NEW ELK COAL COMPANY

April 26, 2017

Rob Zuber
Division of Reclamation, Mining and Safety
1313 Sherman St., Rm. 215
Denver, Colorado 80203

Re: New Elk Mine
2015 Annual Hydrology Letter Report

Dear Mr. Zuber:

The New Elk Mine Annual Hydrologic Monitoring Requirements are summarized by Table 27 Hydrologic Monitoring Requirements—New Elk Mine and Table 28 Water Quality Laboratory Analysis—New Elk Mine attached to this letter report. Table 27 includes monitoring sites (**) that have been installed but not implemented as the technical/permit revisions requiring them have either been withdrawn or not implemented (bonded) at this time.

NPDES Discharge Monitoring

All NPDES sites were monitoried and reported to CDPHE on Discharge Monitoring Report forms (DMRs) as no discharge. Copies of these reports have already been submitted to the Division (DRMS).

12250 Hwy 12
Weston, CO 81091

PHONE (719) 859-0111
FAX ((719) 868-0044
E-MAIL ronthompson@newelkcoal.com

Discharge Monitoring Site 001 did not discharge during 2015. Water flow to/from is managed by a system of pumps with a gravity flow discharge through the primary if the water level exceeds the discharge elevation of the primary decant spillway. No water was pumped to or withdrawn from pond 001. Evaporative losses were tracked and reported to the Pueblo District of the Colorado Division of Water Resources. These losses were compensated to the stream by water New Elk has under lease from the Hill Ranch.

Discharge Monitoring of Site 004 (Pond 4) was terminated with the NPDES permit renewal effective June 1, 2015. Throughout the year water levels were minimal and no discharges occurred.

Discharge Monitoring of Site 007 (Pond 7) held considerable water throughout late 2015 but no discharges occurred.

Discharge Monitoring Site 008 (Pond 8) held considerable water through the second half of 2015 but did not discharge.

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Discharge Monitoring Site 010 (An SAE south of Pond 7) was added to the New Elk NPDES permit with the 2015 renewal. No discharges were observed during 2015.

RDA Monitoring Wells

Three monitoring wells, **Th-201**, **TH-202** and **TH-203**, are located on the three lower reclaimed benches of the mine's Refuse Disposal Area. These wells penetrate the compacted refuse down to the contact with the basal bedrock of the disposal area.

The intent is to monitor ground water at the refuse/bedrock contact and alert the operator to potential problems that could arise from accumulation of ground water. The monitoring plan calls for recording depths to water for these sites on a quarterly basis.

Readings were taken March 25, May 27, September 30, and October 12, 2015. This data is summarized in Table 1 following this report. No significant changes were noted at any of the wells.

Surface and Groundwater Monitoring

Surface and Ground Water Monitoring is required for field parameters in the second quarter and field and laboratory analysis for the fourth quarter. Surface water was sampled on June 15 2015 for both field and laboratory analysis and October 12, 2015 for field parameters. Ground water was sampled on June 15 2015 for both field and laboratory analysis and October 12, 2015 for field parameters.

A more extensive list of parameters (similar to former NPDES requirements) was run in the second quarter for both surface and ground water. This data is summarized in Table 2 following this report.

This data was compared to the historical information available in previous AHRs (see 2008 for best tabulation): All observed data fell within the historical range for each parameter.

Water Rights and Water Consumption

New Elk holds water leases with Hill and and the City of Trinidad. Water use was limited in 2015 to surface dust control and evaporative losses from sediment and water storage ponds. Leased water far exceeded water consumption.

This information is submitted to the State of Colorado Division of Water Resources District 2 in Pueblo and is also reviewed on a regular basis by the Division 2 Water Commissioner.

Comment

Ground water samples were collected in both first and second quarters of 2015. A more robust list of parameters was sampled for the two surface sites and four ground water monitoring wells than is required by the DRMS permit water monitoring plan. Due to the extensive monitoring in the first half of 2015, additional laboratory samples were not collected in the third and fourth quarters of 2015.

Tables, field notes, and laboratory reports are submitted as an appendage following this letter report.

Please advise if me if additional information is needed.

Regards,

Ron Thompson
Consultant/Agent

Table 1 AAR-2015 RDA Monitoring Wells

	Q1	Q2	Q3	Q4
	Depth to Water in Feet			
Date	3/25/2015	5/27/2015	9/30/2015	10/12/2015
TH-01	45.15	45.2	44.6	44.7
TH-02	71.58	71.7	70.1	70.4
TH-03	92.73	92.7	96.6	96.2

Table 2 ARR-02016 Surface and Ground Water Monitoring Data

SECOND QUARTER 2015	SURFACE WATER		GROUNDWATER WELLS							
	PRS-1	PRS-4	PAW-1		PAW-2		PAW-8		PAW-9	
Date	06/15/15	06/15/15	03/23/15	06/03/15	03/23/15	06/03/15	03/23/15	06/03/15	03/23/15	06/03/15
Field Measurements										
Flow Rate (cfs)/Water Level (FT.)	1.4'	1.3'		7.18		16.12		32.73		16.20
Ph (S.U.)	8.35	8.38		8.31		7.13		6.99		7.32
Conductivity (umhos/CM^2)	233	237		270		979		1170		1116
Temperature (^oC)	11.0	11.1		11.8		11.7		14.7		12.1
Laboratory Analysis										
Total Suspended Solids (TSS)(mg/l)	28	27	24		58		9		12	
Carbonate (mg/l)	<2	<2	3.40		<2		<2		<2	
Bicarbonate (mg/l)	80	80	153		397		526		471	
Chloride (mg/l)	1.40	1.10	7.10	7.10	18.10	13.10	17.80	15.10	24.60	25.60
Sulfate (mg/l)	<0.1	27.2	2.3	2.3	64.3	130.0	106.0	107.0	60.9	66.5
Manganese total(Mn) (mg/l)	0.056	0.055	0.043		1.870		0.027		0.010	
Manganese dissolved(Mn) (mg/l)	0.006	<0.03	0.016		1.780		0.018		0.005	
Mercury, dissolved (ng/L)	0.800	0.900	<0.5		<0.5		<0.5		<0.5	
Calcium (Ca)(mg/l)	30.90	30.60	29.2		106.0		107.0		72.0	
Magnesium (Mg)(mg/l)	5.20	5.20	12.50		20.30		23.10		19.40	
Potassium (K)(mg/l)	1.40	1.30	1.70		2.50		1.80		2.10	
Selenium (mg/L)	0.0003	0.0003	<.0003		0.0003		0.0087		0.0038	
Sodium (Na)(mg/l)	5	4	17		57		131		135	
Copper, dissolved (mg/L)	0	0.0009	<0.003		<0.003		0.0025		<0.003	
Iron(Fe)(mg/l), Total dissolved	0.05	0.03	0.09	0.09	0.28	0.41	<0.05	<.04	<0.05	0.03
iron(Fe)(mg/l) total recoverable	0.0006	1.23	0.26		13.70		0.29		0.27	
Sodium Absorption Raio (SAR)	0.23	0.19	0.66		1.30		3.00		3.70	
Zinc	0.0	<0.05	<0.05		<0.05		<0.05		<0.05	

Table 2 ARR-02016 Surface and Ground Water Monitoring Data (Continued)

FOURTH QUARTER 2015	SURFACE WATER		GROUNDWATER WELLS				
	PRS-1	PRS-4	PAW-1	PAW-2	PAW-8	PAW-9	
Date	10/12/2015	10/12/2015	10/12/2015	10/12/2015	10/12/2015	10/12/2015	
Field Measurements							
Flow Rate (cfs)/Water Level (FT.)	-	-	7.2	16.2	32.65	16.8	
Ph (S.U.)	8.1	8.08	8.4	7.6	7.1	7.2	
Conductivity (umhos/CM^2)	245	252	350	1010	11.2	1140	
Temperature (^oC)	10.7	10.7	11.6	11.5	14.3	12.9	

Table 3 WATER CONSUMPTION

Water Leases			
Hill Ranch	152	Ac.Ft.	
City of Trinidad	25	Ac.Ft.	
TOTAL	177	Ac.Ft.	
Water Consumption			
Allen Mine Water Pumped	3.216	Ac.Ft.	Road Dust Control
Evaporative Losses			
Pond 1	0.02513	Ac.Ft.	8200
All Evaporative Losses as per			
Substitute Water Supply Plan	4	Ac Ft	
Available but unused Water 2015	**169.784**	**Ac Ft**	

GROUNWATER FIELD DATA

NEW ELK MINE

HYDROLOGIC MONITORING DATA

STATION ID	DATE	TIME	DEPTH TO WATER	Ph	COND. (UMHOS/CM)	Temp. (Deg C)	SAMPLE Y/N	INITIALS	NOTES
SPRS-1	6/15/15	09:30	1.4	8.35	233	11.0	Y	JHT	FLOW FPS = 6.4
SPRS-4	6/15/15	10:00	1.3	8.38	237	11.1	Y	JHT	FPS = 6.2 TABLE #3
NEW-2	6/15/15		370.2						V.M
NEW 2	7/16/15		369.1						V.M
NEW-2	9/15/15		367						V.M
NEW-2	12/21/15		364.7						V.M
PRS-1	10/12/15	10 20	No Rdg	8.10	245	10.7	No		RT
PRS-4	10/12/15	11 05	No Rdg	8.08	252	10.7	No		RT

GROUNWATER FIELD DATA

NEW ELK MINE

HYDROLOGIC MONITORING DATA

STATION ID	DATE	TIME	DEPTH TO WATER	Ph	COND. (UMHOS/CM)	Temp. (Deg C)	SAMPLE Y/N	INITIALS	NOTES
PAW 1	6/3/15	1245	7.18	8.31	270	11.8	Y	JHT	TABLE 9
PAW 2	6/3/15	1313	16.12	7.13	979	11.7	Y	JHT	
PAW 8	6/3/15	1332	32.73	6.99	1170	14.7	Y	JHT	
PAW 9	6/3/15	1428	16.20	7.32	1116	12.1	Y	JHT	TABLE 9
PAW 1	10/12/15	1155	7.2	8.4	350	11.6	No	RJ	
PAW 2	10/12/15	1245	16.2	7.6	1010	11.5	No	RJ	
PAW 8	10/12/15	1240	32.65	7.1	1120	14.3	No	RJ	
PAW 9	10/12/15	13:00	16.80	7.2	1140	12.9	No	RJ	

GROUNWATER FIELD DATA
NEW ELK MINE
HYDROLOGIC MONITORING DATA

STATION ID	DATE	TIME	DEPTH TO WATER	Ph	COND. (UMHOS/CM)	Temp. (Deg C)	SAMPLE Y/N	INITIALS	NOTES
TH-201	3/25/15	10:08	45.15						
TH-202	3/25/15	9:58	71.58						
TH-203	3/25/15	9:42	92.73						
TH-201	5/27/15	12:35	45.2						
TH-202	5/27/15	12:28	71.7						
TH-203	5/27/15	12:15	92.7						
TH-201	9/30/15	11:10	44.6						
TH-202	9/30/15	11:23	70.1						
TH-203	9/30/15	11:34	96.6						
TH-201	10/12/15	13:25	44.7						
TH-202	10/12/15	1340	70.7						
TH-203	10/12/15	1350	96.2						

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 09, 2015

Report to:
John Terry
New Elk Mine
12250 Hwy 12
Weston, CO 81091

Bill to:
Mary Head
New Elk Mine
12250 Highway 12
Weston, CO 81091

Project ID:
ACZ Project ID: L24897

John Terry:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 16, 2015. This project has been assigned to ACZ's project number, L24897. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L24897. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 08, 2015. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

New Elk Mine
Project ID:
Sample ID: SPRS-1

ACZ Sample ID: ***L24897-01***
Date Sampled: *06/15/15 09:30*
Date Received: *06/16/15*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	1631E								06/29/15 14:30	mfm
Total Recoverable Digestion	M200.2 ICP								06/29/15 10:23	jjc
Total Recoverable Digestion	M200.2 ICP-MS								06/30/15 17:26	scp

New Elk Mine
Project ID:
Sample ID: SPRS-1

ACZ Sample ID: ***L24897-01***
Date Sampled: *06/15/15 09:30*
Date Received: *06/16/15*
Sample Matrix: *Surface Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.03	0.2	06/26/15 18:00	aeb
Aluminum, total recoverable	M200.7 ICP	1	1.12		*	mg/L	0.03	0.2	06/30/15 20:36	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/02/15 16:55	mfm
Antimony, total recoverable	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/02/15 10:50	mfm
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/02/15 16:55	mfm
Arsenic, total recoverable	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0002	0.001	07/02/15 10:50	mfm
Barium, dissolved	M200.7 ICP	1	0.042			mg/L	0.003	0.02	06/26/15 18:00	aeb
Barium, total recoverable	M200.7 ICP	1	0.056			mg/L	0.003	0.02	06/30/15 20:36	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/02/15 16:55	mfm
Beryllium, total recoverable	M200.8 ICP-MS	1	0.00006	B		mg/L	0.00005	0.0003	07/02/15 10:50	mfm
Boron, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	06/26/15 18:00	aeb
Boron, total recoverable	M200.7 ICP	1		U		mg/L	0.01	0.05	06/30/15 20:36	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/02/15 16:55	mfm
Cadmium, total recoverable	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/02/15 10:50	mfm
Calcium, dissolved	M200.7 ICP	1	30.9			mg/L	0.1	0.5	06/26/15 18:00	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/02/15 16:55	mfm
Chromium, total recoverable	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0005	0.002	07/02/15 10:50	mfm
Copper, dissolved	M200.8 ICP-MS	1	0.0016	B		mg/L	0.0005	0.003	07/02/15 16:55	mfm
Copper, total recoverable	M200.8 ICP-MS	1	0.0032			mg/L	0.0005	0.003	07/02/15 10:50	mfm
Iron, dissolved	M200.7 ICP	1	0.05			mg/L	0.02	0.05	06/26/15 18:00	aeb
Iron, total recoverable	M200.7 ICP	1	1.27			mg/L	0.02	0.05	06/30/15 20:36	jjc
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	07/02/15 16:55	mfm
Lead, total recoverable	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	07/02/15 10:50	mfm
Magnesium, dissolved	M200.7 ICP	1	5.2			mg/L	0.2	1	06/26/15 18:00	aeb
Manganese, dissolved	M200.7 ICP	1	0.006	B		mg/L	0.005	0.03	06/26/15 18:00	aeb
Manganese, total recoverable	M200.7 ICP	1	0.056			mg/L	0.005	0.03	06/30/15 20:36	jjc
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.8		*	ng/L	0.2	0.5	07/01/15 13:33	mfm
Mercury, total	M1631, Atomic Fluorescence	1	2.1			ng/L	0.2	0.5	06/22/15 12:29	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/26/15 18:00	aeb
Molybdenum, total recoverable	M200.7 ICP	1		U		mg/L	0.02	0.1	06/30/15 20:36	jjc
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/26/15 18:00	aeb
Nickel, total recoverable	M200.7 ICP	1		U		mg/L	0.008	0.04	06/30/15 20:36	jjc
Potassium, dissolved	M200.7 ICP	1	1.4			mg/L	0.2	1	06/26/15 18:00	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	07/02/15 16:55	mfm

New Elk Mine
Project ID:
Sample ID: SPRS-1

ACZ Sample ID: ***L24897-01***
Date Sampled: *06/15/15 09:30*
Date Received: *06/16/15*
Sample Matrix: *Surface Water*

Selenium, total recoverable	M200.8 ICP-MS	1	0.0003		mg/L	0.0001	0.0003	07/02/15 10:50	mfm
Silver, dissolved	M200.8 ICP-MS	1		U	mg/L	0.00005	0.0003	07/02/15 16:55	mfm
Silver, total recoverable	M200.8 ICP-MS	1		U	mg/L	0.00005	0.0003	07/02/15 10:50	mfm
Sodium, dissolved	M200.7 ICP	1	5.1		mg/L	0.2	1	06/26/15 18:00	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U	mg/L	0.0001	0.0005	07/02/15 16:55	mfm
Thallium, total recoverable	M200.8 ICP-MS	1		U	mg/L	0.0001	0.0005	07/02/15 10:50	mfm
Uranium, dissolved	M200.8 ICP-MS	1	0.0011		mg/L	0.0001	0.0005	07/02/15 16:55	mfm
Uranium, total recoverable	M200.8 ICP-MS	1	0.0015		mg/L	0.0001	0.0005	07/02/15 10:50	mfm
Zinc, dissolved	M200.7 ICP	1	0.05		mg/L	0.01	0.05	06/26/15 18:00	aeb
Zinc, total recoverable	M200.7 ICP	1	0.01	B	mg/L	0.01	0.05	06/30/15 20:36	jjc

