

October 13, 2017

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
3rd Quarter 2017 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 and 3088RIVERRD) 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; samples 3052RIVERRD, 3056RIVERRD, 3060 RIVERRD, 3076RIVERRD, 3079RIVERRD, 3088RIVERRD and 3106RIVERRD exceeded the limit for manganese or iron which are 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 were observed.

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

Respectfully submitted,



Mark D Reid
Director of Environmental Compliance

Enclosures

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



Date Prepared/Revised
10/12/2017

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 (D^o 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° 57' 30.58" Longitude: 76° 26' 11.25"

Depth to Water Level: ft.

Measured from: ☒ 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 ☒ No

Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 08/25/2017

Sample Collection Time: 3:13 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

09/19/2017

Were any holding times exceeded?: Yes ☒ 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

08/25/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.19	SM4500D
BICARBONATE ALKALINITY	17	SM20-2321
CALCIUM, TOTAL	18.7	EPA 200.7
CALCIUM, DISSOLVED	18.4	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	21.2	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	200	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	10.2	EPA 200.7
MAGNESIUM, DISSOLVED	10.5	EPA 200.7
MANGANESE, TOTAL (ug/l)	23	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	9.3	EPA 200.7
NITRATE-NITROGEN	20.4	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

08/25/2017

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)	6.48	FIELD
pH-LAB (SU)	6.4	SM4500B
POTASSIUM, TOTAL	1.9	EPA 200.7
POTASSIUM, DISSOLVED	1.8	EPA 200.7
SODIUM, TOTAL	9.8	EPA 200.7
SODIUM, DISSOLVED	10.3	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	249	FIELD
SPEC. COND., LAB (umhos/cm)	240	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	17	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	208	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.62	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	1.17	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

08/25/2017

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.



Date Prepared/Revised
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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 (D^o 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° 57' 29.85" Longitude: 76° 26' 11.45"

Depth to Water Level: ft.

Measured from: ☒ 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 ☒ No

Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 08/25/2017

Sample Collection Time: 2:00 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

09/19/2017

Were any holding times exceeded?: Yes ☒ 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

08/25/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	5 ND	SM20-2321
CALCIUM, TOTAL	13.9	EPA 200.7
CALCIUM, DISSOLVED	13.6	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	21.9	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	10.5	EPA 200.7
MAGNESIUM, DISSOLVED	10.4	EPA 200.7
MANGANESE, TOTAL (ug/l)	60	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	56	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 MILLER

Sample Date

08/25/2017

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)	5.91	FIELD
pH-LAB (SU)	5.83	SM4500B
POTASSIUM, TOTAL	2	EPA 200.7
POTASSIUM, DISSOLVED	1.8	EPA 200.7
SODIUM, TOTAL	7	EPA 200.7
SODIUM, DISSOLVED	6.9	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	225	FIELD
SPEC. COND., LAB (umhos/cm)	210	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	181	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.95	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.12	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

08/25/2017

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.



Date Prepared/Revised
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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 (D^o 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° 57' 28.44" Longitude: 76° 26' 10.43"

Depth to Water Level: ft.

Measured from: ☒ 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 ☒ No

Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 08/24/2017

Sample Collection Time: 12:25 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

09/14/2017

Were any holding times exceeded?: Yes ☒ 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

08/24/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.13	SM4500D
BICARBONATE ALKALINITY	5 ND	SM20-2321
CALCIUM, TOTAL	14.6	EPA 200.7
CALCIUM, DISSOLVED	14.6	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	24	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	11.9	EPA 200.7
MAGNESIUM, DISSOLVED	12.3	EPA 200.7
MANGANESE, TOTAL (ug/l)	52	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	50	EPA 200.7
NITRATE-NITROGEN	22.4	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

08/24/2017

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)	4.62	FIELD
pH-LAB (SU)	5.53	SM4500B
POTASSIUM, TOTAL	2.1	EPA 200.7
POTASSIUM, DISSOLVED	2	EPA 200.7
SODIUM, TOTAL	8.4	EPA 200.7
SODIUM, DISSOLVED	8.4	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	271	FIELD
SPEC. COND., LAB (umhos/cm)	230	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	176	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.96	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

08/24/2017

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.



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/12/2017

DEP USE ONLY

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

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INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D^o 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° 57' 27.63" Longitude: 76° 26' 10.01"

Depth to Water Level: ft.

Measured from: ☒ 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 ☒ No

Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 08/25/2017

Sample Collection Time: 9:20 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

09/20/2017

Were any holding times exceeded?: Yes ☒ 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

08/25/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	5 ND	SM20-2321
CALCIUM, TOTAL	8.2	EPA 200.7
CALCIUM, DISSOLVED	8.3	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	14.8	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	10	EPA 200.7
MAGNESIUM, DISSOLVED	10.3	EPA 200.7
MANGANESE, TOTAL (ug/l)	52	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	49	EPA 200.7
NITRATE-NITROGEN	14.3	EPA 300

T Please indicate detection limit if analyte is not detected.

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PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

08/25/2017

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)	4.44	FIELD
pH-LAB (SU)	5.91	SM4500B
POTASSIUM, TOTAL	2.6	EPA 200.7
POTASSIUM, DISSOLVED	2.5	EPA 200.7
SODIUM, TOTAL	8.5	EPA 200.7
SODIUM, DISSOLVED	8.7	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	194	FIELD
SPEC. COND., LAB (umhos/cm)	181	EPA 120.1
SULFATE	9.4	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	151	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.65	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.

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PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

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101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

08/25/2017

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.



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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 (DE° 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° 57' 28.2" Longitude: 76° 26' 11.1"

Depth to Water Level: ft.

Measured from: ☒ 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 ☒ No

Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 08/25/2017

Sample Collection Time: 3:02 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

09/20/2017

Were any holding times exceeded?: Yes ☒ 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

08/25/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.12	SM4500D
BICARBONATE ALKALINITY	8	SM20-2321
CALCIUM, TOTAL	15.3	EPA 200.7
CALCIUM, DISSOLVED	15.2	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	47.5	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	9	EPA 200.7
MAGNESIUM, DISSOLVED	9.3	EPA 200.7
MANGANESE, TOTAL (ug/l)	160	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	150	EPA 200.7
NITRATE-NITROGEN	12.2	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

08/25/2017

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)	6.03	FIELD
pH-LAB (SU)	5.96	SM4500B
POTASSIUM, TOTAL	3.1	EPA 200.7
POTASSIUM, DISSOLVED	2.9	EPA 200.7
SODIUM, TOTAL	21.1	EPA 200.7
SODIUM, DISSOLVED	21.8	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	281	FIELD
SPEC. COND., LAB (umhos/cm)	274	EPA 120.1
SULFATE	10.1	EPA 300
ALKALINITY	8	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	208	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.87	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

08/25/2017

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.



Date Prepared/Revised
10/12/2017

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 (D^o 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° 57' 21.99" Longitude: 76° 26' 10.58"

Depth to Water Level: ft.

Measured from: ☒ 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 ☒ No

Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 08/24/2017

Sample Collection Time: 3:20 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

09/14/2017

Were any holding times exceeded?: Yes ☒ 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

08/24/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	8	SM20-2321
CALCIUM, TOTAL	11.3	EPA 200.7
CALCIUM, DISSOLVED	10.6	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	33.9	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	5.2	EPA 200.7
MAGNESIUM, DISSOLVED	5.1	EPA 200.7
MANGANESE, TOTAL (ug/l)	160	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	150	EPA 200.7
NITRATE-NITROGEN	0.38	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

08/24/2017

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)	4.43	FIELD
pH-LAB (SU)	5.53	SM4500B
POTASSIUM, TOTAL	2.1	EPA 200.7
POTASSIUM, DISSOLVED	1.9	EPA 200.7
SODIUM, TOTAL	11.1	EPA 200.7
SODIUM, DISSOLVED	10.6	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	205	FIELD
SPEC. COND., LAB (umhos/cm)	170	EPA 120.1
SULFATE	26.9	EPA 300
ALKALINITY	8	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	116	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.62	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

08/24/2017

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.



