NEW ELK COAL
COMPANY LLC

February 28, 2023

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

Re: New Elk Mine
Permit C-1981-012
2022 Annual Hydrology Report

Dear Mr. Bowles:

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 precipitation events.

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. The only monitoring not completed was for Monitoring Well NE-6-10b. On June 29 when NECC was completing quarter 2 monitoring, the bailer used to retrieve water from the well was lost down the hole of NE-6-10b. The weight of the water as the first sample was being brought to the surface snapped the line holding the bailer. NECC unfortunately did not have a second bailer at the mine site and one had to be ordered. Data for Quarter 2 for NE-6-10b is missing except the water level.

New Elk staff revised Table 27 to include Discharge Monitoring Site 010 and remove NPDES Station 080 as it is outdated.

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 2022. 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 2022. The pond did not have any discharges throughout the year.

Discharge Monitoring of Site 008 (Pond 8) held minimal water throughout 2022. 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 quarterly and 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 – Surface Water, Table 3 Field Data – Groundwater Wells, and Table 4 Filed Data – Mine Water and notes for the field data are shown in **Appendix A Field Notes**. The past five years of data is compiled in the tables as well, with the exceptions NE-1-10, NE-6-10a, and NE-6-10b. Where there is not five years of historical data. Flow rate for PRS-1 and PRS -4 remain to be the most common change from 2022 to the past years. All other data remained close to the average. Depths remained consistent for Paw 1, Paw 2, Paw 8 and Paw 9. All other data remained consistent as well. Depth, Ph, Conductivity remained close to average for the mine water monitoring wells.

The analytical lab results for these samples are compiled in Table 5 Surface Water, Table 6 Groundwater Wells, and Table 7 Mine Water. All of the results can be found in **Appendix B Lab Analytics**. This data was compared to the historical information available in previous AHRs and the tables starting in 2017, four years prior to active mining (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 and remain consistent with previous year's data. All data form 2022 is close to the average as shown in the tables that follow.

Rain Water Monitoring

2022 was a relatively average year with minimal snowfall, followed by a wet spring and early summer seasons. The rest of the year was dry until snowfall began in November. Rain Water Monitoring data is compiled in Table 8 New Elk Rain Gauge Data.

Comments

Please advise me if any additional information is needed.

Regards

Nicholas Mason

Table 1 RDA Monitoring Wells

Depth to Water in Feet

Year	2017				2018				2019				2020				2021				2022				
Quarter	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Average**
Date	22-Mar	7-Jun	20-Sep	16-Nov	7-Mar	16-May	14-Sep	9-Nov	7-Mar	12-Jun	13-Sep	9-Dec	17-Mar	2-Jun	16-Sep	21-Dec	2-Mar	6-Jun	23-Sep	21-Dec	18-Mar	25-Jun	26-Sep	21-Dec	
Th-01	45.0	44.9	44.9	42.2	42.3	42.1	42.3	42.1	42.4	42.1	42.5	42.4	42.7	42.5	42.7	42.7	42.9	43.0	42.7	43.1	43.1	43.0	42.9	43.1	42.9
Th-02	70.9	70.8	69.6	69.6	69.8	69.6	70.0	69.8	70.5	70.3	70.6	70.5	70.5	70.3	70.9	70.8	70.7	71.0	71.1	71.1	70.9	71.2	70.6	71.1	70.5
Th-03	93.3	93.4	93.3	93.3	93.9	93.8	93.4	93.8	93.3	93.1	93.6	93.5	93.5	93.4	93.7	93.6	93.5	93.8	93.9	93.6	93.6	93.0	93.5	93.6	93.5

Table 2 - Field Data - Surface Water

	PRS-1													PRS-4											
	2017		**2018**		**2019**		**2020**		**2021**		**2022**			**2017**		**2018**		**2019**		**2020**		**2021**		**2022**		
Quarter	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	Q 4	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**		**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**	
Date	21-Jun	13-Nov	16-May	5-Dec	8-May	13-Nov	13-May	15-Dec	22-Jun	20-Dec	29-Jun	14-Dec	Average	21-Jun	13-Nov	16-May	5-Dec	8-May	13-Nov	13-May	15-Dec	22-Jun	20-Dec	29-Jun	14-Dec	Average
Field Measurments																									
Flow Rate (cfs)	-	28.0	23.8	23.0	77.0	11.7	20.6	18.5	79.4	9.9	66.8	10.6	33.6	-	33.0	24.8	23.8	70.9	11.1	21.3	17.6	76.4	12.4	74.4	13.4	34.5
Ph (S.U.)	7.5	8.5	9.4	8.2	9.3	9.0	9.0	7.9	9.1	8.9	8.4	8.3	8.6	8.3	8.7	9.4	8.4	9.2	8.8	9.1	7.7	8.8	8.7	8.9	8.5	8.7
Conductivity (µohms/cm^2)	222.0	355.0	288.0	399.0	249.0	344.0	222.0	332.0	194.0	382.0	286.0	356.0	302.4	176.0	341.0	317.0	390.0	391.0	348.0	225.0	343.0	195.0	403.0	324.0	423.0	323.0
Temperature (°C)	9.6	9.1	6.8	0.1	6.8	6.0	9.6	0.2	15.1	1.2	10.4	0.3	6.3	9.8	8.8	6.2	0.2	6.3	6.0	9.0	0.2	16.4	1.7	12.3	0.4	6.4

Table 3 - Field Data - Groundwater Wells

	PAW -1													PAW-2											
	2017		**2018**		**2019**		**2020**		**2021**		**2022**			**2017**		**2018**		**2019**		**2020**		**2021**		**2022**		
Quarter	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	Q 4	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**		**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**	
Date	22-Jun	5-Dec	25-Jun	25-Oct	6-Jun	7-Nov	16-Jun	3-Dec	8-Jul	17-Nov	29-Jun	14-Dec	Average	13-Jun	14-Dec	21-Jun	26-Nov	16-May	20-Nov	12-May	3-Dec	22-Jun	17-Nov	29-Jun	14-Dec	Average
Field Measurments																									
Depth to Water (ft)	7.3	7.4	8.3	7.3	6.9	7.6	7.9	7.8	7.7	8.0	7.8	7.7	7.6	15.7	16.9	17.2	7.3	16.3	17.2	17.7	17.3	16.3	17.8	15.8	16.9	16.0
Ph (S.U.)	8.6	8.1	9.6	9.1	7.1	7.8	9.0	8.8	8.9	8.9	7.7	8.4	8.5	7.2	7.6	8.1	9.1	7.4	7.5	7.4	7.5	7.8	7.4	7.7	7.9	7.7
Conductivity (µohms/cm^2)	244.0	255.0	253.0	300.0	280.0	274.0	280.0	282.0	257.0	276.0	289.0	275.0	272.1	1137.0	1668.0	1288.0	300.0	1459.0	1058.0	1076.0	839.0	894.0	789.0	926.0	863.0	1024.8
Temperature (°C)	14.8	9.4	11.5	11.9	10.0	11.3	10.6	9.1	12.0	9.2	14.4	8.8	11.1	12.4	11.1	12.2	11.9	10.9	12.0	10.9	11.6	11.6	8.0	12.4	8.1	11.1
	PAW -8													**PAW-9**											
	2017		**2018**		**2019**		**2020**		**2021**		**2022**			**2017**		**2018**		**2019**		**2020**		**2021**		**2022**		
Quarter	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	Q 4	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**		**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**	**Q 2**	**Q 4**	
Date	13-Jun	14-Dec	21-Jun	26-Nov	16-May	20-Nov	12-May	3-Dec	22-Jun	17-Nov	29-Jun	14-Dec	Average	22-Jun	5-Dec	25-Jun	25-Oct	6-Jun	7-Nov	16-Jun	3-Dec	8-Jul	17-Nov	29-Jun	14-Dec	Average
Field Measurments																									
Depth to Water (ft)	32.6	33.2	33.4	33.3	32.8	33.4	33.3	33.4	33.9	33.5	32.9	33.2	33.2	14.7	15.6	15.7	15.6	15.2	15.8	15.6	15.6	15.2	15.5	15.4	15.5	15.5
Ph (S.U.)	7.1	7.4	8.2	7.5	7.5	7.6	6.9	7.5	7.6	7.2	7.9	7.8	7.5	7.7	7.3	8.8	8.5	7.1	7.4	8.1	7.5	8.1	8.0	7.7	7.5	7.8
Conductivity (µohms/cm^2)	150.0	1880.0	1879.0	1765.0	1463.0	1312.0	1388.0	1243.0	1165.0	1302.0	1289.0	1116.0	1329.3	107.8	1020.0	1075.0	1076.0	1043.0	1048.0	1086.0	974.0	1026.0	1052.0	1007.0	957.0	956.0
Temperature (°C)	14.0	11.8	13.3	12.0	12.8	12.1	12.5	12.0	14.8	11.7	13.9	9.9	12.6	13.6	12.4	11.3	12.7	10.9	12.5	10.6	12.6	11.4	12.6	10.7	10.8	11.8

Table 4 - Field Data - Mine Water

	NEW-2													NEW-4											
	2017		2018		2019		2020		2021		2022			2017		2018		2019		2020		2021		2022		
Quarter	Q 2	Q 4	Q 2	Q 4	Q 2	Q 4	Q 2	Q 4	Q 2	Q 4	Q 2	Q 4		Q 2	Q 4	Q 2	Q 4	Q 2	Q 4	Q 2	Q 4	Q 2	Q 4	Q 2	Q 4	
Date	13-Jun	14-Dec	21-Jun	28-Nov	5-Jun	10-Dec	2-Jun	15-Dec	4-Jun	16-Dec	25-Jun	14-Dec	Average	13-Jun	19-Dec	21-Jun	28-Nov	5-Jun	10-Dec	4-Jun	18-Nov	4-Jun	1-Dec	25-Jun	20-Dec	Average
Field Measurments																									
Depth to Water (ft)	357.7	355.1	352.6	352.6	349.0	348.4	346.0	344.5	346.5	341.7	341.9	340.5	348.0	364.6	361.0	359.5	357.6	355.9	354.2	352.7	351.4	353.0	348.7	347.9	347.4	354.5
Ph (S.U.)	-	7.9	-	8.7	-	8.1	-	7.9	-	8.2	-	8.3	8.2	-	8.4	-	8.9	-	8.5	-	8.3	-	8.3	-	8.0	8.4
Conductivity (µohms/cm^2)	-	50.4	-	2.4	-	2.2	-	2.3	-	2.2	-	1197.0	209.4	-	2.1	-	2.3	-	2.1	-	2.1	-	2.2	-	2.0	2.1
Temperature (°C)	-	15.1	-	13.8	-	15.9	-	14.9	-	15.7	-	10.9	14.4	-	16.8	-	16.7	-	16.0	-	17.3	-	18.8	-	13.9	16.6

