

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

www.lcswma.org

June 30, 2016

Ms. Charlene Sauls; Regional Hydrogeologist Pennsylvania Department of Environmental Protection Bureau of Waste Management 909 Elmerton Avenue Harrisburg, PA 17110-8200

REF: Private Water Supply

2nd Quarter 2016 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.

Please be aware the well location ID have been changed to reflect the sites address instead of the previous landowner's initials. A key to the changes is attached as Location ID.xlsx.

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

- 1. USEPA MCL's exceedance report; four samples (3044RIVERR, 3052RIVERR, 3076RIVERR and 3088RIVERR) 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; three samples (3052RIVERR, 3076RIVERR, and 3088RIVERR) exceeded the limit for manganese and on TDS which are consistent with historic data and are attributed to natural soil and geologic conditions.

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

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

Respectfully submitted,

Mark D Reider

Director of Environmental Compliance

Enclosures

Cc: Bob Zorbaugh, Dan Brown, Bob Eshbach

Ed Rawski, Randy Weiss (PaDEP)

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF LAND RECYCLING AND WASTE

Date Prepared/Revised 06/22/2016
DEP USE ONLY
Date Received

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

General Reference: Act 101 Section	1103		
SECTION A. SITE IDENTIFIER			
Applicant/permittee: La	incaster County Solid Waste Manage		
Site Name: Fr	ey Farm Landfill		
Facility ID (as issued by DEP): 10	01389		
SECT	ION B. PRIVATE WATER SUPPLY INFORMATION		
INDICATE THE LATITUDE AND LONGIT	UDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")		
Facility Name: Frey Farm La	andfill		
County: Lancaster Co	bunty		
Township or Municipality: MANOR TO	WNSHIP		
Landowner Name: SMITH			
Address: 3044 RIVER	ROAD		
Phone No.:			
Sampling Point: Latitude: 39 °	57 ' 30.85 " 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:			
Sampling Depth:	ft. Sampling Method: Pumped Bailed		
Well Purged: Yes	X No Well Volumes Purged:		
Sample Field Filtered (must be 0.45 micro	n)?: X Yes No		
Sample Date:(mm/dd/yy) 05/20	1/2016 Sample Collection Time: 10:16 AM		
Laboratory(ies) Performing Analysis	ALS Environmental		
(include address and phone number)	34 Dogwood Lane		
	Middletown, PA 17057 (717) 944-5541		
Lab Accreditation Number(s)	22-293		
Lab Analysis Date	06/06/2016		
Were any holding times exceeded?:	Yes X No If yes, please explain in comments field.		
Comments:			

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

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

Sample Date

05/20/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	12	SM20-2321
CALCIUM, TOTAL	16.5	EPA 200.7
CALCIUM, DISSOLVED	16.3	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.2
CHLORIDE	18.6	EPA 300
FLUORIDE	0.5 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	10.5	EPA 200.7
MAGNESIUM, DISSOLVED	10.7	EPA 200.7
MANGANESE, TOTAL (ug/l)	16	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	17	EPA 200.7
NITRATE-NITROGEN	20.5	EPA 300

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS SMITH

Sample Date

05/20/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.5 ND	EPA 300
pH-FIELD (SU)	5.08	FIELD
pH-LAB (SU)	6.16	SM4500B
POTASSIUM, TOTAL	2	EPA 200.7
POTASSIUM, DISSOLVED	2	EPA 200.7
SODIUM, TOTAL	9.4	EPA 200.7
SODIUM, DISSOLVED	9.4	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	245	FIELD
SPEC. COND., LAB (umhos/cm)	233	EPA 120.1
SULFATE	5 ND	EPA 300
ALKALINITY	12	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	241	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.17	SM 2130B

T Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS SMITH

Sample Date

05/20/2016

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 LAND RECYCLING AND WASTE

Date Prepared/Revised 06/22/2016
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Date Received

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

General Reference: Act 101 Section	1103		
SECTION A. SITE IDENTIFIER			
Applicant/permittee: La	incaster County Solid Waste Manage		
Site Name: Fr	ey Farm Landfill		
Facility ID (as issued by DEP): 10	01389		
SECT	ION B. PRIVATE WATER SUPPLY INFORMATION		
INDICATE THE LATITUDE AND LONGIT	UDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")		
Facility Name: Frey Farm La	andfill		
County: Lancaster Co	bunty		
Township or Municipality: MANOR TO	WNSHIP		
Landowner Name: MILLER			
Address: 3052 RIVER	ROAD		
Phone No.:			
Sampling Point: Latitude: 39 °	57 ' 29.85 " Longitude: 76 ° 26 ' 11.45 "		
Depth to Water Level:	ft. Measured from: 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 micro	n)?: X Yes No		
Sample Date:(mm/dd/yy) 05/20	1/2016 Sample Collection Time: 10:25 AM		
Laboratory(ies) Performing Analysis	ALS Environmental		
(include address and phone number)	34 Dogwood Lane		
	Middletown, PA 17057 (717) 944-5541		
Lab Accreditation Number(s)	22-293		
Lab Analysis Date	06/06/2016		
Were any holding times exceeded?:	Yes X No If yes, please explain in comments field.		
Comments:			

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

Facility I.D. Number
101389

Monitoring Point I.D. No.

PS

Sample Date

MILLER

05/20/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	5	SM20-2321
CALCIUM, TOTAL	14.8	EPA 200.7
CALCIUM, DISSOLVED	14.5	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.2
CHLORIDE	19.3	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	10.3	EPA 200.7
MAGNESIUM, DISSOLVED	10.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	57	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	55	EPA 200.7
NITRATE-NITROGEN	19.2	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

05/20/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	4.5	FIELD
pH-LAB (SU)	5.66	SM4500B
POTASSIUM, TOTAL	2.1	EPA 200.7
POTASSIUM, DISSOLVED	2.2	EPA 200.7
SODIUM, TOTAL	7.4	EPA 200.7
SODIUM, DISSOLVED	7.2	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	251	FIELD
SPEC. COND., LAB (umhos/cm)	215	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	5	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	234	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.24	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

05/20/2016

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 LAND RECYCLING AND WASTE

Date Prepared/Revised 06/22/2016
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Date Received

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

General Reference: Act 101 Section 1103		
	SECTION A. SITE IDENTIFIER	
Applicant/permittee: La	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	UDE 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: SENSENICH	1	
Address: 3076 RIVER	ROAD	
Phone No.:		
Sampling Point: Latitude: 39 o	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	n)?: X Yes No	
Sample Date:(mm/dd/yy) 05/20	0/2016 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	06/06/2016	
Were any holding times exceeded?: Yes X No If yes, please explain in comments field.		
Comments:		

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

Facility I.D. Number 101389

Monitoring Point I.D. No.

