



Date Prepared/Revised
10/15/2021

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

General Reference: Section 273.284

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

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP015W

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

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 36.43 "

Longitude: 76° 27' 10.82"

Depth to Water Level: 61.31 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.90 ft

Elevation of Water Level: 515.09 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column:	128.64	gal
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Total Well Depth: 148.9 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: X Yes No

Well Volumes Purged: 0.9

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/16/2021

Sample Collection Time: 11:20

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3195430001 Final Lab Analysis CompletionDate: 8/31/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 8/16/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.118	D6919-09
BICARBONATE ALKALINITY	213	SM20-2320B
CALCIUM, TOTAL	19.5	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	33.5	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	82	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	27.2	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	29	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	37.5	EPA 300
pH-FIELD (SU)	5.58	FIELD
pH-LAB (SU)	7.62	SM20-4500HB
POTASSIUM, TOTAL	2.7	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	24.7	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	70	FIELD
SPEC. COND., LAB (umhos/cm)	807	SW846 9050A
SULFATE	35.3	EPA 300
ALKALINITY	213	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	342	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.1	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.14	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 8/16/2021

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

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

T Please indicate detection limit if analyte is not detected.



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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

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

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 24.05 "

Longitude: 76 ° 27 ' 30.58 "

Depth to Water Level: 52.72 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.20 ft

Elevation of Water Level: 538.18 ft./MSL

Sampling Depth: 130 ft

Volume of Water Column: 138.76 gal

Total Well Depth: 147.2 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 0.6

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/16/2021

Sample Collection Time: 12:43

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3195430002 Final Lab Analysis CompletionDate: 8/31/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP03AW

Sample Date 8/16/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.122	D6919-09
BICARBONATE ALKALINITY	16	SM20-2320B
CALCIUM, TOTAL	18.5	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	34.4	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	14.1	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	330	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	23.2	EPA 300
pH-FIELD (SU)	5.24	FIELD
pH-LAB (SU)	5.54	SM20-4500HB
POTASSIUM, TOTAL	1.7	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	14.2	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	70	FIELD
SPEC. COND., LAB (umhos/cm)	287	SW846 9050A
SULFATE	2.9	EPA 300
ALKALINITY	16	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	258	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.13	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP03AW

Sample Date 8/16/2021

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

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

T Please indicate detection limit if analyte is not detected.

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

Location (County): Lancaster County

Municipality: _____

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

Depth to Water Level: 11.24 ft Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: _____ ft Elevation of Water Level: 461.64 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: 0.8

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/16/2021 Sample Collection Time: 14:38

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): 3195430003 Final Lab Analysis Completion Date: 8/31/2021

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

Comments: _____

I.D. No 101389

Monitoring Point No. FFMP034W

Sample Date 8/16/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	31	SM20-2320B
CALCIUM, TOTAL	50.2	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	151	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	920	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	19.6	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	82	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	9.6	EPA 300
pH-FIELD (SU)	5.48	FIELD
pH-LAB (SU)	6.12	SM20-4500HB
POTASSIUM, TOTAL	2.8	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	40.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	70	FIELD
SPEC. COND., LAB (umhos/cm)	607	SW846 9050A
SULFATE	32.8	EPA 300
ALKALINITY	31	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	500	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.74	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	63.1	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. FFMP034W

Sample Date 8/16/2021

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

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

T Please indicate detection limit if analyte is not detected.



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Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

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SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP017W

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

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 8.5 "

Longitude: 76 ° 27 ' 6.17 "

Depth to Water Level: 41.17 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.00 ft

Elevation of Water Level: 439.53 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column:	160.57	gal
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Total Well Depth: 150.5 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 0.8

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/17/2021

Sample Collection Time: 10:16

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3195562001 Final Lab Analysis CompletionDate: 8/31/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP017W

Sample Date 8/17/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.268	D6919-09
BICARBONATE ALKALINITY	111	SM20-2320B
CALCIUM, TOTAL	92.5	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	315	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	40	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	1200	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	2	EPA 300
pH-FIELD (SU)	5.9	FIELD
pH-LAB (SU)	6.56	SM20-4500HB
POTASSIUM, TOTAL	8	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	94.5	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1959	FIELD
SPEC. COND., LAB (umhos/cm)	1210	SW846 9050A
SULFATE	78.5	EPA 300
ALKALINITY	111	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	822	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	3.4	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.26	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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I.D. No 101389

Monitoring Point No. FFMP017W

Sample Date 8/17/2021

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

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

T Please indicate detection limit if analyte is not detected.



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Monitoring Point Number: FFMP02DW

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

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 27.74 "

Longitude: 76 ° 27 ' 1.49 "

Depth to Water Level: 20.79 ft

Measured from: Land Surface X TOC

Casing Stickup: _____ ft

Elevation of Water Level: 488.81 ft./MSL

Sampling Depth: 120 ft

Volume of Water Column: _____ gal

Total Well Depth: 152 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 0.4

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/17/2021

Sample Collection Time: 11:40

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3195562002 Final Lab Analysis CompletionDate: 8/31/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP02DW

Sample Date 8/17/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.22	D6919-09
BICARBONATE ALKALINITY	97	SM20-2320B
CALCIUM, TOTAL	132	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	451	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	960	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	22.9	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	470	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	6.2	EPA 300
pH-FIELD (SU)	7.28	FIELD
pH-LAB (SU)	7.79	SM20-4500HB
POTASSIUM, TOTAL	2.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	147	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	2423	FIELD
SPEC. COND., LAB (umhos/cm)	615	SW846 9050A
SULFATE	35.1	EPA 300
ALKALINITY	96	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	1160	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.1	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	8.33	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP02DW

Sample Date 8/17/2021

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

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

T Please indicate detection limit if analyte is not detected.



Date Prepared/Revised
10/15/2021

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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: FFMP02SW

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

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 27.9"

Longitude: 76 ° 27 ' 1.58 "

Depth to Water Level: 15.91 ft

Measured from: Land Surface X TOC

Casing Stickup: _____ ft

Elevation of Water Level: 493.99 ft./MSL

Sampling Depth: 20 ft

Volume of Water Column: _____ gal

Total Well Depth: 25 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 1.4

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/17/2021

Sample Collection Time: 12:07

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): 3195562003 Final Lab Analysis CompletionDate: 8/31/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP02SW

Sample Date 8/17/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	14	SM20-2320B
CALCIUM, TOTAL	24.1	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	28	EPA 410.4
CHLORIDE	152	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	190	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	9.5	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	32	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	12.5	EPA 300
pH-FIELD (SU)	5.23	FIELD
pH-LAB (SU)	5.67	SM20-4500HB
POTASSIUM, TOTAL	4.6	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	90.3	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1017	FIELD
SPEC. COND., LAB (umhos/cm)	310	SW846 9050A
SULFATE	34.5	EPA 300
ALKALINITY	14	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	440	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.8	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	51	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP02SW

Sample Date 8/17/2021

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

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

T Please indicate detection limit if analyte is not detected.



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10/15/2021

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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: FFMP033W

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

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 31.09 "

Longitude: 76° 27' 4.98"

Depth to Water Level: 19.22 ft

Measured from: Land Surface X TOC

Casing Stickup: 0.49 ft

Elevation of Water Level: 497.30 ft./MSL

Sampling Depth: 79 ft

Volume of Water Column:	112.76	gal
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Total Well Depth: 96 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: X Yes No

Well Volumes Purged: 0.9

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/17/2021

Sample Collection Time: 13:22

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3195562004 Final Lab Analysis CompletionDate: 8/31/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP033W

Sample Date 8/17/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.788	D6919-09
BICARBONATE ALKALINITY	42	SM20-2320B
CALCIUM, TOTAL	27.8	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	49.5	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	6200	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	9.8	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	420	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	10.7	EPA 300
pH-FIELD (SU)	5.57	FIELD
pH-LAB (SU)	6.33	SM20-4500HB
POTASSIUM, TOTAL	2	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	14.3	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	526	FIELD
SPEC. COND., LAB (umhos/cm)	272	SW846 9050A
SULFATE	5.9	EPA 300
ALKALINITY	42	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	284	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.56	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	4.02	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP033W

Sample Date 8/17/2021

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
10/15/2021

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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: 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: 39.08 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.00 ft

Elevation of Water Level: 438.22 ft./MSL

Sampling Depth: 55 ft

Volume of Water Column: 28.52 gal

Total Well Depth: 58.5 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 4.1

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

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 8/17/2021

Sample Collection Time: 14:24

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): 3195562005 Final Lab Analysis Completion Date: 8/31/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP029W

Sample Date 8/17/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.132	D6919-09
BICARBONATE ALKALINITY	12	SM20-2320B
CALCIUM, TOTAL	14.9	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	69.4	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	10.3	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	30	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	4	EPA 300
pH-FIELD (SU)	4.86	FIELD
pH-LAB (SU)	5.89	SM20-4500HB
POTASSIUM, TOTAL	2.7	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	23.7	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	462	FIELD
SPEC. COND., LAB (umhos/cm)	330	SW846 9050A
SULFATE	8.2	EPA 300
ALKALINITY	12	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	240	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.22	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP029W

Sample Date 8/17/2021

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

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

T Please indicate detection limit if analyte is not detected.



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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

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

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 15.52 "

Longitude: 76 ° 27 ' 26.8 "

Depth to Water Level: 36.68 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.20 ft

Elevation of Water Level: 525.62 ft./MSL

Sampling Depth: 85 ft

Volume of Water Column:	78.31	gal
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Total Well Depth: 90 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 1.4

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/18/2021

Sample Collection Time: 9:56

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3195850001 Final Lab Analysis CompletionDate: 8/31/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP30RW

Sample Date 8/18/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.151	D6919-09
BICARBONATE ALKALINITY	39	SM20-2320B
CALCIUM, TOTAL	45.8	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	289	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	210	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	17	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	3300	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	5.3	EPA 300
pH-FIELD (SU)	5.39	FIELD
pH-LAB (SU)	6.9	SM20-4500HB
POTASSIUM, TOTAL	8.1	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	119	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1336	FIELD
SPEC. COND., LAB (umhos/cm)	1110	SW846 9050A
SULFATE	43.1	EPA 300
ALKALINITY	39	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	712	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.89	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	3.84	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP30RW

Sample Date 8/18/2021

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

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

T Please indicate detection limit if analyte is not detected.



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QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP04AW

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

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 15.4 "

Longitude: 76° 27' 26.58"

Depth to Water Level: 37.14 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.52 ft

Elevation of Water Level: 523.58 ft./MSL

Sampling Depth: 146 ft

Volume of Water Column:	388.28	gal
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Total Well Depth: 301.52 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: X Yes No

Well Volumes Purged: 0.7

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/18/2021

Sample Collection Time: 11:10

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): 3195850002 Final Lab Analysis CompletionDate: 8/31/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP04AW

Sample Date 8/18/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	183	SM20-2320B
CALCIUM, TOTAL	140	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	336	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	24.9	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	230	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	0.28	EPA 300
pH-FIELD (SU)	6.98	FIELD
pH-LAB (SU)	8.04	SM20-4500HB
POTASSIUM, TOTAL	2.8	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	83.8	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	2130	FIELD
SPEC. COND., LAB (umhos/cm)	1330	SW846 9050A
SULFATE	50.2	EPA 300
ALKALINITY	183	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	1090	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.89	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.5	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP04AW

Sample Date 8/18/2021

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
10/15/2021

DEP USE ONLY

Date Received

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

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

General Reference: Section 273.284

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

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP005W

☒ 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: 72.39 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 1.70 ft

Elevation of Water Level: 465.01 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column: 113.98 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): 8/18/2021

Sample Collection Time: 12:27

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3195850003 Final Lab Analysis CompletionDate: 8/31/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP005W

Sample Date 8/18/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	54	SM20-2320B
CALCIUM, TOTAL	69.4	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	186	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)	140	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	2.2	EPA 300
pH-FIELD (SU)	5.28	FIELD
pH-LAB (SU)	6.84	SM20-4500HB
POTASSIUM, TOTAL	3.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	44.2	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1216	FIELD
SPEC. COND., LAB (umhos/cm)	837	SW846 9050A
SULFATE	60.7	EPA 300
ALKALINITY	54	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	658	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.1	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.19	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP005W

Sample Date 8/18/2021

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
10/15/2021

DEP USE ONLY

Date Received

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

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

General Reference: Section 273.284

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

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP26RW

☒ 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: 84.21 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 3.30 ft

Elevation of Water Level: 463.19 ft./MSL

Sampling Depth: 105 ft

Volume of Water Column: 43.75 gal

Total Well Depth: 114 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 1.2

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

Spring Flow Rate: ☐ gpm

Sample Date (mm/dd/yy): 8/18/2021

Sample Collection Time: 13:37

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): 3195850004 Final Lab Analysis Completion Date: 8/31/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP26RW

Sample Date 8/18/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	48	SM20-2320B
CALCIUM, TOTAL	62.2	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	181	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	18	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	660	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	1.6	EPA 300
pH-FIELD (SU)	5.45	FIELD
pH-LAB (SU)	6.28	SM20-4500HB
POTASSIUM, TOTAL	7.7	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	55.8	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1252	FIELD
SPEC. COND., LAB (umhos/cm)	873	SW846 9050A
SULFATE	80.3	EPA 300
ALKALINITY	48	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	558	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.5	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.22	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP26RW

Sample Date 8/18/2021

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

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

T Please indicate detection limit if analyte is not detected.

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



Date Prepared/Revised
10/15/2021

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: 68.22 ft

Measured from: ☐ Land Surface ☒ TOC

Casing Stickup: 2.38 ft

Elevation of Water Level: 544.44 ft./MSL

Sampling Depth: 130 ft

Volume of Water Column: 105.42 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): 8/18/2021

Sample Collection Time: 14:56

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3195850005 Final Lab Analysis CompletionDate: 8/31/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP031W

Sample Date 8/18/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.195	D6919-09
BICARBONATE ALKALINITY	68	SM20-2320B
CALCIUM, TOTAL	39	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	24.2	EPA 300
FLUORIDE	0.2	EPA 300
IRON, TOTAL (ug/l)	4100	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	3.9	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	340	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	8.11	FIELD
pH-LAB (SU)	7.73	SM20-4500HB
POTASSIUM, TOTAL	1.5	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	9.2	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	472	FIELD
SPEC. COND., LAB (umhos/cm)	325	SW846 9050A
SULFATE	46.3	EPA 300
ALKALINITY	68	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	190	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.6	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	25.5	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. FFMP031W

Sample Date 8/18/2021

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

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

T Please indicate detection limit if analyte is not detected.



Date Prepared/Revised
10/15/2021

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: FFMP035W X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 15.95 " Longitude: 76 ° 26 ' 57.26 "

Depth to Water Level: 42.65 ft Measured from: Land Surface X TOC

Casing Stickup: 1.45 ft Elevation of Water Level: 434.91 ft./MSL

Sampling Depth:	65 ft	Volume of Water Column:	40.17	gal
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Total Well Depth: 70 ft Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: X Yes No Well Volumes Purged: 0.7

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/19/2021 Sample Collection Time: 11:01

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): 3196335001 Final Lab Analysis CompletionDate: 9/7/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP035W

Sample Date 8/19/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	139	SM20-2320B
CALCIUM, TOTAL	93.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	154	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	370	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	18.4	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	330	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	4.4	EPA 300
pH-FIELD (SU)	6.65	FIELD
pH-LAB (SU)	8.87	SM20-4500HB
POTASSIUM, TOTAL	4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	45.4	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	1412	FIELD
SPEC. COND., LAB (umhos/cm)	923	SW846 9050A
SULFATE	56.1	EPA 300
ALKALINITY	160	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	608	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.6	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	3.5	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. FFMP035W

Sample Date 8/19/2021

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

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

T Please indicate detection limit if analyte is not detected.



Date Prepared/Revised
10/15/2021

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

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

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 16.03 "

Longitude: 76° 26' 57.28"

Depth to Water Level: 41.15 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.91 ft

Elevation of Water Level: 437.08 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column: 145.18 gal

Total Well Depth: 140 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 0.7

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/19/2021

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): 3196335002 Final Lab Analysis CompletionDate: 9/7/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP036W

Sample Date 8/19/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	41	SM20-2320B
CALCIUM, TOTAL	15.3	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	34.6	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	2900	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	2.9	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	120	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	8.05	FIELD
pH-LAB (SU)	7.61	SM20-4500HB
POTASSIUM, TOTAL	1.9	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	14.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	320	FIELD
SPEC. COND., LAB (umhos/cm)	204	SW846 9050A
SULFATE	2 ND	EPA 300
ALKALINITY	41	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	116	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.88	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	17.6	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. FFMP036W

Sample Date 8/19/2021

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

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

T Please indicate detection limit if analyte is not detected.



