



February 15, 2011

AXYS Analytical Services  
ATTN: Cynthia Tomey  
2045 Mills Road West  
Sidney BC V8L 5X2  
awhetung@axys.com

RE: BRL Project: AXS018

Client Contract No: 4574 WG35243 (REQ5505)  
Purchase Order: 15097

Dear Ms. Tomey,

On January 18, 2011, Brooks Rand Labs (BRL) received four (4) homogenized fish tissue samples. Samples were logged-in for the contracted analyses of mercury (Hg), silver (Ag), aluminum (Al), cadmium (Cd), chromium (Cr), copper (Cu), iron (Fe), nickel (Ni), lead (Pb), selenium (Se), zinc (Zn), and total solids determination. All samples were received, prepared, analyzed, and stored according to BRL SOPs and EPA methodology.

The sample collection dates were provided by the client after samples were received at BRL. The month of collection was known, but not the date of the collection. All samples were logged-in for the first day of the known collection month. Please note EPA Method 1631 (Hg) cites samples have a one year holding time from the date of collection until analysis. EPA Method 1638 (ICP-MS metals) was written for the analysis of water samples; BRL performs a modification of this method for solid matrices and stipulates a one year holding time as well. BRL did not qualify sample results based on the collection month/year provided.

The recovery criteria limits did not apply to specific elements when the certified reference materials (CRMs) only listed information values. The recovery limits were not applicable (**N/A**). Not all CRMs provided certified or information values for all elements; therefore, not all elements were reported.

In instances where the native sample result and/or the associated method duplicate result were below the MDL the relative percent difference was not calculated (**N/C**).

The Ni analysis of DOLT-4 (B110198-SRM1) produced a recovery below the accepted limit (60%). The result and the certified value were less than 5x the MRL and the difference between the two was less than 2x the MRL. This satisfied the secondary acceptance criteria and no results were qualified.

The results were method blank corrected as described in the calculations section of the relevant BRL SOP(s) and may be evaluated using adjusted reporting limits to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details. Aside from concentration qualifiers, all data was reported without qualification and all associated quality control sample results meet the acceptance criteria. Sample results have

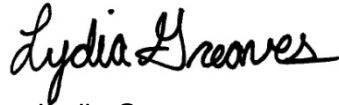
been reported on a wet and dry-weight basis in both the hard copy report and electronic data deliverables.

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,

Handwritten signature of Tiffany Stilwater in black ink.

Tiffany Stilwater  
Project Manager  
tiffany@brooksrand.com

Handwritten signature of Lydia Greaves in black ink.

Lydia Greaves  
Project Coordinator  
lydia@brooksrand.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
L15870-1 / Schoppee-10M	1104013-01	Biota	Sample	05/01/2010	01/18/2011
L15870-2 / Schoppee-10F	1104013-02	Biota	Sample	05/01/2010	01/18/2011
L15870-3 / Pleasant-10M	1104013-03	Biota	Sample	02/01/2010	01/18/2011
L15870-4 / Pleasant-10F	1104013-04	Biota	Sample	02/01/2010	01/18/2011

## Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Biota	SM 2540G	01/24/2011	01/26/2011	B110075	N/A
Ag	Biota	EPA Method 1638 mod	02/02/2011	02/08/2011	B110198	1100082
Al	Biota	EPA Method 1638 mod	01/24/2011	01/25/2011	B110094	1100055
Cd	Biota	EPA Method 1638 mod	01/24/2011	01/25/2011	B110094	1100055
Cr	Biota	EPA Method 1638 mod	01/24/2011	01/25/2011	B110094	1100055
Cu	Biota	EPA Method 1638 mod	01/24/2011	01/25/2011	B110094	1100055
Fe	Biota	EPA Method 1638 mod	01/24/2011	01/25/2011	B110094	1100055
Hg	Biota	EPA Method 1631, Appendix	01/31/2011	02/02/2011	B110083	1100072
Ni	Biota	EPA Method 1638 mod	02/02/2011	02/08/2011	B110198	1100082
Pb	Biota	EPA Method 1638 mod	01/24/2011	01/25/2011	B110094	1100055
Se	Biota	EPA 1638 mod DRC	01/24/2011	02/01/2011	B110125	1100068
Zn	Biota	EPA Method 1638 mod	01/24/2011	01/25/2011	B110094	1100055



