



Newmont Mining Corporation
Cripple Creek & Victor Gold Mining Company
100 N 3rd St
P.O. Box 191
Victor, CO 80860

www.newmont.com

April 6, 2017

SENT CERTIFIED RETURN RECEIPT REQUESTED
7015-1660-0000-0779-8904

Ms. Amy Eschberger
Environmental Protection Specialist
Colorado Department of Natural Resources
Division of Reclamation, Mining and Safety
Office of Mined Land Reclamation
1313 Sherman Street, Room 215
Denver, Colorado 80203

Re: Permit No. M-1980-244; Cripple Creek & Victor Gold Mining Company ("CC&V");
Cresson Project; – Chicago Tunnel December 2016 Inspection Response – Rock Material
Sampling and Analysis

Dear Ms. Eschberger,

Within the December 2016 DRMS inspection report received 9th March 2017, it was found that "The Operator has failed to follow the approved mining plan for this permit as revised by Technical Revision No. 3 (TR-3). The Division's conditional approval of TR-3 required geochemical analyses of material relocated from inside the adit to surface, as necessary to determine whether the material is toxic or acid forming. The Operator has removed mine development material from the adit and stockpiled it at the surface. However, the Division has no evidence the Operator has conducted geochemical analyses of such material."

The inspection report required two corrective actions. The first, due 4/8/17, is to sample rock material removed from the Chicago Tunnel adit which is to be sent to a laboratory for analyses of the material's toxic and acid producing capabilities. The second, due 7/7/17, is to provide to the Division the laboratory results of such analyses, include a report summarizing the results, describing where the material will be moved to accordingly, and providing an estimated timeline for completion.

The purpose of this correspondence is to demonstrate CC&V has completed the corrective actions by collecting rock material samples and conducting proper chemical analyses. CC&V believes this work demonstrates it is unlikely the rock material will adversely affect the environment.

Corrective Actions from DRMS December 20, 2016 Site Inspection Report

Corrective action #1:

The Operator shall, within 30 days of the signature date of this inspection report, demonstrate representative samples have been collected from the material removed from the adit, and sent to a laboratory for analyses of the material's toxic and acid producing capabilities.

CC&V's response: *In mid-November 2016, CC&V staff sampled six locations where development rock material from the Chicago Tunnel Mine adit was placed in four piles (Figure 1).*

Figure 1 below highlights each of the six locations sampled. Sampling locations #1 and #2 are considered one pile, whilst, sampling locations #5 and #6 are also considered one pile. A total of six samples were collected in order to sample the four piles. As a point of reference, the Chicago Tunnel storm water catchment pond is directly northeast of sampling locations #1 and #2. The north direction is located at the top of the figure.

Representative samples of each of the piles were obtained by taking a 6 ft. long transect approximately 8 inches deep resulting in a 20lb sample. Each sample was sent to two laboratories for chemical analyses. Total metal and Toxicity Characteristic Leaching Procedure (TCLP) analyses were completed by Midcontinent Testing Laboratories, Inc. Potential for acid generation or acid neutralization, commonly referred to as Acid-Base Accounting, resulting from the rock material was analyzed for by ACZ Laboratories, Inc.



Figure 1: Plan view of the rock material piles immediately west of the Chicago Tunnel Mine.

Corrective action #2:

The Operator shall, within 120 days of the signature date of this inspection report, provide to the Division the laboratory results of such analyses, include a report summarizing the results, describing where the material will be moved to accordingly, and providing an estimated timeline for completion.

CC&V's response: Due to the potential for metal mobility focus was given to obtaining TCLP results with a Total Metals analyses; the results are found in Attachment 1. With the exception of Barium, all results were at the practical quantification level (PQL). In fact, TCLP results indicated elements As, Ba, Cd, Cr, Pb, Hg, Se, and Ag were between 2 and 3 orders of magnitude lower than the regulatory limits set for the procedure indicating that only a trace concentration of these elements exist in the rock material.

The Net Neutralizing Potential (NNP), or the potential for a rock mass to neutralize acid, was determined for each of the sampling locations. All six samples were analyzed for acid generation potential and acid neutralizing potential. A summary of the Acid Base Accounting (ABA) laboratory results can be seen below in Table 1 whilst a full report analyses are found in Attachment 1. All samples were found to have a NNP between 0 and -20.

Based on literature from Fey (2003), NNP values between -20 kg/ton CaCO_3 and 20 kg/ton CaCO_3 are considered in the range of uncertainty whether acid will be generated or remain a neutral pH. Any sample with $\text{NNP} < 20$ is potentially acid generating, while any sample with $\text{NNP} > -20$ might not generate acid (de Wet, 2012).

Table 1 : Chicago Tunnel Acid Base Accounting (ABA) Summary

<i>Sample Location</i>	<i>Acid Generation Potential (t CaCO_3/Kt)</i>	<i>Acid Neutralization Potential (t CaCO_3/Kt)</i>	<i>Net Neutralizing Potential (t CaCO_3/Kt)</i>
#1	19.1	5.0	-14.1
#2	14.7	5.0	-9.7
#3	15.6	7.0	-8.6
#4	11.3	6.0	-5.2
#5	10.0	5.0	-5.0
#6	11.3	6.0	-5.2

CC&V estimates approximately 5,000 tons of development rock material is present in the piles shown in Figure 1. Given the short residence time of the rock material and its very low likelihood for metal mobility away from the piles, CC&V proposed to address the final management of the identified stockpiles within the Cresson Project Amendment 12 submission, due to be submitted to the State in mid-2017. Options currently being considered for the management of the material include;

- *Insitu reclamation of the material;*
- *Relocation of the material to an appropriate location at the Chicago Tunnel Site (Eg Portal/Adit Buttressing); or*
- *Relocation of the material to an appropriate location at the Cresson Project Site (eg ECOSA).*

The timeline for completion of removal or reclamation of all rock material, including sample location #4, is predicated on the ability for CC&V to purchase all affected lands. CC&V has been engaged with this activity since December 2016 and assuming access is possible to all rock material piles described in this correspondence, CC&V proposes to remove or reclaim the piles by December 31, 2017.

References:

de Wet, L., 2012. Acid Base Accounting of Mining Ore and Waste, Waterlab Ltd and NLA-SA, Test & Measurement Conference. Retrieved from

<http://www.nla.org.za/webfiles/conferences/2012/Presentations/Tuesday,%204%20September/T204%20%20The%20use%20of%20sulphur%20determination,%20acid%20base%20accounting%20and%20other%20static%20methods%20to%20accurately%20predict%20acid%20rock%20drainage.pdf> , 44p.

Fey, D.L., 2003. Acid-Base Accounting; Assessing the Toxicity Potential of Mine-Waste Pile Workshop; USGS; ASMR Annual Meeting. Retrieved from https://pubs.usgs.gov/of/2003/ofr-03-210/Section508/IX_Acid-base_Accounting-508.pdf , 34p.

Should you require further information please do not hesitate to contact Erik Munroe at 719-689-4156 or myself at (719) 689- 4055 or Meg.Burt@newmont.com.

Sincerely,



Meg Burt
Senior Environmental Manager
Cripple Creek & Victor Gold Mining Co

Attachment 1 – Laboratory Results



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: #1
Sampled: 11/14/16 at 08:00 AM
by Bleys Andromeda-Focht
Sample Matrix: Soil

Lab ID#: 20161121701
Received: 11/17/16 at 09:45 AM
by Bobbie Laurenz
Account: W1123 - Cripple Creek / Victor
Gold

BLEYS ANDROMEDA FOCHT
CRIPPLE CREEK/VICTOR GOLD
PO BOX 191
VICTOR, CO 80860

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Aluminum (Al)	8910	mg/kg	250000	20.0	250	EPA 200.8	TNA	12/05/16
Antimony (Sb)	< 0.125	mg/kg	250	0.009	0.125	EPA 200.8	TNA	12/06/16
Arsenic (As)	13.8	mg/kg	2500	0.218	1.25	EPA 200.8	TNA	12/05/16
Beryllium (Be)	0.724	mg/kg	250	0.005	0.025	EPA 200.8	TNA	12/06/16
Bismuth	2.63	mg/kg	250			EPA 200.8	TNA	12/06/16
Cadmium (Cd)	0.355	mg/kg	250	0.003	0.025	EPA 200.8	TNA	12/06/16
Calcium (Ca)	1730	mg/kg	75	1.61	75.0	SM 3111 B	TMS	12/02/16
Chromium (Cr)	12.2	mg/kg	2500	0.023	0.250	EPA 200.8 DRC	TNA	12/05/16
Cobalt (Co)	2.00	mg/kg	250	0.001	0.025	EPA 200.8	TNA	12/06/16
Copper (Cu)	37.6	mg/kg	2500	0.053	1.25	EPA 200.8	TNA	12/05/16
Gold (Au)	0.051	mg/kg	25			EPA 231.2	TNA	12/06/16
Iron (Fe)	32100	mg/kg	250000	52.8	1250	EPA 200.8	TNA	12/05/16
Lead (Pb)	40.8	mg/kg	2500	0.020	0.250	EPA 200.8	TNA	12/05/16
Magnesium (Mg)	1450	mg/kg	50	1.93	25.0	SM 3111 B	TMS	12/02/16
Manganese (Mn)	123	mg/kg	2500	0.010	2.50	EPA 200.8	TNA	12/05/16
Mercury (Hg)	1.098	mg/kg	500	0.0177	0.1000	EPA 245.1	TMS	12/02/16
Molybdenum (Mo)	4.92	mg/kg	250	0.002	0.025	EPA 200.8	TNA	12/06/16
Nickel (Ni)	4.92	mg/kg	250	0.002	0.125	EPA 200.8	TNA	12/06/16
Potassium (K)	2370	mg/kg	475	5.30	238	SM 3111 B	TMS	12/02/16
Selenium (Se)	0.741	mg/kg	250	0.036	0.125	EPA 200.8	TNA	12/06/16
Silver (Ag)	0.658	mg/kg	250	0.004	0.025	EPA 200.8	TNA	12/06/16
Sodium (Na)	440	mg/kg	25	3.53	12.5	SM 3111 B	TMS	12/02/16
Strontium (Sr)	356	mg/kg	250000	1.25	25.0	EPA 200.8	TNA	12/05/16
Tellurium	4.57	mg/kg	250			EPA 200.8	TNA	12/06/16
Titanium (Ti)	73.2	mg/kg	2500			EPA 200.8	TNA	12/06/16
Vanadium (V)	12.1	mg/kg	2500	0.015	0.250	EPA 200.8	TNA	12/05/16
Zinc (Zn)	42.4	mg/kg	2500	0.588	12.5	EPA 200.8	TNA	12/05/16
Zirconium	6.45	mg/kg	250			EPA 200.8	TNA	12/06/16

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - TCLP								
Arsenic (As)	< 0.005	mg/L	10	0.00087	0.005	EPA SW846 6020	TNA	12/01/16
Barium (Ba)	1.32	mg/L	10	0.00021	0.005	EPA SW846 6020	TNA	12/01/16
Cadmium (Cd)	< 0.001	mg/L	10	0.00012	0.001	EPA SW846 6020	TNA	12/01/16
Chromium (Cr)	< 0.001	mg/L	10	0.00009	0.001	EPA SW846 6020 DRC	TNA	12/01/16
Gold (Au)	< 0.001	mg/L	1			EPA 231.2	TNA	12/01/16
Lead (Pb)	0.002	mg/L	10	0.00008	0.001	EPA SW846 6020	TNA	12/01/16
Mercury (Hg)	< 0.0002	mg/L	1	0.000035	0.0002	EPA SW846 7471B	TMS	12/02/16
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA SW846 6020	TNA	12/01/16
Silver (Ag)	< 0.001	mg/L	10	0.00014	0.001	EPA SW846 6020	TNA	12/01/16

