

July 14, 2016

Ms. Charlene Sauls; Regional Hydrogeologist
Pennsylvania Department of Environmental Protection
Bureau of Waste Management
909 Elmerton Avenue
Harrisburg, PA 17110-8200

RE: Frey Farm Landfill (BWM Permit #101389)
Groundwater Monitoring; Forms 19 Submittal

Dear Ms. Sauls:

In accordance with the Municipal Waste Management Regulations, the Lancaster County Solid Waste Management Authority (LCSWMA) continues the above-referenced monitoring program.

Attached are the Forms 19, lab reports, and excel csv file for your LandLinks Access database. I have attached per your request:

1. USEPA MCL's exceedance report; six samples (2, 3, 16, 23, 27 & 28) exceeded the primary standard for nitrate, samples are consistent with historic data the cause is attributed to agricultural impacts (as well 2 our up gradient well shows our highest concentrations). FFMP001P total Mercury shows as an exceedance MCL 3.3ug/l (MCL 2.0 ug/l), this source is a surface spring not a drinking water source, we have resampled the source and are awaiting results. No other MCL's were exceeded.
2. USEPA SMCL's exceedance report; ten samples (1, 2, 3, 4, 17, 18, 23, 24, 26 & 30) exceeded the secondary standard for manganese, four samples (1, 13, 24 & 30) exceeded the secondary standard for iron, six samples (4,5, 13, 17,26 & 30) exceeded the secondary standard for total dissolved solids, and one sample (4) exceeded the secondary standard for chlorides all samples are consistent with historic levels and exceedances are attributed to soil parent material, geologic conditions and historic land use. No other SMCL's were exceeded.
3. A copy of the field sampling data sheets for all locations.

Ground water monitoring concentrations where consistent with historic data no significant deviations where observed with the exception of the mercury on FFMP001 (surface spring).

Please do not hesitate in contacting me if you have any questions or concerns at MREIDER@LCSWMA.ORG.

Respectfully Submitted,



Mark D. Reider
Director of Environmental Compliance

Enclosures:

cc: Bob Zorbaugh, Dan Brown, Bob Eshbach
Ed Rawski, Randy Weiss (PADEP)

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 5/16/2016

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	0.283	SM20-4500D
BICARBONATE ALKALINITY	15	SM20-2320B
CALCIUM, TOTAL	7.9	SW846 6010B
CALCIUM, DISSOLVED	7.8	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	11.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	9	SW846 6010B
MAGNESIUM, DISSOLVED	9.3	SW846 6010B
MANGANESE, TOTAL (ug/l)	32	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	31	SW846 6010B
NITRATE-NITROGEN	7.1	EPA 300
pH-FIELD (SU)	5.21	FIELD
pH-LAB (SU)	6.36	SM20-4500B
POTASSIUM, TOTAL	2.3	SW846 6010B
POTASSIUM, DISSOLVED	2.3	SW846 6010B
SODIUM, TOTAL	22.1	SW846 6010B
SODIUM, DISSOLVED	21.2	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	248	FIELD
SPEC. COND., LAB (umhos/cm)	211	EPA 120.1
SULFATE	48.2	EPA 300
ALKALINITY	15	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	170	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 5/16/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 5/16/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	49	SW846 6010B
BARIUM, DISSOLVED	48	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP015W

Sample Date 5/16/2016

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP015W
Sample Date	5/16/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTEDate Prepared/Revised
06/22/2016

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP028W ☒ Well ☐ Spring ☐ Stream ☐ Other
☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point Latitude: 37 ° 57 ' 21.62 "Longitude: 76 ° 27 ' 0.1 "Depth to Water Level: 8.28 ftMeasured from: ☐ Land Surface ☒ TOCCasing Stickup: 2.50 ftElevation of Water Level: 456.72 ft./MSLSampling Depth: 50 ft

Volume of Water Column: _____ gal

Total Well Depth: 60 ftSampling Method: ☒ Pumped ☐ Bailed ☐ GrabWell Purged: ☒ Yes ☐ NoWell Volumes Purged: 2.1Sample Field Filtered (must be 0.45 micron)?: ☒ Yes ☐ No

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 5/16/2016Sample Collection Time: 12:37

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS Environmental

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): 2144089002 Final Lab Analysis Completion Date: 6/1/2016

Name/Affiliation of Person who Filled Out Form: Mark D. Reider

Comments: _____

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	28	SM20-2320B
CALCIUM, TOTAL	39.3	SW846 6010B
CALCIUM, DISSOLVED	41.7	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	86.3	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	17.8	SW846 6010B
MAGNESIUM, DISSOLVED	18.7	SW846 6010B
MANGANESE, TOTAL (ug/l)	14	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	15	SW846 6010B
NITRATE-NITROGEN	21	EPA 300
pH-FIELD (SU)	5.31	FIELD
pH-LAB (SU)	6.51	SM20-4500B
POTASSIUM, TOTAL	2.7	SW846 6010B
POTASSIUM, DISSOLVED	2.8	SW846 6010B
SODIUM, TOTAL	30.3	SW846 6010B
SODIUM, DISSOLVED	30.3	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	589	FIELD
SPEC. COND., LAB (umhos/cm)	555	EPA 120.1
SULFATE	24.1	EPA 300
ALKALINITY	28	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	370	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.1	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

I.D. No 101389

Monitoring Point No. FFMP028W

Sample Date 5/16/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP028W

Sample Date 5/16/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	71	SW846 6010B
BARIUM, DISSOLVED	73	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
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SILVER, DISSOLVED	4 ND	SW846 6010B
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Monitoring Point No. FFMP028W

Sample Date 5/16/2016

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CHLOROETHANE	1 ND	SW846 8260B
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CHLOROMETHANE	1 ND	SW846 8260B
3-CHLORO-1-PROPENE	1 ND	SW846 8260B
1,2-DICHLOROBENZENE	1 ND	SW846 8260B
1,3-DICHLOROBENZENE	1 ND	SW846 8260B
1,4-DICHLOROBENZENE	1 ND	SW846 8260B
DICHLORODIFLUOROMETHANE	1 ND	SW846 8260B
1,2-DICHLOROPROPANE	1 ND	SW846 8260B
CIS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
TRANS 1,3-DICHLOROPROPENE	1 ND	SW846 8260B
2-BUTANONE (MEK)	10 ND	SW846 8260B
4-METHYL-2-PENTANONE	5 ND	SW846 8260B
1,1,1,2-TETRACHLOROETHANE	1 ND	SW846 8260B
1,1,2,2-TETRACHLOROETHANE	1 ND	SW846 8260B
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TRICHLOROFLUOROMETHANE	1 ND	SW846 8260B
1,2,3-TRICHLOROPROPANE	2 ND	SW846 8260B

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

I.D. No	101389
Monitoring Point No.	FFMP028W
Sample Date	5/16/2016

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

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BROMODICHLOROMETHANE		SW846 8260B
CARBON DISULFIDE		SW846 8260B
CHLOROFORM		SW846 8260B
1,2-DIBROMO-3-CHLOROPROPANE		SW846 8260B
TRANS 1,4-DICHLORO-2-BUTENE		SW846 8260B
2-HEXANONE		SW846 8260B
DIBROMOMETHANE		SW846 8260B
IODOMETHANE		SW846 8260B
STYRENE		SW846 8260B
VINYL ACETATE		SW846 8260B
ANTIMONY		SW846 6010B
BERYLLIUM		SW846 6010B
COBALT		SW846 6010B
NICKEL		SW846 6010B
THALLIUM		SW846 6010B
VANADIUM		SW846 6010B

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Qualitatively Identified Organic Compounds

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

[illegible]

Date Prepared/Revised
06/22/2016

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
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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: FFMP025W X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 19.07 "

Longitude: 76° 27' 1.12"

Depth to Water Level: 24.71 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.50 ft

Elevation of Water Level: 452.09 ft./MSL

Sampling Depth: 39 ft

Volume of Water Column: 22.46 gal

Total Well Depth: 40 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 4.0

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

Spring Flow Rate: _____gpm

Sample Date (mm/dd/yy): 5/16/2016

Sample Collection Time: 13:13

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS Environmental

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): 2144089003 Final Lab Analysis CompletionDate: 5/30/2016

Name/Affiliation of Person who Filled Out Form: Mark D. Reider

Comments:

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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MANGANESE, TOTAL (ug/l)	9.1	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	10	SW846 6010B
NITRATE-NITROGEN	10	EPA 300
pH-FIELD (SU)	5.27	FIELD
pH-LAB (SU)	6.42	SM20-4500B
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POTASSIUM, DISSOLVED	2.4	SW846 6010B
SODIUM, TOTAL	18.5	SW846 6010B
SODIUM, DISSOLVED	18.2	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	334	FIELD
SPEC. COND., LAB (umhos/cm)	287	EPA 120.1
SULFATE	20.3	EPA 300
ALKALINITY	20	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	218	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.23	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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Remaining quarterly samples only require total metals analysis.

I.D. No 101389

Monitoring Point No. FFMP025W

Sample Date 5/16/2016

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP025W

Sample Date 5/16/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	52	SW846 6010B
BARIUM, DISSOLVED	52	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP025W

Sample Date 5/16/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP025W
Sample Date	5/16/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

I.D. No 101389

Monitoring Point No. FFMP024W

Sample Date 5/16/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	109	SM20-2320B
CALCIUM, TOTAL	47	SW846 6010B
CALCIUM, DISSOLVED	49.8	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	13.8	EPA 300
FLUORIDE	0.22	EPA 300
IRON, TOTAL (ug/l)	400	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	5.4	SW846 6010B
MAGNESIUM, DISSOLVED	5.6	SW846 6010B
MANGANESE, TOTAL (ug/l)	250	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	94	SW846 6010B
NITRATE-NITROGEN	3.1	EPA 300
pH-FIELD (SU)	7.06	FIELD
pH-LAB (SU)	7.84	SM20-4500B
POTASSIUM, TOTAL	1.2	SW846 6010B
POTASSIUM, DISSOLVED	1.4	SW846 6010B
SODIUM, TOTAL	9.9	SW846 6010B
SODIUM, DISSOLVED	9.9	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	347	FIELD
SPEC. COND., LAB (umhos/cm)	299	EPA 120.1
SULFATE	31	EPA 300
ALKALINITY	109	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	234	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	9.26	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

I.D. No 101389

Monitoring Point No. FFMP024W

Sample Date 5/16/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP024W

Sample Date 5/16/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	32	SW846 6010B
BARIUM, DISSOLVED	28	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP024W

Sample Date 5/16/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP024W
Sample Date	5/16/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

Date Prepared/Revised
06/22/2016

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: FFMP023W

☒ Well ☐ Spring ☐ Stream ☐ Other

☒ Upgradient/Upstream ☐ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 31.62 "

Longitude: 76° 27' 24.05"

Depth to Water Level: 59.79 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.50 ft

Elevation of Water Level: 552.01 ft./MSL

Sampling Depth: 79 ft

Volume of Water Column: 32.62 gal

Total Well Depth: 82 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 3.0

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 5/16/2016

Sample Collection Time: 15:10

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS Environmental

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): 2144089005 Final Lab Analysis CompletionDate: 5/30/2016

Name/Affiliation of Person who Filled Out Form: Mark D. Reider

Comments:

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	6	SM20-2320B
CALCIUM, TOTAL	10	SW846 6010B
CALCIUM, DISSOLVED	9.8	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	25.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	7.9	SW846 6010B
MAGNESIUM, DISSOLVED	7.8	SW846 6010B
MANGANESE, TOTAL (ug/l)	200	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	200	SW846 6010B
NITRATE-NITROGEN	11.7	EPA 300
pH-FIELD (SU)	4.59	FIELD
pH-LAB (SU)	5.79	SM20-4500B
POTASSIUM, TOTAL	1.4	SW846 6010B
POTASSIUM, DISSOLVED	1.4	SW846 6010B
SODIUM, TOTAL	9.7	SW846 6010B
SODIUM, DISSOLVED	8.9	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	201	FIELD
SPEC. COND., LAB (umhos/cm)	170	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	6	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	140	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.28	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

I.D. No 101389

Monitoring Point No. FFMP023W

Sample Date 5/16/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP023W

Sample Date 5/16/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	110	SW846 6010B
BARIUM, DISSOLVED	100	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	27	SW846 6010B
ZINC, DISSOLVED	24	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP023W

Sample Date 5/16/2016

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP023W
Sample Date	5/16/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	5 ND	SM20-2320B
CALCIUM, TOTAL	23.1	SW846 6010B
CALCIUM, DISSOLVED	24.4	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	21.9	EPA 300
FLUORIDE	0.5 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	9	SW846 6010B
MAGNESIUM, DISSOLVED	9.6	SW846 6010B
MANGANESE, TOTAL (ug/l)	290	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	320	SW846 6010B
NITRATE-NITROGEN	26.6	EPA 300
pH-FIELD (SU)	4.54	FIELD
pH-LAB (SU)	5.46	SM20-4500B
POTASSIUM, TOTAL	1.4	SW846 6010B
POTASSIUM, DISSOLVED	1.6	SW846 6010B
SODIUM, TOTAL	16.2	SW846 6010B
SODIUM, DISSOLVED	16.2	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	350	FIELD
SPEC. COND., LAB (umhos/cm)	289	EPA 120.1
SULFATE	8.7	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	241	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.66	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

I.D. No 101389

Monitoring Point No. FFMP002W

Sample Date 5/16/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP002W

Sample Date 5/16/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	83	SW846 6010B
BARIUM, DISSOLVED	86	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	18	SW846 6010B
COPPER, DISSOLVED	20	SW846 6010B
LEAD-FLAMELESS, TOTAL	13 ND	SW846 6010B
LEAD, DISSOLVED	8.5	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	27	SW846 6010B
ZINC, DISSOLVED	28	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP002W

Sample Date 5/16/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP002W
Sample Date	5/16/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTEDate Prepared/Revised
06/22/2016

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP016W ☒ Well ☐ Spring ☐ Stream ☐ Other
☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 19.15 "Longitude: 76 ° 27 ' 0.88 "Depth to Water Level: 22.35 ftMeasured from: ☐ Land Surface ☒ TOCCasing Stickup: 1.97 ftElevation of Water Level: 452.25 ft./MSLSampling Depth: 135 ftVolume of Water Column: 187.18 galTotal Well Depth: 149.8 ftSampling Method: ☒ Pumped ☐ Bailed ☐ GrabWell Purged: ☒ Yes ☐ No

Well Volumes Purged: _____

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 5/16/2016Sample Collection Time: 16:04

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS Environmental

Laboratory(ies) Performing Analysis: ALS Environmental

Were any holding times exceeded?: ☐ Yes ☒ No If yes, please explain in comments field.Lab Accreditation Number(s): 22-293Lab Sample Number(s): 2144089007Final Lab Analysis Completion Date: 5/27/2016

Name/Affiliation of Person who Filled Out Form: Mark D. Reider

Comments: _____

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	23	SM20-2320B
CALCIUM, TOTAL	27.2	SW846 6010B
CALCIUM, DISSOLVED	27.3	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	64.2	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	13.6	SW846 6010B
MAGNESIUM, DISSOLVED	13.9	SW846 6010B
MANGANESE, TOTAL (ug/l)	24	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	26	SW846 6010B
NITRATE-NITROGEN	13	EPA 300
pH-FIELD (SU)	4.9	FIELD
pH-LAB (SU)	6.4	SM20-4500B
POTASSIUM, TOTAL	2.3	SW846 6010B
POTASSIUM, DISSOLVED	2.3	SW846 6010B
SODIUM, TOTAL	23.1	SW846 6010B
SODIUM, DISSOLVED	22.3	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	429	FIELD
SPEC. COND., LAB (umhos/cm)	397	EPA 120.1
SULFATE	22.5	EPA 300
ALKALINITY	23	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	206	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.43	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

I.D. No 101389

Monitoring Point No. FFMP016W

Sample Date 5/16/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP016W

Sample Date 5/16/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	56	SW846 6010B
BARIUM, DISSOLVED	56	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP016W

Sample Date 5/16/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP016W
Sample Date	5/16/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

I.D. No 101389

Monitoring Point No. FFMP30RW

Sample Date 5/17/2016

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	0.138	SM20-4500D
BICARBONATE ALKALINITY	36	SM20-2320B
CALCIUM, TOTAL	30.4	SW846 6010B
CALCIUM, DISSOLVED	30.1	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	196	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	470	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	15.3	SW846 6010B
MAGNESIUM, DISSOLVED	15.3	SW846 6010B
MANGANESE, TOTAL (ug/l)	2400	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	2500	SW846 6010B
NITRATE-NITROGEN	5.3	EPA 300
pH-FIELD (SU)	5.15	FIELD
pH-LAB (SU)	5.86	SM20-4500B
POTASSIUM, TOTAL	4.6	SW846 6010B
POTASSIUM, DISSOLVED	4.8	SW846 6010B
SODIUM, TOTAL	83.5	SW846 6010B
SODIUM, DISSOLVED	84.1	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	729	FIELD
SPEC. COND., LAB (umhos/cm)	752	EPA 120.1
SULFATE	24	EPA 300
ALKALINITY	36	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	589	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	5.88	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

I.D. No 101389

Monitoring Point No. FFMP30RW

Sample Date 5/17/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP30RW

Sample Date 5/17/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	72	SW846 6010B
BARIUM, DISSOLVED	70	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.6	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP30RW

Sample Date 5/17/2016

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP30RW
Sample Date	5/17/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

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	0.184	SM20-4500D
BICARBONATE ALKALINITY	212	SM20-2320B
CALCIUM, TOTAL	152	SW846 6010B
CALCIUM, DISSOLVED	156	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	306	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	98	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	25.9	SW846 6010B
MAGNESIUM, DISSOLVED	26.4	SW846 6010B
MANGANESE, TOTAL (ug/l)	240	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	260	SW846 6010B
NITRATE-NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.8	FIELD
pH-LAB (SU)	7.37	SM20-4500B
POTASSIUM, TOTAL	2.2	SW846 6010B
POTASSIUM, DISSOLVED	2.5	SW846 6010B
SODIUM, TOTAL	86.8	SW846 6010B
SODIUM, DISSOLVED	87.2	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	1473	FIELD
SPEC. COND., LAB (umhos/cm)	1380	EPA 120.1
SULFATE	45.9	EPA 300
ALKALINITY	212	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	1270	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.89	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

I.D. No 101389

Monitoring Point No. FFMP04AW

Sample Date 5/17/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP04AW

Sample Date 5/17/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	210	SW846 6010B
BARIUM, DISSOLVED	220	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP04AW

