

Reporting Packages

Brooks Applied Labs recognizes that report packages and electronic data deliverables (EDD) should be easy to read, reference, understand, and evaluate while containing all necessary information to convey scientifically accurate and precise measurements that are legally defensible and useful for regulatory, litigation, or research purposes.

Our company utilizes a customized environmental laboratory information management system (LIMS) that tracks each sample from the moment it is received, through preparation, analysis, and disposal. Our analytical instrumentation is integrated with this system, providing us with powerful data evaluation capabilities and the capacity to rapidly produce highly accurate report packages and EDDs per our clients' requirements. All of this equates to error free reporting which gives our clients maximum confidence in BAL's final product.

We routinely produce report packages according to three levels of increasing detail (see table) depending on the specific requirements

of a project, in addition to compiling entirely custom reports when necessary. All of our reports are certified NELAP compliant and our Level IV report is considered to be litigation level and "CLP-like" since it contains all of the required material for EPA CLP reporting.

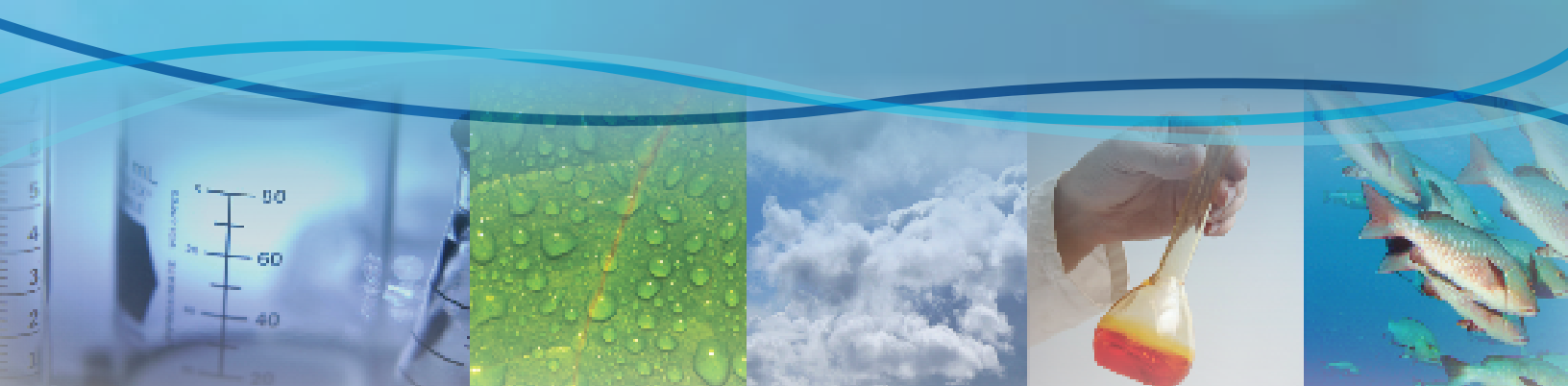
All levels of reporting include a cover letter or narrative that summarizes any relevant analytical issues that may have been encountered. Additionally, our Level IV report includes an exhaustive narrative describing the methods used and calculations performed, detailing any analytical or instrumental issues associated with the reported data.

Deliverables	Level II	Level III	Level IV
Narrative*	X	X	X
Sample Information	X	X	X
Sample Results	X	X	X
Accuracy & Precision Summary	X	X	X
Method Blanks & Reporting Limits	X	X	X
Sample Containers Summary	X	X	X
Shipping Containers Summary	X	X	X
Chain-of-Custody Forms	X	X	X
Waybill or Shipping Label	X	X	X
Instrument Calibration Results		X	X
Full Sequence Information			X
Preparation & Bench Sheets			X
Instrument Printouts			X

*Level IV report narratives are more detailed than other levels.

We also routinely produce EDDs in accordance to the specifications required by many environmental consulting firms and state/federal regulatory agencies. Client-specific custom EDDs can also be designed to accommodate nearly any specifications.

If you have any questions about our reporting capabilities please contact us today!



Report of Water & Sediment Analyses Trace Metals & Mercury

Project: example report
Samples Collected: July 22, 2016
Report Date: August 16, 2016

Prepared for:
example report

Project ID: EXA-MP1601

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Case Narrative

Shipping and Receiving

On July 22, 2016, Brooks Applied Labs (BAL) received four water samples and one sediment sample at 9:00 AM in a cardboard box at an ambient temperature. The *Chain of Custody* requested mercury and various other trace metals analyses of the samples. The samples were received and stored according to BAL standard operating procedures (SOP) and EPA methodology.

Preservation and Holding Time

All method requirements for preservation and holding time were satisfied.

Percent Total Solids by SM 2540G (BR-1501)

A solid sample is homogenized and an aliquot is measured into a pre-weighed vessel, dried in an oven overnight, weighed again, and the percent of dried solid material is calculated.

The results 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.

Batch B160942

Any non-conformance, corrective actions, or the reasons for which the results of an analysis would require qualification would be explained in detail in this section.

Hardness by SM 2340B (BR-1502)

Samples are closed-vessel oven digested with nitric acid. Digests are then analyzed by Inductively Coupled Plasma - Mass Spectrometry (ICP-MS) for Calcium and Magnesium. Hardness is then calculated based on Ca and Mg concentrations.

The results 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.

Sequence 1600667

Any non-conformance, corrective actions, or the reasons for which the results of an analysis would require qualification would be explained in detail in this section.

Total Mercury by EPA Method 1631 (BR-0006)

All samples are prepared and analyzed in accordance with EPA Method 1631. Samples are oxidized with bromine monochloride (BrCl) and then analyzed with stannous chloride (SnCl₂) reduction, single gold amalgamation, and cold vapor atomic fluorescence spectroscopy (CVAFS) detection using a BAL Model III CVAFS Mercury Analyzer.

The results were method blank corrected as described in the calculations section of the relevant BAL 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.

Sequence 1600667

Any non-conformance, corrective actions, or the reasons for which the results of an analysis would require qualification would be explained in detail in this section.

Trace Metals by EPA Method 1638, mod (BR-0060)

Prepared samples are analyzed by inductively coupled plasma – mass spectrometry (ICP-MS) according to a modification of EPA Draft Method 1638. Briefly, this method incorporates ionization of the sample in an inductively coupled RF plasma, with detection of the resulting ions by mass spectrometer on the basis of their mass-to-charge ratio. Digestates are diluted with reagent water prior to analysis, depending upon the element and concentration ranges to be determined. Samples are analyzed on a Perkin Elmer DRC II (in standard mode), and internal standardization in standard mode is accomplished using ^6Li , ^{45}Sc , ^{74}Ge , ^{115}In , ^{169}Tm .

The results were method blank corrected as described in the calculations section of the relevant BAL 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.

Sequence 1600606

Any non-conformance, corrective actions, or the reasons for which the results of an analysis would require qualification would be explained in detail in this section.

Sequence 1600715

Any non-conformance, corrective actions, or the reasons for which the results of an analysis would require qualification would be explained in detail in this section.

We certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the *Report Information* page in your report. Please feel free to contact us if you have any questions regarding this report.

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Report Information

Laboratory Accreditation

BAL 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. BAL 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.brooksapplied.com/resources/certificates-permits/>. 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

AR	as received	MS	matrix spike
BAL	Brooks Applied Labs	MSD	matrix spike duplicate
BLK	method blank	ND	non-detect
BS	blank spike	NR	non-reportable
CAL	calibration standard	N/C	not calculated
CCB	continuing calibration blank	PS	post preparation spike
CCV	continuing calibration verification	REC	percent recovery
COC	chain of custody record	RPD	relative percent difference
D	dissolved fraction	SCV	secondary calibration verification
DUP	duplicate	SOP	standard operating procedure
IBL	instrument blank	SRM	standard reference material
ICV	initial calibration verification	T	total fraction
MDL	method detection limit	TR	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 9/23/09)

J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J-1	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	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 Applied Labs, those found in the EPA [SOW ILM03.0](#), Exhibit B, Section III, pg. B-18, and the [USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review](#); USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

Project ID: example
PM: example



Client PM: example

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
<i>Tin & Titanium</i>	1630027-01	Water	QC Sample	07/19/2016	07/22/2016
<i>Hardness</i>	1630027-02	Water	QC Sample	07/19/2016	07/22/2016
<i>Low Level Hg (WP-174)</i>	1630027-03	Water	QC Sample	07/19/2016	07/22/2016
<i>Trace Metals</i>	1630027-04	Water	QC Sample	07/19/2016	07/22/2016
<i>Trace Metals in Soil</i>	1630027-05	Soil/Sediment	QC Sample	07/19/2016	07/22/2016



Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SM 2540G	07/29/2016	07/31/2016	B1609042	N/A
Al	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
As	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
B	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Ba	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Be	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Ca	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Cd	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Co	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Cr	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Cu	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Fe	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Hg	Soil/Sediment	EPA Method 1631, Appendix	08/25/2016	08/26/2016	B091082	1600679
K	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Mg	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Mn	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Mo	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Na	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Ni	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Pb	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Se	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Sn	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Sr	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Ti	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Tl	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
V	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Zn	Soil/Sediment	EPA Method 1638 mod.	09/02/2016	09/03/2016	B161005	1600715
Ag	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Al	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
As	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
B	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Ba	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Be	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Cd	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Co	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Cr	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Cu	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Fe	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Hg	Water	EPA Method 1631	07/30/2016	07/31/2016	B160959	1600606
Mn	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Mo	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667



Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Ni	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Pb	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Sb	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Se	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Sn	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161092	1600667
Sr	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Ti	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161092	1600667
Tl	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
V	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667
Zn	Water	EPA Method 1638 mod.	08/20/2016	08/24/2016	B161091	1600667



Sample Results

Sample	Analyte	Report Matrix	Fraction	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
Hardness										
1630027-02	Hardness	Water	T	250		0.17	0.87	mg eq CaCO3/L	[CALC]	N/A
Low Level Hg (WP-174)										
1630027-03	Hg	Water	T	51.7		1.52	4.04	ng/L	B160959	1600606
Tin & Titanium										
1630027-01	Sn	Water	T	2010		0.300	1.50	µg/L	B161092	1600667
1630027-01	Ti	Water	T	109		0.40	2.00	µg/L	B161092	1600667
Trace Metals										
1630027-04	Ag	Water	T	149		0.050	0.200	µg/L	B161091	1600667
1630027-04	Al	Water	T	351		1.30	10.0	µg/L	B161091	1600667
1630027-04	As	Water	T	689		0.40	2.00	µg/L	B161091	1600667
1630027-04	B	Water	T	917		3.00	10.0	µg/L	B161091	1600667
1630027-04	Ba	Water	T	133		0.10	0.50	µg/L	B161091	1600667
1630027-04	Be	Water	T	448		0.120	0.500	µg/L	B161091	1600667
1630027-04	Cd	Water	T	578		0.040	0.100	µg/L	B161091	1600667
1630027-04	Co	Water	T	779		0.20	1.00	µg/L	B161091	1600667
1630027-04	Cr	Water	T	906		0.70	1.50	µg/L	B161091	1600667
1630027-04	Cu	Water	T	266		0.40	2.00	µg/L	B161091	1600667
1630027-04	Fe	Water	T	1410		14.0	50.0	µg/L	B161091	1600667
1630027-04	Mn	Water	T	1090		0.100	0.500	µg/L	B161091	1600667
1630027-04	Mo	Water	T	183		0.040	0.200	µg/L	B161091	1600667
1630027-04	Ni	Water	T	355		0.40	2.00	µg/L	B161091	1600667
1630027-04	Pb	Water	T	596		0.150	0.500	µg/L	B161091	1600667
1630027-04	Sb	Water	T	176		0.050	0.200	µg/L	B161091	1600667
0930027-04	Se	Water	T	1120		1.10	3.00	µg/L	B161091	1600667
1630027-04	Sr	Water	T	125		0.100	0.500	µg/L	B161091	1600667
1630027-04	Tl	Water	T	697		0.020	0.100	µg/L	B161091	1600667
1630027-04	V	Water	T	917		0.30	1.50	µg/L	B161091	1600667
1630027-04	Zn	Water	T	609		0.50	2.00	µg/L	B161091	1600667