New Elk Mine
Project ID:
Sample ID: SPRS-1

ACZ Sample ID: ***L24897-01***
Date Sampled: *06/15/15 09:30*
Date Received: *06/16/15*
Sample Matrix: *Surface Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	80.4			mg/L	2	20	06/22/15 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	06/22/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/22/15 0:00	abd
Total Alkalinity		1	80.4			mg/L	2	20	06/22/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.2			%			07/09/15 13:11	calc
Sum of Anions			2.3			meq/L			07/09/15 13:11	calc
Sum of Cations			2.2			meq/L			07/09/15 13:11	calc
Chloride	SM4500Cl-E	1	1.4	B	*	mg/L	0.5	2	07/02/15 11:24	bsu
Conductivity @25C	SM2510B	1	218			umhos/cm	1	10	06/22/15 22:32	abd
Fluoride	SM4500F-C	1	0.28	B	*	mg/L	0.05	0.3	06/25/15 13:09	enb
Hardness as CaCO3	SM2340B - Calculation		99			mg/L	0.8	4	07/09/15 13:11	calc
Lab Filtration (0.45um filter)	SOPWC050	1							06/25/15 8:28	apk
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A	1							06/24/15 12:45	apk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.25			mg/L	0.02	0.1	07/09/15 13:11	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.25		*	mg/L	0.02	0.1	06/16/15 19:18	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/16/15 19:18	pjb
Nitrogen, ammonia	M350.1	1		U	*	mg/L	0.05	0.2	07/06/15 16:15	jlf
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	06/22/15 0:00	abd
pH measured at		1	20.0			C	0.1	0.1	06/22/15 0:00	abd
Residue, Filterable (TDS) @180C	SM2540C	1	140			mg/L	10	20	06/19/15 11:13	tms
Residue, Non-Filterable (TSS) @105C	SM2540D	1	28.0		*	mg/L	5	20	06/17/15 17:20	tms
Sodium Adsorption Ratio in Water	USGS - I1738-78		0.23						07/09/15 13:11	calc
Sulfate	D516-02/-07 - Turbidimetric	1	28.6		*	mg/L	1	5	07/02/15 13:19	bsu
Sulfide as S	SM4500S2-D	1		U	*	mg/L	0.02	0.1	06/18/15 14:50	enb
TDS (calculated)	Calculation		123			mg/L			07/09/15 13:11	calc
TDS (ratio - measured/calculated)	Calculation		1.14						07/09/15 13:11	calc

New Elk Mine
Project ID:
Sample ID: SPRS-4

ACZ Sample ID: ***L24897-02***
Date Sampled: *06/15/15 10:00*
Date Received: *06/16/15*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	1631E								06/29/15 14:40	mfm
Total Recoverable Digestion	M200.2 ICP-MS								06/30/15 18:09	scp
Total Recoverable Digestion	M200.2 ICP								06/29/15 10:58	jjc

New Elk Mine
Project ID:
Sample ID: SPRS-4

ACZ Sample ID: ***L24897-02***
Date Sampled: *06/15/15 10:00*
Date Received: *06/16/15*
Sample Matrix: *Surface Water*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	06/26/15 18:09	aeb
Aluminum, total recoverable	M200.7 ICP	1	1.13		*	mg/L	0.03	0.2	06/30/15 20:45	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/02/15 17:05	mfm
Antimony, total recoverable	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	07/02/15 10:53	mfm
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	07/02/15 17:05	mfm
Arsenic, total recoverable	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0002	0.001	07/02/15 10:53	mfm
Barium, dissolved	M200.7 ICP	1	0.043			mg/L	0.003	0.02	06/26/15 18:09	aeb
Barium, total recoverable	M200.7 ICP	1	0.056			mg/L	0.003	0.02	06/30/15 20:45	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	07/02/15 17:05	mfm
Beryllium, total recoverable	M200.8 ICP-MS	1	0.00006	B		mg/L	0.00005	0.0003	07/02/15 10:53	mfm
Boron, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	06/26/15 18:09	aeb
Boron, total recoverable	M200.7 ICP	1		U		mg/L	0.01	0.05	06/30/15 20:45	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/02/15 17:05	mfm
Cadmium, total recoverable	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/02/15 10:53	mfm
Calcium, dissolved	M200.7 ICP	1	30.6			mg/L	0.1	0.5	06/26/15 18:09	aeb
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	07/02/15 17:05	mfm
Chromium, total recoverable	M200.8 ICP-MS	1	0.0011	B		mg/L	0.0005	0.002	07/02/15 10:53	mfm
Copper, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0005	0.003	07/02/15 17:05	mfm
Copper, total recoverable	M200.8 ICP-MS	1	0.0022	B		mg/L	0.0005	0.003	07/02/15 10:53	mfm
Iron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.05	06/26/15 18:09	aeb
Iron, total recoverable	M200.7 ICP	1	1.23			mg/L	0.02	0.05	06/30/15 20:45	jjc
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	07/02/15 17:05	mfm
Lead, total recoverable	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	07/02/15 10:53	mfm
Magnesium, dissolved	M200.7 ICP	1	5.2			mg/L	0.2	1	06/26/15 18:09	aeb
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/26/15 18:09	aeb
Manganese, total recoverable	M200.7 ICP	1	0.055			mg/L	0.005	0.03	06/30/15 20:45	jjc
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.9		*	ng/L	0.2	0.5	07/01/15 13:48	mfm
Mercury, total	M1631, Atomic Fluorescence	1	2.6			ng/L	0.2	0.5	06/22/15 12:34	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	06/26/15 18:09	aeb
Molybdenum, total recoverable	M200.7 ICP	1		U		mg/L	0.02	0.1	06/30/15 20:45	jjc
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/26/15 18:09	aeb
Nickel, total recoverable	M200.7 ICP	1		U		mg/L	0.008	0.04	06/30/15 20:45	jjc
Potassium, dissolved	M200.7 ICP	1	1.3			mg/L	0.2	1	06/26/15 18:09	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0003	07/02/15 17:05	mfm

New Elk Mine
Project ID:
Sample ID: SPRS-4

ACZ Sample ID: ***L24897-02***
Date Sampled: *06/15/15 10:00*
Date Received: *06/16/15*
Sample Matrix: *Surface Water*

Selenium, total recoverable	M200.8 ICP-MS	1	0.0003		mg/L	0.0001	0.0003	07/02/15 10:53	mfm
Silver, dissolved	M200.8 ICP-MS	1		U	mg/L	0.00005	0.0003	07/02/15 17:05	mfm
Silver, total recoverable	M200.8 ICP-MS	1		U	mg/L	0.00005	0.0003	07/02/15 10:53	mfm
Sodium, dissolved	M200.7 ICP	1	4.2		mg/L	0.2	1	06/26/15 18:09	aeb
Thallium, dissolved	M200.8 ICP-MS	1		U	mg/L	0.0001	0.0005	07/02/15 17:05	mfm
Thallium, total recoverable	M200.8 ICP-MS	1		U	mg/L	0.0001	0.0005	07/02/15 10:53	mfm
Uranium, dissolved	M200.8 ICP-MS	1	0.0012		mg/L	0.0001	0.0005	07/02/15 17:05	mfm
Uranium, total recoverable	M200.8 ICP-MS	1	0.0014		mg/L	0.0001	0.0005	07/02/15 10:53	mfm
Zinc, dissolved	M200.7 ICP	1		U	mg/L	0.01	0.05	06/26/15 18:09	aeb
Zinc, total recoverable	M200.7 ICP	1		U	mg/L	0.01	0.05	06/30/15 20:45	jjc

New Elk Mine
Project ID:
Sample ID: SPRS-4

ACZ Sample ID: ***L24897-02***
Date Sampled: *06/15/15 10:00*
Date Received: *06/16/15*
Sample Matrix: *Surface Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	80.0			mg/L	2	20	06/22/15 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	06/22/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	06/22/15 0:00	abd
Total Alkalinity		1	80.0			mg/L	2	20	06/22/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			07/09/15 13:11	calc
Sum of Anions			2.2			meq/L			07/09/15 13:11	calc
Sum of Cations			2.2			meq/L			07/09/15 13:11	calc
Chloride	SM4500Cl-E	1	1.1	B	*	mg/L	0.5	2	07/02/15 11:24	bsu
Conductivity @25C	SM2510B	1	216			umhos/cm	1	10	06/22/15 22:40	abd
Fluoride	SM4500F-C	1	0.17	B	*	mg/L	0.05	0.3	06/25/15 13:19	enb
Hardness as CaCO3	SM2340B - Calculation		98			mg/L	0.8	4	07/09/15 13:11	calc
Lab Filtration (0.45um filter)	SOPWC050	1							06/25/15 8:31	apk
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A	1							06/24/15 12:48	apk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.25			mg/L	0.02	0.1	07/09/15 13:11	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.25		*	mg/L	0.02	0.1	06/16/15 19:19	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/16/15 19:19	pjb
Nitrogen, ammonia	M350.1	1		U	*	mg/L	0.05	0.2	07/06/15 16:18	jlf
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	06/22/15 0:00	abd
pH measured at		1	20.3			C	0.1	0.1	06/22/15 0:00	abd
Residue, Filterable (TDS) @180C	SM2540C	1	130			mg/L	10	20	06/19/15 11:14	tms
Residue, Non-Filterable (TSS) @105C	SM2540D	1	27.0		*	mg/L	5	20	06/17/15 17:22	tms
Sodium Adsorption Ratio in Water	USGS - I1738-78		0.19						07/09/15 13:11	calc
Sulfate	D516-02/-07 - Turbidimetric	1	27.2		*	mg/L	1	5	07/02/15 13:19	bsu
Sulfide as S	SM4500S2-D	1		U	*	mg/L	0.02	0.1	06/18/15 14:53	enb
TDS (calculated)	Calculation		120			mg/L			07/09/15 13:11	calc
TDS (ratio - measured/calculated)	Calculation		1.08						07/09/15 13:11	calc

Report Header Explanations

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

QC Sample Types

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

REP001.03.15.02

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385621													
WG385621PBW1	PBW	06/22/15 14:48				U	mg/L		-20	20			
WG385621LCSW3	LCSW	06/22/15 15:05	WC150617-8	820.0001		804	mg/L	98	90	110			
WG385621LCSW6	LCSW	06/22/15 17:27	WC150617-8	820.0001		802	mg/L	98	90	110			
WG385621PBW2	PBW	06/22/15 17:35				U	mg/L		-20	20			
WG385621LCSW9	LCSW	06/22/15 21:25	WC150617-8	820.0001		807	mg/L	98	90	110			
WG385621PBW3	PBW	06/22/15 21:33				U	mg/L		-20	20			
L24900-02DUP	DUP	06/22/15 23:02			135	134	mg/L				1	20	
WG385621LCSW12	LCSW	06/23/15 0:25	WC150617-8	820.0001		799	mg/L	97	90	110			
WG385621PBW4	PBW	06/23/15 0:32				U	mg/L		-20	20			
WG385621LCSW15	LCSW	06/23/15 3:42	WC150617-8	820.0001		811	mg/L	99	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385992													
WG385992ICV	ICV	06/26/15 17:39	II150616-3	2		1.999	mg/L	100	95	105			
WG385992ICB	ICB	06/26/15 17:45				U	mg/L		-0.09	0.09			
WG385992LFB	LFB	06/26/15 17:57	II150617-2	1.0015		1.06	mg/L	106	85	115			
L24897-01AS	AS	06/26/15 18:03	II150617-2	1.0015	.03	1.113	mg/L	108	85	115			
L24897-01ASD	ASD	06/26/15 18:06	II150617-2	1.0015	.03	1.088	mg/L	106	85	115	2	20	

Aluminum, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386114													
WG386114ICV	ICV	06/30/15 20:11	II150616-3	2		2.02	mg/L	101	95	105			
WG386114ICB	ICB	06/30/15 20:17				U	mg/L		-0.09	0.09			
WG386030LRB	LRB	06/30/15 20:30				U	mg/L		-0.066	0.066			
WG386030LFB	LFB	06/30/15 20:33	II150617-2	1.0015		1.041	mg/L	104	85	115			
L24897-01LFM	LFM	06/30/15 20:39	II150617-2	1.0015	1.12	2.658	mg/L	154	70	130			M1
L24897-01LFMD	LFMD	06/30/15 20:42	II150617-2	1.0015	1.12	2.576	mg/L	145	70	130	3	20	M1

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386254													
WG386254ICV	ICV	07/02/15 16:22	MS150601-9	.02		.02065	mg/L	103	90	110			
WG386254ICB	ICB	07/02/15 16:25				.00043	mg/L		-0.0012	0.0012			
WG386254LFB	LFB	07/02/15 16:28	MS150625-6	.01001		.01022	mg/L	102	85	115			
L22618-22AS	AS	07/02/15 16:43	MS150625-6	.01001	U	.00921	mg/L	92	70	130			
L22618-22ASD	ASD	07/02/15 16:46	MS150625-6	.01001	U	.00991	mg/L	99	70	130	7	20	

Antimony, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386224													
WG386224ICV	ICV	07/02/15 10:38	MS150601-9	.02		.01996	mg/L	100	90	110			
WG386224ICB	ICB	07/02/15 10:41				.0005	mg/L		-0.0012	0.0012			
WG386140LRB	LRB	07/02/15 10:44				U	mg/L		-0.00088	0.00088			
WG386140LFB	LFB	07/02/15 10:47	MS150625-6	.01001		.0112	mg/L	112	85	115			
L25043-01LFM	LFM	07/02/15 10:59	MS150625-6	.01001	.0015	.01294	mg/L	114	70	130			
L25043-01LFMD	LFMD	07/02/15 11:02	MS150625-6	.01001	.0015	.01284	mg/L	113	70	130	1	20	

New Elk Mine

ACZ Project ID: ***L24897***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386254													
WG386254ICV	ICV	07/02/15 16:22	MS150601-9	.05		.05263	mg/L	105	90	110			
WG386254ICB	ICB	07/02/15 16:25				U	mg/L		-0.0006	0.0006			
WG386254LFB	LFB	07/02/15 16:28	MS150625-6	.0501		.04651	mg/L	93	85	115			
L22618-22AS	AS	07/02/15 16:43	MS150625-6	.0501	U	.05006	mg/L	100	70	130			
L22618-22ASD	ASD	07/02/15 16:46	MS150625-6	.0501	U	.05201	mg/L	104	70	130	4	20	

Arsenic, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386224													
WG386224ICV	ICV	07/02/15 10:38	MS150601-9	.05		.05126	mg/L	103	90	110			
WG386224ICB	ICB	07/02/15 10:41				U	mg/L		-0.0006	0.0006			
WG386140LRB	LRB	07/02/15 10:44				U	mg/L		-0.00044	0.00044			
WG386140LFB	LFB	07/02/15 10:47	MS150625-6	.0501		.04927	mg/L	98	85	115			
L25043-01LFM	LFM	07/02/15 10:59	MS150625-6	.0501	.0002	.05061	mg/L	101	70	130			
L25043-01LFMD	LFMD	07/02/15 11:02	MS150625-6	.0501	.0002	.05233	mg/L	104	70	130	3	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385992													
WG385992ICV	ICV	06/26/15 17:39	II150616-3	2		2.0018	mg/L	100	95	105			
WG385992ICB	ICB	06/26/15 17:45				U	mg/L		-0.009	0.009			
WG385992LFB	LFB	06/26/15 17:57	II150617-2	.5		.5181	mg/L	104	85	115			
L24897-01AS	AS	06/26/15 18:03	II150617-2	.5	.042	.5611	mg/L	104	85	115			
L24897-01ASD	ASD	06/26/15 18:06	II150617-2	.5	.042	.5705	mg/L	106	85	115	2	20	

Barium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386114													
WG386114ICV	ICV	06/30/15 20:11	II150616-3	2		2.0052	mg/L	100	95	105			
WG386114ICB	ICB	06/30/15 20:17				U	mg/L		-0.009	0.009			
WG386030LRB	LRB	06/30/15 20:30				U	mg/L		-0.0066	0.0066			
WG386030LFB	LFB	06/30/15 20:33	II150617-2	.5		.5031	mg/L	101	85	115			
L24897-01LFM	LFM	06/30/15 20:39	II150617-2	.5	.056	.571	mg/L	103	70	130			
L24897-01LFMD	LFMD	06/30/15 20:42	II150617-2	.5	.056	.5682	mg/L	102	70	130	0	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386254													
WG386254ICV	ICV	07/02/15 16:22	MS150601-9	.05		.04876	mg/L	98	90	110			
WG386254ICB	ICB	07/02/15 16:25				U	mg/L		-0.00015	0.00015			
WG386254LFB	LFB	07/02/15 16:28	MS150625-6	.05005		.04564	mg/L	91	85	115			
L22618-22AS	AS	07/02/15 16:43	MS150625-6	.05005	U	.04923	mg/L	98	70	130			
L22618-22ASD	ASD	07/02/15 16:46	MS150625-6	.05005	U	.05074	mg/L	101	70	130	3	20	

