6	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

I.D. No 101389

Monitoring Point No. FFMP034W

Sample Date 2/9/2022

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

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**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP033W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: MANOR TOWNSHIP

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

Depth to Water Level: 19.07 ft Measured from:  Land Surface  TOC

Casing Stickup: 0.49 ft Elevation of Water Level: 497.45 ft./MSL

Sampling Depth: 79 ft Volume of Water Column: 112.98 gal

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

Well Purged:  Yes  No Well Volumes Purged: 0.9

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/9/2022 Sample Collection Time: 15:18

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  No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226533004 Final Lab Analysis CompletionDate: 2/18/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP033W

Sample Date 2/9/2022

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

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

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.79	D6919-09
BICARBONATE ALKALINITY	44	SM20-2320B
CALCIUM, TOTAL	30.3	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	55.5	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	7100	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	11	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	500	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	10.7 E	EPA 300
pH-FIELD (SU)	5.85	FIELD
pH-LAB (SU)	7.13	SM20-4500HB
POTASSIUM, TOTAL	2.2	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	14.7	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	374	FIELD
SPEC. COND., LAB (umhos/cm)	370	SW846 9050A
SULFATE	5.3	EPA 300
ALKALINITY	44	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	268	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	11.4	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 2/9/2022

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

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

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP02DW  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

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

Depth to Water Level: 19.3 ft Measured from:  Land Surface  TOC

Casing Stickup: \_\_\_\_\_ ft Elevation of Water Level: 490.30 ft./MSL

Sampling Depth: 120 ft Volume of Water Column: \_\_\_\_\_ gal

Total Well Depth: 152 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 0.5

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

Spring Flow Rate: \_\_\_\_\_ gpm

Sample Date (mm/dd/yy): 2/10/2022 Sample Collection Time: 12:39

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  No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226837001 Final Lab Analysis CompletionDate: 2/18/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP02DW

Sample Date 2/10/2022

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

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

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.199	D6919-09
BICARBONATE ALKALINITY	107	SM20-2320B
CALCIUM, TOTAL	135	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	460	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	260	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	24.1	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	540	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	5.4	EPA 300
pH-FIELD (SU)	7.24	FIELD
pH-LAB (SU)	7.94	SM20-4500HB
POTASSIUM, TOTAL	2.1	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	154	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1753	FIELD
SPEC. COND., LAB (umhos/cm)	1790	SW846 9050A
SULFATE	34	EPA 300
ALKALINITY	107	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	1120	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.74	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	2.95	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 2/10/2022

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

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

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General Reference: Section 273.284  
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**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP02SW  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: MANOR TOWNSHIP

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

Depth to Water Level: 14.92 ft Measured from:  Land Surface  TOC

Casing Stickup:          ft Elevation of Water Level: 494.98 ft./MSL

Sampling Depth: 18 ft Volume of Water Column:          gal

Total Well Depth: 25 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 4.4

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

Spring Flow Rate:          gpm

Sample Date (mm/dd/yy): 2/10/2022 Sample Collection Time: 13:10

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226837002 Final Lab Analysis Completion Date: 2/18/2022

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP02SW

Sample Date 2/10/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	11	SM20-2320B
CALCIUM, TOTAL	16.4	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	71.3	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	710	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	6.9	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	22	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	16.7 E	EPA 300
pH-FIELD (SU)	5.55	FIELD
pH-LAB (SU)	6.6	SM20-4500HB
POTASSIUM, TOTAL	5.8	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	52.4	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	468	FIELD
SPEC. COND., LAB (umhos/cm)	479	SW846 9050A
SULFATE	26	EPA 300
ALKALINITY	11	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	324	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.9	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	29.5	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. FFMP02SW

Sample Date 2/10/2022

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

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Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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Monitoring Point Number: FFMP017W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

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

Depth to Water Level: 38.72 ft Measured from:  Land Surface  TOC

Casing Stickup: 2.00 ft Elevation of Water Level: 441.98 ft./MSL

Sampling Depth: 135 ft Volume of Water Column: 164.17 gal

Total Well Depth: 150.5 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 0.7

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/10/2022 Sample Collection Time: 14:31

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226837003 Final Lab Analysis Completion Date: 2/18/2022

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

Comments: \_\_\_\_\_



I.D. No 101389

Monitoring Point No. FFMP017W

Sample Date 2/10/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.511	D6919-09
BICARBONATE ALKALINITY	130	SM20-2320B
CALCIUM, TOTAL	93	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	285	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	39.2	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	1700	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	2.5	EPA 300
pH-FIELD (SU)	5.9	FIELD
pH-LAB (SU)	7.4	SM20-4500HB
POTASSIUM, TOTAL	8.8	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	91.7	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1323	FIELD
SPEC. COND., LAB (umhos/cm)	1320	SW846 9050A
SULFATE	75.7	EPA 300
ALKALINITY	130	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	810	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	3	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	1.04	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 2/10/2022

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised  
04/12/2022

DEP USE ONLY

Date Received

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

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

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP019W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

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

Depth to Water Level: 26.51 ft Measured from:  Land Surface  TOC

Casing Stickup: 1.79 ft Elevation of Water Level: 445.44 ft./MSL

Sampling Depth: 49 ft Volume of Water Column: 69.37 gal

Total Well Depth: 132.79 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 2.0

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/10/2022 Sample Collection Time: 15:28

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3226837004 Final Lab Analysis CompletionDate: 2/18/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP019W

Sample Date 2/10/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	61	SM20-2320B
CALCIUM, TOTAL	57.9	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	89	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	5.9	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)	6.3	FIELD
pH-LAB (SU)	7.77	SM20-4500HB
POTASSIUM, TOTAL	1.1	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	10.4	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	452	FIELD
SPEC. COND., LAB (umhos/cm)	500	SW846 9050A
SULFATE	15.1	EPA 300
ALKALINITY	61	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	362	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.68	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.18	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 2/10/2022

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

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

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP018W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

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

Depth to Water Level: 25.65 ft Measured from:  Land Surface  TOC

Casing Stickup: 2.46 ft Elevation of Water Level: 446.55 ft./MSL

Sampling Depth: 40 ft Volume of Water Column: 16.83 gal

Total Well Depth: 51.43 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 2.9

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/11/2022 Sample Collection Time: 10:24

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  No If yes, please explain in comments field.

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3227041001 Final Lab Analysis CompletionDate: 2/25/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP018W

Sample Date 2/11/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.467	D6919-09
BICARBONATE ALKALINITY	18	SM20-2320B
CALCIUM, TOTAL	29.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	127	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	17.4	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	230	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	4.6	EPA 300
pH-FIELD (SU)	5.18	FIELD
pH-LAB (SU)	7.11	SM20-4500HB
POTASSIUM, TOTAL	4.6	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	35	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	536	FIELD
SPEC. COND., LAB (umhos/cm)	549	SW846 9050A
SULFATE	37.5	EPA 300
ALKALINITY	18	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	372	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.74	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.34	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 2/11/2022

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

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

T Please indicate detection limit if analyte is not detected.





COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised  
04/12/2022

DEP USE ONLY

Date Received

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

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP031W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: MANOR TOWNSHIP

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

Depth to Water Level: 68.65 ft Measured from:  Land Surface  TOC

Casing Stickup: 2.38 ft Elevation of Water Level: 544.01 ft./MSL

Sampling Depth: 130 ft Volume of Water Column: 104.79 gal

Total Well Depth: 140 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 0.8

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/11/2022 Sample Collection Time: 11:38

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3227041002 Final Lab Analysis Completion Date: 2/23/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP031W

Sample Date 2/11/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.408	D6919-09
BICARBONATE ALKALINITY	61	SM20-2320B
CALCIUM, TOTAL	38.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	25 ND	EPA 300
FLUORIDE	2.5 ND	EPA 300
IRON, TOTAL (ug/l)	4500	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	4	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	340	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	12.5 ND	EPA 300
pH-FIELD (SU)	7.74	FIELD
pH-LAB (SU)	8.04	SM20-4500HB
POTASSIUM, TOTAL	1.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	9.7	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	307	FIELD
SPEC. COND., LAB (umhos/cm)	283	SW846 9050A
SULFATE	42.8	EPA 300
ALKALINITY	61	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	212	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	23.8	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. FFMP031W

Sample Date 2/11/2022

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

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

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP002W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

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

Depth to Water Level: 67.2 ft Measured from:  Land Surface  TOC

Casing Stickup: 1.60 ft Elevation of Water Level: 546 ft./MSL

Sampling Depth: 85 ft Volume of Water Column: 150.39 gal

Total Well Depth: 169.6 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 0.6

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/11/2022 Sample Collection Time: 12:10

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3227041003 Final Lab Analysis CompletionDate: 2/22/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP002W

Sample Date 2/11/2022

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

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

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.191	D6919-09
BICARBONATE ALKALINITY	5 ND	SM20-2320B
CALCIUM, TOTAL	17.1	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	16.9	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	7.7	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	230	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	19.4 E	EPA 300
pH-FIELD (SU)	4.66	FIELD
pH-LAB (SU)	5.7	SM20-4500HB
POTASSIUM, TOTAL	1.6	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	14	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	271	FIELD
SPEC. COND., LAB (umhos/cm)	254	SW846 9050A
SULFATE	16.7	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	202	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.51	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

I.D. No 101389

Monitoring Point No. FFMP002W

Sample Date 2/11/2022

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised  
04/12/2022

DEP USE ONLY

Date Received

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

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

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

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

**SECTION B. FACILITY INFORMATION**

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

Monitoring Point Number: FFMP032W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: MANOR TOWNSHIP

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

Depth to Water Level: 59.7 ft Measured from:  Land Surface  TOC

Casing Stickup: 2.06 ft Elevation of Water Level: 534.39 ft./MSL

Sampling Depth: 62 ft Volume of Water Column: 22.47 gal

Total Well Depth: 75 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 0.5

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

Spring Flow Rate:      gpm

Sample Date (mm/dd/yy): 2/11/2022 Sample Collection Time: 14:52

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3227041004 Final Lab Analysis CompletionDate: 2/23/2022

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

Comments: \_\_\_\_\_

I.D. No 101389

Monitoring Point No. FFMP032W

Sample Date 2/11/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.913	D6919-09
BICARBONATE ALKALINITY	65	SM20-2320B
CALCIUM, TOTAL	14.3	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	25 ND	EPA 300
FLUORIDE	2.5 ND	EPA 300
IRON, TOTAL (ug/l)	6800	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	5.5	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	580	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	12.5 ND	EPA 300
pH-FIELD (SU)	6.97	FIELD
pH-LAB (SU)	7.96	SM20-4500HB
POTASSIUM, TOTAL	1.6	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	17.5	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	201	FIELD
SPEC. COND., LAB (umhos/cm)	176	SW846 9050A
SULFATE	25 ND	EPA 300
ALKALINITY	65	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	112	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.6	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	94.9	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. FFMP032W

Sample Date 2/11/2022

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

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
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](http://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 1st QTR 2022 GWMP-FORM 19Q  
Workorder 3226533  
Report ID 153315 on 3/4/2022

## Certificate of Analysis

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

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

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

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

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.  
ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):

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

*Susan Scherer*

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

**Susan Scherer**  
Project Coordinator

(ALS Digital Signature)



## Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3226533001	FFMP30RW	Ground Water	02/09/2022 11:02 AM	02/09/2022 4:37 PM	BGS	Analytical Laboratory Service
3226533002	FFMP04AW	Ground Water	02/09/2022 12:13 PM	02/09/2022 4:37 PM	BGS	Analytical Laboratory Service
3226533003	FFMP034W	Ground Water	02/09/2022 1:59 PM	02/09/2022 4:37 PM	BGS	Analytical Laboratory Service
3226533004	FFMP033W	Ground Water	02/09/2022 3:18 PM	02/09/2022 4:37 PM	BGS	Analytical Laboratory Service

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## Reference

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### Notes

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

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### Standard Acronyms/Flags

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

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### Project Notations

### Sample Notations

Lab ID	Sample ID	
3226533001	FFMP30RW	Sample temperature upon receipt at lab was greater than 6 °C.
3226533002	FFMP04AW	Sample temperature upon receipt at lab was greater than 6 °C.
3226533003	FFMP034W	Sample temperature upon receipt at lab was greater than 6 °C.
3226533004	FFMP033W	Sample temperature upon receipt at lab was greater than 6 °C.

### Result Notations

Notation #	
0	Result reported exceeds instrument calibration
1	The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO <sub>3</sub> /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	Analyte was analyzed past the 48 hour holding time.



Client Sample ID **FFMP30RW**  
 Lab Sample ID **3226533001**

Collected **02/09/2022 11:02 AM**  
 Lab Receipt **02/09/2022 4:37 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3226533001-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 820137                                Dilution 1  
Date 02/16/2022 12:14 AM                Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	93%	62 - 133	
4-Bromofluorobenzene	460-00-4	85.30%	79 - 114	
Dibromofluoromethane	1868-53-7	91.30%	78 - 116	
Toluene-d8	2037-26-5	89%	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3226533001-J(Nitric Acid)  
Batch 819171                                Aliquot 45 mL  
Date 02/11/2022 3:09 PM                Tech. JSE

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819304                                Dilution 1  
Date 02/14/2022 1:37 PM                Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	40.6	mg/L	0.11	C
Iron, Total	7439-89-6	0.20	mg/L	0.067	C
Magnesium, Total	7439-95-4	17.8	mg/L	0.11	C
Manganese, Total	7439-96-5	2.7	mg/L	0.0056	C



Client Sample ID **FFMP30RW**  
 Lab Sample ID **3226533001**

Collected **02/09/2022 11:02 AM**  
 Lab Receipt **02/09/2022 4:37 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	6.7	mg/L	0.56	C
Sodium, Total	7440-23-5	107	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A      Container 3226533001-B(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method S2540C-11      Fraction  
Batch 819127      Dilution 1  
Date 02/14/2022 8:38 AM      Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	494	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A      Container 3226533001-B(Unpreserved)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method EPA 300.0      Fraction  
Batch 818676      Dilution 2  
Date 02/10/2022 12:24 PM      Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	5.3	mg/L	1.0	C
Sulfate	SO4	32.3	mg/L	2.0	C

**Prep**

Method N/A      Container 3226533001-B(Unpreserved)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method EPA 300.0      Fraction  
Batch 819345      Dilution 10  
Date 02/15/2022 5:11 AM      Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	223	mg/L	10.0	C

**Wet Chemistry (General)  
 EPA 410.4**



Client Sample ID **FFMP30RW**  
 Lab Sample ID **3226533001**

Collected **02/09/2022 11:02 AM**  
 Lab Receipt **02/09/2022 4:37 PM**

**Prep**

Method N/A      Container 3226533001-A(Sulfuric Acid)  
Batch N/A      Aliquot 2 mL  
Date N/A      Tech. N/A

**Analysis**

Method EPA 410.4      Fraction  
Batch 820240      Dilution 1  
Date 02/17/2022 11:00 AM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND

**Wet Chemistry (General)  
 SW846 9050A**

**Prep**

Method N/A      Container 3226533001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820005      Dilution 1  
Date 02/17/2022 11:00 AM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	384	umhos/cm	1	C

**Wet Chemistry (General)  
 SW846 9060A**

**Prep**

Method N/A      Container 3226533001-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 819397      Dilution 1  
Date 02/14/2022 9:04 PM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	0.75	mg/L	0.50	C

**Wet Chemistry (General)  
 SW846 9066**

**Prep**

Method 420.4/9066      Container 3226533001-G(Sulfuric Acid)  
Batch 818987      Aliquot 100 mL  
Date 02/11/2022 8:38 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 819103      Dilution 1  
Date 02/11/2022 4:06 PM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND





Client Sample ID	<b>FFMP30RW</b>	Collected	<b>02/09/2022 11:02 AM</b>
Lab Sample ID	<b>3226533001</b>	Lab Receipt	<b>02/09/2022 4:37 PM</b>

**Wet Chemistry (General)**  
**ASTM D6919-09**

Prep		Analysis	
<u>Method</u>	N/A	<u>Method</u>	ASTM D6919-09
<u>Batch</u>	N/A	<u>Batch</u>	820236
<u>Date</u>	N/A	<u>Date</u>	02/18/2022 10:41 AM
<u>Container</u>	3226533001-A(Sulfuric Acid)	<u>Fraction</u>	
<u>Aliquot</u>	5 mL	<u>Dilution</u>	10
<u>Tech.</u>	N/A	<u>Analyst</u>	ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.243	mg/L	0.100	c

**Wet Chemistry (General)**  
**SM2130B-2011**

Prep		Analysis	
<u>Method</u>	N/A	<u>Method</u>	SM2130B-2011
<u>Batch</u>	N/A	<u>Batch</u>	818895
<u>Date</u>	N/A	<u>Date</u>	02/10/2022 10:58 AM
<u>Container</u>	3226533001-B(Unpreserved)	<u>Fraction</u>	
<u>Aliquot</u>	25 mL	<u>Dilution</u>	1
<u>Tech.</u>	N/A	<u>Analyst</u>	LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	4.05	NTU	0.10	c

**Wet Chemistry (General)**  
**SM2320B-2011**

Prep		Analysis	
<u>Method</u>	N/A	<u>Method</u>	SM2320B-2011
<u>Batch</u>	N/A	<u>Batch</u>	818907
<u>Date</u>	N/A	<u>Date</u>	02/10/2022 4:49 PM
<u>Container</u>	3226533001-B(Unpreserved)	<u>Fraction</u>	
<u>Aliquot</u>	50 mL	<u>Dilution</u>	1
<u>Tech.</u>	N/A	<u>Analyst</u>	MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	31	mg/L	5	c

**Wet Chemistry (General)**  
**SM2320B-2011**

Prep		Analysis	
<u>Method</u>	N/A	<u>Method</u>	SM2320B-2011
<u>Batch</u>	N/A	<u>Batch</u>	818907
<u>Date</u>	N/A	<u>Date</u>	02/10/2022 4:49 PM
<u>Container</u>	3226533001-B(Unpreserved)	<u>Fraction</u>	
<u>Aliquot</u>	50 mL	<u>Dilution</u>	1
<u>Tech.</u>	N/A	<u>Analyst</u>	MLW



Client Sample ID **FFMP30RW**  
 Lab Sample ID **3226533001**

Collected **02/09/2022 11:02 AM**  
 Lab Receipt **02/09/2022 4:37 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	31	mg/L	5	C.1

**Wet Chemistry (General)  
 S4500HB-11**

**Prep**

Method N/A      Container 3226533001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 4:49 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	6.72	pH_Units		C.2

**FLD  
 Field**

**Prep**

Method N/A      Container 3226533001-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/09/2022 11:02 AM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	34.91	Feet		C
Dissolved Oxygen	DO	1.52	mg/L	0.01	C
Elev Top MW Casing above MSL	781	562.30	Feet		C
Flow Rate	FRATE	2.06	gal/min		C
Ground Water Elevation	GWE	527.39	ft/MSL		C
Oxidation-Reduction Potential	ORP	274	mV		C
pH, Field (SM4500B)	PHF	5.66	pH_Units		C
Sample Depth	SD	85.00	Feet		C
Specific Conductance, Field	CONDf	869	umhos/cm	1	C
Temperature	Temp	13.64	Deg. C		C
Total Well Depth	TWD	94.20	Feet		C
Turbidity, Field	TURBF	5	NTU	1	C
Volume in Water Column	VWC	87.16	Gallons		C
Water Level After Purge	LAP	58.79	Feet		C
Well Volumes Purged	WVP	1.77	Vol		C