Sample Date 5/17/2016

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP04AW
Sample Date	5/17/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	44	SM20-2320B
CALCIUM, TOTAL	69.6	SW846 6010B
CALCIUM, DISSOLVED	70.6	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	192	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	20	SW846 6010B
MAGNESIUM, DISSOLVED	20.4	SW846 6010B
MANGANESE, TOTAL (ug/l)	460	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	480	SW846 6010B
NITRATE-NITROGEN	1.8	EPA 300
pH-FIELD (SU)	5.16	FIELD
pH-LAB (SU)	5.77	SM20-4500B
POTASSIUM, TOTAL	8.7	SW846 6010B
POTASSIUM, DISSOLVED	9.1	SW846 6010B
SODIUM, TOTAL	59.6	SW846 6010B
SODIUM, DISSOLVED	60.4	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	920	FIELD
SPEC. COND., LAB (umhos/cm)	864	EPA 120.1
SULFATE	80.4	EPA 300
ALKALINITY	44	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	748	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.6	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.58	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

I.D. No 101389

Monitoring Point No. FFMP26RW

Sample Date 5/17/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP26RW

Sample Date 5/17/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	110	SW846 6010B
BARIUM, DISSOLVED	120	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.63	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP26RW

Sample Date 5/17/2016

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP26RW
Sample Date	5/17/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

Date Prepared/Revised
06/22/2016

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

Monitoring Point Number: FFMP005W X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 10.67 "

Longitude: 76° 27' 21.3"

Depth to Water Level: 66.58 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.70 ft

Elevation of Water Level: 470.82 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column: 122.51 gal

Total Well Depth: 150 ft

Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

Well Purged: X Yes No

Well Volumes Purged: 1.5

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

Spring Flow Rate: _____gpm

Sample Date (mm/dd/yy): 5/17/2016

Sample Collection Time: 14:15

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS Environmental

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): 2144378004 Final Lab Analysis CompletionDate: 5/27/2016

Name/Affiliation of Person who Filled Out Form: Mark D. Reider

Comments:

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	45	SM20-2320B
CALCIUM, TOTAL	69.6	SW846 6010B
CALCIUM, DISSOLVED	71.1	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	172	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	16.9	SW846 6010B
MAGNESIUM, DISSOLVED	17.5	SW846 6010B
MANGANESE, TOTAL (ug/l)	43	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	46	SW846 6010B
NITRATE-NITROGEN	3.5	EPA 300
pH-FIELD (SU)	4.88	FIELD
pH-LAB (SU)	5.94	SM20-4500B
POTASSIUM, TOTAL	2.5	SW846 6010B
POTASSIUM, DISSOLVED	2.7	SW846 6010B
SODIUM, TOTAL	43.3	SW846 6010B
SODIUM, DISSOLVED	44.6	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	812	FIELD
SPEC. COND., LAB (umhos/cm)	760	EPA 120.1
SULFATE	52.8	EPA 300
ALKALINITY	45	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	725	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.3	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

I.D. No 101389

Monitoring Point No. FFMP005W

Sample Date 5/17/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP005W

Sample Date 5/17/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	43	SW846 6010B
BARIUM, DISSOLVED	44	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP005W

Sample Date 5/17/2016

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

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

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

I.D. No	101389
Monitoring Point No.	FFMP005W
Sample Date	5/17/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

Date Prepared/Revised
06/22/2016

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

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

 Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 11.62 "

Longitude: 76° 27' 5.68"

Depth to Water Level: 27.23 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.46 ft

Elevation of Water Level: 444.97 ft./MSL

Sampling Depth: 40 ft

Volume of Water Column: 15.80 gal

Total Well Depth: 51.43 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 2.9

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

Spring Flow Rate: _____gpm

Sample Date (mm/dd/yy): 5/18/2016

Sample Collection Time: 9:40

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS Environmental

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): 2144831001 Final Lab Analysis CompletionDate: 6/1/2016

Name/Affiliation of Person who Filled Out Form: Mark D. Reider

Comments:

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	15	SM20-2320B
CALCIUM, TOTAL	35.5	SW846 6010B
CALCIUM, DISSOLVED	34.6	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	14	EPA 410.4
CHLORIDE	131	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	18.3	SW846 6010B
MAGNESIUM, DISSOLVED	18.1	SW846 6010B
MANGANESE, TOTAL (ug/l)	330	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	330	SW846 6010B
NITRATE-NITROGEN	5.8	EPA 300
pH-FIELD (SU)	4.27	FIELD
pH-LAB (SU)	6.15	SM20-4500B
POTASSIUM, TOTAL	4.7	SW846 6010B
POTASSIUM, DISSOLVED	4.7	SW846 6010B
SODIUM, TOTAL	46.5	SW846 6010B
SODIUM, DISSOLVED	46.3	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	648	FIELD
SPEC. COND., LAB (umhos/cm)	620	EPA 120.1
SULFATE	50	EPA 300
ALKALINITY	15	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	381	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.8	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

I.D. No 101389

Monitoring Point No. FFMP018W

Sample Date 5/18/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP018W

Sample Date 5/18/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	110	SW846 6010B
BARIUM, DISSOLVED	110	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP018W

Sample Date 5/18/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP018W
Sample Date	5/18/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	70	SM20-2320B
CALCIUM, TOTAL	58.9	SW846 6010B
CALCIUM, DISSOLVED	57.3	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	79.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	5.8	SW846 6010B
MAGNESIUM, DISSOLVED	5.7	SW846 6010B
MANGANESE, TOTAL (ug/l)	5.6 ND	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	5 ND	SW846 6010B
NITRATE-NITROGEN	0.6	EPA 300
pH-FIELD (SU)	6.25	FIELD
pH-LAB (SU)	7.44	SM20-4500B
POTASSIUM, TOTAL	0.96	SW846 6010B
POTASSIUM, DISSOLVED	0.99	SW846 6010B
SODIUM, TOTAL	10.4	SW846 6010B
SODIUM, DISSOLVED	10.4	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	455	FIELD
SPEC. COND., LAB (umhos/cm)	427	EPA 120.1
SULFATE	14.3	EPA 300
ALKALINITY	70	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	260	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

I.D. No 101389

Monitoring Point No. FFMP019W

Sample Date 5/18/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP019W

Sample Date 5/18/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	87	SW846 6010B
BARIUM, DISSOLVED	81	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP019W

Sample Date 5/18/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP019W
Sample Date	5/18/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

Date Prepared/Revised
06/22/2016

DEP USE ONLY

Date Received

FORM 19
MUNICIPAL WASTE LANDFILL
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

SECTION A. APPLICANT IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. FACILITY INFORMATION

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

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

 Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 12.93 "

Longitude: 76° 27' 0.67"

Depth to Water Level: 38.46 ft

Measured from: Land Surface X TOC

Casing Stickup: 2.00 ft

Elevation of Water Level: 438.84 ft./MSL

Sampling Depth: 55 ft

Volume of Water Column: 29.43 gal

Total Well Depth: 58.5 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 4.2

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

Spring Flow Rate: _____gpm

Sample Date (mm/dd/yy): 5/18/2016

Sample Collection Time: 11:36

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS Environmental

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): 2144831003 Final Lab Analysis CompletionDate: 6/1/2016

Name/Affiliation of Person who Filled Out Form: Mark D. Reider

Comments:

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	11	SM20-2320B
CALCIUM, TOTAL	12.3	SW846 6010B
CALCIUM, DISSOLVED	11.4	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	11	EPA 410.4
CHLORIDE	56.5	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	8.6	SW846 6010B
MAGNESIUM, DISSOLVED	8.2	SW846 6010B
MANGANESE, TOTAL (ug/l)	28	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	24	SW846 6010B
NITRATE-NITROGEN	3.8	EPA 300
pH-FIELD (SU)	5.04	FIELD
pH-LAB (SU)	6.33	SM20-4500B
POTASSIUM, TOTAL	2	SW846 6010B
POTASSIUM, DISSOLVED	2	SW846 6010B
SODIUM, TOTAL	20.8	SW846 6010B
SODIUM, DISSOLVED	19.8	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	278	FIELD
SPEC. COND., LAB (umhos/cm)	235	EPA 120.1
SULFATE	6.1	EPA 300
ALKALINITY	11	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	175	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.4	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.15	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

I.D. No 101389

Monitoring Point No. FFMP029W

Sample Date 5/18/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP029W

Sample Date 5/18/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	58	SW846 6010B
BARIUM, DISSOLVED	55	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP029W

Sample Date 5/18/2016

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP029W
Sample Date	5/18/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

Date Prepared/Revised
06/22/2016

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: FFMP013W X Well ___ Spring ___ Stream ___ Other

 Upgradient/Upstream X Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 28.13 "

Longitude: 76° 27' 3.3"

Depth to Water Level: 15.92 ft

Measured from: Land Surface X TOC

Casing Stickup: 1.40 ft

Elevation of Water Level: 491.68 ft./MSL

Sampling Depth: 135 ft

Volume of Water Column: 198.39 gal

Total Well Depth: 151 ft

Sampling Method: X Pumped Bailed Grab

Well Purged: X Yes No

Well Volumes Purged: 1.0

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

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 5/18/2016

Sample Collection Time: 13:22

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS Environmental

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): 2144831004 Final Lab Analysis CompletionDate: 6/1/2016

Name/Affiliation of Person who Filled Out Form: Mark D. Reider

Comments:

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	168	SM20-2320B
CALCIUM, TOTAL	98.1	SW846 6010B
CALCIUM, DISSOLVED	98.5	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	10	EPA 410.4
CHLORIDE	127	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	790	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	12.3	SW846 6010B
MAGNESIUM, DISSOLVED	12.5	SW846 6010B
MANGANESE, TOTAL (ug/l)	17	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	5 ND	SW846 6010B
NITRATE-NITROGEN	6.3	EPA 300
pH-FIELD (SU)	7.06	FIELD
pH-LAB (SU)	7.95	SM20-4500B
POTASSIUM, TOTAL	1.2	SW846 6010B
POTASSIUM, DISSOLVED	1.2	SW846 6010B
SODIUM, TOTAL	43.9	SW846 6010B
SODIUM, DISSOLVED	44.3	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	871	FIELD
SPEC. COND., LAB (umhos/cm)	822	EPA 120.1
SULFATE	32.5	EPA 300
ALKALINITY	168	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	571	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.5	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	7.27	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

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

I.D. No 101389

Monitoring Point No. FFMP013W

Sample Date 5/18/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP013W

Sample Date 5/18/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	130	SW846 6010B
BARIUM, DISSOLVED	130	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP013W

Sample Date 5/18/2016

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP013W
Sample Date	5/18/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

I.D. No 101389

Monitoring Point No. FFMP014W

Sample Date 5/18/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	29	SM20-2320B
CALCIUM, TOTAL	25.4	SW846 6010B
CALCIUM, DISSOLVED	26.3	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	112	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	71	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	14.9	SW846 6010B
MAGNESIUM, DISSOLVED	15.6	SW846 6010B
MANGANESE, TOTAL (ug/l)	15	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	15	SW846 6010B
NITRATE-NITROGEN	5.6	EPA 300
pH-FIELD (SU)	5	FIELD
pH-LAB (SU)	6.39	SM20-4500B
POTASSIUM, TOTAL	2.2	SW846 6010B
POTASSIUM, DISSOLVED	2.2	SW846 6010B
SODIUM, TOTAL	56.7	SW846 6010B
SODIUM, DISSOLVED	59.5	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	584	FIELD
SPEC. COND., LAB (umhos/cm)	581	EPA 120.1
SULFATE	44.3	EPA 300
ALKALINITY	29	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	333	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.6	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.77	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

I.D. No 101389

Monitoring Point No. FFMP014W

Sample Date 5/18/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP014W

Sample Date 5/18/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	84	SW846 6010B
BARIUM, DISSOLVED	84	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	11	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP014W

Sample Date 5/18/2016

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

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

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

I.D. No	101389
Monitoring Point No.	FFMP014W
Sample Date	5/18/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	11	SM20-2320B
CALCIUM, TOTAL	14.5	SW846 6010B
CALCIUM, DISSOLVED	14.7	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	29.8	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	9.4	SW846 6010B
MAGNESIUM, DISSOLVED	9.5	SW846 6010B
MANGANESE, TOTAL (ug/l)	23	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	22	SW846 6010B
NITRATE-NITROGEN	10.8	EPA 300
pH-FIELD (SU)	4.98	FIELD
pH-LAB (SU)	6.28	SM20-4500B
POTASSIUM, TOTAL	1.4	SW846 6010B
POTASSIUM, DISSOLVED	1.5	SW846 6010B
SODIUM, TOTAL	10.9	SW846 6010B
SODIUM, DISSOLVED	10.7	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	253	FIELD
SPEC. COND., LAB (umhos/cm)	216	EPA 120.1
SULFATE	7	EPA 300
ALKALINITY	11	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	181	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

I.D. No 101389

Monitoring Point No. FFMP027W

Sample Date 5/18/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP027W

Sample Date 5/18/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	39	SW846 6010B
BARIUM, DISSOLVED	39	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP027W

Sample Date 5/18/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP027W
Sample Date	5/18/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTEDate Prepared/Revised
06/22/2016

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: FFMP001P Well ☐ Well ☒ Spring ☐ Stream ☐ Other
☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location (County): Lancaster County

Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 20 " Longitude: 76 ° 27 ' 5 "Depth to Water Level: _____ ft Measured from: _____ Land Surface ☒ TOCCasing Stickup: 0.00 ft Elevation of Water Level: #Error ft./MSLSampling Depth: 0 ft Volume of Water Column: #Error galTotal Well Depth: 0 ft Sampling Method: ☐ Pumped ☐ Bailed ☒ GrabWell Purged: ☐ Yes ☒ No Well Volumes Purged: _____Sample Field Filtered (must be 0.45 micron)?: ☒ Yes ☐ No

Spring Flow Rate: _____ gpm

Sample Date (mm/dd/yy): 5/18/2016 Sample Collection Time: 13:48

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS Environmental

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): 2144831009 Final Lab Analysis Completion Date: 6/1/2016

Name/Affiliation of Person who Filled Out Form: Mark D. Reider

Comments: _____

I.D. No 101389

Monitoring Point No. FFMP001P

Sample Date 5/18/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	34	SM20-2320B
CALCIUM, TOTAL	49.3	SW846 6010B
CALCIUM, DISSOLVED	45.4	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	113	EPA 410.4
CHLORIDE	146	EPA 300
FLUORIDE	0.5 ND	EPA 300
IRON, TOTAL (ug/l)	74500	SW846 6010B
IRON, DISSOLVED (ug/l)	82	SW846 6010B
MAGNESIUM, TOTAL	15.9	SW846 6010B
MAGNESIUM, DISSOLVED	15.3	SW846 6010B
MANGANESE, TOTAL (ug/l)	750	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	50	SW846 6010B
NITRATE-NITROGEN	8.5	EPA 300
pH-FIELD (SU)	5.79	FIELD
pH-LAB (SU)	6.79	SM20-4500B
POTASSIUM, TOTAL	5.2	SW846 6010B
POTASSIUM, DISSOLVED	4.8	SW846 6010B
SODIUM, TOTAL	62	SW846 6010B
SODIUM, DISSOLVED	60.3	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	409	FIELD
SPEC. COND., LAB (umhos/cm)	705	EPA 120.1
SULFATE	55.1	EPA 300
ALKALINITY	34	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	459	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	2.8	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	65.3	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

I.D. No 101389

Monitoring Point No. FFMP001P

Sample Date 5/18/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP001P

Sample Date 5/18/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	4.4	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	180	SW846 6010B
BARIUM, DISSOLVED	110	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	9.4	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	23	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	3.3	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	45	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP001P

Sample Date 5/18/2016

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

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

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

I.D. No	101389
Monitoring Point No.	FFMP001P
Sample Date	5/18/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	53	SM20-2320B
CALCIUM, TOTAL	66	SW846 6010B
CALCIUM, DISSOLVED	71.2	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	6	EPA 410.4
CHLORIDE	237	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	29.3	SW846 6010B
MAGNESIUM, DISSOLVED	33.1	SW846 6010B
MANGANESE, TOTAL (ug/l)	300	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	320	SW846 6010B
NITRATE-NITROGEN	2.3	EPA 300
pH-FIELD (SU)	5.17	FIELD
pH-LAB (SU)	6.61	SM20-4500B
POTASSIUM, TOTAL	5.6	SW846 6010B
POTASSIUM, DISSOLVED	4.5	SW846 6010B
SODIUM, TOTAL	58.5	SW846 6010B
SODIUM, DISSOLVED	62	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	1055	FIELD
SPEC. COND., LAB (umhos/cm)	1010	EPA 120.1
SULFATE	52.6	EPA 300
ALKALINITY	53	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	699	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.6	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.35	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

I.D. No 101389

Monitoring Point No. FFMP017W

Sample Date 5/19/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP017W

Sample Date 5/19/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	96	SW846 6010B
BARIUM, DISSOLVED	99	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP017W

Sample Date 5/19/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No	101389
Monitoring Point No.	FFMP017W
Sample Date	5/19/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

ANALYTES

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

ANALYTE	VALUE ^T	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM20-4500D
BICARBONATE ALKALINITY	18	SM20-2320B
CALCIUM, TOTAL	16.4	SW846 6010B
CALCIUM, DISSOLVED	17.1	SW846 6010B
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.4
CHLORIDE	23.9	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)	60 ND	SW846 6010B
MAGNESIUM, TOTAL	11.1	SW846 6010B
MAGNESIUM, DISSOLVED	12.3	SW846 6010B
MANGANESE, TOTAL (ug/l)	200	SW846 6010B
MANGANESE, DISSOLVED (ug/l)	210	SW846 6010B
NITRATE-NITROGEN	19.8	EPA 300
pH-FIELD (SU)	4.96	FIELD
pH-LAB (SU)	5.99	SM20-4500B
POTASSIUM, TOTAL	2.1	SW846 6010B
POTASSIUM, DISSOLVED	1.4	SW846 6010B
SODIUM, TOTAL	12.3	SW846 6010B
SODIUM, DISSOLVED	12.4	SW846 6010B
SPEC. COND., FIELD (umhos/cm)	305	FIELD
SPEC. COND., LAB (umhos/cm)	256	EPA 120.1
SULFATE	3.4	EPA 300
ALKALINITY	18	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	219	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	SW846 9066
TURBIDITY (N.T.U.)	0.1 ND	SM20- 2130B

* Indicator Analyte - For comparison with detection zone analytes.

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

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

I.D. No 101389

Monitoring Point No. FFMP03AW

Sample Date 5/19/2016

FORM 19

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

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

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

T Please indicate detection limit if analyte is not detected.

