

April 23, 2018

1299 HARRISBURG PIKE PO BOX 4425 LANCASTER, PA 17604 PHONE: 717-397-9968 FAX: 717-397-9973

www.lcswma.org

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

REF: Private Water Supply

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

Dear Ms. Sauls:

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

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

- USEPA MCL's exceedance report; samples (3044RIVERRD, 3052RIVERRD, 3056 RIVERRD, 3060 RIVERRD, 3076RIVERRD) exceeded the limit for nitrate, samples are consistent with historic data the cause is attributed to agricultural impacts. No other MCL's were exceeded.
- 2. USEPA SMCL's exceedance report; sample 3088RIVERRD exceeded the limit for total dissolved solids; samples 3060RIVERRD, 3076RIVERRD, and 3079RIVERRD exceeded the limit for manganese which is consistent with historic data and are attributed to natural soil and geologic conditions.

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

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

Respectfully submitted,

Mark D Reider

Director of Environmental Compliance

Enclosures

Cc:

Bob Zorbaugh, Dan Brown, Bob Eshbach

Ed Rawski, Randy Weiss (PADEP)



Date Prepared/Revised 03/22/2018
DEP USE ONLY
Date Received

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

General Reference: Act 101 Section 1103			
SECTION A. SITE IDENTIFIER			
Applicant/permittee:	ancaster County Solid Waste Manage		
Site Name:	rey Farm Landfill		
Facility ID (as issued by DEP):	01389		
SEC	TION B. PRIVATE WATER SUPPLY INFORMATION		
INDICATE THE LATITUDE AND LONGI	TUDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")		
Facility Name: Frey Farm I	andfill		
County: Lancaster C	county		
Township or Municipality: MANOR TO	WNSHIP		
Landowner Name:LCSWMA			
Address: 3044 RIVE	R ROAD		
Phone No.:			
Sampling Point: Latitude: 39 c	57 ' 30.58 " Longitude: 76 ° 26 ' 11.25 "		
Depth to Water Level:	ft. Measured from: X Land Surface TOC		
Casing Stick Up:	ft. Elevation of Water Level: ft./MSL		
Total Well Depth:	 ft.		
Sampling Depth:	ft. Sampling Method: Pumped Bailed		
Well Purged: Yes	X No Well Volumes Purged:		
Sample Field Filtered (must be 0.45 micro	on)?: X Yes No		
Sample Date:(mm/dd/yy) 02/2	3/2018 Sample Collection Time: 11:11 AM		
Laboratory(ies) Performing Analysis	ALS Environmental		
(include address and phone number)	34 Dogwood Lane		
	Middletown, PA 17057 (717) 944-5541		
Lab Accreditation Number(s)	22-293		
Lab Analysis Date	03/08/2018		
Were any holding times exceeded?:	Yes X No If yes, please explain in comments field.		
Comments:			

Facility I.D. Number

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/23/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	31	SM20-2321
CALCIUM, TOTAL	19.2	EPA 200.7
CALCIUM, DISSOLVED	20.9	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	20.4	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	50	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	10.5	EPA 200.7
MAGNESIUM, DISSOLVED	11.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	28	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	7.4	EPA 200.7
NITRATE-NITROGEN	19.1	EPA 300

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/23/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.82	FIELD
pH-LAB (SU)	6.75	SM4500B
POTASSIUM, TOTAL	1.7	EPA 200.7
POTASSIUM, DISSOLVED	1.8	EPA 200.7
SODIUM, TOTAL	9.2	EPA 200.7
SODIUM, DISSOLVED	9.3	EPA 200.7
SPEC. COND., FIELD (umhos/cm)		FIELD
SPEC. COND., LAB (umhos/cm)	244	EPA 120.1
SULFATE	4.8	EPA 300
ALKALINITY	31	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	138	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	4.17	SM 2130B

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/23/2018

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 03/22/2018
DEP USE ONLY
Date Received

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

General Reference: Act 101 Section 1103			
SECTION A. SITE IDENTIFIER			
Applicant/permittee: L	ancaster County Solid Waste Manage		
Site Name: F	rey Farm Landfill		
Facility ID (as issued by DEP): 1	01389		
SEC	TION B. PRIVATE WATER SUPPLY INFORMATION		
INDICATE THE LATITUDE AND LONGIT	TUDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")		
Facility Name: Frey Farm L	andfill		
County: Lancaster C	ounty		
Township or Municipality: MANOR TO	WNSHIP		
Landowner Name:MILLER			
Address: 3052 RIVER	ROAD		
Phone No.:			
Sampling Point: Latitude: 39 o	57 ' 29.85 " Longitude: 76 ° 26 ' 11.45 "		
Depth to Water Level:	ft. Measured from: X Land Surface TOC		
Casing Stick Up:	ft. Elevation of Water Level: ft./MSL		
Total Well Depth:	ft.		
Sampling Depth:	ft. Sampling Method: Pumped Bailed		
Well Purged: Yes	X No Well Volumes Purged:		
Sample Field Filtered (must be 0.45 micro	on)?: X Yes No		
Sample Date:(mm/dd/yy) 02/2	3/2018 Sample Collection Time: 12:07 PM		
Laboratory(ies) Performing Analysis	ALS Environmental		
(include address and phone number)	34 Dogwood Lane		
	Middletown, PA 17057 (717) 944-5541		
Lab Accreditation Number(s)	22-293		
Lab Analysis Date	03/08/2018		
Were any holding times exceeded?:	Yes X No If yes, please explain in comments field.		
Comments:			

Facility I.D. Number
101389

Monitoring Point I.D. No.

PS MILLER

Sample Date

02/23/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	6	SM20-2321
CALCIUM, TOTAL	14.4	EPA 200.7
CALCIUM, DISSOLVED	14.2	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	21.3	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	9.7	EPA 200.7
MAGNESIUM, DISSOLVED	9.8	EPA 200.7
MANGANESE, TOTAL (ug/l)	50	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	49	EPA 200.7
NITRATE-NITROGEN	18.4	EPA 300

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS MILLER

Sample Date

02/23/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	221	FIELD
pH-LAB (SU)	6.11	SM4500B
POTASSIUM, TOTAL	1.8	EPA 200.7
POTASSIUM, DISSOLVED	1.6	EPA 200.7
SODIUM, TOTAL	7.2	EPA 200.7
SODIUM, DISSOLVED	6.7	EPA 200.7
SPEC. COND., FIELD (umhos/cm)		FIELD
SPEC. COND., LAB (umhos/cm)	208	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	6	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	118	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.22	SM 2130B

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS MILLER

Sample Date

02/23/2018

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.



1	Date Prepared/Revised 03/22/2018
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FORM 52 MUNICIPAL WASTE LANDFILL PRIVATE WATER SUPPLY QUARTERLY WATER QUALITY ANALYSES

General Reference: Act 101 Section 1103			
SECTION A. SITE IDENTIFIER			
Applicant/permittee:	ancaster County Solid Waste Manage		
Site Name:	rey Farm Landfill		
Facility ID (as issued by DEP):	01389		
SEC	TION B. PRIVATE WATER SUPPLY INFORMATION		
INDICATE THE LATITUDE AND LONGI	TUDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")		
Facility Name: Frey Farm L	andfill		
County: Lancaster C	county		
Township or Municipality: MANOR TO	WNSHIP		
Landowner Name:LCSWMA			
Address: 3056 RIVER	R ROAD		
Phone No.:			
Sampling Point: Latitude: 39 o	57 ' 28.44 " Longitude: 76 ° 26 ' 10.43 "		
Depth to Water Level:	ft. Measured from: X Land Surface TOC		
Casing Stick Up:	ft. Elevation of Water Level: ft./MSL		
Total Well Depth:			
Sampling Depth:	ft. Sampling Method: Pumped Bailed		
Well Purged: Yes	X No Well Volumes Purged:		
Sample Field Filtered (must be 0.45 micron)?: X Yes No			
Sample Date:(mm/dd/yy) 02/2	2/2018 Sample Collection Time: 1:56 PM		
Laboratory(ies) Performing Analysis	ALS Environmental		
(include address and phone number)	34 Dogwood Lane		
	Middletown, PA 17057 (717) 944-5541		
Lab Accreditation Number(s)	22-293		
Lab Analysis Date	03/06/2018		
Were any holding times exceeded?:	Yes X No If yes, please explain in comments field.		
Comments:			

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/22/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	6	SM20-2321
CALCIUM, TOTAL	14	EPA 200.7
CALCIUM, DISSOLVED	14.6	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	23.3	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	11.3	EPA 200.7
MAGNESIUM, DISSOLVED	11.4	EPA 200.7
MANGANESE, TOTAL (ug/l)	45	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	44	EPA 200.7
NITRATE-NITROGEN	20.8	EPA 300

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/22/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	5.2	FIELD
pH-LAB (SU)	5.88	SM4500B
POTASSIUM, TOTAL	1.9	EPA 200.7
POTASSIUM, DISSOLVED	1.9	EPA 200.7
SODIUM, TOTAL	8	EPA 200.7
SODIUM, DISSOLVED	8.1	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	251	FIELD
SPEC. COND., LAB (umhos/cm)	227	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	6	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	156	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/22/2018

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 03/22/2018	
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FORM 52 MUNICIPAL WASTE LANDFILL PRIVATE WATER SUPPLY QUARTERLY WATER QUALITY ANALYSES

General Reference: Act 101 Section	1103		
SECTION A. SITE IDENTIFIER			
Applicant/permittee: L	ancaster County Solid Waste Manage		
Site Name:	rey Farm Landfill		
Facility ID (as issued by DEP): 1	01389		
SEC.	TION B. PRIVATE WATER SUPPLY INFORMATION		
INDICATE THE LATITUDE AND LONGIT	TUDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")		
Facility Name: Frey Farm L	andfill		
County: Lancaster C	ounty		
Township or Municipality: MANOR TO	WNSHIP		
Landowner Name:LCSWMA			
Address: 3060 RIVER	ROAD		
Phone No.:			
Sampling Point: Latitude: 39 o	57 ' 27.63 " Longitude: 76 ° 26 ' 10.01 "		
Depth to Water Level:	ft. Measured from: X Land Surface TOC		
Casing Stick Up:	ft. Elevation of Water Level: ft./MSL		
Total Well Depth:	ft.		
Sampling Depth:	ft. Sampling Method: Pumped Bailed		
Well Purged: Yes	X No Well Volumes Purged:		
Sample Field Filtered (must be 0.45 micro	on)?: X Yes No		
Sample Date:(mm/dd/yy) 02/2	2/2018 Sample Collection Time: 2:45 PM		
Laboratory(ies) Performing Analysis	ALS Environmental		
(include address and phone number)	34 Dogwood Lane		
	Middletown, PA 17057 (717) 944-5541		
Lab Accreditation Number(s)	22-293		
Lab Analysis Date	03/06/2018		
Were any holding times exceeded?:	Yes X No If yes, please explain in comments field.		
Comments:			