Client Sample ID **FFMP04AW**  
 Lab Sample ID **3226533002**

Collected **02/09/2022 12:13 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3226533002-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 820137                                 Dilution 1  
Date 02/16/2022 12:37 AM                Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	96.80 %	62 - 133	
4-Bromofluorobenzene	460-00-4	87.30 %	79 - 114	
Dibromofluoromethane	1868-53-7	94.20 %	78 - 116	
Toluene-d8	2037-26-5	90.40 %	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3226533002-J(Nitric Acid)  
Batch 819171                                 Aliquot 45 mL  
Date 02/11/2022 3:09 PM                Tech. JSE

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819304                                 Dilution 1  
Date 02/14/2022 1:40 PM                Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	143	mg/L	0.11	C
Iron, Total	7439-89-6	ND	mg/L	0.067	C,ND
Magnesium, Total	7439-95-4	26.4	mg/L	0.11	C
Manganese, Total	7439-96-5	0.28	mg/L	0.0056	C



Client Sample ID **FFMP04AW**  
 Lab Sample ID **3226533002**

Collected **02/09/2022 12:13 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	2.8	mg/L	0.56	C
Sodium, Total	7440-23-5	85.1	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A Container 3226533002-B(Unpreserved)  
 Batch N/A Aliquot  
 Date N/A Tech. N/A

**Analysis**

Method S2540C-11 Fraction  
 Batch 819127 Dilution 1  
 Date 02/14/2022 8:38 AM Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	856	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A Container 3226533002-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 819104 Dilution 2  
 Date 02/11/2022 10:12 PM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	ND	mg/L	1.0	C,ND,3
Sulfate	SO4	48.7	mg/L	2.0	C

**Prep**

Method N/A Container 3226533002-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 820219 Dilution 25  
 Date 02/17/2022 3:30 AM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	313	mg/L	25.0	C

**Wet Chemistry (General)  
 EPA 410.4**



Client Sample ID **FFMP04AW** Collected **02/09/2022 12:13 PM**  
 Lab Sample ID **3226533002** Lab Receipt **02/09/2022 4:37 PM**

**Prep**

Method N/A Container 3226533002-A(Sulfuric Acid)  
Batch N/A Aliquot 2 mL  
Date N/A Tech. N/A

**Analysis**

Method EPA 410.4 Fraction  
Batch 820330 Dilution 1  
Date 02/17/2022 1:45 PM Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND

**Wet Chemistry (General)  
 SW846 9050A**

**Prep**

Method N/A Container 3226533002-B(Unpreserved)  
Batch N/A Aliquot 50 mL  
Date N/A Tech. N/A

**Analysis**

Method SW846 9050A Fraction  
Batch 820005 Dilution 1  
Date 02/17/2022 11:00 AM Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	1000	umhos/cm	1	C

**Wet Chemistry (General)  
 SW846 9060A**

**Prep**

Method N/A Container 3226533002-E(Hydrochloric Acid)  
Batch N/A Aliquot 6 mL  
Date N/A Tech. N/A

**Analysis**

Method SW846 9060A Fraction  
Batch 819397 Dilution 1  
Date 02/14/2022 9:04 PM Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	0.76	mg/L	0.50	C

**Wet Chemistry (General)  
 SW846 9066**

**Prep**

Method 420.4/9066 Container 3226533002-G(Sulfuric Acid)  
Batch 818987 Aliquot 100 mL  
Date 02/11/2022 8:38 AM Tech. AKH

**Analysis**

Method SW846 9066 Fraction  
Batch 819103 Dilution 1  
Date 02/11/2022 4:09 PM Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND



Client Sample ID **FFMP04AW**  
 Lab Sample ID **3226533002**

Collected **02/09/2022 12:13 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A                      Container 3226533002-A(Sulfuric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method ASTM D6919-09                      Fraction  
Batch 820230                                    Dilution 10  
Date 02/17/2022 3:23 AM                      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.103	mg/L	0.100	c

**Wet Chemistry (General)**  
**SM2130B-2011**

**Prep**

Method N/A                      Container 3226533002-B(Unpreserved)  
Batch N/A                        Aliquot 25 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SM2130B-2011                      Fraction  
Batch 818895                                    Dilution 1  
Date 02/10/2022 10:58 AM                      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	0.42	NTU	0.10	c

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A                      Container 3226533002-B(Unpreserved)  
Batch N/A                        Aliquot 50 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SM2320B-2011                      Fraction  
Batch 818907                                    Dilution 1  
Date 02/10/2022 5:00 PM                      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	182	mg/L	5	c

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A                      Container 3226533002-B(Unpreserved)  
Batch N/A                        Aliquot 50 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SM2320B-2011                      Fraction  
Batch 818907                                    Dilution 1  
Date 02/10/2022 5:00 PM                      Analyst MLW



Client Sample ID **FFMP04AW**  
 Lab Sample ID **3226533002**

Collected **02/09/2022 12:13 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	182	mg/L	5	C.1

**Wet Chemistry (General)**  
**S4500HB-11**

**Prep**

Method N/A      Container 3226533002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 5:00 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	7.92	pH_Units		C.2

**FLD**  
**Field**

**Prep**

Method N/A      Container 3226533002-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/09/2022 12:13 PM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	35.25	Feet		C
Dissolved Oxygen	DO	ND	mg/L	0.01	C,ND
Elev Top MW Casing above MSL	781	560.72	Feet		C
Flow Rate	FRATE	1.79	gal/min		C
Ground Water Elevation	GWE	525.47	ft/MSL		C
Oxidation-Reduction Potential	ORP	100	mV		C
pH, Field (SM4500B)	PHF	7.00	pH_Units		C
Sample Depth	SD	146.00	Feet		C
Specific Conductance, Field	CONDf	1420	umhos/cm	1	C
Temperature	Temp	13.35	Deg. C		C
Total Well Depth	TWD	148.50	Feet		C
Turbidity, Field	TURBF	ND	NTU	1	C,ND
Volume in Water Column	VWC	166.48	Gallons		C
Water Level After Purge	LAP	79.76	Feet		C
Well Volumes Purged	WVP	0.64	Vol		C



Client Sample ID **FFMP034W**  
 Lab Sample ID **3226533003**

Collected **02/09/2022 1:59 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3226533003-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 820137                                 Dilution 1  
Date 02/16/2022 12:59 AM                Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	95.30 %	62 - 133	
4-Bromofluorobenzene	460-00-4	85.20 %	79 - 114	
Dibromofluoromethane	1868-53-7	93.90 %	78 - 116	
Toluene-d8	2037-26-5	88.70 %	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3226533003-J(Nitric Acid)  
Batch 819171                                 Aliquot 45 mL  
Date 02/11/2022 3:09 PM                Tech. JSE

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819304                                 Dilution 1  
Date 02/14/2022 1:44 PM                Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	68.6	mg/L	0.11	C
Iron, Total	7439-89-6	4.4	mg/L	0.067	C
Magnesium, Total	7439-95-4	26.3	mg/L	0.11	C
Manganese, Total	7439-96-5	0.14	mg/L	0.0056	C





Client Sample ID **FFMP034W**  
 Lab Sample ID **3226533003**

Collected **02/09/2022 1:59 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	3.8	mg/L	0.56	C
Sodium, Total	7440-23-5	52.8	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A Container 3226533003-B(Unpreserved)  
 Batch N/A Aliquot  
 Date N/A Tech. N/A

**Analysis**

Method S2540C-11 Fraction  
 Batch 819127 Dilution 1  
 Date 02/14/2022 8:38 AM Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	546	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A Container 3226533003-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 819104 Dilution 10  
 Date 02/11/2022 9:50 PM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	199	mg/L	10.0	C
Fluoride	F	ND	mg/L	1.0	C,ND
Nitrate-N	NO3	8.0	mg/L	5.0	C,3
Sulfate	SO4	31.3	mg/L	10.0	C

**Wet Chemistry (General)  
 EPA 410.4**

**Prep**

Method N/A Container 3226533003-A(Sulfuric Acid)  
 Batch N/A Aliquot 2 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 410.4 Fraction  
 Batch 823110 Dilution 1  
 Date 03/02/2022 9:55 AM Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND



Client Sample ID **FFMP034W**  
 Lab Sample ID **3226533003**

Collected **02/09/2022 1:59 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**Wet Chemistry (General)**  
**SW846 9050A**

**Prep**

Method N/A      Container 3226533003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820005      Dilution 1  
Date 02/17/2022 11:00 AM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	936	umhos/cm	1	c

**Wet Chemistry (General)**  
**SW846 9060A**

**Prep**

Method N/A      Container 3226533003-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 819397      Dilution 1  
Date 02/14/2022 9:04 PM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	0.83	mg/L	0.50	c

**Wet Chemistry (General)**  
**SW846 9066**

**Prep**

Method 420.4/9066      Container 3226533003-G(Sulfuric Acid)  
Batch 818987      Aliquot 100 mL  
Date 02/11/2022 8:38 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 819103      Dilution 1  
Date 02/11/2022 4:13 PM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C.ND

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3226533003-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820233      Dilution 25  
Date 02/18/2022 5:27 PM      Analyst ALK



Client Sample ID **FFMP034W**  
 Lab Sample ID **3226533003**

Collected **02/09/2022 1:59 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.620	mg/L	0.250	C

**Wet Chemistry (General)  
 SM2130B-2011**

**Prep**

Method N/A      Container 3226533003-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 818895      Dilution 1  
Date 02/10/2022 10:58 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	93.6	NTU	0.10	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3226533003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 5:11 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	40	mg/L	5	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3226533003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 5:11 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	40	mg/L	5	C,1

**Wet Chemistry (General)  
 S4500HB-11**



Client Sample ID **FFMP034W** Collected **02/09/2022 1:59 PM**  
 Lab Sample ID **3226533003** Lab Receipt **02/09/2022 4:37 PM**

**Prep**

Method N/A Container 3226533003-B(Unpreserved)  
Batch N/A Aliquot 50 mL  
Date N/A Tech. N/A

**Analysis**

Method S4500HB-11 Fraction  
Batch 818907 Dilution 1  
Date 02/10/2022 5:11 PM Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	7.02	pH_Units		C,2

**FLD  
Field**

**Prep**

Method N/A Container 3226533003-D(Unpreserved)  
Batch N/A Aliquot  
Date N/A Tech. N/A

**Analysis**

Method Field Fraction  
Batch 820603 Dilution 1  
Date 02/09/2022 1:59 PM Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	10.00	Feet		C
Dissolved Oxygen	DO	2.95	mg/L	0.01	C
Elev Top MW Casing above MSL	781	472.88	Feet		C
Flow Rate	FRATE	1.73	gal/min		C
Ground Water Elevation	GWE	462.88	ft/MSL		C
Oxidation-Reduction Potential	ORP	155	mV		C
pH, Field (SM4500B)	PHF	5.79	pH_Units		C
Sample Depth	SD	25.85	Feet		C
Specific Conductance, Field	CONDf	868	umhos/cm	1	C
Temperature	Temp	13.88	Deg. C		C
Total Well Depth	TWD	121.00	Feet		C
Turbidity, Field	TURBF	39	NTU	1	C
Volume in Water Column	VWC	163.17	Gallons		C
Water Level After Purge	LAP	18.49	Feet		C
Well Volumes Purged	WVP	0.95	Vol		C



Client Sample ID **FFMP033W**  
 Lab Sample ID **3226533004**

Collected **02/09/2022 3:18 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A      Container 3226533004-H(Hydrochloric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 8260B      Fraction VOA\_Trace  
Batch 820137      Dilution 1  
Date 02/16/2022 1:22 AM      Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	95.10 %	62 - 133	
4-Bromofluorobenzene	460-00-4	85 %	79 - 114	
Dibromofluoromethane	1868-53-7	92.10 %	78 - 116	
Toluene-d8	2037-26-5	88.80 %	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015      Container 3226533004-J(Nitric Acid)  
Batch 819171      Aliquot 45 mL  
Date 02/11/2022 3:09 PM      Tech. JSE

**Analysis**

Method SW846 6010C      Fraction ICP\_AES  
Batch 819304      Dilution 1  
Date 02/14/2022 1:48 PM      Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	30.3	mg/L	0.11	C
Iron, Total	7439-89-6	7.1	mg/L	0.067	C
Magnesium, Total	7439-95-4	11.0	mg/L	0.11	C
Manganese, Total	7439-96-5	0.50	mg/L	0.0056	C



Client Sample ID **FFMP033W**  
 Lab Sample ID **3226533004**

Collected **02/09/2022 3:18 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	2.2	mg/L	0.56	C
Sodium, Total	7440-23-5	14.7	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A Container 3226533004-B(Unpreserved)  
 Batch N/A Aliquot  
 Date N/A Tech. N/A

**Analysis**

Method S2540C-11 Fraction  
 Batch 819127 Dilution 1  
 Date 02/14/2022 8:38 AM Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	268	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A Container 3226533004-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 819104 Dilution 2  
 Date 02/11/2022 9:29 PM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	55.5	mg/L	2.0	C
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	10.7	mg/L	1.0	C,0.3
Sulfate	SO4	5.3	mg/L	2.0	C

**Wet Chemistry (General)  
 EPA 410.4**

**Prep**

Method N/A Container 3226533004-A(Sulfuric Acid)  
 Batch N/A Aliquot 2 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 410.4 Fraction  
 Batch 820330 Dilution 1  
 Date 02/17/2022 1:45 PM Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND



Client Sample ID **FFMP033W**  
 Lab Sample ID **3226533004**

Collected **02/09/2022 3:18 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**Wet Chemistry (General)**  
**SW846 9050A**

**Prep**

Method N/A      Container 3226533004-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820005      Dilution 1  
Date 02/17/2022 11:00 AM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	370	umhos/cm	1	C

**Wet Chemistry (General)**  
**SW846 9060A**

**Prep**

Method N/A      Container 3226533004-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 819397      Dilution 1  
Date 02/14/2022 9:04 PM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	ND	mg/L	0.50	C,ND

**Wet Chemistry (General)**  
**SW846 9066**

**Prep**

Method 420.4/9066      Container 3226533004-G(Sulfuric Acid)  
Batch 818987      Aliquot 100 mL  
Date 02/11/2022 8:38 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 819103      Dilution 1  
Date 02/11/2022 4:16 PM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3226533004-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820236      Dilution 10  
Date 02/18/2022 12:05 PM      Analyst ALK



Client Sample ID **FFMP033W**  
 Lab Sample ID **3226533004**

Collected **02/09/2022 3:18 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.790	mg/L	0.100	C

**Wet Chemistry (General)  
 SM2130B-2011**

**Prep**

Method N/A      Container 3226533004-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 818895      Dilution 1  
Date 02/10/2022 10:58 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	11.4	NTU	0.10	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3226533004-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 5:21 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	44	mg/L	5	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3226533004-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 5:21 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	44	mg/L	5	C,1

**Wet Chemistry (General)  
 S4500HB-11**





Client Sample ID **FFMP033W**  
 Lab Sample ID **3226533004**

Collected **02/09/2022 3:18 PM**  
 Lab Receipt **02/09/2022 4:37 PM**

**Prep**

Method N/A      Container 3226533004-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 5:21 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	7.13	pH_Units		C,2

**FLD  
Field**

**Prep**

Method N/A      Container 3226533004-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/09/2022 3:18 PM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	19.07	Feet		C
Dissolved Oxygen	DO	0.90	mg/L	0.01	C
Elev Top MW Casing above MSL	781	516.52	Feet		C
Flow Rate	FRATE	1.78	gal/min		C
Ground Water Elevation	GWE	497.45	ft/MSL		C
Oxidation-Reduction Potential	ORP	72	mV		C
pH, Field (SM4500B)	PHF	5.85	pH_Units		C
Sample Depth	SD	79.00	Feet		C
Specific Conductance, Field	CONDf	374	umhos/cm	1	C
Temperature	Temp	14.90	Deg. C		C
Total Well Depth	TWD	100.00	Feet		C
Turbidity, Field	TURBF	11	NTU	1	C
Volume in Water Column	VWC	118.97	Gallons		C
Water Level After Purge	LAP	32.66	Feet		C
Well Volumes Purged	WVP	0.90	Vol		C



### Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3226533001	FFMP30RW	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	
3226533002	FFMP04AW	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	
3226533003	FFMP034W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	
3226533004	FFMP033W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	



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**Client Name:** Lancaster County Solid Waste MA  
**Address:** 1289 Harrisburg Pike, P.O. Box 4424  
 Lancaster, PA 17604  
**Contact:** Dan Brown  
**Phone#:** (717) 735-0193

**Project Name#:** Frey Farm Quarterly (GWMP)  
**Bill To:** Lancaster County Solid Waste MA  
**TAT**  Normal-Standard TAT is 10-12 business days.  
 Rush-Subject to ALS approval and surcharges.  
**Date Required:** \_\_\_\_\_ **Approved By:** \_\_\_\_\_  
**Email?**  Y  N **dbrown@LCSWMA.com**  
**Fax?**  Y  N **No.: (717) 397-9973**

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time
1. FFMP30RW	02/09/22	1102
2. FFMP04AW	02/09/22	1213
3. FFMP034W	02/09/22	1359
4. FFMP033W	02/09/22	1518
5		
6		
7		
8		
9		
10		

# CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

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

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

## ANALYSES/METHOD REQUESTED

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
VOC - Form 190					
TOC					

Enter Number of Containers Per Sample or Field Results Below.

*G or C	*Matrix	TOC	VOC - Form 190	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
G	GW	2	1	2	X	1	1	1	1
G	GW	2	1	2	X	1	1	1	1
G	GW	2	1	2	X	1	1	1	1
G	GW	2	1	2	X	1	1	1	1

LOGGED BY (signature):

REVIEWED BY (signature):

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
AS	02/09/22	16:37	AMRF/ALS	2-9-22	16:37

Temp Taken By: \_\_\_\_\_  
 WO Temp (°C) \_\_\_\_\_  
 Therm ID: 574  
 Receipt Info Completed By: AMRF  
 Cooler Custody Seal Intact Y N  
 Sample Custody Seal Intact Y N  
 Received on Ice Y N  
 Cooler & Samples Intact Y N  
 Correct Containers Provided Y N  
 Sample Label/COC Agree Y N  
 Adequate Sample Volumes Y N  
 VOA Headspace Present Y N  
 Voa Trip Blank Y N  
 NLS 4 Days? Y N  
 Rad Screen (uCi) Y N  
 Courier/Tracking #: \_\_\_\_\_  
 SDWA Compliance Y N  
 PWSID \_\_\_\_\_

ALS Field Services:  Pickup  Labor  
 Composite\_Sampling  Rental\_Equipment  
 Other:

Special Processing: USACE, Navy  
 State Samples Collected In: NY, NJ, PA, NC  
 Reportable to PADEP? Yes  No   
 Sample Disposal: Lab  Special   
 PWSID # \_\_\_\_\_  
 EDDS: Format Type: \_\_\_\_\_

COC #: 3226533  
 Logged By: CXH  
 PH: SJB

Receipt Information (Completed by Receiving Lab)  
 Cooler Temp: 40 Therm ID: 574  
 No. of Coolers: Y N Initial





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

Analytical Results Report For **Lancaster County Solid Waste Authority**  
Project Frey Farm Quarterly  
Workorder 322606Z  
Report ID 150933 on 2/21/2022

## Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Feb 07, 2022.

