



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 L29959 (A6C1134)

SUMMARY

Level III data validation was performed on the data for 10 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 |
|------------------------|------------------------------|-------------------------------|---------------|
| 5237-160330-DC-EMB033 | L29959-01 | A6C1134-02 | Leachate |
| 5237-160330-DC-EMB032 | L29959-02 | A6C1134-04 | Leachate |
| 5237-160330-DC-EMB029 | L29959-03 | A6C1134-06 | Leachate |
| 5237-160330-DC-EMB028 | L29959-04 | A6C1134-08 | Leachate |
| 5237-160330-DC-EMB056 | L29959-05 | A6C1134-10 | Leachate |
| 5237-160330-DC-EMB055 | L29959-06 | A6C1134-12 | Leachate |
| 5237-160330-DC-EMB051 | L29959-07 | A6C1134-14 | Leachate |
| 5237-160330-DC-EMB050 | L29959-08 | A6C1134-16 | Leachate |
| 5237-160330-DC-EMB035 | L29959-09 | A6C1134-18 | Leachate |
| 5237-160330-DC-EMB035D | L29959-10 | A6C1134-20 | Leachate |

DATA QUALIFIERS (see following sections for detailed explanations)

| Sample ID | Analyte | Qualifier | Reason for Qualification |
|-----------------------|----------------|------------------|---------------------------------|
| 5237-160330-DC-EMB033 | Thiocyanate | UJ | Analyzed beyond holding time |
| 5237-160330-DC-EMB032 | Thiocyanate | UJ | Analyzed beyond holding time |
| 5237-160330-DC-EMB029 | Thiocyanate | UJ | Analyzed beyond holding time |
| 5237-160330-DC-EMB028 | Thiocyanate | UJ | Analyzed beyond holding time |
| 5237-160330-DC-EMB056 | Thiocyanate | UJ | Analyzed beyond holding time |
| 5237-160330-DC-EMB055 | Thiocyanate | UJ | Analyzed beyond holding time |
| 5237-160330-DC-EMB051 | Thiocyanate | J | Analyzed beyond holding time |
| 5237-160330-DC-EMB050 | Thiocyanate | UJ | Analyzed beyond holding time |



| Sample ID | Analyte | Qualifier | Reason for Qualification |
|------------------------|-------------|-----------|------------------------------|
| 5237-160330-DC-EMB035 | Thiocyanate | UJ | Analyzed beyond holding time |
| 5237-160330-DC-EMB035D | 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 6040318-BLK1 (laboratory ID L29959-11) was analyzed and reported with the samples; however, it was not on the original COC but was added by ACZ after receipt. Sample 6040318-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 that were detects were **qualified J**, and the associated sample results that were non-detects 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 6040318-BLK1.

Laboratory Control Sample (LCS)

The LCS analyses met all laboratory QC acceptance criteria.



Matrix Spike (MS)

The MS analyses met laboratory QC 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#: L29959_A6C1134 | 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: 10 | 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 | | | |
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| 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 | L29959-1 thru -10 | 4500-CN M | 4°C, acid | 3/30/2016 | -- | 4/18/2016 | Yes | No |
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Comments: Samples collected 3/30.
 Cooler temps OK. Samples preserved.
 6040318-BLK1 not on COC; added by lab.

