

January 17, 2012

Utah Department of Environmental Protection  
ATTN: Jodi Gardberg  
195 North 1950 West, Third Floor  
Salt Lake City, UT 84116  
jgardberg@utah.gov

RE: Project UDE-SL1101

Client Project: Great Salt Lake Sampling

Dear Ms. Gardberg,

On October 7, 2011, Brooks Rand Labs (BRL) received one (1) water sample and one (1) field blank sample. The samples were logged-in for the contracted analyses of arsenic (As), copper (Cu), cadmium (Cd), lead (Pb), selenium (Se), and thallium (Tl). Additionally the field sample, *Bear River Bay 11*, was logged-in for total mercury (Hg) and monomethyl mercury (MeHg) analyses. The samples were received, prepared, analyzed, and stored according to BRL SOPs and EPA methodology.

The results were blank-corrected as described in the calculations section of the relevant SOP(s) and may have been evaluated using reporting limits that have been adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Not all certified reference materials (CRM) provided certified or informational values for all elements; therefore, not all elements were reported. All blank spikes (BS) that were less than the MRL were not reported unless otherwise noted.

**Batch B111623 (Reductive Precipitation – ICP-MS metals)**

Most batch quality control spike samples (fresh water blank spike, seawater blank spikes, matrix spikes) were spiked at concentrations much greater than the native sample concentrations. This can cause lower than expected spike recoveries as all of the sodium borohydride (NaBH<sub>4</sub>), which is used to precipitate the metals, is consumed and the metals present in the spikes are no longer able to precipitate. Certain metals have a lower affinity to be reduced by the NaBH<sub>4</sub> and will be out competed by other metals. Most impacted is As but other metals will also be affected to a lesser extent. The repercussions of such over-spiking will only be observed on spiked samples and will not affect the native samples or DUPs (unless samples already contain high levels of the analyte of interest). Both CRMs for As analysis produced excellent recoveries and no sample results were qualified.

The Tl analysis of the seawater blank spike B111623-MS6 recovered at 65%, below the lower limit of the acceptance criteria range. All other quality control samples recovered well and on this basis sample results were not qualified.

The Pb analysis of *Field Blank* (1141051-04) was reported from this batch while the field sample *Bear River Bay 11* was reported from batch B111946. All matrix spike/matrix spike duplicate

samples were performed on seawater samples and did not reflect the *Field Blank* matrix type. Therefore, no Pb recoveries were reported. Both laboratory fortified blanks were reported and generated excellent recoveries.

**Batch B111639 (Hg)**

The analysis of the second method blank produced an abnormal peak shape. On this basis, the sample was omitted from the batch and the sample results were method blank-corrected by the average of the three remaining method blank results.

**Batch B112027 (Column Chelation - ICP-MS Metals)**

The initial analysis of CRM CASS-5 recovered at 43%. The CRM was analyzed for three metals (only Cu is reported) and all recoveries were consistent. The CRM was re-analyzed, recovered at 94%, and reported as B112027-SRM3. The cause of the initial low recovery was not determined though an incomplete sample injection was suspected. All sample results were reported without qualification.

**Batch B111946 (Column Chelation - ICP-MS Metals)**

The Pb analysis of the method blank samples did not meet the precision acceptance criteria, as the standard deviation was 0.0013 µg/L. Consequently the batch MDL/MRL were raised by multiplying the standard deviation by a factor of three (estimated MDL of 0.0038 µg/L) and then multiplying the estimated MDL by a factor of three to determine the estimated MRL at 0.0115 µg/L.

**Batch B112172 (Column Chelation – ICP-MS Metals)**

The method duplicate and the associated native sample results met the secondary criteria for duplicate precision as the results were less than 5x the MRL value and within 1x the MRL of each other.

The analysis of the first method blank was elevated at 0.0070 µg/L but was not a Grubb's outlier. The standard deviation of the method blanks was consequently elevated and the batch MDL and MRL were raised to 0.009 µg/L (MDL) and 0.026 µg/L (MRL). The client sample was a field blank and was **B** qualified at a concentration of 0.0101 µg/L; however the associated field sample result was more than 10x this concentration and contamination was considered insignificant.

