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

October 5, 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
3rd 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.

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 (3044RIVERRD, 3052RIVERRD, 3076RIVERRD and 3088RIVERRD) exceeded the limit for nitrate, samples are consistent with historic data the cause is attributed to agricultural impacts. No other MCL's were exceeded.
2. USEPA SMCL's exceedance report; samples 3052RIVERRD, 3076RIVERRD, & 3106 RIVERRD exceeded the limit for manganese and iron which are consistent with historic data and are attributed to natural soil and geologic conditions. The sample 3088RIVERRD exceeded for TDS which is a result of the home owners water softener.

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

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

Respectfully submitted,

Mark D Reider
Director of Environmental Compliance

Enclosures

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

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
09/22/2016
DEP USE ONLY
Date Received

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

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

General Reference: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: SMITH

Address: 3044 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 30.58 " Longitude: 76 o 26 ' 11.25 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

Sample Field Filtered (must be 0.45 micron)?: [X] Yes [ ] No

Sample Date:(mm/dd/yy) 08/18/2016 Sample Collection Time: 11:23 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 08/28/2016

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: 08/18/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	9	SM20-2321
CALCIUM, TOTAL	14.9	EPA 200.7
CALCIUM, DISSOLVED	15.5	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	20.1	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	10.7	EPA 200.7
MAGNESIUM, DISSOLVED	11	EPA 200.7
MANGANESE, TOTAL (ug/l)	22	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	22	EPA 200.7
NITRATE-NITROGEN	20.9	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS SMITH

Sample Date: 08/18/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.29	FIELD
pH-LAB (SU)	6.48	SM4500B
POTASSIUM, TOTAL	1.7	EPA 200.7
POTASSIUM, DISSOLVED	1.8	EPA 200.7
SODIUM, TOTAL	8.8	EPA 200.7
SODIUM, DISSOLVED	9.1	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	244	FIELD
SPEC. COND., LAB (umhos/cm)	234	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	9	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	261	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS SMITH

Sample Date: 08/18/2016

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

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

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
09/22/2016
DEP USE ONLY
Date Received

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

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

General Reference: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: MILLER

Address: 3052 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 29.85 " Longitude: 76 o 26 ' 11.45 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

Sample Field Filtered (must be 0.45 micron)?: [X] Yes [ ] No

Sample Date:(mm/dd/yy) 08/18/2016 Sample Collection Time: 11:40 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 08/28/2016

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 MILLER

Sample Date: 08/18/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	5 ND	SM20-2321
CALCIUM, TOTAL	15.7	EPA 200.7
CALCIUM, DISSOLVED	14.5	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	11	EPA 410.2
CHLORIDE	22.1	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	10.6	EPA 200.7
MAGNESIUM, DISSOLVED	10.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	52	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	55	EPA 200.7
NITRATE-NITROGEN	18.9	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS MILLER

Sample Date: 08/18/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.03	FIELD
pH-LAB (SU)	6.1	SM4500B
POTASSIUM, TOTAL	2	EPA 200.7
POTASSIUM, DISSOLVED	2	EPA 200.7
SODIUM, TOTAL	14.3	EPA 200.7
SODIUM, DISSOLVED	6.9	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	210	FIELD
SPEC. COND., LAB (umhos/cm)	213	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	5 ND	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	238	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	EPA 420.4
TURBIDITY (NTU)	0.39	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS MILLER

Sample Date: 08/18/2016

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

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

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
09/22/2016
DEP USE ONLY
Date Received

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

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

General Reference: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: SENSENICH

Address: 3076 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 28.2 " Longitude: 76 o 26 ' 11.1 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

Sample Field Filtered (must be 0.45 micron)?: [X] Yes [ ] No

Sample Date:(mm/dd/yy) 08/26/2016 Sample Collection Time: 3:28 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 09/07/2016

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 SENSENICH

Sample Date: 08/26/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	6	SM20-2321
CALCIUM, TOTAL	16.5	EPA 200.7
CALCIUM, DISSOLVED	16.7	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	42	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	9.2	EPA 200.7
MAGNESIUM, DISSOLVED	9.4	EPA 200.7
MANGANESE, TOTAL (ug/l)	210	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	210	EPA 200.7
NITRATE-NITROGEN	13.6	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS SENSENICH

Sample Date: 08/26/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	5.83	FIELD
pH-LAB (SU)	5.94	SM4500B
POTASSIUM, TOTAL	3.6	EPA 200.7
POTASSIUM, DISSOLVED	3.7	EPA 200.7
SODIUM, TOTAL	19.8	EPA 200.7
SODIUM, DISSOLVED	20.3	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	293	FIELD
SPEC. COND., LAB (umhos/cm)	288	EPA 120.1
SULFATE	12.3	EPA 300
ALKALINITY	6	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	197	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS SENSENICH

Sample Date: 08/26/2016

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

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

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
09/22/2016
DEP USE ONLY
Date Received

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

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

General Reference: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: WEBER

Address: 3088 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 21 " Longitude: 76 o 26 ' 7.1 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

Sample Field Filtered (must be 0.45 micron)?: [X] Yes [ ] No

Sample Date:(mm/dd/yy) 08/26/2016 Sample Collection Time: 3:18 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 09/07/2016

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 WEBER

Sample Date: 08/26/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	146	SM20-2321
CALCIUM, TOTAL	0.088	EPA 200.7
CALCIUM, DISSOLVED	0.1 ND	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	214	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	0.05 ND	EPA 200.7
MAGNESIUM, DISSOLVED	0.1 ND	EPA 200.7
MANGANESE, TOTAL (ug/l)	2.5 ND	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	5 ND	EPA 200.7
NITRATE-NITROGEN	8.3	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS WEBER

Sample Date: 08/26/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	7.55	FIELD
pH-LAB (SU)	7.61	SM4500B
POTASSIUM, TOTAL	2.1	EPA 200.7
POTASSIUM, DISSOLVED	2.2	EPA 200.7
SODIUM, TOTAL	212	EPA 200.7
SODIUM, DISSOLVED	224	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	1069	FIELD
SPEC. COND., LAB (umhos/cm)	1080	EPA 120.1
SULFATE	2 ND	EPA 300
ALKALINITY	146	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	539	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS WEBER

Sample Date: 08/26/2016

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

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

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
09/22/2016
DEP USE ONLY
Date Received

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

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

General Reference: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: KIRCHNER

Address: 3100 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 17.9 " Longitude: 76 o 26 ' 6.28 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

Sample Field Filtered (must be 0.45 micron)?: [X] Yes [ ] No

Sample Date:(mm/dd/yy) 08/26/2016 Sample Collection Time: 3:10 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 09/08/2016

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: 08/26/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	8	SM20-2321
CALCIUM, TOTAL	21	EPA 200.7
CALCIUM, DISSOLVED	20.1	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	52	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	100	EPA 200.7
MAGNESIUM, TOTAL	8	EPA 200.7
MAGNESIUM, DISSOLVED	7.5	EPA 200.7
MANGANESE, TOTAL (ug/l)	7.4	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	9.2	EPA 200.7
NITRATE-NITROGEN	6.6	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS KIRCHNER

Sample Date: 08/26/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.03	FIELD
pH-LAB (SU)	5.99	SM4500B
POTASSIUM, TOTAL	1.6	EPA 200.7
POTASSIUM, DISSOLVED	1.6	EPA 200.7
SODIUM, TOTAL	13.7	EPA 200.7
SODIUM, DISSOLVED	13	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	264	FIELD
SPEC. COND., LAB (umhos/cm)	259	EPA 120.1
SULFATE	10	EPA 300
ALKALINITY	8	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	201	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS KIRCHNER

Sample Date: 08/26/2016

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

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

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
09/22/2016
DEP USE ONLY
Date Received

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

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

General Reference: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: LCSWMA

Address: 3106 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 17.27 " Longitude: 76 o 26 ' 5.6 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

Sample Field Filtered (must be 0.45 micron)?: [X] Yes [ ] No

Sample Date:(mm/dd/yy) 08/19/2016 Sample Collection Time: 1:10 PM

Laboratory(ies) Performing Analysis ALS Environmental

(include address and phone number) 34 Dogwood Lane

Middletown, PA 17057 (717) 944-5541

Lab Accreditation Number(s) 22-293

Lab Analysis Date 08/30/2016

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: 08/19/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	12	SM20-2321
CALCIUM, TOTAL	13.8	EPA 200.7
CALCIUM, DISSOLVED	15.6	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	61	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	870	EPA 200.7
IRON, DISSOLVED (ug/l)	110	EPA 200.7
MAGNESIUM, TOTAL	8.5	EPA 200.7
MAGNESIUM, DISSOLVED	9.2	EPA 200.7
MANGANESE, TOTAL (ug/l)	37	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	26	EPA 200.7
NITRATE-NITROGEN	10.7	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 08/19/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.11	FIELD
pH-LAB (SU)	6.24	SM4500B
POTASSIUM, TOTAL	1.5	EPA 200.7
POTASSIUM, DISSOLVED	1.6	EPA 200.7
SODIUM, TOTAL	25.5	EPA 200.7
SODIUM, DISSOLVED	28.5	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	305	FIELD
SPEC. COND., LAB (umhos/cm)	313	EPA 120.1
SULFATE	4.8	EPA 300
ALKALINITY	12	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	233	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	EPA 420.4
TURBIDITY (NTU)	2.29	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS LCSWMA

Sample Date: 08/19/2016

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

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

T Please indicate detection limit if analyte is not detected.

2540-FM-BWM0060 Rev. 6/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised
09/22/2016
DEP USE ONLY
Date Received

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

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

General Reference: Act 101 Section 1103

SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Manage

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 101389

SECTION B. PRIVATE WATER SUPPLY INFORMATION

INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S")

Facility Name: Frey Farm Landfill

County: Lancaster County

Township or Municipality: MANOR TOWNSHIP

Landowner Name: BECK

Address: 3125 RIVER ROAD

Phone No.:

Sampling Point: Latitude: 39 o 57 ' 11.6 " Longitude: 76 o 26 ' 5.4 "

Depth to Water Level: ft. Measured from: [X] Land Surface [ ] TOC

Casing Stick Up: ft. Elevation of Water Level: ft./MSL

Total Well Depth: ft.

Sampling Depth: ft. Sampling Method: [ ] Pumped [ ] Bailed

Well Purged: [ ] Yes [X] No Well Volumes Purged:

Sample Field Filtered (must be 0.45 micron)?: [X] Yes [ ] No

Sample Date:(mm/dd/yy) 08/18/2016 Sample Collection Time: 12:42 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 08/28/2016

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: 08/18/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	SM4500D
BICARBONATE ALKALINITY	44	SM20-2321
CALCIUM, TOTAL	0.085	EPA 200.7
CALCIUM, DISSOLVED	0.26	EPA 200.7
COD (CHEMICAL OXYGEN DEMAND)	7 ND	EPA 410.2
CHLORIDE	83.9	EPA 300
FLUORIDE	0.2 ND	EPA 300
IRON, TOTAL (ug/l)	30 ND	EPA 200.7
IRON, DISSOLVED (ug/l)	60 ND	EPA 200.7
MAGNESIUM, TOTAL	0.05 ND	EPA 200.7
MAGNESIUM, DISSOLVED	0.15	EPA 200.7
MANGANESE, TOTAL (ug/l)	2.5 ND	EPA 200.7
MANGANESE, DISSOLVED (ug/l)	5 ND	EPA 200.7
NITRATE-NITROGEN	7.7	EPA 300

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS BECK

Sample Date: 08/18/2016

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

PARAMETER	VALUE	ANALYSIS METHOD NUMBER
NITRITE - NITROGEN	0.2 ND	EPA 300
pH-FIELD (SU)	6.98	FIELD
pH-LAB (SU)	7.06	SM4500B
POTASSIUM, TOTAL	1.4	EPA 200.7
POTASSIUM, DISSOLVED	1.4	EPA 200.7
SODIUM, TOTAL	85.6	EPA 200.7
SODIUM, DISSOLVED	87.3	EPA 200.7
SPEC. COND., FIELD (umhos/cm)	461	FIELD
SPEC. COND., LAB (umhos/cm)	456	EPA 120.1
SULFATE	7.7	EPA 300
ALKALINITY	44	SM20-2320B
TDS (TOT. DISSOLVED SOLIDS)	361	SM20-2540C
TOC (TOTAL ORGANIC CARBON)	1 ND	SM20-5310B
TOTAL PHENOLICS (ug/l)	10 ND	EPA 420.4
TURBIDITY (NTU)	0.1 ND	SM 2130B

T Please indicate detection limit if analyte is not detected.