Date Prepared/Revised
10/15/2021

DEP USE ONLY

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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: FFMP019W

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

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 11.58 "

Longitude: 76° 27' 5.75"

Depth to Water Level: 27.76 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.79 ft

Elevation of Water Level: 444.19 ft./MSL

Sampling Depth: 49 ft

Volume of Water Column: 68.56 gal

Total Well Depth: 132.79 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 2.1

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/19/2021

Sample Collection Time: 13:26

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): 3196335003 Final Lab Analysis CompletionDate: 9/7/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP019W

Sample Date 8/19/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	65	SM20-2320B
CALCIUM, TOTAL	59.5	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	91	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	6	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	5.6 ND	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	0.42	EPA 300
pH-FIELD (SU)	6.35	FIELD
pH-LAB (SU)	7.24	SM20-4500HB
POTASSIUM, TOTAL	0.92	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	10.6	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	725	FIELD
SPEC. COND., LAB (umhos/cm)	514	SW846 9050A
SULFATE	16.8	EPA 300
ALKALINITY	65	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	358	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	2.2	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.19	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP019W

Sample Date 8/19/2021

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

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

T Please indicate detection limit if analyte is not detected.



Date Prepared/Revised
10/15/2021

DEP USE ONLY

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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

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

Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 11.62 "

Longitude: 76° 27' 5.68"

Depth to Water Level: 27.02 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.46 ft

Elevation of Water Level: 445.18 ft./MSL

Sampling Depth: 40 ft

Volume of Water Column:	15.93	gal
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Total Well Depth: 51.43 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 3.1

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/19/2021

Sample Collection Time: 13:52

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): 3196335004 Final Lab Analysis CompletionDate: 9/7/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP018W

Sample Date 8/19/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	21	SM20-2320B
CALCIUM, TOTAL	30.7	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	108	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	16.3	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	150	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	5.5	EPA 300
pH-FIELD (SU)	5.08	FIELD
pH-LAB (SU)	5.92	SM20-4500HB
POTASSIUM, TOTAL	4.4	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	33.1	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	816	FIELD
SPEC. COND., LAB (umhos/cm)	570	SW846 9050A
SULFATE	40.1	EPA 300
ALKALINITY	21	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	372	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.68	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	0.39	SM 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP018W

Sample Date 8/19/2021

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

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

T Please indicate detection limit if analyte is not detected.



Date Prepared/Revised
10/15/2021

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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

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

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

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point: Latitude: 39 ° 57 ' 32.25 "

Longitude: 76 ° 27 ' 24.03 "

Depth to Water Level: 68.32 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.60 ft

Elevation of Water Level: 544.88 ft./MSL

Sampling Depth: 85 ft

Volume of Water Column:	148.74	gal
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Total Well Depth: 169.6 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 0.7

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/19/2021

Sample Collection Time: 14:33

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: ALS Environmental

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

Lab Accreditation Number(s): 22-293

Lab Sample Number(s): 3196335005 Final Lab Analysis CompletionDate: 9/7/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP002W

Sample Date 8/19/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	D6919-09
BICARBONATE ALKALINITY	5 ND	SM20-2320B
CALCIUM, TOTAL	18.2	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	21.3	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	7.5	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	230	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	20.5	EPA 300
pH-FIELD (SU)	4.59	FIELD
pH-LAB (SU)	5.02	SM20-4500HB
POTASSIUM, TOTAL	1.3	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	13.4	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	426	FIELD
SPEC. COND., LAB (umhos/cm)	282	SW846 9050A
SULFATE	20.3	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	246	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.63	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. FFMP002W

Sample Date 8/19/2021

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

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

T Please indicate detection limit if analyte is not detected.



Date Prepared/Revised
10/15/2021

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

General Reference: Section 273.284

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

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP032W

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

X	Upgradient/Upstream	Downgradient/Downstream
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11	1	1
12	1	1
13	1	1
14	1	1
15	1	1
16	1	1
17	1	1
18	1	1
19	1	1
20	1	1
21	1	1
22	1	1
23	1	1
24	1	1
25	1	1
26	1	1
27	1	1
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29	1	1
30	1	1
31	1	1
32	1	1
33	1	1
34	1	1
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36	1	1
37	1	1
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42	1	1
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68	1	1
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80	1	1
81	1	1
82	1	1
83	1	1
84	1	1
85	1	1
86	1	1
87	1	1
88	1	1
89	1	1
90	1	1
91	1	1
92	1	1
93	1	1
94	1	1
95	1	1
96	1	1
97	1	1
98	1	1
99	1	1
100	1	1

Location (County): Lancaster County

Municipality: MANOR TOWNSHIP

Sampling Point: Latitude: 39 ° 57 ' 33.45 "

Longitude: 76 ° 27 ' 17.71 "

Depth to Water Level: 52.16 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.06 ft

Elevation of Water Level: 541.93 ft./MSL

Sampling Depth: 62 ft

Volume of Water Column:	33.54	gal
-------------------------	-------	-----

Total Well Depth: 75 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 0.2

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 8/19/2021

Sample Collection Time: 15:04

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): 3196335006 Final Lab Analysis CompletionDate: 9/7/2021

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

Comments:

I.D. No 101389

Monitoring Point No. FFMP032W

Sample Date 8/19/2021

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.49	D6919-09
BICARBONATE ALKALINITY	63	SM20-2320B
CALCIUM, TOTAL	14.6	SW846 6010C
CALCIUM, DISSOLVED		SW846 6010C
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	22.3	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	6100	SW846 6010C
IRON, DISSOLVED (ug/l)		SW846 6010C
MAGNESIUM, TOTAL	5.6	SW846 6010C
MAGNESIUM, DISSOLVED		SW846 6010C
MANGANESE, TOTAL (ug/l)	600	SW846 6010C
MANGANESE, DISSOLVED (ug/l)		SW846 6010C
NITRATE-NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.96	FIELD
pH-LAB (SU)	7.4	SM20-4500HB
POTASSIUM, TOTAL	1.3	SW846 6010C
POTASSIUM, DISSOLVED		SW846 6010C
SODIUM, TOTAL	12.6	SW846 6010C
SODIUM, DISSOLVED		SW846 6010C
SPEC. COND., FIELD (umhos/cm)	320	FIELD
SPEC. COND., LAB (umhos/cm)	217	SW846 9050A
SULFATE	2 ND	EPA 300
ALKALINITY	63	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	130	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.62	SW846 9060A
TOTAL PHENOLICS (ug/l)	5 ND	SW846 9066
TURBIDITY (N.T.U.)	87.9	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 8/19/2021

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

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

T Please indicate detection limit if analyte is not detected.

September 16, 2021

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

Certificate of Analysis

Project Name:	FREY FARM	Workorder:	3195850
Purchase Order:	PO-1000371	Workorder ID:	3RD QTR 2021 GWMP-FORM 19Q

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, August 18, 2021.

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

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

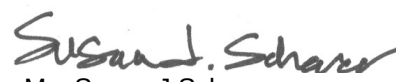
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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

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

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

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


Ms. Susan J Scherer
Project Coordinator

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**SAMPLE SUMMARY**

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3195850001	FFMP30RW	Ground Water	8/18/2021 09:56	8/18/2021 16:20	Mr. Brian G Shade
3195850002	FFMP04AW	Ground Water	8/18/2021 11:10	8/18/2021 16:20	Mr. Brian G Shade
3195850003	FFMP005W	Ground Water	8/18/2021 12:27	8/18/2021 16:20	Mr. Brian G Shade
3195850004	FFMP26RW	Ground Water	8/18/2021 13:37	8/18/2021 16:20	Mr. Brian G Shade
3195850005	FFMP031W	Ground Water	8/18/2021 14:56	8/18/2021 16:20	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Notes

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

Standard Acronyms/Flags

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

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ALS Environmental



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

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

PROJECT SUMMARY

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Workorder Comments

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

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ANALYTICAL RESULTS

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195850001**

Date Collected: 8/18/2021 09:56

Matrix: Ground Water

Sample ID: **FFMP30RW**

Date Received: 8/18/2021 16:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/21/21 01:31	PDK	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:31	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	88.5	C	%	62 - 133	SW846 8260B			8/21/21 01:31	PDK	G
4-Bromofluorobenzene (S)	109	C	%	79 - 114	SW846 8260B			8/21/21 01:31	PDK	G
Dibromofluoromethane (S)	96.5	C	%	78 - 116	SW846 8260B			8/21/21 01:31	PDK	G
Toluene-d8 (S)	97	C	%	76 - 127	SW846 8260B			8/21/21 01:31	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	39	C	mg/L	5	SM2320B-2011			8/24/21 04:14	MBS	B
Alkalinity, Total	39	C,2	mg/L	5	SM2320B-2011			8/24/21 04:14	MBS	I
Ammonia-N	0.151	C	mg/L	0.100	ASTM D6919-09			8/26/21 15:46	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			8/24/21 14:26	ALK	A
Chloride	289	C	mg/L	2.0	EPA 300.0			8/19/21 11:13	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/19/21 11:13	MBW	B
Nitrate-N	5.3	C	mg/L	0.20	EPA 300.0			8/19/21 11:13	MBW	B
pH	6.90	C,1	pH_Units		S4500HB-11			8/24/21 04:14	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	1110	C	umhos/cm	1	SW846 9050A			8/24/21 16:30	MBS	B
Sulfate	43.1	C	mg/L	2.0	EPA 300.0			8/19/21 11:13	MBW	B
Total Dissolved Solids	712	C	mg/L	25	S2540C-11			8/20/21 10:23	BBD	B
Total Organic Carbon (TOC)	0.89	C	mg/L	0.50	SW846 9060A			8/24/21 18:50	PAG	D
Turbidity	3.84	C	NTU	0.10	SM2130B-2011			8/19/21 11:39	LXZ	B

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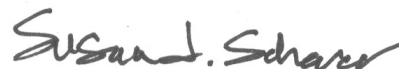
ANALYTICAL RESULTS

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195850001**
Sample ID: **FFMP30RW**

Date Collected: 8/18/2021 09:56 Matrix: Ground Water
Date Received: 8/18/2021 16:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	45.8	C	mg/L	0.11	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:19	SRT	J3
Iron, Total	0.21	C	mg/L	0.067	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:19	SRT	J3
Magnesium, Total	17.0	C	mg/L	0.11	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:19	SRT	J3
Manganese, Total	3.3	C	mg/L	0.0056	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:19	SRT	J3
Potassium, Total	8.1	C	mg/L	0.56	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:19	SRT	J3
Sodium, Total	119	C	mg/L	0.56	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:19	SRT	J3
FIELD PARAMETERS										
Depth to Water Level	36.68	C	Feet		Field			8/18/21 09:56	BGS	C
Dissolved Oxygen	0.88	C	mg/L	0.01	Field			8/18/21 09:56	BGS	C
Elev Top MW Casing above MSL	562.30	C	Feet		Field			8/18/21 09:56	BGS	C
Flow Rate	1.93	C	gal/min		Field			8/18/21 09:56	BGS	C
Ground Water Elevation	525.62	C	ft/MSL		Field			8/18/21 09:56	BGS	C
Oxidation-Reduction Potential	268	C	mV		Field			8/18/21 09:56	BGS	C
pH, Field (SM4500B)	5.39	C	pH_Units		Field			8/18/21 09:56	BGS	C
Sample Depth	85.00	C	Feet		Field			8/18/21 09:56	BGS	C
Specific Conductance, Field	1336	C	umhos/cm	1	Field			8/18/21 09:56	BGS	C
Temperature	14.18	C	Deg. C		Field			8/18/21 09:56	BGS	C
Total Well Depth	94.20	C	Feet		Field			8/18/21 09:56	BGS	C
Turbidity, Field	4	C	NTU	1	Field			8/18/21 09:56	BGS	C
Volume in Water Column	84.55	C	Gallons		Field			8/18/21 09:56	BGS	C
Water Level After Purge	63.41	C	Feet		Field			8/18/21 09:56	BGS	C
Well Volumes Purged	1.37	C	Vol		Field			8/18/21 09:56	BGS	C


Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195850002**

Date Collected: 8/18/2021 11:10

Matrix: Ground Water

Sample ID: **FFMP04AW**

Date Received: 8/18/2021 16:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/21/21 01:54	PDK	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:54	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	92.1	C	%	62 - 133	SW846 8260B			8/21/21 01:54	PDK	G
4-Bromofluorobenzene (S)	112	C	%	79 - 114	SW846 8260B			8/21/21 01:54	PDK	G
Dibromofluoromethane (S)	98.1	C	%	78 - 116	SW846 8260B			8/21/21 01:54	PDK	G
Toluene-d8 (S)	98.2	C	%	76 - 127	SW846 8260B			8/21/21 01:54	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	183	C	mg/L	5	SM2320B-2011			8/24/21 04:14	MBS	B
Alkalinity, Total	183	C,2	mg/L	5	SM2320B-2011			8/24/21 04:14	MBS	I
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			8/28/21 03:50	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			8/24/21 14:26	ALK	A
Chloride	336	C	mg/L	2.0	EPA 300.0			8/19/21 11:30	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/19/21 11:30	MBW	B
Nitrate-N	0.28	C	mg/L	0.20	EPA 300.0			8/19/21 11:30	MBW	B
pH	8.04	C,1	pH_Units		S4500HB-11			8/24/21 04:14	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	1330	C	umhos/cm	2	SW846 9050A			8/24/21 16:30	MBS	B
Sulfate	50.2	C	mg/L	2.0	EPA 300.0			8/19/21 11:30	MBW	B
Total Dissolved Solids	1090	C	mg/L	25	S2540C-11			8/20/21 10:23	BBD	B
Total Organic Carbon (TOC)	0.89	C	mg/L	0.50	SW846 9060A			8/24/21 21:28	PAG	D
Turbidity	0.50	C	NTU	0.10	SM2130B-2011			8/19/21 11:39	LXZ	B

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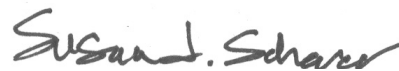
ANALYTICAL RESULTS

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195850002**
Sample ID: **FFMP04AW**

Date Collected: 8/18/2021 11:10 Matrix: Ground Water
Date Received: 8/18/2021 16:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	140	C	mg/L	0.11	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:29	SRT	J3
Iron, Total	ND	C	mg/L	0.067	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:29	SRT	J3
Magnesium, Total	24.9	C	mg/L	0.11	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:29	SRT	J3
Manganese, Total	0.23	C	mg/L	0.0056	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:29	SRT	J3
Potassium, Total	2.8	C	mg/L	0.56	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:29	SRT	J3
Sodium, Total	83.8	C	mg/L	0.56	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:29	SRT	J3
FIELD PARAMETERS										
Depth to Water Level	37.14	C	Feet		Field			8/18/21 11:10	BGS	C
Dissolved Oxygen	ND	C	mg/L	0.01	Field			8/18/21 11:10	BGS	C
Elev Top MW Casing above MSL	560.72	C	Feet		Field			8/18/21 11:10	BGS	C
Flow Rate	1.82	C	gal/min		Field			8/18/21 11:10	BGS	C
Ground Water Elevation	523.58	C	ft/MSL		Field			8/18/21 11:10	BGS	C
Oxidation-Reduction Potential	87	C	mV		Field			8/18/21 11:10	BGS	C
pH, Field (SM4500B)	6.98	C	pH_Units		Field			8/18/21 11:10	BGS	C
Sample Depth	146.00	C	Feet		Field			8/18/21 11:10	BGS	C
Specific Conductance, Field	2130	C	umhos/cm	1	Field			8/18/21 11:10	BGS	C
Temperature	14.92	C	Deg. C		Field			8/18/21 11:10	BGS	C
Total Well Depth	148.50	C	Feet		Field			8/18/21 11:10	BGS	C
Turbidity, Field	ND	C	NTU	1	Field			8/18/21 11:10	BGS	C
Volume in Water Column	163.70	C	Gallons		Field			8/18/21 11:10	BGS	C
Water Level After Purge	79.44	C	Feet		Field			8/18/21 11:10	BGS	C
Well Volumes Purged	0.67	C	Vol		Field			8/18/21 11:10	BGS	C


Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195850003**

Date Collected: 8/18/2021 12:27

Matrix: Ground Water

Sample ID: **FFMP005W**

Date Received: 8/18/2021 16:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/21/21 02:16	PDK	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:16	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	89.3	C	%	62 - 133	SW846 8260B			8/21/21 02:16	PDK	G
4-Bromofluorobenzene (S)	110	C	%	79 - 114	SW846 8260B			8/21/21 02:16	PDK	G
Dibromofluoromethane (S)	97.6	C	%	78 - 116	SW846 8260B			8/21/21 02:16	PDK	G
Toluene-d8 (S)	98.4	C	%	76 - 127	SW846 8260B			8/21/21 02:16	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	54	C	mg/L	5	SM2320B-2011			8/24/21 04:14	MBS	B
Alkalinity, Total	54	C,2	mg/L	5	SM2320B-2011			8/24/21 04:14	MBS	I
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			8/26/21 15:33	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			8/24/21 14:26	ALK	A
Chloride	186	C	mg/L	2.0	EPA 300.0			8/19/21 11:47	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/19/21 11:47	MBW	B
Nitrate-N	2.2	C	mg/L	0.20	EPA 300.0			8/19/21 11:47	MBW	B
pH	6.84	C,1	pH_Units		S4500HB-11			8/24/21 04:14	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	837	C	umhos/cm	1	SW846 9050A			8/24/21 16:30	MBS	B
Sulfate	60.7	C	mg/L	2.0	EPA 300.0			8/19/21 11:47	MBW	B
Total Dissolved Solids	658	C	mg/L	25	S2540C-11			8/20/21 10:23	BBD	B
Total Organic Carbon (TOC)	1.1	C	mg/L	0.50	SW846 9060A			8/24/21 21:28	PAG	D
Turbidity	0.19	C	NTU	0.10	SM2130B-2011			8/19/21 11:39	LXZ	B

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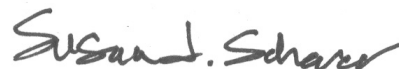
ANALYTICAL RESULTS

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195850003**
Sample ID: **FFMP005W**

Date Collected: 8/18/2021 12:27 Matrix: Ground Water
Date Received: 8/18/2021 16:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	69.4	C	mg/L	0.11	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:37	SRT	J3
Iron, Total	ND	C	mg/L	0.067	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:37	SRT	J3
Magnesium, Total	17.4	C	mg/L	0.11	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:37	SRT	J3
Manganese, Total	0.14	C	mg/L	0.0056	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:37	SRT	J3
Potassium, Total	3.4	C	mg/L	0.56	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:37	SRT	J3
Sodium, Total	44.2	C	mg/L	0.56	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:37	SRT	J3
FIELD PARAMETERS										
Depth to Water Level	72.39	C	Feet		Field			8/18/21 12:37	BGS	C
Dissolved Oxygen	ND	C	mg/L	0.01	Field			8/18/21 12:37	BGS	C
Elev Top MW Casing above MSL	537.40	C	Feet		Field			8/18/21 12:37	BGS	C
Flow Rate	1.85	C	gal/min		Field			8/18/21 12:37	BGS	C
Ground Water Elevation	465.01	C	ft/MSL		Field			8/18/21 12:37	BGS	C
Oxidation-Reduction Potential	595	C	mV		Field			8/18/21 12:37	BGS	C
pH, Field (SM4500B)	5.28	C	pH_Units		Field			8/18/21 12:37	BGS	C
Sample Depth	135.00	C	Feet		Field			8/18/21 12:37	BGS	C
Specific Conductance, Field	1216	C	umhos/cm	1	Field			8/18/21 12:37	BGS	C
Temperature	13.88	C	Deg. C		Field			8/18/21 12:37	BGS	C
Total Well Depth	149.70	C	Feet		Field			8/18/21 12:37	BGS	C
Turbidity, Field	ND	C	NTU	1	Field			8/18/21 12:37	BGS	C
Volume in Water Column	113.65	C	Gallons		Field			8/18/21 12:37	BGS	C
Water Level After Purge	94.28	C	Feet		Field			8/18/21 12:37	BGS	C
Well Volumes Purged	0.98	C	Vol		Field			8/18/21 12:37	BGS	C


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ANALYTICAL RESULTS

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195850004**

Date Collected: 8/18/2021 13:37

Matrix: Ground Water

Sample ID: **FFMP26RW**

Date Received: 8/18/2021 16:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/21/21 02:38	PDK	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 02:38	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	89.8	C	%	62 - 133	SW846 8260B			8/21/21 02:38	PDK	G
4-Bromofluorobenzene (S)	109	C	%	79 - 114	SW846 8260B			8/21/21 02:38	PDK	G
Dibromofluoromethane (S)	96.7	C	%	78 - 116	SW846 8260B			8/21/21 02:38	PDK	G
Toluene-d8 (S)	96.4	C	%	76 - 127	SW846 8260B			8/21/21 02:38	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	48	C	mg/L	5	SM2320B-2011			8/26/21 23:54	MBS	B
Alkalinity, Total	48	C,2	mg/L	5	SM2320B-2011			8/26/21 23:54	MBS	I
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			8/26/21 10:48	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			8/24/21 14:26	ALK	A
Chloride	181	C	mg/L	2.0	EPA 300.0			8/19/21 13:46	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/19/21 13:46	MBW	B
Nitrate-N	1.6	C	mg/L	0.20	EPA 300.0			8/19/21 13:46	MBW	B
pH	6.28	C,1	pH_Units		S4500HB-11			8/26/21 23:54	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	873	C	umhos/cm	1	SW846 9050A			8/24/21 16:30	MBS	B
Sulfate	80.3	C	mg/L	2.0	EPA 300.0			8/19/21 13:46	MBW	B
Total Dissolved Solids	558	C	mg/L	25	S2540C-11			8/20/21 10:23	BBD	B
Total Organic Carbon (TOC)	1.5	C	mg/L	0.50	SW846 9060A			8/24/21 21:28	PAG	D
Turbidity	0.22	C	NTU	0.10	SM2130B-2011			8/19/21 11:39	LXZ	B

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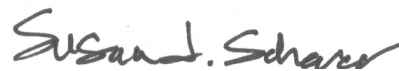
ANALYTICAL RESULTS

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195850004**
Sample ID: **FFMP26RW**

Date Collected: 8/18/2021 13:37 Matrix: Ground Water
Date Received: 8/18/2021 16:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	62.2	C	mg/L	0.11	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:41	SRT	J3
Iron, Total	ND	C	mg/L	0.067	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:41	SRT	J3
Magnesium, Total	18.0	C	mg/L	0.11	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:41	SRT	J3
Manganese, Total	0.66	C	mg/L	0.0056	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:41	SRT	J3
Potassium, Total	7.7	C	mg/L	0.56	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:41	SRT	J3
Sodium, Total	55.8	C	mg/L	0.56	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:41	SRT	J3
FIELD PARAMETERS										
Depth to Water Level	84.21	C	Feet		Field			8/18/21 13:57	BGS	C
Dissolved Oxygen	ND	C	mg/L	0.01	Field			8/18/21 13:57	BGS	C
Elev Top MW Casing above MSL	547.40	C	Feet		Field			8/18/21 13:57	BGS	C
Flow Rate	0.98	C	gal/min		Field			8/18/21 13:57	BGS	C
Ground Water Elevation	463.19	C	ft/MSL		Field			8/18/21 13:57	BGS	C
Oxidation-Reduction Potential	439	C	mV		Field			8/18/21 13:57	BGS	C
pH, Field (SM4500B)	5.45	C	pH_Units		Field			8/18/21 13:57	BGS	C
Sample Depth	105.00	C	Feet		Field			8/18/21 13:57	BGS	C
Specific Conductance, Field	1252	C	umhos/cm	1	Field			8/18/21 13:57	BGS	C
Temperature	16.06	C	Deg. C		Field			8/18/21 13:57	BGS	C
Total Well Depth	118.30	C	Feet		Field			8/18/21 13:57	BGS	C
Turbidity, Field	ND	C	NTU	1	Field			8/18/21 13:57	BGS	C
Volume in Water Column	50.11	C	Gallons		Field			8/18/21 13:57	BGS	C
Water Level After Purge	90.45	C	Feet		Field			8/18/21 13:57	BGS	C
Well Volumes Purged	1.18	C	Vol		Field			8/18/21 13:57	BGS	C


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ANALYTICAL RESULTS

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195850005**

Date Collected: 8/18/2021 14:56

Matrix: Ground Water

Sample ID: **FFMP031W**

Date Received: 8/18/2021 16:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/21/21 03:01	PDK	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:01	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	90.9	C	%	62 - 133	SW846 8260B			8/21/21 03:01	PDK	G
4-Bromofluorobenzene (S)	109	C	%	79 - 114	SW846 8260B			8/21/21 03:01	PDK	G
Dibromofluoromethane (S)	99.8	C	%	78 - 116	SW846 8260B			8/21/21 03:01	PDK	G
Toluene-d8 (S)	97.7	C	%	76 - 127	SW846 8260B			8/21/21 03:01	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	68	C	mg/L	5	SM2320B-2011			8/26/21 23:54	MBS	B
Alkalinity, Total	68	C,2	mg/L	5	SM2320B-2011			8/26/21 23:54	MBS	I
Ammonia-N	0.195	C	mg/L	0.100	ASTM D6919-09			8/26/21 15:06	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			8/24/21 14:26	ALK	A
Chloride	24.2	C	mg/L	2.0	EPA 300.0			8/19/21 14:04	MBW	B
Fluoride	0.20	C	mg/L	0.20	EPA 300.0			8/19/21 14:04	MBW	B
Nitrate-N	ND	C	mg/L	0.20	EPA 300.0			8/19/21 14:04	MBW	B
pH	7.73	C,1	pH_Units		S4500HB-11			8/26/21 23:54	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	325	C	umhos/cm	1	SW846 9050A			8/24/21 16:30	MBS	B
Sulfate	46.3	C	mg/L	2.0	EPA 300.0			8/19/21 14:04	MBW	B
Total Dissolved Solids	190	C	mg/L	25	S2540C-11			8/20/21 10:23	BBD	B
Total Organic Carbon (TOC)	0.60	C	mg/L	0.50	SW846 9060A			8/24/21 21:28	PAG	D
Turbidity	25.5	C	NTU	0.10	SM2130B-2011			8/19/21 11:39	LXZ	B

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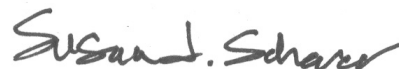
ANALYTICAL RESULTS

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195850005**
Sample ID: **FFMP031W**

Date Collected: 8/18/2021 14:56 Matrix: Ground Water
Date Received: 8/18/2021 16:20

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	39.0	C	mg/L	0.11	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:44	SRT	J3
Iron, Total	4.1	C	mg/L	0.067	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:44	SRT	J3
Magnesium, Total	3.9	C	mg/L	0.11	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:44	SRT	J3
Manganese, Total	0.34	C	mg/L	0.0056	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:44	SRT	J3
Potassium, Total	1.5	C	mg/L	0.56	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:44	SRT	J3
Sodium, Total	9.2	C	mg/L	0.56	SW846 6010C	8/22/21 14:40	AHI	8/23/21 12:44	SRT	J3
FIELD PARAMETERS										
Depth to Water Level	68.22	C	Feet		Field			8/18/21 14:56	BGS	C
Dissolved Oxygen	ND	C	mg/L	0.01	Field			8/18/21 14:56	BGS	C
Elev Top MW Casing above MSL	612.66	C	Feet		Field			8/18/21 14:56	BGS	C
Flow Rate	1.52	C	gal/min		Field			8/18/21 14:56	BGS	C
Ground Water Elevation	544.44	C	ft/MSL		Field			8/18/21 14:56	BGS	C
Oxidation-Reduction Potential	-317	C	mV		Field			8/18/21 14:56	BGS	C
pH, Field (SM4500B)	8.11	C	pH_Units		Field			8/18/21 14:56	BGS	C
Sample Depth	130.00	C	Feet		Field			8/18/21 14:56	BGS	C
Specific Conductance, Field	472	C	umhos/cm	1	Field			8/18/21 14:56	BGS	C
Temperature	17.51	C	Deg. C		Field			8/18/21 14:56	BGS	C
Total Well Depth	142.70	C	Feet		Field			8/18/21 14:56	BGS	C
Turbidity, Field	1	C	NTU	1	Field			8/18/21 14:56	BGS	C
Volume in Water Column	109.49	C	Gallons		Field			8/18/21 14:56	BGS	C
Water Level After Purge	102.69	C	Feet		Field			8/18/21 14:56	BGS	C
Well Volumes Purged	0.83	C	Vol		Field			8/18/21 14:56	BGS	C


Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3195850001	1	FFMP30RW	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195850001	2	FFMP30RW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3195850002	1	FFMP04AW	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195850002	2	FFMP04AW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3195850003	1	FFMP005W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195850003	2	FFMP005W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3195850004	1	FFMP26RW	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195850004	2	FFMP26RW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3195850005	1	FFMP031W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195850005	2	FFMP031W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3195850001	FFMP30RW	ASTM D6919-09		
3195850001	FFMP30RW	EPA 300.0		
3195850001	FFMP30RW	EPA 410.4		
3195850001	FFMP30RW	Field		
3195850001	FFMP30RW	S2540C-11		
3195850001	FFMP30RW	S4500HB-11		
3195850001	FFMP30RW	SM2130B-2011		
3195850001	FFMP30RW	SM2320B-2011		
3195850001	FFMP30RW	SW846 6010C	SW846 3015	
3195850001	FFMP30RW	SW846 8260B		
3195850001	FFMP30RW	SW846 9050A		
3195850001	FFMP30RW	SW846 9060A		
3195850001	FFMP30RW	SW846 9066	420.4/9066	
3195850002	FFMP04AW	ASTM D6919-09		
3195850002	FFMP04AW	EPA 300.0		
3195850002	FFMP04AW	EPA 410.4		
3195850002	FFMP04AW	Field		
3195850002	FFMP04AW	S2540C-11		
3195850002	FFMP04AW	S4500HB-11		
3195850002	FFMP04AW	SM2130B-2011		
3195850002	FFMP04AW	SM2320B-2011		
3195850002	FFMP04AW	SW846 6010C	SW846 3015	
3195850002	FFMP04AW	SW846 8260B		
3195850002	FFMP04AW	SW846 9050A		
3195850002	FFMP04AW	SW846 9060A		
3195850002	FFMP04AW	SW846 9066	420.4/9066	
3195850003	FFMP005W	ASTM D6919-09		
3195850003	FFMP005W	EPA 300.0		
3195850003	FFMP005W	EPA 410.4		
3195850003	FFMP005W	Field		
3195850003	FFMP005W	S2540C-11		
3195850003	FFMP005W	S4500HB-11		
3195850003	FFMP005W	SM2130B-2011		
3195850003	FFMP005W	SM2320B-2011		
3195850003	FFMP005W	SW846 6010C	SW846 3015	
3195850003	FFMP005W	SW846 8260B		
3195850003	FFMP005W	SW846 9050A		
3195850003	FFMP005W	SW846 9060A		
3195850003	FFMP005W	SW846 9066	420.4/9066	
3195850004	FFMP26RW	ASTM D6919-09		
3195850004	FFMP26RW	EPA 300.0		
3195850004	FFMP26RW	EPA 410.4		
3195850004	FFMP26RW	Field		
3195850004	FFMP26RW	S2540C-11		
3195850004	FFMP26RW	S4500HB-11		
3195850004	FFMP26RW	SM2130B-2011		

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3195850 3RD QTR 2021 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3195850004	FFMP26RW	SM2320B-2011		
3195850004	FFMP26RW	SW846 6010C	SW846 3015	
3195850004	FFMP26RW	SW846 8260B		
3195850004	FFMP26RW	SW846 9050A		
3195850004	FFMP26RW	SW846 9060A		
3195850004	FFMP26RW	SW846 9066	420.4/9066	
3195850005	FFMP031W	ASTM D6919-09		
3195850005	FFMP031W	EPA 300.0		
3195850005	FFMP031W	EPA 410.4		
3195850005	FFMP031W	Field		
3195850005	FFMP031W	S2540C-11		
3195850005	FFMP031W	S4500HB-11		
3195850005	FFMP031W	SM2130B-2011		
3195850005	FFMP031W	SM2320B-2011		
3195850005	FFMP031W	SW846 6010C	SW846 3015	
3195850005	FFMP031W	SW846 8260B		
3195850005	FFMP031W	SW846 9050A		
3195850005	FFMP031W	SW846 9060A		
3195850005	FFMP031W	SW846 9066	420.4/9066	

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301 Fulling Mill Road
Middletown, PA 17057

P: (717) 944-5541
F: (717) 944-1430

3195850

ion of Sample Receipt Form

Lancaster County Solid Waste
Authority

Client: _____ Wc

Initials: AS

Date: 8/20/21

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

Cooler #: _____

Temperature (°C): 1 _____

Thermometer ID: 573 _____

Radiological (µCi): _____

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

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

Rev 1/20/2020

September 17, 2021

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

Certificate of Analysis

Project Name:	FREY FARM	Workorder:	3195430
Purchase Order:	PO-1000371	Workorder ID:	3RD QTR 2021 GWMP-FORM 19Q

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Monday, August 16, 2021.