	NEW -3											NE-1-10												
	2017	2018	2019		2020		2021		2022			2017		2018		2019		2020		2021		2022		
Quarter	Q 2	Q2	Q 2	Q 4	Q 2	Q 4	Q 2	Q 4	Q 2	Q 4		Q 2	Q 4	Q 2	Q 4	Q 2	Q 4	Q 2	Q 4	Q 2	Q 4	Q 2	Q 4	
Date	23-Jun	14-Jun	16-Apr	5-Nov	2-Jun	15-Dec	9-Apr	16-Dec	25-Jun	20-Dec	Average	No Data	No Data	No Data	No Data	5-Jun	10-Dec	2-Jun	15-Dec	15-Apr	1-Dec	25-Jun	20-Dec	Average
Field Measurments																								
Depth to Water (ft)	421.7	421.6	421.3	421.0	421.6	421.5	421.7	421.6	419.7	419.9	421.2					307.4	306.5	306.8	305.7	305.3	304.9	304.8	304.4	305.7
Ph (S.U.)	-	-	-	-	-	-	-	-	-	-	-					-	10.1	-	10.2	-	11.0	-	9.7	10.2
Conductivity (µohms/cm^2)	-	-	-	-	-	-	-	-	-	-	-					-	1316.0	-	1355.0	-	1408.0	-	1310.0	1347.3
Temperature (°C)	-	-	-	-	-	-	-	-	-	-	-					-	9.6	-	11.0	-	12.1	-	9.3	10.5

	NE-6-10a						NE-6-10b					
	2021	2022					2021	2022				
Quarter	Q4	Q1	Q2	Q3	Q4		Q4	Q1	Q2	Q3	Q4	
Date	16-Dec	28-Mar	29-Jun	30-Sep	20-Dec	Average	16-Dec	28-Mar	29-Jun	30-Sep	20-Dec	Average
Field Measurments												
Depth to Water (ft)	663.9	664.4	664.7	667.3	665.4	665.1	370.4	371.5	372.6	372.1	346.0	366.5
Ph (S.U.)	9.1	9.1	8.7	9.6	8.6	9.0	8.4	8.2	-	8.3	8.2	8.3
Conductivity (µohms/cm^2)	1733.0	1596.0	1689.0	1696.0	1718.0	1686.4	836.0	847.0	-	814.0	1099.0	899.0
Temperature (°C)	21.7	24.6	22.4	20.9	18.5	21.6	17.7	18.5	-	18.6	14.6	17.4

Table 5 Surface Water

	PRS-1							PRS -4						
Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**		**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	
Quarter	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Average**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Average**
Date	13-Nov	5-Dec	13-Nov	15-Dec	20-Dec	**14-Dec**		13-Nov	5-Dec	13-Nov	15-Dec	20-Dec	**14-Dec**	
Laboratory Analysis														
Total Suspended Solids (TSS) (mg/l)	<5	<5	<5	<5	<5	**5**		<5	6	<5	<3	5	**<5**	
Carbonate (mg/l)	<2	<2	<2	2.8	<2	**<2**		3.3	<2	3.2	2.8	4.3	**<2**	
Bicarbonate (mg/l)	111	123	116	109	136	**143**	123	111	134	117	109	137	**148**	126
Chloride (mg/l)	5.00	8.80	2.60	2.08	2.19	**2.89**	3.93	2.50	3.30	2.40	2.08	2.31	**2.82**	2.57
Sulfate (mg/l)	41.0	35.0	42.5	27.7	40.2	**44.0**	38.4	40.2	37.4	42.1	27.7	41.2	**44.6**	38.9
Manganese total (Mn) (mg/l)	0.020	0.015	0.010	0.022	0.023	**0.051**	0.024	0.025	0.025	0.020	0.022	0.034	**0.041**	0.028
Manganese dissolved (Mn) (mg/l)	<0.005	<0.005	<0.01	<0.01	<0.01	**0.029**		0.005	0.009	<0.01	<0.01	0.011	**0.015**	
Calcium (Ca) (mg/l)	45.7	47.6	43.8	40.3	48.3	**50.3**	46.0	45.4	47.1	44.5	40.3	49	**52.6**	46.5
Magnesium (Mg) (mg/l)	7.90	7.90	7.10	6.60	8.00	**8.29**	7.63	7.90	7.80	7.20	6.60	8.15	**8.86**	7.75
Potassium (K) (mg/l)	4.50	6.70	1.50	0.97	1.54	**1.73**	2.82	1.60	1.60	1.20	0.97	1.50	**1.55**	1.40
Sodium (Na) (mg/l)	6.60	10.90	6.00	5.68	6.99	**7.02**	7.20	7.10	7.50	6.50	5.68	7.55	**8.89**	7.20
Iron (Fe) (mg/l), Total Dissolved	<0.02	0.02	<0.03	<0.06	<0.06	**<0.06**		0.09	0.02	<0.03	<0.04	<0.06	**0.076**	
Iron (Fe) (mg/l), Total Recoverable	0.05	0.19	0.03	0.099	0.165	**0.264**	0.133	0.07	0.2	0.04	0.099	0.259	**0.217**	0.148
Sodium Absorption Rate (SAR)	0.24	0.39	0.22	0.22	0.25	**0.24**	0.26	0.26	0.27	0.24	0.22	0.27	**0.3**	0.26
Total Dissolved Solids (TDS) (mg/l)	-	-	194	186	216	**232**	207	-	-	204	186	216	**240**	212
Hardness (Calculated) (mg/l)	-	-	139	128	154	**160**	145	-	-	141	128	156	**168**	148

Table 6 Groundwater Wells

	PAW-1													PAW-2						
Year	**2017**		**2018**		**2019**		**2020**		**2021**		**2022**			**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	
Quarter	**Q2**	**Q 4**	**Q2**	**Q4**	**Q2**	**Q4**	**Q2**	**Q4**	**Q2**	**Q4**	**Q2**	**Q4**	**Average**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Average**
Date	22-Jun		25-Jun	25-Oct	6-Jun	7-Nov	16-Jun	3-Dec	8-Jul	17-Nov	29-Jun	**14-Dec**		14-Dec	26-Nov	20-Nov	3-Dec	17-Nov	**14-Dec**	
Laboratory Analysis																				
Total Suspended Solids (TSS) (mg/l)	111	-	60	29	63	31	100	30	59	23	102	**66**	61	220	264	176	101	340	**75**	196
Carbonate (mg/l)	<2	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	**<2**		<2	<2	<2	<2	<2	**<2**	
Bicarbonate (mg/l)	106	-	105	127	128	114	118	120	102	116	97.2	**121**	114	474	473	453	383	414	**399**	433
Chloride (mg/l)	8.1	-	10.4	12.8	12.1	14.1	12.6	13.6	14.2	11.9	11.7	**12.5**	12.2	36.0	33.3	34.3	24.2	18.7	**17.7**	27.4
Sulfate (mg/l)	<1	-	6.4	26.2	2.8	1.4	2.0	1.6	3.6	3.1	5	**2.7**	5.5	239.0	102.0	71.9	47.9	52.3	**47.4**	93.4
Manganese total (Mn) (mg/l)	0.16	-	0.134	0.123	0.15	0.16	0.210	0.067	0.091	0.084	0.117	**0.076**	0.125	2.23	1.95	1.77	1.38	1.71	**1.15**	1.70
Manganese dissolved (Mn) (mg/l)	0.009	-	0.019	0.025	0.09	<0.01	<0.01	<0.01	<0.01	0.058	<0.01	**<0.01**		1.82	1.57	1.37	1.08	1.08	**0.98**	1.32
Calcium (Ca) (mg/l)	15.6	-	15.9	21.3	19.0	115.0	16.5	19.2	14.7	18.9	15.8	**19.0**	26.4	135	123	108	88.0	89.6	**88.8**	105.4
Magnesium (Mg) (mg/l)	8.6	-	8.8	11.2	10.4	25.3	9.3	10.1	8.1	9.2	9.0	**10.7**	11.0	26.4	24.4	21.0	17.4	17.4	**17.9**	20.8
Potassium (K) (mg/l)	2.1	-	2.0	1.7	2.0	2.0	1.4	1.3	1.7	1.5	1.5	**1.8**	1.7	4.8	3.2	2.7	2.1	2.8	**2.2**	3.0
Sodium (Na) (mg/l)	14.7	-	16.7	18.1	21.1	170.0	18.7	20.2	18.6	17.9	18.2	**17.2**	31.9	139.0	103.0	92.9	70.4	76.8	**59.2**	90.2
Iron (Fe) (mg/l), Total Dissolved	0.32	-	0.26	0.2	0.19	<0.03	<0.06	<0.06	0.196	<0.06	0.235	**1.05**		1.06	1.16	1.15	0.742	0.816	**2.08**	1.168
Iron (Fe) (mg/l), Total Recoverable	22.0	-	28.3	12.8	33.2	15.0	46.9	12.6	25.6	10.2	36.3	**16.9**	23.6	43.7	59.6	41.3	24.20	83.3	**23.2**	45.9
Sodium Absorption Rate (SAR)	0.75	-	0.84	0.80	0.98	0.90	0.92	0.94	0.98	0.86	0.92	**0.79**	0.88	2.9	2.2	2.2	1.8	2.0	**1.5**	2.1
Total Dissolved Solids (TDS) (mg/l)		-			162	146	132	188	130	124	104	**152**	142			630	101	480	**508**	430
Hardness (Calculated) (mg/l)		-			90	85	80	90	70	85	77	**92**	84			356	291	295	**295**	309

