



UTAH STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORY SERVICES  
Environmental Chemistry Analysis Report

UDEQ - DSHW  
ATTN:  
PO BOX 144880  
SALT LAKE CITY

UT 84114-4880

801-536-0200

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Lab Number: 201301621      Sample Type: 50      Cost Code: 365  
Description: SG-002  
Collector: PAT SHEEHAN  
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Site ID: UDSHW      Source No: 00      |      Organic Review:  
Sample Date: 04/17/2013      Time: 12:33      |      Inorganic Review: 04/25/2013  
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|      Radiochemistry Review:  
|      Microbiology Review:  
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TEST RESULTS:

Arsenic HW	<0.04 mg/l	Barium HW	11.9 mg/l
Cadmium HW	<0.005 mg/l	ChromiumHW	0.005 mg/l
Lead HW	444 mg/l	Mercury HW	<0.0002 mg/l
SeleniumHW	<0.04 mg/l	Silver HW	<0.01 mg/l

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QUALIFYING COMMENTS (\*) on test results: NO COMMENTS

Trace levels up to 0.2 ppb metals may be present in bottles

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END OF REPORT

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Lab Number: 201301622      Sample Type: 50      Cost Code: 365  
Description: SG-003  
Collector: PAT SHEEHAN

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Site ID: UDSHW	Source No: 00	Organic Review:	
Sample Date: 04/17/2013	Time: 12:33	Inorganic Review:	04/25/2013
		Radiochemistry Review:	
		Microbiology Review:	

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TEST RESULTS:

Arsenic HW	<0.04 mg/l	Barium HW	7.01 mg/l
Cadmium HW	<0.005 mg/l	ChromiumHW	<0.005 mg/l
Lead HW	259 mg/l	Mercury HW	<0.0002 mg/l
SeleniumHW	<0.04 mg/l	Silver HW	<0.01 mg/l

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QUALIFYING COMMENTS (\*) on test results: NO COMMENTS

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Trace levels up to 0.2 ppb metals may be present in bottles

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END OF REPORT

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Lab Number: 201301623      Sample Type: 50      Cost Code: 365  
Description: SG-004  
Collector: PAT SHEEHAN

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Site ID: UDSHW	Source No: 00	Organic Review:	
Sample Date: 04/17/2013	Time: 12:33	Inorganic Review:	04/25/2013
		Radiochemistry Review:	
		Microbiology Review:	

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TEST RESULTS:

Arsenic HW	<0.04 mg/l	Barium HW	3.89 mg/l
Cadmium HW	<0.005 mg/l	ChromiumHW	<0.005 mg/l
Lead HW	95 mg/l	Mercury HW	<0.0002 mg/l
SeleniumHW	<0.04 mg/l	Silver HW	<0.01 mg/l

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QUALIFYING COMMENTS (\*) on test results: NO COMMENTS

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Trace levels up to 0.2 ppb metals may be present in bottles

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END OF REPORT

## Case Narrative

**Instrument Analysis Method:** EPA 6010  
**Sample Extraction Method:** EPA 1311 (TCLP)  
**Sample Digestion Method:** EPA 3010

**Client:** DSHW  
**Matrix:** GLASS SOLID

**Sample #:** 201301620-1623  
**Analysis Date:** 04/19/2013  
**Digestion and Analysis performed by:** David S. and Robert L.

**Analysis/Method:** EPA method 6010 was used for the analysis of these samples for metals Analysis using Inductive Coupling Plasma with optical emission spectrometry (ICP-OES).

**General Set Information:** Utah Public Health Laboratory received these samples for metals analysis. The samples were analyzed within holding times.

**Sample Extraction:** Sample was extracted following SOP Method 1311.

**Sample Digestion:** 50 ml of sample extract was digested with acids for a final volume of 50 ml, following SOP Method 3010.

**Initial Calibration and Calibration Verification:** The ICP was calibrated using six to eight calibration points with lowest standard at or below the Method Reporting level (MRL). The calibration curve was verified using a second source reference material (SRM). The SRM result was within +/- 10% of the SRM target value. The calibration correlation coefficient was >0.995. The Method reporting level was verified by analyzing a check standard at the MRL concentration of respective metals.

**Method Blank Analysis:** An instrument blank sample was prepared by using DI water. The blank result was below the method-reporting limit (MRL). A Reagent blank (LRB) was prepared with DI water and digested with samples. LRB (Blank) results were below MRL.

**LFM/LFMD Analysis:** Matrix spike and matrix spike duplicate samples were performed for sample 201301623.

Confirmation for lead (Pb) was performed by spiking the digestion liquid with Pb std. solution (see Table 3)

**Laboratory Fortified Blank Analysis:** A Laboratory Fortified Blank (LFB) sample was analyzed with these samples.

**Instrument Analysis Method: EPA 6010**  
**Sample Extraction Method: EPA 1311 (TCLP)**  
**Sample Digestion Method: EPA 3010**

**Client: DSHW**  
**Matrix: GLASS SOLID**

**Sample #: 201301620-1623**

**Analysis Date: 04/19/2013**

**Digestion and Analysis performed by: David S. and Robert L.**

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Table 1. Sample Results

Sample #	Ag ppm	As ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Se ppm
201301620	<0.01	<0.04	1.65	<0.005	<0.005	27	<0.04
201301621	<0.01	<0.04	11.9	<0.005	<0.005	444	<0.04
201301622	<0.01	<0.04	7.01	<0.005	<0.005	259	<0.04
201301623	<0.01	<0.04	3.89	<0.005	<0.005	95	<0.04

Table 2. Quality Control Summary (Spiked value: 1 ppm)

QC- Type	Ag % R	As % R	Ba % R	Cd % R	Cr % R	Pb % R	Se % R	% Ranges Accepted
Blank (LRB)	<MRL	<MRL	<MRL	<MRL	<MRL	<MRL	<MRL	
SRM	108.2	100.6	108.6	102.9	101.8	104.1	102.3	90-110
LFB	107.3	99.9	103.7	101.1	103.3	101.6	97.8	80-120
LFB-Dup	106.6	100.3	103.2	100.1	102.3	101.2	100.1	80-120
LFM	101.4	110.1	111.4	101.6	101.4	See Table3	117.4	75-125
LFM-Dup	101.1	112.0	116.6	102.3	101.7	See Table3	118.8	75-125

Table 3. Lead (Pb) confirmation by Post Digestion matrix spike summary (Spiked value: 1 ppm)

QC- Type	Pb % R	% Ranges Accepted
201301620 spike	106.0	80-120
201301620 spike dup	107.0	80-120
201301621 spike	91.0	80-120
201301621 spike dup	103.0	80-120
201301622 spike	94.0	80-120
201301622 spike dup	103.0	80-120
201301623 spike	112.0	80-120
201301623 spike dup	112.0	80-120