I.D. No 101389

Monitoring Point No. FFMP03AW

Sample Date 5/19/2016

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

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

ANALYTE	VALUE^T	ANALYSIS METHOD NUMBER
ARSENIC, TOTAL	3 ND	SW846 6010B
ARSENIC, DISSOLVED	3 ND	SW846 6010B
BARIUM, TOTAL	41	SW846 6010B
BARIUM, DISSOLVED	42	SW846 6010B
CADMIUM, TOTAL	2.2 ND	SW846 6010B
CADMIUM, DISSOLVED	2 ND	SW846 6010B
CHROMIUM, TOTAL	5.6 ND	SW846 6010B
CHROMIUM, DISSOLVED	5 ND	SW846 6010B
COPPER, TOTAL	11 ND	SW846 6010B
COPPER, DISSOLVED	10 ND	SW846 6010B
LEAD-FLAMELESS, TOTAL	6.7 ND	SW846 6010B
LEAD, DISSOLVED	6 ND	SW846 6010B
MERCURY, TOTAL	0.5 ND	SW846 7470A
MERCURY, DISSOLVED	0.5 ND	SW846 7470A
SELENIUM, TOTAL	22 ND	SW846 6010B
SELENIUM, DISSOLVED	20 ND	SW846 6010B
SILVER, TOTAL	4.4 ND	SW846 6010B
SILVER, DISSOLVED	4 ND	SW846 6010B
ZINC, TOTAL	22 ND	SW846 6010B
ZINC, DISSOLVED	20 ND	SW846 6010B

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

I.D. No 101389

Monitoring Point No. FFMP03AW

Sample Date 5/19/2016

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

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

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

I.D. No	101389
Monitoring Point No.	FFMP03AW
Sample Date	5/19/2016

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

When the MCL of any VOC is exceeded in the detection zone Form 50 monitoring, the following analytes must be monitored quarterly in the groundwater monitoring wells.

SUBTITLE D - Detection Zone Add-On List - Required only when Form 50 detection Zone concentrations exceed MCLs (where established).

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

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

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

Qualitatively Identified Organic Compounds

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

[illegible]



June 6, 2016

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

Certificate of Analysis

Project Name: 2016-FREY FARM	Workorder: 2144089
Purchase Order:	Workorder ID: 2ND QTR 2016 GWMP-FORM 19A

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Monday, May 16, 2016.

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: Mr. Mark Reider , 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: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2144089001	FFMP015W	Ground Water	5/16/2016 10:01	5/16/2016 17:02	Mr. Brian G Shade
2144089002	FFMP028W	Ground Water	5/16/2016 12:37	5/16/2016 17:02	Mr. Brian G Shade
2144089003	FFMP025W	Ground Water	5/16/2016 13:13	5/16/2016 17:02	Mr. Brian G Shade
2144089004	FFMP024W	Ground Water	5/16/2016 14:33	5/16/2016 17:02	Mr. Brian G Shade
2144089005	FFMP023W	Ground Water	5/16/2016 15:10	5/16/2016 17:02	Mr. Brian G Shade
2144089006	FFMP002W	Ground Water	5/16/2016 15:44	5/16/2016 17:02	Mr. Brian G Shade
2144089007	FFMP016W	Ground Water	5/16/2016 16:04	5/16/2016 17:02	Mr. Brian G Shade
2144089008	Field Blank	Water	5/16/2016 16:16	5/16/2016 17:02	Mr. Brian G Shade
2144089009	Trip Blank	Water	5/16/2016 17:02	5/16/2016 17:02	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Notes

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

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
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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Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

PROJECT SUMMARY

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Sample Comments**Lab ID:** 2144089001 **Sample ID:** FFMP015W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2144089002 **Sample ID:** FFMP028W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2144089003 **Sample ID:** FFMP025W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2144089004 **Sample ID:** FFMP024W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2144089005 **Sample ID:** FFMP023W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2144089006 **Sample ID:** FFMP002W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2144089007 **Sample ID:** FFMP016W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089001**
Sample ID: **FFMP015W**

Date Collected: 5/16/2016 10:01 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/18/16 18:14	TMP	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/18/16 18:14	TMP	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/18/16 18:14	TMP	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/18/16 18:14	TMP	J

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089001**

Date Collected: 5/16/2016 10:01

Matrix: Ground Water

Sample ID: **FFMP015W**

Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 18:14	TMP	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	108		%	62 - 133	SW846 8260B			5/18/16 18:14	TMP	J
4-Bromofluorobenzene (S)	97.6		%	79 - 114	SW846 8260B			5/18/16 18:14	TMP	J
Dibromofluoromethane (S)	96.7		%	78 - 116	SW846 8260B			5/18/16 18:14	TMP	J
Toluene-d8 (S)	102		%	76 - 127	SW846 8260B			5/18/16 18:14	TMP	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/18/16 18:14	JAH	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	15		mg/L	5	S2320B-97			5/17/16 15:05	MSA	B
Alkalinity, Total	15		mg/L	5	S2320B-97			5/17/16 15:05	MSA	B
Ammonia-N	0.283		mg/L	0.100	D6919-09			5/25/16 16:27	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			5/27/16 13:00	NJA	C
Chloride	11.1		mg/L	2.0	EPA 300.0			5/17/16 12:08	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/17/16 12:08	JP	B
Nitrate-N	7.1		mg/L	0.20	EPA 300.0			5/17/16 12:08	JP	B
pH	6.36		pH_Units		S4500HB-00			5/17/16 15:05	MSA	B
Phenolics	0.01		mg/L	0.01	SW846 9066	5/18/16 10:00	AK	5/30/16 12:43	JLG	I
Specific Conductance	211		umhos/cm	1	S2510B-97			5/17/16 15:05	MSA	B
Sulfate	48.2		mg/L	2.0	EPA 300.0			5/17/16 12:08	JP	B
Total Dissolved Solids	170		mg/L	5	S2540C-11			5/21/16 06:31	ML	B
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	ND		NTU	0.10	S2130B-01			5/18/16 04:47	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/18/16 13:00	JPS	5/20/16 15:15	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 00:27	ZMC	5/26/16 04:15	ZMC	D2
Barium, Total	0.049		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Barium, Dissolved	0.048		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Calcium, Total	7.9		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Calcium, Dissolved	7.8		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089001**

Date Collected: 5/16/2016 10:01

Matrix: Ground Water

Sample ID: **FFMP015W**

Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Magnesium, Total	9.0		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Magnesium, Dissolved	9.3		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Manganese, Total	0.032		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Manganese, Dissolved	0.031		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 11:34	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 10:31	MNP	D1
Potassium, Total	2.3		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Potassium, Dissolved	2.3		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Sodium, Total	22.1		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Sodium, Dissolved	21.2		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:55	SRT	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:06	TSS	D

FIELD PARAMETERS

Depth to Water Level	54.180	Feet		Field		5/16/16 10:01	CLT	F
Elev Top MW Casing above MSL	576.40	Feet		Field		5/16/16 10:01	CLT	F
Flow Rate	2.49	gal/min		Field		5/16/16 10:01	CLT	F
Ground Water Elevation	522.220	ft/MSL		Field		5/16/16 10:01	CLT	F
pH, Field (SM4500B)	5.210	pH_Units		Field		5/16/16 10:01	CLT	F
Sample Depth	135.000	Feet		Field		5/16/16 10:01	CLT	F
Specific Conductance, Field	248	umhos/cm	1	Field		5/16/16 10:01	CLT	F
Temperature	11.67	Deg. C		Field		5/16/16 10:01	CLT	F
Total Well Depth	149.900	Feet		Field		5/16/16 10:01	CLT	F
Volume in Water Column	140.708	Gallons		Field		5/16/16 10:01	CLT	F
Water Level After Purge	86.120	Feet		Field		5/16/16 10:01	CLT	F
Well Volumes Purged	1.59	Vol		Field		5/16/16 10:01	CLT	F

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089001**
Sample ID: **FFMP015W**

Date Collected: 5/16/2016 10:01 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089002**
Sample ID: **FFMP028W**

Date Collected: 5/16/2016 12:37 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/18/16 18:31	TMP	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/18/16 18:31	TMP	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/18/16 18:31	TMP	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/18/16 18:31	TMP	J

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089002**
Sample ID: **FFMP028W**

Date Collected: 5/16/2016 12:37 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 18:31	TMP	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	108		%	62 - 133	SW846 8260B			5/18/16 18:31	TMP	J
4-Bromofluorobenzene (S)	103		%	79 - 114	SW846 8260B			5/18/16 18:31	TMP	J
Dibromofluoromethane (S)	96.1		%	78 - 116	SW846 8260B			5/18/16 18:31	TMP	J
Toluene-d8 (S)	104		%	76 - 127	SW846 8260B			5/18/16 18:31	TMP	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/18/16 18:31	JAH	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	28		mg/L	5	S2320B-97			5/17/16 15:14	MSA	B
Alkalinity, Total	28		mg/L	5	S2320B-97			5/17/16 15:14	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/25/16 16:46	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			5/27/16 13:00	NJA	C
Chloride	86.3		mg/L	2.0	EPA 300.0			5/17/16 12:19	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/17/16 12:19	JP	B
Nitrate-N	21.0		mg/L	0.50	EPA 300.0			5/18/16 05:46	MBW	B
pH	6.51		pH_Units		S4500HB-00			5/17/16 15:14	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/27/16 09:00	AK	6/1/16 12:18	JLG	I
Specific Conductance	555		umhos/cm	1	S2510B-97			5/17/16 15:14	MSA	B
Sulfate	24.1		mg/L	2.0	EPA 300.0			5/17/16 12:19	JP	B
Total Dissolved Solids	370		mg/L	5	S2540C-11			5/21/16 06:31	ML	B
Total Organic Carbon (TOC)	1.1		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	ND		NTU	0.10	S2130B-01			5/18/16 04:47	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/18/16 13:00	JPS	5/20/16 15:19	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 00:27	ZMC	5/26/16 04:27	ZMC	D2
Barium, Total	0.071		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Barium, Dissolved	0.073		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Calcium, Total	39.3		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Calcium, Dissolved	41.7		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089002**
Sample ID: **FFMP028W**

Date Collected: 5/16/2016 12:37 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Magnesium, Total	17.8		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Magnesium, Dissolved	18.7		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Manganese, Total	0.014		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Manganese, Dissolved	0.015		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 11:35	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 10:32	MNP	D1
Potassium, Total	2.7		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Potassium, Dissolved	2.8		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Sodium, Total	30.3		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Sodium, Dissolved	30.3		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 17:59	SRT	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:10	TSS	D

FIELD PARAMETERS

Depth to Water Level	8.280	Feet		Field		5/16/16 12:37	CLT	F
Elev Top MW Casing above MSL	465.00	Feet		Field		5/16/16 12:37	CLT	F
Flow Rate	3.14	gal/min		Field		5/16/16 12:37	CLT	F
Ground Water Elevation	456.720	ft/MSL		Field		5/16/16 12:37	CLT	F
pH, Field (SM4500B)	5.310	pH_Units		Field		5/16/16 12:37	CLT	F
Sample Depth	50.000	Feet		Field		5/16/16 12:37	CLT	F
Specific Conductance, Field	589	umhos/cm	1	Field		5/16/16 12:37	CLT	F
Temperature	11.52	Deg. C		Field		5/16/16 12:37	CLT	F
Total Well Depth	60.000	Feet		Field		5/16/16 12:37	CLT	F
Volume in Water Column	76.028	Gallons		Field		5/16/16 12:37	CLT	F
Water Level After Purge	35.000	Feet		Field		5/16/16 12:37	CLT	F
Well Volumes Purged	2.06	Vol		Field		5/16/16 12:37	CLT	F

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089002**
Sample ID: **FFMP028W**

Date Collected: 5/16/2016 12:37 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089003**
Sample ID: **FFMP025W**

Date Collected: 5/16/2016 13:13 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/18/16 18:48	TMP	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/18/16 18:48	TMP	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/18/16 18:48	TMP	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/18/16 18:48	TMP	J

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089003**

Date Collected: 5/16/2016 13:13

Matrix: Ground Water

Sample ID: **FFMP025W**

Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 18:48	TMP	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	105		%	62 - 133	SW846 8260B			5/18/16 18:48	TMP	J
4-Bromofluorobenzene (S)	95		%	79 - 114	SW846 8260B			5/18/16 18:48	TMP	J
Dibromofluoromethane (S)	92.7		%	78 - 116	SW846 8260B			5/18/16 18:48	TMP	J
Toluene-d8 (S)	96.2		%	76 - 127	SW846 8260B			5/18/16 18:48	TMP	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/18/16 18:48	JAH	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	20		mg/L	5	S2320B-97			5/17/16 15:23	MSA	B
Alkalinity, Total	20		mg/L	5	S2320B-97			5/17/16 15:23	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/25/16 17:05	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			5/27/16 13:00	NJA	C
Chloride	48.3		mg/L	2.0	EPA 300.0			5/17/16 13:26	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/17/16 13:26	JP	B
Nitrate-N	10.0		mg/L	0.20	EPA 300.0			5/17/16 13:26	JP	B
pH	6.42		pH_Units		S4500HB-00			5/17/16 15:23	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/18/16 10:00	AK	5/30/16 12:44	JLG	I
Specific Conductance	287		umhos/cm	1	S2510B-97			5/17/16 15:23	MSA	B
Sulfate	20.3		mg/L	2.0	EPA 300.0			5/17/16 13:26	JP	B
Total Dissolved Solids	218		mg/L	5	S2540C-11			5/21/16 06:31	ML	B
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	0.23		NTU	0.10	S2130B-01			5/18/16 04:47	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/18/16 13:00	JPS	5/20/16 15:23	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 00:27	ZMC	5/26/16 04:30	ZMC	D2
Barium, Total	0.052		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Barium, Dissolved	0.052		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Calcium, Total	20.6		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Calcium, Dissolved	21.1		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089003**
Sample ID: **FFMP025W**

Date Collected: 5/16/2016 13:13 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Magnesium, Total	11.7		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Magnesium, Dissolved	12.2		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Manganese, Total	0.0091		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Manganese, Dissolved	0.010		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 11:36	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 10:33	MNP	D1
Potassium, Total	2.2		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Potassium, Dissolved	2.4		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Sodium, Total	18.5		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Sodium, Dissolved	18.2		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:12	SRT	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:14	TSS	D

FIELD PARAMETERS

Depth to Water Level	24.710	Feet		Field		5/16/16 13:13	CLT	F
Elev Top MW Casing above MSL	476.80	Feet		Field		5/16/16 13:13	CLT	F
Flow Rate	4.89	gal/min		Field		5/16/16 13:13	CLT	F
Ground Water Elevation	452.090	ft/MSL		Field		5/16/16 13:13	CLT	F
pH, Field (SM4500B)	5.270	pH_Units		Field		5/16/16 13:13	CLT	F
Sample Depth	39.000	Feet		Field		5/16/16 13:13	CLT	F
Specific Conductance, Field	334	umhos/cm	1	Field		5/16/16 13:13	CLT	F
Temperature	11.43	Deg. C		Field		5/16/16 13:13	CLT	F
Total Well Depth	41.500	Feet		Field		5/16/16 13:13	CLT	F
Volume in Water Column	24.681	Gallons		Field		5/16/16 13:13	CLT	F
Water Level After Purge	25.190	Feet		Field		5/16/16 13:13	CLT	F
Well Volumes Purged	3.96	Vol		Field		5/16/16 13:13	CLT	F

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089003**
Sample ID: **FFMP025W**

Date Collected: 5/16/2016 13:13 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089004**
Sample ID: **FFMP024W**

Date Collected: 5/16/2016 14:33 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/18/16 19:05	TMP	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/18/16 19:05	TMP	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/18/16 19:05	TMP	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/18/16 19:05	TMP	J

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089004**
Sample ID: **FFMP024W**

Date Collected: 5/16/2016 14:33 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 19:05	TMP	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	109		%	62 - 133	SW846 8260B			5/18/16 19:05	TMP	J
4-Bromofluorobenzene (S)	101		%	79 - 114	SW846 8260B			5/18/16 19:05	TMP	J
Dibromofluoromethane (S)	99.8		%	78 - 116	SW846 8260B			5/18/16 19:05	TMP	J
Toluene-d8 (S)	102		%	76 - 127	SW846 8260B			5/18/16 19:05	TMP	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/18/16 19:05	JAH	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	109		mg/L	5	S2320B-97			5/17/16 15:32	MSA	B
Alkalinity, Total	109		mg/L	5	S2320B-97			5/17/16 15:32	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/25/16 17:24	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			5/27/16 13:00	NJA	C
Chloride	13.8		mg/L	2.0	EPA 300.0			5/17/16 13:37	JP	B
Fluoride	0.22		mg/L	0.20	EPA 300.0			5/17/16 13:37	JP	B
Nitrate-N	3.1		mg/L	0.20	EPA 300.0			5/17/16 13:37	JP	B
pH	7.84		pH_Units		S4500HB-00			5/17/16 15:32	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/18/16 10:00	AK	5/30/16 12:45	JLG	I
Specific Conductance	299		umhos/cm	1	S2510B-97			5/17/16 15:32	MSA	B
Sulfate	31.0		mg/L	2.0	EPA 300.0			5/17/16 13:37	JP	B
Total Dissolved Solids	234		mg/L	5	S2540C-11			5/21/16 06:31	ML	B
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	9.26		NTU	0.10	S2130B-01			5/18/16 04:47	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/18/16 13:00	JPS	5/20/16 15:27	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 00:27	ZMC	5/26/16 04:34	ZMC	D2
Barium, Total	0.032		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Barium, Dissolved	0.028		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Calcium, Total	47.0		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Calcium, Dissolved	49.8		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089004**
Sample ID: **FFMP024W**

Date Collected: 5/16/2016 14:33 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Iron, Total	0.40		mg/L	0.067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Magnesium, Total	5.4		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Magnesium, Dissolved	5.6		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Manganese, Total	0.25		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Manganese, Dissolved	0.094		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 11:37	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 10:34	MNP	D1
Potassium, Total	1.2		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Potassium, Dissolved	1.4		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Sodium, Total	9.9		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Sodium, Dissolved	9.9		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:16	SRT	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:17	TSS	D

FIELD PARAMETERS

Depth to Water Level	61.120	Feet		Field		5/16/16 14:33	CLT	F
Elev Top MW Casing above MSL	611.42	Feet		Field		5/16/16 14:33	CLT	F
Flow Rate	2.33	gal/min		Field		5/16/16 14:33	CLT	F
Ground Water Elevation	550.300	ft/MSL		Field		5/16/16 14:33	CLT	F
pH, Field (SM4500B)	7.060	pH_Units		Field		5/16/16 14:33	CLT	F
Sample Depth	180.780	Feet		Field		5/16/16 14:33	CLT	F
Specific Conductance, Field	347	umhos/cm	1	Field		5/16/16 14:33	CLT	F
Temperature	12.66	Deg. C		Field		5/16/16 14:33	CLT	F
Total Well Depth	200.820	Feet		Field		5/16/16 14:33	CLT	F
Volume in Water Column	205.359	Gallons		Field		5/16/16 14:33	CLT	F
Well Volumes Purged	0.68	Vol		Field		5/16/16 14:33	CLT	F

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089004**
Sample ID: **FFMP024W**

Date Collected: 5/16/2016 14:33 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089005**
Sample ID: **FFMP023W**

Date Collected: 5/16/2016 15:10 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/18/16 19:22	TMP	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/18/16 19:22	TMP	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/18/16 19:22	TMP	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/18/16 19:22	TMP	J