	PAW-8							PAW-9												
Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**		**2017**		**2018**		**2019**		**2020**		**2021**		**2022**		
Quarter	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Average**	**Q2**	**Q 4**	**Q2**	**Q4**	**Q2**	**Q4**	**Q2**	**Q4**	**Q2**	**Q4**	**Q2**	**Q4**	**Average**
Date	19-Dec	26-Nov	20-Nov	18-Nov	17-Nov	**14-Dec**		22-Jun		25-Jun	25-Oct	6-Jun	7-Nov	16-Jun	3-Dec	8-Jul	17-Nov	29-Jun	**14-Dec**	
Laboratory Analysis																				
Total Suspended Solids (TSS) (mg/l)	44	940	536	70	96	**9**	283	5	-	13	38	44	47	59	17	6	14	20	**9**	25
Carbonate (mg/l)	<2	<2	<2	<2	<2	**<2**		<2	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	**<2**	
Bicarbonate (mg/l)	610	624	542	493	487	**479**	539	446	-	445	451	442	458	460	409	417	442	425	**436**	439
Chloride (mg/l)	45.9	48.0	37.0	34.4	35.3	**28.5**	38.2	18.8	-	20.8	21.4	22.3	21.7	24.1	23.7	20.6	17.9	24.8	**29.0**	22.3
Sulfate (mg/l)	355	212	153	110	135	**122**	181	85.6	-	76.5	83.6	75.2	80.2	84.4	86.4	85.8	77.0	73.2	**73.4**	80.1
Manganese total (Mn) (mg/l)	0.293	2.660	1.810	0.679	1.200	**0.172**	1.136	0.105	-	0.500	3.100	1.700	2.200	4.080	0.076	0.011	1.100	0.042	**0.032**	1.177
Manganese dissolved (Mn) (mg/l)	<0.005	0.017	<0.01	0.020	0.049	**0.067**		<0.005	-	0.028	<0.005	0.24	<0.01	<0.01	0.019	<0.01	<0.01	<0.01	**<0.01**	
Calcium (Ca) (mg/l)	188.0	143.0	115.0	95.3	103.0	**88.6**	122.2	67.5	-	67.4	71.8	76.9	73.8	77.1	69.7	69.5	68.7	72.2	**63.1**	70.7
Magnesium (Mg) (mg/l)	14.2	32.3	25.3	22.0	22.8	**20.9**	22.9	18.4	-	18.6	19.6	21.1	19.6	20.8	19.8	19.3	18.3	19.4	**18.9**	19.4
Potassium (K) (mg/l)	2.20	2.40	2.00	1.82	1.79	**1.84**	2.01	2.10	-	3.10	2.10	2.20	2.80	2.30	2.07	2.35	2.44	2.25	**2.30**	2.36
Sodium (Na) (mg/l)	202.0	210.0	170.0	155.0	149.0	**130.0**	169.3	126.0	-	123.0	128.0	129.0	125.0	123.0	118.0	111.0	123.0	125.0	**120.0**	122.8
Iron (Fe) (mg/l), Total Dissolved	<0.02	<0.02	<003	<0.06	<0.06	**0.145**		0.06	-	0.1	0.03	0.08	<0.03	<0.06	0.225	0.06	<0.06	<0.06	**0.58**	
Iron (Fe) (mg/l), Total Recoverable	2.44	44.70	22.80	3.49	5.63	**0.61**	13.28	1.05	-	1.48	2.00	2.11	2.40	3.41	5.32	0.33	0.84	0.66	**1.53**	1.92
Sodium Absorption Rate (SAR)	3.5	4.2	3.8	3.8	3.5	**3.3**	3.7	3.5	-	3.5	3.5	3.4	3.4	3.2	3.2	3.1	3.4	3.4	**3.4**	3.4
Total Dissolved Solids (TDS) (mg/l)			864	760	754	**706**	771		-			642	630	616	618	592	578	572	**586**	604
Hardness (Calculated) (mg/l)			391	329	351	**307**	345		-			279	265	278	256	253	247	260	**235**	259

Table 7 Mine Water

	NEW-2							NEW-4							NE-1-10						
Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**		**2017**	**2018**	**2019**	**2020**	**2021**	**2022**		**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	
Quarter	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Average**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Average**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Q 4**	**Average**
Date	14-Dec	28-Nov	10-Dec	15-Dec	16-Dec	**14-Dec**		19-Dec	28-Nov	10-Dec	18-Nov	1-Dec	**20-Dec**		No Data	No Data	10-Dec	18-Nov	16-Dec	**20-Dec**	
Laboratory Analysis																					
Total Suspended Solids (TSS) (mg/l)	<5	18	<5	5	<5	**40**		5	9	5	<5	<5	**38**				15	6	5	**30**	14
Carbonate (mg/l)	41.3	74.3	44.4	35.4	54	**30.1**	47	70.9	86.3	79.5	77.7	89.5	**102**	84			264	300	323	**106**	248
Bicarbonate (mg/l)	932	1030	1010	1020	1070	**1070**	1022	1090	1180	1130	1130	1180	**1200**	1152			395	379	404	**650**	457
Chloride (mg/l)	14.30	14.70	10.50	10.30	9.07	**8.59**	11.24	15.50	19.50	14.30	13.40	11.50	**13.60**	14.63			9.40	12.50	7.14	**14.60**	10.91
Sulfate (mg/l)	184.0	240.0	214.0	191.0	143.0	**137.0**	184.8	42.2	36.3	29.9	17.8	19.0	**14.9**	26.7			23.3	26.5	21.0	**23.4**	23.6
Manganese total (Mn) (mg/l)	0.061	0.125	0.050	0.062	0.052	**0.110**	0.077	0.007	0.016	<0.01	<0.01	0.011	**<0.05**	0.011			<0.01	<0.01	<0.01	**0.126**	
Manganese dissolved (Mn) (mg/l)	0.052	0.08	0.03	0.021	0.017	**0.045**	0.041	<0.005	0.007	<0.01	<0.01	<0.01	**0.013**				<0.01	<0.01	<0.01	**0.022**	
Calcium (Ca) (mg/l)	13.3	14.3	13.5	12.2	11.4	**10.8**	12.6	5	4.9	5	5	5.4	**6.2**	5.3			2.3	2.6	2.3	**5.13**	3.1
Magnesium (Mg) (mg/l)	5.80	6.10	5.70	5.40	5.01	**5.13**	5.52	2.30	2.30	2.20	2.56	2.75	**2.91**	2.50			2.30	2.76	2.54	**2.73**	2.58
Potassium (K) (mg/l)	9.50	9.60	7.00	6.82	6.98	**6.82**	7.79	5.20	9.90	5.10	4.60	5.32	**7.22**	6.22			4.30	4.06	4.12	**6.83**	4.83
Sodium (Na) (mg/l)	192.00	534.00	532.00	510.00	487.00	**479.00**	455.67	522.00	524.00	529.00	530.00	526.00	**525.00**	526.00			297.00	312.00	304.00	**331.00**	311.00
Iron (Fe) (mg/l), Total Dissolved	0.07	0.61	0.17	0.332	0.13	**1.58**	0	<0.02	0.02	<0.03	<0.06	<0.06	**0.155**				<0.03	<0.06	<0.06	**0.239**	
Iron (Fe) (mg/l), Total Recoverable	0.39	4.76	0.49	1.33	0.88	**13**	3.475	0.26	0.48	0.29	0.1	0.13	**2.93**	0.698			0.82	0.28	0.22	**5.91**	1.808
Sodium Absorption Rate (SAR)	29	30	31	31	31	**30**	30.33	49	50	50	49	47	**44**	48.17			34	33	33	**30**	32.50
Total Dissolved Solids (TDS) (mg/l)			1450	1450	1360	**1350**	1403			1330	1360	1400	**1380**	1368			784	804	826	**822**	809
Hardness (Calculated) (mg/l)			57	53	49	**48**	52			22	23	25	**28**	25			15	18	16	**24**	18

	NE-6-10a						NE-6-10b					
Year	**2021**	**2022**					**2021**	**2022**				
Quarter	**Q 4**	**Q1**	**Q2**	**Q3**	**Q4**	**Average**	**Q 4**	**Q1**	**Q2**	**Q3**	**Q4**	**Average**
Date	16-Dec	28-Mar	29-Jun	30-Sep	20-Dec		16-Dec	28-Mar	29-Jun	30-Sep	20-Dec	
Laboratory Analysis												
Total Suspended Solids (TSS) (mg/l)	13	572	15	25	14		26	9	-	75	35	
Carbonate (mg/l)	136	117	108	108	149		17.7	17.1	-	<2	56.2	
Bicarbonate (mg/l)	938	890	844	825	859	871	458	436	-	416	577	472
Chloride (mg/l)	5.47	6.34	5.44	6.98	7.63	6.37	5.29	6.06	-	7.77	7.81	6.73
Sulfate (mg/l)	1.8	6.6	<1	<1	2.2	3.5	13.3	1.8	-	2.4	1.0	4.6
Manganese total (Mn) (mg/l)	0.013	0.296	0.049	0.011	0.017	0.077	0.034	0.029	-	0.103	0.038	0.051
Manganese dissolved (Mn) (mg/l)	<0.01	<0.02	<0.01	0.011	<0.01		0.017	0.058	-	0.065	0.019	
Calcium (Ca) (mg/l)	2.6	2.82	2.92	3.54	3.35	3.0	<0.008	6.34	-	6.98	3.82	5.7
Magnesium (Mg) (mg/l)	0.82	<1	0.91	1.02	1.08	0.96	0.31	0.46	-	0.71	0.77	0.56
Potassium (K) (mg/l)	2.89	2.43	2.68	3.00	3.71	2.94	1.42	1.23	-	1.51	3.03	1.80
Sodium (Na) (mg/l)	47.00	436.00	444.00	415.00	422.00	352.80	189.00	192.00	-	180.00	256.00	204.25
Iron (Fe) (mg/l), Total Dissolved	<0.06	<0.3	<0.06	0.109	0.138	0	0.161	0.27	-	1.15	0.314	0
Iron (Fe) (mg/l), Total Recoverable	0.43	25.9	2.01	0.411	1.02	5.954	1.79	0.609	-	4.9	2.5	2.450
Sodium Absorption Rate (SAR)	59	72	59	51	52	58.60	31	20	-	18	32	25.25
Total Dissolved Solids (TDS) (mg/l)	1,100.00	2220	1030	1060	1040	1290	510.00	494	-	488	672	541
Hardness (Calculated) (mg/l)	10	7	11	13	13	11	7	18	-	20	13	15

