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

April 23, 2018

Charlene Sauls PG; Licensed Professional Geologist
Pennsylvania Department of Environmental Protection
Bureau of Waste Management
909 Elmerton Avenue
Harrisburg, PA 17110-8200

REF: Private Water Supply
1st Quarter 2018 Form 52 Water Quality Analysis
Frey Farm Landfill; BWM Permit #101389

Dear Ms. Sauls:

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

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

1. USEPA MCL's exceedance report; samples (3044RIVERRD, 3052RIVERRD, 3056 RIVERRD, 3060 RIVERRD, 3076RIVERRD) exceeded the limit for nitrate, samples are consistent with historic data the cause is attributed to agricultural impacts. No other MCL's were exceeded.
2. USEPA SMCL's exceedance report; sample 3088RIVERRD exceeded the limit for total dissolved solids; samples 3060RIVERRD, 3076RIVERRD, and 3079RIVERRD 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 mreider@lcswma.org.

Respectfully submitted,

Mark D Reider
Director of Environmental Compliance

Enclosures

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

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
03/22/2018
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) 02/23/2018 Sample Collection Time: 11:11 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 03/08/2018

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: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	31	SM20-2321
CALCIUM, TOTAL	19.2	EPA 200.7
CALCIUM, DISSOLVED	20.9	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	20.4	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	50	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	10.5	EPA 200.7
MAGNESIUM, DISSOLVED	11.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	28	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	7.4	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: 02/23/2018

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)	6.82	FIELD
pH-LAB (SU)	6.75	SM4500B
POTASSIUM, TOTAL	1.7	EPA 200.7
POTASSIUM, DISSOLVED	1.8	EPA 200.7
SODIUM, TOTAL	9.2	EPA 200.7
SODIUM, DISSOLVED	9.3	EPA 200.7
SPEC. COND., FIELD (umhos/cm)		FIELD
SPEC. COND., LAB (umhos/cm)	244	EPA 120.1
SULFATE	4.8	EPA 300
ALKALINITY	31	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)	4.17	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: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	0.5 ND	EPA 524.2
1,2-DIBROMOETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHENE	0.5 ND	EPA 524.2
1,2-DICHLOROETHANE	0.5 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
ETHYLBENZENE	0.5 ND	EPA 524.2
METHYLENE CHLORIDE	0.5 ND	EPA 524.2
TETRACHLOROETHENE	0.5 ND	EPA 524.2
TOLUENE	0.5 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	0.5 ND	EPA 524.2
TRICHLOROETHENE	0.5 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	0.5 ND	EPA 524.2
VINYL CHLORIDE	0.5 ND	EPA 524.2
XYLENES (TOTAL)	0.5 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
03/22/2018
DEP USE ONLY
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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) 02/23/2018 Sample Collection Time: 12:07 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 03/08/2018

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: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	6	SM20-2321
CALCIUM, TOTAL	14.4	EPA 200.7
CALCIUM, DISSOLVED	14.2	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	21.3	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	9.7	EPA 200.7
MAGNESIUM, DISSOLVED	9.8	EPA 200.7
MANGANESE, TOTAL (ug/l)	50	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	49	EPA 200.7
NITRATE-NITROGEN	18.4	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 MILLER

Sample Date: 02/23/2018

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)	221	FIELD
pH-LAB (SU)	6.11	SM4500B
POTASSIUM, TOTAL	1.8	EPA 200.7
POTASSIUM, DISSOLVED	1.6	EPA 200.7
SODIUM, TOTAL	7.2	EPA 200.7
SODIUM, DISSOLVED	6.7	EPA 200.7
SPEC. COND., FIELD (umhos/cm)		FIELD
SPEC. COND., LAB (umhos/cm)	208	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	6	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	118	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.22	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: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	0.5 ND	EPA 524.2
1,2-DIBROMOETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHENE	0.5 ND	EPA 524.2
1,2-DICHLOROETHANE	0.5 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
ETHYLBENZENE	0.5 ND	EPA 524.2
METHYLENE CHLORIDE	0.5 ND	EPA 524.2
TETRACHLOROETHENE	0.5 ND	EPA 524.2
TOLUENE	0.5 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	0.5 ND	EPA 524.2
TRICHLOROETHENE	0.5 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	0.5 ND	EPA 524.2
VINYL CHLORIDE	0.5 ND	EPA 524.2
XYLENES (TOTAL)	0.5 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
03/22/2018
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) 02/22/2018 Sample Collection Time: 1:56 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 03/06/2018

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: 02/22/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	6	SM20-2321
CALCIUM, TOTAL	14	EPA 200.7
CALCIUM, DISSOLVED	14.6	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	23.3	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	11.3	EPA 200.7
MAGNESIUM, DISSOLVED	11.4	EPA 200.7
MANGANESE, TOTAL (ug/l)	45	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	44	EPA 200.7
NITRATE-NITROGEN	20.8	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 LCSWMA

Sample Date: 02/22/2018

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)	5.2	FIELD
pH-LAB (SU)	5.88	SM4500B
POTASSIUM, TOTAL	1.9	EPA 200.7
POTASSIUM, DISSOLVED	1.9	EPA 200.7
SODIUM, TOTAL	8	EPA 200.7
SODIUM, DISSOLVED	8.1	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	251	FIELD
SPEC. COND., LAB (umhos/cm)	227	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	6	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	156	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: 02/22/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	0.5 ND	EPA 524.2
1,2-DIBROMOETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHENE	0.5 ND	EPA 524.2
1,2-DICHLOROETHANE	0.5 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
ETHYLBENZENE	0.5 ND	EPA 524.2
METHYLENE CHLORIDE	0.5 ND	EPA 524.2
TETRACHLOROETHENE	0.5 ND	EPA 524.2
TOLUENE	0.5 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	0.5 ND	EPA 524.2
TRICHLOROETHENE	0.5 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	0.5 ND	EPA 524.2
VINYL CHLORIDE	0.5 ND	EPA 524.2
XYLENES (TOTAL)	0.5 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
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FORM 52
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PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

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Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

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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) 02/22/2018 Sample Collection Time: 2:45 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 03/06/2018

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: 02/22/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	7	SM20-2321
CALCIUM, TOTAL	9.4	EPA 200.7
CALCIUM, DISSOLVED	9.8	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	21	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	11.3	EPA 200.7
MANGANESE, TOTAL (ug/l)	52	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	53	EPA 200.7
NITRATE-NITROGEN	19.4	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 LCSWMA

Sample Date: 02/22/2018

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)	4.9	FIELD
pH-LAB (SU)	6.16	SM4500B
POTASSIUM, TOTAL	2.7	EPA 200.7
POTASSIUM, DISSOLVED	2.7	EPA 200.7
SODIUM, TOTAL	8.5	EPA 200.7
SODIUM, DISSOLVED	8.6	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	222	FIELD
SPEC. COND., LAB (umhos/cm)	198	EPA 120.1
SULFATE	10.4	EPA 300
ALKALINITY	7	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	131	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: 02/22/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	0.5 ND	EPA 524.2
1,2-DIBROMOETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHENE	0.5 ND	EPA 524.2
1,2-DICHLOROETHANE	0.5 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
ETHYLBENZENE	0.5 ND	EPA 524.2
METHYLENE CHLORIDE	0.5 ND	EPA 524.2
TETRACHLOROETHENE	0.5 ND	EPA 524.2
TOLUENE	0.5 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	0.5 ND	EPA 524.2
TRICHLOROETHENE	0.5 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	0.5 ND	EPA 524.2
VINYL CHLORIDE	0.5 ND	EPA 524.2
XYLENES (TOTAL)	0.5 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
03/22/2018
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) 02/23/2018 Sample Collection Time: 11:57 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 03/08/2018

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: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	9	SM20-2321
CALCIUM, TOTAL	14.6	EPA 200.7
CALCIUM, DISSOLVED	14.3	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	48.2	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	8.7	EPA 200.7
MAGNESIUM, DISSOLVED	8.6	EPA 200.7
MANGANESE, TOTAL (ug/l)	130	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	120	EPA 200.7
NITRATE-NITROGEN	10.3	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 SENSENICH

Sample Date: 02/23/2018

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)	6.19	FIELD
pH-LAB (SU)	6.24	SM4500B
POTASSIUM, TOTAL	2.7	EPA 200.7
POTASSIUM, DISSOLVED	2.4	EPA 200.7
SODIUM, TOTAL	21.3	EPA 200.7
SODIUM, DISSOLVED	20.1	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	281	FIELD
SPEC. COND., LAB (umhos/cm)	266	EPA 120.1
SULFATE	9	EPA 300
ALKALINITY	9	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	179	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 SENSENICH