Sample Results

Sample	Analyte	Report Matrix	Fraction	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
Trace Metals in Soil										
1630027-05	%TS	Soil/Sediment	N/A	98.71		0.10	0.33	%	B1609042	N/A
1630027-05	Al	Soil/Sediment	N/A	14100		2.02	6.13	mg/kg dry	B161005	1600715
1630027-05	As	Soil/Sediment	N/A	140		0.35	1.05	mg/kg dry	B161005	1600715
1630027-05	B	Soil/Sediment	N/A	90.8		0.02	0.09	mg/kg dry	B161005	1600715
1630027-05	Ba	Soil/Sediment	N/A	273		0.26	0.88	mg/kg dry	B161005	1600715
1630027-05	Be	Soil/Sediment	N/A	161		0.10	0.26	mg/kg dry	B161005	1600715
1630027-05	Ca	Soil/Sediment	N/A	10500		26.3	131	mg/kg dry	B161005	1600715
1630027-05	Cd	Soil/Sediment	N/A	71.4		0.018	0.053	mg/kg dry	B161005	1600715
1630027-05	Co	Soil/Sediment	N/A	149		0.04	0.13	mg/kg dry	B161005	1600715
1630027-05	Cr	Soil/Sediment	N/A	115		0.55	1.75	mg/kg dry	B161005	1600715
1630027-05	Cu	Soil/Sediment	N/A	115		0.11	0.88	mg/kg dry	B161005	1600715
1630027-05	Fe	Soil/Sediment	N/A	21700		4.9	21.9	mg/kg dry	B161005	1600715
1630027-05	Hg	Soil/Sediment	N/A	28600		256	768	ng/g dry	B161082	1600679
1630027-05	K	Soil/Sediment	N/A	5680		11	35	mg/kg dry	B161005	1600715
1630027-05	Mg	Soil/Sediment	N/A	4600		1.3	13.1	mg/kg dry	B161005	1600715
1630027-05	Mn	Soil/Sediment	N/A	550		0.04	0.22	mg/kg dry	B161005	1600715
1630027-05	Mo	Soil/Sediment	N/A	79.5		0.09	0.88	mg/kg dry	B161005	1600715
1630027-05	Na	Soil/Sediment	N/A	670		13	66	mg/kg dry	B161005	1600715
1630027-05	Ni	Soil/Sediment	N/A	139		0.18	0.88	mg/kg dry	B161005	1600715
1630027-05	Pb	Soil/Sediment	N/A	148		0.04	0.22	mg/kg dry	B161005	1600715
1630027-05	Se	Soil/Sediment	N/A	208		0.27	0.88	mg/kg dry	B161005	1600715
1630027-05	Sn	Soil/Sediment	N/A	164		0.04	0.13	mg/kg dry	B161005	1600715
1630027-05	Sr	Soil/Sediment	N/A	258		0.009	0.03	mg/kg dry	B161005	1600715
1630027-05	Ti	Soil/Sediment	N/A	463		0.03	0.88	mg/kg dry	B161005	1600715
1630027-05	Tl	Soil/Sediment	N/A	169		0.009	0.044	mg/kg dry	B161005	1600715
1630027-05	V	Soil/Sediment	N/A	73.5		2.63	7.89	mg/kg dry	B161005	1600715
1630027-05	Zn	Soil/Sediment	N/A	235		0.22	0.88	mg/kg dry	B161005	1600715



Accuracy & Precision Summary

Batch: B160940
Lab Matrix: Soil/Sediment
Method: EPA Method 1631, Appendix

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B160940-SRM1	Certified Reference Material (1529013, MESS-3)						
	Hg		91.00	95.48	ng/g	105% 75-125	
B160940-SRM2	Certified Reference Material (1529013, MESS-3)						
	Hg		91.00	95.91	ng/g	105% 75-125	
B160940-SRM3	Certified Reference Material (1531034, SOIL-61)						
	Hg		5200	6191	ng/g	119% 80-120	
B160940-DUP1	Duplicate (1629006-02)						
	Hg	388.0		357.8	ng/g dry		8% 30
B160940-MSD1	Matrix Spike Duplicate (1629006-02)						
	Hg	388.0	2921	3521	ng/g dry	107% 70-130	5% 30
B160940-DUP2	Duplicate (1629006-14)						
	Hg	78.00		80.03	ng/g dry		3% 30
B160940-MSD2	Matrix Spike Duplicate (1629006-14)						
	Hg	78.00	3796	4167	ng/g dry	108% 70-130	3% 30
B160940-PS1	Post Spike (1629006-14)						
	Hg	78.00	280.7	399.1	ng/g dry	114% 77-123	
B160940-DUP3	Duplicate (1629006-24)						
	Hg	121.0		118.2	ng/g dry		2% 30
B160940-MSD3	Matrix Spike Duplicate (1629006-24)						
	Hg	121.0	4441	4879	ng/g dry	107% 70-130	17% 30
B160940-PS2	Post Spike (1629006-24)						
	Hg	121.0	494.7	693.0	ng/g dry	116% 77-123	

Project ID: example
PM: example

Client PM: example



Accuracy & Precision Summary

Batch: B1609042
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B160942-DUP2	Duplicate (1629006-02) %TS	33.96		33.99	%		0.09% 15
B160942-DUP3	Duplicate (1629006-14) %TS	28.36		28.04	%		1% 15
B160942-DUP4	Duplicate (1629006-24) %TS	23.48		23.39	%		0.4% 15
B160942-DUP1	Duplicate (1630027-05) %TS	98.71		98.91	%		0.2% 15



Accuracy & Precision Summary

Batch: B160959
Lab Matrix: Water
Method: EPA Method 1631

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B160959-SRM1	Certified Reference Material (1541008, NIST 1641d)						
	Hg		16.01	16.82	ng/L	105% 85-115	
B160959-MS2	Matrix Spike (1629007-10)						
	Hg	255000	1010000	1314000	ng/L	105% 71-125	
B160959-MSD2	Matrix Spike Duplicate (1629007-10)						
	Hg	255000	1010000	1325000	ng/L	106% 71-125	0.8% 24
B160959-MS3	Matrix Spike (1629007-13)						
	Hg	0.98	3.037	4.28	ng/L	109% 71-125	
B160959-MSD3	Matrix Spike Duplicate (1629007-13)						
	Hg	0.98	3.016	4.17	ng/L	106% 71-125	3% 24
B160959-MS4	Matrix Spike (1629007-17)						
	Hg	1.19	4.039	5.42	ng/L	105% 71-125	
B160959-MSD4	Matrix Spike Duplicate (1629007-17)						
	Hg	1.19	4.055	5.30	ng/L	101% 71-125	2% 24
B160959-MS1	Matrix Spike (1629035-02)						
	Hg	115.0	191.2	313.8	ng/L	104% 71-125	
B160959-MSD1	Matrix Spike Duplicate (1629035-02)						
	Hg	115.0	194.8	292.6	ng/L	91% 71-125	7% 24
B160959-DUP1	Duplicate (1630027-03)						
	Hg	51.70		56.59	ng/L		9% 24
B160959-MS5	Matrix Spike (1630027-03)						
	Hg	51.70	202.0	261.8	ng/L	104% 71-125	
B160959-MSD5	Matrix Spike Duplicate (1630027-03)						
	Hg	51.70	202.0	266.0	ng/L	106% 71-125	2% 24



Accuracy & Precision Summary

Batch: B161005

Lab Matrix: Soil/Sediment

Method: EPA Method 1638 mod.

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B161005-SRM1	Certified Reference Material (0911011, SOIL-65)						
	Al		12100	14380	mg/kg	119% 50-130	
	As		101.0	91.89	mg/kg	91% 65-110	
	B		117.0	103.9	mg/kg	89% 60-120	
	Ba		454.0	412.0	mg/kg	91% 75-115	
	Be		63.70	62.54	mg/kg	98% 70-115	
	Ca		9880	10260	mg/kg	104% 75-115	
	Cd		103.0	88.26	mg/kg	86% 70-110	
	Co		211.0	196.0	mg/kg	93% 70-110	
	Cr		158.0	152.0	mg/kg	96% 65-115	
	Cu		251.0	246.3	mg/kg	98% 70-115	
	Fe		18700	21010	mg/kg	112% 50-150	
	K		4730	4876	mg/kg	103% 65-120	
	Mg		4220	4423	mg/kg	105% 70-120	
	Mn		497.0	520.0	mg/kg	105% 80-115	
	Mo		69.60	52.43	mg/kg	75% 60-110	
	Na		738.0	763	mg/kg	103% 60-135	
	Ni		221.0	205.5	mg/kg	93% 70-110	
	Pb		114.0	112.7	mg/kg	99% 70-115	
	Se		211.0	195.5	mg/kg	93% 70-115	
	Sn		151.0	142.8	mg/kg	95% 60-125	
	Sr		138.0	138.1	mg/kg	100% 70-110	
	Ti		447.0	520.9	mg/kg	117% 10-190	
	Tl		274.0	252.4	mg/kg	92% 65-115	
	V		201.0	184.1	mg/kg	92% 70-110	
	Zn		304.0	316.4	mg/kg	104% 70-120	



Accuracy & Precision Summary

Batch: B161005

Lab Matrix: Soil/Sediment

Method: EPA Method 1638 mod.

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B161005-DUP1	Duplicate (1630027-05)						
	Al	14100		14040	mg/kg dry		0.4% 30
	As	140.0		143.6	mg/kg dry		3% 30
	B	90.80		88.39	mg/kg dry		3% 30
	Ba	273.0		263.0	mg/kg dry		4% 30
	Be	161.0		162.8	mg/kg dry		1% 30
	Ca	10500		10280	mg/kg dry		2% 30
	Cd	71.40		69.05	mg/kg dry		3% 30
	Co	149.0		144.2	mg/kg dry		3% 30
	Cr	115.0		112.6	mg/kg dry		2% 30
	Cu	115.0		113.4	mg/kg dry		1% 30
	Fe	21700		20340	mg/kg dry		6% 30
	K	5680		5476	mg/kg dry		4% 30
	Mg	4600		4691	mg/kg dry		2% 30
	Mn	550.0		529.2	mg/kg dry		4% 30
	Mo	79.50		74.77	mg/kg dry		6% 30
	Na	670		662	mg/kg dry		1% 30
	Ni	139.0		133.2	mg/kg dry		4% 30
	Pb	148.0		148.3	mg/kg dry		0.2% 30
	Se	208.0		206.6	mg/kg dry		0.7% 30
	Sn	164.0		151.0	mg/kg dry		8% 30
	Sr	258.0		241.3	mg/kg dry		7% 30
	Ti	463.0		423.8	mg/kg dry		9% 30
	Tl	169.0		167.3	mg/kg dry		1% 30
	V	73.50		71.68	mg/kg dry		3% 30
	Zn	235.0		250.2	mg/kg dry		6% 30



Accuracy & Precision Summary

Batch: B161005

Lab Matrix: Soil/Sediment

Method: EPA Method 1638 mod.

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B161005-DUP2	Duplicate (1630027-05)						
	Al	14100		13980	mg/kg dry		0.9% 30
	As	140.0		136.8	mg/kg dry		2% 30
	B	90.80		87.93	mg/kg dry		3% 30
	Ba	273.0		267.9	mg/kg dry		2% 30
	Be	161.0		157.6	mg/kg dry		2% 30
	Ca	10500		10410	mg/kg dry		0.9% 30
	Cd	71.40		68.08	mg/kg dry		5% 30
	Co	149.0		139.8	mg/kg dry		6% 30
	Cr	115.0		111.3	mg/kg dry		3% 30
	Cu	115.0		114.5	mg/kg dry		0.4% 30
	Fe	21700		20750	mg/kg dry		4% 30
	K	5680		5419	mg/kg dry		5% 30
	Mg	4600		4541	mg/kg dry		1% 30
	Mn	550.0		549.9	mg/kg dry		0.02% 30
	Mo	79.50		76.79	mg/kg dry		3% 30
	Na	670		652	mg/kg dry		3% 30
	Ni	139.0		132.7	mg/kg dry		5% 30
	Pb	148.0		143.3	mg/kg dry		3% 30
	Se	208.0		202.3	mg/kg dry		3% 30
	Sn	164.0		157.3	mg/kg dry		4% 30
	Sr	258.0		247.5	mg/kg dry		4% 30
	Ti	463.0		468.9	mg/kg dry		1% 30
	Tl	169.0		164.9	mg/kg dry		2% 30
	V	73.50		70.66	mg/kg dry		4% 30
	Zn	235.0		240.4	mg/kg dry		2% 30



Accuracy & Precision Summary

Batch: B161082

Lab Matrix: Soil/Sediment

Method: EPA Method 1631, Appendix

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B161082-SRM1	Certified Reference Material (0911011, SOIL-65)						
	Hg		6800	7152	ng/g	105% 75-125	
B161082-DUP1	Duplicate (1630027-05)						
	Hg	28600		29850	ng/g dry		4% 30
B161082-MS1	Matrix Spike (1630027-05)						
	Hg	28600	128400	170700	ng/g dry	111% 70-130	
B161082-MSD1	Matrix Spike Duplicate (1630027-05)						
	Hg	28600	133200	174300	ng/g dry	109% 70-130	2% 30



Accuracy & Precision Summary

Batch: B161091

Lab Matrix: Water

Method: EPA Method 1638 mod.

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B161091-SRM1	Certified Reference Material (0918021, NIST 1643e)						
	Ag		1.062	0.811	µg/L	76% 75-125	
	Al		141.8	126.9	µg/L	89% 75-125	
	As		60.45	52.06	µg/L	86% 75-125	
	B		157.9	146.9	µg/L	93% 75-125	
	Ba		544.2	501.4	µg/L	92% 75-125	
	Be		13.98	11.89	µg/L	85% 75-125	
	Cd		6.568	6.126	µg/L	93% 75-125	
	Co		27.06	25.69	µg/L	95% 75-125	
	Cr		20.40	18.87	µg/L	93% 75-125	
	Cu		22.76	22.32	µg/L	98% 75-125	
	Fe		98.10	119.0	µg/L	121% 75-125	
	Mn		38.97	35.43	µg/L	91% 75-125	
	Mo		121.4	114.0	µg/L	94% 75-125	
	Ni		62.41	56.93	µg/L	91% 75-125	
	Pb		19.63	18.56	µg/L	95% 75-125	
	Sb		58.30	47.98	µg/L	82% 75-125	
	Se		11.97	10.31	µg/L	86% 75-125	
	Sr		323.1	301.8	µg/L	93% 75-125	
	Tl		7.445	6.923	µg/L	93% 75-125	
	V		37.86	34.58	µg/L	91% 75-125	
	Zn		78.50	71.14	µg/L	91% 75-125	



Accuracy & Precision Summary

Batch: B161091

Lab Matrix: Water

Method: EPA Method 1638 mod.