Report Approved By:



Report Approved On: 12/7/2016 7:59:54 AM



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(605) 348-0111 -- www.thechemistrylab.com

Sample Site: #2
Sampled: 11/14/16 at 08:00 AM
by Bleys Andromeda-Focht
Sample Matrix: Soil

Lab ID#: 20161121702
Received: 11/17/16 at 09:45 AM
by Bobbie Laurenz
Account: W1123 - Cripple Creek / Victor
Gold

BLEYS ANDROMEDA FOCHT
CRIPPLE CREEK/VICTOR GOLD
PO BOX 191
VICTOR, CO 80860

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Aluminum (Al)	9800	mg/kg	250000	20.0	250	EPA 200.8	TNA	12/05/16
Antimony (Sb)	< 0.125	mg/kg	250	0.009	0.125	EPA 200.8	TNA	12/06/16
Arsenic (As)	14.1	mg/kg	2500	0.218	1.25	EPA 200.8	TNA	12/05/16
Beryllium (Be)	0.743	mg/kg	250	0.005	0.025	EPA 200.8	TNA	12/06/16
Bismuth	3.10	mg/kg	250			EPA 200.8	TNA	12/06/16
Cadmium (Cd)	0.347	mg/kg	250	0.003	0.025	EPA 200.8	TNA	12/06/16
Calcium (Ca)	1520	mg/kg	50	1.08	50.0	SM 3111 B	TMS	12/02/16
Chromium (Cr)	9.72	mg/kg	2500	0.023	0.250	EPA 200.8 DRC	TNA	12/05/16
Cobalt (Co)	2.31	mg/kg	250	0.001	0.025	EPA 200.8	TNA	12/06/16
Copper (Cu)	30.3	mg/kg	2500	0.053	1.25	EPA 200.8	TNA	12/05/16
Gold (Au)	0.037	mg/kg	25			EPA 231.2	TNA	12/06/16
Iron (Fe)	29500	mg/kg	250000	52.8	1250	EPA 200.8	TNA	12/05/16
Lead (Pb)	37.6	mg/kg	2500	0.020	0.250	EPA 200.8	TNA	12/05/16
Magnesium (Mg)	1150	mg/kg	25	0.964	12.5	SM 3111 B	TMS	12/02/16
Manganese (Mn)	89.4	mg/kg	2500	0.010	2.50	EPA 200.8	TNA	12/05/16
Mercury (Hg)	0.8715	mg/kg	500	0.0177	0.1000	EPA 245.1	TMS	12/02/16
Molybdenum (Mo)	3.00	mg/kg	250	0.002	0.025	EPA 200.8	TNA	12/06/16
Nickel (Ni)	4.88	mg/kg	250	0.002	0.125	EPA 200.8	TNA	12/06/16
Potassium (K)	2030	mg/kg	400	4.46	200	SM 3111 B	TMS	12/02/16
Selenium (Se)	0.687	mg/kg	250	0.036	0.125	EPA 200.8	TNA	12/06/16
Silver (Ag)	0.696	mg/kg	250	0.004	0.025	EPA 200.8	TNA	12/06/16
Sodium (Na)	397	mg/kg	25	3.53	12.5	SM 3111 B	TMS	12/02/16
Strontium (Sr)	441	mg/kg	250000	1.25	25.0	EPA 200.8	TNA	12/05/16
Tellurium	4.13	mg/kg	250			EPA 200.8	TNA	12/06/16
Titanium (Ti)	42.2	mg/kg	2500			EPA 200.8	TNA	12/06/16
Vanadium (V)	10.3	mg/kg	2500	0.015	0.250	EPA 200.8	TNA	12/05/16
Zinc (Zn)	37.5	mg/kg	2500	0.588	12.5	EPA 200.8	TNA	12/05/16
Zirconium	7.28	mg/kg	250			EPA 200.8	TNA	12/06/16

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - TCLP								
Arsenic (As)	< 0.005	mg/L	10	0.00087	0.005	EPA SW846 6020	TNA	12/01/16
Barium (Ba)	1.48	mg/L	10	0.00021	0.005	EPA SW846 6020	TNA	12/01/16
Cadmium (Cd)	< 0.001	mg/L	10	0.00012	0.001	EPA SW846 6020	TNA	12/01/16
Chromium (Cr)	0.001	mg/L	10	0.00009	0.001	EPA SW846 6020 DRC	TNA	12/01/16
Gold (Au)	< 0.001	mg/L	1			EPA 231.2	TNA	12/01/16
Lead (Pb)	0.001	mg/L	10	0.00008	0.001	EPA SW846 6020	TNA	12/01/16
Mercury (Hg)	< 0.0002	mg/L	1	0.000035	0.0002	EPA SW846 7471B	TMS	12/02/16
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA SW846 6020	TNA	12/01/16
Silver (Ag)	< 0.001	mg/L	10	0.00014	0.001	EPA SW846 6020	TNA	12/01/16

Report Approved By:



Report Approved On: 12/7/2016 7:56:43 AM



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Sample Site: **#3**
Sampled: 11/14/16 at 08:00 AM
by Bleys Andromeda-Focht
Sample Matrix: Soil

Lab ID#: 20161121703
Received: 11/17/16 at 09:45 AM
by Bobbie Laurenz
Account: W1123 - Cripple Creek / Victor
Gold

BLEYS ANDROMEDA FOCHT
CRIPPLE CREEK/VICTOR GOLD
PO BOX 191
VICTOR, CO 80860

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Aluminum (Al)	8860	mg/kg	250000	20.0	250	EPA 200.8	TNA	12/05/16
Antimony (Sb)	< 0.125	mg/kg	250	0.009	0.125	EPA 200.8	TNA	12/06/16
Arsenic (As)	18.2	mg/kg	2500	0.218	1.25	EPA 200.8	TNA	12/05/16
Beryllium (Be)	0.666	mg/kg	250	0.005	0.025	EPA 200.8	TNA	12/06/16
Bismuth	3.08	mg/kg	250			EPA 200.8	TNA	12/06/16
Cadmium (Cd)	0.446	mg/kg	250	0.003	0.025	EPA 200.8	TNA	12/06/16
Calcium (Ca)	1600	mg/kg	75	1.61	75.0	SM 3111 B	TMS	12/02/16
Chromium (Cr)	15.0	mg/kg	2500	0.023	0.250	EPA 200.8 DRC	TNA	12/05/16
Cobalt (Co)	2.56	mg/kg	250	0.001	0.025	EPA 200.8	TNA	12/06/16
Copper (Cu)	33.1	mg/kg	2500	0.053	1.25	EPA 200.8	TNA	12/05/16
Gold (Au)	0.066	mg/kg	25			EPA 231.2	TNA	12/06/16
Iron (Fe)	37700	mg/kg	250000	52.8	1250	EPA 200.8	TNA	12/05/16
Lead (Pb)	47.4	mg/kg	2500	0.020	0.250	EPA 200.8	TNA	12/05/16
Magnesium (Mg)	1530	mg/kg	50	1.93	25.0	SM 3111 B	TMS	12/02/16
Manganese (Mn)	144	mg/kg	2500	0.010	2.50	EPA 200.8	TNA	12/05/16
Mercury (Hg)	0.7615	mg/kg	500	0.0177	0.1000	EPA 245.1	TMS	12/02/16
Molybdenum (Mo)	5.39	mg/kg	250	0.002	0.025	EPA 200.8	TNA	12/06/16
Nickel (Ni)	5.73	mg/kg	250	0.002	0.125	EPA 200.8	TNA	12/06/16
Potassium (K)	2660	mg/kg	500	5.58	250	SM 3111 B	TMS	12/02/16
Selenium (Se)	0.752	mg/kg	250	0.036	0.125	EPA 200.8	TNA	12/06/16
Silver (Ag)	0.994	mg/kg	250	0.004	0.025	EPA 200.8	TNA	12/06/16
Sodium (Na)	522	mg/kg	25	3.53	12.5	SM 3111 B	TMS	12/02/16
Strontium (Sr)	301	mg/kg	250000	1.25	25.0	EPA 200.8	TNA	12/05/16
Tellurium	4.27	mg/kg	250			EPA 200.8	TNA	12/06/16
Titanium (Ti)	59.8	mg/kg	2500			EPA 200.8	TNA	12/06/16
Vanadium (V)	13.2	mg/kg	2500	0.015	0.250	EPA 200.8	TNA	12/05/16
Zinc (Zn)	50.3	mg/kg	2500	0.588	12.5	EPA 200.8	TNA	12/05/16
Zirconium	8.68	mg/kg	250			EPA 200.8	TNA	12/06/16

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - TCLP								
Arsenic (As)	< 0.005	mg/L	10	0.00087	0.005	EPA SW846 6020	TNA	12/01/16
Barium (Ba)	1.34	mg/L	10	0.00021	0.005	EPA SW846 6020	TNA	12/01/16
Cadmium (Cd)	< 0.001	mg/L	10	0.00012	0.001	EPA SW846 6020	TNA	12/01/16
Chromium (Cr)	< 0.001	mg/L	10	0.00009	0.001	EPA SW846 6020 DRC	TNA	12/01/16
Gold (Au)	< 0.001	mg/L	1			EPA 231.2	TNA	12/01/16
Lead (Pb)	0.001	mg/L	10	0.00008	0.001	EPA SW846 6020	TNA	12/01/16
Mercury (Hg)	< 0.0002	mg/L	1	0.000035	0.0002	EPA SW846 7471B	TMS	12/02/16
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA SW846 6020	TNA	12/01/16
Silver (Ag)	< 0.001	mg/L	10	0.00014	0.001	EPA SW846 6020	TNA	12/01/16

Report Approved By:



Report Approved On: 12/7/2016 7:56:43 AM



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Sample Site: **#4**
Sampled: 11/14/16 at 08:00 AM
by Bleys Andromeda-Focht
Sample Matrix: Soil

Lab ID#: 20161121704
Received: 11/17/16 at 09:45 AM
by Bobbie Laurenz
Account: W1123 - Cripple Creek / Victor
Gold

BLEYS ANDROMEDA FOCHT
CRIPPLE CREEK/VICTOR GOLD
PO BOX 191
VICTOR, CO 80860

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
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Metals - Total