## Sample Results

Sample	Analyte	Report Matrix	Fraction	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>L15870-1 / Schoppee-10M</b>										
1104013-01	%TS	Biota	N/A	20.93		0.01	0.03	%	B110075	N/A
1104013-01	Ag	Biota	N/A	0.047	U	0.047	0.474	mg/kg dry	B110198	1100082
1104013-01	Ag	Biota	N/A	0.010	U	0.010	0.099	mg/kg	B110198	1100082
1104013-01	Al	Biota	N/A	15.5		0.68	3.89	mg/kg dry	B110094	1100055
1104013-01	Al	Biota	N/A	3.25		0.14	0.81	mg/kg	B110094	1100055
1104013-01	Cd	Biota	N/A	0.015	U	0.015	0.049	mg/kg dry	B110094	1100055
1104013-01	Cd	Biota	N/A	0.003	U	0.003	0.010	mg/kg	B110094	1100055
1104013-01	Cr	Biota	N/A	0.70	B	0.24	0.73	mg/kg dry	B110094	1100055
1104013-01	Cr	Biota	N/A	0.15	B	0.05	0.15	mg/kg	B110094	1100055
1104013-01	Cu	Biota	N/A	7.20		0.15	0.78	mg/kg dry	B110094	1100055
1104013-01	Cu	Biota	N/A	1.51		0.03	0.16	mg/kg	B110094	1100055
1104013-01	Fe	Biota	N/A	22.7	B	5.8	24.3	mg/kg dry	B110094	1100055
1104013-01	Fe	Biota	N/A	4.7	B	1.2	5.1	mg/kg	B110094	1100055
1104013-01	Hg	Biota	N/A	259		9.42	23.6	µg/kg dry	B110083	1100072
1104013-01	Hg	Biota	N/A	54.3		1.97	4.93	µg/kg	B110083	1100072
1104013-01	Ni	Biota	N/A	0.86	B	0.24	0.95	mg/kg dry	B110198	1100082
1104013-01	Ni	Biota	N/A	0.18	B	0.05	0.20	mg/kg	B110198	1100082
1104013-01	Pb	Biota	N/A	0.052	B	0.019	0.195	mg/kg dry	B110094	1100055
1104013-01	Pb	Biota	N/A	0.011	B	0.004	0.041	mg/kg	B110094	1100055
1104013-01	Se	Biota	N/A	1.02		0.10	0.29	mg/kg dry	B110125	1100068
1104013-01	Se	Biota	N/A	0.21		0.02	0.06	mg/kg	B110125	1100068
1104013-01	Zn	Biota	N/A	79.8		1.36	4.87	mg/kg dry	B110094	1100055
1104013-01	Zn	Biota	N/A	16.7		0.29	1.02	mg/kg	B110094	1100055