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

Facility I.D. Number: 101389

Monitoring Point I.D. No.: PS BECK

Sample Date: 08/18/2016

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

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

T Please indicate detection limit if analyte is not detected.

ALS Environmental

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

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

September 1, 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:	**2168558**
Purchase Order:		Workorder ID:	**3RD QTR 2016-3044 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 18, 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.

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.

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2168558 3RD QTR 2016-3044 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2168558001	3044 River Road, Conestoga, PA	Water	8/18/2016 11:23	8/18/2016 16:23	Mr. Brian G Shade

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2168558 3RD 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

ALS Environmental

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

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

PROJECT SUMMARY

Workorder: 2168558 3RD QTR 2016-3044 RIVER RD

Workorder Comments

See attached subcontracted total phenolics by EPA 420.4 results from ALS Holland. SSL 08/26/16

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2168558 3RD QTR 2016-3044 RIVER RD

Lab ID: **2168558001** Date Collected: 8/18/2016 11:23 Matrix: Water

Sample ID: **3044 River Road, Conestoga, PA** Date Received: 8/18/2016 16:23

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/26/16 17:44	TMP	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	77.4		%	70 - 130	EPA 524.2			8/26/16 17:44	TMP	K
4-Bromofluorobenzene (S)	88.1		%	70 - 130	EPA 524.2			8/26/16 17:44	TMP	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	9		mg/L	5	S2320B-97			8/19/16 20:11	REA	C
Alkalinity, Total	9	1	mg/L	5	S2320B-97			8/19/16 20:11	REA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			8/27/16 06:46	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			8/28/16 13:33	AK	B
Chloride	20.1		mg/L	2.0	EPA 300.0			8/19/16 11:50	MBW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/19/16 11:50	MBW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			8/23/16 15:04	PAG	I
Nitrate-N	20.9		mg/L	0.50	EPA 300.0			8/19/16 11:50	MBW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/19/16 11:50	MBW	C
pH	6.48	2	pH_Units		S4500HB-00			8/19/16 20:11	REA	C
Specific Conductance	234		umhos/cm	1	S2510B-97			8/19/16 20:11	REA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			8/19/16 11:50	MBW	C
Total Dissolved Solids	261	3	mg/L	5	S2540C-11			8/28/16 09:57	ML	C
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			8/26/16 18:21	PAG	F

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2168558 3RD QTR 2016-3044 RIVER RD

Lab ID: **2168558001** Date Collected: 8/18/2016 11:23 Matrix: Water

Sample ID: **3044 River Road, Conestoga, PA** Date Received: 8/18/2016 16:23

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Turbidity	ND		NTU	0.10	S2130B-01			8/20/16 02:10	GMM	C
Sub'd-ALSH Labs Cert 68-03827										
Phenolics	ND		mg/L	0.01	EPA 420.4			8/26/16 09:36	SUB	J
METALS										
Calcium, Total	14.9		mg/L	0.050	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:40	TSS	D1
Calcium, Dissolved	15.5		mg/L	0.10	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:51	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:40	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:51	TSS	E
Magnesium, Total	10.7		mg/L	0.050	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:40	TSS	D1
Magnesium, Dissolved	11.0		mg/L	0.10	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:51	TSS	E
Manganese, Total	0.022		mg/L	0.0025	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:40	TSS	D1
Manganese, Dissolved	0.022		mg/L	0.0050	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:51	TSS	E
Potassium, Total	1.7		mg/L	0.25	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:40	TSS	D1
Potassium, Dissolved	1.8		mg/L	0.50	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:51	TSS	E
Sodium, Total	8.8		mg/L	0.25	EPA 200.7	8/21/16 07:30	JPS	8/23/16 10:56	TSS	D1
Sodium, Dissolved	9.1		mg/L	0.50	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:51	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.290		pH_Units		Field			8/18/16 11:23	BGS	N
Specific Conductance, Field	244		umhos/cm	1	Field			8/18/16 11:23	BGS	N
Temperature	15.10		Deg. C		Field			8/18/16 11:23	BGS	N

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2168558001	1	3044 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2168558001	2	3044 River Road, Conestoga, PA	S4500HB-00	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
2168558001	3	3044 River Road, Conestoga, PA	S2540C-11	Total Dissolved Solids
The sample was originally run within hold time, but required further analysis that exceeded hold time.				

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

SS Page 1 of 1

Courier:

Tracking #:

* 2 1 6 8 5 5 8 *

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

Co. Name: LCSWMA

Contact (Report to): Mark Reider Phone:

Address:

Lancaster, PA

Bill to (if different than Report to): PO#:

Project Name/#: ALS Quote #:

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? Y

Fax? Y No.:

	***Container Type	PL	PL	PL	AN	PL	PL	AN	AG	CG	
	***Container Size	2L	500	500	500	500	500	250	40	40	
	*** Preservative			H_2SO_4	H_2SO_4	HNO3	HNO_3	H_2SO_4	HCL	HCL	

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	PH-TDS-NO2-NO3-Cl-F SO4-F-Tb-SpC	ALK-HCO3	NH3/N-COD	O-O4	Total Ca-Fe-Mg-Mn-K-Na	Dissolved Ca-Fe-Mg-Mn-K-Na	TOK	TOC	524.2 - Form 52	FN	
						Enter Number of Containers Per Analysis										
1	3044 RIVERRD		8-18-16	1123	G	W	1	1	1	1	1	1	2	2	3	X
2																
3																
4																
5																
6																
7																
8																

(completed by Sample Receiving)

Performed by:

Cooler Temp: 3 °C

Therm. ID: 357

No. of Coolers:

Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	Y	Y	Y	Y	
	N	N	N	✓	N

	Custody seals Present?	(if present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y	Y	Y	Y
	✓	N	N	N	N

SAMPLED BY (Please Print): Todd Wade ALS

Project Comments: SSL 8/18/16 2056

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Todd Wade ALS	8-18-16	1623	2 Cynthia	8/18	1623
3			4		
5			6		
7			8		
9			10		

Data Deliverables: Standard; CLP-like; NJ-Reduced; NJ-Full; other

EDDs Required? If yes, format type:

SDWA Forms? yes

State Samples Collected In? NJ NY PA

Other

DOD Criteria Required?

ALS FIELD SERVICES: Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

SS 08/22/16

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: | 1 of 1

ALS Quote #:

Client Name: ALS Middletown

Address: 34 Dogwood Lane
Middletown PA 17057

Contact: Susan Scherer

Phone#: (717) 702-2245

Project Name/#: LCSWMA-Frey Farm-Continguous Landowner

Bill To: ALS Middletown

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

Date Required: 8/31/2016 Approved By:

Email? [X] -Y ALMDT.Subcontract@ALSGlobal.com

Fax? ☐ -Y No.:

Container Type	AG
Container Size	500mL
Preservative	H2SO4

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Phenols, Total EPA 420.4									
					Enter Number of Containers Per Sample or Field Results Below.									Sample/COC Comments
1) 2168558001	8/18/2016	1123	G	WT	1									Subcontract to ALS Holland MI
2)														
3)														
4)														
5)														
6)														
7)														
8)														
9)														
10)														

Receipt Information (completed by Receiving Lab)

Cooler Temp: Therm ID:

No. of Coolers:

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

Courier/Tracking #:

ALS Field Services: _Pickup _Labor
_Composite Sampling _Rental Equipment
_Other:

Project Comments:

LOGGED BY(signature): Date: Time:

REVIEWED BY(signature): Date: Time:

Data Deliverables → [X] Standard [ ] CLP-like [ ] USACE [ ]

Special Processing → USACE: [ ] Navy: [ ]

State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ]

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	8/12/16	1610	2		
3			4		
5			6		
7			8		
9			10		

Reportable to PADEP? Yes [ ]
PWSID #

Sample Disposal → Lab [ ] Special [ ]

EDDS: Format Type:

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

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

Rev 10/11

ALS Environmental

26-Aug-2016

Susan Scherer
ALS Environmental
34 Dogwood Lane
Middletown, PA 17057

Re: **2168558** Work Order: **1608265**

Dear Susan,

ALS Environmental received 1 sample on 23-Aug-2016 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Tom Beamish

Tom Beamish
Client Services Coordinator

NELAP ACCREDITED LABORATORY

Certificate No: PA: 68-03827

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 26-Aug-16

Client: ALS Environmental
Project: 2168558
Work Order: 16081265

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
16081265-01	2168558001	Water		08/18/16 11:23	08/23/16 09:30	☐

Client: ALS Environmental
Project: 2168558
WorkOrder: 16081265

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: *26-Aug-16*

Client: ALS Environmental
Project: 2168558
Sample ID: 2168558001
Collection Date: 08/18/16 11:23 AM

Work Order: 16081265
Lab ID: 16081265-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PHENOLICS, TOTAL		Method: **E420.4**					Analyst: **JJG**
Phenolics, Total	U		0.0030	0.010	mg/L	1	08/26/16 09:36

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 26-Aug-16

Client: ALS Environmental
Work Order: 16081265
Project: 2168558

QC BATCH REPORT

Batch ID: **90539B** Instrument ID **LACHAT** Method: **E420.4**

MBLK	Sample ID: MBLK-90539-90539B			Units: mg/L			Analysis Date: 08/26/16 09:36 AM			
Client ID:	Run ID: LACHAT_160826A			SeqNo: 3996174			Prep Date: 08/25/16		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	U	0.010								

LCS	Sample ID: LCS-90539-90539B			Units: mg/L			Analysis Date: 08/26/16 09:36 AM			
Client ID:	Run ID: LACHAT_160826A			SeqNo: 3996175			Prep Date: 08/25/16		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.1028	0.010	0.1	0	103	90-110	0			

The following samples were analyzed in this batch: 16081265-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

ALS Environmental 34 Dogwood Lane, Middletown, PA 17057, P. 717-944-5541, F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: 10058126S | 1 of 1

ALS Quote #:

Client Name: ALS Middletown
Address: 34 Dogwood Lane, Middletown PA 17057
Contact: Susan Scherer
Phone#: (717) 702-2245
Project Name/#: LCSWMA Frey Farm Contingional Landowner
Bill To: ALS Middletown
TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: 8/31/2016 Approved By:
Email? [X] Y ALMDT.Subcontract@ALSGlobal.co
Fax? [ ] Y No

	Container Type	AG
	Container Size	500mL
	Preservative	H2SO4
	ANALYSES/METHOD REQUESTED	Phenols, Total EPA 420.4

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Phenols, Total EPA 420.4	Sample/COC Comments
1) 2188558001	8/18/2016	1123	G	WT		Subcontract to ALS Holland MI
2)						
3)						
4)						
5)						
6)						
7)						
8)						
9)						
10)						

Enter Number of Containers Per Sample or Field Results Below.

Receipt Information (completed by Receiving Lab)
Cooler Temp: 3.0 Therm ID:
No. of Coolers: ____ Y N Initial
Custody Seals Present?
(if present) Seals Intact?
Received on Ice?
COC/Labels Complete/Accurate?
Cont. in Good Cond.?
Correct Containers?
Correct Sample Volumes?
Correct Preservation?
Headspace/Volatiles?
Courier/Tracking #:

ALS Field Services: __Pickup __Labor __Composite Sampling __Rental Equipment __Other:

Project Comments:

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature]	8/22/16	1600	2 [signature]	8/23/16	930
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ]
Sample Disposal: Lab [ ] Special [ ]
PWSID #:
EDDS Format/Type:

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

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

Rev 10/11

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **ALS - MIDDLETOWN** Date/Time Received: **23-Aug-16 09:30**

Work Order: **16081265** Received by: **MBB**

Checklist completed by Meghan Broadbent eSignature 23-Aug-16 Date Reviewed by: Tom Bramick eSignature 23-Aug-16 Date

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.0/3.0	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/23/2016 12:04:23 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1

ALS Environmental

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

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

September 1, 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:	**2168559**
Purchase Order:		Workorder ID:	**3RD QTR 2016-3052 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 18, 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.