Sample Date: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	0.5 ND	EPA 524.2
1,2-DIBROMOETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHENE	0.5 ND	EPA 524.2
1,2-DICHLOROETHANE	0.5 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
ETHYLBENZENE	0.5 ND	EPA 524.2
METHYLENE CHLORIDE	0.5 ND	EPA 524.2
TETRACHLOROETHENE	0.5 ND	EPA 524.2
TOLUENE	0.5 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	0.5 ND	EPA 524.2
TRICHLOROETHENE	0.5 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	0.5 ND	EPA 524.2
VINYL CHLORIDE	0.5 ND	EPA 524.2
XYLENES (TOTAL)	0.5 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
03/22/2018
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: 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) 02/28/2018 Sample Collection Time: 10:30 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 03/13/2018

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: 02/28/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	17	SM20-2321
CALCIUM, TOTAL	11	EPA 200.7
CALCIUM, DISSOLVED	10.2	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	32.6	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	5.7	EPA 200.7
MAGNESIUM, DISSOLVED	5.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	200	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	190	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: 02/28/2018

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)	5.1	FIELD
pH-LAB (SU)	5.81	SM4500B
POTASSIUM, TOTAL	1.9	EPA 200.7
POTASSIUM, DISSOLVED	1.8	EPA 200.7
SODIUM, TOTAL	11.9	EPA 200.7
SODIUM, DISSOLVED	10.9	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	170	FIELD
SPEC. COND., LAB (umhos/cm)	165	EPA 120.1
SULFATE	27.5	EPA 300
ALKALINITY	17	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	94	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: 02/28/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	0.5 ND	EPA 524.2
1,2-DIBROMOETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHENE	0.5 ND	EPA 524.2
1,2-DICHLOROETHANE	0.5 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
ETHYLBENZENE	0.5 ND	EPA 524.2
METHYLENE CHLORIDE	0.5 ND	EPA 524.2
TETRACHLOROETHENE	0.5 ND	EPA 524.2
TOLUENE	0.5 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	0.5 ND	EPA 524.2
TRICHLOROETHENE	0.5 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	0.5 ND	EPA 524.2
VINYL CHLORIDE	0.5 ND	EPA 524.2
XYLENES (TOTAL)	0.5 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
03/22/2018
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) 02/23/2018 Sample Collection Time: 11:47 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 03/08/2018

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: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	154	SM20-2321
CALCIUM, TOTAL	0.082	EPA 200.7
CALCIUM, DISSOLVED	0.1 ND	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	209	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	0.1 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	8.5	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 WEBER

Sample Date: 02/23/2018

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)	7.7	FIELD
pH-LAB (SU)	7.61	SM4500B
POTASSIUM, TOTAL	1.2	EPA 200.7
POTASSIUM, DISSOLVED	0.88	EPA 200.7
SODIUM, TOTAL	204	EPA 200.7
SODIUM, DISSOLVED	203	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	1005	FIELD
SPEC. COND., LAB (umhos/cm)	991	EPA 120.1
SULFATE	4.7	EPA 300
ALKALINITY	154	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	581	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 WEBER

Sample Date: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	0.5 ND	EPA 524.2
1,2-DIBROMOETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHENE	0.5 ND	EPA 524.2
1,2-DICHLOROETHANE	0.5 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
ETHYLBENZENE	0.5 ND	EPA 524.2
METHYLENE CHLORIDE	0.5 ND	EPA 524.2
TETRACHLOROETHENE	0.5 ND	EPA 524.2
TOLUENE	0.5 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	0.5 ND	EPA 524.2
TRICHLOROETHENE	0.5 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	0.5 ND	EPA 524.2
VINYL CHLORIDE	0.5 ND	EPA 524.2
XYLENES (TOTAL)	0.5 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
03/22/2018
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: 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) 02/23/2018 Sample Collection Time: 10:34 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 03/08/2018

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: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	17	SM20-2321
CALCIUM, TOTAL	16.9	EPA 200.7
CALCIUM, DISSOLVED	16.9	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	53.9	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	8.1	EPA 200.7
MAGNESIUM, DISSOLVED	8.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	8.3	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	8.5	EPA 200.7
NITRATE-NITROGEN	4.4	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 KIRCHNER

Sample Date: 02/23/2018

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)	6.57	FIELD
pH-LAB (SU)	6.49	SM4500B
POTASSIUM, TOTAL	1.4	EPA 200.7
POTASSIUM, DISSOLVED	1.3	EPA 200.7
SODIUM, TOTAL	15.2	EPA 200.7
SODIUM, DISSOLVED	15.9	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	232	FIELD
SPEC. COND., LAB (umhos/cm)	242	EPA 120.1
SULFATE	6.6	EPA 300
ALKALINITY	17	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	148	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: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	0.5 ND	EPA 524.2
1,2-DIBROMOETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHENE	0.5 ND	EPA 524.2
1,2-DICHLOROETHANE	0.5 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
ETHYLBENZENE	0.5 ND	EPA 524.2
METHYLENE CHLORIDE	0.5 ND	EPA 524.2
TETRACHLOROETHENE	0.5 ND	EPA 524.2
TOLUENE	0.5 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	0.5 ND	EPA 524.2
TRICHLOROETHENE	0.5 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	0.5 ND	EPA 524.2
VINYL CHLORIDE	0.5 ND	EPA 524.2
XYLENES (TOTAL)	0.5 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
03/22/2018
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: 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) 02/23/2018 Sample Collection Time: 11:34 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 03/12/2018

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: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	15	SM20-2321
CALCIUM, TOTAL	11.8	EPA 200.7
CALCIUM, DISSOLVED	11.6	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	46.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	51	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	7.3	EPA 200.7
MAGNESIUM, DISSOLVED	7.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	21	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	20	EPA 200.7
NITRATE-NITROGEN	8.5	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 FRY

Sample Date: 02/23/2018

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)	6.4	FIELD
pH-LAB (SU)	6.38	SM4500B
POTASSIUM, TOTAL	1.3	EPA 200.7
POTASSIUM, DISSOLVED	1.1	EPA 200.7
SODIUM, TOTAL	23.5	EPA 200.7
SODIUM, DISSOLVED	22.3	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	251	FIELD
SPEC. COND., LAB (umhos/cm)	243	EPA 120.1
SULFATE	3.9	EPA 300
ALKALINITY	15	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	143	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.25	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: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	0.5 ND	EPA 524.2
1,2-DIBROMOETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHENE	0.5 ND	EPA 524.2
1,2-DICHLOROETHANE	0.5 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
ETHYLBENZENE	0.5 ND	EPA 524.2
METHYLENE CHLORIDE	0.5 ND	EPA 524.2
TETRACHLOROETHENE	0.5 ND	EPA 524.2
TOLUENE	0.5 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	0.5 ND	EPA 524.2
TRICHLOROETHENE	0.5 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	0.5 ND	EPA 524.2
VINYL CHLORIDE	0.5 ND	EPA 524.2
XYLENES (TOTAL)	0.5 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
03/22/2018
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: 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) 02/23/2018 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 03/08/2018

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: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	34	SM20-2321
CALCIUM, TOTAL	0.14	EPA 200.7
CALCIUM, DISSOLVED	0.1 ND	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	101	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	0.062	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	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 BECK

Sample Date: 02/23/2018

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)	6.71	FIELD
pH-LAB (SU)	6.52	SM4500B
POTASSIUM, TOTAL	0.89	EPA 200.7
POTASSIUM, DISSOLVED	0.72	EPA 200.7
SODIUM, TOTAL	85.6	EPA 200.7
SODIUM, DISSOLVED	86.4	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	689	FIELD
SPEC. COND., LAB (umhos/cm)	676	EPA 120.1
SULFATE	6	EPA 300
ALKALINITY	34	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	333	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 BECK

Sample Date: 02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
BENZENE	0.5 ND	EPA 524.2
1,2-DIBROMOETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHANE	0.5 ND	EPA 524.2
1,1-DICHLOROETHENE	0.5 ND	EPA 524.2
1,2-DICHLOROETHANE	0.5 ND	EPA 524.2
CIS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
TRANS 1,2-DICHLOROETHENE	0.5 ND	EPA 524.2
ETHYLBENZENE	0.5 ND	EPA 524.2
METHYLENE CHLORIDE	0.5 ND	EPA 524.2
TETRACHLOROETHENE	0.5 ND	EPA 524.2
TOLUENE	0.5 ND	EPA 524.2
1,1,1-TRICHLOROETHANE	0.5 ND	EPA 524.2
TRICHLOROETHENE	0.5 ND	EPA 524.2
TRICHLOROFLUOROMETHANE	0.5 ND	EPA 524.2
VINYL CHLORIDE	0.5 ND	EPA 524.2
XYLENES (TOTAL)	0.5 ND	EPA 524.2

T Please indicate detection limit if analyte is not detected.