BRL, an accredited laboratory, certifies that the reported results of all analyses for which BRL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,



Tiffany Stilwater  
Project Manager  
tiffany@brooksrnd.com



Jen Hartmann  
Project Manager  
jen@brooksrnd.com

## Report Information

### Laboratory Accreditation

BRL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BRL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksrand.com/default.asp?contentID=586>. Results reported relate only to the samples listed in the report.

### Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

### Common Abbreviations

<b>BLK</b>	method blank	<b>MS</b>	matrix spike
<b>BRL</b>	Brooks Rand Labs	<b>MSD</b>	matrix spike duplicate
<b>BS</b>	laboratory fortified blank	<b>ND</b>	non-detect
<b>CAL</b>	calibration standard	<b>NR</b>	non-reportable
<b>CCV</b>	continuing calibration verification	<b>PS</b>	post preparation spike
<b>COC</b>	chain of custody record	<b>REC</b>	percent recovery
<b>CRM</b>	certified reference material	<b>RPD</b>	relative percent difference
<b>D</b>	dissolved fraction	<b>RSD</b>	relative standard deviation
<b>DUP</b>	duplicate	<b>SCV</b>	secondary calibration verification
<b>ICV</b>	initial calibration verification	<b>SOP</b>	standard operating procedure
<b>MDL</b>	method detection limit	<b>SRM</b>	standard reference material
<b>MRL</b>	method reporting limit	<b>T</b>	total recoverable fraction

### Definition of Data Qualifiers

(Effective 9/23/09)

<b>B</b>	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
<b>E</b>	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
<b>H</b>	Holding time and/or preservation requirements not met. Result is estimated.
<b>J</b>	Estimated value. A full explanation is presented in the narrative.
<b>J-M</b>	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
<b>J-N</b>	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
<b>M</b>	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
<b>N</b>	Spike recovery was not within acceptance criteria. Result is estimated.
<b>R</b>	Rejected, unusable value. A full explanation is presented in the narrative.
<b>U</b>	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
<b>X</b>	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Rand, Ltd., those found in the EPA SOW\_ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses; USEPA; July 2002. These supersede all previous qualifiers ever employed by BRL.



## Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
<i>Bear River Bay 11</i>	1141051-01	Great Salt Lake Water	Sample	10/06/2011	10/07/2011
<i>Bear River Bay 11</i>	1141051-02	Great Salt Lake Water	Sample	10/06/2011	10/07/2011
<i>Bear River Bay 11</i>	1141051-03	Great Salt Lake Water	Sample	10/06/2011	10/07/2011
<i>Field Blank</i>	1141051-04	DIW	Equip. Blank	10/06/2011	10/07/2011

## Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
As	Water	EPA 1640 RP	10/29/2011	11/01/2011	B111623	1100768
Cd	Water	EPA 1640 Column	10/27/2011	11/22/2011	B111946	1100818
Cu	Water	EPA 1640 Column	10/27/2011	12/11/2011	B112027	1100871
Cu	Water	EPA 1640 Column	10/27/2011	12/29/2011	B112172	1100925
Hg	Water	EPA 1631	10/30/2011	11/01/2011	B111639	1100765
MeHg	Water	EPA 1630	10/25/2011	10/26/2011	B111729	1100746
Pb	Water	EPA 1640 RP	10/29/2011	11/01/2011	B111623	1100768
Pb	Water	EPA 1640 Column	10/27/2011	11/22/2011	B111946	1100818
Se	Water	EPA 1640 RP	10/29/2011	11/01/2011	B111623	1100768
Tl	Water	EPA 1640 RP	10/29/2011	11/01/2011	B111623	1100768



