



August 23, 2019

Mr. William Brothers
Southwestern Community College
447 College Drive, Balsam Center
Sylva, North Carolina 28779

Reference Surface Water Sampling Report
Southwestern Community College Firing Range
River Road
Sylva, Jackson County, North Carolina
ECS Project 49-1121-F

Dear Mr. Brothers:

ECS Southeast, LLP (ECS) is pleased to provide the results of the surface water sampling conducted in accordance with ECS Work Authorization 49-15354-P dated August 5, 2019. The surface water sampling is being conducted at the request of the North Carolina Division of Environmental Quality (NCDEQ).

PROJECT INFORMATION

The Southwestern Community College (SCC) has contracted ECS to assist with lead soil remediation activities at the firing range located east of River Road and the Tuckasegee Wastewater Treatment Facility in Sylva, Jackson County, North Carolina (Figure 1). The remediation and final erosion control activities were completed at the end of January 2019. In an email dated October 30, 2018, Mr. Richard Concepcion with the NCDEQ "strongly recommended" that a surface water sample be collected from the drainage feature and submitted to the laboratory for lead analysis semi-annually or annually for four consecutive sampling events.

To verify that lead is no longer migrating from the firing range, ECS collected a surface water sample from a location of the drainage feature prior to exiting the firing range property to satisfy the NCDEQ request. The following describes the sampling activities conducted and results, along with our conclusions.

FIELD ACTIVITIES

On August 7, 2019, ECS collected one surface water sample (SW-1) from the drainage feature at a location that was prior to it exiting the firing range property. The sample was collected using the laboratory provided jar.

After the sample was collected, the sample container was labeled with ECS project number, sample identification, sample date and time, and requested analytical analysis. The container was placed into protective packaging material and placed into a cooler with ice to maintain the sample at approximately 4° Celsius (C°). The sample was submitted to Pace Analytical Services, Inc. (Pace) located in Asheville, North Carolina for chemical analysis for total lead using EPA Method 6010. ECS maintained proper chain-of-custody (COC) procedures throughout the sample collection and transportation process. A copy of the COC is attached. The surface water sample location is depicted on Figure 2.

RESULTS

Laboratory analysis of the surface water sample collected from the drainage feature detected lead at a concentration of 8.4 ug/L, which is below the limit of 25 ug/L. This limit was established by the NCDEQ Project Manager and calculated using the North Carolina 2B Water Quality Standards for Surface Waters (NC2BSWS) Hardness-Dependent Metal Calculations. The following table depicts the result of the surface water sampling. The analytical report is attached.

Surface Water Sample Results

Sample	Sample Type	Lead Concentration (ug/L)	NC2BSWS (ug/L)
SW-1	Grab	8.4	25

CONCLUSIONS

Based on the results of the surface water sample analysis, ECS concludes that lead impacts within the surface water in the drainage feature are not migrating from the firing range property at this time. The NCDEQ has requested that the surface water sampling be conducted quarterly as compared to semi-annually or annually as previously requested. As such, ECS is proposing to conduct the additional surface water sampling in November 2019, February 2020, and May 2020.

ECS appreciates the opportunity to provide our environmental consulting services to you on this project. If you have any questions concerning this report or this project, please contact us.

Respectfully submitted,

ECS SOUTHEAST, LLP



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Enclosures: Figures
Laboratory Results and Chain of Custody



SW-1

DRAINAGE
FEATURE

SOURCE:
GOOGLE EARTH
AERIAL PHOTOGRAPH DATED 2014

— = 30 FEET



FIGURE 2
SURFACE WATER SAMPLE LOCATION

SCC FIRING RANGE
SYLVA, NORTH CAROLINA
ECS PROJECT NO. 49-1121-F

August 13, 2019

Jim Bevers
ECS Southeast, LLP
1900 Hendersonville Road
Suite 10
Asheville, NC 28803

RE: Project: 49-1121-F
Pace Project No.: 92440457

Dear Jim Bevers:

Enclosed are the analytical results for sample(s) received by the laboratory on August 07, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Taylor Ezell
taylor.ezell@pacelabs.com
(704)875-9092
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

CERTIFICATIONS

Project: 49-1121-F
Pace Project No.: 92440457

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

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SAMPLE ANALYTE COUNT

Project: 49-1121-F
Pace Project No.: 92440457

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92440457001	SW-1	EPA 6020B	SER	1	PASI-A

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SUMMARY OF DETECTION

Project: 49-1121-F
Pace Project No.: 92440457

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92440457001	SW-1					
EPA 6020B	Lead	8.4	ug/L	0.10	08/12/19 20:59	

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ANALYTICAL RESULTS

Project: 49-1121-F
Pace Project No.: 92440457

Sample: SW-1		Lab ID: 92440457001	Collected: 08/07/19 09:15	Received: 08/07/19 17:00	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A							
Lead	8.4	ug/L	0.10	1	08/10/19 11:49	08/12/19 20:59	7439-92-1		

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QUALITY CONTROL DATA

Project: 49-1121-F
 Pace Project No.: 92440457

QC Batch: 491519 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Associated Lab Samples: 92440457001

METHOD BLANK: 2650984 Matrix: Water
 Associated Lab Samples: 92440457001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	ND	0.10	08/12/19 16:18	

LABORATORY CONTROL SAMPLE: 2650985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	50	51.5	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2650986 2650987

Parameter	92439773004		MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Qual
	Units	Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits		
Lead	ug/L	0.72	50	50	51.7	52.7	102	104	75-125	2	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: 49-1121-F
Pace Project No.: 92440457

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.
A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 49-1121-F
Pace Project No.: 92440457

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92440457001	SW-1	EPA 3010A	491519	EPA 6020B	491636

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