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089005**

Date Collected: 5/16/2016 15:10

Matrix: Ground Water

Sample ID: **FFMP023W**

Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 19:22	TMP	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	113		%	62 - 133	SW846 8260B			5/18/16 19:22	TMP	J
4-Bromofluorobenzene (S)	100		%	79 - 114	SW846 8260B			5/18/16 19:22	TMP	J
Dibromofluoromethane (S)	101		%	78 - 116	SW846 8260B			5/18/16 19:22	TMP	J
Toluene-d8 (S)	106		%	76 - 127	SW846 8260B			5/18/16 19:22	TMP	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/18/16 19:22	JAH	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	6		mg/L	5	S2320B-97			5/17/16 15:41	MSA	B
Alkalinity, Total	6		mg/L	5	S2320B-97			5/17/16 15:41	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/25/16 17:43	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			5/27/16 13:00	NJA	C
Chloride	25.1		mg/L	2.0	EPA 300.0			5/17/16 13:48	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/17/16 13:48	JP	B
Nitrate-N	11.7		mg/L	0.20	EPA 300.0			5/17/16 13:48	JP	B
pH	5.79		pH_Units		S4500HB-00			5/17/16 15:41	MSA	B
Phenolics	ND	1	mg/L	0.01	SW846 9066	5/18/16 10:00	AK	5/30/16 12:49	JLG	I
Specific Conductance	170		umhos/cm	1	S2510B-97			5/17/16 15:41	MSA	B
Sulfate	ND		mg/L	2.0	EPA 300.0			5/17/16 13:48	JP	B
Total Dissolved Solids	140		mg/L	5	S2540C-11			5/21/16 06:31	ML	B
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	0.28		NTU	0.10	S2130B-01			5/18/16 04:47	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/18/16 13:00	JPS	5/20/16 15:31	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 00:27	ZMC	5/26/16 04:38	ZMC	D2
Barium, Total	0.11		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Barium, Dissolved	0.10		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Calcium, Total	10		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Calcium, Dissolved	9.8		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089005**
Sample ID: **FFMP023W**

Date Collected: 5/16/2016 15:10 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Magnesium, Total	7.9		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Magnesium, Dissolved	7.8		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Manganese, Total	0.20		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Manganese, Dissolved	0.20		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 11:38	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 10:37	MNP	D1
Potassium, Total	1.4		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Potassium, Dissolved	1.4		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Sodium, Total	9.7		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Sodium, Dissolved	8.9		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
Zinc, Total	0.027		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:20	SRT	E1
Zinc, Dissolved	0.024		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:21	TSS	D
FIELD PARAMETERS										
Depth to Water Level	59.790		Feet		Field			5/16/16 15:10	CLT	F
Elev Top MW Casing above MSL	611.80		Feet		Field			5/16/16 15:10	CLT	F
Flow Rate	3.20		gal/min		Field			5/16/16 15:10	CLT	F
Ground Water Elevation	552.010		ft/MSL		Field			5/16/16 15:10	CLT	F
pH, Field (SM4500B)	4.590		pH_Units		Field			5/16/16 15:10	CLT	F
Sample Depth	79.000		Feet		Field			5/16/16 15:10	CLT	F
Specific Conductance, Field	201		umhos/cm	1	Field			5/16/16 15:10	CLT	F
Temperature	12.28		Deg. C		Field			5/16/16 15:10	CLT	F
Total Well Depth	81.500		Feet		Field			5/16/16 15:10	CLT	F
Volume in Water Column	31.914		Gallons		Field			5/16/16 15:10	CLT	F
Water Level After Purge	60.760		Feet		Field			5/16/16 15:10	CLT	F
Well Volumes Purged	3.00		Vol		Field			5/16/16 15:10	CLT	F

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089005**
Sample ID: **FFMP023W**

Date Collected: 5/16/2016 15:10 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089006**

Date Collected: 5/16/2016 15:44

Matrix: Ground Water

Sample ID: **FFMP002W**

Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/18/16 19:40	TMP	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/18/16 19:40	TMP	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/18/16 19:40	TMP	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/18/16 19:40	TMP	J

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089006**

Date Collected: 5/16/2016 15:44

Matrix: Ground Water

Sample ID: **FFMP002W**

Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 19:40	TMP	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	113		%	62 - 133	SW846 8260B			5/18/16 19:40	TMP	J
4-Bromofluorobenzene (S)	97.7		%	79 - 114	SW846 8260B			5/18/16 19:40	TMP	J
Dibromofluoromethane (S)	100		%	78 - 116	SW846 8260B			5/18/16 19:40	TMP	J
Toluene-d8 (S)	106		%	76 - 127	SW846 8260B			5/18/16 19:40	TMP	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/18/16 19:40	JAH	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND		mg/L	5	S2320B-97			5/17/16 15:49	MSA	B
Alkalinity, Total	ND		mg/L	5	S2320B-97			5/17/16 15:49	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/25/16 18:02	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			5/27/16 13:00	NJA	C
Chloride	21.9		mg/L	5.0	EPA 300.0			5/17/16 13:59	JP	B
Fluoride	ND		mg/L	0.50	EPA 300.0			5/17/16 13:59	JP	B
Nitrate-N	26.6		mg/L	0.50	EPA 300.0			5/17/16 13:59	JP	B
pH	5.46		pH_Units		S4500HB-00			5/17/16 15:49	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/27/16 09:00	AK	6/1/16 12:19	JLG	I
Specific Conductance	289		umhos/cm	1	S2510B-97			5/17/16 15:49	MSA	B
Sulfate	8.7		mg/L	5.0	EPA 300.0			5/17/16 13:59	JP	B
Total Dissolved Solids	241	1	mg/L	5	S2540C-11			5/22/16 11:35	ML	B
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	0.66		NTU	0.10	S2130B-01			5/18/16 04:47	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/18/16 13:00	JPS	5/20/16 15:56	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:37	ZMC	5/26/16 05:20	ZMC	D2
Barium, Total	0.083		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1
Barium, Dissolved	0.086		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Calcium, Total	23.1		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1
Calcium, Dissolved	24.4		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Copper, Total	0.018		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089006**

Date Collected: 5/16/2016 15:44

Matrix: Ground Water

Sample ID: **FFMP002W**

Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	0.020		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Lead, Total	ND		mg/L	0.013	SW846 6010C	5/18/16 14:00	JPS	5/24/16 10:45	SRT	E1
Lead, Dissolved	0.0085		mg/L	0.0060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Magnesium, Total	9.0		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1
Magnesium, Dissolved	9.6		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Manganese, Total	0.29		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1
Manganese, Dissolved	0.32		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 11:43	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 10:40	MNP	D1
Potassium, Total	1.4		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1
Potassium, Dissolved	1.6		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Sodium, Total	16.2		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1
Sodium, Dissolved	16.2		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D
Zinc, Total	0.027		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:23	SRT	E1
Zinc, Dissolved	0.028		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:32	TSS	D

FIELD PARAMETERS

Depth to Water Level	58.840	Feet		Field		5/16/16 15:44	CLT	F
Elev Top MW Casing above MSL	613.20	Feet		Field		5/16/16 15:44	CLT	F
Flow Rate	1.64	gal/min		Field		5/16/16 15:44	CLT	F
Ground Water Elevation	554.360	ft/MSL		Field		5/16/16 15:44	CLT	F
pH, Field (SM4500B)	4.540	pH_Units		Field		5/16/16 15:44	CLT	F
Sample Depth	85.000	Feet		Field		5/16/16 15:44	CLT	F
Specific Conductance, Field	350	umhos/cm	1	Field		5/16/16 15:44	CLT	F
Temperature	12.45	Deg. C		Field		5/16/16 15:44	CLT	F
Total Well Depth	90.020	Feet		Field		5/16/16 15:44	CLT	F
Volume in Water Column	45.835	Gallons		Field		5/16/16 15:44	CLT	F
Water Level After Purge	77.860	Feet		Field		5/16/16 15:44	CLT	F
Well Volumes Purged	0.90	Vol		Field		5/16/16 15:44	CLT	F

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089006**
Sample ID: **FFMP002W**

Date Collected: 5/16/2016 15:44 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089007**

Date Collected: 5/16/2016 16:04

Matrix: Ground Water

Sample ID: **FFMP016W**

Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/18/16 19:57	TMP	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/18/16 19:57	TMP	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/18/16 19:57	TMP	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/18/16 19:57	TMP	J

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089007**

Date Collected: 5/16/2016 16:04

Matrix: Ground Water

Sample ID: **FFMP016W**

Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 19:57	TMP	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	111		%	62 - 133	SW846 8260B			5/18/16 19:57	TMP	J
4-Bromofluorobenzene (S)	98.3		%	79 - 114	SW846 8260B			5/18/16 19:57	TMP	J
Dibromofluoromethane (S)	100		%	78 - 116	SW846 8260B			5/18/16 19:57	TMP	J
Toluene-d8 (S)	99.8		%	76 - 127	SW846 8260B			5/18/16 19:57	TMP	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/18/16 19:57	JAH	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	23		mg/L	5	S2320B-97			5/17/16 15:58	MSA	B
Alkalinity, Total	23		mg/L	5	S2320B-97			5/17/16 15:58	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/25/16 18:58	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			5/27/16 13:00	NJA	C
Chloride	64.2		mg/L	2.0	EPA 300.0			5/17/16 14:10	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/17/16 14:10	JP	B
Nitrate-N	13.0		mg/L	0.20	EPA 300.0			5/17/16 14:10	JP	B
pH	6.40		pH_Units		S4500HB-00			5/17/16 15:58	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/18/16 10:00	AK	5/24/16 14:34	JLG	I
Specific Conductance	397		umhos/cm	1	S2510B-97			5/17/16 15:58	MSA	B
Sulfate	22.5		mg/L	2.0	EPA 300.0			5/17/16 14:10	JP	B
Total Dissolved Solids	206		mg/L	5	S2540C-11			5/22/16 11:35	ML	B
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	0.43		NTU	0.10	S2130B-01			5/18/16 04:47	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/18/16 13:00	JPS	5/20/16 16:00	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:37	ZMC	5/26/16 05:24	ZMC	D2
Barium, Total	0.056		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Barium, Dissolved	0.056		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Calcium, Total	27.2		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Calcium, Dissolved	27.3		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089007**

Date Collected: 5/16/2016 16:04

Matrix: Ground Water

Sample ID: **FFMP016W**

Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Magnesium, Total	13.6		mg/L	0.11	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Magnesium, Dissolved	13.9		mg/L	0.10	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Manganese, Total	0.024		mg/L	0.0056	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Manganese, Dissolved	0.026		mg/L	0.0050	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 11:44	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/24/16 01:00	MNP	5/24/16 10:41	MNP	D1
Potassium, Total	2.3		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Potassium, Dissolved	2.3		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Sodium, Total	23.1		mg/L	0.56	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Sodium, Dissolved	22.3		mg/L	0.50	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/18/16 14:00	JPS	5/20/16 18:27	SRT	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/17/16 08:29	SRT	5/18/16 08:36	TSS	D

FIELD PARAMETERS

Depth to Water Level	22.350	Feet		Field		5/16/16 16:04	CLT	F
Elev Top MW Casing above MSL	474.60	Feet		Field		5/16/16 16:04	CLT	F
Ground Water Elevation	452.250	ft/MSL		Field		5/16/16 16:04	CLT	F
pH, Field (SM4500B)	4.900	pH_Units		Field		5/16/16 16:04	CLT	F
Sample Depth	135.000	Feet		Field		5/16/16 16:04	CLT	F
Specific Conductance, Field	429	umhos/cm	1	Field		5/16/16 16:04	CLT	F
Temperature	11.18	Deg. C		Field		5/16/16 16:04	CLT	F
Total Well Depth	149.800	Feet		Field		5/16/16 16:04	CLT	F
Volume in Water Column	332.645	Gallons		Field		5/16/16 16:04	CLT	F

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089007**
Sample ID: **FFMP016W**

Date Collected: 5/16/2016 16:04 Matrix: Ground Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089008**

Date Collected: 5/16/2016 16:16

Matrix: Water

Sample ID: **Field Blank**

Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Bromoform	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/18/16 17:40	TMP	A
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/18/16 17:40	TMP	A
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/18/16 17:40	TMP	A
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	A
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/18/16 17:40	TMP	A

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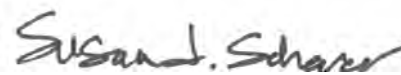
ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089008**
Sample ID: **Field Blank**

Date Collected: 5/16/2016 16:16 Matrix: Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 17:40	TMP	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)	106		%	62 - 133	SW846 8260B			5/18/16 17:40	TMP	A
4-Bromofluorobenzene (S)	101		%	79 - 114	SW846 8260B			5/18/16 17:40	TMP	A
Dibromofluoromethane (S)	95.5		%	78 - 116	SW846 8260B			5/18/16 17:40	TMP	A
Toluene-d8 (S)	103		%	76 - 127	SW846 8260B			5/18/16 17:40	TMP	A
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/18/16 17:40	JAH	A


Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089009**
Sample ID: **Trip Blank**

Date Collected: 5/16/2016 17:02 Matrix: Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Bromoform	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/18/16 17:57	TMP	A
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/18/16 17:57	TMP	A
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/18/16 17:57	TMP	A
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	A
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/18/16 17:57	TMP	A

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ANALYTICAL RESULTS

Workorder: 2144089 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144089009**
Sample ID: **Trip Blank**

Date Collected: 5/16/2016 17:02 Matrix: Water
Date Received: 5/16/2016 17:02

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/18/16 17:57	TMP	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)	105		%	62 - 133	SW846 8260B			5/18/16 17:57	TMP	A
4-Bromofluorobenzene (S)	97.8		%	79 - 114	SW846 8260B			5/18/16 17:57	TMP	A
Dibromofluoromethane (S)	92.8		%	78 - 116	SW846 8260B			5/18/16 17:57	TMP	A
Toluene-d8 (S)	102		%	76 - 127	SW846 8260B			5/18/16 17:57	TMP	A
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/18/16 17:57	JAH	A

Ms. Susan J Scherer
Project Coordinator

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**PARAMETER QUALIFIERS**

Lab ID	#	Sample ID	Analytical Method	Analyte
2144089005	1	FFMP023W	SW846 9066	Phenolics
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2144089006	1	FFMP002W	S2540C-11	Total Dissolved Solids
The RPD associated with this sample was recovered at 9.6% . The RPD is outside method acceptance limits of 5% . The results used to calculate the RPD were 219 and 241 mg/l.				

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150

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CHAIN OF CUSTODY/

REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /

SAMPLER. INSTRUCTIONS ON THE BACK.

Client Name: Lancaster County Solid Waste MA		Container Type	AG	AN	CG	PL	PL	PL	PL	PL
Address: 1299 Harrisburg Pike, P.O. Box 4424		Container Size	40 ml	500 ml	40 ml	500 ml	500 ml	500 ml	500 ml	500 ml
Lancaster, PA 17604		Preservative	HCl	H2SO4	HCl	H2SO4	HNO3	HNO3	None	None
Contact: Brooks Norris		ANALYSIS/METHOD REQUESTED								
Phone#: (717) 397-9968		Field Measurements								
Project Name#: Frey Farm Annual (M5)		Sample Depth for AUX Data								
Bill To: Lancaster County Solid Waste MA		Enter Number of Containers Per Sample or Field Results Below.								
TAT ☒ Normal-Standard TAT is 10-12 business days.										
Date Required: ☐ Rush-Subject to ALS approval and surcharges.										
Email? ☒ Y ☐ N										
Fax? ☒ Y ☐ N										
Approved By: _____										
ALS No.: (717) 397-9973										

Sample Description/Location	Sample Date	Time	G	GW	TOC	O-OH	VOC (Form 19A) + LS	Field Measurements	Sample Depth for AUX Data	Disolved: Fe, Mn, Na, Ba, Cr, Cu, Pb, Mg, K, Zn, As, Cd, Se, Ag, Hg, Ca	Metals: Fe, Mn, Na, Ba, Cr, Cu, Pb, Mg, K, Zn, As, Cd, Se, Ag, Hg, Ca	PH, Cl, SPC, F, SO4, TDS, NO3, Turb.	Alkalinity, HCO3
1. FFMPO15W	5-16-16	1001											
2. FFMPO28W		1237											
3. FFMPO25W		1313											
4. FFMPO24W		1423											
5. FFMPO23W		1510											
6. FFMPO02W		1544											
7. FFMPO4W		1604											
8. Field Blank		1616											
9. Trip Blank		1702											
10													

Project Comments:		LOGGED BY (signature):		5/16/16		7251	
Relinquished By (signature):		REVIEWED BY (signature):		SIS		6/24/16	
Date		Time		Date		Time	
1. 5/16/16		1001		5-16-16		1702	
3		5		6		8	
5		6		8		10	
7		8		10			
9		10					
State Samples Collected In		Special Processing		Data		Reportable to PADEP?	
USACE ☐ Navy ☐ NY ☐ NJ ☐ PA ☒ NC ☐		USACE ☐ Navy ☐ USACE ☐		Standard ☐ CLP-like ☐ USACE ☐		Yes ☐ No ☐	
ALS Field Services: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☒		ALS Field Services: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☒		ALS Field Services: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☒		ALS Field Services: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☒	
Cooler Temp: 1 Therm ID: 352		Cooler Temp: 1 Therm ID: 352		Cooler Temp: 1 Therm ID: 352		Cooler Temp: 1 Therm ID: 352	
No. of Coolers: Y N Initial		No. of Coolers: Y N Initial		No. of Coolers: Y N Initial		No. of Coolers: Y N Initial	
Custody Seals Present?		Custody Seals Present?		Custody Seals Present?		Custody Seals Present?	
(If present) Seals Intact?		(If present) Seals Intact?		(If present) Seals Intact?		(If present) Seals Intact?	
Received on Ice?		Received on Ice?		Received on Ice?		Received on Ice?	
COCLabels Completed/Accurate?		COCLabels Completed/Accurate?		COCLabels Completed/Accurate?		COCLabels Completed/Accurate?	
Cont. In Good Cond.?		Cont. In Good Cond.?		Cont. In Good Cond.?		Cont. In Good Cond.?	
Correct Containers?		Correct Containers?		Correct Containers?		Correct Containers?	
Correct Sample Volumes?		Correct Sample Volumes?		Correct Sample Volumes?		Correct Sample Volumes?	
Correct Preservation?		Correct Preservation?		Correct Preservation?		Correct Preservation?	
Headspace/Volatiles?		Headspace/Volatiles?		Headspace/Volatiles?		Headspace/Volatiles?	
Courier Tracking #:		Courier Tracking #:		Courier Tracking #:		Courier Tracking #:	
Sample/COC Comments		Sample/COC Comments		Sample/COC Comments		Sample/COC Comments	



June 1, 2016

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

Certificate of Analysis

Project Name: **2016-FREY FARM**Workorder: **2144378**

Purchase Order:

Workorder ID: **2ND QTR 2016 GWMP-FORM 19A**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Tuesday, May 17, 2016.

