NEW ELK COAL
COMPANY LLC

February 28, 2022

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

Re: New Elk Mine
Permit C-1981-012
2021 Annual Hydrology Report

Dear Mr. Ebert:

The New Elk Mine annual Hydrologic Monitoring Requirements are summarized in Table 27 Hydrologic Monitoring Frequency Requirements and Table 28 Water Quality Laboratory Analysis attached to this letter report.

In general weather conditions at New Elk Mine were dry. There were only a couple snowstorms at the beginning of the year. There were substantial precipitation events during the spring and early summer. The end of the year did not have very many

There were no discharges throughout the year as detailed below. All required monitoring of refuse, surface, and groundwater wells and rain water was completed in 2021. Monitoring of NE-5-10a and NE-5-10b also begun this year, as mining in the Blue Seam again has started.

New Elk staff revised Table 27 to include Discharge Monitoring Site 010 and remove NPDES Station 080 as it is outdated, as part of a Permit Revision to be submitted this year.

NPDES Discharge Monitoring

All NPDES discharges were monitored and reported to CDPHE on Discharge Monitoring Report forms (DMRs). Copies of these reports have already been submitted to the Division (DRMS) and are not duplicated herein.

Discharge Monitoring Site 001 did not discharge during 2021. 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. Water has been pumped to pond 001. And there was some withdrawal in the pond by pumping the water to the mine water tank to be reused. These volumes and evaporation losses are 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) is no longer a requirement of the NPDES permit. Throughout the year water levels were minimal and no discharges occurred.

Discharge Monitoring of Site 007 (Pond 7) held water throughout most of 2021. The pond did not have any discharges throughout the year.

Discharge Monitoring of Site 008 (Pond 8) held minimal water throughout 2021. There were no discharges throughout the year. The pond has held minimal water in it and has little sediment build up since it was last cleaned in 2018.

Discharge Monitoring of Site 010 (SAE south of Pond 7) with minimal rainfall throughout the year with no discharges. The outfall was monitored carefully throughout the year and maintenance on the SAE was done. The maintenance included minor fixes to a silt fence, cleaning of ditches, and a check dams.

RDA Monitoring Wells

Three monitoring wells, **Th-201, TH-202,** and **TH-203**, area 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 2, June 6, September 23, and December 21, 2021. This data is summarized in Table 1 RDA Monitoring Wells following this report. No significant changes were noted for any of the wells.

Surface and Groundwater Monitoring

Field data was taken in the second and fourth quarter for the Surface Water, Groundwater, and Mine Water monitoring wells. The field data is compiled in Table 2 Field Data and notes for the field data are shown in **Appendix A Field Notes**. This data is summarized in Table 3 Lab Analysis following this report. For PRS-1 and PRS-4 there were no major changes in 2021 compared to 2020. Ground water wells Paw-1, Paw-2, Paw-8, and Paw-9 had similar field data from 2020 to 2021. Mine water wells New-2, New-4, NE-1-10, and New-3 also had similar field data from 2020 to 2021.

Laboratory Analysis was done on July 8 for Paw-1 and Paw-9 for the semi-annual test. Laboratory Analysis was also completed on Paw-1, Paw-2, Paw-8, and Paw-9 on November 17. On December 1 NEW-4 and NE-1-10 were sampled. On December 16 NEW-2, NE-5-10a, and NE-5-10b were sampled. The lab analysis and field notes accidently added mislabeled these samples as NE-6-10a and NE-6-10b. Finally on December 20 PRS-1 and PRS-4 were sampled. The analytical results for these samples are shown in **Appendix B Lab Analytics**. 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 of each parameter.

Analysis of Alluvial Groundwater Data

The groundwater wells did not show much change from 2020 to 2021. All data for Paw-1, Paw-2, Paw-8 and Paw-9 were consistent with previous year's data.

Rain Water Monitoring

2021 was a dry year. Snowfall was minimal throughout the first part of the year, followed by a wet spring and early Summer seasons. There were only six events of over an inch of rainfall in a 24-hour period; the last occurrence was July 24. The rest of the year was dry until snowfall began in December.

Comments

New Elk worked with DRMS in revising the water monitoring program in 2021 that amended Table 27.

Please advise me if any additional information is needed.

Regards

Nicholas Mason

Table 1 RDA Monitoring Wells				
	Depth to Water in Feet			
Quarter	**Q1**	**Q2**	**Q3**	**Q4**
Date	2-Mar	6-Jun	23-Sep	21-Dec
Th-01	42.9	43	42.7	43.1
Th-02	70.7	71	71.1	71.1
Th-03	93.5	93.8	93.9	93.6

Table 2 Field Data												
Second Quarter 2020	**Surface Water**		**Groundwater Wells**				**Mine Water**					
	PRS-1	**PRS-4**	**PAW-1**	**PAW-2**	**PAW-8**	**PAW-9**	**NEW-2**	**NEW-4**	**NE-5-10a**	**NE-5-10b**	**NEW-1-10**	**NEW-3**
Date	22-Jun	22-Jun	8-Jul	22-Jun	22-Jun	8-Jul	4-Jun	4-Jun			15-Apr	9-Apr
Field Measurments												
Depth to Water (ft)	-	-	7.7	16.3	33.9	15.2	346.5	353			305.3	421.6
Flow Rate (cfs)	79.380	76.430	-	-	-	-	-	-			-	-
Ph (S.U.)	9.10	8.78	8.93	7.77	7.60	8.05	-	-			-	-
Conductivity (µohms/cm^2)	194	195	257	894	1165	1026	-	-			-	-
Temperature (°C)	15.1	16.4	12.0	11.6	14.8	11.4	-	-			-	-
Fourth Quarter 2020	**Surface Water**		**Groundwater Wells**				**Mine Water**					
	PRS-1	**PRS-4**	**PAW-1**	**PAW-2**	**PAW-8**	**PAW-9**	**NEW-2**	**NEW-4**	**NE-5-10a**	**NE-5-10b**	**NEW-1-10**	**NEW-3**
Date	20-Dec	20-Dec	17-Nov	17-Nov	17-Nov	17-Nov	16-Dec	1-Dec	16-Dec	16-Dec	1-Dec	16-Dec
Field Measurments												
Depth to Water (ft)	-	-	8	17.8	33.5	15.5	341.7	348.7	663.85	370.4	304.9	421.6
Flow Rate (cfs)	9.860	12.350	-	-	-	-	-	-	-	-	-	-
Ph (S.U.)	8.85	8.67	8.90	7.40	7.23	7.96	8.16	8.25	9.11	8.35	10.98	-
Conductivity (µohms/cm^2)	382	403	276	7	1302	1052	2.16	2.18	1733	836	1408	-
Temperature (°C)	1.2	1.7	9.2	7.96	11.7	12.6	15.7	18.8	21.7	17.7	12.1	-

Table 3 Lab Analysis													
	Surface Water		**Groundwater Wells**						**Mine Water**				
	PRS-1	**PRS-4**	**PAW-1**	**PAW-9**	**PAW-1**	**PAW-2**	**PAW-8**	**PAW-9**	**NEW-2**	**NEW-4**	**NE-5-10a**	**NE-5-10b**	**NEW-1-10**
Date	20-Dec	20-Dec	8-Jul	8-Jul	17-Nov	17-Nov	17-Nov	17-Nov	16-Dec	1-Dec	16-Dec	16-Dec	1-Dec
Laboratory Analysis													
Total Suspended Solids (TSS) (mg/l)	<5	5	59.0	6.0	23.0	340.0	96.0	14.0	<5	<5	13.0	26.0	5.0
Carbonate (mg/l)	<2	4.3	<2	<2	<2	<2	<2	<2	54	89.5	136	17.7	323
Bicarbonate (mg/l)	136	137	102	417	116	414	487	442	1070	1180	938	458	404
Chloride (mg/l)	2.19	2.31	14.20	20.60	11.90	18.70	35.30	17.90	9.07	11.50	5.47	5.29	7.14
Sulfate (mg/l)	40.2	41.2	3.6	85.8	3.1	52.3	135.0	77.0	143.0	19.0	1.8	13.3	21.0
Manganese total (Mn) (mg/l)	0.023	0.034	0.091	0.011	0.084	1.710	1.200	1.100	0.052	0.011	0.013	0.034	<0.01
Manganese dissolved (Mn) (mg/l)	<0.01	0.011	<0.01	<0.01	0.058	1.080	0.049	<0.01	0.017	<0.01	<0.01	0.017	<0.01
Calcium (Ca) (mg/l)	48.3	49	14.7	69.5	18.9	89.6	103.0	68.7	11.4	5.4	2.6	<0.008	2.3
Magnesium (Mg) (mg/l)	8.00	8.15	8.12	19.30	9.15	17.40	22.80	18.30	5.01	2.75	0.82	0.31	2.54
Potassium (K) (mg/l)	1.54	1.50	1.74	2.35	1.51	2.75	1.79	2.44	6.98	5.32	2.89	1.42	4.12
Sodium (Na) (mg/l)	6.99	7.55	18.6	111.0	17.9	76.8	149.0	123.0	487	526	417	189	304
Iron (Fe) (mg/l), Total Dissolved	<0.06	<0.06	0.196	0.06	<0.06	0.816	<0.06	<0.06	0.13	<0.06	<0.06	0.161	<0.06
Iron (Fe) (mg/l), Total Recoverable	0.165	0.259	25.60	0.33	10.20	83.30	5.63	0.84	0.88	0.13	0.43	1.79	0.22
Sodium Absorption Rate (SAR)	0.25	0.27	0.98	3.10	0.86	2.00	3.50	3.40	31	47	59	31	33
Total Dissolved Solids (TDS) (mg/l)	216	216	130	592	124	480	754	578	1360	1400	1100	510	826
Hardness (Calculated) (mg/l)	154	156	70	253	85	295	351	247	49	25	10	7	16