## Sample Results

Sample	Analyte	Report Matrix	Fraction	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>Bear River Bay 11</b>										
1141051-02	As	Great Salt Lake Water	T	13.1		0.06	0.20	µg/L	B111623	1100768
1141051-03	Cd	Great Salt Lake Water	T	0.0505	U	0.0505	0.505	µg/L	B111946	1100818
1141051-03	Cu	Great Salt Lake Water	T	0.279		0.0202	0.202	µg/L	B112027	1100871
1141051-01	Hg	Great Salt Lake Water	T	1.93		0.30	0.81	ng/L	B111639	1100765
1141051-01	MeHg	Great Salt Lake Water	T	0.499		0.020	0.051	ng/L	B111729	1100746
1141051-03	Pb	Great Salt Lake Water	T	0.192	U	0.192	0.576	µg/L	B111946	1100818
1141051-02	Se	Great Salt Lake Water	T	0.192	B	0.140	0.400	µg/L	B111623	1100768
1141051-02	Tl	Great Salt Lake Water	T	0.013	B	0.004	0.020	µg/L	B111623	1100768
<b>Field Blank</b>										
1141051-04	As	DIW	T	0.06	U	0.06	0.20	µg/L	B111623	1100768
1141051-04	Cd	DIW	T	0.0010	U	0.0010	0.0101	µg/L	B111946	1100818
1141051-04	Cu	DIW	T	0.0101	B	0.0091	0.0263	µg/L	B112172	1100925
1141051-04	Pb	DIW	T	0.004	U	0.004	0.026	µg/L	B111623	1100768
1141051-04	Se	DIW	T	0.140	U	0.140	0.400	µg/L	B111623	1100768
1141051-04	Tl	DIW	T	0.004	U	0.004	0.020	µg/L	B111623	1100768

## Accuracy & Precision Summary

**Batch:** B111623  
**Lab Matrix:** Water  
**Method:** EPA 1640 RP

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
<b>B111623-BS1</b>	<b>Laboratory Fortified Blank (1144092)</b>						
	As		65.00	43.56	µg/L	67% 70-130	
	Pb		0.2600	0.277	µg/L	106% 70-130	
	Se		7.600	6.224	µg/L	82% 70-130	
	Tl		0.2500	0.205	µg/L	82% 70-130	
<b>B111623-SRM1</b>	<b>Certified Reference Material (1136009, CASS-5)</b>						
	As		1.240	1.11	µg/L	90% 75-125	
<b>B111623-SRM2</b>	<b>Certified Reference Material (1136010, SLEW-3)</b>						
	As		1.360	1.28	µg/L	94% 75-125	
<b>B111623-MS6</b>	<b>Matrix Spike (0944029-56)</b>						
	As	1.20	65.00	46.24	µg/L	69% 70-130	
	Pb	0.039	0.2600	0.271	µg/L	90% 70-130	
	Se	0.305	7.600	6.668	µg/L	84% 70-130	
	Tl	0.096	0.2500	0.258	µg/L	65% 70-130	
<b>B111623-DUP4</b>	<b>Duplicate (1142040-01)</b>						
	As	1.55		1.56	µg/L		0.4% 30
	Se	0.219		0.275	µg/L		23% 30
	Tl	0.016		0.020	µg/L		22% 30
<b>B111623-MS4</b>	<b>Matrix Spike (1142040-01)</b>						
	As	1.55	65.00	15.35	µg/L	21% 70-130	
	Se	0.219	7.600	7.319	µg/L	93% 70-130	
	Tl	0.016	0.2500	0.239	µg/L	89% 70-130	
<b>B111623-MSD4</b>	<b>Matrix Spike Duplicate (1142040-01)</b>						
	As	1.55	65.00	19.70	µg/L	28% 70-130	25% 30
	Se	0.219	7.600	6.833	µg/L	87% 70-130	7% 30
	Tl	0.016	0.2500	0.234	µg/L	87% 70-130	2% 30



## Accuracy & Precision Summary

Batch: B111639  
Lab Matrix: Water  
Method: EPA 1631

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
<b>B111639-SRM1</b>	<b>Certified Reference Material (1145032, NIST 1641d 1000x dilution)</b> Hg		15.68	16.06	ng/L	102% 85-115	
<b>B111639-MS3</b>	<b>Matrix Spike (1141051-01)</b> Hg	1.93	10.03	12.59	ng/L	106% 71-125	
<b>B111639-MSD3</b>	<b>Matrix Spike Duplicate (1141051-01)</b> Hg	1.93	10.17	13.10	ng/L	110% 71-125	4% 24



## Accuracy & Precision Summary

Batch: B111729  
Lab Matrix: Water  
Method: EPA 1630

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B111729-BS1	Laboratory Fortified Blank (1142030) MeHg		1.002	1.010	ng/L	101% 67-133	
B111729-BS2	Laboratory Fortified Blank (1142030) MeHg		0.9960	1.053	ng/L	106% 67-133	
B111729-MS1	Matrix Spike (1141051-01) MeHg	0.499	1.006	1.657	ng/L	115% 65-135	
B111729-MSD1	Matrix Spike Duplicate (1141051-01) MeHg	0.499	1.006	1.707	ng/L	120% 65-135	3% 35