New Elk Mine

ACZ Project ID: ***L24897***

Beryllium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386224													
WG386224ICV	ICV	07/02/15 10:38	MS150601-9	.05		.04832	mg/L	97	90	110			
WG386224ICB	ICB	07/02/15 10:41				U	mg/L		-0.00015	0.00015			
WG386140LRB	LRB	07/02/15 10:44				U	mg/L		-0.00011	0.00011			
WG386140LFB	LFB	07/02/15 10:47	MS150625-6	.05005		.04727	mg/L	94	85	115			
L25043-01LFM	LFM	07/02/15 10:59	MS150625-6	.05005	.00483	.05285	mg/L	96	70	130			
L25043-01LFMD	LFMD	07/02/15 11:02	MS150625-6	.05005	.00483	.05241	mg/L	95	70	130	1	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385992													
WG385992ICV	ICV	06/26/15 17:39	II150616-3	2		1.983	mg/L	99	95	105			
WG385992ICB	ICB	06/26/15 17:45				U	mg/L		-0.03	0.03			
WG385992LFB	LFB	06/26/15 17:57	II150617-2	.5005		.513	mg/L	102	85	115			
L24897-01AS	AS	06/26/15 18:03	II150617-2	.5005	.01	.53	mg/L	104	85	115			
L24897-01ASD	ASD	06/26/15 18:06	II150617-2	.5005	.01	.534	mg/L	105	85	115	1	20	

Boron, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386114													
WG386114ICV	ICV	06/30/15 20:11	II150616-3	2		2.004	mg/L	100	95	105			
WG386114ICB	ICB	06/30/15 20:17				U	mg/L		-0.03	0.03			
WG386030LRB	LRB	06/30/15 20:30				U	mg/L		-0.022	0.022			
WG386030LFB	LFB	06/30/15 20:33	II150617-2	.5005		.497	mg/L	99	85	115			
L24897-01LFM	LFM	06/30/15 20:39	II150617-2	.5005	U	.52	mg/L	104	70	130			
L24897-01LFMD	LFMD	06/30/15 20:42	II150617-2	.5005	U	.518	mg/L	103	70	130	0	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386254													
WG386254ICV	ICV	07/02/15 16:22	MS150601-9	.05		.05251	mg/L	105	90	110			
WG386254ICB	ICB	07/02/15 16:25				U	mg/L		-0.0003	0.0003			
WG386254LFB	LFB	07/02/15 16:28	MS150625-6	.05005		.04877	mg/L	97	85	115			
L22618-22AS	AS	07/02/15 16:43	MS150625-6	.05005	U	.04999	mg/L	100	70	130			
L22618-22ASD	ASD	07/02/15 16:46	MS150625-6	.05005	U	.05173	mg/L	103	70	130	3	20	

Cadmium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386224													
WG386224ICV	ICV	07/02/15 10:38	MS150601-9	.05		.0513	mg/L	103	90	110			
WG386224ICB	ICB	07/02/15 10:41				U	mg/L		-0.0003	0.0003			
WG386140LRB	LRB	07/02/15 10:44				U	mg/L		-0.00022	0.00022			
WG386140LFB	LFB	07/02/15 10:47	MS150625-6	.05005		.04856	mg/L	97	85	115			
L25043-01LFM	LFM	07/02/15 10:59	MS150625-6	.05005	.0041	.0524	mg/L	97	70	130			
L25043-01LFMD	LFMD	07/02/15 11:02	MS150625-6	.05005	.0041	.05265	mg/L	97	70	130	0	20	

New Elk Mine

ACZ Project ID: ***L24897***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385992													
WG385992ICV	ICV	06/26/15 17:39	II150616-3	100		101.03	mg/L	101	95	105			
WG385992ICB	ICB	06/26/15 17:45				U	mg/L		-0.3	0.3			
WG385992LFB	LFB	06/26/15 17:57	II150617-2	68.01261		69.81	mg/L	103	85	115			
L24897-01AS	AS	06/26/15 18:03	II150617-2	68.01261	30.9	101.6	mg/L	104	85	115			
L24897-01ASD	ASD	06/26/15 18:06	II150617-2	68.01261	30.9	101.1	mg/L	103	85	115	0	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386235													
WG386235ICB	ICB	07/02/15 9:30				U	mg/L		-1.5	1.5			
WG386235ICV	ICV	07/02/15 9:30	WI150701-4	55.055		56.69	mg/L	103	90	110			
WG386235LFB1	LFB	07/02/15 11:24	WI141209-1	30		32.13	mg/L	107	90	110			
L24897-01AS	AS	07/02/15 11:24	WI141209-1	30	1.4	34.07	mg/L	109	90	110			
L24897-02DUP	DUP	07/02/15 11:24			1.1	1.12	mg/L				2	20	RA
WG386235LFB2	LFB	07/02/15 11:37	WI141209-1	30		32.43	mg/L	108	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386254													
WG386254ICV	ICV	07/02/15 16:22	MS150601-9	.05		.04967	mg/L	99	90	110			
WG386254ICB	ICB	07/02/15 16:25				U	mg/L		-0.0015	0.0015			
WG386254LFB	LFB	07/02/15 16:28	MS150625-6	.05005		.04696	mg/L	94	85	115			
L22618-22AS	AS	07/02/15 16:43	MS150625-6	.05005	U	.04748	mg/L	95	70	130			
L22618-22ASD	ASD	07/02/15 16:46	MS150625-6	.05005	U	.04918	mg/L	98	70	130	4	20	

Chromium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386224													
WG386224ICV	ICV	07/02/15 10:38	MS150601-9	.05		.05015	mg/L	100	90	110			
WG386224ICB	ICB	07/02/15 10:41				U	mg/L		-0.0015	0.0015			
WG386140LRB	LRB	07/02/15 10:44				U	mg/L		-0.0011	0.0011			
WG386140LFB	LFB	07/02/15 10:47	MS150625-6	.05005		.0477	mg/L	95	85	115			
L25043-01LFM	LFM	07/02/15 10:59	MS150625-6	.05005	U	.04761	mg/L	95	70	130			
L25043-01LFMD	LFMD	07/02/15 11:02	MS150625-6	.05005	U	.04771	mg/L	95	70	130	0	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385621													
WG385621LCSW2	LCSW	06/22/15 14:53	PCN47275	1409		1490	umhos/cm	106	90	110			
WG385621LCSW5	LCSW	06/22/15 17:14	PCN47275	1409		1480	umhos/cm	105	90	110			
WG385621LCSW8	LCSW	06/22/15 21:12	PCN47275	1409		1460	umhos/cm	104	90	110			
L24900-02DUP	DUP	06/22/15 23:02			3830	3820	umhos/cm				0	20	
WG385621LCSW11	LCSW	06/23/15 0:12	PCN47275	1409		1450	umhos/cm	103	90	110			
WG385621LCSW14	LCSW	06/23/15 3:28	PCN47275	1409		1450	umhos/cm	103	90	110			

New Elk Mine

ACZ Project ID: ***L24897***

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386254													
WG386254ICV	ICV	07/02/15 16:22	MS150601-9	.05		.0497	mg/L	99	90	110			
WG386254ICB	ICB	07/02/15 16:25				U	mg/L		-0.0015	0.0015			
WG386254LFB	LFB	07/02/15 16:28	MS150625-6	.0501		.04579	mg/L	91	85	115			
L22618-22AS	AS	07/02/15 16:43	MS150625-6	.0501	.001	.04773	mg/L	93	70	130			
L22618-22ASD	ASD	07/02/15 16:46	MS150625-6	.0501	.001	.0499	mg/L	98	70	130	4	20	

Copper, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386224													
WG386224ICV	ICV	07/02/15 10:38	MS150601-9	.05		.04926	mg/L	99	90	110			
WG386224ICB	ICB	07/02/15 10:41				U	mg/L		-0.0015	0.0015			
WG386140LRB	LRB	07/02/15 10:44				U	mg/L		-0.0011	0.0011			
WG386140LFB	LFB	07/02/15 10:47	MS150625-6	.0501		.04796	mg/L	96	85	115			
L25043-01LFM	LFM	07/02/15 10:59	MS150625-6	.0501	.0066	.05091	mg/L	88	70	130			
L25043-01LFMD	LFMD	07/02/15 11:02	MS150625-6	.0501	.0066	.05152	mg/L	90	70	130	1	20	

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385857													
WG385857ICV1	ICV	06/25/15 9:46	WC150625-1	2		1.909	mg/L	95	95	105			
WG385857ICB1	ICB	06/25/15 9:49				.094	mg/L		-0.15	0.15			
WG385859													
WG385859LFB1	LFB	06/25/15 13:02	WC150209-7	5.015		4.863	mg/L	97	90	110			
L24897-01AS	AS	06/25/15 13:12	WC150209-7	5.015	.28	5	mg/L	94	90	110			
L24897-01DUP	DUP	06/25/15 13:15			.28	.197	mg/L				35	20	RA
WG385859LFB2	LFB	06/25/15 14:51	WC150209-7	5.015		4.931	mg/L	98	90	110			

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385992													
WG385992ICV	ICV	06/26/15 17:39	II150616-3	2		1.965	mg/L	98	95	105			
WG385992ICB	ICB	06/26/15 17:45				U	mg/L		-0.06	0.06			
WG385992LFB	LFB	06/26/15 17:57	II150617-2	1.0001		1.045	mg/L	104	85	115			
L24897-01AS	AS	06/26/15 18:03	II150617-2	1.0001	.05	1.087	mg/L	104	85	115			
L24897-01ASD	ASD	06/26/15 18:06	II150617-2	1.0001	.05	1.105	mg/L	105	85	115	2	20	

Iron, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386114													
WG386114ICV	ICV	06/30/15 20:11	II150616-3	2		1.996	mg/L	100	95	105			
WG386114ICB	ICB	06/30/15 20:17				U	mg/L		-0.06	0.06			
WG386030LRB	LRB	06/30/15 20:30				.027	mg/L		-0.044	0.044			
WG386030LFB	LFB	06/30/15 20:33	II150617-2	1.0001		1.011	mg/L	101	85	115			
L24897-01LFM	LFM	06/30/15 20:39	II150617-2	1.0001	1.27	2.334	mg/L	106	70	130			
L24897-01LFMD	LFMD	06/30/15 20:42	II150617-2	1.0001	1.27	2.239	mg/L	97	70	130	4	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386254													
WG386254ICV	ICV	07/02/15 16:22	MS150601-9	.05		.05034	mg/L	101	90	110			
WG386254ICB	ICB	07/02/15 16:25				U	mg/L		-0.0003	0.0003			
WG386254LFB	LFB	07/02/15 16:28	MS150625-6	.05005		.04615	mg/L	92	85	115			
L22618-22AS	AS	07/02/15 16:43	MS150625-6	.05005	U	.0474	mg/L	95	70	130			
L22618-22ASD	ASD	07/02/15 16:46	MS150625-6	.05005	U	.04928	mg/L	98	70	130	4	20	

Lead, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386224													
WG386224ICV	ICV	07/02/15 10:38	MS150601-9	.05		.05024	mg/L	100	90	110			
WG386224ICB	ICB	07/02/15 10:41				U	mg/L		-0.0003	0.0003			
WG386140LRB	LRB	07/02/15 10:44				U	mg/L		-0.00022	0.00022			
WG386140LFB	LFB	07/02/15 10:47	MS150625-6	.05005		.04762	mg/L	95	85	115			
L25043-01LFM	LFM	07/02/15 10:59	MS150625-6	.05005	U	.04839	mg/L	97	70	130			
L25043-01LFMD	LFMD	07/02/15 11:02	MS150625-6	.05005	U	.04835	mg/L	97	70	130	0	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385992													
WG385992ICV	ICV	06/26/15 17:39	II150616-3	100		98.26	mg/L	98	95	105			
WG385992ICB	ICB	06/26/15 17:45				.29	mg/L		-0.6	0.6			
WG385992LFB	LFB	06/26/15 17:57	II150617-2	50.00416		48.11	mg/L	96	85	115			
L24897-01AS	AS	06/26/15 18:03	II150617-2	50.00416	5.2	54.75	mg/L	99	85	115			
L24897-01ASD	ASD	06/26/15 18:06	II150617-2	50.00416	5.2	54.22	mg/L	98	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385992													
WG385992ICV	ICV	06/26/15 17:39	II150616-3	2		1.974	mg/L	99	95	105			
WG385992ICB	ICB	06/26/15 17:45				U	mg/L		-0.015	0.015			
WG385992LFB	LFB	06/26/15 17:57	II150617-2	.499		.5097	mg/L	102	85	115			
L24897-01AS	AS	06/26/15 18:03	II150617-2	.499	.006	.5174	mg/L	102	85	115			
L24897-01ASD	ASD	06/26/15 18:06	II150617-2	.499	.006	.5264	mg/L	104	85	115	2	20	

Manganese, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386114													
WG386114ICV	ICV	06/30/15 20:11	II150616-3	2		1.983	mg/L	99	95	105			
WG386114ICB	ICB	06/30/15 20:17				U	mg/L		-0.015	0.015			
WG386030LRB	LRB	06/30/15 20:30				U	mg/L		-0.011	0.011			
WG386030LFB	LFB	06/30/15 20:33	II150617-2	.499		.4956	mg/L	99	85	115			
L24897-01LFM	LFM	06/30/15 20:39	II150617-2	.499	.056	.5631	mg/L	102	70	130			
L24897-01LFMD	LFMD	06/30/15 20:42	II150617-2	.499	.056	.5602	mg/L	101	70	130	1	20	

New Elk Mine

ACZ Project ID: ***L24897***

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386175													
WG386175ICV	ICV	07/01/15 13:07	HG150504-4	10		9.91	ng/L	99	79	121			
WG386175ICB	ICB	07/01/15 13:12				U	ng/L		-0.5	0.5			
WG386175PQV	PQV	07/01/15 13:18	HG150504-5	.5		.44	ng/L	88	70	130			
WG386175LFB	LFB	07/01/15 13:23	HG150504-6	2		1.88	ng/L	94	71	125			
WG386072PBW	PBW	07/01/15 13:28				U	ng/L		-0.5	0.5			
L24897-01MS	MS	07/01/15 13:38	HG150504-6	2	.8	2.79	ng/L	100	71	125			
L24897-01MSD	MSD	07/01/15 13:43	HG150504-6	2	.8	2.79	ng/L	100	71	125	0	24	
WG386175CCV	CCV	07/01/15 13:54	HG150504-4	10		9.96	ng/L	100	76.5	123.4			
WG386175CCB	CCB	07/01/15 13:59				U	ng/L		-0.5	0.5			

Mercury, total M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381250													
WG381250ICV	ICV	04/01/15 10:04	HG150331-7	10		9.3	ng/L	93	79	121			
WG381250ICB	ICB	04/01/15 10:09				U	ng/L		-0.5	0.5			
WG385607													
WG385607CCV1	CCV	06/22/15 11:18	HG150504-4	10		9	ng/L	90	76.5	123.4			
WG385607CCB1	CCB	06/22/15 11:23				U	ng/L		-0.5	0.5			
WG385607PQV	PQV	06/22/15 11:28	HG150504-5	.5		.37	ng/L	74	70	130			
WG385607LFB	LFB	06/22/15 11:33	HG150504-6	2		1.7	ng/L	85	71	125			
L24803-05MS	MS	06/22/15 11:49	HG150504-6	2	.9	2.74	ng/L	92	71	125			
L24803-05MSD	MSD	06/22/15 11:54	HG150504-6	2	.9	2.71	ng/L	91	71	125	1	24	
WG385607CCV2	CCV	06/22/15 12:19	HG150504-4	10		8.83	ng/L	88	76.5	123.4			
WG385607CCB2	CCB	06/22/15 12:24				U	ng/L		-0.5	0.5			
WG385607CCV3	CCV	06/22/15 12:44	HG150504-4	10		9.37	ng/L	94	76.5	123.4			
WG385607CCB3	CCB	06/22/15 12:49				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385992													
WG385992ICV	ICV	06/26/15 17:39	II150616-3	2		2.015	mg/L	101	95	105			
WG385992ICB	ICB	06/26/15 17:45				U	mg/L		-0.06	0.06			
WG385992LFB	LFB	06/26/15 17:57	II150617-2	.4995		.502	mg/L	101	85	115			
L24897-01AS	AS	06/26/15 18:03	II150617-2	.4995	U	.52	mg/L	104	85	115			
L24897-01ASD	ASD	06/26/15 18:06	II150617-2	.4995	U	.516	mg/L	103	85	115	1	20	

Molybdenum, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386114													
WG386114ICV	ICV	06/30/15 20:11	II150616-3	2		2.017	mg/L	101	95	105			
WG386114ICB	ICB	06/30/15 20:17				U	mg/L		-0.06	0.06			
WG386030LRB	LRB	06/30/15 20:30				U	mg/L		-0.044	0.044			
WG386030LFB	LFB	06/30/15 20:33	II150617-2	.4995		.501	mg/L	100	85	115			
L24897-01LFM	LFM	06/30/15 20:39	II150617-2	.4995	U	.519	mg/L	104	70	130			
L24897-01LFMD	LFMD	06/30/15 20:42	II150617-2	.4995	U	.51	mg/L	102	70	130	2	20	