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

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

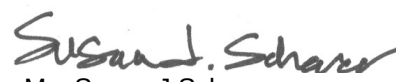
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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

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

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

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


Ms. Susan J Scherer
Project Coordinator

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**SAMPLE SUMMARY**

Workorder: 3195430 3RD QTR 2021 GWMP-FORM 19Q

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3195430001	FFMP015W	Ground Water	8/16/2021 11:20	8/16/2021 16:00	Mr. Brian G Shade
3195430002	FFMP03AW	Ground Water	8/16/2021 12:43	8/16/2021 16:00	Mr. Brian G Shade
3195430003	FFMP034W	Ground Water	8/16/2021 14:38	8/16/2021 16:00	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3195430 3RD QTR 2021 GWMP-FORM 19Q

Notes

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

Standard Acronyms/Flags

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

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PROJECT SUMMARY

Workorder: 3195430 3RD QTR 2021 GWMP-FORM 19Q

Workorder Comments

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

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ANALYTICAL RESULTS

Workorder: 3195430 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195430001**

Date Collected: 8/16/2021 11:20

Matrix: Ground Water

Sample ID: **FFMP015W**

Date Received: 8/16/2021 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/21/21 00:47	PDK	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 00:47	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	90.4	C	%	62 - 133	SW846 8260B			8/21/21 00:47	PDK	G
4-Bromofluorobenzene (S)	108	C	%	79 - 114	SW846 8260B			8/21/21 00:47	PDK	G
Dibromofluoromethane (S)	95	C	%	78 - 116	SW846 8260B			8/21/21 00:47	PDK	G
Toluene-d8 (S)	94.1	C	%	76 - 127	SW846 8260B			8/21/21 00:47	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	213	C	mg/L	5	SM2320B-2011			8/19/21 23:58	MBS	B
Alkalinity, Total	213	C,2	mg/L	5	SM2320B-2011			8/19/21 23:58	MBS	I
Ammonia-N	0.118	C	mg/L	0.100	ASTM D6919-09			8/21/21 00:25	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			8/24/21 13:15	ALK	A
Chloride	33.5	C	mg/L	2.0	EPA 300.0			8/17/21 04:54	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/17/21 04:54	MBW	B
Nitrate-N	37.5	C	mg/L	0.20	EPA 300.0			8/17/21 04:54	MBW	B
pH	7.62	C,1	pH_Units		S4500HB-11			8/19/21 23:58	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	807	C	umhos/cm	1	SW846 9050A			8/21/21 05:09	MBS	B
Sulfate	35.3	C	mg/L	2.0	EPA 300.0			8/17/21 04:54	MBW	B
Total Dissolved Solids	342	C	mg/L	25	S2540C-11			8/19/21 10:51	BBD	B
Total Organic Carbon (TOC)	1.1	C	mg/L	0.50	SW846 9060A			8/19/21 21:33	PAG	D
Turbidity	0.14	C	NTU	0.10	SM2130B-2011			8/16/21 07:20	LXZ	B

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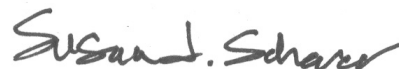
ANALYTICAL RESULTS

Workorder: 3195430 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195430001**
Sample ID: **FFMP015W**

Date Collected: 8/16/2021 11:20 Matrix: Ground Water
Date Received: 8/16/2021 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	19.5	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 10:58	SRT	J1
Iron, Total	0.082	C	mg/L	0.067	SW846 6010C	8/19/21 08:40	SRT	8/19/21 10:58	SRT	J1
Magnesium, Total	27.2	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 10:58	SRT	J1
Manganese, Total	0.029	C	mg/L	0.0056	SW846 6010C	8/19/21 08:40	SRT	8/19/21 10:58	SRT	J1
Potassium, Total	2.7	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 10:58	SRT	J1
Sodium, Total	24.7	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 10:58	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	61.31	C	Feet		Field			8/16/21 11:15	BGS	C
Dissolved Oxygen	7.90	C	mg/L	0.01	Field			8/16/21 11:15	BGS	C
Elev Top MW Casing above MSL	576.40	C	Feet		Field			8/16/21 11:15	BGS	C
Flow Rate	1.60	C	gal/min		Field			8/16/21 11:15	BGS	C
Ground Water Elevation	515.09	C	ft/MSL		Field			8/16/21 11:15	BGS	C
Oxidation-Reduction Potential	216	C	mV		Field			8/16/21 11:15	BGS	C
pH, Field (SM4500B)	5.58	C	pH_Units		Field			8/16/21 11:15	BGS	C
Sample Depth	135.00	C	Feet		Field			8/16/21 11:15	BGS	C
Specific Conductance, Field	70	C	umhos/cm	1	Field			8/16/21 11:15	BGS	C
Temperature	16.86	C	Deg. C		Field			8/16/21 11:15	BGS	C
Total Well Depth	149.90	C	Feet		Field			8/16/21 11:15	BGS	C
Turbidity, Field	1	C	NTU	1	Field			8/16/21 11:15	BGS	C
Volume in Water Column	130.23	C	Gallons		Field			8/16/21 11:15	BGS	C
Water Level After Purge	106.54	C	Feet		Field			8/16/21 11:15	BGS	C
Well Volumes Purged	0.86	C	Vol		Field			8/16/21 11:15	BGS	C


Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3195430 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195430002**
Sample ID: **FFMP03AW**

Date Collected: 8/16/2021 12:43 Matrix: Ground Water
Date Received: 8/16/2021 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/21/21 01:09	PDK	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 01:09	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	90.4	C	%	62 - 133	SW846 8260B			8/21/21 01:09	PDK	G
4-Bromofluorobenzene (S)	108	C	%	79 - 114	SW846 8260B			8/21/21 01:09	PDK	G
Dibromofluoromethane (S)	97.2	C	%	78 - 116	SW846 8260B			8/21/21 01:09	PDK	G
Toluene-d8 (S)	96.1	C	%	76 - 127	SW846 8260B			8/21/21 01:09	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	16	C	mg/L	5	SM2320B-2011			8/19/21 23:58	MBS	B
Alkalinity, Total	16	C,2	mg/L	5	SM2320B-2011			8/19/21 23:58	MBS	I
Ammonia-N	0.122	C	mg/L	0.100	ASTM D6919-09			8/21/21 00:39	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			8/24/21 13:15	ALK	A
Chloride	34.4	C	mg/L	2.0	EPA 300.0			8/17/21 05:07	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/17/21 05:07	MBW	B
Nitrate-N	23.2	C	mg/L	0.20	EPA 300.0			8/17/21 05:07	MBW	B
pH	5.54	C,1	pH_Units		S4500HB-11			8/19/21 23:58	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	287	C	umhos/cm	1	SW846 9050A			8/21/21 05:09	MBS	B
Sulfate	2.9	C	mg/L	2.0	EPA 300.0			8/17/21 05:07	MBW	B
Total Dissolved Solids	258	C	mg/L	25	S2540C-11			8/19/21 10:51	BBD	B
Total Organic Carbon (TOC)	ND	C	mg/L	0.50	SW846 9060A			8/19/21 21:33	PAG	D
Turbidity	0.13	C	NTU	0.10	SM2130B-2011			8/16/21 07:20	LXZ	B

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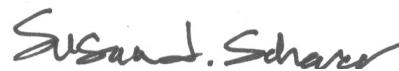
ANALYTICAL RESULTS

Workorder: 3195430 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195430002**
Sample ID: **FFMP03AW**

Date Collected: 8/16/2021 12:43 Matrix: Ground Water
Date Received: 8/16/2021 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	18.5	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:01	SRT	J1
Iron, Total	ND	C	mg/L	0.067	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:01	SRT	J1
Magnesium, Total	14.1	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:01	SRT	J1
Manganese, Total	0.33	C	mg/L	0.0056	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:01	SRT	J1
Potassium, Total	1.7	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:01	SRT	J1
Sodium, Total	14.2	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:01	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	52.72	C	Feet		Field			8/16/21 12:43	BGS	C
Dissolved Oxygen	1.17	C	mg/L	0.01	Field			8/16/21 12:43	BGS	C
Elev Top MW Casing above MSL	590.90	C	Feet		Field			8/16/21 12:43	BGS	C
Flow Rate	1.49	C	gal/min		Field			8/16/21 12:43	BGS	C
Ground Water Elevation	538.18	C	ft/MSL		Field			8/16/21 12:43	BGS	C
Oxidation-Reduction Potential	314	C	mV		Field			8/16/21 12:43	BGS	C
pH, Field (SM4500B)	5.24	C	pH_Units		Field			8/16/21 12:43	BGS	C
Sample Depth	130.00	C	Feet		Field			8/16/21 12:43	BGS	C
Specific Conductance, Field	70	C	umhos/cm	1	Field			8/16/21 12:43	BGS	C
Temperature	14.95	C	Deg. C		Field			8/16/21 12:43	BGS	C
Total Well Depth	148.40	C	Feet		Field			8/16/21 12:43	BGS	C
Turbidity, Field	ND	C	NTU	1	Field			8/16/21 12:43	BGS	C
Volume in Water Column	140.65	C	Gallons		Field			8/16/21 12:43	BGS	C
Water Level After Purge	82.18	C	Feet		Field			8/16/21 12:43	BGS	C
Well Volumes Purged	0.64	C	Vol		Field			8/16/21 12:43	BGS	C


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ANALYTICAL RESULTS

Workorder: 3195430 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195430003**

Date Collected: 8/16/2021 14:38

Matrix: Ground Water

Sample ID: **FFMP034W**

Date Received: 8/16/2021 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/21/21 03:23	PDK	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/21/21 03:23	PDK	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	90	C	%	62 - 133	SW846 8260B			8/21/21 03:23	PDK	G
4-Bromofluorobenzene (S)	109	C	%	79 - 114	SW846 8260B			8/21/21 03:23	PDK	G
Dibromofluoromethane (S)	97.2	C	%	78 - 116	SW846 8260B			8/21/21 03:23	PDK	G
Toluene-d8 (S)	97.4	C	%	76 - 127	SW846 8260B			8/21/21 03:23	PDK	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	31	C	mg/L	5	SM2320B-2011			8/19/21 23:58	MBS	B
Alkalinity, Total	31	C,2	mg/L	5	SM2320B-2011			8/19/21 23:58	MBS	I
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			8/21/21 00:11	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			8/24/21 13:15	ALK	A
Chloride	151	C	mg/L	2.0	EPA 300.0			8/17/21 05:21	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/17/21 05:21	MBW	B
Nitrate-N	9.6	C	mg/L	0.20	EPA 300.0			8/17/21 05:21	MBW	B
pH	6.12	C,1	pH_Units		S4500HB-11			8/19/21 23:58	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	607	C	umhos/cm	1	SW846 9050A			8/21/21 05:09	MBS	B
Sulfate	32.8	C	mg/L	2.0	EPA 300.0			8/17/21 05:21	MBW	B
Total Dissolved Solids	500	C	mg/L	25	S2540C-11			8/19/21 10:51	BBD	B
Total Organic Carbon (TOC)	0.74	C	mg/L	0.50	SW846 9060A			8/19/21 21:33	PAG	D
Turbidity	63.1	C	NTU	0.10	SM2130B-2011			8/16/21 07:20	LXZ	B

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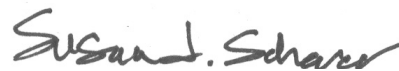
ANALYTICAL RESULTS

Workorder: 3195430 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195430003**
Sample ID: **FFMP034W**

Date Collected: 8/16/2021 14:38 Matrix: Ground Water
Date Received: 8/16/2021 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	50.2	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:04	SRT	J1
Iron, Total	0.92	C	mg/L	0.067	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:04	SRT	J1
Magnesium, Total	19.6	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:04	SRT	J1
Manganese, Total	0.082	C	mg/L	0.0056	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:04	SRT	J1
Potassium, Total	2.8	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:04	SRT	J1
Sodium, Total	40.1	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:04	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	11.24	C	Feet		Field			8/16/21 14:58	BGS	C
Dissolved Oxygen	2.92	C	mg/L	0.01	Field			8/16/21 14:58	BGS	C
Elev Top MW Casing above MSL	472.88	C	Feet		Field			8/16/21 14:58	BGS	C
Flow Rate	1.37	C	gal/min		Field			8/16/21 14:58	BGS	C
Ground Water Elevation	461.64	C	ft/MSL		Field			8/16/21 14:58	BGS	C
Oxidation-Reduction Potential	169	C	mV		Field			8/16/21 14:58	BGS	C
pH, Field (SM4500B)	5.48	C	pH_Units		Field			8/16/21 14:58	BGS	C
Sample Depth	25.85	C	Feet		Field			8/16/21 14:58	BGS	C
Specific Conductance, Field	70	C	umhos/cm	1	Field			8/16/21 14:58	BGS	C
Temperature	14.49	C	Deg. C		Field			8/16/21 14:58	BGS	C
Total Well Depth	121.00	C	Feet		Field			8/16/21 14:58	BGS	C
Turbidity, Field	325	C	NTU	1	Field			8/16/21 14:58	BGS	C
Volume in Water Column	161.35	C	Gallons		Field			8/16/21 14:58	BGS	C
Water Level After Purge	18.34	C	Feet		Field			8/16/21 14:58	BGS	C
Well Volumes Purged	0.77	C	Vol		Field			8/16/21 14:58	BGS	C


Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

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ANALYTICAL RESULTS

Workorder: 3195430 3RD QTR 2021 GWMP-FORM 19Q

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3195430001	1	FFMP015W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195430001	2	FFMP015W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3195430002	1	FFMP03AW	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195430002	2	FFMP03AW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3195430003	1	FFMP034W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195430003	2	FFMP034W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3195430 3RD QTR 2021 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3195430001	FFMP015W	ASTM D6919-09		
3195430001	FFMP015W	EPA 300.0		
3195430001	FFMP015W	EPA 410.4		
3195430001	FFMP015W	Field		
3195430001	FFMP015W	S2540C-11		
3195430001	FFMP015W	S4500HB-11		
3195430001	FFMP015W	SM2130B-2011		
3195430001	FFMP015W	SM2320B-2011		
3195430001	FFMP015W	SW846 6010C	SW846 3015	
3195430001	FFMP015W	SW846 8260B		
3195430001	FFMP015W	SW846 9050A		
3195430001	FFMP015W	SW846 9060A		
3195430001	FFMP015W	SW846 9066	420.4/9066	
3195430002	FFMP03AW	ASTM D6919-09		
3195430002	FFMP03AW	EPA 300.0		
3195430002	FFMP03AW	EPA 410.4		
3195430002	FFMP03AW	Field		
3195430002	FFMP03AW	S2540C-11		
3195430002	FFMP03AW	S4500HB-11		
3195430002	FFMP03AW	SM2130B-2011		
3195430002	FFMP03AW	SM2320B-2011		
3195430002	FFMP03AW	SW846 6010C	SW846 3015	
3195430002	FFMP03AW	SW846 8260B		
3195430002	FFMP03AW	SW846 9050A		
3195430002	FFMP03AW	SW846 9060A		
3195430002	FFMP03AW	SW846 9066	420.4/9066	
3195430003	FFMP034W	ASTM D6919-09		
3195430003	FFMP034W	EPA 300.0		
3195430003	FFMP034W	EPA 410.4		
3195430003	FFMP034W	Field		
3195430003	FFMP034W	S2540C-11		
3195430003	FFMP034W	S4500HB-11		
3195430003	FFMP034W	SM2130B-2011		
3195430003	FFMP034W	SM2320B-2011		
3195430003	FFMP034W	SW846 6010C	SW846 3015	
3195430003	FFMP034W	SW846 8260B		
3195430003	FFMP034W	SW846 9050A		
3195430003	FFMP034W	SW846 9060A		
3195430003	FFMP034W	SW846 9066	420.4/9066	

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301. Felling Hill Road • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

COC #:

3195430

ALS Quote #

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

Client Name: Lancaster County Solid Waste MA

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

Lancaster, PA 17604

Contact: Dan Brown

Phone#: (717) 735-0193

Project Name#: Frey Farm Quarterly (GWMP)

Bill To: Lancaster County Solid Waste MA

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

Date Required: _____ Approved By: _____

Email: ☒ Y mreider@LCSWMA.com

Fax: ☒ Y No.: (717) 397-9973

Sample Description/Location (as it will appear on the lab report)		Sample Date	Time	Enter Number of Containers Per Sample or Field Results Below.										Matrix		G or C		Project Comments:	
				TOC	O-H	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							
1.	FFMP015W	08/16/21	1120	G	GW	2	1	2	X	1	1	1	1						
2.	FFMP03AW	08/16/21	1243	G	GW	2	1	2	X	1	1	1	1						
3.	FFMP034W	08/16/21	1438	G	GW	2	1	2	X	1	1	1	1						
4.																			
5.																			
6.																			
7.																			
8.																			
9.																			
10.																			
Project Comments:				LOGGED BY (signature): _____															
				REVIEWED BY (signature): _____															
Relinquished By / Company Name				Date		Time		Received By / Company Name		Date		Time							
1. <i>[Signature]</i> ALS				8-16-21		1600		2. <i>[Signature]</i> ALS		8-16-21		1600							
3.																			
5.																			
7.																			
9.																			