Aluminum (Al)	15600	mg/kg	250000	20.0	250	EPA 200.8	TNA	12/05/16
Antimony (Sb)	< 0.125	mg/kg	250	0.009	0.125	EPA 200.8	TNA	12/06/16
Arsenic (As)	25.9	mg/kg	2500	0.218	1.25	EPA 200.8	TNA	12/05/16
Beryllium (Be)	1.30	mg/kg	250	0.005	0.025	EPA 200.8	TNA	12/06/16
Bismuth	3.88	mg/kg	250			EPA 200.8	TNA	12/06/16
Cadmium (Cd)	0.479	mg/kg	250	0.003	0.025	EPA 200.8	TNA	12/06/16
Calcium (Ca)	3250	mg/kg	100	2.15	100	SM 3111 B	TMS	12/02/16
Chromium (Cr)	34.7	mg/kg	2500	0.023	0.250	EPA 200.8 DRC	TNA	12/05/16
Cobalt (Co)	4.44	mg/kg	250	0.001	0.025	EPA 200.8	TNA	12/06/16
Copper (Cu)	62.2	mg/kg	2500	0.053	1.25	EPA 200.8	TNA	12/05/16
Gold (Au)	0.067	mg/kg	25			EPA 231.2	TNA	12/06/16
Iron (Fe)	60200	mg/kg	250000	52.8	1250	EPA 200.8	TNA	12/05/16
Lead (Pb)	49.6	mg/kg	2500	0.020	0.250	EPA 200.8	TNA	12/05/16
Magnesium (Mg)	3270	mg/kg	75	2.89	37.5	SM 3111 B	TMS	12/02/16
Manganese (Mn)	296	mg/kg	2500	0.010	2.50	EPA 200.8	TNA	12/05/16
Mercury (Hg)	0.6250	mg/kg	500	0.0177	0.1000	EPA 245.1	TMS	12/02/16
Molybdenum (Mo)	9.87	mg/kg	250	0.002	0.025	EPA 200.8	TNA	12/06/16
Nickel (Ni)	11.3	mg/kg	250	0.002	0.125	EPA 200.8	TNA	12/06/16
Potassium (K)	4270	mg/kg	500	5.58	250	SM 3111 B	TMS	12/02/16
Selenium (Se)	1.09	mg/kg	250	0.036	0.125	EPA 200.8	TNA	12/06/16
Silver (Ag)	1.15	mg/kg	250	0.004	0.025	EPA 200.8	TNA	12/06/16
Sodium (Na)	802	mg/kg	50	7.06	25.0	SM 3111 B	TMS	12/02/16
Strontium (Sr)	385	mg/kg	250000	1.25	25.0	EPA 200.8	TNA	12/05/16
Tellurium	4.64	mg/kg	250			EPA 200.8	TNA	12/06/16
Titanium (Ti)	101	mg/kg	2500			EPA 200.8	TNA	12/06/16
Vanadium (V)	23.6	mg/kg	2500	0.015	0.250	EPA 200.8	TNA	12/05/16
Zinc (Zn)	78.3	mg/kg	2500	0.588	12.5	EPA 200.8	TNA	12/05/16
Zirconium	6.33	mg/kg	250			EPA 200.8	TNA	12/06/16

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - TCLP								
Arsenic (As)	< 0.005	mg/L	10	0.00087	0.005	EPA SW846 6020	TNA	12/01/16
Barium (Ba)	1.43	mg/L	10	0.00021	0.005	EPA SW846 6020	TNA	12/01/16
Cadmium (Cd)	< 0.001	mg/L	10	0.00012	0.001	EPA SW846 6020	TNA	12/01/16
Chromium (Cr)	0.002	mg/L	10	0.00009	0.001	EPA SW846 6020 DRC	TNA	12/01/16
Gold (Au)	< 0.001	mg/L	1			EPA 231.2	TNA	12/01/16
Lead (Pb)	0.002	mg/L	10	0.00008	0.001	EPA SW846 6020	TNA	12/01/16
Mercury (Hg)	< 0.0002	mg/L	1	0.000035	0.0002	EPA SW846 7471B	TMS	12/02/16
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA SW846 6020	TNA	12/01/16
Silver (Ag)	< 0.001	mg/L	10	0.00014	0.001	EPA SW846 6020	TNA	12/01/16

Report Approved By:



Report Approved On: 12/7/2016 7:56:43 AM



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Sample Site: #5
Sampled: 11/14/16 at 08:00 AM
by Bleys Andromeda-Focht
Sample Matrix: Soil

Lab ID#: 20161121705
Received: 11/17/16 at 09:45 AM
by Bobbie Laurenz
Account: W1123 - Cripple Creek / Victor
Gold

BLEYS ANDROMEDA FOCHT
CRIPPLE CREEK/VICTOR GOLD
PO BOX 191
VICTOR, CO 80860

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - Total								
Aluminum (Al)	8220	mg/kg	250000	20.0	250	EPA 200.8	TNA	12/05/16
Antimony (Sb)	< 0.125	mg/kg	250	0.009	0.125	EPA 200.8	TNA	12/06/16
Arsenic (As)	18.5	mg/kg	2500	0.218	1.25	EPA 200.8	TNA	12/05/16
Beryllium (Be)	0.605	mg/kg	250	0.005	0.025	EPA 200.8	TNA	12/06/16
Bismuth	2.69	mg/kg	250			EPA 200.8	TNA	12/06/16
Cadmium (Cd)	0.317	mg/kg	250	0.003	0.025	EPA 200.8	TNA	12/06/16
Calcium (Ca)	1760	mg/kg	75	1.61	75.0	SM 3111 B	TMS	12/02/16
Chromium (Cr)	14.8	mg/kg	2500	0.023	0.250	EPA 200.8 DRC	TNA	12/05/16
Cobalt (Co)	2.58	mg/kg	250	0.001	0.025	EPA 200.8	TNA	12/06/16
Copper (Cu)	33.5	mg/kg	2500	0.053	1.25	EPA 200.8	TNA	12/05/16
Gold (Au)	0.101	mg/kg	25			EPA 231.2	TNA	12/06/16
Iron (Fe)	34100	mg/kg	250000	52.8	1250	EPA 200.8	TNA	12/05/16
Lead (Pb)	47.2	mg/kg	2500	0.020	0.250	EPA 200.8	TNA	12/05/16
Magnesium (Mg)	1980	mg/kg	75	2.89	37.5	SM 3111 B	TMS	12/02/16
Manganese (Mn)	176	mg/kg	2500	0.010	2.50	EPA 200.8	TNA	12/05/16
Mercury (Hg)	0.6435	mg/kg	500	0.0177	0.1000	EPA 245.1	TMS	12/02/16
Molybdenum (Mo)	6.37	mg/kg	250	0.002	0.025	EPA 200.8	TNA	12/06/16
Nickel (Ni)	6.13	mg/kg	250	0.002	0.125	EPA 200.8	TNA	12/06/16
Potassium (K)	2880	mg/kg	500	5.58	250	SM 3111 B	TMS	12/02/16
Selenium (Se)	0.727	mg/kg	250	0.036	0.125	EPA 200.8	TNA	12/06/16
Silver (Ag)	0.710	mg/kg	250	0.004	0.025	EPA 200.8	TNA	12/06/16
Sodium (Na)	372	mg/kg	25	3.53	12.5	SM 3111 B	TMS	12/02/16
Strontium (Sr)	218	mg/kg	250000	1.25	25.0	EPA 200.8	TNA	12/05/16
Tellurium	4.13	mg/kg	250			EPA 200.8	TNA	12/06/16
Titanium (Ti)	170	mg/kg	2500			EPA 200.8	TNA	12/06/16
Vanadium (V)	17.8	mg/kg	2500	0.015	0.250	EPA 200.8	TNA	12/05/16
Zinc (Zn)	45.1	mg/kg	2500	0.588	12.5	EPA 200.8	TNA	12/05/16
Zirconium	5.93	mg/kg	250			EPA 200.8	TNA	12/06/16

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - TCLP								
Arsenic (As)	< 0.005	mg/L	10	0.00087	0.005	EPA SW846 6020	TNA	12/01/16
Barium (Ba)	1.19	mg/L	10	0.00021	0.005	EPA SW846 6020	TNA	12/01/16
Cadmium (Cd)	< 0.001	mg/L	10	0.00012	0.001	EPA SW846 6020	TNA	12/01/16
Chromium (Cr)	< 0.001	mg/L	10	0.00009	0.001	EPA SW846 6020 DRC	TNA	12/01/16
Gold (Au)	< 0.001	mg/L	1			EPA 231.2	TNA	12/01/16
Lead (Pb)	0.002	mg/L	10	0.00008	0.001	EPA SW846 6020	TNA	12/01/16
Mercury (Hg)	< 0.0002	mg/L	1	0.000035	0.0002	EPA SW846 7471B	TMS	12/02/16
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA SW846 6020	TNA	12/01/16
Silver (Ag)	< 0.001	mg/L	10	0.00014	0.001	EPA SW846 6020	TNA	12/01/16

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Report Approved On: 12/7/2016 7:56:43 AM



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Sample Site: #6
Sampled: 11/14/16 at 08:00 AM
by Bleys Andromeda-Focht
Sample Matrix: Soil

Lab ID#: 20161121706
Received: 11/17/16 at 09:45 AM
by Bobbie Laurenz
Account: W1123 - Cripple Creek / Victor
Gold

BLEYS ANDROMEDA FOCHT
CRIPPLE CREEK/VICTOR GOLD
PO BOX 191
VICTOR, CO 80860

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date
Metals - Total							
Aluminum (Al)	8320	mg/kg	250000	20.0	250	EPA 200.8	TNA 12/05/16
Antimony (Sb)	0.276	mg/kg	250	0.009	0.125	EPA 200.8	TNA 12/06/16
Arsenic (As)	18.6	mg/kg	2500	0.218	1.25	EPA 200.8	TNA 12/05/16
Beryllium (Be)	0.573	mg/kg	250	0.005	0.025	EPA 200.8	TNA 12/06/16
Bismuth	3.00	mg/kg	250			EPA 200.8	TNA 12/06/16
Cadmium (Cd)	0.397	mg/kg	250	0.003	0.025	EPA 200.8	TNA 12/06/16
Calcium (Ca)	2590	mg/kg	100	2.15	100	SM 3111 B	TMS 12/02/16
Chromium (Cr)	14.3	mg/kg	2500	0.023	0.250	EPA 200.8 DRC	TNA 12/05/16
Cobalt (Co)	2.54	mg/kg	250	0.001	0.025	EPA 200.8	TNA 12/06/16
Copper (Cu)	32.0	mg/kg	2500	0.053	1.25	EPA 200.8	TNA 12/05/16
Gold (Au)	0.127	mg/kg	25			EPA 231.2	TNA 12/06/16
Iron (Fe)	33800	mg/kg	250000	52.8	1250	EPA 200.8	TNA 12/05/16
Lead (Pb)	51.6	mg/kg	2500	0.020	0.250	EPA 200.8	TNA 12/05/16
Magnesium (Mg)	3110	mg/kg	75	2.89	37.5	SM 3111 B	TMS 12/02/16
Manganese (Mn)	247	mg/kg	2500	0.010	2.50	EPA 200.8	TNA 12/05/16
Mercury (Hg)	1.252	mg/kg	500	0.0177	0.1000	EPA 245.1	TMS 12/02/16
Molybdenum (Mo)	7.86	mg/kg	250	0.002	0.025	EPA 200.8	TNA 12/06/16
Nickel (Ni)	6.94	mg/kg	250	0.002	0.125	EPA 200.8	TNA 12/06/16
Potassium (K)	4030	mg/kg	500	5.58	250	SM 3111 B	TMS 12/02/16
Selenium (Se)	0.680	mg/kg	250	0.036	0.125	EPA 200.8	TNA 12/06/16
Silver (Ag)	0.806	mg/kg	250	0.004	0.025	EPA 200.8	TNA 12/06/16
Sodium (Na)	367	mg/kg	25	3.53	12.5	SM 3111 B	TMS 12/02/16
Strontium (Sr)	188	mg/kg	250000	1.25	25.0	EPA 200.8	TNA 12/05/16
Tellurium	4.39	mg/kg	250			EPA 200.8	TNA 12/06/16
Titanium (Ti)	311	mg/kg	2500			EPA 200.8	TNA 12/06/16
Vanadium (V)	21.8	mg/kg	2500	0.015	0.250	EPA 200.8	TNA 12/05/16
Zinc (Zn)	56.1	mg/kg	2500	0.588	12.5	EPA 200.8	TNA 12/05/16
Zirconium	7.43	mg/kg	250			EPA 200.8	TNA 12/06/16