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: Mr. Mark Reider , 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: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2144378001	FFMP30RW	Ground Water	5/17/2016 09:31	5/17/2016 15:48	Mr. Brian G Shade
2144378002	FFMP04AW	Ground Water	5/17/2016 10:42	5/17/2016 15:48	Mr. Brian G Shade
2144378003	FFMP26RW	Ground Water	5/17/2016 12:43	5/17/2016 15:48	Mr. Brian G Shade
2144378004	FFMP005W	Ground Water	5/17/2016 14:15	5/17/2016 15:48	Mr. Brian G Shade
2144378005	Field Blank	Water	5/17/2016 14:37	5/17/2016 15:48	Mr. Brian G Shade
2144378006	Trip Blank	Water	5/17/2016 15:48	5/17/2016 15:48	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Notes

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

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
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: 2144378 2ND QTR 2016 GWMP-FORM 19A

Sample Comments

Lab ID: 2144378001**Sample ID:** FFMP30RW**Sample Type:** SAMPLE

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.
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

Lab ID: 2144378002**Sample ID:** FFMP04AW**Sample Type:** SAMPLE

The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.
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.

Lab ID: 2144378003**Sample ID:** FFMP26RW**Sample Type:** SAMPLE

The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.
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.

Lab ID: 2144378004**Sample ID:** FFMP005W**Sample Type:** SAMPLE

The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378001**
Sample ID: **FFMP30RW**

Date Collected: 5/17/2016 09:31 Matrix: Ground Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/20/16 02:02	SYB	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/20/16 02:02	SYB	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/20/16 02:02	SYB	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/20/16 02:02	SYB	J

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378001**

Date Collected: 5/17/2016 09:31

Matrix: Ground Water

Sample ID: **FFMP30RW**

Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/20/16 02:02	SYB	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	110		%	62 - 133	SW846 8260B			5/20/16 02:02	SYB	J
4-Bromofluorobenzene (S)	97.9		%	79 - 114	SW846 8260B			5/20/16 02:02	SYB	J
Dibromofluoromethane (S)	98.5		%	78 - 116	SW846 8260B			5/20/16 02:02	SYB	J
Toluene-d8 (S)	99.6		%	76 - 127	SW846 8260B			5/20/16 02:02	SYB	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/19/16 02:02	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	36		mg/L	5	S2320B-97			5/19/16 06:00	MSA	B
Alkalinity, Total	36		mg/L	5	S2320B-97			5/19/16 06:00	MSA	B
Ammonia-N	0.138		mg/L	0.100	D6919-09			5/26/16 03:44	JAM	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			5/27/16 13:00	NJA	C
Chloride	196		mg/L	2.0	EPA 300.0			5/18/16 11:05	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/18/16 11:05	JP	B
Nitrate-N	5.3		mg/L	0.20	EPA 300.0			5/18/16 11:05	JP	B
pH	5.86		pH_Units		S4500HB-00			5/19/16 06:00	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/19/16 10:00	AK	5/24/16 14:47	JLG	I
Specific Conductance	752		umhos/cm	1	S2510B-97			5/19/16 06:00	MSA	B
Sulfate	24.0		mg/L	2.0	EPA 300.0			5/18/16 11:05	JP	B
Total Dissolved Solids	589		mg/L	5	S2540C-11			5/24/16 11:20	ML	B
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	5.88		NTU	0.10	S2130B-01			5/19/16 05:51	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/19/16 13:00	JPS	5/20/16 19:38	MO	E1
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:37	ZMC	5/26/16 06:24	ZMC	D2
Barium, Total	0.072		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Barium, Dissolved	0.070		mg/L	0.010	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D
Calcium, Total	30.4		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Calcium, Dissolved	30.1		mg/L	0.10	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378001**
Sample ID: **FFMP30RW**

Date Collected: 5/17/2016 09:31 Matrix: Ground Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D
Iron, Total	0.47		mg/L	0.067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D
Magnesium, Total	15.3		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Magnesium, Dissolved	15.3		mg/L	0.10	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D
Manganese, Total	2.4		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Manganese, Dissolved	2.5		mg/L	0.0050	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D
Mercury, Total	0.00060		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:36	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:02	MNP	D1
Potassium, Total	4.6		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Potassium, Dissolved	4.8		mg/L	0.50	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D
Silver, Total	ND	1	mg/L	0.0044	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Silver, Dissolved	ND	2	mg/L	0.0040	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	SRT	D
Sodium, Total	83.5		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Sodium, Dissolved	84.1		mg/L	0.50	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:11	SRT	E2
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:39	TSS	D

FIELD PARAMETERS

Depth to Water Level	34.930		Feet		Field			5/17/16 09:31	CLT	F
Elev Top MW Casing above MSL	562.30		Feet		Field			5/17/16 09:31	CLT	F
Flow Rate	2.34		gal/min		Field			5/17/16 09:31	CLT	F
Ground Water Elevation	527.370		ft/MSL		Field			5/17/16 09:31	CLT	F
pH, Field (SM4500B)	5.150		pH_Units		Field			5/17/16 09:31	CLT	F
Sample Depth	85.000		Feet		Field			5/17/16 09:31	CLT	F
Specific Conductance, Field	729		umhos/cm	1	Field			5/17/16 09:31	CLT	F
Temperature	11.72		Deg. C		Field			5/17/16 09:31	CLT	F
Total Well Depth	94.200		Feet		Field			5/17/16 09:31	CLT	F
Volume in Water Column	87.127		Gallons		Field			5/17/16 09:31	CLT	F
Water Level After Purge	56.220		Feet		Field			5/17/16 09:31	CLT	F
Well Volumes Purged	1.61		Vol		Field			5/17/16 09:31	CLT	F

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378001**
Sample ID: **FFMP30RW**

Date Collected: 5/17/2016 09:31 Matrix: Ground Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378002**
Sample ID: **FFMP04AW**

Date Collected: 5/17/2016 10:42 Matrix: Ground Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/20/16 02:19	SYB	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
trans-1,2-Dichloroethene	ND	1	ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/20/16 02:19	SYB	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/20/16 02:19	SYB	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/20/16 02:19	SYB	J

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378002**
Sample ID: **FFMP04AW**

Date Collected: 5/17/2016 10:42 Matrix: Ground Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/20/16 02:19	SYB	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	108		%	62 - 133	SW846 8260B			5/20/16 02:19	SYB	J
4-Bromofluorobenzene (S)	101		%	79 - 114	SW846 8260B			5/20/16 02:19	SYB	J
Dibromofluoromethane (S)	96.8		%	78 - 116	SW846 8260B			5/20/16 02:19	SYB	J
Toluene-d8 (S)	101		%	76 - 127	SW846 8260B			5/20/16 02:19	SYB	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/19/16 02:19	CPK	J
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/19/16 13:00	JPS	5/20/16 19:42	MO	E1
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:37	ZMC	5/26/16 06:27	ZMC	D2
Barium, Total	0.21		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Barium, Dissolved	0.22		mg/L	0.010	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
Calcium, Total	152		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Calcium, Dissolved	156		mg/L	0.10	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
Iron, Total	0.098		mg/L	0.067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
Magnesium, Total	25.9		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Magnesium, Dissolved	26.4		mg/L	0.10	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
Manganese, Total	0.24		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Manganese, Dissolved	0.26		mg/L	0.0050	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:37	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:03	MNP	D1
Potassium, Total	2.2		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Potassium, Dissolved	2.5		mg/L	0.50	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378002**

Date Collected: 5/17/2016 10:42

Matrix: Ground Water

Sample ID: **FFMP04AW**

Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
Sodium, Total	86.8		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Sodium, Dissolved	87.2		mg/L	0.50	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:22	SRT	E2
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:50	TSS	D
WET CHEMISTRY										
Alkalinity, Bicarbonate	212		mg/L	5	S2320B-97			5/19/16 06:10	MSA	B
Alkalinity, Total	212		mg/L	5	S2320B-97			5/19/16 06:10	MSA	B
Ammonia-N	0.184		mg/L	0.100	D6919-09			5/26/16 04:04	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			5/27/16 13:00	NJA	C
Chloride	306		mg/L	5.0	EPA 300.0			5/20/16 02:25	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/18/16 12:12	JP	B
Nitrate-N	ND		mg/L	0.20	EPA 300.0			5/18/16 12:12	JP	B
pH	7.37		pH_Units		S4500HB-00			5/19/16 06:10	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/19/16 10:00	AK	5/24/16 14:48	JLG	I
Specific Conductance	1380		umhos/cm	1	S2510B-97			5/19/16 06:10	MSA	B
Sulfate	45.9		mg/L	2.0	EPA 300.0			5/18/16 12:12	JP	B
Total Dissolved Solids	1270		mg/L	5	S2540C-11			5/24/16 11:20	ML	B
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	0.89		NTU	0.10	S2130B-01			5/19/16 05:51	MSA	B
FIELD PARAMETERS										
Depth to Water Level	34.930		Feet		Field			5/17/16 10:42	CLT	F
Elev Top MW Casing above MSL	560.72		Feet		Field			5/17/16 10:42	CLT	F
Flow Rate	2.18		gal/min		Field			5/17/16 10:42	CLT	F
Ground Water Elevation	525.790		ft/MSL		Field			5/17/16 10:42	CLT	F
pH, Field (SM4500B)	6.800		pH_Units		Field			5/17/16 10:42	CLT	F
Sample Depth	146.000		Feet		Field			5/17/16 10:42	CLT	F
Specific Conductance, Field	1473		umhos/cm	1	Field			5/17/16 10:42	CLT	F
Temperature	12.13		Deg. C		Field			5/17/16 10:42	CLT	F
Total Well Depth	148.500		Feet		Field			5/17/16 10:42	CLT	F
Volume in Water Column	166.948		Gallons		Field			5/17/16 10:42	CLT	F
Water Level After Purge	86.540		Feet		Field			5/17/16 10:42	CLT	F
Well Volumes Purged	0.78		Vol		Field			5/17/16 10:42	CLT	F

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378002**
Sample ID: **FFMP04AW**

Date Collected: 5/17/2016 10:42 Matrix: Ground Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378003**
Sample ID: **FFMP26RW**

Date Collected: 5/17/2016 12:43 Matrix: Ground Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/20/16 02:36	SYB	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/20/16 02:36	SYB	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/20/16 02:36	SYB	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/20/16 02:36	SYB	J

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378003**
Sample ID: **FFMP26RW**

Date Collected: 5/17/2016 12:43 Matrix: Ground Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/20/16 02:36	SYB	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	110		%	62 - 133	SW846 8260B			5/20/16 02:36	SYB	J
4-Bromofluorobenzene (S)	96.1		%	79 - 114	SW846 8260B			5/20/16 02:36	SYB	J
Dibromofluoromethane (S)	98.9		%	78 - 116	SW846 8260B			5/20/16 02:36	SYB	J
Toluene-d8 (S)	104		%	76 - 127	SW846 8260B			5/20/16 02:36	SYB	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/19/16 02:36	CPK	J
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/19/16 13:00	JPS	5/20/16 20:10	MO	E1
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:37	ZMC	5/26/16 06:31	ZMC	D2
Barium, Total	0.11		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Barium, Dissolved	0.12		mg/L	0.010	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
Calcium, Total	69.6		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Calcium, Dissolved	70.6		mg/L	0.10	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
Magnesium, Total	20.0		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Magnesium, Dissolved	20.4		mg/L	0.10	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
Manganese, Total	0.46		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Manganese, Dissolved	0.48		mg/L	0.0050	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
Mercury, Total	0.00063		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:40	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:04	MNP	D1
Potassium, Total	8.7		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Potassium, Dissolved	9.1		mg/L	0.50	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378003**
Sample ID: **FFMP26RW**

Date Collected: 5/17/2016 12:43 Matrix: Ground Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
Sodium, Total	59.6		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Sodium, Dissolved	60.4		mg/L	0.50	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:26	SRT	E2
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:54	TSS	D
WET CHEMISTRY										
Alkalinity, Bicarbonate	44		mg/L	5	S2320B-97			5/19/16 06:18	MSA	B
Alkalinity, Total	44		mg/L	5	S2320B-97			5/19/16 06:18	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/26/16 04:23	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			5/27/16 13:00	NJA	C
Chloride	192		mg/L	2.0	EPA 300.0			5/18/16 12:23	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/18/16 12:23	JP	B
Nitrate-N	1.8		mg/L	0.20	EPA 300.0			5/18/16 12:23	JP	B
pH	5.77		pH_Units		S4500HB-00			5/19/16 06:18	MSA	B
Phenolics	ND	1	mg/L	0.01	SW846 9066	5/19/16 10:00	AK	5/30/16 12:51	JLG	I
Specific Conductance	864		umhos/cm	1	S2510B-97			5/19/16 06:18	MSA	B
Sulfate	80.4		mg/L	2.0	EPA 300.0			5/18/16 12:23	JP	B
Total Dissolved Solids	748		mg/L	5	S2540C-11			5/24/16 11:20	ML	B
Total Organic Carbon (TOC)	1.6		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	0.58		NTU	0.10	S2130B-01			5/19/16 05:51	MSA	B
FIELD PARAMETERS										
Depth to Water Level	74.760		Feet		Field			5/17/16 12:43	CLT	F
Elev Top MW Casing above MSL	547.40		Feet		Field			5/17/16 12:43	CLT	F
Flow Rate	2.37		gal/min		Field			5/17/16 12:43	CLT	F
Ground Water Elevation	472.640		ft/MSL		Field			5/17/16 12:43	CLT	F
pH, Field (SM4500B)	5.160		pH_Units		Field			5/17/16 12:43	CLT	F
Sample Depth	105.000		Feet		Field			5/17/16 12:43	CLT	F
Specific Conductance, Field	920		umhos/cm	1	Field			5/17/16 12:43	CLT	F
Temperature	12.42		Deg. C		Field			5/17/16 12:43	CLT	F
Total Well Depth	118.300		Feet		Field			5/17/16 12:43	CLT	F
Volume in Water Column	64.004		Gallons		Field			5/17/16 12:43	CLT	F
Water Level After Purge	93.620		Feet		Field			5/17/16 12:43	CLT	F
Well Volumes Purged	1.48		Vol		Field			5/17/16 12:43	CLT	F

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378003**
Sample ID: **FFMP26RW**

Date Collected: 5/17/2016 12:43 Matrix: Ground Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378004**

Date Collected: 5/17/2016 14:15

Matrix: Ground Water

Sample ID: **FFMP005W**

Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/20/16 02:53	SYB	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/20/16 02:53	SYB	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/20/16 02:53	SYB	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/20/16 02:53	SYB	J

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378004**
Sample ID: **FFMP005W**

Date Collected: 5/17/2016 14:15 Matrix: Ground Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/20/16 02:53	SYB	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	109		%	62 - 133	SW846 8260B			5/20/16 02:53	SYB	J
4-Bromofluorobenzene (S)	100		%	79 - 114	SW846 8260B			5/20/16 02:53	SYB	J
Dibromofluoromethane (S)	98.5		%	78 - 116	SW846 8260B			5/20/16 02:53	SYB	J
Toluene-d8 (S)	105		%	76 - 127	SW846 8260B			5/20/16 02:53	SYB	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/19/16 02:53	CPK	J
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/19/16 13:00	JPS	5/20/16 20:13	MO	E1
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:37	ZMC	5/26/16 06:43	ZMC	D2
Barium, Total	0.043		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Barium, Dissolved	0.044		mg/L	0.010	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
Calcium, Total	69.6		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Calcium, Dissolved	71.1		mg/L	0.10	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
Magnesium, Total	16.9		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Magnesium, Dissolved	17.5		mg/L	0.10	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
Manganese, Total	0.043		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Manganese, Dissolved	0.046		mg/L	0.0050	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:42	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:07	MNP	D1
Potassium, Total	2.5		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Potassium, Dissolved	2.7		mg/L	0.50	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378004**

Date Collected: 5/17/2016 14:15

Matrix: Ground Water

Sample ID: **FFMP005W**

Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
Sodium, Total	43.3		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Sodium, Dissolved	44.6		mg/L	0.50	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 11:30	SRT	E2
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/18/16 03:43	TSS	5/18/16 08:58	TSS	D
WET CHEMISTRY										
Alkalinity, Bicarbonate	45		mg/L	5	S2320B-97			5/19/16 06:26	MSA	B
Alkalinity, Total	45		mg/L	5	S2320B-97			5/19/16 06:26	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/26/16 04:43	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			5/27/16 13:00	NJA	C
Chloride	172		mg/L	2.0	EPA 300.0			5/18/16 12:34	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/18/16 12:34	JP	B
Nitrate-N	3.5		mg/L	0.20	EPA 300.0			5/18/16 12:34	JP	B
pH	5.94		pH_Units		S4500HB-00			5/19/16 06:26	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/19/16 10:00	AK	5/24/16 14:52	JLG	I
Specific Conductance	760		umhos/cm	1	S2510B-97			5/19/16 06:26	MSA	B
Sulfate	52.8		mg/L	2.0	EPA 300.0			5/18/16 12:34	JP	B
Total Dissolved Solids	725		mg/L	5	S2540C-11			5/24/16 11:20	ML	B
Total Organic Carbon (TOC)	1.3		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	ND		NTU	0.10	S2130B-01			5/19/16 05:51	MSA	B
FIELD PARAMETERS										
Depth to Water Level	66.580		Feet		Field			5/17/16 14:15	CLT	F
Elev Top MW Casing above MSL	537.40		Feet		Field			5/17/16 14:15	CLT	F
Flow Rate	2.34		gal/min		Field			5/17/16 14:15	CLT	F
Ground Water Elevation	470.820		ft/MSL		Field			5/17/16 14:15	CLT	F
pH, Field (SM4500B)	4.880		pH_Units		Field			5/17/16 14:15	CLT	F
Sample Depth	135.000		Feet		Field			5/17/16 14:15	CLT	F
Specific Conductance, Field	812		umhos/cm	1	Field			5/17/16 14:15	CLT	F
Temperature	11.87		Deg. C		Field			5/17/16 14:15	CLT	F
Total Well Depth	149.700		Feet		Field			5/17/16 14:15	CLT	F
Volume in Water Column	122.186		Gallons		Field			5/17/16 14:15	CLT	F
Water Level After Purge	95.310		Feet		Field			5/17/16 14:15	CLT	F
Well Volumes Purged	1.54		Vol		Field			5/17/16 14:15	CLT	F

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378004**
Sample ID: **FFMP005W**

Date Collected: 5/17/2016 14:15 Matrix: Ground Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378005**

Date Collected: 5/17/2016 14:37

Matrix: Water

Sample ID: **Field Blank**

Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Bromoform	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/20/16 01:45	SYB	A
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/20/16 01:45	SYB	A
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/20/16 01:45	SYB	A
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	A
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/20/16 01:45	SYB	A

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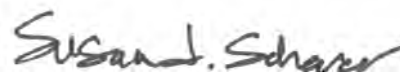
ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378005**
Sample ID: **Field Blank**

Date Collected: 5/17/2016 14:37 Matrix: Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/20/16 01:45	SYB	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)	109		%	62 - 133	SW846 8260B			5/20/16 01:45	SYB	A
4-Bromofluorobenzene (S)	104		%	79 - 114	SW846 8260B			5/20/16 01:45	SYB	A
Dibromofluoromethane (S)	101		%	78 - 116	SW846 8260B			5/20/16 01:45	SYB	A
Toluene-d8 (S)	103		%	76 - 127	SW846 8260B			5/20/16 01:45	SYB	A
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/19/16 01:45	CPK	A



Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378006**
Sample ID: **Trip Blank**

Date Collected: 5/17/2016 15:48 Matrix: Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Bromoform	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/20/16 10:36	DD	A
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/20/16 10:36	DD	A
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Toluene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/20/16 10:36	DD	A
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	A
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/20/16 10:36	DD	A

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ANALYTICAL RESULTS

Workorder: 2144378 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144378006**
Sample ID: **Trip Blank**

Date Collected: 5/17/2016 15:48 Matrix: Water
Date Received: 5/17/2016 15:48

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/20/16 10:36	DD	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)	103		%	62 - 133	SW846 8260B			5/20/16 10:36	DD	A
4-Bromofluorobenzene (S)	103		%	79 - 114	SW846 8260B			5/20/16 10:36	DD	A
Dibromofluoromethane (S)	88.8		%	78 - 116	SW846 8260B			5/20/16 10:36	DD	A
Toluene-d8 (S)	90.4		%	76 - 127	SW846 8260B			5/20/16 10:36	DD	A
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			4/20/16 10:36	JAH	A

Ms. Susan J Scherer
Project Coordinator

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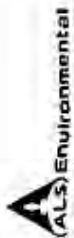
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**PARAMETER QUALIFIERS**

Lab ID	#	Sample ID	Analytical Method	Analyte
2144378001	1	FFMP30RW	SW846 6010C	Silver, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.				
2144378001	2	FFMP30RW	SW846 6010C	Silver, Dissolved
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.				
2144378002	1	FFMP04AW	SW846 8260B	trans-1,2-Dichloroethene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte trans-1,2-Dichloroethene. The % Recovery was reported as 123 and the control limits were 71 to 122.				
2144378003	1	FFMP26RW	SW846 9066	Phenolics
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS



1 of 1

Client Name: Lancaster County Solid Waste MA

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

Lancaster, PA 17604

Contact: Brooks Norris

Phone#: (717) 397-9958

Project Name#: Frey Farm Annual (M5)

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 Email: bnoirris@lcswwma.com

Fax? ☒ Y ☐ N Fax: (717) 397-9973

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

Enter Number of Containers Per Sample or Field Results Below.