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.

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2168559 3RD QTR 2016-3052 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2168559001	3052 River Road, Conestoga, PA	Water	8/18/2016 11:40	8/18/2016 16:23	Mr. Brian G Shade

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2168559 3RD 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

ALS Environmental

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

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

PROJECT SUMMARY

Workorder: 2168559 3RD QTR 2016-3052 RIVER RD

Workorder Comments

See attached subcontracted total phenolics by EPA 420.4 results from ALS Holland. SSL 08/26/16

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2168559 3RD QTR 2016-3052 RIVER RD

Lab ID: **2168559001** Date Collected: 8/18/2016 11:40 Matrix: Water

Sample ID: **3052 River Road, Conestoga, PA** Date Received: 8/18/2016 16:23

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/26/16 18:08	TMP	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	80.6		%	70 - 130	EPA 524.2			8/26/16 18:08	TMP	K
4-Bromofluorobenzene (S)	97.7		%	70 - 130	EPA 524.2			8/26/16 18:08	TMP	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	ND		mg/L	5	S2320B-97			8/19/16 20:20	REA	C
Alkalinity, Total	ND	1	mg/L	5	S2320B-97			8/19/16 20:20	REA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			8/27/16 07:05	CMM	B
Chemical Oxygen Demand (COD)	11		mg/L	7	EPA 410.4			8/28/16 13:33	AK	B
Chloride	22.1		mg/L	2.0	EPA 300.0			8/19/16 12:02	MBW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/19/16 12:02	MBW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			8/23/16 15:37	PAG	I
Nitrate-N	18.9		mg/L	0.20	EPA 300.0			8/19/16 12:02	MBW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/19/16 12:02	MBW	C
pH	6.10	2	pH_Units		S4500HB-00			8/19/16 20:20	REA	C
Specific Conductance	213		umhos/cm	1	S2510B-97			8/19/16 20:20	REA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			8/19/16 12:02	MBW	C
Total Dissolved Solids	238		mg/L	5	S2540C-11			8/23/16 10:00	KAM	C
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			8/26/16 18:21	PAG	F

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2168559 3RD QTR 2016-3052 RIVER RD

Lab ID: **2168559001** Date Collected: 8/18/2016 11:40 Matrix: Water

Sample ID: **3052 River Road, Conestoga, PA** Date Received: 8/18/2016 16:23

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Turbidity	0.39		NTU	0.10	S2130B-01			8/20/16 02:10	GMM	C
Sub'd-ALSH Labs Cert 68-03827										
Phenolics	ND		mg/L	0.01	EPA 420.4			8/26/16 09:36	SUB	H
METALS										
Calcium, Total	15.7		mg/L	0.050	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:43	TSS	D1
Calcium, Dissolved	14.5		mg/L	0.10	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:55	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:43	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:55	TSS	E
Magnesium, Total	10.6		mg/L	0.050	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:43	TSS	D1
Magnesium, Dissolved	10.2		mg/L	0.10	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:55	TSS	E
Manganese, Total	0.052		mg/L	0.0025	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:43	TSS	D1
Manganese, Dissolved	0.055		mg/L	0.0050	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:55	TSS	E
Potassium, Total	2.0		mg/L	0.25	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:43	TSS	D1
Potassium, Dissolved	2.0		mg/L	0.50	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:55	TSS	E
Sodium, Total	14.3		mg/L	0.25	EPA 200.7	8/21/16 07:30	JPS	8/23/16 10:59	TSS	D1
Sodium, Dissolved	6.9		mg/L	0.50	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:55	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.030		pH_Units		Field			8/18/16 11:40	BGS	N
Specific Conductance, Field	210		umhos/cm	1	Field			8/18/16 11:40	BGS	N
Temperature	14.80		Deg. C		Field			8/18/16 11:40	BGS	N

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2168559001	1	3052 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2168559001	2	3052 River Road, Conestoga, PA	S4500HB-00	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				

ALS Environmental

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

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

Courier:
Tracking #:

2168559

Co. Name: LCSWMA
Contact (Report to): Mark Reider
Phone:
Address:
Lancaster, PA
Bill to (if different than Report to):
PO#:
Project Name/#:
ALS Quote #:
TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? ☐ -Y
Fax? ☐ -Y No.:

***Container Type						PL	PL	PL	AN	PL	PL	AN	AV	CG	~
***Container Size						2L	500	500	500	500	500	250	40	40	~
***Preservative						~	~	H_2SO_4	H_2SO_4	HNO_3	HNO_3	H_2SO_4	HCl	HCl	~
ANALYSES/METHOD REQUESTED						Alk-Spc-Cl-F-NO3-NO2 TDS-SO4-TB	Alk-HCO3	NH3/N-COD	O-OH	Total Ca-Fe-Mn-Mg-K-Na	Dissolved Ca-Fe-Mn-Mg-K-Na	TOX	TOC	524.2-Form 62	FM
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Enter Number of Containers Per Analysis									
1 3052 RIVER RD		8-18-16	1140	G	DW	1	1	1	1	1	1	2	2	3	X
2															
3															
4															
5															
6															
7															
8															

Receipt Information (completed by Sample Receiving)
Performed by: [signature]
Cooler Temp: 3° C
Therm. ID: 352
No. of Coolers:
Notes:

Circle appropriate Y or N.
Correct containers? Y N
Correct sample volume? Y N
Correct preservation? Y N
Headspace/Volatiles? Y N
Custody seals Present? Y N
(If present) Seals intact? Y N
Received on ice? Y N
COC/Labels complete/accurate? Y N
Container in good condition? Y N

SAMPLED BY (Please Print): RG Shade ALS
Project Comments: SSL 8/18/16 2058

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 RG Shade ALS	8/18/16	1623	2 [signature] C	8/18	1623
3			4		
5			6		
7			8		
9			10		

Data Deliverables: ☐ Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐
EDDs Required? ☐ If yes, format type:
SDWA Forms? ☐ yes ☐ yes ☐ yes ☐ yes Other
State Samples Collected In? ☐ MD ☐ NJ ☐ NY ☐ PA
Enter PWSID No.
DOD Criteria Required?

ALS FIELD SERVICES
☐ Pickup
☐ Labor
☐ Composite Sampling
☐ Rental Equipment
☐ Other:

* G=Grab; C=Composite
**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

SJS 08/22/16

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: 1 of 1

ALS Quote #:

Client Name: ALS Middletown
Address: 34 Dogwood Lane
Middletown PA 17057
Contact: Susan Scherer
Phone#: (717) 702-2245
Project Name/#: LCSWMA-Frey Farm-Continguous Landowner
Bill To: ALS Middletown

TAT [ ] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.
Date Required: 8/31/2016 Approved By:
Email? [X] -Y ALMDT.Subcontract@ALSGlobal.com
Fax? [ ] -Y No.:

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Container Type	Container Size	Preservative	Phenols, Total EPA 420.4
					AG	500mL	H2SO4	
					ANALYSES/METHOD REQUESTED			
					Enter Number of Containers Per Sample or Field Results Below.			
1) 2168559001	8/18/2016	1140	G	WT	1			
2)								
3)								
4)								
5)								
6)								
7)								
8)								
9)								
10)								

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

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

Courier/Tracking #:

Sample/COC Comments
1) Subcontract to ALS Holland MI

ALS Field Services: _Pickup _Labor
_Composite Sampling _Rental Equipment
_Other:

Project Comments:

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

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	8/22/16	1610	2		
3			4		
5			6		
7			8		
9			10		

Reportable to PADEP? Yes [ ]
PWSID #
Sample Disposal: Lab [ ] Special [ ]
EDDS: Format Type-

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

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

Rev 10/11

ALS Environmental

26-Aug-2016

Susan Scherer
ALS Environmental
34 Dogwood Lane
Middletown, PA 17057

Re: **2168559** Work Order: **16081264**

Dear Susan,

ALS Environmental received 1 sample on 23-Aug-2016 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Tom Beamish

Tom Beamish
Client Services Coordinator

NELAP ACCREDITED LABORATORY

Certificate No: PA: 68-03827

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 26-Aug-16

Client: ALS Environmental
Project: 2168559
Work Order: 16081264

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
16081264-01	2168559001	Water		08/18/16 11:40	08/23/16 09:30	☐

Client: ALS Environmental
Project: 2168559
WorkOrder: 16081264

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: *26-Aug-16*

Client: ALS Environmental
Project: 2168559
Sample ID: 2168559001
Collection Date: 08/18/16 11:40 AM

Work Order: 16081264
Lab ID: 16081264-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PHENOLICS, TOTAL		Method: **E420.4**					Analyst: **JJG**
Phenolics, Total	U		0.0030	0.010	mg/L	1	08/26/16 09:36

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 26-Aug-16

Client: ALS Environmental
Work Order: 16081264
Project: 2168559

QC BATCH REPORT

Batch ID: **90539B** Instrument ID **LACHAT** Method: **E420.4**

MBLK Sample ID: **MBLK-90539-90539B** Units: **mg/L** Analysis Date: **08/26/16 09:36 AM**
Client ID: Run ID: **LACHAT_160826A** SeqNo: **3996174** Prep Date: **08/25/16** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	U	0.010								

LCS Sample ID: **LCS-90539-90539B** Units: **mg/L** Analysis Date: **08/26/16 09:36 AM**
Client ID: Run ID: **LACHAT_160826A** SeqNo: **3996175** Prep Date: **08/25/16** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.1028	0.010	0.1	0	103	90-110	0			

The following samples were analyzed in this batch: 16081264-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

ALS Environmental

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

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: 1608 12C04 — 1 of 1
ALS Quote #:

Client Name: ALS Middletown
Address: 34 Dogwood Lane, Middletown, PA 17057
Contact: Susan Scherer
Phone#: (717) 702 2245
Project Name/#: LCSWMA Frey Farm Contiguous Landowner
Bill To: ALS Middletown
TAT: [ ] Normal-Standard TAT is 10-12 business days; [ ] Rush-Subject to ALS approval and surcharges
Date Required: 8/31/2016 Approved By:
Email? [X] Y ALMDT.Subcontract@ALSGlobal.com
Fax? [ ] Y No

	Container Type	Container Size	Preservative
ANALYSES/METHOD REQUESTED: Phenols, Total EPA 420.4	AG	500mL	H2SO4

Enter Number of Containers Per Sample or Field Results Below.

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Phenols, Total EPA 420.4	Sample/COC Comments
1) 2168559001	8/18/2016	1140	G	WT	1	Subcontract to ALS Holland MI
2)						
3)						
4)						
5)						
6)						
7)						
8)						
9)						
10)						

Receipt Information (completed by Receiving Lab)

Cooler Temp: 3.0 Therm ID:
No. of Coolers:

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

Courier/Tracking #:

ALS Field Services: __Pickup __Labor __Composite Sampling __Rental Equipment __Other:

Project Comments:

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

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[illegible signature]	8/22/16	1610	2	[illegible signature]	8/23/16	930
3				4			
5				6			
7				8			
9				10			

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ] [ ]
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ]
Sample Disposal: Lab [ ] Special [ ]
PWSID #:
EDDs: Format Type:

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

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

TBB Rev 10/11

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **ALS - MIDDLETOWN** Date/Time Received: **23-Aug-16 09:30**

Work Order: **16081264** Received by: **MBB**

Checklist completed by Meghan Broadbent eSignature 23-Aug-16 Date Reviewed by: Tom Bramich eSignature 23-Aug-16 Date

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.0/3.0	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/23/2016 11:59:40 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1

ALS Environmental

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

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

September 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:	**2170659**
Purchase Order:		Workorder ID:	**3RD QTR 2016-3076 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, August 26, 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.