Table 8 New Elk Rain Gauge Data							
Date	Rain Fall(in)	Date	Rain Fall(in)	Date	Rain Fall(in)	Date	Rain Fall(in)
1-Mar	0.0	1-May	0.0	1-Jul	0.0	1-Sep	0.0
2-Mar	0.0	2-May	0.0	2-Jul	0.2	2-Sep	0.2
3-Mar	0.0	3-May	0.0	3-Jul	0.0	3-Sep	0.0
4-Mar	0.0	4-May	0.0	4-Jul	0.0	4-Sep	0.0
5-Mar	0.0	5-May	0.2	5-Jul	0.1	5-Sep	0.1
6-Mar	0.0	6-May	0.0	6-Jul	0.3	6-Sep	0.3
7-Mar	0.5 snow	7-May	0.0	7-Jul	0.0	7-Sep	0.0
8-Mar	1.0 snow	8-May	0.0	8-Jul	0.0	8-Sep	0.0
9-Mar	0.0	9-May	0.0	9-Jul	0.0	9-Sep	0.0
10-Mar	0.0	10-May	0.0	10-Jul	0.2	10-Sep	0.2
11-Mar	0.0	11-May	0.0	11-Jul	0.0	11-Sep	0.0
12-Mar	0.0	12-May	0.0	12-Jul	0.3	12-Sep	0.3
13-Mar	0.0	13-May	0.0	13-Jul	0.6	13-Sep	0.6
14-Mar	0.0	14-May	0.0	14-Jul	0.0	14-Sep	0.0
15-Mar	0.0	15-May	0.0	15-Jul	0.0	15-Sep	0.0
16-Mar	0.0	16-May	0.0	16-Jul	0.0	16-Sep	0.0
17-Mar	0.0	17-May	0.0	17-Jul	0.0	17-Sep	0.0
18-Mar	0.0	18-May	0.0	18-Jul	0.0	18-Sep	0.0
19-Mar	0.0	19-May	0.0	19-Jul	0.0	19-Sep	0.0
20-Mar	0.0	20-May	0.0	20-Jul	0.0	20-Sep	0.1
21-Mar	0.0	21-May	0.4	21-Jul	0.0	21-Sep	0.0
22-Mar	1.0 snow	22-May	0.0	22-Jul	0.7	22-Sep	0.1
23-Mar	1.5 snow	23-May	0.8	23-Jul	0.0	23-Sep	0.2
24-Mar	0.0	24-May	0.2	24-Jul	0.0	24-Sep	0.0
25-Mar	0.0	25-May	0.0	25-Jul	0.5	25-Sep	0.5
26-Mar	0.0	26-May	0.0	26-Jul	0.0	26-Sep	0.0
27-Mar	0.0	27-May	0.0	27-Jul	0.5	27-Sep	0.5
28-Mar	0.0	28-May	0.0	28-Jul	0.4	28-Sep	0.4
29-Mar	0.0	29-May	0.0	29-Jul	0.0	29-Sep	0.0
30-Mar	0.5 snow	30-May	0.0	30-Jul	0.0	30-Sep	0.0
31-Mar	0.5	31-May	0.0	31-Jul	0.0	1-Oct	0.0
1-Apr	0.0	1-Jun	0.1	1-Aug	0.0	2-Oct	0.0
2-Apr	0.0	2-Jun	0.0	2-Aug	0.0	3-Oct	0.0
3-Apr	0.0	3-Jun	0.2	3-Aug	1.2	4-Oct	0.4
4-Apr	0.1	4-Jun	0.1	4-Aug	0.0	5-Oct	0.2
5-Apr	0.0	5-Jun	0.0	5-Aug	0.0	6-Oct	0.3
6-Apr	0.0	6-Jun	0.0	6-Aug	0.3	7-Oct	0.0
7-Apr	0.0	7-Jun	0.0	7-Aug	0.0	8-Oct	0.0
8-Apr	0.0	8-Jun	0.0	8-Aug	0.0	9-Oct	0.0
9-Apr	0.0	9-Jun	0.0	9-Aug	0.2	10-Oct	0.0
10-Apr	0.0	10-Jun	0.0	10-Aug	0.0	11-Oct	0.0
11-Apr	0.0	11-Jun	0.0	11-Aug	0.0	12-Oct	0.0
12-Apr	0.0	12-Jun	0.0	12-Aug	0.0	13-Oct	0.0
13-Apr	0.0	13-Jun	0.0	13-Aug	0.0	14-Oct	0.0
14-Apr	0.0	14-Jun	0.0	14-Aug	0.0	15-Oct	0.0
15-Apr	0.0	15-Jun	0.0	15-Aug	0.0	16-Oct	0.0
16-Apr	0.0	16-Jun	0.0	16-Aug	0.5	17-Oct	0.0
17-Apr	0.0	17-Jun	0.0	17-Aug	1.5	18-Oct	0.0
18-Apr	0.0	18-Jun	0.0	18-Aug	0.2	19-Oct	0.0
19-Apr	0.0	19-Jun	0.0	19-Aug	0.0	20-Oct	0.0
20-Apr	0.0	20-Jun	0.0	20-Aug	0.0	21-Oct	0.0
21-Apr	0.0	21-Jun	0.0	21-Aug	1.2	22-Oct	0.0
22-Apr	0.0	22-Jun	0.0	22-Aug	0.2	23-Oct	0.0
23-Apr	0.0	23-Jun	0.0	23-Aug	0.0	24-Oct	0.1
24-Apr	0.0	24-Jun	0.0	24-Aug	0.0	25-Oct	0.0
25-Apr	5.0 snow	25-Jun	0.0	25-Aug	0.0	26-Oct	0.0
26-Apr	0.0	26-Jun	0.0	26-Aug	0.0	27-Oct	0.0
27-Apr	0.2	27-Jun	1.0	27-Aug	0.1	28-Oct	0.1
28-Apr	0.0	28-Jun	0.0	28-Aug	0.0	29-Oct	0.0
29-Apr	0.0	29-Jun	0.0	29-Aug	0.0	30-Oct	0.0
30-Apr	0.0	30-Jun	0.1	30-Aug	0.0	31-Oct	0.0
				31-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: 3/18/22 Weather: Clear

Site ID	Time	Depth	pH	Conductivity	Temperature Degrees C	Laboratory Sample (Y/N)	Sampled By	Notes
TH-01	10:45	43.1'	No					Quarter 1
TH-02	10:30	70.9'	No					↓
TH-03	10:15	93.6'	No					

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

Date: 3/28/12 Weather: Clear

Site ID	Time	Depth	pH	Conductivity	Temperature Degrees C	Laboratory Sample (Y/N)	Sampled By	Notes
NE 6 10A	12:15pm	6644.4'	9.12	1596	24.6	Yes	Vince Massarotti	
NE 6 10 B	1:00pm	371.5'	8.15	847	18.5	Yes	Vince Massarotti	

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

Date: 6/25/22 Weather: Clear

Site ID	Time	Depth	pH	Conductivity	Temperature Degrees C	Laboratory Sample (Y/N)	Sampled By	Notes
TH-01	11:30	43.0'	No					Quarter 2 water - level
TH-02	11:35	71.2'	No					
TH-03	11:42	93.0'	No					
New 3	1:00	419.7'	No					
New 2	12:11	341.9'	No					
New 4	12:00	347.9'	No					
NE-1-10	12:23	304.8'	No					

Nick Mason

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

Date: 6/29/22 Weather: Clear

Site ID	Time	Depth	pH	Conductivity	Temperature Degrees C	Laboratory Sample (Y/N)	Sampled By	Notes
PRS-1	8:15	66.85	8.4	286	10.4°	N	No	Q2 Field
PRS-4	7:20	74.45	8.9	324	12.3°	N	↓	↓
Paw 2	7:30	15.8'	7.7	926	12.4°	N		
Paw 8	8:22	32.9'	7.9	1289	13.9°	N		

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

Date: 6/29/22 Weather: Clear

Site ID	Time	Depth	pH	Conductivity	Temperature Degrees C	Laboratory Sample (Y/N)	Sampled By	Notes
Paw 1	8:39	7.8'	7.7	289	14.4°	Yes	NM	Q2 Lab samples ↓
Paw 9	7:53	15.4'	7.7	1007	10.7°	Yes	NM	
NE-6-10A	9:03	664.7'	8.7	1689	22.4°	Yes	NM	
NE-6-10B	10:20	372.6'	→ Lost Water Bailer, unable to complete sample, ordered new Bailer					

Nick Mason

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

Date: 9/26/22 Weather: Clear

Site ID	Time	Depth	pH	Conductivity	Temperature Degrees C	Laboratory Sample (Y/N)	Sampled By	Notes
TH-01	11:00	42.9'	No					Quarter 3
TH-02	11:03	70.6'	No					↓
TH-03	11:07	93.5'	No					

Nick Mason

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

Date: 9/30/22 Weather: Clear

Site ID	Time	Depth	pH	Conductivity	Temperature Degrees C	Laboratory Sample (Y/N)	Sampled By	Notes
NE-6-10A	11:00	667.3'	9.6	1696	20.9°	Y	NM	Quarter 3 Lab sample
NE-6-10B	11:30	372.1'	8.3	814	18.6°	Y	NM	

Nick Mason

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

Date: 12/14/22 Weather: Cold, Clear

Site ID	Time	Depth	pH	Conductivity	Temperature Degrees C	Laboratory Sample (Y/N)	Sampled By	Notes
Paw1	9:26	7.74'	8.4	275	8.8°	Y	NM	Quarter 4 Lab Samples
Paw9	10:30	15.5'	7.5	957	10.8°	Y	NM	
Paw8	9:55	33.2'	7.8	1116	9.9°	Y	NM	
Paw2	10:16	16.9'	7.9	863	8.1°	Y	NM	
PRS1	9:44	10.6 cfs	8.3	356	0.3°	Y	NM	
PRS4	10:40	13.4 cfs	8.5	423	0.4°	Y	NM	
New 2	10:53	340.5'	8.3	1197	10.9°	Y	NM	

Nick Mason

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

Date: 12/20/22 Weather: Cold, Clear

Site ID	Time	Depth	pH	Conductivity	Temperature Degrees C	Laboratory Sample (Y/N)	Sampled By	Notes
NE-6-10A	2:45	665.4'	8.6	1718	18.5°	Y	NM	Quarter 4 Lab samples
NE-6-10B	3:30	346.0'	8.2	1099	14.6°	Y	NM	
New 4	1:57	347.4'	8.0	2.0	13.9°	Y	NM	
NE-1-10	1:00	304.4'	9.7	1310	9.3°	Y	NM	
New 3	9:30	419.9'	No					Quarter 4 Level

Nick Mason

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

Date: 12/21/22 Weather: Clear

Site ID	Time	Depth	pH	Conductivity	Temperature Degrees C	Laboratory Sample (Y/N)	Sampled By	Notes
TH01	10:30	43.1'	No	No	No	No	No	Quarterly
TH02	10:45	71.1'	"	"	"	"	"	"
TH03	11:20	93.6'	"	"	"	"	"	"

Appendix B

(Lab Analytics)

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

Analytical Report

April 12, 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: L72233

Jim Begano:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 29, 2022. This project has been assigned to ACZ's project number, L72233. 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 L72233. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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

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

All samples and sub-samples associated with this project will be disposed of after May 12, 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: ***L72233-01***
Date Sampled: *03/28/22 12:15*
Date Received: *03/29/22*
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)								04/01/22 9:31	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								04/01/22 8:30	mlh
Total Hot Plate Digestion	M200.2 ICP				*				04/04/22 16:21	aeh
Total Recoverable Digestion	M200.2 ICP-MS								04/07/22 16:57	kja
Total Recoverable Digestion	M200.2 ICP				*				04/01/22 5:20	wtc