Sample	Date	Time	Matrix	TOC	O-H	VOC (Form 19A) + LS	Field Measurements	Sample Depth for AUX Data	NH3-N, COD	Disolved: Fe, Mn, Na, Ba, Cr, Cu, Pb, Cd, Se, Ag, Hg, Ca	Metals: Fe, Mn, Na, Ba, Cr, Cu, Pb, Cd, Se, Ag, Hg, Ca	pH, Cl, SPC, F, SO4, TDS, NO3, Turb	Alkalinity, HCO3
1. FFMP 30 RW	5-17-16	0931	G GW	2	1	2	X	X	1	1	1	1	1
2. FFMP 04 AW		1042											
3. FFMP 26 RW		1243											
4. FFMP 005 W		1416											
5. Field Blank		1437											
6. Trip Blank		1540											
7													
8													
9													
10													

Project Comments:

LOGGED BY (signature): *John Grayson* Date: 05/18/16 Time: 0932

REVIEWED BY (signature): _____ Date: _____ Time: _____

Relinquished By / Company Name: *John Grayson* Received By / Company Name: *John Grayson* Date: 5/17/16 Time: 1543

1. *John Grayson* 2. *John Grayson* 3. *John Grayson* 4. *John Grayson* 5. *John Grayson* 6. *John Grayson* 7. *John Grayson* 8. *John Grayson* 9. *John Grayson* 10. *John Grayson*

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

Special Processing: ☐ USACE ☐ Navy ☐ USACE ☐ Navy ☐ USACE ☐ Navy

State Samples Collected In: ☐ NY ☐ NJ ☒ PA ☐ NC

Sample Disposal: ☐ Lab ☒ X ☐ Special

Reportable to PADEP? ☐ Yes ☐ No PWSID # _____ EDDS: Format Type: _____

Matrix: A=Air, DW=Drinking Water, GW=Groundwater, O=Oil, OL=Other Liquid, SL=Sludge, SO=Soil, WP=Wipe, WW=Wastewater

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

Rev 8/04



June 8, 2016

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

Certificate of Analysis

Project Name: 2016-FREY FARM**Workorder: 2144831****Purchase Order:****Workorder ID: 2ND QTR 2016 GWMP-FORM 19A**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, May 18, 2016.

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: Mr. Mark Reider , 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: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2144831001	FFMP018W	Ground Water	5/18/2016 09:40	5/18/2016 16:38	Mr. Brian G Shade
2144831002	FFMP019W	Ground Water	5/18/2016 10:27	5/18/2016 16:38	Mr. Brian G Shade
2144831003	FFMP029W	Ground Water	5/18/2016 11:36	5/18/2016 16:38	Mr. Brian G Shade
2144831004	FFMP013W	Ground Water	5/18/2016 13:22	5/18/2016 16:38	Mr. Brian G Shade
2144831005	FFMP014W	Ground Water	5/18/2016 13:56	5/18/2016 16:38	Mr. Brian G Shade
2144831006	FFMP027W	Ground Water	5/18/2016 14:39	5/18/2016 16:38	Mr. Brian G Shade
2144831007	Field Blank	Water	5/18/2016 15:43	5/18/2016 16:38	Mr. Brian G Shade
2144831008	Trip Blank	Water	5/18/2016 16:38	5/18/2016 16:38	Mr. Brian G Shade
2144831009	FFMP001P	Ground Water	5/18/2016 13:48	5/18/2016 16:38	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Notes

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

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
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: 2144831 2ND QTR 2016 GWMP-FORM 19A

Sample Comments**Lab ID:** 2144831001 **Sample ID:** FFMP018W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

This sample was selected to be Matrix Spiked for Phenol analysis for QC purposes. The Matrix Spiked sample failed to meet QC parameters after two separate analyses.

Lab ID: 2144831002 **Sample ID:** FFMP019W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2144831003 **Sample ID:** FFMP029W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2144831004 **Sample ID:** FFMP013W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2144831005 **Sample ID:** FFMP014W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2144831006 **Sample ID:** FFMP027W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2144831009 **Sample ID:** FFMP001P **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831001**
Sample ID: **FFMP018W**

Date Collected: 5/18/2016 09:40 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/21/16 04:56	SYB	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/21/16 04:56	SYB	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/21/16 04:56	SYB	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/21/16 04:56	SYB	J

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831001**

Date Collected: 5/18/2016 09:40

Matrix: Ground Water

Sample ID: **FFMP018W**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 04:56	SYB	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	117		%	62 - 133	SW846 8260B			5/21/16 04:56	SYB	J
4-Bromofluorobenzene (S)	100		%	79 - 114	SW846 8260B			5/21/16 04:56	SYB	J
Dibromofluoromethane (S)	96.3		%	78 - 116	SW846 8260B			5/21/16 04:56	SYB	J
Toluene-d8 (S)	100		%	76 - 127	SW846 8260B			5/21/16 04:56	SYB	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/21/16 04:56	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	15		mg/L	5	S2320B-97			5/19/16 23:56	MSA	B
Alkalinity, Total	15		mg/L	5	S2320B-97			5/19/16 23:56	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/27/16 12:05	NJA	C
Chemical Oxygen Demand (COD)	14		mg/L	5	EPA 410.4			6/1/16 06:00	JAM	C
Chloride	131		mg/L	2.0	EPA 300.0			5/20/16 08:21	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/20/16 08:21	JP	B
Nitrate-N	5.8		mg/L	0.20	EPA 300.0			5/20/16 08:21	JP	B
pH	6.15		pH_Units		S4500HB-00			5/19/16 23:56	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/21/16 10:00	AK	5/30/16 11:06	JLG	I
Specific Conductance	620		umhos/cm	1	S2510B-97			5/19/16 23:56	MSA	B
Sulfate	50.0		mg/L	2.0	EPA 300.0			5/20/16 08:21	JP	B
Total Dissolved Solids	381		mg/L	5	S2540C-11			5/24/16 11:24	ML	B
Total Organic Carbon (TOC)	1.8		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	ND		NTU	0.10	S2130B-01			5/20/16 03:19	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/24/16 12:00	JPS	5/25/16 11:17	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:37	ZMC	5/26/16 07:25	ZMC	D2
Barium, Total	0.11		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Barium, Dissolved	0.11		mg/L	0.010	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Calcium, Total	35.5		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Calcium, Dissolved	34.6		mg/L	0.10	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831001**
Sample ID: **FFMP018W**

Date Collected: 5/18/2016 09:40 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Magnesium, Total	18.3		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Magnesium, Dissolved	18.1		mg/L	0.10	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Manganese, Total	0.33		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Manganese, Dissolved	0.33		mg/L	0.0050	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:50	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:09	MNP	D1
Potassium, Total	4.7		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Potassium, Dissolved	4.7		mg/L	0.50	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Sodium, Total	46.5		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Sodium, Dissolved	46.3		mg/L	0.50	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:35	SRT	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:17	SRT	D

FIELD PARAMETERS

Depth to Water Level	27.230	Feet		Field		5/18/16 09:40	CLT	F
Elev Top MW Casing above MSL	472.20	Feet		Field		5/18/16 09:40	CLT	F
Flow Rate	4.58	gal/min		Field		5/18/16 09:40	CLT	F
Ground Water Elevation	444.970	ft/MSL		Field		5/18/16 09:40	CLT	F
pH, Field (SM4500B)	4.270	pH_Units		Field		5/18/16 09:40	CLT	F
Sample Depth	40.000	Feet		Field		5/18/16 09:40	CLT	F
Specific Conductance, Field	648	umhos/cm	1	Field		5/18/16 09:40	CLT	F
Temperature	13.63	Deg. C		Field		5/18/16 09:40	CLT	F
Total Well Depth	51.460	Feet		Field		5/18/16 09:40	CLT	F
Volume in Water Column	15.750	Gallons		Field		5/18/16 09:40	CLT	F
Water Level After Purge	29.310	Feet		Field		5/18/16 09:40	CLT	F
Well Volumes Purged	2.91	Vol		Field		5/18/16 09:40	CLT	F

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ALS Environmental



34 Dogwood Lane ■ 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: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831001**
Sample ID: **FFMP018W**

Date Collected: 5/18/2016 09:40 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831002**
Sample ID: **FFMP019W**

Date Collected: 5/18/2016 10:27 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/21/16 02:44	SYB	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/21/16 02:44	SYB	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/21/16 02:44	SYB	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/21/16 02:44	SYB	J

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831002**
Sample ID: **FFMP019W**

Date Collected: 5/18/2016 10:27 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 02:44	SYB	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	98.9		%	62 - 133	SW846 8260B			5/21/16 02:44	SYB	J
4-Bromofluorobenzene (S)	102		%	79 - 114	SW846 8260B			5/21/16 02:44	SYB	J
Dibromofluoromethane (S)	87.1		%	78 - 116	SW846 8260B			5/21/16 02:44	SYB	J
Toluene-d8 (S)	87.7		%	76 - 127	SW846 8260B			5/21/16 02:44	SYB	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/21/16 02:44	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	70		mg/L	5	S2320B-97			5/20/16 00:05	MSA	B
Alkalinity, Total	70		mg/L	5	S2320B-97			5/20/16 00:05	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/27/16 13:02	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			6/1/16 06:00	JAM	C
Chloride	79.1		mg/L	2.0	EPA 300.0			5/20/16 08:32	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/20/16 08:32	JP	B
Nitrate-N	0.60		mg/L	0.20	EPA 300.0			5/20/16 08:32	JP	B
pH	7.44		pH_Units		S4500HB-00			5/20/16 00:05	MSA	B
Phenolics	ND	1	mg/L	0.01	SW846 9066	5/21/16 10:00	AK	5/30/16 12:56	JLG	I
Specific Conductance	427		umhos/cm	1	S2510B-97			5/20/16 00:05	MSA	B
Sulfate	14.3		mg/L	2.0	EPA 300.0			5/20/16 08:32	JP	B
Total Dissolved Solids	260		mg/L	5	S2540C-11			5/24/16 11:24	ML	B
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	ND		NTU	0.10	S2130B-01			5/20/16 03:19	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/24/16 12:00	JPS	5/25/16 11:29	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:37	ZMC	5/26/16 07:29	ZMC	D2
Barium, Total	0.087		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Barium, Dissolved	0.081		mg/L	0.010	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Calcium, Total	58.9		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Calcium, Dissolved	57.3		mg/L	0.10	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831002**
Sample ID: **FFMP019W**

Date Collected: 5/18/2016 10:27 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Magnesium, Total	5.8		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Magnesium, Dissolved	5.7		mg/L	0.10	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Manganese, Total	ND		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Manganese, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:53	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:10	MNP	D1
Potassium, Total	0.96		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Potassium, Dissolved	0.99		mg/L	0.50	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Sodium, Total	10.4		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Sodium, Dissolved	10.4		mg/L	0.50	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:39	SRT	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:21	SRT	D

FIELD PARAMETERS

Depth to Water Level	27.900	Feet		Field		5/18/16 10:27	CLT	F
Elev Top MW Casing above MSL	471.95	Feet		Field		5/18/16 10:27	CLT	F
Flow Rate	4.52	gal/min		Field		5/18/16 10:27	CLT	F
Ground Water Elevation	444.050	ft/MSL		Field		5/18/16 10:27	CLT	F
pH, Field (SM4500B)	6.250	pH_Units		Field		5/18/16 10:27	CLT	F
Sample Depth	49.000	Feet		Field		5/18/16 10:27	CLT	F
Specific Conductance, Field	455	umhos/cm	1	Field		5/18/16 10:27	CLT	F
Temperature	12.43	Deg. C		Field		5/18/16 10:27	CLT	F
Total Well Depth	132.790	Feet		Field		5/18/16 10:27	CLT	F
Volume in Water Column	68.179	Gallons		Field		5/18/16 10:27	CLT	F
Water Level After Purge	37.690	Feet		Field		5/18/16 10:27	CLT	F
Well Volumes Purged	2.65	Vol		Field		5/18/16 10:27	CLT	F

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831002**
Sample ID: **FFMP019W**

Date Collected: 5/18/2016 10:27 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831003**
Sample ID: **FFMP029W**

Date Collected: 5/18/2016 11:36 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/21/16 03:05	SYB	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/21/16 03:05	SYB	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/21/16 03:05	SYB	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/21/16 03:05	SYB	J

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831003**

Date Collected: 5/18/2016 11:36

Matrix: Ground Water

Sample ID: **FFMP029W**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 03:05	SYB	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	98.8		%	62 - 133	SW846 8260B			5/21/16 03:05	SYB	J
4-Bromofluorobenzene (S)	100		%	79 - 114	SW846 8260B			5/21/16 03:05	SYB	J
Dibromofluoromethane (S)	86.6		%	78 - 116	SW846 8260B			5/21/16 03:05	SYB	J
Toluene-d8 (S)	86.4		%	76 - 127	SW846 8260B			5/21/16 03:05	SYB	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/21/16 03:05	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	11		mg/L	5	S2320B-97			5/20/16 00:14	MSA	B
Alkalinity, Total	11		mg/L	5	S2320B-97			5/20/16 00:14	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/27/16 13:21	NJA	C
Chemical Oxygen Demand (COD)	11		mg/L	5	EPA 410.4			6/1/16 06:00	JAM	C
Chloride	56.5		mg/L	2.0	EPA 300.0			5/20/16 08:43	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/20/16 08:43	JP	B
Nitrate-N	3.8		mg/L	0.20	EPA 300.0			5/20/16 08:43	JP	B
pH	6.33		pH_Units		S4500HB-00			5/20/16 00:14	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/21/16 10:00	AK	5/24/16 15:37	JLG	I
Specific Conductance	235		umhos/cm	1	S2510B-97			5/20/16 00:14	MSA	B
Sulfate	6.1		mg/L	2.0	EPA 300.0			5/20/16 08:43	JP	B
Total Dissolved Solids	175	1	mg/L	5	S2540C-11			5/24/16 11:24	ML	B
Total Organic Carbon (TOC)	1.4		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	0.15		NTU	0.10	S2130B-01			5/20/16 03:19	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/24/16 12:00	JPS	5/25/16 11:32	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:37	ZMC	5/26/16 07:33	ZMC	D2
Barium, Total	0.058		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Barium, Dissolved	0.055		mg/L	0.010	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Calcium, Total	12.3		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Calcium, Dissolved	11.4		mg/L	0.10	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831003**

Date Collected: 5/18/2016 11:36

Matrix: Ground Water

Sample ID: **FFMP029W**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Magnesium, Total	8.6		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Magnesium, Dissolved	8.2		mg/L	0.10	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Manganese, Total	0.028		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Manganese, Dissolved	0.024		mg/L	0.0050	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:57	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:11	MNP	D1
Potassium, Total	2.0		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Potassium, Dissolved	2.0		mg/L	0.50	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Sodium, Total	20.8		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Sodium, Dissolved	19.8		mg/L	0.50	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:42	SRT	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:25	SRT	D

FIELD PARAMETERS

Depth to Water Level	38.460	Feet		Field		5/18/16 11:36	CLT	F
Elev Top MW Casing above MSL	477.30	Feet		Field		5/18/16 11:36	CLT	F
Flow Rate	2.72	gal/min		Field		5/18/16 11:36	CLT	F
Ground Water Elevation	438.840	ft/MSL		Field		5/18/16 11:36	CLT	F
pH, Field (SM4500B)	5.040	pH_Units		Field		5/18/16 11:36	CLT	F
Sample Depth	55.000	Feet		Field		5/18/16 11:36	CLT	F
Specific Conductance, Field	278	umhos/cm	1	Field		5/18/16 11:36	CLT	F
Temperature	12.87	Deg. C		Field		5/18/16 11:36	CLT	F
Total Well Depth	60.500	Feet		Field		5/18/16 11:36	CLT	F
Volume in Water Column	32.399	Gallons		Field		5/18/16 11:36	CLT	F
Water Level After Purge	46.480	Feet		Field		5/18/16 11:36	CLT	F
Well Volumes Purged	4.20	Vol		Field		5/18/16 11:36	CLT	F

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831003**
Sample ID: **FFMP029W**

Date Collected: 5/18/2016 11:36 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831004**
Sample ID: **FFMP013W**

Date Collected: 5/18/2016 13:22 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/21/16 03:27	SYB	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/21/16 03:27	SYB	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/21/16 03:27	SYB	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/21/16 03:27	SYB	J