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Metals - TCLP								
Arsenic (As)	< 0.005	mg/L	10	0.00087	0.005	EPA SW846 6020	TNA	12/01/16
Barium (Ba)	0.689	mg/L	10	0.00021	0.005	EPA SW846 6020	TNA	12/01/16
Cadmium (Cd)	0.001	mg/L	10	0.00012	0.001	EPA SW846 6020	TNA	12/01/16
Chromium (Cr)	< 0.001	mg/L	10	0.00009	0.001	EPA SW846 6020 DRC	TNA	12/01/16
Gold (Au)	< 0.001	mg/L	1			EPA 231.2	TNA	12/01/16
Lead (Pb)	0.003	mg/L	10	0.00008	0.001	EPA SW846 6020	TNA	12/01/16
Mercury (Hg)	< 0.0002	mg/L	1	0.000035	0.0002	EPA SW846 7471B	TMS	12/02/16
Selenium (Se)	< 0.005	mg/L	10	0.001	0.005	EPA SW846 6020	TNA	12/01/16
Silver (Ag)	< 0.001	mg/L	10	0.00014	0.001	EPA SW846 6020	TNA	12/01/16

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Lab Numbers: 20161121701 - 20161121706

QC Sample Report

Parameter	Lab#	QC Value	Smp Value	Spike	DF	Result	Limits	Method
Spike								
Aluminum - T	1121706	14000	8320	0.025	250000	91.0 %	(71.44) - (125.3)	EPA 200.8
Antimony - T	1121701	6.04	< 0.125	0.025	250	96.6 %	(90.81) - (108.9)	EPA 200.8
Arsenic - T	1121704	0.250	< 0.005	0.025	10	100.1 %	(82.60) - (110.5)	EPA 200.8
Arsenic - T	1121706	6010	18.6	0.025	250000	95.8 %	(82.66) - (111.0)	EPA 200.8
Arsenic - T	1121706	79.3	18.6	0.025	2500	97.1 %	(82.66) - (111.0)	EPA 200.8
Barium - T	1121704	1.69	1.43	0.025	10	101.0 %	(82.81) - (114.4)	EPA 200.8
Beryllium - T	1121701	6.80	0.724	0.025	250	97.1 %	(68.75) - (133.6)	EPA 200.8
Bismuth	1121701	8.62	2.63	0.025	250	95.9 %		EPA 200.8
Cadmium - T	1121704	0.236	< 0.001	0.025	10	94.3 %	(83.27) - (113.3)	EPA 200.8
Cadmium - T	1121701	6.17	0.355	0.025	250	93.1 %	(83.27) - (113.3)	EPA 200.8
Calcium - T	1202106	51.5	40.7	10.0	1	107.8 %	(79.77) - (117.8)	SM 3111 B
Calcium - T	1202105	46.0	35.6	10.0	1	103.7 %	(79.77) - (117.8)	SM 3111 B
Chromium - T	1121704	0.252	0.002	0.025	10	100.1 %	(90.13) - (112.0)	EPA 200.8 DRC
Chromium - T	1121706	6430	14.3	0.025	250000	102.6 %	(90.93) - (111.6)	EPA 200.8 DRC
Chromium - T	1121706	77.5	14.3	0.025	2500	101.1 %	(90.93) - (111.6)	EPA 200.8 DRC
Cobalt - T	1121701	7.66	2.00	0.025	250	90.5 %	(87.22) - (109.7)	EPA 200.8
Copper - T	1121706	6230	32.0	0.025	250000	99.2 %	(88.87) - (104.8)	EPA 200.8
Copper - T	1121706	93.9	32.0	0.025	2500	99.1 %	(88.87) - (104.8)	EPA 200.8
Gold - T	1121706	1.15	0.127	0.050	25	81.4 %	(47.05) - (142.1)	EPA 231.2
Iron - T	1121706	66200	33800	0.125	250000	103.6 %	(82.41) - (118.9)	EPA 200.8
Lead - T	1121704	0.264	0.002	0.025	10	104.7 %	(90.19) - (109.4)	EPA 200.8
Lead - T	1121706	111	51.6	0.025	2500	94.4 %	(90.29) - (110.1)	EPA 200.8
Lead - T	1121706	6120	51.6	0.025	250000	97.0 %	(90.29) - (110.1)	EPA 200.8
Magnesium - T	1202106	14.9	5.11	10.0	1	97.5 %	(83.09) - (114.9)	SM 3111 B
Magnesium - T	1202105	19.5	9.83	10.0	1	96.3 %	(83.09) - (114.9)	SM 3111 B
Manganese - T	1121706	6670	247	0.025	250000	102.8 %	(86.08) - (114.5)	EPA 200.8
Manganese - T	1121706	310	247	0.025	2500	101.6 %	(86.08) - (114.5)	EPA 200.8
Mercury - T	1202114	0.0018	< 0.0002	0.002	1	91.5 %	(81.85) - (116.7)	EPA 245.1
Mercury - T	1201102	0.0021	< 0.0002	0.002	1	102.5 %	(81.85) - (116.7)	EPA 245.1
Mercury - T	1202105	0.0020	< 0.0002	0.002	1	101.5 %	(81.85) - (116.7)	EPA 245.1
Mercury - T	1202103	0.0019	< 0.0002	0.002	1	94.5 %	(81.85) - (116.7)	EPA 245.1
Mercury - T	1202109	0.0020	< 0.0002	0.002	1	98.0 %	(81.85) - (116.7)	EPA 245.1
Mercury - T	1202107	0.0018	< 0.0002	0.002	1	92.0 %	(81.85) - (116.7)	EPA 245.1
Molybdenum - T	1121701	11.5	4.92	0.025	250	104.9 %	(79.42) - (118.4)	EPA 200.8
Nickel - T	1121701	10.3	4.92	0.025	250	86.1 %	(86.36) - (106.2)	EPA 200.8
- Result is within QC guidelines of 70 - 130%								
Potassium - T	1202106	3.75	0.760	3.00	1	99.67%	(83.63) - (111.6)	SM 3111 B
Potassium - T	1202105	4.52	1.58	3.00	1	98.0 %	(83.63) - (111.6)	SM 3111 B

X

Parameter	Lab#	QC Value	Smp Value	Spike	DF	Result	Limits	Method
Spike								
Selenium - T	1121704	1.20	< 0.005	0.125	10	96.2 %	(81.80) - (111.1)	EPA 200.8
Selenium - T	1121701	22.9	0.741	0.125	250	71.0 %	(81.80) - (110.8)	EPA 200.8 X
- Result is within QC guidelines of 70 - 130%								
Silver - T	1121704	0.223	< 0.001	0.025	10	89.2 %	(85.53) - (108.1)	EPA 200.8
Silver - T	1121701	6.54	0.658	0.025	250	94.2 %	(84.40) - (108.8)	EPA 200.8
Sodium - T	1202105	23.5	18.8	5.00	1	94.6 %	(80.45) - (116.4)	SM 3111 B
Sodium - T	1202106	26.8	21.4	5.00	1	108.6 %	(80.45) - (116.4)	SM 3111 B
Strontium - T	1121706	6290	188	0.025	250000	97.6 %	(80.15) - (117.2)	EPA 200.8
Strontium - T	1121706	237	188	0.025	2500	78.3 %	(80.15) - (117.2)	EPA 200.8 X
- Result is within QC guidelines of 70 - 130%								
Tellurium	1121701	10.4	4.57	0.025	250	93.3 %		EPA 200.8
Titanium - T	1121701	134	73.2	0.025	2500	96.7 %		EPA 200.8
Vanadium - T	1121706	83.7	21.8	0.025	2500	98.9 %	(78.19) - (120.1)	EPA 200.8
Vanadium - T	1121706	6340	21.8	0.025	250000	101.1 %	(78.19) - (120.1)	EPA 200.8
Zinc - T	1121706	6000	56.1	0.025	250000	95.1 %	(65.56) - (129.6)	EPA 200.8
Zinc - T	1121706	116	56.1	0.025	2500	96.5 %	(65.56) - (129.6)	EPA 200.8
Zirconium	1121701	13.7	6.45	0.025	250	116.0 %		EPA 200.8
Arsenic - TR	1201102	0.288	0.030	0.025	10	103.2 %	(88.04) - (108.4)	EPA 200.8
Cadmium - TR	1201102	0.252	< 0.001	0.025	10	100.8 %	(92.02) - (107.5)	EPA 200.8
Chromium - TR	1201102	0.242	< 0.001	0.025	10	96.6 %	(87.89) - (106.8)	EPA 200.8 DRC
Lead - TR	1201102	0.255	< 0.001	0.025	10	102.1 %	(90.65) - (111.0)	EPA 200.8
Selenium - TR	1201102	1.30	< 0.005	0.125	10	104.1 %	(88.05) - (116.7)	EPA 200.8
Silver - TR	1201102	0.242	< 0.001	0.025	10	96.7 %	(85.25) - (105.9)	EPA 200.8
Gold - TCLP	1121701	0.106	< 0.001	0.050	2	105.6 %		EPA 231.2
Mercury - TCLP	1121705	0.0019	< 0.0002	0.002	1	95.5 %	(82.73) - (119.3)	EPA SW846 7471B
Mercury - TCLP	1129709	0.0028	0.0008	0.002	1	102.5 %	(82.73) - (119.3)	EPA SW846 7471B

Matrix Spike Duplicate

Aluminum - T	1121706	14100	14000		250000	0.799%	(-8.129) - (8.601)	EPA 200.8
Antimony - T	1121701	6.07	6.04		250	0.465%	(-6.526) - (7.018)	EPA 200.8
Arsenic - T	1121704	0.247	0.250		10	-1.23%	(-3.805) - (4.085)	EPA 200.8
Arsenic - T	1121706	5890	6010		250000	-1.98%	(-3.815) - (3.760)	EPA 200.8
Arsenic - T	1121706	78.3	79.3		2500	-1.31%	(-3.815) - (3.760)	EPA 200.8
Barium - T	1121704	1.66	1.69		10	-1.81%	(-7.281) - (9.161)	EPA 200.8
Beryllium - T	1121701	6.83	6.80		250	0.490%	(-4.990) - (4.618)	EPA 200.8
Bismuth	1121701	8.39	8.62		250	-2.67%		EPA 200.8
Cadmium - T	1121704	0.234	0.236		10	-0.942%	(-4.967) - (5.093)	EPA 200.8
Cadmium - T	1121701	6.26	6.17		250	1.40%	(-5.020) - (4.898)	EPA 200.8
Calcium - T	1202105	45.5	46.0		1	-1.07%	(-6.646) - (5.256)	SM 3111 B
Calcium - T	1202106	49.9	51.5		1	-3.24%	(-6.646) - (5.256)	SM 3111 B
Chromium - T	1121704	0.256	0.252		10	1.39%	(-2.610) - (2.542)	EPA 200.8 DRC
Chromium - T	1121706	76.5	77.5		2500	-1.27%	(-2.700) - (2.786)	EPA 200.8 DRC
Chromium - T	1121706	6350	6430		250000	-1.15%	(-2.700) - (2.786)	EPA 200.8 DRC
Cobalt - T	1121701	7.64	7.66		250	-0.244%	(-7.201) - (5.959)	EPA 200.8
Copper - T	1121706	92.4	93.9		2500	-1.61%	(-6.352) - (6.355)	EPA 200.8
Copper - T	1121706	6180	6230		250000	-0.894%	(-6.352) - (6.355)	EPA 200.8