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	*2297624001*	*02/23/2018*	*WATER*		
NITRATE-NITROGEN	mg/l	19.10	10.00		EPA-MCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3052RIVERR	*2297619001*	*02/23/2018*	*WATER*		
NITRATE-NITROGEN	mg/l	18.40	10.00		EPA-MCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3056RIVERR	*2297268001*	*02/22/2018*	*WATER*		
NITRATE-NITROGEN	mg/l	20.80	10.00		EPA-MCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3060RIVERR	*2297269001*	*02/22/2018*	*WATER*		
NITRATE-NITROGEN	mg/l	19.40	10.00		EPA-MCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3076RIVERR	*2297622001*	*02/23/2018*	*WATER*		
NITRATE-NITROGEN	mg/l	10.30	10.00		EPA-MCL

ALS Environmental

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

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

March 11, 2018

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:	**2297618**
Purchase Order:	**PO1000126**	Workorder ID:	**1ST QTR 2018-3125 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, February 23, 2018.

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

SAMPLE SUMMARY

Workorder: 2297618 1ST QTR 2018-3125 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2297618001	3125 River Road, Conestoga, PA	Water	2/23/2018 11:22	2/23/2018 15:07	Mr. Brian G Shade

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

SAMPLE SUMMARY

Workorder: 2297618 1ST QTR 2018-3125 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 incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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

ANALYTICAL RESULTS

Workorder: 2297618 1ST QTR 2018-3125 RIVER RD

Lab ID: **2297618001** Date Collected: 2/23/2018 11:22 Matrix: Water

Sample ID: **3125 River Road, Conestoga, PA** Date Received: 2/23/2018 15:07

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 02:12	CJG	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	80.4		%	70 - 130	EPA 524.2			3/2/18 02:12	CJG	K
4-Bromofluorobenzene (S)	92.4		%	70 - 130	EPA 524.2			3/2/18 02:12	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	34		mg/L	5	S2320B-97			2/27/18 17:08	MSA	C
Alkalinity, Total	34	1	mg/L	5	S2320B-97			2/27/18 17:08	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/18 09:13	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/5/18 13:20	AK	B
Chloride	101		mg/L	2.0	EPA 300.0			2/24/18 07:53	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			2/24/18 07:53	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/1/18 11:40	PAG	I
Nitrate-N	9.0		mg/L	0.20	EPA 300.0			2/24/18 07:53	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			2/24/18 07:53	CHW	C
pH	6.52	2	pH_Units		S4500HB-11			2/27/18 17:08	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/5/18 12:00	NJA	3/5/18 16:41	NJA	H
Specific Conductance	676		umhos/cm	1	S2510B-97			2/27/18 17:08	MSA	C
Sulfate	6.0		mg/L	2.0	EPA 300.0			2/24/18 07:53	CHW	C
Total Dissolved Solids	333		mg/L	5	S2540C-11			2/28/18 14:00	BMK	C

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

ANALYTICAL RESULTS

Workorder: 2297618 1ST QTR 2018-3125 RIVER RD

Lab ID: **2297618001** Date Collected: 2/23/2018 11:22 Matrix: Water

Sample ID: **3125 River Road, Conestoga, PA** Date Received: 2/23/2018 15:07

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			2/27/18 17:03	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			2/24/18 05:04	MSA	C
METALS										
Calcium, Total	0.14		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:35	DAG	D1
Calcium, Dissolved	ND		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:47	DAG	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:35	DAG	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:47	DAG	E
Magnesium, Total	0.062		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:35	DAG	D1
Magnesium, Dissolved	ND		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:47	DAG	E
Manganese, Total	ND		mg/L	0.0025	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:35	DAG	D1
Manganese, Dissolved	ND		mg/L	0.0050	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:47	DAG	E
Potassium, Total	0.89		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:35	DAG	D1
Potassium, Dissolved	0.72		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:47	DAG	E
Sodium, Total	85.6		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:35	DAG	D1
Sodium, Dissolved	86.4		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:47	DAG	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.710		pH_Units		Field			2/23/18 11:22	BGS	N
Specific Conductance, Field	689		umhos/cm	1	Field			2/23/18 11:22	BGS	N
Temperature	16.30		Deg. C		Field			2/23/18 11:22	BGS	N

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

ANALYTICAL RESULTS

Workorder: 2297618 1ST QTR 2018-3125 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2297618001	1	3125 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2297618001	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.				

ALS Environmental

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS — COC — ALS — *2297618* — 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	PL
Container Size	40 ml	250 ml	500 ml	40 ml	—	500 ml	500 ml	500 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	TOX	O-OH	VOC	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	2/23/18	1122	G	DW	2	2	1	X3	x	1	1	1	1	1
2														
3														1
4														
5														
6														
7														
8														
9														
10														

Receipt information (completed by Receiving Lab)

Cooler Temp: 1 Therm ID: 318

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			DNN
(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: 2/24/18 TIME: 1334

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] ALS	2/23/18	1502	2 Sheila Wainio ALS	2-23	1507
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

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Rev 8/04

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**	
3060RIVERR	*2297269001*	*02/22/2018*	*WATER*		
MANGANESE, DISSOLVED	mg/l	0.05	0.05		EPA-SMCL
MANGANESE, TOTAL	mg/l	0.05	0.05		EPA-SMCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3076RIVERR	*2297622001*	*02/23/2018*	*WATER*		
MANGANESE, DISSOLVED	mg/l	0.12	0.05		EPA-SMCL
MANGANESE, TOTAL	mg/l	0.13	0.05		EPA-SMCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3079RIVERR	*2298562001*	*02/28/2018*	*WATER*		
MANGANESE, DISSOLVED	mg/l	0.19	0.05		EPA-SMCL
MANGANESE, TOTAL	mg/l	0.20	0.05		EPA-SMCL
Location ID	**Sample Number**	**Sample Date**	**Sample Type**	**Sample Depth**	
3088RIVERR	*2297623001*	*02/23/2018*	*WATER*		
TDS (TOT. DISSOLVED SOLIDS)	mg/l	581.00	500.00		EPA-SMCL

ALS Environmental

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

March 17, 2018

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:	**2297621**
Purchase Order:	**PO1000126**	Workorder ID:	**1ST QTR 2018-3106 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, February 23, 2018.

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

SAMPLE SUMMARY

Workorder: 2297621 1ST QTR 2018-3106 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2297621001	3106 River Road, Conestoga, PA	Water	2/23/2018 11:34	2/23/2018 15:17	Mr. Brian G Shade

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

SAMPLE SUMMARY

Workorder: 2297621 1ST QTR 2018-3106 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 incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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

ANALYTICAL RESULTS

Workorder: 2297621 1ST QTR 2018-3106 RIVER RD

Lab ID: **2297621001** Date Collected: 2/23/2018 11:34 Matrix: Water

Sample ID: **3106 River Road, Conestoga, PA** Date Received: 2/23/2018 15:17

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 03:24	CJG	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	77.7		%	70 - 130	EPA 524.2			3/2/18 03:24	CJG	K
4-Bromofluorobenzene (S)	91.3		%	70 - 130	EPA 524.2			3/2/18 03:24	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	15		mg/L	5	S2320B-97			2/28/18 10:53	MSA	C
Alkalinity, Total	15	2	mg/L	5	S2320B-97			2/28/18 10:53	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/18 12:54	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/12/18 13:40	AK	B
Chloride	46.1		mg/L	2.0	EPA 300.0			2/24/18 08:18	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			2/24/18 08:18	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/1/18 14:07	PAG	I
Nitrate-N	8.5		mg/L	0.20	EPA 300.0			2/24/18 08:18	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			2/24/18 08:18	CHW	C
pH	6.38	1	pH_Units		S4500HB-11			2/27/18 18:11	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/5/18 12:00	NJA	3/5/18 16:41	NJA	H
Specific Conductance	243		umhos/cm	1	S2510B-97			2/27/18 18:11	MSA	C
Sulfate	3.9		mg/L	2.0	EPA 300.0			2/24/18 08:18	CHW	C
Total Dissolved Solids	143		mg/L	5	S2540C-11			2/28/18 14:00	BMK	C

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

ANALYTICAL RESULTS

Workorder: 2297621 1ST QTR 2018-3106 RIVER RD

Lab ID: **2297621001** Date Collected: 2/23/2018 11:34 Matrix: Water

Sample ID: **3106 River Road, Conestoga, PA** Date Received: 2/23/2018 15:17

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			2/27/18 17:03	PAG	F
Turbidity	0.25		NTU	0.10	S2130B-01			2/24/18 05:04	MSA	C
METALS										
Calcium, Total	11.8		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:21	DAG	D1
Calcium, Dissolved	11.6		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:06	DAG	E
Iron, Total	0.051		mg/L	0.030	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:21	DAG	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:06	DAG	E
Magnesium, Total	7.3		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:21	DAG	D1
Magnesium, Dissolved	7.2		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:06	DAG	E
Manganese, Total	0.021		mg/L	0.0025	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:21	DAG	D1
Manganese, Dissolved	0.020		mg/L	0.0050	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:06	DAG	E
Potassium, Total	1.3		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:21	DAG	D1
Potassium, Dissolved	1.1		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:06	DAG	E
Sodium, Total	23.5		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:21	DAG	D1
Sodium, Dissolved	22.3		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:06	DAG	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.400		pH_Units		Field			2/23/18 11:34	BGS	N
Specific Conductance, Field	251		umhos/cm	1	Field			2/23/18 11:34	BGS	N
Temperature	15.40		Deg. C		Field			2/23/18 11:34	BGS	N