Facility I.D. Number 101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/22/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	7	SM20-2321
CALCIUM, TOTAL	9.4	EPA 200.7
CALCIUM, DISSOLVED	9.8	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	21	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	10.8	EPA 200.7
MAGNESIUM, DISSOLVED	11.3	EPA 200.7
MANGANESE, TOTAL (ug/l)	52	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	53	EPA 200.7
NITRATE-NITROGEN	19.4	EPA 300

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/22/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	4.9	FIELD
pH-LAB (SU)	6.16	SM4500B
POTASSIUM, TOTAL	2.7	EPA 200.7
POTASSIUM, DISSOLVED	2.7	EPA 200.7
SODIUM, TOTAL	8.5	EPA 200.7
SODIUM, DISSOLVED	8.6	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	222	FIELD
SPEC. COND., LAB (umhos/cm)	198	EPA 120.1
SULFATE	10.4	EPA 300
ALKALINITY	7	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	131	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/22/2018

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 03/22/2018	
DEP USE ONLY	
	Date Received

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

General Reference: Act 101 Section	1103		
SECTION A. SITE IDENTIFIER			
Applicant/permittee:	ancaster County Solid Waste Manage		
Site Name:	rey Farm Landfill		
Facility ID (as issued by DEP):	01389		
SEC	TION B. PRIVATE WATER SUPPLY INFORMATION		
INDICATE THE LATITUDE AND LONGI	ΓUDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")		
Facility Name: Frey Farm I	andfill		
County: Lancaster C	ounty		
Township or Municipality: MANOR TO	WNSHIP		
Landowner Name: SENSENIC			
Address: 3076 RIVE	R ROAD		
Phone No.:			
Sampling Point: Latitude: 39 c	57 ' 28.2 " Longitude: 76 ° 26 ' 11.1 "		
Depth to Water Level:	ft. Measured from: X Land Surface TOC		
Casing Stick Up:	ft. Elevation of Water Level: ft./MSL		
Total Well Depth:	ft.		
Sampling Depth:	ft. Sampling Method: Pumped Bailed		
Well Purged: Yes	X No Well Volumes Purged:		
Sample Field Filtered (must be 0.45 micro			
Sample Date:(mm/dd/yy) 02/2	3/2018 Sample Collection Time: 11:57 AM		
Laboratory(ies) Performing Analysis	ALS Environmental		
(include address and phone number)	34 Dogwood Lane		
	Middletown, PA 17057 (717) 944-5541		
Lab Accreditation Number(s)	22-293		
Lab Analysis Date	03/08/2018		
Were any holding times exceeded?:	Yes X No If yes, please explain in comments field.		
Comments:			

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS SENSENICH

Sample Date

02/23/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	9	SM20-2321
CALCIUM, TOTAL	14.6	EPA 200.7
CALCIUM, DISSOLVED	14.3	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	48.2	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	8.7	EPA 200.7
MAGNESIUM, DISSOLVED	8.6	EPA 200.7
MANGANESE, TOTAL (ug/l)	130	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	120	EPA 200.7
NITRATE-NITROGEN	10.3	EPA 300

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS SENSENICH

Sample Date

02/23/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.19	FIELD
pH-LAB (SU)	6.24	SM4500B
POTASSIUM, TOTAL	2.7	EPA 200.7
POTASSIUM, DISSOLVED	2.4	EPA 200.7
SODIUM, TOTAL	21.3	EPA 200.7
SODIUM, DISSOLVED	20.1	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	281	FIELD
SPEC. COND., LAB (umhos/cm)	266	EPA 120.1
SULFATE	9	EPA 300
ALKALINITY	9	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	179	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS SENSENICH

Sample Date

02/23/2018

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.



D	ate Prepared/Revised 03/22/2018
	DEP USE ONLY
	Date Received

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

General Reference: Act 101 Section	1103		
SECTION A. SITE IDENTIFIER			
Applicant/permittee: L	ancaster County Solid Waste Manage		
Site Name: F	rey Farm Landfill		
Facility ID (as issued by DEP): 1	01389		
SEC.	TION B. PRIVATE WATER SUPPLY INFORMATION		
INDICATE THE LATITUDE AND LONGIT	TUDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")		
Facility Name: Frey Farm L	andfill		
County: Lancaster C	ounty		
Township or Municipality: MANOR TO	WNSHIP		
Landowner Name:LCSWMA			
Address: 3079 RIVEF	ROAD		
Phone No.:			
Sampling Point: Latitude: 39 o	57 ' 21.99 " Longitude: 76 ° 26 ' 10.58 "		
Depth to Water Level:	ft. Measured from: X Land Surface TOC		
Casing Stick Up:	ft. Elevation of Water Level: ft./MSL		
Total Well Depth:	 ft.		
Sampling Depth:	ft. Sampling Method: Pumped Bailed		
Well Purged: Yes	X No Well Volumes Purged:		
Sample Field Filtered (must be 0.45 micro	on)?: X Yes No		
Sample Date:(mm/dd/yy) 02/2	8/2018 Sample Collection Time: 10:30 AM		
Laboratory(ies) Performing Analysis	ALS Environmental		
(include address and phone number)	34 Dogwood Lane		
	Middletown, PA 17057 (717) 944-5541		
Lab Accreditation Number(s)	22-293		
Lab Analysis Date	03/13/2018		
Were any holding times exceeded?:	Yes X No If yes, please explain in comments field.		
Comments:			

Facility I.D. Number
101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/28/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	17	SM20-2321
CALCIUM, TOTAL	11	EPA 200.7
CALCIUM, DISSOLVED	10.2	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	32.6	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	5.7	EPA 200.7
MAGNESIUM, DISSOLVED	5.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	200	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	190	EPA 200.7
NITRATE-NITROGEN	0.2 ND	EPA 300

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/28/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	5.1	FIELD
pH-LAB (SU)	5.81	SM4500B
POTASSIUM, TOTAL	1.9	EPA 200.7
POTASSIUM, DISSOLVED	1.8	EPA 200.7
SODIUM, TOTAL	11.9	EPA 200.7
SODIUM, DISSOLVED	10.9	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	170	FIELD
SPEC. COND., LAB (umhos/cm)	165	EPA 120.1
SULFATE	27.5	EPA 300
ALKALINITY	17	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	94	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

02/28/2018

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.



1	Date Prepared/Revised 03/22/2018
	DEP USE ONLY
	Date Received

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

General Reference: Act 101 Section 1103			
SECTION A. SITE IDENTIFIER			
Applicant/permittee: L	ancaster County Solid Waste Manage		
Site Name: F	rey Farm Landfill		
Facility ID (as issued by DEP): 1	01389		
SEC	TION B. PRIVATE WATER SUPPLY INFORMATION		
INDICATE THE LATITUDE AND LONGIT	TUDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")		
Facility Name: Frey Farm L	andfill		
County: Lancaster C	ounty		
Township or Municipality: MANOR TO	WNSHIP		
Landowner Name: WEBER			
Address: 3088 RIVEF	ROAD		
Phone No.:			
Sampling Point: Latitude: 39 o	57 ' 21 " Longitude: 76 ° 26 ' 7.1 "		
Depth to Water Level:	ft. Measured from: X Land Surface TOC		
Casing Stick Up:	ft. Elevation of Water Level: ft./MSL		
Total Well Depth:	ft.		
Sampling Depth:	ft. Sampling Method: Pumped Bailed		
Well Purged: Yes	X No Well Volumes Purged:		
Sample Field Filtered (must be 0.45 micro	on)?: X Yes No		
Sample Date:(mm/dd/yy) 02/2	3/2018 Sample Collection Time: 11:47 AM		
Laboratory(ies) Performing Analysis	ALS Environmental		
(include address and phone number)	34 Dogwood Lane		
	Middletown, PA 17057 (717) 944-5541		
Lab Accreditation Number(s)	22-293		
Lab Analysis Date	03/08/2018		
Were any holding times exceeded?:	Yes X No If yes, please explain in comments field.		
Comments:			

Facility I.D. Number
101389

Monitoring Point I.D. No.
PS WEBER

Sample Date

02/23/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	154	SM20-2321
CALCIUM, TOTAL	0.082	EPA 200.7
CALCIUM, DISSOLVED	0.1 ND	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	209	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	0.05 ND	EPA 200.7
MAGNESIUM, DISSOLVED	0.1 ND	EPA 200.7
MANGANESE, TOTAL (ug/l)	2.5 ND	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	5 ND	EPA 200.7
NITRATE-NITROGEN	8.5	EPA 300

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS WEBER

Sample Date

02/23/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	7.7	FIELD
pH-LAB (SU)	7.61	SM4500B
POTASSIUM, TOTAL	1.2	EPA 200.7
POTASSIUM, DISSOLVED	0.88	EPA 200.7
SODIUM, TOTAL	204	EPA 200.7
SODIUM, DISSOLVED	203	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	1005	FIELD
SPEC. COND., LAB (umhos/cm)	991	EPA 120.1
SULFATE	4.7	EPA 300
ALKALINITY	154	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	581	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS WEBER

Sample Date

02/23/2018

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 03/22/2018
DEP USE ONLY
Date Received