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	2	0.00427			mg/L	0.0004	0.002	04/07/22 20:46	kja
Boron, total	M200.7 ICP	5	<0.15	U		mg/L	0.15	0.5	04/06/22 10:32	wtc
Cadmium, potentially dissolved	M200.7 ICP	2	<0.016	U		mg/L	0.016	0.05	04/04/22 16:53	jlw
Calcium, dissolved	M200.7 ICP	5	2.82			mg/L	0.5	2.5	04/06/22 14:01	wtc
Chromium, total recoverable	M200.8 ICP-MS	2	0.0380			mg/L	0.001	0.004	04/07/22 20:46	kja
Copper, potentially dissolved	M200.7 ICP	2	<0.02	U		mg/L	0.02	0.1	04/04/22 16:53	jlw
Iron, dissolved	M200.7 ICP	5	<0.3	U	*	mg/L	0.3	0.75	04/06/22 14:01	wtc
Iron, total	M200.7 ICP	5	24.1			mg/L	0.3	0.75	04/06/22 10:32	wtc
Iron, total recoverable	M200.7 ICP	5	25.9			mg/L	0.3	0.75	04/01/22 20:25	wtc
Magnesium, dissolved	M200.7 ICP	5	<1	U	*	mg/L	1	5	04/06/22 14:01	wtc
Manganese, dissolved	M200.7 ICP	2	<0.02	U	*	mg/L	0.02	0.1	04/05/22 19:27	wtc
Manganese, potentially dissolved	M200.7 ICP	2	<0.02	U		mg/L	0.02	0.1	04/04/22 16:53	jlw
Manganese, total	M200.7 ICP	5	0.296			mg/L	0.05	0.25	04/06/22 10:32	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	04/04/22 14:04	mlh
Potassium, dissolved	M200.7 ICP	5	2.43	B	*	mg/L	1	5	04/06/22 14:01	wtc
Sodium, dissolved	M200.7 ICP	5	436		*	mg/L	1	5	04/06/22 14:01	wtc
Zinc, potentially dissolved	M200.7 ICP	2	<0.04	U		mg/L	0.04	0.1	04/04/22 16:53	jlw

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

ACZ Sample ID: ***L72233-01***
Date Sampled: *03/28/22 12:15*
Date Received: *03/29/22*
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	890		*	mg/L	2	20	04/04/22 0:00	jck
Carbonate as CaCO3		1	117		*	mg/L	2	20	04/04/22 0:00	jck
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	04/04/22 0:00	jck
Total Alkalinity		1	1010		*	mg/L	2	20	04/04/22 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-5.0			%			04/12/22 0:00	calc
Sum of Anions			21			meq/L			04/12/22 0:00	calc
Sum of Cations			19			meq/L			04/12/22 0:00	calc
Chloride	SM4500Cl-E	1	6.34		*	mg/L	0.5	2	04/11/22 13:10	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		7	B		mg/L	1	30	04/12/22 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							04/01/22 15:31	scd
Residue, Filterable (TDS) @180C	SM2540C	5	2220		*	mg/L	100	200	03/30/22 14:50	anc
Residue, Non-Filterable (TSS) @105C	SM2540D	4	572		*	mg/L	20	80	03/31/22 15:32	scd
Sodium Adsorption Ratio in Water	USGS - I1738-78		72						04/12/22 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	6.6		*	mg/L	1	5	04/11/22 13:16	mjj1

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

ACZ Sample ID: ***L72233-02***
Date Sampled: *03/28/22 13:00*
Date Received: *03/29/22*
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)								04/01/22 9:38	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								04/01/22 8:30	mlh
Total Hot Plate Digestion	M200.2 ICP								04/04/22 16:35	aeh
Total Recoverable Digestion	M200.2 ICP-MS								04/07/22 17:29	kja
Total Recoverable Digestion	M200.2 ICP								04/01/22 6:02	wtc

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00056	B		mg/L	0.0002	0.001	04/07/22 20:52	kja
Boron, total	M200.7 ICP	1	0.047	B		mg/L	0.03	0.1	04/06/22 10:35	wtc
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	04/04/22 16:56	jlw
Calcium, dissolved	M200.7 ICP	1	6.34			mg/L	0.1	0.5	04/05/22 19:30	wtc
Chromium, total recoverable	M200.8 ICP-MS	1	0.00520			mg/L	0.0005	0.002	04/07/22 20:52	kja
Copper, potentially dissolved	M200.7 ICP	1	0.013	B		mg/L	0.01	0.05	04/04/22 16:56	jlw
Iron, dissolved	M200.7 ICP	1	0.270			mg/L	0.06	0.15	04/05/22 19:30	wtc
Iron, total	M200.7 ICP	1	0.808			mg/L	0.06	0.15	04/06/22 10:35	wtc
Iron, total recoverable	M200.7 ICP	1	0.609			mg/L	0.06	0.15	04/01/22 20:28	wtc
Magnesium, dissolved	M200.7 ICP	1	0.46	B		mg/L	0.2	1	04/05/22 19:30	wtc
Manganese, dissolved	M200.7 ICP	1	0.058			mg/L	0.01	0.05	04/05/22 19:30	wtc
Manganese, potentially dissolved	M200.7 ICP	1	0.022	B		mg/L	0.01	0.05	04/04/22 16:56	jlw
Manganese, total	M200.7 ICP	1	0.029	B		mg/L	0.01	0.05	04/06/22 10:35	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	04/04/22 14:07	mlh
Potassium, dissolved	M200.7 ICP	1	1.23			mg/L	0.2	1	04/05/22 19:30	wtc
Sodium, dissolved	M200.7 ICP	1	192		*	mg/L	0.2	1	04/05/22 19:30	wtc
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	04/04/22 16:56	jlw

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

ACZ Sample ID: ***L72233-02***
Date Sampled: *03/28/22 13:00*
Date Received: *03/29/22*
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	436		*	mg/L	2	20	04/04/22 0:00	jck
Carbonate as CaCO3		1	17.1	B	*	mg/L	2	20	04/04/22 0:00	jck
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	04/04/22 0:00	jck
Total Alkalinity		1	453		*	mg/L	2	20	04/04/22 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.2			%			04/12/22 0:00	calc
Sum of Anions			9.3			meq/L			04/12/22 0:00	calc
Sum of Cations			8.9			meq/L			04/12/22 0:00	calc
Chloride	SM4500Cl-E	1	6.06		*	mg/L	0.5	2	04/11/22 13:12	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		18			mg/L	0.2	5	04/12/22 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							04/01/22 15:34	scd
Residue, Filterable (TDS) @180C	SM2540C	1	494		*	mg/L	20	40	03/30/22 14:55	anc
Residue, Non-Filterable (TSS) @105C	SM2540D	1	9.0	B	*	mg/L	5	20	03/31/22 15:33	scd
Sodium Adsorption Ratio in Water	USGS - I1738-78		20						04/12/22 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	1.8	B	*	mg/L	1	5	04/11/22 13:16	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

New Elk Coal Co. , LLC ACZ Project ID: ***L72233***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L72233-01	WG539620	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG540012	Chloride	SM4500Cl-E	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500Cl-E	Q6	Sample was received above recommended temperature.
	WG539620	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG539763	Iron, dissolved	M200.7 ICP	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
		Magnesium, dissolved	M200.7 ICP	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
	WG539702	Manganese, dissolved	M200.7 ICP	IA	Internal standard recovery exceeded the acceptance limits. Concentration of associated target analyte(s) in the sample is < MDL.
	WG539763	Potassium, dissolved	M200.7 ICP	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
	WG539313	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG539433	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).
	WG539763	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.
	WG540054	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.
	WG539620	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
	WG539558	Total Hot Plate Digestion	M200.2 ICP	DH	Sample required dilution due to high TDS and/or EC value.
	WG539415	Total Recoverable Digestion	M200.2 ICP	DF	Sample required dilution due to high sediment.
L72233-02	WG539620	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG540012	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
	WG539620	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG539313	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG539433	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
	WG539702	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.
	WG540054	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.
	WG539620	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

New Elk Coal Co. , LLC ACZ Project ID: ***L72233***

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: L72233
Date Received: 03/29/2022 11:29
Received By:
Date Printed: 3/30/2022

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?
6971	6.8	<=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:	L72233
Date Received:	03/29/2022 11:29
Received By:	
Date Printed:	3/30/2022

[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. L72233

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, Colorado 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
NE-6-10a	3/28/22 12:15	GW	6	
NE-6-10b	3/28/22 13:00	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 Containers

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
James T Begano	3/28/22 15:00	PW	3/29/22 11:25

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

Analytical Report

July 20, 2022

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

cc: Nick Mason, Nick Mason

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

Project ID:
ACZ Project ID: L74285

Jim Begano:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 01, 2022. This project has been assigned to ACZ's project number, L74285. 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 L74285. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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

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

All samples and sub-samples associated with this project will be disposed of after August 19, 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: PAW 1

ACZ Sample ID: ***L74285-01***
Date Sampled: *06/29/22 08:39*
Date Received: *07/01/22*
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)								07/03/22 9:40	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								07/06/22 14:40	kja
Total Hot Plate Digestion	M200.2 ICP								07/08/22 15:47	aeh
Total Recoverable Digestion	M200.2 ICP-MS								07/11/22 9:45	mfm
Total Recoverable Digestion	M200.2 ICP								07/11/22 17:02	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00240			mg/L	0.0002	0.001	07/12/22 11:07	mfm
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	07/17/22 2:55	keh1
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	07/15/22 13:07	keh1
Calcium, dissolved	M200.7 ICP	1	15.8			mg/L	0.1	0.5	07/15/22 9:03	keh1
Chromium, total recoverable	M200.8 ICP-MS	1	0.00095	B		mg/L	0.0005	0.002	07/12/22 11:07	mfm
Copper, potentially dissolved	M200.7 ICP	1	0.012	B		mg/L	0.01	0.05	07/15/22 13:07	keh1
Iron, dissolved	M200.7 ICP	1	0.235			mg/L	0.06	0.15	07/15/22 9:03	keh1
Iron, total	M200.7 ICP	1	36.3			mg/L	0.06	0.15	07/17/22 2:55	keh1
Iron, total recoverable	M200.7 ICP	1	40.4			mg/L	0.06	0.15	07/18/22 14:49	aeh
Magnesium, dissolved	M200.7 ICP	1	8.99			mg/L	0.2	1	07/15/22 9:03	keh1
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	07/15/22 9:03	keh1
Manganese, potentially dissolved	M200.7 ICP	1	0.050			mg/L	0.01	0.05	07/15/22 13:07	keh1
Manganese, total	M200.7 ICP	1	0.117			mg/L	0.01	0.05	07/19/22 3:46	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	07/06/22 13:49	mlh
Potassium, dissolved	M200.7 ICP	1	1.50			mg/L	0.2	1	07/15/22 9:03	keh1
Sodium, dissolved	M200.7 ICP	1	18.2			mg/L	0.2	1	07/15/22 9:03	keh1
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	07/15/22 13:07	keh1