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

ANALYTICAL RESULTS

Workorder: 2297621 1ST QTR 2018-3106 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2297621001	1	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.				
2297621001	2	3106 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

COC

ALS G

1 of 1

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

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.: _____

Container Type	AG	AN	AN	CG	—	PL	PL	PL	PL	PL
Container Size	40 ml	250 ml	500 ml	40 ml	—	500 ml	500 ml	500 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	TOX	O-OH	VOC	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	2/22/18	1134	G	DW	2	2	1	X3	X	1	1	1	1	1
2														
3														
4														
5														
6														
7														
8														
9														
10														

* 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

Receipt Information (completed by Receiving Lab)

Cooler Temp: 1° Therm ID: 318

No. of Coolers: _____

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

Courier/Tracking #:

Sample/COC Comments

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

Project Comments:

LOGGED BY(signature): _____ DATE: 2-24-18 TAT: 1D

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] ALS	2/23/18	1502	2 [signature] ALS	2-23	1507
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- _____

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

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ALS Environmental

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

March 11, 2018

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:	**2297620**
Purchase Order:	**PO1000126**	Workorder ID:	**1ST QTR 2018-3100 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, February 23, 2018.

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

SAMPLE SUMMARY

Workorder: 2297620 1ST QTR 2018-3100 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2297620001	3100 River Road, Conestoga, PA	Water	2/23/2018 10:34	2/23/2018 15:17	Mr. Brian G Shade

ALS Environmental

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

SAMPLE SUMMARY

Workorder: 2297620 1ST QTR 2018-3100 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 incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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

ANALYTICAL RESULTS

Workorder: 2297620 1ST QTR 2018-3100 RIVER RD

Lab ID: **2297620001** Date Collected: 2/23/2018 10:34 Matrix: Water

Sample ID: **3100 River Road, Conestoga, PA** Date Received: 2/23/2018 15:17

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	76.8		%	70 - 130	EPA 524.2			3/2/18 03:00	CJG	K
4-Bromofluorobenzene (S)	91.4		%	70 - 130	EPA 524.2			3/2/18 03:00	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	17		mg/L	5	S2320B-97			2/27/18 17:26	MSA	C
Alkalinity, Total	17	1	mg/L	5	S2320B-97			2/27/18 17:26	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/18 12:13	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/5/18 13:20	AK	B
Chloride	53.9		mg/L	2.0	EPA 300.0			2/24/18 08:06	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			2/24/18 08:06	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/1/18 12:28	PAG	I
Nitrate-N	4.4		mg/L	0.20	EPA 300.0			2/24/18 08:06	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			2/24/18 08:06	CHW	C
pH	6.49	2	pH_Units		S4500HB-11			2/27/18 17:26	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/5/18 12:00	NJA	3/5/18 16:41	NJA	H
Specific Conductance	242		umhos/cm	1	S2510B-97			2/27/18 17:26	MSA	C
Sulfate	6.6		mg/L	2.0	EPA 300.0			2/24/18 08:06	CHW	C
Total Dissolved Solids	148		mg/L	5	S2540C-11			2/28/18 14:00	BMK	C

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

ANALYTICAL RESULTS

Workorder: 2297620 1ST QTR 2018-3100 RIVER RD

Lab ID: **2297620001** Date Collected: 2/23/2018 10:34 Matrix: Water

Sample ID: **3100 River Road, Conestoga, PA** Date Received: 2/23/2018 15:17

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			2/27/18 17:03	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			2/24/18 05:04	MSA	C
METALS										
Calcium, Total	16.9		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:18	DAG	D1
Calcium, Dissolved	16.9		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:03	DAG	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:18	DAG	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:03	DAG	E
Magnesium, Total	8.1		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:18	DAG	D1
Magnesium, Dissolved	8.2		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:03	DAG	E
Manganese, Total	0.0083		mg/L	0.0025	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:18	DAG	D1
Manganese, Dissolved	0.0085		mg/L	0.0050	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:03	DAG	E
Potassium, Total	1.4		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:18	DAG	D1
Potassium, Dissolved	1.3		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:03	DAG	E
Sodium, Total	15.2		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:18	DAG	D1
Sodium, Dissolved	15.9		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:03	DAG	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.570		pH_Units		Field			2/23/18 10:34	BGS	N
Specific Conductance, Field	232		umhos/cm	1	Field			2/23/18 10:34	BGS	N
Temperature	15.30		Deg. C		Field			2/23/18 10:34	BGS	N

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2297620 1ST QTR 2018-3100 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2297620001	1	3100 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2297620001	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.				

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CHAIN OF CUSTODY / REQUEST FOR ANALYSIS

Generated by ALS

COC #

ALS Q

1 of 1

2297620

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

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	250 ml	500 ml	40 ml	—	500 ml	500 ml	500 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	TOX	O-OH	VOC	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 ~~3011RIVERRD~~ 3100RIVERRD	2/23/18	1034	G	DW	2	2	1	X3	x	1	1	1	1	1
2														
3														
4														
5														
6														
7														
8														
9														
10														

Receipt Information (completed by Receiving Lab)

Cooler Temp: 1° Therm ID: 318

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			DWN
(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: 2/24/18 TIME: 1720

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [illegible] ALS	2/23/18	1517	2 [illegible] ALS	2-23	1517
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

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March 19, 2018

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:	**2298562**
Purchase Order:	**PO1000126**	Workorder ID:	**1ST QTR 2018-3079 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, February 28, 2018.

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: Ms. Jordan Gallagher , Mr. Mark Reider , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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SAMPLE SUMMARY

Workorder: 2298562 1ST QTR 2018-3079 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2298562001	3079RIVERRD	Water	2/28/2018 10:30	2/28/2018 17:25	Ms. Jordan Gallagher

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SAMPLE SUMMARY

Workorder: 2298562 1ST QTR 2018-3079 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 incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2298562 1ST QTR 2018-3079 RIVER RD

Lab ID: **2298562001** Date Collected: 2/28/2018 10:30 Matrix: Water

Sample ID: **3079RIVERRD** Date Received: 2/28/2018 17:25

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	88		%	70 - 130	EPA 524.2			3/3/18 02:38	CJG	K
4-Bromofluorobenzene (S)	96.9		%	70 - 130	EPA 524.2			3/3/18 02:38	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	17		mg/L	5	S2320B-97			3/2/18 02:36	MSA	C
Alkalinity, Total	17	1	mg/L	5	S2320B-97			3/2/18 02:36	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/12/18 21:44	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/8/18 16:16	AK	B
Chloride	32.6		mg/L	2.0	EPA 300.0			3/1/18 15:40	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			3/1/18 15:40	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/8/18 11:56	PAG	I
Nitrate-N	ND		mg/L	0.20	EPA 300.0			3/1/18 15:40	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			3/1/18 15:40	CHW	C
pH	5.81	2	pH_Units		S4500HB-11			3/2/18 02:36	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/13/18 10:00	NJA	3/13/18 21:28	NJA	H
Specific Conductance	165		umhos/cm	1	S2510B-97			3/2/18 02:36	MSA	C
Sulfate	27.5		mg/L	2.0	EPA 300.0			3/1/18 15:40	CHW	C
Total Dissolved Solids	94		mg/L	5	S2540C-11			3/7/18 11:20	C_D	C

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ANALYTICAL RESULTS

Workorder: 2298562 1ST QTR 2018-3079 RIVER RD

Lab ID: **2298562001** Date Collected: 2/28/2018 10:30 Matrix: Water

Sample ID: **3079RIVERRD** Date Received: 2/28/2018 17:25

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			3/5/18 13:05	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			3/2/18 03:28	MSA	C
METALS										
Calcium, Total	11.0		mg/L	0.050	EPA 200.7	3/6/18 08:35	DXC	3/7/18 02:49	DAG	D1
Calcium, Dissolved	10.2		mg/L	0.10	EPA 200.7	3/4/18 23:51	DAG	3/7/18 07:58	DAG	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	3/6/18 08:35	DXC	3/7/18 02:49	DAG	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	3/4/18 23:51	DAG	3/7/18 07:58	DAG	E
Magnesium, Total	5.7		mg/L	0.050	EPA 200.7	3/6/18 08:35	DXC	3/7/18 02:49	DAG	D1
Magnesium, Dissolved	5.2		mg/L	0.10	EPA 200.7	3/4/18 23:51	DAG	3/7/18 07:58	DAG	E
Manganese, Total	0.20		mg/L	0.0025	EPA 200.7	3/6/18 08:35	DXC	3/7/18 02:49	DAG	D1
Manganese, Dissolved	0.19		mg/L	0.0050	EPA 200.7	3/4/18 23:51	DAG	3/7/18 07:58	DAG	E
Potassium, Total	1.9		mg/L	0.25	EPA 200.7	3/6/18 08:35	DXC	3/7/18 02:49	DAG	D1
Potassium, Dissolved	1.8		mg/L	0.50	EPA 200.7	3/4/18 23:51	DAG	3/7/18 07:58	DAG	E
Sodium, Total	11.9		mg/L	0.25	EPA 200.7	3/6/18 08:35	DXC	3/7/18 02:49	DAG	D1
Sodium, Dissolved	10.9		mg/L	0.50	EPA 200.7	3/4/18 23:51	DAG	3/7/18 07:58	DAG	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.100		pH_Units		Field			2/28/18 10:30	CLT	N
Specific Conductance, Field	170		umhos/cm	1	Field			2/28/18 10:30	CLT	N

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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ANALYTICAL RESULTS

Workorder: 2298562 1ST QTR 2018-3079 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2298562001	1	3079RIVERRD	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2298562001	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.				

