ANALYTICAL REPORT

Lab Number:	L1719382
Client:	Floyd Snider Inc 601 Union Street Suite 600 Seattle, WA 98101
ATTN:	Teri Floyd
Phone:	(206) 292-2078
Project Name:	LDW ENR/AC PILOT STUDY
Project Number:	Not Specified
Report Date:	06/16/17

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Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1719382-01	LDW-Y0-SU-ENR+AC-2-B-COR	SEDIMENT	LDW	04/13/17 10:01	04/19/17
L1719382-02	LDW-Y0-SU-ENR+AC-2-B-COR-#50	SEDIMENT	LDW	04/13/17 10:01	04/19/17
L1719382-03	LDW-Y0-SU-ENR+AC-2-C-COR	SEDIMENT	LDW	04/13/17 10:20	04/19/17
L1719382-04	LDW-Y0-SU-ENR+AC-2-C-COR-#50	SEDIMENT	LDW	04/13/17 10:20	04/19/17
L1719382-05	LDW-Y0-SU-ENR+AC-3-A-COR	SEDIMENT	LDW	04/13/17 09:32	04/19/17
L1719382-06	LDW-Y0-SU-ENR+AC-3-A-COR-#50	SEDIMENT	LDW	04/13/17 09:32	04/19/17
L1719382-07	LDW-Y0-SU-ENR+AC-3-B-COR	SEDIMENT	LDW	04/13/17 10:02	04/19/17
L1719382-08	LDW-Y0-SU-ENR+AC-3-B-COR-#50	SEDIMENT	LDW	04/13/17 10:02	04/19/17
L1719382-09	LDW-Y0-SU-ENR+AC-3-C-COR	SEDIMENT	LDW	04/13/17 10:27	04/19/17
L1719382-10	LDW-Y0-SU-ENR+AC-3-C-COR-#50	SEDIMENT	LDW	04/13/17 10:27	04/19/17
L1719382-11	LDW-Y0-SU-ENR+AC-4-A-COR	SEDIMENT	LDW	04/13/17 09:33	04/19/17
L1719382-12	LDW-Y0-SU-ENR+AC-4-A-COR-#50	SEDIMENT	LDW	04/13/17 09:33	04/19/17
L1719382-13	LDW-Y0-SU-ENR+AC-4-B-COR	SEDIMENT	LDW	04/13/17 10:03	04/19/17
L1719382-14	LDW-Y0-SU-ENR+AC-4-B-COR-#50	SEDIMENT	LDW	04/13/17 10:03	04/19/17
L1719382-15	LDW-Y0-SU-ENR+AC-4-C-COR	SEDIMENT	LDW	04/13/17 10:28	04/19/17
L1719382-16	LDW-Y0-SU-ENR+AC-4-C-COR-#50	SEDIMENT	LDW	04/13/17 10:28	04/19/17
L1719382-17	LDW-Y0-SU-ENR+AC-5-A-COR	SEDIMENT	LDW	04/13/17 09:34	04/19/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1719382-18	LDW-Y0-SU-ENR+AC-5-A-COR-#50	SEDIMENT	LDW	04/13/17 09:34	04/19/17
L1719382-19	LDW-Y0-SU-ENR+AC-5-B-COR	SEDIMENT	LDW	04/13/17 10:04	04/19/17
L1719382-20	LDW-Y0-SU-ENR+AC-5-B-COR-#50	SEDIMENT	LDW	04/13/17 10:04	04/19/17

Project Name: LDW ENR/AC PILOT STUDY **Lab Number:** L1719382
Project Number: Not Specified **Report Date:** 06/16/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	LDW ENR/AC PILOT STUDY	**Lab Number:**	L1719382
Project Number:	Not Specified	**Report Date:**	06/16/17

Case Narrative (continued)

Solids, Total Volatile

L1719382-01 through -20 were analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 06/16/17

INORGANICS
&
MISCELLANEOUS

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-01
Client ID: LDW-Y0-SU-ENR+AC-2-B-COR
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:01
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	3.2		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-02
Client ID: LDW-Y0-SU-ENR+AC-2-B-COR-#50
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:01
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	1.5		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-03
Client ID: LDW-Y0-SU-ENR+AC-2-C-COR
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:20
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	ND		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-04
Client ID: LDW-Y0-SU-ENR+AC-2-C-COR-#50
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:20
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	1.5		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-05
Client ID: LDW-Y0-SU-ENR+AC-3-A-COR
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 09:32
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	2.7		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-06
Client ID: LDW-Y0-SU-ENR+AC-3-A-COR-#50
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 09:32
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	1.4		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-07
Client ID: LDW-Y0-SU-ENR+AC-3-B-COR
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:02
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	3.2		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-08
Client ID: LDW-Y0-SU-ENR+AC-3-B-COR-#50
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:02
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	1.9		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-09
Client ID: LDW-Y0-SU-ENR+AC-3-C-COR
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:27
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	2.8		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-10
Client ID: LDW-Y0-SU-ENR+AC-3-C-COR-#50
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:27
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	1.8		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-11
Client ID: LDW-Y0-SU-ENR+AC-4-A-COR
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 09:33
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	3.2		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-12
Client ID: LDW-Y0-SU-ENR+AC-4-A-COR-#50
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 09:33
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	1.4		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-13
Client ID: LDW-Y0-SU-ENR+AC-4-B-COR
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:03
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	3.0		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-14
Client ID: LDW-Y0-SU-ENR+AC-4-B-COR-#50
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:03
Date Received: 04/19/17
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	ND		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-15
Client ID: LDW-Y0-SU-ENR+AC-4-C-COR
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:28
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	3.0		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-16
Client ID: LDW-Y0-SU-ENR+AC-4-C-COR-#50
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:28
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	1.3		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-17
Client ID: LDW-Y0-SU-ENR+AC-5-A-COR
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 09:34
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	1.9		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-18
Client ID: LDW-Y0-SU-ENR+AC-5-A-COR-#50
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 09:34
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	1.2		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-19
Client ID: LDW-Y0-SU-ENR+AC-5-B-COR
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:04
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	3.6		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