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/12/2017

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 (D^o 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° 57' 21" Longitude: 76° 26' 7.1"

Depth to Water Level: ft.

Measured from: ☒ 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 ☒ No

Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 08/25/2017

Sample Collection Time: 11:14 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

09/19/2017

Were any holding times exceeded?: Yes ☒ 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

08/25/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.23	SM4500D
BICARBONATE ALKALINITY	158	SM20-2321
CALCIUM, TOTAL	0.069	EPA 200.7
CALCIUM, DISSOLVED	0.1 ND	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	221	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	11.8	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS WEBER

Sample Date

08/25/2017

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)	7.59	FIELD
pH-LAB (SU)	7.51	SM4500B
POTASSIUM, TOTAL	2	EPA 200.7
POTASSIUM, DISSOLVED	1.8	EPA 200.7
SODIUM, TOTAL	215	EPA 200.7
SODIUM, DISSOLVED	237	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	1157	FIELD
SPEC. COND., LAB (umhos/cm)	1130	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	158	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	624	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.95	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

08/25/2017

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.



Date Prepared/Revised
10/12/2017

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 (D^o 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° 57' 17.9" Longitude: 76° 26' 6.28"

Depth to Water Level: ft.

Measured from: ☒ 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 ☒ No

Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 08/25/2017

Sample Collection Time: 12:46 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

09/19/2017

Were any holding times exceeded?: Yes ☒ 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

08/25/2017

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	17.4	EPA 200.7
CALCIUM, DISSOLVED	17.3	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	55.2	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	8.4	EPA 200.7
MAGNESIUM, DISSOLVED	8.5	EPA 200.7
MANGANESE, TOTAL (ug/l)	9.6	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	9.3	EPA 200.7
NITRATE-NITROGEN	6.3	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS KIRCHNER

Sample Date

08/25/2017

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)	6.31	FIELD
pH-LAB (SU)	6.27	SM4500B
POTASSIUM, TOTAL	1.7	EPA 200.7
POTASSIUM, DISSOLVED	1.6	EPA 200.7
SODIUM, TOTAL	15.6	EPA 200.7
SODIUM, DISSOLVED	15.7	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	251	FIELD
SPEC. COND., LAB (umhos/cm)	246	EPA 120.1
SULFATE	6	EPA 300
ALKALINITY	9	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	206	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.76	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

08/25/2017

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.



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
10/12/2017

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 (DE° 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° 57' 17.27" Longitude: 76° 26' 5.6"

Depth to Water Level: ft.

Measured from: ☒ 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 ☒ No

Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 08/31/2017

Sample Collection Time: 10:45 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

09/22/2017

Were any holding times exceeded?: Yes ☒ 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

08/31/2017

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	10.2	EPA 200.7
CALCIUM, DISSOLVED	11.4	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	40.2	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	4000	EPA 200.7
IRON, DISSOLVED (ug/l)	4800	EPA 200.7
MAGNESIUM, TOTAL	6.4	EPA 200.7
MAGNESIUM, DISSOLVED	7.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	29	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	35	EPA 200.7
NITRATE-NITROGEN	8.1	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

FRY

Sample Date

08/31/2017

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)	5.91	FIELD
pH-LAB (SU)	6.63	SM4500B
POTASSIUM, TOTAL	1.4	EPA 200.7
POTASSIUM, DISSOLVED	1.3	EPA 200.7
SODIUM, TOTAL	19.2	EPA 200.7
SODIUM, DISSOLVED	21	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	215	FIELD
SPEC. COND., LAB (umhos/cm)	208	EPA 120.1
SULFATE	2.4	EPA 300
ALKALINITY	15	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	162	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1.5	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	44.6	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

08/31/2017

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.



Date Prepared/Revised
10/12/2017

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 (D^o 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° 57' 11.6" Longitude: 76° 26' 5.4"

Depth to Water Level: ft.

Measured from: ☒ 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 ☒ No

Well Volumes Purged:

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

Sample Date:(mm/dd/yy) 08/25/2017

Sample Collection Time: 2:47 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

09/20/2017

Were any holding times exceeded?: Yes ☒ 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

08/25/2017

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	0.083	EPA 200.7
CALCIUM, DISSOLVED	0.15	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	83.7	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	8.3	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS

BECK

Sample Date

08/25/2017

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)	6.62	FIELD
pH-LAB (SU)	6.58	SM4500B
POTASSIUM, TOTAL	1.2	EPA 200.7
POTASSIUM, DISSOLVED	1.1	EPA 200.7
SODIUM, TOTAL	81.3	EPA 200.7
SODIUM, DISSOLVED	84.4	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	423	FIELD
SPEC. COND., LAB (umhos/cm)	409	EPA 120.1
SULFATE	6.3	EPA 300
ALKALINITY	31	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	222	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.95	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

08/25/2017

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.

September 21, 2017

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	Workorder:	2257426
Purchase Order:		Workorder ID:	3RD QTR 2017-3125 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, August 25, 2017.

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

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

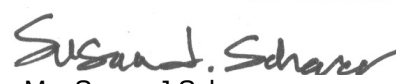
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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

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

CC: Ms. 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.


Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2257426 3RD QTR 2017-3125 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2257426001	3125 River Road, Conestoga, PA	Water	8/25/2017 14:47	8/25/2017 17:55	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2257426 3RD QTR 2017-3125 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 performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2257426 3RD QTR 2017-3125 RIVER RD

Lab ID: **2257426001**

Date Collected: 8/25/2017 14:47

Matrix: Water

Sample ID: **3125 River Road, Conestoga, PA**

Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 18:22	DD	K
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	85.2		%	70 - 130	EPA 524.2			8/31/17 18:22	DD	K
4-Bromofluorobenzene (S)	110		%	70 - 130	EPA 524.2			8/31/17 18:22	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	31		mg/L	5	S2320B-97			8/30/17 15:39	MSA	C
Alkalinity, Total	31	1	mg/L	5	S2320B-97			8/30/17 15:39	MSA	C
Ammonia-nitrogen, Total	ND		mg/L	0.10	S4500NH3D	9/14/17 13:50	CMM	9/20/17 13:22	C_W	
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			9/1/17 17:10	AK	B
Chloride	83.7		mg/L	2.0	EPA 300.0			8/26/17 15:37	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/26/17 15:37	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			9/5/17 12:05	PAG	I
Nitrate-N	8.3		mg/L	0.20	EPA 300.0			8/26/17 15:37	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/26/17 15:37	CHW	C
pH	6.58	2	pH_Units		S4500HB-11			8/30/17 15:39	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	9/6/17 00:00	JLG	9/6/17 09:48	JLG	H
Specific Conductance	409		umhos/cm	1	S2510B-97			8/30/17 15:39	MSA	C
Sulfate	6.3		mg/L	2.0	EPA 300.0			8/26/17 15:37	CHW	C
Total Dissolved Solids	222		mg/L	5	S2540C-11			9/1/17 14:57	VXF	C

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ANALYTICAL RESULTS

Workorder: 2257426 3RD QTR 2017-3125 RIVER RD

Lab ID: **2257426001**

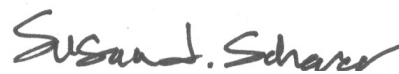
Date Collected: 8/25/2017 14:47

Matrix: Water

Sample ID: **3125 River Road, Conestoga, PA**

Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	0.95		mg/L	0.50	S5310B-00			9/6/17 12:07	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			8/26/17 06:00	MBW	C
METALS										
Calcium, Total	0.083		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:22	MNP	D1
Calcium, Dissolved	0.15		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:22	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:22	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:22	MNP	E
Magnesium, Total	ND		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:22	MNP	D1
Magnesium, Dissolved	ND		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:22	MNP	E
Manganese, Total	ND		mg/L	0.0025	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:22	MNP	D1
Manganese, Dissolved	ND		mg/L	0.0050	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:22	MNP	E
Potassium, Total	1.2		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:22	MNP	D1
Potassium, Dissolved	1.1		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:22	MNP	E
Sodium, Total	81.3		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:22	MNP	D1
Sodium, Dissolved	84.4		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:22	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.620		pH_Units		Field			8/25/17 14:47	BGS	N
Specific Conductance, Field	423		umhos/cm	1	Field			8/25/17 14:47	BGS	N
Temperature	15.40		Deg. C		Field			8/25/17 14:47	BGS	N



Ms. Susan J Scherer

Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2257426001	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 CaCO ₃ /L.				
2257426001	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.				

