1299 HARRISBURG PIKE | PO BOX 4425 | LANCASTER, PA 17604
PHONE: 717-397-9968 | FAX: 717-397-9973
www.lcswma.org

July 22, 2019

Mr. Timothy Long PG; Licensed Professional Geologist
Pennsylvania Department of Environmental Protection
Bureau of Waste Management
909 Elmerton Avenue
Harrisburg, PA 17110-8200

REF: 2nd Quarter 2019 Form 19, 50 and 52 Submittal
Frey Farm Landfill; BWM Permit #101389

Dear Mr. Long:

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

Groundwater:
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:

- USEPA MCL's exceedance report; Samples 2W, 2SW, 3A, 28, & 33W exceeded the primary standard for nitrate, samples are consistent with historic data the cause is attributed to agricultural impacts. No other MCL's were exceeded.

- USEPA SMCL's exceedance report; Samples 2W, 2DW, 3AW, 4AW, 5W, 17W, 18W, 26RW, 30RW, 31W, 32W, 33W exceeded the secondary standard for manganese, Samples 2SW, 17W, 31W, 32W & 33W exceeded the secondary standard for iron, Samples 2SW, 4AW, 5W, 17W & 26RW exceeded the secondary standard for total dissolved solids, and Samples 2DW, 4AW, & 17W 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. ARM reviews the site historic Chloride issues annually and has assessed the causes. No other SMCL's were exceeded.

- A copy of the field sampling data sheets for all locations.

Other than mentioned above ground water monitoring concentrations where consistent with historic data no significant deviations were observed.

LCSWMA

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Leachate:

In accordance with both the Pennsylvania Municipal Waste Management and the Federal Subtitle D Regulations, the Lancaster County Solid Waste Management Authority (LCSWMA) continues to complete the above referenced monitoring program. Enclosed is the Department's Form 50 - "Municipal Waste Landfill Leachate Analysis" for the quarterly monitoring period.

- LCSWMA continues to monitor the Form 50 parameters from location FFLEINFS. This location is the lowest down-gradient point in the leachate collection system for the Frey Farm Landfill and represents "raw" leachate characteristics for the facility, as collected from the six (6) landfill cells.

- As indicated on the Form 50, the primary leachate collection and secondary detection systems encompass approximately 93 acres of drainage area.

- At your request, we have included analyses of the six (6) secondary individual detection zone discharges with an individual Form 50 for each.

- Included on the CD are files which contains the FFLEINFS data in a compatible format for your LandLinks software. The CD also contains a pdf file of the laboratory results and the Form 50.

In accordance with Section 273.255(d)(1)(2) and (3) of the Municipal Waste Management Regulations, the Lancaster County Solid Waste Management Authority (LCSWMA) is providing this secondary flow report.

The 2nd Quarter Frey Farm Landfill (FFLF) secondary flow was noted at 1.95 gallons per day per acre (gpdpa); which is below the regulatory limit of 100 gpdpa. The 2nd Quarter secondary flow was 0.91% of the primary flow, which is below the regulatory 10% (maximum). Table 1 indicates this quarter's weekly flow information for the six (6) operational cells at the FFLF, cells 2 and 4 continue to indicate no secondary flow present.

- Consistent with all previous monitoring events, LCSWMA remains well below the secondary leachate flow threshold (100-gpdpa)

LCSWMA

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Contiguous Landowners:
Attached are the Forms 52, lab reports, and excel csv file for your Landlinks Access database. MCL and SMCL exceedances are as follows:

- USEPA MCL's exceedance report; samples (3044RIVERRD, 3052RIVERRD, 3056 RIVERRD, 3060RIVERRD, 3076RIVERRD, and 3106RIVERRD) exceeded the limit for nitrate, samples are consistent with historic data the cause is attributed to agricultural impacts. No other MCL's were exceeded.

- USEPA SMCL's exceedance report; sample 3088RIVERRD exceeded the limit for chloride; samples 3088RIVERRD and 3125RIVERRD exceeded the limit for total dissolved solids and samples 3056RIVERRD, 3060RIVERRD, 3076RIVERRD, 3079RIVERRD and 3106RIVERRD exceeded the limit for manganese which is consistent with historic data and are attributed to natural soil and geologic conditions.

Ground water monitoring concentrations where consistent with historic data, no significant deviations where observed.

Please do not hesitate in contacting me if you have any questions or concerns at nrogers@lcswma.org.

Respectfully submitted,

Nick Rogers
FFLF Facility Manager

Enclosures

Cc: Michelle Marsh, John Ridinger, Dan Brown, Jeff Musser, Jordan Gallagher
Ed Rawski, Randy Weiss (PADEP)

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
07/15/2019
DEP USE ONLY
Date Received

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

All information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 52, 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: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: LCSWMA

Address: 3044 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 30.58 " Longitude: 76 o 26 ' 11.25 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 05/24/2019 Sample Collection Time: 10:53 AM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 06/05/2019

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

Comments:

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	11	SM20-2321
CALCIUM, TOTAL	12	EPA 200.7
CALCIUM, DISSOLVED	12.8	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.2
CHLORIDE	20.8	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	9.9	EPA 200.7
MAGNESIUM, DISSOLVED	9.7	EPA 200.7
MANGANESE, TOTAL (ug/l)	34	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	33	EPA 200.7
NITRATE-NITROGEN	18.3	EPA 300

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 05/24/2019

1. Inorganics, continued (Enter all data in mg/l except as noted)

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.6	FIELD
pH-LAB (SU)	6.56	SM4500B
POTASSIUM, TOTAL	1.4	EPA 200.7
POTASSIUM, DISSOLVED	1.2	EPA 200.7
SODIUM, TOTAL	7.6	EPA 200.7
SODIUM, DISSOLVED	7.6	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	220	FIELD
SPEC. COND., LAB (umhos/cm)	212	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	11	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	126	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.8	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.2	SM 2130B

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	1 ND	EPA 524.2
1,2-DIBROMOETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHENE	1 ND	EPA 524.2
1,2-DICHLOROETHANE	1 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
ETHYLBENZENE	1 ND	EPA 524.2
METHYLENE CHLORIDE	1 ND	EPA 524.2
TETRACHLOROETHENE	1 ND	EPA 524.2
TOLUENE	1 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	1 ND	EPA 524.2
TRICHLOROETHENE	1 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	1 ND	EPA 524.2
VINYL CHLORIDE	1 ND	EPA 524.2
XYLENES (TOTAL)	3 ND	EPA 524.2

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
07/15/2019
DEP USE ONLY
Date Received

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

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General Reference: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: MILLER

Address: 3052 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 29.85 " Longitude: 76 o 26 ' 11.45 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 05/24/2019 Sample Collection Time: 11:06 AM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 06/06/2019

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

Comments:

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS MILLER

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.142	SM4500D
BICARBONATE ALKALINITY	6	SM20-2321
CALCIUM, TOTAL	16.4	EPA 200.7
CALCIUM, DISSOLVED	18	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.2
CHLORIDE	21.2	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	7.2	EPA 200.7
MAGNESIUM, DISSOLVED	7.5	EPA 200.7
MANGANESE, TOTAL (ug/l)	21	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	21	EPA 200.7
NITRATE-NITROGEN	17.8	EPA 300

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS MILLER

Sample Date: 05/24/2019

1. Inorganics, continued (Enter all data in mg/l except as noted)

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.29	FIELD
pH-LAB (SU)	6.32	SM4500B
POTASSIUM, TOTAL	1.4	EPA 200.7
POTASSIUM, DISSOLVED	1.3	EPA 200.7
SODIUM, TOTAL	7.4	EPA 200.7
SODIUM, DISSOLVED	7.7	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	209	FIELD
SPEC. COND., LAB (umhos/cm)	205	EPA 120.1
SULFATE	2.6	EPA 300
ALKALINITY	6	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	162	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.79	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.18	SM 2130B

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS MILLER

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	1 ND	EPA 524.2
1,2-DIBROMOETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHENE	1 ND	EPA 524.2
1,2-DICHLOROETHANE	1 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
ETHYLBENZENE	1 ND	EPA 524.2
METHYLENE CHLORIDE	1 ND	EPA 524.2
TETRACHLOROETHENE	1 ND	EPA 524.2
TOLUENE	1 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	1 ND	EPA 524.2
TRICHLOROETHENE	1 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	1 ND	EPA 524.2
VINYL CHLORIDE	1 ND	EPA 524.2
XYLENES (TOTAL)	3 ND	EPA 524.2

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
07/15/2019
DEP USE ONLY
Date Received

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

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General Reference: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: LCSWMA

Address: 3056 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 28.44 " Longitude: 76 o 26 ' 10.43 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 05/24/2019 Sample Collection Time: 10:00 AM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 06/12/2019

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

Comments:

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.207	SM4500D
BICARBONATE ALKALINITY	5 ND	SM20-2321
CALCIUM, TOTAL	8.1	EPA 200.7
CALCIUM, DISSOLVED	9	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.2
CHLORIDE	28.6	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	12.6	EPA 200.7
MAGNESIUM, DISSOLVED	14.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	120	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	140	EPA 200.7
NITRATE-NITROGEN	19.1	EPA 300

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 05/24/2019

1. Inorganics, continued (Enter all data in mg/l except as noted)

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	5.7	FIELD
pH-LAB (SU)	5.63	SM4500B
POTASSIUM, TOTAL	1.7	EPA 200.7
POTASSIUM, DISSOLVED	1.2	EPA 200.7
SODIUM, TOTAL	7.5	EPA 200.7
SODIUM, DISSOLVED	8.1	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	215	FIELD
SPEC. COND., LAB (umhos/cm)	207	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	138	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1	SM 2130B

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	1 ND	EPA 524.2
1,2-DIBROMOETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHENE	1 ND	EPA 524.2
1,2-DICHLOROETHANE	1 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
ETHYLBENZENE	1 ND	EPA 524.2
METHYLENE CHLORIDE	1 ND	EPA 524.2
TETRACHLOROETHENE	1 ND	EPA 524.2
TOLUENE	1 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	1 ND	EPA 524.2
TRICHLOROETHENE	1 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	1 ND	EPA 524.2
VINYL CHLORIDE	1 ND	EPA 524.2
XYLENES (TOTAL)	3 ND	EPA 524.2

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
07/15/2019
DEP USE ONLY
Date Received

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

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General Reference: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: LCSWMA

Address: 3060 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 27.63 " Longitude: 76 o 26 ' 10.01 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 05/24/2019 Sample Collection Time: 10:09 AM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 06/04/2019

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

Comments:

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.185	SM4500D
BICARBONATE ALKALINITY	5 ND	SM20-2321
CALCIUM, TOTAL	9.7	EPA 200.7
CALCIUM, DISSOLVED	10.2	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.2
CHLORIDE	22.9	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	10.8	EPA 200.7
MAGNESIUM, DISSOLVED	10.8	EPA 200.7
MANGANESE, TOTAL (ug/l)	120	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	120	EPA 200.7
NITRATE-NITROGEN	17.5	EPA 300

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 05/24/2019

1. Inorganics, continued (Enter all data in mg/l except as noted)

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	5.49	FIELD
pH-LAB (SU)	5.52	SM4500B
POTASSIUM, TOTAL	2	EPA 200.7
POTASSIUM, DISSOLVED	1.8	EPA 200.7
SODIUM, TOTAL	7.1	EPA 200.7
SODIUM, DISSOLVED	7.1	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	209	FIELD
SPEC. COND., LAB (umhos/cm)	197	EPA 120.1
SULFATE	10.3	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	102	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.58	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	1 ND	EPA 524.2
1,2-DIBROMOETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHENE	1 ND	EPA 524.2
1,2-DICHLOROETHANE	1 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
ETHYLBENZENE	1 ND	EPA 524.2
METHYLENE CHLORIDE	1 ND	EPA 524.2
TETRACHLOROETHENE	1 ND	EPA 524.2
TOLUENE	1 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	1 ND	EPA 524.2
TRICHLOROETHENE	1 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	1 ND	EPA 524.2
VINYL CHLORIDE	1 ND	EPA 524.2
XYLENES (TOTAL)	3 ND	EPA 524.2

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
07/15/2019
DEP USE ONLY
Date Received

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

All information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 52, 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: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: SENSENICH

Address: 3076 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 28.2 " Longitude: 76 o 26 ' 11.1 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 05/24/2019 Sample Collection Time: 11:22 AM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 06/05/2019

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

Comments:

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS SENSENICH

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.606	SM4500D
BICARBONATE ALKALINITY	7	SM20-2321
CALCIUM, TOTAL	13.8	EPA 200.7
CALCIUM, DISSOLVED	15.8	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.2
CHLORIDE	45.5	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	8.3	EPA 200.7
MAGNESIUM, DISSOLVED	8.8	EPA 200.7
MANGANESE, TOTAL (ug/l)	250	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	260	EPA 200.7
NITRATE-NITROGEN	11.8	EPA 300

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS SENSENICH

Sample Date: 05/24/2019

1. Inorganics, continued (Enter all data in mg/l except as noted)

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.22	FIELD
pH-LAB (SU)	6.27	SM4500B
POTASSIUM, TOTAL	3.2	EPA 200.7
POTASSIUM, DISSOLVED	3.2	EPA 200.7
SODIUM, TOTAL	18.7	EPA 200.7
SODIUM, DISSOLVED	20	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	275	FIELD
SPEC. COND., LAB (umhos/cm)	269	EPA 120.1
SULFATE	20.2	EPA 300
ALKALINITY	7	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	138	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.95	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.84	SM 2130B

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS SENSENICH

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	1 ND	EPA 524.2
1,2-DIBROMOETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHENE	1 ND	EPA 524.2
1,2-DICHLOROETHANE	1 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
ETHYLBENZENE	1 ND	EPA 524.2
METHYLENE CHLORIDE	1 ND	EPA 524.2
TETRACHLOROETHENE	1 ND	EPA 524.2
TOLUENE	1 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	1 ND	EPA 524.2
TRICHLOROETHENE	1 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	1 ND	EPA 524.2
VINYL CHLORIDE	1 ND	EPA 524.2
XYLENES (TOTAL)	3 ND	EPA 524.2

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
07/15/2019
DEP USE ONLY
Date Received

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

All information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 52, 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: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: LCSWMA

Address: 3079 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 21.99 " Longitude: 76 o 26 ' 10.58 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 05/24/2019 Sample Collection Time: 1:15 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 06/04/2019

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

Comments:

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.841	SM4500D
BICARBONATE ALKALINITY	28	SM20-2321
CALCIUM, TOTAL	9.9	EPA 200.7
CALCIUM, DISSOLVED	10.1	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.2
CHLORIDE	37.4	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	5.2	EPA 200.7
MAGNESIUM, DISSOLVED	5	EPA 200.7
MANGANESE, TOTAL (ug/l)	310	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	290	EPA 200.7
NITRATE-NITROGEN	0.2 ND	EPA 300