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

ACZ Sample ID: ***L74285-01***
Date Sampled: *06/29/22 08:39*
Date Received: *07/01/22*
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	97.2		*	mg/L	2	20	07/07/22 0:00	jck
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	07/07/22 0:00	jck
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	07/07/22 0:00	jck
Total Alkalinity		1	97.2		*	mg/L	2	20	07/07/22 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			07/20/22 0:00	calc
Sum of Anions			2.4			meq/L			07/20/22 0:00	calc
Sum of Cations			2.4			meq/L			07/20/22 0:00	calc
Chloride	SM4500Cl-E	1	11.7		*	mg/L	0.5	2	07/11/22 12:11	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		77			mg/L	0.2	5	07/20/22 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							07/08/22 7:46	mlh
Residue, Filterable (TDS) @180C	SM2540C	1	104		*	mg/L	20	40	07/05/22 14:12	pcj
Residue, Non-Filterable (TSS) @105C	SM2540D	2	102		*	mg/L	10	40	07/06/22 13:12	pcj
Sodium Adsorption Ratio in Water	USGS - I1738-78		0.92						07/20/22 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	5.0	B	*	mg/L	1	5	07/11/22 12:32	mjj1

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

ACZ Sample ID: ***L74285-02***
Date Sampled: *06/29/22 07:53*
Date Received: *07/01/22*
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)								07/03/22 9:47	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								07/06/22 14:40	kja
Total Hot Plate Digestion	M200.2 ICP								07/08/22 16:01	aeh
Total Recoverable Digestion	M200.2 ICP-MS								07/11/22 9:45	mfm
Total Recoverable Digestion	M200.2 ICP								07/11/22 17:28	aeh

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	07/12/22 11:09	mfm
Boron, total	M200.7 ICP	1	0.035	B		mg/L	0.03	0.1	07/17/22 2:58	keh1
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	07/15/22 13:16	keh1
Calcium, dissolved	M200.7 ICP	1	72.2			mg/L	0.1	0.5	07/15/22 9:06	keh1
Chromium, total recoverable	M200.8 ICP-MS	1	0.00086	B		mg/L	0.0005	0.002	07/12/22 11:09	mfm
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	07/15/22 13:16	keh1
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	07/15/22 9:06	keh1
Iron, total	M200.7 ICP	1	0.570			mg/L	0.06	0.15	07/17/22 2:58	keh1
Iron, total recoverable	M200.7 ICP	1	0.664			mg/L	0.06	0.15	07/18/22 14:52	aeh
Magnesium, dissolved	M200.7 ICP	1	19.4			mg/L	0.2	1	07/15/22 9:06	keh1
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	07/15/22 9:06	keh1
Manganese, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	07/15/22 13:16	keh1
Manganese, total	M200.7 ICP	1	0.042	B		mg/L	0.01	0.05	07/19/22 3:49	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	07/06/22 13:50	mlh
Potassium, dissolved	M200.7 ICP	1	2.25			mg/L	0.2	1	07/15/22 9:06	keh1
Sodium, dissolved	M200.7 ICP	1	125			mg/L	0.2	1	07/15/22 9:06	keh1
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	07/15/22 13:16	keh1

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

ACZ Sample ID: ***L74285-02***
Date Sampled: *06/29/22 07:53*
Date Received: *07/01/22*
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	425		*	mg/L	2	20	07/07/22 0:00	jck
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	07/07/22 0:00	jck
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	07/07/22 0:00	jck
Total Alkalinity		1	425		*	mg/L	2	20	07/07/22 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			07/20/22 0:00	calc
Sum of Anions			11			meq/L			07/20/22 0:00	calc
Sum of Cations			11			meq/L			07/20/22 0:00	calc
Chloride	SM4500Cl-E	1	24.8		*	mg/L	0.5	2	07/11/22 12:12	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		260			mg/L	0.2	5	07/20/22 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							07/08/22 7:49	mlh
Residue, Filterable (TDS) @180C	SM2540C	1	572		*	mg/L	20	40	07/05/22 14:14	pcj
Residue, Non-Filterable (TSS) @105C	SM2540D	1	20.0		*	mg/L	5	20	07/06/22 13:15	pcj
Sodium Adsorption Ratio in Water	USGS - I1738-78		3.4						07/20/22 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	73.2		*	mg/L	5	25	07/11/22 13:18	mjj1

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

ACZ Sample ID: ***L74285-03***
Date Sampled: *06/29/22 09:03*
Date Received: *07/01/22*
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)								07/03/22 9:53	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								07/06/22 14:40	kja
Total Hot Plate Digestion	M200.2 ICP								07/08/22 16:15	aeh
Total Recoverable Digestion	M200.2 ICP								07/11/22 17:54	aeh
Total Recoverable Digestion	M200.2 ICP-MS								07/11/22 9:45	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00069	B		mg/L	0.0002	0.001	07/12/22 11:15	mfm
Boron, total	M200.7 ICP	1	0.069	B		mg/L	0.03	0.1	07/17/22 3:01	keh1
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	07/15/22 13:19	keh1
Calcium, dissolved	M200.7 ICP	1	2.92			mg/L	0.1	0.5	07/15/22 9:09	keh1
Chromium, total recoverable	M200.8 ICP-MS	1	0.00189	B		mg/L	0.0005	0.002	07/12/22 11:15	mfm
Copper, potentially dissolved	M200.7 ICP	1	0.040	B		mg/L	0.01	0.05	07/15/22 13:19	keh1
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	07/15/22 9:09	keh1
Iron, total	M200.7 ICP	1	6.28			mg/L	0.06	0.15	07/17/22 3:01	keh1
Iron, total recoverable	M200.7 ICP	1	2.01			mg/L	0.06	0.15	07/18/22 14:55	aeh
Magnesium, dissolved	M200.7 ICP	1	0.91	B		mg/L	0.2	1	07/15/22 9:09	keh1
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	07/15/22 9:09	keh1
Manganese, potentially dissolved	M200.7 ICP	1	0.012	B		mg/L	0.01	0.05	07/15/22 13:19	keh1
Manganese, total	M200.7 ICP	1	0.049	B		mg/L	0.01	0.05	07/19/22 3:52	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	07/06/22 13:51	mlh
Potassium, dissolved	M200.7 ICP	1	2.68			mg/L	0.2	1	07/15/22 9:09	keh1
Sodium, dissolved	M200.7 ICP	1	444			mg/L	0.2	1	07/15/22 9:09	keh1
Zinc, potentially dissolved	M200.7 ICP	1	0.064			mg/L	0.02	0.05	07/15/22 13:19	keh1

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

ACZ Sample ID: ***L74285-03***
Date Sampled: *06/29/22 09:03*
Date Received: *07/01/22*
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	844		*	mg/L	2	20	07/07/22 0:00	jck
Carbonate as CaCO3		1	108		*	mg/L	2	20	07/07/22 0:00	jck
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	07/07/22 0:00	jck
Total Alkalinity		1	952		*	mg/L	2	20	07/07/22 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			2.6			%			07/20/22 0:00	calc
Sum of Anions			19			meq/L			07/20/22 0:00	calc
Sum of Cations			20			meq/L			07/20/22 0:00	calc
Chloride	SM4500Cl-E	1	5.44		*	mg/L	0.5	2	07/11/22 12:13	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		11.0			mg/L	0.2	5	07/20/22 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							07/08/22 7:51	mlh
Residue, Filterable (TDS) @180C	SM2540C	2	1030		*	mg/L	40	80	07/05/22 14:17	pcj
Residue, Non-Filterable (TSS) @105C	SM2540D	1	15.0	B	*	mg/L	5	20	07/06/22 13:18	pcj
Sodium Adsorption Ratio in Water	USGS - I1738-78		59						07/20/22 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	<1	U	*	mg/L	1	5	07/11/22 12:32	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

New Elk Coal Co. , LLC ACZ Project ID: ***L74285***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L74285-01	WG545956	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG546115	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
	WG545956	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG545712	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG545849	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).
	WG546110	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.
	WG545956	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
			SM2320B - Titration	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
L74285-02	WG545956	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG546115	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
	WG545956	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG545712	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG545849	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
	WG546110	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.
	WG545956	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
L74285-03	WG545956	Bicarbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
		Carbonate as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG546115	Chloride	SM4500Cl-E	Q6	Sample was received above recommended temperature.
	WG545956	Hydroxide as CaCO3	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG545712	Residue, Filterable (TDS) @180C	SM2540C	Q6	Sample was received above recommended temperature.
	WG545849	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
	WG546110	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.
	WG545956	Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.

Certification Qualifiers

New Elk Coal Co. , LLC

ACZ Project ID: ***L74285***

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: L74285
Date Received: 07/01/2022 12:14
Received By:
Date Printed: 7/5/2022

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 Zip Code and # of Containers section prior to ACZ custody.

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

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

A change was made in the Zip Code 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	

L74285-02 Container B2561892 (GREEN PD): Added 1 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

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	

L74285-02 : A Green PD container not received and a new container created from the Raw .

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

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

Sample Receipt

New Elk Coal Co. , LLC

ACZ Project ID: L74285
Date Received: 07/01/2022 12:14
Received By:
Date Printed: 7/5/2022

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
6829	11.9	<=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.

[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 | Accredited Environmental Testing | 2773 Downhill Drive Steamboat Springs, CO 80487 (970) 879-6590 | L74285

CHAIN of CUSTODY

Report to:

Name: Jim Begano
Company: New Elk Coal Co.
E-mail: Jimb@newelkcoal.com
Address: 12250 St. 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: Melissa Cruz
Company: New Elk Coal Co.
E-mail: mcruz@newelkcoal.com
Address: 12250 St. Hwy 12 Weston, CO 81091
Telephone: 719-631-6142

Copy of Invoice to:

Name:
Company:
E-mail:
Address:
Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [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: N. Mason **Sampler's Site Information** State CO Zip code 81091 Time Zone MDT

***Sampler's Signature:** [signature]

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

PROJECT INFORMATION

Quote #: 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	6/29/22 8:39	GW	X	6
Paw 9	6/29/22 7:57	GW	X	6
NE-6-10a	6/29/22 9:03	GW	X	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: Sample Bottle), paperwork
Ice bottles, cooler

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	6/29/22 15:25	[signature]	7/1/22 1214