New Elk Mine

ACZ Project ID: ***L24897***

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385992													
WG385992ICV	ICV	06/26/15 17:39	II150616-3	2		2.016	mg/L	101	95	105			
WG385992ICB	ICB	06/26/15 17:45				U	mg/L		-0.024	0.024			
WG385992LFB	LFB	06/26/15 17:57	II150617-2	.501		.5212	mg/L	104	85	115			
L24897-01AS	AS	06/26/15 18:03	II150617-2	.501	U	.5264	mg/L	105	85	115			
L24897-01ASD	ASD	06/26/15 18:06	II150617-2	.501	U	.5299	mg/L	106	85	115	1	20	

Nickel, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386114													
WG386114ICV	ICV	06/30/15 20:11	II150616-3	2		2.0053	mg/L	100	95	105			
WG386114ICB	ICB	06/30/15 20:17				U	mg/L		-0.024	0.024			
WG386030LRB	LRB	06/30/15 20:30				U	mg/L		-0.0176	0.0176			
WG386030LFB	LFB	06/30/15 20:33	II150617-2	.501		.5002	mg/L	100	85	115			
L24897-01LFM	LFM	06/30/15 20:39	II150617-2	.501	U	.5215	mg/L	104	70	130			
L24897-01LFMD	LFMD	06/30/15 20:42	II150617-2	.501	U	.5192	mg/L	104	70	130	0	20	

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385343													
WG385343ICV	ICV	06/16/15 18:57	WI150422-7	2.416		2.434	mg/L	101	90	110			
WG385343ICB	ICB	06/16/15 18:59				U	mg/L		-0.06	0.06			
WG385343LFB	LFB	06/16/15 19:03	WI150613-3	2		2.194	mg/L	110	90	110			
L24888-01AS	AS	06/16/15 19:05	WI150613-3	2	U	2.096	mg/L	105	90	110			
L24892-02DUP	DUP	06/16/15 19:08			.02	.028	mg/L				33	20	RA

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385343													
WG385343ICV	ICV	06/16/15 18:57	WI150422-7	.609		.605	mg/L	99	90	110			
WG385343ICB	ICB	06/16/15 18:59				U	mg/L		-0.03	0.03			
WG385343LFB	LFB	06/16/15 19:03	WI150613-3	1		1.003	mg/L	100	90	110			
L24888-01AS	AS	06/16/15 19:05	WI150613-3	1	.02	1.107	mg/L	109	90	110			
L24892-02DUP	DUP	06/16/15 19:08			U	U	mg/L				0	20	RA

Nitrogen, ammonia M350.1

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386330													
WG386330ICV	ICV	07/06/15 16:11	WI150505-1	11.988		12.08	mg/L	101	90	110			
WG386330ICB	ICB	07/06/15 16:12				U	mg/L		-0.15	0.15			
WG386330LFB1	LFB	07/06/15 16:14	WI150615-1	10		10.26	mg/L	103	90	110			
L24897-01AS	AS	07/06/15 16:17	WI150615-1	10	U	10.039	mg/L	100	90	110			
L24897-02DUP	DUP	07/06/15 16:20			U	U	mg/L				0	20	RA
WG386330LFB2	LFB	07/06/15 16:56	WI150615-1	10		10.238	mg/L	102	90	110			

New Elk Mine

ACZ Project ID: ***L24897***

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385621													
WG385621LCSW1	LCSW	06/22/15 14:51	PCN46943	6.01		6.1	units	101	5.9	6.1			
WG385621LCSW4	LCSW	06/22/15 17:12	PCN46943	6.01		6.1	units	101	5.9	6.1			
WG385621LCSW7	LCSW	06/22/15 21:11	PCN46943	6.01		6.1	units	101	5.9	6.1			
L24900-02DUP	DUP	06/22/15 23:02			8.5	8.5	units				0	20	
WG385621LCSW10	LCSW	06/23/15 0:11	PCN46943	6.01		6.1	units	101	5.9	6.1			
WG385621LCSW13	LCSW	06/23/15 3:27	PCN46943	6.01		6.1	units	101	5.9	6.1			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385992													
WG385992ICV	ICV	06/26/15 17:39	II150616-3	20		19.63	mg/L	98	95	105			
WG385992ICB	ICB	06/26/15 17:45				U	mg/L		-0.6	0.6			
WG385992LFB	LFB	06/26/15 17:57	II150617-2	100.0125		95.68	mg/L	96	85	115			
L24897-01AS	AS	06/26/15 18:03	II150617-2	100.0125	1.4	100	mg/L	99	85	115			
L24897-01ASD	ASD	06/26/15 18:06	II150617-2	100.0125	1.4	99.17	mg/L	98	85	115	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385541													
WG385541PBW	PBW	06/19/15 11:00				14	mg/L		-20	20			
WG385541LCSW	LCSW	06/19/15 11:01	PCN48721	260		252	mg/L	97	80	120			
L24897-02DUP	DUP	06/19/15 11:15			130	128	mg/L				2	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385421													
WG385421PBW	PBW	06/17/15 17:00				U	mg/L		-15	15			
WG385421LCSW	LCSW	06/17/15 17:01	PCN48721	160		156	mg/L	98	80	120			
L24903-01DUP	DUP	06/17/15 17:24			U	U	mg/L				0	10	RA

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386254													
WG386254ICV	ICV	07/02/15 16:22	MS150601-9	.05		.05037	mg/L	101	90	110			
WG386254ICB	ICB	07/02/15 16:25				U	mg/L		-0.0003	0.0003			
WG386254LFB	LFB	07/02/15 16:28	MS150625-6	.05015		.04573	mg/L	91	85	115			
L22618-22AS	AS	07/02/15 16:43	MS150625-6	.05015	.0013	.05164	mg/L	100	70	130			
L22618-22ASD	ASD	07/02/15 16:46	MS150625-6	.05015	.0013	.05289	mg/L	103	70	130	2	20	

Selenium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386224													
WG386224ICV	ICV	07/02/15 10:38	MS150601-9	.05		.04908	mg/L	98	90	110			
WG386224ICB	ICB	07/02/15 10:41				U	mg/L		-0.0003	0.0003			
WG386140LRB	LRB	07/02/15 10:44				U	mg/L		-0.00022	0.00022			
WG386140LFB	LFB	07/02/15 10:47	MS150625-6	.05015		.04776	mg/L	95	85	115			
L25043-01LFM	LFM	07/02/15 10:59	MS150625-6	.05015	.0002	.05189	mg/L	103	70	130			
L25043-01LFMD	LFMD	07/02/15 11:02	MS150625-6	.05015	.0002	.05149	mg/L	102	70	130	1	20	

New Elk Mine

ACZ Project ID: ***L24897***

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386254													
WG386254ICV	ICV	07/02/15 16:22	MS150601-9	.02		.0205	mg/L	103	90	110			
WG386254ICB	ICB	07/02/15 16:25				U	mg/L		-0.00015	0.00015			
WG386254LFB	LFB	07/02/15 16:28	MS150625-6	.01		.009697	mg/L	97	85	115			
L22618-22AS	AS	07/02/15 16:43	MS150625-6	.01	.00005	.009231	mg/L	92	70	130			
L22618-22ASD	ASD	07/02/15 16:46	MS150625-6	.01	.00005	.009654	mg/L	96	70	130	4	20	

Silver, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386224													
WG386224ICV	ICV	07/02/15 10:38	MS150601-9	.02		.02011	mg/L	101	90	110			
WG386224ICB	ICB	07/02/15 10:41				U	mg/L		-0.00015	0.00015			
WG386140LRB	LRB	07/02/15 10:44				U	mg/L		-0.00011	0.00011			
WG386140LFB	LFB	07/02/15 10:47	MS150625-6	.01		.009597	mg/L	96	85	115			
L25043-01LFM	LFM	07/02/15 10:59	MS150625-6	.01	U	.009207	mg/L	92	70	130			
L25043-01LFMD	LFMD	07/02/15 11:02	MS150625-6	.01	U	.009126	mg/L	91	70	130	1	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385992													
WG385992ICV	ICV	06/26/15 17:39	II150616-3	100		97.51	mg/L	98	95	105			
WG385992ICB	ICB	06/26/15 17:45				U	mg/L		-0.6	0.6			
WG385992LFB	LFB	06/26/15 17:57	II150617-2	100.0581		95.35	mg/L	95	85	115			
L24897-01AS	AS	06/26/15 18:03	II150617-2	100.0581	5.1	103.7	mg/L	99	85	115			
L24897-01ASD	ASD	06/26/15 18:06	II150617-2	100.0581	5.1	102.6	mg/L	97	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386248													
WG386248ICB	ICB	07/02/15 12:26				U	mg/L		-3	3			
WG386248ICV	ICV	07/02/15 12:26	WI150629-4	20		19.8	mg/L	99	90	110			
WG386248LFB	LFB	07/02/15 13:18	WI150302-1	10.01		9.7	mg/L	97	90	110			
L21709-30DUP	DUP	07/02/15 13:18			3.4	3.5	mg/L				3	20	RA
L22038-30AS	AS	07/02/15 13:18	WI150302-1	10.01	U	9.5	mg/L	95	90	110			

Sulfide as S SM4500S2-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385487													
WG385487ICV	ICV	06/18/15 14:20	WC150618-5	.368		.37	mg/L	101	90	110			
WG385487ICB	ICB	06/18/15 14:23				U	mg/L		-0.06	0.06			
WG385487LFB	LFB	06/18/15 14:27	WC150618-8	.2382267		.244	mg/L	102	80	120			
L24929-01AS	AS	06/18/15 15:16	WC150618-8	.2382267	U	.268	mg/L	112	75	125			
L24929-01DUP	DUP	06/18/15 15:20			U	U	mg/L				0	20	RA

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386254													
WG386254ICV	ICV	07/02/15 16:22	MS150601-9	.05		.05337	mg/L	107	90	110			
WG386254ICB	ICB	07/02/15 16:25				U	mg/L		-0.0003	0.0003			
WG386254LFB	LFB	07/02/15 16:28	MS150625-6	.0501		.04865	mg/L	97	85	115			
L22618-22AS	AS	07/02/15 16:43	MS150625-6	.0501	U	.05002	mg/L	100	70	130			
L22618-22ASD	ASD	07/02/15 16:46	MS150625-6	.0501	U	.05202	mg/L	104	70	130	4	20	

Thallium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386224													
WG386224ICV	ICV	07/02/15 10:38	MS150601-9	.05		.05414	mg/L	108	90	110			
WG386224ICB	ICB	07/02/15 10:41				U	mg/L		-0.0003	0.0003			
WG386140LRB	LRB	07/02/15 10:44				U	mg/L		-0.00022	0.00022			
WG386140LFB	LFB	07/02/15 10:47	MS150625-6	.0501		.04973	mg/L	99	85	115			
L25043-01LFM	LFM	07/02/15 10:59	MS150625-6	.0501	U	.05162	mg/L	103	70	130			
L25043-01LFMD	LFMD	07/02/15 11:02	MS150625-6	.0501	U	.05091	mg/L	102	70	130	1	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386254													
WG386254ICV	ICV	07/02/15 16:22	MS150601-9	.05		.05341	mg/L	107	90	110			
WG386254ICB	ICB	07/02/15 16:25				U	mg/L		-0.0003	0.0003			
WG386254LFB	LFB	07/02/15 16:28	MS150625-6	.05		.04903	mg/L	98	85	115			
L22618-22AS	AS	07/02/15 16:43	MS150625-6	.05	.001	.05145	mg/L	101	70	130			
L22618-22ASD	ASD	07/02/15 16:46	MS150625-6	.05	.001	.05295	mg/L	104	70	130	3	20	

Uranium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386224													
WG386224ICV	ICV	07/02/15 10:38	MS150601-9	.05		.0537	mg/L	107	90	110			
WG386224ICB	ICB	07/02/15 10:41				U	mg/L		-0.0003	0.0003			
WG386140LRB	LRB	07/02/15 10:44				U	mg/L		-0.00022	0.00022			
WG386140LFB	LFB	07/02/15 10:47	MS150625-6	.05		.04988	mg/L	100	85	115			
L25043-01LFM	LFM	07/02/15 10:59	MS150625-6	.05	.0159	.07008	mg/L	108	70	130			
L25043-01LFMD	LFMD	07/02/15 11:02	MS150625-6	.05	.0159	.06958	mg/L	107	70	130	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG385992													
WG385992ICV	ICV	06/26/15 17:39	II150616-3	2		1.936	mg/L	97	95	105			
WG385992ICB	ICB	06/26/15 17:45				U	mg/L		-0.03	0.03			
WG385992LFB	LFB	06/26/15 17:57	II150617-2	.4995		.49	mg/L	98	85	115			
L24897-01AS	AS	06/26/15 18:03	II150617-2	.4995	.05	.553	mg/L	101	85	115			
L24897-01ASD	ASD	06/26/15 18:06	II150617-2	.4995	.05	.542	mg/L	98	85	115	2	20	

New Elk Mine

ACZ Project ID: ***L24897***

Zinc, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG386114													
WG386114ICV	ICV	06/30/15 20:11	II150616-3	2		1.934	mg/L	97	95	105			
WG386114ICB	ICB	06/30/15 20:17				U	mg/L		-0.03	0.03			
WG386030LRB	LRB	06/30/15 20:30				U	mg/L		-0.022	0.022			
WG386030LFB	LFB	06/30/15 20:33	II150617-2	.4995		.48	mg/L	96	85	115			
L24897-01LFM	LFM	06/30/15 20:39	II150617-2	.4995	U	.51	mg/L	100	70	130			
L24897-01LFMD	LFMD	06/30/15 20:42	II150617-2	.4995	U	.497	mg/L	97	70	130	3	20	

New Elk Mine ACZ Project ID: ***L24897***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L24897-01	WG386114	Aluminum, total recoverable	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG386175	Mercury, dissolved	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG386235	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG385859	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG385343	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG386330	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG385421	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG386248	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG385487	Sulfide as S	SM4500S2-D	QD	Reported value is the background-corrected concentration, as described by the method.
			SM4500S2-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

New Elk Mine ACZ Project ID: ***L24897***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L24897-02	WG386114	Aluminum, total recoverable	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG386175	Mercury, dissolved	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG386235	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG385859	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG385343	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG386330	Nitrogen, ammonia	M350.1	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG385421	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG386248	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG385487	Sulfide as S	SM4500S2-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

New Elk Mine
Project ID:
Sample ID: SPRS-1
Locator:

ACZ Sample ID: ***L24897-01***
Date Sampled: *06/15/15 9:30*
Date Received: *06/16/15*
Sample Matrix: *Surface Water*

Gross Alpha & Beta, total
M9310

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/29/15 0:04		1.3	2	2.2	pCi/L	*	djc
Gross Beta	06/29/15 0:04		1.5	3.3	5.2	pCi/L		djc

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RadioChemistry Analytical Results

New Elk Mine
Project ID:
Sample ID: SPRS-4
Locator:

ACZ Sample ID: ***L24897-02***
Date Sampled: *06/15/15 10:00*
Date Received: *06/16/15*
Sample Matrix: *Surface Water*

Gross Alpha & Beta, total
M9310

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	06/29/15 0:05		1	1.8	2.1	pCi/L	*	djc
Gross Beta	06/29/15 0:05		2.3	3.7	5.2	pCi/L		djc

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Error(+/-)	Calculated sample specific uncertainty
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
LCL	Lower Control Limit, in % (except for LCSS, mg/Kg)
LLD	Calculated sample specific Lower Limit of Detection
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RER	Relative Error Ratio, calculation used for Dup. QC taking into account the error factor.
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
UCL	Upper Control Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

DUP	Sample Duplicate	*MS/MSD*	Matrix Spike/Matrix Spike Duplicate
LCSS	Laboratory Control Sample - Soil	*PBS*	Prep Blank - Soil
LCSW	Laboratory Control Sample - Water	*PBW*	Prep Blank - Water

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

H	Analysis exceeded method hold time.

Method Prefix Reference

M	EPA methodology, including those under SDWA, CWA, and RCRA
SM	Standard Methods for the Examination of Water and Wastewater.
D	ASTM
RP	DOE
ESM	DOE/ESM

Comments

(1)	Solid matrices are reported on a dry weight basis.
(2)	Preparation method: "Method" indicates preparation defined in analytical method.
(3)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

New Elk Mine

ACZ Project ID: ***L24897***

Alpha M9310 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG386284																
WG385741PBW	PBW	06/29/15						.02	1.1	1.2			2.4			
WG385741LCSW	LCSW	06/29/15	PCN48203	100				120	10	1.8	120	83	133			
L24897-02DUP	DUP-RER	06/29/15			1	1.8	2.1	.74	1.9	2.3				0.1	2	
L25058-01DUP	DUP-RER	06/29/15			9.4	4.9	3.4	8.2	3.9	2.8				0.19	2	
L24962-01MS	MS	06/29/15	PCN48203	83.33	1.6	2.7	3	70	9.7	2.6	82	83	133			M2

Beta M9310 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG386284																
WG385741PBW	PBW	06/29/15						.62	2.4	3.4			6.8			
WG385741LCSW	LCSW	06/29/15	PCN44691	100				110	7.8	4.9	110	70	129			
L24897-02DUP	DUP-RER	06/29/15			2.3	3.7	5.2	5	3.6	5.2				0.52	2	
L25058-01DUP	DUP-RER	06/29/15			4.1	4.4	5.9	12	4	5.3				1.33	2	
L25058-03MS	MS	06/29/15	PCN44691	125	4.4	5.3	7.1	130	12	8.1	100	70	129			

RadChem Extended Qualifier Report

New Elk Mine ACZ Project ID: ***L24897***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L24897-01	WG386284	Gross Alpha	M9310	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L24897-02	WG386284	Gross Alpha	M9310	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

Wet Chemistry

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

Sulfide as S	SM4500S2-D

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

New Elk Mine

ACZ Project ID: L24897
Date Received: 06/16/2015 10:16
Received By: ear
Date Printed: 6/16/2015

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?	X		

A change was made in the Invoice to: section prior to ACZ custody.