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 05/24/2019

1. Inorganics, continued (Enter all data in mg/l except as noted)

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.65	FIELD
pH-LAB (SU)	6.72	SM4500B
POTASSIUM, TOTAL	1.8	EPA 200.7
POTASSIUM, DISSOLVED	1.5	EPA 200.7
SODIUM, TOTAL	12.4	EPA 200.7
SODIUM, DISSOLVED	11.8	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	183	FIELD
SPEC. COND., LAB (umhos/cm)	178	EPA 120.1
SULFATE	21.8	EPA 300
ALKALINITY	28	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	161	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	1 ND	EPA 524.2
1,2-DIBROMOETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHENE	1 ND	EPA 524.2
1,2-DICHLOROETHANE	1 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
ETHYLBENZENE	1 ND	EPA 524.2
METHYLENE CHLORIDE	1 ND	EPA 524.2
TETRACHLOROETHENE	1 ND	EPA 524.2
TOLUENE	1 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	1 ND	EPA 524.2
TRICHLOROETHENE	1 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	1 ND	EPA 524.2
VINYL CHLORIDE	1 ND	EPA 524.2
XYLENES (TOTAL)	3 ND	EPA 524.2

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
07/15/2019
DEP USE ONLY
Date Received

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

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General Reference: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: WEBER

Address: 3088 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 21 " Longitude: 76 o 26 ' 7.1 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 05/24/2019 Sample Collection Time: 12:15 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 06/05/2019

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

Comments:

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS WEBER

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	129	SM20-2321
CALCIUM, TOTAL	0.18	EPA 200.7
CALCIUM, DISSOLVED	0.17	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.2
CHLORIDE	259	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	0.11	EPA 200.7
MAGNESIUM, DISSOLVED	0.1 ND	EPA 200.7
MANGANESE, TOTAL (ug/l)	2.5 ND	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	5 ND	EPA 200.7
NITRATE-NITROGEN	8.9	EPA 300

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS WEBER

Sample Date: 05/24/2019

1. Inorganics, continued (Enter all data in mg/l except as noted)

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	7.54	FIELD
pH-LAB (SU)	7.48	SM4500B
POTASSIUM, TOTAL	3.1	EPA 200.7
POTASSIUM, DISSOLVED	2.7	EPA 200.7
SODIUM, TOTAL	228	EPA 200.7
SODIUM, DISSOLVED	228	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	1141	FIELD
SPEC. COND., LAB (umhos/cm)	1150	EPA 120.1
SULFATE	2	EPA 300
ALKALINITY	129	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	625	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.11	SM 2130B

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS WEBER

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	1 ND	EPA 524.2
1,2-DIBROMOETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHENE	1 ND	EPA 524.2
1,2-DICHLOROETHANE	1 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
ETHYLBENZENE	1 ND	EPA 524.2
METHYLENE CHLORIDE	1 ND	EPA 524.2
TETRACHLOROETHENE	1 ND	EPA 524.2
TOLUENE	1 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	1 ND	EPA 524.2
TRICHLOROETHENE	1 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	1 ND	EPA 524.2
VINYL CHLORIDE	1 ND	EPA 524.2
XYLENES (TOTAL)	3 ND	EPA 524.2

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
07/15/2019
DEP USE ONLY
Date Received

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

All information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 52, 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: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: KIRCHNER

Address: 3100 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 17.9 " Longitude: 76 o 26 ' 6.28 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 05/24/2019 Sample Collection Time: 11:53 AM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 06/05/2019

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

Comments:

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS KIRCHNER

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.116	SM4500D
BICARBONATE ALKALINITY	12	SM20-2321
CALCIUM, TOTAL	12.1	EPA 200.7
CALCIUM, DISSOLVED	13.2	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.2
CHLORIDE	40.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	5.9	EPA 200.7
MAGNESIUM, DISSOLVED	5.9	EPA 200.7
MANGANESE, TOTAL (ug/l)	10	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	16	EPA 200.7
NITRATE-NITROGEN	4.8	EPA 300

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS KIRCHNER

Sample Date: 05/24/2019

1. Inorganics, continued (Enter all data in mg/l except as noted)

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.36	FIELD
pH-LAB (SU)	6.44	SM4500B
POTASSIUM, TOTAL	1.3	EPA 200.7
POTASSIUM, DISSOLVED	1.1	EPA 200.7
SODIUM, TOTAL	15	EPA 200.7
SODIUM, DISSOLVED	15.3	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	203	FIELD
SPEC. COND., LAB (umhos/cm)	196	EPA 120.1
SULFATE	15.8	EPA 300
ALKALINITY	12	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	142	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS KIRCHNER

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	1 ND	EPA 524.2
1,2-DIBROMOETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHENE	1 ND	EPA 524.2
1,2-DICHLOROETHANE	1 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
ETHYLBENZENE	1 ND	EPA 524.2
METHYLENE CHLORIDE	1 ND	EPA 524.2
TETRACHLOROETHENE	1 ND	EPA 524.2
TOLUENE	1 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	1 ND	EPA 524.2
TRICHLOROETHENE	1 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	1 ND	EPA 524.2
VINYL CHLORIDE	1 ND	EPA 524.2
XYLENES (TOTAL)	3 ND	EPA 524.2

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
07/15/2019
DEP USE ONLY
Date Received

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

All information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 52, 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: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: FRY

Address: 3106 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 17.27 " Longitude: 76 o 26 ' 5.6 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 05/24/2019 Sample Collection Time: 1:05 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 06/05/2019

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

Comments:

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS FRY

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	8	SM20-2321
CALCIUM, TOTAL	16.6	EPA 200.7
CALCIUM, DISSOLVED	20.2	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.2
CHLORIDE	107	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	48	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	11.8	EPA 200.7
MAGNESIUM, DISSOLVED	13.3	EPA 200.7
MANGANESE, TOTAL (ug/l)	71	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	70	EPA 200.7
NITRATE-NITROGEN	13.4	EPA 300

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS FRY

Sample Date: 05/24/2019

1. Inorganics, continued (Enter all data in mg/l except as noted)

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.18	FIELD
pH-LAB (SU)	6.28	SM4500B
POTASSIUM, TOTAL	1.5	EPA 200.7
POTASSIUM, DISSOLVED	1.4	EPA 200.7
SODIUM, TOTAL	42.6	EPA 200.7
SODIUM, DISSOLVED	43.9	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	481	FIELD
SPEC. COND., LAB (umhos/cm)	470	EPA 120.1
SULFATE	9.4	EPA 300
ALKALINITY	8	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	243	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.8	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.3	SM 2130B

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS FRY

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	1 ND	EPA 524.2
1,2-DIBROMOETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHENE	1 ND	EPA 524.2
1,2-DICHLOROETHANE	1 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
ETHYLBENZENE	1 ND	EPA 524.2
METHYLENE CHLORIDE	1 ND	EPA 524.2
TETRACHLOROETHENE	1 ND	EPA 524.2
TOLUENE	1 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	1 ND	EPA 524.2
TRICHLOROETHENE	1 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	1 ND	EPA 524.2
VINYL CHLORIDE	1 ND	EPA 524.2
XYLENES (TOTAL)	3 ND	EPA 524.2

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
07/15/2019
DEP USE ONLY
Date Received

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

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General Reference: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: BECK

Address: 3125 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 11.6 " Longitude: 76 o 26 ' 5.4 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 05/24/2019 Sample Collection Time: 12:54 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 06/06/2019

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

Comments:

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS BECK

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	171	SM20-2321
CALCIUM, TOTAL	0.18	EPA 200.7
CALCIUM, DISSOLVED	0.71	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.2
CHLORIDE	107	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	0.05 ND	EPA 200.7
MAGNESIUM, DISSOLVED	0.14	EPA 200.7
MANGANESE, TOTAL (ug/l)	2.5 ND	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	5 ND	EPA 200.7
NITRATE-NITROGEN	6.3	EPA 300

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS BECK

Sample Date: 05/24/2019

1. Inorganics, continued (Enter all data in mg/l except as noted)

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	8.01	FIELD
pH-LAB (SU)	7.94	SM4500B
POTASSIUM, TOTAL	0.52	EPA 200.7
POTASSIUM, DISSOLVED	0.5 ND	EPA 200.7
SODIUM, TOTAL	159	EPA 200.7
SODIUM, DISSOLVED	169	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	779	FIELD
SPEC. COND., LAB (umhos/cm)	785	EPA 120.1
SULFATE	22.2	EPA 300
ALKALINITY	171	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	512	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.3	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

FORM 52
MUNICIPAL WASTE LANDFILL
PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS BECK

Sample Date: 05/24/2019

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	1 ND	EPA 524.2
1,2-DIBROMOETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHANE	1 ND	EPA 524.2
1,1-DICHLOROETHENE	1 ND	EPA 524.2
1,2-DICHLOROETHANE	1 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	1 ND	EPA 524.2
ETHYLBENZENE	1 ND	EPA 524.2
METHYLENE CHLORIDE	1 ND	EPA 524.2
TETRACHLOROETHENE	1 ND	EPA 524.2
TOLUENE	1 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	1 ND	EPA 524.2
TRICHLOROETHENE	1 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	1 ND	EPA 524.2
VINYL CHLORIDE	1 ND	EPA 524.2
XYLENES (TOTAL)	3 ND	EPA 524.2

T Please indicate detection limit if analyte is not detected.

ALS Environmental

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

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

June 5, 2019

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

Certificate of Analysis

Project Name:	**CONTIGUOUS LANDOWNER-3044 RIVER RD**	Workorder:	**3035954**
Purchase Order:	**PO1000126**	Workorder ID:	**2ND QTR 2019-3044 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 24, 2019.

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.

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

CC: Mr. Nicholas Rogers , Ms. Jordan Gallagher , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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SAMPLE SUMMARY

Workorder: 3035954 2ND QTR 2019-3044 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3035954001	3044 River Road, Conestoga, PA	Water	5/24/2019 10:53	5/24/2019 15:31	Mr. Brian G Shade

ALS Environmental

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SAMPLE SUMMARY

Workorder: 3035954 2ND QTR 2019-3044 RIVER RD

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 preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

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

ANALYTICAL RESULTS

Workorder: 3035954 2ND QTR 2019-3044 RIVER RD

Lab ID: **3035954001** Date Collected: 5/24/2019 10:53 Matrix: Water

Sample ID: **3044 River Road, Conestoga, PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
Toluene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
Total Xylenes	ND		ug/L	3.0	SW846 8260B			6/3/19 15:23	DD	K
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
Trichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 15:23	DD	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	123		%	62 - 133	SW846 8260B			6/3/19 15:23	DD	K
4-Bromofluorobenzene (S)	111		%	79 - 114	SW846 8260B			6/3/19 15:23	DD	K
Dibromofluoromethane (S)	119	4	%	78 - 116	SW846 8260B			6/3/19 15:23	DD	K
Toluene-d8 (S)	114		%	76 - 127	SW846 8260B			6/3/19 15:23	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	11		mg/L	5	SM2320B-2011			5/25/19 15:25	MBW	C
Alkalinity, Total	11	1	mg/L	5	SM2320B-2011			5/25/19 15:25	MBW	C
Ammonia-N	ND		mg/L	0.100	D6919-09			5/31/19 20:57	AK	B
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			5/29/19 12:45	AK	B
Chloride	20.8		mg/L	2.0	EPA 300.0			5/25/19 09:02	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			5/25/19 09:02	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			6/5/19 13:09	PAG	I
Nitrate-N	18.3		mg/L	0.20	EPA 300.0			5/25/19 09:02	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/25/19 09:02	CHW	C
pH	6.56	2	pH_Units		S4500HB-11			5/25/19 15:25	MBW	C
Phenolics	ND		mg/L	0.005	EPA 420.4	5/29/19 14:29	C_D	5/30/19 05:54	C_D	H
Specific Conductance	212		umhos/cm	1	SM2510B-2011			5/25/19 15:25	MBW	C

ALS Environmental

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3035954 2ND QTR 2019-3044 RIVER RD

Lab ID: **3035954001** Date Collected: 5/24/2019 10:53 Matrix: Water
Sample ID: **3044 River Road, Conestoga, PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Sulfate	ND		mg/L	2.0	EPA 300.0			5/25/19 09:02	CHW	C
Total Dissolved Solids	126	3	mg/L	5	S2540C-11			5/30/19 16:35	EXS	C
Total Organic Carbon (TOC)	0.80		mg/L	0.50	SM5310B-2011			5/29/19 04:00	PAG	F
Turbidity	0.20		NTU	0.10	SM2130B-2011			5/25/19 07:32	MBW	C
METALS										
Calcium, Total	12.0		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:22	MNP	D1
Calcium, Dissolved	12.8		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:40	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:22	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:40	MNP	E
Magnesium, Total	9.9		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:22	MNP	D1
Magnesium, Dissolved	9.7		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:40	MNP	E
Manganese, Total	0.034		mg/L	0.0025	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:22	MNP	D1
Manganese, Dissolved	0.033		mg/L	0.0050	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:40	MNP	E
Potassium, Total	1.4		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:22	MNP	D1
Potassium, Dissolved	1.2		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:40	MNP	E
Sodium, Total	7.6		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:22	MNP	D1
Sodium, Dissolved	7.6		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:40	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.60		pH_Units		Field			5/24/19 10:53	BGS	N
Specific Conductance, Field	220		umhos/cm	1	Field			5/24/19 10:53	BGS	N
Temperature	13.20		Deg. C		Field			5/24/19 10:53	BGS	N

Ms. Susan J Scherer
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3035954 2ND QTR 2019-3044 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3035954001	1	3044 River Road, Conestoga, PA	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
3035954001	2	3044 River Road, Conestoga, PA	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3035954001	3	3044 River Road, Conestoga, PA	S2540C-11	Total Dissolved Solids
The method blank associated with the sample was recovered at 5 mg/L. The method reporting limit for this analysis is <5 mg/L. A bias may exist with the result.				
3035954001	4	3044 River Road, Conestoga, PA	SW846 8260B	Dibromofluoromethane
The surrogate Dibromofluoromethane for method SW846 8260B was outside of control limits. The % Recovery was reported as 119 and the control limits were 78 to 116. This result was reported at a dilution of 1.				