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B161091-DUP1	Duplicate (1630027-04)						
	Ag	149.0		153.7	µg/L		3% 25
	Al	351.0		350.4	µg/L		0.2% 25
	As	689.0		699.7	µg/L		2% 25
	B	917.0		950.5	µg/L		4% 25
	Ba	133.0		135.5	µg/L		2% 25
	Be	448.0		464.5	µg/L		4% 25
	Cd	578.0		590.5	µg/L		2% 25
	Co	779.0		787.3	µg/L		1% 25
	Cr	906.0		916.0	µg/L		1% 25
	Cu	266.0		273.2	µg/L		3% 25
	Fe	1410		1427	µg/L		1% 25
	Mn	1090		1084	µg/L		0.6% 25
	Mo	183.0		186.9	µg/L		2% 25
	Ni	355.0		360.7	µg/L		2% 25
	Pb	596.0		611.9	µg/L		3% 25
	Sb	176.0		181.2	µg/L		3% 25
	Se	1120		1144	µg/L		2% 25
	Sr	125.0		127.5	µg/L		2% 25
	Tl	697.0		719.9	µg/L		3% 25
	V	917.0		934.8	µg/L		2% 25
	Zn	609.0		627.2	µg/L		3% 25



Accuracy & Precision Summary

Batch: B161091
Lab Matrix: Water
Method: EPA Method 1638 mod.

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B161091- MS1	Matrix Spike (1630027-04)						
	Ag	149.0	200.0	367.4	µg/L	109% 75-125	
	Al	351.0	2000	2693	µg/L	117% 75-125	
	As	689.0	2000	2541	µg/L	93% 75-125	
	B	917.0	2000	3164	µg/L	112% 75-125	
	Ba	133.0	200.0	357.4	µg/L	112% 75-125	
	Be	448.0	2000	2471	µg/L	101% 75-125	
	Cd	578.0	2000	2504	µg/L	96% 75-125	
	Co	779.0	2000	2961	µg/L	109% 75-125	
	Cr	906.0	2000	3049	µg/L	107% 75-125	
	Cu	266.0	2000	2333	µg/L	103% 75-125	
	Fe	1410	2000	3776	µg/L	118% 75-125	
	Mn	1090	2000	3297	µg/L	110% 75-125	
	Mo	183.0	200.0	416.3	µg/L	117% 75-125	
	Ni	355.0	2000	2339	µg/L	99% 75-125	
	Pb	596.0	2000	2800	µg/L	110% 75-125	
	Sb	176.0	200.0	383.1	µg/L	104% 75-125	
	Se	1120	2000	3173	µg/L	103% 75-125	
	Sr	125.0	200.0	365.4	µg/L	120% 75-125	
	Tl	697.0	2000	2945	µg/L	112% 75-125	
	V	917.0	2000	3104	µg/L	109% 75-125	
	Zn	609.0	2000	2603	µg/L	100% 75-125	



Accuracy & Precision Summary

Batch: B161091

Lab Matrix: Water

Method: EPA Method 1638 mod.

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B161091-MSD1	Matrix Spike Duplicate (1630027-04)						
	Ag	149.0	200.0	364.0	µg/L	108% 75-125	0.9% 25
	Al	351.0	2000	2609	µg/L	113% 75-125	3% 25
	As	689.0	2000	2503	µg/L	91% 75-125	2% 25
	B	917.0	2000	3054	µg/L	107% 75-125	4% 25
	Ba	133.0	200.0	350.7	µg/L	109% 75-125	2% 25
	Be	448.0	2000	2390	µg/L	97% 75-125	3% 25
	Cd	578.0	2000	2485	µg/L	95% 75-125	0.8% 25
	Co	779.0	2000	2903	µg/L	106% 75-125	2% 25
	Cr	906.0	2000	2980	µg/L	104% 75-125	2% 25
	Cu	266.0	2000	2257	µg/L	100% 75-125	3% 25
	Fe	1410	2000	3704	µg/L	115% 75-125	2% 25
	Mn	1090	2000	3221	µg/L	107% 75-125	2% 25
	Mo	183.0	200.0	409.4	µg/L	113% 75-125	2% 25
	Ni	355.0	2000	2281	µg/L	96% 75-125	3% 25
	Pb	596.0	2000	2782	µg/L	109% 75-125	0.6% 25
	Sb	176.0	200.0	384.6	µg/L	104% 75-125	0.4% 25
	Se	1120	2000	3157	µg/L	102% 75-125	0.5% 25
	Sr	125.0	200.0	358.8	µg/L	117% 75-125	2% 25
	Tl	697.0	2000	2910	µg/L	111% 75-125	1% 25
	V	917.0	2000	3014	µg/L	105% 75-125	3% 25
	Zn	609.0	2000	2544	µg/L	97% 75-125	2% 25



Accuracy & Precision Summary

Batch: B161092

Lab Matrix: Water

Method: EPA Method 1638 mod.

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B161092-DUP1	Duplicate (1630027-01)						
	Sn	2010		2093	µg/L		4% 25
	Ti	109.0		117.2	µg/L		7% 25
B161092-MS1	Matrix Spike (1630027-01)						
	Sn	2010	5000	6806	µg/L	96% 75-125	
	Ti	109.0	500.0	599.9	µg/L	98% 75-125	
B161092-MSD1	Matrix Spike Duplicate (1630027-01)						
	Sn	2010	5000	7100	µg/L	102% 75-125	4% 25
	Ti	109.0	500.0	628.7	µg/L	104% 75-125	5% 25



Method Blanks & Reporting Limits

Batch: B160942
Matrix: Soil/Sediment
Method: SM 2540G
Analyte: %TS

Sample	Result	Units	
B160942-BLK1	0.07	%	
B160942-BLK2	0.07	%	
Average: 0.07			MDL: 0.10 %
Limit: 0.33			MRL: 0.33 %

Batch: B160959
Matrix: Water
Method: EPA Method 1631
Analyte: Hg

Sample	Result	Units	
B160959-BLK1	0.14	ng/L	
B160959-BLK2	0.08	ng/L	
B160959-BLK3	0.14	ng/L	
B160959-BLK4	0.16	ng/L	
Average: 0.13			Standard Deviation: 0.03
Limit: 0.50			Limit: 0.10
			MDL: 0.15 ng/L
			MRL: 0.40 ng/L



Method Blanks & Reporting Limits

Batch: B161005
Matrix: Soil/Sediment
Method: EPA Method 1638 mod
Analyte: Al

Sample	Result	Units		
B161005-BLK1	-9.32	mg/kg		
B161005-BLK2	-9.28	mg/kg		
B161005-BLK3	-9.29	mg/kg		
B161005-BLK4	-9.27	mg/kg		
	Average: -9.29		Standard Deviation: 0.02	MDL: 2.30 mg/kg
	Limit: 7.00		Limit: 2.30	MRL: 7.00 mg/kg

Analyte: As

Sample	Result	Units		
B161005-BLK1	-0.10	mg/kg		
B161005-BLK2	-0.05	mg/kg		
B161005-BLK3	-0.05	mg/kg		
B161005-BLK4	-0.03	mg/kg		
	Average: -0.06		Standard Deviation: 0.03	MDL: 0.40 mg/kg
	Limit: 1.20		Limit: 0.40	MRL: 1.20 mg/kg

Analyte: B

Sample	Result	Units		
B161005-BLK1	-1.47	mg/kg		
B161005-BLK2	-1.75	mg/kg		
B161005-BLK3	-2.24	mg/kg		
B161005-BLK4	-2.34	mg/kg		
	Average: -1.95		Standard Deviation: 0.41	MDL: 0.02 mg/kg
	Limit: 5.00		Limit: 1.00	MRL: 0.10 mg/kg

Analyte: Ba

Sample	Result	Units		
B161005-BLK1	0.01	mg/kg		
B161005-BLK2	0.00	mg/kg		
B161005-BLK3	0.00	mg/kg		
B161005-BLK4	-0.01	mg/kg		
	Average: 0.00		Standard Deviation: 0.01	MDL: 0.30 mg/kg
	Limit: 1.00		Limit: 0.30	MRL: 1.00 mg/kg



Method Blanks & Reporting Limits

Batch: B161005
Matrix: Soil/Sediment
Method: EPA Method 1638 mod.
Analyte: Be

Sample	Result	Units
B161005-BLK1	-0.05	mg/kg
B161005-BLK2	-0.07	mg/kg
B161005-BLK3	-0.05	mg/kg
B161005-BLK4	-0.07	mg/kg

Average: -0.06 **Standard Deviation:** 0.01 **MDL:** 0.11 mg/kg
Limit: 0.30 **Limit:** 0.11 **MRL:** 0.30 mg/kg

Analyte: Ca

Sample	Result	Units
B161005-BLK1	-5.73	mg/kg
B161005-BLK2	-8.38	mg/kg
B161005-BLK3	-11.80	mg/kg
B161005-BLK4	-15.90	mg/kg

Average: -10.44 **Standard Deviation:** 4.40 **MDL:** 30.0 mg/kg
Limit: 150.00 **Limit:** 30.00 **MRL:** 150 mg/kg

Analyte: Cd

Sample	Result	Units
B161005-BLK1	-0.002	mg/kg
B161005-BLK2	0.004	mg/kg
B161005-BLK3	0.001	mg/kg
B161005-BLK4	-0.002	mg/kg

Average: 0.000 **Standard Deviation:** 0.003 **MDL:** 0.020 mg/kg
Limit: 0.060 **Limit:** 0.020 **MRL:** 0.060 mg/kg

Analyte: Co

Sample	Result	Units
B161005-BLK1	0.01	mg/kg
B161005-BLK2	0.02	mg/kg
B161005-BLK3	0.01	mg/kg
B161005-BLK4	0.01	mg/kg

Average: 0.01 **Standard Deviation:** 0.01 **MDL:** 0.05 mg/kg
Limit: 0.15 **Limit:** 0.05 **MRL:** 0.15 mg/kg



Method Blanks & Reporting Limits

Batch: B161005

Matrix: Soil/Sediment

Method: EPA Method 1638 mod.

Analyte: Cr

Sample

Sample	Result	Units
B161005-BLK1	0.34	mg/kg
B161005-BLK2	0.29	mg/kg
B161005-BLK3	0.26	mg/kg
B161005-BLK4	0.23	mg/kg

Average: 0.28 **Standard Deviation:** 0.05 **MDL:** 0.63 mg/kg
Limit: 2.00 **Limit:** 0.63 **MRL:** 2.00 mg/kg

Analyte: Cu

Sample

Sample	Result	Units
B161005-BLK1	-0.78	mg/kg
B161005-BLK2	-0.78	mg/kg
B161005-BLK3	-0.79	mg/kg
B161005-BLK4	-0.78	mg/kg

Average: -0.78 **Standard Deviation:** 0.01 **MDL:** 0.12 mg/kg
Limit: 1.00 **Limit:** 0.12 **MRL:** 1.00 mg/kg

Analyte: Fe

Sample

Sample	Result	Units
B161005-BLK1	8.6	mg/kg
B161005-BLK2	7.1	mg/kg
B161005-BLK3	7.5	mg/kg
B161005-BLK4	7.9	mg/kg

Average: 7.8 **Standard Deviation:** 0.6 **MDL:** 5.6 mg/kg
Limit: 25.0 **Limit:** 5.6 **MRL:** 25.0 mg/kg

Analyte: K

Sample

Sample	Result	Units
B161005-BLK1	8	mg/kg
B161005-BLK2	6	mg/kg
B161005-BLK3	4	mg/kg
B161005-BLK4	3	mg/kg

Average: 5 **Standard Deviation:** 2 **MDL:** 13 mg/kg
Limit: 40 **Limit:** 13 **MRL:** 40 mg/kg



Method Blanks & Reporting Limits

Batch: B161005
Matrix: Soil/Sediment
Method: EPA Method 1638 mod.
Analyte: Mg

Sample	Result	Units		
B161005-BLK1	-0.4	mg/kg		
B161005-BLK2	-0.7	mg/kg		
B161005-BLK3	-0.9	mg/kg		
B161005-BLK4	-0.9	mg/kg		
Average:	-0.7		Standard Deviation:	0.2
Limit:	15.0		Limit:	1.5
			MDL:	1.5 mg/kg
			MRL:	15.0 mg/kg

Analyte: Mn

Sample	Result	Units		
B161005-BLK1	-0.01	mg/kg		
B161005-BLK2	-0.02	mg/kg		
B161005-BLK3	-0.01	mg/kg		
B161005-BLK4	-0.02	mg/kg		
Average:	-0.02		Standard Deviation:	0.01
Limit:	0.25		Limit:	0.05
			MDL:	0.05 mg/kg
			MRL:	0.25 mg/kg

Analyte: Mo

Sample	Result	Units		
B161005-BLK1	0.11	mg/kg		
B161005-BLK2	0.07	mg/kg		
B161005-BLK3	0.05	mg/kg		
B161005-BLK4	0.04	mg/kg		
Average:	0.07		Standard Deviation:	0.03
Limit:	1.00		Limit:	0.10
			MDL:	0.10 mg/kg
			MRL:	1.00 mg/kg

Analyte: Na

Sample	Result	Units		
B161005-BLK1	-7	mg/kg		
B161005-BLK2	-8	mg/kg		
B161005-BLK3	-8	mg/kg		
B161005-BLK4	-8	mg/kg		
Average:	-8		Standard Deviation:	1
Limit:	75		Limit:	15
			MDL:	15 mg/kg
			MRL:	75 mg/kg