Table 4 New Elk Rain Gauge Data									
Date	Rain Fall(in)	Date	Rain Fall(in)	Date	Rain Fall(in)	Date	Rain Fall(in)	Date	Rain Fall(in)
1-Apr	0.0	9-May	0.0	16-Jun	0.0	24-Jul	0.1	31-Aug	0.0
2-Apr	0.0	10-May	0.2	17-Jun	0.0	25-Jul	0.1	1-Sep	0.4
3-Apr	0.0	11-May	0.2	18-Jun	0.0	26-Jul	0.4	2-Sep	0.0
4-Apr	0.0	12-May	0.5	19-Jun	0.0	27-Jul	0.0	3-Sep	0.0
5-Apr	0.0	13-May	0.0	20-Jun	0.0	28-Jul	0.0	4-Sep	0.0
6-Apr	0.0	14-May	0.0	21-Jun	0.0	29-Jul	0.0	5-Sep	0.0
7-Apr	2.0	15-May	0.0	22-Jun	0.0	30-Jul	0.0	6-Sep	0.0
8-Apr	0.0	16-May	0.0	23-Jun	0.0	31-Jul	0.0	7-Sep	0.0
9-Apr	0.0	17-May	0.0	24-Jun	0.0	1-Aug	0.0	8-Sep	0.0
10-Apr	0.0	18-May	2.0	25-Jun	0.0	2-Aug	0.7	9-Sep	0.0
11-Apr	0.0	19-May	0.4	26-Jun	0.0	3-Aug	0.0	10-Sep	0.0
12-Apr	0.0	20-May	0.1	27-Jun	0.0	4-Aug	0.4	11-Sep	0.0
13-Apr	0.0	21-May	0.0	28-Jun	0.7	5-Aug	0.0	12-Sep	0.0
14-Apr	0.0	22-May	0.2	29-Jun	0.1	6-Aug	0.0	13-Sep	0.0
15-Apr	0.0	23-May	0.0	30-Jun	0.2	7-Aug	0.0	14-Sep	0.0
16-Apr	0.0	24-May	0.0	1-Jul	0.2	8-Aug	0.0	15-Sep	0.5
17-Apr	1.5	25-May	0.0	2-Jul	0.1	9-Aug	0.0	16-Sep	0.0
18-Apr	0.0	26-May	0.0	3-Jul	0.1	10-Aug	0.0	17-Sep	0.0
19-Apr	0.0	27-May	0.0	4-Jul	0.5	11-Aug	0.0	18-Sep	0.0
20-Apr	0.0	28-May	0.0	5-Jul	0.3	12-Aug	0.0	19-Sep	0.0
21-Apr	0.0	29-May	0.0	6-Jul	0.0	13-Aug	0.0	20-Sep	0.0
22-Apr	3.0	30-May	0.0	7-Jul	0.0	14-Aug	0.0	21-Sep	0.0
23-Apr	0.0	31-May	0.0	8-Jul	0.0	15-Aug	0.0	22-Sep	0.0
24-Apr	0.0	1-Jun	1.1	9-Jul	0.0	16-Aug	0.4	23-Sep	0.0
25-Apr	0.0	2-Jun	0.0	10-Jul	0.0	17-Aug	0.0	24-Sep	0.0
26-Apr	0.0	3-Jun	0.0	11-Jul	0.0	18-Aug	0.0	25-Sep	0.0
27-Apr	0.0	4-Jun	0.8	12-Jul	0.0	19-Aug	0.0	26-Sep	0.0
28-Apr	0.0	5-Jun	0.0	13-Jul	0.0	20-Aug	0.0	27-Sep	0.0
29-Apr	0.0	6-Jun	0.0	14-Jul	0.0	21-Aug	0.0	28-Sep	0.2
30-Apr	0.0	7-Jun	0.1	15-Jul	0.4	22-Aug	0.0	29-Sep	0.0
1-May	0.0	8-Jun	0.1	16-Jul	0.0	23-Aug	0.0	30-Sep	0.5
2-May	0.0	9-Jun	0.0	17-Jul	0.0	24-Aug	0.0		
3-May	0.0	10-Jun	0.0	18-Jul	0.0	25-Aug	0.0		
4-May	0.2	11-Jun	0.0	19-Jul	0.0	26-Aug	0.0		
5-May	0.0	12-Jun	0.0	20-Jul	0.0	27-Aug	0.1		
6-May	0.0	13-Jun	0.0	21-Jul	0.0	28-Aug	0.0		
7-May	0.0	14-Jun	0.0	22-Jul	0.0	29-Aug	0.0		
8-May	0.0	15-Jun	0.0	23-Jul	1.4	30-Aug	0.0		

Table 27 Hydrologic Monitoring Frequency Requirements

Site	Water level or flow	Field Measurements	Laboratory Analysis	NPDES List
PRS-1	S	S	A	
PRS-1a**	Q	Q	Q	
PRS-4 (aka NE080)	S	S	A	
PRS-4a**	Q (then S)	Q (then S)	Q (then A)	
TH-201	Q			
TH-202	Q			
TH-203	Q			
PAW-1	S	S	S	
PAW-1a**	Q (then s)	Q (then s)	Q (then s)	
PAW-2	S	S	A	
PAW-8	S	S	A	
PAW-9	S	S	S	
NEW-2	S	A	A	
NEW-3	S			
NEW-4	S	A	A	
NE-1-10	S	A	A	
NE-6-10a *	Q	Q	Q	
NE-6-10b *	Q	Q	Q	
NM-20 *	Q	Q	Q	
NM-21 *	Q	Q	Q	
NM-22 *	Q	Q	Q	
NM-23 *	Q	Q	Q	
SF-2 *	Q	Q	Q	
NPDES Stations				
NE 001 (Pond 1)				+
NE 004 (Pond 4)				+
NE 007 (Pond 7)				+
NE 008 (Pond 8)				+
NE 010 (Outfall 10)				+
NE 011				+
NE 012				+

KEY S=Semi annually (2nd and 4th quarters) Q=quarterly A=Annually(4th quarter)

* Monitoring of the wells is suspended while the mine remians inactive, but the full monitoring program will be resumed prior to any resumption of mining.

** Monitor quarterly for one year, then frequency will change as indicated in table +see NPDES permit for frequency and required analysis Note: If the coal shipping faciliteis become active, the Division will be notified in writing and the frequency of monitoring reviewed and increased, if operational parameters warrant.

Table 28 Water Quality Analysis Parameters	
Field Measurments	**Units**
Flow rate/water level	cfs/feet below top of casing
pH	
Conductivity	
Temperature	
Laboratory Analysis (both Surface and FW unless noted)	**Units**
Total Suspended Solids (TSS)	mg/l
Total Dissolved Solids (TDS)	mg/l
Carbonate	mg/l
Bicarbonate	mg/l
Chloride	mg/l
Sulfate	mg/l
Manganese (Mn)	mg/l total and dissovled
Potassium (K)	mg/l
Sodium (Na)	mg/l
Calcium (Ca)	mg/l
Magnesium (Mg)	mg/l
Iron (fe)	mg/l total, diss, total recoverable [1]
Hardness (calculated)	calculated
Sodium Absorption Ratio	unit
Sediment Ponds	
Frequency and analysis in accordance with NPDES permit	
[1] surface water only	

Appendix A

(Field Notes)

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

DATE: 04/09/2021 WEATHER: Clear 47°F 0.0" rainfall

SITE ID	TIME	DEPTH	pH	CONDUCTIVITY	TEMPERATURE	SAMPLE (Y/N)	SAMPLED BY	NOTES
NEW 3	10:20	421.6'	NO	NO	NO	NO	Jim Begeno	Semi Annual Reading

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

DATE: 4-15-21 WEATHER: Cloudy 45°F 0.0 inches

SITE ID	TIME	DEPTH	pH	CONDUCTIVITY	TEMPERATURE	SAMPLE (Y/N)	SAMPLED BY	NOTES
NE-1-10	14:45	305.3'	No	No	No	No	Jim Begeno	semi-annual test

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

Date: 6/4/21 Weather: Clear, 0.8" Rainfall / 24 Hours, 48°F

Site ID	Time	Depth	pH	Conductivity	Temperature Degrees C	Laboratory Sample (Y/N)	Sampled By	Notes
New 2	8:36	346.5	No	No	No	No	NICK MASON	Semi-Annual
New 4	9:42	353.0	No	No	No	No	NICK MASON	Semi-Annual

NEW ELK MINE HYDR[illegible]OGIC MONITORING FIELD REPORT

DATE: 6/22/21 WEATHER: Clear 93°F 0.0" rainfall

SITE ID	TIME	DEPTH	pH	CONDUCTIVITY	TEMPERATURE	SAMPLE (Y/N)	SAMPLED BY	NOTES
PRS1	12:51	593.76 gal/sec	9.1	194.1 µS	15.1°C	No	Jim Begeno	Semi Annual Test
PRS4	13:13	571.77 gal/sec	8.78	195.3 µS	16.4°C	No	Jim Begeno	Semi Annual Test
PAW 8	13:45	33.9'	7.6	116.5 µS	14.8°C	No	Jim Begeno	Semi Annual Test
PAW 2	14:01	16.3'	7.77	894 µS	11.6°C	No	Jim Begeno	Semi Annual Test

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

DATE: July 8, 2021 WEATHER: Clear 84°F 0.3" rainfall/24 Hrs

SITE ID	TIME	DEPTH	pH	CONDUCTIVITY	TEMPERATURE	SAMPLE (Y/N)	SAMPLED BY	NOTES
PAW 1	13:15	7.7'	8.93	257µS	12°C	Yes	Jim Begeno	Samples sent to ACZ Labs. Semi annual test.
PAW 9	13:45	15.2'	8.05	1026µS	11.4°C	Yes	Jim Begeno	Samples sent to ACZ Labs. Semi annual test

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

Date: 11/17/21 Weather: Clear, 0.0" Rainfall / last 24 hours, 63°F

Site ID	Time	Depth	pH	Conductivity	Temperature Degrees C	Laboratory Sample (Y/N)	Sampled By	Notes
Paw 1	12:45	8.0	8.90	276	9.2	Y	Nick Mason	Sample sent to ACZ Labs.
Paw 2	1:00	17.8	7.40	1064	12.0	Y	Nick Mason	Sample sent to ACZ Labs
Paw 8	1:25	33.5	7.23	1302	11.7	Y	Nick Mason	Sample sent to ACZ Labs
Paw 9	1:50	15.5	7.96	1052	12.6	Y	Nick Mason	Sample sent to ACZ Labs