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

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

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

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

**Recipient(s):**

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

*Susan Scherer*

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

**Susan Scherer**  
Project Coordinator

(ALS Digital Signature)



## Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3226067001	FFMP015W	Ground Water	02/07/2022 11:49 AM	02/07/2022 8:15 PM	BGS	Analytical Laboratory Service
3226067002	FFMP03AW	Ground Water	02/07/2022 1:08 PM	02/07/2022 8:15 PM	BGS	Analytical Laboratory Service
3226067003	FFMP005W	Ground Water	02/07/2022 2:30 PM	02/07/2022 8:15 PM	BGS	Analytical Laboratory Service

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## Reference

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### Notes

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

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### Standard Acronyms/Flags

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

---



**Project Notations**

**Sample Notations**

**Lab ID**      **Sample ID**

**Result Notations**

Notation #	
0	Result reported exceeds instrument calibration
1	The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.
2	The 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.

Client Sample ID **FFMP015W**  
 Lab Sample ID **3226067001**

Collected **02/07/2022 11:49 AM**  
 Lab Receipt **02/07/2022 8:15 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A      Container 3226067001-H(Hydrochloric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 8260B      Fraction VOA\_Trace  
Batch 818894      Dilution 1  
Date 02/10/2022 4:40 PM      Analyst DPC

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	62 - 133	
4-Bromofluorobenzene	460-00-4	105%	79 - 114	
Dibromofluoromethane	1868-53-7	92.30%	78 - 116	
Toluene-d8	2037-26-5	98.20%	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015      Container 3226067001-J1(Nitric Acid)  
Batch 818778      Aliquot 45 mL  
Date 02/09/2022 5:25 PM      Tech. SXC

**Analysis**

Method SW846 6010C      Fraction ICP\_AES  
Batch 818876      Dilution 1  
Date 02/10/2022 12:07 PM      Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	26.1	mg/L	0.11	C
Iron, Total	7439-89-6	ND	mg/L	0.067	C,ND
Magnesium, Total	7439-95-4	34.4	mg/L	0.11	C
Manganese, Total	7439-96-5	0.030	mg/L	0.0056	C





Client Sample ID **FFMP015W**  
 Lab Sample ID **3226067001**

Collected **02/07/2022 11:49 AM**  
 Lab Receipt **02/07/2022 8:15 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	2.6	mg/L	0.56	C
Sodium, Total	7440-23-5	23.9	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A Container 3226067001-B(Unpreserved)  
 Batch N/A Aliquot  
 Date N/A Tech. N/A

**Analysis**

Method S2540C-11 Fraction  
 Batch 818492 Dilution 1  
 Date 02/09/2022 9:31 AM Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	346	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A Container 3226067001-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 818465 Dilution 2  
 Date 02/08/2022 11:26 PM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	45.6	mg/L	2.0	C
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	47.6	mg/L	1.0	C,0
Sulfate	SO4	29.6	mg/L	2.0	C

**Wet Chemistry (General)  
 EPA 410.4**

**Prep**

Method N/A Container 3226067001-A(Sulfuric Acid)  
 Batch N/A Aliquot 2 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 410.4 Fraction  
 Batch 820242 Dilution 1  
 Date 02/17/2022 11:10 AM Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND

Client Sample ID **FFMP015W**  
 Lab Sample ID **3226067001**

Collected **02/07/2022 11:49 AM**  
 Lab Receipt **02/07/2022 8:15 PM**

**Wet Chemistry (General)**  
**SW846 9050A**

**Prep**

Method N/A      Container 3226067001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820005      Dilution 1  
Date 02/15/2022 1:52 PM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	663	umhos/cm	1	c

**Wet Chemistry (General)**  
**SW846 9060A**

**Prep**

Method N/A      Container 3226067001-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 818746      Dilution 1  
Date 02/09/2022 3:46 PM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	1.3	mg/L	0.50	c

**Wet Chemistry (General)**  
**SW846 9066**

**Prep**

Method 420.4/9066      Container 3226067001-G(Sulfuric Acid)  
Batch 818986      Aliquot 100 mL  
Date 02/11/2022 8:37 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 819103      Dilution 1  
Date 02/11/2022 2:29 PM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C.ND

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3226067001-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820232      Dilution 10  
Date 02/18/2022 1:35 AM      Analyst ALK



Client Sample ID **FFMP015W**  
 Lab Sample ID **3226067001**

Collected **02/07/2022 11:49 AM**  
 Lab Receipt **02/07/2022 8:15 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.368	mg/L	0.100	C

**Wet Chemistry (General)  
 SM2130B-2011**

**Prep**

Method N/A      Container 3226067001-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 818527      Dilution 1  
Date 02/08/2022 9:18 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	ND	NTU	0.10	C,ND

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3226067001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818452      Dilution 1  
Date 02/08/2022 3:35 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	24	mg/L	5	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3226067001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818452      Dilution 1  
Date 02/08/2022 3:35 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	24	mg/L	5	C,1

**Wet Chemistry (General)  
 S4500HB-11**



Client Sample ID **FFMP015W**  
 Lab Sample ID **3226067001**

Collected **02/07/2022 11:49 AM**  
 Lab Receipt **02/07/2022 8:15 PM**

**Prep**

Method N/A                      Container 3226067001-B(Unpreserved)  
Batch N/A                        Aliquot 50 mL  
Date N/A                         Tech. N/A

**Analysis**

Method S4500HB-11                      Fraction  
Batch 818452                                Dilution 1  
Date 02/08/2022 3:35 PM                Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	6.44	pH_Units		C,2

**FLD  
Field**

**Prep**

Method N/A                      Container 3226067001-D(Unpreserved)  
Batch N/A                        Aliquot  
Date N/A                         Tech. N/A

**Analysis**

Method Field                                Fraction  
Batch 820603                                Dilution 1  
Date 02/07/2022 11:49 AM                Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	62.36	Feet		C
Dissolved Oxygen	DO	8.15	mg/L	0.01	C
Elev Top MW Casing above MSL	781	576.40	Feet		C
Flow Rate	FRATE	1.70	gal/min		C
Ground Water Elevation	GWE	514.04	ft/MSL		C
Oxidation-Reduction Potential	ORP	277	mV		C
pH, Field (SM4500B)	PHF	5.54	pH_Units		C
Sample Depth	SD	135.00	Feet		C
Specific Conductance, Field	CONDf	607	umhos/cm	1	C
Temperature	Temp	13.79	Deg. C		C
Total Well Depth	TWD	149.90	Feet		C
Turbidity, Field	TURBF	ND	NTU	1	C,ND
Volume in Water Column	VWC	128.68	Gallons		C
Water Level After Purge	LAP	104.84	Feet		C
Well Volumes Purged	WVP	0.93	Vol		C

Client Sample ID **FFMP03AW**  
 Lab Sample ID **3226067002**

Collected **02/07/2022 1:08 PM**  
 Lab Receipt **02/07/2022 8:15 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3226067002-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 818894                                Dilution 1  
Date 02/10/2022 5:02 PM                      Analyst DPC

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	62 - 133	
4-Bromofluorobenzene	460-00-4	108%	79 - 114	
Dibromofluoromethane	1868-53-7	93.70%	78 - 116	
Toluene-d8	2037-26-5	98.80%	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3226067002-J1(Nitric Acid)  
Batch 818778                                Aliquot 45 mL  
Date 02/09/2022 5:25 PM                      Tech. SXC

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 818876                                Dilution 1  
Date 02/10/2022 12:29 PM                      Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	18.3	mg/L	0.11	C
Iron, Total	7439-89-6	ND	mg/L	0.067	C,ND
Magnesium, Total	7439-95-4	14.1	mg/L	0.11	C
Manganese, Total	7439-96-5	0.36	mg/L	0.0056	C



Client Sample ID **FFMP03AW**  
 Lab Sample ID **3226067002**

Collected **02/07/2022 1:08 PM**  
 Lab Receipt **02/07/2022 8:15 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	1.5	mg/L	0.56	C
Sodium, Total	7440-23-5	13.1	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A Container 3226067002-B(Unpreserved)  
 Batch N/A Aliquot  
 Date N/A Tech. N/A

**Analysis**

Method S2540C-11 Fraction  
 Batch 818492 Dilution 1  
 Date 02/09/2022 9:31 AM Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	180	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A Container 3226067002-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 818465 Dilution 2  
 Date 02/08/2022 11:47 PM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	34.0	mg/L	2.0	C
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	23.6	mg/L	1.0	C,0
Sulfate	SO4	2.9	mg/L	2.0	C

**Wet Chemistry (General)  
 EPA 410.4**

**Prep**

Method N/A Container 3226067002-A(Sulfuric Acid)  
 Batch N/A Aliquot 2 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 410.4 Fraction  
 Batch 820242 Dilution 1  
 Date 02/17/2022 11:10 AM Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND

Client Sample ID **FFMP03AW**  
 Lab Sample ID **3226067002**

Collected **02/07/2022 1:08 PM**  
 Lab Receipt **02/07/2022 8:15 PM**

**Wet Chemistry (General)**  
**SW846 9050A**

**Prep**

Method N/A      Container 3226067002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820005      Dilution 1  
Date 02/15/2022 1:52 PM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	335	umhos/cm	1	C

**Wet Chemistry (General)**  
**SW846 9060A**

**Prep**

Method N/A      Container 3226067002-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 818746      Dilution 1  
Date 02/09/2022 3:46 PM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	ND	mg/L	0.50	C,ND

**Wet Chemistry (General)**  
**SW846 9066**

**Prep**

Method 420.4/9066      Container 3226067002-G(Sulfuric Acid)  
Batch 818986      Aliquot 100 mL  
Date 02/11/2022 8:37 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 819103      Dilution 1  
Date 02/11/2022 2:33 PM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3226067002-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820235      Dilution 10  
Date 02/19/2022 12:13 AM      Analyst ALK

Client Sample ID **FFMP03AW**  
Lab Sample ID **3226067002**

Collected **02/07/2022 1:08 PM**  
Lab Receipt **02/07/2022 8:15 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.227	mg/L	0.100	C

**Wet Chemistry (General)**  
**SM2130B-2011**

**Prep**

Method N/A      Container 3226067002-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 818527      Dilution 1  
Date 02/08/2022 9:18 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	ND	NTU	0.10	C,ND

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3226067002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818452      Dilution 1  
Date 02/08/2022 3:46 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	19	mg/L	5	C

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3226067002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818452      Dilution 1  
Date 02/08/2022 3:46 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	19	mg/L	5	C,1

**Wet Chemistry (General)**  
**S4500HB-11**





Client Sample ID **FFMP03AW**  
 Lab Sample ID **3226067002**

Collected **02/07/2022 1:08 PM**  
 Lab Receipt **02/07/2022 8:15 PM**

**Prep**

Method N/A      Container 3226067002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 818452      Dilution 1  
Date 02/08/2022 3:46 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	6.05	pH_Units		C,2

**FLD  
Field**

**Prep**

Method N/A      Container 3226067002-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/07/2022 1:08 PM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	52.68	Feet		C
Dissolved Oxygen	DO	0.92	mg/L	0.01	C
Elev Top MW Casing above MSL	781	590.90	Feet		C
Flow Rate	FRATE	1.86	gal/min		C
Ground Water Elevation	GWE	538.22	ft/MSL		C
Oxidation-Reduction Potential	ORP	323	mV		C
pH, Field (SM4500B)	PHF	5.22	pH_Units		C
Sample Depth	SD	130.00	Feet		C
Specific Conductance, Field	CONDf	330	umhos/cm	1	C
Temperature	Temp	13.43	Deg. C		C
Total Well Depth	TWD	148.40	Feet		C
Turbidity, Field	TURBF	ND	NTU	1	C,ND
Volume in Water Column	VWC	140.71	Gallons		C
Water Level After Purge	LAP	83.31	Feet		C
Well Volumes Purged	WVP	0.79	Vol		C



Client Sample ID **FFMP005W**  
 Lab Sample ID **3226067003**

Collected **02/07/2022 2:30 PM**  
 Lab Receipt **02/07/2022 8:15 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3226067003-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 818894                                Dilution 1  
Date 02/10/2022 5:25 PM                Analyst DPC

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	104%	62 - 133	
4-Bromofluorobenzene	460-00-4	105%	79 - 114	
Dibromofluoromethane	1868-53-7	92.70%	78 - 116	
Toluene-d8	2037-26-5	97.90%	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3226067003-J1(Nitric Acid)  
Batch 819020                                Aliquot 45 mL  
Date 02/10/2022 9:20 PM                Tech. SXC

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819080                                Dilution 1  
Date 02/11/2022 8:31 AM                Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	83.6	mg/L	0.11	C
Iron, Total	7439-89-6	ND	mg/L	0.067	C,ND
Magnesium, Total	7439-95-4	22.0	mg/L	0.11	C
Manganese, Total	7439-96-5	0.19	mg/L	0.0056	C



Client Sample ID **FFMP005W**  
 Lab Sample ID **3226067003**

Collected **02/07/2022 2:30 PM**  
 Lab Receipt **02/07/2022 8:15 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	3.4	mg/L	0.56	C
Sodium, Total	7440-23-5	56.4	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A Container 3226067003-B(Unpreserved)  
 Batch N/A Aliquot  
 Date N/A Tech. N/A

**Analysis**

Method S2540C-11 Fraction  
 Batch 818492 Dilution 1  
 Date 02/09/2022 9:31 AM Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	572	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A Container 3226067003-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 818465 Dilution 2  
 Date 02/09/2022 12:09 AM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	1.7	mg/L	1.0	C
Sulfate	SO4	84.5	mg/L	2.0	C

**Prep**

Method N/A Container 3226067003-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 819345 Dilution 10  
 Date 02/14/2022 11:06 PM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	201	mg/L	10.0	C

**Wet Chemistry (General)  
 EPA 410.4**



Client Sample ID **FFMP005W**  
 Lab Sample ID **3226067003**

Collected **02/07/2022 2:30 PM**  
 Lab Receipt **02/07/2022 8:15 PM**

**Prep**

Method N/A      Container 3226067003-A(Sulfuric Acid)  
Batch N/A      Aliquot 2 mL  
Date N/A      Tech. N/A

**Analysis**

Method EPA 410.4      Fraction  
Batch 820242      Dilution 1  
Date 02/17/2022 11:10 AM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND

**Wet Chemistry (General)  
 SW846 9050A**

**Prep**

Method N/A      Container 3226067003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820005      Dilution 1  
Date 02/15/2022 1:52 PM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	1020	umhos/cm	1	C

**Wet Chemistry (General)  
 SW846 9060A**

**Prep**

Method N/A      Container 3226067003-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 818746      Dilution 1  
Date 02/09/2022 3:46 PM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	1.3	mg/L	0.50	C

**Wet Chemistry (General)  
 SW846 9066**

**Prep**

Method 420.4/9066      Container 3226067003-G(Sulfuric Acid)  
Batch 818986      Aliquot 100 mL  
Date 02/11/2022 8:37 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 819103      Dilution 1  
Date 02/11/2022 2:36 PM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND

Client Sample ID **FFMP005W**  
Lab Sample ID **3226067003**

Collected **02/07/2022 2:30 PM**  
Lab Receipt **02/07/2022 8:15 PM**

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3226067003-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820235      Dilution 10  
Date 02/19/2022 12:26 AM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	ND	mg/L	0.100	C,ND

**Wet Chemistry (General)**  
**SM2130B-2011**

**Prep**

Method N/A      Container 3226067003-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 818527      Dilution 1  
Date 02/08/2022 9:18 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	ND	NTU	0.10	C,ND

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3226067003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818452      Dilution 1  
Date 02/08/2022 3:57 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	53	mg/L	5	C

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3226067003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818452      Dilution 1  
Date 02/08/2022 3:57 PM      Analyst MLW



Client Sample ID **FFMP005W**  
 Lab Sample ID **3226067003**

Collected **02/07/2022 2:30 PM**  
 Lab Receipt **02/07/2022 8:15 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	53	mg/L	5	C.1

**Wet Chemistry (General)**  
**S4500HB-11**

**Prep**

Method N/A      Container 3226067003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 818452      Dilution 1  
Date 02/08/2022 3:57 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	6.41	pH_Units		C.2

**FLD**  
**Field**

**Prep**

Method N/A      Container 3226067003-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/07/2022 2:30 PM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	61.03	Feet		C
Dissolved Oxygen	DO	ND	mg/L	0.01	C,ND
Elev Top MW Casing above MSL	781	537.40	Feet		C
Flow Rate	FRATE	2.11	gal/min		C
Ground Water Elevation	GWE	476.37	ft/MSL		C
Oxidation-Reduction Potential	ORP	556	mV		C
pH, Field (SM4500B)	PHF	5.43	pH_Units		C
Sample Depth	SD	135.00	Feet		C
Specific Conductance, Field	CONDf	947	umhos/cm	1	C
Temperature	Temp	13.29	Deg. C		C
Total Well Depth	TWD	149.70	Feet		C
Turbidity, Field	TURBF	ND	NTU	1	C,ND
Volume in Water Column	VWC	130.34	Gallons		C
Water Level After Purge	LAP	88.88	Feet		C
Well Volumes Purged	WVP	1.05	Vol		C



### Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3226067001	FFMP015W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	
3226067002	FFMP03AW	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	
3226067003	FFMP005W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	



Generated by ALS

**CHAIN OF CUSTODY/  
 REQUEST FOR ANALYSIS  
 SAMPLER INSTRUCTIONS ON THE BACK**

**COC #:** 3226067  
**ALS Quote**

Logged By: CKM  
 PH: SJB

**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

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

**Receipt Information (Volume of Sample):**  
 Cooler Temp: 6.5 Therm ID: 575  
 No. of Coolers: 1 Y N Initial

**TAT**  Normal-Standard TAT is 10-12 business days.  
 Rush-Subject to ALS approval and surcharges.  
**Date Required:** \_\_\_\_\_ **Approved By:** \_\_\_\_\_  
**Email#**  -Y dbrown@ALSGWMA.com  
**Fax#**  -Y No.: (717) 397-9973

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

Sample Description/Location	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. FFMPO15W	02/07/22	1149	G	GW	2	1	2	X	X	1	1	1	1
2. FFMPO3AW	02/07/22	1308	G	GW	2	1	2	X	X	1	1	1	1
3. FFMPO05W	02/07/22	1430	G	GW	2	1	2	X	X	1	1	1	1
4													
5													
6													
7													
8													
9													
10													

**Project Comments:**  
 Relinquished By / Company Name: ALS Date: 2/9/2015  
 Received By / Company Name: ALS Date: 2/9/2015

**LOGGED BY (signature):** \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_  
**REVIEWED BY (signature):** \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

**Reportable to PADEP?** Yes  No   
**Standard Deliverables:** Standard  CLP-like  USACE   
**Special Processing:** USACE  Navy   
**State Samples Collected In:** NY  NJ  PA  NC   
**Sample Disposal:** Lab  Special   
**EDDS: Format Type:** \_\_\_\_\_

**ALS Field Services:**  Composite Sampling  Pickup  Labor  Rental Equipment  Other: \_\_\_\_\_  
 SDWA Compliance PWSID \_\_\_\_\_  
 Courier/Tracking #: \_\_\_\_\_  
 Rad Screen (uCi) \_\_\_\_\_  
 NIS 4 Days? \_\_\_\_\_  
 VOA Trip Blank \_\_\_\_\_  
 VOA Headspace Present \_\_\_\_\_  
 Adequate Sample Volumes \_\_\_\_\_  
 Correct Container's Provided \_\_\_\_\_  
 Sample Label/COC Agree \_\_\_\_\_  
 Cooler & Samples Intact \_\_\_\_\_  
 Received on Ice \_\_\_\_\_  
 Sample Custody Seal Intact \_\_\_\_\_  
 Cooler Custody Seal Intact \_\_\_\_\_  
 Receipt Info Completed By: \_\_\_\_\_  
 Therm ID: 575  
 Temp Taken By: ALS  
 WOI Temp (°C) \_\_\_\_\_  
 Court: \_\_\_\_\_





301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | [www.alsglobal.com](http://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 1st QTR 2022 GWMP-FORM 19Q  
Workorder 3227041  
Report ID 152379 on 2/28/2022

## Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Feb 11, 2022.