Samples/Containers

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

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA21971	0.8	12	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

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

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

New Elk Mine

ACZ Project ID:	L24897
Date Received:	06/16/2015 10:16
Received By:	ear
Date Printed:	6/16/2015

[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).

ACZ Laboratories, Inc. L24897

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

CHAIN of CUSTODY

Report to:

Name: John Terry	Address: 12250 Hwy 12
Company: New Elk Coal	Weston Co 81091
E-mail: jterry@newelkcoal.com	Telephone: 303-300-8885

Copy of Report to:

Name:	E-mail:
Company:	Telephone:

Invoice to:

Name: ~~NECC~~ Mary Head	Address:
Company: NECC	Same
E-mail: mary@newelkcoal.com	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: John Terry **Sampler's Site Information** **State** CO **Zip code** 81091 **Time Zone** MT

***Sampler's Signature:** [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	Table #3							
SPRS-1	6/15/15	0930	SW	9	X							
SPRS-4	6/15/15	1000	SW	9	X							

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

REMARKS

Please Return Cooler w/Replacement Bottles!!

Thanks

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
John Terry	6/15/15 1400	[signature]	6/16/15 1000

L24897 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

April 08, 2015

Report to:
John Terry
New Elk Mine
12250 Hwy 12
Weston, CO 81091

Bill to:
Mary Head
New Elk Mine
12250 Highway 12
Weston, CO 81091

Project ID:
ACZ Project ID: L23456

John Terry:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 25, 2015. This project has been assigned to ACZ's project number, L23456. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L23456. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after May 08, 2015. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

New Elk Mine
Project ID:
Sample ID: PAW 1

ACZ Sample ID: ***L23456-01***
Date Sampled: *03/23/15 09:30*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	1631E								03/26/15 10:37	mfm
Total Hot Plate Digestion	M200.2 ICP								03/27/15 12:24	aeb

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/30/15 15:37	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	04/02/15 20:40	msh
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	04/02/15 20:40	msh
Barium, dissolved	M200.7 ICP	1	0.076			mg/L	0.003	0.02	03/30/15 15:37	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	04/02/15 20:40	msh
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/30/15 15:37	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/02/15 20:40	msh
Calcium, dissolved	M200.7 ICP	1	29.2			mg/L	0.1	0.5	04/06/15 10:23	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	04/02/15 20:40	msh
Cobalt, dissolved	M200.8 ICP-MS	1	0.00012	B		mg/L	0.00005	0.0003	04/02/15 20:40	msh
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	04/02/15 20:40	msh
Iron, dissolved	M200.7 ICP	1	0.04	B		mg/L	0.02	0.05	03/30/15 15:37	jjc
Iron, total	M200.7 ICP	1	9.26			mg/L	0.02	0.05	03/28/15 15:08	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/02/15 20:40	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/30/15 15:37	jjc
Magnesium, dissolved	M200.7 ICP	1	12.5			mg/L	0.2	1	04/06/15 10:23	jjc
Manganese, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.005	0.03	03/30/15 15:37	jjc
Manganese, total	M200.7 ICP	1	0.043			mg/L	0.005	0.03	03/28/15 15:08	aeb
Mercury, dissolved	M1631, Atomic Fluorescence	1		U	*	ng/L	0.2	0.5	04/01/15 10:29	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/30/15 15:37	jjc
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/30/15 15:37	jjc
Potassium, dissolved	M200.7 ICP	1	1.7			mg/L	0.2	1	04/06/15 14:12	jjc
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	04/02/15 20:40	msh
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	04/03/15 19:39	msh
Sodium, dissolved	M200.7 ICP	1	16.7			mg/L	0.2	1	04/06/15 10:23	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/02/15 20:40	msh
Uranium, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0001	0.0005	04/02/15 20:40	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/30/15 15:37	jjc
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	03/30/15 15:37	jjc

New Elk Mine
Project ID:
Sample ID: PAW 1

ACZ Sample ID: ***L23456-01***
Date Sampled: *03/23/15 09:30*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	153			mg/L	2	20	03/26/15 0:00	abd
Carbonate as CaCO3		1	3.4	B		mg/L	2	20	03/26/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/26/15 0:00	abd
Total Alkalinity		1	156			mg/L	2	20	03/26/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-14.3			%			04/07/15 0:00	calc
Sum of Anions			4.4			meq/L			04/07/15 0:00	calc
Sum of Cations			3.3			meq/L			04/07/15 0:00	calc
Chloride	SM4500Cl-E	1	7.1			mg/L	0.5	2	04/02/15 13:27	bsu
Conductivity @25C	SM2510B	1	320			umhos/cm	1	10	03/26/15 2:32	abd
Fluoride	SM4500F-C	1	0.16	B	*	mg/L	0.05	0.3	03/26/15 14:29	enb
Hardness as CaCO3	SM2340B - Calculation		124			mg/L	0.8	4	04/07/15 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							03/26/15 9:30	abd
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A	1							03/27/15 12:50	jjc
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.05	BH		mg/L	0.02	0.1	04/07/15 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.05	BH	*	mg/L	0.02	0.1	03/25/15 20:57	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.01	0.05	03/25/15 20:57	pjb
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	03/26/15 0:00	abd
pH measured at		1	22.6			C	0.1	0.1	03/26/15 0:00	abd
Residue, Filterable (TDS) @180C	SM2540C	1	144			mg/L	10	20	03/27/15 14:42	abd
Residue, Non-Filterable (TSS) @105C	SM2540D	1	24.0		*	mg/L	5	20	03/27/15 11:49	abd
Sodium Adsorption Ratio in Water	USGS - I1738-78		0.66						04/07/15 0:00	calc
Sulfate	D516-02/-07 - Turbidimetric	5	51.7		*	mg/L	5	25	04/06/15 12:33	mss2
TDS (calculated)	Calculation		215			mg/L			04/07/15 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.67						04/07/15 0:00	calc

New Elk Mine
Project ID:
Sample ID: PAW 2

ACZ Sample ID: ***L23456-02***
Date Sampled: *03/23/15 10:05*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	1631E								03/26/15 10:44	mfm
Total Hot Plate Digestion	M200.2 ICP								03/27/15 12:35	aeb

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/30/15 15:40	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	04/02/15 20:43	msh
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	04/02/15 20:43	msh
Barium, dissolved	M200.7 ICP	1	0.220			mg/L	0.003	0.02	03/30/15 15:40	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	04/02/15 20:43	msh
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/30/15 15:40	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/02/15 20:43	msh
Calcium, dissolved	M200.7 ICP	1	106			mg/L	0.1	0.5	03/30/15 15:40	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	04/02/15 20:43	msh
Cobalt, dissolved	M200.8 ICP-MS	1	0.00125			mg/L	0.00005	0.0003	04/02/15 20:43	msh
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	04/02/15 20:43	msh
Iron, dissolved	M200.7 ICP	1	0.28			mg/L	0.02	0.05	03/30/15 15:40	jjc
Iron, total	M200.7 ICP	1	13.70			mg/L	0.02	0.05	03/28/15 15:11	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/02/15 20:43	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/30/15 15:40	jjc
Magnesium, dissolved	M200.7 ICP	1	20.3			mg/L	0.2	1	03/30/15 15:40	jjc
Manganese, dissolved	M200.7 ICP	1	1.780			mg/L	0.005	0.03	03/30/15 15:40	jjc
Manganese, total	M200.7 ICP	1	1.870			mg/L	0.005	0.03	03/28/15 15:11	aeb
Mercury, dissolved	M1631, Atomic Fluorescence	1		U	*	ng/L	0.2	0.5	04/01/15 10:34	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/30/15 15:40	jjc
Nickel, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.008	0.04	03/30/15 15:40	jjc
Potassium, dissolved	M200.7 ICP	1	2.5			mg/L	0.2	1	03/30/15 15:40	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0003			mg/L	0.0001	0.0003	04/02/15 20:43	msh
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	04/03/15 19:41	msh
Sodium, dissolved	M200.7 ICP	1	57.1			mg/L	0.2	1	03/30/15 15:40	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/02/15 20:43	msh
Uranium, dissolved	M200.8 ICP-MS	1	0.0024			mg/L	0.0001	0.0005	04/02/15 20:43	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/30/15 15:40	jjc
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	03/30/15 15:40	jjc

New Elk Mine
Project ID:
Sample ID: PAW 2

ACZ Sample ID: ***L23456-02***
Date Sampled: *03/23/15 10:05*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	397			mg/L	2	20	03/26/15 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/26/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/26/15 0:00	abd
Total Alkalinity		1	397			mg/L	2	20	03/26/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-0.5			%			04/07/15 15:48	calc
Sum of Anions			9.8			meq/L			04/07/15 15:48	calc
Sum of Cations			9.7			meq/L			04/07/15 15:48	calc
Chloride	SM4500Cl-E	1	18.1			mg/L	0.5	2	04/02/15 13:27	bsu
Conductivity @25C	SM2510B	1	852			umhos/cm	1	10	03/26/15 2:42	abd
Fluoride	SM4500F-C	1	0.18	B	*	mg/L	0.05	0.3	03/26/15 14:32	enb
Hardness as CaCO3	SM2340B - Calculation		348			mg/L	0.8	4	04/07/15 15:48	calc
Lab Filtration (0.45um filter)	SOPWC050	1							03/26/15 9:33	abd
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A	1							03/27/15 12:50	jjc
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2			UH		mg/L	0.02	0.1	04/07/15 15:48	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.02	0.1	03/25/15 21:00	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.01	0.05	03/25/15 21:00	pjb
pH (lab)	SM4500H+ B									
pH		1	8.0	H		units	0.1	0.1	03/26/15 0:00	abd
pH measured at		1	22.6			C	0.1	0.1	03/26/15 0:00	abd
Residue, Filterable (TDS) @180C	SM2540C	1	494			mg/L	10	20	03/27/15 14:43	abd
Residue, Non-Filterable (TSS) @105C	SM2540D	1	58.0		*	mg/L	5	20	03/27/15 11:50	abd
Sodium Adsorption Ratio in Water	USGS - I1738-78		1.3						04/07/15 15:48	calc
Sulfate	D516-02/-07 - Turbidimetric	5	64.3		*	mg/L	5	25	04/02/15 15:52	bsu
TDS (calculated)	Calculation		513			mg/L			04/07/15 15:48	calc
TDS (ratio - measured/calculated)	Calculation		0.96						04/07/15 15:48	calc

New Elk Mine
Project ID:
Sample ID: PAW 8

ACZ Sample ID: ***L23456-03***
Date Sampled: *03/23/15 10:38*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	1631E								03/26/15 10:51	mfm
Total Hot Plate Digestion	M200.2 ICP								03/27/15 12:47	aeb

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/30/15 15:43	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	04/02/15 20:45	msh
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	04/02/15 20:45	msh
Barium, dissolved	M200.7 ICP	1	0.099			mg/L	0.003	0.02	03/30/15 15:43	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	04/02/15 20:45	msh
Boron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.01	0.05	03/30/15 15:43	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	04/02/15 20:45	msh
Calcium, dissolved	M200.7 ICP	1	107			mg/L	0.1	0.5	03/30/15 15:43	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	04/02/15 20:45	msh
Cobalt, dissolved	M200.8 ICP-MS	1	0.00044			mg/L	0.00005	0.0003	04/02/15 20:45	msh
Copper, dissolved	M200.8 ICP-MS	1	0.0025	B		mg/L	0.0005	0.003	04/02/15 20:45	msh
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	03/30/15 15:43	jjc
Iron, total	M200.7 ICP	1	0.29			mg/L	0.02	0.05	03/28/15 15:14	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/02/15 20:45	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/30/15 15:43	jjc
Magnesium, dissolved	M200.7 ICP	1	23.1			mg/L	0.2	1	03/30/15 15:43	jjc
Manganese, dissolved	M200.7 ICP	1	0.018	B		mg/L	0.005	0.03	03/30/15 15:43	jjc
Manganese, total	M200.7 ICP	1	0.027	B		mg/L	0.005	0.03	03/28/15 15:14	aeb
Mercury, dissolved	M1631, Atomic Fluorescence	1		U	*	ng/L	0.2	0.5	04/01/15 10:39	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/30/15 15:43	jjc
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/30/15 15:43	jjc
Potassium, dissolved	M200.7 ICP	1	1.8			mg/L	0.2	1	03/30/15 15:43	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0087			mg/L	0.0001	0.0003	04/02/15 20:45	msh
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	04/03/15 19:49	msh
Sodium, dissolved	M200.7 ICP	1	131			mg/L	0.2	1	03/30/15 15:43	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/02/15 20:45	msh
Uranium, dissolved	M200.8 ICP-MS	1	0.0204			mg/L	0.0001	0.0005	04/02/15 20:45	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/30/15 15:43	jjc
Zinc, dissolved	M200.7 ICP	1	0.03	B	*	mg/L	0.01	0.05	03/30/15 15:43	jjc

New Elk Mine
Project ID:
Sample ID: PAW 8

ACZ Sample ID: ***L23456-03***
Date Sampled: *03/23/15 10:38*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	526			mg/L	2	20	03/30/15 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/30/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/30/15 0:00	abd
Total Alkalinity		1	526			mg/L	2	20	03/30/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.7			%			04/07/15 15:48	calc
Sum of Anions			14			meq/L			04/07/15 15:48	calc
Sum of Cations			13			meq/L			04/07/15 15:48	calc
Chloride	SM4500Cl-E	1	17.8			mg/L	0.5	2	04/02/15 11:05	bsu
Conductivity @25C	SM2510B	1	1150			umhos/cm	1	10	03/30/15 20:16	abd
Fluoride	SM4500F-C	1	0.25	B	*	mg/L	0.05	0.3	03/26/15 14:36	enb
Hardness as CaCO3	SM2340B - Calculation		362			mg/L	0.8	4	04/07/15 15:48	calc
Lab Filtration (0.45um filter)	SOPWC050	1							03/26/15 9:36	abd
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A	1							03/27/15 12:50	jjc
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		5.84	H		mg/L	0.06	0.3	04/07/15 15:48	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	3	5.84	H	*	mg/L	0.06	0.3	03/25/15 21:44	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.01	0.05	03/25/15 21:01	pjb
pH (lab)	SM4500H+ B									
pH		1	7.7	H		units	0.1	0.1	03/30/15 0:00	abd
pH measured at		1	22.6			C	0.1	0.1	03/30/15 0:00	abd
Residue, Filterable (TDS) @180C	SM2540C	1	688			mg/L	10	20	03/27/15 14:44	abd
Residue, Non-Filterable (TSS) @105C	SM2540D	1	9.0	B	*	mg/L	5	20	03/27/15 11:52	abd
Sodium Adsorption Ratio in Water	USGS - I1738-78		3						04/07/15 15:48	calc
Sulfate	D516-02/-07 - Turbidimetric	5	106		*	mg/L	5	25	04/02/15 15:52	bsu
TDS (calculated)	Calculation		734			mg/L			04/07/15 15:48	calc
TDS (ratio - measured/calculated)	Calculation		0.94						04/07/15 15:48	calc

New Elk Mine
Project ID:
Sample ID: PAW 9

ACZ Sample ID: ***L23456-04***
Date Sampled: *03/23/15 11:10*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	1631E								03/26/15 10:58	mfm
Total Hot Plate Digestion	M200.2 ICP								03/27/15 13:22	aeb