## Accuracy & Precision Summary

**Batch:** B111946  
**Lab Matrix:** Water  
**Method:** EPA 1640 Column

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
<b>B111946-BS1</b>	<b>Laboratory Fortified Blank (1143006)</b>						
	Cd		0.2020	0.2106	µg/L	104% 75-125	
	Pb		0.5051	0.5417	µg/L	107% 75-125	
<b>B111946-SRM1</b>	<b>Certified Reference Material (1132017, CASS-5)</b>						
	Cd		0.02150	0.0184	µg/L	85% 75-125	
	Pb		0.01100	0.0087	µg/L	79% 75-125	
<b>B111946-SRM2</b>	<b>Certified Reference Material (1132018, SLEW-3)</b>						
	Cd		0.04800	0.0480	µg/L	100% 75-125	
<b>B111946-DUP3</b>	<b>Duplicate (1142051-01)</b>						
	Cd	0.2288		0.2128	µg/L		7% 20
	Pb	5.550		5.505	µg/L		0.8% 20
<b>B111946-MS3</b>	<b>Matrix Spike (1142051-01)</b>						
	Cd	0.2288	151.5	158.0	µg/L	104% 75-125	
	Pb	5.550	151.5	156.1	µg/L	99% 75-125	
<b>B111946-MSD3</b>	<b>Matrix Spike Duplicate (1142051-01)</b>						
	Cd	0.2288	151.5	158.7	µg/L	105% 75-125	0.5% 20
	Pb	5.550	151.5	156.6	µg/L	100% 75-125	0.3% 20



## Accuracy & Precision Summary

Batch: B112027  
 Lab Matrix: Water  
 Method: EPA 1640 Column

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B112027-SRM1	Certified Reference Material (1132017, CASS-5) Cu		0.3800	0.1633	µg/L	43% 75-125	
B112027-SRM2	Certified Reference Material (1132018, SLEW-3) Cu		1.550	1.523	µg/L	98% 75-125	
B112027-SRM3	Certified Reference Material (1132017, CASS-5) Cu		0.3800	0.3563	µg/L	94% 75-125	
B112027-SRM4	Certified Reference Material (1132018, SLEW-3) Cu		1.550	1.456	µg/L	94% 75-125	
B112027-DUP3	Duplicate (1141016-83) Cu	2.401		2.397	µg/L		0.2% 20
B112027-MS3	Matrix Spike (1141016-83) Cu	2.401	30.30	37.93	µg/L	117% 75-125	
B112027-MSD3	Matrix Spike Duplicate (1141016-83) Cu	2.401	30.30	37.74	µg/L	117% 75-125	0.5% 20



## Accuracy & Precision Summary

**Batch:** B112172  
**Lab Matrix:** Water  
**Method:** EPA 1640 Column

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
<b>B112172-BS1</b>	<b>Laboratory Fortified Blank (1143006)</b> Cu		2.020	1.778	µg/L	88% 75-125	
<b>B112172-SRM1</b>	<b>Certified Reference Material (1132017, CASS-5)</b> Cu		0.3800	0.3627	µg/L	95% 75-125	
<b>B112172-SRM2</b>	<b>Certified Reference Material (1132018, SLEW-3)</b> Cu		1.550	1.614	µg/L	104% 75-125	
<b>B112172-DUP1</b>	<b>Duplicate (1141051-04)</b> Cu	0.0101		ND	µg/L		N/C 20
<b>B112172-MS1</b>	<b>Matrix Spike (1141051-04)</b> Cu	0.0101	3.030	2.402	µg/L	79% 75-125	
<b>B112172-MSD1</b>	<b>Matrix Spike Duplicate (1141051-04)</b> Cu	0.0101	3.030	2.477	µg/L	81% 75-125	3% 20



## Method Blanks & Reporting Limits

**Batch:** B111623  
**Matrix:** Water  
**Method:** EPA 1640 RP  
**Analyte:** As 75

Sample	Result	Units			
B111623-BLK1	0.007	µg/L			
B111623-BLK2	0.009	µg/L			
B111623-BLK3	0.01	µg/L			
B111623-BLK4	0.008	µg/L			
	<b>Average:</b> 0.01		<b>Standard Deviation:</b> 0.00	<b>MDL:</b> 0.03	
	<b>Limit:</b> 0.10		<b>Limit:</b> 0.03	<b>MRL:</b> 0.10	