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3035954 2ND QTR 2019-3044 RIVER RD

Lab ID	Sample ID	Analysis Method	Prep Method
3035954001	3044 River Road, Conestoga, PA	D6919-09	
3035954001	3044 River Road, Conestoga, PA	EPA 200.7	EPA ACID
3035954001	3044 River Road, Conestoga, PA	EPA 200.7	EPA TRMD
3035954001	3044 River Road, Conestoga, PA	EPA 300.0	
3035954001	3044 River Road, Conestoga, PA	EPA 410.4	
3035954001	3044 River Road, Conestoga, PA	EPA 420.4	420.4/9066
3035954001	3044 River Road, Conestoga, PA	Field	
3035954001	3044 River Road, Conestoga, PA	S2540C-11	
3035954001	3044 River Road, Conestoga, PA	S4500HB-11	
3035954001	3044 River Road, Conestoga, PA	SM2130B-2011	
3035954001	3044 River Road, Conestoga, PA	SM2320B-2011	
3035954001	3044 River Road, Conestoga, PA	SM2510B-2011	
3035954001	3044 River Road, Conestoga, PA	SM5310B-2011	
3035954001	3044 River Road, Conestoga, PA	SW846 8260B	
3035954001	3044 River Road, Conestoga, PA	SW846 9020B	

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3035954

1 of 1

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Client Name: Lancaster County Solid Waste MA

Address: 1299 Harrisburg Pike, P.O. Box 4424
Lancaster, PA 17604

Contact: Mark Reider

Phone#: (717) 735-0193

Project Name/#: LCSWMA - Quarterly

Bill To: Lancaster County Solid Waste MA

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

Date Required: _____ Approved By: _____

Email? [ ] -Y _____

Fax? [ ] -Y No.: _____

Container Type	AG	AN	AN	CG	—	PL	PL	PL	PL	
Container Size	40 ml	125 ml	250 ml	40 ml	—	500 ml	250 ml	250 ml	2 L	500 ml
Preservative	HCl	H2SO4	H2SO4	HCl	—	H2SO4	HNO3	HNO3	None	None

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-OH	TOX	SW846-8260 VOCs	FM	NH3-N, COD	Dissolved Metals: Ca, Fe, Mg, Mn, K, Na	Metals: Ca, Fe, Mg, Mn, K, Na	pH, TDS, NO2, NO3, Cl, SO4, F, Tb, SpC	Alkalinity, HCO3	Sample/COC Comments
					Enter Number of Containers Per Sample or Field Results Below.										
1 3044RIVERRD	05/24/19	1053	G	DW	2	1	2	3	x	1	1	1	1	1	
2															
3															
4															
5															
6															
7															
8															
9															
10															

Receipt Information (Completed by Receiving Lab)

Cooler Temp: 5.8 Therm ID: 405

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. In Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

ALS Field Services: [ ] Pickup [ ] Labor
[ ] Composite_Sampling [ ] Rental_Equipment
[ ] Other: _____

Project Comments:

LOGGED BY(signature): DATE TIME

REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] ALS	5/24/19	1530	2 [signature]	5/24/19	1537
3			4		
5			6		
7			8		
9			10		

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

Special Processing: USACE [ ] Navy [ ]

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

Reportable to PADEP? Yes [ ]

PWSID # _____

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- _____

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

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

Rev 8/04

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

Condition of Sample Receipt Form

Client: Lancaster County Solid Waste Work Order #: 3035954 Initials: CD Date: 5/24/19

1. Were airbills / tracking numbers present and recorded?	(NONE)	YES	NO
Tracking number: _____			
2. Are Custody Seals on shipping containers intact?	(NONE)	YES	NO
3. Are Custody Seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present?		(YES)	NO
5. Are the COC and bottle labels complete, legible and in agreement?		(YES)	NO
5a. Does the COC contain sample locations?		(YES)	NO
5b. Does the COC contain date and time of sample collection for all samples?		(YES)	NO
5c. Does the COC contain sample collectors name?		(YES)	NO
5d. Does the COC note the type(s) of preservation for all bottles?		(YES)	NO
5e. Does the COC note the number of bottles submitted for each sample?		(YES)	NO
5f. Does the COC note the type of sample, composite or grab?		(YES)	NO
5g. Does the COC note the matrix of the sample(s)?		(YES)	NO
6. Are all aqueous samples requiring preservation preserved correctly?	N/A	(YES)	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		(YES)	NO
8. Are all samples within holding times for the requested analyses?		(YES)	(NO)
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.) 5/24 FC		(YES)	(NO) Yes
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	(N/A)	YES	NO
11. Were the samples received on ice?		(YES)	NO
12. Were sample temperatures measured at 0.0-6.0°C		(YES)	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		(YES)	NO
13a. Are the samples required for SDWA compliance reporting?	N/A	YES	(NO)
13b. Did the client provide a SDWA PWS ID#?	(N/A)	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	(N/A)	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	(N/A)	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	(N/A)	YES	NO

Cooler #: _____

Temperature (°C): 5.8

Thermometer ID: IR40

Radiological (µCi): _____

COMMENTS (Required for all NO responses above and any sample non-conformance):
Ph is expired, but will be analyzed with a qualifier
-CD 5/24/19

Rev. 4/29/2019

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June 6, 2019

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

Certificate of Analysis

Project Name:	**CONTIGUOUS LANDOWNER-3052 RIVER RD**	Workorder:	**3035957**
Purchase Order:	**PO1000126**	Workorder ID:	**2ND QTR 2019-3052 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 24, 2019.

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.

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

CC: Mr. Nicholas Rogers , Ms. Jordan Gallagher , Landowner , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 3035957 2ND QTR 2019-3052 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3035957001	3052 River Road, Conestoga, PA	Water	5/24/2019 11:06	5/24/2019 15:31	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3035957 2ND QTR 2019-3052 RIVER RD

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 preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

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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ANALYTICAL RESULTS

Workorder: 3035957 2ND QTR 2019-3052 RIVER RD

Lab ID: **3035957001** Date Collected: 5/24/2019 11:06 Matrix: Water

Sample ID: **3052 River Road, Conestoga, PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
Toluene	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
Total Xylenes	ND		ug/L	3.0	SW846 8260B			6/3/19 16:56	DD	K
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
Trichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 16:56	DD	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	128		%	62 - 133	SW846 8260B			6/3/19 16:56	DD	K
4-Bromofluorobenzene (S)	115	5	%	79 - 114	SW846 8260B			6/3/19 16:56	DD	K
Dibromofluoromethane (S)	119	4	%	78 - 116	SW846 8260B			6/3/19 16:56	DD	K
Toluene-d8 (S)	113		%	76 - 127	SW846 8260B			6/3/19 16:56	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	6		mg/L	5	SM2320B-2011			5/25/19 16:17	MBW	C
Alkalinity, Total	6	1	mg/L	5	SM2320B-2011			5/25/19 16:17	MBW	C
Ammonia-N	0.142		mg/L	0.100	D6919-09			5/31/19 20:30	AK	B
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			5/29/19 12:45	AK	B
Chloride	21.2		mg/L	2.0	EPA 300.0			5/25/19 08:58	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			5/25/19 08:58	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			6/6/19 11:32	PAG	I
Nitrate-N	17.8		mg/L	0.20	EPA 300.0			5/25/19 08:58	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/25/19 08:58	CHW	C
pH	6.32	2	pH_Units		S4500HB-11			5/25/19 16:17	MBW	C
Phenolics	ND		mg/L	0.005	EPA 420.4	5/29/19 14:29	C_D	5/30/19 05:54	C_D	H
Specific Conductance	205		umhos/cm	1	SM2510B-2011			5/25/19 16:17	MBW	C

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3035957 2ND QTR 2019-3052 RIVER RD

Lab ID: **3035957001** Date Collected: 5/24/2019 11:06 Matrix: Water
Sample ID: **3052 River Road, Conestoga, PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Sulfate	2.6		mg/L	2.0	EPA 300.0			5/25/19 08:58	CHW	C
Total Dissolved Solids	162	3	mg/L	5	S2540C-11			5/30/19 16:35	EXS	C
Total Organic Carbon (TOC)	0.79		mg/L	0.50	SM5310B-2011			5/29/19 08:18	PAG	F
Turbidity	0.18		NTU	0.10	SM2130B-2011			5/25/19 08:36	R2B	C
METALS										
Calcium, Total	16.4		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:29	MNP	D1
Calcium, Dissolved	18.0		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:47	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:29	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:47	MNP	E
Magnesium, Total	7.2		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:29	MNP	D1
Magnesium, Dissolved	7.5		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:47	MNP	E
Manganese, Total	0.021		mg/L	0.0025	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:29	MNP	D1
Manganese, Dissolved	0.021		mg/L	0.0050	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:47	MNP	E
Potassium, Total	1.4		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:29	MNP	D1
Potassium, Dissolved	1.3		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:47	MNP	E
Sodium, Total	7.4		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:29	MNP	D1
Sodium, Dissolved	7.7		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:47	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.29		pH_Units		Field			5/24/19 11:06	BGS	N
Specific Conductance, Field	209		umhos/cm	1	Field			5/24/19 11:06	BGS	N
Temperature	13.50		Deg. C		Field			5/24/19 11:06	BGS	N

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 3035957 2ND QTR 2019-3052 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3035957001	1	3052 River Road, Conestoga, PA	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
3035957001	2	3052 River Road, Conestoga, PA	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3035957001	3	3052 River Road, Conestoga, PA	S2540C-11	Total Dissolved Solids
The method blank associated with the sample was recovered at 5 mg/L. The method reporting limit for this analysis is <5 mg/L. A bias may exist with the result.				
3035957001	4	3052 River Road, Conestoga, PA	SW846 8260B	Dibromofluoromethane
The surrogate Dibromofluoromethane for method SW846 8260B was outside of control limits. The % Recovery was reported as 119 and the control limits were 78 to 116. This result was reported at a dilution of 1.				
3035957001	5	3052 River Road, Conestoga, PA	SW846 8260B	4-Bromofluorobenzene
The surrogate 4-Bromofluorobenzene for method SW846 8260B was outside of control limits. The % Recovery was reported as 115 and the control limits were 79 to 114. This result was reported at a dilution of 1.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3035957 2ND QTR 2019-3052 RIVER RD

Lab ID	Sample ID	Analysis Method	Prep Method
3035957001	3052 River Road, Conestoga, PA	D6919-09	
3035957001	3052 River Road, Conestoga, PA	EPA 200.7	EPA ACID
3035957001	3052 River Road, Conestoga, PA	EPA 200.7	EPA TRMD
3035957001	3052 River Road, Conestoga, PA	EPA 300.0	
3035957001	3052 River Road, Conestoga, PA	EPA 410.4	
3035957001	3052 River Road, Conestoga, PA	EPA 420.4	420.4/9066
3035957001	3052 River Road, Conestoga, PA	Field	
3035957001	3052 River Road, Conestoga, PA	S2540C-11	
3035957001	3052 River Road, Conestoga, PA	S4500HB-11	
3035957001	3052 River Road, Conestoga, PA	SM2130B-2011	
3035957001	3052 River Road, Conestoga, PA	SM2320B-2011	
3035957001	3052 River Road, Conestoga, PA	SM2510B-2011	
3035957001	3052 River Road, Conestoga, PA	SM5310B-2011	
3035957001	3052 River Road, Conestoga, PA	SW846 8260B	
3035957001	3052 River Road, Conestoga, PA	SW846 9020B	

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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Client Name: LCSWMA - Gerald E. Miller, Sr.

Address: 3052 River Road
Conestoga, PA 17516

Contact: Gerald E. Miller, Sr.

Phone#: (717) 872-5117

Project Name/#: LCSWMA - Quarterly

Bill To: Lancaster County Solid Waste MA

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

Date Required: _____ Approved By: _____

Email? [ ] -Y _____

Fax? [ ] -Y No.: _____

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

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-OH	TOX	SW846-8260 VOCs	FM	NH3-N, COD	Dissolved Metals: Ca, Fe, Mg, Mn, K, Na	Metals: Ca, Fe, Mg, Mn, K, Na	pH, TDS, NO2, NO3, Cl, SO4, F, Tb, SpC	Alkalinity, HCO3
					Enter Number of Containers Per Sample or Field Results Below.									
1 3052RIVERRD	05/24/19	1106	G	DW	2	1	2	3	X	1	1	1	1	1
2														
3														
4														
5														
6														
7														
8														
9														
10														

Cooler Temp: 9.1 Therm ID: 403

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

Sample/COC Comments

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

Project Comments:

LOGGED BY(signature): DATE TIME

REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1. [signature] ALS	5/24/19	1531	2 [signature]	5/24/19	1531
3			4		
5			6		
7			8		
9			10		

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

Special Processing: USACE [ ] Navy [ ]

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

Reportable to PADEP? Yes [ ] PWSID # _____

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- _____

* G=Grab; C=Composite

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

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

Rev 8/04

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

Condition of Sample Receipt Form

Client: Lancaster County Solid Waste | Work Order #: 305957 | Initials: CD | Date: 5/24/19

1. Were airbills / tracking numbers present and recorded?	(NONE)	YES	NO
Tracking number:			
2. Are Custody Seals on shipping containers intact?	(NONE)	YES	NO
3. Are Custody Seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present?		(YES)	NO
5. Are the COC and bottle labels complete, legible and in agreement?		(YES)	NO
5a. Does the COC contain sample locations?		(YES)	NO
5b. Does the COC contain date and time of sample collection for all samples?		(YES)	NO
5c. Does the COC contain sample collectors name?		(YES)	NO
5d. Does the COC note the type(s) of preservation for all bottles?		(YES)	NO
5e. Does the COC note the number of bottles submitted for each sample?		(YES)	NO
5f. Does the COC note the type of sample, composite or grab?		(YES)	NO
5g. Does the COC note the matrix of the sample(s)?		(YES)	NO
6. Are all aqueous samples requiring preservation preserved correctly?	N/A	(YES)	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		(YES)	NO
8. Are all samples within holding times for the requested analyses?		(YES)	(NO)
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.) 5/24/19		(YES)	NO Yes
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	(N/A)	YES	NO
11. Were the samples received on ice?		(YES)	NO
12. Were sample temperatures measured at 0.0-6.0°C		YES	(NO)
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		(YES)	NO
13a. Are the samples required for SDWA compliance reporting?	N/A	YES	(NO)
13b. Did the client provide a SDWA PWS ID#?	(N/A)	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	(N/A)	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	(N/A)	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	(N/A)	YES	NO

Cooler #: _____

Temperature (°C): 9.1

Thermometer ID: IR40

Radiological (µCi): _____

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

Samples Temped above 0°C - 6°C

pH is expired, but will be analyzed with a qualifier

CD 5/24/19

Rev. 4/29/2019

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

June 14, 2019

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

Certificate of Analysis

Project Name:	**FREY FARM**	Workorder:	**3035925**
Purchase Order:	**PO1000126**	Workorder ID:	**2ND QTR 2019 3056 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 24, 2019.

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.