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

DATE: 12-01-21 WEATHER:

SITE ID	TIME	DEPTH	pH	CONDUCTIVITY	TEMPERATURE	SAMPLE (Y/N)	SAMPLED BY	NOTES
NEW 4	12:36	348.7	8.25	2.18 mS	18.8°C	Yes	Vince Massaroffi	Samples sent to ACZ Labs
NE-1-10	13:10	304.9	10.98	1408 uS	12.1°C	Yes	Vince Massaroffi	Samples sent to ACZ Labs

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

DATE: 12-16-2021 WEATHER: SUNNY 70° F

SITE ID	TIME	DEPTH	pH	CONDUCTIVITY	TEMPERATURE	SAMPLE (Y/N)	SAMPLED BY	NOTES
NEW 3	11:15	421.6'	No	No	No	No		
NE-6-10-A	12:30	663.85'	9.11	1733 µS	21.7°C	Yes	Vince Massarotti	Samples sent to ACZ Labs
NE-6-10-B	13:04	370.4'	8.35	836 µS	17.7°C	Yes	Vince Massarotti	Samples sent to ACZ Labs
New 2	13:46	341.7'	8.16	2.16 mS	15.7°C	Yes	Vince Massarotti	Samples sent to ACZ Labs

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

DATE: 12-20-2021 WEATHER: Sunny 62°F

SITE ID	TIME	DEPTH	pH	CONDUCTIVITY	TEMPERATURE	SAMPLE (Y/N)	SAMPLED BY	NOTES
PRS 1	14:00	73.74 gal/sec	8.85	382	1.2°C	Yes	Vince Masserotti	Sample sent to ACZ Labs
PRS 4	14:32	92.38 gal/sec	8.67	403	1.7°C	Yes	Vince Masserotti	Sample sent to ACZ Labs

Appendix B

(Lab Analytics)

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

Analytical Report

August 02, 2021

Report to:
Jim Begano
New Elk Coal Co. , LLC
12250 Hwy. 12
Weston, CO 81091

cc: Nick Mason

Bill to:
Accounts Payable
New Elk Coal Co. , LLC
12250 Highway 12
Weston, CO 81091

Project ID:
ACZ Project ID: L67040

Jim Begano:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 12, 2021. This project has been assigned to ACZ's project number, L67040. 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 L67040. 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 September 01, 2021. 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.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

New Elk Coal Co. , LLC
Project ID:
Sample ID: PAW 1

ACZ Sample ID: ***L67040-01***
Date Sampled: *07/08/21 13:15*
Date Received: *07/12/21*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002-31.5.31 (2009)								07/14/21 11:09	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								07/18/21 14:43	kja
Total Hot Plate Digestion	M200.2 ICP								07/18/21 14:48	kja
Total Recoverable Digestion	M200.2 ICP-MS								07/19/21 16:00	mfm
Total Recoverable Digestion	M200.2 ICP								07/20/21 13:31	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00123			mg/L	0.0002	0.001	07/21/21 16:49	mfm
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	07/20/21 3:37	kja
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	07/18/21 12:14	jlw
Calcium, dissolved	M200.7 ICP	1	14.7			mg/L	0.1	0.5	07/20/21 17:23	kja
Chromium, total recoverable	M200.8 ICP-MS	1	0.00083	B		mg/L	0.0005	0.002	07/21/21 16:49	mfm
Copper, potentially dissolved	M200.7 ICP	1	0.430			mg/L	0.01	0.05	07/18/21 12:14	jlw
Iron, dissolved	M200.7 ICP	1	0.196			mg/L	0.06	0.15	07/20/21 17:23	kja
Iron, total	M200.7 ICP	1	20.9		*	mg/L	0.06	0.15	07/20/21 3:37	kja
Iron, total recoverable	M200.7 ICP	1	25.6		*	mg/L	0.06	0.15	07/21/21 11:16	kja
Magnesium, dissolved	M200.7 ICP	1	8.12			mg/L	0.2	1	07/20/21 17:23	kja
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	07/20/21 17:23	kja
Manganese, potentially dissolved	M200.7 ICP	1	0.045	B		mg/L	0.01	0.05	07/18/21 12:14	jlw
Manganese, total	M200.7 ICP	1	0.091			mg/L	0.01	0.05	07/20/21 3:37	kja
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	07/27/21 10:12	mlh
Potassium, dissolved	M200.7 ICP	1	1.74			mg/L	0.2	1	07/20/21 17:23	kja
Sodium, dissolved	M200.7 ICP	1	18.6			mg/L	0.2	1	07/20/21 17:23	kja
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	07/18/21 12:14	jlw

New Elk Coal Co. , LLC
Project ID:
Sample ID: PAW 1

ACZ Sample ID: ***L67040-01***
Date Sampled: *07/08/21 13:15*
Date Received: *07/12/21*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	102		*	mg/L	2	20	07/22/21 0:00	eep
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	07/22/21 0:00	eep
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	07/22/21 0:00	eep
Total Alkalinity		1	102		*	mg/L	2	20	07/22/21 0:00	eep
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.2			%			08/02/21 0:00	calc
Sum of Anions			2.5			meq/L			08/02/21 0:00	calc
Sum of Cations			2.3			meq/L			08/02/21 0:00	calc
Chloride	SM4500Cl-E	1	14.2		*	mg/L	0.5	2	07/29/21 9:59	syw
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		70			mg/L	0.2	5	08/02/21 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							07/19/21 13:48	cgm
Residue, Filterable (TDS) @180C	SM2540C	1	130		*	mg/L	20	40	07/14/21 16:11	jck
Residue, Non-Filterable (TSS) @105C	SM2540D	1	59.0		*	mg/L	5	20	07/13/21 14:41	cgm
Sodium Adsorption Ratio in Water	USGS - I1738-78		0.98						08/02/21 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	3.6	B	*	mg/L	1	5	07/26/21 11:06	syw

New Elk Coal Co. , LLC
Project ID:
Sample ID: PAW 9

ACZ Sample ID: ***L67040-02***
Date Sampled: *07/08/21 13:45*
Date Received: *07/12/21*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002-31.5.31 (2009)								07/14/21 11:28	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								07/18/21 14:43	kja
Total Hot Plate Digestion	M200.2 ICP								07/18/21 16:08	kja
Total Recoverable Digestion	M200.2 ICP-MS								07/19/21 16:00	mfm
Total Recoverable Digestion	M200.2 ICP								07/20/21 14:13	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	07/21/21 16:51	mfm
Boron, total	M200.7 ICP	1	0.034	B		mg/L	0.03	0.1	07/20/21 3:46	kja
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	07/18/21 12:17	jlw
Calcium, dissolved	M200.7 ICP	1	69.5			mg/L	0.1	0.5	07/20/21 17:32	kja
Chromium, total recoverable	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	07/21/21 16:51	mfm
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	07/18/21 12:17	jlw
Iron, dissolved	M200.7 ICP	1	0.060	B		mg/L	0.06	0.15	07/20/21 17:32	kja
Iron, total	M200.7 ICP	1	0.295		*	mg/L	0.06	0.15	07/20/21 3:46	kja
Iron, total recoverable	M200.7 ICP	1	0.330			mg/L	0.06	0.15	07/21/21 11:25	kja
Magnesium, dissolved	M200.7 ICP	1	19.3			mg/L	0.2	1	07/20/21 17:32	kja
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	07/20/21 17:32	kja
Manganese, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	07/18/21 12:17	jlw
Manganese, total	M200.7 ICP	1	0.011	B		mg/L	0.01	0.05	07/20/21 3:46	kja
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	07/27/21 10:15	mlh
Potassium, dissolved	M200.7 ICP	1	2.35			mg/L	0.2	1	07/20/21 17:32	kja
Sodium, dissolved	M200.7 ICP	1	111			mg/L	0.2	1	07/20/21 17:32	kja
Zinc, potentially dissolved	M200.7 ICP	1	0.022	B		mg/L	0.02	0.05	07/18/21 12:17	jlw

New Elk Coal Co. , LLC
Project ID:
Sample ID: PAW 9

ACZ Sample ID: ***L67040-02***
Date Sampled: *07/08/21 13:45*
Date Received: *07/12/21*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	417		*	mg/L	2	20	07/22/21 0:00	eep
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	07/22/21 0:00	eep
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	07/22/21 0:00	eep
Total Alkalinity		1	417		*	mg/L	2	20	07/22/21 0:00	eep
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.8			%			08/02/21 0:00	calc
Sum of Anions			11			meq/L			08/02/21 0:00	calc
Sum of Cations			10.0			meq/L			08/02/21 0:00	calc
Chloride	SM4500Cl-E	1	20.6		*	mg/L	0.5	2	07/29/21 9:59	syw
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		253			mg/L	0.2	5	08/02/21 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							07/19/21 13:50	cgm
Residue, Filterable (TDS) @180C	SM2540C	1	592		*	mg/L	20	40	07/14/21 16:14	jck
Residue, Non-Filterable (TSS) @105C	SM2540D	1	6.0	B	*	mg/L	5	20	07/13/21 14:44	cgm
Sodium Adsorption Ratio in Water	USGS - I1738-78		3.1						08/02/21 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	85.8		*	mg/L	5	25	07/26/21 11:14	syw

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:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

New Elk Coal Co. , LLC ACZ Project ID: ***L67040***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67040-01	WG523769	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG524205	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG523769	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG523559	Iron, total	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.
	WG523690	Iron, total recoverable	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.
	WG523232	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG523109	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG523976	Sulfate	D516-02/-07/-11 - 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.
			D516-02/-07/-11 - TURBIDIMETRIC	Q6	Sample was received above recommended temperature.
	WG523769	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