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Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

COC ALS # *2298562* of

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

Client Name: LCSWMA

Address:

Contact: Mark Reider

Phone#:

Project Name/#: LCSWMA - Form 52

Bill To:

TAT ☐ 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	PL	PL	PL	AN	PL	PL	AN	AV	CG	
					Container Size	2L	500	500	500	500	500	250	40	40	
					Preservative	None	None	H2SO4	H2SO4	HNO3	HNO3	H2SO4	HCL	HCl	
						ANALYSES/METHOD REQUESTED									
						pH-TDS-NO2-NO3-Cl-SO4-F-Tb-SpC -	Alk-HCO3	NH3/N-COD	O-OH	Total: Ca-Fe-Mg-Mn-K-Na	Dissolved:Ca-Fe-Mg-Mn-K-Na	TOX	TOC	524.2-Form 52	
						Enter Number of Containers Per Sample or Field Results Below.									
3079 River Rd	2/28/2018	10:30	G	DW		1	1	1	1	1	1	2	2	3	
6															
7															
8															
9															
10															

Receipt Information (completed by Receiving Lab)

Cooler Temp: 2.5 Therm ID: 318

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

pH = 5.1

SpC= 170

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 Jordan Gallagher LCSWMA	2/28/18	10:47	2	2/28/18	1430
3	2/28/18	1725	4 QNO ALS	2/28	1725
5			6		
7			8		
9			10		

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

Special Processing: USACE ☐ Navy ☐ ☐

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

Reportable to PADEP? Yes ☐ PWSID #

Sample Disposal: Lab ☐ 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 10/14

ALS Environmental

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March 11, 2018

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:	**2297622**
Purchase Order:	**PO1000126**	Workorder ID:	**1ST QTR 2018-3076 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, February 23, 2018.

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: Ms. Jordan Gallagher , Mr. Mark Reider , 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: 2297622 1ST QTR 2018-3076 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2297622001	3076 River Road, Conestoga, PA	Water	2/23/2018 11:57	2/23/2018 15:07	Mr. Brian G Shade
2297622002	Field Blank	Water	2/23/2018 14:24	2/23/2018 15:07	Mr. Brian G Shade
2297622003	Trip Blank	Water	2/23/2018 15:07	2/23/2018 15:07	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2297622 1ST QTR 2018-3076 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 incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2297622 1ST QTR 2018-3076 RIVER RD

Lab ID: **2297622001** Date Collected: 2/23/2018 11:57 Matrix: Water

Sample ID: **3076 River Road, Conestoga, PA** Date Received: 2/23/2018 15:07

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	77.3		%	70 - 130	EPA 524.2			3/2/18 03:48	CJG	K
4-Bromofluorobenzene (S)	83.2		%	70 - 130	EPA 524.2			3/2/18 03:48	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	9		mg/L	5	S2320B-97			2/27/18 18:20	MSA	C
Alkalinity, Total	9	1	mg/L	5	S2320B-97			2/27/18 18:20	MSA	A
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/18 10:22	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/5/18 13:20	AK	B
Chloride	48.2		mg/L	2.0	EPA 300.0			2/24/18 08:43	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			2/24/18 08:43	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/1/18 14:34	PAG	I
Nitrate-N	10.3		mg/L	0.20	EPA 300.0			2/24/18 08:43	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			2/24/18 08:43	CHW	C
pH	6.24	2	pH_Units		S4500HB-11			2/27/18 18:20	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/5/18 12:00	NJA	3/5/18 16:41	NJA	H
Specific Conductance	266		umhos/cm	1	S2510B-97			2/27/18 18:20	MSA	C
Sulfate	9.0		mg/L	2.0	EPA 300.0			2/24/18 08:43	CHW	C
Total Dissolved Solids	179		mg/L	5	S2540C-11			2/28/18 14:00	BMK	C

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ANALYTICAL RESULTS

Workorder: 2297622 1ST QTR 2018-3076 RIVER RD

Lab ID: **2297622001** Date Collected: 2/23/2018 11:57 Matrix: Water

Sample ID: **3076 River Road, Conestoga, PA** Date Received: 2/23/2018 15:07

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			2/27/18 17:03	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			2/24/18 05:04	MSA	C
METALS										
Calcium, Total	14.6		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:42	DAG	D1
Calcium, Dissolved	14.3		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:53	DAG	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:42	DAG	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:53	DAG	E
Magnesium, Total	8.7		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:42	DAG	D1
Magnesium, Dissolved	8.6		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:53	DAG	E
Manganese, Total	0.13		mg/L	0.0025	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:42	DAG	D1
Manganese, Dissolved	0.12		mg/L	0.0050	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:53	DAG	E
Potassium, Total	2.7		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:42	DAG	D1
Potassium, Dissolved	2.4		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:53	DAG	E
Sodium, Total	21.3		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:42	DAG	D1
Sodium, Dissolved	20.1		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:53	DAG	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.190		pH_Units		Field			2/23/18 11:57	BGS	N
Specific Conductance, Field	281		umhos/cm	1	Field			2/23/18 11:57	BGS	N
Temperature	15.10		Deg. C		Field			2/23/18 11:57	BGS	N

Ms. Susan J Scherer
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ANALYTICAL RESULTS

Workorder: 2297622 1ST QTR 2018-3076 RIVER RD

Lab ID: **2297622002** Date Collected: 2/23/2018 14:24 Matrix: Water

Sample ID: **Field Blank** Date Received: 2/23/2018 15:07

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/18 21:48	CJG	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	81		%	70 - 130	EPA 524.2			3/1/18 21:48	CJG	A
4-Bromofluorobenzene (S)	90.7		%	70 - 130	EPA 524.2			3/1/18 21:48	CJG	A

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ANALYTICAL RESULTS

Workorder: 2297622 1ST QTR 2018-3076 RIVER RD

Lab ID: **2297622003** Date Collected: 2/23/2018 15:07 Matrix: Water

Sample ID: **Trip Blank** Date Received: 2/23/2018 15:07

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	78.8		%	70 - 130	EPA 524.2			3/1/18 22:13	CJG	A
4-Bromofluorobenzene (S)	91.1		%	70 - 130	EPA 524.2			3/1/18 22:13	CJG	A

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2297622 1ST QTR 2018-3076 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2297622001	1	3076 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2297622001	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.				

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS — COC — ALS

2297622

1 of 1

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

Client Name: LCSWMA - Esther A. Schopf
Address: 3076 Rover Road
Conestoga, PA 17516
Contact: Esther A. Schopf
Phone#: (717) 872-2559
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	250 ml	500 ml	40 ml	—	500 ml	500 ml	500 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	TOX	O-OH	VOC	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	2/23/18	1157	G	DW	2	2	1	X3	x	1	1	1	1	1
2 Field Blank	1	1424						2						
3 Trip Blank	1	1507						2						
4														
5														
6														
7														
8														
9														
10														

Receipt Information (completed by Receiving Lab)
Cooler Temp: 1° Therm ID: 318
No. of Coolers: _____

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

Courier/Tracking #:

Sample/COC Comments

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

Project Comments:

LOGGED BY(signature): _____ DATE 2-24-18 TIME 1307
REVIEWED BY(signature): _____ DATE _____ TIME _____

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [illegible] ALS	2/23/18	1507	2 [illegible] ALS	2-23	1507
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

ALS Environmental

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

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

March 11, 2018

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:	**2297623**
Purchase Order:	**PO1000126**	Workorder ID:	**1ST QTR 2018-3088 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, February 23, 2018.