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

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

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

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.  
ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

**Recipient(s):**

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

*Susan Scherer*

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

**Susan Scherer**  
Project Coordinator

(ALS Digital Signature)



## Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3227041001	FFMP018W	Ground Water	02/11/2022 10:24 AM	02/11/2022 4:38 PM	BGS	Analytical Laboratory Service
3227041002	FFMP031W	Ground Water	02/11/2022 11:38 AM	02/11/2022 4:38 PM	BGS	Analytical Laboratory Service
3227041003	FFMP002W	Ground Water	02/11/2022 12:10 PM	02/11/2022 4:38 PM	BGS	Analytical Laboratory Service
3227041004	FFMP032W	Ground Water	02/11/2022 2:52 PM	02/11/2022 4:38 PM	BGS	Analytical Laboratory Service
3227041005	FIELD BLANK	Water	02/11/2022 3:00 PM	02/11/2022 4:38 PM	BGS	Analytical Laboratory Service
3227041006	TRIP BLANK	Water	02/11/2022 4:38 PM	02/11/2022 4:38 PM	BGS	Analytical Laboratory Service

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## Reference

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### Notes

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

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### Standard Acronyms/Flags

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

---



**Project Notations**

**Sample Notations**

Lab ID	Sample ID	
3227041001	FFMP018W	Sample temperature upon receipt at lab was greater than 6 °C.
3227041002	FFMP031W	Sample temperature upon receipt at lab was greater than 6 °C.
3227041003	FFMP002W	Sample temperature upon receipt at lab was greater than 6 °C.
3227041004	FFMP032W	Sample temperature upon receipt at lab was greater than 6 °C.
3227041005	FIELD BLANK	Sample temperature upon receipt at lab was greater than 6 °C.
3227041006	TRIP BLANK	This sample was cancelled per project specifications. Sample temperature upon receipt at lab was greater than 6 °C. Sample temperature upon receipt at lab was greater than 6 °C.

**Result Notations**

Notation #	
0	Result reported exceeds instrument calibration
1	The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.
2	The QC sample type MB for method EPA 300.0 was outside the control limits for the analyte Chloride. The concentration was reported at 0.85mg/L and the control limit is less than 0.44mg/L.
3	Analyte was analyzed past the 48 hour holding time.
4	The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.



Client Sample ID **FFMP018W**  
 Lab Sample ID **3227041001**

Collected **02/11/2022 10:24 AM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3227041001-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 820631                                Dilution 1  
Date 02/17/2022 10:55 PM                Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	88.40 %	62 - 133	
4-Bromofluorobenzene	460-00-4	105 %	79 - 114	
Dibromofluoromethane	1868-53-7	88.80 %	78 - 116	
Toluene-d8	2037-26-5	89.20 %	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3227041001-J1(Nitric Acid)  
Batch 819241                                Aliquot 45 mL  
Date 02/12/2022 3:42 PM                Tech. AHI

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819304                                Dilution 1  
Date 02/14/2022 12:55 PM                Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	29.6	mg/L	0.11	C
Iron, Total	7439-89-6	ND	mg/L	0.067	C,ND
Magnesium, Total	7439-95-4	17.4	mg/L	0.11	C
Manganese, Total	7439-96-5	0.23	mg/L	0.0056	C



Client Sample ID **FFMP018W**  
 Lab Sample ID **3227041001**

Collected **02/11/2022 10:24 AM**  
 Lab Receipt **02/11/2022 4:38 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	4.6	mg/L	0.56	C
Sodium, Total	7440-23-5	35.0	mg/L	0.56	C

**Wet Chemistry (General)**  
**S2540C-11**

**Prep**

Method N/A      Container 3227041001-B(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method S2540C-11      Fraction  
Batch 820021      Dilution 1  
Date 02/16/2022 9:30 AM      Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	372	mg/L	25	C

**Wet Chemistry (General)**  
**EPA 300.0**

**Prep**

Method N/A      Container 3227041001-B(Unpreserved)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method EPA 300.0      Fraction  
Batch 819999      Dilution 2  
Date 02/16/2022 12:28 AM      Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	4.6	mg/L	1.0	C,3
Sulfate	SO4	37.5	mg/L	2.0	C

**Prep**

Method N/A      Container 3227041001-B(Unpreserved)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method EPA 300.0      Fraction  
Batch 820856      Dilution 5  
Date 02/18/2022 8:23 PM      Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	127	mg/L	5.0	C,2

**Wet Chemistry (General)**  
**EPA 410.4**



Client Sample ID **FFMP018W**  
 Lab Sample ID **3227041001**

Collected **02/11/2022 10:24 AM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Prep**

Method N/A                      Container 3227041001-A(Sulfuric Acid)  
Batch N/A                        Aliquot 2 mL  
Date N/A                         Tech. N/A

**Analysis**

Method EPA 410.4                      Fraction  
Batch 820242                         Dilution 1  
Date 02/17/2022 11:10 AM           Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND

**Wet Chemistry (General)  
 SW846 9050A**

**Prep**

Method N/A                      Container 3227041001-B(Unpreserved)  
Batch N/A                        Aliquot 50 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 9050A                      Fraction  
Batch 820538                         Dilution 1  
Date 02/18/2022 3:49 PM           Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	549	umhos/cm	1	C

**Wet Chemistry (General)  
 SW846 9060A**

**Prep**

Method N/A                      Container 3227041001-E(Hydrochloric Acid)  
Batch N/A                        Aliquot 6 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 9060A                      Fraction  
Batch 820047                         Dilution 1  
Date 02/15/2022 3:57 PM           Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	0.74	mg/L	0.50	C

**Wet Chemistry (General)  
 SW846 9066**

**Prep**

Method 420.4/9066                      Container 3227041001-G(Sulfuric Acid)  
Batch 820325                        Aliquot 100 mL  
Date 02/18/2022 8:47 AM           Tech. AKH

**Analysis**

Method SW846 9066                      Fraction  
Batch 820736                         Dilution 1  
Date 02/18/2022 1:23 PM           Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND



Client Sample ID **FFMP018W**  
 Lab Sample ID **3227041001**

Collected **02/11/2022 10:24 AM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3227041001-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820649      Dilution 10  
Date 02/25/2022 7:11 PM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.467	mg/L	0.100	c

**Wet Chemistry (General)**  
**SM2130B-2011**

**Prep**

Method N/A      Container 3227041001-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 819225      Dilution 1  
Date 02/12/2022 8:06 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	0.34	NTU	0.10	c

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3227041001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 819333      Dilution 1  
Date 02/15/2022 12:38 AM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	18	mg/L	5	c

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3227041001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 819333      Dilution 1  
Date 02/15/2022 12:38 AM      Analyst MLW





Client Sample ID **FFMP018W**  
 Lab Sample ID **3227041001**

Collected **02/11/2022 10:24 AM**  
 Lab Receipt **02/11/2022 4:38 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	18	mg/L	5	C,1

**Wet Chemistry (General)  
 S4500HB-11**

**Prep**

Method N/A      Container 3227041001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 819333      Dilution 1  
Date 02/15/2022 12:38 AM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	7.11	pH_Units		C,4

**FLD  
 Field**

**Prep**

Method N/A      Container 3227041001-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/11/2022 10:24 AM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	25.65	Feet		C
Dissolved Oxygen	DO	4.39	mg/L	0.01	C
Elev Top MW Casing above MSL	781	472.20	Feet		C
Flow Rate	FRATE	2.47	gal/min		C
Ground Water Elevation	GWE	446.55	ft/MSL		C
Oxidation-Reduction Potential	ORP	292	mV		C
pH, Field (SM4500B)	PHF	5.18	pH_Units		C
Sample Depth	SD	40.00	Feet		C
Specific Conductance, Field	CONDF	536	umhos/cm	1	C
Temperature	Temp	15.04	Deg. C		C
Total Well Depth	TWD	51.46	Feet		C
Turbidity, Field	TURBF	ND	NTU	1	C,ND
Volume in Water Column	VWC	16.78	Gallons		C
Water Level After Purge	LAP	27.31	Feet		C
Well Volumes Purged	WVP	2.94	Vol		C



Client Sample ID **FFMP031W**  
 Lab Sample ID **3227041002**

Collected **02/11/2022 11:38 AM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A      Container 3227041002-H(Hydrochloric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 8260B      Fraction VOA\_Trace  
Batch 820631      Dilution 1  
Date 02/17/2022 11:18 PM      Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	91.40 %	62 - 133	
4-Bromofluorobenzene	460-00-4	105 %	79 - 114	
Dibromofluoromethane	1868-53-7	90.80 %	78 - 116	
Toluene-d8	2037-26-5	91.70 %	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015      Container 3227041002-J1(Nitric Acid)  
Batch 819241      Aliquot 45 mL  
Date 02/12/2022 3:42 PM      Tech. AHI

**Analysis**

Method SW846 6010C      Fraction ICP\_AES  
Batch 819304      Dilution 1  
Date 02/14/2022 12:58 PM      Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	38.6	mg/L	0.11	C
Iron, Total	7439-89-6	4.5	mg/L	0.067	C
Magnesium, Total	7439-95-4	4.0	mg/L	0.11	C
Manganese, Total	7439-96-5	0.34	mg/L	0.0056	C



Client Sample ID	<b>FFMP031W</b>	Collected	<b>02/11/2022 11:38 AM</b>
Lab Sample ID	<b>3227041002</b>	Lab Receipt	<b>02/11/2022 4:38 PM</b>

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	1.4	mg/L	0.56	C
Sodium, Total	7440-23-5	9.7	mg/L	0.56	C

**Wet Chemistry (General)  
S2540C-11**

Prep			Analysis		
Method	N/A	Container	3227041002-B(Unpreserved)	Method	S2540C-11
Batch	N/A	Aliquot		Batch	820021
Date	N/A	Tech.	N/A	Date	02/16/2022 9:30 AM
				Fraction	
				Dilution	1
				Analyst	SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	212	mg/L	25	C

**Wet Chemistry (General)  
EPA 300.0**

Prep			Analysis		
Method	N/A	Container	3227041002-B(Unpreserved)	Method	EPA 300.0
Batch	N/A	Aliquot	5 mL	Batch	819999
Date	N/A	Tech.	N/A	Date	02/16/2022 2:37 AM
				Fraction	
				Dilution	25
				Analyst	MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	ND	mg/L	25.0	C,ND
Fluoride	F	ND	mg/L	2.5	C,ND
Nitrate-N	NO3	ND	mg/L	12.5	C,ND,3
Sulfate	SO4	42.8	mg/L	25.0	C

**Wet Chemistry (General)  
EPA 410.4**

Prep			Analysis		
Method	N/A	Container	3227041002-A(Sulfuric Acid)	Method	EPA 410.4
Batch	N/A	Aliquot	2 mL	Batch	820242
Date	N/A	Tech.	N/A	Date	02/17/2022 11:10 AM
				Fraction	
				Dilution	1
				Analyst	ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND



Client Sample ID **FFMP031W**  
 Lab Sample ID **3227041002**

Collected **02/11/2022 11:38 AM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Wet Chemistry (General)**  
**SW846 9050A**

**Prep**

Method N/A      Container 3227041002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820538      Dilution 1  
Date 02/18/2022 3:49 PM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	283	umhos/cm	1	C

**Wet Chemistry (General)**  
**SW846 9060A**

**Prep**

Method N/A      Container 3227041002-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 820047      Dilution 1  
Date 02/15/2022 5:50 PM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	ND	mg/L	0.50	C,ND

**Wet Chemistry (General)**  
**SW846 9066**

**Prep**

Method 420.4/9066      Container 3227041002-G(Sulfuric Acid)  
Batch 820325      Aliquot 100 mL  
Date 02/18/2022 8:47 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 820736      Dilution 1  
Date 02/18/2022 1:26 PM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3227041002-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820640      Dilution 10  
Date 02/23/2022 12:50 PM      Analyst ALK



Client Sample ID **FFMP031W**  
 Lab Sample ID **3227041002**

Collected **02/11/2022 11:38 AM**  
 Lab Receipt **02/11/2022 4:38 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.408	mg/L	0.100	C

**Wet Chemistry (General)  
 SM2130B-2011**

**Prep**

Method N/A      Container 3227041002-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 819225      Dilution 1  
Date 02/12/2022 8:06 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	23.8	NTU	0.10	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3227041002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 819333      Dilution 1  
Date 02/15/2022 12:46 AM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	61	mg/L	5	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3227041002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 819333      Dilution 1  
Date 02/15/2022 12:46 AM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	61	mg/L	5	C,1

**Wet Chemistry (General)  
 S4500HB-11**



Client Sample ID **FFMP031W**  
 Lab Sample ID **3227041002**

Collected **02/11/2022 11:38 AM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Prep**

Method N/A      Container 3227041002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 819333      Dilution 1  
Date 02/15/2022 12:46 AM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	8.04	pH_Units		C,4

**FLD  
Field**

**Prep**

Method N/A      Container 3227041002-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/11/2022 11:38 AM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	68.65	Feet		C
Dissolved Oxygen	DO	3.03	mg/L	0.01	C
Elev Top MW Casing above MSL	781	612.66	Feet		C
Flow Rate	FRATE	1.48	gal/min		C
Ground Water Elevation	GWE	544.01	ft/MSL		C
Oxidation-Reduction Potential	ORP	-182	mV		C
pH, Field (SM4500B)	PHF	7.74	pH_Units		C
Sample Depth	SD	130.00	Feet		C
Specific Conductance, Field	CONDf	307	umhos/cm	1	C
Temperature	Temp	14.84	Deg. C		C
Total Well Depth	TWD	142.70	Feet		C
Turbidity, Field	TURBF	ND	NTU	1	C,ND
Volume in Water Column	VWC	108.85	Gallons		C
Water Level After Purge	LAP	102.52	Feet		C
Well Volumes Purged	WVP	0.81	Vol		C



Client Sample ID **FFMP002W**  
 Lab Sample ID **3227041003**

Collected **02/11/2022 12:10 PM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A      Container 3227041003-H(Hydrochloric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 8260B      Fraction VOA\_Trace  
Batch 820631      Dilution 1  
Date 02/17/2022 11:40 PM      Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	90.80 %	62 - 133	
4-Bromofluorobenzene	460-00-4	105 %	79 - 114	
Dibromofluoromethane	1868-53-7	91.70 %	78 - 116	
Toluene-d8	2037-26-5	91.30 %	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015      Container 3227041003-J1(Nitric Acid)  
Batch 819241      Aliquot 45 mL  
Date 02/12/2022 3:42 PM      Tech. AHI

**Analysis**

Method SW846 6010C      Fraction ICP\_AES  
Batch 819304      Dilution 1  
Date 02/14/2022 1:02 PM      Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	17.1	mg/L	0.11	C
Iron, Total	7439-89-6	ND	mg/L	0.067	C,ND
Magnesium, Total	7439-95-4	7.7	mg/L	0.11	C
Manganese, Total	7439-96-5	0.23	mg/L	0.0056	C



Client Sample ID **FFMP002W**  
 Lab Sample ID **3227041003**

Collected **02/11/2022 12:10 PM**  
 Lab Receipt **02/11/2022 4:38 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	1.6	mg/L	0.56	C
Sodium, Total	7440-23-5	14.0	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A      Container 3227041003-B(Unpreserved)  
 Batch N/A      Aliquot  
 Date N/A      Tech. N/A

**Analysis**

Method S2540C-11      Fraction  
 Batch 820021      Dilution 1  
 Date 02/16/2022 9:30 AM      Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	202	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A      Container 3227041003-B(Unpreserved)  
 Batch N/A      Aliquot 5 mL  
 Date N/A      Tech. N/A

**Analysis**

Method EPA 300.0      Fraction  
 Batch 819999      Dilution 2  
 Date 02/16/2022 2:58 AM      Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	16.9	mg/L	2.0	C
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	19.4	mg/L	1.0	C,0.3
Sulfate	SO4	16.7	mg/L	2.0	C

**Wet Chemistry (General)  
 EPA 410.4**

**Prep**

Method N/A      Container 3227041003-A(Sulfuric Acid)  
 Batch N/A      Aliquot 2 mL  
 Date N/A      Tech. N/A

**Analysis**

Method EPA 410.4      Fraction  
 Batch 820242      Dilution 1  
 Date 02/17/2022 11:10 AM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND





Client Sample ID **FFMP002W**  
 Lab Sample ID **3227041003**

Collected **02/11/2022 12:10 PM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Wet Chemistry (General)**  
**SW846 9050A**

**Prep**

Method N/A      Container 3227041003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820538      Dilution 1  
Date 02/18/2022 3:49 PM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	254	umhos/cm	1	c

**Wet Chemistry (General)**  
**SW846 9060A**

**Prep**

Method N/A      Container 3227041003-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 820047      Dilution 1  
Date 02/15/2022 5:50 PM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	0.51	mg/L	0.50	c

**Wet Chemistry (General)**  
**SW846 9066**

**Prep**

Method 420.4/9066      Container 3227041003-G(Sulfuric Acid)  
Batch 820325      Aliquot 100 mL  
Date 02/18/2022 8:47 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 820736      Dilution 1  
Date 02/18/2022 1:29 PM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C.ND

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3227041003-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820343      Dilution 10  
Date 02/22/2022 1:12 PM      Analyst ALK



Client Sample ID	<b>FFMP002W</b>	Collected	<b>02/11/2022 12:10 PM</b>
Lab Sample ID	<b>3227041003</b>	Lab Receipt	<b>02/11/2022 4:38 PM</b>

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.191	mg/L	0.100	C

**Wet Chemistry (General)  
SM2130B-2011**

Prep		Analysis	
<u>Method</u>	N/A	<u>Method</u>	SM2130B-2011
<u>Batch</u>	N/A	<u>Batch</u>	819225
<u>Date</u>	N/A	<u>Date</u>	02/12/2022 8:06 AM
<u>Container</u>	3227041003-B(Unpreserved)	<u>Fraction</u>	
<u>Aliquot</u>	25 mL	<u>Dilution</u>	1
<u>Tech.</u>	N/A	<u>Analyst</u>	LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	0.10	NTU	0.10	C

**Wet Chemistry (General)  
SM2320B-2011**

Prep		Analysis	
<u>Method</u>	N/A	<u>Method</u>	SM2320B-2011
<u>Batch</u>	N/A	<u>Batch</u>	819333
<u>Date</u>	N/A	<u>Date</u>	02/15/2022 12:56 AM
<u>Container</u>	3227041003-B(Unpreserved)	<u>Fraction</u>	
<u>Aliquot</u>	50 mL	<u>Dilution</u>	1
<u>Tech.</u>	N/A	<u>Analyst</u>	MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	ND	mg/L	5	C,ND

**Wet Chemistry (General)  
SM2320B-2011**

Prep		Analysis	
<u>Method</u>	N/A	<u>Method</u>	SM2320B-2011
<u>Batch</u>	N/A	<u>Batch</u>	819333
<u>Date</u>	N/A	<u>Date</u>	02/15/2022 12:56 AM
<u>Container</u>	3227041003-B(Unpreserved)	<u>Fraction</u>	
<u>Aliquot</u>	50 mL	<u>Dilution</u>	1
<u>Tech.</u>	N/A	<u>Analyst</u>	MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	ND	mg/L	5	C,ND,1