New Elk Coal Co. , LLC ACZ Project ID: ***L67040***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67040-02	WG523769	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG524205	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
			SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG523769	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG523559	Iron, total	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.
	WG523232	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG523109	Residue, Non-Filterable (TSS) @105C	SM2540D	Q6	Sample was received above recommended temperature.
			SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG523976	Sulfate	D516-02/-07/-11 - 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.
			D516-02/-07/-11 - TURBIDIMETRIC	Q6	Sample was received above recommended temperature.
	WG523769	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Certification Qualifiers

New Elk Coal Co. , LLC

ACZ Project ID: ***L67040***

No certification qualifiers associated with this analysis

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

Sample Receipt

New Elk Coal Co. , LLC

ACZ Project ID: L67040
Date Received: 07/12/2021 12:55
Received By:
Date Printed: 7/13/2021

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form 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 form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form 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 form 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		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
6863	17.1	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

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 Coal Co. , LLC

ACZ Project ID:	L67040
Date Received:	07/12/2021 12:55
Received By:	
Date Printed:	7/13/2021

[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. L67040C

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

CHAIN of CUSTODY

Report to:

Name: Jim Begano	Address: 12250 Colo Hwy 12
Company: New Elk Coal Co	Weston, Colo 81091
E-mail: jimb@newelkcoal.com	Telephone: 719-631-6143

Copy of Report to:

Name: Nick Mason	E-mail: nmason@newelkcoal.co.
Company: New Elk Coal Co.	Telephone: 719-631-6146

Invoice to:

Name: Mary Sandoval	Address: 12250 Colo Hwy 12
Company: New Elk Coal Co.	Weston, Colo 81091
E-mail: mary@newelkcoal.com	Telephone: 719-631-6142

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 [X] 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 [X]

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

Sampler's Name: Jim Begano **Sampler's Site Information** State Colo Zip code 81091 Time Zone M.D.T.

***Sampler's Signature:** Jim Begano

*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 #: Table 28-GW-QTR

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 28-GW-QTR
PAW 1	7/8/21 13:15	GW	6	
PAW 9	7/8/21 13:45	GW	6	

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
Sample Bottles
Paper Work
Ice Bottles

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Jim Begano Jim Begano	7/8/21 16:00		7/12/21 1255

L67040 Chain of Custod

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

Analytical Report

December 07, 2021

Report to:
Jim Begano
New Elk Coal Co. , LLC
12250 Hwy. 12
Weston, CO 81091

cc: Nick Mason

Bill to:
Accounts Payable
New Elk Coal Co. , LLC
12250 Highway 12
Weston, CO 81091

Project ID:
ACZ Project ID: L69988

Jim Begano:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on November 18, 2021. This project has been assigned to ACZ's project number, L69988. 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 L69988. 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 January 06, 2022. 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 Coal Co. , LLC

December 07, 2021

Project ID:
ACZ Project ID: L69988

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 groundwater samples from New Elk Coal Co. , LLC on November 18, 2021. 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 L69988. 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. TDS (N1) - Oven range is 80 C to 91 C. Over the weekend, the oven had a minor low temperature out of range. When the oven temperature was checked on Monday 11/29/21, the minimum temperature read at 69.7 C. The WG was removed from the oven on 11/29/21 when the oven was back in range.

New Elk Coal Co. , LLC
Project ID:
Sample ID: PAW 1

ACZ Sample ID: ***L69988-01***
Date Sampled: *11/17/21 12:45*
Date Received: *11/18/21*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002-31.5.31 (2009)								10/20/21 9:49	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								11/23/21 12:51	kja
Total Hot Plate Digestion	M200.2 ICP				*				12/01/21 14:23	kja
Total Recoverable Digestion	M200.2 ICP-MS								11/24/21 9:00	mfm
Total Recoverable Digestion	M200.2 ICP								12/01/21 17:47	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00051	B		mg/L	0.0002	0.001	11/30/21 18:16	bsu
Boron, total	M200.7 ICP	2	<0.06	U		mg/L	0.06	0.2	12/02/21 20:12	kja
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	11/22/21 15:13	kja
Calcium, dissolved	M200.7 ICP	1	18.9			mg/L	0.1	0.5	11/29/21 16:29	kja
Chromium, total recoverable	M200.8 ICP-MS	1	0.00113	B		mg/L	0.0005	0.002	11/30/21 18:16	bsu
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	11/22/21 15:13	kja
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	11/29/21 16:29	kja
Iron, total	M200.7 ICP	2	10.9			mg/L	0.12	0.3	12/02/21 20:12	kja
Iron, total recoverable	M200.7 ICP	1	10.2			mg/L	0.06	0.15	12/02/21 17:27	kja
Magnesium, dissolved	M200.7 ICP	1	9.15			mg/L	0.2	1	11/29/21 16:29	kja
Manganese, dissolved	M200.7 ICP	1	0.012	B		mg/L	0.01	0.05	11/29/21 16:29	kja
Manganese, potentially dissolved	M200.7 ICP	1	0.058			mg/L	0.01	0.05	11/22/21 15:13	kja
Manganese, total	M200.7 ICP	2	0.084	B		mg/L	0.02	0.1	12/02/21 20:12	kja
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	11/23/21 15:04	mlh
Potassium, dissolved	M200.7 ICP	1	1.51			mg/L	0.2	1	11/29/21 16:29	kja
Sodium, dissolved	M200.7 ICP	1	17.9			mg/L	0.2	1	11/29/21 16:29	kja
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	11/22/21 15:13	kja

New Elk Coal Co. , LLC
Project ID:
Sample ID: PAW 1

ACZ Sample ID: ***L69988-01***
Date Sampled: *11/17/21 12:45*
Date Received: *11/18/21*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	116			mg/L	2	20	11/24/21 0:00	eep
Carbonate as CaCO3		1	<2	U		mg/L	2	20	11/24/21 0:00	eep
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	11/24/21 0:00	eep
Total Alkalinity		1	116			mg/L	2	20	11/24/21 0:00	eep
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.8			%			12/07/21 0:00	calc
Sum of Anions			2.7			meq/L			12/07/21 0:00	calc
Sum of Cations			2.5			meq/L			12/07/21 0:00	calc
Chloride	SM4500Cl-E	1	11.9		*	mg/L	0.5	2	12/01/21 14:30	md
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		85			mg/L	0.2	5	12/07/21 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							11/30/21 7:06	mlh
Residue, Filterable (TDS) @180C	SM2540C	1	124			mg/L	20	40	11/22/21 16:13	anc
Residue, Non-Filterable (TSS) @105C	SM2540D	1	23.0		*	mg/L	5	20	11/22/21 16:20	scd
Sodium Adsorption Ratio in Water	USGS - I1738-78		0.86						12/07/21 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	3.1	B	*	mg/L	1	5	12/03/21 12:32	wtc

New Elk Coal Co. , LLC
Project ID:
Sample ID: PAW 2

ACZ Sample ID: ***L69988-02***
Date Sampled: *11/17/21 13:00*
Date Received: *11/18/21*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002-31.5.31 (2009)								10/20/21 9:55	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								11/23/21 12:51	kja
Total Hot Plate Digestion	M200.2 ICP								12/01/21 14:36	kja
Total Recoverable Digestion	M200.2 ICP-MS								11/24/21 9:00	mfm
Total Recoverable Digestion	M200.2 ICP								12/01/21 18:28	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00641			mg/L	0.0002	0.001	11/30/21 18:18	bsu
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	12/02/21 20:16	kja
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	11/22/21 15:29	kja
Calcium, dissolved	M200.7 ICP	1	89.6			mg/L	0.1	0.5	11/29/21 16:32	kja
Chromium, total recoverable	M200.8 ICP-MS	1	0.0156			mg/L	0.0005	0.002	11/30/21 18:18	bsu
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	11/22/21 15:29	kja
Iron, dissolved	M200.7 ICP	1	0.816			mg/L	0.06	0.15	11/29/21 16:32	kja
Iron, total	M200.7 ICP	1	91.3			mg/L	0.06	0.15	12/02/21 20:16	kja
Iron, total recoverable	M200.7 ICP	1	83.3			mg/L	0.06	0.15	12/02/21 17:42	kja
Magnesium, dissolved	M200.7 ICP	1	17.4			mg/L	0.2	1	11/29/21 16:32	kja
Manganese, dissolved	M200.7 ICP	1	1.08			mg/L	0.01	0.05	11/29/21 16:32	kja
Manganese, potentially dissolved	M200.7 ICP	1	1.39			mg/L	0.01	0.05	11/22/21 15:29	kja
Manganese, total	M200.7 ICP	1	1.71			mg/L	0.01	0.05	12/02/21 20:16	kja
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	11/23/21 15:05	mlh
Potassium, dissolved	M200.7 ICP	1	2.75			mg/L	0.2	1	11/29/21 16:32	kja
Sodium, dissolved	M200.7 ICP	1	76.8			mg/L	0.2	1	11/29/21 16:32	kja
Zinc, potentially dissolved	M200.7 ICP	1	0.042	B		mg/L	0.02	0.05	11/22/21 15:29	kja

New Elk Coal Co. , LLC
Project ID:
Sample ID: PAW 2

ACZ Sample ID: ***L69988-02***
Date Sampled: *11/17/21 13:00*
Date Received: *11/18/21*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	414			mg/L	2	20	11/24/21 0:00	eep
Carbonate as CaCO3		1	<2	U		mg/L	2	20	11/24/21 0:00	eep
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	11/24/21 0:00	eep
Total Alkalinity		1	414		*	mg/L	2	20	11/24/21 0:00	eep
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.1			%			12/07/21 0:00	calc
Sum of Anions			9.9			meq/L			12/07/21 0:00	calc
Sum of Cations			9.5			meq/L			12/07/21 0:00	calc
Chloride	SM4500Cl-E	1	18.7		*	mg/L	0.5	2	12/01/21 14:30	md
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		295			mg/L	0.2	5	12/07/21 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							11/30/21 7:09	mlh
Residue, Filterable (TDS) @180C	SM2540C	2	480		*	mg/L	40	80	11/24/21 11:11	anc
Residue, Non-Filterable (TSS) @105C	SM2540D	2	340		*	mg/L	10	40	11/22/21 16:22	scd
Sodium Adsorption Ratio in Water	USGS - I1738-78		2.0						12/07/21 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	52.3		*	mg/L	5	25	12/03/21 12:59	wtc