Method Blanks & Reporting Limits

Batch: B161005
Matrix: Soil/Sediment
Method: EPA Method 1638 mod.
Analyte: Ni

Sample	Result	Units			
B161005-BLK1	0.01	mg/kg			
B161005-BLK2	0.02	mg/kg			
B161005-BLK3	0.01	mg/kg			
B161005-BLK4	0.01	mg/kg			
Average:	0.01		Standard Deviation:	0.01	MDL: 0.20 mg/kg
Limit:	1.00		Limit:	0.20	MRL: 1.00 mg/kg

Analyte: Pb

Sample	Result	Units			
B161005-BLK1	0.00	mg/kg			
B161005-BLK2	0.00	mg/kg			
B161005-BLK3	0.00	mg/kg			
B161005-BLK4	0.00	mg/kg			
Average:	0.00		Standard Deviation:	0.00	MDL: 0.05 mg/kg
Limit:	0.25		Limit:	0.05	MRL: 0.25 mg/kg

Analyte: Se

Sample	Result	Units			
B161005-BLK1	0.38	mg/kg			
B161005-BLK2	0.12	mg/kg			
B161005-BLK3	0.41	mg/kg			
B161005-BLK4	0.17	mg/kg			
Average:	0.27		Standard Deviation:	0.15	MDL: 0.31 mg/kg
Limit:	1.00		Limit:	0.31	MRL: 1.00 mg/kg

Analyte: Sn

Sample	Result	Units			
B161005-BLK1	0.13	mg/kg			
B161005-BLK2	0.11	mg/kg			
B161005-BLK3	0.11	mg/kg			
B161005-BLK4	0.15	mg/kg			
Average:	0.13		Standard Deviation:	0.02	MDL: 0.04 mg/kg
Limit:	0.15		Limit:	0.04	MRL: 0.15 mg/kg



Method Blanks & Reporting Limits

Batch: B161005
Matrix: Soil/Sediment
Method: EPA Method 1638 mod.
Analyte: Sr

Sample	Result	Units		
B161005-BLK1	0.02	mg/kg		
B161005-BLK2	0.01	mg/kg		
B161005-BLK3	0.01	mg/kg		
B161005-BLK4	0.01	mg/kg		
Average:	0.01		Standard Deviation:	0.01
Limit:	0.03		Limit:	0.01
			MDL:	0.01 mg/kg
			MRL:	0.03 mg/kg

Analyte: Ti

Sample	Result	Units		
B161005-BLK1	-0.06	mg/kg		
B161005-BLK2	-0.04	mg/kg		
B161005-BLK3	0.02	mg/kg		
B161005-BLK4	-0.02	mg/kg		
Average:	-0.03		Standard Deviation:	0.03
Limit:	1.00		Limit:	0.03
			MDL:	0.03 mg/kg
			MRL:	1.00 mg/kg

Analyte: Tl

Sample	Result	Units		
B161005-BLK1	-0.007	mg/kg		
B161005-BLK2	-0.007	mg/kg		
B161005-BLK3	-0.008	mg/kg		
B161005-BLK4	-0.008	mg/kg		
Average:	-0.008		Standard Deviation:	0.001
Limit:	0.050		Limit:	0.010
			MDL:	0.010 mg/kg
			MRL:	0.050 mg/kg

Analyte: V

Sample	Result	Units		
B161005-BLK1	0.09	mg/kg		
B161005-BLK2	0.06	mg/kg		
B161005-BLK3	0.13	mg/kg		
B161005-BLK4	0.08	mg/kg		
Average:	0.09		Standard Deviation:	0.03
Limit:	9.00		Limit:	3.00
			MDL:	3.00 mg/kg
			MRL:	9.00 mg/kg

Project ID: example
PM: example



Client PM: example

Method Blanks & Reporting Limits

Batch: B161005
Matrix: Soil/Sediment
Method: EPA Method 1638 mod.
Analyte: Zn

Sample	Result	Units
B161005-BLK1	-2.17	mg/kg
B161005-BLK2	-2.19	mg/kg
B161005-BLK3	-2.17	mg/kg
B161005-BLK4	-2.17	mg/kg

Average: -2.18 **Standard Deviation:** 0.01 **MDL:** 0.25 mg/kg
Limit: 1.00 **Limit:** 0.25 **MRL:** 1.00 mg/kg

Batch: B091082
Matrix: Soil/Sediment
Method: EPA Method 1631, Appendix
Analyte: Hg

Sample	Result	Units
B161082-BLK1	0.03	ng/g
B161082-BLK2	0.01	ng/g
B161082-BLK3	0.01	ng/g
B161082-BLK4	0.00	ng/g

Average: 0.01 **Standard Deviation:** 0.01 **MDL:** 0.05 ng/g
Limit: 0.10 **Limit:** 0.03 **MRL:** 0.15 ng/g



Method Blanks & Reporting Limits

Batch: B161091

Matrix: Water

Method: EPA Method 1638 mod.

Analyte: Ag

Sample	Result	Units		
B161091-BLK1	0.005	µg/L		
B161091-BLK2	0.001	µg/L		
B161091-BLK3	0.000	µg/L		
B161091-BLK4	0.000	µg/L		
Average:	0.001		Standard Deviation:	0.002
Limit:	0.020		Limit:	0.005
			MDL:	0.005 µg/L
			MRL:	0.020 µg/L

Analyte: Al

Sample	Result	Units		
B161091-BLK1	0.10	µg/L		
B161091-BLK2	0.03	µg/L		
B161091-BLK3	0.03	µg/L		
B161091-BLK4	0.02	µg/L		
Average:	0.05		Standard Deviation:	0.04
Limit:	1.00		Limit:	0.13
			MDL:	0.13 µg/L
			MRL:	1.01 µg/L

Analyte: As

Sample	Result	Units		
B161091-BLK1	0.00	µg/L		
B161091-BLK2	-0.01	µg/L		
B161091-BLK3	-0.01	µg/L		
B161091-BLK4	-0.01	µg/L		
Average:	-0.01		Standard Deviation:	0.00
Limit:	0.20		Limit:	0.04
			MDL:	0.04 µg/L
			MRL:	0.20 µg/L

Analyte: B

Sample	Result	Units		
B161091-BLK1	-0.64	µg/L		
B161091-BLK2	-0.70	µg/L		
B161091-BLK3	-0.79	µg/L		
B161091-BLK4	-0.81	µg/L		
Average:	-0.74		Standard Deviation:	0.08
Limit:	1.00		Limit:	0.30
			MDL:	0.30 µg/L
			MRL:	1.01 µg/L



Method Blanks & Reporting Limits

Batch: B161091

Matrix: Water

Method: EPA Method 1638 mod.

Analyte: Ba

Sample	Result	Units		
B161091-BLK1	0.00	µg/L		
B161091-BLK2	0.00	µg/L		
B161091-BLK3	0.00	µg/L		
B161091-BLK4	0.00	µg/L		
Average:	0.00		Standard Deviation:	0.00
Limit:	0.05		Limit:	0.01
			MDL:	0.01 µg/L
			MRL:	0.05 µg/L

Analyte: Be

Sample	Result	Units		
B161091-BLK1	0.010	µg/L		
B161091-BLK2	0.005	µg/L		
B161091-BLK3	0.006	µg/L		
B161091-BLK4	0.004	µg/L		
Average:	0.006		Standard Deviation:	0.003
Limit:	0.050		Limit:	0.012
			MDL:	0.012 µg/L
			MRL:	0.051 µg/L

Analyte: Cd

Sample	Result	Units		
B161091-BLK1	0.000	µg/L		
B161091-BLK2	0.000	µg/L		
B161091-BLK3	-0.001	µg/L		
B161091-BLK4	-0.001	µg/L		
Average:	0.000		Standard Deviation:	0.000
Limit:	0.010		Limit:	0.004
			MDL:	0.004 µg/L
			MRL:	0.010 µg/L

Analyte: Co

Sample	Result	Units		
B161091-BLK1	0.00	µg/L		
B161091-BLK2	0.00	µg/L		
B161091-BLK3	0.00	µg/L		
B161091-BLK4	0.00	µg/L		
Average:	0.00		Standard Deviation:	0.00
Limit:	0.10		Limit:	0.02
			MDL:	0.02 µg/L
			MRL:	0.10 µg/L



Method Blanks & Reporting Limits

Batch: B161091

Matrix: Water

Method: EPA Method 1638 mod.

Analyte: Cr

Sample	Result	Units		
B161091-BLK1	0.01	µg/L		
B161091-BLK2	0.00	µg/L		
B161091-BLK3	0.02	µg/L		
B161091-BLK4	-0.03	µg/L		
Average: 0.00			Standard Deviation: 0.02	MDL: 0.07 µg/L
Limit: 0.15			Limit: 0.07	MRL: 0.15 µg/L

Analyte: Cu

Sample	Result	Units		
B161091-BLK1	-0.01	µg/L		
B161091-BLK2	-0.01	µg/L		
B161091-BLK3	-0.01	µg/L		
B161091-BLK4	-0.01	µg/L		
Average: -0.01			Standard Deviation: 0.00	MDL: 0.04 µg/L
Limit: 0.20			Limit: 0.04	MRL: 0.20 µg/L

Analyte: Fe

Sample	Result	Units		
B161091-BLK1	-0.5	µg/L		
B161091-BLK2	-0.7	µg/L		
B161091-BLK3	-0.4	µg/L		
B161091-BLK4	-0.4	µg/L		
Average: -0.5			Standard Deviation: 0.1	MDL: 1.4 µg/L
Limit: 5.0			Limit: 1.4	MRL: 5.1 µg/L

Analyte: Mn

Sample	Result	Units		
B161091-BLK1	-0.004	µg/L		
B161091-BLK2	-0.005	µg/L		
B161091-BLK3	-0.005	µg/L		
B161091-BLK4	-0.006	µg/L		
Average: -0.005			Standard Deviation: 0.001	MDL: 0.010 µg/L
Limit: 0.050			Limit: 0.010	MRL: 0.051 µg/L



Method Blanks & Reporting Limits

Batch: B161091

Matrix: Water

Method: EPA Method 1638 mod.

Analyte: Mo

Sample	Result	Units		
B161091-BLK1	-0.004	µg/L		
B161091-BLK2	-0.004	µg/L		
B161091-BLK3	-0.005	µg/L		
B161091-BLK4	-0.005	µg/L		
Average:	-0.005		Standard Deviation: 0.001	MDL: 0.004 µg/L
Limit:	0.020		Limit: 0.004	MRL: 0.020 µg/L

Analyte: Ni

Sample	Result	Units		
B161091-BLK1	0.00	µg/L		
B161091-BLK2	0.00	µg/L		
B161091-BLK3	0.00	µg/L		
B161091-BLK4	0.00	µg/L		
Average:	0.00		Standard Deviation: 0.00	MDL: 0.04 µg/L
Limit:	0.20		Limit: 0.04	MRL: 0.20 µg/L

Analyte: Pb

Sample	Result	Units		
B161091-BLK1	0.000	µg/L		
B161091-BLK2	0.000	µg/L		
B161091-BLK3	0.000	µg/L		
B161091-BLK4	0.000	µg/L		
Average:	0.000		Standard Deviation: 0.000	MDL: 0.015 µg/L
Limit:	0.050		Limit: 0.015	MRL: 0.051 µg/L

Analyte: Sb

Sample	Result	Units		
B161091-BLK1	-0.008	µg/L		
B161091-BLK2	-0.009	µg/L		
B161091-BLK3	-0.009	µg/L		
B161091-BLK4	-0.011	µg/L		
Average:	-0.009		Standard Deviation: 0.001	MDL: 0.005 µg/L
Limit:	0.020		Limit: 0.005	MRL: 0.020 µg/L



Method Blanks & Reporting Limits

Batch: B161091
Matrix: Water
Method: EPA Method 1638 mod.
Analyte: Se

Sample	Result	Units		
B161091-BLK1	-0.02	µg/L		
B161091-BLK2	-0.03	µg/L		
B161091-BLK3	-0.03	µg/L		
B161091-BLK4	-0.05	µg/L		
	Average: -0.03		Standard Deviation: 0.01	MDL: 0.11 µg/L
	Limit: 0.30		Limit: 0.11	MRL: 0.30 µg/L

Analyte: Sr

Sample	Result	Units		
B161091-BLK1	0.000	µg/L		
B161091-BLK2	0.000	µg/L		
B161091-BLK3	0.000	µg/L		
B161091-BLK4	0.000	µg/L		
	Average: 0.000		Standard Deviation: 0.000	MDL: 0.010 µg/L
	Limit: 0.050		Limit: 0.010	MRL: 0.051 µg/L

Analyte: Tl

Sample	Result	Units		
B161091-BLK1	0.000	µg/L		
B161091-BLK2	-0.001	µg/L		
B161091-BLK3	-0.001	µg/L		
B161091-BLK4	0.000	µg/L		
	Average: -0.001		Standard Deviation: 0.000	MDL: 0.002 µg/L
	Limit: 0.010		Limit: 0.002	MRL: 0.010 µg/L

Analyte: V

Sample	Result	Units		
B161091-BLK1	0.01	µg/L		
B161091-BLK2	0.01	µg/L		
B161091-BLK3	0.01	µg/L		
B161091-BLK4	0.01	µg/L		
	Average: 0.01		Standard Deviation: 0.00	MDL: 0.03 µg/L
	Limit: 0.15		Limit: 0.03	MRL: 0.15 µg/L