## Sample Results

Sample	Analyte	Report Matrix	Fraction	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>L15870-2 / Schoppee-10F</b>										
1104013-02	%TS	Biota	N/A	22.25		0.01	0.03	%	B110075	N/A
1104013-02	Ag	Biota	N/A	0.044	U	0.044	0.439	mg/kg dry	B110198	1100082
1104013-02	Ag	Biota	N/A	0.010	U	0.010	0.098	mg/kg	B110198	1100082
1104013-02	Al	Biota	N/A	9.50		0.64	3.67	mg/kg dry	B110094	1100055
1104013-02	Al	Biota	N/A	2.11		0.14	0.82	mg/kg	B110094	1100055
1104013-02	Cd	Biota	N/A	0.018	B	0.014	0.046	mg/kg dry	B110094	1100055
1104013-02	Cd	Biota	N/A	0.004	B	0.003	0.010	mg/kg	B110094	1100055
1104013-02	Cr	Biota	N/A	1.26		0.23	0.69	mg/kg dry	B110094	1100055
1104013-02	Cr	Biota	N/A	0.28		0.05	0.15	mg/kg	B110094	1100055
1104013-02	Cu	Biota	N/A	2.11		0.14	0.73	mg/kg dry	B110094	1100055
1104013-02	Cu	Biota	N/A	0.47		0.03	0.16	mg/kg	B110094	1100055
1104013-02	Fe	Biota	N/A	31.9		5.5	22.9	mg/kg dry	B110094	1100055
1104013-02	Fe	Biota	N/A	7.1		1.2	5.1	mg/kg	B110094	1100055
1104013-02	Hg	Biota	N/A	453		8.25	20.6	µg/kg dry	B110083	1100072
1104013-02	Hg	Biota	N/A	101		1.84	4.59	µg/kg	B110083	1100072
1104013-02	Ni	Biota	N/A	0.22	U	0.22	0.88	mg/kg dry	B110198	1100082
1104013-02	Ni	Biota	N/A	0.05	U	0.05	0.20	mg/kg	B110198	1100082
1104013-02	Pb	Biota	N/A	0.034	B	0.018	0.183	mg/kg dry	B110094	1100055
1104013-02	Pb	Biota	N/A	0.007	B	0.004	0.041	mg/kg	B110094	1100055
1104013-02	Se	Biota	N/A	0.98		0.09	0.28	mg/kg dry	B110125	1100068
1104013-02	Se	Biota	N/A	0.22		0.02	0.06	mg/kg	B110125	1100068
1104013-02	Zn	Biota	N/A	77.4		1.28	4.59	mg/kg dry	B110094	1100055
1104013-02	Zn	Biota	N/A	17.2		0.29	1.02	mg/kg	B110094	1100055



## Sample Results

Sample	Analyte	Report Matrix	Fraction	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>L15870-3 / Pleasant-10M</b>										
1104013-03	%TS	Biota	N/A	22.41		0.01	0.03	%	B110075	N/A
1104013-03	Ag	Biota	N/A	0.045	U	0.045	0.449	mg/kg dry	B110198	1100082
1104013-03	Ag	Biota	N/A	0.010	U	0.010	0.101	mg/kg	B110198	1100082
1104013-03	Al	Biota	N/A	12.2		0.63	3.58	mg/kg dry	B110094	1100055
1104013-03	Al	Biota	N/A	2.73		0.14	0.80	mg/kg	B110094	1100055
1104013-03	Cd	Biota	N/A	0.013	U	0.013	0.045	mg/kg dry	B110094	1100055
1104013-03	Cd	Biota	N/A	0.003	U	0.003	0.010	mg/kg	B110094	1100055
1104013-03	Cr	Biota	N/A	0.89		0.22	0.67	mg/kg dry	B110094	1100055
1104013-03	Cr	Biota	N/A	0.20		0.05	0.15	mg/kg	B110094	1100055
1104013-03	Cu	Biota	N/A	10.6		0.13	0.72	mg/kg dry	B110094	1100055
1104013-03	Cu	Biota	N/A	2.39		0.03	0.16	mg/kg	B110094	1100055
1104013-03	Fe	Biota	N/A	23.8		5.4	22.4	mg/kg dry	B110094	1100055
1104013-03	Fe	Biota	N/A	5.3		1.2	5.0	mg/kg	B110094	1100055
1104013-03	Hg	Biota	N/A	208		8.32	20.8	µg/kg dry	B110083	1100072
1104013-03	Hg	Biota	N/A	46.7		1.87	4.66	µg/kg	B110083	1100072
1104013-03	Ni	Biota	N/A	1.85		0.22	0.90	mg/kg dry	B110198	1100082
1104013-03	Ni	Biota	N/A	0.42		0.05	0.20	mg/kg	B110198	1100082
1104013-03	Pb	Biota	N/A	0.042	B	0.018	0.179	mg/kg dry	B110094	1100055
1104013-03	Pb	Biota	N/A	0.009	B	0.004	0.040	mg/kg	B110094	1100055
1104013-03	Se	Biota	N/A	1.05		0.09	0.27	mg/kg dry	B110125	1100068
1104013-03	Se	Biota	N/A	0.24		0.02	0.06	mg/kg	B110125	1100068
1104013-03	Zn	Biota	N/A	63.1		1.25	4.48	mg/kg dry	B110094	1100055
1104013-03	Zn	Biota	N/A	14.1		0.28	1.00	mg/kg	B110094	1100055



