

April 3, 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
1st 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 3106RIVERRD) exceeded the limit for nitrate, samples are consistent with historic data the cause is attributed to agricultural impacts. No other MCL's were exceeded.
2. USEPA SMCL's exceedance report; samples 3052RIVERRD, 3056 RIVERRD, 3060 RIVERRD, 3076RIVERRD, 3079 RIVERRD 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 where observed.

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

Respectfully submitted,



Mark D Reider
Director of Environmental Compliance

Enclosures

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



Date Prepared/Revised
03/22/2017

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: SMITH

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) 02/28/2017

Sample Collection Time: 1:03 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number)

34 Dogwood Lane

Middletown, PA 17057

(717) 944-5541

Lab Accreditation Number(s)

22-293

Lab Analysis Date

03/10/2017

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 SMITH

Sample Date

02/28/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	18	SM20-2321
CALCIUM, TOTAL	18.5	EPA 200.7
CALCIUM, DISSOLVED	19.2	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	8	EPA 410.2
CHLORIDE	23.7	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	72	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	10.3	EPA 200.7
MAGNESIUM, DISSOLVED	10.8	EPA 200.7
MANGANESE, TOTAL (ug/l)	9.1	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	7.9	EPA 200.7
NITRATE-NITROGEN	24	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 SMITH

Sample Date

02/28/2017

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)	5.58	FIELD
pH-LAB (SU)	6.4	SM4500B
POTASSIUM, TOTAL	1.6	EPA 200.7
POTASSIUM, DISSOLVED	1.7	EPA 200.7
SODIUM, TOTAL	9.9	EPA 200.7
SODIUM, DISSOLVED	10.7	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	273	FIELD
SPEC. COND., LAB (umhos/cm)	237	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	18	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	166	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	1.16	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

SMITH

Sample Date

02/28/2017

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: 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) 02/28/2017

Sample Collection Time: 1:39 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number)

34 Dogwood Lane

Middletown, PA 17057

(717) 944-5541

Lab Accreditation Number(s)

22-293

Lab Analysis Date

03/10/2017

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

02/28/2017

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	14	EPA 200.7
CALCIUM, DISSOLVED	14.2	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	22.2	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	10.6	EPA 200.7
MAGNESIUM, DISSOLVED	11	EPA 200.7
MANGANESE, TOTAL (ug/l)	55	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	56	EPA 200.7
NITRATE-NITROGEN	20	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS MILLER

Sample Date

02/28/2017

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)	4.98	FIELD
pH-LAB (SU)	5.79	SM4500B
POTASSIUM, TOTAL	1.9	EPA 200.7
POTASSIUM, DISSOLVED	2.1	EPA 200.7
SODIUM, TOTAL	7	EPA 200.7
SODIUM, DISSOLVED	7.9	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	252	FIELD
SPEC. COND., LAB (umhos/cm)	209	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	159	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.51	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.13	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS MILLER

Sample Date

02/28/2017

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

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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: 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) 02/28/2017

Sample Collection Time: 1:10 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number)

34 Dogwood Lane

Middletown, PA 17057

(717) 944-5541

Lab Accreditation Number(s)

22-293

Lab Analysis Date

03/10/2017

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

02/28/2017

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	14.9	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	26.2	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	12	EPA 200.7
MAGNESIUM, DISSOLVED	12.9	EPA 200.7
MANGANESE, TOTAL (ug/l)	50	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	52	EPA 200.7
NITRATE-NITROGEN	26.4	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/28/2017

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)	5.2	FIELD
pH-LAB (SU)	5.78	SM4500B
POTASSIUM, TOTAL	2.1	EPA 200.7
POTASSIUM, DISSOLVED	2.2	EPA 200.7
SODIUM, TOTAL	8.1	EPA 200.7
SODIUM, DISSOLVED	8.9	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	283	FIELD
SPEC. COND., LAB (umhos/cm)	234	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	141	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.6	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/28/2017

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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Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

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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: 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) 02/28/2017

Sample Collection Time: 12:10 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number)

34 Dogwood Lane

Middletown, PA 17057

(717) 944-5541

Lab Accreditation Number(s)

22-293

Lab Analysis Date

03/10/2017

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

02/28/2017

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	SM20-2321
CALCIUM, TOTAL	9.5	EPA 200.7
CALCIUM, DISSOLVED	9.7	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7	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	11.3	EPA 200.7
MAGNESIUM, DISSOLVED	11.6	EPA 200.7
MANGANESE, TOTAL (ug/l)	56	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	60	EPA 200.7
NITRATE-NITROGEN	18.6	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/28/2017

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)	5.2	FIELD
pH-LAB (SU)	5.78	SM4500B
POTASSIUM, TOTAL	2.8	EPA 200.7
POTASSIUM, DISSOLVED	2.9	EPA 200.7
SODIUM, TOTAL	8.9	EPA 200.7
SODIUM, DISSOLVED	9.1	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	255	FIELD
SPEC. COND., LAB (umhos/cm)	200	EPA 120.1
SULFATE	12.5	EPA 300
ALKALINITY	5	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	131	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

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PRIVATE WATER SUPPLY
QUARTERLY WATER QUALITY ANALYSES

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PS LCSWMA

Sample Date

02/28/2017

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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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: 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) 02/28/2017

Sample Collection Time: 1:16 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number)

34 Dogwood Lane

Middletown, PA 17057

(717) 944-5541

Lab Accreditation Number(s)

22-293

Lab Analysis Date

03/10/2017

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

02/28/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	7	SM20-2321
CALCIUM, TOTAL	14.5	EPA 200.7
CALCIUM, DISSOLVED	14.5	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	51	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	8.7	EPA 200.7
MAGNESIUM, DISSOLVED	8.6	EPA 200.7
MANGANESE, TOTAL (ug/l)	140	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	150	EPA 200.7
NITRATE-NITROGEN	13.5	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS SENSENICH

Sample Date

02/28/2017

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)	5.12	FIELD
pH-LAB (SU)	5.94	SM4500B
POTASSIUM, TOTAL	2.9	EPA 200.7
POTASSIUM, DISSOLVED	3.1	EPA 200.7
SODIUM, TOTAL	21.5	EPA 200.7
SODIUM, DISSOLVED	21.4	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	300	FIELD
SPEC. COND., LAB (umhos/cm)	259	EPA 120.1
SULFATE	11.6	EPA 300
ALKALINITY	7	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	159	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS SENSENICH

Sample Date

02/28/2017

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
03/22/2017

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) 02/28/2017

Sample Collection Time: 12:30 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number)

34 Dogwood Lane

Middletown, PA 17057

(717) 944-5541

Lab Accreditation Number(s)

22-293

Lab Analysis Date

03/10/2017

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

02/28/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	6	SM20-2321
CALCIUM, TOTAL	10.2	EPA 200.7
CALCIUM, DISSOLVED	10.4	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	33.5	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	5.1	EPA 200.7
MAGNESIUM, DISSOLVED	5.1	EPA 200.7
MANGANESE, TOTAL (ug/l)	150	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	150	EPA 200.7
NITRATE-NITROGEN	0.2 ND	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/28/2017

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)	5.3	FIELD
pH-LAB (SU)	5.8	SM4500B
POTASSIUM, TOTAL	1.8	EPA 200.7
POTASSIUM, DISSOLVED	1.9	EPA 200.7
SODIUM, TOTAL	10.5	EPA 200.7
SODIUM, DISSOLVED	10.9	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	195	FIELD
SPEC. COND., LAB (umhos/cm)	161	EPA 120.1
SULFATE	27.7	EPA 300
ALKALINITY	6	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	104	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/28/2017

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
03/22/2017

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: 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) 03/01/2017

Sample Collection Time: 1:39 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number)

34 Dogwood Lane

Middletown, PA 17057

(717) 944-5541

Lab Accreditation Number(s)