Method Blanks & Reporting Limits

Batch: B161091
Matrix: Water
Method: EPA Method 1638 mod.
Analyte: Zn

Sample	Result	Units
B161091-BLK1	-0.04	µg/L
B161091-BLK2	-0.05	µg/L
B161091-BLK3	-0.05	µg/L
B161091-BLK4	-0.07	µg/L

Average: -0.05 **Standard Deviation:** 0.01 **MDL:** 0.05 µg/L
Limit: 0.20 **Limit:** 0.05 **MRL:** 0.20 µg/L

Batch: B161092 **Method:** EPA Method 1638 mod.
Matrix: Water **SOP:** BR-0065
Analyte: Sn

Sample	Result	Units
B161092-BLK1	-0.006	µg/L
B161092-BLK2	-0.008	µg/L
B161092-BLK3	-0.009	µg/L
B161092-BLK4	-0.006	µg/L

Average: -0.007 **Standard Deviation:** 0.002 **MDL:** 0.030 µg/L
Limit: 0.150 **Limit:** 0.030 **MRL:** 0.152 µg/L

Analyte: Ti

Sample	Result	Units
B161092-BLK1	0.01	µg/L
B161092-BLK2	0.03	µg/L
B161092-BLK3	0.00	µg/L
B161092-BLK4	0.01	µg/L

Average: 0.01 **Standard Deviation:** 0.01 **MDL:** 0.04 µg/L
Limit: 0.20 **Limit:** 0.04 **MRL:** 0.20 µg/L

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600606
Instrument: THG-05
Date: 07/31/2016
Analyte: Hg

Total Mercury and Mercury Speciation by CVAFS
Method: EPA Method 1631

Lab ID	True Value	Result	Units	REC & Limits
1600606-CAL1	25.00	23.37	pg of Hg	93%
1600606-CAL2	100.0	100.8	pg of Hg	101%
1600606-CAL3	500.0	502.6	pg of Hg	101%
1600606-CAL4	2500	2607	pg of Hg	104%
1600606-CAL5	10000	10160	pg of Hg	102%
1600606-ICV1	1601	1682	pg of Hg	105% 85-115
1600606-CCV1	500.0	522.0	pg of Hg	104% 77-123
1600606-CCV2	500.0	493.0	pg of Hg	99% 77-123

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600616
Instrument: THG-05
Date: 08/04/2016
Analyte: Hg

Total Mercury and Mercury Speciation by CVAFS
Method: EPA Method 1631, Appendix

Lab ID	True Value	Result	Units	REC & Limits
1600616-CAL1	25.00	23.12	pg of Hg	92%
1600616-CAL2	100.0	100.2	pg of Hg	100%
1600616-CAL3	500.0	492.4	pg of Hg	98%
1600616-CAL4	2500	2567	pg of Hg	103%
1600616-CAL5	10000	10740	pg of Hg	107%
1600616-ICV1	1601	1693	pg of Hg	106% 85-115
1600616-CCV1	500.0	452.5	pg of Hg	90% 77-123
1600616-CCV2	500.0	522.9	pg of Hg	105% 77-123
1600616-CCV3	500.0	521.1	pg of Hg	104% 77-123

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600659
Instrument: ICP-MS-2
Date: 08/19/2016
Analyte: Ag 107

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.02000	0.020	µg/L	98%
1600659-CAL2	0.04000	0.041	µg/L	103%
1600659-CAL3	0.2000	0.202	µg/L	101%
1600659-CAL4	1.000	1.008	µg/L	101%
1600659-CAL5	2.000	2.039	µg/L	102%
1600659-CAL6	10.00	10.05	µg/L	101%
1600659-CAL7	20.00	19.53	µg/L	98%
1600659-CAL8	40.00	38.76	µg/L	97%
1600659-ICV1	1.000	1.057	µg/L	106% 85-115
1600659-CCV1	1.000	0.982	µg/L	98% 75-125
1600659-ICV2	1.000	0.976	µg/L	98% 85-115
1600659-CCV2	1.000	0.995	µg/L	100% 75-125
1600659-CCV3	1.000	0.962	µg/L	96% 75-125

Analyte: Al

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	1.000	0.96	µg/L	96%
1600659-CAL2	2.000	2.13	µg/L	106%
1600659-CAL3	10.00	9.54	µg/L	95%
1600659-CAL4	5.000	5.27	µg/L	105%
1600659-CAL5	50.00	47.61	µg/L	95%
1600659-CAL6	250.0	251.7	µg/L	101%
1600659-CAL7	500.0	499.4	µg/L	100%
1600659-CAL8	1000	1007	µg/L	101%
1600659-ICV1	50.00	52.30	µg/L	105% 85-115
1600659-CCV1	5.000	5.21	µg/L	104% 75-125
1600659-ICV2	50.00	49.24	µg/L	98% 85-115
1600659-CCV2	5.000	5.25	µg/L	105% 75-125
1600659-CCV3	5.000	5.23	µg/L	105% 75-125
1600659-CCV4	5.000	4.72	µg/L	94% 75-125
1600659-CCV5	5.000	4.34	µg/L	87% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600659
Instrument: ICP-MS-2
Date: 08/19/2016
Analyte: As 75

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.2000	0.20	µg/L	100%
1600659-CAL2	0.4000	0.40	µg/L	100%
1600659-CAL3	2.000	2.00	µg/L	100%
1600659-CAL4	5.000	5.06	µg/L	101%
1600659-CAL5	10.00	10.24	µg/L	102%
1600659-CAL6	50.00	48.73	µg/L	97%
1600659-CAL7	100.0	99.39	µg/L	99%
1600659-CAL8	200.0	199.9	µg/L	100%
1600659-CCV1	5.000	5.26	µg/L	105% 75-125
1600659-ICV2	5.000	5.34	µg/L	107% 85-115
1600659-CCV2	5.000	5.17	µg/L	103% 75-125
1600659-CCV3	5.000	5.16	µg/L	103% 75-125
1600659-CCV4	5.000	5.10	µg/L	102% 75-125
1600659-CCV5	5.000	5.23	µg/L	105% 75-125

Analyte: B

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	1.000	0.96	µg/L	96%
1600659-CAL2	2.000	2.15	µg/L	107%
1600659-CAL3	10.00	10.02	µg/L	100%
1600659-CAL4	50.00	48.84	µg/L	98%
1600659-CAL5	100.0	98.72	µg/L	99%
1600659-CAL6	500.0	470.3	µg/L	94%
1600659-CAL7	1000	946.9	µg/L	95%
1600659-CAL8	2000	2219	µg/L	111%
1600659-CCV1	50.00	49.91	µg/L	100% 75-125
1600659-ICV2	50.00	49.86	µg/L	100% 85-115
1600659-CCV2	50.00	48.50	µg/L	97% 75-125
1600659-CCV3	50.00	48.60	µg/L	97% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600659
Instrument: ICP-MS-2
Date: 08/19/2016
Analyte: Ba

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.05000	0.05	µg/L	103%
1600659-CAL2	0.1000	0.09	µg/L	94%
1600659-CAL3	0.5000	0.47	µg/L	94%
1600659-CAL4	2.500	2.72	µg/L	109%
1600659-CAL5	25.00	23.57	µg/L	94%
1600659-CAL6	125.0	125.1	µg/L	100%
1600659-CAL7	250.0	254.0	µg/L	102%
1600659-CAL8	500.0	519.6	µg/L	104%
1600659-ICV1	2.500	2.52	µg/L	101% 85-115
1600659-CCV1	2.500	2.66	µg/L	107% 75-125
1600659-ICV2	2.500	2.39	µg/L	95% 85-115
1600659-CCV2	2.500	2.66	µg/L	106% 75-125
1600659-CCV3	2.500	2.65	µg/L	106% 75-125

Analyte: Be

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.05000	0.052	µg/L	104%
1600659-CAL2	0.1000	0.089	µg/L	89%
1600659-CAL3	0.5000	0.546	µg/L	109%
1600659-CAL4	1.000	1.017	µg/L	102%
1600659-CAL5	2.000	2.059	µg/L	103%
1600659-CAL6	4.000	3.973	µg/L	99%
1600659-CAL7	10.00	9.691	µg/L	97%
1600659-CAL8	20.00	19.23	µg/L	96%
1600659-ICV1	1.000	1.143	µg/L	114% 85-115
1600659-CCV1	1.000	1.032	µg/L	103% 75-125
1600659-ICV2	1.000	1.022	µg/L	102% 85-115
1600659-CCV2	1.000	1.034	µg/L	103% 75-125
1600659-CCV3	1.000	1.012	µg/L	101% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600659
Instrument: ICP-MS-2
Date: 08/19/2016
Analyte: Ca

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	30.00	30.15	µg/L	101%
1600659-CAL2	60.00	59.72	µg/L	100%
1600659-CAL3	300.0	293.7	µg/L	98%
1600659-CAL4	1000	984.5	µg/L	98%
1600659-CAL5	2000	1983	µg/L	99%
1600659-CAL6	10000	10020	µg/L	100%
1600659-CAL7	20000	20270	µg/L	101%
1600659-CAL8	40000	41160	µg/L	103%
1600659-ICV1	1000	1106	µg/L	111% 85-115
1600659-CCV1	1000	983.5	µg/L	98% 75-125
1600659-ICV2	1000	1028	µg/L	103% 85-115
1600659-CCV2	1000	983.2	µg/L	98% 75-125
1600659-CCV3	1000	979.0	µg/L	98% 75-125
1600659-CCV4	1000	972.4	µg/L	97% 75-125
1600659-CCV5	1000	967.6	µg/L	97% 75-125

Analyte: Cd 111

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.01000	0.009	µg/L	92%
1600659-CAL2	0.02000	0.023	µg/L	113%
1600659-CAL3	0.1000	0.111	µg/L	111%
1600659-CAL4	0.5000	0.497	µg/L	99%
1600659-CAL5	1.000	1.020	µg/L	102%
1600659-CAL6	5.000	4.814	µg/L	96%
1600659-CAL7	10.00	9.387	µg/L	94%
1600659-CAL8	20.00	18.38	µg/L	92%
1600659-ICV1	0.5000	0.521	µg/L	104% 85-115
1600659-CCV1	0.5000	0.497	µg/L	99% 75-125
1600659-ICV2	0.5000	0.491	µg/L	98% 85-115
1600659-CCV2	0.5000	0.486	µg/L	97% 75-125
1600659-CCV3	0.5000	0.491	µg/L	98% 75-125



Instrument Calibration

Sequence: 1600659
Instrument: ICP-MS-2
Date: 08/19/2016
Analyte: Co

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.1000	0.10	µg/L	99%
1600659-CAL2	0.2000	0.20	µg/L	102%
1600659-CAL3	1.000	1.00	µg/L	100%
1600659-CAL4	2.500	2.50	µg/L	100%
1600659-CAL5	5.000	4.99	µg/L	100%
1600659-CAL6	25.00	24.82	µg/L	99%
1600659-CAL7	50.00	49.49	µg/L	99%
1600659-CAL8	100.0	100.4	µg/L	100%
1600659-ICV1	2.500	2.86	µg/L	114% 85-115
1600659-CCV1	2.500	2.54	µg/L	102% 75-125
1600659-ICV2	2.500	2.65	µg/L	106% 85-115
1600659-CCV2	2.500	2.53	µg/L	101% 75-125
1600659-CCV3	2.500	2.56	µg/L	102% 75-125

Analyte: Cr 52

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.1500	0.15	µg/L	100%
1600659-CAL2	0.3000	0.30	µg/L	100%
1600659-CAL3	1.500	1.47	µg/L	98%
1600659-CAL4	12.50	11.84	µg/L	95%
1600659-CAL5	25.00	23.81	µg/L	95%
1600659-CAL6	125.0	128.0	µg/L	102%
1600659-CAL7	250.0	259.1	µg/L	104%
1600659-CAL8	500.0	529.9	µg/L	106%
1600659-ICV1	12.50	13.72	µg/L	110% 85-115
1600659-CCV1	12.50	12.09	µg/L	97% 75-125
1600659-ICV2	12.50	12.67	µg/L	101% 85-115
1600659-CCV2	12.50	12.03	µg/L	96% 75-125
1600659-CCV3	12.50	12.01	µg/L	96% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600659
Instrument: ICP-MS-2
Date: 08/19/2016
Analyte: Cu 63

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.2000	0.19	µg/L	97%
1600659-CAL2	0.4000	0.42	µg/L	106%
1600659-CAL3	2.000	2.03	µg/L	102%
1600659-CAL4	5.000	5.04	µg/L	101%
1600659-CAL5	10.00	10.05	µg/L	101%
1600659-CAL6	50.00	48.49	µg/L	97%
1600659-CAL7	100.0	95.63	µg/L	96%
1600659-CAL8	200.0	203.5	µg/L	102%
1600659-ICV1	5.000	5.54	µg/L	111% 85-115
1600659-CCV1	5.000	5.05	µg/L	101% 75-125
1600659-ICV2	5.000	5.14	µg/L	103% 85-115
1600659-CCV2	5.000	5.01	µg/L	100% 75-125
1600659-CCV3	5.000	4.96	µg/L	99% 75-125