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.2	03/30/15 15:46	jjc
Antimony, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0004	0.002	04/02/15 20:48	msh
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	04/02/15 20:48	msh
Barium, dissolved	M200.7 ICP	1	0.150			mg/L	0.003	0.02	03/30/15 15:46	jjc
Beryllium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	04/02/15 20:48	msh
Boron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	03/30/15 15:46	jjc
Cadmium, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.0001	0.0005	04/02/15 20:48	msh
Calcium, dissolved	M200.7 ICP	1	72			mg/L	0.1	0.5	03/30/15 15:46	jjc
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	04/02/15 20:48	msh
Cobalt, dissolved	M200.8 ICP-MS	1	0.00031			mg/L	0.00005	0.0003	04/02/15 20:48	msh
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	04/02/15 20:48	msh
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	03/30/15 15:46	jjc
Iron, total	M200.7 ICP	1	0.27			mg/L	0.02	0.05	03/28/15 15:30	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/02/15 20:48	msh
Lithium, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/30/15 15:46	jjc
Magnesium, dissolved	M200.7 ICP	1	19.4			mg/L	0.2	1	03/30/15 15:46	jjc
Manganese, dissolved	M200.7 ICP	1	0.005	B		mg/L	0.005	0.03	03/30/15 15:46	jjc
Manganese, total	M200.7 ICP	1	0.010	B		mg/L	0.005	0.03	03/28/15 15:30	aeb
Mercury, dissolved	M1631, Atomic Fluorescence	1		U	*	ng/L	0.2	0.5	04/01/15 10:54	mfm
Molybdenum, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.1	03/30/15 15:46	jjc
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	03/30/15 15:46	jjc
Potassium, dissolved	M200.7 ICP	1	2.1			mg/L	0.2	1	03/30/15 15:46	jjc
Selenium, dissolved	M200.8 ICP-MS	1	0.0038			mg/L	0.0001	0.0003	04/02/15 20:48	msh
Silver, dissolved	M200.8 ICP-MS	1		U	*	mg/L	0.00005	0.0003	04/03/15 19:51	msh
Sodium, dissolved	M200.7 ICP	1	135			mg/L	0.2	1	03/30/15 15:46	jjc
Thallium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	04/02/15 20:48	msh
Uranium, dissolved	M200.8 ICP-MS	1	0.0090			mg/L	0.0001	0.0005	04/02/15 20:48	msh
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	03/30/15 15:46	jjc
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	03/30/15 15:46	jjc

New Elk Mine
Project ID:
Sample ID: PAW 9

ACZ Sample ID: ***L23456-04***
Date Sampled: *03/23/15 11:10*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	471			mg/L	2	20	03/30/15 0:00	abd
Carbonate as CaCO3		1		U		mg/L	2	20	03/30/15 0:00	abd
Hydroxide as CaCO3		1		U		mg/L	2	20	03/30/15 0:00	abd
Total Alkalinity		1	471			mg/L	2	20	03/30/15 0:00	abd
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.3			%			04/07/15 15:48	calc
Sum of Anions			12			meq/L			04/07/15 15:48	calc
Sum of Cations			11			meq/L			04/07/15 15:48	calc
Chloride	SM4500Cl-E	1	24.6			mg/L	0.5	2	04/02/15 11:05	bsu
Conductivity @25C	SM2510B	1	1000			umhos/cm	1	10	03/30/15 20:26	abd
Fluoride	SM4500F-C	1	0.43		*	mg/L	0.05	0.3	03/26/15 14:40	enb
Hardness as CaCO3	SM2340B - Calculation		260			mg/L	0.8	4	04/07/15 15:48	calc
Lab Filtration (0.45um filter)	SOPWC050	1							03/26/15 9:40	abd
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A	1							03/27/15 12:50	jjc
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.96	H		mg/L	0.02	0.1	04/07/15 15:48	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.96	H	*	mg/L	0.02	0.1	03/25/15 21:03	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		UH	*	mg/L	0.01	0.05	03/25/15 21:03	pjb
pH (lab)	SM4500H+ B									
pH		1	8.0	H		units	0.1	0.1	03/30/15 0:00	abd
pH measured at		1	22.4			C	0.1	0.1	03/30/15 0:00	abd
Residue, Filterable (TDS) @180C	SM2540C	1	590			mg/L	10	20	03/27/15 14:46	abd
Residue, Non-Filterable (TSS) @105C	SM2540D	1	12.0	B	*	mg/L	5	20	03/27/15 11:53	abd
Sodium Adsorption Ratio in Water	USGS - I1738-78		3.7						04/07/15 15:48	calc
Sulfate	D516-02/-07 - Turbidimetric	5	60.9		*	mg/L	5	25	04/02/15 15:52	bsu
TDS (calculated)	Calculation		606			mg/L			04/07/15 15:48	calc
TDS (ratio - measured/calculated)	Calculation		0.97						04/07/15 15:48	calc

New Elk Mine
Project ID:
Sample ID: TRIP BLANK

ACZ Sample ID: ***L23456-05***
Date Sampled: *03/23/15 00:00*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	1631E								03/26/15 11:05	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Mercury, dissolved	M1631, Atomic Fluorescence	1		U	*	ng/L	0.2	0.5	04/01/15 10:59	mfm

Report Header Explanations

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

QC Sample Types

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

REP001.03.15.02

New Elk Mine

ACZ Project ID: ***L23456***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG380951													
WG380951PBW1	PBW	03/25/15 14:51				U	mg/L		-20	20			
WG380951LCSW3	LCSW	03/25/15 15:09	WC150318-8	820		832	mg/L	101	90	110			
WG380951LCSW6	LCSW	03/25/15 18:00	WC150318-8	820		834	mg/L	102	90	110			
WG380951PBW2	PBW	03/25/15 18:07				U	mg/L		-20	20			
WG380951LCSW9	LCSW	03/25/15 21:02	WC150318-8	820		837	mg/L	102	90	110			
WG380951PBW3	PBW	03/25/15 21:09				U	mg/L		-20	20			
WG380951LCSW12	LCSW	03/26/15 0:10	WC150318-8	820		841	mg/L	103	90	110			
WG380951PBW4	PBW	03/26/15 0:16				U	mg/L		-20	20			
L23456-02DUP	DUP	03/26/15 2:54			397	412	mg/L				4	20	
WG380951LCSW15	LCSW	03/26/15 3:11	WC150318-8	820		830	mg/L	101	90	110			
WG381165													
WG381165PBW1	PBW	03/30/15 14:56				U	mg/L		-20	20			
WG381165LCSW3	LCSW	03/30/15 15:13	WC150318-8	820		817	mg/L	100	90	110			
WG381165LCSW6	LCSW	03/30/15 17:56	WC150318-8	820		833	mg/L	102	90	110			
WG381165PBW2	PBW	03/30/15 18:02				U	mg/L		-20	20			
L23466-02DUP	DUP	03/30/15 21:16			178	190	mg/L				7	20	
WG381165LCSW9	LCSW	03/30/15 21:33	WC150318-8	820		820	mg/L	100	90	110			
WG381165PBW3	PBW	03/30/15 21:40				U	mg/L		-20	20			
WG381165LCSW12	LCSW	03/31/15 1:11	WC150318-8	820		835	mg/L	102	90	110			
WG381165PBW4	PBW	03/31/15 1:18				U	mg/L		-20	20			
WG381165LCSW15	LCSW	03/31/15 4:50	WC150318-8	820		842	mg/L	103	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	2		2.012	mg/L	101	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.09	0.09			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	1.0015		1.078	mg/L	108	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	10.015	1.7	12.41	mg/L	107	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	10.015	1.7	12.34	mg/L	106	85	115	1	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381400													
WG381400ICV	ICV	04/02/15 20:02	MS150312-3	.02		.02133	mg/L	107	90	110			
WG381400ICB	ICB	04/02/15 20:05				U	mg/L		-0.0012	0.0012			
WG381400LFB	LFB	04/02/15 20:07	MS150206-2	.01		.01027	mg/L	103	85	115			
L23406-03AS	AS	04/02/15 20:18	MS150206-2	.01	U	.01015	mg/L	102	70	130			
L23406-03ASD	ASD	04/02/15 20:20	MS150206-2	.01	U	.01012	mg/L	101	70	130	0	20	
L23498-01AS	AS	04/02/15 21:16	MS150206-2	.05	.005	.0558	mg/L	102	70	130			
L23498-01ASD	ASD	04/02/15 21:19	MS150206-2	.05	.005	.0552	mg/L	100	70	130	1	20	

New Elk Mine

ACZ Project ID: ***L23456***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381400													
WG381400ICV	ICV	04/02/15 20:02	MS150312-3	.05		.04985	mg/L	100	90	110			
WG381400ICB	ICB	04/02/15 20:05				U	mg/L		-0.0006	0.0006			
WG381400LFB	LFB	04/02/15 20:07	MS150206-2	.0501		.04807	mg/L	96	85	115			
L23406-03AS	AS	04/02/15 20:18	MS150206-2	.0501	.0054	.05718	mg/L	103	70	130			
L23406-03ASD	ASD	04/02/15 20:20	MS150206-2	.0501	.0054	.05643	mg/L	102	70	130	1	20	
L23498-01AS	AS	04/02/15 21:16	MS150206-2	.2505	.005	.2573	mg/L	101	70	130			
L23498-01ASD	ASD	04/02/15 21:19	MS150206-2	.2505	.005	.252	mg/L	99	70	130	2	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	2		1.9987	mg/L	100	95	105			
WG381147ICB	ICB	03/30/15 14:35				.0034	mg/L		-0.009	0.009			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	.5		.5127	mg/L	103	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	5	U	5.199	mg/L	104	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	5	U	5.198	mg/L	104	85	115	0	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381400													
WG381400ICV	ICV	04/02/15 20:02	MS150312-3	.05		.049359	mg/L	99	90	110			
WG381400ICB	ICB	04/02/15 20:05				U	mg/L		-0.00015	0.00015			
WG381400LFB	LFB	04/02/15 20:07	MS150206-2	.05005		.05031	mg/L	101	85	115			
L23406-03AS	AS	04/02/15 20:18	MS150206-2	.05005	U	.05397	mg/L	108	70	130			
L23406-03ASD	ASD	04/02/15 20:20	MS150206-2	.05005	U	.053112	mg/L	106	70	130	2	20	
L23498-01AS	AS	04/02/15 21:16	MS150206-2	.25025	.0004	.25238	mg/L	101	70	130			
L23498-01ASD	ASD	04/02/15 21:19	MS150206-2	.25025	.0004	.24774	mg/L	99	70	130	2	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	2		1.95	mg/L	98	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.03	0.03			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	.5005		.5	mg/L	100	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	5.005	.2	5.28	mg/L	101	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	5.005	.2	5.12	mg/L	98	85	115	3	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381400													
WG381400ICV	ICV	04/02/15 20:02	MS150312-3	.05		.0504	mg/L	101	90	110			
WG381400ICB	ICB	04/02/15 20:05				U	mg/L		-0.0003	0.0003			
WG381400LFB	LFB	04/02/15 20:07	MS150206-2	.05005		.04947	mg/L	99	85	115			
L23406-03AS	AS	04/02/15 20:18	MS150206-2	.05005	.002	.05303	mg/L	102	70	130			
L23406-03ASD	ASD	04/02/15 20:20	MS150206-2	.05005	.002	.05267	mg/L	101	70	130	1	20	
L23498-01AS	AS	04/02/15 21:16	MS150206-2	.25025	6.11	6.39948	mg/L	116	70	130			
L23498-01ASD	ASD	04/02/15 21:19	MS150206-2	.25025	6.11	6.28355	mg/L	69	70	130	2	20	M3

New Elk Mine

ACZ Project ID: ***L23456***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	100		100.65	mg/L	101	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.3	0.3			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	67.98862		70.13	mg/L	103	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	679.8862	535	1251	mg/L	105	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	679.8862	535	1251	mg/L	105	85	115	0	20	
WG381499													
WG381499ICV	ICV	04/06/15 10:02	II150318-3	100		99.74	mg/L	100	95	105			
WG381499ICB	ICB	04/06/15 10:08				U	mg/L		-0.3	0.3			
WG381499LFB	LFB	04/06/15 10:20	II150325-4	67.98862		70.33	mg/L	103	85	115			
L23563-01AS	AS	04/06/15 10:29	II150325-4	67.98862	110	176.1	mg/L	97	85	115			
L23563-01ASD	ASD	04/06/15 10:32	II150325-4	67.98862	110	176.4	mg/L	98	85	115	0	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381371													
WG381371ICB	ICB	04/02/15 10:09				U	mg/L		-1.5	1.5			
WG381371ICV	ICV	04/02/15 10:09	WI141103-1	54.835		57.45	mg/L	105	90	110			
L23456-03AS	AS	04/02/15 11:05	WI141209-1	30	17.8	48.29	mg/L	102	90	110			
L23456-04DUP	DUP	04/02/15 11:05			24.6	24.81	mg/L				1	20	
WG381371LFB2	LFB	04/02/15 11:06	WI141209-1	30		30.75	mg/L	103	90	110			
WG381371LFB1	LFB	04/02/15 13:26	WI141209-1	30		32.16	mg/L	107	90	110			
L23416-01AS	AS	04/02/15 13:26	WI141209-1	600	50	681	mg/L	105	90	110			
L23432-01DUP	DUP	04/02/15 13:26			61.9	61.03	mg/L				1	20	

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381400													
WG381400ICV	ICV	04/02/15 20:02	MS150312-3	.05		.04863	mg/L	97	90	110			
WG381400ICB	ICB	04/02/15 20:05				U	mg/L		-0.0015	0.0015			
WG381400LFB	LFB	04/02/15 20:07	MS150206-2	.05005		.04909	mg/L	98	85	115			
L23406-03AS	AS	04/02/15 20:18	MS150206-2	.05005	U	.05064	mg/L	101	70	130			
L23406-03ASD	ASD	04/02/15 20:20	MS150206-2	.05005	U	.05008	mg/L	100	70	130	1	20	
L23498-01AS	AS	04/02/15 21:16	MS150206-2	.25025	U	.2449	mg/L	98	70	130			
L23498-01ASD	ASD	04/02/15 21:19	MS150206-2	.25025	U	.2413	mg/L	96	70	130	1	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381400													
WG381400ICV	ICV	04/02/15 20:02	MS150312-3	.05		.05048	mg/L	101	90	110			
WG381400ICB	ICB	04/02/15 20:05				U	mg/L		-0.00015	0.00015			
WG381400LFB	LFB	04/02/15 20:07	MS150206-2	.05005		.049336	mg/L	99	85	115			
L23406-03AS	AS	04/02/15 20:18	MS150206-2	.05005	.00053	.050586	mg/L	100	70	130			
L23406-03ASD	ASD	04/02/15 20:20	MS150206-2	.05005	.00053	.050359	mg/L	100	70	130	0	20	
L23498-01AS	AS	04/02/15 21:16	MS150206-2	.25025	1.37	1.66508	mg/L	118	70	130			
L23498-01ASD	ASD	04/02/15 21:19	MS150206-2	.25025	1.37	1.63205	mg/L	105	70	130	2	20	

New Elk Mine

ACZ Project ID: ***L23456***

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG380951													
WG380951LCSW2	LCSW	03/25/15 14:56	PCN46665	1409		1450	umhos/cm	103	90	110			
WG380951LCSW5	LCSW	03/25/15 17:47	PCN46665	1409		1440	umhos/cm	102	90	110			
WG380951LCSW8	LCSW	03/25/15 20:49	PCN46665	1409		1430	umhos/cm	101	90	110			
WG380951LCSW11	LCSW	03/25/15 23:57	PCN46665	1409		1420	umhos/cm	101	90	110			
L23456-02DUP	DUP	03/26/15 2:54			852	915	umhos/cm				7	20	
WG380951LCSW14	LCSW	03/26/15 2:59	PCN46665	1409		1400	umhos/cm	99	90	110			
WG381165													
WG381165LCSW2	LCSW	03/30/15 15:00	PCN46665	1409		1470	umhos/cm	104	90	110			
WG381165LCSW5	LCSW	03/30/15 17:42	PCN46665	1409		1470	umhos/cm	104	90	110			
L23466-02DUP	DUP	03/30/15 21:16			888	887	umhos/cm				0	20	
WG381165LCSW8	LCSW	03/30/15 21:21	PCN46665	1409		1450	umhos/cm	103	90	110			
WG381165LCSW11	LCSW	03/31/15 0:58	PCN46665	1409		1450	umhos/cm	103	90	110			
WG381165LCSW14	LCSW	03/31/15 4:38	PCN46665	1409		1430	umhos/cm	101	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381400													
WG381400ICV	ICV	04/02/15 20:02	MS150312-3	.05		.0491	mg/L	98	90	110			
WG381400ICB	ICB	04/02/15 20:05				U	mg/L		-0.0015	0.0015			
WG381400LFB	LFB	04/02/15 20:07	MS150206-2	.05		.04803	mg/L	96	85	115			
L23406-03AS	AS	04/02/15 20:18	MS150206-2	.05	.0012	.04937	mg/L	96	70	130			
L23406-03ASD	ASD	04/02/15 20:20	MS150206-2	.05	.0012	.04903	mg/L	96	70	130	1	20	
L23498-01AS	AS	04/02/15 21:16	MS150206-2	.25	U	.2394	mg/L	96	70	130			
L23498-01ASD	ASD	04/02/15 21:19	MS150206-2	.25	U	.2366	mg/L	95	70	130	1	20	