New Elk Coal Co. , LLC
Project ID:
Sample ID: PAW 8

ACZ Sample ID: ***L69988-03***
Date Sampled: *11/17/21 13:25*
Date Received: *11/18/21*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002-31.5.31 (2009)								10/20/21 10:01	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								11/23/21 12:51	kja
Total Hot Plate Digestion	M200.2 ICP								12/01/21 14:50	kja
Total Recoverable Digestion	M200.2 ICP-MS								11/24/21 9:00	mfm
Total Recoverable Digestion	M200.2 ICP								12/01/21 18:41	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00044	B		mg/L	0.0002	0.001	11/30/21 18:20	bsu
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	12/02/21 20:19	kja
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	11/22/21 15:32	kja
Calcium, dissolved	M200.7 ICP	1	103			mg/L	0.1	0.5	11/29/21 16:35	kja
Chromium, total recoverable	M200.8 ICP-MS	1	0.00487			mg/L	0.0005	0.002	11/30/21 18:20	bsu
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	11/22/21 15:32	kja
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	11/29/21 16:35	kja
Iron, total	M200.7 ICP	1	5.79			mg/L	0.06	0.15	12/02/21 20:19	kja
Iron, total recoverable	M200.7 ICP	1	5.63			mg/L	0.06	0.15	12/02/21 17:45	kja
Magnesium, dissolved	M200.7 ICP	1	22.8			mg/L	0.2	1	11/29/21 16:35	kja
Manganese, dissolved	M200.7 ICP	1	0.049	B		mg/L	0.01	0.05	11/29/21 16:35	kja
Manganese, potentially dissolved	M200.7 ICP	1	0.848			mg/L	0.01	0.05	11/22/21 15:32	kja
Manganese, total	M200.7 ICP	1	1.20			mg/L	0.01	0.05	12/02/21 20:19	kja
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	11/23/21 15:06	mlh
Potassium, dissolved	M200.7 ICP	1	1.79			mg/L	0.2	1	11/29/21 16:35	kja
Sodium, dissolved	M200.7 ICP	1	149			mg/L	0.2	1	11/29/21 16:35	kja
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	11/22/21 15:32	kja

New Elk Coal Co. , LLC
Project ID:
Sample ID: PAW 8

ACZ Sample ID: ***L69988-03***
Date Sampled: *11/17/21 13:25*
Date Received: *11/18/21*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	487			mg/L	2	20	11/24/21 0:00	eep
Carbonate as CaCO3		1	<2	U		mg/L	2	20	11/24/21 0:00	eep
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	11/24/21 0:00	eep
Total Alkalinity		1	487			mg/L	2	20	11/24/21 0:00	eep
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			12/07/21 0:00	calc
Sum of Anions			14			meq/L			12/07/21 0:00	calc
Sum of Cations			14			meq/L			12/07/21 0:00	calc
Chloride	SM4500Cl-E	1	35.3		*	mg/L	0.5	2	12/01/21 14:30	md
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		351			mg/L	0.2	5	12/07/21 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							11/30/21 7:12	mlh
Residue, Filterable (TDS) @180C	SM2540C	1	754		*	mg/L	20	40	11/24/21 11:13	anc
Residue, Non-Filterable (TSS) @105C	SM2540D	1	96.0		*	mg/L	5	20	11/22/21 16:24	scd
Sodium Adsorption Ratio in Water	USGS - I1738-78		3.5						12/07/21 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	135		*	mg/L	5	25	12/03/21 12:59	wtc

New Elk Coal Co. , LLC
Project ID:
Sample ID: PAW 9

ACZ Sample ID: ***L69988-04***
Date Sampled: *11/17/21 13:50*
Date Received: *11/18/21*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002-31.5.31 (2009)								10/20/21 10:06	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								11/23/21 12:51	kja
Total Hot Plate Digestion	M200.2 ICP								12/01/21 15:04	kja
Total Recoverable Digestion	M200.2 ICP-MS								11/24/21 9:00	mfm
Total Recoverable Digestion	M200.2 ICP								12/01/21 18:55	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	11/30/21 18:21	bsu
Boron, total	M200.7 ICP	1	0.030	B		mg/L	0.03	0.1	12/02/21 20:22	kja
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	11/22/21 15:36	kja
Calcium, dissolved	M200.7 ICP	1	68.7			mg/L	0.1	0.5	11/29/21 16:38	kja
Chromium, total recoverable	M200.8 ICP-MS	1	0.00189	B		mg/L	0.0005	0.002	11/30/21 18:21	bsu
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	11/22/21 15:36	kja
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	11/29/21 16:38	kja
Iron, total	M200.7 ICP	1	0.903			mg/L	0.06	0.15	12/02/21 20:22	kja
Iron, total recoverable	M200.7 ICP	1	0.840			mg/L	0.06	0.15	12/02/21 17:48	kja
Magnesium, dissolved	M200.7 ICP	1	18.3			mg/L	0.2	1	11/29/21 16:38	kja
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	11/29/21 16:38	kja
Manganese, potentially dissolved	M200.7 ICP	1	0.491			mg/L	0.01	0.05	11/22/21 15:36	kja
Manganese, total	M200.7 ICP	1	1.10			mg/L	0.01	0.05	12/02/21 20:22	kja
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	11/23/21 15:08	mlh
Potassium, dissolved	M200.7 ICP	1	2.44			mg/L	0.2	1	11/29/21 16:38	kja
Sodium, dissolved	M200.7 ICP	1	123			mg/L	0.2	1	11/29/21 16:38	kja
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	11/22/21 15:36	kja

New Elk Coal Co. , LLC
Project ID:
Sample ID: PAW 9

ACZ Sample ID: ***L69988-04***
Date Sampled: *11/17/21 13:50*
Date Received: *11/18/21*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	442			mg/L	2	20	11/24/21 0:00	eep
Carbonate as CaCO3		1	<2	U		mg/L	2	20	11/24/21 0:00	eep
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	11/24/21 0:00	eep
Total Alkalinity		1	442			mg/L	2	20	11/24/21 0:00	eep
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.8			%			12/07/21 0:00	calc
Sum of Anions			11.0			meq/L			12/07/21 0:00	calc
Sum of Cations			10			meq/L			12/07/21 0:00	calc
Chloride	SM4500Cl-E	1	17.9		*	mg/L	0.5	2	12/01/21 14:31	md
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		247			mg/L	0.2	5	12/07/21 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							11/30/21 7:14	mlh
Residue, Filterable (TDS) @180C	SM2540C	1	578		*	mg/L	20	40	11/24/21 11:16	anc
Residue, Non-Filterable (TSS) @105C	SM2540D	1	14.0	B	*	mg/L	5	20	11/22/21 16:26	scd
Sodium Adsorption Ratio in Water	USGS - I1738-78		3.4						12/07/21 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	77.0		*	mg/L	5	25	12/03/21 13:01	wtc

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:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

New Elk Coal Co. , LLC ACZ Project ID: ***L69988***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L69988-01	WG532680	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG532278	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG532877	Sulfate	D516-02/-07/-11 - 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.
			D516-02/-07/-11 - TURBIDIMETRIC	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG532696	Total Hot Plate Digestion	M200.2 ICP	DJ	Sample dilution required due to insufficient sample.
L69988-02	WG532680	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG532405	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
	WG532278	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG532877	Sulfate	D516-02/-07/-11 - 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.
			D516-02/-07/-11 - TURBIDIMETRIC	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG532365	Total Alkalinity	SM2320B - Titration	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
L69988-03	WG532680	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG532405	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
	WG532278	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG532877	Sulfate	D516-02/-07/-11 - 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.
			D516-02/-07/-11 - TURBIDIMETRIC	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
L69988-04	WG532680	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG532405	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
	WG532278	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG532877	Sulfate	D516-02/-07/-11 - 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.
			D516-02/-07/-11 - TURBIDIMETRIC	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Certification Qualifiers

New Elk Coal Co. , LLC

ACZ Project ID: ***L69988***

No certification qualifiers associated with this analysis

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

Sample Receipt

New Elk Coal Co. , LLC

ACZ Project ID: L69988
Date Received: 11/18/2021 10:42
Received By:
Date Printed: 11/19/2021

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form 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 form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		

A change was made in the PO# and # of Containers section prior to ACZ custody.

A change was made in the PO# and # of Containers section prior to ACZ custody.

A change was made in the PO# and # of Containers section prior to ACZ custody.

A change was made in the PO# and # of Containers section prior to ACZ custody.

A change was made in the PO# and # of Containers 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 form 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		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

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

Sample Receipt

New Elk Coal Co. , LLC

ACZ Project ID: L69988
Date Received: 11/18/2021 10:42
Received By:
Date Printed: 11/19/2021

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
6511	4.7	<=6.0	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.

[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. L 69988

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

CHAIN of CUSTODY

Report to:

Name: James F Begano	Address: 12250 State Hwy 12 Weston CO 81091
Company: New Elk Coal Co	Telephone: 719-631-6143
E-mail: jimb@newelkcoal.com	

Copy of Report to:

Name: Nick Mason	E-mail: nmason@newelkcoal.com
Company: New Elk Coal Co.	Telephone: 719-631-6146

Invoice to:

Name: Mary Head	Address: 12250 State Hwy 12 Weston, CO 81091
Company: New Elk Coal Co.	Telephone: 719-631-6142
E-mail: mary@newelkcoal.com	

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 [X] 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 [X]

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

Sampler's Name: _____ **Sampler's Site Information** State Colo. Zip code 81091 Time Zone MDT

***Sampler's Signature:** _____

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

PROJECT INFORMATION

Quote #: Table 28-GW-Qtr.