PS SENSENICH

Sample Date

05/20/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	7	SM20-2321
CALCIUM, TOTAL	15.5	EPA 200.7
CALCIUM, DISSOLVED	15.4	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.2
CHLORIDE	44.3	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	9.1	EPA 200.7
MAGNESIUM, DISSOLVED	9.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	200	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	200	EPA 200.7
NITRATE-NITROGEN	12.6	EPA 300

 $[\]ensuremath{\mathsf{T}}$ Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS SENSENICH

Sample Date

05/20/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	4.96	FIELD
pH-LAB (SU)	5.78	SM4500B
POTASSIUM, TOTAL	3.5	EPA 200.7
POTASSIUM, DISSOLVED	3.5	EPA 200.7
SODIUM, TOTAL	20.7	EPA 200.7
SODIUM, DISSOLVED	20.4	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	311	FIELD
SPEC. COND., LAB (umhos/cm)	278	EPA 120.1
SULFATE	13.1	EPA 300
ALKALINITY	7	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	237	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5	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

05/20/2016

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 LAND RECYCLING AND WASTE

Date Prepared/Revised 06/22/2016
DEP USE ONLY
Date Received

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

General Reference: Act 101 Section 1103		
SECTION A. SITE IDENTIFIER		
Applicant/permittee: La	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	UDE 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 RIVER	ROAD	
Phone No.:		
Sampling Point: Latitude: 39 °	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) 05/20	0/2016 Sample Collection Time: 10:50 AM	
Laboratory(ies) Performing Analysis	ALS Environmental	
(include address and phone number)	34 Dogwood Lane	
	Middletown, PA 17057 (717) 944-5541	
Lab Accreditation Number(s)	22-293	
Lab Analysis Date	06/06/2016	
Were any holding times exceeded?: Yes X No If yes, please explain in comments field.		
Comments:		

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

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

PS WEBER

Sample Date

05/20/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	124	SM20-2321
CALCIUM, TOTAL	0.11	EPA 200.7
CALCIUM, DISSOLVED	0.15	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.2
CHLORIDE	219	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	54	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)	3.5	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	5 ND	EPA 200.7
NITRATE-NITROGEN	13.4	EPA 300

 $[\]ensuremath{\mathsf{T}}$ Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS WEBER

Sample Date

05/20/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.19	FIELD
pH-LAB (SU)	7.17	SM4500B
POTASSIUM, TOTAL	2.2	EPA 200.7
POTASSIUM, DISSOLVED	2.1	EPA 200.7
SODIUM, TOTAL	194	EPA 200.7
SODIUM, DISSOLVED	200	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	988	FIELD
SPEC. COND., LAB (umhos/cm)	1060	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	124	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	597	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.19	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

05/20/2016

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 LAND RECYCLING AND WASTE

Date Prepared/Revised 06/22/2016
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General Reference: Act 101 Section 1103		
SECTION A. SITE IDENTIFIER		
Applicant/permittee: Land	caster County Solid Waste Manage	
Site Name: Frey	y Farm Landfill	
Facility ID (as issued by DEP): 101	389	
SECTIO	ON B. PRIVATE WATER SUPPLY INFORMATION	
INDICATE THE LATITUDE AND LONGITUD	DE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")	
Facility Name:Frey Farm Land	dfill	
County: Lancaster Cour	nty	
Township or Municipality: MANOR TOWN	NSHIP	
Landowner Name: KIRCHNER		
Address: 3100 RIVER R	OAD	
Phone No.:		
Sampling Point: Latitude: 39 ° 5	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:		
Sampling Depth:	ft. Sampling Method: Pumped Bailed	
Well Purged: Yes	X No Well Volumes Purged:	
Sample Field Filtered (must be 0.45 micron)?	?: X Yes No	
Sample Date:(mm/dd/yy) 05/20/20	016 Sample Collection Time: 10:00 AM	
Laboratory(ies) Performing Analysis A	ALS Environmental	
(include address and phone number) 3	34 Dogwood Lane	
N	Middletown, PA 17057 (717) 944-5541	
Lab Accreditation Number(s) 22-293		
Lab Analysis Date	06/06/2016	
Were any holding times exceeded?: Yes X No If yes, please explain in comments field.		
Comments:		

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

Facility I.D. Number 101389

Monitoring Point I.D. No.

PS KIRCHNER

Sample Date

05/20/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	11	SM20-2321
CALCIUM, TOTAL	18.1	EPA 200.7
CALCIUM, DISSOLVED	18.4	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.2
CHLORIDE	54.1	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	7.8	EPA 200.7
MAGNESIUM, DISSOLVED	8	EPA 200.7
MANGANESE, TOTAL (ug/l)	7.2	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	7.5	EPA 200.7
NITRATE-NITROGEN	6	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

05/20/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	4.73	FIELD
pH-LAB (SU)	5.92	SM4500B
POTASSIUM, TOTAL	1.6	EPA 200.7
POTASSIUM, DISSOLVED	1.7	EPA 200.7
SODIUM, TOTAL	14.4	EPA 200.7
SODIUM, DISSOLVED	14.9	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	323	FIELD
SPEC. COND., LAB (umhos/cm)	248	EPA 120.1
SULFATE	7.1	EPA 300
ALKALINITY	11	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	240	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	0.81	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

05/20/2016

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 LAND RECYCLING AND WASTE

Date Prepared/Revised 06/22/2016
DEP USE ONLY
Date Received

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

General Reference: Act 101 Section 1103			
	SECTION A. SITE IDENTIFIER		
Applicant/permittee: La	ancaster County Solid Waste Manage		
Site Name: Fr	rey Farm Landfill		
Facility ID (as issued by DEP): 1	01389		
SECT	TION B. PRIVATE WATER SUPPLY INFORMATION		
INDICATE THE LATITUDE AND LONGIT	UDE TO THE NEAREST ONE TENTH OF A SECOND (DE° MM' SS.S")		
Facility Name: Frey Farm La	andfill		
County: Lancaster Co	ounty		
Township or Municipality: MANOR TO	WNSHIP		
Landowner Name: LCSWMA			
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	n)?: X Yes No		
Sample Date:(mm/dd/yy) 05/27	7/2016 Sample Collection Time: 3:23 PM		
Laboratory(ies) Performing Analysis	ALS Environmental		
(include address and phone number)	34 Dogwood Lane		
	Middletown, PA 17057 (717) 944-5541		
Lab Accreditation Number(s)	22-293		
Lab Analysis Date	06/15/2016		
Were any holding times exceeded?: Yes X No If yes, please explain in comments field.			
Comments:			

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

Facility I.D. Number 101389

Monitoring Point I.D. No.
PS LCSWMA

Sample Date

05/27/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	13	SM20-2321
CALCIUM, TOTAL	13.8	EPA 200.7
CALCIUM, DISSOLVED	13.2	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	5 ND	EPA 410.2
CHLORIDE	55.6	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	72	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	8.6	EPA 200.7
MAGNESIUM, DISSOLVED	8.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	22	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	20	EPA 200.7
NITRATE-NITROGEN	9.5	EPA 300

 $[\]ensuremath{\mathsf{T}}$ Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS LCSWMA

Sample Date

05/27/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.33	FIELD
pH-LAB (SU)	6.33	SM4500B
POTASSIUM, TOTAL	1.6	EPA 200.7
POTASSIUM, DISSOLVED	1.6	EPA 200.7
SODIUM, TOTAL	27.3	EPA 200.7
SODIUM, DISSOLVED	25.2	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	283	FIELD
SPEC. COND., LAB (umhos/cm)	277	EPA 120.1
SULFATE	4.5	EPA 300
ALKALINITY	13	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	185	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	5 ND	EPA 420.4
TURBIDITY (NTU)	1.18	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