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG380990													
WG380990ICV	ICV	03/26/15 10:23	WC150323-7	2		1.942	mg/L	97	95	105			
WG380990ICB	ICB	03/26/15 10:32				U	mg/L		-0.15	0.15			
WG380990LFB1	LFB	03/26/15 10:40	WC150209-7	5.015		4.839	mg/L	96	90	110			
WG380990LFB2	LFB	03/26/15 12:43	WC150209-7	5.015		4.792	mg/L	96	90	110			
L23445-03AS	AS	03/26/15 14:10	WC150209-7	5.015	.13	5.717	mg/L	111	90	110			M1
L23445-03DUP	DUP	03/26/15 14:14			.13	.102	mg/L				24	20	RA

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	2		2.013	mg/L	101	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.06	0.06			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	1.0001		1.051	mg/L	105	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	10.001	145	153.9	mg/L	89	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	10.001	145	154.6	mg/L	96	85	115	0	20	

New Elk Mine

ACZ Project ID: ***L23456***

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381115													
WG381115ICV	ICV	03/28/15 13:55	II150227-2	2		1.984	mg/L	99	95	105			
WG381115ICB	ICB	03/28/15 14:01				U	mg/L		-0.06	0.06			
WG381059LRB	LRB	03/28/15 14:14				U	mg/L		-0.044	0.044			
WG381059LFB	LFB	03/28/15 14:17	II150325-4	1.0001		1.022	mg/L	102	85	115			
L23456-03LFM	LFM	03/28/15 15:17	II150325-4	1.0001	.29	1.345	mg/L	105	70	130			
L23456-03LFMD	LFMD	03/28/15 15:21	II150325-4	1.0001	.29	1.339	mg/L	105	70	130	0	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381400													
WG381400ICV	ICV	04/02/15 20:02	MS150312-3	.05		.04979	mg/L	100	90	110			
WG381400ICB	ICB	04/02/15 20:05				U	mg/L		-0.0003	0.0003			
WG381400LFB	LFB	04/02/15 20:07	MS150206-2	.05005		.04857	mg/L	97	85	115			
L23406-03AS	AS	04/02/15 20:18	MS150206-2	.05005	.0008	.05161	mg/L	102	70	130			
L23406-03ASD	ASD	04/02/15 20:20	MS150206-2	.05005	.0008	.05124	mg/L	101	70	130	1	20	
L23498-01AS	AS	04/02/15 21:16	MS150206-2	.25025	.563	.82785	mg/L	106	70	130			
L23498-01ASD	ASD	04/02/15 21:19	MS150206-2	.25025	.563	.81127	mg/L	99	70	130	2	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	2		2.0118	mg/L	101	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.024	0.024			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	1.001		.9973	mg/L	100	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	10.01	.38	10.53	mg/L	101	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	10.01	.38	10.52	mg/L	101	85	115	0	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	100		101.65	mg/L	102	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.6	0.6			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	50.00339		50.15	mg/L	100	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	500.0339	218	731.7	mg/L	103	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	500.0339	218	733.7	mg/L	103	85	115	0	20	
WG381499													
WG381499ICV	ICV	04/06/15 10:02	II150318-3	100		100.78	mg/L	101	95	105			
WG381499ICB	ICB	04/06/15 10:08				U	mg/L		-0.6	0.6			
WG381499LFB	LFB	04/06/15 10:20	II150325-4	50.00339		51.04	mg/L	102	85	115			
L23563-01AS	AS	04/06/15 10:29	II150325-4	50.00339	90	139	mg/L	98	85	115			
L23563-01ASD	ASD	04/06/15 10:32	II150325-4	50.00339	90	139.2	mg/L	98	85	115	0	20	

New Elk Mine

ACZ Project ID: ***L23456***

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	2		2.0035	mg/L	100	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.015	0.015			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	.499		.5173	mg/L	104	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	4.99	53.1	57.67	mg/L	92	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	4.99	53.1	57.9	mg/L	96	85	115	0	20	

Manganese, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381115													
WG381115ICV	ICV	03/28/15 13:55	II150227-2	2		1.9915	mg/L	100	95	105			
WG381115ICB	ICB	03/28/15 14:01				U	mg/L		-0.015	0.015			
WG381059LRB	LRB	03/28/15 14:14				U	mg/L		-0.011	0.011			
WG381059LFB	LFB	03/28/15 14:17	II150325-4	.499		.5102	mg/L	102	85	115			
L23456-03LFM	LFM	03/28/15 15:17	II150325-4	.499	.027	.5394	mg/L	103	70	130			
L23456-03LFMD	LFMD	03/28/15 15:21	II150325-4	.499	.027	.5397	mg/L	103	70	130	0	20	

Mercury, dissolved M1631, Atomic Fluorescence

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381250													
WG381250ICV	ICV	04/01/15 10:04	HG150331-7	10		9.3	ng/L	93	79	121			
WG381250ICB	ICB	04/01/15 10:09				U	ng/L		-0.5	0.5			
WG381250PQV	PQV	04/01/15 10:14	HG150331-8	.5		.58	ng/L	116	70	130			
WG381250LFB	LFB	04/01/15 10:19	HG150331-9	2		1.8	ng/L	90	71	125			
WG381004PBW	PBW	04/01/15 10:24				U	ng/L		-0.5	0.5			
L23456-03MS	MS	04/01/15 10:44	HG150331-9	2	U	1.78	ng/L	89	71	125			
L23456-03MSD	MSD	04/01/15 10:49	HG150331-9	2	U	1.89	ng/L	95	71	125	6	24	
WG381250CCV1	CCV	04/01/15 11:04	HG150331-7	10		8.23	ng/L	82	76.5	123.4			
WG381250CCB1	CCB	04/01/15 11:10				U	ng/L		-0.5	0.5			
WG3811137PBW	PBW	04/01/15 11:15				U	ng/L		-0.5	0.5			
WG381250CCV2	CCV	04/01/15 11:45	HG150331-7	10		9.19	ng/L	92	76.5	123.4			
WG381250CCB2	CCB	04/01/15 11:50				U	ng/L		-0.5	0.5			

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	2		2.051	mg/L	103	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.06	0.06			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	.4995		.514	mg/L	103	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	4.995	U	5.18	mg/L	104	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	4.995	U	5.28	mg/L	106	85	115	2	20	

New Elk Mine

ACZ Project ID: ***L23456***

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	2		2.0038	mg/L	100	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.024	0.024			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	.501		.5188	mg/L	104	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	5.01	3.85	8.927	mg/L	101	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	5.01	3.85	8.968	mg/L	102	85	115	0	20	

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG380974													
WG380974ICV	ICV	03/25/15 20:44	WI150120-5	2.416		2.437	mg/L	101	90	110			
WG380974ICB	ICB	03/25/15 20:45				U	mg/L		-0.06	0.06			
WG380974LFB	LFB	03/25/15 20:48	WI141226-3	2		1.974	mg/L	99	90	110			
L23445-01AS	AS	03/25/15 20:51	WI141226-3	2	1.37	3.238	mg/L	93	90	110			
L23445-02DUP	DUP	03/25/15 20:53			.51	.501	mg/L				2	20	

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG380974													
WG380974ICV	ICV	03/25/15 20:44	WI150120-5	.609		.585	mg/L	96	90	110			
WG380974ICB	ICB	03/25/15 20:45				U	mg/L		-0.03	0.03			
WG380974LFB	LFB	03/25/15 20:48	WI141226-3	1		.999	mg/L	100	90	110			
L23445-01AS	AS	03/25/15 20:51	WI141226-3	1	U	1.004	mg/L	100	90	110			
L23445-02DUP	DUP	03/25/15 20:53			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG380951													
WG380951LCSW1	LCSW	03/25/15 14:54	PCN45660	5.99		6	units	100	5.9	6.1			
WG380951LCSW4	LCSW	03/25/15 17:45	PCN45660	5.99		6	units	100	5.9	6.1			
WG380951LCSW7	LCSW	03/25/15 20:47	PCN45660	5.99		6	units	100	5.9	6.1			
WG380951LCSW10	LCSW	03/25/15 23:55	PCN45660	5.99		6	units	100	5.9	6.1			
L23456-02DUP	DUP	03/26/15 2:54			8	8	units				0	20	
WG380951LCSW13	LCSW	03/26/15 2:57	PCN45660	5.99		6	units	100	5.9	6.1			
WG381165													
WG381165LCSW1	LCSW	03/30/15 14:59	PCN45660	5.99		6	units	100	5.9	6.1			
WG381165LCSW4	LCSW	03/30/15 17:41	PCN45660	5.99		6	units	100	5.9	6.1			
L23466-02DUP	DUP	03/30/15 21:16			8.1	8.1	units				0	20	
WG381165LCSW7	LCSW	03/30/15 21:19	PCN45660	5.99		6	units	100	5.9	6.1			
WG381165LCSW10	LCSW	03/31/15 0:56	PCN45660	5.99		6	units	100	5.9	6.1			
WG381165LCSW13	LCSW	03/31/15 4:36	PCN45660	5.99		6	units	100	5.9	6.1			

New Elk Mine

ACZ Project ID: ***L23456***

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	20		19.5	mg/L	98	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.6	0.6			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	99.93386		96.31	mg/L	96	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	999.3386	9	993.5	mg/L	99	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	999.3386	9	990.8	mg/L	98	85	115	0	20	
WG381523													
WG381523ICV	ICV	04/06/15 13:50	II150318-3	20		19.5	mg/L	98	95	105			
WG381523ICB	ICB	04/06/15 13:56				U	mg/L		-0.6	0.6			
WG381523LFB	LFB	04/06/15 14:09	II150325-4	99.93386		96.45	mg/L	97	85	115			
L23563-01AS	AS	04/06/15 14:18	II150325-4	99.93386	13.9	112.1	mg/L	98	85	115			
L23563-01ASD	ASD	04/06/15 14:21	II150325-4	99.93386	13.9	112.5	mg/L	99	85	115	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381092													
WG381092PBW	PBW	03/27/15 14:20				U	mg/L		-20	20			
WG381092LCSW	LCSW	03/27/15 14:21	PCN48319	260		260	mg/L	100	80	120			
L23526-01DUP	DUP	03/27/15 14:49			774	762	mg/L				2	10	

Residue, Non-Filterable (TSS) @105C SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381078													
WG381078PBW	PBW	03/27/15 11:30				U	mg/L		-15	15			
WG381078LCSW	LCSW	03/27/15 11:31	PCN48319	160		149	mg/L	93	80	120			
L23467-01DUP	DUP	03/27/15 11:59			6	7	mg/L				15	10	RA

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381400													
WG381400ICV	ICV	04/02/15 20:02	MS150312-3	.05		.05096	mg/L	102	90	110			
WG381400ICB	ICB	04/02/15 20:05				U	mg/L		-0.0003	0.0003			
WG381400LFB	LFB	04/02/15 20:07	MS150206-2	.05015		.05013	mg/L	100	85	115			
L23406-03AS	AS	04/02/15 20:18	MS150206-2	.05015	.0002	.05252	mg/L	104	70	130			
L23406-03ASD	ASD	04/02/15 20:20	MS150206-2	.05015	.0002	.05221	mg/L	104	70	130	1	20	
L23498-01AS	AS	04/02/15 21:16	MS150206-2	.25075	.0102	.26972	mg/L	103	70	130			
L23498-01ASD	ASD	04/02/15 21:19	MS150206-2	.25075	.0102	.26637	mg/L	102	70	130	1	20	

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381471													
WG381471ICV	ICV	04/03/15 19:26	MS150312-3	.02		.019679	mg/L	98	90	110			
WG381471ICB	ICB	04/03/15 19:28				U	mg/L		-0.00015	0.00015			
WG381471LFB	LFB	04/03/15 19:31	MS150206-2	.01002		.009769	mg/L	97	85	115			
L23456-02AS	AS	04/03/15 19:44	MS150206-2	.01002	U	.006192	mg/L	62	70	130			MA ZA
L23456-02ASD	ASD	04/03/15 19:46	MS150206-2	.01002	U	.007477	mg/L	75	70	130	19	20	

New Elk Mine

ACZ Project ID: ***L23456***

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	100		97.59	mg/L	98	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.6	0.6			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	100.0188		96.28	mg/L	96	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	1000.188	61	1052	mg/L	99	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	1000.188	61	1052	mg/L	99	85	115	0	20	
WG381499													
WG381499ICV	ICV	04/06/15 10:02	II150318-3	100		99.21	mg/L	99	95	105			
WG381499ICB	ICB	04/06/15 10:08				U	mg/L		-0.6	0.6			
WG381499LFB	LFB	04/06/15 10:20	II150325-4	100.0188		101.6	mg/L	102	85	115			
L23563-01AS	AS	04/06/15 10:29	II150325-4	100.0188	69	170.6	mg/L	102	85	115			
L23563-01ASD	ASD	04/06/15 10:32	II150325-4	100.0188	69	171.5	mg/L	102	85	115	1	20	

Sulfate D516-02/-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381394													
WG381394ICB	ICB	04/02/15 15:07				U	mg/L		-3	3			
WG381394ICV	ICV	04/02/15 15:07	WI150324-10	20		19.9	mg/L	100	90	110			
WG381394LFB	LFB	04/02/15 15:16	WI150302-1	10.01		9.8	mg/L	98	90	110			
L23452-03DUP	DUP	04/02/15 16:06			2390	2350	mg/L				2	20	
L23452-04AS	AS	04/02/15 16:06	SO4TURB	10.0000008	2030	1950	mg/L	-800	90	110			M3
WG381518													
WG381518ICB	ICB	04/06/15 11:11				U	mg/L		-3	3			
WG381518ICV	ICV	04/06/15 11:11	WI150324-10	20		20	mg/L	100	90	110			
WG381518LFB	LFB	04/06/15 12:33	WI150302-1	10.01		10.1	mg/L	101	90	110			
L23456-01DUP	DUP	04/06/15 12:33			51.7	51.6	mg/L				0	20	
L23496-05AS	AS	04/06/15 12:45	SO4TURB20X	50	2420	2360	mg/L	-120	90	110			M3

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381400													
WG381400ICV	ICV	04/02/15 20:02	MS150312-3	.05		.05055	mg/L	101	90	110			
WG381400ICB	ICB	04/02/15 20:05				U	mg/L		-0.0003	0.0003			
WG381400LFB	LFB	04/02/15 20:07	MS150206-2	.0502		.0491	mg/L	98	85	115			
L23406-03AS	AS	04/02/15 20:18	MS150206-2	.0502	U	.05201	mg/L	104	70	130			
L23406-03ASD	ASD	04/02/15 20:20	MS150206-2	.0502	U	.05138	mg/L	102	70	130	1	20	
L23498-01AS	AS	04/02/15 21:16	MS150206-2	.251	.0156	.27691	mg/L	104	70	130			
L23498-01ASD	ASD	04/02/15 21:19	MS150206-2	.251	.0156	.27017	mg/L	101	70	130	2	20	

New Elk Mine

ACZ Project ID: ***L23456***

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381400													
WG381400ICV	ICV	04/02/15 20:02	MS150312-3	.05		.05191	mg/L	104	90	110			
WG381400ICB	ICB	04/02/15 20:05				U	mg/L		-0.0003	0.0003			
WG381400LFB	LFB	04/02/15 20:07	MS150206-2	.05		.0493	mg/L	99	85	115			
L23406-03AS	AS	04/02/15 20:18	MS150206-2	.05	.0011	.05394	mg/L	106	70	130			
L23406-03ASD	ASD	04/02/15 20:20	MS150206-2	.05	.0011	.05349	mg/L	105	70	130	1	20	
L23498-01AS	AS	04/02/15 21:16	MS150206-2	.25	.0045	.268	mg/L	105	70	130			
L23498-01ASD	ASD	04/02/15 21:19	MS150206-2	.25	.0045	.26036	mg/L	102	70	130	3	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	2		2.0437	mg/L	102	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.015	0.015			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	.5		.5198	mg/L	104	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	5	U	5.276	mg/L	106	85	115			
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	5	U	5.229	mg/L	105	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG381147													
WG381147ICV	ICV	03/30/15 14:29	II150318-3	2		1.968	mg/L	98	95	105			
WG381147ICB	ICB	03/30/15 14:35				U	mg/L		-0.03	0.03			
WG381147LFB	LFB	03/30/15 14:47	II150325-4	.5005		.5	mg/L	100	85	115			
L23498-01AS	AS	03/30/15 16:11	II150325-4	5.005	959	937.6	mg/L	-428	85	115			M3
L23498-01ASD	ASD	03/30/15 16:14	II150325-4	5.005	959	942.2	mg/L	-336	85	115	0	20	M3

New Elk Mine ACZ Project ID: ***L23456***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L23456-01	WG381250	Mercury, dissolved	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG381471	Silver, dissolved	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.8 ICP-MS	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG381147	Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG380990	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG380974	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG381078	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG381518	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

New Elk Mine ACZ Project ID: ***L23456***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L23456-02	WG381250	Mercury, dissolved	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG381471	Silver, dissolved	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.8 ICP-MS	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG381147	Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG380990	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG380974	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG381078	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG381394	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

New Elk Mine ACZ Project ID: ***L23456***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L23456-03	WG381400	Cadmium, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG381250	Mercury, dissolved	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG381471	Silver, dissolved	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.8 ICP-MS	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG381147	Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG380990	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG380974	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG381078	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG381394	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