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

General Reference: Act 101 Section 1103		
	SECTION A. SITE IDENTIFIER	
Applicant/permittee: L	ancaster County Solid Waste Manage	
Site Name:	rey Farm Landfill	
Facility ID (as issued by DEP): 1	01389	
SEC.	TION B. PRIVATE WATER SUPPLY INFORMATION	
INDICATE THE LATITUDE AND LONGIT	TUDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")	
Facility Name: Frey Farm L	andfill	
County: Lancaster C	ounty	
Township or Municipality: MANOR TO	WNSHIP	
Landowner Name: KIRCHNER		
Address: 3100 RIVEF	ROAD	
Phone No.:		
Sampling Point: Latitude: 39 o	57 ' 17.9 " Longitude: 76 ° 26 ' 6.28 "	
Depth to Water Level:	ft. Measured from: X Land Surface TOC	
Casing Stick Up:	ft. Elevation of Water Level: ft./MSL	
Total Well Depth:	ft.	
Sampling Depth:	ft. Sampling Method: Pumped Bailed	
Well Purged: Yes	X No Well Volumes Purged:	
Sample Field Filtered (must be 0.45 micro	on)?: X Yes No	
Sample Date:(mm/dd/yy) 02/2	3/2018 Sample Collection Time: 10:34 AM	
Laboratory(ies) Performing Analysis	ALS Environmental	
(include address and phone number)	34 Dogwood Lane	
	Middletown, PA 17057 (717) 944-5541	
Lab Accreditation Number(s)	22-293	
Lab Analysis Date	03/08/2018	
Were any holding times exceeded?:Yes XNo If yes, please explain in comments field.		
Comments:		

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS KIRCHNER

Sample Date

02/23/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	17	SM20-2321
CALCIUM, TOTAL	16.9	EPA 200.7
CALCIUM, DISSOLVED	16.9	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	53.9	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	8.1	EPA 200.7
MAGNESIUM, DISSOLVED	8.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	8.3	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	8.5	EPA 200.7
NITRATE-NITROGEN	4.4	EPA 300

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS KIRCHNER

Sample Date

02/23/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.57	FIELD
pH-LAB (SU)	6.49	SM4500B
POTASSIUM, TOTAL	1.4	EPA 200.7
POTASSIUM, DISSOLVED	1.3	EPA 200.7
SODIUM, TOTAL	15.2	EPA 200.7
SODIUM, DISSOLVED	15.9	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	232	FIELD
SPEC. COND., LAB (umhos/cm)	242	EPA 120.1
SULFATE	6.6	EPA 300
ALKALINITY	17	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	148	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS KIRCHNER

Sample Date

02/23/2018

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 03/22/2018		
DEP USE ONLY		
	Date Received	

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

General Reference: Act 101 Section 1103		
	SECTION A. SITE IDENTIFIER	
Applicant/permittee: L	ancaster County Solid Waste Manage	
Site Name:	rey Farm Landfill	
Facility ID (as issued by DEP): 1	01389	
SEC.	TION B. PRIVATE WATER SUPPLY INFORMATION	
INDICATE THE LATITUDE AND LONGIT	TUDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")	
Facility Name: Frey Farm L	andfill	
County: Lancaster C	ounty	
Township or Municipality: MANOR TO	WNSHIP	
Landowner Name:FRY		
Address: 3106 RIVER	ROAD	
Phone No.:		
Sampling Point: Latitude: 39 o	57 ' 17.27 " Longitude: 76 ° 26 ' 5.6 "	
Depth to Water Level:	ft. Measured from: X Land Surface TOC	
Casing Stick Up:	ft. Elevation of Water Level: ft./MSL	
Total Well Depth:	 ft.	
Sampling Depth:	ft. Sampling Method: Pumped Bailed	
Well Purged: Yes	X No Well Volumes Purged:	
Sample Field Filtered (must be 0.45 micro	on)?: X Yes No	
Sample Date:(mm/dd/yy) 02/2	3/2018 Sample Collection Time: 11:34 AM	
Laboratory(ies) Performing Analysis	ALS Environmental	
(include address and phone number)	34 Dogwood Lane	
	Middletown, PA 17057 (717) 944-5541	
Lab Accreditation Number(s)	22-293	
Lab Analysis Date	03/12/2018	
Were any holding times exceeded?:Yes XNo If yes, please explain in comments field.		
Comments:		

	Facility I.D. Number
	101389
	Monitoring Point I.D. No.
PS	FRY

Sample Date

02/23/2018

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

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.
FRY

PS

Sample Date

02/23/2018

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.4	FIELD
pH-LAB (SU)	6.38	SM4500B
POTASSIUM, TOTAL	1.3	EPA 200.7
POTASSIUM, DISSOLVED	1.1	EPA 200.7
SODIUM, TOTAL	23.5	EPA 200.7
SODIUM, DISSOLVED	22.3	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	251	FIELD
SPEC. COND., LAB (umhos/cm)	243	EPA 120.1
SULFATE	3.9	EPA 300
ALKALINITY	15	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	143	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.25	SM 2130B

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS FRY

Sample Date

02/23/2018

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

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

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF WASTE MANAGEMENT

1	Date Prepared/Revised 03/22/2018
	DEP USE ONLY
	Date Received

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

All information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 52, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Act 101 Section	1103
	SECTION A. SITE IDENTIFIER
Applicant/permittee:	ancaster County Solid Waste Manage
Site Name:	rey Farm Landfill
Facility ID (as issued by DEP):	01389
SEC	TION B. PRIVATE WATER SUPPLY INFORMATION
INDICATE THE LATITUDE AND LONGI	ΓUDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")
Facility Name: Frey Farm I	andfill
County: Lancaster C	ounty
Township or Municipality: MANOR TO	WNSHIP
Landowner Name:BECK	
Address: 3125 RIVE	R ROAD
Phone No.:	
Sampling Point: Latitude: 39 c	57 ' 11.6 " Longitude: 76 ° 26 ' 5.4 "
Depth to Water Level:	ft. Measured from: X Land Surface TOC
Casing Stick Up:	ft. Elevation of Water Level: ft./MSL
Total Well Depth:	ft.
Sampling Depth:	ft. Sampling Method: Pumped Bailed
Well Purged: Yes	X No Well Volumes Purged:
Sample Field Filtered (must be 0.45 micr	on)?: X Yes No
Sample Date:(mm/dd/yy) 02/2	3/2018 Sample Collection Time: 11:22 AM
Laboratory(ies) Performing Analysis	ALS Environmental
(include address and phone number)	34 Dogwood Lane
	Middletown, PA 17057 (717) 944-5541
Lab Accreditation Number(s)	22-293
Lab Analysis Date	03/08/2018
Were any holding times exceeded?:	Yes X No If yes, please explain in comments field.
Comments:	

Facility I.D. Number
101389

Monitoring Point I.D. No.

PS BECK

Sample Date

02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	34	SM20-2321
CALCIUM, TOTAL	0.14	EPA 200.7
CALCIUM, DISSOLVED	0.1 ND	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	101	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	0.062	EPA 200.7
MAGNESIUM, DISSOLVED	0.1 ND	EPA 200.7
MANGANESE, TOTAL (ug/l)	2.5 ND	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	5 ND	EPA 200.7
NITRATE-NITROGEN	9	EPA 300

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS BECK

Sample Date

02/23/2018

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.71	FIELD
pH-LAB (SU)	6.52	SM4500B
POTASSIUM, TOTAL	0.89	EPA 200.7
POTASSIUM, DISSOLVED	0.72	EPA 200.7
SODIUM, TOTAL	85.6	EPA 200.7
SODIUM, DISSOLVED	86.4	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	689	FIELD
SPEC. COND., LAB (umhos/cm)	676	EPA 120.1
SULFATE	6	EPA 300
ALKALINITY	34	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	333	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS BECK

Sample Date

02/23/2018

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

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

T Please indicate detection limit if analyte is not detected.

Lancaster County Solid Waste Management Authority Frey Farm Landfill

Exceedence Report

Parameter	Name	Units	Concentration	Criteria Conc	Qualifiers	Criteria
Location ID	Sample Number	Sample Date	Sample Type	Sample Depth		
3044RIVERR NITRATE-NIT	2297624001 ROGEN	02/23/2018 mg/l	<i>WATER</i> 19.10	10.00		EPA-MCL
Location ID	Sample Number	Sample Date	Sample Type	Sample Depth		
3052RIVERR NITRATE-NIT	2297619001 ROGEN	02/23/2018 mg/l	<i>WATER</i> 18.40	10.00		EPA-MCL
Location ID	Sample Number	Sample Date	Sample Type	Sample Depth		
3056RIVERR NITRATE-NIT	2297268001 ROGEN	02/22/2018 mg/l	<i>WATER</i> 20.80	10.00		EPA-MCL
Location ID	Sample Number	Sample Date	Sample Type	Sample Depth		
3060RIVERR NITRATE-NIT	2297269001 FROGEN	02/22/2018 mg/l	<i>WATER</i> 19.40	10.00		EPA-MCL
Location ID	Sample Number	Sample Date	Sample Type	Sample Depth		
3076RIVERR NITRATE-NIT	2297622001 ROGEN	02/23/2018 mg/l	<i>WATER</i> 10.30	10.00		EPA-MCL





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

March 11, 2018

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

Certificate of Analysis

Project Name: CONTIGUOUS LANDOWNER-

3125 RIVER RD

Purchase Order: PO1000126

Workorder: **2297618**

Workorder ID: 1ST QTR 2018-3125 RIVER RD

Dear Mr. Brown:

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

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

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

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

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

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

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

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

Ms. Susan J Scherer Project Coordinator

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Report ID: 2297618 - 3/11/2018 Page 1 of 7





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

SAMPLE SUMMARY

Workorder: 2297618 1ST QTR 2018-3125 RIVER RD

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

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

Report ID: 2297618 - 3/11/2018 Page 2 of 7





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

SAMPLE SUMMARY

Workorder: 2297618 1ST QTR 2018-3125 RIVER RD

Notes

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

Standard Acronyms/Flags

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

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Report ID: 2297618 - 3/11/2018 Page 3 of 7





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

ANALYTICAL RESULTS

Workorder: 2297618 1ST QTR 2018-3125 RIVER RD

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

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

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

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

ANALYTICAL RESULTS

Workorder: 2297618 1ST QTR 2018-3125 RIVER RD

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

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

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

Ms. Susan J Scherer Project Coordinator

Report ID: 2297618 - 3/11/2018 Page 5 of 7





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

ANALYTICAL RESULTS

Workorder: 2297618 1ST QTR 2018-3125 RIVER RD

PARAMETER QUALIFIER	IFIERS	AL	QU	ΓER	MET	Αľ	R	Α	P
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Lab ID	#	Sample ID	Analytical Method	Analyte					
2297618001	1	3125 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total					
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.									
2297618001	2	3125 River Road, Conestoga, PA	S4500HB-11	рН					