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.

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2170659 3RD QTR 2016-3076 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2170659001	3076 River Road, Conestoga, PA	Water	8/26/2016 15:28	8/26/2016 17:49	Mr. Brian G Shade

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2170659 3RD 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
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

ALS Environmental

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

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

PROJECT SUMMARY

Workorder: 2170659 3RD QTR 2016-3076 RIVER RD

Workorder Comments

See attached subcontracted total phenolics by EPA 420.4 results from ALS Holland. SSL 09/08/16

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2170659 3RD QTR 2016-3076 RIVER RD

Lab ID: **2170659001** Date Collected: 8/26/2016 15:28 Matrix: Water

Sample ID: **3076 River Road, Conestoga, PA** Date Received: 8/26/2016 17:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/31/16 14:02	CPK	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	88.7		%	70 - 130	EPA 524.2			8/31/16 14:02	CPK	K
4-Bromofluorobenzene (S)	87.6		%	70 - 130	EPA 524.2			8/31/16 14:02	CPK	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	6		mg/L	5	S2320B-97			8/27/16 18:40	MSA	C
Alkalinity, Total	6	1	mg/L	5	S2320B-97			8/27/16 18:40	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			9/7/16 23:28	JAM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			9/2/16 16:17	AK	B
Chloride	42.0		mg/L	2.0	EPA 300.0			8/27/16 12:58	BSL	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/27/16 12:58	BSL	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			8/31/16 13:56	PAG	I
Nitrate-N	13.6		mg/L	0.20	EPA 300.0			8/27/16 12:58	BSL	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/27/16 12:58	BSL	C
pH	5.94	2	pH_Units		S4500HB-00			8/27/16 18:40	MSA	C
Specific Conductance	288		umhos/cm	1	S2510B-97			8/27/16 18:40	MSA	C
Sulfate	12.3		mg/L	2.0	EPA 300.0			8/27/16 12:58	BSL	C
Total Dissolved Solids	197	3	mg/L	5	S2540C-11			9/1/16 10:46	ML	C
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			9/7/16 13:48	PAG	F

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2170659 3RD QTR 2016-3076 RIVER RD

Lab ID: **2170659001** Date Collected: 8/26/2016 15:28 Matrix: Water

Sample ID: **3076 River Road, Conestoga, PA** Date Received: 8/26/2016 17:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Turbidity	ND		NTU	0.10	S2130B-01			8/28/16 06:51	MSA	C
Sub'd-ALSH Labs Cert 68-03827										
Phenolics	ND		mg/L	0.01	EPA 420.4			9/7/16 09:29	SUB	H
METALS										
Calcium, Total	16.5		mg/L	0.050	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:36	TSS	D1
Calcium, Dissolved	16.7		mg/L	0.10	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:43	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:36	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:43	TSS	E
Magnesium, Total	9.2		mg/L	0.050	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:36	TSS	D1
Magnesium, Dissolved	9.4		mg/L	0.10	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:43	TSS	E
Manganese, Total	0.21		mg/L	0.0025	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:36	TSS	D1
Manganese, Dissolved	0.21		mg/L	0.0050	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:43	TSS	E
Potassium, Total	3.6		mg/L	0.25	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:36	TSS	D1
Potassium, Dissolved	3.7		mg/L	0.50	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:43	TSS	E
Sodium, Total	19.8		mg/L	0.25	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:36	TSS	D1
Sodium, Dissolved	20.3		mg/L	0.50	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:43	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	5.830		pH_Units		Field			8/26/16 15:28	BGS	N
Specific Conductance, Field	293		umhos/cm	1	Field			8/26/16 15:28	BGS	N
Temperature	14.90		Deg. C		Field			8/26/16 15:28	BGS	N

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2170659001	1	3076 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2170659001	2	3076 River Road, Conestoga, PA	S4500HB-00	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				
2170659001	3	3076 River Road, Conestoga, PA	S2540C-11	Total Dissolved Solids
The RPD associated with this sample was recovered at 6%. The RPD is outside method acceptance limits of 0-5%. The results used to calculate the RPD were 186 and 197.				

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #:

ALS Quo

* 2 1 7 0 6 5 9 *

Client Name: LCSWMA

Address:

Contact: Mark Reider

Phone#:

Project Name/#: LCSWMA - Form 52

Bill To:

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

Date Required: Approved By:

Email? ☐ -Y

Fax? ☐ -Y No.:

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

Cooler Temp: 14 Therm ID: 352

No. of Coolers: _____

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

Courier/Tracking #:

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	pH-TDS-NO2-NO3-Cl-SO4-F-Tb-SpC	Alk-HCO3	NH3/N-COD	O-OH	Total: Ca-Fe-Mg-Mn-K-Na	Dissolved:Ca-Fe-Mg-Mn-K-Na	TOX	TOC	524.2-Form 52	TM	Sample/COC Comments
					Enter Number of Containers Per Sample or Field Results Below.										
3076 RIVER RD	8-26-16	1528	G	DW	1	1	1	1	1	1	2	2	3	X	~~pH~~
															~~SpC~~
6															
7															
8															
9															
10															

ALS Field Services: __Pickup __Labor
__Composite Sampling __Rental Equipment
__Other:

Project Comments:

LOGGED BY(signature): [signature] DATE 8/27 # 308

REVIEWED BY(signature): [signature] DATE 8/29/16 #

Data Deliverables: ☐ Standard ☐ CLP-like ☐ USACE

Special Processing: USACE ☐ Navy ☐

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 BG Thcale ALS	8-26-16	1749	2 [signature]	8/26	1749
3			4		
5			6		
7			8		
9			10		

Reportable to PADEP? Yes ☐

PWSID # _____

Sample Disposal: Lab ☐ Special ☐

EDDS: Format Type-

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

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

Rev 10/14

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: 1 of 1
ALS Quote #:

Client Name: ALS Middletown
Address: 34 Dogwood Lane
Middletown PA 17057
Contact: Susan Scherer
Phone#: (717) 702-2245
Project Name/#: LCSWMA-Frey Farm-Continguous Landowner
Bill To: ALS Middletown

TAT [ ] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.
Date Required: 9/12/2016 Approved By:
Email? [X] -Y ALMDT.Subcontract@ALSGlobal.com
Fax? [ ] -Y No.:

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Container Type	Container Size	Preservative	Phenols, Total EPA 420.4
					AG	500mL	H2SO4	
1) 2170659001	8/26/2016	1528	G	WT				1
2)								
3)								
4)								
5)								
6)								
7)								
8)								
9)								
10)								

ANALYSES/METHOD REQUESTED
Enter Number of Containers Per Sample or Field Results Below.

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

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

Courier/Tracking #:

Sample/COC Comments
Subcontract to ALS Holland MI

ALS Field Services: __Pickup __Labor
__Composite Sampling __Rental Equipment
__Other:

Project Comments:

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	9/11/16	1610	2		
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ] [ ]
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ] PWSID #
Sample Disposal: Lab [ ] Special [ ]
EDDS: Format Type-

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

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

Rev 10/11

ALS Environmental

08-Sep-2016

Susan Scherer
ALS Environmental
34 Dogwood Lane
Middletown, PA 17057

Re: **2170659** Work Order: **1609116**

Dear Susan,

ALS Environmental received 1 sample on 02-Sep-2016 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Tom Beamish

Tom Beamish
Client Services Coordinator

NELAP ACCREDITED LABORATORY

Certificate No: PA: 68-03827

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company
www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 08-Sep-16

Client: ALS Environmental
Project: 2170659
Work Order: **1609116**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1609116-01	2170659001	Water		08/26/16 15:28	09/02/16 09:30	☐

Client: ALS Environmental
Project: 2170659
WorkOrder: 1609116

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: *08-Sep-16*

Client: ALS Environmental
Project: 2170659
Sample ID: 2170659001
Collection Date: 08/26/16 03:28 PM

Work Order: 1609116
Lab ID: 1609116-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PHENOLICS, TOTAL			Method: **E420.4**		Prep: E420.x / 9/6/16		Analyst: **JJG**
Phenolics, Total		U	0.0031	0.010	mg/L	1	09/07/16 09:29

Note: See Qualifiers page for a list of qualifiers and their definitions.

AR Page 1 of 1

ALS Group USA, Corp

Date: 08-Sep-16

Client: ALS Environmental
Work Order: 1609116
Project: 2170659

QC BATCH REPORT

Batch ID: **91013** Instrument ID **LACHAT** Method: **E420.4**

MBLK Sample ID: **MBLK-91013-91013** Units: **mg/L** Analysis Date: **09/07/16 09:29 AM**
Client ID: Run ID: **LACHAT_160907C** SeqNo: **4013967** Prep Date: **09/06/16** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	U	0.010								

LCS Sample ID: **LCS-91013-91013** Units: **mg/L** Analysis Date: **09/07/16 09:29 AM**
Client ID: Run ID: **LACHAT_160907C** SeqNo: **4013968** Prep Date: **09/06/16** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.09234	0.010	0.1	0	92.3	90-110	0			

MS Sample ID: **1609156-02A MS** Units: **mg/L** Analysis Date: **09/07/16 09:29 AM**
Client ID: Run ID: **LACHAT_160907C** SeqNo: **4013950** Prep Date: **09/06/16** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.3783	0.033	0.3333	0.02118	107	90-110	0			

MSD Sample ID: **1609156-02A MSD** Units: **mg/L** Analysis Date: **09/07/16 09:29 AM**
Client ID: Run ID: **LACHAT_160907C** SeqNo: **4013951** Prep Date: **09/06/16** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.3483	0.033	0.3333	0.02118	98.1	90-110	0.3783	8.26	20	

The following samples were analyzed in this batch: 1609116-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: 160911Ce — 1 of 1
ALS Quote #:

Client Name: ALS Middletown
Address: 34 Dogwood Lane, Middletown PA 17057
Contact: Susan Scherer
Phone #: (717) 702-2245
Project Name/#: LCSWMA - (6) Farm Contiguous Landowner
Billing: ALS Middletown
TAT: [X] Normal Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: 9/12/2016 Approved By:
Email? [X] Y ALMDT.Subcontract@ALSGlobal.com [ ] Y No
Fax? [ ] Y No

Container Type	ACE
Container Size	500 mL
Preservative	H2SO4

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Phenols (del EPA 420.1)	Enter Number of Containers Per Sample or Field Results Below.
1) 2 7055900	8/26/2016	1528	C	WT	1	
2)						
3)						
4)						
5)						
6)						
7)						
8)						
9)						
10)						

Project Comments:
LOGGED BY (signature): Date: Time:
REVIEWED BY (signature): Date: Time:

Receipt Information (completed by Receiving Lab)
Cooler Temp: 3.4 Therm ID:
No. of Coolers:

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

Courier/Tracking #:
Sample/COC Comments
Subcontract to ALS Holland MI

ALS Field Services: __Pickup __Labor __Composite Sampling __Rental Equipment __Other:

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE
Special Processing: [ ] USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ]
Reportable to PADEP? [X] Yes [ ]
Sample Disposal: [ ] Lab [ ] Special [ ]
PWS ID #:
EDDS Format Type:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	9/1/16	1600	2	9/2/16	930
3			4		
5			6		
7			8		
9			10		

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

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

Rev 10/11

PBB

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **ALS - MIDDLETOWN** Date/Time Received: **02-Sep-16 09:30**

Work Order: **1609116** Received by: **MBB**

Checklist completed by Meghan Broadbent eSignature 02-Sep-16 Date Reviewed by: Tom Barnish eSignature 02-Sep-16 Date

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.4/3.4	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	9/2/2016 11:39:43 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1

ALS Environmental

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

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

September 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:	**2170660**
Purchase Order:		Workorder ID:	**3RD QTR 2016-3088 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, August 26, 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.

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.