Parameter	Lab#	QC Value	Smp Value	Spike	DF	Result	Limits	Method
Matrix Spike Duplicate								
Gold - T	1121706	1.12	1.15		25	-1.94%	(-14.16) - (11.42)	EPA 231.2
Iron - T	1121706	66500	66200		250000	0.515%	(-3.718) - (2.807)	EPA 200.8
Lead - T	1121704	0.261	0.264		10	-1.05%	(-3.506) - (3.854)	EPA 200.8
Lead - T	1121706	110	111		2500	-0.305%	(-3.604) - (3.893)	EPA 200.8
Lead - T	1121706	6150	6120		250000	0.570%	(-3.604) - (3.893)	EPA 200.8
Magnesium - T	1202106	15.0	14.9		1	1.14%	(-5.410) - (6.592)	SM 3111 B
Magnesium - T	1202105	19.0	19.5		1	-2.39%	(-5.410) - (6.592)	SM 3111 B
Manganese - T	1121706	304	310		2500	-1.91%	(-5.124) - (4.548)	EPA 200.8
Manganese - T	1121706	6600	6670		250000	-1.00%	(-5.124) - (4.548)	EPA 200.8
Mercury - T	1202109	0.0019	0.0020		1	-2.06%	(-15.85) - (15.98)	EPA 245.1
Mercury - T	1202103	0.0018	0.0019		1	-6.56%	(-15.85) - (15.98)	EPA 245.1
Mercury - T	1202105	0.0022	0.0020		1	7.13%	(-15.85) - (15.98)	EPA 245.1
Mercury - T	1202107	0.0019	0.0018		1	4.26%	(-15.85) - (15.98)	EPA 245.1
Mercury - T	1201102	0.0021	0.0021		1	0.487%	(-15.85) - (15.98)	EPA 245.1
Mercury - T	1202114	0.0018	0.0018		1	-0.548%	(-15.85) - (15.98)	EPA 245.1
Molybdenum - T	1121701	11.7	11.5		250	1.83%	(-5.671) - (6.393)	EPA 200.8
Nickel - T	1121701	10.3	10.3		250	-0.045%	(-4.983) - (4.871)	EPA 200.8
Potassium - T	1202105	4.26	4.52		1	-5.92%	(-6.889) - (6.388)	SM 3111 B
Potassium - T	1202106	3.77	3.75		1	0.532%	(-6.889) - (6.388)	SM 3111 B
Selenium - T	1121704	1.19	1.20		10	-1.12%	(-3.570) - (2.447)	EPA 200.8
Selenium - T	1121701	22.7	22.9		250	-1.04%	(-3.561) - (2.445)	EPA 200.8
Silver - T	1121704	0.219	0.223		10	-1.94%	(-4.953) - (5.935)	EPA 200.8
Silver - T	1121701	6.54	6.54		250	0.008%	(-4.960) - (5.939)	EPA 200.8
Sodium - T	1202106	26.4	26.8		1	-1.50%	(-5.228) - (5.533)	SM 3111 B
Sodium - T	1202105	23.3	23.5		1	-0.984%	(-5.228) - (5.533)	SM 3111 B
Strontium - T	1121706	6260	6290		250000	-0.446%	(-7.584) - (6.960)	EPA 200.8
Strontium - T	1121706	233	237		2500	-1.74%	(-7.584) - (6.960)	EPA 200.8
Tellurium	1121701	10.2	10.4		250	-1.58%		EPA 200.8
Titanium - T	1121701	134	134		2500	0.441%		EPA 200.8
Vanadium - T	1121706	6320	6340		250000	-0.244%	(-6.456) - (6.867)	EPA 200.8
Vanadium - T	1121706	82.6	83.7		2500	-1.33%	(-6.456) - (6.867)	EPA 200.8
Zinc - T	1121706	5900	6000		250000	-1.58%	(-3.572) - (3.012)	EPA 200.8
Zinc - T	1121706	116	116		2500	-0.087%	(-3.572) - (3.012)	EPA 200.8
Zirconium	1121701	13.5	13.7		250	-1.54%		EPA 200.8
Arsenic - TR	1201102	0.291	0.288		10	1.07%	(-5.109) - (4.989)	EPA 200.8
Cadmium - TR	1201102	0.253	0.252		10	0.495%	(-3.664) - (4.072)	EPA 200.8
Chromium - TR	1201102	0.243	0.242		10	0.607%	(-2.855) - (2.783)	EPA 200.8 DRC
Lead - TR	1201102	0.257	0.255		10	0.636%	(-3.827) - (3.686)	EPA 200.8
Selenium - TR	1201102	1.32	1.30		10	1.35%	(-4.122) - (4.163)	EPA 200.8
Silver - TR	1201102	0.246	0.242		10	1.54%	(-5.088) - (5.023)	EPA 200.8
Gold - TCLP	1121701	0.108	0.106		2	2.43%		EPA 231.2
Mercury - TCLP	1121705	0.0018	0.0019		1	-7.61%	(-10.78) - (11.46)	EPA SW846 7471B
Mercury - TCLP	1129709	0.0030	0.0028		1	8.22%	(-10.78) - (11.46)	EPA SW846 7471B

Initial Calibration Verification

Aluminum - D	0.052	0.050		1	3.72%	(-4.433) - (7.565)	EPA 200.8
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Parameter	Lab#	QC Value	Smp Value	Spike	DF	Result	Limits	Method
Initial Calibration Verification								
Antimony - D		0.051	0.050		1	2.82%	(-6.498) - (10.11)	EPA 200.8
Arsenic - D		0.051	0.050		1	2.36%	(-6.396) - (3.842)	EPA 200.8
Arsenic - D		0.052	0.050		1	3.52%	(-6.451) - (4.797)	EPA 200.8
Barium - D		0.051	0.050		1	2.76%	(-3.588) - (5.788)	EPA 200.8
Beryllium - D		0.051	0.050		1	1.70%	(-10.29) - (17.12)	EPA 200.8
Cadmium - D		0.050	0.050		1	0.380%	(-4.208) - (6.748)	EPA 200.8
Cadmium - D		0.050	0.050		1	-1.10%	(-4.428) - (6.786)	EPA 200.8
Chromium - D		0.050	0.050		1	0.420%	(-3.832) - (6.618)	EPA 200.8 DRC
Chromium - D		0.052	0.050		1	4.44%	(-3.816) - (6.294)	EPA 200.8 DRC
Cobalt - D		0.052	0.050		1	3.06%	(-8.699) - (9.581)	EPA 200.8
Copper - D		0.053	0.050		1	6.48%	(-4.163) - (6.165)	EPA 200.8
- Recovery was within 10% of expected value								X
Iron - D		0.266	0.250		1	6.32%	(-7.551) - (9.052)	EPA 200.8
Lead - D		0.051	0.050		1	2.50%	(-1.778) - (5.132)	EPA 200.8
Lead - D		0.053	0.050		1	6.10%	(-1.740) - (5.058)	EPA 200.8
- Recovery was within 10% of expected value								X
Manganese - D		0.053	0.050		1	6.66%	(-4.983) - (9.591)	EPA 200.8
Molybdenum - D		0.050	0.050		1	-0.900%	(-4.875) - (5.927)	EPA 200.8
Nickel - D		0.050	0.050		1	0.640%	(-5.778) - (8.386)	EPA 200.8
Selenium - D		0.246	0.250		1	-1.42%	(-8.385) - (9.548)	EPA 200.8
Selenium - D		0.248	0.250		1	-0.616%	(-7.453) - (7.909)	EPA 200.8
Silver - D		0.051	0.050		1	2.26%	(-1.941) - (6.315)	EPA 200.8
Silver - D		0.050	0.050		1	-0.680%	(-2.139) - (6.169)	EPA 200.8
Strontium - D		0.054	0.050		1	8.60%	(-3.604) - (9.720)	EPA 200.8
Vanadium - D		0.052	0.050		1	4.16%	(-7.787) - (11.10)	EPA 200.8
Zinc - D		0.053	0.050		1	5.32%	(-7.223) - (14.66)	EPA 200.8
Bismuth		0.050	0.050		1	0.400%		EPA 200.8
Gold - T		0.034	0.038		1	-10.1 %	(-15.18) - (18.49)	EPA 231.2
Mercury - T		0.0030	0.0030		1	-0.333%	(-10.89) - (9.062)	EPA 245.1
Tellurium		0.050	0.050		1	-0.400%		EPA 200.8
Titanium - T		0.050	0.050		1	0.00%		EPA 200.8
Zirconium		0.049	0.050		1	-2.60%		EPA 200.8
Gold - TCLP		0.040	0.038		1	5.87%		EPA 231.2
Continuing Calibration Verification								
Aluminum - D		0.046	0.050		1	-7.90%	(-9.574) - (9.998)	EPA 200.8
Aluminum - D		0.049	0.050		1	-1.44%	(-9.574) - (9.998)	EPA 200.8
Aluminum - D		0.049	0.050		1	-1.82%	(-9.574) - (9.998)	EPA 200.8
Aluminum - D		0.049	0.050		1	-1.70%	(-9.574) - (9.998)	EPA 200.8
Antimony - D		0.050	0.050		1	-0.460%	(-8.657) - (6.190)	EPA 200.8
Antimony - D		0.050	0.050		1	0.480%	(-8.657) - (6.190)	EPA 200.8
Antimony - D		0.049	0.050		1	-2.98%	(-8.657) - (6.190)	EPA 200.8
Arsenic - D		0.049	0.050		1	-1.14%	(-7.996) - (2.007)	EPA 200.8
Arsenic - D		0.048	0.050		1	-3.82%	(-7.996) - (2.007)	EPA 200.8
Arsenic - D		0.048	0.050		1	-3.70%	(-7.996) - (2.007)	EPA 200.8
Arsenic - D		0.050	0.050		1	0.760%	(-7.996) - (2.007)	EPA 200.8