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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Report ID: 2297618 - 3/11/2018 Page 6 of 7

Signature Communication	\	150	(3)		17	REG	CHAIN OF CUSTODY/ REQUEST FOR ANALYS	F CU	JSTODY/ ANALYSIS	YSIS	9	Centrated by ALS	1	-)00		- 5
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1516 1516	Client Name: LCSWMA - Christian C. Beck			Type	AG	AN	AN	9	j	4	7	2	ď	4	necept mormation (completed by Receiving	ing Lab)
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Contractive	Conestoga, PA 17516		Α.	TESENSOR	E S	H2SO4	H2SO4	오	ı	H2SO4	HNO3	HNO3	None	-	2	Initial
Company Name Date Time Date Date Time Date Date Time Date	Contact: Christian C. Beck				Ŀ		ANA	LYSESIM	ETHOD	REQUEST	60					DNN
	Phone#: (717) 871-0448										3					-
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Lancaster County Solid Waste Management Authority Frey Farm Landfill

Exceedence Report

Parameter 1	Name	Units	Concentration	Criteria Conc	Qualifiers	Criteria
Location ID	Sample Number	Sample Date	Sample Type	Sample Depth		
3060RIVERR	2297269001	02/22/2018	WATER			
MANGANESE	, DISSOLVED	mg/l	0.05	0.05		EPA-SMCL
MANGANESE	, TOTAL	mg/l	0.05	0.05		EPA-SMCL
Location ID	Sample Number	Sample Date	Sample Type	Sample Depth		
3076RIVERR	2297622001	02/23/2018	WATER			
MANGANESE	, DISSOLVED	mg/l	0.12	0.05		EPA-SMCL
MANGANESE	, TOTAL	mg/l	0.13	0.05		EPA-SMCL
Location ID	Sample Number	Sample Date	Sample Type	Sample Depth		
3079RIVERR	2298562001	02/28/2018	WATER			
MANGANESE	, DISSOLVED	mg/l	0.19	0.05		EPA-SMCL
MANGANESE	, TOTAL	mg/l	0.20	0.05		EPA-SMCL
Location ID	Sample Number	Sample Date	Sample Type	Sample Depth		
3088RIVERR	2297623001	02/23/2018	WATER			
TDS (TOT. DIS	SSOLVED SOLIDS)	mg/l	581.00	500.00		EPA-SMCL





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

March 17, 2018

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

Certificate of Analysis

Project Name: CONTIGUOUS LANDOWNER- Workorder: 2297621

3106 RIVER RD

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

Dear Mr. Brown:

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

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

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

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

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

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

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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Report ID: 2297621 - 3/17/2018 Page 1 of 7





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

SAMPLE SUMMARY

Workorder: 2297621 1ST QTR 2018-3106 RIVER RD

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

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Report ID: 2297621 - 3/17/2018 Page 2 of 7





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

SAMPLE SUMMARY

Workorder: 2297621 1ST QTR 2018-3106 RIVER RD

Notes

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

Standard Acronyms/Flags

- J Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
- U Indicates that the analyte was Not Detected (ND)
- N Indicates presumptive evidence of the presence of a compound
- MDL Method Detection Limit
- PQL Practical Quantitation Limit
- RDL Reporting Detection Limit
- ND Not Detected indicates that the analyte was Not Detected at the RDL
- Cntr Analysis was performed using this container
- RegLmt Regulatory Limit
- LCS Laboratory Control Sample
- MS Matrix Spike
- MSD Matrix Spike Duplicate
- DUP Sample Duplicate
- %Rec Percent Recovery
- RPD Relative Percent Difference
- LOD DoD Limit of Detection
- LOQ DoD Limit of Quantitation
- DL DoD Detection Limit
- 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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Report ID: 2297621 - 3/17/2018 Page 3 of 7





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

ANALYTICAL RESULTS

Workorder: 2297621 1ST QTR 2018-3106 RIVER RD

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

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

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

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Report ID: 2297621 - 3/17/2018 Page 4 of 7





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

ANALYTICAL RESULTS

Workorder: 2297621 1ST QTR 2018-3106 RIVER RD

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

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

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

Ms. Susan J Scherer Project Coordinator

Report ID: 2297621 - 3/17/2018 Page 5 of 7





Alkalinity, Total

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

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

ANALYTICAL RESULTS

Workorder: 2297621 1ST QTR 2018-3106 RIVER RD

PARAMETER QUALIFIERS

2297621001

Lab ID Sample ID Analytical Method Analyte

2297621001 1 3106 River Road, Conestoga, PA S4500HB-11 рΗ

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. 3106 River Road, Conestoga, PA S2320B-97

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

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Report ID: 2297621 - 3/17/2018 Page 6 of 7

SHADED AREAS MUST GE COMPLETED BY THE CULTANT ALS	ALL SHADED AS SAMPLES AND SAMP	EAS MUST BE CC AN CG AN CG S00 ml 40 ml H2S04 HCl ANALYSESIM Ther Number of Conz	OMPLETED BY THE BACK - SOUTH - SOUTH - H2SO4 - H2SO5 - H2SO5	THE CLIENT STATE OF THE STATE O	의 - 전 등 대한 대한 대한 대한 - 전 등 등 다 표 등 다 표 등 다 표 등 대한	ALS (ecetyt information (completed by Kecelving L
The control of the	Approved By: Sample Commercial Commer	AN CG S00 ml 40 ml H2SO4 HCI ANALYSESIM OC VOC NIter Number of Contact Number of Con	METHOD REQUES ARETHOD REQUES	Dissolved Metals: Ca, Fe, Mg, Mn, B S S F S S F S S F S S F S S F S S F S S F S S F S S F S S F S S F S S F S S F S S F S S F S S F S S F S S F S F S S F	pH, TDS, NO2, NO3, CI, SO4, F, 3	S00 ml	ecetat information (completed by Receiving L
Sample Cooker Temps Cooker Tem	Approved By: Sample Contact C	## 40 ml ## H2504 HCI ANALYSES/M ANALYSES/M ANALYSES/M ANALYSES/M ANALYSES/M 1	METHOD REQUEST HASO4 HETHOD REQUEST HASO4 A NH3-A, COD	Dissolved Metals: Ca, Fe, Mg, Mn, Tage Rases Research	pH, TDS, NO2, NO3, CI, SO4, F,	None No	
15/6	A-Quarterly Fry Approved By: Ap	ANALYSES/IM ANALYSES/IM Ander of Cong	H2SOA METHOD REQUEST COD MICHOS Per Sample o	Dissolved Metals: Ca, Fe, Mg, Mn, E	pH, TDS, NO2, NO3, CI, SO4, F,	None	
AMALYSESWIETHOD REQUESTSED Control State Present	andard TAT is 10-12 business days. andard TAT is 10-12 business days. andard TAT is 10-12 business days. Approved By: Approved By: COMMITTED Date Date Date Date Day 1334 COMMITTED DATE DAY 1334 DAY 13	ANALYSESIM OF OC OC OUT There Number of Contact	METHOD REQUES "M.M. COD MINISTROP Sample o	Dissolved Metals: Ca, Fe, Mg, Mn, Ca K, Na	pH, TDS, NO2, NO3, CI, SO4, F,		>
Fig.	and Art is 10-12 business days. and and TAT is 10-12 business days. and and TAT is 10-12 business days. Approved By: Approved By: Approved By: Belan report) Date Time Date Time Date Time Date Day/16 Time Day CO Day CO Day CO Day CO Day Day Day Day Day Day Day Da	The Number of Cong	F.M. COD Lainers Per Sample o	Dissolved Metals: Ca, Fe, Mg, Mn, K, Na G, K, Na G, Mg, Mn, Mg, Mg, Mg, Mg, Mg, Mg, Mg, Mg, Mg, Mg	pH, TDS, NO2, NO3, CI, SO4, F,		Custody Seals Present?
10.12 business days. Approved By: Approved By	Approved By: Approved By: Sample Date Time Date Date Time Colored By Segments: Colored By Segments:	OO VOC	KM NH3-N, COD	Dissolved Metals: Ca, Fe, Mg, M	pH, TDS, NO2, NO3, CI, SO4, F,		(if present) Seals Intact?
16.12 business days. Cochlabel Competitive Company Cochlabel Cochlabel Company Cochlabel Cochlabel Cochlabel Company Cochlabel Cochlabel Cochlabel Company Cochlabel Cochlabel Cochlabel Cochlabel Company Cochlabel	Sample S	oot Number of Cong	MH3-N, COD	Dissolved Metals: Ca, Fe, Mg K, Na R K, Na	pH, TDS, NO2, NO3, CI, SO4	_	Received on Ice?
Newmark Standard TAT is 10-12 business days. Approved By: Contribution Approved By: Co	X Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Approved By:	The Number of Cong	E.M. COD ALISTON, COD	Dissolved Metals: Ca, Fe	PH, TDS, NO2, NO3, CI,		OCA.abels Complete/Accurate?
No. No. Sample Content free content	ample Description/Location (se it will appear on the lab report) RERRD 3/23/19 113c. G DW 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Ther Number of Cong	MH3-N' COL	Cissolved M	DH, TDS, NO	600	Cont in Good Cond.? Correct Containers? Correct Sample Volumes?
SRIVERRD 3/34/4 11344 G DW 2 2 1 3 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sample Description/Location (se i will appear on the lab report) (RRIVERRD 3/33/19 1134 G DW 2 2 2 2 2 2 2 2 2 2 2 2 2	1 NOC	A Sample o	or Field Results	T,Hq	10.0	Correct Preservation?
100 100	(as it will appear on the lab report) 3106RIVERRD 3/33/19 113c.f G DW 2 2 2 2/33/19 100c.f Dominents:	nter Number of Come	Lainers Per Sample o	or Field Results	d	lkalin	HeadspaceNotatiles?
3106RIVERRD	3106RIVERRD 3/33/19 1134 G DW 2 2 1 3/33/19 1134 G DW 2 2 1 0 0 0 0 0occib BY(signature):		*	NAME OF TAXABLE PARTY.	Below.	4	Sample/COC Comments
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March 11, 2018