Analyte: Fe 57

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	5.000	5.1	µg/L	101%
1600659-CAL2	10.00	9.8	µg/L	98%
1600659-CAL3	50.00	48.6	µg/L	97%
1600659-CAL4	250.0	240.1	µg/L	96%
1600659-CAL5	500.0	486.0	µg/L	97%
1600659-CAL6	2500	2429	µg/L	97%
1600659-CAL7	5000	5259	µg/L	105%
1600659-CAL8	10000	10750	µg/L	108%
1600659-ICV1	250.0	277.4	µg/L	111% 85-115
1600659-CCV1	250.0	246.1	µg/L	98% 75-125
1600659-ICV2	250.0	257.5	µg/L	103% 85-115
1600659-CCV2	250.0	244.8	µg/L	98% 75-125
1600659-CCV3	250.0	246.5	µg/L	99% 75-125
1600659-CCV4	250.0	244.7	µg/L	98% 75-125
1600659-CCV5	250.0	289.4	µg/L	116% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600659
Instrument: ICP-MS-2
Date: 08/19/2016
Analyte: Mg

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	3.000	3.03	µg/L	101%
1600659-CAL2	6.000	5.90	µg/L	98%
1600659-CAL3	30.00	28.87	µg/L	96%
1600659-CAL4	200.0	224.2	µg/L	112%
1600659-CAL5	2000	1986	µg/L	99%
1600659-CAL6	10000	9687	µg/L	97%
1600659-CAL7	20000	19700	µg/L	99%
1600659-CAL8	40000	39040	µg/L	98%
1600659-ICV1	200.0	219.3	µg/L	110% 85-115
1600659-CCV1	200.0	227.6	µg/L	114% 75-125
1600659-ICV2	200.0	208.4	µg/L	104% 85-115
1600659-CCV2	200.0	233.7	µg/L	117% 75-125
1600659-CCV3	200.0	232.7	µg/L	116% 75-125

Analyte: Mn

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.05000	0.051	µg/L	102%
1600659-CAL2	0.1000	0.097	µg/L	97%
1600659-CAL3	0.5000	0.480	µg/L	96%
1600659-CAL4	2.500	2.664	µg/L	107%
1600659-CAL5	25.00	23.77	µg/L	95%
1600659-CAL6	125.0	125.1	µg/L	100%
1600659-CAL7	250.0	251.9	µg/L	101%
1600659-CAL8	500.0	513.3	µg/L	103%
1600659-ICV1	2.500	2.640	µg/L	106% 85-115
1600659-CCV1	2.500	2.745	µg/L	110% 75-125
1600659-ICV2	2.500	2.444	µg/L	98% 85-115
1600659-CCV2	2.500	2.726	µg/L	109% 75-125
1600659-CCV3	2.500	2.753	µg/L	110% 75-125
1600659-CCV4	2.500	2.818	µg/L	113% 75-125
1600659-CCV5	2.500	2.762	µg/L	110% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600659
Instrument: ICP-MS-2
Date: 08/19/2016
Analyte: Mo

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.02000	0.019	µg/L	97%
1600659-CAL2	0.04000	0.042	µg/L	105%
1600659-CAL3	0.2000	0.200	µg/L	100%
1600659-CAL4	0.5000	0.546	µg/L	109%
1600659-CAL5	5.000	4.790	µg/L	96%
1600659-CAL6	25.00	24.17	µg/L	97%
1600659-CAL7	50.00	48.54	µg/L	97%
1600659-CAL8	100.0	98.79	µg/L	99%
1600659-CCV1	0.5000	0.544	µg/L	109% 75-125
1600659-ICV2	0.5000	0.527	µg/L	105% 85-115
1600659-CCV2	0.5000	0.534	µg/L	107% 75-125
1600659-CCV3	0.5000	0.535	µg/L	107% 75-125

Analyte: Ni 60

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.2000	0.20	µg/L	100%
1600659-CAL2	0.4000	0.40	µg/L	99%
1600659-CAL3	2.000	2.02	µg/L	101%
1600659-CAL4	5.000	5.10	µg/L	102%
1600659-CAL5	10.00	10.20	µg/L	102%
1600659-CAL6	50.00	49.48	µg/L	99%
1600659-CAL7	100.0	97.43	µg/L	97%
1600659-CAL8	200.0	198.2	µg/L	99%
1600659-ICV1	5.000	4.77	µg/L	95% 85-115
1600659-CCV1	5.000	5.13	µg/L	103% 75-125
1600659-ICV2	5.000	4.38	µg/L	88% 85-115
1600659-CCV2	5.000	5.23	µg/L	105% 75-125
1600659-CCV3	5.000	5.18	µg/L	104% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600659
Instrument: ICP-MS-2
Date: 08/19/2016
Analyte: Pb

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.05000	0.049	µg/L	99%
1600659-CAL2	0.1000	0.102	µg/L	102%
1600659-CAL3	0.5000	0.518	µg/L	104%
1600659-CAL4	2.500	2.565	µg/L	103%
1600659-CAL5	5.000	5.165	µg/L	103%
1600659-CAL6	10.00	9.957	µg/L	100%
1600659-CAL7	25.00	24.04	µg/L	96%
1600659-CAL8	50.00	47.17	µg/L	94%
1600659-CCV1	2.500	2.537	µg/L	101% 75-125
1600659-ICV2	2.500	2.716	µg/L	109% 85-115
1600659-CCV2	2.500	2.514	µg/L	101% 75-125
1600659-CCV3	2.500	2.523	µg/L	101% 75-125

Analyte: Sb

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.02000	0.020	µg/L	99%
1600659-CAL2	0.04000	0.041	µg/L	103%
1600659-CAL3	0.2000	0.198	µg/L	99%
1600659-CAL4	1.000	1.006	µg/L	101%
1600659-CAL5	2.000	2.035	µg/L	102%
1600659-CAL6	4.000	3.928	µg/L	98%
1600659-CAL7	10.00	9.939	µg/L	99%
1600659-CAL8	20.00	19.95	µg/L	100%
1600659-ICV1	1.000	1.035	µg/L	104% 85-115
1600659-CCV1	1.000	0.978	µg/L	98% 75-125
1600659-ICV2	1.000	0.933	µg/L	93% 85-115
1600659-CCV2	1.000	1.017	µg/L	102% 75-125
1600659-CCV3	1.000	0.988	µg/L	99% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600659
Instrument: ICP-MS-2
Date: 08/19/2016
Analyte: Se 77

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.2000	0.20	µg/L	102%
1600659-CAL2	0.4000	0.38	µg/L	96%
1600659-CAL3	2.000	1.98	µg/L	99%
1600659-CAL4	10.00	10.33	µg/L	103%
1600659-CAL5	20.00	20.72	µg/L	104%
1600659-CAL6	40.00	40.68	µg/L	102%
1600659-CAL7	100.0	98.36	µg/L	98%
1600659-CAL8	200.0	192.1	µg/L	96%
1600659-ICV1	10.00	11.23	µg/L	112% 85-115
1600659-CCV1	10.00	9.76	µg/L	98% 75-125
1600659-ICV2	10.00	10.24	µg/L	102% 85-115
1600659-CCV2	10.00	9.95	µg/L	100% 75-125
1600659-CCV3	10.00	10.00	µg/L	100% 75-125

Analyte: Sr

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.05000	0.050	µg/L	100%
1600659-CAL2	0.1000	0.100	µg/L	100%
1600659-CAL3	0.5000	0.497	µg/L	99%
1600659-CAL4	5.000	4.855	µg/L	97%
1600659-CAL5	10.00	9.598	µg/L	96%
1600659-CAL6	50.00	48.30	µg/L	97%
1600659-CAL7	100.0	103.6	µg/L	104%
1600659-CAL8	200.0	214.6	µg/L	107%
1600659-ICV1	5.000	5.351	µg/L	107% 85-115
1600659-CCV1	5.000	4.721	µg/L	94% 75-125
1600659-ICV2	5.000	5.117	µg/L	102% 85-115
1600659-CCV2	5.000	4.699	µg/L	94% 75-125
1600659-CCV3	5.000	4.708	µg/L	94% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600659
Instrument: ICP-MS-2
Date: 08/19/2016
Analyte: Tl

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.01000	0.009	µg/L	95%
1600659-CAL2	0.02000	0.022	µg/L	108%
1600659-CAL3	0.1000	0.111	µg/L	111%
1600659-CAL4	0.2500	0.250	µg/L	100%
1600659-CAL5	0.5000	0.498	µg/L	100%
1600659-CAL6	2.500	2.427	µg/L	97%
1600659-CAL7	5.000	4.751	µg/L	95%
1600659-CAL8	10.00	9.461	µg/L	95%
1600659-ICV1	0.2500	0.279	µg/L	112% 85-115
1600659-CCV1	0.2500	0.251	µg/L	100% 75-125
1600659-ICV2	0.2500	0.263	µg/L	105% 85-115
1600659-CCV2	0.2500	0.250	µg/L	100% 75-125
1600659-CCV3	0.2500	0.246	µg/L	98% 75-125

Analyte: V

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.1500	0.15	µg/L	100%
1600659-CAL2	0.3000	0.30	µg/L	99%
1600659-CAL3	1.500	1.48	µg/L	99%
1600659-CAL4	5.000	4.86	µg/L	97%
1600659-CAL5	10.00	10.01	µg/L	100%
1600659-CAL6	20.00	20.07	µg/L	100%
1600659-CAL7	50.00	50.12	µg/L	100%
1600659-CAL8	100.0	103.2	µg/L	103%
1600659-ICV1	5.000	5.65	µg/L	113% 85-115
1600659-CCV1	5.000	4.95	µg/L	99% 75-125
1600659-ICV2	5.000	5.19	µg/L	104% 85-115
1600659-CCV2	5.000	4.90	µg/L	98% 75-125
1600659-CCV3	5.000	5.06	µg/L	101% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600659
Instrument: ICP-MS-2
Date: 08/19/2016
Analyte: Zn 66

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600659-CAL1	0.2000	0.20	µg/L	99%
1600659-CAL2	0.4000	0.40	µg/L	100%
1600659-CAL3	2.000	2.06	µg/L	103%
1600659-CAL4	5.000	5.74	µg/L	115%
1600659-CAL5	50.00	49.60	µg/L	99%
1600659-CAL6	250.0	238.7	µg/L	95%
1600659-CAL7	500.0	466.6	µg/L	93%
1600659-CAL8	1000	951.2	µg/L	95%
1600659-ICV1	5.000	5.43	µg/L	109% 85-115
1600659-CCV1	5.000	5.68	µg/L	114% 75-125
1600659-ICV2	5.000	5.05	µg/L	101% 85-115
1600659-CCV2	5.000	5.68	µg/L	114% 75-125
1600659-CCV3	5.000	5.66	µg/L	113% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600667
Instrument: ICP-MS-2
Date: 08/24/2016
Analyte: Al

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	1.000	0.98	µg/L	98%
1600667-CAL2	2.000	2.02	µg/L	101%
1600667-CAL3	10.00	9.59	µg/L	96%
1600667-CAL4	5.000	5.45	µg/L	109%
1600667-CAL5	50.00	51.09	µg/L	102%
1600667-CAL6	250.0	232.4	µg/L	93%
1600667-CAL7	500.0	496.4	µg/L	99%
1600667-CAL8	1000	1017	µg/L	102%
1600667-ICV1	50.00	48.68	µg/L	97% 85-115
1600667-CCV1	5.000	5.49	µg/L	110% 75-125
1600667-CCV2	5.000	5.62	µg/L	112% 75-125
1600667-CCV3	5.000	5.66	µg/L	113% 75-125
1600667-CCV4	5.000	5.47	µg/L	109% 75-125
1600667-CCV5	5.000	4.24	µg/L	85% 75-125
1600667-CCV6	5.000	4.17	µg/L	83% 75-125
1600667-CCV7	5.000	4.12	µg/L	82% 75-125
1600667-CCV8	5.000	4.11	µg/L	82% 75-125
1600667-CCV9	5.000	4.24	µg/L	85% 75-125

Analyte: As 75

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.2000	0.20	µg/L	98%
1600667-CAL2	0.4000	0.42	µg/L	104%
1600667-CAL3	2.000	2.01	µg/L	100%
1600667-CAL4	5.000	4.97	µg/L	99%
1600667-CAL5	10.00	10.09	µg/L	101%
1600667-CAL6	50.00	48.91	µg/L	98%
1600667-CAL7	100.0	98.03	µg/L	98%
1600667-CAL8	200.0	202.9	µg/L	101%
1600667-ICV1	5.000	5.57	µg/L	111% 85-115
1600667-CCV1	5.000	5.25	µg/L	105% 75-125
1600667-CCV2	5.000	5.22	µg/L	104% 75-125
1600667-CCV3	5.000	4.77	µg/L	95% 75-125
1600667-CCV4	5.000	5.10	µg/L	102% 75-125
1600667-CCV5	5.000	5.03	µg/L	101% 75-125
1600667-CCV6	5.000	4.97	µg/L	99% 75-125
1600667-CCV7	5.000	4.93	µg/L	99% 75-125
1600667-CCV8	5.000	4.92	µg/L	98% 75-125
1600667-CCV9	5.000	4.68	µg/L	94% 75-125