22-293

Lab Analysis Date

03/11/2017

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

03/01/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	135	SM20-2321
CALCIUM, TOTAL	0.053	EPA 200.7
CALCIUM, DISSOLVED	0.13	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	192	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	0.05 ND	EPA 200.7
MAGNESIUM, DISSOLVED	0.1 ND	EPA 200.7
MANGANESE, TOTAL (ug/l)	2.5 ND	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	5 ND	EPA 200.7
NITRATE-NITROGEN	8.5	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS WEBER

Sample Date

03/01/2017

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)	6.67	FIELD
pH-LAB (SU)	7.09	SM4500B
POTASSIUM, TOTAL	0.76	EPA 200.7
POTASSIUM, DISSOLVED	0.84	EPA 200.7
SODIUM, TOTAL	176	EPA 200.7
SODIUM, DISSOLVED	191	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	885	FIELD
SPEC. COND., LAB (umhos/cm)	889	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	135	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	474	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS

WEBER

Sample Date

03/01/2017

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
03/22/2017

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: 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) 02/28/2017

Sample Collection Time: 3:43 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number)

34 Dogwood Lane

Middletown, PA 17057

(717) 944-5541

Lab Accreditation Number(s)

22-293

Lab Analysis Date

03/10/2017

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

02/28/2017

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	17.5	EPA 200.7
CALCIUM, DISSOLVED	18	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	69	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	8.5	EPA 200.7
MAGNESIUM, DISSOLVED	8.9	EPA 200.7
MANGANESE, TOTAL (ug/l)	8	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	8.6	EPA 200.7
NITRATE-NITROGEN	5.9	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS KIRCHNER

Sample Date

02/28/2017

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)	5.6	FIELD
pH-LAB (SU)	6.29	SM4500B
POTASSIUM, TOTAL	1.6	EPA 200.7
POTASSIUM, DISSOLVED	1.7	EPA 200.7
SODIUM, TOTAL	15.8	EPA 200.7
SODIUM, DISSOLVED	16.2	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	290	FIELD
SPEC. COND., LAB (umhos/cm)	426	EPA 120.1
SULFATE	8.4	EPA 300
ALKALINITY	15	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	153	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS KIRCHNER

Sample Date

02/28/2017

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
03/22/2017

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: 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) 02/28/2017

Sample Collection Time: 1:14 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number)

34 Dogwood Lane

Middletown, PA 17057

(717) 944-5541

Lab Accreditation Number(s)

22-293

Lab Analysis Date

03/10/2017

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

02/28/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	13	SM20-2321
CALCIUM, TOTAL	12.8	EPA 200.7
CALCIUM, DISSOLVED	12.9	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	60.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	400	EPA 200.7
IRON, DISSOLVED (ug/l)	65	EPA 200.7
MAGNESIUM, TOTAL	8.1	EPA 200.7
MAGNESIUM, DISSOLVED	8.1	EPA 200.7
MANGANESE, TOTAL (ug/l)	31	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	33	EPA 200.7
NITRATE-NITROGEN	11.7	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/28/2017

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)	5.51	FIELD
pH-LAB (SU)	6.37	SM4500B
POTASSIUM, TOTAL	1.5	EPA 200.7
POTASSIUM, DISSOLVED	1.6	EPA 200.7
SODIUM, TOTAL	26.3	EPA 200.7
SODIUM, DISSOLVED	26.4	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	291	FIELD
SPEC. COND., LAB (umhos/cm)	261	EPA 120.1
SULFATE	4.3	EPA 300
ALKALINITY	13	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	167	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	5.41	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/28/2017

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
03/22/2017

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) 02/28/2017

Sample Collection Time: 1:54 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number)

34 Dogwood Lane

Middletown, PA 17057

(717) 944-5541

Lab Accreditation Number(s)

22-293

Lab Analysis Date

03/10/2017

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

02/28/2017

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	38	SM20-2321
CALCIUM, TOTAL	0.15	EPA 200.7
CALCIUM, DISSOLVED	0.36	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	9	EPA 410.2
CHLORIDE	77.8	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	0.083	EPA 200.7
MAGNESIUM, DISSOLVED	0.23	EPA 200.7
MANGANESE, TOTAL (ug/l)	2.5 ND	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	5 ND	EPA 200.7
NITRATE-NITROGEN	9.7	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS

BECK

Sample Date

02/28/2017

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)	5.85	FIELD
pH-LAB (SU)	6.6	SM4500B
POTASSIUM, TOTAL	1.6	EPA 200.7
POTASSIUM, DISSOLVED	1.7	EPA 200.7
SODIUM, TOTAL	78.3	EPA 200.7
SODIUM, DISSOLVED	84.5	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	417	FIELD
SPEC. COND., LAB (umhos/cm)	403	EPA 120.1
SULFATE	7	EPA 300
ALKALINITY	38	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	199	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.69	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS

BECK

Sample Date

02/28/2017

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)	0.98	EPA 524.2

T Please indicate detection limit if analyte is not detected.

March 20, 2017

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

Certificate of Analysis

Revised Report - 3/20/2017 2:48:57 PM - See workorder comment section for explanation

Project Name:	CONTIGUOUS LANDOWNER-3044	Workorder:	2211411
Purchase Order:		Workorder ID:	1ST QTR 2017-3044 RIVER RD

Dear Mr. Brown:

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

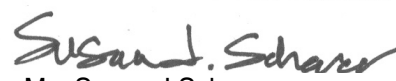
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications 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: 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: 2211411 1ST QTR 2017-3044 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2211411001	3044 River Road, Conestoga, PA	Water	2/28/2017 13:03	2/28/2017 16:49	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2211411 1ST 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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PROJECT SUMMARY

Workorder: 2211411 1ST QTR 2017-3044 RIVER RD

Workorder Comments

Results reported for Ammonia are associated with samples that were stored at temperatures exceeding the method criterion of 0-6 degrees C due to a sample storage equipment malfunction over the weekend of March 4, 2017.

Please note that reported results did not change in this revised report. Additional detailed information will be communicated by your customer service representative.

This certificate of analysis was modified to include the laboratory analysis data on the report. Originally, it was issued with only the cover page and chain of custody. SJS 03/20/17

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ANALYTICAL RESULTS

Workorder: 2211411 1ST QTR 2017-3044 RIVER RD

Lab ID: **2211411001** Date Collected: 2/28/2017 13:03 Matrix: Water
Sample ID: **3044 River Road, Conestoga, PA** Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Alkalinity, Bicarbonate	18		mg/L	5	S2320B-97			3/1/17 10:00	MSA	C
Alkalinity, Total	18	1	mg/L	5	S2320B-97			3/1/17 10:00	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/17 22:33	CMM	B
Chemical Oxygen Demand (COD)	8		mg/L	7	EPA 410.4			3/2/17 13:30	AK	B
Chloride	23.7		mg/L	2.0	EPA 300.0			3/1/17 16:53	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			3/1/17 16:53	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/2/17 11:41	PAG	I
Nitrate-N	24.0		mg/L	1.0	EPA 300.0			3/1/17 17:07	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			3/1/17 16:53	CHW	C
pH	6.40	2	pH_Units		S4500HB-00			3/1/17 10:00	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/10/17 00:00	JLG	3/10/17 07:28	JLG	H
Specific Conductance	237		umhos/cm	1	S2510B-97			3/1/17 10:00	MSA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			3/1/17 16:53	CHW	C
Total Dissolved Solids	166		mg/L	5	S2540C-11			3/2/17 12:53	JAS	C
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			3/1/17 11:44	PAG	F
Turbidity	1.16		NTU	0.10	S2130B-01			3/1/17 09:52	CHW	C
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 16:01	DD	J
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	By	Analyzed	By	Cntr