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

* G=Grab; C=Composite ** Matrix - AL=Air; DW=Drinking Water; GW=Groundwater; OL=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater



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

3195430

Condition of Sample Receipt Form

Client: W. Lancaster County Solid Waste Authority

Initials: PAC

Date: 5/15/11

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

Cooler #: _____
 Temperature (°C): 3
 Thermometer ID: 143
 Radiological (µCi): _____

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

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

September 16, 2021

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

Certificate of Analysis

Project Name:	FREY FARM	Workorder:	3195562
Purchase Order:	PO-1000371	Workorder ID:	3RD QTR 2021 GWMP-FORM 19Q

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Tuesday, August 17, 2021.

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

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

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

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

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

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

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


Ms. Susan J Scherer
Project Coordinator

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**SAMPLE SUMMARY**

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3195562001	FFMP017W	Ground Water	8/17/2021 10:16	8/17/2021 15:45	Mr. Brian G Shade
3195562002	FFMP02DW	Ground Water	8/17/2021 11:40	8/17/2021 15:45	Mr. Brian G Shade
3195562003	FFMP02SW	Ground Water	8/17/2021 12:07	8/17/2021 15:45	Mr. Brian G Shade
3195562004	FFMP033W	Ground Water	8/17/2021 13:22	8/17/2021 15:45	Mr. Brian G Shade
3195562005	FFMP029W	Ground Water	8/17/2021 14:24	8/17/2021 15:45	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Notes

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

Standard Acronyms/Flags

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

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

PROJECT SUMMARY

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Workorder Comments

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

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ANALYTICAL RESULTS

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195562001**
Sample ID: **FFMP017W**

Date Collected: 8/17/2021 10:16 Matrix: Ground Water
Date Received: 8/17/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/20/21 14:50	DPC	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/20/21 14:50	DPC	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	90.3	C	%	62 - 133	SW846 8260B			8/20/21 14:50	DPC	G
4-Bromofluorobenzene (S)	105	C	%	79 - 114	SW846 8260B			8/20/21 14:50	DPC	G
Dibromofluoromethane (S)	97	C	%	78 - 116	SW846 8260B			8/20/21 14:50	DPC	G
Toluene-d8 (S)	95.8	C	%	76 - 127	SW846 8260B			8/20/21 14:50	DPC	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	111	C	mg/L	5	SM2320B-2011			8/19/21 23:58	MBS	B
Alkalinity, Total	111	C,3	mg/L	5	SM2320B-2011			8/19/21 23:58	MBS	I
Ammonia-N	0.268	C	mg/L	0.100	ASTM D6919-09			8/20/21 18:35	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			8/24/21 12:19	ALK	A
Chloride	315	C	mg/L	2.0	EPA 300.0			8/18/21 05:57	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/18/21 05:57	MBW	B
Nitrate-N	2.0	C	mg/L	0.20	EPA 300.0			8/18/21 05:57	MBW	B
pH	6.56	C,1	pH_Units		S4500HB-11			8/19/21 23:58	MBS	B
Phenolics	ND	C,2	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	1210	C	umhos/cm	1	SW846 9050A			8/21/21 05:09	MBS	B
Sulfate	78.5	C	mg/L	2.0	EPA 300.0			8/18/21 05:57	MBW	B
Total Dissolved Solids	822	C	mg/L	25	S2540C-11			8/19/21 10:51	BBD	B
Total Organic Carbon (TOC)	3.4	C	mg/L	0.50	SW846 9060A			8/19/21 00:27	PAG	D
Turbidity	0.26	C	NTU	0.10	SM2130B-2011			8/18/21 07:52	LXZ	B

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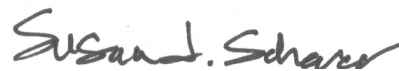
ANALYTICAL RESULTS

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195562001**
Sample ID: **FFMP017W**

Date Collected: 8/17/2021 10:16 Matrix: Ground Water
Date Received: 8/17/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	92.5	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:11	SRT	J1
Iron, Total	ND	C	mg/L	0.067	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:11	SRT	J1
Magnesium, Total	40.0	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:11	SRT	J1
Manganese, Total	1.2	C	mg/L	0.0056	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:11	SRT	J1
Potassium, Total	8.0	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:11	SRT	J1
Sodium, Total	94.5	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:11	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	41.17	C	Feet		Field			8/17/21 10:16	BGS	C
Dissolved Oxygen	ND	C	mg/L	0.01	Field			8/17/21 10:16	BGS	C
Elev Top MW Casing above MSL	480.70	C	Feet		Field			8/17/21 10:16	BGS	C
Flow Rate	1.92	C	gal/min		Field			8/17/21 10:16	BGS	C
Ground Water Elevation	439.53	C	ft/MSL		Field			8/17/21 10:16	BGS	C
Oxidation-Reduction Potential	217	C	mV		Field			8/17/21 10:16	BGS	C
pH, Field (SM4500B)	5.90	C	pH_Units		Field			8/17/21 10:16	BGS	C
Sample Depth	135.00	C	Feet		Field			8/17/21 10:16	BGS	C
Specific Conductance, Field	1959	C	umhos/cm	1	Field			8/17/21 10:16	BGS	C
Temperature	13.11	C	Deg. C		Field			8/17/21 10:16	BGS	C
Total Well Depth	150.50	C	Feet		Field			8/17/21 10:16	BGS	C
Turbidity, Field	ND	C	NTU	1	Field			8/17/21 10:16	BGS	C
Volume in Water Column	160.72	C	Gallons		Field			8/17/21 10:16	BGS	C
Water Level After Purge	48.74	C	Feet		Field			8/17/21 10:16	BGS	C
Well Volumes Purged	0.84	C	Vol		Field			8/17/21 10:16	BGS	C


Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195562002**

Date Collected: 8/17/2021 11:40

Matrix: Ground Water

Sample ID: **FFMP02DW**

Date Received: 8/17/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/20/21 15:12	DPC	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:12	DPC	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	89.3	C	%	62 - 133	SW846 8260B			8/20/21 15:12	DPC	G
4-Bromofluorobenzene (S)	107	C	%	79 - 114	SW846 8260B			8/20/21 15:12	DPC	G
Dibromofluoromethane (S)	98.3	C	%	78 - 116	SW846 8260B			8/20/21 15:12	DPC	G
Toluene-d8 (S)	97.3	C	%	76 - 127	SW846 8260B			8/20/21 15:12	DPC	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	97	C	mg/L	5	SM2320B-2011			8/19/21 23:58	MBS	B
Alkalinity, Total	96	C,2	mg/L	5	SM2320B-2011			8/19/21 23:58	MBS	I
Ammonia-N	0.220	C	mg/L	0.100	ASTM D6919-09			8/20/21 21:42	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			8/24/21 13:15	ALK	A
Chloride	451	C	mg/L	2.0	EPA 300.0			8/18/21 06:20	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/18/21 06:20	MBW	B
Nitrate-N	6.2	C	mg/L	0.20	EPA 300.0			8/18/21 06:20	MBW	B
pH	7.79	C,1	pH_Units		S4500HB-11			8/19/21 23:58	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	615	C	umhos/cm	1	SW846 9050A			8/21/21 05:09	MBS	B
Sulfate	35.1	C	mg/L	2.0	EPA 300.0			8/18/21 06:20	MBW	B
Total Dissolved Solids	1160	C	mg/L	25	S2540C-11			8/19/21 10:51	BBD	B
Total Organic Carbon (TOC)	1.1	C	mg/L	0.50	SW846 9060A			8/19/21 00:27	PAG	D
Turbidity	8.33	C	NTU	0.10	SM2130B-2011			8/18/21 07:52	LXZ	B

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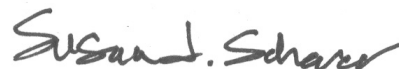
ANALYTICAL RESULTS

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195562002**
Sample ID: **FFMP02DW**

Date Collected: 8/17/2021 11:40 Matrix: Ground Water
Date Received: 8/17/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	132	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:14	SRT	J1
Iron, Total	0.96	C	mg/L	0.067	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:14	SRT	J1
Magnesium, Total	22.9	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:14	SRT	J1
Manganese, Total	0.47	C	mg/L	0.0056	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:14	SRT	J1
Potassium, Total	2.4	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:14	SRT	J1
Sodium, Total	147	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:14	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	20.79	C	Feet		Field			8/17/21 11:40	BGS	C
Dissolved Oxygen	2.66	C	mg/L	0.01	Field			8/17/21 11:40	BGS	C
Elev Top MW Casing above MSL	509.60	C	Feet		Field			8/17/21 11:40	BGS	C
Flow Rate	1.35	C	gal/min		Field			8/17/21 11:40	BGS	C
Ground Water Elevation	488.81	C	ft/MSL		Field			8/17/21 11:40	BGS	C
Oxidation-Reduction Potential	82	C	mV		Field			8/17/21 11:40	BGS	C
pH, Field (SM4500B)	7.28	C	pH_Units		Field			8/17/21 11:40	BGS	C
Sample Depth	120.00	C	Feet		Field			8/17/21 11:40	BGS	C
Specific Conductance, Field	2423	C	umhos/cm	1	Field			8/17/21 11:40	BGS	C
Temperature	21.04	C	Deg. C		Field			8/17/21 11:40	BGS	C
Total Well Depth	153.00	C	Feet		Field			8/17/21 11:40	BGS	C
Turbidity, Field	14	C	NTU	1	Field			8/17/21 11:40	BGS	C
Volume in Water Column	194.35	C	Gallons		Field			8/17/21 11:40	BGS	C
Water Level After Purge	47.68	C	Feet		Field			8/17/21 11:40	BGS	C
Well Volumes Purged	0.42	C	Vol		Field			8/17/21 11:40	BGS	C


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Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195562003**

Date Collected: 8/17/2021 12:07

Matrix: Ground Water

Sample ID: **FFMP02SW**

Date Received: 8/17/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/20/21 15:35	DPC	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:35	DPC	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	90.3	C	%	62 - 133	SW846 8260B			8/20/21 15:35	DPC	G
4-Bromofluorobenzene (S)	107	C	%	79 - 114	SW846 8260B			8/20/21 15:35	DPC	G
Dibromofluoromethane (S)	95.2	C	%	78 - 116	SW846 8260B			8/20/21 15:35	DPC	G
Toluene-d8 (S)	98	C	%	76 - 127	SW846 8260B			8/20/21 15:35	DPC	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	14	C	mg/L	5	SM2320B-2011			8/23/21 23:56	MBS	B
Alkalinity, Total	14	C,2	mg/L	5	SM2320B-2011			8/23/21 23:56	MBS	I
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			8/21/21 21:09	ALK	A
Chemical Oxygen Demand (COD)	28	C	mg/L	15	EPA 410.4			8/24/21 11:15	ALK	A
Chloride	152	C	mg/L	2.0	EPA 300.0			8/18/21 06:36	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/18/21 06:36	MBW	B
Nitrate-N	12.5	C	mg/L	0.20	EPA 300.0			8/18/21 06:36	MBW	B
pH	5.67	C,1	pH_Units		S4500HB-11			8/23/21 23:56	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	310	C	umhos/cm	1	SW846 9050A			8/21/21 05:09	MBS	B
Sulfate	34.5	C	mg/L	2.0	EPA 300.0			8/18/21 06:36	MBW	B
Total Dissolved Solids	440	C	mg/L	25	S2540C-11			8/19/21 10:51	BBD	B
Total Organic Carbon (TOC)	1.8	C	mg/L	0.50	SW846 9060A			8/19/21 00:27	PAG	D
Turbidity	51.0	C	NTU	0.10	SM2130B-2011			8/18/21 07:52	LXZ	B

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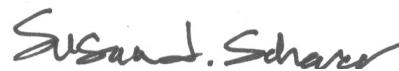
ANALYTICAL RESULTS

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195562003**
Sample ID: **FFMP02SW**

Date Collected: 8/17/2021 12:07 Matrix: Ground Water
Date Received: 8/17/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	24.1	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:18	SRT	J1
Iron, Total	0.19	C	mg/L	0.067	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:18	SRT	J1
Magnesium, Total	9.5	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:18	SRT	J1
Manganese, Total	0.032	C	mg/L	0.0056	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:18	SRT	J1
Potassium, Total	4.6	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:18	SRT	J1
Sodium, Total	90.3	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:18	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	15.91	C	Feet		Field			8/17/21 14:09	BGS	C
Dissolved Oxygen	3.77	C	mg/L	0.01	Field			8/17/21 14:09	BGS	C
Elev Top MW Casing above MSL	509.90	C	Feet		Field			8/17/21 14:09	BGS	C
Flow Rate	1.00	C	gal/min		Field			8/17/21 14:09	BGS	C
Ground Water Elevation	493.99	C	ft/MSL		Field			8/17/21 14:09	BGS	C
Oxidation-Reduction Potential	241	C	mV		Field			8/17/21 14:09	BGS	C
pH, Field (SM4500B)	5.23	C	pH_Units		Field			8/17/21 14:09	BGS	C
Sample Depth	20.00	C	Feet		Field			8/17/21 14:09	BGS	C
Specific Conductance, Field	1017	C	umhos/cm	1	Field			8/17/21 14:09	BGS	C
Temperature	18.77	C	Deg. C		Field			8/17/21 14:09	BGS	C
Total Well Depth	22.70	C	Feet		Field			8/17/21 14:09	BGS	C
Turbidity, Field	81	C	NTU	1	Field			8/17/21 14:09	BGS	C
Volume in Water Column	4.41	C	Gallons		Field			8/17/21 14:09	BGS	C
Water Level After Purge	18.97	C	Feet		Field			8/17/21 14:09	BGS	C
Well Volumes Purged	1.36	C	Vol		Field			8/17/21 14:09	BGS	C


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ANALYTICAL RESULTS

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195562004**

Date Collected: 8/17/2021 13:22

Matrix: Ground Water

Sample ID: **FFMP033W**

Date Received: 8/17/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/20/21 15:57	DPC	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/20/21 15:57	DPC	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	91.2	C	%	62 - 133	SW846 8260B			8/20/21 15:57	DPC	G
4-Bromofluorobenzene (S)	109	C	%	79 - 114	SW846 8260B			8/20/21 15:57	DPC	G
Dibromofluoromethane (S)	98.5	C	%	78 - 116	SW846 8260B			8/20/21 15:57	DPC	G
Toluene-d8 (S)	97.4	C	%	76 - 127	SW846 8260B			8/20/21 15:57	DPC	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	42	C	mg/L	5	SM2320B-2011			8/23/21 23:56	MBS	B
Alkalinity, Total	42	C,2	mg/L	5	SM2320B-2011			8/23/21 23:56	MBS	I
Ammonia-N	0.788	C	mg/L	0.100	ASTM D6919-09			8/21/21 06:42	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			8/24/21 13:15	ALK	A
Chloride	49.5	C	mg/L	2.0	EPA 300.0			8/18/21 06:53	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/18/21 06:53	MBW	B
Nitrate-N	10.7	C	mg/L	0.20	EPA 300.0			8/18/21 06:53	MBW	B
pH	6.33	C,1	pH_Units		S4500HB-11			8/23/21 23:56	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	272	C	umhos/cm	1	SW846 9050A			8/21/21 05:09	MBS	B
Sulfate	5.9	C	mg/L	2.0	EPA 300.0			8/18/21 06:53	MBW	B
Total Dissolved Solids	284	C	mg/L	25	S2540C-11			8/19/21 10:51	BBD	B
Total Organic Carbon (TOC)	0.56	C	mg/L	0.50	SW846 9060A			8/19/21 00:27	PAG	D
Turbidity	4.02	C	NTU	0.10	SM2130B-2011			8/18/21 07:52	LXZ	B

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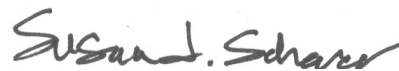
ANALYTICAL RESULTS

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195562004**
Sample ID: **FFMP033W**