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2170660 3RD QTR 2016-3088 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2170660001	3088 River Road, Conestoga PA	Water	8/26/2016 15:18	8/26/2016 17:49	Mr. Brian G Shade

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2170660 3RD 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.
-- 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

ALS Environmental

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

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

PROJECT SUMMARY

Workorder: 2170660 3RD QTR 2016-3088 RIVER RD

Workorder Comments

See attached subcontracted total phenolics by EPA 420.4 results from ALS Holland. SSL 09/07/16

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2170660 3RD QTR 2016-3088 RIVER RD

Lab ID: **2170660001** Date Collected: 8/26/2016 15:18 Matrix: Water

Sample ID: **3088 River Road, Conestoga PA** Date Received: 8/26/2016 17:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/31/16 14:28	CPK	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	95.8		%	70 - 130	EPA 524.2			8/31/16 14:28	CPK	K
4-Bromofluorobenzene (S)	93		%	70 - 130	EPA 524.2			8/31/16 14:28	CPK	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	146		mg/L	5	S2320B-97			8/27/16 18:51	MSA	C
Alkalinity, Total	146	1	mg/L	5	S2320B-97			8/27/16 18:51	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			9/7/16 23:49	JAM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			9/2/16 16:17	AK	B
Chloride	214		mg/L	5.0	EPA 300.0			8/30/16 20:21	BSL	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/27/16 14:46	BSL	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			8/31/16 14:30	PAG	I
Nitrate-N	8.3		mg/L	0.20	EPA 300.0			8/27/16 14:46	BSL	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/27/16 14:46	BSL	C
pH	7.61	2	pH_Units		S4500HB-00			8/27/16 18:51	MSA	C
Specific Conductance	1080		umhos/cm	1	S2510B-97			8/27/16 18:51	MSA	C
Sulfate	ND		mg/L	2.0	EPA 300.0			8/27/16 14:46	BSL	C
Total Dissolved Solids	539		mg/L	5	S2540C-11			9/1/16 10:46	ML	C
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			9/7/16 13:48	PAG	F

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2170660 3RD QTR 2016-3088 RIVER RD

Lab ID: **2170660001** Date Collected: 8/26/2016 15:18 Matrix: Water

Sample ID: **3088 River Road, Conestoga PA** Date Received: 8/26/2016 17:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Turbidity	ND		NTU	0.10	S2130B-01			8/28/16 06:51	MSA	C
Sub'd-ALSH Labs Cert 68-03827										
Phenolics	0.01		mg/L	0.01	EPA 420.4			9/7/16 09:29	SUB	H
METALS										
Calcium, Total	0.088		mg/L	0.050	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:40	TSS	D1
Calcium, Dissolved	ND		mg/L	0.10	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:47	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:40	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:47	TSS	E
Magnesium, Total	ND		mg/L	0.050	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:40	TSS	D1
Magnesium, Dissolved	ND		mg/L	0.10	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:47	TSS	E
Manganese, Total	ND		mg/L	0.0025	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:40	TSS	D1
Manganese, Dissolved	ND		mg/L	0.0050	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:47	TSS	E
Potassium, Total	2.1		mg/L	0.25	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:40	TSS	D1
Potassium, Dissolved	2.2		mg/L	0.50	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:47	TSS	E
Sodium, Total	212		mg/L	0.25	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:40	TSS	D1
Sodium, Dissolved	224		mg/L	0.50	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:47	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	7.550		pH_Units		Field			8/26/16 15:18	BGS	N
Specific Conductance, Field	1069		umhos/cm	1	Field			8/26/16 15:18	BGS	N
Temperature	16.20		Deg. C		Field			8/26/16 15:18	BGS	N

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2170660001	1	3088 River Road, Conestoga PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2170660001	2	3088 River Road, Conestoga PA	S4500HB-00	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #:

ALS Quote

2170660

Client Name: LCSWMA

Address:

Contact: Mark Reider

Phone#:

Project Name/#: LCSWMA - Form 52

Bill To:

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

Date Required: Approved By:

Email? ☐ -Y

Fax? ☐ -Y No.:

Container Type	PL	PL	PL	AN	PL	PL	AN	AV	CG	1
Container Size	2L	500	500	500	500	500	250	40	40	1
Preservative	None	None	H2SO4	H2SO4	HNO3	HNO3	H2SO4	HCL	HCl	1

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	pH-TDS-NO2-NO3-Cl-SO4-F-Tb-SpC	Alk-HCO3	NH3/N-COD	O-OH	Total: Ca-Fe-Mg-Mn-K-Na	Dissolved:Ca-Fe-Mg-Mn-K-Na	TOX	TOC	524.2-Form 52	FM
					Enter Number of Containers Per Sample or Field Results Below.									
3088 RIVERRD	8-26-16	1518	G	DW	1	1	1	1	1	1	2	2	3	X
6														
7														
8														
9														
10														

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

Courier/Tracking #:

Sample/COC Comments

~~pH=~~

~~SpC=~~

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments:

LOGGED BY(signature): DATE 8/27 #308

REVIEWED BY(signature): DATE 8/29/16 #

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 BG Woole ALS	8-26-16	1749	2	8/26	1749
3			4		
5			6		
7			8		
9			10		

Data Deliverables: ☐ Standard ☐ CLP-like ☐ USACE

Special Processing: USACE ☐ Navy ☐ ☐

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

Reportable to PADEP? Yes ☐ PWSID #

Sample Disposal: Lab ☐ Special ☐

EDDS: Format Type-

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

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

Rev 10/14

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #:	1 of 1
ALS Quote #:	

Client Name: ALS Middletown
Address: 34 Dogwood Lane, Middletown PA 17057
Contact: Susan Scherer
Phone#: (717) 702-2245
Project Name/#: LCSWMA Frey Farm-Continguous Landowner
Bill To: ALS Middletown

TAT [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: 9/12/2016 **Approved By:**
Email? [X] -Y ALMDT.Subcontract@ALSGlobal.com
Fax? [ ] -Y No.:

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Container Type	Container Size	Preservative	Phenols, Total EPA 420.4
					AG	500mL	H2SO4	
1) 2170660001	8/26/2016	1518	G	WT				1
2)								
3)								
4)								
5)								
6)								
7)								
8)								
9)								
10)								

ANALYSES/METHOD REQUESTED
Enter Number of Containers Per Sample or Field Results Below.

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

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

Courier/Tracking #:

Sample/COC Comments
Subcontract to ALS Holland MI

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments:

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	9/1/16	1610	2		
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ] PWSID #
Sample Disposal: Lab [ ] Special [ ]
EDDS: Format Type-

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

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

Rev 10/11

ALS Environmental

07-Sep-2016

Susan Scherer
ALS Environmental
34 Dogwood Lane
Middletown, PA 17057

Re: **2170660** Work Order: **1609117**

Dear Susan,

ALS Environmental received 1 sample on 02-Sep-2016 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Tom Beamish

Tom Beamish
Client Services Coordinator

NELAP ACCREDITED LABORATORY TNI

Certificate No: PA: 68-03827

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 07-Sep-16

Client: ALS Environmental
Project: 2170660
Work Order: 1609117

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1609117-01	2170660001	Water		08/26/16 15:18	09/02/16 09:30	☐

Client: ALS Environmental
Project: 2170660
WorkOrder: 1609117

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: *07-Sep-16*

Client: ALS Environmental
Project: 2170660
Sample ID: 2170660001
Collection Date: 08/26/16 03:18 PM

Work Order: 1609117
Lab ID: 1609117-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PHENOLICS, TOTAL		Method:	**E420.4**		Prep: E420.x / 9/6/16		Analyst: **JJG**
Phenolics, Total	**0.011**		**0.0031**	**0.010**	**mg/L**	1	09/07/16 09:29

Note: See Qualifiers page for a list of qualifiers and their definitions.

AR Page 1 of 1

ALS Group USA, Corp

Date: 07-Sep-16

Client: ALS Environmental
Work Order: 1609117
Project: 2170660

QC BATCH REPORT

Batch ID: **91013** Instrument ID **LACHAT** Method: **E420.4**

MBLK	Sample ID: MBLK-91013-91013				Units: mg/L		Analysis Date: 09/07/16 09:29 AM			
Client ID:	Run ID: LACHAT_160907C			SeqNo: 4013967		Prep Date: 09/06/16		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	U	0.010								

LCS	Sample ID: LCS-91013-91013				Units: mg/L		Analysis Date: 09/07/16 09:29 AM			
Client ID:	Run ID: LACHAT_160907C			SeqNo: 4013968		Prep Date: 09/06/16		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.09234	0.010	0.1	0	92.3	90-110	0			

MS	Sample ID: 1609156-02A MS				Units: mg/L		Analysis Date: 09/07/16 09:29 AM			
Client ID:	Run ID: LACHAT_160907C			SeqNo: 4013950		Prep Date: 09/06/16		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.3783	0.033	0.3333	0.02118	107	90-110	0			

MSD	Sample ID: 1609156-02A MSD				Units: mg/L		Analysis Date: 09/07/16 09:29 AM			
Client ID:	Run ID: LACHAT_160907C			SeqNo: 4013951		Prep Date: 09/06/16		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.3483	0.033	0.3333	0.02118	98.1	90-110	0.3783	8.26	20	

The following samples were analyzed in this batch: 1609117-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: 16009117 — 1 of 1
ALS Quote #:

Client Name: ALS Middletown
Address: 34 Dogwood Lane, Middletown PA 17057
Contact: Susan Scherer
Phone #: (717)702-2245
Project Name/#: LCSWMA Prof. Farm Contiguous Landowner
Bill to: ALS Middletown
TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: 9/12/2016 Approved By:
Email? [X] Y ALMDT.Subcontract@ALSGlobal.com [ ] N
Fax? [ ] Y No

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Container Type	Container Size	Preservative	Chem 1 Data EPA 537	Enter Number of Containers Per Sample or Field Results Below.
1) Z170660001	8/26/2016	1518	G	WT	AGT	500ml	H2SO4		1
2)									
3)									
4)									
5)									
6)									
7)									
8)									
9)									
10)									

ANALYSES/METHOD REQUESTED

Receipt Information (completed by Receiving Lab)
Cooler Temp: 3.4 Therm ID:
No. of Coolers:

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

Courier/Tracking #:

Sample/COC Comments
Subcontract to ALS Holland MI

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments:
LOGGED BY (signature): Date: Time:
REVIEWED BY (signature): Date: Time:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature]	9/1/16	1600	2 [signature]	9/2/16	930
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] BLP_We [ ] USACE
Special Processing: [ ] USACE [ ] Navy
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC
Reportable to PADEP? Yes [ ]
Sample Disposal: [X] Lab [ ] Special
PWSID #:
EDDS: Format/Type:

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

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

Rev 10/11

193

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **ALS - MIDDLETOWN** Date/Time Received: **02-Sep-16 09:30**

Work Order: **1609117** Received by: **MBB**

Checklist completed by Meghan Broadbent (eSignature) 02-Sep-16 (Date) Reviewed by: Tom Bramick (eSignature) 02-Sep-16 (Date)

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.4/3.4	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	9/2/2016 11:44:52 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1

ALS Environmental

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

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

September 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:	**2170661**
Purchase Order:		Workorder ID:	**3RD QTR 2016-3100 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, August 26, 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.

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.