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ANALYTICAL RESULTS

Workorder: 2211411 1ST QTR 2017-3044 RIVER RD

Lab ID: **2211411001**


Date Collected: 2/28/2017 13:03

Matrix: Water

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

Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
1,2-Dichlorobenzene-d4 (S)	89.2		%	70 - 130	EPA 524.2			3/1/17 16:01	DD	J
4-Bromofluorobenzene (S)	87.9		%	70 - 130	EPA 524.2			3/1/17 16:01	DD	J
METALS										
Calcium, Total	18.5		mg/L	0.050	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:44	TSS	D1
Calcium, Dissolved	19.2		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:53	TSS	E
Iron, Total	0.072		mg/L	0.030	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:44	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:53	TSS	E
Magnesium, Total	10.3		mg/L	0.050	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:44	TSS	D1
Magnesium, Dissolved	10.8		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:53	TSS	E
Manganese, Total	0.0091		mg/L	0.0025	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:44	TSS	D1
Manganese, Dissolved	0.0079		mg/L	0.0050	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:53	TSS	E
Potassium, Total	1.6		mg/L	0.25	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:44	TSS	D1
Potassium, Dissolved	1.7		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:53	TSS	E
Sodium, Total	9.9		mg/L	0.25	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:44	TSS	D1
Sodium, Dissolved	10.7		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:53	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.580		pH_Units		Field			2/28/17 13:03	BGS	M
Specific Conductance, Field	273		umhos/cm	1	Field			2/28/17 13:03	BGS	M
Temperature	15.30		Deg. C		Field			2/28/17 13:03	BGS	M



Ms. Susan J Scherer

Project Coordinator

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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

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2211411001	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.				
2211411001	2	3044 River Road, Conestoga, PA	S4500HB-00	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 SAMPLER. INSTRUCTIONS ON THE BACK.

Generated by ALS

COC #:



ALS Quote

Client Name: LCSWMA - Nelson L. Smith

Address: 3044 River Road

Conestoga, PA 17516

Contact: Nelson L. Smith

Phone#: (717) 872-2888

Project Name#: LCSWMA - Quarterly

Bill To: Lancaster County Solid Waste MA

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

Date Required: _____

Email? ☐ -Y

Fax? ☐ -Y No: _____

Approved By: _____

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

Sample Date Time

1 3044RIVERRO 2-28-17 12:03

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Project Comments:

LOGGED BY (signature):

REVIEWED BY (signature):

DATE

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Relinquished By / Company Name

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Received By / Company Name

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1 3044RIVERRO AUS 2-28-17 16:42

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State Samples Collected In

USACE

Navy

Sample Disposal

Lab

Special

Standard

CLP-like

Reportable to PADEP?

Yes

PWSID #

EDDS: Format Type

ALS Field Services: ☐ Pickup ☐ Labor

☐ Composite_Sampling ☐ Rental_Equipment

☐ Other:

ALS Environmental

March 20, 2017

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

Certificate of Analysis

Revised Report - 3/20/2017 2:50:47 PM - See workorder comment section for explanation

Project Name:	CONTIGUOUS LANDOWNER-3052	Workorder:	2211415
Purchase Order:		Workorder ID:	1ST QTR 2017-3052 RIVER RD

Dear Mr. Brown:

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

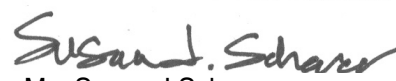
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications 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: 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: 2211415 1ST QTR 2017-3052 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2211415001	3052 River Road, Conestoga, PA	Water	2/28/2017 13:39	2/28/2017 16:49	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2211415 1ST 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.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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PROJECT SUMMARY

Workorder: 2211415 1ST QTR 2017-3052 RIVER RD

Workorder Comments

Results reported for Ammonia are associated with samples that were stored at temperatures exceeding the method criterion of 0-6 degrees C due to a sample storage equipment malfunction over the weekend of March 4, 2017.

Please note that reported results did not change in this revised report. Additional detailed information will be communicated by your customer service representative.

This certificate of analysis was modified to include the laboratory analysis data on the report. Originally, it was issued with only the cover page and chain of custody. SJS 03/20/17

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ANALYTICAL RESULTS

Workorder: 2211415 1ST QTR 2017-3052 RIVER RD

Lab ID: **2211415001**

Date Collected: 2/28/2017 13:39

Matrix: Water

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

Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	DD	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 17:14	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)	84.7		%	70 - 130	EPA 524.2			3/1/17 17:14	DD	K
4-Bromofluorobenzene (S)	88.2		%	70 - 130	EPA 524.2			3/1/17 17:14	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND		mg/L	5	S2320B-97			3/1/17 10:28	MSA	C
Alkalinity, Total	ND	1	mg/L	5	S2320B-97			3/1/17 10:28	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/17 23:30	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/2/17 13:30	AK	B
Chloride	22.2		mg/L	2.0	EPA 300.0			3/1/17 17:49	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			3/1/17 17:49	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/2/17 13:21	PAG	I
Nitrate-N	20.0		mg/L	0.20	EPA 300.0			3/1/17 17:49	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			3/1/17 17:49	CHW	C
pH	5.79	2	pH_Units		S4500HB-00			3/1/17 10:28	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/10/17 00:00	JLG	3/10/17 07:28	JLG	H
Specific Conductance	209		umhos/cm	1	S2510B-97			3/1/17 10:28	MSA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			3/1/17 17:49	CHW	C
Total Dissolved Solids	159		mg/L	5	S2540C-11			3/2/17 12:53	JAS	C

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ANALYTICAL RESULTS

Workorder: 2211415 1ST QTR 2017-3052 RIVER RD

Lab ID: **2211415001** Date Collected: 2/28/2017 13:39 Matrix: Water
Sample ID: **3052 River Road, Conestoga, PA** Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	0.51		mg/L	0.50	S5310B-00			3/1/17 11:44	PAG	F
Turbidity	0.13		NTU	0.10	S2130B-01			3/1/17 20:58	MSA	C
METALS										
Calcium, Total	14.0		mg/L	0.050	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:55	TSS	D1
Calcium, Dissolved	14.2		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:20	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:55	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:20	TSS	E
Magnesium, Total	10.6		mg/L	0.050	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:55	TSS	D1
Magnesium, Dissolved	11.0		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:20	TSS	E
Manganese, Total	0.055		mg/L	0.0025	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:55	TSS	D1
Manganese, Dissolved	0.056		mg/L	0.0050	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:20	TSS	E
Potassium, Total	1.9		mg/L	0.25	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:55	TSS	D1
Potassium, Dissolved	2.1		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:20	TSS	E
Sodium, Total	7.0		mg/L	0.25	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:55	TSS	D1
Sodium, Dissolved	7.9		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:20	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	4.980		pH_Units		Field			2/28/17 13:39	BGS	N
Specific Conductance, Field	252		umhos/cm	1	Field			2/28/17 13:39	BGS	N
Temperature	16.60		Deg. C		Field			2/28/17 13:39	BGS	N



Ms. Susan J Scherer
Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2211415001	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.				
2211415001	2	3052 River Road, Conestoga, PA	S4500HB-00	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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March 20, 2017

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

Certificate of Analysis

Revised Report - 3/20/2017 2:47:22 PM - See workorder comment section for explanation

Project Name:	2017-FREY FARM	Workorder:	2211407
Purchase Order:		Workorder ID:	1ST QTR 2017 3056 RIVER ROAD

Dear Mr. Brown:

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

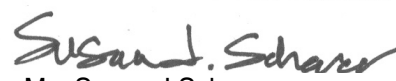
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications 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: 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: 2211407 1ST QTR 2017 3056 RIVER ROAD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2211407001	3056RIVERRD	Water	2/28/2017 13:10	2/28/2017 16:49	Mr. Jeff Musser

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SAMPLE SUMMARY

Workorder: 2211407 1ST QTR 2017 3056 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.
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- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

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

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PROJECT SUMMARY

Workorder: 2211407 1ST QTR 2017 3056 RIVER ROAD

Workorder Comments

Results reported for Ammonia are associated with samples that were stored at temperatures exceeding the method criterion of 0-6 degrees C due to a sample storage equipment malfunction over the weekend of March 4, 2017.