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

Certificate of Analysis

Project Name: CONTIGUOUS LANDOWNER-

3100 RIVER RD

Purchase Order: PO1000126

Workorder: **2297620**

Workorder ID: 1ST QTR 2018-3100 RIVER RD

Dear Mr. Brown:

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

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

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

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

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

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

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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Report ID: 2297620 - 3/11/2018 Page 1 of 7





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

SAMPLE SUMMARY

Workorder: 2297620 1ST QTR 2018-3100 RIVER RD

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

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

Report ID: 2297620 - 3/11/2018 Page 2 of 7





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

SAMPLE SUMMARY

Workorder: 2297620 1ST QTR 2018-3100 RIVER RD

Notes

- -- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 Field Services Sampling Plan).
- -- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- -- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- -- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- -- The Chain of Custody document is included as part of this report.
- -- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
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Standard Acronyms/Flags

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

ANALYTICAL RESULTS

Workorder: 2297620 1ST QTR 2018-3100 RIVER RD

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

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

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 03:00	CJG	K
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	76.8		%	70 - 130	EPA 524.2			3/2/18 03:00	CJG	K
4-Bromofluorobenzene (S)	91.4		%	70 - 130	EPA 524.2			3/2/18 03:00	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	17		mg/L	5	S2320B-97			2/27/18 17:26	MSA	С
Alkalinity, Total	17	1	mg/L	5	S2320B-97			2/27/18 17:26	MSA	С
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/18 12:13	CMM	В
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/5/18 13:20	AK	В
Chloride	53.9		mg/L	2.0	EPA 300.0			2/24/18 08:06	CHW	С
Fluoride	ND		mg/L	0.20	EPA 300.0			2/24/18 08:06	CHW	С
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/1/18 12:28	PAG	1
Nitrate-N	4.4		mg/L	0.20	EPA 300.0			2/24/18 08:06	CHW	С
Nitrite-N	ND		mg/L	0.20	EPA 300.0			2/24/18 08:06	CHW	С
pН	6.49	2	pH_Units		S4500HB-11			2/27/18 17:26	MSA	С
Phenolics	ND		mg/L	0.005	EPA 420.4	3/5/18 12:00	NJA	3/5/18 16:41	NJA	Н
Specific Conductance	242		umhos/cm	1	S2510B-97			2/27/18 17:26	MSA	С
Sulfate	6.6		mg/L	2.0	EPA 300.0			2/24/18 08:06	CHW	
Total Dissolved Solids	148		mg/L	5	S2540C-11			2/28/18 14:00	BMK	
Total Dissolved Solids	140		IIIg/∟	3	020400-11			2,20,10 14.00	אואום	J

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

ANALYTICAL RESULTS

Workorder: 2297620 1ST QTR 2018-3100 RIVER RD

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

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

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

Ms. Susan J Scherer Project Coordinator

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

ANALYTICAL RESULTS

Workorder: 2297620 1ST QTR 2018-3100 RIVER RD

PARAMETE	QUAL	IFIERS
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Lab ID	#	Sample ID	Analytical Method	Analyte
2297620001	1	3100 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity	is titrate	ed to a pH of 4.5 and reported as mg (CaCO3/L.	
2297620001	2	3100 River Road, Conestoga, PA	S4500HB-11	рН

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

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(ALS) Enutronmental Ingentition - Mathematical - Included - Confedence To Concern Confedence - Mathematical Confedence - M	11.94.3430	4	ALL SHADI		ED AREAS MUST BE COMPLETED BY AMPLER, INSTRUCTIONS ON THE BA	UST BE	COMPL TIONS O	ED AREAS MUST BE COMPLETED BY THE CLIENT ! AMPLER, INSTRUCTIONS ON THE BACK.	THE CL ACK.	ENT /		ALS Q	* 2 2 9 7 6 2 0 ** 11
Client Name: LCSWMA - Larry Kirchner		Container	AG	AN	AN	95	1	7	4	Ы	Ы	Ы	Receipt Information (completed by Receiving Lab)
Address: 3100 River Road		Container	40 ml	250 ml	II 500 ml	1 40 ml		500 ml	500 ml	500 ml	3.1	500 ml	Cooler Temp: 7 Therm 10: 3/8
Conestoga, PA 17516		Preservative	오	H2S04	4 H2SO4	DH.	1	H2SO4	HNO3	HNO3	None	Nome	>
Contact: Lany Kirchner					A	NALYSE	SIMETHO	ANALYSES/METHOD REQUESTED	STED	Ţ			Custody Seals Present? OVIV
Phone#: (717) 584-0030									'n				(If present) Seats Intact?
Project Name#: LCSWMA - Quarterly		-							W '6	BV)4, E,		Received on Ice?
Bill To: Lancaster County Solid Waste MA									M 'a	K'I	os		COCLabela Complete/Accurate?
TAT X Normal-Standard TAT is 10-12 business days. TAT X Normal-Standard TAT is 10-12 business days. TAT Approved By:	s days. charges.								elals: Ca, Fe	Fe, Mg, Mn,	05' NO3' CI'	600	Cort. in Good Cond.? Correct Containers? Correct Sample Volumes?
					- 1			I, COI	M bev	, Ca,		ity, H	Correct Preservation?
ľ			00	XC	HO-	00	N	H3-W	lossi sN		JT ,F		HeadspaceVolatifies?
(as if will appear on the lab report) Oate	Time	o 9.	n _	1	Enter No	mber of C	ontainers	Enter Number of Containers Per Sample or Field Results Below	or Field R	esufts Bel	(d		Couner Lecking #: Sample/COC Comments
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Project Comments:	LOGGED BY(algnature):	(algnature):		2				122	4	12	s	Standard	d Special Processing State Samples
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Retinquished By / Company Name	Date	Time			eived By	/ Сотра	Received By / Company Name		Date	Time	pa	USACE	Navy NY
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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01 State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

March 19, 2018

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

Certificate of Analysis

Project Name: FREY FARM Workorder: 2298562

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

Dear Mr. Brown:

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

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

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

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

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

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

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

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

Ms. Susan J Scherer Project Coordinator

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

SAMPLE SUMMARY

Workorder: 2298562 1ST QTR 2018-3079 RIVER RD

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

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

SAMPLE SUMMARY

Workorder: 2298562 1ST QTR 2018-3079 RIVER RD

Notes

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

Standard Acronyms/Flags

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

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

ANALYTICAL RESULTS

Workorder: 2298562 1ST QTR 2018-3079 RIVER RD

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

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

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/3/18 02:38	CJG	K
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	88		%	70 - 130	EPA 524.2			3/3/18 02:38	CJG	K
4-Bromofluorobenzene (S)	96.9		%	70 - 130	EPA 524.2			3/3/18 02:38	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	17		mg/L	5	S2320B-97			3/2/18 02:36	MSA	С
Alkalinity, Total	17	1	mg/L	5	S2320B-97			3/2/18 02:36	MSA	С
Ammonia-N	ND		mg/L	0.100	D6919-09			3/12/18 21:44	CMM	В
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/8/18 16:16	AK	В
Chloride	32.6		mg/L	2.0	EPA 300.0			3/1/18 15:40	CHW	С
Fluoride	ND		mg/L	0.20	EPA 300.0			3/1/18 15:40	CHW	С
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/8/18 11:56	PAG	1
Nitrate-N	ND		mg/L	0.20	EPA 300.0			3/1/18 15:40	CHW	С
Nitrite-N	ND		mg/L	0.20	EPA 300.0			3/1/18 15:40	CHW	С
pН	5.81	2	pH_Units		S4500HB-11			3/2/18 02:36	MSA	С
Phenolics	ND		mg/L	0.005	EPA 420.4	3/13/18 10:00	NJA	3/13/18 21:28	NJA	Н
Specific Conductance	165		umhos/cm	1	S2510B-97			3/2/18 02:36	MSA	С
Sulfate	27.5		mg/L	2.0	EPA 300.0			3/1/18 15:40	CHW	
Total Dissolved Solids	94		mg/L	5	S2540C-11			3/7/18 11:20	C_D	C
Total Dissolved Colles	5 4		g/ L	3	020-00-11			5/1/10 11.20	0_0	5

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

ANALYTICAL RESULTS

Workorder: 2298562 1ST QTR 2018-3079 RIVER RD

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

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

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	Ву	Cntr
T-1-1 O'- O (TOO)		9			O5040D 00		,	•	•	
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			3/5/18 13:05	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			3/2/18 03:28	MSA	С
METALS										
Calcium, Total	11.0		mg/L	0.050	EPA 200.7	3/6/18 08:35	DXC	3/7/18 02:49	DAG	D1
Calcium, Dissolved	10.2		mg/L	0.10	EPA 200.7	3/4/18 23:51	DAG	3/7/18 07:58	DAG	Ε
Iron, Total	ND		mg/L	0.030	EPA 200.7	3/6/18 08:35	DXC	3/7/18 02:49	DAG	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	3/4/18 23:51	DAG	3/7/18 07:58	DAG	Е
Magnesium, Total	5.7		mg/L	0.050	EPA 200.7	3/6/18 08:35	DXC	3/7/18 02:49	DAG	D1
Magnesium, Dissolved	5.2		mg/L	0.10	EPA 200.7	3/4/18 23:51	DAG	3/7/18 07:58	DAG	Е
Manganese, Total	0.20		mg/L	0.0025	EPA 200.7	3/6/18 08:35	DXC	3/7/18 02:49	DAG	D1
Manganese, Dissolved	0.19		mg/L	0.0050	EPA 200.7	3/4/18 23:51	DAG	3/7/18 07:58	DAG	Е
Potassium, Total	1.9		mg/L	0.25	EPA 200.7	3/6/18 08:35	DXC	3/7/18 02:49	DAG	D1
Potassium, Dissolved	1.8		mg/L	0.50	EPA 200.7	3/4/18 23:51	DAG	3/7/18 07:58	DAG	Ε
Sodium, Total	11.9		mg/L	0.25	EPA 200.7	3/6/18 08:35	DXC	3/7/18 02:49	DAG	D1
Sodium, Dissolved	10.9		mg/L	0.50	EPA 200.7	3/4/18 23:51	DAG	3/7/18 07:58	DAG	Е
FIELD PARAMETERS										
pH, Field (SM4500B)	5.100		pH_Units		Field			2/28/18 10:30	CLT	Ν
Specific Conductance, Field	170	ı	umhos/cm	1	Field			2/28/18 10:30	CLT	Ν