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

CC: Mr. Nicholas Rogers , Ms. Jordan Gallagher , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 3035925 2ND QTR 2019 3056 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3035925001	3056RIVERRD	Water	5/24/2019 10:00	5/24/2019 15:31	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3035925 2ND QTR 2019 3056 RIVER RD

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 preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

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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ANALYTICAL RESULTS

Workorder: 3035925 2ND QTR 2019 3056 RIVER RD

Lab ID: **3035925001** Date Collected: 5/24/2019 10:00 Matrix: Water
Sample ID: **3056RIVERRD** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
Toluene	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
Total Xylenes	ND		ug/L	3.0	SW846 8260B			6/1/19 04:49	PDK	K
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
Trichloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			6/1/19 04:49	PDK	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	118		%	62 - 133	SW846 8260B			6/1/19 04:49	PDK	K
4-Bromofluorobenzene (S)	110		%	79 - 114	SW846 8260B			6/1/19 04:49	PDK	K
Dibromofluoromethane (S)	110		%	78 - 116	SW846 8260B			6/1/19 04:49	PDK	K
Toluene-d8 (S)	115		%	76 - 127	SW846 8260B			6/1/19 04:49	PDK	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND		mg/L	5	SM2320B-2011			5/25/19 12:34	MBW	C
Alkalinity, Total	ND	1	mg/L	5	SM2320B-2011			5/25/19 12:34	MBW	C
Ammonia-N	0.207		mg/L	0.100	D6919-09			5/31/19 05:09	AK	B
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			5/29/19 12:45	AK	B
Chloride	28.6		mg/L	2.0	EPA 300.0			5/25/19 05:07	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			5/25/19 05:07	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			6/4/19 14:50	PAG	I
Nitrate-N	19.1		mg/L	0.20	EPA 300.0			5/25/19 05:07	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/25/19 05:07	CHW	C
pH	5.63	2	pH_Units		S4500HB-11			5/25/19 12:34	MBW	C
Phenolics	ND		mg/L	0.005	EPA 420.4	5/29/19 14:29	C_D	5/30/19 05:54	C_D	H
Specific Conductance	207		umhos/cm	1	SM2510B-2011			5/25/19 12:34	MBW	C

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3035925 2ND QTR 2019 3056 RIVER RD

Lab ID: **3035925001** Date Collected: 5/24/2019 10:00 Matrix: Water
Sample ID: **3056RIVERRD** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Sulfate	ND		mg/L	2.0	EPA 300.0			5/25/19 05:07	CHW	C
Total Dissolved Solids	138	3	mg/L	5	S2540C-11			5/30/19 16:35	EXS	C
Total Organic Carbon (TOC)	ND		mg/L	0.50	SM5310B-2011			5/28/19 23:41	PAG	F
Turbidity	0.10		NTU	0.10	SM2130B-2011			5/25/19 07:32	MBW	C
METALS										
Calcium, Total	8.1		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 11:51	MNP	D1
Calcium, Dissolved	9.0		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/12/19 15:30	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/31/19 10:05	AHI	6/3/19 11:51	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/28/19 07:17	MNP	6/12/19 15:30	MNP	E
Magnesium, Total	12.6		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 11:51	MNP	D1
Magnesium, Dissolved	14.2		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/12/19 15:30	MNP	E
Manganese, Total	0.12		mg/L	0.0025	EPA 200.7	5/31/19 10:05	AHI	6/3/19 11:51	MNP	D1
Manganese, Dissolved	0.14		mg/L	0.0050	EPA 200.7	5/28/19 07:17	MNP	6/12/19 15:30	MNP	E
Potassium, Total	1.7		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 11:51	MNP	D1
Potassium, Dissolved	1.2		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/12/19 15:30	MNP	E
Sodium, Total	7.5		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 11:51	MNP	D1
Sodium, Dissolved	8.1		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/12/19 15:30	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.70		pH_Units		Field			5/24/19 10:00	BGS	N
Specific Conductance, Field	215		umhos/cm	1	Field			5/24/19 10:00	BGS	N
Temperature	13.60		Deg. C		Field			5/24/19 10:00	BGS	N

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3035925 2ND QTR 2019 3056 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3035925001	1	3056RIVERRD	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
3035925001	2	3056RIVERRD	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3035925001	3	3056RIVERRD	S2540C-11	Total Dissolved Solids
The method blank associated with the sample was recovered at 5 mg/L. The method reporting limit for this analysis is <5 mg/L. A bias may exist with the result.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3035925 2ND QTR 2019 3056 RIVER RD

Lab ID	Sample ID	Analysis Method	Prep Method
3035925001	3056RIVERRD	D6919-09	
3035925001	3056RIVERRD	EPA 200.7	EPA ACID
3035925001	3056RIVERRD	EPA 200.7	EPA TRMD
3035925001	3056RIVERRD	EPA 300.0	
3035925001	3056RIVERRD	EPA 410.4	
3035925001	3056RIVERRD	EPA 420.4	420.4/9066
3035925001	3056RIVERRD	Field	
3035925001	3056RIVERRD	S2540C-11	
3035925001	3056RIVERRD	S4500HB-11	
3035925001	3056RIVERRD	SM2130B-2011	
3035925001	3056RIVERRD	SM2320B-2011	
3035925001	3056RIVERRD	SM2510B-2011	
3035925001	3056RIVERRD	SM5310B-2011	
3035925001	3056RIVERRD	SW846 8260B	
3035925001	3056RIVERRD	SW846 9020B	

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

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

* 3035925 *

1 of 1

Client Name: Lancaster County Solid Waste MA

Address: 1299 Harrisburg Pike, P.O. Box 4424
Lancaster, PA 17604

Contact: Mark Reider

Phone#: (717) 735-0193

Project Name/#: LCSWMA - Quarterly

Bill To: Lancaster County Solid Waste MA

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

Date Required: _____ Approved By: _____

Email? [ ] -Y _____

Fax? [ ] -Y No.: _____

Container Type	AG	AN	AN	CG	—	PL	PL	PL	PL	PL
Container Size	40 ml	125 ml	250 ml	40 ml	—	500 ml	250 ml	250 ml	2 L	500 ml
Preservative	HCl	H2SO4	H2SO4	HCl	—	H2SO4	HNO3	HNO3	None	None

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-OH	TOX	SW846-8260 VOCs	FM	NH3-N, COD	Dissolved Metals: Ca, Fe, Mg, Mn, K, Na	Metals: Ca, Fe, Mg, Mn, K, Na	pH, TDS, NO2, NO3, Cl, SO4, F, Tb, SpC	Alkalinity, HCO3
					Enter Number of Containers Per Sample or Field Results Below.									
1 3056RIVERRD	05/24/19	1000	G	DW	2	1	2	3 2	X	1	1	1	1	1
2							CLS 5/24							
3														
4														
5														
6														
7														
8														
9														
10														

Cooler Temp: 4.2 Therm ID: 401 (d by Receiving Lab)

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

Sample/COC Comments

ALS Field Services: [ ] Pickup [ ] Labor [ ] Composite_Sampling [ ] Rental_Equipment [ ] Other: _____

Project Comments:

LOGGED BY(signature): DATE TIME

REVIEWED BY(signature): DATE TIME

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[illegible] ALS	5/24/19	1530	2	Courtney Lynch ALS	5/24	1531
3				4			
5				6			
7				8			
9				10			

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

Special Processing: USACE [ ] Navy [ ]

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

Reportable to PADEP? Yes [ ]

PWSID # _____

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- _____

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

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

Rev 8/04

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

Condition of Sample Receipt Form

303525

Client:	Work Order #:	Initials:	Date:
Lancaster County Solid Waste		CLS	5/24

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

Cooler #:								
Temperature (°C):	4.2							
Thermometer ID:	401							
Radiological (µCi):								

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

Bottle #s fixed by CLS 5/24

* Bottles do not have sample dates or times.

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

June 5, 2019

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

Certificate of Analysis

Project Name:	**FREY FARM**	Workorder:	**3035926**
Purchase Order:	**PO1000126**	Workorder ID:	**2ND QTR 2019 3060 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 24, 2019.

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.

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

CC: Mr. Nicholas Rogers , Ms. Jordan Gallagher , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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SAMPLE SUMMARY

Workorder: 3035926 2ND QTR 2019 3060 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3035926001	3060RIVERRD	Water	5/24/2019 10:09	5/24/2019 15:31	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3035926 2ND QTR 2019 3060 RIVER RD

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 preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

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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ANALYTICAL RESULTS

Workorder: 3035926 2ND QTR 2019 3060 RIVER RD

Lab ID: **3035926001** Date Collected: 5/24/2019 10:09 Matrix: Water
Sample ID: **3060RIVERRD** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
Toluene	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
Total Xylenes	ND		ug/L	3.0	SW846 8260B			6/1/19 05:13	PDK	K
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
Trichloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			6/1/19 05:13	PDK	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117		%	62 - 133	SW846 8260B			6/1/19 05:13	PDK	K
4-Bromofluorobenzene (S)	111		%	79 - 114	SW846 8260B			6/1/19 05:13	PDK	K
Dibromofluoromethane (S)	110		%	78 - 116	SW846 8260B			6/1/19 05:13	PDK	K
Toluene-d8 (S)	112		%	76 - 127	SW846 8260B			6/1/19 05:13	PDK	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND		mg/L	5	SM2320B-2011			5/25/19 12:43	MBW	C
Alkalinity, Total	ND	1	mg/L	5	SM2320B-2011			5/25/19 12:43	MBW	C
Ammonia-N	0.185		mg/L	0.100	D6919-09			5/31/19 01:43	AK	B
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			5/29/19 12:45	AK	B
Chloride	22.9		mg/L	2.0	EPA 300.0			5/25/19 05:19	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			5/25/19 05:19	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			6/4/19 15:23	PAG	I
Nitrate-N	17.5		mg/L	0.20	EPA 300.0			5/25/19 05:19	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/25/19 05:19	CHW	C
pH	5.52	2	pH_Units		S4500HB-11			5/25/19 12:43	MBW	C
Phenolics	ND		mg/L	0.005	EPA 420.4	5/29/19 14:29	C_D	5/30/19 05:54	C_D	H
Specific Conductance	197		umhos/cm	1	SM2510B-2011			5/25/19 12:43	MBW	C

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ANALYTICAL RESULTS

Workorder: 3035926 2ND QTR 2019 3060 RIVER RD

Lab ID: **3035926001** Date Collected: 5/24/2019 10:09 Matrix: Water
Sample ID: **3060RIVERRD** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Sulfate	10.3		mg/L	2.0	EPA 300.0			5/25/19 05:19	CHW	C
Total Dissolved Solids	102	3	mg/L	5	S2540C-11			5/30/19 16:35	EXS	C
Total Organic Carbon (TOC)	0.58		mg/L	0.50	SM5310B-2011			5/28/19 23:41	PAG	F
Turbidity	ND		NTU	0.10	SM2130B-2011			5/25/19 07:32	MBW	C
METALS										
Calcium, Total	9.7		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 11:56	MNP	D1
Calcium, Dissolved	10.2		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:17	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/31/19 10:05	AHI	6/3/19 11:56	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:17	MNP	E
Magnesium, Total	10.8		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 11:56	MNP	D1
Magnesium, Dissolved	10.8		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:17	MNP	E
Manganese, Total	0.12		mg/L	0.0025	EPA 200.7	5/31/19 10:05	AHI	6/3/19 11:56	MNP	D1
Manganese, Dissolved	0.12		mg/L	0.0050	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:17	MNP	E
Potassium, Total	2.0		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 11:56	MNP	D1
Potassium, Dissolved	1.8		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:17	MNP	E
Sodium, Total	7.1		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 11:56	MNP	D1
Sodium, Dissolved	7.1		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:17	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.49		pH_Units		Field			5/24/19 10:09	BGS	N
Specific Conductance, Field	209		umhos/cm	1	Field			5/24/19 10:09	BGS	N
Temperature	13.20		Deg. C		Field			5/24/19 10:09	BGS	N

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 3035926 2ND QTR 2019 3060 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3035926001	1	3060RIVERRD	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
3035926001	2	3060RIVERRD	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3035926001	3	3060RIVERRD	S2540C-11	Total Dissolved Solids
The method blank associated with the sample was recovered at 5 mg/L. The method reporting limit for this analysis is <5 mg/L. A bias may exist with the result.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3035926 2ND QTR 2019 3060 RIVER RD

Lab ID	Sample ID	Analysis Method	Prep Method
3035926001	3060RIVERRD	D6919-09	
3035926001	3060RIVERRD	EPA 200.7	EPA ACID
3035926001	3060RIVERRD	EPA 200.7	EPA TRMD
3035926001	3060RIVERRD	EPA 300.0	
3035926001	3060RIVERRD	EPA 410.4	
3035926001	3060RIVERRD	EPA 420.4	420.4/9066
3035926001	3060RIVERRD	Field	
3035926001	3060RIVERRD	S2540C-11	
3035926001	3060RIVERRD	S4500HB-11	
3035926001	3060RIVERRD	SM2130B-2011	
3035926001	3060RIVERRD	SM2320B-2011	
3035926001	3060RIVERRD	SM2510B-2011	
3035926001	3060RIVERRD	SM5310B-2011	
3035926001	3060RIVERRD	SW846 8260B	
3035926001	3060RIVERRD	SW846 9020B	

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

1 of 1

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

Client Name: Lancaster County Solid Waste MA

Address: 1299 Harrisburg Pike, P.O. Box 4424
Lancaster, PA 17604

Contact: Mark Reider

Phone#: (717) 735-0193

Project Name/#: LCSWMA - Quarterly

Bill To: Lancaster County Solid Waste MA

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

Date Required: _____ Approved By: _____

Email? [ ] -Y _____

Fax? [ ] -Y No.: _____

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-OH	TOX	SW846-8260 VOCs	FM	NH3-N, COD	Dissolved Metals: Ca, Fe, Mg, Mn, K, Na	Metals: Ca, Fe, Mg, Mn, K, Na	pH, TDS, NO2, NO3, Cl, SO4, F, Tb, SpC	Alkalinity, HCO3
Container Type					AG	AN	AN	CG	—	PL	PL	PL	PL	PL
Container Size					40 ml	125 ml	250 ml	40 ml	—	500 ml	250 ml	250 ml	2 L	500 ml
Preservative					HCl	H2SO4	H2SO4	HCl	—	H2SO4	HNO3	HNO3	None	None
					Enter Number of Containers Per Sample or Field Results Below.									
1 3060RIVERRD	05/24/19	1009	G	DW	2	1	2	3	X	1	1	1	1	1
2							CLS 5/24							
3														
4														
5														
6														
7														
8														
9														
10														

Cooler Temp: 4.6 Therm ID: 401

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

Sample/COC Comments

ALS Field Services: [ ] Pickup [ ] Labor
[ ] Composite_Sampling [ ] Rental_Equipment
[ ] Other: _____

Project Comments:

LOGGED BY(signature): DATE: TIME:

REVIEWED BY(signature): DATE: TIME:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Ken Steele - ALS	5/24/19	1531	2 Courtney Lynch ALS	5/24	1531
3			4		
5			6		
7			8		
9			10		

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

Special Processing: USACE [ ] Navy [ ]

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

Reportable to PADEP? Yes [ ]

PWSID # _____

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- _____

* G=Grab; C=Composite

**Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; Oil=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

ALS

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

Condition of Sample Receipt Form

Client: Lancaster | Work Order #: 3035926 | Initials: CLS | Date: 5/24

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

Cooler #: _____

Temperature (°C): 4.6

Thermometer ID: 401

Radiological (µCi): _____

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

Bottles do not have sample date/time.