05/27/2016

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 LAND RECYCLING AND WASTE

Date Prepared/Revised 06/22/2016
DEP USE ONLY
Date Received

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

General Reference: Act 101 Section 1103			
SECTION A. SITE IDENTIFIER			
Applicant/permittee:	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	UDE 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: BECK			
Address: 3125 RIVER	ROAD		
Phone No.:			
Sampling Point: Latitude: 39 o	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 micro	on)?: X Yes No		
Sample Date:(mm/dd/yy) 05/20	0/2016 Sample Collection Time: 11:10 AM		
Laboratory(ies) Performing Analysis	ALS Environmental		
(include address and phone number)	34 Dogwood Lane		
	Middletown, PA 17057 (717) 944-5541		
Lab Accreditation Number(s)	22-293		
Lab Analysis Date 06/07/2016			
Were any holding times exceeded?: Yes X No If yes, please explain in comments field.			
Comments:			

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

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

Sample Date

05/20/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	48	SM20-2321
CALCIUM, TOTAL	0.053	EPA 200.7
CALCIUM, DISSOLVED	0.13	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	11	EPA 410.2
CHLORIDE	87.3	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	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	7.5	EPA 300

 $[\]ensuremath{\mathsf{T}}$ Please indicate detection limit if analyte is not detected.

Facility I.D. Number

101389

Monitoring Point I.D. No.

PS BECK

Sample Date

05/20/2016

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	5.54	FIELD
pH-LAB (SU)	6.74	SM4500B
POTASSIUM, TOTAL	1.5	EPA 200.7
POTASSIUM, DISSOLVED	1.6	EPA 200.7
SODIUM, TOTAL	88.8	EPA 200.7
SODIUM, DISSOLVED	91.9	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	461	FIELD
SPEC. COND., LAB (umhos/cm)	457	EPA 120.1
SULFATE	8	EPA 300
ALKALINITY	48	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	282	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 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

05/20/2016

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.





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

June 7, 2016

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

Certificate of Analysis

Project Name: 2016-CONTIGUOUS Workorder: 2145495

Purchase Order: Workorder ID: 2ND QTR 2016-3044 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 20, 2016.

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

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

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

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

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

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

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

Ms. Susan J Scherer
Project Coordinator

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Report ID: 2145495 - 6/7/2016 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: 2145495 2ND QTR 2016-3044 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2145495001	3044 River Road, Conestoga, PA	Water	5/20/2016 10:16	5/20/2016 13:58	Mr. Brian G Shade

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Report ID: 2145495 - 6/7/2016 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: 2145495 2ND QTR 2016-3044 RIVER RD

Notes

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

Standard Acronyms/Flags

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

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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

PROJECT SUMMARY

Workorder: 2145495 2ND QTR 2016-3044 RIVER RD

Sample Comments

Lab ID: 2145495001

Sample ID: 3044 River Road,

Conestoga, PA

Sample Type: SAMPLE

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

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: 2145495 - 6/7/2016 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: 2145495 2ND QTR 2016-3044 RIVER RD

Lab ID: 2145495001 Date Collected: 5/20/2016 10:16 Matrix: Water

Sample ID: 3044 River Road, Conestoga, PA Date Received: 5/20/2016 13:58

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
Toluene	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			5/28/16 21:22	SYB	K
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	83		%	70 - 130	EPA 524.2			5/28/16 21:22	SYB	K
4-Bromofluorobenzene (S)	78		%	70 - 130	EPA 524.2			5/28/16 21:22	SYB	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	12		mg/L	5	S2320B-97			5/21/16 02:28	MSA	С
Alkalinity, Total	12		mg/L	5	S2320B-97			5/21/16 02:28	MSA	С
Ammonia-N	ND		mg/L	0.100	D6919-09			6/2/16 04:31	NJA	В
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			6/6/16 07:00	JAM	В
Chloride	18.6		mg/L	5.0	EPA 300.0			5/21/16 08:58	MBW	С
Fluoride	ND		mg/L	0.50	EPA 300.0			5/21/16 08:58	MBW	С
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			5/25/16 14:02	PAG	1
Nitrate-N	20.5		mg/L	0.50	EPA 300.0			5/21/16 08:58	MBW	С
Nitrite-N	ND		mg/L	0.50	EPA 300.0			5/21/16 08:58	MBW	С
рН	6.16		pH_Units		S4500HB-00			5/21/16 02:28	MSA	С
Phenolics	ND		mg/L	0.005	EPA 420.4	5/25/16 09:00	AK	5/30/16 11:20	JLG	Н
Specific Conductance	233		umhos/cm	1	S2510B-97			5/21/16 02:28	MSA	С
Sulfate	ND		mg/L	5.0	EPA 300.0			5/21/16 08:58	MBW	С
Total Dissolved Solids	241		mg/L	5	S2540C-11			5/27/16 11:00	KAM	A

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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: 2145495 2ND QTR 2016-3044 RIVER RD

Lab ID: 2145495001 Date Collected: 5/20/2016 10:16 Matrix: Water

Sample ID: 3044 River Road, Conestoga, PA Date Received: 5/20/2016 13:58

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/23/16 10:40	PAG	F
Turbidity	0.17		NTU	0.10	S2130B-01			5/21/16 04:37	MSA	С
METALS										
Calcium, Total	16.5		mg/L	0.050	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:41	TSS	D1
Calcium, Dissolved	16.3		mg/L	0.10	EPA 200.7	5/20/16 17:14	TSS	5/24/16 15:58	TSS	Ε
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:41	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/20/16 17:14	TSS	5/24/16 15:58	TSS	Е
Magnesium, Total	10.5		mg/L	0.050	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:41	TSS	D1
Magnesium, Dissolved	10.7		mg/L	0.10	EPA 200.7	5/20/16 17:14	TSS	5/24/16 15:58	TSS	Е
Manganese, Total	0.016		mg/L	0.0025	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:41	TSS	D1
Manganese, Dissolved	0.017		mg/L	0.0050	EPA 200.7	5/20/16 17:14	TSS	5/24/16 15:58	TSS	Е
Potassium, Total	2.0		mg/L	0.25	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:41	TSS	D1
Potassium, Dissolved	2.0		mg/L	0.50	EPA 200.7	5/20/16 17:14	TSS	5/24/16 15:58	TSS	Е
Sodium, Total	9.4		mg/L	0.25	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:41	TSS	D1
Sodium, Dissolved	9.4		mg/L	0.50	EPA 200.7	5/20/16 17:14	TSS	5/24/16 15:58	TSS	Е
FIELD PARAMETERS										
pH, Field (SM4500B)	5.080		pH_Units		Field			5/20/16 10:16	BGS	Ν
Specific Conductance, Field	245		umhos/cm	1	Field			5/20/16 10:16	BGS	Ν
Temperature	18.30		Deg. C		Field			5/20/16 10:16	BGS	Ν

Ms. Susan J Scherer Project Coordinator

Report ID: 2145495 - 6/7/2016 Page 6 of 7

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Address: 3044 River Road		Containe	40 mi	250 ml	S00 ml	40 ml	ſ	500 ml	500 ml	500 ml	17.	500 ml Coo	Cooler Temps V Them in + 11-36
Conestoga, PA 17516		Preservative	Æ	HZSO4	H2SO4	HCI	Ţ	HZSO4	HNO3	HNO3	None	None No. o	>
Contact: Nelson L. Smith					AN	ANALYSES/METHOD REQUESTED	ETHOD	REQUEST	8				dy Seals Present?
Phone#: (717) 872-2858									1		1 4		(if present) Seals blact?
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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

June 7, 2016

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

Certificate of Analysis

Project Name: 2016-CONTIGUOUS Workorder: 2145497

Purchase Order: Workorder ID: 2ND QTR 2016-3052 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 20, 2016.