L74285 Chain of Custod

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

Analytical Report

October 21, 2022

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: L76362

Jim Begano:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on October 03, 2022. This project has been assigned to ACZ's project number, L76362. 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 L76362. 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 November 20, 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: ***L76362-01***
Date Sampled: *09/30/22 11:00*
Date Received: *10/03/22*
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)								10/04/22 16:31	mfm
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								10/10/22 17:00	mlh
Total Hot Plate Digestion	M200.2 ICP								10/11/22 16:22	aeh
Total Recoverable Digestion	M200.2 ICP-MS								10/06/22 13:04	kja
Total Recoverable Digestion	M200.2 ICP								10/07/22 13:44	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00035	B		mg/L	0.0002	0.001	10/07/22 19:01	mfm
Boron, total	M200.7 ICP	1	0.049	B		mg/L	0.03	0.1	10/17/22 13:44	wtc
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	10/10/22 11:53	aeh
Calcium, dissolved	M200.7 ICP	1	3.54			mg/L	0.1	0.5	10/17/22 21:37	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	0.00260			mg/L	0.0005	0.002	10/07/22 19:01	mfm
Copper, potentially dissolved	M200.7 ICP	1	0.012	B		mg/L	0.01	0.05	10/10/22 11:53	aeh
Iron, dissolved	M200.7 ICP	1	0.109	B		mg/L	0.06	0.15	10/17/22 21:37	aeh
Iron, total	M200.7 ICP	1	0.399			mg/L	0.06	0.15	10/17/22 13:44	wtc
Iron, total recoverable	M200.7 ICP	1	0.411			mg/L	0.06	0.15	10/13/22 3:22	wtc
Magnesium, dissolved	M200.7 ICP	1	1.02			mg/L	0.2	1	10/17/22 21:37	aeh
Manganese, dissolved	M200.7 ICP	1	0.011	B		mg/L	0.01	0.05	10/17/22 21:37	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.013	B		mg/L	0.01	0.05	10/10/22 11:53	aeh
Manganese, total	M200.7 ICP	1	0.011	B		mg/L	0.01	0.05	10/17/22 13:44	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	10/06/22 15:49	mlh
Potassium, dissolved	M200.7 ICP	1	3.00			mg/L	0.2	1	10/17/22 21:37	aeh
Sodium, dissolved	M200.7 ICP	1	415			mg/L	0.2	1	10/17/22 21:37	aeh
Zinc, potentially dissolved	M200.7 ICP	1	0.089			mg/L	0.02	0.05	10/10/22 11:53	aeh

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

ACZ Sample ID: ***L76362-01***
Date Sampled: *09/30/22 11:00*
Date Received: *10/03/22*
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	825			mg/L	2	20	10/05/22 0:00	emk
Carbonate as CaCO3		1	108			mg/L	2	20	10/05/22 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	10/05/22 0:00	emk
Total Alkalinity		1	933			mg/L	2	20	10/05/22 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			10/21/22 0:00	calc
Sum of Anions			19			meq/L			10/21/22 0:00	calc
Sum of Cations			19			meq/L			10/21/22 0:00	calc
Chloride	SM4500Cl-E	1	6.98		*	mg/L	1	2	10/13/22 14:35	mrd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		13.0			mg/L	0.2	5	10/21/22 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							10/12/22 9:32	mlh
Residue, Filterable (TDS) @180C	SM2540C	2	1060	H	*	mg/L	40	80	10/14/22 16:28	mrb
Residue, Non-Filterable (TSS) @105C	SM2540D	1	25.0		*	mg/L	5	20	10/06/22 14:16	mrb
Sodium Adsorption Ratio in Water	USGS - I1738-78		51						10/21/22 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	<1	U	*	mg/L	1	5	10/12/22 19:20	gkk

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

ACZ Sample ID: ***L76362-02***
Date Sampled: *09/30/22 11:30*
Date Received: *10/03/22*
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)								10/04/22 16:40	mfm
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								10/10/22 17:00	mlh
Total Hot Plate Digestion	M200.2 ICP								10/11/22 16:35	aeh
Total Recoverable Digestion	M200.2 ICP-MS								10/06/22 13:17	kja
Total Recoverable Digestion	M200.2 ICP								10/07/22 14:10	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00096	B		mg/L	0.0002	0.001	10/07/22 19:07	mfm
Boron, total	M200.7 ICP	1	0.036	B		mg/L	0.03	0.1	10/17/22 13:47	wtc
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	10/10/22 11:56	aeh
Calcium, dissolved	M200.7 ICP	1	6.98			mg/L	0.1	0.5	10/17/22 21:40	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	0.0533			mg/L	0.0005	0.002	10/07/22 19:07	mfm
Copper, potentially dissolved	M200.7 ICP	1	0.039	B		mg/L	0.01	0.05	10/10/22 11:56	aeh
Iron, dissolved	M200.7 ICP	1	1.15			mg/L	0.06	0.15	10/17/22 21:40	aeh
Iron, total	M200.7 ICP	1	4.54			mg/L	0.06	0.15	10/17/22 13:47	wtc
Iron, total recoverable	M200.7 ICP	1	4.90			mg/L	0.06	0.15	10/13/22 3:25	wtc
Magnesium, dissolved	M200.7 ICP	1	0.71	B		mg/L	0.2	1	10/17/22 21:40	aeh
Manganese, dissolved	M200.7 ICP	1	0.065			mg/L	0.01	0.05	10/17/22 21:40	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.094			mg/L	0.01	0.05	10/10/22 11:56	aeh
Manganese, total	M200.7 ICP	1	0.103			mg/L	0.01	0.05	10/17/22 13:47	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	10/06/22 15:50	mlh
Potassium, dissolved	M200.7 ICP	1	1.51			mg/L	0.2	1	10/17/22 21:40	aeh
Sodium, dissolved	M200.7 ICP	1	180			mg/L	0.2	1	10/17/22 21:40	aeh
Zinc, potentially dissolved	M200.7 ICP	1	0.053			mg/L	0.02	0.05	10/10/22 11:56	aeh

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

ACZ Sample ID: ***L76362-02***
Date Sampled: *09/30/22 11:30*
Date Received: *10/03/22*
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	416			mg/L	2	20	10/05/22 0:00	emk
Carbonate as CaCO3		1	<2	U		mg/L	2	20	10/05/22 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	10/05/22 0:00	emk
Total Alkalinity		1	416		*	mg/L	2	20	10/05/22 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-1.2			%			10/21/22 0:00	calc
Sum of Anions			8.6			meq/L			10/21/22 0:00	calc
Sum of Cations			8.4			meq/L			10/21/22 0:00	calc
Chloride	SM4500Cl-E	1	7.77		*	mg/L	1	2	10/13/22 14:35	mrd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		20			mg/L	0.2	5	10/21/22 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							10/12/22 9:36	mlh
Residue, Filterable (TDS) @180C	SM2540C	1	488	H	*	mg/L	20	40	10/14/22 16:30	mrb
Residue, Non-Filterable (TSS) @105C	SM2540D	1	75.0		*	mg/L	5	20	10/06/22 14:19	mrb
Sodium Adsorption Ratio in Water	USGS - I1738-78		18						10/21/22 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	2.4	B	*	mg/L	1	5	10/12/22 19:02	gkk

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

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: ***L76362***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L76362-01	WG552675	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).
	WG552852	Residue, Filterable (TDS) @180C	SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG552170	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).
	WG552652	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M1	Matrix spike recovery was high, 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).
L76362-02	WG552675	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).
	WG552852	Residue, Filterable (TDS) @180C	SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG552170	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).
	WG552652	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M1	Matrix spike recovery was high, 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).
	WG552082	Total Alkalinity	SM2320B - Titration	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.

Certification Qualifiers

New Elk Coal Co. , LLC

ACZ Project ID: ***L76362***

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: L76362
Date Received: 10/03/2022 13:34
Received By:
Date Printed: 10/4/2022

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?
2314	4.8	<=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:	L76362
Date Received:	10/03/2022 13:34
Received By:	
Date Printed:	10/4/2022

[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.

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

L76362

CHAIN of CUSTODY

Report to:

Name: James F. Begano	Address: 12250 State Highway 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: Melissa Cruz	Address: 12250 State Highway 12
Company: mcruz@newelkcoal.com	Weston, CO 81091
E-mail: New Elk Coal Co.	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: NM **Sampler's Site Information** State CO 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

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	9/30/22 11:00	GW	6	
NE-6-10-B	9/30/22 11:30	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
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
[signature]	9/30/22 3:00 pm	[signature]	10/3/22 1334

L76362 Chain of Custody

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

Analytical Report

January 16, 2023

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

cc: Ron Thompson

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

Project ID:
ACZ Project ID: L77743

Nicholas Mason:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 15, 2022. This project has been assigned to ACZ's project number, L77743. 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 L77743. 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 15, 2023. 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: ***L77743-01***
Date Sampled: *12/14/22 09:26*
Date Received: *12/15/22*
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)								12/17/22 7:46	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/20/22 10:00	mlh
Total Hot Plate Digestion	M200.2 ICP								12/21/22 19:30	aeh
Total Recoverable Digestion	M200.2 ICP-MS				*				12/26/22 13:55	kja
Total Recoverable Digestion	M200.2 ICP								12/20/22 17:07	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	2	<0.0004	U		mg/L	0.0004	0.002	01/03/23 14:40	kja
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	01/11/23 20:56	aeh
Cadmium, potentially dissolved	M200.7 ICP	1	0.0083	B		mg/L	0.008	0.025	01/06/23 16:20	wtc
Calcium, dissolved	M200.7 ICP	1	50.3			mg/L	0.1	0.5	01/11/23 19:05	aeh
Chromium, total recoverable	M200.8 ICP-MS	2	<0.001	U		mg/L	0.001	0.004	01/03/23 14:40	kja
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	01/06/23 16:20	wtc
Iron, dissolved	M200.7 ICP	1	<0.06	U		mg/L	0.06	0.15	01/11/23 19:05	aeh
Iron, total	M200.7 ICP	1	0.250			mg/L	0.06	0.15	01/12/23 16:04	wtc
Iron, total recoverable	M200.7 ICP	1	0.264			mg/L	0.06	0.15	01/06/23 21:48	aeh
Magnesium, dissolved	M200.7 ICP	1	8.29			mg/L	0.2	1	01/11/23 19:05	aeh
Manganese, dissolved	M200.7 ICP	1	0.029	B		mg/L	0.01	0.05	01/11/23 19:05	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.052			mg/L	0.01	0.05	01/06/23 16:20	wtc
Manganese, total	M200.7 ICP	1	0.051			mg/L	0.01	0.05	01/11/23 20:56	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/20/22 13:57	mlh
Potassium, dissolved	M200.7 ICP	1	1.73			mg/L	0.2	1	01/11/23 19:05	aeh
Sodium, dissolved	M200.7 ICP	1	7.02			mg/L	0.2	1	01/11/23 19:05	aeh
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	01/05/23 23:41	aeh