Parameter	Lab#	QC Value	Smp Value	Spike	DF	Result	Limits	Method
Continuing Calibration Verification								
Arsenic - D		0.047	0.050		1	-5.30%	(-9.303) - (4.498)	EPA 200.8
Arsenic - D		0.048	0.050		1	-4.40%	(-9.303) - (4.498)	EPA 200.8
Arsenic - D		0.047	0.050		1	-6.32%	(-9.303) - (4.498)	EPA 200.8
Arsenic - D		0.049	0.050		1	-1.80%	(-9.303) - (4.498)	EPA 200.8
Barium - D		0.049	0.050		1	-1.38%	(-6.745) - (3.362)	EPA 200.8
Barium - D		0.050	0.050		1	0.740%	(-6.745) - (3.362)	EPA 200.8
Barium - D		0.051	0.050		1	1.32%	(-6.745) - (3.362)	EPA 200.8
Barium - D		0.049	0.050		1	-1.28%	(-6.745) - (3.362)	EPA 200.8
Beryllium - D		0.051	0.050		1	1.32%	(-13.67) - (12.49)	EPA 200.8
Beryllium - D		0.050	0.050		1	-0.340%	(-13.67) - (12.49)	EPA 200.8
Beryllium - D		0.052	0.050		1	3.92%	(-13.67) - (12.49)	EPA 200.8
Cadmium - D		0.050	0.050		1	0.060%	(-6.096) - (3.122)	EPA 200.8
Cadmium - D		0.051	0.050		1	0.940%	(-6.096) - (3.122)	EPA 200.8
Cadmium - D		0.048	0.050		1	-4.68%	(-6.096) - (3.122)	EPA 200.8
Cadmium - D		0.048	0.050		1	-3.38%	(-6.096) - (3.122)	EPA 200.8
Cadmium - D		0.049	0.050		1	-1.76%	(-6.578) - (2.892)	EPA 200.8
Cadmium - D		0.050	0.050		1	-0.980%	(-6.578) - (2.892)	EPA 200.8
Cadmium - D		0.048	0.050		1	-3.32%	(-6.578) - (2.892)	EPA 200.8
Calcium - D		25.5	25.0		1	2.08%	(-5.467) - (3.543)	SM 3111 B
Calcium - D		25.2	25.0		1	0.960%	(-5.467) - (3.543)	SM 3111 B
Calcium - D		24.6	25.0		1	-1.44%	(-5.467) - (3.543)	SM 3111 B
Chromium - D		0.050	0.050		1	-0.180%	(-7.881) - (3.731)	EPA 200.8 DRC
Chromium - D		0.050	0.050		1	0.260%	(-7.881) - (3.731)	EPA 200.8 DRC
Chromium - D		0.050	0.050		1	0.440%	(-7.881) - (3.731)	EPA 200.8 DRC
Chromium - D		0.049	0.050		1	-1.92%	(-7.881) - (3.731)	EPA 200.8 DRC
Chromium - D		0.050	0.050		1	0.660%	(-5.316) - (3.206)	EPA 200.8 DRC
Chromium - D		0.049	0.050		1	-1.28%	(-5.316) - (3.206)	EPA 200.8 DRC
Chromium - D		0.052	0.050		1	3.18%	(-5.316) - (3.206)	EPA 200.8 DRC
Chromium - D		0.051	0.050		1	0.980%	(-5.316) - (3.206)	EPA 200.8 DRC
Cobalt - D		0.049	0.050		1	-1.28%	(-8.854) - (4.446)	EPA 200.8
Cobalt - D		0.048	0.050		1	-3.60%	(-8.854) - (4.446)	EPA 200.8
Cobalt - D		0.050	0.050		1	0.720%	(-8.854) - (4.446)	EPA 200.8
Copper - D		0.049	0.050		1	-2.10%	(-7.096) - (3.520)	EPA 200.8
Copper - D		0.049	0.050		1	-1.48%	(-7.096) - (3.520)	EPA 200.8
Copper - D		0.049	0.050		1	-2.38%	(-7.096) - (3.520)	EPA 200.8
Copper - D		0.049	0.050		1	-1.34%	(-7.096) - (3.520)	EPA 200.8
Iron - D		0.256	0.250		1	2.54%	(-7.482) - (4.804)	EPA 200.8
Iron - D		0.252	0.250		1	0.804%	(-7.482) - (4.804)	EPA 200.8
Iron - D		0.245	0.250		1	-1.89%	(-7.482) - (4.804)	EPA 200.8
Iron - D		0.253	0.250		1	1.09%	(-7.482) - (4.804)	EPA 200.8
Lead - D		0.049	0.050		1	-1.14%	(-6.788) - (3.760)	EPA 200.8
Lead - D		0.050	0.050		1	-0.560%	(-6.788) - (3.760)	EPA 200.8
Lead - D		0.050	0.050		1	-0.800%	(-6.788) - (3.760)	EPA 200.8
Lead - D		0.050	0.050		1	0.500%	(-6.788) - (3.760)	EPA 200.8
Lead - D		0.049	0.050		1	-1.54%	(-5.467) - (3.207)	EPA 200.8
Lead - D		0.050	0.050		1	-0.340%	(-5.467) - (3.207)	EPA 200.8

Parameter	Lab#	QC Value	Smp Value	Spike	DF	Result	Limits	Method
Continuing Calibration Verification								
Lead - D		0.049	0.050		1	-2.68%	(-5.467) - (3.207)	EPA 200.8
Lead - D		0.049	0.050		1	-1.52%	(-5.467) - (3.207)	EPA 200.8
Magnesium - D		24.8	25.0		1	-0.720%	(-5.437) - (3.569)	SM 3111 B
Magnesium - D		25.2	25.0		1	0.640%	(-5.437) - (3.569)	SM 3111 B
Magnesium - D		24.8	25.0		1	-0.800%	(-5.437) - (3.569)	SM 3111 B
Manganese - D		0.050	0.050		1	-0.500%	(-12.03) - (7.033)	EPA 200.8
Manganese - D		0.050	0.050		1	-0.980%	(-12.03) - (7.033)	EPA 200.8
Manganese - D		0.049	0.050		1	-1.36%	(-12.03) - (7.033)	EPA 200.8
Manganese - D		0.051	0.050		1	1.88%	(-12.03) - (7.033)	EPA 200.8
Molybdenum - D		0.051	0.050		1	2.62%	(-10.64) - (4.654)	EPA 200.8
Molybdenum - D		0.050	0.050		1	-0.240%	(-10.64) - (4.654)	EPA 200.8
Molybdenum - D		0.051	0.050		1	2.22%	(-10.64) - (4.654)	EPA 200.8
Nickel - D		0.049	0.050		1	-1.20%	(-8.335) - (3.541)	EPA 200.8
Nickel - D		0.050	0.050		1	0.260%	(-8.335) - (3.541)	EPA 200.8
Nickel - D		0.048	0.050		1	-3.52%	(-8.335) - (3.541)	EPA 200.8
Potassium - D		4.94	5.00		1	-1.20%	(-8.056) - (5.356)	SM 3111 B
Potassium - D		4.92	5.00		1	-1.60%	(-8.056) - (5.356)	SM 3111 B
Potassium - D		4.93	5.00		1	-1.40%	(-8.056) - (5.356)	SM 3111 B
Selenium - D		0.251	0.250		1	0.376%	(-9.015) - (3.097)	EPA 200.8
Selenium - D		0.246	0.250		1	-1.42%	(-9.015) - (3.097)	EPA 200.8
Selenium - D		0.244	0.250		1	-2.28%	(-9.015) - (3.097)	EPA 200.8
Selenium - D		0.249	0.250		1	-0.316%	(-9.015) - (3.097)	EPA 200.8
Selenium - D		0.248	0.250		1	-0.904%	(-7.128) - (5.520)	EPA 200.8
Selenium - D		0.251	0.250		1	0.268%	(-7.128) - (5.520)	EPA 200.8
Selenium - D		0.240	0.250		1	-4.18%	(-7.128) - (5.520)	EPA 200.8
Silver - D		0.050	0.050		1	0.440%	(-8.763) - (4.895)	EPA 200.8
Silver - D		0.050	0.050		1	-0.380%	(-8.763) - (4.895)	EPA 200.8
Silver - D		0.046	0.050		1	-8.08%	(-8.763) - (4.895)	EPA 200.8
Silver - D		0.046	0.050		1	-7.92%	(-8.763) - (4.895)	EPA 200.8
Silver - D		0.051	0.050		1	1.24%	(-11.36) - (6.990)	EPA 200.8
Silver - D		0.050	0.050		1	0.200%	(-11.36) - (6.990)	EPA 200.8
Silver - D		0.050	0.050		1	0.460%	(-11.36) - (6.990)	EPA 200.8
Sodium - D		15.2	15.0		1	1.00%	(-5.856) - (4.896)	SM 3111 B
Sodium - D		15.1	15.0		1	0.533%	(-5.856) - (4.896)	SM 3111 B
Sodium - D		15.0	15.0		1	-0.067%	(-5.856) - (4.896)	SM 3111 B
Strontium - D		0.049	0.050		1	-1.64%	(-11.53) - (8.961)	EPA 200.8
Strontium - D		0.048	0.050		1	-4.46%	(-11.53) - (8.961)	EPA 200.8
Strontium - D		0.049	0.050		1	-1.78%	(-11.53) - (8.961)	EPA 200.8
Strontium - D		0.050	0.050		1	-0.220%	(-11.53) - (8.961)	EPA 200.8
Vanadium - D		0.051	0.050		1	2.70%	(-18.62) - (15.68)	EPA 200.8
Vanadium - D		0.049	0.050		1	-1.28%	(-18.62) - (15.68)	EPA 200.8
Vanadium - D		0.049	0.050		1	-1.12%	(-18.62) - (15.68)	EPA 200.8
Vanadium - D		0.050	0.050		1	-0.920%	(-18.62) - (15.68)	EPA 200.8
Zinc - D		0.048	0.050		1	-3.92%	(-6.583) - (3.595)	EPA 200.8
Zinc - D		0.049	0.050		1	-2.34%	(-6.583) - (3.595)	EPA 200.8
Zinc - D		0.049	0.050		1	-2.14%	(-6.583) - (3.595)	EPA 200.8

Parameter	Lab#	QC Value	Smp Value	Spike	DF	Result	Limits	Method
Continuing Calibration Verification								
Zinc - D		0.049	0.050		1	-1.42%	(-6.583) - (3.595)	EPA 200.8
Bismuth		0.052	0.050		1	3.40%	(-7.448) - (13.72)	EPA 200.8
Bismuth		0.052	0.050		1	4.20%	(-7.448) - (13.72)	EPA 200.8
Bismuth		0.052	0.050		1	4.20%	(-7.448) - (13.72)	EPA 200.8
Gold - T		0.082	0.075		1	9.73%	(-12.10) - (19.60)	EPA 231.2
Gold - T		0.110	0.100		1	9.90%	(-12.10) - (19.60)	EPA 231.2
Mercury - T		0.0021	0.0020		1	3.50%	(-7.650) - (5.710)	EPA 245.1
Mercury - T		0.0052	0.0050		1	4.00%	(-7.650) - (5.710)	EPA 245.1
Mercury - T		0.0010	0.0010		1	-2.00%	(-7.650) - (5.710)	EPA 245.1
Tellurium		0.051	0.050		1	1.80%	(-12.14) - (9.642)	EPA 200.8
Tellurium		0.051	0.050		1	1.80%	(-12.14) - (9.642)	EPA 200.8
Tellurium		0.050	0.050		1	-1.00%	(-12.14) - (9.642)	EPA 200.8
Titanium - T		0.050	0.050		1	0.00%	(-7.406) - (6.806)	EPA 200.8
Titanium - T		0.050	0.050		1	-0.200%	(-7.406) - (6.806)	EPA 200.8
Titanium - T		0.050	0.050		1	-0.400%	(-7.406) - (6.806)	EPA 200.8
Zirconium		0.050	0.050		1	-0.600%	(-10.79) - (11.39)	EPA 200.8
Zirconium		0.050	0.050		1	-0.600%	(-10.79) - (11.39)	EPA 200.8
Zirconium		0.049	0.050		1	-2.20%	(-10.79) - (11.39)	EPA 200.8
Gold - TCLP		0.112	0.100		1	11.6 %		EPA 231.2
Gold - TCLP		0.082	0.075		1	9.73%		EPA 231.2