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

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

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

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

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

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

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

Ms. Susan J Scherer
Project Coordinator

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Report ID: 2145497 - 6/7/2016 Page 1 of 8





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: 2145497 2ND QTR 2016-3052 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2145497001	3052 River Road, Conestoga, PA	Water	5/20/2016 10:25	5/20/2016 13:58	Mr. Brian G Shade

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Report ID: 2145497 - 6/7/2016 Page 2 of 8





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: 2145497 2ND QTR 2016-3052 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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Report ID: 2145497 - 6/7/2016 Page 3 of 8





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

PROJECT SUMMARY

Workorder: 2145497 2ND QTR 2016-3052 RIVER RD

Sample Comments

Lab ID: 2145497001

Sample ID: 3052 River Road,

Sample Type: SAMPLE

Conestoga, PA

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

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: 2145497 - 6/7/2016 Page 4 of 8





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: 2145497 2ND QTR 2016-3052 RIVER RD

Lab ID: 2145497001 Date Collected: 5/20/2016 10:25 Matrix: Water

Sample ID: 3052 River Road, Conestoga, PA Date Received: 5/20/2016 13:58

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
Toluene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			5/28/16 22:06	SYB	K
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	84.8		%	70 - 130	EPA 524.2			5/28/16 22:06	SYB	K
4-Bromofluorobenzene (S)	80.2		%	70 - 130	EPA 524.2			5/28/16 22:06	SYB	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	5		mg/L	5	S2320B-97			5/21/16 03:05	MSA	С
Alkalinity, Total	5		mg/L	5	S2320B-97			5/21/16 03:05	MSA	С
Ammonia-N	ND		mg/L	0.100	D6919-09			6/2/16 05:09	NJA	В
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			6/6/16 07:00	JAM	В
Chloride	19.3		mg/L	2.0	EPA 300.0			5/21/16 10:24	MBW	С
Fluoride	ND		mg/L	0.20	EPA 300.0			5/21/16 10:24	MBW	С
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			5/25/16 15:04	PAG	1
Nitrate-N	19.2		mg/L	0.20	EPA 300.0			5/21/16 10:24	MBW	С
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/21/16 10:24	MBW	С
pН	5.66		pH_Units		S4500HB-00			5/21/16 03:05	MSA	С
Phenolics	ND	1	mg/L	0.005	EPA 420.4	5/25/16 09:00	AK	5/30/16 16:04	JLG	Н
Specific Conductance	215		umhos/cm	1	S2510B-97			5/21/16 03:05	MSA	С
Sulfate	ND		mg/L	2.0	EPA 300.0			5/21/16 10:24	MBW	С
Total Dissolved Solids	234		mg/L	5	S2540C-11			5/27/16 11:00	KAM	A

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Report ID: 2145497 - 6/7/2016 Page 5 of 8





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: 2145497 2ND QTR 2016-3052 RIVER RD

Lab ID: 2145497001 Date Collected: 5/20/2016 10:25 Matrix: Water

Sample ID: 3052 River Road, Conestoga, PA Date Received: 5/20/2016 13:58

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/23/16 10:40	PAG	F
Turbidity	0.24		NTU	0.10	S2130B-01			5/21/16 04:37	MSA	С
METALS										
Calcium, Total	14.8		mg/L	0.050	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:49	TSS	D1
Calcium, Dissolved	14.5		mg/L	0.10	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:20	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:49	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:20	TSS	Е
Magnesium, Total	10.3		mg/L	0.050	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:49	TSS	D1
Magnesium, Dissolved	10.2		mg/L	0.10	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:20	TSS	E
Manganese, Total	0.057		mg/L	0.0025	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:49	TSS	D1
Manganese, Dissolved	0.055		mg/L	0.0050	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:20	TSS	E
Potassium, Total	2.1		mg/L	0.25	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:49	TSS	D1
Potassium, Dissolved	2.2		mg/L	0.50	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:20	TSS	E
Sodium, Total	7.4		mg/L	0.25	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:49	TSS	D1
Sodium, Dissolved	7.2		mg/L	0.50	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:20	TSS	Е
FIELD PARAMETERS										
pH, Field (SM4500B)	4.500		pH_Units		Field			5/20/16 10:25	BGS	Ν
Specific Conductance, Field	251		umhos/cm	1	Field			5/20/16 10:25	BGS	Ν
Temperature	18.60		Deg. C		Field			5/20/16 10:25	BGS	Ν

Ms. Susan J Scherer Project Coordinator

Report ID: 2145497 - 6/7/2016 Page 6 of 8





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

PARAMETER QUALIFIERS

Lab ID # Sample ID Analytical Method Analyte

2145497001 1 3052 River Road, Conestoga, PA EPA 420.4 Phenolics

The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.

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Report ID: 2145497 - 6/7/2016 Page 7 of 8

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34 Dogwood Leme * HARdresom, PA 17057 * 747,944,5541 * Fax: 717.944,1430	944.1430			SAMPLE	R. INST	SAMPLER, INSTRUCTIONS ON THE BACK	VS ON T	HE BACK			-		
Client Name: LCSWMA - Gerald E. Miller, Sr.		Container	AG	AN	AN	93	Ť	ď	Я	Ы	F.	*]	4 5 4 9 (* gceiving Lab)
Address: 3052 River Road		Container	40 m	250 ml	500 ml	40 ml	1	500 ml 5	500 ml	500 ml	3.1	500 ml Cool	Cooler Temp: 1 Chem. 15: 71:360
Conestoga, PA 17516		Preservative	HCI	H2SO4	H2SO4	皇	1	HZSO4	HNO3	HNO3	None	None No. of	No. of Coolers: Y N Initial
Contact: Gerald E. Miller, Sr.					ANA	ANALYSES/METHOD REQUESTED	THOD R	QUESTE	_				dy Seals Present?
(717) 872-5117									-				(il present) Seals bitact?
Project Name#: LCSWMA - Quarterly									na 'i	_	'4'4		Received on Ice?
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Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Approved By:	lays. arges.								ilals: Ca, Fe	e, Mg, Mn, I	S' NO3' CI'	03	Cont. in Good Cond.? Correct Containers? Correct Sample Volumes?
								COD	aw na			эн үі	Correct Preservation?
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Sample Description/Location Sample (ss it will appear on the lab report)	Time	neM"	ÓΤ	01	ter Numb	Enter Number of Containers Per Sample or Field Results Below	iners Per S	ample or F	eld Resu	ts Below.			CourierTracking #: Sample/COC Comments
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pany Name	Date	Time		Receiv	ed By / C	Received By / Company Name	lame	1	-	1	o Belive	USACE	Navy Navy
KOR CO TO	2505	200	1	À		N	6	2	alla	2	Reporta	Reportable to PADEP?	Sample Disposal X
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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

June 7, 2016

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

Certificate of Analysis

Project Name: 2016-CONTIGUOUS Workorder: 2145498

Purchase Order: Workorder ID: 2ND QTR 2016-3076 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 20, 2016.