*Bottle #s fixed by CLS 5/24

Rev. 4/29/2019

ALS Environmental

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June 5, 2019

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

Certificate of Analysis

Project Name:	**CONTIGUOUS LANDOWNER-3076 RIVER RD**	Workorder:	**3035955**
Purchase Order:	**PO1000126**	Workorder ID:	**2ND QTR 2019-3076 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 24, 2019.

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.

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

CC: Mr. Nicholas Rogers , Ms. Jordan Gallagher , Landowner , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 3035955 2ND QTR 2019-3076 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3035955001	3076 River Road, Conestoga, PA	Water	5/24/2019 11:22	5/24/2019 15:31	Mr. Brian G Shade

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 3035955 2ND QTR 2019-3076 RIVER RD

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 preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

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

ANALYTICAL RESULTS

Workorder: 3035955 2ND QTR 2019-3076 RIVER RD

Lab ID: **3035955001** Date Collected: 5/24/2019 11:22 Matrix: Water

Sample ID: **3076 River Road, Conestoga, PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
Toluene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
Total Xylenes	ND		ug/L	3.0	SW846 8260B			6/3/19 15:46	DD	K
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
Trichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 15:46	DD	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	125		%	62 - 133	SW846 8260B			6/3/19 15:46	DD	K
4-Bromofluorobenzene (S)	111		%	79 - 114	SW846 8260B			6/3/19 15:46	DD	K
Dibromofluoromethane (S)	116		%	78 - 116	SW846 8260B			6/3/19 15:46	DD	K
Toluene-d8 (S)	116		%	76 - 127	SW846 8260B			6/3/19 15:46	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	7		mg/L	5	SM2320B-2011			5/25/19 16:08	MBW	C
Alkalinity, Total	7	1	mg/L	5	SM2320B-2011			5/25/19 16:08	MBW	C
Ammonia-N	0.606		mg/L	0.100	D6919-09			5/31/19 18:54	AK	B
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			5/29/19 12:45	AK	B
Chloride	45.5		mg/L	2.0	EPA 300.0			5/25/19 08:46	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			5/25/19 08:46	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			6/5/19 14:34	PAG	I
Nitrate-N	11.8		mg/L	0.20	EPA 300.0			5/25/19 08:46	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/25/19 08:46	CHW	C
pH	6.27	2	pH_Units		S4500HB-11			5/25/19 16:08	MBW	C
Phenolics	ND		mg/L	0.005	EPA 420.4	5/29/19 14:29	C_D	5/30/19 05:54	C_D	H
Specific Conductance	269		umhos/cm	1	SM2510B-2011			5/25/19 16:08	MBW	C

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ANALYTICAL RESULTS

Workorder: 3035955 2ND QTR 2019-3076 RIVER RD

Lab ID: **3035955001** Date Collected: 5/24/2019 11:22 Matrix: Water
Sample ID: **3076 River Road, Conestoga, PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Sulfate	20.2		mg/L	2.0	EPA 300.0			5/25/19 08:46	CHW	C
Total Dissolved Solids	138	3	mg/L	5	S2540C-11			5/30/19 16:35	EXS	C
Total Organic Carbon (TOC)	0.95		mg/L	0.50	SM5310B-2011			5/29/19 04:00	PAG	F
Turbidity	0.84		NTU	0.10	SM2130B-2011			5/25/19 07:32	MBW	C
METALS										
Calcium, Total	13.8		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:25	MNP	D1
Calcium, Dissolved	15.8		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:44	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:25	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:44	MNP	E
Magnesium, Total	8.3		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:25	MNP	D1
Magnesium, Dissolved	8.8		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:44	MNP	E
Manganese, Total	0.25		mg/L	0.0025	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:25	MNP	D1
Manganese, Dissolved	0.26		mg/L	0.0050	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:44	MNP	E
Potassium, Total	3.2		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:25	MNP	D1
Potassium, Dissolved	3.2		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:44	MNP	E
Sodium, Total	18.7		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:25	MNP	D1
Sodium, Dissolved	20.0		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:44	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.22		pH_Units		Field			5/24/19 11:22	BGS	N
Specific Conductance, Field	275		umhos/cm	1	Field			5/24/19 11:22	BGS	N
Temperature	13.10		Deg. C		Field			5/24/19 11:22	BGS	N

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 3035955 2ND QTR 2019-3076 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3035955001	1	3076 River Road, Conestoga, PA	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
3035955001	2	3076 River Road, Conestoga, PA	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3035955001	3	3076 River Road, Conestoga, PA	S2540C-11	Total Dissolved Solids
The method blank associated with the sample was recovered at 5 mg/L. The method reporting limit for this analysis is <5 mg/L. A bias may exist with the result.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3035955 2ND QTR 2019-3076 RIVER RD

Lab ID	Sample ID	Analysis Method	Prep Method
3035955001	3076 River Road, Conestoga, PA	D6919-09	
3035955001	3076 River Road, Conestoga, PA	EPA 200.7	EPA ACID
3035955001	3076 River Road, Conestoga, PA	EPA 200.7	EPA TRMD
3035955001	3076 River Road, Conestoga, PA	EPA 300.0	
3035955001	3076 River Road, Conestoga, PA	EPA 410.4	
3035955001	3076 River Road, Conestoga, PA	EPA 420.4	420.4/9066
3035955001	3076 River Road, Conestoga, PA	Field	
3035955001	3076 River Road, Conestoga, PA	S2540C-11	
3035955001	3076 River Road, Conestoga, PA	S4500HB-11	
3035955001	3076 River Road, Conestoga, PA	SM2130B-2011	
3035955001	3076 River Road, Conestoga, PA	SM2320B-2011	
3035955001	3076 River Road, Conestoga, PA	SM2510B-2011	
3035955001	3076 River Road, Conestoga, PA	SM5310B-2011	
3035955001	3076 River Road, Conestoga, PA	SW846 8260B	
3035955001	3076 River Road, Conestoga, PA	SW846 9020B	

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

3035955

1 of 1

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

Client Name: LCSWMA - Brian Sensenich
Address: 3076 Rover Road
Conestoga, PA 17516
Contact: Brian Sensenich
Phone#: (717) 676-5779
Project Name/#: LCSWMA - Quarterly
Bill To: LCSWMA - Brian Sensenich

TAT [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.
Date Required: _____ Approved By: _____
Email? [ ] -Y _____
Fax? [ ] -Y No.: _____

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

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-OH	TOX	SW846-8260 VOCs	FM	NH3-N, COD	Dissolved Metals: Ca, Fe, Mg, Mn, K, Na	Metals: Ca, Fe, Mg, Mn, K, Na	pH, TDS, NO2, NO3, Cl, SO4, F, Tb, SpC	Alkalinity, HCO3
					Enter Number of Containers Per Sample or Field Results Below.									
1 3076RIVERRD	05/24/19	1122	G	DW	2	1	2	3	X	1	1	1	1	1
2								3						
3								5/24/19						
4														
5														
6														
7														
8														
9														
10														

Receipt Information (completed by Receiving Lab)
Cooler Temp: 2.1 Therm ID: 40
No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

Sample/COC Comments

ALS Field Services: [ ] Pickup [ ] Labor
[ ] Composite_Sampling [ ] Rental_Equipment
[ ] Other: _____

Project Comments:

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1: ALS	5/24/19	1530	2	5/24/19	1530
3			4		
5			6		
7			8		
9			10		

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

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

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

Rev 8/04

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

Condition of Sample Receipt Form

Client: Lancaster County Solid Waste | Work Order #: 3035955 | Initials: CD | Date: 5/24/19

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

Yes

Cooler #: _____

Temperature (°C): 2.1

Thermometer ID: IR#01

Radiological (µCi): _____

COMMENTS (Required for all NO responses above and any sample non-conformance):
Ph is expired, but will be analyzed with a qualifier

Rev. 4/29/2019

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June 5, 2019

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

Certificate of Analysis

Project Name:	**FREY FARM**	Workorder:	**3035947**
Purchase Order:	**PO1000126**	Workorder ID:	**2ND QTR 2019 3079 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 24, 2019.

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.

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

CC: Mr. Nicholas Rogers , Ms. Jordan Gallagher , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 3035947 2ND QTR 2019 3079 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3035947001	3079RIVERRD	Water	5/24/2019 13:15	5/24/2019 15:31	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3035947 2ND QTR 2019 3079 RIVER RD

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N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
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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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ANALYTICAL RESULTS

Workorder: 3035947 2ND QTR 2019 3079 RIVER RD

Lab ID: **3035947001** Date Collected: 5/24/2019 13:15 Matrix: Water
Sample ID: **3079RIVERRD** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
Toluene	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
Total Xylenes	ND		ug/L	3.0	SW846 8260B			6/1/19 07:10	PDK	K
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
Trichloroethene	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
Trichlorofluoromethane	ND	4	ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			6/1/19 07:10	PDK	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	122		%	62 - 133	SW846 8260B			6/1/19 07:10	PDK	K
4-Bromofluorobenzene (S)	111		%	79 - 114	SW846 8260B			6/1/19 07:10	PDK	K
Dibromofluoromethane (S)	114		%	78 - 116	SW846 8260B			6/1/19 07:10	PDK	K
Toluene-d8 (S)	113		%	76 - 127	SW846 8260B			6/1/19 07:10	PDK	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	28		mg/L	5	SM2320B-2011			5/25/19 14:50	MBW	C
Alkalinity, Total	28	1	mg/L	5	SM2320B-2011			5/25/19 14:50	MBW	C
Ammonia-N	0.841		mg/L	0.100	D6919-09			5/31/19 17:59	AK	B
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			5/29/19 12:45	AK	B
Chloride	37.4		mg/L	2.0	EPA 300.0			5/25/19 06:35	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			5/25/19 06:35	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			6/4/19 15:48	PAG	I
Nitrate-N	ND		mg/L	0.20	EPA 300.0			5/25/19 06:35	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/25/19 06:35	CHW	C
pH	6.72	2	pH_Units		S4500HB-11			5/25/19 14:50	MBW	C
Phenolics	ND		mg/L	0.005	EPA 420.4	5/29/19 14:29	C_D	5/30/19 05:54	C_D	H
Specific Conductance	178		umhos/cm	1	SM2510B-2011			5/25/19 14:50	MBW	C

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ANALYTICAL RESULTS

Workorder: 3035947 2ND QTR 2019 3079 RIVER RD

Lab ID: **3035947001** Date Collected: 5/24/2019 13:15 Matrix: Water
Sample ID: **3079RIVERRD** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Sulfate	21.8		mg/L	2.0	EPA 300.0			5/25/19 06:35	CHW	C
Total Dissolved Solids	161	3	mg/L	5	S2540C-11			5/30/19 16:35	EXS	C
Total Organic Carbon (TOC)	ND		mg/L	0.50	SM5310B-2011			5/29/19 04:00	PAG	F
Turbidity	ND		NTU	0.10	SM2130B-2011			5/25/19 07:32	MBW	C
METALS										
Calcium, Total	9.9		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:03	MNP	D1
Calcium, Dissolved	10.1		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:21	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:03	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:21	MNP	E
Magnesium, Total	5.2		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:03	MNP	D1
Magnesium, Dissolved	5.0		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:21	MNP	E
Manganese, Total	0.31		mg/L	0.0025	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:03	MNP	D1
Manganese, Dissolved	0.29		mg/L	0.0050	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:21	MNP	E
Potassium, Total	1.8		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:03	MNP	D1
Potassium, Dissolved	1.5		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:21	MNP	E
Sodium, Total	12.4		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:03	MNP	D1
Sodium, Dissolved	11.8		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:21	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.65		pH_Units		Field			5/24/19 13:15	BGS	N
Specific Conductance, Field	183		umhos/cm	1	Field			5/24/19 13:15	BGS	N
Temperature	14.50		Deg. C		Field			5/24/19 13:15	BGS	N

Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3035947 2ND QTR 2019 3079 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3035947001	1	3079RIVERRD	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
3035947001	2	3079RIVERRD	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3035947001	3	3079RIVERRD	S2540C-11	Total Dissolved Solids
The method blank associated with the sample was recovered at 5 mg/L. The method reporting limit for this analysis is <5 mg/L. A bias may exist with the result.				
3035947001	4	3079RIVERRD	SW846 8260B	Trichlorofluoromethane
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Trichlorofluoromethane. The % Recovery was reported as 133 and the control limits were 38 to 123.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3035947 2ND QTR 2019 3079 RIVER RD

Lab ID	Sample ID	Analysis Method	Prep Method
3035947001	3079RIVERRD	D6919-09	
3035947001	3079RIVERRD	EPA 200.7	EPA ACID
3035947001	3079RIVERRD	EPA 200.7	EPA TRMD
3035947001	3079RIVERRD	EPA 300.0	
3035947001	3079RIVERRD	EPA 410.4	
3035947001	3079RIVERRD	EPA 420.4	420.4/9066
3035947001	3079RIVERRD	Field	
3035947001	3079RIVERRD	S2540C-11	
3035947001	3079RIVERRD	S4500HB-11	
3035947001	3079RIVERRD	SM2130B-2011	
3035947001	3079RIVERRD	SM2320B-2011	
3035947001	3079RIVERRD	SM2510B-2011	
3035947001	3079RIVERRD	SM5310B-2011	
3035947001	3079RIVERRD	SW846 8260B	
3035947001	3079RIVERRD	SW846 9020B	

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

1 of 1

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

Client Name: Lancaster County Solid Waste MA

Address: 1299 Harrisburg Pike, P.O. Box 4424
Lancaster, PA 17604

Contact: Mark Reider

Phone#: (717) 735-0193

Project Name/#: LCSWMA - Quarterly Fire Co.