Please note that reported results did not change in this revised report. Additional detailed information will be communicated by your customer service representative.

This certificate of analysis was modified to include the laboratory analysis data on the report. Originally, it was issued with only the cover page and chain of custody. SJS 03/20/17

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ANALYTICAL RESULTS

Workorder: 2211407 1ST QTR 2017 3056 RIVER ROAD

Lab ID: **2211407001**
Sample ID: **3056RIVERRD**

Date Collected: 2/28/2017 13:10 Matrix: Water
Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND		mg/L	5	S2320B-97			3/1/17 08:48	MSA	C
Alkalinity, Total	ND	1	mg/L	5	S2320B-97			3/1/17 08:48	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/17 21:16	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/2/17 13:30	AK	B
Chloride	26.2		mg/L	2.0	EPA 300.0			3/1/17 15:57	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			3/1/17 15:57	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/1/17 14:50	PAG	I
Nitrate-N	26.4		mg/L	1.0	EPA 300.0			3/1/17 16:11	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			3/1/17 15:57	CHW	C
pH	5.78	2	pH_Units		S4500HB-00			3/1/17 08:48	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/10/17 00:00	JLG	3/10/17 07:28	JLG	H
Specific Conductance	234		umhos/cm	1	S2510B-97			3/1/17 08:48	MSA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			3/1/17 15:57	CHW	C
Total Dissolved Solids	141	3	mg/L	5	S2540C-11			3/2/17 12:53	JAS	C
Total Organic Carbon (TOC)	0.60		mg/L	0.50	S5310B-00			3/1/17 11:44	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			3/1/17 09:52	CHW	C
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 14:23	DD	J
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	By	Analyzed	By	Cntr

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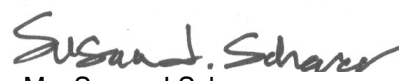
ANALYTICAL RESULTS

Workorder: 2211407 1ST QTR 2017 3056 RIVER ROAD

Lab ID: **2211407001**
Sample ID: **3056RIVERRD**

Date Collected: 2/28/2017 13:10 Matrix: Water
Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
1,2-Dichlorobenzene-d4 (S)	81.7		%	70 - 130	EPA 524.2			3/1/17 14:23	DD	J
4-Bromofluorobenzene (S)	89.5		%	70 - 130	EPA 524.2			3/1/17 14:23	DD	J
METALS										
Calcium, Total	13.9		mg/L	0.050	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:22	TSS	D1
Calcium, Dissolved	14.9		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:38	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:22	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:38	TSS	E
Magnesium, Total	12.0		mg/L	0.050	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:22	TSS	D1
Magnesium, Dissolved	12.9		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:38	TSS	E
Manganese, Total	0.050		mg/L	0.0025	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:22	TSS	D1
Manganese, Dissolved	0.052		mg/L	0.0050	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:38	TSS	E
Potassium, Total	2.1		mg/L	0.25	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:22	TSS	D1
Potassium, Dissolved	2.2		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:38	TSS	E
Sodium, Total	8.1		mg/L	0.25	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:22	TSS	D1
Sodium, Dissolved	8.9		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:38	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.200		pH_Units		SM4500B			2/28/17 13:10	CLT	M
Specific Conductance, Field	283		umhos/cm	1	S2510B-97			2/28/17 13:10	CLT	M


Ms. Susan J Scherer
Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2211407001	1	3056RIVERRD	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
2211407001	2	3056RIVERRD	S4500HB-00	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.				
2211407001	3	3056RIVERRD	S2540C-11	Total Dissolved Solids
The RPD associated with this sample was recovered at 18.6%. The RPD is outside method acceptance limits of 0-5%. The results used to calculate the RPD were 141 and 170.				

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March 20, 2017

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

Certificate of Analysis

Revised Report - 3/20/2017 2:48:20 PM - See workorder comment section for explanation

Project Name:	2017-FREY FARM	Workorder:	2211408
Purchase Order:		Workorder ID:	1ST QTR 2017 3060 RIVER ROAD

Dear Mr. Brown:

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

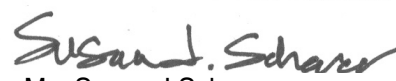
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications 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: 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: 2211408 1ST QTR 2017 3060 RIVER ROAD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2211408001	3060RIVERRD	Water	2/28/2017 12:10	2/28/2017 16:49	Mr. Jeff Musser

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SAMPLE SUMMARY

Workorder: 2211408 1ST QTR 2017 3060 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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PROJECT SUMMARY

Workorder: 2211408 1ST QTR 2017 3060 RIVER ROAD

Workorder Comments

Results reported for Ammonia are associated with samples that were stored at temperatures exceeding the method criterion of 0-6 degrees C due to a sample storage equipment malfunction over the weekend of March 4, 2017.

Please note that reported results did not change in this revised report. Additional detailed information will be communicated by your customer service representative.

This certificate of analysis was modified to include the laboratory analysis data on the report. Originally, it was issued with only the cover page and chain of custody. SJS 03/20/17

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ANALYTICAL RESULTS

Workorder: 2211408 1ST QTR 2017 3060 RIVER ROAD

Lab ID: **2211408001**
Sample ID: **3060RIVERRD**

Date Collected: 2/28/2017 12:10 Matrix: Water
Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Alkalinity, Bicarbonate	5		mg/L	5	S2320B-97			3/1/17 08:57	MSA	C
Alkalinity, Total	5	1	mg/L	5	S2320B-97			3/1/17 08:57	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/17 21:36	CMM	B
Chemical Oxygen Demand (COD)	7		mg/L	7	EPA 410.4			3/2/17 13:30	AK	B
Chloride	21.9		mg/L	2.0	EPA 300.0			3/1/17 14:33	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			3/1/17 14:33	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/1/17 15:17	PAG	I
Nitrate-N	18.6		mg/L	0.20	EPA 300.0			3/1/17 14:33	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			3/1/17 14:33	CHW	C
pH	5.78	2	pH_Units		S4500HB-00			3/1/17 08:57	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/10/17 00:00	JLG	3/10/17 07:28	JLG	H
Specific Conductance	200		umhos/cm	1	S2510B-97			3/1/17 08:57	MSA	C
Sulfate	12.5		mg/L	2.0	EPA 300.0			3/1/17 14:33	CHW	C
Total Dissolved Solids	131		mg/L	5	S2540C-11			3/2/17 12:53	JAS	C
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			3/1/17 11:44	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			3/1/17 09:52	CHW	C
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 14:48	DD	J
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	By	Analyzed	By	Cntr

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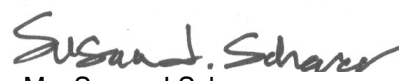
ANALYTICAL RESULTS

Workorder: 2211408 1ST QTR 2017 3060 RIVER ROAD

Lab ID: **2211408001**
Sample ID: **3060RIVERRD**

Date Collected: 2/28/2017 12:10 Matrix: Water
Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
1,2-Dichlorobenzene-d4 (S)	79.2		%	70 - 130	EPA 524.2			3/1/17 14:48	DD	J
4-Bromofluorobenzene (S)	87		%	70 - 130	EPA 524.2			3/1/17 14:48	DD	J
METALS										
Calcium, Total	9.5		mg/L	0.050	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:34	TSS	D1
Calcium, Dissolved	9.7		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:42	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:34	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:42	TSS	E
Magnesium, Total	11.3		mg/L	0.050	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:34	TSS	D1
Magnesium, Dissolved	11.6		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:42	TSS	E
Manganese, Total	0.056		mg/L	0.0025	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:34	TSS	D1
Manganese, Dissolved	0.060		mg/L	0.0050	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:42	TSS	E
Potassium, Total	2.8		mg/L	0.25	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:34	TSS	D1
Potassium, Dissolved	2.9		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:42	TSS	E
Sodium, Total	8.9		mg/L	0.25	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:34	TSS	D1
Sodium, Dissolved	9.1		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:42	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.200		pH_Units		SM4500B			2/28/17 12:10	CLT	M
Specific Conductance, Field	255		umhos/cm	1	S2510B-97			2/28/17 12:10	CLT	M