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831004**

Date Collected: 5/18/2016 13:22

Matrix: Ground Water

Sample ID: **FFMP013W**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 03:27	SYB	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	98.9		%	62 - 133	SW846 8260B			5/21/16 03:27	SYB	J
4-Bromofluorobenzene (S)	102		%	79 - 114	SW846 8260B			5/21/16 03:27	SYB	J
Dibromofluoromethane (S)	86.6		%	78 - 116	SW846 8260B			5/21/16 03:27	SYB	J
Toluene-d8 (S)	88		%	76 - 127	SW846 8260B			5/21/16 03:27	SYB	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/21/16 03:27	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	168		mg/L	5	S2320B-97			5/20/16 00:24	MSA	B
Alkalinity, Total	168		mg/L	5	S2320B-97			5/20/16 00:24	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/27/16 11:02	NJA	C
Chemical Oxygen Demand (COD)	10		mg/L	5	EPA 410.4			6/1/16 14:08	NJA	C
Chloride	127		mg/L	2.0	EPA 300.0			5/20/16 08:54	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/20/16 08:54	JP	B
Nitrate-N	6.3		mg/L	0.20	EPA 300.0			5/20/16 08:54	JP	B
pH	7.95		pH_Units		S4500HB-00			5/20/16 00:24	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/21/16 10:00	AK	5/24/16 15:46	JLG	I
Specific Conductance	822		umhos/cm	1	S2510B-97			5/20/16 00:24	MSA	B
Sulfate	32.5		mg/L	2.0	EPA 300.0			5/20/16 08:54	JP	B
Total Dissolved Solids	571		mg/L	5	S2540C-11			5/24/16 11:24	ML	B
Total Organic Carbon (TOC)	1.5		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	7.27		NTU	0.10	S2130B-01			5/20/16 03:19	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/24/16 12:00	JPS	5/25/16 11:36	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:37	ZMC	5/26/16 07:36	ZMC	D2
Barium, Total	0.13		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Barium, Dissolved	0.13		mg/L	0.010	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Calcium, Total	98.1		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Calcium, Dissolved	98.5		mg/L	0.10	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831004**

Date Collected: 5/18/2016 13:22

Matrix: Ground Water

Sample ID: **FFMP013W**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Iron, Total	0.79		mg/L	0.067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Magnesium, Total	12.3		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Magnesium, Dissolved	12.5		mg/L	0.10	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Manganese, Total	0.017		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Manganese, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:58	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:12	MNP	D1
Potassium, Total	1.2		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Potassium, Dissolved	1.2		mg/L	0.50	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Sodium, Total	43.9		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Sodium, Dissolved	44.3		mg/L	0.50	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:46	SRT	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:28	SRT	D

FIELD PARAMETERS

Depth to Water Level	15.920	Feet		Field		5/18/16 13:22	CLT	F
Elev Top MW Casing above MSL	507.60	Feet		Field		5/18/16 13:22	CLT	F
Flow Rate	2.52	gal/min		Field		5/18/16 13:22	CLT	F
Ground Water Elevation	491.680	ft/MSL		Field		5/18/16 13:22	CLT	F
pH, Field (SM4500B)	7.060	pH_Units		Field		5/18/16 13:22	CLT	F
Sample Depth	135.000	Feet		Field		5/18/16 13:22	CLT	F
Specific Conductance, Field	871	umhos/cm	1	Field		5/18/16 13:22	CLT	F
Temperature	12.56	Deg. C		Field		5/18/16 13:22	CLT	F
Total Well Depth	150.500	Feet		Field		5/18/16 13:22	CLT	F
Volume in Water Column	197.833	Gallons		Field		5/18/16 13:22	CLT	F
Water Level After Purge	83.760	Feet		Field		5/18/16 13:22	CLT	F
Well Volumes Purged	1.01	Vol		Field		5/18/16 13:22	CLT	F

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831004**
Sample ID: **FFMP013W**

Date Collected: 5/18/2016 13:22 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831005**
Sample ID: **FFMP014W**

Date Collected: 5/18/2016 13:56 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/21/16 03:49	SYB	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/21/16 03:49	SYB	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/21/16 03:49	SYB	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/21/16 03:49	SYB	J

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831005**

Date Collected: 5/18/2016 13:56

Matrix: Ground Water

Sample ID: **FFMP014W**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 03:49	SYB	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	101		%	62 - 133	SW846 8260B			5/21/16 03:49	SYB	J
4-Bromofluorobenzene (S)	102		%	79 - 114	SW846 8260B			5/21/16 03:49	SYB	J
Dibromofluoromethane (S)	86.6		%	78 - 116	SW846 8260B			5/21/16 03:49	SYB	J
Toluene-d8 (S)	87.7		%	76 - 127	SW846 8260B			5/21/16 03:49	SYB	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/21/16 03:49	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	29		mg/L	5	S2320B-97			5/20/16 00:33	MSA	B
Alkalinity, Total	29		mg/L	5	S2320B-97			5/20/16 00:33	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/27/16 11:22	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			6/1/16 06:00	JAM	C
Chloride	112		mg/L	2.0	EPA 300.0			5/20/16 11:18	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/20/16 11:18	JP	B
Nitrate-N	5.6		mg/L	0.20	EPA 300.0			5/20/16 11:18	JP	B
pH	6.39		pH_Units		S4500HB-00			5/20/16 00:33	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/21/16 10:00	AK	5/24/16 15:47	JLG	I
Specific Conductance	581		umhos/cm	1	S2510B-97			5/20/16 00:33	MSA	B
Sulfate	44.3		mg/L	2.0	EPA 300.0			5/20/16 11:18	JP	B
Total Dissolved Solids	333		mg/L	5	S2540C-11			5/24/16 11:24	ML	B
Total Organic Carbon (TOC)	1.6		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	0.77		NTU	0.10	S2130B-01			5/20/16 03:19	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/24/16 12:00	JPS	5/25/16 11:52	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:38	ZMC	5/26/16 07:40	ZMC	D2
Barium, Total	0.084		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Barium, Dissolved	0.084		mg/L	0.010	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Calcium, Total	25.4		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Calcium, Dissolved	26.3		mg/L	0.10	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Chromium, Total	0.011		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831005**

Date Collected: 5/18/2016 13:56

Matrix: Ground Water

Sample ID: **FFMP014W**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Iron, Total	0.071		mg/L	0.067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Magnesium, Total	14.9		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Magnesium, Dissolved	15.6		mg/L	0.10	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Manganese, Total	0.015		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Manganese, Dissolved	0.015		mg/L	0.0050	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 12:01	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:15	MNP	D1
Potassium, Total	2.2		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Potassium, Dissolved	2.2		mg/L	0.50	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Sodium, Total	56.7		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Sodium, Dissolved	59.5		mg/L	0.50	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:50	SRT	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/20/16 06:43	TSS	5/24/16 08:39	SRT	D

FIELD PARAMETERS

Depth to Water Level	16.030	Feet		Field		5/18/16 13:56	CLT	F
Elev Top MW Casing above MSL	507.30	Feet		Field		5/18/16 13:56	CLT	F
Flow Rate	5.12	gal/min		Field		5/18/16 13:56	CLT	F
Ground Water Elevation	491.270	ft/MSL		Field		5/18/16 13:56	CLT	F
pH, Field (SM4500B)	5.000	pH_Units		Field		5/18/16 13:56	CLT	F
Sample Depth	24.500	Feet		Field		5/18/16 13:56	CLT	F
Specific Conductance, Field	584	umhos/cm	1	Field		5/18/16 13:56	CLT	F
Temperature	10.84	Deg. C		Field		5/18/16 13:56	CLT	F
Total Well Depth	29.600	Feet		Field		5/18/16 13:56	CLT	F
Volume in Water Column	8.821	Gallons		Field		5/18/16 13:56	CLT	F
Water Level After Purge	17.530	Feet		Field		5/18/16 13:56	CLT	F
Well Volumes Purged	1.16	Vol		Field		5/18/16 13:56	CLT	F

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831005**
Sample ID: **FFMP014W**

Date Collected: 5/18/2016 13:56 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831006**

Date Collected: 5/18/2016 14:39

Matrix: Ground Water

Sample ID: **FFMP027W**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/21/16 04:11	SYB	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/21/16 04:11	SYB	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/21/16 04:11	SYB	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/21/16 04:11	SYB	J

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831006**

Date Collected: 5/18/2016 14:39

Matrix: Ground Water

Sample ID: **FFMP027W**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 04:11	SYB	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	101		%	62 - 133	SW846 8260B			5/21/16 04:11	SYB	J
4-Bromofluorobenzene (S)	99.2		%	79 - 114	SW846 8260B			5/21/16 04:11	SYB	J
Dibromofluoromethane (S)	87.1		%	78 - 116	SW846 8260B			5/21/16 04:11	SYB	J
Toluene-d8 (S)	88.7		%	76 - 127	SW846 8260B			5/21/16 04:11	SYB	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/21/16 04:11	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	11		mg/L	5	S2320B-97			5/20/16 00:42	MSA	B
Alkalinity, Total	11		mg/L	5	S2320B-97			5/20/16 00:42	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			5/27/16 11:41	NJA	C
Chemical Oxygen Demand (COD)	ND	2	mg/L	5	EPA 410.4			6/1/16 06:00	JAM	C
Chloride	29.8		mg/L	2.0	EPA 300.0			5/20/16 11:32	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/20/16 11:32	JP	B
Nitrate-N	10.8		mg/L	0.20	EPA 300.0			5/20/16 11:32	JP	B
pH	6.28		pH_Units		S4500HB-00			5/20/16 00:42	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/21/16 10:00	AK	5/24/16 15:48	JLG	I
Specific Conductance	216		umhos/cm	1	S2510B-97			5/20/16 00:42	MSA	B
Sulfate	7.0		mg/L	2.0	EPA 300.0			5/20/16 11:32	JP	B
Total Dissolved Solids	181	1	mg/L	5	S2540C-11			5/24/16 11:24	ML	B
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	ND		NTU	0.10	S2130B-01			5/20/16 03:19	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/24/16 12:00	JPS	5/25/16 11:56	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:38	ZMC	5/26/16 08:03	ZMC	D2
Barium, Total	0.039		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Barium, Dissolved	0.039		mg/L	0.010	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Calcium, Total	14.5		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Calcium, Dissolved	14.7		mg/L	0.10	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831006**

Date Collected: 5/18/2016 14:39

Matrix: Ground Water

Sample ID: **FFMP027W**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Magnesium, Total	9.4		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Magnesium, Dissolved	9.5		mg/L	0.10	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Manganese, Total	0.023		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Manganese, Dissolved	0.022		mg/L	0.0050	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 12:02	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:16	MNP	D1
Potassium, Total	1.4		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Potassium, Dissolved	1.5		mg/L	0.50	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Sodium, Total	10.9		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Sodium, Dissolved	10.7		mg/L	0.50	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:54	SRT	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:50	SRT	D

FIELD PARAMETERS

Depth to Water Level	20.130	Feet		Field		5/18/16 14:39	CLT	F
Elev Top MW Casing above MSL	522.10	Feet		Field		5/18/16 14:39	CLT	F
Flow Rate	5.15	gal/min		Field		5/18/16 14:39	CLT	F
Ground Water Elevation	501.970	ft/MSL		Field		5/18/16 14:39	CLT	F
pH, Field (SM4500B)	4.980	pH_Units		Field		5/18/16 14:39	CLT	F
Sample Depth	45.000	Feet		Field		5/18/16 14:39	CLT	F
Specific Conductance, Field	253	umhos/cm	1	Field		5/18/16 14:39	CLT	F
Temperature	14.23	Deg. C		Field		5/18/16 14:39	CLT	F
Total Well Depth	53.500	Feet		Field		5/18/16 14:39	CLT	F
Volume in Water Column	49.054	Gallons		Field		5/18/16 14:39	CLT	F
Water Level After Purge	20.550	Feet		Field		5/18/16 14:39	CLT	F
Well Volumes Purged	3.15	Vol		Field		5/18/16 14:39	CLT	F

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831006**
Sample ID: **FFMP027W**

Date Collected: 5/18/2016 14:39 Matrix: Ground Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831007**

Date Collected: 5/18/2016 15:43

Matrix: Water

Sample ID: **Field Blank**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Bromoform	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/21/16 04:33	SYB	A
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/21/16 04:33	SYB	A
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/21/16 04:33	SYB	A
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	A
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/21/16 04:33	SYB	A

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831007**
Sample ID: **Field Blank**

Date Collected: 5/18/2016 15:43 Matrix: Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 04:33	SYB	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)	102		%	62 - 133	SW846 8260B			5/21/16 04:33	SYB	A
4-Bromofluorobenzene (S)	103		%	79 - 114	SW846 8260B			5/21/16 04:33	SYB	A
Dibromofluoromethane (S)	87.7		%	78 - 116	SW846 8260B			5/21/16 04:33	SYB	A
Toluene-d8 (S)	88.4		%	76 - 127	SW846 8260B			5/21/16 04:33	SYB	A
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/21/16 04:33	CPK	A

Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831008**
Sample ID: **Trip Blank**

Date Collected: 5/18/2016 16:38 Matrix: Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Bromoform	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/21/16 04:55	SYB	A
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/21/16 04:55	SYB	A
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/21/16 04:55	SYB	A
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	A
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/21/16 04:55	SYB	A

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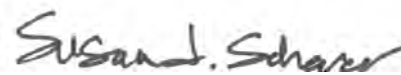
ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831008**
Sample ID: **Trip Blank**

Date Collected: 5/18/2016 16:38 Matrix: Water
Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 04:55	SYB	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)	102		%	62 - 133	SW846 8260B			5/21/16 04:55	SYB	A
4-Bromofluorobenzene (S)	104		%	79 - 114	SW846 8260B			5/21/16 04:55	SYB	A
Dibromofluoromethane (S)	88		%	78 - 116	SW846 8260B			5/21/16 04:55	SYB	A
Toluene-d8 (S)	88.5		%	76 - 127	SW846 8260B			5/21/16 04:55	SYB	A
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/21/16 04:55	CPK	A


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Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831009**

Date Collected: 5/18/2016 13:48

Matrix: Ground Water

Sample ID: **FFMP001P**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/21/16 05:17	SYB	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/21/16 05:17	SYB	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/21/16 05:17	SYB	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/21/16 05:17	SYB	J

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831009**

Date Collected: 5/18/2016 13:48

Matrix: Ground Water

Sample ID: **FFMP001P**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/21/16 05:17	SYB	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	102		%	62 - 133	SW846 8260B			5/21/16 05:17	SYB	J
4-Bromofluorobenzene (S)	102		%	79 - 114	SW846 8260B			5/21/16 05:17	SYB	J
Dibromofluoromethane (S)	86.8		%	78 - 116	SW846 8260B			5/21/16 05:17	SYB	J
Toluene-d8 (S)	88.4		%	76 - 127	SW846 8260B			5/21/16 05:17	SYB	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/21/16 05:17	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	34		mg/L	5	S2320B-97			5/20/16 03:55	MSA	B
Alkalinity, Total	34		mg/L	5	S2320B-97			5/20/16 03:55	MSA	A
Ammonia-N	ND		mg/L	0.100	D6919-09			5/27/16 12:01	NJA	C
Chemical Oxygen Demand (COD)	113		mg/L	5	EPA 410.4			6/1/16 06:00	JAM	C
Chloride	146		mg/L	5.0	EPA 300.0			5/20/16 11:45	JP	B
Fluoride	ND		mg/L	0.50	EPA 300.0			5/20/16 11:45	JP	B
Nitrate-N	8.5		mg/L	0.50	EPA 300.0			5/20/16 11:45	JP	B
pH	6.79		pH_Units		S4500HB-00			5/20/16 03:55	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/31/16 08:30	AK	6/1/16 13:46	JLG	I
Specific Conductance	705		umhos/cm	1	S2510B-97			5/20/16 03:55	MSA	B
Sulfate	55.1		mg/L	5.0	EPA 300.0			5/20/16 11:45	JP	B
Total Dissolved Solids	459		mg/L	5	S2540C-11			5/24/16 11:24	ML	B
Total Organic Carbon (TOC)	2.8		mg/L	1.0	S5310B-00			5/19/16 11:17	PAG	G
Turbidity	65.3		NTU	0.10	S2130B-01			5/20/16 03:19	MSA	B
METALS										
Arsenic, Total	0.0044		mg/L	0.0030	SW846 6020A	5/24/16 12:00	JPS	5/25/16 11:59	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:38	ZMC	5/26/16 08:07	ZMC	D2
Barium, Total	0.18		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Barium, Dissolved	0.11		mg/L	0.010	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Calcium, Total	49.3		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Calcium, Dissolved	45.4		mg/L	0.10	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Chromium, Total	0.0094		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Copper, Total	0.023		mg/L	0.011	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1

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ANALYTICAL RESULTS

Workorder: 2144831 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2144831009**

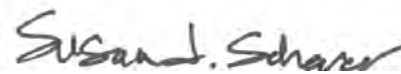
Date Collected: 5/18/2016 13:48

Matrix: Ground Water

Sample ID: **FFMP001P**

Date Received: 5/18/2016 16:38

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Iron, Total	74.5		mg/L	0.067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Iron, Dissolved	0.082		mg/L	0.060	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Magnesium, Total	15.9		mg/L	0.11	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Magnesium, Dissolved	15.3		mg/L	0.10	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Manganese, Total	0.75		mg/L	0.0056	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Manganese, Dissolved	0.050		mg/L	0.0050	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Mercury, Total	0.0033		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 12:03	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 11:17	MNP	D1
Potassium, Total	5.2		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Potassium, Dissolved	4.8		mg/L	0.50	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Sodium, Total	62.0		mg/L	0.56	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Sodium, Dissolved	60.3		mg/L	0.50	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
Zinc, Total	0.045		mg/L	0.022	SW846 6010C	5/22/16 12:15	JPS	5/24/16 12:57	SRT	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 08:54	SRT	D
FIELD PARAMETERS										
pH, Field (SM4500B)	5.790		pH_Units		Field			5/18/16 13:48	CLT	F
Specific Conductance, Field	409		umhos/cm	1	Field			5/18/16 13:48	CLT	F
Temperature	13.68		Deg. C		Field			5/18/16 13:48	CLT	F



Ms. Susan J Scherer

Project Coordinator

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**PARAMETER QUALIFIERS**

Lab ID	#	Sample ID	Analytical Method	Analyte
2144831002	1	FFMP019W	SW846 9066	Phenolics
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2144831003	1	FFMP029W	S2540C-11	Total Dissolved Solids
The total dissolved solids blank associated with this sample was recovered at 20 mg/l.				
2144831006	1	FFMP027W	S2540C-11	Total Dissolved Solids
The total dissolved solids blank associated with this sample was recovered at 20 mg/l.				
2144831006	2	FFMP027W	EPA 410.4	Chemical Oxygen Demand (COD)
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				

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CHAIN OF CUSTODY
REQUEST FOR ANALYSIS
ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
SAMPLER. INSTRUCTIONS ON THE BACK.