Ms. Susan J Scherer Project Coordinator

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

ANALYTICAL RESULTS

Workorder: 2298562 1ST QTR 2018-3079 RIVER RD

PARAMETER QUAL	IFIERS
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Lab ID	#	Sample ID	Analytical Method	Analyte	
2298562001	1	3079RIVERRD	S2320B-97	Alkalinity, Total	
The Total Alkalini	ty is titrate	ed to a pH of 4.5 and reported a	s mg CaCO3/L.		
2298562001	2	3079RIVERRD	S4500HB-11	На	

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

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(ALS) F717-944-1430 Enutronmental			ALL SH,	ADED AR	ADED AREAS MUST BE COMPLETED BY THE SAMPLER. INSTRUCTIONS ON THE BACK.	ST BE CO	OMPLET NS ON T		THE CLIENT /	NT /	ALS	2 2 *	98562	<u> </u>
Client Name: LCSWMA		Contains	ъ.	я	Я	AN	ц.	럾	AN	AV	93	Receipt Infor	Receipt Information (completed by Receiving Lab)	(eceiving Lab)
Address:		Containes	27	200	900	900	200	200	250	9	40	Cooler Temp:	2. C. Them ID:	318
	ì	Preservative	Swe Nome	None	H2SO4	H2SO4	HNO3	HNO3	H2SO4	로	HC	No. of Coolers:		N Initial
Contact: Mark Reider					ANA	LYSESIA	ANALYSES/METHOD REQUESTED	EQUEST	60			Custo	Custody Seals Present?	ZON
Phone#:			į,									(if pre	(If present) Scals Intact?	ノー
Project Name/#: LCSW/MA - Form 52		_	q1-:					6					Received on Ice7	
Bill To;			∃- ∳C				е	K-N			_	COCILZBels Co	COCIL zhels Complete/Accurate?	
TAT Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Date Required: Approved By:	days.		NOS-NO3-CI-20	3	GO	*	м-Fe-Mg-Mn-K-W	d:Ca-Fe-Mg-Mn-		100	Sè mi	Correct Correc	Cont. In Good Cond.? Correct Containers? Correct Sample Volumes? Correct Preservation?	
Fax? .Y No.:		_	-201	нсо	O-NA	Н	sD:lc	avlo	,	:	2-F0	T.	Headspace/Volatiles?	>
Sample Description/Location Sample (3s it will appear on the lab report) Date	Time	0 10 0*	chtem" F-Hq Spc	I-XIA	Enter Number of Containers Per Sample or Field Results Below	er of Cont	sion Fer	Sample or	XOT BE	301 al	100	Counter/Tracking #:	ng #:	4 5
3079 River Rd 2/28/2018	10:30	D DW	×	+	٠	+	-	-	2	2	· .	DH = 5.1		
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Project Comments:	LOGGED BY(signature):	Y(signatur	쓮		R			EWI		-		Standard Sp	Special Processing	State Samples
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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01 State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

March 11, 2018

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

Certificate of Analysis

2297622

Project Name: CONTIGUOUS LANDOWNER- Workorder:

3076 RIVER RD

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

Dear Mr. Brown:

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

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

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

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

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

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

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

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

Ms. Susan J Scherer Project Coordinator

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

SAMPLE SUMMARY

Workorder: 2297622 1ST QTR 2018-3076 RIVER RD

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

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

SAMPLE SUMMARY

Workorder: 2297622 1ST QTR 2018-3076 RIVER RD

Notes

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

Standard Acronyms/Flags

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

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ANALYTICAL RESULTS

Workorder: 2297622 1ST QTR 2018-3076 RIVER RD

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

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

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 03:48	CJG	K
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	77.3		%	70 - 130	EPA 524.2			3/2/18 03:48	CJG	K
4-Bromofluorobenzene (S)	83.2		%	70 - 130	EPA 524.2			3/2/18 03:48	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	9		mg/L	5	S2320B-97			2/27/18 18:20	MSA	С
Alkalinity, Total	9	1	mg/L	5	S2320B-97			2/27/18 18:20	MSA	Α
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/18 10:22	CMM	В
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/5/18 13:20	AK	В
Chloride	48.2		mg/L	2.0	EPA 300.0			2/24/18 08:43	CHW	С
Fluoride	ND		mg/L	0.20	EPA 300.0			2/24/18 08:43	CHW	С
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/1/18 14:34	PAG	I
Nitrate-N	10.3		mg/L	0.20	EPA 300.0			2/24/18 08:43	CHW	С
Nitrite-N	ND		mg/L	0.20	EPA 300.0			2/24/18 08:43	CHW	С
рН	6.24	2	pH_Units		S4500HB-11			2/27/18 18:20	MSA	С
Phenolics	ND		mg/L	0.005	EPA 420.4	3/5/18 12:00	NJA	3/5/18 16:41	NJA	Н
Specific Conductance	266		umhos/cm	1	S2510B-97			2/27/18 18:20	MSA	С
Sulfate	9.0		mg/L	2.0	EPA 300.0			2/24/18 08:43	CHW	C
			····ə· -	0						-

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

ANALYTICAL RESULTS

Workorder: 2297622 1ST QTR 2018-3076 RIVER RD

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

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

	- ·			551		5 .	_		_	<u> </u>
Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
Total Organic Carbon (TOC)	ND		mg/L	0.50	S5310B-00			2/27/18 17:03	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			2/24/18 05:04	MSA	С
METALS										
Calcium, Total	14.6		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:42	DAG	D1
Calcium, Dissolved	14.3		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:53	DAG	Ε
Iron, Total	ND		mg/L	0.030	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:42	DAG	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:53	DAG	Ε
Magnesium, Total	8.7		mg/L	0.050	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:42	DAG	D1
Magnesium, Dissolved	8.6		mg/L	0.10	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:53	DAG	Ε
Manganese, Total	0.13		mg/L	0.0025	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:42	DAG	D1
Manganese, Dissolved	0.12		mg/L	0.0050	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:53	DAG	Ε
Potassium, Total	2.7		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:42	DAG	D1
Potassium, Dissolved	2.4		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:53	DAG	Ε
Sodium, Total	21.3		mg/L	0.25	EPA 200.7	2/27/18 08:30	DXC	2/28/18 06:42	DAG	D1
Sodium, Dissolved	20.1		mg/L	0.50	EPA 200.7	2/26/18 21:51	DAG	2/28/18 10:53	DAG	Е
FIELD PARAMETERS										
pH, Field (SM4500B)	6.190		pH_Units		Field			2/23/18 11:57	BGS	Ν
Specific Conductance, Field	281	1	umhos/cm	1	Field			2/23/18 11:57	BGS	Ν
Temperature	15.10		Deg. C		Field			2/23/18 11:57	BGS	Ν

Ms. Susan J Scherer Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2297622 1ST QTR 2018-3076 RIVER RD

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

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

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

Ms. Susan J Scherer Project Coordinator

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

ANALYTICAL RESULTS

Workorder: 2297622 1ST QTR 2018-3076 RIVER RD

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

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

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
•			0,0					,		
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
Toluene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/1/18 22:13	CJG	Α
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	78.8		%	70 - 130	EPA 524.2			3/1/18 22:13	CJG	Α
4-Bromofluorobenzene (S)	91.1		%	70 - 130	EPA 524.2			3/1/18 22:13	CJG	Α

Ms. Susan J Scherer Project Coordinator

Report ID: 2297622 - 3/11/2018 Page 7 of 9





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

ANALYTICAL RESULTS

Workorder: 2297622 1ST QTR 2018-3076 RIVER RD

PARAMETER	QUALIFIERS
-----------	------------

Lab ID	#	Sample ID	Analytical Method	Analyte
2297622001	1	3076 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity	is titrate	ed to a pH of 4.5 and reported as mg (CaCO3/L.	
2297622001	2	3076 River Road, Conestoga, PA	S4500HB-11	рН

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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Report ID: 2297622 - 3/11/2018 Page 8 of 9

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Control Cont	Client Name: LCS/WMA - Esher A. Schopf	TES. (11. 200.)		_	1	N. A.	5	_	я.		PL	2	-	ceipt Information (completed by Receivin	ing Lab)
1756 1750	Address: 3076 Rover Road		Contin	-		-	-	-	2000	-	-	17.	-	_	
Manual M	Conestoga, PA 17516		Presence			-		-	HZSC	-	_	None	12	2	Initial
March Marc	Contact: Esther A. Schopf			J.		6	ANALYSE	S/MET	OD REGU	STED					NO.
No. Custlety No.	Phone#: (717) 872-2559			_		H	H	L	-	141		1		(if present) Seals Intact?	
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No. No.	Bill To: Lancaster County Solid Waste MA		-	_	-	-		_		6W 'a	K' N	204	٥	OCCubels Complete/Accurate?	-
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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01 State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

March 11, 2018

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

Certificate of Analysis

Project Name: CONTIGUOUS LANDOWNER- Workorder:

3088 RIVER RD

Purchase Order: PO1000126

/orkorder: **2297623**

Workorder ID: 1ST QTR 2018-3088 RIVER RD

Dear Mr. Brown:

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

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

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

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

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

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

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

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

ALS Environmental Laboratory Locations Across North America

Report ID: 2297623 - 3/11/2018 Page 1 of 7





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

SAMPLE SUMMARY

Workorder: 2297623 1ST QTR 2018-3088 RIVER RD

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

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

SAMPLE SUMMARY

Workorder: 2297623 1ST QTR 2018-3088 RIVER RD

Notes

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

Standard Acronyms/Flags

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

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

ANALYTICAL RESULTS

Workorder: 2297623 1ST QTR 2018-3088 RIVER RD

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

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

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

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

ANALYTICAL RESULTS

Workorder: 2297623 1ST QTR 2018-3088 RIVER RD

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

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

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

Ms. Susan J Scherer Project Coordinator

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

ANALYTICAL RESULTS

Workorder: 2297623 1ST QTR 2018-3088 RIVER RD

PARAMETER QUALIFIER	S
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Lab ID	#	Sample ID	Analytical Method	Analyte
2297623001	1	3088 River Road, Conestoga PA	S2320B-97	Alkalinity, Total
The Total Alkalinity	is titrate	ed to a pH of 4.5 and reported as mg (CaCO3/L.	
2297623001	2	3088 River Road, Conestoga PA	S4500HB-11	pH