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: Ms. Jordan Gallagher , Mr. Mark Reider , 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

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

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

SAMPLE SUMMARY

Workorder: 2297623 1ST QTR 2018-3088 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2297623001	3088 River Road, Conestoga PA	Water	2/23/2018 11:47	2/23/2018 15:07	Mr. Brian G Shade

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

SAMPLE SUMMARY

Workorder: 2297623 1ST QTR 2018-3088 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 incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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

ANALYTICAL RESULTS

Workorder: 2297623 1ST QTR 2018-3088 RIVER RD

Lab ID: **2297623001** Date Collected: 2/23/2018 11:47 Matrix: Water

Sample ID: **3088 River Road, Conestoga PA** Date Received: 2/23/2018 15:07

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 04:12	CJG	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	79.8		%	70 - 130	EPA 524.2			3/2/18 04:12	CJG	K
4-Bromofluorobenzene (S)	91.6		%	70 - 130	EPA 524.2			3/2/18 04:12	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	154		mg/L	5	S2320B-97			2/27/18 18:30	MSA	C
Alkalinity, Total	154	1	mg/L	5	S2320B-97			2/27/18 18:30	MSA	A
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/18 10:36	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/5/18 13:20	AK	B
Chloride	209		mg/L	5.0	EPA 300.0			2/27/18 16:43	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			2/24/18 08:30	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/7/18 11:16	PAG	H
Nitrate-N	8.5		mg/L	0.20	EPA 300.0			2/24/18 08:30	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			2/24/18 08:30	CHW	C
pH	7.61	2	pH_Units		S4500HB-11			2/27/18 18:30	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/5/18 12:00	NJA	3/5/18 16:41	NJA	H
Specific Conductance	991		umhos/cm	1	S2510B-97			2/27/18 18:30	MSA	C
Sulfate	4.7		mg/L	2.0	EPA 300.0			2/24/18 08:30	CHW	C
Total Dissolved Solids	581		mg/L	5	S2540C-11			3/1/18 11:00	BMK	C

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

ANALYTICAL RESULTS

Workorder: 2297623 1ST QTR 2018-3088 RIVER RD

Lab ID: **2297623001** Date Collected: 2/23/2018 11:47 Matrix: Water

Sample ID: **3088 River Road, Conestoga PA** Date Received: 2/23/2018 15:07

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			2/27/18 17:03	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			2/24/18 05:04	MSA	C
METALS										
Calcium, Total	0.082		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:11	DAG	D1
Calcium, Dissolved	ND		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:57	DAG	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:11	DAG	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:57	DAG	E
Magnesium, Total	ND		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:11	DAG	D1
Magnesium, Dissolved	ND		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:57	DAG	E
Manganese, Total	ND		mg/L	0.0025	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:11	DAG	D1
Manganese, Dissolved	ND		mg/L	0.0050	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:57	DAG	E
Potassium, Total	1.2		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:11	DAG	D1
Potassium, Dissolved	0.88		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:57	DAG	E
Sodium, Total	204		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:11	DAG	D1
Sodium, Dissolved	203		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:57	DAG	E
FIELD PARAMETERS										
pH, Field (SM4500B)	7.700		pH_Units		Field			2/23/18 11:47	BGS	N
Specific Conductance, Field	1005		umhos/cm	1	Field			2/23/18 11:47	BGS	N
Temperature	16.90		Deg. C		Field			2/23/18 11:47	BGS	N

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

ANALYTICAL RESULTS

Workorder: 2297623 1ST QTR 2018-3088 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2297623001	1	3088 River Road, Conestoga PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2297623001	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.				

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

COC 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	PL
Container Size	40 ml	250 ml	500 ml	40 ml	—	500 ml	500 ml	500 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	TOX	O-OH	VOC	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	2/23/18	1147	G	DW	2	2	1	X3	x	1	1	1	1	1
2														
3														
4														
5														
6														
7														
8														
9														
10														

Receipt Information (Completed by Receiving Lab)
Cooler Temp: 1° Therm ID: 318
No. of Coolers: _____

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

Courier/Tracking #:

Sample/COC Comments

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

Project Comments:

LOGGED BY(signature): _____ DATE: 2-24-18 TIME: 1311
REVIEWED BY(signature): _____ DATE: _____ TIME: _____

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] ALS	2/23/18	1507	2 [signature] ALS	2-23	1507
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

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March 8, 2018

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:	**2297269**
Purchase Order:	**PO1000126**	Workorder ID:	**1ST QTR 2018 3060 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Thursday, February 22, 2018.

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: Ms. Jordan Gallagher , Mr. Mark Reider , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

SAMPLE SUMMARY

Workorder: 2297269 1ST QTR 2018 3060 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2297269001	3060RIVERRD	Water	2/22/2018 14:45	2/22/2018 16:21	Ms. Jordan Gallagher

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2297269 1ST QTR 2018 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.
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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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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2297269 1ST QTR 2018 3060 RIVER RD

Lab ID: **2297269001** Date Collected: 2/22/2018 14:45 Matrix: Water

Sample ID: **3060RIVERRD** Date Received: 2/22/2018 16:21

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/18 23:01	CJG	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	76.5		%	70 - 130	EPA 524.2			3/1/18 23:01	CJG	K
4-Bromofluorobenzene (S)	92.7		%	70 - 130	EPA 524.2			3/1/18 23:01	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	7		mg/L	5	S2320B-97			2/27/18 06:17	MSA	C
Alkalinity, Total	7	1	mg/L	5	S2320B-97			2/27/18 06:17	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/6/18 23:21	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/1/18 15:30	AK	B
Chloride	21.0		mg/L	2.0	EPA 300.0			2/23/18 13:45	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			2/23/18 13:45	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/1/18 11:08	PAG	I
Nitrate-N	19.4		mg/L	0.20	EPA 300.0			2/23/18 13:45	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			2/23/18 13:45	CHW	C
pH	6.16	2	pH_Units		S4500HB-11			2/27/18 06:17	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/5/18 12:00	NJA	3/5/18 16:41	NJA	H
Specific Conductance	198		umhos/cm	1	S2510B-97			2/27/18 06:17	MSA	C
Sulfate	10.4		mg/L	2.0	EPA 300.0			2/23/18 13:45	CHW	C
Total Dissolved Solids	131	3	mg/L	5	S2540C-11			2/27/18 14:00	BMK	C

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ANALYTICAL RESULTS

Workorder: 2297269 1ST QTR 2018 3060 RIVER RD

Lab ID: **2297269001** Date Collected: 2/22/2018 14:45 Matrix: Water

Sample ID: **3060RIVERRD** Date Received: 2/22/2018 16:21

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			2/26/18 11:41	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			2/24/18 05:29	MSA	C
METALS										
Calcium, Total	9.4		mg/L	0.050	EPA 200.7	2/27/18 00:25	LXC	2/28/18 06:02	DAG	D1
Calcium, Dissolved	9.8		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:43	DAG	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	2/27/18 00:25	LXC	2/28/18 06:02	DAG	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:43	DAG	E
Magnesium, Total	10.8		mg/L	0.050	EPA 200.7	2/27/18 00:25	LXC	2/28/18 06:02	DAG	D1
Magnesium, Dissolved	11.3		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:43	DAG	E
Manganese, Total	0.052		mg/L	0.0025	EPA 200.7	2/27/18 00:25	LXC	2/28/18 06:02	DAG	D1
Manganese, Dissolved	0.053		mg/L	0.0050	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:43	DAG	E
Potassium, Total	2.7		mg/L	0.25	EPA 200.7	2/27/18 00:25	LXC	2/28/18 06:02	DAG	D1
Potassium, Dissolved	2.7		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:43	DAG	E
Sodium, Total	8.5		mg/L	0.25	EPA 200.7	2/27/18 00:25	LXC	2/28/18 06:02	DAG	D1
Sodium, Dissolved	8.6		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:43	DAG	E
FIELD PARAMETERS										
pH, Field (SM4500B)	4.900		pH_Units		S4500HB-11			2/22/18 14:45	CLT	N
Specific Conductance, Field	222		umhos/cm	1	S2510B-97			2/22/18 14:45	CLT	N

Ms. Susan J Scherer
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2297269 1ST QTR 2018 3060 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2297269001	1	3060RIVERRD	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2297269001	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.				
2297269001	3	3060RIVERRD	S2540C-11	Total Dissolved Solids
The LCS associated with this sample was recovered at 111%. The LCS contol limit is 90 to 110%. A bias may exist with the result.				