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

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

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

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

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

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

Ms. Susan J Scherer Project Coordinator

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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: 2145498 2ND QTR 2016-3076 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2145498001	3076 River Road, Conestoga, PA	Water	5/20/2016 10:34	5/20/2016 13:58	Mr. Brian G Shade

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Report ID: 2145498 - 6/7/2016 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: 2145498 2ND QTR 2016-3076 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
- 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

PROJECT SUMMARY

Workorder: 2145498 2ND QTR 2016-3076 RIVER RD

Sample Comments

Lab ID: 2145498001

Sample ID: 3076 River Road,

Conestoga, PA

Sample Type: SAMPLE

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

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: 2145498 - 6/7/2016 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: 2145498 2ND QTR 2016-3076 RIVER RD

Lab ID: 2145498001 Date Collected: 5/20/2016 10:34 Matrix: Water

Sample ID: 3076 River Road, Conestoga, PA Date Received: 5/20/2016 13:58

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
Toluene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			5/28/16 22:29	SYB	K
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	80.9		%	70 - 130	EPA 524.2			5/28/16 22:29	SYB	K
4-Bromofluorobenzene (S)	77.3		%	70 - 130	EPA 524.2			5/28/16 22:29	SYB	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	7		mg/L	5	S2320B-97			5/21/16 03:14	MSA	С
Alkalinity, Total	7		mg/L	5	S2320B-97			5/21/16 03:14	MSA	С
Ammonia-N	ND		mg/L	0.100	D6919-09			6/2/16 06:06	NJA	В
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			6/6/16 07:00	JAM	В
Chloride	44.3		mg/L	2.0	EPA 300.0			5/21/16 10:35	MBW	С
Fluoride	ND		mg/L	0.20	EPA 300.0			5/21/16 10:35	MBW	С
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			5/25/16 15:30	PAG	1
Nitrate-N	12.6		mg/L	0.20	EPA 300.0			5/21/16 10:35	MBW	С
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/21/16 10:35	MBW	С
pН	5.78		pH_Units		S4500HB-00			5/21/16 03:14	MSA	С
Phenolics	0.005		mg/L	0.005	EPA 420.4	5/25/16 09:00	AK	5/30/16 16:07	JLG	Н
Specific Conductance	278		umhos/cm	1	S2510B-97			5/21/16 03:14	MSA	С
Sulfate	13.1		mg/L	2.0	EPA 300.0			5/21/16 10:35	MBW	
Total Dissolved Solids	237		mg/L	5	S2540C-11			5/27/16 11:00	KAM	A

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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: 2145498 2ND QTR 2016-3076 RIVER RD

Lab ID: 2145498001 Date Collected: 5/20/2016 10:34 Matrix: Water

Sample ID: 3076 River Road, Conestoga, PA Date Received: 5/20/2016 13:58

	·									
Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/23/16 10:40	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			5/21/16 04:37	MSA	С
METALS										
Calcium, Total	15.5		mg/L	0.050	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:07	TSS	D1
Calcium, Dissolved	15.4		mg/L	0.10	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:24	TSS	Ε
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:07	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:24	TSS	Ε
Magnesium, Total	9.1		mg/L	0.050	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:07	TSS	D1
Magnesium, Dissolved	9.2		mg/L	0.10	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:24	TSS	Е
Manganese, Total	0.20		mg/L	0.0025	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:07	TSS	D1
Manganese, Dissolved	0.20		mg/L	0.0050	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:24	TSS	Ε
Potassium, Total	3.5		mg/L	0.25	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:07	TSS	D1
Potassium, Dissolved	3.5		mg/L	0.50	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:24	TSS	Ε
Sodium, Total	20.7		mg/L	0.25	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:07	TSS	D1
Sodium, Dissolved	20.4		mg/L	0.50	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:24	TSS	Ε
FIELD PARAMETERS										
pH, Field (SM4500B)	4.960		pH_Units		Field			5/20/16 10:34	BGS	Ν
Specific Conductance, Field	311		umhos/cm	1	Field			5/20/16 10:34	BGS	Ν
Temperature	18.40		Deg. C		Field			5/20/16 10:34	BGS	Ν

Ms. Susan J Scherer Project Coordinator

Report ID: 2145498 - 6/7/2016 Page 6 of 7

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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

June 9, 2016

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

Certificate of Analysis

Project Name: 2016-CONTIGUOUS Workorder: 2145499

Purchase Order: Workorder ID: 2ND QTR 2016-3088 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 20, 2016.

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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Ms. Susan J Scherer
Project Coordinator

ALS Environmental Laboratory Locations Across North America

Report ID: 2145499 - 6/9/2016 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: 2145499 2ND QTR 2016-3088 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2145499001	3088 River Road, Conestoga PA	Water	5/20/2016 10:50	5/20/2016 13:58	Mr. Brian G Shade

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Report ID: 2145499 - 6/9/2016 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: 2145499 2ND QTR 2016-3088 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.
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- -- 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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- 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

PROJECT SUMMARY

Workorder: 2145499 2ND QTR 2016-3088 RIVER RD

Sample Comments

Lab ID: 2145499001

Sample ID: 3088 River Road,

Sample Type: SAMPLE

Conestoga PA

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

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: 2145499 - 6/9/2016 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: 2145499 2ND QTR 2016-3088 RIVER RD

Lab ID: 2145499001 Date Collected: 5/20/2016 10:50 Matrix: Water

Sample ID: 3088 River Road, Conestoga PA Date Received: 5/20/2016 13:58

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
Toluene	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			5/31/16 16:01	DD	K
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	81.1		%	70 - 130	EPA 524.2			5/31/16 16:01	DD	K
4-Bromofluorobenzene (S)	79.4		%	70 - 130	EPA 524.2			5/31/16 16:01	DD	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	124		mg/L	5	S2320B-97			5/21/16 03:23	MSA	С
Alkalinity, Total	124		mg/L	5	S2320B-97			5/21/16 03:23	MSA	С
Ammonia-N	ND		mg/L	0.100	D6919-09			6/2/16 06:25	NJA	В
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			6/6/16 07:00	JAM	В
Chloride	219		mg/L	5.0	EPA 300.0			5/24/16 06:06	JP	С
Fluoride	ND		mg/L	0.20	EPA 300.0			5/21/16 10:46	MBW	С
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			5/26/16 13:56	PAG	1
Nitrate-N	13.4		mg/L	0.20	EPA 300.0			5/21/16 10:46	MBW	С
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/21/16 10:46	MBW	С
рН	7.17		pH_Units		S4500HB-00			5/21/16 03:23	MSA	С
Phenolics	ND		mg/L	0.005	EPA 420.4	5/25/16 09:00	AK	5/30/16 11:31	JLG	Н
Specific Conductance	1060		umhos/cm	1	S2510B-97			5/21/16 03:23	MSA	С
Sulfate	ND		mg/L	2.0	EPA 300.0			5/21/16 10:46	MBW	С
Total Dissolved Solids	597		mg/L	5	S2540C-11			5/27/16 14:45	KAM	A
lotal Dissolved Solids	597		mg/L	5	S2540C-11			5/27/16 14:45	KAM	А

