

Date: July 13, 2016

To: Rob Ede
Hahn and Associates Inc.

From: Jeanne Peterson
Sr. Data Validator, AQA

Subject: Data Validation
Siltronic RI - Doane Creek
ACZ Laboratories, Inc. Project ID L29915 (A6C1076)

SUMMARY

Level III data validation was performed on the data for 11 soil samples prepared and analyzed with approved procedures using method SM 4500-CN M (thiocyanate). The samples were prepared by Apex Laboratories, and the leachates were submitted to ACZ Laboratories, Inc. (ACZ) for analysis. Data were reported for all requested analytes.

The analytical data were evaluated in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October 1999) and the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (February 1994) (NFG).

In general, the data are valid as reported. No sample data were rejected. Other qualifiers were applied to the data as specified in the Data Qualifiers section below.

See attached data validation spreadsheets for supporting documentation on the data review and validation.



SAMPLES

The samples included in this validation are listed below.

Sample ID	ACZ Laboratory ID	APEX Laboratory ID	Matrix
5237-160328-DC-SED063	L29915-01	A6C1076-02	Leachate
5237-160328-DC-SED065	L29915-02	A6C1076-04	Leachate
5237-160328-DC-SED068	L29915-03	A6C1076-06	Leachate
5237-160328-DC-SED070	L29915-04	A6C1076-08	Leachate
5237-160328-DC-SED072	L29915-05	A6C1076-10	Leachate
5237-160328-DC-SED075	L29915-06	A6C1076-12	Leachate
5237-160328-DC-SED077	L29915-07	A6C1076-14	Leachate
5237-160328-DC-SED077D	L29915-08	A6C1076-16	Leachate
5237-160328-DC-SED082	L29915-09	A6C1076-18	Leachate
5237-160328-DC-SED085	L29915-010	A6C1076-20	Leachate
5237-160328-DC-SED087	L29915-011	A6C1076-22	Leachate

DATA QUALIFIERS (see following sections for detailed explanations)

Sample ID	Analyte	Qualifier	Reason for Qualification
5237-160328-DC-SED063	Thiocyanate	UJ	Analyzed beyond holding time
5237-160328-DC-SED065	Thiocyanate	UJ	Analyzed beyond holding time
5237-160328-DC-SED068	Thiocyanate	UJ	Analyzed beyond holding time
5237-160328-DC-SED070	Thiocyanate	UJ	Analyzed beyond holding time
5237-160328-DC-SED072	Thiocyanate	UJ	Analyzed beyond holding time
5237-160328-DC-SED075	Thiocyanate	UJ	Analyzed beyond holding time
5237-160328-DC-SED077	Thiocyanate	UJ	Analyzed beyond holding time
5237-160328-DC-SED077D	Thiocyanate	UJ	Analyzed beyond holding time



Sample ID	Analyte	Qualifier	Reason for Qualification
5237-160328-DC-SED082	Thiocyanate	UJ	Analyzed beyond holding time
5237-160328-DC-SED085	Thiocyanate	UJ	Analyzed beyond holding time
5237-160328-DC-SED087	Thiocyanate	UJ	Analyzed beyond holding time

DISCUSSION

Sample Shipping/Receiving

All COC, analysis request, and sample receipt documentation was complete and correct with the following exception.

Sample 6040281-BLK1 (laboratory ID L29915-12) was analyzed and reported with the samples; however, it was not on the original COC but was added by ACZ after receipt. Sample 6040281-BLK1 was validated as a QC sample.

Holding Times and Preservation

The samples were properly preserved and analyzed within the prescribed holding times with the following exceptions.

The samples were analyzed beyond, but within 2X, the specified holding time. The associated sample results were non-detects and, therefore, were **qualified UJ**.

It should be noted that the leachate preparation information was not included in the data package.

Calibration

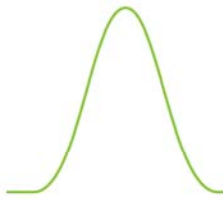
All initial and continuing calibration acceptance criteria were met.

Blanks

The target analyte was not detected in the calibration blanks or in sample 6040281-BLK1.

Laboratory Control Sample (LCS)

The LCS analysis met all laboratory QC acceptance criteria.



Matrix Spike (MS)

The MS analyses met laboratory acceptance criteria.

Laboratory Duplicate

The laboratory duplicate analyses met all laboratory QC acceptance criteria.

Field Duplicate

The field duplicate analysis met all QC acceptance criteria.

Reporting Limits

All reporting limits were properly reported. The samples were not diluted.

Other QC

No other specific issues that affect data quality were identified.

Hahn Data Validation Summary Worksheet

SDG#: L29915_A6C1076	Laboratory: ARI	Validator: Jeanne Peterson	Validation Date: 06/06/2016
Site: Siltronic RI - Doane Creek	COC#: NA		Validation Level: <input type="checkbox"/> II <input checked="" type="checkbox"/> III
Matrix: Leachate	# of Samples: 11	Tracking docs present: See sample receipt and log-in documentation	
COCs present: Yes	COCs signed: Yes	COCs dated: Yes	Sample Container Integrity: OK
Analyses: <input type="checkbox"/> VOCs <input type="checkbox"/> SVOCs <input type="checkbox"/> PAHs <input type="checkbox"/> GRO <input type="checkbox"/> DRO <input type="checkbox"/> Pests <input type="checkbox"/> PCBs <input type="checkbox"/> Metals <input checked="" type="checkbox"/> Gen Chem <input type="checkbox"/> Cyanide <input type="checkbox"/> Other:			

Requested Analyses Not Reported			
Client Sample ID	Lab Sample ID	Analysis	Comments
None			

Hold Time/Preservation Outliers								
Client Sample ID	Lab Sample ID	Analysis	Pres.	Collection Date	Preparation Date	Analysis Date	Analysis <2X HT	Analysis ≥2X HT
All field samples	L22915-1 thru -11	4500-CN M	4°C, acid	3/28/2016	--	4/18/2016	Yes	No

Comments: Samples collected 3/28.
 Cooler temps OK. Samples preserved.
 6040281-BLK1 not on COC; added by lab.

Hahn Level III General Chemistry Worksheet

SDG: L29915	Matrix: Leachate	Lab Sample IDs: L29915-01 thru -12
Method/Batch #s: SM 4500-CN M (thiocyanate)/WG401560 & WG401561		

(80-120%) (80-120%) ≤20%

Analyte (outliers)	(90-110%) Calibration						Method Blank	5X MB	LCS %R	MS %R	Lab Dup RPD							
	r ≥0.995	ICV	CCV	ICB	CCB	5X CB												
None	✓	✓	✓	✓	✓	NA	NA	NA	✓	NA	✓							

Comments: Outside of HT. Analyzed 4/18.

WG401560: MB, LCS, -10MS & dup and L29960-08 MS & Dup

WG401561: MB, LCS, L29959 -10MS & dup