Ms. Susan J Scherer
Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2211408001	1	3060RIVERRD	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
2211408001	2	3060RIVERRD	S4500HB-00	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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March 20, 2017

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

Certificate of Analysis

Revised Report - 3/20/2017 2:49:52 PM - See workorder comment section for explanation

Project Name:	CONTIGUOUS LANDOWNER-3076	Workorder:	2211413
Purchase Order:		Workorder ID:	1ST QTR 2017-3076 RIVER RD

Dear Mr. Brown:

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

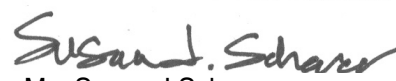
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications 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: Mr. Mark Reider , Landowner , Mr. Jeff Musser

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Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2211413 1ST QTR 2017-3076 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2211413001	3076 River Road, Conestoga, PA	Water	2/28/2017 13:16	2/28/2017 16:49	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2211413 1ST 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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PROJECT SUMMARY

Workorder: 2211413 1ST QTR 2017-3076 RIVER RD

Workorder Comments

Results reported for Ammonia are associated with samples that were stored at temperatures exceeding the method criterion of 0-6 degrees C due to a sample storage equipment malfunction over the weekend of March 4, 2017.

Please note that reported results did not change in this revised report. Additional detailed information will be communicated by your customer service representative.

This certificate of analysis was modified to include the laboratory analysis data on the report. Originally, it was issued with only the cover page and chain of custody. SJS 03/20/17

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ANALYTICAL RESULTS

Workorder: 2211413 1ST QTR 2017-3076 RIVER RD

Lab ID: **2211413001** Date Collected: 2/28/2017 13:16 Matrix: Water
Sample ID: **3076 River Road, Conestoga, PA** Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Alkalinity, Bicarbonate	7		mg/L	5	S2320B-97			3/1/17 10:19	MSA	C
Alkalinity, Total	7	1	mg/L	5	S2320B-97			3/1/17 10:19	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/17 23:11	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/2/17 13:30	AK	B
Chloride	51.0		mg/L	2.0	EPA 300.0			3/1/17 17:35	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			3/1/17 17:35	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/2/17 12:57	PAG	I
Nitrate-N	13.5		mg/L	0.20	EPA 300.0			3/1/17 17:35	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			3/1/17 17:35	CHW	C
pH	5.94	2	pH_Units		S4500HB-00			3/1/17 10:19	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/10/17 00:00	JLG	3/10/17 07:28	JLG	H
Specific Conductance	259		umhos/cm	1	S2510B-97			3/1/17 10:19	MSA	C
Sulfate	11.6		mg/L	2.0	EPA 300.0			3/1/17 17:35	CHW	C
Total Dissolved Solids	159		mg/L	5	S2540C-11			3/2/17 12:53	JAS	C
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			3/1/17 11:44	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			3/1/17 09:52	CHW	C
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 16:50	DD	K
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	By	Analyzed	By	Cntr

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ANALYTICAL RESULTS

Workorder: 2211413 1ST QTR 2017-3076 RIVER RD

Lab ID: **2211413001**

Date Collected: 2/28/2017 13:16

Matrix: Water

Sample ID: **3076 River Road, Conestoga, PA**

Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
1,2-Dichlorobenzene-d4 (S)	83.2		%	70 - 130	EPA 524.2			3/1/17 16:50	DD	K
4-Bromofluorobenzene (S)	87		%	70 - 130	EPA 524.2			3/1/17 16:50	DD	K
METALS										
Calcium, Total	14.5		mg/L	0.050	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:51	TSS	D1
Calcium, Dissolved	14.5		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:01	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:51	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:01	TSS	E
Magnesium, Total	8.7		mg/L	0.050	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:51	TSS	D1
Magnesium, Dissolved	8.6		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:01	TSS	E
Manganese, Total	0.14		mg/L	0.0025	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:51	TSS	D1
Manganese, Dissolved	0.15		mg/L	0.0050	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:01	TSS	E
Potassium, Total	2.9		mg/L	0.25	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:51	TSS	D1
Potassium, Dissolved	3.1		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:01	TSS	E
Sodium, Total	21.5		mg/L	0.25	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:51	TSS	D1
Sodium, Dissolved	21.4		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:01	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.120		pH_Units		Field			2/28/17 13:16	BGS	N
Specific Conductance, Field	300		umhos/cm	1	Field			2/28/17 13:16	BGS	N
Temperature	15.20		Deg. C		Field			2/28/17 13:16	BGS	N



Ms. Susan J Scherer

Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2211413001	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.				
2211413001	2	3076 River Road, Conestoga, PA	S4500HB-00	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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34 Dogwood Lane • Middletown, PA 17057 • Phone 717-944-5541 • Fax 717-944-1430 • www.alsenv.com

Client Name: LCSWMA - Esther A. Schopf

Address: 3076 Rover Road

Conestoga, PA 17516

Contact: Esther A. Schopf

Phone#: (717) 872-2559

Project Name#: LCSWMA - Quarterly

Bill To: Lancaster County Solid Waste MA

☒ 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 3076RIVERRD 2-28-17 12:16

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 3076RIVERRD 2-28-17 12:16

3

5

7

9

COC #:

ALS Quo

Generated by ALS

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

* 2 2 1 1 4 1 3 *

Receptance

Cooler Temp: 35C Therm ID: 352

No. of Coolers: Y N Initial

Custody Seals Present?

(if present) Seals Intact?

Received on Ice?

COC Labels Complete/Accurate?

Cont. in Good Cond.?

Correct Containers?

Correct Sample Volumes?

Correct Preservation?

Headspace/Volatiles?

Courier/Tracking #:

Sample/COC Comments

Alkalinity, HCO3

pH, TDS, NO2, NO3, Cl, SO4, F, Tb, SPC

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

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

NH3-N, COD

FM

VOC

O-OH

TOX

TOC

**Matrix

G or C

G DW

2 2

1 1

1 1

1 1

1 1

1 1

1 1

1 1

1 1

1 1

1 1

1 1

1 1

1 1

1 1

1 1

March 13, 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: 2211409
Purchase Order:	Workorder ID: 1ST QTR 2017 LCSWMA OWNED

Dear Mr. Brown:

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

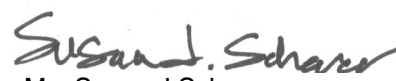
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications 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: 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: 2211409 1ST QTR 2017 LCSWMA OWNED

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2211409001	3079RIVERRD	Water	2/28/2017 12:30	2/28/2017 16:49	Mr. Jeff Musser

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SAMPLE SUMMARY

Workorder: 2211409 1ST QTR 2017 LCSWMA OWNED

Notes

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

Standard Acronyms/Flags

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

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PROJECT SUMMARY

Workorder: 2211409 1ST QTR 2017 LCSWMA OWNED

Workorder Comments

Results reported for Ammonia are associated with samples that were stored at temperatures exceeding the method criterion of 0-6 degrees C due to a sample storage equipment malfunction over the weekend of March 4, 2017.
Please note that reported results did not change in this revised report. Additional detailed information will be communicated by your customer service representative.