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F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

COC # *2297269* of

ALS Q

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

Client Name: LCSWMA

Address:

Contact: Mark Reider

Phone#:

Project Name/#: LCSWMA - Form 52

Bill To:

TAT ☐ 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	PL	PL	PL	AN	PL	PL	AN	AV	CG	
					Container Size	2L	500	500	500	500	500	250	40	40	
					Preservative	None	None	H2SO4	H2SO4	HNO3	HNO3	H2SO4	HCL	HCl	
						ANALYSES/METHOD REQUESTED									
						pH-TDS-NO2-NO3-Cl-SO4-F-Tb-SpC	Alk-HCO3	NH3/N-COD	O-OH	Total: Ca-Fe-Mg-Mn-K-Na	Dissolved: Ca-Fe-Mg-Mn-K-Na	TOX	TOC	524.2-Form 52	
						Enter Number of Containers Per Sample or Field Results Below.									
3060 River Rd	2/22/2018	14:45	G	DW		1	1	1	1	1	1	2	2	3	
6															
7															
8															
9															
10															

Receipt Information (completed by Receiving Lab)

Cooler Temp: 2C Therm ID: 318

No. of Coolers: ____

	Y	N	Initial
Custody Seals Present?		-	MB
(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

pH = 4.9

SpC= 222

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 Jordan Gallagher/LCSWMA	2/22/18	14:52	2 [illegible] ALS	2/22	14:54
3 [illegible] ALS	2/22/18	1621	4 P. Brown ALS	2-22	1621
5			6		
7			8		
9			10		

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

Special Processing: USACE ☐ Navy ☐ ☐

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

Reportable to PADEP? Yes ☐ PWSID #

Sample Disposal: Lab ☐ 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

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March 8, 2018

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:	**2297268**
Purchase Order:	**PO1000126**	Workorder ID:	**1ST QTR 2018 3056 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Thursday, February 22, 2018.

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: Ms. Jordan Gallagher , Mr. Mark Reider , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2297268 1ST QTR 2018 3056 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2297268001	3056RIVERRD	Water	2/22/2018 13:56	2/22/2018 16:21	Ms. Jordan Gallagher

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SAMPLE SUMMARY

Workorder: 2297268 1ST QTR 2018 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 incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2297268 1ST QTR 2018 3056 RIVER RD

Lab ID: **2297268001** Date Collected: 2/22/2018 13:56 Matrix: Water
Sample ID: **3056RIVERRD** Date Received: 2/22/2018 16:21

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
Methylene Chloride	ND	4,5	ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/18 22:37	CJG	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	81		%	70 - 130	EPA 524.2			3/1/18 22:37	CJG	K
4-Bromofluorobenzene (S)	89.8		%	70 - 130	EPA 524.2			3/1/18 22:37	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	6		mg/L	5	S2320B-97			2/27/18 05:46	MSA	C
Alkalinity, Total	6	1	mg/L	5	S2320B-97			2/27/18 05:46	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/6/18 23:07	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/1/18 15:30	AK	B
Chloride	23.3		mg/L	2.0	EPA 300.0			2/23/18 13:32	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			2/23/18 13:32	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			2/28/18 15:47	PAG	I
Nitrate-N	20.8	6	mg/L	0.50	EPA 300.0			2/27/18 10:16	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			2/23/18 13:32	CHW	C
pH	5.88	2	pH_Units		S4500HB-11			2/27/18 05:46	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/5/18 12:00	NJA	3/5/18 16:41	NJA	H
Specific Conductance	227		umhos/cm	1	S2510B-97			2/27/18 05:46	MSA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			2/23/18 13:32	CHW	C
Total Dissolved Solids	156	3	mg/L	5	S2540C-11			2/27/18 14:00	BMK	C

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ANALYTICAL RESULTS

Workorder: 2297268 1ST QTR 2018 3056 RIVER RD

Lab ID: **2297268001** Date Collected: 2/22/2018 13:56 Matrix: Water

Sample ID: **3056RIVERRD** Date Received: 2/22/2018 16:21

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			2/26/18 11:41	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			2/24/18 05:29	MSA	C
METALS										
Calcium, Total	14.0		mg/L	0.050	EPA 200.7	2/27/18 00:25	LXC	2/28/18 05:59	DAG	D1
Calcium, Dissolved	14.6		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:40	DAG	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	2/27/18 00:25	LXC	2/28/18 05:59	DAG	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:40	DAG	E
Magnesium, Total	11.3		mg/L	0.050	EPA 200.7	2/27/18 00:25	LXC	2/28/18 05:59	DAG	D1
Magnesium, Dissolved	11.4		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:40	DAG	E
Manganese, Total	0.045		mg/L	0.0025	EPA 200.7	2/27/18 00:25	LXC	2/28/18 05:59	DAG	D1
Manganese, Dissolved	0.044		mg/L	0.0050	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:40	DAG	E
Potassium, Total	1.9		mg/L	0.25	EPA 200.7	2/27/18 00:25	LXC	2/28/18 05:59	DAG	D1
Potassium, Dissolved	1.9		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:40	DAG	E
Sodium, Total	8.0		mg/L	0.25	EPA 200.7	2/27/18 00:25	LXC	2/28/18 05:59	DAG	D1
Sodium, Dissolved	8.1		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:40	DAG	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.200		pH_Units		S4500HB-11			2/22/18 13:56	CLT	N
Specific Conductance, Field	251		umhos/cm	1	S2510B-97			2/22/18 13:56	CLT	N

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2297268 1ST QTR 2018 3056 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2297268001	1	3056RIVERRD	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2297268001	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.				
2297268001	3	3056RIVERRD	S2540C-11	Total Dissolved Solids
The LCS associated with this sample was recovered at 111%. The LCS contol limit is 90 to 110%. A bias may exist with the result.				
2297268001	4	3056RIVERRD	EPA 524.2	Methylene Chloride
The QC sample type MS for method EPA 524.2 was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 61.8 and the control limits were 70 to 130.				
2297268001	5	3056RIVERRD	EPA 524.2	Methylene Chloride
The QC sample type MSD for method EPA 524.2 was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 63.5 and the control limits were 70 to 130.				
2297268001	6	3056RIVERRD	EPA 300.0	Nitrate-N
The sample was originally run within hold time, but required further analysis that exceeded hold time.				

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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

COC #:

ALS Quo

* 2 2 9 7 2 6 8 *

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

Client Name: LCSWMA

Address:

Contact: Mark Reider

Phone#:

Project Name/#: LCSWMA - Form 52

Bill To:

TAT ☐ 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	PL	PL	PL	AN	PL	PL	AN	AV	CG	
Container Size	2L	500	500	500	500	500	250	40	40	
Preservative	None	None	H2SO4	H2SO4	HNO3	HNO3	H2SO4	HCL	HCl	

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	pH-TDS-NO2-NO3-Cl-SO4-F-Tb-SpC	Alk-HCO3	NH3/N-COD	O-OH	Total: Ca-Fe-Mg-Mn-K-Na	Dissolved:Ca-Fe-Mg-Mn-K-Na	TOX	TOC	524.2-Form 52	
					Enter Number of Containers Per Sample or Field Results Below.									
3056 River Rd	2/22/2018	13:56	G	DW	1	1	1	1	1	1	2	2	3	
6														
7														
8														
9														
10														

Receipt Information (completed by receiving lab)

Cooler Temp: 2° Therm ID: 318

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?		✓	PB
(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

pH = 5.2

SpC= 251

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 Jordan Gallagher / LCSWMA	2/22/18	14:52	2 [illegible] ALS	2/22	1407
3 [illegible] / ALS	2/22/18	1621	4 P. Brown ALS	2-22	1621
5			6		
7			8		
9			10		

Data Deliverables: ☐ Standard ☐ CLP-like ☐ USACE

Special Processing: USACE ☐ Navy ☐

Reportable to PADEP? Yes ☐ PWSID #

Sample Disposal: Lab ☐ Special ☐

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

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

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Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #:. 7269 — of

ALS Quote #:

Client Name: LCSWMA

Address:

Contact: Mark Reider

Phone#:

Project Name/#: LCSWMA - Form 52

Bill To:

TAT ☐ 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	PL	PL	PL	AN	PL	PL	AN	AV	CG	
Container Size	2L	500	500	500	500	500	250	40	40	
Preservative	None	None	H2SO4	H2SO4	HNO3	HNO3	H2SO4	HCL	HCl	

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	pH-TDS-NO2-NO3-Cl-SO4-F-Tb-SpC	Alk-HCO3	NH3/N-COD	O-OH	Total: Ca-Fe-Mg-Mn-K-Na	Dissolved:Ca-Fe-Mg-Mn-K-Na	TOX	TOC	524.2-Form 52	
					Enter Number of Containers Per Sample or Field Results Below.									
3060 River Rd	2/22/2018	14:45	G	DW	1	1	1	1	1	1	2	2	3	
6														
7														
8														
9														
10														

Receipt Information (completed by Receiving Lab)

Cooler Temp: 2C Therm ID: 318

No. of Coolers: ____

	Y	N	Initial
Custody Seals Present?		✓	MB
(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

pH = 4.9

SpC= 222

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 Jordan Gallagher/LCSWMA	2/22/18	14:52	2 [signature] ALS	2/22	1454
3 [signature] ALS	2/22/18	1621	4 P. Brown ALS	2-22	1621
5			6		
7			8		
9			10		

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

Special Processing: USACE ☐ Navy ☐ ☐

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

Reportable to PADEP? Yes ☐ PWSID # ____

Sample Disposal: Lab ☐ 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

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Rev 10/14

ALS Environmental

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

March 11, 2018

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:	**2297619**
Purchase Order:	**PO1000126**	Workorder ID:	**1ST QTR 2018-3052 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, February 23, 2018.