Bill To: Lancaster County Solid Waste MA

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

Date Required: _____ Approved By: _____

Email? [ ] -Y _____

Fax? [ ] -Y No.: _____

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Container Type	Container Size	Preservative	TOC	O-OH	TOX	SW846-8260 VOCs	FM	NH3-N, COD	Dissolved Metals: Ca, Fe, Mg, Mn, K, Na	Metals: Ca, Fe, Mg, Mn, K, Na	pH, TDS, NO2, NO3, Cl, SO4, F, Tb, SpC	Alkalinity, HCO3
					AG	AN	AN	CG	—	PL	PL	PL	PL				
					40 ml	125 ml	250 ml	40 ml	—	500 ml	250 ml	250 ml	2 L	500 ml			
					HCl	H2SO4	H2SO4	HCl	—	H2SO4	HNO3	HNO3	None	None			
					ANALYSES/METHOD REQUESTED												
					Enter Number of Containers Per Sample or Field Results Below.												
1 3079RIVERRD	05/24/19	1315	G	DW	2	1	2	3	X	1	1	1	1	1			
2																	
3								5/24									
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Receiving Lab)

Cooler Temp: 1.7 Therm ID: [illegible]

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(If present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

Sample/COC Comments

ALS Field Services: [ ] Pickup [ ] Labor
[ ] Composite_Sampling [ ] Rental_Equipment
[ ] Other: _____

Project Comments:

LOGGED BY(signature): _____ DATE _____ TIME _____

REVIEWED BY(signature): _____ DATE _____ TIME _____

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [illegible] MLS	5/24/19	1531	2 [illegible]	5/24/19	1537
3			4		
5			6		
7			8		
9			10		

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

Special Processing: USACE [ ] Navy [ ]

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

Reportable to PADEP? Yes [ ] PWSID # _____

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- _____

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

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

Rev 8/04

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

Condition of Sample Receipt Form

Client: Lancaster County Solid Waste Work Order #: 3035947 Initials: CD Date: 5/24/19

1. Were airbills / tracking numbers present and recorded?	NONE	YES	NO
Tracking number:			
2. Are Custody Seals on shipping containers intact?	NONE	YES	NO
3. Are Custody Seals on sample containers intact?	NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present?		YES	NO
5. Are the COC and bottle labels complete, legible and in agreement?		YES	NO
5a. Does the COC contain sample locations?		YES	NO
5b. Does the COC contain date and time of sample collection for all samples?		YES	NO
5c. Does the COC contain sample collectors name?		YES	NO
5d. Does the COC note the type(s) of preservation for all bottles?		YES	NO
5e. Does the COC note the number of bottles submitted for each sample?		YES	NO
5f. Does the COC note the type of sample, composite or grab?		YES	NO
5g. Does the COC note the matrix of the sample(s)?		YES	NO
6. Are all aqueous samples requiring preservation preserved correctly?	N/A	YES	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		YES	NO
8. Are all samples within holding times for the requested analyses?		YES	NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)	5/24	YES	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	N/A	YES	NO
11. Were the samples received on ice?		YES	NO
12. Were sample temperatures measured at 0.0-6.0°C		YES	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		YES	NO
13a. Are the samples required for SDWA compliance reporting?	N/A	YES	NO
13b. Did the client provide a SDWA PWS ID#?	N/A	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	N/A	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	N/A	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	N/A	YES	NO

Cooler #: _____

Temperature (°C): 7.7

Thermometer ID: IR#01

Radiological (µCi): _____

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

Samples temped above 0°C-6°C

Ph is expired, but will be analyzed with a qualifier -CD 5/24/19

Rev. 4/29/2019

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June 5, 2019

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

Certificate of Analysis

Project Name:	**CONTIGUOUS LANDOWNER-3088 RIVER RD**	Workorder:	**3035949**
Purchase Order:	**PO1000126**	Workorder ID:	**2ND QTR 2019-3088 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 24, 2019.

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.

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

CC: Mr. Nicholas Rogers , Ms. Jordan Gallagher , Landowner , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 3035949 2ND QTR 2019-3088 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3035949001	3088 River Road, Conestoga PA	Water	5/24/2019 12:15	5/24/2019 15:31	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3035949 2ND QTR 2019-3088 RIVER RD

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 preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

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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ANALYTICAL RESULTS

Workorder: 3035949 2ND QTR 2019-3088 RIVER RD

Lab ID: **3035949001** Date Collected: 5/24/2019 12:15 Matrix: Water
Sample ID: **3088 River Road, Conestoga PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
Toluene	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
Total Xylenes	ND		ug/L	3.0	SW846 8260B			6/3/19 12:39	DD	K
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
Trichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 12:39	DD	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	115		%	62 - 133	SW846 8260B			6/3/19 12:39	DD	K
4-Bromofluorobenzene (S)	110		%	79 - 114	SW846 8260B			6/3/19 12:39	DD	K
Dibromofluoromethane (S)	112		%	78 - 116	SW846 8260B			6/3/19 12:39	DD	K
Toluene-d8 (S)	115		%	76 - 127	SW846 8260B			6/3/19 12:39	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	129		mg/L	5	SM2320B-2011			5/25/19 14:59	MBW	C
Alkalinity, Total	129	1	mg/L	5	SM2320B-2011			5/25/19 14:59	MBW	C
Ammonia-N	ND		mg/L	0.100	D6919-09			5/31/19 18:12	AK	B
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			5/29/19 12:45	AK	B
Chloride	259		mg/L	5.0	EPA 300.0			5/30/19 12:02	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			5/25/19 09:05	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			6/5/19 11:07	PAG	I
Nitrate-N	8.9		mg/L	0.20	EPA 300.0			5/25/19 09:05	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/25/19 09:05	CHW	C
pH	7.48	2	pH_Units		S4500HB-11			5/25/19 14:59	MBW	C
Phenolics	ND		mg/L	0.005	EPA 420.4	5/29/19 14:29	C_D	5/30/19 05:54	C_D	H
Specific Conductance	1150		umhos/cm	1	SM2510B-2011			5/25/19 14:59	MBW	C

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3035949 2ND QTR 2019-3088 RIVER RD

Lab ID: **3035949001** Date Collected: 5/24/2019 12:15 Matrix: Water
Sample ID: **3088 River Road, Conestoga PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Sulfate	2.0		mg/L	2.0	EPA 300.0			5/25/19 09:05	CHW	C
Total Dissolved Solids	625	3	mg/L	5	S2540C-11			5/30/19 16:35	EXS	C
Total Organic Carbon (TOC)	ND		mg/L	0.50	SM5310B-2011			5/29/19 04:00	PAG	F
Turbidity	0.11		NTU	0.10	SM2130B-2011			5/25/19 07:32	MBW	C
METALS										
Calcium, Total	0.18		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:06	MNP	D1
Calcium, Dissolved	0.17		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:24	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:06	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:24	MNP	E
Magnesium, Total	0.11		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:06	MNP	D1
Magnesium, Dissolved	ND		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:24	MNP	E
Manganese, Total	ND		mg/L	0.0025	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:06	MNP	D1
Manganese, Dissolved	ND		mg/L	0.0050	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:24	MNP	E
Potassium, Total	3.1		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:06	MNP	D1
Potassium, Dissolved	2.7		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:24	MNP	E
Sodium, Total	228		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:06	MNP	D1
Sodium, Dissolved	228		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:24	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	7.54		pH_Units		Field			5/24/19 12:26	BGS	N
Specific Conductance, Field	1141		umhos/cm	1	Field			5/24/19 12:26	BGS	N
Temperature	15.10		Deg. C		Field			5/24/19 12:26	BGS	N

Ms. Susan J Scherer
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3035949 2ND QTR 2019-3088 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3035949001	1	3088 River Road, Conestoga PA	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
3035949001	2	3088 River Road, Conestoga PA	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3035949001	3	3088 River Road, Conestoga PA	S2540C-11	Total Dissolved Solids
The method blank associated with the sample was recovered at 5 mg/L. The method reporting limit for this analysis is <5 mg/L. A bias may exist with the result.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3035949 2ND QTR 2019-3088 RIVER RD

Lab ID	Sample ID	Analysis Method	Prep Method
3035949001	3088 River Road, Conestoga PA	D6919-09	
3035949001	3088 River Road, Conestoga PA	EPA 200.7	EPA ACID
3035949001	3088 River Road, Conestoga PA	EPA 200.7	EPA TRMD
3035949001	3088 River Road, Conestoga PA	EPA 300.0	
3035949001	3088 River Road, Conestoga PA	EPA 410.4	
3035949001	3088 River Road, Conestoga PA	EPA 420.4	420.4/9066
3035949001	3088 River Road, Conestoga PA	Field	
3035949001	3088 River Road, Conestoga PA	S2540C-11	
3035949001	3088 River Road, Conestoga PA	S4500HB-11	
3035949001	3088 River Road, Conestoga PA	SM2130B-2011	
3035949001	3088 River Road, Conestoga PA	SM2320B-2011	
3035949001	3088 River Road, Conestoga PA	SM2510B-2011	
3035949001	3088 River Road, Conestoga PA	SM5310B-2011	
3035949001	3088 River Road, Conestoga PA	SW846 8260B	
3035949001	3088 River Road, Conestoga PA	SW846 9020B	

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

1 of 1

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

Client Name: LCSWMA - Hans Weber and Deb Kalbach

Address: 3088 River Road, Conestoga, PA 17516

Contact: Hans Weber and Deb Kalbach

Phone#: (717) 419-7982

Project Name/#: LCSWMA - Quarterly

Bill To: LCSWMA - Hans Weber and Deb Kalbach

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

Date Required: _____ Approved By: _____

Email? [ ] -Y _____

Fax? [ ] -Y No.: _____

Container Type	AG	AN	AN	CG	—	PL	PL	PL	PL	
Container Size	40 ml	125 ml	250 ml	40 ml	—	500 ml	250 ml	250 ml	2 L	500 ml
Preservative	HCl	H2SO4	H2SO4	HCl	—	H2SO4	HNO3	HNO3	None	None

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-OH	TOX	SW846-8260 VOCs	FM	NH3-N, COD	Dissolved Metals: Ca, Fe, Mg, Mn, K, Na	Metals: Ca, Fe, Mg, Mn, K, Na	pH, TDS, NO2, NO3, Cl, SO4, F, Tb, SpC	Alkalinity, HCO3
					Enter Number of Containers Per Sample or Field Results Below.									
1 3088RIVER RD	05/24/19	1215	G	DW	2	1	2	3	X	1	1	1	1	1
2								CD 5/24/19						
3														
4														
5														
6														
7														
8														
9														
10														

Cooler Temp: 6.5 Therm ID: 40

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. In Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

Sample/COC Comments

ALS Field Services: [ ] Pickup [ ] Labor [ ] Composite_Sampling [ ] Rental_Equipment [ ] Other: _____

Project Comments:

LOGGED BY(signature): DATE TIME

REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] ALS	5/24/19	1531	2 [signature]	5/24/19	1531
3			4		
5			6		
7			8		
9			10		

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

Special Processing: USACE [ ] Navy [ ] [ ]

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

Reportable to PADEP? Yes [ ] PWSID # _____

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type: _____

* G=Grab; C=Composite

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

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

Rev 8/04

ALS

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

Condition of Sample Receipt Form

Client: Lancaster County Solid Waste | Work Order #: 3085949 | Initials: CD | Date: 5/24/19

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

Cooler #: _____

Temperature (°C): 6.5°C

Thermometer ID: TH101

Radiological (µCi): _____

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

Samples temped above 0°C-6°C

Ph is expired, but will be analyzed with a qualifier

Rev. 4/29/2019

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June 5, 2019

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

Certificate of Analysis

Project Name:	**CONTIGUOUS LANDOWNER-3100 RIVER RD**	Workorder:	**3035952**
Purchase Order:	**PO1000126**	Workorder ID:	**2ND QTR 2019-3100 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 24, 2019.

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.

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

CC: Mr. Nicholas Rogers , Ms. Jordan Gallagher , Landowner , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 3035952 2ND QTR 2019-3100 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3035952001	3100 River Road, Conestoga, PA	Water	5/24/2019 11:53	5/24/2019 15:31	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3035952 2ND QTR 2019-3100 RIVER RD

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 preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

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

ANALYTICAL RESULTS

Workorder: 3035952 2ND QTR 2019-3100 RIVER RD

Lab ID: **3035952001** Date Collected: 5/24/2019 11:53 Matrix: Water

Sample ID: **3100 River Road, Conestoga, PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
Toluene	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
Total Xylenes	ND		ug/L	3.0	SW846 8260B			6/3/19 14:13	DD	K
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
Trichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 14:13	DD	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	120		%	62 - 133	SW846 8260B			6/3/19 14:13	DD	K
4-Bromofluorobenzene (S)	111		%	79 - 114	SW846 8260B			6/3/19 14:13	DD	K
Dibromofluoromethane (S)	116		%	78 - 116	SW846 8260B			6/3/19 14:13	DD	K
Toluene-d8 (S)	112		%	76 - 127	SW846 8260B			6/3/19 14:13	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	12		mg/L	5	SM2320B-2011			5/25/19 15:17	MBW	C
Alkalinity, Total	12	1	mg/L	5	SM2320B-2011			5/25/19 15:17	MBW	C
Ammonia-N	0.116		mg/L	0.100	D6919-09			5/31/19 18:26	AK	B
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			5/29/19 12:45	AK	B
Chloride	40.1		mg/L	2.0	EPA 300.0			5/25/19 09:30	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			5/25/19 09:30	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			6/5/19 12:30	PAG	I
Nitrate-N	4.8		mg/L	0.20	EPA 300.0			5/25/19 09:30	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/25/19 09:30	CHW	C
pH	6.44	2	pH_Units		S4500HB-11			5/25/19 15:17	MBW	C
Phenolics	ND		mg/L	0.005	EPA 420.4	5/29/19 14:29	C_D	5/30/19 05:54	C_D	H
Specific Conductance	196		umhos/cm	1	SM2510B-2011			5/25/19 15:17	MBW	C

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ANALYTICAL RESULTS

Workorder: 3035952 2ND QTR 2019-3100 RIVER RD

Lab ID: **3035952001** Date Collected: 5/24/2019 11:53 Matrix: Water

Sample ID: **3100 River Road, Conestoga, PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Sulfate	15.8		mg/L	2.0	EPA 300.0			5/25/19 09:30	CHW	C
Total Dissolved Solids	142	3	mg/L	5	S2540C-11			5/30/19 16:35	EXS	C
Total Organic Carbon (TOC)	ND		mg/L	0.50	SM5310B-2011			5/29/19 04:00	PAG	F
Turbidity	ND		NTU	0.10	SM2130B-2011			5/25/19 07:32	MBW	C
METALS										
Calcium, Total	12.1		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:19	MNP	D1
Calcium, Dissolved	13.2		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:37	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:19	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:37	MNP	E
Magnesium, Total	5.9		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:19	MNP	D1
Magnesium, Dissolved	5.9		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:37	MNP	E
Manganese, Total	0.010		mg/L	0.0025	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:19	MNP	D1
Manganese, Dissolved	0.016		mg/L	0.0050	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:37	MNP	E
Potassium, Total	1.3		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:19	MNP	D1
Potassium, Dissolved	1.1		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:37	MNP	E
Sodium, Total	15.0		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:19	MNP	D1
Sodium, Dissolved	15.3		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:37	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.36		pH_Units		Field			5/24/19 11:53	BGS	N
Specific Conductance, Field	203		umhos/cm	1	Field			5/24/19 11:53	BGS	N
Temperature	14.10		Deg. C		Field			5/24/19 11:53	BGS	N

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 3035952 2ND QTR 2019-3100 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3035952001	1	3100 River Road, Conestoga, PA	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
3035952001	2	3100 River Road, Conestoga, PA	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3035952001	3	3100 River Road, Conestoga, PA	S2540C-11	Total Dissolved Solids
The method blank associated with the sample was recovered at 5 mg/L. The method reporting limit for this analysis is <5 mg/L. A bias may exist with the result.				