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2170661 3RD QTR 2016-3100 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2170661001	3100 River Road, Conestoga, PA	Water	8/26/2016 15:10	8/26/2016 17:49	Mr. Brian G Shade

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2170661 3RD 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

ALS Environmental

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

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

PROJECT SUMMARY

Workorder: 2170661 3RD QTR 2016-3100 RIVER RD

Workorder Comments

See attached subcontracted total phenolics by EPA 420.4 results from ALS Holland. SSL 09/07/16

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2170661 3RD QTR 2016-3100 RIVER RD

Lab ID: **2170661001** Date Collected: 8/26/2016 15:10 Matrix: Water

Sample ID: **3100 River Road, Conestoga, PA** Date Received: 8/26/2016 17:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
Toluene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/31/16 14:54	CPK	J
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	87.3		%	70 - 130	EPA 524.2			8/31/16 14:54	CPK	J
4-Bromofluorobenzene (S)	81.9		%	70 - 130	EPA 524.2			8/31/16 14:54	CPK	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	8		mg/L	5	S2320B-97			8/27/16 19:00	MSA	C
Alkalinity, Total	8	1	mg/L	5	S2320B-97			8/27/16 19:00	MSA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			9/8/16 00:10	JAM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			9/2/16 16:17	AK	B
Chloride	52.0		mg/L	2.0	EPA 300.0			8/27/16 14:59	BSL	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/27/16 14:59	BSL	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			8/31/16 15:14	PAG	H
Nitrate-N	6.6		mg/L	0.20	EPA 300.0			8/27/16 14:59	BSL	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/27/16 14:59	BSL	C
pH	5.99	2	pH_Units		S4500HB-00			8/27/16 19:00	MSA	C
Specific Conductance	259		umhos/cm	1	S2510B-97			8/27/16 19:00	MSA	C
Sulfate	10.0		mg/L	2.0	EPA 300.0			8/27/16 14:59	BSL	C
Total Dissolved Solids	201		mg/L	5	S2540C-11			9/1/16 10:46	ML	C
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			9/7/16 13:48	PAG	E

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2170661 3RD QTR 2016-3100 RIVER RD

Lab ID: **2170661001** Date Collected: 8/26/2016 15:10 Matrix: Water

Sample ID: **3100 River Road, Conestoga, PA** Date Received: 8/26/2016 17:49

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Turbidity	ND		NTU	0.10	S2130B-01			8/28/16 06:51	MSA	C
Sub'd-ALSH Labs Cert 68-03827										
Phenolics	ND		mg/L	0.01	EPA 420.4			9/7/16 09:29	SUB	G
METALS										
Calcium, Total	21.0		mg/L	0.050	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:45	TSS	D1
Calcium, Dissolved	20.1		mg/L	0.10	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:52	TSS	D
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:45	TSS	D1
Iron, Dissolved	0.10		mg/L	0.060	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:52	TSS	D
Magnesium, Total	8.0		mg/L	0.050	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:45	TSS	D1
Magnesium, Dissolved	7.5		mg/L	0.10	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:52	TSS	D
Manganese, Total	0.0074		mg/L	0.0025	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:45	TSS	D1
Manganese, Dissolved	0.0092		mg/L	0.0050	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:52	TSS	D
Potassium, Total	1.6		mg/L	0.25	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:45	TSS	D1
Potassium, Dissolved	1.6		mg/L	0.50	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:52	TSS	D
Sodium, Total	13.7		mg/L	0.25	EPA 200.7	8/29/16 07:45	JPS	8/30/16 11:45	TSS	D1
Sodium, Dissolved	13.0		mg/L	0.50	EPA 200.7	8/28/16 23:20	TSS	8/30/16 07:52	TSS	D
FIELD PARAMETERS										
pH, Field (SM4500B)	6.030		pH_Units		Field			8/26/16 15:10	BGS	M
Specific Conductance, Field	264		umhos/cm	1	Field			8/26/16 15:10	BGS	M
Temperature	15.70		Deg. C		Field			8/26/16 15:10	BGS	M

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2170661001	1	3100 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2170661001	2	3100 River Road, Conestoga, PA	S4500HB-00	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: [illegible]

ALS Qu[illegible]

2170661

Client Name: LCSWMA

Address:

Contact: Mark Reider

Phone#:

Project Name/#: LCSWMA - Form 52

Bill To:

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

Date Required: Approved By:

Email? ☐ -Y

Fax? ☐ -Y No.:

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

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	pH-TDS-NO2-NO3-Cl-SO4-F-Tb-SpC	Alk-HCO3	NH3/N-COD	O-OH	Total: Ca-Fe-Mg-Mn-K-Na	Dissolved:Ca-Fe-Mg-Mn-K-Na	TOX	TOC	524.2-Form 52	
					Enter Number of Containers Per Sample or Field Results Below.									
3100 RIVERRD	8-26-16	1510	G	DW	1	1	1	1	1	1	2	2	3	
6														
7														
8														
9														
10														

Received on 8/26/16 AS

8/26/16

No. of Coolers: ____ Y N Initial

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

Courier/Tracking #:

Sample/COC Comments

pH =

SpC=

~~dissolved metals bottle not received~~

~~SES 8/26/16~~

ALS Field Services: _Pickup _Labor
_Composite Sampling _Rental Equipment
_Other:

Project Comments:

LOGGED BY(signature): [signature] DATE 8/27 TIME 310

REVIEWED BY(signature): [signature] DATE 8/26/16 TIME

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	~~[signature] ALS~~	8-26-16	1249	2	[signature]	8/26	1749
3				4			
5				6			
7				8			
9				10			

Data Deliverables: ☐ Standard ☐ CLP-like ☐ USACE

Special Processing: USACE ☐ Navy ☐ ☐

Reportable to PADEP? Yes ☐ PWSID #

Sample Disposal: Lab ☐ Special ☐

EDDS: Format Type-

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

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

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

Rev 10/14

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: 1 of 1
ALS Quote #:

Client Name: ALS Middletown
Address: 34 Dogwood Lane
Middletown PA 17057
Contact: Susan Scherer
Phone#: (717) 702-2245
Project Name/#: LCSWMA-Frey Farm-Continguous Landowner
Bill To: ALS Middletown

TAT [ ] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.
Date Required: 9/12/2016 Approved By:
Email? [X]-Y ALMDT.Subcontract@ALSGlobal.com
Fax? [ ]-Y No.:

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Container Type	Container Size	Preservative	Phenols, Total EPA 420.4
					AG	500mL	H2SO4	
					ANALYSES/METHOD REQUESTED			
					Enter Number of Containers Per Sample or Field Results Below.			
1) 2170661001	8/26/2016	1510	G	WT				1
2)								
3)								
4)								
5)								
6)								
7)								
8)								
9)								
10)								

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

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

Courier/Tracking #:

Sample/COC Comments
Subcontract to ALS Holland MI

ALS Field Services: __Pickup __Labor
__Composite Sampling __Rental Equipment
__Other:

Project Comments:

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	9/1/16	1610	2		
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ] PWSID #
Sample Disposal: Lab [ ] Special [ ]
EDDS: Format Type-

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

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

Rev 10/11

ALS Environmental

07-Sep-2016

Susan Scherer
ALS Environmental
34 Dogwood Lane
Middletown, PA 17057

Re: **2170661** Work Order: **1609118**

Dear Susan,

ALS Environmental received 1 sample on 02-Sep-2016 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Tom Beamish

Tom Beamish
Client Services Coordinator

NELAP ACCREDITED TNI LABORATORY

Certificate No: PA: 68-03827

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 07-Sep-16

Client: ALS Environmental
Project: 2170661
Work Order: **1609118**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1609118-01	2170661001	Water		08/26/16 15:10	09/02/16 09:30	☐

Client: ALS Environmental
Project: 2170661
WorkOrder: 1609118

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: *07-Sep-16*

Client: ALS Environmental
Project: 2170661
Sample ID: 2170661001
Collection Date: 08/26/16 03:10 PM

Work Order: 1609118
Lab ID: 1609118-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PHENOLICS, TOTAL			Method: **E420.4**		Prep: E420.x / 9/6/16		Analyst: **JJG**
Phenolics, Total	U		0.0030	0.010	mg/L	1	09/07/16 09:29

Note: See Qualifiers page for a list of qualifiers and their definitions.

AR Page 1 of 1

ALS Group USA, Corp

Date: 07-Sep-16

Client: ALS Environmental
Work Order: 1609118
Project: 2170661

QC BATCH REPORT

Batch ID: **91013** Instrument ID **LACHAT** Method: **E420.4**

MBLK	Sample ID: MBLK-91013-91013			Units: mg/L		Analysis Date: 09/07/16 09:29 AM			
Client ID:	Run ID: LACHAT_160907C			SeqNo: 4013967		Prep Date: 09/06/16		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	U	0.010								

LCS	Sample ID: LCS-91013-91013			Units: mg/L		Analysis Date: 09/07/16 09:29 AM			
Client ID:	Run ID: LACHAT_160907C			SeqNo: 4013968		Prep Date: 09/06/16		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.09234	0.010	0.1	0	92.3	90-110	0			

MS	Sample ID: 1609156-02A MS			Units: mg/L		Analysis Date: 09/07/16 09:29 AM			
Client ID:	Run ID: LACHAT_160907C			SeqNo: 4013950		Prep Date: 09/06/16		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.3783	0.033	0.3333	0.02118	107	90-110	0			

MSD	Sample ID: 1609156-02A MSD			Units: mg/L		Analysis Date: 09/07/16 09:29 AM			
Client ID:	Run ID: LACHAT_160907C			SeqNo: 4013951		Prep Date: 09/06/16		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.3483	0.033	0.3333	0.02118	98.1	90-110	0.3783	8.26	20	

The following samples were analyzed in this batch: 1609118-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: 1609118 | 1 of 1
ALS Quote #:

Client Name: ALS Middletown
Address: 34 Dogwood Lane, Middletown, PA 17057
Contact: Susan Scherer
Phone#: (717) 702-2245
Project Name/#: LCSWMA-Troy Farm-Cooling Lds-Landowner
Bill To: ALS Middletown

TAT: [ ] Normal-Standard TAT is 10-12 business days. [X] Rush-Subject to ALS approval and surcharges.
Date Required: 9/12/2016 Approved By:
Email? [X] Y- ALMDT-Subcontract@ALSGlobal.com [ ] N
Fax? [ ] Y [ ] N

Container Type	TAG
Container Size	500mL
Preservative	H2SO4

ANALYSES/METHOD REQUESTED: Phenols 420.4 EPA 600

Receipt Information (completed by Receiving Lab)
Cooler Temp: 2.6 Therm ID:
No. of Coolers:

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

Courier/Tracking #:

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Enter Number of Containers Per Sample or Field Results Below.	Sample/COC Comments
1) 217066100	8/28/2016	1510	G	WW	1	Subcontract to ALS Holland MI
2)						
3)						
4)						
5)						
6)						
7)						
8)						
9)						
10)						

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments:

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	9/1/16	1610	2	9/6/16	930
3			4		
5			6		
7			8		
9			10		

Report Type: [X] Standard [ ] CLP-like [ ] USACE
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] MD
Reportable to PADEP? Yes [ ]
Sample Disposal: [ ] Lab [ ] Special
PWSID #:
EDDS Format Type:

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

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

Rev 10/11

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **ALS - MIDDLETOWN** Date/Time Received: **02-Sep-16 09:30**

Work Order: **1609118** Received by: **MBB**

Checklist completed by *Meghan Broadbent* (eSignature) 02-Sep-16 (Date) Reviewed by: *Tom Bramish* (eSignature) 02-Sep-16 (Date)

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.6/2.6	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	9/2/2016 11:55:50 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1

ALS Environmental

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

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

September 2, 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:	**2168992**
Purchase Order:		Workorder ID:	**3RD QTR 2016-3106 RIVER ROAD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Friday, August 19, 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.

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.