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: Ms. Jordan Gallagher , Mr. Mark Reider , 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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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2297619 1ST QTR 2018-3052 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2297619001	3052 River Road, Conestoga, PA	Water	2/23/2018 12:07	2/23/2018 15:07	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2297619 1ST QTR 2018-3052 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 incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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

ANALYTICAL RESULTS

Workorder: 2297619 1ST QTR 2018-3052 RIVER RD

Lab ID: **2297619001** Date Collected: 2/23/2018 12:07 Matrix: Water

Sample ID: **3052 River Road, Conestoga, PA** Date Received: 2/23/2018 15:07

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 02:36	CJG	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	83.4		%	70 - 130	EPA 524.2			3/2/18 02:36	CJG	K
4-Bromofluorobenzene (S)	99.6		%	70 - 130	EPA 524.2			3/2/18 02:36	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	6		mg/L	5	S2320B-97			2/27/18 17:17	MSA	C
Alkalinity, Total	6	1	mg/L	5	S2320B-97			2/27/18 17:17	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/18 10:08	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/5/18 13:20	AK	B
Chloride	21.3		mg/L	2.0	EPA 300.0			2/24/18 08:55	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			2/24/18 08:55	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/1/18 12:52	PAG	I
Nitrate-N	18.4		mg/L	0.20	EPA 300.0			2/24/18 08:55	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			2/24/18 08:55	CHW	C
pH	6.11	2	pH_Units		S4500HB-11			2/27/18 17:17	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/5/18 12:00	NJA	3/5/18 16:41	NJA	H
Specific Conductance	208		umhos/cm	1	S2510B-97			2/27/18 17:17	MSA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			2/24/18 08:55	CHW	C
Total Dissolved Solids	118		mg/L	5	S2540C-11			2/28/18 14:00	BMK	C

ALS Environmental

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

ANALYTICAL RESULTS

Workorder: 2297619 1ST QTR 2018-3052 RIVER RD

Lab ID: **2297619001** Date Collected: 2/23/2018 12:07 Matrix: Water

Sample ID: **3052 River Road, Conestoga, PA** Date Received: 2/23/2018 15:07

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			2/27/18 17:03	PAG	F
Turbidity	0.22		NTU	0.10	S2130B-01			2/24/18 05:04	MSA	C
METALS										
Calcium, Total	14.4		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:39	DAG	D1
Calcium, Dissolved	14.2		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:50	DAG	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:39	DAG	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:50	DAG	E
Magnesium, Total	9.7		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:39	DAG	D1
Magnesium, Dissolved	9.8		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:50	DAG	E
Manganese, Total	0.050		mg/L	0.0025	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:39	DAG	D1
Manganese, Dissolved	0.049		mg/L	0.0050	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:50	DAG	E
Potassium, Total	1.8		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:39	DAG	D1
Potassium, Dissolved	1.6		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:50	DAG	E
Sodium, Total	7.2		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:39	DAG	D1
Sodium, Dissolved	6.7		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:50	DAG	E
FIELD PARAMETERS										
pH, Field (SM4500B)	221.000		pH_Units		Field			2/23/18 12:07	BGS	N
Temperature	15.20		Deg. C		Field			2/23/18 12:07	BGS	N

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

ANALYTICAL RESULTS

Workorder: 2297619 1ST QTR 2018-3052 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2297619001	1	3052 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2297619001	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.				

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

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

CO
ALS
2297619
1 of 1

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	250 ml	500 ml	40 ml	—	500 ml	500 ml	500 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	TOX	O-OH	VOC	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	2/22/18	1207	G	DW	2	2	1	X3	X	1	1	1	1	1
2														
3														
4														
5														
6														
7														
8														
9														
10														

Receipt Information (completed by Receiving Lab)
Cooler Temp: 1 Therm ID: 318
No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			DNN
(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: 2/24/18 TIME: 1405
REVIEWED BY(signature): _____ DATE: _____ TIME: _____

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [redacted] ALS	2/23/18	1507	Chelsea Wilson ALS	2-23	1507
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

ALS Environmental

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

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

March 11, 2018

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:	**2297624**
Purchase Order:	**PO1000126**	Workorder ID:	**1ST QTR 2018-3044 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, February 23, 2018.

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: Ms. Jordan Gallagher , Mr. Mark Reider , Mr. Jeff Musser

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

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2297624 1ST QTR 2018-3044 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2297624001	3044 River Road, Conestoga, PA	Water	2/23/2018 11:11	2/23/2018 15:07	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2297624 1ST QTR 2018-3044 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 incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2297624 1ST QTR 2018-3044 RIVER RD

Lab ID: **2297624001** Date Collected: 2/23/2018 11:11 Matrix: Water

Sample ID: **3044 River Road, Conestoga, PA** Date Received: 2/23/2018 15:07

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	77.1		%	70 - 130	EPA 524.2			3/2/18 04:36	CJG	K
4-Bromofluorobenzene (S)	91.1		%	70 - 130	EPA 524.2			3/2/18 04:36	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	31		mg/L	5	S2320B-97			2/27/18 18:39	MSA	C
Alkalinity, Total	31	1	mg/L	5	S2320B-97			2/27/18 18:39	MSA	A
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/18 10:50	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/5/18 13:20	AK	B
Chloride	20.4		mg/L	2.0	EPA 300.0			2/24/18 09:07	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			2/24/18 09:07	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/6/18 10:52	PAG	I
Nitrate-N	19.1		mg/L	0.20	EPA 300.0			2/24/18 09:07	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			2/24/18 09:07	CHW	C
pH	6.75	2	pH_Units		S4500HB-11			2/27/18 18:39	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/5/18 12:00	NJA	3/5/18 16:41	NJA	H
Specific Conductance	244		umhos/cm	1	S2510B-97			2/27/18 18:39	MSA	C
Sulfate	4.8		mg/L	2.0	EPA 300.0			2/24/18 09:07	CHW	C
Total Dissolved Solids	138		mg/L	5	S2540C-11			3/1/18 11:00	BMK	C

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ANALYTICAL RESULTS

Workorder: 2297624 1ST QTR 2018-3044 RIVER RD

Lab ID: **2297624001** Date Collected: 2/23/2018 11:11 Matrix: Water

Sample ID: **3044 River Road, Conestoga, PA** Date Received: 2/23/2018 15:07

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			2/27/18 17:03	PAG	F
Turbidity	4.17		NTU	0.10	S2130B-01			2/24/18 05:04	MSA	C
METALS										
Calcium, Total	19.2		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:15	DAG	D1
Calcium, Dissolved	20.9		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:00	DAG	E
Iron, Total	0.050		mg/L	0.030	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:15	DAG	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:00	DAG	E
Magnesium, Total	10.5		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:15	DAG	D1
Magnesium, Dissolved	11.2		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:00	DAG	E
Manganese, Total	0.028		mg/L	0.0025	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:15	DAG	D1
Manganese, Dissolved	0.0074		mg/L	0.0050	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:00	DAG	E
Potassium, Total	1.7		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:15	DAG	D1
Potassium, Dissolved	1.8		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:00	DAG	E
Sodium, Total	9.2		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 07:15	DAG	D1
Sodium, Dissolved	9.3		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 11:00	DAG	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.820		pH_Units		Field			2/23/18 11:11	BGS	N
Specific Conductance #2	249		umhos/cm	1	Field			2/23/18 11:11	BGS	N
Temperature	16.30		Deg. C		Field			2/23/18 11:11	BGS	N

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Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2297624 1ST QTR 2018-3044 RIVER RD

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2297624001	1	3044 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2297624001	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.				

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

COC

ALS

1 of 1

* 2 2 9 7 6 2 4 *

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

Client Name: LCSWMA - Nelson L. Smith
Address: 3044 River Road
Conestoga, PA 17516
Contact: Nelson L. Smith
Phone#: (717) 872-2888
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	250 ml	500 ml	40 ml	—	500 ml	500 ml	500 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	TOX	O-OH	VOC	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 3044RIVERRD	2/22/18	1111	G	DW	2	2	1	X3	x	1	1	1	1	1
2														
3														
4														
5														
6														
7														
8														
9														
10														

Receipt Information (completed by Receiving Lab)
Cooler Temp: 1 Therm ID: 318
No. of Coolers: _____

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

Courier/Tracking #:

Sample/COC Comments

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

Project Comments:

LOGGED BY(signature): _____ DATE 2-24-18 TIME 1313
REVIEWED BY(signature): _____ DATE _____ TIME _____

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] ALS	2/23/18	1502	2 [signature] ALS	2-23	1507
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

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