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ANALYTICAL RESULTS

Workorder: 2211409 1ST QTR 2017 LCSWMA OWNED

Lab ID: **2211409001**
Sample ID: **3079RIVERRD**

Date Collected: 2/28/2017 12:30 Matrix: Water
Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 15:12	DD	J
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichlorobenzene-d4 (S)	84		%	70 - 130	EPA 524.2			3/1/17 15:12	DD	J
4-Bromofluorobenzene (S)	87.6		%	70 - 130	EPA 524.2			3/1/17 15:12	DD	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	6		mg/L	5	S2320B-97			3/1/17 09:06	MSA	C
Alkalinity, Total	6	1	mg/L	5	S2320B-97			3/1/17 09:06	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/17 21:55	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/2/17 13:30	AK	B
Chloride	33.5		mg/L	2.0	EPA 300.0			3/1/17 16:25	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			3/1/17 16:25	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/2/17 10:20	PAG	I
Nitrate-N	ND		mg/L	0.20	EPA 300.0			3/1/17 16:25	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			3/1/17 16:25	CHW	C
pH	5.80	2	pH_Units		S4500HB-00			3/1/17 09:06	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/10/17 00:00	JLG	3/10/17 07:28	JLG	H
Specific Conductance	161		umhos/cm	1	S2510B-97			3/1/17 09:06	MSA	C
Sulfate	27.7		mg/L	2.0	EPA 300.0			3/1/17 16:25	CHW	C
Total Dissolved Solids	104		mg/L	5	S2540C-11			3/2/17 12:53	JAS	C

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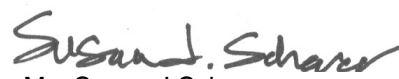
ANALYTICAL RESULTS

Workorder: 2211409 1ST QTR 2017 LCSWMA OWNED

Lab ID: **2211409001**
Sample ID: **3079RIVERRD**

Date Collected: 2/28/2017 12:30 Matrix: Water
Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			3/1/17 11:44	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			3/1/17 09:52	CHW	C
METALS										
Calcium, Total	10.2		mg/L	0.050	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:38	TSS	D1
Calcium, Dissolved	10.4		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:45	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:38	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:45	TSS	E
Magnesium, Total	5.1		mg/L	0.050	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:38	TSS	D1
Magnesium, Dissolved	5.1		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:45	TSS	E
Manganese, Total	0.15		mg/L	0.0025	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:38	TSS	D1
Manganese, Dissolved	0.15		mg/L	0.0050	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:45	TSS	E
Potassium, Total	1.8		mg/L	0.25	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:38	TSS	D1
Potassium, Dissolved	1.9		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:45	TSS	E
Sodium, Total	10.5		mg/L	0.25	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:38	TSS	D1
Sodium, Dissolved	10.9		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:45	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.300		pH_Units		SM4500B			2/28/17 12:30	CLT	M
Specific Conductance, Field	195		umhos/cm	1	S2510B-97			2/28/17 12:30	CLT	M


Ms. Susan J Scherer
Project Coordinator

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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

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2211409001	1	3079RIVERRD	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO ₃ /L.				
2211409001	2	3079RIVERRD	S4500HB-00	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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March 13, 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:	2211646
Purchase Order:		Workorder ID:	1ST QTR 2017-3088 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, March 1, 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.

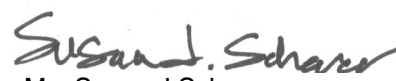
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications 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: 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: 2211646 1ST QTR 2017-3088 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2211646001	3088 River Road, Conestoga PA	Water	3/1/2017 13:39	3/1/2017 15:12	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2211646 1ST 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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PROJECT SUMMARY

Workorder: 2211646 1ST QTR 2017-3088 RIVER RD

Workorder Comments

Results reported for Ammonia are associated with samples that were stored at temperatures exceeding the method criterion of 0-6 degrees C due to a sample storage equipment malfunction over the weekend of March 4, 2017.
Please note that reported results did not change in this revised report. Additional detailed information will be communicated by your customer service representative.

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ANALYTICAL RESULTS

Workorder: 2211646 1ST QTR 2017-3088 RIVER RD

Lab ID: **2211646001** Date Collected: 3/1/2017 13:39 Matrix: Water
Sample ID: **3088 River Road, Conestoga PA** Date Received: 3/1/2017 15:12

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/2/17 02:51	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)	87.9		%	70 - 130	EPA 524.2			3/2/17 02:51	CJG	K
4-Bromofluorobenzene (S)	109		%	70 - 130	EPA 524.2			3/2/17 02:51	CJG	K
METALS										
Calcium, Total	0.053		mg/L	0.050	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 11:57	TSS	D1
Calcium, Dissolved	0.13		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:23	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 11:57	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:23	TSS	E
Magnesium, Total	ND		mg/L	0.050	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 11:57	TSS	D1
Magnesium, Dissolved	ND		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:23	TSS	E
Manganese, Total	ND		mg/L	0.0025	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 11:57	TSS	D1
Manganese, Dissolved	ND		mg/L	0.0050	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:23	TSS	E
Potassium, Total	0.76		mg/L	0.25	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 11:57	TSS	D1
Potassium, Dissolved	0.84		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:23	TSS	E
Sodium, Total	176		mg/L	0.25	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 11:57	TSS	D1
Sodium, Dissolved	191		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 07:23	TSS	E
WET CHEMISTRY										
Alkalinity, Bicarbonate	135		mg/L	5	S2320B-97			3/1/17 22:53	MSA	C
Alkalinity, Total	135	1	mg/L	5	S2320B-97			3/1/17 22:53	MSA	A

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ANALYTICAL RESULTS

Workorder: 2211646 1ST QTR 2017-3088 RIVER RD

Lab ID: **2211646001**

Date Collected: 3/1/2017 13:39

Matrix: Water


Sample ID: **3088 River Road, Conestoga PA**

Date Received: 3/1/2017 15:12

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
Ammonia-N	ND		mg/L	0.100	D6919-09			3/11/17 14:56	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/2/17 13:30	AK	B
Chloride	192		mg/L	2.0	EPA 300.0			3/2/17 06:19	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			3/2/17 06:19	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/2/17 14:07	PAG	I
Nitrate-N	8.5		mg/L	0.20	EPA 300.0			3/2/17 06:19	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			3/2/17 06:19	CHW	C
pH	7.09	2	pH_Units		S4500HB-00			3/1/17 22:53	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/10/17 00:00	JLG	3/10/17 07:28	JLG	H
Specific Conductance	889		umhos/cm	1	S2510B-97			3/1/17 22:53	MSA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			3/2/17 06:19	CHW	C
Total Dissolved Solids	474		mg/L	5	S2540C-11			3/2/17 16:01	JAS	C
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			3/2/17 10:22	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			3/1/17 20:58	MSA	C

FIELD PARAMETERS

pH, Field (SM4500B)	6.670		pH_Units		Field			3/1/17 13:39	BGS	M
Specific Conductance, Field	885		umhos/cm	1	Field			3/1/17 13:39	BGS	M
Temperature	15.80		Deg. C		Field			3/1/17 13:39	BGS	M



Ms. Susan J Scherer

Project Coordinator

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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

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2211646001	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.				
2211646001	2	3088 River Road, Conestoga PA	S4500HB-00	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.

Client Name: LCSWMA - Hans Weber and Deb Kalbach

Address: 3088 River Road

Conestoga, PA 17516

Contact: Hans Weber and Deb Kalbach

Phone#: (717) 419-7982

Project Name#: LCSWMA - Quarterly

Bill To: LCSWMA - Hans Weber and Deb Kalbach

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

Date Required: _____ Approved By: _____

Email? ☐ Y ☐ N

Fax? ☐ Y ☐ N

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

1 3088 RIVER RD	3-1-12	1339
2		
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Project Comments:

LOGGED BY (signature):

REVIEWED BY (signature):

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
--------------------------------	------	------	----------------------------	------	------

1 *[Signature]* ALS 3-1-12 1512 *[Signature]* 3-1-12 1512

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Container Type	AG	AN	AN	CG	PL	PL	PL	PL
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Container Size

Preservative

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Therm ID: 35316

No. of Coolers: Y N Initial *[Signature]*

Custody Seals Present? ☐

(If present) Seals Intact? ☐

Received on Ice? ☐

COCILabels Complete/Accurate? ☐

Cont. In Good Cond.? ☐

Correct Containers? ☐

Correct Sample Volumes? ☐

Correct Preservation? ☐

Headspace/Volatilities? ☐

Courier/Tracking #:

Sample/COC Comments

ALS Field Services: ☐ Pickup ☐ Labor

☐ Composite Sampling ☐ Rental Equipment

☐ Other:

Standard ☐

CLP-like ☐

USACE ☐

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March 13, 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:	2211405
Purchase Order:		Workorder ID:	1ST QTR 2017-3100 RIVER RD

Dear Mr. Brown:

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

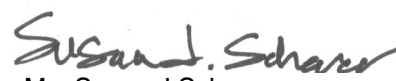
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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CC: Mr. Mark Reider , Landowner , Mr. Jeff Musser

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Ms. Susan J Scherer
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SAMPLE SUMMARY

Workorder: 2211405 1ST QTR 2017-3100 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2211405001	3100 River Road, Conestoga, PA	Water	2/28/2017 15:43	2/28/2017 16:49	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2211405 1ST 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.
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RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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PROJECT SUMMARY

Workorder: 2211405 1ST QTR 2017-3100 RIVER RD

Workorder Comments

Results reported for Ammonia are associated with samples that were stored at temperatures exceeding the method criterion of 0-6 degrees C due to a sample storage equipment malfunction over the weekend of March 4, 2017.
Please note that reported results did not change in this revised report. Additional detailed information will be communicated by your customer service representative.