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2168992 3RD QTR 2016-3106 RIVER ROAD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2168992001	3106 River Road, Conestoga, PA	Water	8/19/2016 13:10	8/19/2016 14:25	Mr. Brian G Shade

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2168992 3RD QTR 2016-3106 RIVER ROAD

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are 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

ALS Environmental

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

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

PROJECT SUMMARY

Workorder: 2168992 3RD QTR 2016-3106 RIVER ROAD

Workorder Comments

See attached subcontracted total phenolics by EPA 420.4 results from ALS Holland. SSL 08/26/16

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2168992 3RD QTR 2016-3106 RIVER ROAD

Lab ID: **2168992001** Date Collected: 8/19/2016 13:10 Matrix: Water

Sample ID: **3106 River Road, Conestoga, PA** Date Received: 8/19/2016 14:25

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
Toluene	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/29/16 01:58	CJG	J
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	73.8		%	70 - 130	EPA 524.2			8/29/16 01:58	CJG	J
4-Bromofluorobenzene (S)	91.2		%	70 - 130	EPA 524.2			8/29/16 01:58	CJG	J
WET CHEMISTRY										
Alkalinity, Bicarbonate	12		mg/L	5	S2320B-97			8/20/16 16:59	MSA	C
Alkalinity, Total	12	1	mg/L	5	S2320B-97			8/20/16 16:59	MSA	C
Ammonia-N	ND	2	mg/L	0.100	D6919-09			8/30/16 12:31	JAM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			8/30/16 14:02	AK	B
Chloride	61.0		mg/L	2.0	EPA 300.0			8/20/16 16:23	BSL	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/20/16 16:23	BSL	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			8/26/16 12:44	PAG	I
Nitrate-N	10.7		mg/L	0.20	EPA 300.0			8/20/16 16:23	BSL	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/20/16 16:23	BSL	C
pH	6.24	3	pH_Units		S4500HB-00			8/20/16 16:59	MSA	C
Specific Conductance	313		umhos/cm	1	S2510B-97			8/20/16 16:59	MSA	C
Sulfate	4.8		mg/L	2.0	EPA 300.0			8/20/16 16:23	BSL	C
Total Dissolved Solids	233		mg/L	5	S2540C-11			8/25/16 11:45	ML	C
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			8/29/16 13:05	PAG	F

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2168992 3RD QTR 2016-3106 RIVER ROAD

Lab ID: **2168992001** Date Collected: 8/19/2016 13:10 Matrix: Water

Sample ID: **3106 River Road, Conestoga, PA** Date Received: 8/19/2016 14:25

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Turbidity	2.29		NTU	0.10	S2130B-01			8/20/16 11:10	MSA	C
Sub'd-ALSH Labs Cert 68-03827										
Phenolics	ND		mg/L	0.01	EPA 420.4			8/25/16 15:15	SUB	N
METALS										
Calcium, Total	13.8		mg/L	0.050	EPA 200.7	8/22/16 08:00	JPS	8/23/16 12:38	TSS	D1
Calcium, Dissolved	15.6		mg/L	0.10	EPA 200.7	8/22/16 07:17	SRT	8/24/16 09:07	TSS	E
Iron, Total	0.87		mg/L	0.030	EPA 200.7	8/22/16 08:00	JPS	8/23/16 12:38	TSS	D1
Iron, Dissolved	0.11		mg/L	0.060	EPA 200.7	8/22/16 07:17	SRT	8/24/16 09:07	TSS	E
Magnesium, Total	8.5		mg/L	0.050	EPA 200.7	8/22/16 08:00	JPS	8/23/16 12:38	TSS	D1
Magnesium, Dissolved	9.2		mg/L	0.10	EPA 200.7	8/22/16 07:17	SRT	8/24/16 09:07	TSS	E
Manganese, Total	0.037		mg/L	0.0025	EPA 200.7	8/22/16 08:00	JPS	8/23/16 12:38	TSS	D1
Manganese, Dissolved	0.026		mg/L	0.0050	EPA 200.7	8/22/16 07:17	SRT	8/24/16 09:07	TSS	E
Potassium, Total	1.5		mg/L	0.25	EPA 200.7	8/22/16 08:00	JPS	8/23/16 12:38	TSS	D1
Potassium, Dissolved	1.6		mg/L	0.50	EPA 200.7	8/22/16 07:17	SRT	8/24/16 09:07	TSS	E
Sodium, Total	25.5		mg/L	0.25	EPA 200.7	8/22/16 08:00	JPS	8/23/16 12:38	TSS	D1
Sodium, Dissolved	28.5		mg/L	0.50	EPA 200.7	8/22/16 07:17	SRT	8/24/16 09:07	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.110		pH_Units		Field			8/19/16 13:10	BGS	M
Specific Conductance, Field	305		umhos/cm	1	Field			8/19/16 13:10	BGS	M
Temperature	15.60		Deg. C		Field			8/19/16 13:10	BGS	M

Ms. Susan J Scherer
Project Coordinator

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2168992001	1	3106 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2168992001	2	3106 River Road, Conestoga, PA	D6919-09	Ammonia-N
A matrix blank (MB) 2398766 associated with this sample yielded a result of 0.0982 mg/L.				
2168992001	3	3106 River Road, Conestoga, PA	S4500HB-00	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Page 1 of 1

Courier:

Tracking #:

21689 92

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

Co. Name: LCSWMA

Contact (Report to): Mark Reider Phone:

Address:

Lancaster, PA

Bill to (if different than Report to): PO#:

Project Name/#: ALS Quote #:

TAT: Normal-Standard TAT is 10-12 business days. Date Required:

Rush-Subject to ALS approval and surcharges. Approved By:

Email? -Y

Fax? -Y No.:

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	TOX	O-04	524.2-Form 52	NH3/N+ COD	Dissolved Ca-Fe-Mg-Mn-K-Na	Total Ca-Fe-Mg-Mn-K-Na	PH-TDS-NH2-NO3-Cl-SO4	E. Coli-SM	AlK-HCO3	EN
***Container Type						AV	AN	AN	CG	PL	PL	PL	PL			
***Container Size						40	250	500	40	500	500	500	2L	500	1	
*** Preservative						HCl	H2SO4	H2SO4	HCl	H2SO4	HNO3	HNO3	~	1	1	
						Enter Number of Containers Per Analysis										
1	3106 RIVERRD	8-19-16	1310	G	DW	2	2	1	3	1	1	1	1	1	X	
2																
3																
4																
5																
6																
7																
8																

SAMPLED BY (Please Print): BG Slade ALS

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 BG Slade ALS	8-19-16	1425	2	8/19	14:2
3			4		
5			6		
7			8		
9			10		

Data Deliverables: Standard; CLP-like; NJ-Reduced; NJ-Full; other:

EDDs Required? If yes, format type:

DOD Criteria Required?

SDWA Forms? yes

State Samples Collected In? ND; yes NJ; yes NY; yes PA; Other

EB-MCPWSOG

(completed by Sample Receiving)

Performed by:

Cooler Temp: 2

Therm. ID: TH352

No. of Coolers:

Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	Y N	Y N	Y N	Y N	

	Custody seals Present?	(if present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
	Y N	Y N	Y N	Y N	Y N

ALS FIELD SERVICES

Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Oi=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

8/22/16

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: _____ 1 of 1

ALS Quote #: _____

Client Name: ALS Middletown
Address: 34 Dogwood Lane, Middletown PA 17057
Contact: Susan Scherer
Phone#: (717) 702-2245
Project Name/#: LCSWMA-Frey Farm-Continguous Landowner
Bill To: ALS Middletown

TAT [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: 9/2/2016 **Approved By:** _____
Email? [X] -Y ALMDT.Subcontract@ALSGlobal.com
Fax? [ ] -Y No.: _____

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Container Type	Container Size	Preservative	Phenols, Total EPA 420.4								Sample/COC Comments
					AG	500mL	H2SO4	Enter Number of Containers Per Sample or Field Results Below.								
1) 2168992001	8/19/2016	1310	G	WT				1								Subcontract to ALS Holland MI
2)																
3)																
4)																
5)																
6)																
7)																
8)																
9)																
10)																

ANALYSES/METHOD REQUESTED

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

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

Courier/Tracking #:

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other: _____

Project Comments:

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature]	8/22/16	1610	2		
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ] [ ]
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ] PWSID # _____
Sample Disposal: Lab [ ] Special [ ]
EDDS: Format Type- _____

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

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

Rev 10-11

ALS Environmental

26-Aug-2016

Susan Scherer
ALS Environmental
34 Dogwood Lane
Middletown, PA 17057

Re: **2168992** Work Order: **16081260**

Dear Susan,

ALS Environmental received 1 sample on 23-Aug-2016 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Tom Beamish

Tom Beamish
Client Services Coordinator

NELAP ACCREDITED LABORATORY TNI

Certificate No: PA: 68-03827

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 26-Aug-16

Client: ALS Environmental
Project: 2168992
Work Order: 16081260

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
16081260-01	2168992001	Water		08/19/16 13:10	08/23/16 09:30	☐

Client: ALS Environmental
Project: 2168992
WorkOrder: **16081260**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: *26-Aug-16*

Client: ALS Environmental
Project: 2168992
Sample ID: 2168992001
Collection Date: 08/19/16 01:10 PM

Work Order: 16081260
Lab ID: 16081260-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PHENOLICS, TOTAL		Method: **E420.4**					Analyst: **JJG**
Phenolics, Total	U		0.0030	0.010	mg/L	1	08/25/16 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 26-Aug-16

Client: ALS Environmental
Work Order: 16081260
Project: 2168992

QC BATCH REPORT

Batch ID: **90481A** Instrument ID **LACHAT** Method: **E420.4**

MBLK Sample ID: **MBLK-90481-90481A** Units: **mg/L** Analysis Date: **08/25/16 03:15 PM**
Client ID: Run ID: **LACHAT_160825G** SeqNo: **3995069** Prep Date: **08/24/16** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.01073	0.010								

LCS Sample ID: **LCS-90481-90481A** Units: **mg/L** Analysis Date: **08/25/16 03:15 PM**
Client ID: Run ID: **LACHAT_160825G** SeqNo: **3995070** Prep Date: **08/24/16** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.09373	0.010	0.1	0	93.7	90-110	0			B

The following samples were analyzed in this batch: 16081260-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: 16081260 | 1 of 1
ALS Quote #:

Client Name: ALS Middletown
Address: 34 Dogwood Lane, Middletown, PA 17057
Contact: Susan Scherer
Phone#: (717)702-2245
Project Name/#: LCSWMAU (or) Farr Coding List Landowner
Bill To: ALS Middletown
TAT: [ ] Normal-Standard TAT (8-10 business days) [ ] Rush-Subject to ALS approval and surcharges
Date Required: 9/2/2016 Approved By:
Email? [X] Y, ALMDT.Subcontract@ALSGlobal.com
Fax? [ ] Y / No

Container Type: AG
Container Size: 500mL
Preservative: H2SO4

ANALYSES/METHOD REQUESTED

Metals, Cal EPA (22)

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Enter Number of Containers Per Sample or Field Results Below.
1) 2168992001	8/19/2016	1810	G	W	1
2)					
3)					
4)					
5)					
6)					
7)					
8)					
9)					
10)					

Receipt Information (completed by Receiving Lab)
Cooler Temp: 3.2 Therm ID:
No. of Coolers:

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

Courier/Tracking #:

Sample/COC Comments: Subcontract to ALS Holland MI

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments:

LOGGED BY (signature): Date: Time:
REVIEWED BY (signature): Date: Time:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] 8/24/16		1110	2 MBrasell	8/25/16	930
3			4		
5			6		
7			8		
9			10		

Deliverables: [X] Standard [ ] CLP-like [ ] USACE
Special Processing: [ ] USACE [ ] Navy
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ] SC
Reportable to PADEP? Yes [ ] PWSID#
Sample Disposal: [ ] Lab [ ] Special
EDDS Format Type:

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

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

TBB Rev/

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **ALS - MIDDLETOWN** Date/Time Received: **23-Aug-16 09:30**

Work Order: **16081260** Received by: **MBB**

Checklist completed by Meghan Brandbent (eSignature) 23-Aug-16 (Date) Reviewed by: (eSignature) (Date)

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.2/3.2	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/23/2016 11:43:16 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1

ALS Environmental

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

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

September 1, 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:	**2168560**
Purchase Order:		Workorder ID:	**3RD QTR 2016-3125 RIVER RD**

Dear Mr. Brown:

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 18, 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.

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.