Instrument Calibration

Sequence: 1600667
Instrument: ICP-MS-2
Date: 08/24/2016
Analyte: B

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	1.000	1.02	µg/L	102%
1600667-CAL2	2.000	1.90	µg/L	95%
1600667-CAL3	10.00	10.51	µg/L	105%
1600667-CAL4	50.00	50.12	µg/L	100%
1600667-CAL5	100.0	102.4	µg/L	102%
1600667-CAL6	500.0	517.6	µg/L	104%
1600667-CAL7	1000	996.3	µg/L	100%
1600667-CAL8	2000	1844	µg/L	92%
1600667-ICV1	50.00	52.43	µg/L	105% 85-115
1600667-CCV1	50.00	51.32	µg/L	103% 75-125
1600667-CCV2	50.00	51.87	µg/L	104% 75-125
1600667-CCV3	50.00	56.21	µg/L	112% 75-125
1600667-CCV4	50.00	48.56	µg/L	97% 75-125
1600667-CCV5	50.00	52.57	µg/L	105% 75-125
1600667-CCV6	50.00	49.04	µg/L	98% 75-125
1600667-CCV7	50.00	51.21	µg/L	102% 75-125
1600667-CCV8	50.00	52.19	µg/L	104% 75-125
1600667-CCV9	50.00	50.25	µg/L	101% 75-125

Analyte: Ba

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.05000	0.05	µg/L	100%
1600667-CAL2	0.1000	0.10	µg/L	101%
1600667-CAL3	0.5000	0.47	µg/L	94%
1600667-CAL4	2.500	2.45	µg/L	98%
1600667-CAL5	25.00	23.86	µg/L	95%
1600667-CAL6	125.0	127.2	µg/L	102%
1600667-CAL7	250.0	252.8	µg/L	101%
1600667-CAL8	500.0	541.1	µg/L	108%
1600667-ICV1	2.500	2.51	µg/L	100% 85-115
1600667-CCV1	2.500	2.59	µg/L	104% 75-125
1600667-CCV2	2.500	2.67	µg/L	107% 75-125
1600667-CCV3	2.500	2.51	µg/L	100% 75-125
1600667-CCV4	2.500	2.56	µg/L	103% 75-125
1600667-CCV5	2.500	2.08	µg/L	83% 75-125
1600667-CCV6	2.500	2.04	µg/L	82% 75-125
1600667-CCV7	2.500	2.01	µg/L	80% 75-125
1600667-CCV8	2.500	2.05	µg/L	82% 75-125
1600667-CCV9	2.500	1.91	µg/L	77% 75-125



Instrument Calibration

Sequence: 1600667
Instrument: ICP-MS-2
Date: 08/24/2016
Analyte: Be

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.05000	0.050	µg/L	101%
1600667-CAL2	0.1000	0.096	µg/L	96%
1600667-CAL3	0.5000	0.566	µg/L	113%
1600667-CAL4	1.000	0.963	µg/L	96%
1600667-CAL5	2.000	2.030	µg/L	101%
1600667-CAL6	4.000	4.042	µg/L	101%
1600667-CAL7	10.00	9.604	µg/L	96%
1600667-CAL8	20.00	19.03	µg/L	95%
1600667-ICV1	1.000	1.007	µg/L	101% 85-115
1600667-CCV1	1.000	0.998	µg/L	100% 75-125
1600667-CCV2	1.000	1.023	µg/L	102% 75-125
1600667-CCV3	1.000	1.019	µg/L	102% 75-125
1600667-CCV4	1.000	0.940	µg/L	94% 75-125
1600667-CCV5	1.000	0.983	µg/L	98% 75-125
1600667-CCV6	1.000	0.887	µg/L	89% 75-125
1600667-CCV7	1.000	0.997	µg/L	100% 75-125
1600667-CCV8	1.000	0.997	µg/L	100% 75-125
1600667-CCV9	1.000	0.954	µg/L	95% 75-125

Analyte: Cd 111

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.01000	0.010	µg/L	102%
1600667-CAL2	0.02000	0.019	µg/L	95%
1600667-CAL3	0.1000	0.109	µg/L	109%
1600667-CAL4	0.5000	0.466	µg/L	93%
1600667-CAL5	1.000	0.994	µg/L	99%
1600667-CAL6	5.000	5.023	µg/L	100%
1600667-CAL7	10.00	9.827	µg/L	98%
1600667-CAL8	20.00	20.66	µg/L	103%
1600667-ICV1	0.5000	0.542	µg/L	108% 85-115
1600667-CCV1	0.5000	0.499	µg/L	100% 75-125
1600667-CCV2	0.5000	0.516	µg/L	103% 75-125
1600667-CCV3	0.5000	0.485	µg/L	97% 75-125
1600667-CCV4	0.5000	0.480	µg/L	96% 75-125
1600667-CCV5	0.5000	0.489	µg/L	98% 75-125
1600667-CCV6	0.5000	0.480	µg/L	96% 75-125
1600667-CCV7	0.5000	0.489	µg/L	98% 75-125
1600667-CCV8	0.5000	0.491	µg/L	98% 75-125
1600667-CCV9	0.5000	0.453	µg/L	91% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600667
Instrument: ICP-MS-2
Date: 08/24/2016
Analyte: Co

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.1000	0.10	µg/L	98%
1600667-CAL2	0.2000	0.21	µg/L	104%
1600667-CAL3	1.000	1.01	µg/L	101%
1600667-CAL4	2.500	2.50	µg/L	100%
1600667-CAL5	5.000	4.87	µg/L	97%
1600667-CAL6	25.00	24.68	µg/L	99%
1600667-CAL7	50.00	49.16	µg/L	98%
1600667-CAL8	100.0	103.1	µg/L	103%
1600667-ICV1	2.500	2.67	µg/L	107% 85-115
1600667-CCV1	2.500	2.54	µg/L	101% 75-125
1600667-CCV2	2.500	2.48	µg/L	99% 75-125
1600667-CCV3	2.500	2.36	µg/L	94% 75-125
1600667-CCV4	2.500	2.44	µg/L	98% 75-125
1600667-CCV5	2.500	2.37	µg/L	95% 75-125
1600667-CCV6	2.500	2.43	µg/L	97% 75-125
1600667-CCV7	2.500	2.41	µg/L	96% 75-125
1600667-CCV8	2.500	2.37	µg/L	95% 75-125
1600667-CCV9	2.500	2.33	µg/L	93% 75-125

Analyte: Cr 52

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.1500	0.14	µg/L	96%
1600667-CAL2	0.3000	0.32	µg/L	108%
1600667-CAL3	1.500	1.47	µg/L	98%
1600667-CAL4	12.50	12.04	µg/L	96%
1600667-CAL5	25.00	23.72	µg/L	95%
1600667-CAL6	125.0	119.8	µg/L	96%
1600667-CAL7	250.0	256.5	µg/L	103%
1600667-CAL8	500.0	541.2	µg/L	108%
1600667-ICV1	12.50	12.92	µg/L	103% 85-115
1600667-CCV1	12.50	12.19	µg/L	98% 75-125
1600667-CCV2	12.50	11.92	µg/L	95% 75-125
1600667-CCV3	12.50	11.28	µg/L	90% 75-125
1600667-CCV4	12.50	11.69	µg/L	94% 75-125
1600667-CCV5	12.50	11.44	µg/L	92% 75-125
1600667-CCV6	12.50	11.76	µg/L	94% 75-125
1600667-CCV7	12.50	11.47	µg/L	92% 75-125
1600667-CCV8	12.50	11.39	µg/L	91% 75-125
1600667-CCV9	12.50	11.07	µg/L	89% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600667
Instrument: ICP-MS-2
Date: 08/24/2016
Analyte: Cu 63

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.2000	0.19	µg/L	95%
1600667-CAL2	0.4000	0.44	µg/L	110%
1600667-CAL3	2.000	2.05	µg/L	103%
1600667-CAL4	5.000	4.91	µg/L	98%
1600667-CAL5	10.00	10.37	µg/L	104%
1600667-CAL6	50.00	48.84	µg/L	98%
1600667-CAL7	100.0	97.39	µg/L	97%
1600667-CAL8	200.0	191.3	µg/L	96%
1600667-ICV1	5.000	5.45	µg/L	109% 85-115
1600667-CCV1	5.000	5.09	µg/L	102% 75-125
1600667-CCV2	5.000	5.37	µg/L	107% 75-125
1600667-CCV3	5.000	5.00	µg/L	100% 75-125
1600667-CCV4	5.000	4.98	µg/L	100% 75-125
1600667-CCV5	5.000	5.01	µg/L	100% 75-125
1600667-CCV6	5.000	5.03	µg/L	101% 75-125
1600667-CCV7	5.000	5.00	µg/L	100% 75-125
1600667-CCV8	5.000	5.07	µg/L	101% 75-125
1600667-CCV9	5.000	4.84	µg/L	97% 75-125

Analyte: Fe 57

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	5.000	5.0	µg/L	100%
1600667-CAL2	10.00	9.9	µg/L	99%
1600667-CAL3	50.00	49.8	µg/L	100%
1600667-CAL4	250.0	249.7	µg/L	100%
1600667-CAL5	500.0	485.3	µg/L	97%
1600667-CAL6	2500	2462	µg/L	98%
1600667-CAL7	5000	4850	µg/L	97%
1600667-CAL8	10000	10830	µg/L	108%
1600667-ICV1	250.0	263.9	µg/L	106% 85-115
1600667-CCV1	250.0	250.1	µg/L	100% 75-125
1600667-CCV2	250.0	248.3	µg/L	99% 75-125
1600667-CCV3	250.0	236.0	µg/L	94% 75-125
1600667-CCV4	250.0	243.5	µg/L	97% 75-125
1600667-CCV5	250.0	234.9	µg/L	94% 75-125
1600667-CCV6	250.0	240.4	µg/L	96% 75-125
1600667-CCV7	250.0	239.1	µg/L	96% 75-125
1600667-CCV8	250.0	237.2	µg/L	95% 75-125
1600667-CCV9	250.0	241.4	µg/L	97% 75-125



Instrument Calibration

Sequence: 1600667
Instrument: ICP-MS-2
Date: 08/24/2016
Analyte: Mn

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.05000	0.050	µg/L	100%
1600667-CAL2	0.1000	0.101	µg/L	101%
1600667-CAL3	0.5000	0.487	µg/L	97%
1600667-CAL4	2.500	2.640	µg/L	106%
1600667-CAL5	25.00	23.77	µg/L	95%
1600667-CAL6	125.0	120.8	µg/L	97%
1600667-CAL7	250.0	251.9	µg/L	101%
1600667-CAL8	500.0	520.1	µg/L	104%
1600667-ICV1	2.500	2.609	µg/L	104% 85-115
1600667-CCV1	2.500	2.686	µg/L	107% 75-125
1600667-CCV2	2.500	2.694	µg/L	108% 75-125
1600667-CCV3	2.500	2.545	µg/L	102% 75-125
1600667-CCV4	2.500	2.678	µg/L	107% 75-125
1600667-CCV5	2.500	2.034	µg/L	81% 75-125
1600667-CCV6	2.500	2.063	µg/L	83% 75-125
1600667-CCV7	2.500	2.322	µg/L	93% 75-125
1600667-CCV8	2.500	2.081	µg/L	83% 75-125
1600667-CCV9	2.500	2.023	µg/L	81% 75-125

Analyte: Mo

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.02000	0.020	µg/L	98%
1600667-CAL2	0.04000	0.042	µg/L	105%
1600667-CAL3	0.2000	0.197	µg/L	99%
1600667-CAL4	0.5000	0.503	µg/L	101%
1600667-CAL5	5.000	4.849	µg/L	97%
1600667-CAL6	25.00	24.64	µg/L	99%
1600667-CAL7	50.00	49.14	µg/L	98%
1600667-CAL8	100.0	104.4	µg/L	104%
1600667-ICV1	0.5000	0.532	µg/L	106% 85-115
1600667-CCV1	0.5000	0.508	µg/L	102% 75-125
1600667-CCV2	0.5000	0.510	µg/L	102% 75-125
1600667-CCV3	0.5000	0.501	µg/L	100% 75-125
1600667-CCV4	0.5000	0.512	µg/L	102% 75-125
1600667-CCV5	0.5000	0.396	µg/L	79% 75-125
1600667-CCV6	0.5000	0.395	µg/L	79% 75-125
1600667-CCV7	0.5000	0.396	µg/L	79% 75-125
1600667-CCV8	0.5000	0.397	µg/L	79% 75-125
1600667-CCV9	0.5000	0.373	µg/L	75% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600667
Instrument: ICP-MS-2
Date: 08/24/2016
Analyte: Ni 60

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.2000	0.20	µg/L	98%
1600667-CAL2	0.4000	0.41	µg/L	104%
1600667-CAL3	2.000	1.98	µg/L	99%
1600667-CAL4	5.000	4.94	µg/L	99%
1600667-CAL5	10.00	10.65	µg/L	106%
1600667-CAL6	50.00	48.87	µg/L	98%
1600667-CAL7	100.0	96.03	µg/L	96%
1600667-CAL8	200.0	199.9	µg/L	100%
1600667-ICV1	5.000	5.42	µg/L	108% 85-115
1600667-CCV1	5.000	4.95	µg/L	99% 75-125
1600667-CCV2	5.000	4.85	µg/L	97% 75-125
1600667-CCV3	5.000	4.63	µg/L	93% 75-125
1600667-CCV4	5.000	4.90	µg/L	98% 75-125
1600667-CCV5	5.000	4.65	µg/L	93% 75-125
1600667-CCV6	5.000	4.77	µg/L	95% 75-125
1600667-CCV7	5.000	4.68	µg/L	94% 75-125
1600667-CCV8	5.000	4.68	µg/L	94% 75-125
1600667-CCV9	5.000	4.51	µg/L	90% 75-125