**Wet Chemistry (General)  
S4500HB-11**



Client Sample ID **FFMP002W**  
 Lab Sample ID **3227041003**

Collected **02/11/2022 12:10 PM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Prep**

Method N/A      Container 3227041003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 819333      Dilution 1  
Date 02/15/2022 12:56 AM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	5.70	pH_Units		C,4

**FLD  
Field**

**Prep**

Method N/A      Container 3227041003-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/11/2022 12:10 PM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	67.20	Feet		C
Dissolved Oxygen	DO	5.15	mg/L	0.01	C
Elev Top MW Casing above MSL	781	613.20	Feet		C
Flow Rate	FRATE	1.05	gal/min		C
Ground Water Elevation	GWE	546.00	ft/MSL		C
Oxidation-Reduction Potential	ORP	319	mV		C
pH, Field (SM4500B)	PHF	4.66	pH_Units		C
Sample Depth	SD	85.00	Feet		C
Specific Conductance, Field	CONDf	271	umhos/cm	1	C
Temperature	Temp	14.59	Deg. C		C
Total Well Depth	TWD	90.02	Feet		C
Turbidity, Field	TURBF	ND	NTU	1	C,ND
Volume in Water Column	VWC	33.55	Gallons		C
Water Level After Purge	LAP	78.74	Feet		C
Well Volumes Purged	WVP	0.63	Vol		C



Client Sample ID **FFMP032W**  
 Lab Sample ID **3227041004**

Collected **02/11/2022 2:52 PM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3227041004-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 820631                                Dilution 1  
Date 02/18/2022 12:03 AM                Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	90.70 %	62 - 133	
4-Bromofluorobenzene	460-00-4	104 %	79 - 114	
Dibromofluoromethane	1868-53-7	89.40 %	78 - 116	
Toluene-d8	2037-26-5	92.30 %	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3227041004-J1(Nitric Acid)  
Batch 819241                                Aliquot 45 mL  
Date 02/12/2022 3:42 PM                Tech. AHI

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819304                                Dilution 1  
Date 02/14/2022 1:06 PM                Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	14.3	mg/L	0.11	C
Iron, Total	7439-89-6	6.8	mg/L	0.067	C
Magnesium, Total	7439-95-4	5.5	mg/L	0.11	C
Manganese, Total	7439-96-5	0.58	mg/L	0.0056	C



Client Sample ID	<b>FFMP032W</b>	Collected	<b>02/11/2022 2:52 PM</b>
Lab Sample ID	<b>3227041004</b>	Lab Receipt	<b>02/11/2022 4:38 PM</b>

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	1.6	mg/L	0.56	C
Sodium, Total	7440-23-5	17.5	mg/L	0.56	C

**Wet Chemistry (General)  
S2540C-11**

Prep			Analysis		
Method	N/A	Container	3227041004-B(Unpreserved)	Method	S2540C-11
Batch	N/A	Aliquot		Batch	820021
Date	N/A	Tech.	N/A	Date	02/16/2022 9:30 AM
				Fraction	
				Dilution	1
				Analyst	SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	112	mg/L	25	C

**Wet Chemistry (General)  
EPA 300.0**

Prep			Analysis		
Method	N/A	Container	3227041004-B(Unpreserved)	Method	EPA 300.0
Batch	N/A	Aliquot	5 mL	Batch	819999
Date	N/A	Tech.	N/A	Date	02/16/2022 3:20 AM
				Fraction	
				Dilution	25
				Analyst	MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	ND	mg/L	25.0	C,ND
Fluoride	F	ND	mg/L	2.5	C,ND
Nitrate-N	NO3	ND	mg/L	12.5	C,ND,3
Sulfate	SO4	ND	mg/L	25.0	C,ND

**Wet Chemistry (General)  
EPA 410.4**

Prep			Analysis		
Method	N/A	Container	3227041004-A(Sulfuric Acid)	Method	EPA 410.4
Batch	N/A	Aliquot	2 mL	Batch	820242
Date	N/A	Tech.	N/A	Date	02/17/2022 11:10 AM
				Fraction	
				Dilution	1
				Analyst	ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND



Client Sample ID **FFMP032W**  
 Lab Sample ID **3227041004**

Collected **02/11/2022 2:52 PM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Wet Chemistry (General)**  
**SW846 9050A**

**Prep**

Method N/A      Container 3227041004-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820538      Dilution 1  
Date 02/18/2022 3:49 PM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	176	umhos/cm	1	c

**Wet Chemistry (General)**  
**SW846 9060A**

**Prep**

Method N/A      Container 3227041004-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 820047      Dilution 1  
Date 02/15/2022 5:50 PM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	0.60	mg/L	0.50	c

**Wet Chemistry (General)**  
**SW846 9066**

**Prep**

Method 420.4/9066      Container 3227041004-G(Sulfuric Acid)  
Batch 820325      Aliquot 100 mL  
Date 02/18/2022 8:47 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 820736      Dilution 1  
Date 02/18/2022 1:33 PM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C.ND

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3227041004-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820640      Dilution 10  
Date 02/23/2022 4:39 AM      Analyst ALK



Client Sample ID **FFMP032W**  
 Lab Sample ID **3227041004**

Collected **02/11/2022 2:52 PM**  
 Lab Receipt **02/11/2022 4:38 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.913	mg/L	0.100	C

**Wet Chemistry (General)  
 SM2130B-2011**

**Prep**

Method N/A      Container 3227041004-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 819225      Dilution 1  
Date 02/12/2022 8:06 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	94.9	NTU	0.10	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3227041004-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 819333      Dilution 1  
Date 02/15/2022 1:07 AM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	65	mg/L	5	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3227041004-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 819333      Dilution 1  
Date 02/15/2022 1:07 AM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	65	mg/L	5	C,1

**Wet Chemistry (General)  
 S4500HB-11**



Client Sample ID **FFMP032W** Collected **02/11/2022 2:52 PM**  
 Lab Sample ID **3227041004** Lab Receipt **02/11/2022 4:38 PM**

**Prep**

Method N/A Container 3227041004-B(Unpreserved)  
Batch N/A Aliquot 50 mL  
Date N/A Tech. N/A

**Analysis**

Method S4500HB-11 Fraction  
Batch 819333 Dilution 1  
Date 02/15/2022 1:07 AM Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	7.96	pH_Units		C,4

**FLD  
Field**

**Prep**

Method N/A Container 3227041004-D(Unpreserved)  
Batch N/A Aliquot  
Date N/A Tech. N/A

**Analysis**

Method Field Fraction  
Batch 820603 Dilution 1  
Date 02/11/2022 2:52 PM Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	59.70	Feet		C
Dissolved Oxygen	DO	0.88	mg/L	0.01	C
Elev Top MW Casing above MSL	781	594.09	Feet		C
Flow Rate	FRATE	0.75	gal/min		C
Ground Water Elevation	GWE	534.39	ft/MSL		C
Oxidation-Reduction Potential	ORP	-117	mV		C
pH, Field (SM4500B)	PHF	6.97	pH_Units		C
Sample Depth	SD	62.00	Feet		C
Specific Conductance, Field	CONDf	201	umhos/cm	1	C
Temperature	Temp	15.13	Deg. C		C
Total Well Depth	TWD	77.60	Feet		C
Turbidity, Field	TURBF	20	NTU	1	C
Volume in Water Column	VWC	26.31	Gallons		C
Water Level After Purge	LAP	55.98	Feet		C
Well Volumes Purged	WVP	0.46	Vol		C





Client Sample ID **FIELD BLANK**  
 Lab Sample ID **3227041005**

Collected **02/11/2022 3:00 PM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3227041005-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 820631                                Dilution 1  
Date 02/17/2022 10:10 PM                Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	87.20 %	62 - 133	
4-Bromofluorobenzene	460-00-4	105 %	79 - 114	
Dibromofluoromethane	1868-53-7	86.50 %	78 - 116	
Toluene-d8	2037-26-5	90.10 %	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3227041005-J1(Nitric Acid)  
Batch 819241                                Aliquot 45 mL  
Date 02/12/2022 3:42 PM                Tech. AHI

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819304                                Dilution 1  
Date 02/14/2022 1:09 PM                Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	ND	mg/L	0.11	C,ND
Iron, Total	7439-89-6	ND	mg/L	0.067	C,ND
Magnesium, Total	7439-95-4	ND	mg/L	0.11	C,ND
Manganese, Total	7439-96-5	ND	mg/L	0.0056	C,ND



Client Sample ID	<b>FIELD BLANK</b>	Collected	<b>02/11/2022 3:00 PM</b>
Lab Sample ID	<b>3227041005</b>	Lab Receipt	<b>02/11/2022 4:38 PM</b>

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	ND	mg/L	0.56	C,ND
Sodium, Total	7440-23-5	ND	mg/L	0.56	C,ND

**Wet Chemistry (General)  
S2540C-11**

Prep		Analysis			
Method	N/A	Method	S2540C-11	Fraction	
Batch	N/A	Batch	820021	Dilution	1
Date	N/A	Date	02/16/2022 9:30 AM	Analyst	SMS
Container	3227041005-B(Unpreserved)	Aliquot			
Tech.	N/A				

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	ND	mg/L	25	C,ND

**Wet Chemistry (General)  
EPA 300.0**

Prep		Analysis			
Method	N/A	Method	EPA 300.0	Fraction	
Batch	N/A	Batch	819999	Dilution	2
Date	N/A	Date	02/16/2022 3:41 AM	Analyst	MID
Container	3227041005-B(Unpreserved)	Aliquot	5 mL		
Tech.	N/A				

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	ND	mg/L	2.0	C,ND
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	ND	mg/L	1.0	C,ND,3
Sulfate	SO4	ND	mg/L	2.0	C,ND

**Wet Chemistry (General)  
EPA 410.4**

Prep		Analysis			
Method	N/A	Method	EPA 410.4	Fraction	
Batch	N/A	Batch	820242	Dilution	1
Date	N/A	Date	02/17/2022 11:10 AM	Analyst	ALK
Container	3227041005-A(Sulfuric Acid)	Aliquot	2 mL		
Tech.	N/A				

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND



Client Sample ID	<b>FIELD BLANK</b>	Collected	<b>02/11/2022 3:00 PM</b>
Lab Sample ID	<b>3227041005</b>	Lab Receipt	<b>02/11/2022 4:38 PM</b>

**Wet Chemistry (General)**  
**SW846 9050A**

Prep	
Method	N/A
Batch	N/A
Date	N/A
Container	3227041005-B(Unpreserved)
Aliquot	50 mL
Tech.	N/A

Analysis	
Method	SW846 9050A
Batch	820538
Date	02/18/2022 3:49 PM
Fraction	
Dilution	1
Analyst	BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	1	umhos/cm	1	C

**Wet Chemistry (General)**  
**SW846 9060A**

Prep	
Method	N/A
Batch	N/A
Date	N/A
Container	3227041005-E(Hydrochloric Acid)
Aliquot	6 mL
Tech.	N/A

Analysis	
Method	SW846 9060A
Batch	820047
Date	02/15/2022 5:50 PM
Fraction	
Dilution	1
Analyst	PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	ND	mg/L	0.50	C,ND

**Wet Chemistry (General)**  
**SW846 9066**

Prep	
Method	420.4/9066
Batch	820325
Date	02/18/2022 8:47 AM
Container	3227041005-G(Sulfuric Acid)
Aliquot	100 mL
Tech.	AKH

Analysis	
Method	SW846 9066
Batch	820736
Date	02/18/2022 1:51 PM
Fraction	
Dilution	1
Analyst	AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND

**Wet Chemistry (General)**  
**ASTM D6919-09**

Prep	
Method	N/A
Batch	N/A
Date	N/A
Container	3227041005-A(Sulfuric Acid)
Aliquot	5 mL
Tech.	N/A

Analysis	
Method	ASTM D6919-09
Batch	820649
Date	02/25/2022 6:29 PM
Fraction	
Dilution	1
Analyst	ALK



Client Sample ID **FIELD BLANK**  
 Lab Sample ID **3227041005**

Collected **02/11/2022 3:00 PM**  
 Lab Receipt **02/11/2022 4:38 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	ND	mg/L	0.010	C,ND

**Wet Chemistry (General)  
 SM2130B-2011**

**Prep**

Method N/A      Container 3227041005-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 819225      Dilution 1  
Date 02/12/2022 8:06 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	ND	NTU	0.10	C,ND

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3227041005-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 819333      Dilution 1  
Date 02/15/2022 1:15 AM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	ND	mg/L	5	C,ND

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3227041005-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 819333      Dilution 1  
Date 02/15/2022 1:15 AM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	ND	mg/L	5	C,ND,1

**Wet Chemistry (General)  
 S4500HB-11**



Client Sample ID **FIELD BLANK** Collected **02/11/2022 3:00 PM**  
Lab Sample ID **3227041005** Lab Receipt **02/11/2022 4:38 PM**

**Prep**

Method N/A Container 3227041005-B(Unpreserved)  
Batch N/A Aliquot 50 mL  
Date N/A Tech. N/A

**Analysis**

Method S4500HB-11 Fraction  
Batch 819333 Dilution 1  
Date 02/15/2022 1:15 AM Analyst MLW

**RESULTS**

<u>Compound</u>	<u>CAS No</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Qualifiers</u>
pH	PH	5.83	pH_Units		C,4



Client Sample ID **TRIP BLANK**  
 Lab Sample ID **3227041006**

Collected **02/11/2022 4:38 PM**  
 Lab Receipt **02/11/2022 4:38 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3227041006-A(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 822264                                 Dilution 1  
Date 02/23/2022 11:02 PM                Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	88.30 %	62 - 133	
4-Bromofluorobenzene	460-00-4	101 %	79 - 114	
Dibromofluoromethane	1868-53-7	90.50 %	78 - 116	
Toluene-d8	2037-26-5	91.60 %	76 - 127	



### Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3227041001	FFMP018W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
SW846 9066	420.4/9066			
3227041002	FFMP031W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
SW846 9066	420.4/9066			
3227041003	FFMP002W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
SW846 9066	420.4/9066			
3227041004	FFMP032W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
SW846 9066	420.4/9066			



Project 1st QTR 2022 GWMP-FORM 19Q  
Workorder 3227041

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3227041005	FIELD BLANK	SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	
		3227041006	TRIP BLANK	SW846 8260B



**Client Name:** Lancaster County Solid Waste MA  
**Address:** 1299 Harrisburg Pike, P.O. Box 4424  
Lancaster, PA 17604

**Contact:** Dan Brown  
**Phone#:** (717) 735-0193

**Project Name#:** Frey Farm Quarterly (GWMP)  
**Bill To:** Lancaster County Solid Waste MA

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

**Date Required:** \_\_\_\_\_ **Approved By:** \_\_\_\_\_  
**Email?**  Y  N **mreider@LCSWMA.com**  
**Fax?**  Y  N **No.:** (717) 397-9973

**COC**  
**ALS**

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

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

**ANALYSES/METHOD REQUESTED**

* G or C	# Matrix	TOC	OH	VOC - Form 19C	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	2	3	4	5	6	7	8	9	10
X	X	X	X	X	X	X	X	X	X

3227041  
Logged By: KSB  
PM: SJB

Cooler Temp: 11 Therm ID: 574  
No. of Coolers: Y N Initial

Temp Taken By: AMRF  
WO Temp (°C): 11.574  
Therm ID: AMRF  
Receipt Info Completed By: SA  
Cooler Custody Seal Intact: Y N N A  
Sample Custody Seal Intact: Y N N A  
Received on Ice: Y N N A  
Cooler & Samples Intact: Y N N A  
Correct Containers Provided: Y N N A  
Sample Label/COC Agree: Y N N A  
Adequate Sample Volumes: Y N N A  
VOA Headspace Present: Y N N A  
VOA Trip Blank: Y N N A  
NLS 4 Days: Y N  
Rad Screen (uCi): Y N  
Courier/Tracking #: SA 2/12  
SDWA Compliance: Y N  
PWSID: SA 2/12

ALS Field Services:  Pickup  Labor  
 Composite\_Sampling  Rental\_Equipment  
 Other:

Project Comments:	LOGGED BY (signature):	REVIEWED BY (signature):	DATE		TIME		Data Deliverables	Special Processing	State Samples Collected In
			DATE	TIME	DATE	TIME			
Relinquished By / Company Name 1 <i>Dan Brown</i> / <i>ALS</i>	<i>AMRF</i>	<i>AMRF</i>	2-11-22	16:38	2	16:38	USACE	USACE	NY
3					4				PA
5					6				NJ
7					8				NC
9					10				NC

\* G=Grab; C=Composite \*\*Matrix - Al=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](http://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 FREY FARM Quarterly (GWMP)  
Workorder 3226837  
Report ID 150869 on 2/21/2022

## Certificate of Analysis

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

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

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

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

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.  
ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

**Recipient(s):**

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

*Susan Scherer*

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

**Susan Scherer**  
Project Coordinator

(ALS Digital Signature)



### Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3226837001	FFMP02DW	Ground Water	02/10/2022 12:39 PM	02/10/2022 4:38 PM	BGS	Analytical Laboratory Service
3226837002	FFMP02SW	Ground Water	02/10/2022 1:10 PM	02/10/2022 4:38 PM	BGS	Analytical Laboratory Service
3226837003	FFMP017W	Ground Water	02/10/2022 2:31 PM	02/10/2022 4:38 PM	BGS	Analytical Laboratory Service
3226837004	FFMP019W	Ground Water	02/10/2022 3:28 PM	02/10/2022 4:38 PM	BGS	Analytical Laboratory Service

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## Reference

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### Notes

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

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### Standard Acronyms/Flags

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

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**Project Notations**

**Sample Notations**

Lab ID      Sample ID

**Result Notations**

Notation #	
0	Result reported exceeds instrument calibration
1	The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Vinyl Chloride. The % Recovery was reported as 150 and the control limits were 27 to 138.
2	The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Vinyl Chloride. The % Recovery was reported as 162 and the control limits were 27 to 138.
3	The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.
4	The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.
6	The QC sample type MSLO for method EPA 410.4 was outside the control limits for the analyte Chemical Oxygen Demand (COD). The % Recovery was reported as 88.3 and the control limits were 90 to 110.