**Analyte:** Pb

Sample	Result	Units			
B111623-BLK1	0.005	µg/L			
B111623-BLK2	0.002	µg/L			
B111623-BLK3	0.006	µg/L			
B111623-BLK4	0.002	µg/L			
	<b>Average:</b> 0.004		<b>Standard Deviation:</b> 0.002	<b>MDL:</b> 0.002	
	<b>Limit:</b> 0.013		<b>Limit:</b> 0.002	<b>MRL:</b> 0.013	

**Analyte:** Se 82

Sample	Result	Units			
B111623-BLK1	-0.008	µg/L			
B111623-BLK2	-0.014	µg/L			
B111623-BLK3	0.017	µg/L			
B111623-BLK4	-0.007	µg/L			
	<b>Average:</b> -0.003		<b>Standard Deviation:</b> 0.014	<b>MDL:</b> 0.070	
	<b>Limit:</b> 0.200		<b>Limit:</b> 0.070	<b>MRL:</b> 0.200	



## Method Blanks & Reporting Limits

**Analyte:** Tl

Sample	Result	Units			
B111623-BLK1	0.00003	µg/L			
B111623-BLK2	-0.00006	µg/L			
B111623-BLK3	-0.00003	µg/L			
B111623-BLK4	-0.0001	µg/L			
	<b>Average: 0.000</b>		<b>Standard Deviation: 0.000</b>	<b>MDL: 0.002</b>	
	<b>Limit: 0.010</b>		<b>Limit: 0.002</b>	<b>MRL: 0.010</b>	



## Method Blanks & Reporting Limits

**Batch:** B111639  
**Matrix:** Water  
**Method:** EPA 1631  
**Analyte:** Hg

Sample	Result	Units
B111639-BLK1	0.05	ng/L
B111639-BLK3	0.08	ng/L
B111639-BLK4	0.06	ng/L

<b>Average:</b> 0.06	<b>Standard Deviation:</b> 0.02	<b>MDL:</b> 0.15
<b>Limit:</b> 0.50	<b>Limit:</b> 0.10	<b>MRL:</b> 0.41



## Method Blanks & Reporting Limits

**Batch:** B111729  
**Matrix:** Water  
**Method:** EPA 1630  
**Analyte:** MeHg

Sample	Result	Units			
B111729-BLK1	0.015	ng/L			
B111729-BLK2	0.011	ng/L			
B111729-BLK3	0.010	ng/L			
B111729-BLK4	0.013	ng/L			
	<b>Average:</b> 0.012		<b>Standard Deviation:</b> 0.002	<b>MDL:</b> 0.020	
	<b>Limit:</b> 0.045		<b>Limit:</b> 0.015	<b>MRL:</b> 0.049	



## Method Blanks & Reporting Limits

**Batch:** B111946  
**Matrix:** Water  
**Method:** EPA 1640 Column  
**Analyte:** Cd 111

Sample	Result	Units			
B111946-BLK1	0.0002	µg/L			
B111946-BLK2	0.0003	µg/L			
B111946-BLK3	0.0003	µg/L			
B111946-BLK4	0.00009	µg/L			
<b>Average:</b>	<b>0.0002</b>		<b>Standard Deviation:</b>	<b>0.0001</b>	<b>MDL:</b> 0.0010
<b>Limit:</b>	<b>0.0101</b>		<b>Limit:</b>	<b>0.0010</b>	<b>MRL:</b> 0.0101

**Analyte:** Pb

Sample	Result	Units			
B111946-BLK1	-0.00003	µg/L			
B111946-BLK2	0.0026	µg/L			
B111946-BLK3	0.0011	µg/L			
B111946-BLK4	-0.0001	µg/L			
<b>Average:</b>	<b>0.0009</b>		<b>Standard Deviation:</b>	<b>0.0013</b>	<b>MDL:</b> 0.0038
<b>Limit:</b>	<b>0.0115</b>		<b>Limit:</b>	<b>0.0038</b>	<b>MRL:</b> 0.0115