## Sample Results

Sample	Analyte	Report Matrix	Fraction	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>L15870-4 / Pleasant-10F</b>										
1104013-04	%TS	Biota	N/A	20.99		0.01	0.03	%	B110075	N/A
1104013-04	Ag	Biota	N/A	0.047	U	0.047	0.473	mg/kg dry	B110198	1100082
1104013-04	Ag	Biota	N/A	0.010	U	0.010	0.099	mg/kg	B110198	1100082
1104013-04	Al	Biota	N/A	7.30		0.64	3.69	mg/kg dry	B110094	1100055
1104013-04	Al	Biota	N/A	1.53		0.14	0.77	mg/kg	B110094	1100055
1104013-04	Cd	Biota	N/A	0.014	U	0.014	0.046	mg/kg dry	B110094	1100055
1104013-04	Cd	Biota	N/A	0.003	U	0.003	0.010	mg/kg	B110094	1100055
1104013-04	Cr	Biota	N/A	0.76		0.23	0.69	mg/kg dry	B110094	1100055
1104013-04	Cr	Biota	N/A	0.16		0.05	0.15	mg/kg	B110094	1100055
1104013-04	Cu	Biota	N/A	1.61		0.14	0.74	mg/kg dry	B110094	1100055
1104013-04	Cu	Biota	N/A	0.34		0.03	0.15	mg/kg	B110094	1100055
1104013-04	Fe	Biota	N/A	16.6	B	5.5	23.0	mg/kg dry	B110094	1100055
1104013-04	Fe	Biota	N/A	3.5	B	1.2	4.8	mg/kg	B110094	1100055
1104013-04	Hg	Biota	N/A	381		8.80	22.0	µg/kg dry	B110083	1100072
1104013-04	Hg	Biota	N/A	79.9		1.85	4.62	µg/kg	B110083	1100072
1104013-04	Ni	Biota	N/A	0.24	U	0.24	0.95	mg/kg dry	B110198	1100082
1104013-04	Ni	Biota	N/A	0.05	U	0.05	0.20	mg/kg	B110198	1100082
1104013-04	Pb	Biota	N/A	0.028	B	0.018	0.184	mg/kg dry	B110094	1100055
1104013-04	Pb	Biota	N/A	0.006	B	0.004	0.039	mg/kg	B110094	1100055
1104013-04	Se	Biota	N/A	1.16		0.09	0.28	mg/kg dry	B110125	1100068
1104013-04	Se	Biota	N/A	0.24		0.02	0.06	mg/kg	B110125	1100068
1104013-04	Zn	Biota	N/A	56.6		1.29	4.61	mg/kg dry	B110094	1100055
1104013-04	Zn	Biota	N/A	11.9		0.27	0.97	mg/kg	B110094	1100055



**Project ID:** AXS018  
**PM:** Tiffany Stilwater



BRL Report 1104013  
**Client PM:** Cynthia Tomey  
**Client PO:** 15097

## Accuracy & Precision Summary

**Batch:** B110075  
**Lab Matrix:** Biota  
**Method:** SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B110075-DUP1	Duplicate (1104013-04) %TS	20.99		21.02	%		0.1% 15



## Accuracy & Precision Summary

Batch: B110083  
 Lab Matrix: Biota  
 Method: EPA Method 1631, Appendix

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B110083-SRM1	Certified Reference Material (0910049, IAEA 407) Hg		222.0	238.7	µg/kg	108% 75-125	
B110083-SRM2	Certified Reference Material (0910049, IAEA 407) Hg		222.0	238.6	µg/kg	107% 75-125	
B110083-DUP3	Duplicate (1104013-01) Hg	259.4		266.4	µg/kg dry		3% 30
B110083-MS3	Matrix Spike (1104013-01) Hg	259.4	2365	2801	µg/kg dry	107% 70-130	
B110083-MSD3	Matrix Spike Duplicate (1104013-01) Hg	259.4	2351	2803	µg/kg dry	108% 70-130	0.06% 30