Date Collected: 8/17/2021 13:22 Matrix: Ground Water
Date Received: 8/17/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	27.8	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:28	SRT	J1
Iron, Total	6.2	C	mg/L	0.067	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:28	SRT	J1
Magnesium, Total	9.8	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:28	SRT	J1
Manganese, Total	0.42	C	mg/L	0.0056	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:28	SRT	J1
Potassium, Total	2.0	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:28	SRT	J1
Sodium, Total	14.3	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:28	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	19.22	C	Feet		Field			8/17/21 13:22	BGS	C
Dissolved Oxygen	0.83	C	mg/L	0.01	Field			8/17/21 13:22	BGS	C
Elev Top MW Casing above MSL	516.52	C	Feet		Field			8/17/21 13:22	BGS	C
Flow Rate	1.75	C	gal/min		Field			8/17/21 13:22	BGS	C
Ground Water Elevation	497.30	C	ft/MSL		Field			8/17/21 13:22	BGS	C
Oxidation-Reduction Potential	47	C	mV		Field			8/17/21 13:22	BGS	C
pH, Field (SM4500B)	5.57	C	pH_Units		Field			8/17/21 13:22	BGS	C
Sample Depth	79.00	C	Feet		Field			8/17/21 13:22	BGS	C
Specific Conductance, Field	526	C	umhos/cm	1	Field			8/17/21 13:22	BGS	C
Temperature	15.70	C	Deg. C		Field			8/17/21 13:22	BGS	C
Total Well Depth	100.00	C	Feet		Field			8/17/21 13:22	BGS	C
Turbidity, Field	4	C	NTU	1	Field			8/17/21 13:22	BGS	C
Volume in Water Column	118.75	C	Gallons		Field			8/17/21 13:22	BGS	C
Water Level After Purge	32.09	C	Feet		Field			8/17/21 13:22	BGS	C
Well Volumes Purged	0.88	C	Vol		Field			8/17/21 13:22	BGS	C


Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195562005**

Date Collected: 8/17/2021 14:24

Matrix: Ground Water

Sample ID: **FFMP029W**

Date Received: 8/17/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/20/21 16:20	DPC	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/20/21 16:20	DPC	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	91	C	%	62 - 133	SW846 8260B			8/20/21 16:20	DPC	G
4-Bromofluorobenzene (S)	108	C	%	79 - 114	SW846 8260B			8/20/21 16:20	DPC	G
Dibromofluoromethane (S)	96.7	C	%	78 - 116	SW846 8260B			8/20/21 16:20	DPC	G
Toluene-d8 (S)	96.8	C	%	76 - 127	SW846 8260B			8/20/21 16:20	DPC	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	12	C	mg/L	5	SM2320B-2011			8/23/21 23:56	MBS	B
Alkalinity, Total	12	C,2	mg/L	5	SM2320B-2011			8/23/21 23:56	MBS	I
Ammonia-N	0.132	C	mg/L	0.100	ASTM D6919-09			8/21/21 07:10	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			8/24/21 13:15	ALK	A
Chloride	69.4	C	mg/L	2.0	EPA 300.0			8/18/21 07:10	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/18/21 07:10	MBW	B
Nitrate-N	4.0	C	mg/L	0.20	EPA 300.0			8/18/21 07:10	MBW	B
pH	5.89	C,1	pH_Units		S4500HB-11			8/23/21 23:56	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	8/30/21 17:12	MXF	8/31/21 09:04	VXF	F
Specific Conductance	330	C	umhos/cm	1	SW846 9050A			8/24/21 16:30	MBS	B
Sulfate	8.2	C	mg/L	2.0	EPA 300.0			8/18/21 07:10	MBW	B
Total Dissolved Solids	240	C	mg/L	25	S2540C-11			8/19/21 10:51	BBD	B
Total Organic Carbon (TOC)	ND	C	mg/L	0.50	SW846 9060A			8/19/21 00:27	PAG	D
Turbidity	0.22	C	NTU	0.10	SM2130B-2011			8/18/21 07:52	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3195562005**

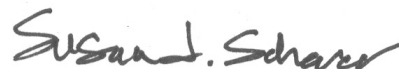
Date Collected: 8/17/2021 14:24

Matrix: Ground Water

Sample ID: **FFMP029W**

Date Received: 8/17/2021 15:45

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	14.9	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:31	SRT	J1
Iron, Total	ND	C	mg/L	0.067	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:31	SRT	J1
Magnesium, Total	10.3	C	mg/L	0.11	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:31	SRT	J1
Manganese, Total	0.030	C	mg/L	0.0056	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:31	SRT	J1
Potassium, Total	2.7	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:31	SRT	J1
Sodium, Total	23.7	C	mg/L	0.56	SW846 6010C	8/19/21 08:40	SRT	8/19/21 11:31	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	39.08	C	Feet		Field			8/17/21 14:39	BGS	C
Dissolved Oxygen	5.44	C	mg/L	0.01	Field			8/17/21 14:39	BGS	C
Elev Top MW Casing above MSL	477.30	C	Feet		Field			8/17/21 14:39	BGS	C
Flow Rate	2.14	C	gal/min		Field			8/17/21 14:39	BGS	C
Ground Water Elevation	438.22	C	ft/MSL		Field			8/17/21 14:39	BGS	C
Oxidation-Reduction Potential	294	C	mV		Field			8/17/21 14:39	BGS	C
pH, Field (SM4500B)	4.86	C	pH_Units		Field			8/17/21 14:39	BGS	C
Sample Depth	55.00	C	Feet		Field			8/17/21 14:39	BGS	C
Specific Conductance, Field	462	C	umhos/cm	1	Field			8/17/21 14:39	BGS	C
Temperature	15.15	C	Deg. C		Field			8/17/21 14:39	BGS	C
Total Well Depth	60.50	C	Feet		Field			8/17/21 14:39	BGS	C
Turbidity, Field	ND	C	NTU	1	Field			8/17/21 14:39	BGS	C
Volume in Water Column	31.49	C	Gallons		Field			8/17/21 14:39	BGS	C
Water Level After Purge	45.31	C	Feet		Field			8/17/21 14:39	BGS	C
Well Volumes Purged	4.07	C	Vol		Field			8/17/21 14:39	BGS	C



Ms. Susan J Scherer

Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3195562001	1	FFMP017W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195562001	2	FFMP017W	SW846 9066	Phenolics
The QC sample type MS for method 420.4/9066 was outside the control limits for the analyte Phenolics. The % Recovery was reported as 66.4 and the control limits were 90 to 110.				
3195562001	3	FFMP017W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3195562002	1	FFMP02DW	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195562002	2	FFMP02DW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3195562003	1	FFMP02SW	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195562003	2	FFMP02SW	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3195562004	1	FFMP033W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195562004	2	FFMP033W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3195562005	1	FFMP029W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3195562005	2	FFMP029W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3195562001	FFMP017W	ASTM D6919-09		
3195562001	FFMP017W	EPA 300.0		
3195562001	FFMP017W	EPA 410.4		
3195562001	FFMP017W	Field		
3195562001	FFMP017W	S2540C-11		
3195562001	FFMP017W	S4500HB-11		
3195562001	FFMP017W	SM2130B-2011		
3195562001	FFMP017W	SM2320B-2011		
3195562001	FFMP017W	SW846 6010C	SW846 3015	
3195562001	FFMP017W	SW846 8260B		
3195562001	FFMP017W	SW846 9050A		
3195562001	FFMP017W	SW846 9060A		
3195562001	FFMP017W	SW846 9066	420.4/9066	
3195562002	FFMP02DW	ASTM D6919-09		
3195562002	FFMP02DW	EPA 300.0		
3195562002	FFMP02DW	EPA 410.4		
3195562002	FFMP02DW	Field		
3195562002	FFMP02DW	S2540C-11		
3195562002	FFMP02DW	S4500HB-11		
3195562002	FFMP02DW	SM2130B-2011		
3195562002	FFMP02DW	SM2320B-2011		
3195562002	FFMP02DW	SW846 6010C	SW846 3015	
3195562002	FFMP02DW	SW846 8260B		
3195562002	FFMP02DW	SW846 9050A		
3195562002	FFMP02DW	SW846 9060A		
3195562002	FFMP02DW	SW846 9066	420.4/9066	
3195562003	FFMP02SW	ASTM D6919-09		
3195562003	FFMP02SW	EPA 300.0		
3195562003	FFMP02SW	EPA 410.4		
3195562003	FFMP02SW	Field		
3195562003	FFMP02SW	S2540C-11		
3195562003	FFMP02SW	S4500HB-11		
3195562003	FFMP02SW	SM2130B-2011		
3195562003	FFMP02SW	SM2320B-2011		
3195562003	FFMP02SW	SW846 6010C	SW846 3015	
3195562003	FFMP02SW	SW846 8260B		
3195562003	FFMP02SW	SW846 9050A		
3195562003	FFMP02SW	SW846 9060A		
3195562003	FFMP02SW	SW846 9066	420.4/9066	
3195562004	FFMP033W	ASTM D6919-09		
3195562004	FFMP033W	EPA 300.0		
3195562004	FFMP033W	EPA 410.4		
3195562004	FFMP033W	Field		
3195562004	FFMP033W	S2540C-11		
3195562004	FFMP033W	S4500HB-11		
3195562004	FFMP033W	SM2130B-2011		

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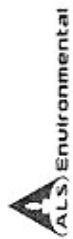
ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3195562 3RD QTR 2021 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3195562004	FFMP033W	SM2320B-2011		
3195562004	FFMP033W	SW846 6010C	SW846 3015	
3195562004	FFMP033W	SW846 8260B		
3195562004	FFMP033W	SW846 9050A		
3195562004	FFMP033W	SW846 9060A		
3195562004	FFMP033W	SW846 9066	420.4/9066	
3195562005	FFMP029W	ASTM D6919-09		
3195562005	FFMP029W	EPA 300.0		
3195562005	FFMP029W	EPA 410.4		
3195562005	FFMP029W	Field		
3195562005	FFMP029W	S2540C-11		
3195562005	FFMP029W	S4500HB-11		
3195562005	FFMP029W	SM2130B-2011		
3195562005	FFMP029W	SM2320B-2011		
3195562005	FFMP029W	SW846 6010C	SW846 3015	
3195562005	FFMP029W	SW846 8260B		
3195562005	FFMP029W	SW846 9050A		
3195562005	FFMP029W	SW846 9060A		
3195562005	FFMP029W	SW846 9066	420.4/9066	

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Generated by ALS

CHAIN OF CUSTODY/

REQUEST FOR ANALYSIS

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

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

Client Name: Lancaster County Solid Waste MA
 Address: 1299 Harrisburg Pike, P.O. Box 4424
 Lancaster, PA 17604

Contact: 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

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time
1. FFMP017W	08/17/21	1016
2. FFMP02DW	08/17/21	1140
3. FFMP02SW	08/17/21	1207
4. FFMP033W	08/17/21	1322
5. FFMP029W	08/17/21	1424
6		
7		
8		
9		
10		

Enter Number of Containers Per Sample or Field Results Below.

Matrix	TOC	O-H	VOC - Form 190	Field Measurements	Sample Depth for AUX Data	NH ₃ -N, COD	Metals: Fe, Mn, Na, Ca, K, Mg	pH, Cl, SPC, F, SO ₄ , TDS, NO ₃	Alkalinity Bicarbonate
G GW	2	1	2	X	X	1	1	1	1
G GW	2	1	2	X	X	1	1	1	1
G GW	2	1	2	X	X	1	1	1	1
G GW	2	1	2	X	X	1	1	1	1
G GW	2	1	2	X	X	1	1	1	1

Project Comments:

LOGGED BY (signature):

REVIEWED BY (signature):

Relinquished By / Company Name: ALS

Date: 8/17/21 Time: 1545

Received By / Company Name: ALS

Date: 8/17/21 Time: 1547

Reportable to PADEP? Yes ☐ No ☒

PWSID #

EDDS: Format Type-

State Samples Collected In

USACE ☐ Navy ☐ USACE ☐

Sample Disposal Lab ☒ Special ☐

ALS Field Services: ☐ Pickup ☐ Labor ☐

☐ Composite Sampling ☐ Rental Equipment

☐ Other:

Courier/Tracking #:

Sample/COC Comments

Therm ID: 3

No. of Coolers: 3 Y ☐ N ☐

Custody Seals Present? (if present) Seals Intact? ☐

Received on Ice? ☐

COC Labels Complete/Accurate? ☐

Cont. in Good Cond.? ☐

Correct Containers? ☐

Correct Sample Volumes? ☐

Correct Preservation? ☐

Headspace/Volatilities? ☐

Initial

by Receiving Lab)

1 of 1

3195562

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

* G=Grab; C=Composite **Matrix - AL=Air; DW=Drinking Water; GW=Groundwater; OL=Oil; QL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Rev 8/04



301 Fulling Mill Road
Middletown, PA 17057

P: (717) 944-5541

F: (717) 944-1430

3195562

Lancaster County Solid Waste
Authority

dition of Sample Receipt Form

Client: _____

Initials: KUM

Date: 9/16/2021

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

Cooler #: _____

Temperature (°C): 3

Thermometer ID: 573

Radiological (µCi): _____

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

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

September 17, 2021

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

Certificate of Analysis

Project Name:	FREY FARM	Workorder:	3196335
Purchase Order:	PO-1000371	Workorder ID:	3RD QTR 2021 GWMP-FORM 19Q

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 19, 2021.

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

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

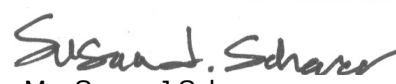
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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

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

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


Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3196335001	FFMP035W	Ground Water	8/19/2021 11:01	8/19/2021 16:44	Mr. Brian G Shade
3196335002	FFMP036W	Ground Water	8/19/2021 12:30	8/19/2021 16:44	Mr. Brian G Shade
3196335003	FFMP019W	Ground Water	8/19/2021 13:26	8/19/2021 16:44	Mr. Brian G Shade
3196335004	FFMP018W	Ground Water	8/19/2021 13:52	8/19/2021 16:44	Mr. Brian G Shade
3196335005	FFMP002W	Ground Water	8/19/2021 14:33	8/19/2021 16:44	Mr. Brian G Shade
3196335006	FFMP032W	Ground Water	8/19/2021 15:04	8/19/2021 16:44	Mr. Brian G Shade
3196335007	FIELD BLANK	Water	8/19/2021 15:11	8/19/2021 16:44	Mr. Brian G Shade
3196335008	TRIP BLANK	Water	8/19/2021 15:11	8/19/2021 16:44	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Notes

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

Standard Acronyms/Flags

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

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

PROJECT SUMMARY

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Workorder Comments

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

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ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335001**

Date Collected: 8/19/2021 11:01

Matrix: Ground Water

Sample ID: **FFMP035W**

Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/26/21 05:30	VLM	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:30	VLM	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	93.2	C	%	62 - 133	SW846 8260B			8/26/21 05:30	VLM	G
4-Bromofluorobenzene (S)	96.5	C	%	79 - 114	SW846 8260B			8/26/21 05:30	VLM	G
Dibromofluoromethane (S)	89.3	C	%	78 - 116	SW846 8260B			8/26/21 05:30	VLM	G
Toluene-d8 (S)	96.6	C	%	76 - 127	SW846 8260B			8/26/21 05:30	VLM	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	139	C	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	B
Alkalinity, Total	160	C,3	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	I
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			8/31/21 17:30	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			9/2/21 13:19	ALK	A
Chloride	154	C	mg/L	2.0	EPA 300.0			8/20/21 06:05	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/20/21 06:05	MBW	B
Nitrate-N	4.4	C	mg/L	0.20	EPA 300.0			8/20/21 06:05	MBW	B
pH	8.87	C,1	pH_Units		S4500HB-11			8/30/21 23:52	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	9/2/21 18:16	MXF	9/7/21 09:36	MXF	F
Specific Conductance	923	C	umhos/cm	1	SW846 9050A			8/27/21 11:00	MBS	B
Sulfate	56.1	C	mg/L	2.0	EPA 300.0			8/20/21 06:05	MBW	B
Total Dissolved Solids	608	C	mg/L	25	S2540C-11			8/23/21 09:40	BBD	B
Total Organic Carbon (TOC)	1.6	C	mg/L	0.50	SW846 9060A			8/24/21 18:50	PAG	D
Turbidity	3.50	C	NTU	0.10	SM2130B-2011			8/20/21 11:54	LXZ	B

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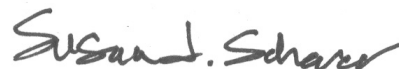
ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335001**
Sample ID: **FFMP035W**