Client Sample ID **FFMP02DW**  
 Lab Sample ID **3226837001**

Collected **02/10/2022 12:39 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3226837001-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 820137                                 Dilution 1  
Date 02/16/2022 1:44 AM                 Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND,1,2

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	96.80 %	62 - 133	
4-Bromofluorobenzene	460-00-4	84.30 %	79 - 114	
Dibromofluoromethane	1868-53-7	91 %	78 - 116	
Toluene-d8	2037-26-5	88 %	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3226837001-J1(Nitric Acid)  
Batch 819241                                 Aliquot 45 mL  
Date 02/12/2022 3:42 PM                 Tech. AHI

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819304                                 Dilution 1  
Date 02/14/2022 11:57 AM                 Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	135	mg/L	0.11	C
Iron, Total	7439-89-6	0.26	mg/L	0.067	C
Magnesium, Total	7439-95-4	24.1	mg/L	0.11	C
Manganese, Total	7439-96-5	0.54	mg/L	0.0056	C



Client Sample ID	<b>FFMP02DW</b>	Collected	<b>02/10/2022 12:39 PM</b>
Lab Sample ID	<b>3226837001</b>	Lab Receipt	<b>02/10/2022 4:38 PM</b>

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	2.1	mg/L	0.56	C
Sodium, Total	7440-23-5	154	mg/L	0.56	C

**Wet Chemistry (General)  
S2540C-11**

**Prep**

Method	N/A	Container	3226837001-B(Unpreserved)
Batch	N/A	Aliquot	
Date	N/A	Tech.	N/A

**Analysis**

Method	S2540C-11	Fraction	
Batch	819355	Dilution	1
Date	02/15/2022 9:23 AM	Analyst	SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	1120	mg/L	25	C

**Wet Chemistry (General)  
EPA 300.0**

**Prep**

Method	N/A	Container	3226837001-B(Unpreserved)
Batch	N/A	Aliquot	5 mL
Date	N/A	Tech.	N/A

**Analysis**

Method	EPA 300.0	Fraction	
Batch	819104	Dilution	2
Date	02/11/2022 3:24 PM	Analyst	MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	5.4	mg/L	1.0	C
Sulfate	SO4	34.0	mg/L	2.0	C

**Prep**

Method	N/A	Container	3226837001-B(Unpreserved)
Batch	N/A	Aliquot	5 mL
Date	N/A	Tech.	N/A

**Analysis**

Method	EPA 300.0	Fraction	
Batch	820219	Dilution	25
Date	02/17/2022 3:52 AM	Analyst	MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	460	mg/L	25.0	C

**Wet Chemistry (General)  
EPA 410.4**



Client Sample ID **FFMP02DW**  
 Lab Sample ID **3226837001**

Collected **02/10/2022 12:39 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**Prep**

Method N/A      Container 3226837001-A(Sulfuric Acid)  
Batch N/A      Aliquot 2 mL  
Date N/A      Tech. N/A

**Analysis**

Method EPA 410.4      Fraction  
Batch 820242      Dilution 1  
Date 02/17/2022 11:10 AM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND

**Wet Chemistry (General)  
 SW846 9050A**

**Prep**

Method N/A      Container 3226837001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820538      Dilution 1  
Date 02/18/2022 3:49 PM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	1790	umhos/cm	1	C

**Wet Chemistry (General)  
 SW846 9060A**

**Prep**

Method N/A      Container 3226837001-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 819398      Dilution 1  
Date 02/15/2022 12:12 AM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	0.74	mg/L	0.50	C

**Wet Chemistry (General)  
 SW846 9066**

**Prep**

Method 420.4/9066      Container 3226837001-G(Sulfuric Acid)  
Batch 820317      Aliquot 100 mL  
Date 02/18/2022 8:46 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 820736      Dilution 1  
Date 02/18/2022 11:40 AM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND





Client Sample ID **FFMP02DW**  
Lab Sample ID **3226837001**

Collected **02/10/2022 12:39 PM**  
Lab Receipt **02/10/2022 4:38 PM**

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3226837001-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820232      Dilution 10  
Date 02/18/2022 1:21 AM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.199	mg/L	0.100	c

**Wet Chemistry (General)**  
**SM2130B-2011**

**Prep**

Method N/A      Container 3226837001-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 819134      Dilution 1  
Date 02/11/2022 11:19 AM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	2.95	NTU	0.10	c

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3226837001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 819333      Dilution 1  
Date 02/14/2022 4:24 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	107	mg/L	5	c

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3226837001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 819333      Dilution 1  
Date 02/14/2022 4:24 PM      Analyst MLW



Client Sample ID **FFMP02DW**  
 Lab Sample ID **3226837001**

Collected **02/10/2022 12:39 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	107	mg/L	5	C,3

**Wet Chemistry (General)**  
**S4500HB-11**

**Prep**

Method N/A      Container 3226837001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 819333      Dilution 1  
Date 02/14/2022 4:24 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	7.94	pH_Units		C,4

**FLD**  
**Field**

**Prep**

Method N/A      Container 3226837001-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/10/2022 12:39 PM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	19.30	Feet		C
Dissolved Oxygen	DO	0.09	mg/L	0.01	C
Elev Top MW Casing above MSL	781	509.60	Feet		C
Flow Rate	FRATE	1.42	gal/min		C
Ground Water Elevation	GWE	490.30	ft/MSL		C
Oxidation-Reduction Potential	ORP	76	mV		C
pH, Field (SM4500B)	PHF	7.24	pH_Units		C
Sample Depth	SD	120.00	Feet		C
Specific Conductance, Field	CONDf	1753	umhos/cm	1	C
Temperature	Temp	13.98	Deg. C		C
Total Well Depth	TWD	153.00	Feet		C
Turbidity, Field	TURBF	2	NTU	1	C
Volume in Water Column	VWC	196.54	Gallons		C
Water Level After Purge	LAP	48.06	Feet		C
Well Volumes Purged	WVP	0.54	Vol		C



Client Sample ID **FFMP02SW**  
 Lab Sample ID **3226837002**

Collected **02/10/2022 1:10 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3226837002-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 820137                                Dilution 1  
Date 02/16/2022 2:07 AM                Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	97.90 %	62 - 133	
4-Bromofluorobenzene	460-00-4	86.10 %	79 - 114	
Dibromofluoromethane	1868-53-7	95.70 %	78 - 116	
Toluene-d8	2037-26-5	88.40 %	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3226837002-J1(Nitric Acid)  
Batch 819241                                Aliquot 45 mL  
Date 02/12/2022 3:42 PM                Tech. AHI

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819304                                Dilution 1  
Date 02/14/2022 12:00 PM                Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	16.4	mg/L	0.11	C
Iron, Total	7439-89-6	0.71	mg/L	0.067	C
Magnesium, Total	7439-95-4	6.9	mg/L	0.11	C
Manganese, Total	7439-96-5	0.022	mg/L	0.0056	C



Client Sample ID **FFMP02SW**  
 Lab Sample ID **3226837002**

Collected **02/10/2022 1:10 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	5.8	mg/L	0.56	C
Sodium, Total	7440-23-5	52.4	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A      Container 3226837002-B(Unpreserved)  
 Batch N/A      Aliquot  
 Date N/A      Tech. N/A

**Analysis**

Method S2540C-11      Fraction  
 Batch 819355      Dilution 1  
 Date 02/15/2022 9:23 AM      Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	324	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A      Container 3226837002-B(Unpreserved)  
 Batch N/A      Aliquot 5 mL  
 Date N/A      Tech. N/A

**Analysis**

Method EPA 300.0      Fraction  
 Batch 819104      Dilution 2  
 Date 02/11/2022 1:37 PM      Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	71.3	mg/L	2.0	C
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	16.7	mg/L	1.0	C,0
Sulfate	SO4	26.0	mg/L	2.0	C

**Wet Chemistry (General)  
 EPA 410.4**

**Prep**

Method N/A      Container 3226837002-A(Sulfuric Acid)  
 Batch N/A      Aliquot 2 mL  
 Date N/A      Tech. N/A

**Analysis**

Method EPA 410.4      Fraction  
 Batch 820240      Dilution 1  
 Date 02/17/2022 11:00 AM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND



Client Sample ID **FFMP02SW**  
 Lab Sample ID **3226837002**

Collected **02/10/2022 1:10 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**Wet Chemistry (General)**  
**SW846 9050A**

**Prep**

Method N/A      Container 3226837002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820538      Dilution 1  
Date 02/18/2022 3:49 PM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	479	umhos/cm	1	c

**Wet Chemistry (General)**  
**SW846 9060A**

**Prep**

Method N/A      Container 3226837002-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 819398      Dilution 1  
Date 02/15/2022 12:12 AM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	1.9	mg/L	0.50	c

**Wet Chemistry (General)**  
**SW846 9066**

**Prep**

Method 420.4/9066      Container 3226837002-G(Sulfuric Acid)  
Batch 820317      Aliquot 100 mL  
Date 02/18/2022 8:46 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 820736      Dilution 1  
Date 02/18/2022 11:43 AM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C.ND

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3226837002-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 819195      Dilution 10  
Date 02/16/2022 10:08 AM      Analyst ALK



Client Sample ID	<b>FFMP02SW</b>	Collected	<b>02/10/2022 1:10 PM</b>
Lab Sample ID	<b>3226837002</b>	Lab Receipt	<b>02/10/2022 4:38 PM</b>

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	ND	mg/L	0.100	C,ND

**Wet Chemistry (General)  
SM2130B-2011**

**Prep**

<u>Method</u>	N/A	<u>Container</u>	3226837002-B(Unpreserved)
<u>Batch</u>	N/A	<u>Aliquot</u>	25 mL
<u>Date</u>	N/A	<u>Tech.</u>	N/A

**Analysis**

<u>Method</u>	SM2130B-2011	<u>Fraction</u>	
<u>Batch</u>	819134	<u>Dilution</u>	1
<u>Date</u>	02/11/2022 11:19 AM	<u>Analyst</u>	BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	29.5	NTU	0.10	C

**Wet Chemistry (General)  
SM2320B-2011**

**Prep**

<u>Method</u>	N/A	<u>Container</u>	3226837002-B(Unpreserved)
<u>Batch</u>	N/A	<u>Aliquot</u>	50 mL
<u>Date</u>	N/A	<u>Tech.</u>	N/A

**Analysis**

<u>Method</u>	SM2320B-2011	<u>Fraction</u>	
<u>Batch</u>	819333	<u>Dilution</u>	1
<u>Date</u>	02/14/2022 4:36 PM	<u>Analyst</u>	MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	11	mg/L	5	C

**Wet Chemistry (General)  
SM2320B-2011**

**Prep**

<u>Method</u>	N/A	<u>Container</u>	3226837002-B(Unpreserved)
<u>Batch</u>	N/A	<u>Aliquot</u>	50 mL
<u>Date</u>	N/A	<u>Tech.</u>	N/A

**Analysis**

<u>Method</u>	SM2320B-2011	<u>Fraction</u>	
<u>Batch</u>	819333	<u>Dilution</u>	1
<u>Date</u>	02/14/2022 4:36 PM	<u>Analyst</u>	MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	11	mg/L	5	C,3

**Wet Chemistry (General)  
S4500HB-11**



Client Sample ID **FFMP02SW**  
 Lab Sample ID **3226837002**

Collected **02/10/2022 1:10 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**Prep**

Method N/A      Container 3226837002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 819333      Dilution 1  
Date 02/14/2022 4:36 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	6.60	pH_Units		C,4

**FLD  
Field**

**Prep**

Method N/A      Container 3226837002-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/10/2022 1:10 PM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	14.92	Feet		C
Dissolved Oxygen	DO	4.99	mg/L	0.01	C
Elev Top MW Casing above MSL	781	509.90	Feet		C
Flow Rate	FRATE	1.00	gal/min		C
Ground Water Elevation	GWE	494.98	ft/MSL		C
Oxidation-Reduction Potential	ORP	229	mV		C
pH, Field (SM4500B)	PHF	5.55	pH_Units		C
Sample Depth	SD	18.00	Feet		C
Specific Conductance, Field	CONDf	468	umhos/cm	1	C
Temperature	Temp	15.32	Deg. C		C
Total Well Depth	TWD	22.70	Feet		C
Turbidity, Field	TURBF	22	NTU	1	C
Volume in Water Column	VWC	5.06	Gallons		C
Water Level After Purge	LAP	17.86	Feet		C
Well Volumes Purged	WVP	4.36	Vol		C



Client Sample ID **FFMP017W**  
 Lab Sample ID **3226837003**

Collected **02/10/2022 2:31 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3226837003-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 820137                                Dilution 1  
Date 02/16/2022 2:29 AM                Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	96.50 %	62 - 133	
4-Bromofluorobenzene	460-00-4	84.60 %	79 - 114	
Dibromofluoromethane	1868-53-7	93.70 %	78 - 116	
Toluene-d8	2037-26-5	86.70 %	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3226837003-J1(Nitric Acid)  
Batch 819241                                Aliquot 45 mL  
Date 02/12/2022 3:42 PM                Tech. AHI

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819304                                Dilution 1  
Date 02/14/2022 12:04 PM                Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	93.0	mg/L	0.11	C
Iron, Total	7439-89-6	ND	mg/L	0.067	C,ND
Magnesium, Total	7439-95-4	39.2	mg/L	0.11	C
Manganese, Total	7439-96-5	1.7	mg/L	0.0056	C





Client Sample ID **FFMP017W**  
 Lab Sample ID **3226837003**

Collected **02/10/2022 2:31 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	8.8	mg/L	0.56	C
Sodium, Total	7440-23-5	91.7	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A      Container 3226837003-B(Unpreserved)  
 Batch N/A      Aliquot  
 Date N/A      Tech. N/A

**Analysis**

Method S2540C-11      Fraction  
 Batch 819355      Dilution 1  
 Date 02/15/2022 9:23 AM      Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	810	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A      Container 3226837003-B(Unpreserved)  
 Batch N/A      Aliquot 5 mL  
 Date N/A      Tech. N/A

**Analysis**

Method EPA 300.0      Fraction  
 Batch 819104      Dilution 2  
 Date 02/11/2022 1:15 PM      Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	2.5	mg/L	1.0	C
Sulfate	SO4	75.7	mg/L	2.0	C

**Prep**

Method N/A      Container 3226837003-B(Unpreserved)  
 Batch N/A      Aliquot 5 mL  
 Date N/A      Tech. N/A

**Analysis**

Method EPA 300.0      Fraction  
 Batch 820219      Dilution 10  
 Date 02/17/2022 4:13 AM      Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	285	mg/L	10.0	C

**Wet Chemistry (General)  
 EPA 410.4**



Client Sample ID **FFMP017W** Collected **02/10/2022 2:31 PM**  
 Lab Sample ID **3226837003** Lab Receipt **02/10/2022 4:38 PM**

**Prep**

Method N/A Container 3226837003-A(Sulfuric Acid)  
Batch N/A Aliquot 2 mL  
Date N/A Tech. N/A

**Analysis**

Method EPA 410.4 Fraction  
Batch 820330 Dilution 1  
Date 02/17/2022 1:45 PM Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND,6

**Wet Chemistry (General)  
 SW846 9050A**

**Prep**

Method N/A Container 3226837003-B(Unpreserved)  
Batch N/A Aliquot 50 mL  
Date N/A Tech. N/A

**Analysis**

Method SW846 9050A Fraction  
Batch 820538 Dilution 1  
Date 02/18/2022 3:49 PM Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	1320	umhos/cm	1	C

**Wet Chemistry (General)  
 SW846 9060A**

**Prep**

Method N/A Container 3226837003-E(Hydrochloric Acid)  
Batch N/A Aliquot 6 mL  
Date N/A Tech. N/A

**Analysis**

Method SW846 9060A Fraction  
Batch 819398 Dilution 1  
Date 02/15/2022 12:12 AM Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	3.0	mg/L	0.50	C

**Wet Chemistry (General)  
 SW846 9066**

**Prep**

Method 420.4/9066 Container 3226837003-G(Sulfuric Acid)  
Batch 820317 Aliquot 100 mL  
Date 02/18/2022 8:46 AM Tech. AKH

**Analysis**

Method SW846 9066 Fraction  
Batch 820736 Dilution 1  
Date 02/18/2022 11:46 AM Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND



Client Sample ID **FFMP017W**  
 Lab Sample ID **3226837003**

Collected **02/10/2022 2:31 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3226837003-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820236      Dilution 10  
Date 02/18/2022 11:51 AM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.511	mg/L	0.100	c

**Wet Chemistry (General)**  
**SM2130B-2011**

**Prep**

Method N/A      Container 3226837003-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 819134      Dilution 1  
Date 02/11/2022 11:19 AM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	1.04	NTU	0.10	c

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3226837003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 819333      Dilution 1  
Date 02/14/2022 5:18 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	130	mg/L	5	c

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3226837003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 819333      Dilution 1  
Date 02/14/2022 5:18 PM      Analyst MLW



Client Sample ID **FFMP017W**  
 Lab Sample ID **3226837003**

Collected **02/10/2022 2:31 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	130	mg/L	5	C,3

**Wet Chemistry (General)  
 S4500HB-11**

**Prep**

Method N/A                      Container 3226837003-B(Unpreserved)  
Batch N/A                        Aliquot 50 mL  
Date N/A                         Tech. N/A

**Analysis**

Method S4500HB-11                      Fraction  
Batch 819333                                Dilution 1  
Date 02/14/2022 5:18 PM                Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	7.40	pH_Units		C,4

**FLD  
 Field**

**Prep**

Method N/A                      Container 3226837003-D(Unpreserved)  
Batch N/A                        Aliquot  
Date N/A                         Tech. N/A

**Analysis**

Method Field                                Fraction  
Batch 820603                                Dilution 1  
Date 02/10/2022 2:31PM                Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	38.72	Feet		C
Dissolved Oxygen	DO	0.05	mg/L	0.01	C
Elev Top MW Casing above MSL	781	480.70	Feet		C
Flow Rate	FRATE	1.94	gal/min		C
Ground Water Elevation	GWE	441.98	ft/MSL		C
Oxidation-Reduction Potential	ORP	210	mV		C
pH, Field (SM4500B)	PHF	5.90	pH_Units		C
Sample Depth	SD	135.00	Feet		C
Specific Conductance, Field	CONDf	1323	umhos/cm	1	C
Temperature	Temp	12.77	Deg. C		C
Total Well Depth	TWD	150.50	Feet		C
Turbidity, Field	TURBF	ND	NTU	1	C,ND
Volume in Water Column	VWC	164.32	Gallons		C
Water Level After Purge	LAP	46.96	Feet		C
Well Volumes Purged	WVP	0.71	Vol		C



Client Sample ID **FFMP019W**  
 Lab Sample ID **3226837004**

Collected **02/10/2022 3:28 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A      Container 3226837004-H(Hydrochloric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 8260B      Fraction VOA\_Trace  
Batch 820137      Dilution 1  
Date 02/16/2022 2:52 AM      Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	97 %	62 - 133	
4-Bromofluorobenzene	460-00-4	85.10 %	79 - 114	
Dibromofluoromethane	1868-53-7	94.30 %	78 - 116	
Toluene-d8	2037-26-5	87.80 %	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015      Container 3226837004-JI(Nitric Acid)  
Batch 819241      Aliquot 45 mL  
Date 02/12/2022 3:42 PM      Tech. AHI

**Analysis**

Method SW846 6010C      Fraction ICP\_AES  
Batch 819304      Dilution 1  
Date 02/14/2022 12:07 PM      Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	57.9	mg/L	0.11	C
Iron, Total	7439-89-6	ND	mg/L	0.067	C,ND
Magnesium, Total	7439-95-4	5.9	mg/L	0.11	C
Manganese, Total	7439-96-5	ND	mg/L	0.0056	C,ND



Client Sample ID **FFMP019W**  
 Lab Sample ID **3226837004**

Collected **02/10/2022 3:28 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	1.1	mg/L	0.56	C
Sodium, Total	7440-23-5	10.4	mg/L	0.56	C

**Wet Chemistry (General)**  
**S2540C-11**

**Prep**

Method N/A      Container 3226837004-B(Unpreserved)  
 Batch N/A      Aliquot  
 Date N/A      Tech. N/A

**Analysis**

Method S2540C-11      Fraction  
 Batch 819355      Dilution 1  
 Date 02/15/2022 9:23 AM      Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	362	mg/L	25	C

**Wet Chemistry (General)**  
**EPA 300.0**

**Prep**

Method N/A      Container 3226837004-B(Unpreserved)  
 Batch N/A      Aliquot 5 mL  
 Date N/A      Tech. N/A