## Accuracy & Precision Summary

**Batch:** B110094  
**Lab Matrix:** Biota  
**Method:** EPA Method 1638 mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
<b>B110094-BS2</b>	<b>Laboratory Fortified Blank (1105006)</b>						
	Al		20.00	19.31	mg/kg	97% 75-125	
	Cd		1.000	0.921	mg/kg	92% 75-125	
	Cr		20.00	18.09	mg/kg	90% 75-125	
	Cu		7.000	6.89	mg/kg	98% 75-125	
	Fe		200.0	187.3	mg/kg	94% 75-125	
	Pb		0.5000	0.505	mg/kg	101% 75-125	
	Zn		50.00	44.40	mg/kg	89% 75-125	
<b>B110094-SRM1</b>	<b>Certified Reference Material (0951026, DOLT-4)</b>						
	Al		200.0	56.18	mg/kg	28% N/A	
	Cd		24.30	22.91	mg/kg	94% 75-125	
	Cr		1.400	1.34	mg/kg	96% N/A	
	Cu		31.20	33.70	mg/kg	108% 75-125	
	Fe		1833	1743	mg/kg	95% 75-125	
	Pb		0.1600	0.128	mg/kg	80% 75-125	
	Zn		116.0	119.7	mg/kg	103% 75-125	
<b>B110094-SRM2</b>	<b>Certified Reference Material (1051005, TORT-2)</b>						
	Cd		26.70	24.22	mg/kg	91% 75-125	
	Cr		0.7700	0.72	mg/kg	94% 75-125	
	Cu		106.0	93.89	mg/kg	89% 75-125	
	Fe		105.0	84.7	mg/kg	81% 75-125	
	Pb		0.3500	0.295	mg/kg	84% 75-125	
	Zn		180.0	165.3	mg/kg	92% 75-125	
<b>B110094-DUP1</b>	<b>Duplicate (1104013-04)</b>						
	Al	7.30		6.86	mg/kg dry		6% 30
	Cd	ND		ND	mg/kg dry		N/C 30
	Cr	0.76		0.78	mg/kg dry		3% 30
	Cu	1.61		2.06	mg/kg dry		25% 30
	Fe	16.6		18.3	mg/kg dry		10% 30
	Pb	0.028		0.035	mg/kg dry		23% 30
	Zn	56.59		67.41	mg/kg dry		17% 30



## Accuracy & Precision Summary

**Batch:** B110094  
**Lab Matrix:** Biota  
**Method:** EPA Method 1638 mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
<b>B110094-MS1</b>	<b>Matrix Spike (1104013-04)</b>						
	Al	7.30	89.36	96.12	mg/kg dry	99% 70-130	
	Cd	ND	4.468	3.937	mg/kg dry	88% 70-130	
	Cr	0.76	89.36	75.11	mg/kg dry	83% 70-130	
	Cu	1.61	31.28	30.99	mg/kg dry	94% 70-130	
	Fe	16.6	893.6	784.6	mg/kg dry	86% 70-130	
	Pb	0.028	2.234	2.146	mg/kg dry	95% 70-130	
	Zn	56.59	223.4	252.2	mg/kg dry	88% 70-130	
<b>B110094-MSD1</b>	<b>Matrix Spike Duplicate (1104013-04)</b>						
	Al	7.30	88.37	89.73	mg/kg dry	93% 70-130	7% 30
	Cd	ND	4.418	3.974	mg/kg dry	90% 70-130	0.9% 30
	Cr	0.76	88.37	78.95	mg/kg dry	88% 70-130	5% 30
	Cu	1.61	30.93	32.75	mg/kg dry	101% 70-130	6% 30
	Fe	16.6	883.7	831.3	mg/kg dry	92% 70-130	6% 30
	Pb	0.028	2.209	2.216	mg/kg dry	99% 70-130	3% 30
	Zn	56.59	220.9	262.5	mg/kg dry	93% 70-130	4% 30



## Accuracy & Precision Summary

Batch: B110125  
 Lab Matrix: Biota  
 Method: EPA 1638 mod DRC

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B110125-BS2	Laboratory Fortified Blank (1105006) Se		5.000	4.02	mg/kg	80% 75-125	
B110125-SRM1	Certified Reference Material (0951026, DOLT-4) Se		8.300	7.55	mg/kg	91% 75-125	
B110125-SRM2	Certified Reference Material (1051005, TORT-2) Se		5.630	5.61	mg/kg	100% 75-125	
B110125-DUP1	Duplicate (1104013-04) Se	1.16		1.15	mg/kg dry		1% 30
B110125-MS1	Matrix Spike (1104013-04) Se	1.16	22.34	18.65	mg/kg dry	78% 70-130	
B110125-MSD1	Matrix Spike Duplicate (1104013-04) Se	1.16	22.09	19.10	mg/kg dry	81% 70-130	2% 30