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ANALYTICAL RESULTS

Workorder: 2211405 1ST QTR 2017-3100 RIVER RD

Lab ID: **2211405001**

Date Collected: 2/28/2017 15:43

Matrix: Water

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

Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Alkalinity, Bicarbonate	15		mg/L	5	S2320B-97			3/1/17 08:38	MSA	C
Alkalinity, Total	15	1	mg/L	5	S2320B-97			3/1/17 08:38	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/10/17 08:43	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/2/17 13:30	AK	B
Chloride	69.0		mg/L	2.0	EPA 300.0			3/1/17 14:19	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			3/1/17 14:19	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/1/17 13:56	PAG	I
Nitrate-N	5.9		mg/L	0.20	EPA 300.0			3/1/17 14:19	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			3/1/17 14:19	CHW	C
pH	6.29	2	pH_Units		S4500HB-00			3/1/17 08:38	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/10/17 00:00	JLG	3/10/17 07:28	JLG	H
Specific Conductance	426		umhos/cm	1	S2510B-97			3/1/17 08:38	MSA	C
Sulfate	8.4		mg/L	2.0	EPA 300.0			3/1/17 14:19	CHW	C
Total Dissolved Solids	153		mg/L	5	S2540C-11			3/1/17 18:20	JAS	C
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			3/1/17 11:44	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			3/1/17 09:52	CHW	C
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 13:59	DD	J
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	By	Analyzed	By	Cntr

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ANALYTICAL RESULTS

Workorder: 2211405 1ST QTR 2017-3100 RIVER RD

Lab ID: **2211405001**

Date Collected: 2/28/2017 15:43

Matrix: Water

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

Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
1,2-Dichlorobenzene-d4 (S)	79		%	70 - 130	EPA 524.2			3/1/17 13:59	DD	J
4-Bromofluorobenzene (S)	87.2		%	70 - 130	EPA 524.2			3/1/17 13:59	DD	J
METALS										
Calcium, Total	17.5		mg/L	0.050	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:19	TSS	D1
Calcium, Dissolved	18.0		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:34	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:19	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:34	TSS	E
Magnesium, Total	8.5		mg/L	0.050	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:19	TSS	D1
Magnesium, Dissolved	8.9		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:34	TSS	E
Manganese, Total	0.0080		mg/L	0.0025	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:19	TSS	D1
Manganese, Dissolved	0.0086		mg/L	0.0050	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:34	TSS	E
Potassium, Total	1.6		mg/L	0.25	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:19	TSS	D1
Potassium, Dissolved	1.7		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:34	TSS	E
Sodium, Total	15.8		mg/L	0.25	EPA 200.7	3/1/17 07:29	TRR	3/2/17 09:19	TSS	D1
Sodium, Dissolved	16.2		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:34	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.600		pH_Units		Field			2/28/17 15:43	BGS	M
Specific Conductance, Field	290		umhos/cm	1	Field			2/28/17 15:43	BGS	M
Temperature	16.20		Deg. C		Field			2/28/17 15:43	BGS	M



Ms. Susan J Scherer

Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2211405001	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.				
2211405001	2	3100 River Road, Conestoga, PA	S4500HB-00	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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March 13, 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:	2211412
Purchase Order:		Workorder ID:	1ST QTR 2017-3106 RIVER ROAD

Dear Mr. Brown:

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

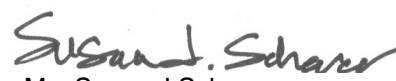
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications 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: 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: 2211412 1ST QTR 2017-3106 RIVER ROAD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2211412001	3106 River Road, Conestoga, PA	Water	2/28/2017 13:14	2/28/2017 16:49	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2211412 1ST 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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PROJECT SUMMARY

Workorder: 2211412 1ST QTR 2017-3106 RIVER ROAD

Workorder Comments

Results reported for Ammonia are associated with samples that were stored at temperatures exceeding the method criterion of 0-6 degrees C due to a sample storage equipment malfunction over the weekend of March 4, 2017.
Please note that reported results did not change in this revised report. Additional detailed information will be communicated by your customer service representative.

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ANALYTICAL RESULTS

Workorder: 2211412 1ST QTR 2017-3106 RIVER ROAD

Lab ID: **2211412001** Date Collected: 2/28/2017 13:14 Matrix: Water
Sample ID: **3106 River Road, Conestoga, PA** Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Alkalinity, Bicarbonate	13		mg/L	5	S2320B-97			3/1/17 10:10	MSA	C
Alkalinity, Total	13	1	mg/L	5	S2320B-97			3/1/17 10:10	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/17 22:52	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/2/17 13:30	AK	B
Chloride	60.1		mg/L	2.0	EPA 300.0			3/1/17 17:21	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			3/1/17 17:21	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/2/17 12:02	PAG	I
Nitrate-N	11.7		mg/L	0.20	EPA 300.0			3/1/17 17:21	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			3/1/17 17:21	CHW	C
pH	6.37	2	pH_Units		S4500HB-00			3/1/17 10:10	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/10/17 00:00	JLG	3/10/17 07:28	JLG	H
Specific Conductance	261		umhos/cm	1	S2510B-97			3/1/17 10:10	MSA	C
Sulfate	4.3		mg/L	2.0	EPA 300.0			3/1/17 17:21	CHW	C
Total Dissolved Solids	167		mg/L	5	S2540C-11			3/2/17 12:53	JAS	C
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			3/1/17 11:44	PAG	F
Turbidity	5.41		NTU	0.10	S2130B-01			3/1/17 09:52	CHW	C
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 16:25	DD	J
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	By	Analyzed	By	Cntr

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ANALYTICAL RESULTS

Workorder: 2211412 1ST QTR 2017-3106 RIVER ROAD

Lab ID: **2211412001**

Date Collected: 2/28/2017 13:14

Matrix: Water

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

Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
1,2-Dichlorobenzene-d4 (S)	86.7		%	70 - 130	EPA 524.2			3/1/17 16:25	DD	J
4-Bromofluorobenzene (S)	91.4		%	70 - 130	EPA 524.2			3/1/17 16:25	DD	J
METALS										
Calcium, Total	12.8		mg/L	0.050	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:48	TSS	D1
Calcium, Dissolved	12.9		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:57	TSS	E
Iron, Total	0.40		mg/L	0.030	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:48	TSS	D1
Iron, Dissolved	0.065		mg/L	0.060	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:57	TSS	E
Magnesium, Total	8.1		mg/L	0.050	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:48	TSS	D1
Magnesium, Dissolved	8.1		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:57	TSS	E
Manganese, Total	0.031		mg/L	0.0025	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:48	TSS	D1
Manganese, Dissolved	0.033		mg/L	0.0050	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:57	TSS	E
Potassium, Total	1.5		mg/L	0.25	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:48	TSS	D1
Potassium, Dissolved	1.6		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:57	TSS	E
Sodium, Total	26.3		mg/L	0.25	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:48	TSS	D1
Sodium, Dissolved	26.4		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:57	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.510		pH_Units		Field			2/28/13 14:00	BGS	M
Specific Conductance, Field	291		umhos/cm		Field			2/28/13 14:00	BGS	M
Temperature	16.10		Deg. C		Field			2/28/13 14:00	BGS	M