PO#: GWQB

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 28-GW-QTR
PAW 1	11/17/21 12:45	GW	~~QB~~ 5	
PAW 2	11/17/21 13:00	GW	~~QB~~ 5	
PAW 8	11/17/21 13:25	GW	~~QB~~ 5	
PAW 9	11/17/21 13:50	GW	6	

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
SAMPLE Bottles
Ice Bottles
Paper Work

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
James F Begano	11/17/21 15:15		11/18/21 1042

L69988 Chain of Custod

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

Analytical Report

December 15, 2021

Report to:
Jim Begano
New Elk Coal Co. , LLC
12250 Hwy. 12
Weston, CO 81091

cc: Nick Mason

Bill to:
Mary Head
New Elk Coal Co. , LLC
12250 US HWY 12
Weston, CO 81091

Project ID:
ACZ Project ID: L70198

Jim Begano:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 02, 2021. This project has been assigned to ACZ's project number, L70198. 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 L70198. 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 January 14, 2022. 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 Coal Co. , LLC
Project ID:
Sample ID: NEW 4

ACZ Sample ID: ***L70198-01***
Date Sampled: *12/01/21 12:36*
Date Received: *12/02/21*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002-31.5.31 (2009)								12/05/21 9:13	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/08/21 12:09	mlh
Total Hot Plate Digestion	M200.2 ICP								12/09/21 16:21	aeh
Total Recoverable Digestion	M200.2 ICP-MS								12/08/21 18:00	mfm
Total Recoverable Digestion	M200.2 ICP								12/08/21 19:37	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	12/10/21 14:35	mfm
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	12/11/21 0:14	kja
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	12/06/21 18:57	jlw
Calcium, dissolved	M200.7 ICP	1	5.39			mg/L	0.1	0.5	12/09/21 16:00	kja
Chromium, total recoverable	M200.8 ICP-MS	1	0.00123	B		mg/L	0.0005	0.002	12/10/21 14:35	mfm
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	12/06/21 18:57	jlw
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	12/09/21 16:00	kja
Iron, total	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	12/11/21 0:14	kja
Iron, total recoverable	M200.7 ICP	1	0.129	B		mg/L	0.06	0.15	12/09/21 21:03	kja
Magnesium, dissolved	M200.7 ICP	1	2.75			mg/L	0.2	1	12/09/21 16:00	kja
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	12/09/21 16:00	kja
Manganese, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	12/06/21 18:57	jlw
Manganese, total	M200.7 ICP	1	0.011	B		mg/L	0.01	0.05	12/11/21 0:14	kja
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/07/21 15:48	mlh
Potassium, dissolved	M200.7 ICP	1	5.32			mg/L	0.2	1	12/09/21 16:00	kja
Sodium, dissolved	M200.7 ICP	1	526			mg/L	0.2	1	12/09/21 16:00	kja
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	12/06/21 18:57	jlw

New Elk Coal Co. , LLC
Project ID:
Sample ID: NEW 4

ACZ Sample ID: ***L70198-01***
Date Sampled: *12/01/21 12:36*
Date Received: *12/02/21*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	1180			mg/L	2	20	12/07/21 0:00	jck
Carbonate as CaCO3		1	89.5			mg/L	2	20	12/07/21 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/07/21 0:00	jck
Total Alkalinity		1	1270			mg/L	2	20	12/07/21 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.0			%			12/15/21 0:00	calc
Sum of Anions			26			meq/L			12/15/21 0:00	calc
Sum of Cations			24			meq/L			12/15/21 0:00	calc
Chloride	SM4500Cl-E	1	11.5		*	mg/L	0.5	2	12/13/21 14:57	md
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		25			mg/L	0.2	5	12/15/21 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/06/21 12:16	mlh
Residue, Filterable (TDS) @180C	SM2540C	1	1400			mg/L	20	40	12/03/21 11:21	scd
Residue, Non-Filterable (TSS) @105C	SM2540D	1	<5	U	*	mg/L	5	20	12/07/21 13:17	anc
Sodium Adsorption Ratio in Water	USGS - I1738-78		47						12/15/21 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	19.0		*	mg/L	1	5	12/08/21 21:31	mjj1

New Elk Coal Co. , LLC
Project ID:
Sample ID: NE-1-10

ACZ Sample ID: ***L70198-02***
Date Sampled: *12/01/21 13:10*
Date Received: *12/02/21*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002-31.5.31 (2009)								12/05/21 9:21	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/08/21 12:09	mlh
Total Hot Plate Digestion	M200.2 ICP								12/09/21 16:35	aeh
Total Recoverable Digestion	M200.2 ICP-MS								12/08/21 18:00	mfm
Total Recoverable Digestion	M200.2 ICP								12/08/21 20:19	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.0117			mg/L	0.0002	0.001	12/10/21 14:37	mfm
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	12/11/21 0:17	kja
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	12/06/21 19:01	jlw
Calcium, dissolved	M200.7 ICP	1	2.32			mg/L	0.1	0.5	12/09/21 16:09	kja
Chromium, total recoverable	M200.8 ICP-MS	1	0.00261			mg/L	0.0005	0.002	12/10/21 14:37	mfm
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	12/06/21 19:01	jlw
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	12/09/21 16:09	kja
Iron, total	M200.7 ICP	1	0.178			mg/L	0.06	0.15	12/11/21 0:17	kja
Iron, total recoverable	M200.7 ICP	1	0.220			mg/L	0.06	0.15	12/09/21 21:13	kja
Magnesium, dissolved	M200.7 ICP	1	2.54			mg/L	0.2	1	12/09/21 16:09	kja
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	12/09/21 16:09	kja
Manganese, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	12/06/21 19:01	jlw
Manganese, total	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	12/11/21 0:17	kja
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/07/21 15:49	mlh
Potassium, dissolved	M200.7 ICP	1	4.12			mg/L	0.2	1	12/09/21 16:09	kja
Sodium, dissolved	M200.7 ICP	1	304			mg/L	0.2	1	12/09/21 16:09	kja
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	12/06/21 19:01	jlw

New Elk Coal Co. , LLC
Project ID:
Sample ID: NE-1-10

ACZ Sample ID: ***L70198-02***
Date Sampled: *12/01/21 13:10*
Date Received: *12/02/21*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	404			mg/L	2	20	12/07/21 0:00	jck
Carbonate as CaCO3		1	323			mg/L	2	20	12/07/21 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/07/21 0:00	jck
Total Alkalinity		1	727			mg/L	2	20	12/07/21 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.4			%			12/15/21 0:00	calc
Sum of Anions			15			meq/L			12/15/21 0:00	calc
Sum of Cations			14			meq/L			12/15/21 0:00	calc
Chloride	SM4500Cl-E	1	7.14		*	mg/L	0.5	2	12/13/21 14:57	md
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		16			mg/L	0.2	5	12/15/21 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/06/21 12:28	mlh
Residue, Filterable (TDS) @180C	SM2540C	1	826			mg/L	20	40	12/03/21 11:22	scd
Residue, Non-Filterable (TSS) @105C	SM2540D	1	5.0	B	*	mg/L	5	20	12/07/21 13:20	anc
Sodium Adsorption Ratio in Water	USGS - I1738-78		33						12/15/21 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	21.0		*	mg/L	1	5	12/08/21 21:33	mjj1

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:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

Inorganic Extended Qualifier Report

New Elk Coal Co. , LLC

ACZ Project ID: ***L70198***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L70198-01	WG533446	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG533080	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG533214	Sulfate	D516-02/-07/-11 - 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.
L70198-02	WG533446	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG533080	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG533214	Sulfate	D516-02/-07/-11 - 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.

Certification Qualifiers

New Elk Coal Co. , LLC

ACZ Project ID: ***L70198***

No certification qualifiers associated with this analysis

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

Sample Receipt

New Elk Coal Co. , LLC

ACZ Project ID: L70198
Date Received: 12/02/2021 11:58
Received By:
Date Printed: 12/3/2021

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form 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 form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form 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 form 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		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
5316	1	<=6.0	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 Coal Co. , LLC

ACZ Project ID:	L70198
Date Received:	12/02/2021 11:58
Received By:	
Date Printed:	12/3/2021

[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. L70198

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

CHAIN of CUSTODY

Report to:

Name: Jim Begano	Address: 12250 State Hwy 12
Company: New Elk Coal Co.	Weston, Colo. 81091
E-mail: jimb@newelkcoal.com	Telephone: 719-631-6143

Copy of Report to:

Name: Nick Mason	E-mail: nmason@newelkcoal.com
Company: New Elk Coal Co.	Telephone: 719-631-6146

Invoice to:

Name: Mary Head	Address: 12250 State Hwy 12
Company: New Elk Coal Co.	Weston, Colo 81091
E-mail: mary@newelkcoal.com	Telephone: 719-631-6142

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 [X] 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 [X]

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

Sampler's Name: Jim Begano **Sampler's Site Information** State Colo Zip code 81091 Time Zone MDT

***Sampler's Signature:** Jim Begano

*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 #: Table 28-GW-QTR

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 28-GW-QTR
NEW 4	12-1-21 12:36	GW	6	
NE-1-10	12-1-21 13:10	GW	6	

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
Sample Bottles
Paper work
Ice Bottles

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
James J Begano	12/1/21 15:10		12/2/21 11:58

L70198 Chain of Custod

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

Analytical Report

January 10, 2022

Report to:
Jim Begano
New Elk Coal Co. , LLC
12250 Hwy. 12
Weston, CO 81091

cc: Nick Mason

Bill to:
Mary Head
New Elk Coal Co. , LLC
12250 US HWY 12
Weston, CO 81091

Project ID:
ACZ Project ID: L70567

Jim Begano:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 17, 2021. This project has been assigned to ACZ's project number, L70567. 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 L70567. 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 February 09, 2022. 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 Coal Co. , LLC
Project ID:
Sample ID: NE-6-10-A