## Accuracy & Precision Summary

**Batch:** B110198  
**Lab Matrix:** Biota  
**Method:** EPA Method 1638 mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
<b>B110198-BS2</b>	<b>Laboratory Fortified Blank (1106008)</b>						
	Ag		0.5000	0.504	mg/kg	101% 75-125	
	Ni		1.000	1.01	mg/kg	101% 75-125	
<b>B110198-SRM1</b>	<b>Certified Reference Material (0951026, DOLT-4)</b>						
	Ag		0.9300	0.943	mg/kg	101% 75-125	
	Ni		0.9700	0.58	mg/kg	60% 75-125	
<b>B110198-SRM2</b>	<b>Certified Reference Material (0951025, DORM-3)</b>						
	Ag		0.04000	0.075	mg/kg	189% N/A	
	Ni		1.280	1.11	mg/kg	86% 75-125	
<b>B110198-DUP1</b>	<b>Duplicate (1104013-04)</b>						
	Ag	ND		ND	mg/kg dry		N/C 30
	Ni	ND		ND	mg/kg dry		N/C 30
<b>B110198-MS1</b>	<b>Matrix Spike (1104013-04)</b>						
	Ag	ND	2.363	2.250	mg/kg dry	96% 70-130	
	Ni	ND	4.725	4.30	mg/kg dry	95% 70-130	
<b>B110198-MSD1</b>	<b>Matrix Spike Duplicate (1104013-04)</b>						
	Ag	ND	2.317	2.365	mg/kg dry	103% 70-130	5% 30
	Ni	ND	4.633	4.06	mg/kg dry	92% 70-130	6% 30

**Project ID:** AXS018  
**PM:** Tiffany Stilwater



BRL Report 1104013  
**Client PM:** Cynthia Tomey  
**Client PO:** 15097

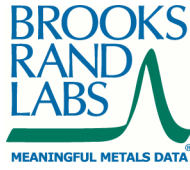
## Method Blanks & Reporting Limits

**Batch:** B110075  
**Matrix:** Biota  
**Method:** SM 2540G  
**Analyte:** %TS

Sample	Result	Units
B110075-BLK1	0.00	%
B110075-BLK2	0.00	%

**Average:** 0.00  
**Limit:** 0.03

**MDL:** 0.01  
**MRL:** 0.03



## Method Blanks & Reporting Limits

**Batch:** B110083

**Matrix:** Biota

**Method:** EPA Method 1631, Appendix

**Analyte:** Hg

Sample	Result	Units
B110083-BLK1	0.04	µg/kg
B110083-BLK2	0.04	µg/kg
B110083-BLK3	0.03	µg/kg
B110083-BLK4	0.04	µg/kg

**Average:** 0.04

**Limit:** 0.08

**Standard Deviation:** 0.01

**Limit:** 0.03

**MDL:** 0.04

**MRL:** 0.10



## Method Blanks & Reporting Limits

**Batch:** B110094  
**Matrix:** Biota  
**Method:** EPA Method 1638 mod  
**Analyte:** Al

Sample	Result	Units		
B110094-BLK1	0.14	mg/kg		
B110094-BLK2	0.15	mg/kg		
B110094-BLK3	0.33	mg/kg		
B110094-BLK4	0.09	mg/kg		
	<b>Average:</b> 0.18		<b>Standard Deviation:</b> 0.11	<b>MDL:</b> 0.14
	<b>Limit:</b> 0.80		<b>Limit:</b> 0.14	<b>MRL:</b> 0.80

**Analyte:** Cd 114

Sample	Result	Units		
B110094-BLK1	-0.002	mg/kg		
B110094-BLK2	-0.002	mg/kg		
B110094-BLK3	-0.002	mg/kg		
B110094-BLK4	-0.002	mg/kg		
	<b>Average:</b> -0.002		<b>Standard Deviation:</b> 0.000	<b>MDL:</b> 0.003
	<b>Limit:</b> 0.010		<b>Limit:</b> 0.003	<b>MRL:</b> 0.010