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3035952 2ND QTR 2019-3100 RIVER RD

Lab ID	Sample ID	Analysis Method	Prep Method
3035952001	3100 River Road, Conestoga, PA	D6919-09	
3035952001	3100 River Road, Conestoga, PA	EPA 200.7	EPA ACID
3035952001	3100 River Road, Conestoga, PA	EPA 200.7	EPA TRMD
3035952001	3100 River Road, Conestoga, PA	EPA 300.0	
3035952001	3100 River Road, Conestoga, PA	EPA 410.4	
3035952001	3100 River Road, Conestoga, PA	EPA 420.4	420.4/9066
3035952001	3100 River Road, Conestoga, PA	Field	
3035952001	3100 River Road, Conestoga, PA	S2540C-11	
3035952001	3100 River Road, Conestoga, PA	S4500HB-11	
3035952001	3100 River Road, Conestoga, PA	SM2130B-2011	
3035952001	3100 River Road, Conestoga, PA	SM2320B-2011	
3035952001	3100 River Road, Conestoga, PA	SM2510B-2011	
3035952001	3100 River Road, Conestoga, PA	SM5310B-2011	
3035952001	3100 River Road, Conestoga, PA	SW846 8260B	
3035952001	3100 River Road, Conestoga, PA	SW846 9020B	

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

* 3035952 *

2 — 1 of 1

Client Name: LCSWMA - Larry Kirchner

Address: 3100 River Road
Conestoga, PA 17516

Contact: Larry Kirchner

Phone#: (717) 584-0030

Project Name/#: LCSWMA - Quarterly

Bill To: Lancaster County Solid Waste MA

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

Date Required: _____ Approved By: _____

Email? [ ] -Y _____

Fax? [ ] -Y No.: _____

Container Type	AG	AN	AN	CG	—	PL	PL	PL	PL	PL
Container Size	40 ml	125 ml	250 ml	40 ml	—	500 ml	250 ml	250 ml	2 L	500 ml
Preservative	HCl	H2SO4	H2SO4	HCl	—	H2SO4	HNO3	HNO3	None	None

(Completed by Receiving Lab)

Cooler Temp: 7.9 Therm ID: _____

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(If present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Sample or Field Results Below.

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-OH	TOX	SW846-8260 VOCs	FM	NH3-N, COD	Dissolved Metals: Ca, Fe, Mg, Mn, K, Na	Metals: Ca, Fe, Mg, Mn, K, Na	pH, TDS, NO2, NO3, Cl, SO4, F, Tb, SpC	Alkalinity, HCO3	Sample/COC Comments
1 3100RIVERRD	05/24/19	1153	G	DW	2	1	2	3	X	1	1	1	1	1	
2															
3															
4															
5															
6															
7															
8															
9															
10															

ALS Field Services: [ ] Pickup [ ] Labor [ ] Composite_Sampling [ ] Rental_Equipment [ ] Other: _____

Project Comments:

LOGGED BY(signature): _____ DATE _____ TIME _____

REVIEWED BY(signature): _____ DATE _____ TIME _____

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[signature] ALS	5/24/19	1531	2	[signature]	5/24/19	1531
3				4			
5				6			
7				8			
9				10			

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

Special Processing: USACE [ ] Navy [ ]

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

Reportable to PADEP? Yes [ ]

PWSID # _____

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type-

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

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

Rev 8/04

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

Condition of Sample Receipt Form

Client: Lancaster Solid Waste County | Work Order #: 3035952 | Initials: CD | Date: 5/24/19

1. Were airbills / tracking numbers present and recorded?	(NONE)	YES	NO
Tracking number:			
2. Are Custody Seals on shipping containers intact?	(NONE)	YES	NO
3. Are Custody Seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present?		(YES)	NO
5. Are the COC and bottle labels complete, legible and in agreement?		(YES)	NO
5a. Does the COC contain sample locations?		(YES)	NO
5b. Does the COC contain date and time of sample collection for all samples?		(YES)	NO
5c. Does the COC contain sample collectors name?		(YES)	NO
5d. Does the COC note the type(s) of preservation for all bottles?		(YES)	NO
5e. Does the COC note the number of bottles submitted for each sample?		(YES)	NO
5f. Does the COC note the type of sample, composite or grab?		(YES)	NO
5g. Does the COC note the matrix of the sample(s)?		(YES)	NO
6. Are all aqueous samples requiring preservation preserved correctly?	N/A	(YES)	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		(YES)	NO
8. Are all samples within holding times for the requested analyses?	5/24	(YES)	(NO)
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)		(YES)	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	(N/A)	YES	NO
11. Were the samples received on ice?		(YES)	NO
12. Were sample temperatures measured at 0.0-6.0°C		YES	(NO)
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		(YES)	(NO)
13a. Are the samples required for SDWA compliance reporting?	N/A	YES	NO
13b. Did the client provide a SDWA PWS ID#?	N/A	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	N/A	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	N/A	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	N/A	YES	NO

Cooler #: _____

Temperature (°C): 7.9

Thermometer ID: T#10

Radiological (µCi): _____

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

Temped above 0°C - 6°C
Ph is expired, but will be analyzed with a qualifier
- CD 5/24/19

Rev. 4/29/2019

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

June 5, 2019

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

Certificate of Analysis

Project Name:	**CONTIGUOUS LANDOWNER-3106 RIVER RD**	Workorder:	**3035951**
Purchase Order:	**PO1000126**	Workorder ID:	**2ND QTR 2019-3106 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 24, 2019.

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.

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

CC: Mr. Nicholas Rogers , Ms. Jordan Gallagher , Landowner , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 3035951 2ND QTR 2019-3106 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3035951001	3106 River Road, Conestoga, PA	Water	5/24/2019 13:05	5/24/2019 15:31	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3035951 2ND QTR 2019-3106 RIVER RD

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 preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

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

ANALYTICAL RESULTS

Workorder: 3035951 2ND QTR 2019-3106 RIVER RD

Lab ID: **3035951001** Date Collected: 5/24/2019 13:05 Matrix: Water

Sample ID: **3106 River Road, Conestoga, PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
Toluene	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
Total Xylenes	ND		ug/L	3.0	SW846 8260B			6/3/19 13:50	DD	K
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
Trichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 13:50	DD	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117		%	62 - 133	SW846 8260B			6/3/19 13:50	DD	K
4-Bromofluorobenzene (S)	112		%	79 - 114	SW846 8260B			6/3/19 13:50	DD	K
Dibromofluoromethane (S)	113		%	78 - 116	SW846 8260B			6/3/19 13:50	DD	K
Toluene-d8 (S)	113		%	76 - 127	SW846 8260B			6/3/19 13:50	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	8		mg/L	5	SM2320B-2011			5/25/19 15:08	MBW	C
Alkalinity, Total	8	1	mg/L	5	SM2320B-2011			5/25/19 15:08	MBW	C
Ammonia-N	ND		mg/L	0.100	D6919-09			5/31/19 18:40	AK	B
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			5/29/19 12:45	AK	B
Chloride	107		mg/L	2.0	EPA 300.0			5/25/19 09:17	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			5/25/19 09:17	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			6/5/19 12:02	PAG	I
Nitrate-N	13.4		mg/L	0.20	EPA 300.0			5/25/19 09:17	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/25/19 09:17	CHW	C
pH	6.28	2	pH_Units		S4500HB-11			5/25/19 15:08	MBW	C
Phenolics	ND		mg/L	0.005	EPA 420.4	5/29/19 14:29	C_D	5/30/19 05:54	C_D	H
Specific Conductance	470		umhos/cm	1	SM2510B-2011			5/25/19 15:08	MBW	C

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ANALYTICAL RESULTS

Workorder: 3035951 2ND QTR 2019-3106 RIVER RD

Lab ID: **3035951001** Date Collected: 5/24/2019 13:05 Matrix: Water
Sample ID: **3106 River Road, Conestoga, PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Sulfate	9.4		mg/L	2.0	EPA 300.0			5/25/19 09:17	CHW	C
Total Dissolved Solids	243	3	mg/L	5	S2540C-11			5/30/19 16:35	EXS	C
Total Organic Carbon (TOC)	0.80		mg/L	0.50	SM5310B-2011			5/29/19 04:00	PAG	F
Turbidity	0.30		NTU	0.10	SM2130B-2011			5/25/19 07:32	MBW	C
METALS										
Calcium, Total	16.6		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:09	MNP	D1
Calcium, Dissolved	20.2		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:34	MNP	E
Iron, Total	0.048		mg/L	0.030	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:09	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:34	MNP	E
Magnesium, Total	11.8		mg/L	0.050	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:09	MNP	D1
Magnesium, Dissolved	13.3		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:34	MNP	E
Manganese, Total	0.071		mg/L	0.0025	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:09	MNP	D1
Manganese, Dissolved	0.070		mg/L	0.0050	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:34	MNP	E
Potassium, Total	1.5		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:09	MNP	D1
Potassium, Dissolved	1.4		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:34	MNP	E
Sodium, Total	42.6		mg/L	0.25	EPA 200.7	5/31/19 10:05	AHI	6/3/19 12:09	MNP	D1
Sodium, Dissolved	43.9		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:34	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.18		pH_Units		Field			5/24/19 13:05	BGS	N
Specific Conductance, Field	481		umhos/cm	1	Field			5/24/19 13:05	BGS	N
Temperature	13.60		Deg. C		Field			5/24/19 13:05	BGS	N

Susan J. Scherer
Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 3035951 2ND QTR 2019-3106 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3035951001	1	3106 River Road, Conestoga, PA	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
3035951001	2	3106 River Road, Conestoga, PA	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3035951001	3	3106 River Road, Conestoga, PA	S2540C-11	Total Dissolved Solids
The method blank associated with the sample was recovered at 5 mg/L. The method reporting limit for this analysis is <5 mg/L. A bias may exist with the result.				

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3035951 2ND QTR 2019-3106 RIVER RD

Lab ID	Sample ID	Analysis Method	Prep Method
3035951001	3106 River Road, Conestoga, PA	D6919-09	
3035951001	3106 River Road, Conestoga, PA	EPA 200.7	EPA ACID
3035951001	3106 River Road, Conestoga, PA	EPA 200.7	EPA TRMD
3035951001	3106 River Road, Conestoga, PA	EPA 300.0	
3035951001	3106 River Road, Conestoga, PA	EPA 410.4	
3035951001	3106 River Road, Conestoga, PA	EPA 420.4	420.4/9066
3035951001	3106 River Road, Conestoga, PA	Field	
3035951001	3106 River Road, Conestoga, PA	S2540C-11	
3035951001	3106 River Road, Conestoga, PA	S4500HB-11	
3035951001	3106 River Road, Conestoga, PA	SM2130B-2011	
3035951001	3106 River Road, Conestoga, PA	SM2320B-2011	
3035951001	3106 River Road, Conestoga, PA	SM2510B-2011	
3035951001	3106 River Road, Conestoga, PA	SM5310B-2011	
3035951001	3106 River Road, Conestoga, PA	SW846 8260B	
3035951001	3106 River Road, Conestoga, PA	SW846 9020B	

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

1 of 1

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

* 3035951 *

(Lab Use Only) by Receiving Lab)

Client Name: LCSWMA - Aaron Fry

Address: 3106 River Road

Conestoga, PA 17516

Contact: Aaron Fry

Phone#: (717) 669-6831

Project Name/#: LCSWMA - Quarterly

Bill To: LCSWMA - Aaron Fry

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

Date Required: _____ Approved By: _____

Email? [ ] -Y _____

Fax? [ ] -Y No.: _____

Cooler Temp: 6.4 Therm ID: 401

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(If present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Container Type	AG	AN	AN	CG	—	PL	PL	PL	PL	PL
					Container Size	40 ml	125 ml	250 ml	40 ml	—	250 ml	125 ml	125 ml	500 ml	500 ml
					Preservative	HCl	H2SO4	H2SO4	HCl	—	H2SO4	HNO3	HNO3	None	None
						TOC	O-OH	TOX	SW846-8260 VOCs	FM	NH3-N, COD	Dissolved Metals: Ca, Fe, Mg, Mn, K, Na	Metals: Ca, Fe, Mg, Mn, K, Na	pH, TDS, NO2, NO3, Cl, SO4, F, Tb, SpC	Alkalinity, HCO3
						Enter Number of Containers Per Sample or Field Results Below.									
1 3106RIVERRD	05/24/19	1305	G	DW		2	1	2	3/2	X	1	1	1	1	1
2									D 5/24/19						
3															
4															
5															
6															
7															
8															
9															
10									A						

Sample/COC Comments

ALS Field Services: [ ] Pickup [ ] Labor [ ] Composite_Sampling [ ] Rental_Equipment [ ] Other: _____

Project Comments:

LOGGED BY(signature): DATE TIME

REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] ALS	5/24/19	1530	2 [signature]	5/24/19	1530
3			4		
5			6		
7			8		
9			10		

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

Special Processing: USACE [ ] Navy [ ]

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

Reportable to PADEP? Yes [ ] PWSID # _____

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- _____

* G=Grab; C=Composite

**Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; Oil=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

ALS

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

Condition of Sample Receipt Form

Client: Lancaster County Solid Waste Work Order #: 3035951 Initials: CD Date: 5/24/19

1. Were airbills / tracking numbers present and recorded?	(NONE)	YES	NO
Tracking number:			
2. Are Custody Seals on shipping containers intact?	(NONE)	YES	NO
3. Are Custody Seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present?		(YES)	NO
5. Are the COC and bottle labels complete, legible and in agreement?		(YES)	NO
5a. Does the COC contain sample locations?		(YES)	NO
5b. Does the COC contain date and time of sample collection for all samples?		(YES)	NO
5c. Does the COC contain sample collectors name?		(YES)	NO
5d. Does the COC note the type(s) of preservation for all bottles?		(YES)	NO
5e. Does the COC note the number of bottles submitted for each sample?		(YES)	NO
5f. Does the COC note the type of sample, composite or grab?		(YES)	NO
5g. Does the COC note the matrix of the sample(s)?		(YES)	NO
6. Are all aqueous samples requiring preservation preserved correctly?	N/A	(YES)	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		(YES)	NO
8. Are all samples within holding times for the requested analyses?	(YES)	YES	(NO)
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)	5/24/19	(YES)	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	(N/A)	YES	NO
11. Were the samples received on ice?		(YES)	NO
12. Were sample temperatures measured at 0.0-6.0°C		YES	(NO)
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		(YES)	NO
13a. Are the samples required for SDWA compliance reporting?	N/A	YES	(NO)
13b. Did the client provide a SDWA PWS ID#?	(N/A)	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	(N/A)	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	(N/A)	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	(N/A)	YES	NO

Cooler #: _____

Temperature (°C): 6.4

Thermometer ID: IR#10

Radiological (µCi): _____

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

Samples temped above 0°C-6°C

Ph is expired, but will be analyzed with a qualifier

-CD 5/24/19

Rev. 4/29/2019

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

June 10, 2019

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

Certificate of Analysis

Project Name:	**CONTIGUOUS LANDOWNER-3125 RIVER RD**	Workorder:	**3035958**
Purchase Order:	**PO1000126**	Workorder ID:	**2ND QTR 2019-3125 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 24, 2019.