Date Collected: 8/19/2021 11:01 Matrix: Ground Water
Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	93.6	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:25	SRT	J1
Iron, Total	0.37	C	mg/L	0.067	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:25	SRT	J1
Magnesium, Total	18.4	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:25	SRT	J1
Manganese, Total	0.33	C	mg/L	0.0056	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:25	SRT	J1
Potassium, Total	4.0	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:25	SRT	J1
Sodium, Total	45.4	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:25	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	42.65	C	Feet		Field			8/19/21 11:01	BGS	C
Dissolved Oxygen	1.11	C	mg/L	0.01	Field			8/19/21 11:01	BGS	C
Elev Top MW Casing above MSL	477.56	C	Feet		Field			8/19/21 11:01	BGS	C
Flow Rate	0.61	C	gal/min		Field			8/19/21 11:01	BGS	C
Ground Water Elevation	434.91	C	ft/MSL		Field			8/19/21 11:01	BGS	C
Oxidation-Reduction Potential	7	C	mV		Field			8/19/21 11:01	BGS	C
pH, Field (SM4500B)	6.65	C	pH_Units		Field			8/19/21 11:01	BGS	C
Sample Depth	65.00	C	Feet		Field			8/19/21 11:01	BGS	C
Specific Conductance, Field	1412	C	umhos/cm	1	Field			8/19/21 11:01	BGS	C
Temperature	16.20	C	Deg. C		Field			8/19/21 11:01	BGS	C
Total Well Depth	71.80	C	Feet		Field			8/19/21 11:01	BGS	C
Turbidity, Field	7	C	NTU	1	Field			8/19/21 11:01	BGS	C
Volume in Water Column	42.85	C	Gallons		Field			8/19/21 11:01	BGS	C
Water Level After Purge	54.29	C	Feet		Field			8/19/21 11:01	BGS	C
Well Volumes Purged	0.71	C	Vol		Field			8/19/21 11:01	BGS	C


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ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335002**

Date Collected: 8/19/2021 12:30

Matrix: Ground Water

Sample ID: **FFMP036W**

Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/26/21 05:53	VLM	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 05:53	VLM	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	98.4	C	%	62 - 133	SW846 8260B			8/26/21 05:53	VLM	G
4-Bromofluorobenzene (S)	96.2	C	%	79 - 114	SW846 8260B			8/26/21 05:53	VLM	G
Dibromofluoromethane (S)	95.9	C	%	78 - 116	SW846 8260B			8/26/21 05:53	VLM	G
Toluene-d8 (S)	98.1	C	%	76 - 127	SW846 8260B			8/26/21 05:53	VLM	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	41	C	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	B
Alkalinity, Total	41	C,2	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	I
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			8/31/21 13:32	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			9/2/21 13:19	ALK	A
Chloride	34.6	C	mg/L	2.0	EPA 300.0			8/20/21 06:19	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/20/21 06:19	MBW	B
Nitrate-N	ND	C	mg/L	0.20	EPA 300.0			8/20/21 06:19	MBW	B
pH	7.61	C,1	pH_Units		S4500HB-11			8/30/21 23:52	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	9/2/21 18:16	MXF	9/7/21 09:36	MXF	F
Specific Conductance	204	C	umhos/cm	1	SW846 9050A			9/3/21 13:00	MBS	B
Sulfate	ND	C	mg/L	2.0	EPA 300.0			8/20/21 06:19	MBW	B
Total Dissolved Solids	116	C	mg/L	25	S2540C-11			8/23/21 09:40	BBD	B
Total Organic Carbon (TOC)	0.88	C	mg/L	0.50	SW846 9060A			8/24/21 18:50	PAG	D
Turbidity	17.6	C	NTU	0.10	SM2130B-2011			8/20/21 11:54	LXZ	B

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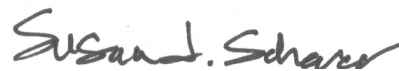
ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335002**
Sample ID: **FFMP036W**

Date Collected: 8/19/2021 12:30 Matrix: Ground Water
Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	15.3	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:29	SRT	J1
Iron, Total	2.9	C	mg/L	0.067	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:29	SRT	J1
Magnesium, Total	2.9	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:29	SRT	J1
Manganese, Total	0.12	C	mg/L	0.0056	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:29	SRT	J1
Potassium, Total	1.9	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:29	SRT	J1
Sodium, Total	14.1	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:29	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	41.15	C	Feet		Field			8/19/21 12:30	BGS	C
Dissolved Oxygen	ND	C	mg/L	0.01	Field			8/19/21 12:30	BGS	C
Elev Top MW Casing above MSL	478.23	C	Feet		Field			8/19/21 12:30	BGS	C
Flow Rate	1.44	C	gal/min		Field			8/19/21 12:30	BGS	C
Ground Water Elevation	437.08	C	ft/MSL		Field			8/19/21 12:30	BGS	C
Oxidation-Reduction Potential	-284	C	mV		Field			8/19/21 12:30	BGS	C
pH, Field (SM4500B)	8.05	C	pH_Units		Field			8/19/21 12:30	BGS	C
Sample Depth	135.00	C	Feet		Field			8/19/21 12:30	BGS	C
Specific Conductance, Field	320	C	umhos/cm	1	Field			8/19/21 12:30	BGS	C
Temperature	14.62	C	Deg. C		Field			8/19/21 12:30	BGS	C
Total Well Depth	142.60	C	Feet		Field			8/19/21 12:30	BGS	C
Turbidity, Field	6	C	NTU	1	Field			8/19/21 12:30	BGS	C
Volume in Water Column	149.13	C	Gallons		Field			8/19/21 12:30	BGS	C
Water Level After Purge	72.84	C	Feet		Field			8/19/21 12:30	BGS	C
Well Volumes Purged	0.68	C	Vol		Field			8/19/21 12:30	BGS	C


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ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335003**

Date Collected: 8/19/2021 13:26

Matrix: Ground Water

Sample ID: **FFMP019W**

Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/26/21 06:17	VLM	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:17	VLM	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	95.1	C	%	62 - 133	SW846 8260B			8/26/21 06:17	VLM	G
4-Bromofluorobenzene (S)	97.3	C	%	79 - 114	SW846 8260B			8/26/21 06:17	VLM	G
Dibromofluoromethane (S)	91.4	C	%	78 - 116	SW846 8260B			8/26/21 06:17	VLM	G
Toluene-d8 (S)	96.2	C	%	76 - 127	SW846 8260B			8/26/21 06:17	VLM	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	65	C	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	B
Alkalinity, Total	65	C,2	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	I
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			8/28/21 06:46	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			9/2/21 13:19	ALK	A
Chloride	91.0	C	mg/L	2.0	EPA 300.0			8/20/21 06:32	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/20/21 06:32	MBW	B
Nitrate-N	0.42	C	mg/L	0.20	EPA 300.0			8/20/21 06:32	MBW	B
pH	7.24	C,1	pH_Units		S4500HB-11			8/30/21 23:52	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	9/2/21 18:16	MXF	9/7/21 09:36	MXF	F
Specific Conductance	514	C	umhos/cm	1	SW846 9050A			9/3/21 13:00	MBS	B
Sulfate	16.8	C	mg/L	2.0	EPA 300.0			8/20/21 06:32	MBW	B
Total Dissolved Solids	358	C	mg/L	25	S2540C-11			8/23/21 09:40	BBD	B
Total Organic Carbon (TOC)	2.2	C	mg/L	0.50	SW846 9060A			8/24/21 18:50	PAG	D
Turbidity	0.19	C	NTU	0.10	SM2130B-2011			8/20/21 11:54	LXZ	B

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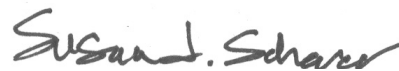
ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335003**
Sample ID: **FFMP019W**

Date Collected: 8/19/2021 13:26 Matrix: Ground Water
Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	59.5	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:33	SRT	J1
Iron, Total	ND	C	mg/L	0.067	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:33	SRT	J1
Magnesium, Total	6.0	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:33	SRT	J1
Manganese, Total	ND	C	mg/L	0.0056	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:33	SRT	J1
Potassium, Total	0.92	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:33	SRT	J1
Sodium, Total	10.6	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:33	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	27.76	C	Feet		Field			8/19/21 13:25	BGS	C
Dissolved Oxygen	0.16	C	mg/L	0.01	Field			8/19/21 13:25	BGS	C
Elev Top MW Casing above MSL	471.95	C	Feet		Field			8/19/21 13:25	BGS	C
Flow Rate	3.57	C	gal/min		Field			8/19/21 13:25	BGS	C
Ground Water Elevation	444.19	C	ft/MSL		Field			8/19/21 13:25	BGS	C
Oxidation-Reduction Potential	120	C	mV		Field			8/19/21 13:25	BGS	C
pH, Field (SM4500B)	6.35	C	pH_Units		Field			8/19/21 13:25	BGS	C
Sample Depth	49.00	C	Feet		Field			8/19/21 13:25	BGS	C
Specific Conductance, Field	725	C	umhos/cm	1	Field			8/19/21 13:25	BGS	C
Temperature	14.47	C	Deg. C		Field			8/19/21 13:25	BGS	C
Total Well Depth	132.79	C	Feet		Field			8/19/21 13:25	BGS	C
Turbidity, Field	ND	C	NTU	1	Field			8/19/21 13:25	BGS	C
Volume in Water Column	68.27	C	Gallons		Field			8/19/21 13:25	BGS	C
Water Level After Purge	36.89	C	Feet		Field			8/19/21 13:25	BGS	C
Well Volumes Purged	2.09	C	Vol		Field			8/19/21 13:25	BGS	C


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ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335004**

Date Collected: 8/19/2021 13:52

Matrix: Ground Water

Sample ID: **FFMP018W**

Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/26/21 06:40	VLM	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 06:40	VLM	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	97.3	C	%	62 - 133	SW846 8260B			8/26/21 06:40	VLM	G
4-Bromofluorobenzene (S)	95.3	C	%	79 - 114	SW846 8260B			8/26/21 06:40	VLM	G
Dibromofluoromethane (S)	96.7	C	%	78 - 116	SW846 8260B			8/26/21 06:40	VLM	G
Toluene-d8 (S)	95.4	C	%	76 - 127	SW846 8260B			8/26/21 06:40	VLM	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	21	C	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	B
Alkalinity, Total	21	C,2	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	I
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			8/31/21 23:23	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			9/2/21 13:19	ALK	A
Chloride	108	C	mg/L	2.0	EPA 300.0			8/20/21 06:45	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/20/21 06:45	MBW	B
Nitrate-N	5.5	C	mg/L	0.20	EPA 300.0			8/20/21 06:45	MBW	B
pH	5.92	C,1	pH_Units		S4500HB-11			8/30/21 23:52	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	9/2/21 18:16	MXF	9/7/21 09:36	MXF	F
Specific Conductance	570	C	umhos/cm	1	SW846 9050A			9/3/21 13:00	MBS	B
Sulfate	40.1	C	mg/L	2.0	EPA 300.0			8/20/21 06:45	MBW	B
Total Dissolved Solids	372	C	mg/L	25	S2540C-11			8/23/21 09:40	BBD	B
Total Organic Carbon (TOC)	0.68	C	mg/L	0.50	SW846 9060A			8/24/21 18:50	PAG	D
Turbidity	0.39	C	NTU	0.10	SM2130B-2011			8/20/21 11:54	LXZ	B

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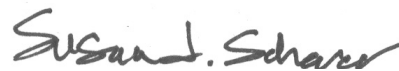
ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335004**
Sample ID: **FFMP018W**

Date Collected: 8/19/2021 13:52 Matrix: Ground Water
Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	30.7	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:36	SRT	J1
Iron, Total	ND	C	mg/L	0.067	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:36	SRT	J1
Magnesium, Total	16.3	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:36	SRT	J1
Manganese, Total	0.15	C	mg/L	0.0056	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:36	SRT	J1
Potassium, Total	4.4	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:36	SRT	J1
Sodium, Total	33.1	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:36	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	27.02	C	Feet		Field			8/19/21 13:49	BGS	C
Dissolved Oxygen	3.50	C	mg/L	0.01	Field			8/19/21 13:49	BGS	C
Elev Top MW Casing above MSL	472.20	C	Feet		Field			8/19/21 13:49	BGS	C
Flow Rate	3.47	C	gal/min		Field			8/19/21 13:49	BGS	C
Ground Water Elevation	445.18	C	ft/MSL		Field			8/19/21 13:49	BGS	C
Oxidation-Reduction Potential	240	C	mV		Field			8/19/21 13:49	BGS	C
pH, Field (SM4500B)	5.08	C	pH_Units		Field			8/19/21 13:49	BGS	C
Sample Depth	40.00	C	Feet		Field			8/19/21 13:49	BGS	C
Specific Conductance, Field	816	C	umhos/cm	1	Field			8/19/21 13:49	BGS	C
Temperature	15.37	C	Deg. C		Field			8/19/21 13:49	BGS	C
Total Well Depth	51.46	C	Feet		Field			8/19/21 13:49	BGS	C
Turbidity, Field	ND	C	NTU	1	Field			8/19/21 13:49	BGS	C
Volume in Water Column	15.89	C	Gallons		Field			8/19/21 13:49	BGS	C
Water Level After Purge	28.51	C	Feet		Field			8/19/21 13:49	BGS	C
Well Volumes Purged	3.06	C	Vol		Field			8/19/21 13:49	BGS	C


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ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335005**

Date Collected: 8/19/2021 14:33

Matrix: Ground Water

Sample ID: **FFMP002W**

Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/26/21 07:03	VLM	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:03	VLM	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	98.7	C	%	62 - 133	SW846 8260B			8/26/21 07:03	VLM	G
4-Bromofluorobenzene (S)	93.8	C	%	79 - 114	SW846 8260B			8/26/21 07:03	VLM	G
Dibromofluoromethane (S)	99.2	C	%	78 - 116	SW846 8260B			8/26/21 07:03	VLM	G
Toluene-d8 (S)	96.1	C	%	76 - 127	SW846 8260B			8/26/21 07:03	VLM	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND	C	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	B
Alkalinity, Total	ND	C,2	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	I
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			8/31/21 21:21	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			9/2/21 13:19	ALK	A
Chloride	21.3	C	mg/L	2.0	EPA 300.0			8/20/21 06:58	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/20/21 06:58	MBW	B
Nitrate-N	20.5	C	mg/L	0.20	EPA 300.0			8/20/21 06:58	MBW	B
pH	5.02	C,1	pH_Units		S4500HB-11			8/30/21 23:52	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	9/2/21 18:16	MXF	9/7/21 09:36	MXF	F
Specific Conductance	282	C	umhos/cm	1	SW846 9050A			9/3/21 13:00	MBS	B
Sulfate	20.3	C	mg/L	2.0	EPA 300.0			8/20/21 06:58	MBW	B
Total Dissolved Solids	246	C	mg/L	25	S2540C-11			8/23/21 09:40	BBD	B
Total Organic Carbon (TOC)	0.63	C	mg/L	0.50	SW846 9060A			8/24/21 18:50	PAG	D
Turbidity	ND	C	NTU	0.10	SM2130B-2011			8/20/21 11:54	LXZ	B

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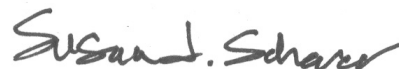
ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335005**
Sample ID: **FFMP002W**

Date Collected: 8/19/2021 14:33 Matrix: Ground Water
Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	18.2	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:40	SRT	J1
Iron, Total	ND	C	mg/L	0.067	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:40	SRT	J1
Magnesium, Total	7.5	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:40	SRT	J1
Manganese, Total	0.23	C	mg/L	0.0056	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:40	SRT	J1
Potassium, Total	1.3	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:40	SRT	J1
Sodium, Total	13.4	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:40	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	68.32	C	Feet		Field			8/19/21 14:32	BGS	C
Dissolved Oxygen	4.95	C	mg/L	0.01	Field			8/19/21 14:32	BGS	C
Elev Top MW Casing above MSL	613.20	C	Feet		Field			8/19/21 14:32	BGS	C
Flow Rate	1.15	C	gal/min		Field			8/19/21 14:32	BGS	C
Ground Water Elevation	544.88	C	ft/MSL		Field			8/19/21 14:32	BGS	C
Oxidation-Reduction Potential	342	C	mV		Field			8/19/21 14:32	BGS	C
pH, Field (SM4500B)	4.59	C	pH_Units		Field			8/19/21 14:32	BGS	C
Sample Depth	85.00	C	Feet		Field			8/19/21 14:32	BGS	C
Specific Conductance, Field	426	C	umhos/cm	1	Field			8/19/21 14:32	BGS	C
Temperature	16.66	C	Deg. C		Field			8/19/21 14:32	BGS	C
Total Well Depth	90.02	C	Feet		Field			8/19/21 14:32	BGS	C
Turbidity, Field	ND	C	NTU	1	Field			8/19/21 14:32	BGS	C
Volume in Water Column	31.90	C	Gallons		Field			8/19/21 14:32	BGS	C
Water Level After Purge	79.80	C	Feet		Field			8/19/21 14:32	BGS	C
Well Volumes Purged	0.72	C	Vol		Field			8/19/21 14:32	BGS	C