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

Generated by ALS



* 2 2 5 7 4 2 6 *

Client Name: LCSWMA - Christian C. Beck		Container Type	AG	AN	AN	CG	PL	PL	PL	PL	PL	PL																						
Address: 3125 River Road		Container Size	40 ml	250 ml	500 ml	40 ml	500 ml	500 ml	500 ml	500 ml	500 ml	500 ml																						
Contact: Christian C. Beck		Preservative	HCl	H2SO4	H2SO4	HCl	H2SO4	HNO3	HNO3	HNO3	None	None																						
Phone#: (717) 871-0448		ANALYSIS/METHOD REQUESTED																																
Project Name#: LCSWMA - Quarterly		Enter Number of Containers Per Sample or Field Results Below.																																
Bill To: Lancaster County Solid Waste MA		<table border="1"> <tr> <th>Matrix</th> <th>TOC</th> <th>TOX</th> <th>O-OH</th> <th>VOC</th> <th>FM</th> <th>NH3-N, COD</th> <th>Disolved Metals: Ca, Fe, Mg, Mn, K, Na</th> <th>Metals: Ca, Fe, Mg, Mn, K, Na</th> <th>pH, TDS, NO2, NO3, Cl, SO4, F, TB, SpC</th> <th>Alkalinity, HCO3</th> </tr> <tr> <td>G or C</td> <td>2</td> <td>2</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table>											Matrix	TOC	TOX	O-OH	VOC	FM	NH3-N, COD	Disolved 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	G or C	2	2	1	1	1	1	1	1	1	1
Matrix	TOC	TOX	O-OH	VOC	FM	NH3-N, COD	Disolved 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																								
G or C	2	2	1	1	1	1	1	1	1	1																								
TAT ☒ Normal-Standard TAT is 10-12 business days.																																		
Date Required: _____ Approved By: _____																																		
Email? ☐ -Y																																		
Fax? ☐ -Y No.:																																		
Sample Description/Location (as it will appear on the lab report)		Sample Date	Time																															
1 3125RIVERRD		8-25-17	1447																															
2																																		
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
Project Comments:		LOGGED BY (signature):		8/25/17																														
		REVIEWED BY (signature):																																
Relinquished By Company Name		Date	Time	Received By / Company Name		Date	Time																											
1 XCSWMA		8-25-17	1705	gml ALS		8/25	1755																											
3																																		
5																																		
7																																		
9																																		
State Samples Collected In		Special Processing		Data Deliverables		Reportable to PADEP?		Sample Disposal		State Samples Collected In																								
USACE ☐ Navy ☐ USACE ☐		USACE ☐		Standard ☐ CLP-like ☐ USACE ☐		Yes ☐		Lab ☒ Special ☐		NY ☐ NJ ☐ PA ☒ NC ☐																								
ALS Field Services: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:																																		
Custody Seals Present? (if present) Seals Intact?																																		
COCLabels Complete/Accurate?																																		
Cont. In Good Cond.?																																		
Correct Containers?																																		
Correct Sample Volumes?																																		
Correct Preservation?																																		
Headspace/Volatiles?																																		
Courier/Tracking #:		Sample/COC Comments																																

September 25, 2017

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	Workorder:	2258180
Purchase Order:		Workorder ID:	3RD QTR 2017-3106 RIVER ROAD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 31, 2017.

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

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

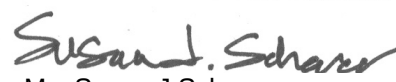
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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

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

CC: Ms. 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.


Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2258180 3RD QTR 2017-3106 RIVER ROAD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2258180001	3106 River Road, Conestoga, PA	Water	8/31/2017 10:45	8/31/2017 15:30	Mr. Michael A Sankovich

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SAMPLE SUMMARY

Workorder: 2258180 3RD QTR 2017-3106 RIVER ROAD

Notes

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

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2258180 3RD QTR 2017-3106 RIVER ROAD

Lab ID: **2258180001** Date Collected: 8/31/2017 10:45 Matrix: Water
Sample ID: **3106 River Road, Conestoga, PA** Date Received: 8/31/2017 15:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
Ethylbenzene	ND	3	ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			9/6/17 05:38	CJG	K
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	96.4		%	70 - 130	EPA 524.2			9/6/17 05:38	CJG	K
4-Bromofluorobenzene (S)	95.1		%	70 - 130	EPA 524.2			9/6/17 05:38	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	15		mg/L	5	S2320B-97			9/2/17 04:59	MSA	C
Alkalinity, Total	15	1	mg/L	5	S2320B-97			9/2/17 04:59	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			9/22/17 06:50	JAM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			9/6/17 16:58	AK	B
Chloride	40.2		mg/L	2.0	EPA 300.0			9/1/17 11:37	MBW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			9/1/17 11:37	MBW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			9/14/17 11:13	PAG	I
Nitrate-N	8.1		mg/L	0.20	EPA 300.0			9/1/17 11:37	MBW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			9/1/17 11:37	MBW	C
pH	6.63	2	pH_Units		S4500HB-11			9/2/17 04:59	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	9/7/17 00:00	JLG	9/7/17 09:47	JLG	H
Specific Conductance	208		umhos/cm	1	S2510B-97			9/2/17 04:59	MSA	C
Sulfate	2.4		mg/L	2.0	EPA 300.0			9/1/17 11:37	MBW	C
Total Dissolved Solids	162		mg/L	5	S2540C-11			9/7/17 20:15	JAS	C

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ANALYTICAL RESULTS

Workorder: 2258180 3RD QTR 2017-3106 RIVER ROAD

Lab ID: **2258180001**

Date Collected: 8/31/2017 10:45

Matrix: Water

Sample ID: **3106 River Road, Conestoga, PA**

Date Received: 8/31/2017 15:30

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	1.5		mg/L	0.50	S5310B-00			9/11/17 11:21	PAG	F
Turbidity	44.6		NTU	0.10	S2130B-01			9/1/17 01:13	MSA	C
METALS										
Calcium, Total	10.2		mg/L	0.050	EPA 200.7	9/4/17 23:55	LXC	9/8/17 12:14	MNP	D1
Calcium, Dissolved	11.4		mg/L	0.10	EPA 200.7	9/5/17 09:35	MNP	9/13/17 21:21	MNP	E
Iron, Total	4.0		mg/L	0.030	EPA 200.7	9/4/17 23:55	LXC	9/8/17 12:14	MNP	D1
Iron, Dissolved	4.8		mg/L	0.060	EPA 200.7	9/5/17 09:35	MNP	9/13/17 21:21	MNP	E
Magnesium, Total	6.4		mg/L	0.050	EPA 200.7	9/4/17 23:55	LXC	9/8/17 12:14	MNP	D1
Magnesium, Dissolved	7.2		mg/L	0.10	EPA 200.7	9/5/17 09:35	MNP	9/13/17 21:21	MNP	E
Manganese, Total	0.029		mg/L	0.0025	EPA 200.7	9/4/17 23:55	LXC	9/8/17 12:14	MNP	D1
Manganese, Dissolved	0.035		mg/L	0.0050	EPA 200.7	9/5/17 09:35	MNP	9/13/17 21:21	MNP	E
Potassium, Total	1.4		mg/L	0.25	EPA 200.7	9/4/17 23:55	LXC	9/8/17 12:14	MNP	D1
Potassium, Dissolved	1.3		mg/L	0.50	EPA 200.7	9/5/17 09:35	MNP	9/13/17 21:21	MNP	E
Sodium, Total	19.2		mg/L	0.25	EPA 200.7	9/4/17 23:55	LXC	9/8/17 12:14	MNP	D1
Sodium, Dissolved	21.0		mg/L	0.50	EPA 200.7	9/5/17 09:35	MNP	9/13/17 21:21	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.910		pH_Units		Field			8/31/17 10:45	MAS	N
Specific Conductance, Field	215		umhos/cm	1	Field			8/31/17 10:45	MAS	N
Temperature	17.20		Deg. C		Field			8/31/17 10:45	MAS	N