Analyte: Pb

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.05000	0.048	µg/L	96%
1600667-CAL2	0.1000	0.107	µg/L	107%
1600667-CAL3	0.5000	0.525	µg/L	105%
1600667-CAL4	2.500	2.358	µg/L	94%
1600667-CAL5	5.000	5.002	µg/L	100%
1600667-CAL6	10.00	10.03	µg/L	100%
1600667-CAL7	25.00	24.21	µg/L	97%
1600667-CAL8	50.00	50.33	µg/L	101%
1600667-ICV1	2.500	2.724	µg/L	109% 85-115
1600667-CCV1	2.500	2.540	µg/L	102% 75-125
1600667-CCV2	2.500	2.608	µg/L	104% 75-125
1600667-CCV3	2.500	2.463	µg/L	99% 75-125
1600667-CCV4	2.500	2.523	µg/L	101% 75-125
1600667-CCV5	2.500	2.506	µg/L	100% 75-125
1600667-CCV6	2.500	2.514	µg/L	101% 75-125
1600667-CCV7	2.500	2.442	µg/L	98% 75-125
1600667-CCV8	2.500	2.504	µg/L	100% 75-125
1600667-CCV9	2.500	2.334	µg/L	93% 75-125



Instrument Calibration

Sequence: 1600667
Instrument: ICP-MS-2
Date: 08/24/2016
Analyte: Sb

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.02000	0.021	µg/L	103%
1600667-CAL2	0.04000	0.037	µg/L	94%
1600667-CAL3	0.2000	0.196	µg/L	98%
1600667-CAL4	1.000	0.930	µg/L	93%
1600667-CAL5	2.000	2.033	µg/L	102%
1600667-CAL6	4.000	4.041	µg/L	101%
1600667-CAL7	10.00	10.13	µg/L	101%
1600667-CAL8	20.00	21.63	µg/L	108%
1600667-ICV1	1.000	0.921	µg/L	92% 85-115
1600667-CCV1	1.000	0.979	µg/L	98% 75-125
1600667-CCV2	1.000	1.016	µg/L	102% 75-125
1600667-CCV3	1.000	0.961	µg/L	96% 75-125
1600667-CCV4	1.000	0.957	µg/L	96% 75-125
1600667-CCV5	1.000	0.953	µg/L	95% 75-125
1600667-CCV6	1.000	0.948	µg/L	95% 75-125
1600667-CCV7	1.000	0.941	µg/L	94% 75-125
1600667-CCV8	1.000	0.969	µg/L	97% 75-125
1600667-CCV9	1.000	0.907	µg/L	91% 75-125

Analyte: Se 82

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.2000	0.20	µg/L	100%
1600667-CAL2	0.4000	0.39	µg/L	98%
1600667-CAL3	2.000	2.16	µg/L	108%
1600667-CAL4	10.00	9.50	µg/L	95%
1600667-CAL5	20.00	20.41	µg/L	102%
1600667-CAL6	40.00	40.44	µg/L	101%
1600667-CAL7	100.0	97.67	µg/L	98%
1600667-CAL8	200.0	195.8	µg/L	98%
1600667-ICV1	10.00	10.80	µg/L	108% 85-115
1600667-CCV1	10.00	10.37	µg/L	104% 75-125
1600667-CCV2	10.00	10.59	µg/L	106% 75-125
1600667-CCV3	10.00	9.98	µg/L	100% 75-125
1600667-CCV4	10.00	10.27	µg/L	103% 75-125
1600667-CCV5	10.00	10.21	µg/L	102% 75-125
1600667-CCV6	10.00	10.19	µg/L	102% 75-125
1600667-CCV7	10.00	10.04	µg/L	100% 75-125
1600667-CCV8	10.00	9.91	µg/L	99% 75-125
1600667-CCV9	10.00	9.02	µg/L	90% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600667
Instrument: ICP-MS-2
Date: 08/24/2016
Analyte: Sn

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.1500	0.147	µg/L	98%
1600667-CAL2	0.3000	0.315	µg/L	105%
1600667-CAL3	1.500	1.530	µg/L	102%
1600667-CAL4	2.500	2.255	µg/L	90%
1600667-CAL5	5.000	5.039	µg/L	101%
1600667-CAL6	10.00	10.02	µg/L	100%
1600667-CAL7	25.00	24.67	µg/L	99%
1600667-CAL8	50.00	52.65	µg/L	105%
1600667-ICV1	2.500	2.788	µg/L	112% 85-115
1600667-CCV1	2.500	2.368	µg/L	95% 75-125
1600667-CCV2	2.500	2.480	µg/L	99% 75-125
1600667-CCV3	2.500	2.333	µg/L	93% 75-125
1600667-CCV4	2.500	2.346	µg/L	94% 75-125
1600667-CCV5	2.500	2.343	µg/L	94% 75-125
1600667-CCV6	2.500	2.297	µg/L	92% 75-125
1600667-CCV7	2.500	2.311	µg/L	92% 75-125
1600667-CCV8	2.500	2.919	µg/L	117% 75-125
1600667-CCV9	2.500	2.197	µg/L	88% 75-125

Analyte: Sr

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.05000	0.048	µg/L	97%
1600667-CAL2	0.1000	0.107	µg/L	107%
1600667-CAL3	0.5000	0.493	µg/L	99%
1600667-CAL4	5.000	4.589	µg/L	92%
1600667-CAL5	10.00	9.745	µg/L	97%
1600667-CAL6	50.00	48.93	µg/L	98%
1600667-CAL7	100.0	102.1	µg/L	102%
1600667-CAL8	200.0	216.8	µg/L	108%
1600667-ICV1	5.000	5.332	µg/L	107% 85-115
1600667-CCV1	5.000	4.891	µg/L	98% 75-125
1600667-CCV2	5.000	5.000	µg/L	100% 75-125
1600667-CCV3	5.000	4.632	µg/L	93% 75-125
1600667-CCV4	5.000	4.779	µg/L	96% 75-125
1600667-CCV5	5.000	4.799	µg/L	96% 75-125
1600667-CCV6	5.000	4.760	µg/L	95% 75-125
1600667-CCV7	5.000	4.698	µg/L	94% 75-125
1600667-CCV8	5.000	4.768	µg/L	95% 75-125
1600667-CCV9	5.000	4.431	µg/L	89% 75-125



Instrument Calibration

Sequence: 1600667
Instrument: ICP-MS-2
Date: 08/24/2016
Analyte: Ti 47

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.2000	0.20	µg/L	100%
1600667-CAL2	0.4000	0.40	µg/L	100%
1600667-CAL3	2.000	2.06	µg/L	103%
1600667-CAL4	5.000	4.85	µg/L	97%
1600667-CAL5	10.00	9.39	µg/L	94%
1600667-CAL6	50.00	50.30	µg/L	101%
1600667-CAL7	100.0	100.9	µg/L	101%
1600667-CAL8	200.0	208.6	µg/L	104%
1600667-ICV1	5.000	5.35	µg/L	107% 85-115
1600667-CCV1	5.000	5.01	µg/L	100% 75-125
1600667-CCV2	5.000	4.91	µg/L	98% 75-125
1600667-CCV3	5.000	4.77	µg/L	95% 75-125
1600667-CCV4	5.000	4.82	µg/L	96% 75-125
1600667-CCV5	5.000	4.84	µg/L	97% 75-125
1600667-CCV6	5.000	4.83	µg/L	97% 75-125
1600667-CCV7	5.000	4.71	µg/L	94% 75-125
1600667-CCV8	5.000	4.66	µg/L	93% 75-125
1600667-CCV9	5.000	4.64	µg/L	93% 75-125

Analyte: TI

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.01000	0.009	µg/L	93%
1600667-CAL2	0.02000	0.022	µg/L	112%
1600667-CAL3	0.1000	0.110	µg/L	110%
1600667-CAL4	0.2500	0.232	µg/L	93%
1600667-CAL5	0.5000	0.490	µg/L	98%
1600667-CAL6	2.500	2.457	µg/L	98%
1600667-CAL7	5.000	4.807	µg/L	96%
1600667-CAL8	10.00	9.942	µg/L	99%
1600667-ICV1	0.2500	0.262	µg/L	105% 85-115
1600667-CCV1	0.2500	0.251	µg/L	101% 75-125
1600667-CCV2	0.2500	0.256	µg/L	102% 75-125
1600667-CCV3	0.2500	0.242	µg/L	97% 75-125
1600667-CCV4	0.2500	0.248	µg/L	99% 75-125
1600667-CCV5	0.2500	0.251	µg/L	100% 75-125
1600667-CCV6	0.2500	0.247	µg/L	99% 75-125
1600667-CCV7	0.2500	0.243	µg/L	97% 75-125
1600667-CCV8	0.2500	0.254	µg/L	102% 75-125
1600667-CCV9	0.2500	0.236	µg/L	95% 75-125

Project ID: example
PM: example



Client PM: example

Instrument Calibration

Sequence: 1600667
Instrument: ICP-MS-2
Date: 08/24/2016
Analyte: V

Trace Metals by ICP-MS
Method: EPA Method 1638 mod.

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.1500	0.15	µg/L	98%
1600667-CAL2	0.3000	0.31	µg/L	104%
1600667-CAL3	1.500	1.48	µg/L	99%
1600667-CAL4	5.000	4.85	µg/L	97%
1600667-CAL5	10.00	9.88	µg/L	99%
1600667-CAL6	20.00	19.94	µg/L	100%
1600667-CAL7	50.00	49.42	µg/L	99%
1600667-CAL8	100.0	104.7	µg/L	105%
1600667-ICV1	5.000	5.22	µg/L	104% 85-115
1600667-CCV1	5.000	4.93	µg/L	99% 75-125
1600667-CCV2	5.000	4.89	µg/L	98% 75-125
1600667-CCV3	5.000	4.70	µg/L	94% 75-125
1600667-CCV4	5.000	4.87	µg/L	97% 75-125
1600667-CCV5	5.000	4.66	µg/L	93% 75-125
1600667-CCV6	5.000	4.80	µg/L	96% 75-125
1600667-CCV7	5.000	4.64	µg/L	93% 75-125
1600667-CCV8	5.000	5.46	µg/L	109% 75-125
1600667-CCV9	5.000	4.58	µg/L	92% 75-125

Analyte: Zn 66

Lab ID	True Value	Result	Units	REC & Limits
1600667-CAL1	0.2000	0.20	µg/L	99%
1600667-CAL2	0.4000	0.41	µg/L	102%
1600667-CAL3	2.000	2.03	µg/L	101%
1600667-CAL4	5.000	5.50	µg/L	110%
1600667-CAL5	50.00	50.87	µg/L	102%
1600667-CAL6	250.0	243.7	µg/L	97%
1600667-CAL7	500.0	477.0	µg/L	95%
1600667-CAL8	1000	936.4	µg/L	94%
1600667-CCV1	5.000	5.66	µg/L	113% 75-125
1600667-CCV2	5.000	5.94	µg/L	119% 75-125
1600667-CCV3	5.000	5.58	µg/L	112% 75-125
1600667-CCV4	5.000	5.52	µg/L	110% 75-125
1600667-CCV5	5.000	4.37	µg/L	87% 75-125
1600667-CCV6	5.000	4.36	µg/L	87% 75-125
1600667-CCV7	5.000	4.42	µg/L	88% 75-125
1600667-CCV8	5.000	4.51	µg/L	90% 75-125
1600667-CCV9	5.000	4.47	µg/L	89% 75-125

Project ID: example
PM: example



Client PM: example

Sample Containers

Lab ID: 1630027-01 Sample: Tin & Titanium				Report Matrix: Water Sample Type: QC Sample				Collected: unknown Received: 07/22/2016
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.	Comments
A	Bottle HDPE ICP-W	Vial					Cardboard Box	
Lab ID: 1630027-02 Sample: Hardness				Report Matrix: Water Sample Type: QC Sample				Collected: 07/22/2016 Received: 07/22/2016
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.	Comments
A	Bottle HDPE ICP-W	125 mL					Cardboard Box	
Lab ID: 1630027-03 Sample: Low Level Hg (WP-174)				Report Matrix: Water Sample Type: QC Sample				Collected: 07/22/2016 Received: 07/22/2016
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.	Comments
A	Bottle FLPE Hg-T						Cardboard Box	
Lab ID: 1630027-04 Sample: Trace Metals				Report Matrix: Water Sample Type: QC Sample				Collected: 07/22/2016 Received: 07/22/2016
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.	Comments
A	Bottle HDPE ICP-W	40-mL		None	n/a		Cardboard Box	
Lab ID: 1630027-05 Sample: Trace Metals in Soil				Report Matrix: Soil/Sediment Sample Type: QC Sample				Collected: 07/22/2016 Received: 07/22/2016
Comments: Prep by both RAR and nitric only prep								
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.	Comments
A	Jar Glass						Cardboard Box	
Lab ID: 1630027-06 Sample: CrVI in Soil				Report Matrix: Soil/Sediment Sample Type: QC Sample				Collected: 07/22/2016 Received: 07/22/2016
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.	Comments
A	Jar Glass						Cardboard Box	

Project ID: example
PM: example



Client PM: example

Sample Containers

Lab ID: 1630027-07 Sample:
Hardness (TSS split)

Report Matrix: Water
Sample Type: QC Sample

Collected: 07/22/2016
Received: 07/22/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.	Comments
A	Bottle HDPE ICP-W	500 mL					Cardboard Box	

Shipping Containers

Cardboard Box

Received: July 22, 2016 9:00 Tracking
No: 411715265816 via FedEx Coolant
Type: None
Temperature: ambient

Description: Cardboard Box
Damaged in transit? No
Returned to client? No

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

Followed by:

Chain of Custody

Waybill

Full Sequence Information

Preparation & Analytical Bench Sheets

Instrument Printouts of Raw Data