ACZ Sample ID: ***L70567-01***
Date Sampled: *12/16/21 12:30*
Date Received: *12/17/21*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002-31.5.31 (2009)								12/19/21 9:58	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/21/21 8:20	mlh
Total Hot Plate Digestion	M200.2 ICP								12/29/21 12:57	kja
Total Recoverable Digestion	M200.2 ICP-MS								12/30/21 10:40	mfm/scp
Total Recoverable Digestion	M200.2 ICP								12/21/21 17:49	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00043	B		mg/L	0.0002	0.001	01/05/22 16:44	scp
Boron, total	M200.7 ICP	1	0.081	B		mg/L	0.03	0.1	12/22/21 15:18	jlw
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	12/20/21 18:32	kja
Calcium, dissolved	M200.7 ICP	1	2.55			mg/L	0.1	0.5	12/30/21 13:12	jlw
Chromium, total recoverable	M200.8 ICP-MS	1	0.00110	B		mg/L	0.0005	0.002	01/05/22 16:44	scp
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	12/20/21 18:32	kja
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	12/30/21 13:12	jlw
Iron, total	M200.7 ICP	1	0.393			mg/L	0.06	0.15	12/30/21 10:21	kja
Iron, total recoverable	M200.7 ICP	1	0.426			mg/L	0.06	0.15	12/22/21 18:00	kja
Magnesium, dissolved	M200.7 ICP	1	0.82	B		mg/L	0.2	1	12/30/21 13:12	jlw
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	12/30/21 13:12	jlw
Manganese, potentially dissolved	M200.7 ICP	1	0.019	B		mg/L	0.01	0.05	12/20/21 18:32	kja
Manganese, total	M200.7 ICP	1	0.013	B		mg/L	0.01	0.05	12/22/21 15:18	jlw
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/31/21 11:02	mlh
Potassium, dissolved	M200.7 ICP	1	2.89			mg/L	0.2	1	12/30/21 13:12	jlw
Sodium, dissolved	M200.7 ICP	1	417		*	mg/L	0.2	1	12/30/21 13:12	jlw
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	12/20/21 18:32	kja

New Elk Coal Co. , LLC
Project ID:
Sample ID: NE-6-10-A

ACZ Sample ID: ***L70567-01***
Date Sampled: *12/16/21 12:30*
Date Received: *12/17/21*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	938			mg/L	2	20	12/30/21 0:00	emk
Carbonate as CaCO3		1	136			mg/L	2	20	12/30/21 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/30/21 0:00	emk
Total Alkalinity		1	1070			mg/L	2	20	12/30/21 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-7.3			%			01/10/22 0:00	calc
Sum of Anions			22			meq/L			01/10/22 0:00	calc
Sum of Cations			19			meq/L			01/10/22 0:00	calc
Chloride	SM4500Cl-E	1	5.47			mg/L	0.5	2	01/07/22 12:54	md
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		9.7			mg/L	0.2	5	01/10/22 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/30/21 15:45	emk
Residue, Filterable (TDS) @180C	SM2540C	2	1100			mg/L	40	80	12/21/21 19:20	jck
Residue, Non-Filterable (TSS) @105C	SM2540D	1	13.0	B	*	mg/L	5	20	12/20/21 15:17	scd
Sodium Adsorption Ratio in Water	USGS - I1738-78		59						01/10/22 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	1.8	B	*	mg/L	1	5	01/07/22 19:03	syw

New Elk Coal Co. , LLC
Project ID:
Sample ID: NE-6-10-B

ACZ Sample ID: ***L70567-02***
Date Sampled: *12/16/21 13:04*
Date Received: *12/17/21*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002-31.5.31 (2009)								12/19/21 10:08	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/21/21 8:20	mlh
Total Hot Plate Digestion	M200.2 ICP				*				12/29/21 13:10	kja
Total Recoverable Digestion	M200.2 ICP								12/21/21 18:14	kja
Total Recoverable Digestion	M200.2 ICP-MS								12/30/21 10:51	mfm/scp

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00065	B		mg/L	0.0002	0.001	01/05/22 16:46	scp
Boron, total	M200.7 ICP	1	0.062	B		mg/L	0.03	0.1	12/22/21 15:21	jlw
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	12/20/21 18:47	kja
Calcium, dissolved	M200.7 ICP	1	2.43			mg/L	0.1	0.5	12/30/21 13:15	jlw
Chromium, total recoverable	M200.8 ICP-MS	1	0.0162			mg/L	0.0005	0.002	01/05/22 16:46	scp
Copper, potentially dissolved	M200.7 ICP	1	0.018	B		mg/L	0.01	0.05	12/20/21 18:47	kja
Iron, dissolved	M200.7 ICP	1	0.161			mg/L	0.06	0.15	12/30/21 13:15	jlw
Iron, total	M200.7 ICP	2	1.81			mg/L	0.12	0.3	12/30/21 10:25	kja
Iron, total recoverable	M200.7 ICP	1	1.79			mg/L	0.06	0.15	12/22/21 18:03	kja
Magnesium, dissolved	M200.7 ICP	1	0.31	B		mg/L	0.2	1	12/30/21 13:15	jlw
Manganese, dissolved	M200.7 ICP	1	0.017	B		mg/L	0.01	0.05	12/30/21 13:15	jlw
Manganese, potentially dissolved	M200.7 ICP	1	0.030	B		mg/L	0.01	0.05	12/20/21 18:47	kja
Manganese, total	M200.7 ICP	1	0.034	B		mg/L	0.01	0.05	12/22/21 15:21	jlw
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/31/21 11:02	mlh
Potassium, dissolved	M200.7 ICP	1	1.42			mg/L	0.2	1	12/30/21 13:15	jlw
Sodium, dissolved	M200.7 ICP	1	189		*	mg/L	0.2	1	12/30/21 13:15	jlw
Zinc, potentially dissolved	M200.7 ICP	1	0.031	B		mg/L	0.02	0.05	12/20/21 18:47	kja

New Elk Coal Co. , LLC
Project ID:
Sample ID: NE-6-10-B

ACZ Sample ID: ***L70567-02***
Date Sampled: *12/16/21 13:04*
Date Received: *12/17/21*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	458			mg/L	2	20	12/30/21 0:00	emk
Carbonate as CaCO3		1	17.7	B		mg/L	2	20	12/30/21 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/30/21 0:00	emk
Total Alkalinity		1	476			mg/L	2	20	12/30/21 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-7.6			%			01/10/22 0:00	calc
Sum of Anions			9.9			meq/L			01/10/22 0:00	calc
Sum of Cations			8.5			meq/L			01/10/22 0:00	calc
Chloride	SM4500Cl-E	1	5.29			mg/L	0.5	2	01/07/22 12:55	md
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		7.3			mg/L	0.2	5	01/10/22 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/30/21 15:46	emk
Residue, Filterable (TDS) @180C	SM2540C	1	510			mg/L	20	40	12/21/21 19:23	jck
Residue, Non-Filterable (TSS) @105C	SM2540D	1	26.0		*	mg/L	5	20	12/20/21 15:19	scd
Sodium Adsorption Ratio in Water	USGS - I1738-78		31						01/10/22 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	13.3		*	mg/L	1	5	01/07/22 19:06	syw

New Elk Coal Co. , LLC
Project ID:
Sample ID: NEW 2

ACZ Sample ID: ***L70567-03***
Date Sampled: *12/16/21 13:46*
Date Received: *12/17/21*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002-31.5.31 (2009)								12/19/21 10:19	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/28/21 18:38	kja
Total Hot Plate Digestion	M200.2 ICP								12/29/21 13:52	kja
Total Recoverable Digestion	M200.2 ICP-MS								12/30/21 11:02	mfm/scp
Total Recoverable Digestion	M200.2 ICP								12/21/21 18:39	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00052	B		mg/L	0.0002	0.001	01/05/22 16:48	scp
Boron, total	M200.7 ICP	1	0.047	B		mg/L	0.03	0.1	12/22/21 15:25	jlw
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	12/20/21 18:51	kja
Calcium, dissolved	M200.7 ICP	1	11.4			mg/L	0.1	0.5	12/30/21 13:18	jlw
Chromium, total recoverable	M200.8 ICP-MS	1	0.00084	B		mg/L	0.0005	0.002	01/05/22 16:48	scp
Copper, potentially dissolved	M200.7 ICP	1	0.029	B		mg/L	0.01	0.05	12/20/21 18:51	kja
Iron, dissolved	M200.7 ICP	1	0.130	B		mg/L	0.06	0.15	12/30/21 13:18	jlw
Iron, total	M200.7 ICP	1	0.939			mg/L	0.06	0.15	12/30/21 10:34	kja
Iron, total recoverable	M200.7 ICP	1	0.879			mg/L	0.06	0.15	12/22/21 18:06	kja
Magnesium, dissolved	M200.7 ICP	1	5.01			mg/L	0.2	1	12/30/21 13:18	jlw
Manganese, dissolved	M200.7 ICP	1	0.017	B		mg/L	0.01	0.05	12/30/21 13:18	jlw
Manganese, potentially dissolved	M200.7 ICP	1	0.054			mg/L	0.01	0.05	12/20/21 18:51	kja
Manganese, total	M200.7 ICP	1	0.052			mg/L	0.01	0.05	12/22/21 15:25	jlw
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/31/21 11:03	mlh
Potassium, dissolved	M200.7 ICP	1	6.98			mg/L	0.2	1	12/30/21 13:18	jlw
Sodium, dissolved	M200.7 ICP	1	487		*	mg/L	0.2	1	12/30/21 13:18	jlw
Zinc, potentially dissolved	M200.7 ICP	1	0.035	B		mg/L	0.02	0.05	12/20/21 18:51	kja

New Elk Coal Co. , LLC
Project ID:
Sample ID: NEW 2

ACZ Sample ID: ***L70567-03***
Date Sampled: *12/16/21 13:46*
Date Received: *12/17/21*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	1070			mg/L	2	20	12/30/21 0:00	emk
Carbonate as CaCO3		1	54.0			mg/L	2	20	12/30/21 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/30/21 0:00	emk
Total Alkalinity		1	1130			mg/L	2	20	12/30/21 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-6.1			%			01/10/22 0:00	calc
Sum of Anions			26			meq/L			01/10/22 0:00	calc
Sum of Cations			23			meq/L			01/10/22 0:00	calc
Chloride	SM4500Cl-E	1	9.07			mg/L	0.5	2	01/07/22 12:55	md
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		49			mg/L	0.2	5	01/10/22 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/30/21 15:48	emk
Residue, Filterable (TDS) @180C	SM2540C	1	1360			mg/L	20	40	12/21/21 19:25	jck
Residue, Non-Filterable (TSS) @105C	SM2540D	1	<5	U	*	mg/L	5	20	12/20/21 15:21	scd
Sodium Adsorption Ratio in Water	USGS - I1738-78		31						01/10/22 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	143		*	mg/L	5	25	01/07/22 19:13	syw