Ms. Susan J Scherer

Project Coordinator

ALS Environmental Laboratory Locations Across North America

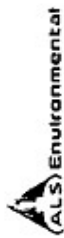
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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2258180001	1	3106 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
2258180001	2	3106 River Road, Conestoga, PA	S4500HB-11	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
2258180001	3	3106 River Road, Conestoga, PA	EPA 524.2	Ethylbenzene
The QC sample type LCS for method EPA 524.2 was outside the control limits for the analyte Ethylbenzene. The % Recovery was reported as 65.5 and the control limits were 70 to 130.				

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 Mexico: Monterrey



34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

Generated by ALS

COC #
ALS C



1 of 1

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 ☒ 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

1 3106RIVERRD 8/31/17 1045

2

3

4

5

6

7

8

9

10

Project Comments:

LOGGED BY (signature):

REVIEWED BY (signature):

Relinquished By / Company Name

Date Time

Received By / Company Name

Date Time

1 *[Signature]* 8/31/17 1530

3

5

7

9

Receipt Information (completed by receiving Lab)
Cooler Temp: 6 Therm ID: 309
No. of Coolers: Y N Initial *QNN*

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

Enter Number of Containers Per Sample or Field Results Below.

Matrix *G or C*

TOC

TOX

O-OH

VOC

FM - pH, SpC, Temp

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, Pb, SpC

Alkalinity, HCO3

ALS Field Services: ☐ Pickup ☐ Labor

☐ Composite Sampling ☐ Rental Equipment

☐ Other:

Special Processing

Standard ☐ CLP-like ☐ USACE ☐

Deliverables

Reportable to PADEP? Yes ☐ No ☐

PWSID #

EDDS: Format Type

State Samples Collected In

USACE ☐ Navy ☐

Sample Disposal

Lab ☒ Special ☐

NY ☐ NJ ☐ PA ☒ NC ☐

ALS Environmental Shipping Address: 34 Dogwood Lane, Middletown, PA 17057

Rev 8/04

September 20, 2017

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	Workorder:	2257422
Purchase Order:		Workorder ID:	3RD QTR 2017-3100 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, August 25, 2017.

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

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

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

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

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Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2257422 3RD QTR 2017-3100 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2257422001	3100 River Road, Conestoga, PA	Water	8/25/2017 12:46	8/25/2017 17:55	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2257422 3RD QTR 2017-3100 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 performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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

ANALYTICAL RESULTS

Workorder: 2257422 3RD QTR 2017-3100 RIVER RD

Lab ID: **2257422001**

Date Collected: 8/25/2017 12:46

Matrix: Water

Sample ID: **3100 River Road, Conestoga, PA**

Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 17:10	DD	K
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	97.6		%	70 - 130	EPA 524.2			8/31/17 17:10	DD	K
4-Bromofluorobenzene (S)	117		%	70 - 130	EPA 524.2			8/31/17 17:10	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	9		mg/L	5	S2320B-97			8/30/17 14:31	MSA	C
Alkalinity, Total	9	1	mg/L	5	S2320B-97			8/30/17 14:31	MSA	C
Ammonia-nitrogen, Total	ND		mg/L	0.10	S4500NH3D	9/14/17 10:30	CMM	9/19/17 23:00	NJA	
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			9/1/17 17:10	AK	B
Chloride	55.2		mg/L	2.0	EPA 300.0			8/26/17 14:58	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/26/17 14:58	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			9/1/17 13:58	PAG	I
Nitrate-N	6.3		mg/L	0.20	EPA 300.0			8/26/17 14:58	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/26/17 14:58	CHW	C
pH	6.27	2	pH_Units		S4500HB-11			8/30/17 14:31	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	9/6/17 00:00	JLG	9/6/17 09:48	JLG	H
Specific Conductance	246		umhos/cm	1	S2510B-97			8/30/17 14:31	MSA	C
Sulfate	6.0		mg/L	2.0	EPA 300.0			8/26/17 14:58	CHW	C
Total Dissolved Solids	206		mg/L	5	S2540C-11			9/1/17 14:57	VXF	C

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ANALYTICAL RESULTS

Workorder: 2257422 3RD QTR 2017-3100 RIVER RD

Lab ID: **2257422001** Date Collected: 8/25/2017 12:46 Matrix: Water
Sample ID: **3100 River Road, Conestoga, PA** Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	0.76		mg/L	0.50	S5310B-00			9/6/17 12:07	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			8/26/17 06:00	MBW	C
METALS										
Calcium, Total	17.4		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:12	MNP	D1
Calcium, Dissolved	17.3		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:05	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:12	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:05	MNP	E
Magnesium, Total	8.4		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:12	MNP	D1
Magnesium, Dissolved	8.5		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:05	MNP	E
Manganese, Total	0.0096		mg/L	0.0025	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:12	MNP	D1
Manganese, Dissolved	0.0093		mg/L	0.0050	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:05	MNP	E
Potassium, Total	1.7		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:12	MNP	D1
Potassium, Dissolved	1.6		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:05	MNP	E
Sodium, Total	15.6		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:12	MNP	D1
Sodium, Dissolved	15.7		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:05	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.310		pH_Units		Field			8/25/17 12:46	BGS	N
Specific Conductance, Field	251		umhos/cm	1	Field			8/25/17 12:46	BGS	N
Temperature	15.50		Deg. C		Field			8/25/17 12:46	BGS	N



Ms. Susan J Scherer
Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2257422001	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 CaCO ₃ /L.				
2257422001	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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September 20, 2017

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	Workorder:	2257418
Purchase Order:		Workorder ID:	3RD QTR 2017-3088 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, August 25, 2017.

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

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

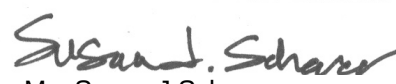
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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

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

CC: Ms. 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.


Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2257418 3RD QTR 2017-3088 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2257418001	3088 River Road, Conestoga PA	Water	8/25/2017 11:14	8/25/2017 17:55	Mr. Brian G Shade
2257418002	Field Blank	Water	8/25/2017 16:31	8/25/2017 17:55	Mr. Brian G Shade
2257418003	Trip Blank	Water	8/25/2017 17:55	8/25/2017 17:55	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2257418 3RD QTR 2017-3088 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 performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2257418 3RD QTR 2017-3088 RIVER RD

Lab ID: **2257418001** Date Collected: 8/25/2017 11:14 Matrix: Water
Sample ID: **3088 River Road, Conestoga PA** Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 16:21	DD	K
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	85.3		%	70 - 130	EPA 524.2			8/31/17 16:21	DD	K
4-Bromofluorobenzene (S)	103		%	70 - 130	EPA 524.2			8/31/17 16:21	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	158		mg/L	5	S2320B-97			8/30/17 14:11	MSA	C
Alkalinity, Total	158	1	mg/L	5	S2320B-97			8/30/17 14:11	MSA	C
Ammonia-nitrogen, Total	0.23		mg/L	0.10	S4500NH3D	9/14/17 10:30	CMM	9/19/17 23:00	NJA	
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			9/1/17 17:10	AK	B
Chloride	221		mg/L	5.0	EPA 300.0			8/30/17 08:47	MBW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/26/17 14:33	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			9/1/17 12:08	PAG	I
Nitrate-N	11.8		mg/L	0.20	EPA 300.0			8/26/17 14:33	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/26/17 14:33	CHW	C
pH	7.51	2	pH_Units		S4500HB-11			8/30/17 14:11	MSA	C
Phenolics	ND	3	mg/L	0.005	EPA 420.4	9/6/17 00:00	JLG	9/6/17 09:48	JLG	H
Specific Conductance	1130		umhos/cm	1	S2510B-97			8/30/17 14:11	MSA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			8/26/17 14:33	CHW	C
Total Dissolved Solids	624		mg/L	5	S2540C-11			9/1/17 14:57	VXF	C

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ANALYTICAL RESULTS

Workorder: 2257418 3RD QTR 2017-3088 RIVER RD

Lab ID: **2257418001** Date Collected: 8/25/2017 11:14 Matrix: Water
Sample ID: **3088 River Road, Conestoga PA** Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	0.95		mg/L	0.50	S5310B-00			9/6/17 12:07	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			8/26/17 06:00	MBW	C
METALS										
Calcium, Total	0.069		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:05	MNP	D1
Calcium, Dissolved	ND		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 22:51	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:05	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	9/5/17 09:22	MNP	9/5/17 22:51	MNP	E
Magnesium, Total	ND		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:05	MNP	D1
Magnesium, Dissolved	ND		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 22:51	MNP	E
Manganese, Total	ND		mg/L	0.0025	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:05	MNP	D1
Manganese, Dissolved	ND		mg/L	0.0050	EPA 200.7	9/5/17 09:22	MNP	9/5/17 22:51	MNP	E
Potassium, Total	2.0		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:05	MNP	D1
Potassium, Dissolved	1.8		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 22:51	MNP	E
Sodium, Total	215		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:05	MNP	D1
Sodium, Dissolved	237		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 22:51	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	7.590		pH_Units		Field			8/25/17 11:44	BGS	N
Specific Conductance, Field	1157		umhos/cm	1	Field			8/25/17 11:44	BGS	N
Temperature	15.70		Deg. C		Field			8/25/17 11:44	BGS	N



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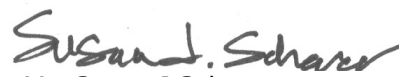
ANALYTICAL RESULTS

Workorder: 2257418 3RD QTR 2017-3088 RIVER RD

Lab ID: **2257418002**
Sample ID: **Field Blank**

Date Collected: 8/25/2017 16:31 Matrix: Water
Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
Toluene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 15:33	DD	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	89.7		%	70 - 130	EPA 524.2			8/31/17 15:33	DD	A
4-Bromofluorobenzene (S)	113		%	70 - 130	EPA 524.2			8/31/17 15:33	DD	A


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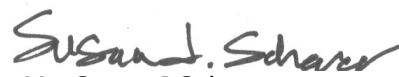
ANALYTICAL RESULTS

Workorder: 2257418 3RD QTR 2017-3088 RIVER RD

Lab ID: **2257418003**
Sample ID: **Trip Blank**

Date Collected: 8/25/2017 17:55 Matrix: Water
Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
Toluene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 15:57	DD	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	97.7		%	70 - 130	EPA 524.2			8/31/17 15:57	DD	A
4-Bromofluorobenzene (S)	114		%	70 - 130	EPA 524.2			8/31/17 15:57	DD	A


Ms. Susan J Scherer
Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2257418001	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 CaCO ₃ /L.				
2257418001	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.				
2257418001	3	3088 River Road, Conestoga PA	EPA 420.4	Phenolics
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				

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September 18, 2017

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

Certificate of Analysis

Project Name: 2017-FREY FARM	Workorder: 2256750
Purchase Order:	Workorder ID: 3RD QTR 2017 3079 RIVERRD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 24, 2017.

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

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

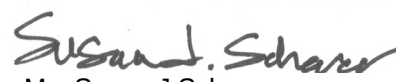
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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

CC: Ms. 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.


Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2256750 3RD QTR 2017 3079 RIVERRD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2256750001	3079RIVERRD	Water	8/24/2017 15:20	8/24/2017 17:08	Mr. Jeff Musser

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SAMPLE SUMMARY

Workorder: 2256750 3RD QTR 2017 3079 RIVERRD

Notes

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

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2256750 3RD QTR 2017 3079 RIVERRD

Lab ID: **2256750001**
Sample ID: **3079RIVERRD**

Date Collected: 8/24/2017 15:20 Matrix: Water
Date Received: 8/24/2017 17:08

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/30/17 20:54	TMP	K
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	89.6		%	70 - 130	EPA 524.2			8/30/17 20:54	TMP	K
4-Bromofluorobenzene (S)	82.9		%	70 - 130	EPA 524.2			8/30/17 20:54	TMP	K
METALS										
Calcium, Total	11.3		mg/L	0.050	EPA 200.7	8/28/17 00:20	LXC	8/30/17 18:12	MNP	D1
Calcium, Dissolved	10.6		mg/L	0.10	EPA 200.7	9/5/17 09:21	MNP	9/5/17 21:44	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/28/17 00:20	LXC	8/30/17 18:12	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	9/5/17 09:21	MNP	9/5/17 21:44	MNP	E
Magnesium, Total	5.2		mg/L	0.050	EPA 200.7	8/28/17 00:20	LXC	8/30/17 18:12	MNP	D1
Magnesium, Dissolved	5.1		mg/L	0.10	EPA 200.7	9/5/17 09:21	MNP	9/5/17 21:44	MNP	E
Manganese, Total	0.16		mg/L	0.0025	EPA 200.7	8/28/17 00:20	LXC	8/30/17 18:12	MNP	D1
Manganese, Dissolved	0.15		mg/L	0.0050	EPA 200.7	9/5/17 09:21	MNP	9/5/17 21:44	MNP	E
Potassium, Total	2.1		mg/L	0.25	EPA 200.7	8/28/17 00:20	LXC	8/31/17 12:43	MNP	D1
Potassium, Dissolved	1.9		mg/L	0.50	EPA 200.7	9/5/17 09:21	MNP	9/5/17 21:44	MNP	E
Sodium, Total	11.1		mg/L	0.25	EPA 200.7	8/28/17 00:20	LXC	8/30/17 18:12	MNP	D1
Sodium, Dissolved	10.6		mg/L	0.50	EPA 200.7	9/5/17 09:21	MNP	9/5/17 21:44	MNP	E
WET CHEMISTRY										
Alkalinity, Bicarbonate	8		mg/L	5	S2320B-97			8/27/17 13:15	MSA	C
Alkalinity, Total	8	1	mg/L	5	S2320B-97			8/27/17 13:15	MSA	A