**Analysis**

Method EPA 300.0      Fraction  
 Batch 819104      Dilution 2  
 Date 02/11/2022 12:54 PM      Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	89.0	mg/L	2.0	C
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	ND	mg/L	1.0	C,ND
Sulfate	SO4	15.1	mg/L	2.0	C

**Wet Chemistry (General)**  
**EPA 410.4**

**Prep**

Method N/A      Container 3226837004-A(Sulfuric Acid)  
 Batch N/A      Aliquot 2 mL  
 Date N/A      Tech. N/A

**Analysis**

Method EPA 410.4      Fraction  
 Batch 820330      Dilution 1  
 Date 02/17/2022 1:45 PM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND



Client Sample ID **FFMP019W**  
 Lab Sample ID **3226837004**

Collected **02/10/2022 3:28 PM**  
 Lab Receipt **02/10/2022 4:38 PM**

**Wet Chemistry (General)**  
**SW846 9050A**

**Prep**

Method N/A      Container 3226837004-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820538      Dilution 1  
Date 02/18/2022 3:49 PM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	500	umhos/cm	1	c

**Wet Chemistry (General)**  
**SW846 9060A**

**Prep**

Method N/A      Container 3226837004-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 819398      Dilution 1  
Date 02/15/2022 12:12 AM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	0.68	mg/L	0.50	c

**Wet Chemistry (General)**  
**SW846 9066**

**Prep**

Method 420.4/9066      Container 3226837004-G(Sulfuric Acid)  
Batch 820317      Aliquot 100 mL  
Date 02/18/2022 8:46 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 820736      Dilution 1  
Date 02/18/2022 11:49 AM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C.ND

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3226837004-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820236      Dilution 10  
Date 02/18/2022 10:27 AM      Analyst ALK



Client Sample ID	<b>FFMP019W</b>	Collected	<b>02/10/2022 3:28 PM</b>
Lab Sample ID	<b>3226837004</b>	Lab Receipt	<b>02/10/2022 4:38 PM</b>

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	ND	mg/L	0.100	C,ND

**Wet Chemistry (General)  
SM2130B-2011**

**Prep**

<u>Method</u>	N/A	<u>Container</u>	3226837004-B(Unpreserved)
<u>Batch</u>	N/A	<u>Aliquot</u>	25 mL
<u>Date</u>	N/A	<u>Tech.</u>	N/A

**Analysis**

<u>Method</u>	SM2130B-2011	<u>Fraction</u>	
<u>Batch</u>	819134	<u>Dilution</u>	1
<u>Date</u>	02/11/2022 11:19 AM	<u>Analyst</u>	BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	0.18	NTU	0.10	C

**Wet Chemistry (General)  
SM2320B-2011**

**Prep**

<u>Method</u>	N/A	<u>Container</u>	3226837004-B(Unpreserved)
<u>Batch</u>	N/A	<u>Aliquot</u>	50 mL
<u>Date</u>	N/A	<u>Tech.</u>	N/A

**Analysis**

<u>Method</u>	SM2320B-2011	<u>Fraction</u>	
<u>Batch</u>	819333	<u>Dilution</u>	1
<u>Date</u>	02/14/2022 5:28 PM	<u>Analyst</u>	MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	61	mg/L	5	C

**Wet Chemistry (General)  
SM2320B-2011**

**Prep**

<u>Method</u>	N/A	<u>Container</u>	3226837004-B(Unpreserved)
<u>Batch</u>	N/A	<u>Aliquot</u>	50 mL
<u>Date</u>	N/A	<u>Tech.</u>	N/A

**Analysis**

<u>Method</u>	SM2320B-2011	<u>Fraction</u>	
<u>Batch</u>	819333	<u>Dilution</u>	1
<u>Date</u>	02/14/2022 5:28 PM	<u>Analyst</u>	MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	61	mg/L	5	C,3

**Wet Chemistry (General)  
S4500HB-11**





Client Sample ID **FFMP019W** Collected **02/10/2022 3:28 PM**  
 Lab Sample ID **3226837004** Lab Receipt **02/10/2022 4:38 PM**

**Prep**

Method N/A Container 3226837004-B(Unpreserved)  
Batch N/A Aliquot 50 mL  
Date N/A Tech. N/A

**Analysis**

Method S4500HB-11 Fraction  
Batch 819333 Dilution 1  
Date 02/14/2022 5:28 PM Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	7.77	pH_Units		C,4

**FLD  
Field**

**Prep**

Method N/A Container 3226837004-D(Unpreserved)  
Batch N/A Aliquot  
Date N/A Tech. N/A

**Analysis**

Method Field Fraction  
Batch 820603 Dilution 1  
Date 02/10/2022 3:28 PM Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	26.51	Feet		C
Dissolved Oxygen	DO	0.10	mg/L	0.01	C
Elev Top MW Casing above MSL	781	471.95	Feet		C
Flow Rate	FRATE	3.44	gal/min		C
Ground Water Elevation	GWE	445.44	ft/MSL		C
Oxidation-Reduction Potential	ORP	145	mV		C
pH, Field (SM4500B)	PHF	6.30	pH_Units		C
Sample Depth	SD	49.00	Feet		C
Specific Conductance, Field	CONDF	452	umhos/cm	1	C
Temperature	Temp	13.93	Deg. C		C
Total Well Depth	TWD	132.79	Feet		C
Turbidity, Field	TURBF	ND	NTU	1	C,ND
Volume in Water Column	VWC	69.08	Gallons		C
Water Level After Purge	LAP	36.71	Feet		C
Well Volumes Purged	WVP	1.99	Vol		C



### Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3226837001	FFMP02DW	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	
3226837002	FFMP02SW	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	
3226837003	FFMP017W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	
3226837004	FFMP019W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	



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

Generated by ALS

**CO**



3226837  
 Logged By: KSB  
 PH: SJB

1 of 1

**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 (GWWP)  
**Bill To:** Lancaster County Solid Waste MA

Container Type	AG	AW	CG	PL	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**

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

Temp Taken By: AMRF  
 WO Temp (°C): 515  
 Thermo ID: 575  
 Receipt Info Completed By: AMRF  
 Cooler Custody Seal Intact: Y  
 Sample Custody Seal Intact: Y  
 Received on Ice: Y  
 Cooler & Samples Intact: Y  
 Correct Containers Provided: Y  
 Sample Label/COC Agree: Y  
 Adequate Sample Volumes: Y  
 VOA Headspace Present: Y  
 VOA Trip Blank: Y  
 NLS 4 Days? Y  
 Rad Screen (uCi): Y  
 Courier/Tracking #: Y  
 SDWA Compliance PWSID: Y

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

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Enter Number of Containers Per Sample or Field Results Below.										Cou
					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. FFMP02DW	02/10/22	1239	G	GW	2	1	2	X	X	1	1	1	1	1	
2. FFMP02SW	02/10/22	1310	G	GW	2	1	2	X	X	1	1	1	1	1	
3. FFMP017W	02/10/22	1431	G	GW	2	1	2	X	X	1	1	1	1	1	
4. FFMP019W	02/10/22	1528	G	GW	2	1	2	X	X	1	1	1	1	1	
5															
6															
7															
8															
9															
10															

**Project Comments:**  
 Relinquished By / Company Name: PLS  
 Date: 2-10-22 Time: 6:38  
 Received By / Company Name: AMRF/ALS  
 Date: 2-10-22 Time: 6:38

**LOGGED BY (signature):** \_\_\_\_\_ **DATE:** \_\_\_\_\_ **TIME:** \_\_\_\_\_

**REVIEWED BY (signature):** \_\_\_\_\_ **DATE:** \_\_\_\_\_ **TIME:** \_\_\_\_\_

**ALS Field Services:**  Pickup  Labor  
 Composite Sampling  Rental Equipment  
 Other: \_\_\_\_\_

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

**Special Processing:**  USACE  Navy  Special

**State Samples Collected In:**  PA  NY  NJ  NC

**Reportable to PADEP?**  Yes  No

**PWSID #:** \_\_\_\_\_ **EDDS:** Format Type: \_\_\_\_\_



301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | [www.alsglobal.com](http://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 1st QTR 2022 GWMP-FORM 19Q  
Workorder 3226373  
Report ID 151977 on 2/25/2022

## Certificate of Analysis

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

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

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

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

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.  
ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

**Recipient(s):**

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

*Susan Scherer*

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

**Susan Scherer**  
Project Coordinator

(ALS Digital Signature)



### Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3226373001	FFMP26RW	Ground Water	02/08/2022 11:11 AM	02/08/2022 4:18 PM	CBC	Collected By Client
3226373002	FFMP029W	Ground Water	02/08/2022 12:30 PM	02/08/2022 4:18 PM	CBC	Collected By Client
3226373003	FFMP036W	Ground Water	02/08/2022 1:57 PM	02/08/2022 4:18 PM	CBC	Collected By Client
3226373004	FFMP035W	Ground Water	02/08/2022 2:59 PM	02/08/2022 4:18 PM	CBC	Collected By Client

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## Reference

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### Notes

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

---

### Standard Acronyms/Flags

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

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### Project Notations

### Sample Notations

Lab ID	Sample ID	
3226373001	FFMP26RW	Sample temperature upon receipt at lab was greater than 6 °C.
3226373002	FFMP029W	Sample temperature upon receipt at lab was greater than 6 °C.
3226373003	FFMP036W	Sample temperature upon receipt at lab was greater than 6 °C.
3226373004	FFMP035W	Sample temperature upon receipt at lab was greater than 6 °C.

### Result Notations

Notation #	
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.
4	The QC sample type MB for method EPA 300.0 was outside the control limits for the analyte Chloride. The concentration was reported at 0.83mg/L and the control limit is less than 0.44mg/L.
5	The QC sample type MS for method 420.4/9066 was outside the control limits for the analyte Phenolics. The % Recovery was reported as 77 and the control limits were 90 to 110.



Client Sample ID **FFMP26RW**  
 Lab Sample ID **3226373001**

Collected **02/08/2022 11:11 AM**  
 Lab Receipt **02/08/2022 4:18 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3226373001-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 819446                                Dilution 1  
Date 02/15/2022 3:37 AM                      Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	104%	62 - 133	
4-Bromofluorobenzene	460-00-4	107%	79 - 114	
Dibromofluoromethane	1868-53-7	92.70%	78 - 116	
Toluene-d8	2037-26-5	99.90%	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3226373001-J1(Nitric Acid)  
Batch 819020                                Aliquot 45 mL  
Date 02/10/2022 9:20 PM                      Tech. SXC

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819080                                Dilution 1  
Date 02/11/2022 9:39 AM                      Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	73.0	mg/L	0.11	C
Iron, Total	7439-89-6	ND	mg/L	0.067	C,ND
Magnesium, Total	7439-95-4	19.7	mg/L	0.11	C
Manganese, Total	7439-96-5	0.87	mg/L	0.0056	C





Client Sample ID **FFMP26RW**  
 Lab Sample ID **3226373001**

Collected **02/08/2022 11:11 AM**  
 Lab Receipt **02/08/2022 4:18 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	8.8	mg/L	0.56	C
Sodium, Total	7440-23-5	59.1	mg/L	0.56	C

**Wet Chemistry (General)**  
**S2540C-11**

**Prep**

Method N/A Container 3226373001-B(Unpreserved)  
 Batch N/A Aliquot  
 Date N/A Tech. N/A

**Analysis**

Method S2540C-11 Fraction  
 Batch 818935 Dilution 1  
 Date 02/11/2022 8:58 AM Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	504	mg/L	25	C

**Wet Chemistry (General)**  
**EPA 300.0**

**Prep**

Method N/A Container 3226373001-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 818851 Dilution 2  
 Date 02/10/2022 2:19 AM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	ND	mg/L	1.0	C,ND

**Prep**

Method N/A Container 3226373001-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 819345 Dilution 10  
 Date 02/15/2022 3:24 AM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	169	mg/L	10.0	C
Sulfate	SO4	89.7	mg/L	10.0	C

**Wet Chemistry (General)**  
**EPA 410.4**



Client Sample ID **FFMP26RW**  
 Lab Sample ID **3226373001**

Collected **02/08/2022 11:11 AM**  
 Lab Receipt **02/08/2022 4:18 PM**

**Prep**

Method N/A      Container 3226373001-A(Sulfuric Acid)  
Batch N/A      Aliquot 2 mL  
Date N/A      Tech. N/A

**Analysis**

Method EPA 410.4      Fraction  
Batch 820330      Dilution 1  
Date 02/17/2022 1:45 PM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND

**Wet Chemistry (General)  
 SW846 9050A**

**Prep**

Method N/A      Container 3226373001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820005      Dilution 1  
Date 02/15/2022 1:52 PM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	920	umhos/cm	1	C

**Wet Chemistry (General)  
 SW846 9060A**

**Prep**

Method N/A      Container 3226373001-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 818934      Dilution 1  
Date 02/10/2022 8:31 PM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	1.7	mg/L	0.50	C

**Wet Chemistry (General)  
 SW846 9066**

**Prep**

Method 420.4/9066      Container 3226373001-G(Sulfuric Acid)  
Batch 818987      Aliquot 100 mL  
Date 02/11/2022 8:38 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 819103      Dilution 1  
Date 02/11/2022 3:33 PM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND



Client Sample ID **FFMP26RW**  
 Lab Sample ID **3226373001**

Collected **02/08/2022 11:11 AM**  
 Lab Receipt **02/08/2022 4:18 PM**

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3226373001-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820230      Dilution 10  
Date 02/17/2022 3:09 AM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.130	mg/L	0.100	c

**Wet Chemistry (General)**  
**SM2130B-2011**

**Prep**

Method N/A      Container 3226373001-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 818864      Dilution 1  
Date 02/10/2022 6:28 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	0.45	NTU	0.10	c

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3226373001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 1:39 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	57	mg/L	5	c

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3226373001-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 1:39 PM      Analyst MLW



Client Sample ID **FFMP26RW**  
 Lab Sample ID **3226373001**

Collected **02/08/2022 11:11 AM**  
 Lab Receipt **02/08/2022 4:18 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	57	mg/L	5	C.1

**Wet Chemistry (General)  
 S4500HB-11**

**Prep**

Method N/A                      Container 3226373001-B(Unpreserved)  
Batch N/A                        Aliquot 50 mL  
Date N/A                         Tech. N/A

**Analysis**

Method S4500HB-11                      Fraction  
Batch 818907                                Dilution 1  
Date 02/10/2022 1:39 PM                      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	6.53	pH_Units		C.2

**FLD  
 Field**

**Prep**

Method N/A                      Container 3226373001-D(Unpreserved)  
Batch N/A                        Aliquot  
Date N/A                         Tech. N/A

**Analysis**

Method Field                                      Fraction  
Batch 820603                                      Dilution 1  
Date 02/08/2022 11:11 AM                      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	69.77	Feet		C
Dissolved Oxygen	DO	0.04	mg/L	0.01	C
Elev Top MW Casing above MSL	781	547.40	Feet		C
Flow Rate	FRATE	2.13	gal/min		C
Ground Water Elevation	GWE	477.63	ft/MSL		C
Oxidation-Reduction Potential	ORP	518	mV		C
pH, Field (SM4500B)	PHF	5.31	pH_Units		C
Sample Depth	SD	105.00	Feet		C
Specific Conductance, Field	CONDf	873	umhos/cm	1	C
Temperature	Temp	13.88	Deg. C		C
Total Well Depth	TWD	118.30	Feet		C
Turbidity, Field	TURBF	ND	NTU	1	C.ND
Volume in Water Column	VWC	71.34	Gallons		C
Water Level After Purge	LAP	88.73	Feet		C
Well Volumes Purged	WVP	1.79	Vol		C



Client Sample ID **FFMP029W**  
 Lab Sample ID **3226373002**

Collected **02/08/2022 12:30 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3226373002-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 819446                                Dilution 1  
Date 02/15/2022 4:00 AM                      Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	62 - 133	
4-Bromofluorobenzene	460-00-4	104%	79 - 114	
Dibromofluoromethane	1868-53-7	94.70%	78 - 116	
Toluene-d8	2037-26-5	94.70%	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3226373002-J1(Nitric Acid)  
Batch 819020                                Aliquot 45 mL  
Date 02/10/2022 9:20 PM                      Tech. SXC

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819080                                Dilution 1  
Date 02/11/2022 9:21 AM                      Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	16.5	mg/L	0.11	C
Iron, Total	7439-89-6	ND	mg/L	0.067	C,ND
Magnesium, Total	7439-95-4	10.8	mg/L	0.11	C
Manganese, Total	7439-96-5	0.040	mg/L	0.0056	C



Client Sample ID **FFMP029W**  
 Lab Sample ID **3226373002**

Collected **02/08/2022 12:30 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	2.4	mg/L	0.56	C
Sodium, Total	7440-23-5	24.1	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A Container 3226373002-B(Unpreserved)  
 Batch N/A Aliquot  
 Date N/A Tech. N/A

**Analysis**

Method S2540C-11 Fraction  
 Batch 818938 Dilution 1  
 Date 02/11/2022 9:33 AM Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	216	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A Container 3226373002-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 818851 Dilution 2  
 Date 02/10/2022 2:51 AM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	84.7	mg/L	2.0	C,4
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	3.9	mg/L	1.0	C
Sulfate	SO4	10.5	mg/L	2.0	C

**Wet Chemistry (General)  
 EPA 410.4**

**Prep**

Method N/A Container 3226373002-A(Sulfuric Acid)  
 Batch N/A Aliquot 2 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 410.4 Fraction  
 Batch 820242 Dilution 1  
 Date 02/17/2022 11:10 AM Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND



Client Sample ID	<b>FFMP029W</b>	Collected	<b>02/08/2022 12:30 PM</b>
Lab Sample ID	<b>3226373002</b>	Lab Receipt	<b>02/08/2022 4:18 PM</b>

**Wet Chemistry (General)**  
**SW846 9050A**

Prep		Analysis	
<u>Method</u>	N/A	<u>Method</u>	SW846 9050A
<u>Batch</u>	N/A	<u>Batch</u>	820005
<u>Date</u>	N/A	<u>Date</u>	02/15/2022 1:52 PM
<u>Container</u>	3226373002-B(Unpreserved)	<u>Fraction</u>	
<u>Aliquot</u>	50 mL	<u>Dilution</u>	1
<u>Tech.</u>	N/A	<u>Analyst</u>	BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	348	umhos/cm	1	C

**Wet Chemistry (General)**  
**SW846 9060A**

Prep		Analysis	
<u>Method</u>	N/A	<u>Method</u>	SW846 9060A
<u>Batch</u>	N/A	<u>Batch</u>	818934
<u>Date</u>	N/A	<u>Date</u>	02/10/2022 8:31 PM
<u>Container</u>	3226373002-E(Hydrochloric Acid)	<u>Fraction</u>	
<u>Aliquot</u>	6 mL	<u>Dilution</u>	1
<u>Tech.</u>	N/A	<u>Analyst</u>	PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	ND	mg/L	0.50	C,ND

**Wet Chemistry (General)**  
**SW846 9066**

Prep		Analysis	
<u>Method</u>	420.4/9066	<u>Method</u>	SW846 9066
<u>Batch</u>	818987	<u>Batch</u>	819103
<u>Date</u>	02/11/2022 8:38 AM	<u>Date</u>	02/11/2022 3:36 PM
<u>Container</u>	3226373002-G(Sulfuric Acid)	<u>Fraction</u>	
<u>Aliquot</u>	100 mL	<u>Dilution</u>	1
<u>Tech.</u>	AKH	<u>Analyst</u>	AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND

**Wet Chemistry (General)**  
**ASTM D6919-09**

Prep		Analysis	
<u>Method</u>	N/A	<u>Method</u>	ASTM D6919-09
<u>Batch</u>	N/A	<u>Batch</u>	820230
<u>Date</u>	N/A	<u>Date</u>	02/17/2022 5:01 AM
<u>Container</u>	3226373002-A(Sulfuric Acid)	<u>Fraction</u>	
<u>Aliquot</u>	5 mL	<u>Dilution</u>	10
<u>Tech.</u>	N/A	<u>Analyst</u>	ALK



Client Sample ID **FFMP029W**  
 Lab Sample ID **3226373002**

Collected **02/08/2022 12:30 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.161	mg/L	0.100	C

**Wet Chemistry (General)  
 SM2130B-2011**

**Prep**

Method N/A      Container 3226373002-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 818864      Dilution 1  
Date 02/10/2022 6:28 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	0.30	NTU	0.10	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3226373002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 2:20 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	12	mg/L	5	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3226373002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 2:20 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	12	mg/L	5	C,1

**Wet Chemistry (General)  
 S4500HB-11**





Client Sample ID **FFMP029W**  
 Lab Sample ID **3226373002**

Collected **02/08/2022 12:30 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**Prep**

Method N/A      Container 3226373002-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 2:20 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	6.32	pH_Units		C,2

**FLD  
Field**

**Prep**

Method N/A      Container 3226373002-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/08/2022 12:30 PM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	37.96	Feet		C
Dissolved Oxygen	DO	5.64	mg/L	0.01	C
Elev Top MW Casing above MSL	781	477.30	Feet		C
Flow Rate	FRATE	2.19	gal/min		C
Ground Water Elevation	GWE	439.34	ft/MSL		C
Oxidation-Reduction Potential	ORP	366	mV		C
pH, Field (SM4500B)	PHF	4.91	pH_Units		C
Sample Depth	SD	55.00	Feet		C
Specific Conductance, Field	CONDf	344	umhos/cm	1	C
Temperature	Temp	14.41	Deg. C		C
Total Well Depth	TWD	60.50	Feet		C
Turbidity, Field	TURBF	ND	NTU	1	C,ND
Volume in Water Column	VWC	33.13	Gallons		C
Water Level After Purge	LAP	44.31	Feet		C
Well Volumes Purged	WVP	3.97	Vol		C



Client Sample ID **FFMP036W**  
 Lab Sample ID **3226373003**

Collected **02/08/2022 1:57 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3226373003-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 819446                                Dilution 1  
Date 02/15/2022 4:22 AM                Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	62 - 133	
4-Bromofluorobenzene	460-00-4	104%	79 - 114	
Dibromofluoromethane	1868-53-7	94.50%	78 - 116	
Toluene-d8	2037-26-5	96.90%	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3226373003-J(Nitric Acid)  
Batch 819171                                Aliquot 45 mL  
Date 02/11/2022 3:09 PM                Tech. JSE

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819304                                Dilution 1  
Date 02/14/2022 1:18 PM                Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	29.8	mg/L	0.11	C
Iron, Total	7439-89-6	2.7	mg/L	0.067	C
Magnesium, Total	7439-95-4	3.8	mg/L	0.11	C
Manganese, Total	7439-96-5	0.15	mg/L	0.0056	C



Client Sample ID **FFMP036W**  
 Lab Sample ID **3226373003**

Collected **02/08/2022 1:57 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	2.3	mg/L	0.56	C
Sodium, Total	7440-23-5	14.9	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A      Container 3226373003-B(Unpreserved)  
 Batch N/A      Aliquot  
 Date N/A      Tech. N/A

**Analysis**

Method S2540C-11      Fraction  
 Batch 818938      Dilution 1  
 Date 02/11/2022 9:33 AM      Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	146	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A      Container 3226373003-B(Unpreserved)  
 Batch N/A      Aliquot 5 mL  
 Date N/A      Tech. N/A

**Analysis**

Method EPA 300.0      Fraction  
 Batch 818851      Dilution 2  
 Date 02/10/2022 2:35 AM      Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	33.5	mg/L	2.0	C,4
Fluoride	F	0.44	mg/L	0.20	C
Nitrate-N	NO3	ND	mg/L	1.0	C,ND
Sulfate	SO4	18.9	mg/L	2.0	C

**Wet Chemistry (General)  
 EPA 410.4**

**Prep**

Method N/A      Container 3226373003-A(Sulfuric Acid)  
 Batch N/A      Aliquot 2 mL  
 Date N/A      Tech. N/A

**Analysis**

Method EPA 410.4      Fraction  
 Batch 820330      Dilution 1  
 Date 02/17/2022 1:45 PM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND



Client Sample ID **FFMP036W**  
 Lab Sample ID **3226373003**

Collected **02/08/2022 1:57 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**Wet Chemistry (General)**  
**SW846 9050A**

**Prep**

Method N/A      Container 3226373003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820005      Dilution 1  
Date 02/15/2022 1:52 PM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	258	umhos/cm	1	c

**Wet Chemistry (General)**  
**SW846 9060A**

**Prep**

Method N/A      Container 3226373003-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 818934      Dilution 1  
Date 02/10/2022 8:31 PM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	0.71	mg/L	0.50	c

**Wet Chemistry (General)**  
**SW846 9066**

**Prep**

Method 420.4/9066      Container 3226373003-G(Sulfuric Acid)  
Batch 818987      Aliquot 100 mL  
Date 02/11/2022 8:38 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 819103      Dilution 1  
Date 02/11/2022 3:39 PM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C.ND

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3226373003-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 820230      Dilution 10  
Date 02/17/2022 6:25 AM      Analyst ALK



Client Sample ID **FFMP036W**  
 Lab Sample ID **3226373003**

Collected **02/08/2022 1:57 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.159	mg/L	0.100	C

**Wet Chemistry (General)  
 SM2130B-2011**

**Prep**

Method N/A      Container 3226373003-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 818864      Dilution 1  
Date 02/10/2022 6:28 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	23.3	NTU	0.10	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3226373003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 2:29 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	67	mg/L	5	C

**Wet Chemistry (General)  
 SM2320B-2011**

**Prep**

Method N/A      Container 3226373003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 2:29 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	67	mg/L	5	C,1

**Wet Chemistry (General)  
 S4500HB-11**



Client Sample ID **FFMP036W**  
 Lab Sample ID **3226373003**

Collected **02/08/2022 1:57 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**Prep**

Method N/A      Container 3226373003-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 2:29 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	8.04	pH_Units		C,2

**FLD  
Field**

**Prep**

Method N/A      Container 3226373003-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/08/2022 1:57 PM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	44.20	Feet		C
Dissolved Oxygen	DO	ND	mg/L	0.01	C,ND
Elev Top MW Casing above MSL	781	478.23	Feet		C
Flow Rate	FRATE	1.66	gal/min		C
Ground Water Elevation	GWE	434.03	ft/MSL		C
Oxidation-Reduction Potential	ORP	-132	mV		C
pH, Field (SM4500B)	PHF	8.44	pH_Units		C
Sample Depth	SD	135.00	Feet		C
Specific Conductance, Field	CONDf	265	umhos/cm	1	C
Temperature	Temp	12.74	Deg. C		C
Total Well Depth	TWD	142.60	Feet		C
Turbidity, Field	TURBF	1513	NTU	1	C
Volume in Water Column	VWC	144.65	Gallons		C
Water Level After Purge	LAP	82.85	Feet		C
Well Volumes Purged	WVP	0.80	Vol		C



Client Sample ID **FFMP035W**  
 Lab Sample ID **3226373004**

Collected **02/08/2022 2:59 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**Volatiles - GC/MS**  
**SW846 8260B**

**Prep**

Method N/A                      Container 3226373004-H(Hydrochloric Acid)  
Batch N/A                        Aliquot 5 mL  
Date N/A                         Tech. N/A

**Analysis**

Method SW846 8260B                      Fraction VOA\_Trace  
Batch 819446                                Dilution 1  
Date 02/15/2022 4:45 AM                Analyst PDK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
1,1,1-Trichloroethane	71-55-6	ND	ug/L	1.0	C,ND
1,1-Dichloroethane	75-34-3	ND	ug/L	1.0	C,ND
1,1-Dichloroethene	75-35-4	ND	ug/L	1.0	C,ND
1,2-Dibromoethane	106-93-4	ND	ug/L	1.0	C,ND
1,2-Dichloroethane	107-06-2	ND	ug/L	1.0	C,ND
Benzene	71-43-2	ND	ug/L	1.0	C,ND
cis-1,2-Dichloroethene	156-59-2	ND	ug/L	1.0	C,ND
Ethylbenzene	100-41-4	ND	ug/L	1.0	C,ND
Methylene Chloride	75-09-2	ND	ug/L	1.0	C,ND
Tetrachloroethene	127-18-4	ND	ug/L	1.0	C,ND
Toluene	108-88-3	ND	ug/L	1.0	C,ND
Total Xylenes	1330-20-7	ND	ug/L	3.0	C,ND
trans-1,2-Dichloroethene	156-60-5	ND	ug/L	1.0	C,ND
Trichloroethene	79-01-6	ND	ug/L	1.0	C,ND
Vinyl Chloride	75-01-4	ND	ug/L	1.0	C,ND

**SURROGATES**

Compound	CAS No	Recovery	Limits(%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	104%	62 - 133	
4-Bromofluorobenzene	460-00-4	101%	79 - 114	
Dibromofluoromethane	1868-53-7	94.20%	78 - 116	
Toluene-d8	2037-26-5	93.40%	76 - 127	

**Metals Analytical**  
**SW846 6010C**

**Prep**

Method SW846 3015                      Container 3226373004-J(Nitric Acid)  
Batch 819171                                Aliquot 45 mL  
Date 02/11/2022 3:09 PM                Tech. JSE

**Analysis**

Method SW846 6010C                      Fraction ICP\_AES  
Batch 819304                                Dilution 1  
Date 02/14/2022 1:33 PM                Analyst SRT

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Calcium, Total	7440-70-2	103	mg/L	0.11	C
Iron, Total	7439-89-6	ND	mg/L	0.067	C,ND
Magnesium, Total	7439-95-4	22.1	mg/L	0.11	C
Manganese, Total	7439-96-5	0.24	mg/L	0.0056	C



Client Sample ID **FFMP035W**  
 Lab Sample ID **3226373004**

Collected **02/08/2022 2:59 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Potassium, Total	7440-09-7	5.3	mg/L	0.56	C
Sodium, Total	7440-23-5	64.3	mg/L	0.56	C

**Wet Chemistry (General)  
 S2540C-11**

**Prep**

Method N/A Container 3226373004-B(Unpreserved)  
 Batch N/A Aliquot  
 Date N/A Tech. N/A

**Analysis**

Method S2540C-11 Fraction  
 Batch 818938 Dilution 1  
 Date 02/11/2022 9:33 AM Analyst SMS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Dissolved Solids	TDS	648	mg/L	25	C

**Wet Chemistry (General)  
 EPA 300.0**

**Prep**

Method N/A Container 3226373004-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 818851 Dilution 2  
 Date 02/10/2022 3:24 AM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Fluoride	F	ND	mg/L	0.20	C,ND
Nitrate-N	NO3	3.9	mg/L	1.0	C
Sulfate	SO4	52.5	mg/L	2.0	C

**Prep**

Method N/A Container 3226373004-B(Unpreserved)  
 Batch N/A Aliquot 5 mL  
 Date N/A Tech. N/A

**Analysis**

Method EPA 300.0 Fraction  
 Batch 819345 Dilution 10  
 Date 02/15/2022 3:45 AM Analyst MID

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chloride	Cl	222	mg/L	10.0	C

**Wet Chemistry (General)  
 EPA 410.4**





Client Sample ID **FFMP035W**  
 Lab Sample ID **3226373004**

Collected **02/08/2022 2:59 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**Prep**

Method N/A      Container 3226373004-A(Sulfuric Acid)  
Batch N/A      Aliquot 2 mL  
Date N/A      Tech. N/A

**Analysis**

Method EPA 410.4      Fraction  
Batch 820330      Dilution 1  
Date 02/17/2022 1:45 PM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Chemical Oxygen Demand (COD)	COD	ND	mg/L	15	C,ND

**Wet Chemistry (General)  
 SW846 9050A**

**Prep**

Method N/A      Container 3226373004-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9050A      Fraction  
Batch 820005      Dilution 1  
Date 02/15/2022 1:52 PM      Analyst BXD

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Specific Conductance	Cond	1170	umhos/cm	1	C

**Wet Chemistry (General)  
 SW846 9060A**

**Prep**

Method N/A      Container 3226373004-E(Hydrochloric Acid)  
Batch N/A      Aliquot 6 mL  
Date N/A      Tech. N/A

**Analysis**

Method SW846 9060A      Fraction  
Batch 818934      Dilution 1  
Date 02/10/2022 8:31 PM      Analyst PAG

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Total Organic Carbon (TOC)	TOC	1.3	mg/L	0.50	C

**Wet Chemistry (General)  
 SW846 9066**

**Prep**

Method 420.4/9066      Container 3226373004-G(Sulfuric Acid)  
Batch 818987      Aliquot 100 mL  
Date 02/11/2022 8:38 AM      Tech. AKH

**Analysis**

Method SW846 9066      Fraction  
Batch 819103      Dilution 1  
Date 02/11/2022 3:46 PM      Analyst AKH

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Phenolics	PHENOL	ND	mg/L	0.005	C,ND,5



Client Sample ID **FFMP035W**  
 Lab Sample ID **3226373004**

Collected **02/08/2022 2:59 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**Wet Chemistry (General)**  
**ASTM D6919-09**

**Prep**

Method N/A      Container 3226373004-A(Sulfuric Acid)  
Batch N/A      Aliquot 5 mL  
Date N/A      Tech. N/A

**Analysis**

Method ASTM D6919-09      Fraction  
Batch 819197      Dilution 10  
Date 02/17/2022 1:14 PM      Analyst ALK

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Ammonia-N	NH3N	0.290	mg/L	0.100	c

**Wet Chemistry (General)**  
**SM2130B-2011**

**Prep**

Method N/A      Container 3226373004-B(Unpreserved)  
Batch N/A      Aliquot 25 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2130B-2011      Fraction  
Batch 818864      Dilution 1  
Date 02/10/2022 6:28 AM      Analyst LXZ

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Turbidity	Turb	0.52	NTU	0.10	c

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3226373004-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 2:40 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Bicarbonate	HCO3	128	mg/L	5	c

**Wet Chemistry (General)**  
**SM2320B-2011**

**Prep**

Method N/A      Container 3226373004-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method SM2320B-2011      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 2:40 PM      Analyst MLW



Client Sample ID **FFMP035W**  
 Lab Sample ID **3226373004**

Collected **02/08/2022 2:59 PM**  
 Lab Receipt **02/08/2022 4:18 PM**

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Alkalinity, Total	ALKT	128	mg/L	5	C.1

**Wet Chemistry (General)  
 S4500HB-11**

**Prep**

Method N/A      Container 3226373004-B(Unpreserved)  
Batch N/A      Aliquot 50 mL  
Date N/A      Tech. N/A

**Analysis**

Method S4500HB-11      Fraction  
Batch 818907      Dilution 1  
Date 02/10/2022 2:40 PM      Analyst MLW

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
pH	PH	7.68	pH_Units		C.2

**FLD  
 Field**

**Prep**

Method N/A      Container 3226373004-D(Unpreserved)  
Batch N/A      Aliquot  
Date N/A      Tech. N/A

**Analysis**

Method Field      Fraction  
Batch 820603      Dilution 1  
Date 02/08/2022 2:59 PM      Analyst BGS

**RESULTS**

Compound	CAS No	Result	Units	RDL	Qualifiers
Depth to Water Level	DWL	43.12	Feet		C
Dissolved Oxygen	DO	0.15	mg/L	0.01	C
Elev Top MW Casing above MSL	781	477.56	Feet		C
Flow Rate	FRATE	0.74	gal/min		C
Ground Water Elevation	GWE	434.44	ft/MSL		C
Oxidation-Reduction Potential	ORP	63	mV		C
pH, Field (SM4500B)	PHF	6.68	pH_Units		C
Sample Depth	SD	65.00	Feet		C
Specific Conductance, Field	CONDf	1081	umhos/cm	1	C
Temperature	Temp	13.15	Deg. C		C
Total Well Depth	TWD	71.80	Feet		C
Turbidity, Field	TURBF	6	NTU	1	C
Volume in Water Column	VWC	42.16	Gallons		C
Water Level After Purge	LAP	54.46	Feet		C
Well Volumes Purged	WVP	0.79	Vol		C



### Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3226373001	FFMP26RW	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	
3226373002	FFMP029W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	
3226373003	FFMP036W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	
3226373004	FFMP035W	Field	N/A	
		SW846 6010C	SW846 3015	
		SW846 8260B	N/A	
		ASTM D6919-09	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S2540C-11	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	420.4/9066	



Generated by ALS

**CHAIN OF CUSTODY / REQUEST FOR ANALYSIS SAMPLER INSTRUCTIONS ON THE BACK.**

**COC #:** 3226373  
**ALS On**

Logged By: KSB  
 PY: SJB

**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 (GWMMP)  
**Bill To:** Lancaster County Solid Waste MA

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

**ANALYSE/METHOD REQUESTED**

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.

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

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

Sample #	Sample Description/Location	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.	FFMP26RW	02/08/22	1111	G	GW	2	1	2	X	X	1	1	1	1
2.	FFMP029W	02/08/22	1230	G	GW	2	1	2	X	X	1	1	1	1
3.	FFMP036W	02/08/22	1357	G	GW	2	1	2	X	X	1	1	1	1
4.	FFMP035W	02/08/22	1459	G	GW	2	1	2	X	X	1	1	1	1
5.														
6.														
7.														
8.														
9.														
10.														

**Project Comments:** Relinquished By / Company Name: ALS

**LOGGED BY (signature):** \_\_\_\_\_ **DATE:** \_\_\_\_\_ **TIME:** \_\_\_\_\_

**REVIEWED BY (signature):** \_\_\_\_\_ **DATE:** \_\_\_\_\_ **TIME:** \_\_\_\_\_

**Received By / Company Name:** Ar S **Date:** 2-8-22 **Time:** 1618

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

**Special Processing:**  
 USACE  
 Navy  
 Lab  
 Special

**State Samples Collected In:**  
 NY  
 NJ  
 PA  
 NC

**Reportable to PADEP?**  Yes  No

**PWSID #:** \_\_\_\_\_

**EDDS:** Format Type- \_\_\_\_\_

**ALS Field Services:**  
 Composite Sampling  
 Rental Equipment  
 Pickup  
 Labor

**CDWA Compliance:** PWSID \_\_\_\_\_

**Temp Taken By:** \_\_\_\_\_ **Temp ID:** \_\_\_\_\_

**Therm ID:** \_\_\_\_\_

**Receipt Info Completed By:** \_\_\_\_\_

**Sample Custody Seal Intact:**  Yes  No

**Sample Received on Ice:**  Yes  No

**Cooler & Samples Intact:**  Yes  No

**Correct Containers Provided:**  Yes  No

**Sample Label/COC Agree:**  Yes  No

**Adequate Sample Volumes:**  Yes  No

**VOA Headspace Present:**  Yes  No

**Voa Trip Blank:**  Yes  No

**NIS 4 Days?**  Yes  No

**Rad Screen (uCi):** \_\_\_\_\_

**Counter/Tracking #:** \_\_\_\_\_