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ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335006**

Date Collected: 8/19/2021 15:04

Matrix: Ground Water

Sample ID: **FFMP032W**

Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/26/21 07:27	VLM	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 07:27	VLM	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	96.1	C	%	62 - 133	SW846 8260B			8/26/21 07:27	VLM	G
4-Bromofluorobenzene (S)	96.7	C	%	79 - 114	SW846 8260B			8/26/21 07:27	VLM	G
Dibromofluoromethane (S)	93.9	C	%	78 - 116	SW846 8260B			8/26/21 07:27	VLM	G
Toluene-d8 (S)	96.5	C	%	76 - 127	SW846 8260B			8/26/21 07:27	VLM	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	63	C	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	B
Alkalinity, Total	63	C,2	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	I
Ammonia-N	0.490	C	mg/L	0.100	ASTM D6919-09			8/31/21 13:59	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			9/2/21 13:19	ALK	A
Chloride	22.3	C	mg/L	2.0	EPA 300.0			8/20/21 07:38	MBW	B
Fluoride	ND	C	mg/L	0.20	EPA 300.0			8/20/21 07:38	MBW	B
Nitrate-N	ND	C	mg/L	0.20	EPA 300.0			8/20/21 07:38	MBW	B
pH	7.40	C,1	pH_Units		S4500HB-11			8/30/21 23:52	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	9/2/21 18:16	MXF	9/7/21 09:36	MXF	F
Specific Conductance	217	C	umhos/cm	1	SW846 9050A			9/3/21 13:00	MBS	B
Sulfate	ND	C	mg/L	2.0	EPA 300.0			8/20/21 07:38	MBW	B
Total Dissolved Solids	130	C	mg/L	25	S2540C-11			8/23/21 09:40	BBD	B
Total Organic Carbon (TOC)	0.62	C	mg/L	0.50	SW846 9060A			8/24/21 18:50	PAG	D
Turbidity	87.9	C	NTU	0.10	SM2130B-2011			8/20/21 11:54	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335006**

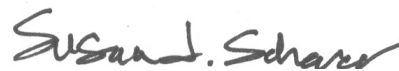
Date Collected: 8/19/2021 15:04

Matrix: Ground Water

Sample ID: **FFMP032W**

Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	14.6	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:44	SRT	J1
Iron, Total	6.1	C	mg/L	0.067	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:44	SRT	J1
Magnesium, Total	5.6	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:44	SRT	J1
Manganese, Total	0.60	C	mg/L	0.0056	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:44	SRT	J1
Potassium, Total	1.3	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:44	SRT	J1
Sodium, Total	12.6	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:44	SRT	J1
FIELD PARAMETERS										
Depth to Water Level	52.16	C	Feet		Field			8/19/21 15:02	BGS	C
Dissolved Oxygen	0.16	C	mg/L	0.01	Field			8/19/21 15:02	BGS	C
Elev Top MW Casing above MSL	594.09	C	Feet		Field			8/19/21 15:02	BGS	C
Flow Rate	0.75	C	gal/min		Field			8/19/21 15:02	BGS	C
Ground Water Elevation	541.93	C	ft/MSL		Field			8/19/21 15:02	BGS	C
Oxidation-Reduction Potential	-115	C	mV		Field			8/19/21 15:02	BGS	C
pH, Field (SM4500B)	6.96	C	pH_Units		Field			8/19/21 15:02	BGS	C
Sample Depth	62.00	C	Feet		Field			8/19/21 15:02	BGS	C
Specific Conductance, Field	320	C	umhos/cm	1	Field			8/19/21 15:02	BGS	C
Temperature	15.87	C	Deg. C		Field			8/19/21 15:02	BGS	C
Total Well Depth	77.60	C	Feet		Field			8/19/21 15:02	BGS	C
Turbidity, Field	7	C	NTU	1	Field			8/19/21 15:02	BGS	C
Volume in Water Column	37.40	C	Gallons		Field			8/19/21 15:02	BGS	C
Water Level After Purge	55.53	C	Feet		Field			8/19/21 15:02	BGS	C
Well Volumes Purged	0.24	C	Vol		Field			8/19/21 15:02	BGS	C


Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335007**
Sample ID: **FIELD BLANK**

Date Collected: 8/19/2021 15:11 Matrix: Water
Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/26/21 00:26	VLM	G
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:26	VLM	G
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	81.7	C	%	62 - 133	SW846 8260B			8/26/21 00:26	VLM	G
4-Bromofluorobenzene (S)	96.7	C	%	79 - 114	SW846 8260B			8/26/21 00:26	VLM	G
Dibromofluoromethane (S)	89.6	C	%	78 - 116	SW846 8260B			8/26/21 00:26	VLM	G
Toluene-d8 (S)	100	C	%	76 - 127	SW846 8260B			8/26/21 00:26	VLM	G
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND	C	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	B
Alkalinity, Total	ND	C,2	mg/L	5	SM2320B-2011			8/30/21 23:52	MBS	I
Ammonia-N	ND	C	mg/L	0.100	ASTM D6919-09			9/1/21 16:09	ALK	A
Chemical Oxygen Demand (COD)	ND	C	mg/L	15	EPA 410.4			9/2/21 13:19	ALK	A
Chloride	ND	C	mg/L	1.0	EPA 300.0			8/20/21 07:25	MBW	B
Fluoride	ND	C	mg/L	0.10	EPA 300.0			8/20/21 07:25	MBW	B
Nitrate-N	ND	C	mg/L	0.10	EPA 300.0			8/20/21 07:25	MBW	B
pH	6.26	C,1	pH_Units		S4500HB-11			8/30/21 23:52	MBS	B
Phenolics	ND	C	mg/L	0.005	SW846 9066	9/2/21 18:16	MXF	9/7/21 09:36	MXF	F
Specific Conductance	5	C	umhos/cm	1	SW846 9050A			9/3/21 13:00	MBS	B
Sulfate	ND	C	mg/L	1.0	EPA 300.0			8/20/21 07:25	MBW	B
Total Dissolved Solids	ND	C	mg/L	25	S2540C-11			8/23/21 09:40	BBD	B
Total Organic Carbon (TOC)	ND	C	mg/L	0.50	SW846 9060A			8/24/21 18:50	PAG	D
Turbidity	0.19	C	NTU	0.10	SM2130B-2011			8/20/21 11:54	LXZ	B

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ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335007**
Sample ID: **FIELD BLANK**

Date Collected: 8/19/2021 15:11 Matrix: Water
Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
METALS										
Calcium, Total	ND	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:55	SRT	J1
Iron, Total	ND	C	mg/L	0.067	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:55	SRT	J1
Magnesium, Total	ND	C	mg/L	0.11	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:55	SRT	J1
Manganese, Total	ND	C	mg/L	0.0056	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:55	SRT	J1
Potassium, Total	ND	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:55	SRT	J1
Sodium, Total	ND	C	mg/L	0.56	SW846 6010C	8/24/21 08:32	SRT	8/25/21 11:55	SRT	J1

Ms. Susan J Scherer
Project Coordinator

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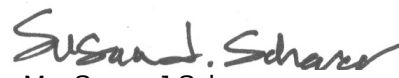
ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID: **3196335008**
Sample ID: **TRIP BLANK**

Date Collected: 8/19/2021 15:11 Matrix: Water
Date Received: 8/19/2021 16:44

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
1,2-Dibromoethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
1,1-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
1,2-Dichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
1,1-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
cis-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
trans-1,2-Dichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
Ethylbenzene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
Methylene Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
Tetrachloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
Toluene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
Total Xylenes	ND	C	ug/L	3.0	SW846 8260B			8/26/21 00:02	VLM	A
1,1,1-Trichloroethane	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
Trichloroethene	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
Vinyl Chloride	ND	C	ug/L	1.0	SW846 8260B			8/26/21 00:02	VLM	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	86.5	C	%	62 - 133	SW846 8260B			8/26/21 00:02	VLM	A
4-Bromofluorobenzene (S)	96.4	C	%	79 - 114	SW846 8260B			8/26/21 00:02	VLM	A
Dibromofluoromethane (S)	88.9	C	%	78 - 116	SW846 8260B			8/26/21 00:02	VLM	A
Toluene-d8 (S)	99.9	C	%	76 - 127	SW846 8260B			8/26/21 00:02	VLM	A


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ANALYTICAL RESULTS

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3196335001	1	FFMP035W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3196335001	3	FFMP035W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3196335002	1	FFMP036W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3196335002	2	FFMP036W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3196335003	1	FFMP019W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3196335003	2	FFMP019W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3196335004	1	FFMP018W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3196335004	2	FFMP018W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3196335005	1	FFMP002W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3196335005	2	FFMP002W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3196335006	1	FFMP032W	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3196335006	2	FFMP032W	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
3196335007	1	FIELD BLANK	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3196335007	2	FIELD BLANK	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3196335001	FFMP035W	ASTM D6919-09		
3196335001	FFMP035W	EPA 300.0		
3196335001	FFMP035W	EPA 410.4		
3196335001	FFMP035W	Field		
3196335001	FFMP035W	S2540C-11		
3196335001	FFMP035W	S4500HB-11		
3196335001	FFMP035W	SM2130B-2011		
3196335001	FFMP035W	SM2320B-2011		
3196335001	FFMP035W	SW846 6010C	SW846 3015	
3196335001	FFMP035W	SW846 8260B		
3196335001	FFMP035W	SW846 9050A		
3196335001	FFMP035W	SW846 9060A		
3196335001	FFMP035W	SW846 9066	420.4/9066	
3196335002	FFMP036W	ASTM D6919-09		
3196335002	FFMP036W	EPA 300.0		
3196335002	FFMP036W	EPA 410.4		
3196335002	FFMP036W	Field		
3196335002	FFMP036W	S2540C-11		
3196335002	FFMP036W	S4500HB-11		
3196335002	FFMP036W	SM2130B-2011		
3196335002	FFMP036W	SM2320B-2011		
3196335002	FFMP036W	SW846 6010C	SW846 3015	
3196335002	FFMP036W	SW846 8260B		
3196335002	FFMP036W	SW846 9050A		
3196335002	FFMP036W	SW846 9060A		
3196335002	FFMP036W	SW846 9066	420.4/9066	
3196335003	FFMP019W	ASTM D6919-09		
3196335003	FFMP019W	EPA 300.0		
3196335003	FFMP019W	EPA 410.4		
3196335003	FFMP019W	Field		
3196335003	FFMP019W	S2540C-11		
3196335003	FFMP019W	S4500HB-11		
3196335003	FFMP019W	SM2130B-2011		
3196335003	FFMP019W	SM2320B-2011		
3196335003	FFMP019W	SW846 6010C	SW846 3015	
3196335003	FFMP019W	SW846 8260B		
3196335003	FFMP019W	SW846 9050A		
3196335003	FFMP019W	SW846 9060A		
3196335003	FFMP019W	SW846 9066	420.4/9066	
3196335004	FFMP018W	ASTM D6919-09		
3196335004	FFMP018W	EPA 300.0		
3196335004	FFMP018W	EPA 410.4		
3196335004	FFMP018W	Field		
3196335004	FFMP018W	S2540C-11		
3196335004	FFMP018W	S4500HB-11		
3196335004	FFMP018W	SM2130B-2011		

ALS Environmental Laboratory Locations Across North America

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

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3196335 3RD QTR 2021 GWMP-FORM 19Q

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3196335004	FFMP018W	SM2320B-2011		
3196335004	FFMP018W	SW846 6010C	SW846 3015	
3196335004	FFMP018W	SW846 8260B		
3196335004	FFMP018W	SW846 9050A		
3196335004	FFMP018W	SW846 9060A		
3196335004	FFMP018W	SW846 9066	420.4/9066	
3196335005	FFMP002W	ASTM D6919-09		
3196335005	FFMP002W	EPA 300.0		
3196335005	FFMP002W	EPA 410.4		
3196335005	FFMP002W	Field		
3196335005	FFMP002W	S2540C-11		
3196335005	FFMP002W	S4500HB-11		
3196335005	FFMP002W	SM2130B-2011		
3196335005	FFMP002W	SM2320B-2011		
3196335005	FFMP002W	SW846 6010C	SW846 3015	
3196335005	FFMP002W	SW846 8260B		
3196335005	FFMP002W	SW846 9050A		
3196335005	FFMP002W	SW846 9060A		
3196335005	FFMP002W	SW846 9066	420.4/9066	
3196335006	FFMP032W	ASTM D6919-09		
3196335006	FFMP032W	EPA 300.0		
3196335006	FFMP032W	EPA 410.4		
3196335006	FFMP032W	Field		
3196335006	FFMP032W	S2540C-11		
3196335006	FFMP032W	S4500HB-11		
3196335006	FFMP032W	SM2130B-2011		
3196335006	FFMP032W	SM2320B-2011		
3196335006	FFMP032W	SW846 6010C	SW846 3015	
3196335006	FFMP032W	SW846 8260B		
3196335006	FFMP032W	SW846 9050A		
3196335006	FFMP032W	SW846 9060A		
3196335006	FFMP032W	SW846 9066	420.4/9066	
3196335007	FIELD BLANK	ASTM D6919-09		
3196335007	FIELD BLANK	EPA 300.0		
3196335007	FIELD BLANK	EPA 410.4		
3196335007	FIELD BLANK	S2540C-11		
3196335007	FIELD BLANK	S4500HB-11		
3196335007	FIELD BLANK	SM2130B-2011		
3196335007	FIELD BLANK	SM2320B-2011		
3196335007	FIELD BLANK	SW846 6010C	SW846 3015	
3196335007	FIELD BLANK	SW846 8260B		
3196335007	FIELD BLANK	SW846 9050A		
3196335007	FIELD BLANK	SW846 9060A		
3196335007	FIELD BLANK	SW846 9066	420.4/9066	
3196335008	TRIP BLANK	SW846 8260B		

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Generated by ALS

CHAIN OF CUSTODY/

REQUEST FOR ANALYSIS

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

3011 Filling Mill Road • Middletown, PA 17057 • P: 717.944.5541 • F: 717.944.1430

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 mreider@LCSWMA.com

Fax: ☒ Y No.: (717) 397-9973

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

Sample Date Time

1. FFMP035W 08/19/21 1101 G GW

2. FFMP036W 08/19/21 1230 G GW

3. FFMP019W 08/19/21 1326 G GW

4. FFMP018W 08/19/21 1352 G GW

5. FFMP002W 08/19/21 1433 G GW

6. FFMP032W 08/19/21 1504 G GW

7. Field Blank 08/19/21 1511 G GW

8. Trip Blank 08/19/21 1644 G GW

9

10

Project Comments:

LOGGED BY (signature):

REVIEWED BY (signature):

Relinquished By / Company Name

Date Time

1 08/21/21 0642

3 4

5 6

7 8

9 10

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

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

Rev 8/04

COC #:

ALS Quot:

3196335

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Therm ID: 573

No. of Coolers: Y N Initial

Custody Seals Present?

(if present) Seals Intact?

Received on Ice?

COC/Labels Complete/Accurate?

Cont. in Good Cond.?

Correct Containers?

Correct Sample Volumes?

Correct Preservation?

Headspace/Volatiles?

Courier Tracking #:

Sample/COC Comments

Alkalinity Bicarbonate

pH, Cl, SpC, F, SO₄, TDS, NO₃

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

NH₃-N, COD

Sample Depth for AUX Data

Field Measurements

VOC - Form 190

O-H

TOC

**Matrix

G

GW

G

GW

G

GW

G

GW

G

GW

G

GW

G

GW

G

GW

G

GW

G

GW

G

Standard

CLP-like

USACE

State Samples Collected In

USACE

Navy

NY

NJ

PA

NC

Special

Reportable to PADEP?

Yes

Lab

Special

PWSID #

EDDS: Format Type-

Standard

CLP-like

USACE

State Samples Collected In

USACE

Navy

NY

NJ

PA

NC

Special

Reportable to PADEP?

Yes

Lab

Special

PWSID #

EDDS: Format Type-

Standard

CLP-like

USACE

State Samples Collected In

USACE

Navy

NY

NJ

PA

NC



301 Fulling Mill Road
Middletown, PA 17057

P: (717) 944-5541

F: (717) 944-1430

Condition of Sample Receipt Form

3196335

Client:

Lancaster County Solid Waste
Authority

Initials:

Date:

9/20/21

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

Cooler #:

Temperature (°C): 6

Thermometer ID: 313

Radiological (µCi):

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

sample #2 is 036W on the COC but 016W on the bottles

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