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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: 2145499 2ND QTR 2016-3088 RIVER RD

Lab ID: 2145499001 Date Collected: 5/20/2016 10:50 Matrix: Water

Sample ID: 3088 River Road, Conestoga PA Date Received: 5/20/2016 13:58

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/23/16 10:40	PAG	F
Turbidity	0.19		NTU	0.10	S2130B-01			5/21/16 04:37	MSA	С
METALS										
Calcium, Total	0.11		mg/L	0.050	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:18	TSS	D1
Calcium, Dissolved	0.15		mg/L	0.10	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:28	TSS	Е
Iron, Total	0.054		mg/L	0.030	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:18	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:28	TSS	E
Magnesium, Total	ND		mg/L	0.050	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:18	TSS	D1
Magnesium, Dissolved	ND		mg/L	0.10	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:28	TSS	Ε
Manganese, Total	0.0035		mg/L	0.0025	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:18	TSS	D1
Manganese, Dissolved	ND		mg/L	0.0050	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:28	TSS	Е
Potassium, Total	2.2		mg/L	0.25	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:18	TSS	D1
Potassium, Dissolved	2.1		mg/L	0.50	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:28	TSS	E
Sodium, Total	194		mg/L	0.25	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:18	TSS	D1
Sodium, Dissolved	200		mg/L	0.50	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:28	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.190		pH_Units		Field			5/20/16 10:50	BGS	Ν
Specific Conductance, Field	988		umhos/cm	1	Field			5/20/16 10:50	BGS	Ν
Temperature	20.30		Deg. C		Field			5/20/16 10:50	BGS	Ν

Ms. Susan J Scherer Project Coordinator

Report ID: 2145499 - 6/9/2016 Page 6 of 7

Hans Weber and Deb Kalbach 17516 Deb Kalbach	1								1					1
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17516 d Deb Kalbach	Container	40 m	M 250 ml	-	500 ml 40	40 ml	1	500 ml ≤	500 ml	500 ml	2.	500 ml Cool	Cooler Temp: 10 Them ID: 7	4-360
Contact: Hans Weber and Deb Kalbach Phone#: (717) 419-7982	Preservative	E FC	H2S04	-	H2SO4 H	호	1	H2SO4 H	HNO3	HNO3	None	None No. of	No. of Coolers: Y N	leitini N
Phone#: (717) 419-7982					ANALY	ESIMET	HOD RE	ANALYSES/METHOD REQUESTED					Custody Seals Present?	7886
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Bill To: LCSWMA - Hans Weber and Deb Kalbach	_			_				-14	Fiat "	K' N	204	9	COCCLabels Complete/Accurate?	
TAT X Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Date Required: Approved By:				_					Metals: Ca, Fe	Fe, Mg, Mn, I	105, NO3, CI,	1003	Cont in Good Cont.? Correct Containers? Correct Sample Volumes?	
Email? -Y Fax? -Y No.:			_			- 0		N' CC		eD :ela	70S, N	t , ytinit	Correct Preservation?	1
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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

June 7, 2016

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

Certificate of Analysis

Project Name: 2016-CONTIGUOUS Workorder: 2145496

Purchase Order: Workorder ID: 2ND QTR 2016-3100 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 20, 2016.

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

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

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

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

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

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

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

Ms. Susan J Scherer
Project Coordinator

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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: 2145496 2ND QTR 2016-3100 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2145496001	3100 River Road, Conestoga, PA	Water	5/20/2016 10:00	5/20/2016 13:58	Mr. Brian G Shade

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SAMPLE SUMMARY

Workorder: 2145496 2ND QTR 2016-3100 RIVER RD

Notes

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

Standard Acronyms/Flags

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

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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

PROJECT SUMMARY

Workorder: 2145496 2ND QTR 2016-3100 RIVER RD

Sample Comments

Lab ID: 2145496001

Sample ID: 3100 River Road,

Sample Type: SAMPLE

Conestoga, PA

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

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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ANALYTICAL RESULTS

Workorder: 2145496 2ND QTR 2016-3100 RIVER RD

Lab ID: 2145496001 Date Collected: 5/20/2016 10:00 Matrix: Water

Sample ID: 3100 River Road, Conestoga, PA Date Received: 5/20/2016 13:58

Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
ND		ug/L	0.50	EPA 524.2			5/28/16 21:44	SYB	K
Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
78.3		%	70 - 130	EPA 524.2			5/28/16 21:44	SYB	K
77.9		%	70 - 130	EPA 524.2			5/28/16 21:44	SYB	K
11		mg/L	5	S2320B-97			5/21/16 02:57	MSA	С
11		mg/L	5	S2320B-97			5/21/16 02:57	MSA	С
ND		mg/L	0.100	D6919-09			6/2/16 04:50	NJA	В
ND		mg/L	5	EPA 410.4			6/6/16 07:00	JAM	В
54.1		mg/L	2.0	EPA 300.0			5/21/16 09:08	MBW	С
ND		mg/L	0.20	EPA 300.0			5/21/16 09:08	MBW	С
ND		ug/L	20.0	SW846 9020B			5/25/16 14:34	PAG	1
6.0		mg/L	0.20	EPA 300.0			5/21/16 09:08	MBW	С
ND		mg/L	0.20	EPA 300.0			5/21/16 09:08	MBW	С
5.92		pH_Units		S4500HB-00			5/21/16 02:57	MSA	С
ND		mg/L	0.005	EPA 420.4	5/25/16 09:00	AK	5/30/16 11:21	JLG	Н
248		umhos/cm	1	S2510B-97			5/21/16 02:57	MSA	С
7.1							5/21/16 09:08	MBW	C
240		mg/L	5	S2540C-11			5/27/16 11:00	KAM	A
	ND N	ND N	ND ug/L 11 mg/L 11 mg/L ND mg/L 10 mg/L 10 mg/L 10 mg/L 10	ND ug/L 0.50 ND mg/L 5 ND mg/L 5 ND mg/L 0.100 ND mg/L	ND ug/L 0.50 EPA 524.2 ND ug/L 0	ND	ND	ND	ND

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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: 2145496 2ND QTR 2016-3100 RIVER RD