COC #:
ALS Quid
2 1 4 4 8 3 1 *

Client Name: Lancaster County Solid Waste MA
Address: 1299 Harrisburg Pike, P.O. Box 4424
Lancaster, PA 17604
Contact: Brooks Norris
Phone#: (717) 397-9968
Project Name#: Frey Farm Annual (M5)
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:
Email? ☒ Y ☐ N bnoirris@LCSWMA.com
Fax? ☒ Y ☐ N No: (717) 397-9973

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	Matrix	TOC	COH	VOC (Form 19A) + LS	Field Measurements	Sample Depth for AUX Data	NH3-N, COD	Dissolved: Fe, Mn, Na, Ba, Cr, Cu, Pb, Mg, K, Zn, As, Cd, Se, Ag, Hg, Ca	Metals: Fe, Mn, Na, Ba, Cr, Cu, Pb, Mg, K, Zn, As, Cd, Se, Ag, Hg, Ca	PH, Cl, SPC, F, SO4, TDS, NO3, Turb.	Alkalinity, HCO3
1. FFMP018W	5-18-16	0940	G GW	2	1	2	X	X	1	1	1	1	1
2. FFMP019W		1027											
3. FFMP029W		1136											
4. FFMP013W		1322											
5. FFMP014W		1356											
6. FFMP027W		1439											
7. Field Blank		1543											
8. Trip Blank		1638											
9. FFMP001P SS	05/18/16	1348	G GW	2	1	2	X	X	1	1	1	1	1
10													

Project Comments:
LOGGED BY (signature):
REVIEWED BY (signature):
Relinquished By / Company Name:
Date: 5-18-16 1638
Time: 1638
Received By / Company Name:
Date: 5-18-16
Time: 1638
Special Processing:
USACE ☐ Navy ☐
State Samples Collected In:
NY ☐ NJ ☐ PA ☒ NC ☐
Sample Disposal:
Lab ☒ Special ☐
Reportable to PADEP?
Yes ☐ No ☒
PWSID #
EDDS: Format Type



June 7, 2016

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

Certificate of Analysis

Project Name:	2016-FREY FARM	Workorder:	2145225
Purchase Order:		Workorder ID:	2ND QTR 2016 GWMP-FORM 19A

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Thursday, May 19, 2016.

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: Mr. Mark Reider , 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: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2145225001	FFMP017W	Ground Water	5/19/2016 10:32	5/19/2016 16:00	Mr. Brian G Shade
2145225002	FFMP03AW	Ground Water	5/19/2016 13:47	5/19/2016 16:00	Mr. Brian G Shade
2145225003	Field Blank	Ground Water	5/19/2016 15:03	5/19/2016 16:00	Mr. Brian G Shade
2145225004	Trip Blank	Water	5/19/2016 15:48	5/19/2016 16:00	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Notes

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

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
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: 2145225 2ND QTR 2016 GWMP-FORM 19A

Sample Comments**Lab ID:** 2145225001 **Sample ID:** FFMP017W **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2145225002 **Sample ID:** FFMP03AW **Sample Type:** SAMPLEThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

Lab ID: 2145225003 **Sample ID:** Field Blank **Sample Type:** FLDQCThe Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

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.

The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO₃/L.

The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.

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ALS Environmental



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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225001**

Date Collected: 5/19/2016 10:32

Matrix: Ground Water

Sample ID: **FFMP017W**

Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Bromoform	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/24/16 01:55	CJG	J
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/24/16 01:55	CJG	J
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Toluene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/24/16 01:55	CJG	J
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/24/16 01:55	CJG	J

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ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225001**

Date Collected: 5/19/2016 10:32

Matrix: Ground Water

Sample ID: **FFMP017W**

Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/24/16 01:55	CJG	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	119		%	62 - 133	SW846 8260B			5/24/16 01:55	CJG	J
4-Bromofluorobenzene (S)	113		%	79 - 114	SW846 8260B			5/24/16 01:55	CJG	J
Dibromofluoromethane (S)	104		%	78 - 116	SW846 8260B			5/24/16 01:55	CJG	J
Toluene-d8 (S)	110		%	76 - 127	SW846 8260B			5/24/16 01:55	CJG	J
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/24/16 01:55	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	53		mg/L	5	S2320B-97			5/20/16 14:27	MSA	B
Alkalinity, Total	53		mg/L	5	S2320B-97			5/20/16 14:27	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			6/3/16 16:10	NJA	C
Chemical Oxygen Demand (COD)	6		mg/L	5	EPA 410.4			6/5/16 01:00	JAM	C
Chloride	237		mg/L	5.0	EPA 300.0			5/23/16 18:33	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/20/16 17:17	JP	B
Nitrate-N	2.3		mg/L	0.20	EPA 300.0			5/20/16 17:17	JP	B
pH	6.61		pH_Units		S4500HB-00			5/20/16 14:27	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/25/16 09:00	AK	5/30/16 11:17	JLG	I
Specific Conductance	1010		umhos/cm	1	S2510B-97			5/20/16 14:27	MSA	B
Sulfate	52.6		mg/L	2.0	EPA 300.0			5/20/16 17:17	JP	B
Total Dissolved Solids	699		mg/L	5	S2540C-11			5/25/16 09:16	ML	B
Total Organic Carbon (TOC)	1.6		mg/L	1.0	S5310B-00			5/23/16 10:40	PAG	G
Turbidity	0.35		NTU	0.10	S2130B-01			5/21/16 02:38	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/24/16 12:00	JPS	5/25/16 12:03	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:38	ZMC	5/26/16 08:11	ZMC	D1
Barium, Total	0.096		mg/L	0.011	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Barium, Dissolved	0.099		mg/L	0.010	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Cadmium, Dissolved	0.0020		mg/L	0.0020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Calcium, Total	66.0		mg/L	0.11	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Calcium, Dissolved	71.2		mg/L	0.10	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1

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ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225001**

Date Collected: 5/19/2016 10:32

Matrix: Ground Water

Sample ID: **FFMP017W**

Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Magnesium, Total	29.3		mg/L	0.11	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Magnesium, Dissolved	33.1		mg/L	0.10	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Manganese, Total	0.30		mg/L	0.0056	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Manganese, Dissolved	0.32		mg/L	0.0050	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 12:23	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/31/16 10:00	MNP	5/31/16 12:51	MNP	D2
Potassium, Total	5.6		mg/L	0.56	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Potassium, Dissolved	4.5		mg/L	0.50	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Sodium, Total	58.5		mg/L	0.56	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Sodium, Dissolved	62.0		mg/L	0.50	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:15	TSS	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:31	SRT	D

FIELD PARAMETERS

Depth to Water Level	41.240	Feet		Field		5/19/16 10:32	CLT	F
Elev Top MW Casing above MSL	480.70	Feet		Field		5/19/16 10:32	CLT	F
Flow Rate	2.59	gal/min		Field		5/19/16 10:32	CLT	F
Ground Water Elevation	439.460	ft/MSL		Field		5/19/16 10:32	CLT	F
pH, Field (SM4500B)	5.170	pH_Units		Field		5/19/16 10:32	CLT	F
Sample Depth	135.000	Feet		Field		5/19/16 10:32	CLT	F
Specific Conductance, Field	1055	umhos/cm	1	Field		5/19/16 10:32	CLT	F
Temperature	11.34	Deg. C		Field		5/19/16 10:32	CLT	F
Total Well Depth	150.500	Feet		Field		5/19/16 10:32	CLT	F
Volume in Water Column	160.612	Gallons		Field		5/19/16 10:32	CLT	F
Water Level After Purge	46.540	Feet		Field		5/19/16 10:32	CLT	F
Well Volumes Purged	1.45	Vol		Field		5/19/16 10:32	CLT	F

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225001**
Sample ID: **FFMP017W**

Date Collected: 5/19/2016 10:32 Matrix: Ground Water
Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225002**
Sample ID: **FFMP03AW**

Date Collected: 5/19/2016 13:47 Matrix: Ground Water
Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Bromoform	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/26/16 02:44	SYB	K
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/26/16 02:44	SYB	K
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Toluene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/26/16 02:44	SYB	K
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/26/16 02:44	SYB	K

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ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225002**

Date Collected: 5/19/2016 13:47

Matrix: Ground Water

Sample ID: **FFMP03AW**

Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/26/16 02:44	SYB	K
<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)	116		%	62 - 133	SW846 8260B			5/26/16 02:44	SYB	K
4-Bromofluorobenzene (S)	99.8		%	79 - 114	SW846 8260B			5/26/16 02:44	SYB	K
Dibromofluoromethane (S)	105		%	78 - 116	SW846 8260B			5/26/16 02:44	SYB	K
Toluene-d8 (S)	106		%	76 - 127	SW846 8260B			5/26/16 02:44	SYB	K
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/25/16 02:44	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	18		mg/L	5	S2320B-97			5/20/16 14:36	MSA	B
Alkalinity, Total	18		mg/L	5	S2320B-97			5/20/16 14:36	MSA	B
Ammonia-N	ND		mg/L	0.100	D6919-09			6/3/16 17:25	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			6/5/16 01:00	JAM	C
Chloride	23.9		mg/L	2.0	EPA 300.0			5/20/16 17:30	JP	B
Fluoride	ND		mg/L	0.20	EPA 300.0			5/20/16 17:30	JP	B
Nitrate-N	19.8		mg/L	0.20	EPA 300.0			5/20/16 17:30	JP	B
pH	5.99		pH_Units		S4500HB-00			5/20/16 14:36	MSA	B
Phenolics	ND		mg/L	0.01	SW846 9066	5/25/16 09:00	AK	5/30/16 11:18	JLG	I
Specific Conductance	256		umhos/cm	1	S2510B-97			5/20/16 14:36	MSA	B
Sulfate	3.4		mg/L	2.0	EPA 300.0			5/20/16 17:30	JP	B
Total Dissolved Solids	219		mg/L	5	S2540C-11			5/25/16 09:16	ML	B
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/23/16 10:40	PAG	G
Turbidity	ND		NTU	0.10	S2130B-01			5/21/16 02:38	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/24/16 12:00	JPS	5/25/16 12:07	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:38	ZMC	5/26/16 08:15	ZMC	D1
Barium, Total	0.041		mg/L	0.011	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Barium, Dissolved	0.042		mg/L	0.010	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Calcium, Total	16.4		mg/L	0.11	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Calcium, Dissolved	17.1		mg/L	0.10	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225002**
Sample ID: **FFMP03AW**

Date Collected: 5/19/2016 13:47 Matrix: Ground Water
Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Magnesium, Total	11.1		mg/L	0.11	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Magnesium, Dissolved	12.3		mg/L	0.10	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Manganese, Total	0.20		mg/L	0.0056	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Manganese, Dissolved	0.21		mg/L	0.0050	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 12:26	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/31/16 10:00	MNP	5/31/16 12:52	MNP	D2
Potassium, Total	2.1		mg/L	0.56	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Potassium, Dissolved	1.4		mg/L	0.50	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Sodium, Total	12.3		mg/L	0.56	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Sodium, Dissolved	12.4		mg/L	0.50	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:19	TSS	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:34	SRT	D

FIELD PARAMETERS

Depth to Water Level	51.550	Feet		Field		5/19/16 13:47	CLT	F
Elev Top MW Casing above MSL	590.90	Feet		Field		5/19/16 13:47	CLT	F
Flow Rate	1.97	gal/min		Field		5/19/16 13:47	CLT	F
Ground Water Elevation	539.350	ft/MSL		Field		5/19/16 13:47	CLT	F
pH, Field (SM4500B)	4.960	pH_Units		Field		5/19/16 13:47	CLT	F
Sample Depth	130.000	Feet		Field		5/19/16 13:47	CLT	F
Specific Conductance, Field	305	umhos/cm	1	Field		5/19/16 13:47	CLT	F
Temperature	12.32	Deg. C		Field		5/19/16 13:47	CLT	F
Total Well Depth	148.400	Feet		Field		5/19/16 13:47	CLT	F
Volume in Water Column	142.370	Gallons		Field		5/19/16 13:47	CLT	F
Water Level After Purge	86.220	Feet		Field		5/19/16 13:47	CLT	F
Well Volumes Purged	0.83	Vol		Field		5/19/16 13:47	CLT	F

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ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225002**
Sample ID: **FFMP03AW**

Date Collected: 5/19/2016 13:47 Matrix: Ground Water
Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
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Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225003**
Sample ID: **Field Blank**

Date Collected: 5/19/2016 15:03 Matrix: Ground Water
Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Bromoform	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/26/16 02:27	SYB	K
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/26/16 02:27	SYB	K
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Toluene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/26/16 02:27	SYB	K
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/26/16 02:27	SYB	K

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ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225003**

Date Collected: 5/19/2016 15:03

Matrix: Ground Water

Sample ID: **Field Blank**

Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/26/16 02:27	SYB	K
<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)	116		%	62 - 133	SW846 8260B			5/26/16 02:27	SYB	K
4-Bromofluorobenzene (S)	100		%	79 - 114	SW846 8260B			5/26/16 02:27	SYB	K
Dibromofluoromethane (S)	107		%	78 - 116	SW846 8260B			5/26/16 02:27	SYB	K
Toluene-d8 (S)	109		%	76 - 127	SW846 8260B			5/26/16 02:27	SYB	K
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/25/16 02:27	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND		mg/L	5	S2320B-97			5/20/16 14:44	MSA	B
Alkalinity, Total	ND		mg/L	5	S2320B-97			5/20/16 14:44	MSA	A
Ammonia-N	ND		mg/L	0.100	D6919-09			6/3/16 17:44	NJA	C
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			6/5/16 01:00	JAM	C
Chloride	ND		mg/L	1.0	EPA 300.0			5/20/16 17:43	JP	B
Fluoride	ND		mg/L	0.10	EPA 300.0			5/20/16 17:43	JP	B
Nitrate-N	ND		mg/L	0.10	EPA 300.0			5/20/16 17:43	JP	B
pH	6.21		pH_Units		S4500HB-00			5/20/16 14:44	MSA	B
Phenolics	0.03		mg/L	0.01	SW846 9066	5/25/16 09:00	AK	5/30/16 11:19	JLG	I
Specific Conductance	ND		umhos/cm	1	S2510B-97			5/24/16 03:19	MSA	B
Sulfate	ND		mg/L	1.0	EPA 300.0			5/20/16 17:43	JP	B
Total Dissolved Solids	ND		mg/L	5	S2540C-11			5/25/16 09:16	ML	B
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/23/16 10:40	PAG	G
Turbidity	ND		NTU	0.10	S2130B-01			5/21/16 02:38	MSA	B
METALS										
Arsenic, Total	ND		mg/L	0.0030	SW846 6020A	5/24/16 12:00	JPS	5/25/16 12:11	MO	E2
Arsenic, Dissolved	ND		mg/L	0.0030	SW846 6020A	5/26/16 01:38	ZMC	5/26/16 08:18	ZMC	D1
Barium, Total	ND		mg/L	0.011	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Barium, Dissolved	ND		mg/L	0.010	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Cadmium, Total	ND		mg/L	0.0022	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Cadmium, Dissolved	ND		mg/L	0.0020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Calcium, Total	ND		mg/L	0.11	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Calcium, Dissolved	ND		mg/L	0.10	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Chromium, Total	ND		mg/L	0.0056	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Chromium, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Copper, Total	ND		mg/L	0.011	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1

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ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225003**

Date Collected: 5/19/2016 15:03

Matrix: Ground Water

Sample ID: **Field Blank**

Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Copper, Dissolved	ND		mg/L	0.010	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Iron, Total	ND		mg/L	0.067	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Iron, Dissolved	ND		mg/L	0.060	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Lead, Total	ND		mg/L	0.0067	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Lead, Dissolved	ND		mg/L	0.0060	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Magnesium, Total	ND		mg/L	0.11	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Magnesium, Dissolved	ND		mg/L	0.10	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Manganese, Total	ND		mg/L	0.0056	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Manganese, Dissolved	ND		mg/L	0.0050	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Mercury, Total	ND		mg/L	0.00050	SW846 7470A	5/26/16 01:00	MNP	5/26/16 12:27	MNP	E3
Mercury, Dissolved	ND		mg/L	0.00050	SW846 7470A	5/31/16 10:00	MNP	5/31/16 12:53	MNP	D4
Potassium, Total	0.60		mg/L	0.56	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Potassium, Dissolved	ND		mg/L	0.50	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Selenium, Total	ND		mg/L	0.022	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Selenium, Dissolved	ND		mg/L	0.020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Silver, Total	ND		mg/L	0.0044	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Silver, Dissolved	ND		mg/L	0.0040	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Sodium, Total	0.58		mg/L	0.56	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Sodium, Dissolved	ND		mg/L	0.50	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D
Zinc, Total	ND		mg/L	0.022	SW846 6010C	5/23/16 13:30	JPS	5/26/16 11:23	TSS	E1
Zinc, Dissolved	ND		mg/L	0.020	SW846 6010C	5/24/16 06:03	TSS	5/24/16 09:38	SRT	D



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Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225004**

Date Collected: 5/19/2016 15:48

Matrix: Water

Sample ID: **Trip Blank**

Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Bromoform	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Bromomethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
2-Butanone	ND		ug/L	10.0	SW846 8260B			5/24/16 01:21	CJG	A
Carbon Tetrachloride	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Chlorobenzene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Chlorodibromomethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Chloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Chloromethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
3-Chloro-1-propene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
1,2-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
1,3-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
1,4-Dichlorobenzene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Dichlorodifluoromethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
1,2-Dichloropropane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	SW846 8260B			5/24/16 01:21	CJG	A
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Toluene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			5/24/16 01:21	CJG	A
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
1,1,2-Trichloroethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Trichloroethene	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	A
1,2,3-Trichloropropane	ND		ug/L	2.0	SW846 8260B			5/24/16 01:21	CJG	A

ALS Environmental Laboratory Locations Across North America

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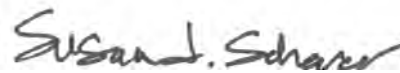
ANALYTICAL RESULTS

Workorder: 2145225 2ND QTR 2016 GWMP-FORM 19A

Lab ID: **2145225004**
Sample ID: **Trip Blank**

Date Collected: 5/19/2016 15:48 Matrix: Water
Date Received: 5/19/2016 16:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			5/24/16 01:21	CJG	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)	123		%	62 - 133	SW846 8260B			5/24/16 01:21	CJG	A
4-Bromofluorobenzene (S)	107		%	79 - 114	SW846 8260B			5/24/16 01:21	CJG	A
Dibromofluoromethane (S)	107		%	78 - 116	SW846 8260B			5/24/16 01:21	CJG	A
Toluene-d8 (S)	108		%	76 - 127	SW846 8260B			5/24/16 01:21	CJG	A
LIBRARY SEARCH - VOLATILES										
No TIC's Detected	.				Lib Search VOC			5/24/16 01:21	CPK	A


Ms. Susan J Scherer
Project Coordinator

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