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.

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

CC: Mr. Nicholas Rogers , Ms. Jordan Gallagher , Landowner , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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SAMPLE SUMMARY

Workorder: 3035958 2ND QTR 2019-3125 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3035958001	3125 River Road, Conestoga, PA	Water	5/24/2019 12:54	5/24/2019 15:31	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 3035958 2ND QTR 2019-3125 RIVER RD

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 preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

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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ANALYTICAL RESULTS

Workorder: 3035958 2ND QTR 2019-3125 RIVER RD

Lab ID: **3035958001** Date Collected: 5/24/2019 12:54 Matrix: Water
Sample ID: **3125 River Road, Conestoga, PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
1,2-Dibromoethane	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
1,1-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
1,2-Dichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
1,1-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
cis-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
trans-1,2-Dichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
Methylene Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
Tetrachloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
Toluene	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
Total Xylenes	ND		ug/L	3.0	SW846 8260B			6/3/19 17:20	DD	K
1,1,1-Trichloroethane	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
Trichloroethene	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
Trichlorofluoromethane	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
Vinyl Chloride	ND		ug/L	1.0	SW846 8260B			6/3/19 17:20	DD	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	127		%	62 - 133	SW846 8260B			6/3/19 17:20	DD	K
4-Bromofluorobenzene (S)	111		%	79 - 114	SW846 8260B			6/3/19 17:20	DD	K
Dibromofluoromethane (S)	120	4	%	78 - 116	SW846 8260B			6/3/19 17:20	DD	K
Toluene-d8 (S)	115		%	76 - 127	SW846 8260B			6/3/19 17:20	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	171		mg/L	5	SM2320B-2011			5/25/19 16:26	MBW	C
Alkalinity, Total	171	1	mg/L	5	SM2320B-2011			5/25/19 16:26	MBW	C
Ammonia-N	ND		mg/L	0.100	D6919-09			5/31/19 20:44	AK	B
Chemical Oxygen Demand (COD)	ND		mg/L	15	EPA 410.4			5/29/19 12:45	AK	B
Chloride	107		mg/L	2.0	EPA 300.0			5/25/19 09:10	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			5/25/19 09:10	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			6/6/19 12:03	PAG	I
Nitrate-N	6.3		mg/L	0.20	EPA 300.0			5/25/19 09:10	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/25/19 09:10	CHW	C
pH	7.94	2	pH_Units		S4500HB-11			5/25/19 16:26	MBW	C
Phenolics	ND		mg/L	0.005	EPA 420.4	5/29/19 14:29	C_D	5/30/19 05:54	C_D	H
Specific Conductance	785		umhos/cm	1	SM2510B-2011			5/25/19 16:26	MBW	C

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3035958 2ND QTR 2019-3125 RIVER RD

Lab ID: **3035958001** Date Collected: 5/24/2019 12:54 Matrix: Water
Sample ID: **3125 River Road, Conestoga, PA** Date Received: 5/24/2019 15:31

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Sulfate	22.2		mg/L	2.0	EPA 300.0			5/25/19 09:10	CHW	C
Total Dissolved Solids	512	3	mg/L	5	S2540C-11			5/31/19 12:20	EXS	C
Total Organic Carbon (TOC)	1.3		mg/L	0.50	SM5310B-2011			5/29/19 12:34	PAG	F
Turbidity	ND		NTU	0.10	SM2130B-2011			5/25/19 08:36	R2B	C
METALS										
Calcium, Total	0.18		mg/L	0.050	EPA 200.7	6/3/19 08:45	AHI	6/4/19 17:17	MNP	D1
Calcium, Dissolved	0.71		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:54	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	6/3/19 08:45	AHI	6/4/19 17:17	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:54	MNP	E
Magnesium, Total	ND		mg/L	0.050	EPA 200.7	6/3/19 08:45	AHI	6/4/19 17:17	MNP	D1
Magnesium, Dissolved	0.14		mg/L	0.10	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:54	MNP	E
Manganese, Total	ND		mg/L	0.0025	EPA 200.7	6/3/19 08:45	AHI	6/4/19 17:17	MNP	D1
Manganese, Dissolved	ND		mg/L	0.0050	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:54	MNP	E
Potassium, Total	0.52		mg/L	0.25	EPA 200.7	6/3/19 08:45	AHI	6/4/19 17:17	MNP	D1
Potassium, Dissolved	ND		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:54	MNP	E
Sodium, Total	159		mg/L	0.25	EPA 200.7	6/3/19 08:45	AHI	6/4/19 17:17	MNP	D1
Sodium, Dissolved	169		mg/L	0.50	EPA 200.7	5/28/19 07:17	MNP	6/4/19 13:54	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	8.01		pH_Units		Field			5/24/19 12:54	BGS	N
Specific Conductance, Field	779		umhos/cm	1	Field			5/24/19 12:54	BGS	N
Temperature	14.20		Deg. C		Field			5/24/19 12:54	BGS	N

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3035958 2ND QTR 2019-3125 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3035958001	1	3125 River Road, Conestoga, PA	SM2320B-2011	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
3035958001	2	3125 River Road, Conestoga, PA	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
3035958001	3	3125 River Road, Conestoga, PA	S2540C-11	Total Dissolved Solids
The method blank associated with the sample was recovered at 9 mg/L. The method reporting limit for this analysis is <5 mg/L. A bias may exist with the result.				
3035958001	4	3125 River Road, Conestoga, PA	SW846 8260B	Dibromofluoromethane
The surrogate Dibromofluoromethane for method SW846 8260B was outside of control limits. The % Recovery was reported as 120 and the control limits were 78 to 116. This result was reported at a dilution of 1.				

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3035958 2ND QTR 2019-3125 RIVER RD

Lab ID	Sample ID	Analysis Method	Prep Method
3035958001	3125 River Road, Conestoga, PA	D6919-09	
3035958001	3125 River Road, Conestoga, PA	EPA 200.7	EPA ACID
3035958001	3125 River Road, Conestoga, PA	EPA 200.7	EPA TRMD
3035958001	3125 River Road, Conestoga, PA	EPA 300.0	
3035958001	3125 River Road, Conestoga, PA	EPA 410.4	
3035958001	3125 River Road, Conestoga, PA	EPA 420.4	420.4/9066
3035958001	3125 River Road, Conestoga, PA	Field	
3035958001	3125 River Road, Conestoga, PA	S2540C-11	
3035958001	3125 River Road, Conestoga, PA	S4500HB-11	
3035958001	3125 River Road, Conestoga, PA	SM2130B-2011	
3035958001	3125 River Road, Conestoga, PA	SM2320B-2011	
3035958001	3125 River Road, Conestoga, PA	SM2510B-2011	
3035958001	3125 River Road, Conestoga, PA	SM5310B-2011	
3035958001	3125 River Road, Conestoga, PA	SW846 8260B	
3035958001	3125 River Road, Conestoga, PA	SW846 9020B	

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

C A

30359588

1 of 1

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

Client Name: LCSWMA - Christian C. Beck

Address: 3125 River Road
Conestoga, PA 17516

Contact: Christian C. Beck

Phone#: (717) 871-0448

Project Name/#: LCSWMA - Quarterly

Bill To: Lancaster County Solid Waste MA

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

Date Required: _____ Approved By: _____

Email? [ ] -Y _____

Fax? [ ] -Y No.: _____

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

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-OH	TOX	SW846-8260 VOCs	FM	NH3-N, COD	Dissolved Metals: Ca, Fe, Mg, Mn, K, Na	Metals: Ca, Fe, Mg, Mn, K, Na	pH, TDS, NO2, NO3, Cl, SO4, F, Tb, SpC	Alkalinity, HCO3
					Enter Number of Containers Per Sample or Field Results Below.									
1 3125RIVERRD	05/24/19	1254	G	DW	2	1	2	3Z	X	1	1	1	1	1
2								5						
3								5/24/19						
4														
5														
6														
7														
8														
9														
10														

(Receiving Lab)

Cooler Temp: 0.3 Therm ID: 401

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

Sample/COC Comments

ALS Field Services: [ ] Pickup [ ] Labor [ ] Composite_Sampling [ ] Rental_Equipment [ ] Other: _____

Project Comments:

LOGGED BY(signature): DATE TIME

REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] ALS	5/24/19	1531	2 [signature]	5/24/19	1531
3			4		
5			6		
7			8		
9			10		

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

Special Processing: USACE [ ] Navy [ ] [ ]

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

Reportable to PADEP? Yes [ ] PWSID # _____

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- _____

* G=Grab; C=Composite

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

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Rev 8/04

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Middletown, PA 17057
P: (717) 944-5541
F: (717) 944-1430

Condition of Sample Receipt Form

Client: Lancaster County Solid Waste | Work Order #: 3035958 | Initials: CD | Date: 5/24/19

1. Were airbills / tracking numbers present and recorded?	(NONE)	YES	NO
Tracking number: _____			
2. Are Custody Seals on shipping containers intact?	(NONE)	YES	NO
3. Are Custody Seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present?		(YES)	NO
5. Are the COC and bottle labels complete, legible and in agreement?		(YES)	NO
5a. Does the COC contain sample locations?		(YES)	NO
5b. Does the COC contain date and time of sample collection for all samples?		(YES)	NO
5c. Does the COC contain sample collectors name?		(YES)	NO
5d. Does the COC note the type(s) of preservation for all bottles?		(YES)	NO
5e. Does the COC note the number of bottles submitted for each sample?		(YES)	NO
5f. Does the COC note the type of sample, composite or grab?		(YES)	NO
5g. Does the COC note the matrix of the sample(s)?		(YES)	NO
6. Are all aqueous samples requiring preservation preserved correctly?	N/A	(YES)	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		(YES)	NO
8. Are all samples within holding times for the requested analyses?	CD 5/24	(YES)	(NO)
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)		(YES)	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	(N/A)	YES	NO
11. Were the samples received on ice?		(YES)	NO
12. Were sample temperatures measured at 0.0-6.0°C		(YES)	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		(YES)	NO
13a. Are the samples required for SDWA compliance reporting?	N/A	YES	(NO)
13b. Did the client provide a SDWA PWS ID#?	(N/A)	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	(N/A)	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	(N/A)	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	(N/A)	YES	NO

Cooler #: _____

Temperature (°C): 0.3

Thermometer ID: IR#01

Radiological (µCi): _____

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

PH is expired, but will be analyzed with a qualifier
- CD 5/24/19

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Lancaster County Solid Waste Management Authority

Frey Farm Landfill

Exceedence Report

Parameter Name	Units	Concentration	Criteria Conc	Qualifiers	Criteria
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3044RIVERR	*3035954001*	*05/24/2019*	*WATER*		
NITRATE-NITROGEN	mg/l	18.30	10.00		EPA-MCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3052RIVERR	*3035957001*	*05/24/2019*	*WATER*		
NITRATE-NITROGEN	mg/l	17.80	10.00		EPA-MCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3056RIVERR	*3035925001*	*05/24/2019*	*WATER*		
NITRATE-NITROGEN	mg/l	19.10	10.00		EPA-MCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3060RIVERR	*3035926001*	*05/24/2019*	*WATER*		
NITRATE-NITROGEN	mg/l	17.50	10.00		EPA-MCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3076RIVERR	*3035955001*	*05/24/2019*	*WATER*		
NITRATE-NITROGEN	mg/l	11.80	10.00		EPA-MCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3106RIVERR	*3035951001*	*05/24/2019*	*WATER*		
NITRATE-NITROGEN	mg/l	13.40	10.00		EPA-MCL

Lancaster County Solid Waste Management Authority

Frey Farm Landfill

Exceedence Report

Parameter Name	Units	Concentration	Criteria Conc	Qualifiers	Criteria
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3056RIVERR	*3035925001*	*05/24/2019*	*WATER*		
MANGANESE, DISSOLVED	mg/l	0.14	0.05		EPA-SMCL
MANGANESE, TOTAL	mg/l	0.12	0.05		EPA-SMCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3060RIVERR	*3035926001*	*05/24/2019*	*WATER*		
MANGANESE, DISSOLVED	mg/l	0.12	0.05		EPA-SMCL
MANGANESE, TOTAL	mg/l	0.12	0.05		EPA-SMCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3076RIVERR	*3035955001*	*05/24/2019*	*WATER*		
MANGANESE, DISSOLVED	mg/l	0.26	0.05		EPA-SMCL
MANGANESE, TOTAL	mg/l	0.25	0.05		EPA-SMCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3079RIVERR	*3035947001*	*05/24/2019*	*WATER*		
MANGANESE, DISSOLVED	mg/l	0.29	0.05		EPA-SMCL
MANGANESE, TOTAL	mg/l	0.31	0.05		EPA-SMCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3088RIVERR	*3035949001*	*05/24/2019*	*WATER*		
CHLORIDE	mg/l	259.00	250.00		EPA-SMCL
TDS (TOT. DISSOLVED SOLIDS)	mg/l	625.00	500.00		EPA-SMCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3106RIVERR	*3035951001*	*05/24/2019*	*WATER*		
MANGANESE, DISSOLVED	mg/l	0.07	0.05		EPA-SMCL
MANGANESE, TOTAL	mg/l	0.07	0.05		EPA-SMCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3125RIVERR	*3035958001*	*05/24/2019*	*WATER*		
TDS (TOT. DISSOLVED SOLIDS)	mg/l	512.00	500.00		EPA-SMCL