Lab ID: 2145496001 Date Collected: 5/20/2016 10:00 Matrix: Water

Sample ID: 3100 River Road, Conestoga, PA Date Received: 5/20/2016 13:58

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/23/16 10:40	PAG	F
Turbidity	0.81		NTU	0.10	S2130B-01			5/21/16 04:37	MSA	С
METALS										
Calcium, Total	18.1		mg/L	0.050	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:45	TSS	D1
Calcium, Dissolved	18.4		mg/L	0.10	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:16	TSS	Е
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:45	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:16	TSS	Ε
Magnesium, Total	7.8		mg/L	0.050	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:45	TSS	D1
Magnesium, Dissolved	8.0		mg/L	0.10	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:16	TSS	Ε
Manganese, Total	0.0072		mg/L	0.0025	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:45	TSS	D1
Manganese, Dissolved	0.0075		mg/L	0.0050	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:16	TSS	E
Potassium, Total	1.6		mg/L	0.25	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:45	TSS	D1
Potassium, Dissolved	1.7		mg/L	0.50	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:16	TSS	E
Sodium, Total	14.4		mg/L	0.25	EPA 200.7	5/23/16 08:15	JPS	5/24/16 21:45	TSS	D1
Sodium, Dissolved	14.9		mg/L	0.50	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:16	TSS	Е
FIELD PARAMETERS										
pH, Field (SM4500B)	4.730		pH_Units		Field			5/20/16 10:00	BGS	Ν
Specific Conductance, Field	323		umhos/cm	1	Field			5/20/16 10:00	BGS	Ν
Temperature	20.40		Deg. C		Field			5/20/16 10:00	BGS	Ν

Ms. Susan J Scherer Project Coordinator

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SAMPLES NOTE 1 1 1 1 1 1 1 1 1	ALS) Enuironmental		(3)	ı		REC	CHAIN OF CUSTODY/ QUEST FOR ANALYS	FOR	ANA			Generated by ALS	83		
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Control of Section 1997 Control of Secti	Conestoga, PA 17516			Preservative	皇	H2S04	-		1	H2SC4	HNO3	HNO3	None	-	
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Sample Description Location Date Time 19 18 19 19 19 19 19 19							_	k		n, coi		'eე :s		H.Yin	Conect Preservation?
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June 17, 2016

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

Certificate of Analysis

Project Name: 2016-CONTIGUOUS Workorder: 2147145

Purchase Order: Workorder ID: 2ND QTR 2016-ACT 101

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 27, 2016.

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

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

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

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

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

CC: Mr. Mark Reider, Mr. Jeff Musser

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

Ms. Susan J Scherer
Project Coordinator

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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: 2147145 2ND QTR 2016-ACT 101

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2147145001	3106 River Road, Conestoga, PA	Water	5/27/2016 15:23	5/27/2016 16:41	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

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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: 2147145 2ND QTR 2016-ACT 101

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: 2147145 2ND QTR 2016-ACT 101

Lab ID: 2147145001 Date Collected: 5/27/2016 15:23 Matrix: Water

Sample ID: 3106 River Road, Conestoga, PA Date Received: 5/27/2016 16:41

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
Toluene	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
Total Xylenes	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
Trichloroethene	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			6/9/16 05:55	CJG	J
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	93.2		%	70 - 130	EPA 524.2			6/9/16 05:55	CJG	J
4-Bromofluorobenzene (S)	87.4		%	70 - 130	EPA 524.2			6/9/16 05:55	CJG	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	13		mg/L	5	S2320B-97			5/28/16 13:48	MSA	С
Alkalinity, Total	13	1	mg/L	5	S2320B-97			5/28/16 13:48	MSA	С
Ammonia-N	ND		mg/L	0.100	D6919-09			6/9/16 11:49	NJA	В
Chemical Oxygen Demand (COD)	ND		mg/L	5	EPA 410.4			6/15/16 17:45	AK	В
Chloride	55.6		mg/L	2.0	EPA 300.0			5/28/16 16:40	MBW	С
Fluoride	ND		mg/L	0.20	EPA 300.0			5/28/16 16:40	MBW	С
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			5/31/16 14:52	PAG	1
Nitrate-N	9.5		mg/L	0.20	EPA 300.0			5/28/16 16:40	MBW	С
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/28/16 16:40	MBW	C
рН	6.33	2	pH_Units		S4500HB-00			5/28/16 13:48	MSA	С
Phenolics	ND	=	mg/L	0.005	EPA 420.4	6/3/16 08:00	AK	6/7/16 11:30	THB	Н
Specific Conductance	277		umhos/cm	1	S2510B-97	., .,		5/28/16 13:48	MSA	C
Sulfate	4.5		mg/L	2.0	EPA 300.0			5/28/16 16:40	MBW	C
Total Dissolved Solids	185		mg/L	5	S2540C-11			6/2/16 09:30	KAM	A

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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: 2147145 2ND QTR 2016-ACT 101

Lab ID: 2147145001 Date Collected: 5/27/2016 15:23 Matrix: Water

Sample ID: 3106 River Road, Conestoga, PA Date Received: 5/27/2016 16:41

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/31/16 10:47	PAG	F
Turbidity	1.18		NTU	0.10	S2130B-01			5/28/16 01:54	MSA	С
METALS										
Calcium, Total	13.8		mg/L	0.050	EPA 200.7	5/31/16 07:30	JPS	6/1/16 07:56	TSS	D1
Calcium, Dissolved	13.2		mg/L	0.10	EPA 200.7	5/31/16 20:57	TSS	6/1/16 03:31	TSS	Ε
Iron, Total	0.072		mg/L	0.030	EPA 200.7	5/31/16 07:30	JPS	6/1/16 07:56	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/31/16 20:57	TSS	6/1/16 03:31	TSS	Ε
Magnesium, Total	8.6		mg/L	0.050	EPA 200.7	5/31/16 07:30	JPS	6/1/16 07:56	TSS	D1
Magnesium, Dissolved	8.2		mg/L	0.10	EPA 200.7	5/31/16 20:57	TSS	6/1/16 03:31	TSS	Ε
Manganese, Total	0.022		mg/L	0.0025	EPA 200.7	5/31/16 07:30	JPS	6/1/16 07:56	TSS	D1
Manganese, Dissolved	0.020		mg/L	0.0050	EPA 200.7	5/31/16 20:57	TSS	6/1/16 03:31	TSS	Ε
Potassium, Total	1.6		mg/L	0.25	EPA 200.7	5/31/16 07:30	JPS	6/1/16 07:56	TSS	D1
Potassium, Dissolved	1.6		mg/L	0.50	EPA 200.7	5/31/16 20:57	TSS	6/1/16 03:31	TSS	Ε
Sodium, Total	27.3		mg/L	0.25	EPA 200.7	5/31/16 07:30	JPS	6/1/16 07:56	TSS	D1
Sodium, Dissolved	25.2		mg/L	0.50	EPA 200.7	5/31/16 20:57	TSS	6/1/16 03:31	TSS	Ε
FIELD PARAMETERS										
pH, Field (SM4500B)	6.330		pH_Units		Field			5/27/16 15:23	BGS	L
Specific Conductance, Field	283		umhos/cm	1	Field			5/27/16 15:23	BGS	L
Temperature	15.40		Deg. C		Field			5/27/16 15:23	BGS	L

Ms. Susan J Scherer Project Coordinator

Report ID: 2147145 - 6/17/2016 Page 5 of 7





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

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

PARAMETER O	IIAI IEIEDO

Lab ID	#	Sample ID	Analytical Method	Analyte
2147145001	1	3106 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinit	y is titrate	ed to a pH of 4.5 and reported as mg (CaCO3/L.	
2147145001	2	3106 River Road, Conestoga, PA	S4500HB-00	рН
The nH analysis is	s an "ana	lyze immediately" analysis. Paramete	rs identified as "analyze immediately"	require analysis within 15 minutes of

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Report ID: 2147145 - 6/17/2016 Page 6 of 7

Middletown, PA P. 717-944-5541 F.717-944-1430	Middletown, PA-17057. 5 V	1	REQUEST FOR ANALYSIS SHADED AREAS MUST BE COMPLETED BY THE CLIE SAMPLER, INSTRUCTIONS ON THE BACK.	SAUSTE	ECOMPLE TIONS ON	KECUESI FOR ANALYSIS ALLSHADED AREAS MUST BE COMPLETED BY THE CLENT! SAMPLER, INSTRUCTIONS ON THE BACK.	CLIENT		Tracking #:	acking #:							
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June 13, 2016

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

Certificate of Analysis

Project Name: 2016-CONTIGUOUS Workorder: 2145500

Purchase Order: Workorder ID: 2ND QTR 2016-3125 RIVER RD

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, May 20, 2016.

