

SBA Shipyard Site
Jennings, Louisiana

Sample Delivery Group (SDG): 1851015

Analyses: SVOC, Metals

Analyses performed by: Eurofins Lancaster Laboratories Environmental, Lancaster, Pennsylvania

EHS Validation Report Number: 111

Review Level: Tier II

Report Date: October 4, 2017

SAMPLE SUMMARY

Soil samples were collected at the SBA Shipyard Site in Jennings, Louisiana and were analyzed by Environmental Protection Agency (EPA) SW-846 Methods 8270D for semivolatile organic compounds (SVOC), 6010C for metals, and 7471B for mercury. Samples included in this Sample Delivery Group (SDG), and in this data validation report, are listed in the table below.

SDG	Lab Sample ID	Client Sample ID	Sample Matrix	Sample Collection Date	Analysis	
					SVOC	Metals
1851015	9210977	AOI-3-SS-1(0-1)	Soil	9/14/2017	X	X
1851015	9210978	AOI-4-SS-1(0-1)	Soil	9/14/2017	X	X

INTRODUCTION

Data were reviewed in accordance with USEPA Contract Laboratory Program National Functional Guidelines (Inorganic, January 2010 and Organic, June 2008), laboratory analytical methods, and professional judgment. Relevant EPA Region 2 Data Validation SOPs were referenced as needed. It is expected that the laboratory conducted sufficient quality review of the data prior to reporting. While QC is meant to increase confidence in analytical data, it is important to note that no compound concentration is guaranteed to be accurate, even if all QC criteria were met.

Data validation includes a review of reported results and supporting documentation in the laboratory report. Based on this evaluation, qualifiers may be added, deleted, or modified. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

Validation Qualifiers

- U The analyte was analyzed for, but was not detected above the reported quantitation limit, or the result is considered non-detect as a consequence of associated blank contamination.
- UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

- J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

SAMPLE CUSTODY AND RECEIPT

All samples were received in good condition and properly preserved. The chain of custody was properly completed except that no receiving signature accompanies the first relinquishing signature, which appears to be for transfer of the cooler of empty bottles from the lab to the field.

ASSESSMENT SUMMARY AND DATA USABILITY

In this SDG, no QC (Quality Control) excursions encountered led to rejection of data. Results reported in this SDG are considered usable. Please refer to report below for specific QC variances and data qualification.

SEMIVOLATILE ORGANIC COMPOUND (SVOC) ANALYSIS

Preservation and Holding Times

Relevant preservation and holding time requirements are presented in the following table.

Method	Matrix	Preservation	Holding Time
SW-846 Method 8270	Water	$\leq 6^{\circ}\text{C}$	7 days from collection to extraction, 40 days from extraction to analysis
SW-846 Method 8270	Soil	$\leq 6^{\circ}\text{C}$	14 days from collection to extraction, 40 days from extraction to analysis

Acceptance criteria were met.

Blanks

Acceptance criteria were met.

Surrogates

Acceptance criteria were met.

Laboratory Control Sample Analysis

Acceptance criteria were met.

Matrix Spike/ Matrix Spike Duplicate (MS/MSD) Analysis

NA: No MS/MSD analysis was performed on a sample in this data set.

Compound Identification

Acceptable; no issues to report. Both samples in this SDG were analyzed at 5X dilutions.

Field Duplicates

NA: No field duplicate samples were submitted in this SDG.

Additional Notes

NA: No additional notes to report.

METALS ANALYSIS

Preservation and holding times

Relevant preservation and holding time requirements are presented in the following table.

Method	Matrix	Preservation	Holding Time
Metals (except Hg and Cr6+) by 6010 / 6020	Water	HNO ₃ to pH < 2	180 days
	Soil	None	180 days
Mercury by 7470A	Water	HNO ₃ to pH < 2	28 days
Mercury by 7471B	Soil	≤ 6 °C	28 days

Acceptance criteria were met.

Blanks

Acceptance criteria were met.

Laboratory Control Sample (LCS)

Acceptance criteria were met.

Laboratory Duplicate Analysis

Laboratory duplicate analysis associated with RPD values outside control limits are presented in the table below. The applied control limit is 35%, in accordance with the National Functional Guidelines.

Sample ID	Analyte	RPD
9210977	Chromium	NC
9210977	Copper	NC
9210977	Manganese	57%
9210977	Nickel	NC

NC Not compliant (this refers to cases in which the sample and/or duplicate concentration is less than 5X the RL and the difference between the two is outside control limits)

As a consequence of these excursions, qualifiers were applied to results for the listed metals in all soil samples in this SDG.

Laboratory duplicate RPD	Sample result	Qualification
RPD > UL	Non-detect	UJ
	Detect	J

Matrix Spike/ Matrix Spike Duplicate (MS/MSD) analysis

Matrix spike analyses associated with recoveries and/or RPD values outside control limits are presented in the table below. The applied control limits are 75-125% for recovery and 35% for RPD, in accordance with the National Functional Guidelines.

Sample ID	Analyte	Recovery		MS/MSD RPD
		MS	MSD	
9210977	Chromium	133%	Acceptable	Acceptable
9210977	Lead	135%	Acceptable	Acceptable
9210977	Manganese	215%	Acceptable	Acceptable
9210977	Zinc	145%	55%	36%

As a consequence of these excursions, qualifiers were applied to results for the listed metals in all soil samples in this SDG.

Spike recovery	Sample result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	UJ if PDS %R \geq 75% R if PDS not performed or PDS %R < 75%
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J
MS/MSD RPD > UL	Non-detect	UJ
	Detect	J

Field Duplicates

NA: No field duplicate samples were submitted in this SDG.

Additional Notes:

NA: No additional notes to report.

Validation performed by: Amy Coats
EHS Support