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ANALYTICAL RESULTS

Workorder: 2256750 3RD QTR 2017 3079 RIVERRD

Lab ID: **2256750001**
Sample ID: **3079RIVERRD**

Date Collected: 8/24/2017 15:20 Matrix: Water
Date Received: 8/24/2017 17:08

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Ammonia-nitrogen, Total	ND		mg/L	0.10	S4500NH3D	9/11/17 14:00	CMM	9/14/17 19:45	NJA	
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			8/30/17 18:49	AK	B
Chloride	33.9		mg/L	2.0	EPA 300.0			8/26/17 00:02	MBW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/26/17 00:02	MBW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			8/31/17 13:47	PAG	I
Nitrate-N	0.38		mg/L	0.20	EPA 300.0			8/26/17 00:02	MBW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/26/17 00:02	MBW	C
pH	5.53	2	pH_Units		S4500HB-11			8/27/17 13:15	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	9/6/17 00:00	JLG	9/6/17 09:48	JLG	H
Specific Conductance	170		umhos/cm	1	S2510B-97			8/27/17 13:15	MSA	C
Sulfate	26.9		mg/L	2.0	EPA 300.0			8/26/17 00:02	MBW	C
Total Dissolved Solids	116		mg/L	5	S2540C-11			8/30/17 21:28	JAS	C
Total Organic Carbon (TOC)	0.62		mg/L	0.50	S5310B-00			8/31/17 10:47	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			8/26/17 06:00	MBW	C
FIELD PARAMETERS										
pH, Field (SM4500B)	4.430		pH_Units		S4500HB-11			8/24/17 15:20	CLT	N
Specific Conductance, Field	205		umhos/cm	1	S2510B-97			8/24/17 15:20	CLT	N


Ms. Susan J Scherer
Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2256750001	1	3079RIVERRD	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
2256750001	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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September 21, 2017

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	Workorder:	2257424
Purchase Order:		Workorder ID:	3RD QTR 2017-3076 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, August 25, 2017.

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

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

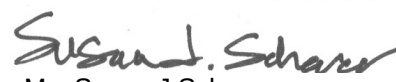
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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

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

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Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2257424 3RD QTR 2017-3076 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2257424001	3076 River Road, Conestoga, PA	Water	8/25/2017 15:02	8/25/2017 17:55	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2257424 3RD QTR 2017-3076 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 performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2257424 3RD QTR 2017-3076 RIVER RD

Lab ID: **2257424001** Date Collected: 8/25/2017 15:02 Matrix: Water
Sample ID: **3076 River Road, Conestoga, PA** Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 17:58	DD	K
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	83.4		%	70 - 130	EPA 524.2			8/31/17 17:58	DD	K
4-Bromofluorobenzene (S)	105		%	70 - 130	EPA 524.2			8/31/17 17:58	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	8		mg/L	5	S2320B-97			8/30/17 14:50	MSA	C
Alkalinity, Total	8	1	mg/L	5	S2320B-97			8/30/17 14:50	MSA	C
Ammonia-nitrogen, Total	0.12		mg/L	0.10	S4500NH3D	9/14/17 13:50	CMM	9/20/17 13:22	C_W	
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			9/1/17 17:10	AK	B
Chloride	47.5		mg/L	2.0	EPA 300.0			8/26/17 15:24	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/26/17 15:24	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			9/5/17 11:35	PAG	I
Nitrate-N	12.2		mg/L	0.20	EPA 300.0			8/26/17 15:24	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/26/17 15:24	CHW	C
pH	5.96	2	pH_Units		S4500HB-11			8/30/17 14:50	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	9/6/17 00:00	JLG	9/6/17 09:48	JLG	H
Specific Conductance	274		umhos/cm	1	S2510B-97			8/30/17 14:50	MSA	C
Sulfate	10.1		mg/L	2.0	EPA 300.0			8/26/17 15:24	CHW	C
Total Dissolved Solids	208		mg/L	5	S2540C-11			9/1/17 14:57	VXF	C

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ANALYTICAL RESULTS

Workorder: 2257424 3RD QTR 2017-3076 RIVER RD

Lab ID: **2257424001** Date Collected: 8/25/2017 15:02 Matrix: Water
Sample ID: **3076 River Road, Conestoga, PA** Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	0.87		mg/L	0.50	S5310B-00			9/6/17 12:07	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			8/26/17 06:00	MBW	C
METALS										
Calcium, Total	15.3		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:19	MNP	D1
Calcium, Dissolved	15.2		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:18	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:19	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:18	MNP	E
Magnesium, Total	9.0		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:19	MNP	D1
Magnesium, Dissolved	9.3		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:18	MNP	E
Manganese, Total	0.16		mg/L	0.0025	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:19	MNP	D1
Manganese, Dissolved	0.15		mg/L	0.0050	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:18	MNP	E
Potassium, Total	3.1		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:19	MNP	D1
Potassium, Dissolved	2.9		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:18	MNP	E
Sodium, Total	21.1		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:19	MNP	D1
Sodium, Dissolved	21.8		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:18	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.030		pH_Units		Field			8/25/17 15:02	BGS	N
Specific Conductance, Field	281		umhos/cm	1	Field			8/25/17 15:02	BGS	N
Temperature	15.50		Deg. C		Field			8/25/17 15:02	BGS	N



Ms. Susan J Scherer
Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2257424001	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 CaCO ₃ /L.				
2257424001	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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[illegible]

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

Rev 8/04

September 21, 2017

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

Certificate of Analysis

Project Name: 2017-FREY FARM	Workorder: 2257433
Purchase Order:	Workorder ID: 3RD QTR 2017-3060 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, August 25, 2017.

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

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

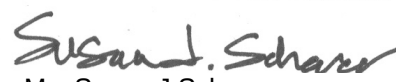
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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

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

CC: Ms. 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.


Ms. Susan J Scherer
Project Coordinator

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**SAMPLE SUMMARY**

Workorder: 2257433 3RD QTR 2017-3060 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2257433001	3060RIVERRD	Water	8/25/2017 09:20	8/25/2017 17:55	Mr. Jeff Musser

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SAMPLE SUMMARY

Workorder: 2257433 3RD QTR 2017-3060 RIVER RD

Notes

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

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2257433 3RD QTR 2017-3060 RIVER RD

Lab ID: **2257433001**
Sample ID: **3060RIVERRD**

Date Collected: 8/25/2017 09:20 Matrix: Water
Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 18:46	DD	K
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	82.5		%	70 - 130	EPA 524.2			8/31/17 18:46	DD	K
4-Bromofluorobenzene (S)	90.2		%	70 - 130	EPA 524.2			8/31/17 18:46	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND		mg/L	5	S2320B-97			8/30/17 16:06	MSA	C
Alkalinity, Total	ND	1	mg/L	5	S2320B-97			8/30/17 16:06	MSA	C
Ammonia-nitrogen, Total	ND		mg/L	0.10	S4500NH3D	9/14/17 13:50	CMM	9/20/17 13:22	C_W	
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			9/1/17 17:10	AK	B
Chloride	14.8		mg/L	2.0	EPA 300.0			8/26/17 23:32	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/26/17 23:32	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			9/5/17 13:02	PAG	I
Nitrate-N	14.3		mg/L	0.20	EPA 300.0			8/26/17 23:32	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/26/17 23:32	CHW	C
pH	5.91	2	pH_Units		S4500HB-11			8/30/17 16:06	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	9/6/17 00:00	JLG	9/6/17 09:48	JLG	H
Specific Conductance	181		umhos/cm	1	S2510B-97			8/30/17 16:06	MSA	C
Sulfate	9.4		mg/L	2.0	EPA 300.0			8/26/17 23:32	CHW	C
Total Dissolved Solids	151		mg/L	5	S2540C-11			9/1/17 14:57	VXF	C

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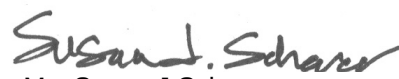
ANALYTICAL RESULTS

Workorder: 2257433 3RD QTR 2017-3060 RIVER RD

Lab ID: **2257433001**
Sample ID: **3060RIVERRD**

Date Collected: 8/25/2017 09:20 Matrix: Water
Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	0.65		mg/L	0.50	S5310B-00			9/6/17 12:07	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			8/26/17 06:00	MBW	C
METALS										
Calcium, Total	8.2		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:32	MNP	D1
Calcium, Dissolved	8.3		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:25	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:32	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:25	MNP	E
Magnesium, Total	10.0		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:32	MNP	D1
Magnesium, Dissolved	10.3		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:25	MNP	E
Manganese, Total	0.052		mg/L	0.0025	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:32	MNP	D1
Manganese, Dissolved	0.049		mg/L	0.0050	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:25	MNP	E
Potassium, Total	2.6		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:32	MNP	D1
Potassium, Dissolved	2.5		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:25	MNP	E
Sodium, Total	8.5		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:32	MNP	D1
Sodium, Dissolved	8.7		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:25	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	4.440		pH_Units		S4500HB-11			8/25/17 09:20	CLT	N
Specific Conductance, Field	194		umhos/cm	1	S2510B-97			8/25/17 09:20	CLT	N


Ms. Susan J Scherer
Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2257433001	1	3060RIVERRD	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
2257433001	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.				