Ms. Susan J Scherer

Project Coordinator

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2211412001	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.				
2211412001	2	3106 River Road, Conestoga, PA	S4500HB-00	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.**

COC #: **ALS QUC**
 * 2 2 1 1 4 1 2 *

Client Name: LCSWMA - Patricia S. Hill

Address: 3106 River Road

Conestoga, PA 17516

Contact: Patricia S. Hill

Phone#: (717) 872-4587

Project Name#: LCSWMA - Quarterly

Bill To: Lancaster County Solid Waste MA

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

Date Required: _____ Approved By: _____

Email? ☐ -Y

Fax? ☐ -Y No.:

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

Sample Date Time

1 3106RIVERRD 3-28-17 1314

2

3

4

5

6

7

8

9

10

Project Comments:

LOGGED BY (signature):

2/28/17 12/31

REVIEWED BY (signature):

2/28/17 12/31

Relinquished By / Company Name

Date Time

Received By / Company Name

Date Time

1. *[Signature]* ALS

3-28-17 1649

[Signature] ALS

2/28/17 1649

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10

EDDS: Formal Type

PWSID #

Reportable to PADEP?

Yes ☐ No ☐

Sample Disposal

Lab ☒ Special ☐

Special Processing

USACE ☐ Navy ☐

State Samples Collected In

NY ☐ NJ ☐ PA ☒ NC ☐

ALS Field Services: ☐ Pickup ☐ Labor

☐ Composite Sampling ☐ Rental Equipment

☐ Other:

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

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

Rev 8/04

March 13, 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:	2211410
Purchase Order:		Workorder ID:	1ST QTR 2017-3125 RIVER RD

Dear Mr. Brown:

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

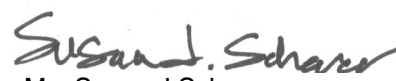
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications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

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CC: Mr. Mark Reider , Landowner , Mr. Jeff Musser

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Ms. Susan J Scherer
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2211410 1ST QTR 2017-3125 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2211410001	3125 River Road, Conestoga, PA	Water	2/28/2017 13:54	2/28/2017 16:49	Mr. Brian G Shade
2211410002	Trip Blank	Water	2/28/2017 16:49	2/28/2017 16:49	Mr. Brian G Shade
2211410003	Field Blank	Water	2/28/2017 15:13	2/28/2017 16:49	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2211410 1ST 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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PROJECT SUMMARY

Workorder: 2211410 1ST QTR 2017-3125 RIVER RD

Workorder Comments

Results reported for Ammonia are associated with samples that were stored at temperatures exceeding the method criterion of 0-6 degrees C due to a sample storage equipment malfunction over the weekend of March 4, 2017.
Please note that reported results did not change in this revised report. Additional detailed information will be communicated by your customer service representative.

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ANALYTICAL RESULTS

Workorder: 2211410 1ST QTR 2017-3125 RIVER RD

Lab ID: **2211410001** Date Collected: 2/28/2017 13:54 Matrix: Water
Sample ID: **3125 River Road, Conestoga, PA** Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY										
Alkalinity, Bicarbonate	38		mg/L	5	S2320B-97			3/1/17 09:51	MSA	C
Alkalinity, Total	38	1	mg/L	5	S2320B-97			3/1/17 09:51	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/17 22:14	CMM	B
Chemical Oxygen Demand (COD)	9		mg/L	7	EPA 410.4			3/2/17 13:30	AK	B
Chloride	77.8		mg/L	2.0	EPA 300.0			3/1/17 16:39	CHW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			3/1/17 16:39	CHW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/2/17 11:07	PAG	I
Nitrate-N	9.7		mg/L	0.20	EPA 300.0			3/1/17 16:39	CHW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			3/1/17 16:39	CHW	C
pH	6.60	2	pH_Units		S4500HB-00			3/1/17 09:51	MSA	C
Phenolics	ND		mg/L	0.005	EPA 420.4	3/10/17 00:00	JLG	3/10/17 07:28	JLG	H
Specific Conductance	403		umhos/cm	1	S2510B-97			3/1/17 09:51	MSA	C
Sulfate	7.0		mg/L	2.0	EPA 300.0			3/1/17 16:39	CHW	C
Total Dissolved Solids	199		mg/L	5	S2540C-11			3/2/17 12:53	JAS	C
Total Organic Carbon (TOC)	0.69		mg/L	0.50	S5310B-00			3/1/17 11:44	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			3/1/17 09:52	CHW	C
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
Total Xylenes	0.98		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 15:36	DD	J
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	By	Analyzed	By	Cntr

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ANALYTICAL RESULTS

Workorder: 2211410 1ST QTR 2017-3125 RIVER RD

Lab ID: **2211410001**

Date Collected: 2/28/2017 13:54

Matrix: Water

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

Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
1,2-Dichlorobenzene-d4 (S)	84.4		%	70 - 130	EPA 524.2			3/1/17 15:36	DD	J
4-Bromofluorobenzene (S)	92.4		%	70 - 130	EPA 524.2			3/1/17 15:36	DD	J
METALS										
Calcium, Total	0.15		mg/L	0.050	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:40	TSS	D1
Calcium, Dissolved	0.36		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:49	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:40	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:49	TSS	E
Magnesium, Total	0.083		mg/L	0.050	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:40	TSS	D1
Magnesium, Dissolved	0.23		mg/L	0.10	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:49	TSS	E
Manganese, Total	ND		mg/L	0.0025	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:40	TSS	D1
Manganese, Dissolved	ND		mg/L	0.0050	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:49	TSS	E
Potassium, Total	1.6		mg/L	0.25	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:40	TSS	D1
Potassium, Dissolved	1.7		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:49	TSS	E
Sodium, Total	78.3		mg/L	0.25	EPA 200.7	3/2/17 00:00	ZMC	3/2/17 10:40	TSS	D1
Sodium, Dissolved	84.5		mg/L	0.50	EPA 200.7	3/2/17 02:53	TSS	3/2/17 06:49	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.850		pH_Units		Field			2/28/17 13:54	BGS	M
Specific Conductance, Field	417		umhos/cm	1	Field			2/28/17 13:54	BGS	M
Temperature	17.00		Deg. C		Field			2/28/17 13:54	BGS	M



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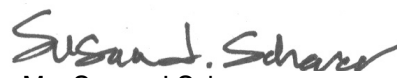
ANALYTICAL RESULTS

Workorder: 2211410 1ST QTR 2017-3125 RIVER RD

Lab ID: **2211410002**
Sample ID: **Trip Blank**

Date Collected: 2/28/2017 16:49 Matrix: Water
Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	DD	A
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 11:58	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)	80.1		%	70 - 130	EPA 524.2			3/1/17 11:58	DD	A
4-Bromofluorobenzene (S)	87.5		%	70 - 130	EPA 524.2			3/1/17 11:58	DD	A


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ANALYTICAL RESULTS

Workorder: 2211410 1ST QTR 2017-3125 RIVER RD

Lab ID: **2211410003**

Date Collected: 2/28/2017 15:13

Matrix: Water

Sample ID: **Field Blank**

Date Received: 2/28/2017 16:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	DD	A
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/17 11:33	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)	84.4		%	70 - 130	EPA 524.2			3/1/17 11:33	DD	A
4-Bromofluorobenzene (S)	88.5		%	70 - 130	EPA 524.2			3/1/17 11:33	DD	A



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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2211410001	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.				
2211410001	2	3125 River Road, Conestoga, PA	S4500HB-00	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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