SAMPLE RESULTS

Lab ID: L1719382-20
Client ID: LDW-Y0-SU-ENR+AC-5-B-COR-#50
Sample Location: LDW
Matrix: Sediment

Date Collected: 04/13/17 10:04
Date Received: 04/19/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Volatile	1.3		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Project Name: LDW ENR/AC PILOT STUDY **Lab Number:** L1719382

Project Number: Not Specified **Report Date:** 06/16/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-07,09-20 Batch: WG1012074-1										
Solids, Total Volatile	ND		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP
General Chemistry - Westborough Lab for sample(s): 08 Batch: WG1012075-1										
Solids, Total Volatile	ND		%	0.10	--	1	-	06/12/17 19:20	121,2540E	RP

Lab Duplicate Analysis
Batch Quality Control

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-07,09-20 QC Batch ID: WG1012074-2 QC Sample: L1719382-07 Client ID: LDW-Y0-SU-ENR+AC-3-B-COR						
Solids, Total Volatile	3.2	3.2	%	0		11
General Chemistry - Westborough Lab Associated sample(s): 08 QC Batch ID: WG1012075-2 QC Sample: L1719382-08 Client ID: LDW-Y0-SU-ENR+AC-3-B-COR-#50						
Solids, Total Volatile	1.9	2.0	%	5		11

Project Name: LDW ENR/AC PILOT STUDY
Project Number: Not Specified

Lab Number: L1719382
Report Date: 06/16/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1719382-01A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-02A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-03A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-04A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-05A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-06A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-07A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-08A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-09A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-10A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-11A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-12A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-13A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-14A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-15A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-16A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-17A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-18A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-19A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)
L1719382-20A	Glass 250ml/8oz unpreserved	A	NA		17.8	Y	Absent		TVS-2540(7)

*Values in parentheses indicate holding time in days

Project Name:	LDW ENR/AC PILOT STUDY	**Lab Number:**	L1719382
Project Number:	Not Specified	**Report Date:**	06/16/17

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Project Name:	LDW ENR/AC PILOT STUDY	**Lab Number:**	L1719382
Project Number:	Not Specified	**Report Date:**	06/16/17

Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 4/19/17

ALPHA Job #: TBD ~~L1712837~~ L1719382 6/9/17 KB

Client Information

Client: Amec Foster Wheeler
Address: 3500 188TH St. SW, Suite 601
Lynnwood, WA 98037
Phone: 425-921-4023
Fax:
Email: cliff.whitmus@amecfw.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: LDW ENR/AC Pilot Study
Project Location: LDW
Project #: TBD
Project Manager: Liz Porta
ALPHA Quote #: M2015033

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: TBD Time: TBD

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:
POC: Gretchen Heavner- gretchen.heavner@floydsnider.com #206.292.2078

☒ MS/MSD (at unit cost) will be omitted unless you check here

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TOC EPA 9060A(m)	GS ASTM D422 using #230 sieve	~~Black Carbon Gustafson (1997)~~	~~#50 sieve and black carbon~~ TVS	MS/Dup	Grain size in triplicate	Black carbon in triplicate						Sample Specific Comments	TOTAL # BOTTLES
19382 ~~12837~~ .01 ~~49~~ 02	LDW-Y0-SU-ENR+AC-2-B-COR	4/13/17	1001	sediment	RG	☐	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	see attached	1
03,04 ~~51-52~~	LDW-Y0-SU-ENR+AC-2-C-COR		1020	sediment		☐	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	see attached	1
05,06 ~~53-54~~	LDW-Y0-SU-ENR+AC-3-A-COR		0932	sediment		☐	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	see attached	1
07,08 ~~55-56~~	LDW-Y0-SU-ENR+AC-3-B-COR		1002	sediment		☐	☐	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	see attached	1
09,10 ~~57-58~~	LDW-Y0-SU-ENR+AC-3-C-COR		1027	sediment		☐	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	see attached	1
11,12 ~~59-60~~	LDW-Y0-SU-ENR+AC-4-A-COR		0933	sediment		☐	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	see attached	1
13,14 ~~61-62~~	LDW-Y0-SU-ENR+AC-4-B-COR		1003	sediment		☐	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	see attached	1
15,16 ~~63-64~~	LDW-Y0-SU-ENR+AC-4-C-COR		1028	sediment		☐	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	see attached	1
17,18 ~~65-66~~	LDW-Y0-SU-ENR+AC-5-A-COR		0934	sediment		☐	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	see attached	1
19,20 ~~67-68~~	LDW-Y0-SU-ENR+AC-5-B-COR		1004	sediment		☐	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	see attached	1
	Container Type					A	A	A	-	-	-	-	-	-	-	-	-		
	Preservative					A	A	A	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
Robert Gilmour AmecFW	4/17/17 0900	FedEx	
FedEx		[illegible] AAL	4/19/17 1027

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 101-09(I-NJ)
(rev. 5-JAN-12)