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F. 717-944-1430

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

Client Name: LCSWMA		Container Type	PL	PL	PL	AN	PL	PL	AN	CG	CG	ed by Receiving Lab)	
Address:		Container Size	1L	500	500	250	500	500	250	40	40		
Contact: Mark Reider		Preservative	None	None	H2SO4	H2SO4	HNO3	HNO3	H2SO4	HCL	HCL		
ANALYSES/METHOD REQUESTED													
Phone#:		pH-TDS-NO2-NO3-Cl-SO4-F-Tp		Alk-HCO3		NH3/N-COD		O-OH		Total: Ca-Fe-Mg-Mn-K-Na		Dissolved: Ca-Fe-Mg-Mn-K-Na	
Project Name/ID: LCSWMA - Form 52		Spc		Spc		Spc		Spc		Spc		Spc	
Bill To:		G or C		G or C		G or C		G or C		G or C		G or C	
TAT		Normal-Standard TAT is 10-12 business days.		Rush-Subject to ALS approval and surcharges.		Date Required:		Email?		Fax?		Approved By:	
Sample Description/Location		Sample Date	Time										
3060RIVERRD		8/25/2017	09:20										
Enter Number of Containers Per Sample or Field Results Below.													
1		1	1	1	1	1	1	1	1	2	2	3	
pH = 4.44													
SpC = 194													
ALS Field Services: Pickup Labor													
Composite Sampling Rental Equipment													
Other:													
Project Comments:		LOGGED BY (signature):		REVIEWED BY (signature):		Date		Time		Relinquished By / Company Name		Date	
1		8/25/17		8/25/17		8/25/17		8/25/17		8/25/17		8/25/17	
3		8/25/17		8/25/17		8/25/17		8/25/17		8/25/17		8/25/17	
5		8/25/17		8/25/17		8/25/17		8/25/17		8/25/17		8/25/17	
7		8/25/17		8/25/17		8/25/17		8/25/17		8/25/17		8/25/17	
9		8/25/17		8/25/17		8/25/17		8/25/17		8/25/17		8/25/17	
10		8/25/17		8/25/17		8/25/17		8/25/17		8/25/17		8/25/17	
Special Processing		Standard		CLP-like		USACE		USACE		Navy		NY	
State Samples Collected In		USACE		Navy		NY		NJ		PA		NC	
Sample Disposal		Lab		Special									
Reportable to PADEP?		Yes		No									
PWSID #													
EDDS: Format Type													

September 18, 2017

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

Certificate of Analysis

Project Name: 2017-FREY FARM	Workorder: 2256747
Purchase Order:	Workorder ID: 3RD QTR 2017 3056 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 24, 2017.

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

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

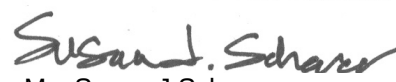
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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

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

CC: Ms. 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.


Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2256747 3RD QTR 2017 3056 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2256747001	3056RIVERRD	Water	8/24/2017 12:25	8/24/2017 17:08	Mr. Jeff Musser

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SAMPLE SUMMARY

Workorder: 2256747 3RD QTR 2017 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 performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2256747 3RD QTR 2017 3056 RIVER RD

Lab ID: **2256747001**
Sample ID: **3056RIVERRD**

Date Collected: 8/24/2017 12:25 Matrix: Water
Date Received: 8/24/2017 17:08

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/30/17 20:29	TMP	K
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	89.1		%	70 - 130	EPA 524.2			8/30/17 20:29	TMP	K
4-Bromofluorobenzene (S)	82.7		%	70 - 130	EPA 524.2			8/30/17 20:29	TMP	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND		mg/L	5	S2320B-97			8/27/17 12:40	MSA	C
Alkalinity, Total	ND	1	mg/L	5	S2320B-97			8/27/17 12:40	MSA	C
Ammonia-nitrogen, Total	0.13		mg/L	0.10	S4500NH3D	9/11/17 14:00	CMM	9/14/17 19:45	NJA	
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			8/29/17 18:19	AK	B
Chloride	24.0		mg/L	2.0	EPA 300.0			8/25/17 23:33	MBW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/25/17 23:33	MBW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			8/31/17 13:23	PAG	I
Nitrate-N	22.4		mg/L	1.0	EPA 300.0			8/25/17 23:49	MBW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/25/17 23:33	MBW	C
pH	5.53	2	pH_Units		S4500HB-11			8/27/17 12:40	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	9/6/17 00:00	JLG	9/6/17 09:48	JLG	H
Specific Conductance	230		umhos/cm	1	S2510B-97			8/27/17 12:40	MSA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			8/25/17 23:33	MBW	C
Total Dissolved Solids	176		mg/L	5	S2540C-11			8/30/17 21:28	JAS	C

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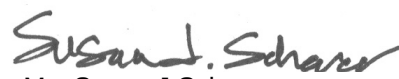
ANALYTICAL RESULTS

Workorder: 2256747 3RD QTR 2017 3056 RIVER RD

Lab ID: **2256747001**
Sample ID: **3056RIVERRD**

Date Collected: 8/24/2017 12:25 Matrix: Water
Date Received: 8/24/2017 17:08

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	0.96		mg/L	0.50	S5310B-00			8/31/17 10:47	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			8/26/17 06:00	MBW	C
METALS										
Calcium, Total	14.6		mg/L	0.050	EPA 200.7	8/28/17 00:20	LXC	8/30/17 18:08	MNP	D1
Calcium, Dissolved	14.6		mg/L	0.10	EPA 200.7	9/5/17 09:21	MNP	9/5/17 21:40	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/28/17 00:20	LXC	8/30/17 18:08	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	9/5/17 09:21	MNP	9/5/17 21:40	MNP	E
Magnesium, Total	11.9		mg/L	0.050	EPA 200.7	8/28/17 00:20	LXC	8/30/17 18:08	MNP	D1
Magnesium, Dissolved	12.3		mg/L	0.10	EPA 200.7	9/5/17 09:21	MNP	9/5/17 21:40	MNP	E
Manganese, Total	0.052		mg/L	0.0025	EPA 200.7	8/28/17 00:20	LXC	8/30/17 18:08	MNP	D1
Manganese, Dissolved	0.050		mg/L	0.0050	EPA 200.7	9/5/17 09:21	MNP	9/5/17 21:40	MNP	E
Potassium, Total	2.1		mg/L	0.25	EPA 200.7	8/28/17 00:20	LXC	8/31/17 12:40	MNP	D1
Potassium, Dissolved	2.0		mg/L	0.50	EPA 200.7	9/5/17 09:21	MNP	9/5/17 21:40	MNP	E
Sodium, Total	8.4		mg/L	0.25	EPA 200.7	8/28/17 00:20	LXC	8/30/17 18:08	MNP	D1
Sodium, Dissolved	8.4		mg/L	0.50	EPA 200.7	9/5/17 09:21	MNP	9/5/17 21:40	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	4.620		pH_Units		S4500HB-11			8/24/17 12:25	CLT	N
Specific Conductance, Field	271		umhos/cm	1	S2510B-97			8/24/17 12:25	CLT	N


Ms. Susan J Scherer
Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2256747001	1	3056RIVERRD	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
2256747001	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.				