**Analyte:** Cr 52

Sample	Result	Units		
B110094-BLK1	-0.06	mg/kg		
B110094-BLK2	-0.05	mg/kg		
B110094-BLK3	-0.01	mg/kg		
B110094-BLK4	0.00	mg/kg		
	<b>Average:</b> -0.03		<b>Standard Deviation:</b> 0.03	<b>MDL:</b> 0.05
	<b>Limit:</b> 0.15		<b>Limit:</b> 0.05	<b>MRL:</b> 0.15

**Analyte:** Cu 63

Sample	Result	Units		
B110094-BLK1	0.00	mg/kg		
B110094-BLK2	0.00	mg/kg		
B110094-BLK3	0.00	mg/kg		
B110094-BLK4	0.00	mg/kg		
	<b>Average:</b> 0.00		<b>Standard Deviation:</b> 0.00	<b>MDL:</b> 0.03
	<b>Limit:</b> 0.16		<b>Limit:</b> 0.03	<b>MRL:</b> 0.16



## Method Blanks & Reporting Limits

**Analyte: Fe 57**

Sample	Result	Units			
B110094-BLK1	-1.0	mg/kg			
B110094-BLK2	-0.8	mg/kg			
B110094-BLK3	-0.2	mg/kg			
B110094-BLK4	0.2	mg/kg			
	<b>Average: -0.5</b>		<b>Standard Deviation: 0.6</b>	<b>MDL: 1.2</b>	
	<b>Limit: 5.0</b>		<b>Limit: 1.2</b>	<b>MRL: 5.0</b>	

**Analyte: Pb**

Sample	Result	Units			
B110094-BLK1	-0.002	mg/kg			
B110094-BLK2	-0.002	mg/kg			
B110094-BLK3	-0.001	mg/kg			
B110094-BLK4	-0.001	mg/kg			
	<b>Average: -0.002</b>		<b>Standard Deviation: 0.001</b>	<b>MDL: 0.004</b>	
	<b>Limit: 0.040</b>		<b>Limit: 0.004</b>	<b>MRL: 0.040</b>	

**Analyte: Zn 66**

Sample	Result	Units			
B110094-BLK1	0.07	mg/kg			
B110094-BLK2	0.08	mg/kg			
B110094-BLK3	0.16	mg/kg			
B110094-BLK4	0.12	mg/kg			
	<b>Average: 0.11</b>		<b>Standard Deviation: 0.04</b>	<b>MDL: 0.28</b>	
	<b>Limit: 1.00</b>		<b>Limit: 0.28</b>	<b>MRL: 1.00</b>	



## Method Blanks & Reporting Limits

**Batch:** B110125  
**Matrix:** Biota  
**Method:** EPA 1638 mod DRC  
**Analyte:** Se 78

Sample	Result	Units		
B110125-BLK1	0.00	mg/kg		
B110125-BLK2	0.03	mg/kg		
B110125-BLK3	0.03	mg/kg		
B110125-BLK4	0.02	mg/kg		
<b>Average:</b>	<b>0.02</b>		<b>Standard Deviation:</b>	<b>0.02</b>
<b>Limit:</b>	<b>0.06</b>		<b>Limit:</b>	<b>0.02</b>
			<b>MDL:</b>	<b>0.02</b>
			<b>MRL:</b>	<b>0.06</b>



## Method Blanks & Reporting Limits

**Batch:** B110198  
**Matrix:** Biota  
**Method:** EPA Method 1638 mod  
**Analyte:** Ag 107

Sample	Result	Units		
B110198-BLK1	0.011	mg/kg		
B110198-BLK2	0.004	mg/kg		
B110198-BLK3	-0.001	mg/kg		
B110198-BLK4	-0.002	mg/kg		
<b>Average:</b>	<b>0.003</b>		<b>Standard Deviation:</b>	<b>0.006</b>
<b>Limit:</b>	<b>0.100</b>		<b>Limit:</b>	<b>0.010</b>
			<b>MDL:</b>	<b>0.010</b>
			<b>MRL:</b>	<b>0.100</b>