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

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Report ID: 2297623 - 3/11/2018 Page 6 of 7

### Sample Commerce AN Sample Approved By: 14/2/8 11/4/2 G DW 2 2 2 3 3 3 3 3 3 3	AN CG — OD MI 40 mI — ISSO4 HCI — ANALYSES/METHOD	AT NO SNOT	HE BACK.		- [*	7 0 7 4 2 3 4	
days. - Container	AN CG OD THE TEST ANALYSES	1 1 1		i				
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d By: Time Time To or C DW 2 2 2 2 2 2 2 2 2 2 2 2 2 2 3 3 3 3 3	ANALYSES	1	500 ml 500 ml	500 ml	31	500 ml Cooler Temp:	Temp: (ThermID:3/ y	
eb Kalbach s 10-12 business days. Approved By: Sample Date Time OFF SAMM 2 2 2	ANALYSES		H2SO4 HN03	HNO3	None	None No. of Coolers:	olers: Y	N Initial
Sample Time C T Sample 1147 G DW 2 2		METHOD RE	REQUESTED				Custody Seals Present?	3
Sample Time C T A A A A A A A A A A A A A A A A A A			10				(if present) Seals Intact?	
Approved By: Sample Date Time Oxx Axx/R 1147 G DW 2 2 2			W.	8	44		Received on Ice?	
X Normal-Standard TAT is 10-12 business days. Approved By: Approve			6W '	K' N	os	COCUTA	COCILabels Complete/Accurate?	
ample Description/Location Sample Control of Education (se it will appear on the lab raport) Date Time Control of Education (se it will appear on the lab raport) Apply G DW 2 2 2			o Felals: Ca, Fe	e, Mg, Mn, i)2, NO3, CI,		Cont. in Good Cond.? Correct Containers? Correct Sample Volumes?	
Sample Description/Location Sample 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1					JH _í Viúr	Correct Preservation7	
ar on the lab report) Date Time S = 2	00/	W:			11 'H		Headspace/Volatilles?	>
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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01 State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

March 8, 2018

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

Certificate of Analysis

Project Name: FREY FARM Workorder: 2297269

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

Dear Mr. Brown:

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

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

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

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

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

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

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

Ms. Susan J Scherer Project Coordinator

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

SAMPLE SUMMARY

Workorder: 2297269 1ST QTR 2018 3060 RIVER RD

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

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

SAMPLE SUMMARY

Workorder: 2297269 1ST QTR 2018 3060 RIVER RD

Notes

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

Standard Acronyms/Flags

- J Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
- U Indicates that the analyte was Not Detected (ND)
- N Indicates presumptive evidence of the presence of a compound
- MDL Method Detection Limit
- PQL Practical Quantitation Limit
- RDL Reporting Detection Limit
- ND Not Detected indicates that the analyte was Not Detected at the RDL
- Cntr Analysis was performed using this container
- RegLmt Regulatory Limit
- LCS Laboratory Control Sample
- MS Matrix Spike
- MSD Matrix Spike Duplicate
- DUP Sample Duplicate
- %Rec Percent Recovery
- RPD Relative Percent Difference
- LOD DoD Limit of Detection
- LOQ DoD Limit of Quantitation
- DL DoD Detection Limit
- 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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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01 State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2297269 1ST QTR 2018 3060 RIVER RD

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

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

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

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

ANALYTICAL RESULTS

Workorder: 2297269 1ST QTR 2018 3060 RIVER RD

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

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

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

Ms. Susan J Scherer Project Coordinator

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

ANALYTICAL RESULTS

Workorder: 2297269 1ST QTR 2018 3060 RIVER RD

Lab ID # Sample ID Analytical Method Analyte

2297269001 1 3060RIVERRD S2320B-97 Alkalinity, Total

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

рΗ

2297269001 2 3060RIVERRD S4500HB-11

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

2297269001 3 3060RIVERRD S2540C-11 Total Dissolved Solids

The LCS associated with this sample was recovered at 111%. The LCS contol limit is 90 to 110%. A bias may exist with the result.

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Environmental	Middletown, PA 17057 P. 717-944-5541 F.717-944-1430	3	4	ALL SHAI	DED AREAS SAMPLER.	ED AREAS MUST BE COMPLETED BY SAMPLER: INSTRUCTIONS ON THE BA	T BE COR	ADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.	ED BY T	HE CLIE K.	I IN	ALS	101	297269	5, = *
Client Name: LCSWMA			Container	PL	ъ	Ы	AN	Ы	ы	AN	AV	90	Receipt Infe	Receipt Information (completed by Receiving Lab)	(Receiving Lab)
Address;			Container	21.	200	200	200	200	200	250	40	40	Cooler Temp:	DE Them ID:	318
			Presevative	None	None	H2S04	H2SO4	HN03	HNO3	H2SO4	HCL	단	No. of Coolers:	1	100
Contact: Mark Reider						ANA	YSESIN	ANALYSES/METHOD REQUESTED	REQUEST	60			3	Custody Seals Present?	
Phone#:				4									(If p	(if present) Seats Intact?	v
Project Name#: LCSWMA - Form 52 Bill To:	ľ			17-3-4				16	BN-			_	COCLAPA	Received on Ice?	
TAT Normal-Standard TAT is 10-12 business days. TAT Rush-Subject to ALS approval and surcharges. Approved By:	0-12 business roval and sure Approved By:	days.		NOS-NO3-CI-20	3	00	-72	-Fe-Mg-Mn-K-Na	i:Ca-Fe-Mg-Mn-K			25 m	800	Correct Containers?	
Fax? No.:				.so:	ОЭН	0·N/	Н	EO:	oevlo	3		N-F01		GoodsonsealVolatilless	
Sample Description/Location (se it will appear on the lab report)	Sample Date	Time	O 10 O' KintsM''	P-Hq SpC		EHN Namb	ref Conta	NH3 OO DISS. TOCK ON THE PRESENTS BRIOW	Sample or	XOT BE	OOT SHE	COLUMN TO SERVICE	CourierTracking #.	Ming #: Sample/COC Comments	
3060 River Rd	2/22/2018	14:45	G DW	*	*	4	1	+	-	2	2	n	pH= 4.9		
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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01 State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

March 8, 2018

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

Certificate of Analysis

Project Name: FREY FARM Workorder: 2297268

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

Dear Mr. Brown:

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

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

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

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

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

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

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

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

Ms. Susan J Scherer Project Coordinator

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

SAMPLE SUMMARY

Workorder: 2297268 1ST QTR 2018 3056 RIVER RD

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

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

SAMPLE SUMMARY

Workorder: 2297268 1ST QTR 2018 3056 RIVER RD

Notes

- -- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 Field Services Sampling Plan).
- -- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- -- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- -- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- -- The Chain of Custody document is included as part of this report.
- -- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
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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 incurbator and the "Analyzed" value is the date/time out the incubator.

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

ANALYTICAL RESULTS

Workorder: 2297268 1ST QTR 2018 3056 RIVER RD

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

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

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

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

ANALYTICAL RESULTS

Workorder: 2297268 1ST QTR 2018 3056 RIVER RD

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

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

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

Ms. Susan J Scherer Project Coordinator

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

ANALYTICAL RESULTS

Workorder: 2297268 1ST QTR 2018 3056 RIVER RD

PARAMETER	QUALIFIERS
------------------	------------

Lab ID # Sample ID Analytical Method Analyte

2297268001 1 3056RIVERRD S2320B-97 Alkalinity, Total

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

2297268001 2 3056RIVERRD S4500HB-11 pH

The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of

collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.

2297268001 3 3056RIVERRD S2540C-11 Total Dissolved Solids
The LCS associated with this sample was recovered at 111%. The LCS contol limit is 90 to 110%. A bias may exist with the result.

2297268001 4 3056RIVERRD EPA 524.2 Methylene Chloride

The QC sample type MS for method EPA 524.2 was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported

as 61.8 and the control limits were 70 to 130.

2297268001 5 3056RIVERRD EPA 524.2 Methylene Chloride

The QC sample type MSD for method EPA 524.2 was outside the control limits for the analyte Methylene Chloride. The % Recovery was

reported as 63.5 and the control limits were 70 to 130.

2297268001 6 3056RIVERRD EPA 300.0 Nitrate-N

The sample was originally run within hold time, but required further analysis that exceeded hold time.

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Rev 10/14 State Samples Collected In Rental Equipment Labor 3 A S Sample/COC Comments Pickup Them ID: Special Processing Sample Disposal USACE New rap Pa Special Cornect Preservation? (if present) Seals Intact? Received on Ice? COCALabels Complete/Accurate? Cont. In Good Cond.? Correct Containers? Correct Sample Volumes? Headspace/Volatiles? Custody Seals Present? Composite Sampling ALS Field Services: Courier/Tracking #: "Matrix - Alt-Air, DW=Dnnking Water, GW=Groundwater, Ot=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater Cooler Temp: No. of Coolers: Other: SpC= 251 PH = 5.2 Reportable to PADEP? ALS Quo Standard CLP-like USACE EDDS: Formal Type-# 202 **PWSID#** Yes ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057 Deliverables 오 8 8 524.2-Form 52 3 Data Sample or Field Results Belov 1247 Time 100 로 ¥ 8 20. ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT **F2S04** Oate 2/27 A 250 XQ1 2 ANALYSES/METHOD REQUESTED SAMPLER, INSTRUCTIONS ON THE BACK REQUEST FOR ANALYSIS HNO3 58 ď Dissolved:Ca-Fe-Mg-Mn-K-Na CHAIN OF CUSTODY! Enter Number of Containers Per HN03 8 Received By I Company Name 럾 Total: Ca-Fe-Mg-Mn-K-Na H2S04 AN 200 HO-C 1,000 H2SO4 200 2 MH3/M-COD 4 Charres None 200 굽 AIK-HCO3 ods None 굽 7 PH-TDS-NO2-CI-SO4-F-Tb-REVIEWED BY(signature) OGGED BY(signature): C: 51 š Time Preservative xintsM* Container 200 O 10 9. O 21/18 Time Date 13:56 Rush-Subject to ALS approval and surcharges. 34 Dogwood Lane Middletown, PA 17057 P. 717-944-5541 F.717-944-1430 Normal-Standard TAT is 10-12 business days. G=Grab; C=Composite Approved By: 2722/2018 Sample Date (SWM) Relinquished By / Company Name LCSWMA - Form 52 Sample Description/Location (as it will appear on the lab report) Enulronmental Client Name: LCSWMA ·Y No.: ontact: Mark Reider roject Comments: Project Name/#: 3056 River Rd Jate Required: Address: hone#: TAT Email? Bill To: Fax?