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September 20, 2017

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	Workorder:	2257423
Purchase Order:		Workorder ID:	3RD QTR 2017-3052 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, August 25, 2017.

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

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

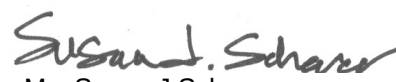
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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

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Ms. Susan J Scherer
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SAMPLE SUMMARY

Workorder: 2257423 3RD QTR 2017-3052 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2257423001	3052 River Road, Conestoga, PA	Water	8/25/2017 14:00	8/25/2017 17:55	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2257423 3RD QTR 2017-3052 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.
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- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2257423 3RD QTR 2017-3052 RIVER RD

Lab ID: **2257423001** Date Collected: 8/25/2017 14:00 Matrix: Water
Sample ID: **3052 River Road, Conestoga, PA** Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 17:34	DD	K
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	90		%	70 - 130	EPA 524.2			8/31/17 17:34	DD	K
4-Bromofluorobenzene (S)	92.3		%	70 - 130	EPA 524.2			8/31/17 17:34	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND		mg/L	5	S2320B-97			8/30/17 14:40	MSA	C
Alkalinity, Total	ND	1	mg/L	5	S2320B-97			8/30/17 14:40	MSA	C
Ammonia-nitrogen, Total	ND		mg/L	0.10	S4500NH3D	9/14/17 10:30	CMM	9/19/17 23:00	NJA	
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			9/1/17 17:10	AK	B
Chloride	21.9		mg/L	2.0	EPA 300.0			8/26/17 15:11	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/26/17 15:11	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			9/5/17 11:16	PAG	I
Nitrate-N	19.4	3	mg/L	0.50	EPA 300.0			8/30/17 11:32	MBW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/26/17 15:11	CHW	C
pH	5.83	2	pH_Units		S4500HB-11			8/30/17 14:40	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	9/6/17 00:00	JLG	9/6/17 09:48	JLG	H
Specific Conductance	210		umhos/cm	1	S2510B-97			8/30/17 14:40	MSA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			8/26/17 15:11	CHW	C
Total Dissolved Solids	181		mg/L	5	S2540C-11			9/1/17 14:57	VXF	C

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ANALYTICAL RESULTS

Workorder: 2257423 3RD QTR 2017-3052 RIVER RD

Lab ID: **2257423001**

Date Collected: 8/25/2017 14:00

Matrix: Water

Sample ID: **3052 River Road, Conestoga, PA**

Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	0.95		mg/L	0.50	S5310B-00			9/6/17 12:07	PAG	F
Turbidity	0.12		NTU	0.10	S2130B-01			8/26/17 06:00	MBW	C
METALS										
Calcium, Total	13.9		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:15	MNP	D1
Calcium, Dissolved	13.6		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:08	MNP	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:15	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:08	MNP	E
Magnesium, Total	10.5		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:15	MNP	D1
Magnesium, Dissolved	10.4		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:08	MNP	E
Manganese, Total	0.060		mg/L	0.0025	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:15	MNP	D1
Manganese, Dissolved	0.056		mg/L	0.0050	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:08	MNP	E
Potassium, Total	2.0		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:15	MNP	D1
Potassium, Dissolved	1.8		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:08	MNP	E
Sodium, Total	7.0		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:15	MNP	D1
Sodium, Dissolved	6.9		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:08	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.910		pH_Units		Field			8/25/17 14:00	BGS	N
Specific Conductance, Field	225		umhos/cm	1	Field			8/25/17 14:00	BGS	N
Temperature	15.30		Deg. C		Field			8/25/17 14:00	BGS	N



Ms. Susan J Scherer

Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2257423001	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 CaCO ₃ /L.				
2257423001	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.				
2257423001	3	3052 River Road, Conestoga, PA	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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September 20, 2017

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	Workorder:	2257420
Purchase Order:		Workorder ID:	3RD QTR 2017-3044 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, August 25, 2017.

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

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

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

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

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

CC: Ms. 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.


Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2257420 3RD QTR 2017-3044 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2257420001	3044 River Road, Conestoga, PA	Water	8/25/2017 15:13	8/25/2017 17:55	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2257420 3RD QTR 2017-3044 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 performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2257420 3RD QTR 2017-3044 RIVER RD

Lab ID: **2257420001** Date Collected: 8/25/2017 15:13 Matrix: Water
Sample ID: **3044 River Road, Conestoga, PA** Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/31/17 16:45	DD	K
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	108		%	70 - 130	EPA 524.2			8/31/17 16:45	DD	K
4-Bromofluorobenzene (S)	119		%	70 - 130	EPA 524.2			8/31/17 16:45	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	17		mg/L	5	S2320B-97			8/30/17 14:21	MSA	C
Alkalinity, Total	17	1	mg/L	5	S2320B-97			8/30/17 14:21	MSA	C
Ammonia-nitrogen, Total	0.19		mg/L	0.10	S4500NH3D	9/14/17 10:30	CMM	9/19/17 23:00	NJA	
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			9/1/17 17:10	AK	B
Chloride	21.2		mg/L	2.0	EPA 300.0			8/26/17 14:46	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/26/17 14:46	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			9/1/17 12:37	PAG	I
Nitrate-N	20.4	3	mg/L	0.50	EPA 300.0			8/30/17 11:19	MBW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/26/17 14:46	CHW	C
pH	6.40	2	pH_Units		S4500HB-11			8/30/17 14:21	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	9/6/17 00:00	JLG	9/6/17 09:48	JLG	H
Specific Conductance	240		umhos/cm	1	S2510B-97			8/30/17 14:21	MSA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			8/26/17 14:46	CHW	C
Total Dissolved Solids	208		mg/L	5	S2540C-11			9/1/17 14:57	VXF	C

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ANALYTICAL RESULTS

Workorder: 2257420 3RD QTR 2017-3044 RIVER RD

Lab ID: **2257420001**

Date Collected: 8/25/2017 15:13

Matrix: Water

Sample ID: **3044 River Road, Conestoga, PA**

Date Received: 8/25/2017 17:55

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	0.62		mg/L	0.50	S5310B-00			9/13/17 19:27	PAG	F
Turbidity	1.17		NTU	0.10	S2130B-01			8/26/17 06:00	MBW	C
METALS										
Calcium, Total	18.7		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:08	MNP	D1
Calcium, Dissolved	18.4		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:01	MNP	E
Iron, Total	0.20		mg/L	0.030	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:08	MNP	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:01	MNP	E
Magnesium, Total	10.2		mg/L	0.050	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:08	MNP	D1
Magnesium, Dissolved	10.5		mg/L	0.10	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:01	MNP	E
Manganese, Total	0.023		mg/L	0.0025	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:08	MNP	D1
Manganese, Dissolved	0.0093		mg/L	0.0050	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:01	MNP	E
Potassium, Total	1.9		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:08	MNP	D1
Potassium, Dissolved	1.8		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:01	MNP	E
Sodium, Total	9.8		mg/L	0.25	EPA 200.7	8/30/17 01:25	LXC	9/6/17 17:08	MNP	D1
Sodium, Dissolved	10.3		mg/L	0.50	EPA 200.7	9/5/17 09:22	MNP	9/5/17 23:01	MNP	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.480		pH_Units		Field			8/25/17 15:13	BGS	N
Specific Conductance, Field	249		umhos/cm	1	Field			8/25/17 15:13	BGS	N
Temperature	15.20		Deg. C		Field			8/25/17 15:13	BGS	N



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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2257420001	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 CaCO ₃ /L.				
2257420001	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.				
2257420001	3	3044 River Road, Conestoga, PA	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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