Initial Calibration Blank

Antimony - D	0.000	0.00		1	0.00021	(-0.0008) - (0.0018)	EPA 200.8
Beryllium - D	0.000	0.00		1	0.00003	(-0.0002) - (0.0005)	EPA 200.8
Cadmium - D	0.000	0.00		1	0.00005	(-0.0001) - (0.0001)	EPA 200.8
Cobalt - D	0.000	0.00		1	0.00002		EPA 200.8
Molybdenum - D	0.000	0.00		1	0.00004	(-0.0002) - (0.0004)	EPA 200.8
Nickel - D	0.000	0.00		1	0.00006	(-0.0001) - (0.0001)	EPA 200.8
Selenium - D	0.000	0.00		1	0.00018	(-0.0001) - (0.0003)	EPA 200.8
Silver - D	0.000	0.00		1	0.00004	(0.0000) - (0.0001)	EPA 200.8
Bismuth	0.000	0.00		1	0.00002		EPA 200.8
Gold - T	0.000	0.00		1	0.00015	(-0.0003) - (0.0004)	EPA 231.2
Mercury - T	0.0000	0.000		1	0.00001	(-0.0001) - (0.0001)	EPA 245.1
Tellurium	0.000	0.00		1	0.00004		EPA 200.8
Titanium - T	0.000	0.00		1	0.00001		EPA 200.8
Zirconium	0.000	0.00		1	0.00003		EPA 200.8
Gold - TCLP	0.000	0.00		1	-0.00005		EPA 231.2

Continuing Calibration Blank

Aluminum - D	0.000	0.00		1	0.00003	(-0.0003) - (0.0005)	EPA 200.8
Arsenic - D	0.000	0.00		1	0.00005	(-0.0001) - (0.0001)	EPA 200.8
Arsenic - D	0.000	0.00		1	0.00004	(-0.0001) - (0.0001)	EPA 200.8
Barium - D	0.000	0.00		1	0.00003	(0.0000) - (0.0001)	EPA 200.8
Cadmium - D	0.000	0.00		1	0.00001	(0.0000) - (0.0001)	EPA 200.8
Calcium - D	0.040	0.00		1	0.04	(-0.3291) - (0.3733)	SM 3111 B
Calcium - D	0.050	0.00		1	0.05	(-0.3291) - (0.3733)	SM 3111 B

Parameter	Lab#	QC Value	Smp Value	Spike	DF	Result	Limits	Method
Continuing Calibration Blank								
Calcium - D		0.040	0.00		1	0.04	(-0.3291) - (0.3733)	SM 3111 B
Chromium - D		0.000	0.00		1	0.00001	(0.0000) - (0.0000)	EPA 200.8 DRC
Chromium - D		0.000	0.00		1	0.00004	(0.0000) - (0.0000)	EPA 200.8 DRC
- Blank value is less than half of the reporting limit								
Copper - D		0.000	0.00		1	0.00003	(0.0000) - (0.0001)	EPA 200.8
Iron - D		0.000	0.00		1	0.00045	(-0.0005) - (0.0010)	EPA 200.8
Lead - D		0.000	0.00		1	0.00003	(0.0000) - (0.0001)	EPA 200.8
Lead - D		0.000	0.00		1	0.00004	(0.0000) - (0.0001)	EPA 200.8
Magnesium - D		0.040	0.00		1	0.04	(-0.1010) - (0.1640)	SM 3111 B
Magnesium - D		0.020	0.00		1	0.02	(-0.1010) - (0.1640)	SM 3111 B
Magnesium - D		0.010	0.00		1	0.01	(-0.1010) - (0.1640)	SM 3111 B
Manganese - D		0.000	0.00		1	0.00003	(0.0000) - (0.0001)	EPA 200.8
Potassium - D		-0.010	0.00		1	-0.01	(-0.0851) - (0.0781)	SM 3111 B
Potassium - D		-0.020	0.00		1	-0.02	(-0.0851) - (0.0781)	SM 3111 B
Potassium - D		-0.010	0.00		1	-0.01	(-0.0851) - (0.0781)	SM 3111 B
Selenium - D		0.000	0.00		1	0.00018	(-0.0002) - (0.0004)	EPA 200.8
Silver - D		0.000	0.00		1	0.00002	(-0.0001) - (0.0001)	EPA 200.8
Sodium - D		0.010	0.00		1	0.01	(-0.0974) - (0.1314)	SM 3111 B
Sodium - D		-0.004	0.00		1	-0.004	(-0.0974) - (0.1314)	SM 3111 B
Sodium - D		-0.010	0.00		1	-0.01	(-0.0974) - (0.1314)	SM 3111 B
Strontium - D		0.000	0.00		1	0.00003	(-0.0001) - (0.0001)	EPA 200.8
Vanadium - D		0.000	0.00		1	0.00003	(0.0000) - (0.0001)	EPA 200.8
Zinc - D		0.000	0.00		1	0.00003	(-0.0001) - (0.0001)	EPA 200.8

Approved By: 

Approved On: 12/07/2016 07:15 AM

Cripple Creek and Victor Gold

100 n. 3rd St, P.O. Box 191
Victor, Colorado 80860
(719) 689-2977

Project: Cresson

COC Number: 20161115BAF

For Lab Use Only

Seal Intact (Y/N):

Sample Condition:

Temperature of Container:

Lab Use Only	Location	Date	Time	Matrix	Nbr. of Cont.	Preservatives					Field Data			Analysis Requested
						HNO3	H2SO4	NaOH	HCl	Unpres.	pH	Cond	Temp	
#1	701	11/14/2016		Soil	1									Please see attached
#2	702	11/14/2016		Soil	1									Please see attached
#3	703	11/14/2016		Soil	1									Please see attached
#4	704	11/14/2016		Soil	1									Please see attached
#5	705	11/14/2016		Soil	1									Please see attached
#6	706	11/14/2016		Soil	1									Please see attached
Batch 7														
11-21-16														

Samples Submitted By:	Bleys Andromeda-Focht	Telephone No.	719-689-4050	Fax No.	719-689-3254
Report Results To:	Meg Burt	Telephone No.	(719) 689-4055	Fax No.	
Samples Submitted on Ice: Yes / No		Date:		Time:	
Relinquished By:		Date:	11-17-16	Time:	945
Relinquished By:		Date:		Time:	
Comments/Special Instructions:					

Laboratory Name and Address:
Waco-Continent Testing Laboratories, Inc.

2381 South Plaza Drive
Rapid City, SD 57709
Phone: (605) 348-0111

Report Date: 11/15/2016

Please run samples #1-#6 for the following.

-ABA

-TCLP

-Total metals

- LECO for carbon and sulfur

Please contact me with any questions or concerns.

Bleys

SAMPLE RECEIPT CHECKLIST

Company Name CCVG Date/Time Received 11-17-16 945
 Project Cresson Received by R Date / Time
 Lab Number(s) 701-706 11-21-16 Carrier Name USPS

Yes	No	<u>UNPACKING</u>		Initials
☒	☐	1.	Shipping container in good condition?	
☒	☐	2.	Custody seals present on shipping container? Condition: <u>intact</u> Broken	
☐	☒	3.	Ice / Blue Ice (circle one) present in shipping container? Container(s) Temp. 1. <u>M4</u> 2. <u>Soil</u> 3. _____ 4. _____	
☐	☒	4.	Bottles broken and/or leaking? (Photograph broken bottles.)	
☐	☐	5.	Custody seals on sample bottles? Condition: Intact Broken <u>M4</u>	

Yes	No	<u>LABELING</u>		Initials
☒	☐	6.	Chain of custody Present?	
☒	☐	7.	Chain of custody includes signatures, dates, and times when relinquished and received?	
☒	☐	8.	Chain of custody agrees with bottle count?	
☒	☐	9.	Chain of custody agrees with labels?	
☒	☐	10.	Samples received within holding times?	
☒	☐	11.	Samples in proper container?	
☒	☐	12.	Sufficient sample volume for indicated tests?	

<u>PRESERVATIVE</u>				
Yes	No	Initials	Initials	
☐	☐	13. Metals bottle(s) pH < 2? _____	☐	17. TOC bottle(s) pH < 2? _____
☐	☐	14. Nutrient bottle(s) pH < 2? _____	☐	18. Oil & Grease bottle(s) pH < 2? _____
☐	☐	15. Cyanide bottle(s) pH > 12? _____	☐	19. Volatiles pH < 2? _____
☐	☐	16. Sulfide bottle(s) pH > 9? _____		

COMMENTS: soil analysis.

Mid Continent Testing Labs, Inc

Project ID:

Sample ID: #3

ACZ Sample ID: **L34283-03**

Date Sampled: 11/14/16 00:00

Date Received: 11/22/16

Sample Matrix: Soil

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acid Generation Potential (calc on Sulfur total)	M600/2-78-054 3.2.4		15.6			t CaCO3/Kt	0.31	3.1	12/13/16 0:00	calc
Acid Neutralization Potential (calc)	M600/2-78-054 1.3		7.0			t CaCO3/Kt	1	5	12/13/16 0:00	calc
Acid-Base Potential (calc on Sulfur total)	M600/2-78-054 1.3		-8.6			t CaCO3/Kt			12/13/16 0:00	calc
Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	1	0.2	B	*	%	0.1	0.5	12/12/16 14:10	bcc
Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR	1	0.1	B	*	%	0.1	0.5	12/12/16 14:10	bcc
Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	1	0.7		*	%	0.1	0.5	12/12/16 13:36	bcc
Sulfur Forms	M600/2-78-054 3.2.4-MOD									
Sulfur HCl Residue		1	0.41		*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur HNO3 Residue		1	0.04	B	*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Organic Residual		1	0.04	B	*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Pyritic Sulfide		1	0.37		*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Sulfate		1	0.09	B	*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Total		1	0.50		*	%	0.01	0.1	12/08/16 0:00	bcc
Total Sulfur minus Sulfate		1	0.41		*	%	0.01	0.1	12/08/16 0:00	bcc

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972				*				12/01/16 12:21	rbt
Crush and Pulverize (Ring & Puck)	EPA-600/2-78-054 3.1.3				*				12/07/16 8:24	rbt

Arizona license number: **AZ0102**

Mid Continent Testing Labs, Inc

Project ID:

Sample ID: #4

ACZ Sample ID: **L34283-04**

Date Sampled: 11/16/16 00:00

Date Received: 11/22/16

Sample Matrix: Soil

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acid Generation Potential (calc on Sulfur total)	M600/2-78-054 3.2.4		11.3			t CaCO3/Kt	0.31	3.1	12/13/16 0:00	calc
Acid Neutralization Potential (calc)	M600/2-78-054 1.3		6.0			t CaCO3/Kt	1	5	12/13/16 0:00	calc
Acid-Base Potential (calc on Sulfur total)	M600/2-78-054 1.3		-5.2			t CaCO3/Kt			12/13/16 0:00	calc
Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	1	0.2	B	*	%	0.1	0.5	12/12/16 15:00	bcc
Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR	1	0.2	B	*	%	0.1	0.5	12/12/16 15:00	bcc
Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	1	0.6		*	%	0.1	0.5	12/12/16 13:53	bcc
Sulfur Forms	M600/2-78-054 3.2.4-MOD									
Sulfur HCl Residue		1	0.31		*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur HNO3 Residue		1	0.04	B	*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Organic Residual		1	0.04	B	*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Pyritic Sulfide		1	0.27		*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Sulfate		1	0.05	B	*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Total		1	0.36		*	%	0.01	0.1	12/08/16 0:00	bcc
Total Sulfur minus Sulfate		1	0.31		*	%	0.01	0.1	12/08/16 0:00	bcc

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972				*				12/01/16 12:24	rbt
Crush and Pulverize (Ring & Puck)	EPA-600/2-78-054 3.1.3				*				12/07/16 8:36	rbt

Arizona license number: **AZ0102**

Mid Continent Testing Labs, Inc

Project ID:

Sample ID: #5

ACZ Sample ID: **L34283-05**

Date Sampled: 11/16/16 00:00

Date Received: 11/22/16

Sample Matrix: Soil

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acid Generation Potential (calc on Sulfur total)	M600/2-78-054 3.2.4		10.00			t CaCO3/Kt	0.31	3.1	12/13/16 0:00	calc
Acid Neutralization Potential (calc)	M600/2-78-054 1.3		5.0			t CaCO3/Kt	1	5	12/13/16 0:00	calc
Acid-Base Potential (calc on Sulfur total)	M600/2-78-054 1.3		-5.0			t CaCO3/Kt			12/13/16 0:00	calc
Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	1	0.2	B	*	%	0.1	0.5	12/12/16 15:50	bcc
Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR	1	0.2	B	*	%	0.1	0.5	12/12/16 15:50	bcc
Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	1	0.5		*	%	0.1	0.5	12/12/16 14:10	bcc
Sulfur Forms	M600/2-78-054 3.2.4-MOD									
Sulfur HCl Residue		1	0.27		*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur HNO3 Residue		1	0.02	B	*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Organic Residual		1	0.02	B	*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Pyritic Sulfide		1	0.25		*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Sulfate		1	0.05	B	*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Total		1	0.32		*	%	0.01	0.1	12/08/16 0:00	bcc
Total Sulfur minus Sulfate		1	0.27		*	%	0.01	0.1	12/08/16 0:00	bcc

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972				*				12/01/16 12:27	rbt
Crush and Pulverize (Ring & Puck)	EPA-600/2-78-054 3.1.3				*				12/07/16 8:48	rbt

Arizona license number: **AZ0102**

Mid Continent Testing Labs, Inc

Project ID:

Sample ID: #6

ACZ Sample ID: **L34283-06**

Date Sampled: 11/16/16 00:00

Date Received: 11/22/16

Sample Matrix: Soil

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acid Generation Potential (calc on Sulfur total)	M600/2-78-054 3.2.4		11.3			t CaCO3/Kt	0.31	3.1	12/13/16 0:00	calc
Acid Neutralization Potential (calc)	M600/2-78-054 1.3		6.0			t CaCO3/Kt	1	5	12/13/16 0:00	calc
Acid-Base Potential (calc on Sulfur total)	M600/2-78-054 1.3		-5.2			t CaCO3/Kt			12/13/16 0:00	calc
Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	1	0.1	B	*	%	0.1	0.5	12/12/16 16:40	bcc
Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR	1	0.1	B	*	%	0.1	0.5	12/12/16 16:40	bcc
Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	1	0.6		*	%	0.1	0.5	12/12/16 14:27	bcc
Sulfur Forms	M600/2-78-054 3.2.4-MOD									
Sulfur HCl Residue		1	0.26		*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur HNO3 Residue		1	0.02	B	*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Organic Residual		1	0.02	B	*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Pyritic Sulfide		1	0.24		*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Sulfate		1	0.10		*	%	0.01	0.1	12/08/16 0:00	bcc
Sulfur Total		1	0.36		*	%	0.01	0.1	12/08/16 0:00	bcc
Total Sulfur minus Sulfate		1	0.26		*	%	0.01	0.1	12/08/16 0:00	bcc

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972				*				12/01/16 12:30	rbt
Crush and Pulverize (Ring & Puck)	EPA-600/2-78-054 3.1.3				*				12/07/16 9:00	rbt

Arizona license number: **AZ0102**


Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

<http://www.acz.com/public/extquallist.pdf>

Mid Continent Testing Labs, Inc

ACZ Project ID: **L34283**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34283-01	WG414562	Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414570	Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414410	Sulfur Organic Residual	M600/2-78-054 3.2.4-MOD	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Sulfur Pyritic Sulfide	M600/2-78-054 3.2.4-MOD	R1	RPD exceeded the method or laboratory acceptance limit. See Case Narrative.
		Sulfur Sulfate	M600/2-78-054 3.2.4-MOD	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
L34283-02	WG414562	Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414570	Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414410	Sulfur Organic Residual	M600/2-78-054 3.2.4-MOD	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Sulfur Pyritic Sulfide	M600/2-78-054 3.2.4-MOD	R1	RPD exceeded the method or laboratory acceptance limit. See Case Narrative.
		Sulfur Sulfate	M600/2-78-054 3.2.4-MOD	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
L34283-03	WG414562	Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414570	Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414410	Sulfur Organic Residual	M600/2-78-054 3.2.4-MOD	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Sulfur Pyritic Sulfide	M600/2-78-054 3.2.4-MOD	R1	RPD exceeded the method or laboratory acceptance limit. See Case Narrative.
		Sulfur Sulfate	M600/2-78-054 3.2.4-MOD	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Mid Continent Testing Labs, Inc

ACZ Project ID: **L34283**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L34283-04	WG414562	Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414570	Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414410	Sulfur Organic Residual	M600/2-78-054 3.2.4-MOD	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Sulfur Pyritic Sulfide	M600/2-78-054 3.2.4-MOD	R1	RPD exceeded the method or laboratory acceptance limit. See Case Narrative.
		Sulfur Sulfate	M600/2-78-054 3.2.4-MOD	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
L34283-05	WG414562	Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414570	Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414410	Sulfur Organic Residual	M600/2-78-054 3.2.4-MOD	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Sulfur Pyritic Sulfide	M600/2-78-054 3.2.4-MOD	R1	RPD exceeded the method or laboratory acceptance limit. See Case Narrative.
		Sulfur Sulfate	M600/2-78-054 3.2.4-MOD	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
L34283-06	WG414562	Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414570	Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG414410	Sulfur Organic Residual	M600/2-78-054 3.2.4-MOD	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Sulfur Pyritic Sulfide	M600/2-78-054 3.2.4-MOD	R1	RPD exceeded the method or laboratory acceptance limit. See Case Narrative.
		Sulfur Sulfate	M600/2-78-054 3.2.4-MOD	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR	Q6	Sample was received above recommended temperature.
			ASA No.9 29-2.2.4 Combustion/IR	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Mid Continent Testing Labs, Inc

ACZ Project ID: **L34283**

Soil Analysis

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR
Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR
Neutralization Potential as CaCO ₃	M600/2-78-054 3.2.3
Sulfur HCl Residue	M600/2-78-054 3.2.4-MOD
Sulfur HNO ₃ Residue	M600/2-78-054 3.2.4-MOD
Sulfur Organic Residual	M600/2-78-054 3.2.4-MOD
Sulfur Pyritic Sulfide	M600/2-78-054 3.2.4-MOD
Sulfur Sulfate	M600/2-78-054 3.2.4-MOD
Sulfur Total	M600/2-78-054 3.2.4-MOD
Total Sulfur minus Sulfate	M600/2-78-054 3.2.4-MOD

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Carbon, total (TC)	ASA No.9 29-2.2.4 Combustion/IR
Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR
Neutralization Potential as CaCO ₃	M600/2-78-054 3.2.3
Sulfur HCl Residue	M600/2-78-054 3.2.4-MOD
Sulfur HNO ₃ Residue	M600/2-78-054 3.2.4-MOD
Sulfur Organic Residual	M600/2-78-054 3.2.4-MOD
Sulfur Pyritic Sulfide	M600/2-78-054 3.2.4-MOD
Sulfur Sulfate	M600/2-78-054 3.2.4-MOD
Sulfur Total	M600/2-78-054 3.2.4-MOD
Total Sulfur minus Sulfate	M600/2-78-054 3.2.4-MOD

Mid Continent Testing Labs, Inc

ACZ Project ID: L34283

Date Received: 11/22/2016 09:48

Received By:

Date Printed: 11/22/2016

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?	☐	☐	☒
2) Is the Chain of Custody form or other directive shipping papers present?	☒	☐	☐
3) Does this project require special handling procedures such as CLP protocol?	☐	☐	☒
4) Are any samples NRC licensable material?	☐	☐	☒
5) If samples are received past hold time, proceed with requested short hold time analyses?	☒	☐	☐
6) Is the Chain of Custody form complete and accurate? The sample matrix was entered per the requested quotation. The 'sampled by' field on the Chain of Custody was not completed.	☐	☒	☐
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	☐	☒	☐

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	☒	☐	☐
9) Are all labels on containers and are they intact and legible?	☒	☐	☐
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	☒	☐	☐
11) For preserved bottle types, was the pH checked and within limits? ¹	☐	☐	☒
12) Is there sufficient sample volume to perform all requested work?	☒	☐	☐
13) Is the custody seal intact on all containers?	☐	☐	☒
14) Are samples that require zero headspace acceptable?	☐	☐	☒
15) Are all sample containers appropriate for analytical requirements?	☒	☐	☐
16) Is there an Hg-1631 trip blank present?	☐	☐	☒
17) Is there a VOA trip blank present?	☐	☐	☒
18) Were all samples received within hold time?	☒	☐	☐

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(μR/Hr)	Custody Seal Intact?
NA25153	10.7	<=6.0	14	N/A

Was ice present in the shipment container(s)?

No - Wet or gel ice was not present in the shipment container(s).

Mid Continent Testing Labs, Inc

ACZ Project ID: L34283

Date Received: 11/22/2016 09:48

Received By:

Date Printed: 11/22/2016

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

¹ The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na₂S₂O₃ preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).



Laboratories, Inc. L34283

CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Greg McDougall

Company: Mid Continent Testing, Inc

E-mail: greg@thechemistrylab.com

Address: P.O. Box 3388

Rapid City, SD 57709

Telephone: 605-348-0111

Copy of Report to:

Name: same

Company:

E-mail: same

Telephone:

Invoice to:

Name: same

Company:

E-mail:

Address:

Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES



NO



If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring?

Yes



No



If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Sampler's Site Information State Zip code Time Zone

*Sampler's Signature:

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #:

PO#:

Reporting state for compliance testing:

Check box if samples include NRC licensed material?



SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Acid/Base accounting	Carbon/sulfur via LECO														
#1	11/14/2016		1	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
#2	11/14/2016		1	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
#3	11/14/2016		1	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
#4	11/16/2016		1	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
#5	11/16/2016		1	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
#6	11/16/2016		1	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:

DATE:TIME

RECEIVED BY:

DATE:TIME

Blee

11-18-16

DJR

11/24/16 940

1245

FRMAD050.06.14.14

White - Return with sample. Yellow - Retain for your records.