New Elk Mine ACZ Project ID: ***L23456***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L23456-04	WG381400	Cadmium, dissolved	M200.8 ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG381250	Mercury, dissolved	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG381471	Silver, dissolved	M200.8 ICP-MS	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
			M200.8 ICP-MS	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG381147	Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG380990	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG380974	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
	WG381078	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG381394	Sulfate	D516-02/-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L23456-05	WG381250	Mercury, dissolved	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

New Elk Mine
Project ID:
Sample ID: PAW 1
Locator:

ACZ Sample ID: ***L23456-01***
Date Sampled: *03/23/15 9:30*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Gross Alpha & Beta, total
M9310

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	03/31/15 0:07		-0.11	2	2.8	pCi/L	*	mhm
Gross Beta	03/31/15 0:07		7	4.6	5.9	pCi/L		mhm

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RadioChemistry Analytical Results

New Elk Mine
Project ID:
Sample ID: PAW 2
Locator:

ACZ Sample ID: ***L23456-02***
Date Sampled: *03/23/15 10:05*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Gross Alpha & Beta, total
M9310

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	03/31/15 0:08		5.1	3.7	3.7	pCi/L	*	mhm
Gross Beta	03/31/15 0:08		8.5	5.4	6.4	pCi/L		mhm

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RadioChemistry Analytical Results

New Elk Mine
Project ID:
Sample ID: PAW 8
Locator:

ACZ Sample ID: ***L23456-03***
Date Sampled: *03/23/15 10:38*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Gross Alpha & Beta, total
M9310

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	03/31/15 0:10		6.6	4.1	3.4	pCi/L	*	mhm
Gross Beta	03/31/15 0:10		7.8	4.9	6.4	pCi/L		mhm

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RadioChemistry Analytical Results

New Elk Mine
Project ID:
Sample ID: PAW 9
Locator:

ACZ Sample ID: ***L23456-04***
Date Sampled: *03/23/15 11:10*
Date Received: *03/25/15*
Sample Matrix: *Ground Water*

Gross Alpha & Beta, total
M9310

Prep Method:

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	03/31/15 0:11		-0.25	2.4	3	pCi/L	*	mhm
Gross Beta	03/31/15 0:11		4.8	4	5.9	pCi/L		mhm

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Error(+/-)	Calculated sample specific uncertainty
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
LCL	Lower Control Limit, in % (except for LCSS, mg/Kg)
LLD	Calculated sample specific Lower Limit of Detection
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RER	Relative Error Ratio, calculation used for Dup. QC taking into account the error factor.
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
UCL	Upper Control Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

DUP	Sample Duplicate	*MS/MSD*	Matrix Spike/Matrix Spike Duplicate
LCSS	Laboratory Control Sample - Soil	*PBS*	Prep Blank - Soil
LCSW	Laboratory Control Sample - Water	*PBW*	Prep Blank - Water

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

H	Analysis exceeded method hold time.

Method Prefix Reference

M	EPA methodology, including those under SDWA, CWA, and RCRA
SM	Standard Methods for the Examination of Water and Wastewater.
D	ASTM
RP	DOE
ESM	DOE/ESM

Comments

(1)	Solid matrices are reported on a dry weight basis.
(2)	Preparation method: "Method" indicates preparation defined in analytical method.
(3)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

New Elk Mine

ACZ Project ID: ***L23456***

Alpha M9310 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG381258																
WG380849PBW	PBW	03/31/15						1.8	1.8	1.8			3.6			
WG380849LCSW	LCSW	03/31/15	PCN45466	100				110	10	1.8	110	83	133			
L23456-01DUP	DUP-RER	03/31/15			-0.11	2	2.8	2.6	2.9	2.7				0.77	2	
L23456-02MS	MS	03/31/15	PCN45466	100	5.1	3.7	3.7	43	9.3	3.6	38	83	133			M2

Beta M9310 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG381258																
WG380849PBW	PBW	03/31/15						-.34	3.5	5.1			10.2			
WG380849LCSW	LCSW	03/31/15	PCN44702	100				110	7.8	4.9	110	70	129			
L23456-01DUP	DUP-RER	03/31/15			7	4.6	5.9	7.3	4.5	5.8				0.05	2	
L23456-04MS	MS	03/31/15	PCN44702	100	4.8	4	5.9	100	9.2	6.4	95	70	129			

RadChem Extended Qualifier Report

New Elk Mine ACZ Project ID: ***L23456***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L23456-01	WG381258	Gross Alpha	M9310	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L23456-02	WG381258	Gross Alpha	M9310	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L23456-03	WG381258	Gross Alpha	M9310	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L23456-04	WG381258	Gross Alpha	M9310	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

Certification Qualifiers

New Elk Mine ACZ Project ID: ***L23456***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
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Sample Receipt

New Elk Mine

ACZ Project ID: L23456
Date Received: 03/25/2015 10:17
Received By: ddp
Date Printed: 3/25/2015

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

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

Some parameters were received past hold time.

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
3256	3.1	14	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

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

ACZ Laboratories, Inc. L23456

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

CHAIN of CUSTODY

Report to:

Name: JOHN TERRY	Address: 12250 HWY 12
Company: NEW ELK COAL	WESTON CO 81091
E-mail: JTERRY @ NEW ELK COAL.COM	Telephone: 303-300-8885

Copy of Report to:

Name:	E-mail:
Company:	Telephone:

Invoice to:

Name: MARY HEAD	Address:
Company: NELC	
E-mail: MARY @ NEW ELK COAL.COM	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: JHT **Sampler's Site Information** **State** CO **Zip code** 81091 **Time Zone** MT

***Sampler's Signature:** [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

Quote #:

PO#:

Reporting state for compliance testing:

Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	TABLE 2							
PAW 1	3/23/15 0930	GW	6	X							
PAW 2	3/23/15 1005	GW	6	X							
PAW 8	3/23/15 1038	GW	6	X							
PAW 9	3/23/15 1110	GW	6	X							

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

REMARKS

PLEASE RETURN COOLER W/ REPLACEMENT BOTTLES!!

THANKS!!

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	3/23/15 1300	[signature]	3/23/15 10:17

L23456 Chain of Custody

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

June 16, 2015

Report to:
John Terry
New Elk Mine
12250 Hwy 12
Weston, CO 81091

Bill to:
Mary Head
New Elk Mine
12250 Highway 12
Weston, CO 81091

Project ID:
ACZ Project ID: L24694

John Terry:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 04, 2015. This project has been assigned to ACZ's project number, L24694. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L24694. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after July 16, 2015. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Case Narrative

New Elk Mine

June 16, 2015

Project ID:
ACZ Project ID: L24694

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 5 surface water samples from New Elk Mine on June 4, 2015. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L24694. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The following required further explanation not provided by the Extended Qualifier Report:

1. For the Mercury value flagged with a "Q5", the sample was preserved in the clean room upon arrival at the lab, which is acceptable within the method.

New Elk Mine
Project ID:
Sample ID: PAW 1

ACZ Sample ID: ***L24694-01***
Date Sampled: *06/03/15 12:45*
Date Received: *06/04/15*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	1631E								06/10/15 13:42	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	06/11/15 22:29	msh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/11/15 22:29	msh
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	06/11/15 22:29	msh
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	06/11/15 22:29	msh
Iron, dissolved	M200.7 ICP	1	0.09			mg/L	0.02	0.05	06/12/15 11:23	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/11/15 22:29	msh
Manganese, dissolved	M200.7 ICP	1	0.016	B		mg/L	0.005	0.03	06/12/15 11:23	aeb
Mercury, dissolved	M1631, Atomic Fluorescence	1		U	*	ng/L	0.2	0.5	06/15/15 12:40	mfm
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/12/15 11:23	aeb
Selenium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0003	06/11/15 22:29	msh
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/11/15 22:29	msh
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	06/12/15 11:23	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	SM4500Cl-E	1	7.1			mg/L	0.5	2	06/11/15 15:16	mss2
Conductivity @25C	SM2510B	1	251			umhos/cm	1	10	06/12/15 1:42	abd
Lab Filtration (0.45um filter)	SOPWC050	1							06/10/15 9:22	apk
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A	1							06/10/15 12:45	jjc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.22		*	mg/L	0.02	0.1	06/12/15 23:33	pjb
pH (lab)	SM4500H+ B									
pH		1	8.5	H		units	0.1	0.1	06/12/15 0:00	abd
pH measured at		1	19.4			C	0.1	0.1	06/12/15 0:00	abd
Residue, Filterable (TDS) @180C	SM2540C	1	120			mg/L	10	20	06/09/15 14:55	enb
Sulfate	D516-02/-07 - Turbidimetric	1	2.3	B	*	mg/L	1	5	06/12/15 13:37	mss2

New Elk Mine
Project ID:
Sample ID: PAW 2

ACZ Sample ID: ***L24694-02***
Date Sampled: *06/03/15 13:13*
Date Received: *06/04/15*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	1631E								06/10/15 13:49	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	06/11/15 22:33	msh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/11/15 22:33	msh
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	06/11/15 22:33	msh
Copper, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0005	0.003	06/11/15 22:33	msh
Iron, dissolved	M200.7 ICP	1	0.41			mg/L	0.02	0.05	06/12/15 11:26	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/11/15 22:33	msh
Manganese, dissolved	M200.7 ICP	1	1.690			mg/L	0.005	0.03	06/12/15 11:26	aeb
Mercury, dissolved	M1631, Atomic Fluorescence	1		U	*	ng/L	0.2	0.5	06/15/15 12:56	mfm
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/12/15 11:26	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0003	06/11/15 22:33	msh
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/11/15 22:33	msh
Zinc, dissolved	M200.7 ICP	1	0.02	B	*	mg/L	0.01	0.05	06/12/15 11:26	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	SM4500Cl-E	1	13.1			mg/L	0.5	2	06/11/15 15:16	mss2
Conductivity @25C	SM2510B	1	888			umhos/cm	1	10	06/12/15 1:47	abd
Lab Filtration (0.45um filter)	SOPWC050	1							06/10/15 9:25	apk
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A	1							06/10/15 12:45	jjc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1		U	*	mg/L	0.02	0.1	06/12/15 22:50	pjb
pH (lab)	SM4500H+ B									
pH		1	8.1	H		units	0.1	0.1	06/12/15 0:00	abd
pH measured at		1	20.1			C	0.1	0.1	06/12/15 0:00	abd
Residue, Filterable (TDS) @180C	SM2540C	1	550			mg/L	10	20	06/09/15 14:57	enb
Sulfate	D516-02/-07 - Turbidimetric	5	130		*	mg/L	5	25	06/12/15 13:44	mss2

New Elk Mine
Project ID:
Sample ID: PAW 8

ACZ Sample ID: ***L24694-03***
Date Sampled: *06/03/15 13:32*
Date Received: *06/04/15*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	1631E								06/10/15 13:56	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	06/11/15 22:36	msh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/11/15 22:36	msh
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	06/11/15 22:36	msh
Copper, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.003	06/11/15 22:36	msh
Iron, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	06/12/15 11:30	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/11/15 22:36	msh
Manganese, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.005	0.03	06/12/15 11:30	aeb
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.2	B	*	ng/L	0.2	0.5	06/15/15 13:01	mfm
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/12/15 11:30	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0308			mg/L	0.0001	0.0003	06/11/15 22:36	msh
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/11/15 22:36	msh
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	06/12/15 11:30	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	SM4500Cl-E	1	15.1			mg/L	0.5	2	06/11/15 15:16	mss2
Conductivity @25C	SM2510B	1	1090			umhos/cm	1	10	06/12/15 1:52	abd
Lab Filtration (0.45um filter)	SOPWC050	1							06/10/15 9:29	apk
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A	1							06/10/15 12:45	jjc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	5	9.5		*	mg/L	0.1	0.5	06/12/15 23:35	pjb
pH (lab)	SM4500H+ B									
pH		1	8.1	H		units	0.1	0.1	06/12/15 0:00	abd
pH measured at		1	20.5			C	0.1	0.1	06/12/15 0:00	abd
Residue, Filterable (TDS) @180C	SM2540C	1	710			mg/L	10	20	06/09/15 16:22	id
Sulfate	D516-02/-07 - Turbidimetric	5	107		*	mg/L	5	25	06/12/15 13:45	mss2

New Elk Mine
Project ID:
Sample ID: PAW 9

ACZ Sample ID: ***L24694-04***
Date Sampled: *06/03/15 14:21*
Date Received: *06/04/15*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	1631E								06/10/15 14:03	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	06/11/15 22:39	msh
Cadmium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/11/15 22:39	msh
Chromium, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0005	0.002	06/11/15 22:39	msh
Copper, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0005	0.003	06/11/15 22:39	msh
Iron, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.02	0.05	06/12/15 11:33	aeb
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	06/11/15 22:39	msh
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.005	0.03	06/12/15 11:33	aeb
Mercury, dissolved	M1631, Atomic Fluorescence	1	0.3	B	*	ng/L	0.2	0.5	06/15/15 13:06	mfm
Nickel, dissolved	M200.7 ICP	1		U		mg/L	0.008	0.04	06/12/15 11:33	aeb
Selenium, dissolved	M200.8 ICP-MS	1	0.0073			mg/L	0.0001	0.0003	06/11/15 22:39	msh
Silver, dissolved	M200.8 ICP-MS	1		U		mg/L	0.00005	0.0003	06/11/15 22:39	msh
Zinc, dissolved	M200.7 ICP	1		U	*	mg/L	0.01	0.05	06/12/15 11:33	aeb

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	SM4500Cl-E	1	25.6			mg/L	0.5	2	06/11/15 15:16	mss2
Conductivity @25C	SM2510B	1	1020			umhos/cm	1	10	06/12/15 1:56	abd
Lab Filtration (0.45um filter)	SOPWC050	1							06/10/15 9:33	apk
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A	1							06/10/15 12:45	jjc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	1.47		*	mg/L	0.02	0.1	06/12/15 22:52	pjb
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	06/12/15 0:00	abd
pH measured at		1	20.1			C	0.1	0.1	06/12/15 0:00	abd
Residue, Filterable (TDS) @180C	SM2540C	1	638			mg/L	10	20	06/09/15 16:24	id
Sulfate	D516-02/-07 - Turbidimetric	5	66.5		*	mg/L	5	25	06/12/15 13:45	mss2

New Elk Mine
Project ID:
Sample ID: TRIP BLANK

ACZ Sample ID: ***L24694-05***
Date Sampled: *06/03/15 00:00*
Date Received: *06/04/15*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	1631E								06/10/15 14:10	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Mercury, dissolved	M1631, Atomic Fluorescence	1		U	*	ng/L	0.2	0.5	06/15/15 13:11	mfm

Report Header Explanations

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

QC Sample Types

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

REP001.03.15.02

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

New Elk Mine ACZ Project ID: ***L24694***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L24694-01	WG385226	Mercury, dissolved	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG385158	Zinc, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG385195	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG385169	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L24694-02	WG385226	Mercury, dissolved	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG385158	Zinc, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG385195	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG385169	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L24694-03	WG385226	Mercury, dissolved	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG385158	Zinc, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG385195	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG385169	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L24694-04	WG385226	Mercury, dissolved	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.
	WG385158	Zinc, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG385195	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG385169	Sulfate	D516-02/-07 - Turbidimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L24694-05	WG385226	Mercury, dissolved	M1631, Atomic Fluorescence	Q5	Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory.

Certification Qualifiers

New Elk Mine ACZ Project ID: ***L24694***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

New Elk Mine

ACZ Project ID: L24694
Date Received: 06/04/2015 10:13
Received By: ddp
Date Printed: 6/4/2015

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?		X	

Samples/Containers

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

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA21905	5.9	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

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

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

New Elk Mine

ACZ Project ID:	L24694
Date Received:	06/04/2015 10:13
Received By:	ddp
Date Printed:	6/4/2015

[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).

ACZ Laboratories, Inc. 24694

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

CHAIN of CUSTODY

Report to:

Name: John Terry	Address: 12250 Hwy 12
Company: New Elk Coal	Weston Co 81091
E-mail: JTerry@NewElkCoal.com	Telephone: 303 300 8885

Copy of Report to:

Name:	E-mail:
Company:	Telephone:

Invoice to:

Name: MARY Head	Address:
Company:	SAME
E-mail: MARY@NewElkCoal.com	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: John Terry **Sampler's Site Information** **State** CO **Zip code** 81091 **Time Zone** MT

***Sampler's Signature:** John Terry

*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

Quote #:

PO#:

Reporting state for compliance testing:

Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	TABLE 9								
PAW 1	6/3/15 1245	GW	5	X								
PAW 2	6/3/15 1313	GW	5	X								
PAW 8	6/3/15 1332	GW	5	X								
PAW 9	6/3/15 1421	GW	5	X								

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

REMARKS

Please Return Cooler w/ Replacement Bottles!

THANKS!!

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
John Terry	6/3/15 1500	[illegible]	6/4/15 10:11

L24694 Chain of Custody