Susan J. Scherer

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2168560 3RD QTR 2016-3125 RIVER RD

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2168560001	3125 River Road, Conestoga, PA	Water	8/18/2016 12:42	8/18/2016 16:23	Mr. Brian G Shade

ALS Environmental

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

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

SAMPLE SUMMARY

Workorder: 2168560 3RD 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
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

ALS Environmental

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

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

PROJECT SUMMARY

Workorder: 2168560 3RD QTR 2016-3125 RIVER RD

Workorder Comments

See attached subcontracted total phenolics by EPA 420.4 results from ALS Holland. SSL 08/26/16

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2168560 3RD QTR 2016-3125 RIVER RD

Lab ID: **2168560001** Date Collected: 8/18/2016 12:42 Matrix: Water

Sample ID: **3125 River Road, Conestoga, PA** Date Received: 8/18/2016 16:23

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
1,2-Dibromoethane	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
1,1-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
1,2-Dichloroethane	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
1,1-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
cis-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
trans-1,2-Dichloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
Ethylbenzene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
Methylene Chloride	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
Tetrachloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
Toluene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
Total Xylenes	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
1,1,1-Trichloroethane	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
Trichloroethene	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
Trichlorofluoromethane	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
Vinyl Chloride	ND		ug/L	0.50	EPA 524.2			8/26/16 18:32	TMP	K
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	75.6		%	70 - 130	EPA 524.2			8/26/16 18:32	TMP	K
4-Bromofluorobenzene (S)	93		%	70 - 130	EPA 524.2			8/26/16 18:32	TMP	K
WET CHEMISTRY										
Alkalinity, Bicarbonate	44		mg/L	5	S2320B-97			8/19/16 20:30	REA	C
Alkalinity, Total	44	1	mg/L	5	S2320B-97			8/19/16 20:30	REA	C
Ammonia-N	ND		mg/L	0.100	D6919-09			8/27/16 08:23	CMM	B
Chemical Oxygen Demand (COD)	ND		mg/L	7	EPA 410.4			8/28/16 13:32	AK	B
Chloride	83.9		mg/L	2.0	EPA 300.0			8/19/16 09:08	MBW	C
Fluoride	ND		mg/L	0.20	EPA 300.0			8/19/16 09:08	MBW	C
Halogen, Total Organic (TOX)	ND		ug/L	20.0	SW846 9020B			8/26/16 12:13	PAG	I
Nitrate-N	7.7		mg/L	0.20	EPA 300.0			8/19/16 09:08	MBW	C
Nitrite-N	ND		mg/L	0.20	EPA 300.0			8/19/16 09:08	MBW	C
pH	7.06	2	pH_Units		S4500HB-00			8/19/16 20:30	REA	C
Specific Conductance	456		umhos/cm	1	S2510B-97			8/19/16 20:30	REA	C
Sulfate	7.7		mg/L	2.0	EPA 300.0			8/19/16 09:08	MBW	C
Total Dissolved Solids	361		mg/L	5	S2540C-11			8/23/16 10:00	KAM	C
Total Organic Carbon (TOC)	ND		mg/L	1.0	S5310B-00			8/26/16 18:21	PAG	F

ALS Environmental

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

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

ANALYTICAL RESULTS

Workorder: 2168560 3RD QTR 2016-3125 RIVER RD

Lab ID: **2168560001** Date Collected: 8/18/2016 12:42 Matrix: Water

Sample ID: **3125 River Road, Conestoga, PA** Date Received: 8/18/2016 16:23

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
Turbidity	ND		NTU	0.10	S2130B-01			8/20/16 02:10	GMM	C
Sub'd-ALSH Labs Cert 68-03827										
Phenolics	ND		mg/L	0.01	EPA 420.4			8/26/16 09:36	SUB	H
METALS										
Calcium, Total	0.085		mg/L	0.050	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:47	TSS	D1
Calcium, Dissolved	0.26		mg/L	0.10	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:59	TSS	E
Iron, Total	ND		mg/L	0.030	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:47	TSS	D1
Iron, Dissolved	ND		mg/L	0.060	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:59	TSS	E
Magnesium, Total	ND		mg/L	0.050	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:47	TSS	D1
Magnesium, Dissolved	0.15		mg/L	0.10	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:59	TSS	E
Manganese, Total	ND		mg/L	0.0025	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:47	TSS	D1
Manganese, Dissolved	ND		mg/L	0.0050	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:59	TSS	E
Potassium, Total	1.4		mg/L	0.25	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:47	TSS	D1
Potassium, Dissolved	1.4		mg/L	0.50	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:59	TSS	E
Sodium, Total	85.6		mg/L	0.25	EPA 200.7	8/21/16 07:30	JPS	8/22/16 10:47	TSS	D1
Sodium, Dissolved	87.3		mg/L	0.50	EPA 200.7	8/22/16 07:17	SRT	8/24/16 08:59	TSS	E
FIELD PARAMETERS										
pH, Field (SM4500B)	6.980		pH_Units		Field			8/18/16 12:42	BGS	N
Specific Conductance, Field	461		umhos/cm	1	Field			8/18/16 12:42	BGS	N
Temperature	15.20		Deg. C		Field			8/18/16 12:42	BGS	N

Ms. Susan J Scherer
Project Coordinator

ALS Environmental

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

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

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2168560001	1	3125 River Road, Conestoga, PA	S2320B-97	Alkalinity, Total
The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.				
2168560001	2	3125 River Road, Conestoga, PA	S4500HB-00	pH
The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.				

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

SS Page 2 of 2

Courier:

Tracking #:

2168560

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

Co. Name: LCSWMA

Contact (Report to): Mark Reider Phone:

Address:

Lancaster, PA

Bill to (if different than Report to): PO#:

Project Name/#: ALS Quote #:

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? Y

Fax? Y No.:

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	pH-TDS-NO3-NO2-Cl-SO4-F-Ti-SpC	ALK-HCO3	NH3/N-COD	O-DH	Total Ca-Fe-Mg-Mn-K-Na Dissolved Ca-Fe-Mg-Mn-K-Na	TOX	TOC	SO4-2-Hard-25 mod	FN
***Container Type						PL	PL	PL	AN	PL	PL	AN	AV	CG	—
***Container Size						2L	500	500	600	500	600	250	40	40	—
*** Preservative						—	—	H2SO4	H2SO4	HNO3	HNO3	H2SO4	HCl	HCl	—
1 325 REDERRD		8-18-16	1242	G	W	1	1	1	1	1	1	2	2	3	X
2															
3															
4															
5															
6															
7															
8															

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)

Performed by:

Cooler Temp: 3°C

Therm. ID: 357

No. of Coolers:

Notes:

Circle appropriate Y or N.	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?
	Y	Y	Y	Y
	N	N	N	N

Custody seals Present?	(if present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Y	Y	Y	Y	Y
N	N	N	N	N

SAMPLED BY (Please Print): BGS/mdg ALS

Project Comments: SSL 8/18/16 2100

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 BGS/mdg ALS	8/18/16	1623	2 Courier	8/18/16	1623
3			4		
5			6		
7			8		
9			10		

Data Deliverables: Standard; CLP-like; NJ-Reduced; NJ-Full (SDWF)

EDDs Required? If yes, format type:

SDWA Forms? yes

State Samples Collected In? MD; NJ; NY; PA

Other

DOD Criteria Required?

ALS FIELD SERVICES: Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

SS 08/22/16

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: 1 of 1
ALS Quote #:

Client Name: ALS Middletown
Address: 34 Dogwood Lane
Middletown PA 17057
Contact: Susan Scherer
Phone#: (717) 702-2245
Project Name/#: LCSWMA-Frey Farm-Contiguous Landowner
Bill To: ALS Middletown

TAT [ ] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.
Date Required: 8/31/2016 Approved By:
Email? [X] -Y ALMDT.Subcontract@ALSGlobal.com
Fax? [ ] -Y No.:

Container Type	AG
Container Size	500mL
Preservative	H2SO4

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Phenols, Total EPA 420.4
1) 2168560001	8/18/2016	1242	G	WT	1
2)					
3)					
4)					
5)					
6)					
7)					
8)					
9)					1
10)					

Enter Number of Containers Per Sample or Field Results Below.

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

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

Courier/Tracking #:

Sample/COC Comments
Subcontract to ALS Holland MI

ALS Field Services: _Pickup _Labor
_Composite Sampling _Rental Equipment
_Other:

Project Comments:

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	8/22/16	1610	2		
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ]
PWSID #
Sample Disposal: Lab [ ] Special [ ]
EDDS: Format Type-

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

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

Rev 10/11

ALS Environmental

26-Aug-2016

Susan Scherer
ALS Environmental
34 Dogwood Lane
Middletown, PA 17057

Re: **2168560** Work Order: **16081263**

Dear Susan,

ALS Environmental received 1 sample on 23-Aug-2016 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Tom Beamish

Tom Beamish
Client Services Coordinator

NELAP ACCREDITED TNI LABORATORY

Certificate No: PA: 68-03827

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 26-Aug-16

Client: ALS Environmental
Project: 2168560
Work Order: **16081263**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
16081263-01	2168560001	Water		08/18/16 12:42	08/23/16 09:30	☐

Client: ALS Environmental
Project: 2168560
WorkOrder: 16081263

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: *26-Aug-16*

Client: ALS Environmental
Project: 2168560
Sample ID: 2168560001
Collection Date: 08/18/16 12:42 PM

Work Order: 16081263
Lab ID: 16081263-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
PHENOLICS, TOTAL			Method: **E420.4**				Analyst: **JJG**
Phenolics, Total	U		0.0030	0.010	mg/L	1	08/26/16 09:36

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 26-Aug-16

Client: ALS Environmental
Work Order: 16081263
Project: 2168560

QC BATCH REPORT

Batch ID: **90539B** Instrument ID **LACHAT** Method: **E420.4**

MBLK Sample ID: **MBLK-90539-90539B** Units: **mg/L** Analysis Date: **08/26/16 09:36 AM**
Client ID: Run ID: **LACHAT_160826A** SeqNo: **3996174** Prep Date: **08/25/16** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	U	0.010								

LCS Sample ID: **LCS-90539-90539B** Units: **mg/L** Analysis Date: **08/26/16 09:36 AM**
Client ID: Run ID: **LACHAT_160826A** SeqNo: **3996175** Prep Date: **08/25/16** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phenolics, Total	0.1028	0.010	0.1	0	103	90-110	0			

The following samples were analyzed in this batch: 16081263-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 1

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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

COC #: 160812C63 | 1 of 1
ALS Quote #:

Client Name: ALS Middletown
Address: 34 Dogwood Lane
Middletown PA 17057
Contact: Susan Scherer
Phone: (717)702-2245
Project Name/#: 1068WA1Frey Farm Contiguous Landowner
Bill To: ALS Middletown
TAT: [X] Normal-Standard TAT is 10-12 business days [ ] Rush-Subject to ALS approval and surcharges
Date Required: 8/31/2016 Approved By:
Email? [X] Y ALSMDT.Subcontract@ALSGlobal.co
Fax? [ ] Y No:

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Container Type	Container Size	Preservative	PAHs - Total EPA 1614									
					AG	500mL	H2SO4	ANALYSES/METHOD REQUESTED									
1 2168560001	8/18/2016	1242	G	WW	1												
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Enter Number of Containers Per Sample or Field Results Below.

Project Comments:

LOGGED BY (signature): DATE: Y
REVIEWED BY (signature): DATE: Y

Receipt Information (completed by Receiving Lab)
Cooler Temp: 3.0 Therm ID:
No. of Coolers: Y N Initial
Custody Seals Present?
(If present) Seals Intact?
Received on Ice?
COC/Labels Complete/Accurate?
Cont. in Good Cond.?
Correct Containers?
Correct Sample Volumes?
Correct Preservation?
Headspace/Volatiles?
Courier/Tracking #:

Sample/COC Comments
Subcontract to ALS Holland MI

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	8/22/16	1510	2	8/23/16	930
3			4		
5			6		
7			8		
9			10		

Data Package: [X] Standard [X] CLP-like [X] USACE
Special Processing: USACE [X] Navy [X]
State Samples Collected In: [X] NY [X] NJ [X] PA [X] NC
Reportable to PADEP? Yes [X]
Sample Disposal: Lab [X] Special [X]
PWS ID#:
EDDS Format Type:

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

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

Rev 10/11

TBB

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **ALS - MIDDLETOWN** Date/Time Received: **23-Aug-16 09:30**

Work Order: **16081263** Received by: **MBB**

Checklist completed by *Meghan Broadbent* eSignature 23-Aug-16 Date Reviewed by: *Tom Barnicle* eSignature 23-Aug-16 Date

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.0/3.0	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/23/2016 11:55:39 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1