## Method Blanks & Reporting Limits

**Batch:** B112027  
**Matrix:** Water  
**Method:** EPA 1640 Column  
**Analyte:** Cu 63

Sample	Result	Units			
B112027-BLK1	0.0028	µg/L			
B112027-BLK2	0.0070	µg/L			
B112027-BLK3	0.0033	µg/L			
B112027-BLK4	0.0034	µg/L			
<b>Average:</b>	0.0041		<b>Standard Deviation:</b>	0.0019	<b>MDL:</b> 0.0020
<b>Limit:</b>	0.0202		<b>Limit:</b>	0.0020	<b>MRL:</b> 0.0202



## Method Blanks & Reporting Limits

**Batch:** B112172  
**Matrix:** Water  
**Method:** EPA 1640 Column  
**Analyte:** Cu 63

Sample	Result	Units		
B112172-BLK1	0.0070	µg/L		
B112172-BLK2	0.0062	µg/L		
B112172-BLK3	0.0029	µg/L		
B112172-BLK4	0.0009	µg/L		
<b>Average:</b>	<b>0.0043</b>		<b>Standard Deviation:</b>	<b>0.0029</b>
<b>Limit:</b>	<b>0.0263</b>		<b>Limit:</b>	<b>0.0091</b>
			<b>MDL:</b>	<b>0.0091</b>
			<b>MRL:</b>	<b>0.0263</b>



## Sample Containers

<b>Lab ID:</b> 1141051-01		<b>Report Matrix:</b> Great Salt Lake Water			<b>Collected:</b> 10/06/2011	
<b>Sample:</b> Bear River Bay 11		<b>Sample Type:</b> Sample			<b>Received:</b> 10/07/2011	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Bottle FLPE Hg-T	250 mL	71313080 60	none	n/a	Cooler
B	Bottle FLPE Hg-SP	250 mL	71313080 60	0.5mL 18M H2SO4 (PP)	1132024	<2   Cooler

<b>Lab ID:</b> 1141051-02		<b>Report Matrix:</b> Great Salt Lake Water			<b>Collected:</b> 10/06/2011	
<b>Sample:</b> Bear River Bay 11		<b>Sample Type:</b> Sample			<b>Received:</b> 10/07/2011	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Bottle HDPE ICP-W	250 mL	Client Provided	HNO3 (Client)	Client Preserved	<2   Cooler

<b>Lab ID:</b> 1141051-03		<b>Report Matrix:</b> Great Salt Lake Water			<b>Collected:</b> 10/06/2011	
<b>Sample:</b> Bear River Bay 11		<b>Sample Type:</b> Sample			<b>Received:</b> 10/07/2011	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Bottle HDPE ICP-W	250 mL	Client Provided	HNO3 (Client)	Client Preserved	<2   Cooler

<b>Lab ID:</b> 1141051-04		<b>Report Matrix:</b> DIW			<b>Collected:</b> 10/06/2011	
<b>Sample:</b> Field Blank		<b>Sample Type:</b> Equip. Blank			<b>Received:</b> 10/07/2011	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Bottle HDPE ICP-W	250 mL	Client Provided	HNO3 (Client)	Client Preserved	<2   Cooler

## Shipping Containers

### Cooler

**Received:** October 7, 2011 9:00  
**Tracking No:** 8758 4329 4574 via FedEx  
**Coolant Type:** Ice  
**Temperature:** 2.6 °C

**Description:** Cooler  
**Damaged in transit?** No  
**Returned to client?** No

**Custody seals present?** No  
**Custody seals intact?** No  
**COC present?** No

Chain of Custody Record

Brook Rand Laboratory

Client: Utah Division of Water Quality

Contact: Jodi Gardberg

Client Project ID WSU-061101

Sample Id:

Bear River Bay 11 (said 8 but should be 11)

Date: 10/06/2011

Time: 3:55 PM

Sampler: JG

Matrix Type: H2O

# of containers: 3

Field filtered: No

Unpreserved: THg

HNO3: 1

Total Hg: 1

Methyl Hg: 1

ICP-MS Metals: 1

As/Se species: 1

The site has a total of 4 bottles, one unpreserved THg bottle, one preserved MeHg bottle, one bottle preserved with HNO3 for Se, Cu, As, Cd, Pb and Ti and 1 bottle preserved with HNO3 to test for bottle cleanliness.

Relinquished by: Jodi Gardberg

Date: 10/06/2011

Time: 7:30 PM