**Analyte:** Ni 60

Sample	Result	Units		
B110198-BLK1	0.00	mg/kg		
B110198-BLK2	0.00	mg/kg		
B110198-BLK3	0.00	mg/kg		
B110198-BLK4	0.00	mg/kg		
<b>Average:</b>	<b>0.00</b>		<b>Standard Deviation:</b>	<b>0.00</b>
<b>Limit:</b>	<b>0.20</b>		<b>Limit:</b>	<b>0.05</b>
			<b>MDL:</b>	<b>0.05</b>
			<b>MRL:</b>	<b>0.20</b>

Project ID: AXS018  
PM: Tiffany Stilwater



BRL Report 1104013  
Client PM: Cynthia Tomey  
Client PO: 15097

## Sample Containers

<b>Lab ID:</b> 1104013-01 <b>Sample:</b> L15870-1 / Schoppee-10M	<b>Report Matrix:</b> Biota <b>Sample Type:</b> Sample	<b>Collected:</b> 05/01/2010 <b>Received:</b> 01/18/2011
<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    Jar Glass                                4 oz.	n/a                                None	n/a                                           Styro Cooler/Card board Box
<b>Lab ID:</b> 1104013-02 <b>Sample:</b> L15870-2 / Schoppee-10F	<b>Report Matrix:</b> Biota <b>Sample Type:</b> Sample	<b>Collected:</b> 05/01/2010 <b>Received:</b> 01/18/2011
<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    Jar Glass                                4 oz.	n/a                                None	n/a                                           Styro Cooler/Card board Box
<b>Lab ID:</b> 1104013-03 <b>Sample:</b> L15870-3 / Pleasant-10M	<b>Report Matrix:</b> Biota <b>Sample Type:</b> Sample	<b>Collected:</b> 02/01/2010 <b>Received:</b> 01/18/2011
<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    Jar Glass                                4 oz.	n/a                                None	n/a                                           Styro Cooler/Card board Box
<b>Lab ID:</b> 1104013-04 <b>Sample:</b> L15870-4 / Pleasant-10F	<b>Report Matrix:</b> Biota <b>Sample Type:</b> Sample	<b>Collected:</b> 02/01/2010 <b>Received:</b> 01/18/2011
<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    Jar Glass                                4 oz.	n/a                                None	n/a                                           Styro Cooler/Card board Box

## Shipping Containers

### Styro Cooler/Cardboard Box

**Received:** January 18, 2011 10:00  
**Tracking No:** 4633 0928 0107 via  
**Coolant Type:** Dry Ice  
**Temperature:** -25.0 °C

**Description:** Styro Cooler/Cardboard Box  
**Damaged in transit?** No  
**Returned to client?** No

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



AXYS

Axys Analytical Services Ltd

Release Chain Of Custody 1104013

SHIP TO : Brooks Rand

Telephone : 206-632-6206

Contact Person : Tiffany Stillwater

~~1104012~~  
TR

Project Chemist : Cynthia Tomey

Axys Contract No. : 4574

WG35243 (REQ5505)

Axys Analytical Services Ltd., 2045 Mills Road, Sidney, BC, Canada V8L 5X2 Tel. (250) 655-5800 Fax. (250) 655-5811

AXYS ID	CLIENT ID	MATRIX	QUANTITY
L15870-1	Schoppee-10M	Tissue	1
L15870-2	Schoppee-10F	Tissue	1
L15870-3	Pleasant -10M	Tissue	1
L15870-4	Pleasant -10F	Tissue	1

No. Item(s): 4 Date Shipped: 17-JAN-11 Shipper's Name: PACL HILLER WAY Bill #: 463309280107 Signature: *[Signature]*

Relinquished by (Signature)	Received by (Signature)	Courier	Waybill No.
Date	Date	FEDEX	
Time	Time		

Relinquished by (Signature)	Received by (Signature)	Sample Receipt	
Date	Date		
Time	Time		

	Coolers		
	#1	#2	#3
Temp C			
Custody Seal #			
Seal Intact	Y/N		
Sample Tag	Y/N		

Notes : PO # 15097