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

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

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

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

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

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

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

Ms. Susan J Scherer
Project Coordinator

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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: 2145500 2ND QTR 2016-3125 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2145500001	3125 River Road, Conestoga, PA	Water	5/20/2016 11:10	5/20/2016 13:58	Mr. Brian G Shade
2145500002	Field Blank	Water	5/20/2016 11:54	5/20/2016 13:58	Mr. Brian G Shade
2145500003	Trip Blank	Water	5/20/2016 13:58	5/20/2016 13:58	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: 2145500 2ND QTR 2016-3125 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
- 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

PROJECT SUMMARY

Workorder: 2145500 2ND QTR 2016-3125 RIVER RD

Sample Comments

Lab ID: 2145500001

Sample ID: 3125 River Road,

Conestoga, PA

Sample Type: SAMPLE

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

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: 2145500 - 6/13/2016 Page 4 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: 2145500 2ND QTR 2016-3125 RIVER RD

Lab ID: 2145500001 Date Collected: 5/20/2016 11:10 Matrix: Water

Sample ID: 3125 River Road, Conestoga, PA Date Received: 5/20/2016 13:58

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
Toluene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			5/28/16 22:51	SYB	K
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	85.1		%	70 - 130	EPA 524.2			5/28/16 22:51	SYB	K
4-Bromofluorobenzene (S)	79		%	70 - 130	EPA 524.2			5/28/16 22:51	SYB	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	48		mg/L	5	S2320B-97			5/21/16 06:38	MSA	С
Alkalinity, Total	48		mg/L	5	S2320B-97			5/21/16 06:38	MSA	С
Ammonia-N	ND		mg/L	0.100	D6919-09			6/2/16 06:44	NJA	В
Chemical Oxygen Demand (COD)	11		mg/L	5	EPA 410.4			6/7/16 14:00	NJA	В
Chloride	87.3		mg/L	2.0	EPA 300.0			5/21/16 10:56	MBW	С
Fluoride	ND		mg/L	0.20	EPA 300.0			5/21/16 10:56	MBW	С
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			5/26/16 14:26	PAG	1
Nitrate-N	7.5		mg/L	0.20	EPA 300.0			5/21/16 10:56	MBW	С
Nitrite-N	ND		mg/L	0.20	EPA 300.0			5/21/16 10:56	MBW	С
рН	6.74		pH_Units		S4500HB-00			5/21/16 06:38	MSA	С
Phenolics	ND		mg/L	0.005	EPA 420.4	5/25/16 08:20	AK	5/30/16 14:17	JLG	Н
Specific Conductance	457		umhos/cm	1	S2510B-97			5/21/16 06:38	MSA	С
Sulfate	8.0		mg/L	2.0	EPA 300.0			5/21/16 10:56	MBW	С
Total Dissolved Solids	282		mg/L	5	S2540C-11			5/27/16 14:45	KAM	A

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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: 2145500 2ND QTR 2016-3125 RIVER RD

Lab ID: 2145500001 Date Collected: 5/20/2016 11:10 Matrix: Water

Sample ID: 3125 River Road, Conestoga, PA Date Received: 5/20/2016 13:58

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			5/23/16 10:40	PAG	F
Turbidity	ND		NTU	0.10	S2130B-01			5/21/16 04:37	MSA	С
METALS										
Calcium, Total	0.053		mg/L	0.050	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:23	TSS	D1
Calcium, Dissolved	0.13		mg/L	0.10	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:42	TSS	Ε
Iron, Total	ND		mg/L	0.030	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:23	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:42	TSS	Е
Magnesium, Total	ND		mg/L	0.050	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:23	TSS	D1
Magnesium, Dissolved	ND		mg/L	0.10	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:42	TSS	Ε
Manganese, Total	ND		mg/L	0.0025	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:23	TSS	D1
Manganese, Dissolved	ND		mg/L	0.0050	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:42	TSS	Ε
Potassium, Total	1.5		mg/L	0.25	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:23	TSS	D1
Potassium, Dissolved	1.6		mg/L	0.50	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:42	TSS	Е
Sodium, Total	88.8		mg/L	0.25	EPA 200.7	5/23/16 08:15	JPS	5/24/16 22:23	TSS	D1
Sodium, Dissolved	91.9		mg/L	0.50	EPA 200.7	5/20/16 17:14	TSS	5/24/16 16:42	TSS	Е
FIELD PARAMETERS										
pH, Field (SM4500B)	5.540		pH_Units		Field			5/20/16 11:10	BGS	Ν
Specific Conductance, Field	461		umhos/cm	1	Field			5/20/16 11:10	BGS	Ν
Temperature	18.60		Deg. C		Field			5/20/16 11:10	BGS	Ν

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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: 2145500 2ND QTR 2016-3125 RIVER RD

Lab ID: 2145500002 Date Collected: 5/20/2016 11:54 Matrix: Water

Sample ID: Field Blank Date Received: 5/20/2016 13:58

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
•		9	010				_,	,	_,	
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
Toluene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
Total Xylenes	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
Trichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			5/28/16 20:38	SYB	Α
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	84.3		%	70 - 130	EPA 524.2			5/28/16 20:38	SYB	A
4-Bromofluorobenzene (S)	79.2		%	70 - 130	EPA 524.2			5/28/16 20:38	SYB	Α

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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: 2145500 2ND QTR 2016-3125 RIVER RD

Lab ID: 2145500003 Date Collected: 5/20/2016 13:58 Matrix: Water

Sample ID: Trip Blank Date Received: 5/20/2016 13:58

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
		9		-				, , , , ,		
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
Toluene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
Total Xylenes	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
Trichloroethene	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			5/28/16 20:15	SYB	Α
Surrogate Recoveries	Results	Flag	Units	Limits	Method	Prepared	Ву	Analyzed	Ву	Cntr
1,2-Dichlorobenzene-d4 (S)	82.7		%	70 - 130	EPA 524.2			5/28/16 20:15	SYB	Α
4-Bromofluorobenzene (S)	80.1		%	70 - 130	EPA 524.2			5/28/16 20:15	SYB	Α

Ms. Susan J Scherer Project Coordinator

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Contection P. N. 1756	Address: 3125 River Road			Container	40 mi	-	-		1	500 ml	-	500 ml	3.5	-	3~	(4)
Contain C Beck Cont	Conestoga, PA 17516			Preservative		HZSO	-		1	H2SO4	_	HNO3	None	, Z		
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