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:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

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

Inorganic Extended Qualifier Report

New Elk Coal Co. , LLC

ACZ Project ID: ***L70567***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L70567-01	WG533936	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG534283	Sodium, 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.
	WG534631	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L70567-02	WG533936	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG534283	Sodium, 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.
	WG534631	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG534202	Total Hot Plate Digestion	M200.2 ICP	DJ	Sample dilution required due to insufficient sample.
L70567-03	WG533936	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG534283	Sodium, 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.
	WG534631	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

Certification Qualifiers

New Elk Coal Co. , LLC

ACZ Project ID: ***L70567***

No certification qualifiers associated with this analysis

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

Sample Receipt

New Elk Coal Co. , LLC

ACZ Project ID: L70567
Date Received: 12/17/2021 13:10
Received By:
Date Printed: 12/20/2021

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form 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 form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form 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 form 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		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
7044	1.1	<=6.0	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 Coal Co. , LLC

ACZ Project ID:	L70567
Date Received:	12/17/2021 13:10
Received By:	
Date Printed:	12/20/2021

[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. L70567

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

CHAIN of CUSTODY

Report to:

Name: James F. Begano
Company: NEW Elk Coal Co
E-mail: jimb@newelkcoal.com
Address: 12250 State Hwy 12
Weston, CO 81091
Telephone: 719-631-6143

Copy of Report to:

Name: Nick Mason
Company: New Elk Coal Co.
E-mail: nmason@newelkcoal.com
Telephone: 719-631-6146

Invoice to:

Name: Mary Head
Company: New Elk Coal Co.
E-mail: mary@newelkcoal.com
Address: 12250 State Hwy 12
Weston, CO 81091
Telephone: 719-631-6141

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 [X] 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 [X]

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

Sampler's Name: JB **Sampler's Site Information** State CO Zip code 81091 Time Zone MST

***Sampler's Signature:** James Begano

*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 #: Table-28-GW-QTR
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-28-GW-QTR
NE-6-10-A	12/16/21 12:30	GW	5	
NE-6-10-B	12/16/21 13:04	GW	5	
NEW 2	12/16/21 13:46		6	

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
Ice Containers
Paper work
Sample Bottles

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
James F Begano	12/16/21 15:20		12/17/21 13:10

L70567 Chain of Custod

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

Analytical Report

January 10, 2022

Report to:
Jim Begano
New Elk Coal Co. , LLC
12250 Hwy. 12
Weston, CO 81091

cc: Nick Mason

Bill to:
Mary Head
New Elk Coal Co. , LLC
12250 US HWY 12
Weston, CO 81091

Project ID:
ACZ Project ID: L70608

Jim Begano:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 21, 2021. This project has been assigned to ACZ's project number, L70608. 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 L70608. 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 February 09, 2022. 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 Coal Co. , LLC
Project ID:
Sample ID: PRS-1

ACZ Sample ID: ***L70608-01***
Date Sampled: *12/20/21 14:00*
Date Received: *12/21/21*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/28/21 18:38	kja
Total Hot Plate Digestion	M200.2 ICP								12/28/21 14:39	jlw
Total Recoverable Digestion	M200.2 ICP								12/22/21 19:11	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	1	48.3			mg/L	0.1	0.5	12/30/21 13:40	jlw
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	12/30/21 13:40	jlw
Iron, total	M200.7 ICP	1	0.161			mg/L	0.06	0.15	12/29/21 10:26	jlw
Iron, total recoverable	M200.7 ICP	1	0.165			mg/L	0.06	0.15	12/29/21 1:07	kja
Magnesium, dissolved	M200.7 ICP	1	8.00			mg/L	0.2	1	12/30/21 13:40	jlw
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	12/30/21 13:40	jlw
Manganese, total	M200.7 ICP	1	0.023	B		mg/L	0.01	0.05	12/29/21 10:26	jlw
Potassium, dissolved	M200.7 ICP	1	1.54			mg/L	0.2	1	12/30/21 13:40	jlw
Sodium, dissolved	M200.7 ICP	1	6.99		*	mg/L	0.2	1	12/30/21 13:40	jlw

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	136			mg/L	2	20	12/30/21 0:00	emk
Carbonate as CaCO3		1	<2	U		mg/L	2	20	12/30/21 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/30/21 0:00	emk
Total Alkalinity		1	136			mg/L	2	20	12/30/21 0:00	emk
Chloride	SM4500Cl-E	1	2.19		*	mg/L	0.5	2	01/10/22 9:34	md
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		154			mg/L	0.2	5	01/10/22 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/30/21 16:30	emk
Residue, Filterable (TDS) @180C	SM2540C	1	216			mg/L	20	40	12/22/21 13:48	anc
Residue, Non-Filterable (TSS) @105C	SM2540D	1	<5	U	*	mg/L	5	20	12/22/21 19:24	jck
Sodium Adsorption Ratio in Water	USGS - I1738-78		0.25						01/10/22 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	40.2		*	mg/L	5	25	01/08/22 10:49	syw

New Elk Coal Co. , LLC
Project ID:
Sample ID: PRS-4A

ACZ Sample ID: ***L70608-02***
Date Sampled: *12/20/21 14:32*
Date Received: *12/21/21*
Sample Matrix: *Surface Water*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/28/21 18:38	kja
Total Hot Plate Digestion	M200.2 ICP								12/28/21 14:53	jlw
Total Recoverable Digestion	M200.2 ICP								12/22/21 19:57	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	1	49.0			mg/L	0.1	0.5	12/30/21 13:43	jlw
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	12/30/21 13:43	jlw
Iron, total	M200.7 ICP	1	0.313			mg/L	0.06	0.15	12/29/21 10:29	jlw
Iron, total recoverable	M200.7 ICP	1	0.259			mg/L	0.06	0.15	12/29/21 1:16	kja
Magnesium, dissolved	M200.7 ICP	1	8.15			mg/L	0.2	1	12/30/21 13:43	jlw
Manganese, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.01	0.05	12/30/21 13:43	jlw
Manganese, total	M200.7 ICP	1	0.034	B		mg/L	0.01	0.05	12/29/21 10:29	jlw
Potassium, dissolved	M200.7 ICP	1	1.50			mg/L	0.2	1	12/30/21 13:43	jlw
Sodium, dissolved	M200.7 ICP	1	7.55		*	mg/L	0.2	1	12/30/21 13:43	jlw

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	137			mg/L	2	20	12/30/21 0:00	emk
Carbonate as CaCO3		1	4.3	B		mg/L	2	20	12/30/21 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/30/21 0:00	emk
Total Alkalinity		1	141			mg/L	2	20	12/30/21 0:00	emk
Chloride	SM4500CI-E	1	2.31		*	mg/L	0.5	2	01/10/22 9:35	md
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		156			mg/L	0.2	5	01/10/22 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/30/21 16:32	emk
Residue, Filterable (TDS) @180C	SM2540C	1	216			mg/L	20	40	12/22/21 13:50	anc
Residue, Non-Filterable (TSS) @105C	SM2540D	1	5.0	B	*	mg/L	5	20	12/22/21 19:26	jck
Sodium Adsorption Ratio in Water	USGS - I1738-78		0.27						01/10/22 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	41.2		*	mg/L	5	25	01/08/22 10:49	syw

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:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

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

Inorganic Extended Qualifier Report

New Elk Coal Co. , LLC

ACZ Project ID: ***L70608***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L70608-01	WG534672	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG534119	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG534283	Sodium, 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.
	WG534633	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07/-11 - TURBIDIMETRIC	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
L70608-02	WG534672	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG534119	Residue, Non-Filterable (TSS) @105C	SM2540D	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG534283	Sodium, 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.
	WG534633	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-02/-07/-11 - TURBIDIMETRIC	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

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

Certification Qualifiers

New Elk Coal Co. , LLC

ACZ Project ID: ***L70608***

No certification qualifiers associated with this analysis

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

Sample Receipt

New Elk Coal Co. , LLC

ACZ Project ID: L70608
Date Received: 12/21/2021 11:38
Received By:
Date Printed: 12/22/2021

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form 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 form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form 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 form 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		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
6624	3.3	<=6.0	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 Coal Co. , LLC

ACZ Project ID:	L70608
Date Received:	12/21/2021 11:38
Received By:	
Date Printed:	12/22/2021

[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. L70608

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

CHAIN of CUSTODY

Report to:

Name: Jim Begano	Address: 12250 State Hwy 12
Company: New Elk Coal Co.	Weston, CO 81091
E-mail: jimb@newelkcoal.com	Telephone: 719-631-6143

Copy of Report to:

Name: Nick Mason	E-mail: nmason@newelkcoal.com
Company: New Elk Coal Co.	Telephone: 719-631-6146

Invoice to:

Name: Mary Head	Address: 12250 State Hwy 12
Company: New Elk Coal Co	Weston, CO 81091
E-mail: mary@newelkcoal.com	Telephone: 719-631-6141

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 [X] 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 [X]

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

Sampler's Name: Vince Massarotti **Sampler's Site Information** **State** Colo **Zip code** 81091 **Time Zone** MST

***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)*: Table-28-SW

Quote #: Table-28-SW

PO#:

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers
PRS-1	12/20/21 2:00pm	SW	4
PRS-4	12/20/21 2:32pm	SW	4

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

REMARKS

Please Return: Sample Bottles
Cooler Bottles
Ice Bottles
Paper work

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Vince Massarotti	12/20/21 2:50pm	[signature]	12/21/21
Vince Massarotti	12/20/21 2:50pm		11:38

L70608 Chain of Custody