Rev 10/14 State Samples Collected In Receipt Information (completed by Receiving Lab) Raitia ŏ Rental Equipment Labor 3 A 2 Sample/COC Comments Pickup Therm ID: Special Processing Sample Disposal USACE ap Cont. in Good Cond.? Navy Custody Seals Present? COCILabels Complete/Accurate? Correct Sample Volumes? Correct Preservation? Headspace/Volatiles? Special (if present) Seals Intact? Received on Ice? Correct Containers? Composite Sampling ALS Field Services: 10 Cooler Temp: Courier/Tracking #: No. of Coolers: "Matrix - Al=Air, DW=Drinking Water, GW=Groundwater, Ol=Oit OL=Other Liquid; SL=Sludge; SO=Soit WP=Wrpe; WW=Wastewater ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057 Other ALS Quote #: SpC= 222 DH = 4.9 Reportable to PADEP? COC #: Slandard CLP-like USACE EDDS: Format Type-# QISMd Yes Deliverables 8 오 8 524.2-Form 52 Data Sample or Field Results Belov 1434 Time 돺 Pa \$ 용 OC. ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT H2SO4 4 Date 2/27 ¥ 250 XOT CV ANALYSES/METHOD REQUESTED SAMPLER. INSTRUCTIONS ON THE BACK REQUEST FOR ANALYSIS HN03 8 ದ Dissolved:Ca-Fe-Mg-Mn-K-Na CHAIN OF CUSTODY of Containers Per HNO3 200 굾 Received By / Company Name Total: Ca-Fe-Mg-Mn-K-Na H2SO4 8 ¥ HO-0 14 000 Enter Number H2SO4 28 4 NH3/N-COD 333 None 8 ď AIK-HCO3 SpC None ದ 7 pH-TDS-NO2-NO3-CI-SO4-F-Tb-2 14.55.22 REVIEWED BY (algnature): M Preservative OGGED BY(signature): Matrix. Time Container 8 250 (24/18/162) O 3 10 D N/22/2 Date Time 14:45 Rush-Subject to ALS approval and surcharges. Normal-Standard TAT is 10-12 business days. Middletown, PA 17057 P. 717-944-5541 F,717-944-1430 * G=Grab; C=Composite 34 Dogwood Lane. Approved By: 2/22/2018 Sample Date 1CSWW4 Relinquished By / Company Name roject Name#: LCSWMA - Form 52 Sample Description/Location (as it will appear on the lab report) Enviranmental Client Name: LCSWMA V No. Contact: Mark Reider roject Commerits: 3060 River Rd Date Required: Address: TAT Phone Bill To: Email? Fax?





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

March 11, 2018

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

Certificate of Analysis

Project Name: CONTIGUOUS LANDOWNER-

3052 RIVER RD

Purchase Order: PO1000126

Workorder: **2297619**

Workorder ID: 1ST QTR 2018-3052 RIVER RD

Dear Mr. Brown:

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

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

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

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

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

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

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

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

SAMPLE SUMMARY

Workorder: 2297619 1ST QTR 2018-3052 RIVER RD

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

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SAMPLE SUMMARY

Workorder: 2297619 1ST QTR 2018-3052 RIVER RD

Notes

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

Standard Acronyms/Flags

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

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

ANALYTICAL RESULTS

Workorder: 2297619 1ST QTR 2018-3052 RIVER RD

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

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

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

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

ANALYTICAL RESULTS

Workorder: 2297619 1ST QTR 2018-3052 RIVER RD

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

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

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

Ms. Susan J Scherer Project Coordinator

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

ANALYTICAL RESULTS

Workorder: 2297619 1ST QTR 2018-3052 RIVER RD

Lab ID	#	Sample ID	Analytical Method	Analyte
2297619001	1	3052 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity	is titrate	ed to a pH of 4.5 and reported as mg (CaCO3/L.	
2297619001	2	3052 River Road, Conestoga, PA	S4500HB-11	рН

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 • 717,944,5541 • Fax 717 944,1430	1	AL	ALL SHAD	DED AR	AS MU	T BE C	ED AREAS MUST BE COMPLETED BY	ADED AREAS MUST BE COMPLETED BY THE CLIENT	THE CLI	INT /		ALS		ē -
	- t			SAMPLE	R. INS	RUCTI	NO SNO	SAMPLER. INSTRUCTIONS ON THE BACK	CK.			11	*2297619*	$\ \ $
Client Name: LCSWMA - Gerald E. Miller, Sr.	3	Type	VG	AN	AN	8	1	7	4	R	ď	P.	Receipt Information (completed by Receiving Lab)	ng Lab)
Address: 3052 River Road	3	Stre	40 ml	250 ml	500 ml	40 ml	(500 ml	500 ml	500 m)	77	500 ml	Cooler Temp: 1 Therm ID: 318	
Conestoga, PA 17516	E.	Preservative	무	H2S04	HZSO4	HCI	1	H2SO4	HNO3	HNO3	None	None	No. of Coolers: Y N	Initial
Contact: Gerald E. Miller, Sr.					ANA	LYSESIA	TETHOD	ANALYSES/METHOD REQUESTED	TED				Custody Seals Present?	Son
Phone#: (717) 872-5117									4			Ì	(If present) Seals Intact7	-
Project Name#: LCSWMA - Quarterly									nM,	ŧ	3		Received on Ice7	+
Bill To: Lancaster County Solid Waste MA									6W ,	¢, N₃	ros		COCLabels Complete/Accurate?	
TAT X Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Approved By:	ys.							a	Metals: Ca, Fe,	, Fe, Mg, Mn, M	105' MO3' CI' i	1003	Cont. In Good Cond.? Correct Containers? Correct Sample Volumes?	
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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01 State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

March 11, 2018

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

Certificate of Analysis

Project Name: CONTIGUOUS LANDOWNER- Workorder: 2297624

3044 RIVER RD

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

Dear Mr. Brown:

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

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

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

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

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

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

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

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

Ms. Susan J Scherer Project Coordinator

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

SAMPLE SUMMARY

Workorder: 2297624 1ST QTR 2018-3044 RIVER RD

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

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SAMPLE SUMMARY

Workorder: 2297624 1ST QTR 2018-3044 RIVER RD

Notes

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

Standard Acronyms/Flags

- J Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
- U Indicates that the analyte was Not Detected (ND)
- N Indicates presumptive evidence of the presence of a compound
- MDL Method Detection Limit
- PQL Practical Quantitation Limit
- RDL Reporting Detection Limit
- ND Not Detected indicates that the analyte was Not Detected at the RDL
- Cntr Analysis was performed using this container
- RegLmt Regulatory Limit
- LCS Laboratory Control Sample
- MS Matrix Spike
- MSD Matrix Spike Duplicate
- DUP Sample Duplicate
- %Rec Percent Recovery
- RPD Relative Percent Difference
- LOD DoD Limit of Detection
- LOQ DoD Limit of Quantitation
 DL DoD Detection Limit
- 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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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01 State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2297624 1ST QTR 2018-3044 RIVER RD

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

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

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Toluene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			3/2/18 04:36	CJG	K
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	77.1		%	70 - 130	EPA 524.2			3/2/18 04:36	CJG	K
4-Bromofluorobenzene (S)	91.1		%	70 - 130	EPA 524.2			3/2/18 04:36	CJG	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	31		mg/L	5	S2320B-97			2/27/18 18:39	MSA	С
Alkalinity, Total	31	1	mg/L	5	S2320B-97			2/27/18 18:39	MSA	Α
Ammonia-N	ND		mg/L	0.100	D6919-09			3/8/18 10:50	CMM	В
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			3/5/18 13:20	AK	В
Chloride	20.4		mg/L	2.0	EPA 300.0			2/24/18 09:07	CHW	С
Fluoride	ND		mg/L	0.20	EPA 300.0			2/24/18 09:07	CHW	С
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			3/6/18 10:52	PAG	1
Nitrate-N	19.1		mg/L	0.20	EPA 300.0			2/24/18 09:07	CHW	С
Nitrite-N	ND		mg/L	0.20	EPA 300.0			2/24/18 09:07	CHW	С
рН	6.75	2	pH_Units		S4500HB-11			2/27/18 18:39	MSA	С
Phenolics	ND		mg/L	0.005	EPA 420.4	3/5/18 12:00	NJA	3/5/18 16:41	NJA	Н
Specific Conductance	244		umhos/cm	1	S2510B-97			2/27/18 18:39	MSA	С
Sulfate	4.8		mg/L	2.0	EPA 300.0			2/24/18 09:07	CHW	С
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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01 State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2297624 1ST QTR 2018-3044 RIVER RD

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

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

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

Ms. Susan J Scherer Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2297624 1ST QTR 2018-3044 RIVER RD

PARAMETER QUAL	IFIERS
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Lab ID	#	Sample ID	Analytical Method	Analyte
2297624001	1	3044 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity	is titrate	ed to a pH of 4.5 and reported as mg (CaCO3/L.	
2297624001	2	3044 River Road, Conestoga, PA	S4500HB-11	рН

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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17 17 17 17 17 17 17 17	Client Name: LCSWMA - Nelson L. Smith			Continues	AG	AN	AN	93	1	Ъ		76	료	\vdash	of Information (completed by Re	eceiving Lab)
Conceign PA 17516	Address: 3044 River Road			Container	40 mf	250 ml	500 ml	40 ml	1	500 ml	500 ml	500 ml	6	-	/ Therm ID:	20
Netical 2.899 United Colorabid Sanith	Conestoga, PA 17516	١		Preservative	오	H2S04	H2SO4	EG.	ì	-	-	HNOS	-	-		100
Figure Company Sample Co							ANA	LYSES/M	ETHODA	EQUEST	03				Custody Seals Present?	NO K
Control Cont				-						-	0				(M present) Seals Intact?	
Normal-Standard Water MA	Project Namei#: LCSWMA - Quarterly							Ī			oM ,	E	Э,	-	Received on Ico?	-
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