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

ACZ Sample ID: ***L77743-01***
Date Sampled: *12/14/22 09:26*
Date Received: *12/15/22*
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	143			mg/L	2	20	12/23/22 0:00	emk
Carbonate as CaCO3		1	<2	U		mg/L	2	20	12/23/22 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/23/22 0:00	emk
Total Alkalinity		1	143			mg/L	2	20	12/23/22 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.0			%			01/16/23 0:00	calc
Sum of Anions			3.9			meq/L			01/16/23 0:00	calc
Sum of Cations			3.6			meq/L			01/16/23 0:00	calc
Chloride	SM4500Cl-E	1	2.89		*	mg/L	1	2	12/28/22 16:55	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		160			mg/L	0.2	5	01/16/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/23/22 13:26	ssr
Residue, Filterable (TDS) @180C	SM2540C	1	232			mg/L	20	40	12/20/22 18:06	svm
Residue, Non-Filterable (TSS) @105C	SM2540D	1	5.0	B	*	mg/L	5	20	12/20/22 21:17	jck
Sodium Adsorption Ratio in Water	USGS - I1738-78		0.24						01/16/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	44.0		*	mg/L	5	25	01/05/23 11:22	gkk

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

ACZ Sample ID: ***L77743-02***
Date Sampled: *12/14/22 10:43*
Date Received: *12/15/22*
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)								12/17/22 7:54	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/20/22 10:00	mlh
Total Hot Plate Digestion	M200.2 ICP								12/21/22 19:44	aeh
Total Recoverable Digestion	M200.2 ICP-MS								12/26/22 14:28	kja
Total Recoverable Digestion	M200.2 ICP								12/20/22 17:35	aeh

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	01/03/23 14:46	kja
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	01/11/23 20:59	aeh
Cadmium, potentially dissolved	M200.7 ICP	1	0.0082	B		mg/L	0.008	0.025	01/06/23 16:24	wtc
Calcium, dissolved	M200.7 ICP	1	52.6			mg/L	0.1	0.5	01/11/23 19:09	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	01/03/23 14:46	kja
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	01/06/23 16:24	wtc
Iron, dissolved	M200.7 ICP	1	0.076	B		mg/L	0.06	0.15	01/11/23 19:09	aeh
Iron, total	M200.7 ICP	1	0.234			mg/L	0.06	0.15	01/12/23 16:13	wtc
Iron, total recoverable	M200.7 ICP	1	0.217			mg/L	0.06	0.15	01/06/23 21:51	aeh
Magnesium, dissolved	M200.7 ICP	1	8.86			mg/L	0.2	1	01/11/23 19:09	aeh
Manganese, dissolved	M200.7 ICP	1	0.015	B		mg/L	0.01	0.05	01/11/23 19:09	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.038	B		mg/L	0.01	0.05	01/06/23 16:24	wtc
Manganese, total	M200.7 ICP	1	0.041	B		mg/L	0.01	0.05	01/11/23 20:59	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/20/22 13:58	mlh
Potassium, dissolved	M200.7 ICP	1	1.55			mg/L	0.2	1	01/11/23 19:09	aeh
Sodium, dissolved	M200.7 ICP	1	8.89			mg/L	0.2	1	01/11/23 19:09	aeh
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	01/05/23 23:44	aeh

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

ACZ Sample ID: ***L77743-02***
Date Sampled: *12/14/22 10:43*
Date Received: *12/15/22*
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	148			mg/L	2	20	12/23/22 0:00	emk
Carbonate as CaCO3		1	<2	U		mg/L	2	20	12/23/22 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/23/22 0:00	emk
Total Alkalinity		1	148			mg/L	2	20	12/23/22 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.6			%			01/16/23 0:00	calc
Sum of Anions			4			meq/L			01/16/23 0:00	calc
Sum of Cations			3.8			meq/L			01/16/23 0:00	calc
Chloride	SM4500Cl-E	1	2.82		*	mg/L	1	2	12/28/22 16:56	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		168			mg/L	0.2	5	01/16/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/23/22 13:42	ssr
Residue, Filterable (TDS) @180C	SM2540C	1	240			mg/L	20	40	12/20/22 18:08	svm
Residue, Non-Filterable (TSS) @105C	SM2540D	1	<5	U	*	mg/L	5	20	12/21/22 12:25	svm
Sodium Adsorption Ratio in Water	USGS - I1738-78		0.30						01/16/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	44.6		*	mg/L	5	25	01/05/23 11:22	gkk

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

ACZ Sample ID: ***L77743-03***
Date Sampled: *12/14/22 11:04*
Date Received: *12/15/22*
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)								12/17/22 8:02	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/20/22 10:00	mlh
Total Hot Plate Digestion	M200.2 ICP								12/21/22 19:58	aeh
Total Recoverable Digestion	M200.2 ICP-MS								12/26/22 14:39	kja
Total Recoverable Digestion	M200.2 ICP								01/06/23 18:30	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00168			mg/L	0.0002	0.001	01/03/23 14:47	kja
Boron, total	M200.7 ICP	1	0.037	B		mg/L	0.03	0.1	01/11/23 21:02	aeh
Cadmium, potentially dissolved	M200.7 ICP	1	0.0080	B		mg/L	0.008	0.025	01/06/23 16:27	wtc
Calcium, dissolved	M200.7 ICP	1	10.8			mg/L	0.1	0.5	01/11/23 19:12	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	0.00309			mg/L	0.0005	0.002	01/03/23 14:47	kja
Copper, potentially dissolved	M200.7 ICP	1	0.196			mg/L	0.01	0.05	01/06/23 16:27	wtc
Iron, dissolved	M200.7 ICP	1	1.58			mg/L	0.06	0.15	01/11/23 19:12	aeh
Iron, total	M200.7 ICP	1	8.76			mg/L	0.06	0.15	01/12/23 16:17	wtc
Iron, total recoverable	M200.7 ICP	1	13.0			mg/L	0.06	0.15	01/10/23 21:34	aeh
Magnesium, dissolved	M200.7 ICP	1	5.13			mg/L	0.2	1	01/11/23 19:12	aeh
Manganese, dissolved	M200.7 ICP	1	0.045	B		mg/L	0.01	0.05	01/11/23 19:12	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.098			mg/L	0.01	0.05	01/06/23 16:27	wtc
Manganese, total	M200.7 ICP	1	0.110			mg/L	0.01	0.05	01/11/23 21:02	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/20/22 13:59	mlh
Potassium, dissolved	M200.7 ICP	1	6.82			mg/L	0.2	1	01/11/23 19:12	aeh
Sodium, dissolved	M200.7 ICP	1	479			mg/L	0.2	1	01/11/23 19:12	aeh
Zinc, potentially dissolved	M200.7 ICP	1	0.270			mg/L	0.02	0.05	01/05/23 23:53	aeh

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

ACZ Sample ID: ***L77743-03***
Date Sampled: *12/14/22 11:04*
Date Received: *12/15/22*
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	12/23/22 0:00	emk
Carbonate as CaCO3		1	30.1			mg/L	2	20	12/23/22 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/23/22 0:00	emk
Total Alkalinity		1	1100			mg/L	2	20	12/23/22 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-6.4			%			01/16/23 0:00	calc
Sum of Anions			25			meq/L			01/16/23 0:00	calc
Sum of Cations			22			meq/L			01/16/23 0:00	calc
Chloride	SM4500Cl-E	1	8.59		*	mg/L	1	2	12/28/22 16:56	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		48			mg/L	0.2	5	01/16/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/23/22 13:57	ssr
Residue, Filterable (TDS) @180C	SM2540C	1	1350		*	mg/L	20	40	12/20/22 18:14	svm
Residue, Non-Filterable (TSS) @105C	SM2540D	1	40.0		*	mg/L	5	20	12/21/22 12:28	svm
Sodium Adsorption Ratio in Water	USGS - I1738-78		30						01/16/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	137		*	mg/L	5	25	01/05/23 11:24	gkk

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: ***L77743***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L77743-01	WG557450	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG557097	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
	WG557818	Sulfate	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).
	WG557300	Total Recoverable Digestion	M200.2 ICP-MS	DJ	Sample dilution required due to insufficient sample.
L77743-02	WG557450	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG557152	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
	WG557818	Sulfate	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).
L77743-03	WG557450	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG557094	Residue, Filterable (TDS) @180C	SM2540C	RO	The duplicate originally assigned to this sample was not used for precision assessment because residue density did not meet method limits. Another duplicate in the batch was used to assess precision. Method required duplicate frequency was not met.
	WG557152	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).
	WG557818	Sulfate	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: ***L77743***

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: L77743
Date Received: 12/15/2022 12:15
Received By:
Date Printed: 12/16/2022

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	

L77743-01 Container B2633628 (GREEN PD): Added 1 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

L77743-02 Container B2633639 (GREEN PD): Added 1 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

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	

L77743-01 : A green pd container not received and a new container created from the raw .

L77743-02 : A green pd container not received and a new container created from the raw .

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

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

Sample Receipt

New Elk Coal Co. , LLC

ACZ Project ID: L77743
Date Received: 12/15/2022 12:15
Received By:
Date Printed: 12/16/2022

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
7080	2.7	<=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. L77743

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

CHAIN of CUSTODY

Report to:

Name: Nicholas Mason
Company: New Elk Coal Co.
E-mail: nmason@newelkcoal.com
Address: 12250 State Hwy 12
Weston, CO 81091
Telephone: 719-631-6146

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Melissa Cruz
Company: New Elk Coal Co.
E-mail: mcruz@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: Nick Mason **Sampler's Site Information** State CO 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

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
PRS-1	12/14/22 9:26	GW	4	
PRS-4	12/14/22 10:43	GW	4	
New 2	12/14/22 11:04	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
Ice Containers
Paperwork
3 → 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
[signature]	12/14/22 3:04	[signature]	12/15/22 12:15

L77743 Chain of Custod

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

Analytical Report

January 13, 2023

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

cc: Ron Thompson

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

Project ID:
ACZ Project ID: L77742

Nicholas Mason:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 15, 2022. This project has been assigned to ACZ's project number, L77742. 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 L77742. 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 12, 2023. 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: PAW 1

ACZ Sample ID: ***L77742-01***
Date Sampled: *12/14/22 09:38*
Date Received: *12/15/22*
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)								12/17/22 7:15	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/20/22 10:00	mlh
Total Hot Plate Digestion	M200.2 ICP								12/21/22 18:34	aeh
Total Recoverable Digestion	M200.2 ICP-MS								12/26/22 13:11	kja
Total Recoverable Digestion	M200.2 ICP								12/19/22 17:27	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00083	B		mg/L	0.0002	0.001	12/28/22 15:20	kja
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	01/11/23 20:38	aeh
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	01/06/23 16:01	wtc
Calcium, dissolved	M200.7 ICP	1	19.0			mg/L	0.1	0.5	01/11/23 18:40	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	0.00253			mg/L	0.0005	0.002	12/28/22 15:20	kja
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	01/06/23 16:01	wtc
Iron, dissolved	M200.7 ICP	1	1.05			mg/L	0.06	0.15	01/11/23 18:40	aeh
Iron, total	M200.7 ICP	1	16.7			mg/L	0.06	0.15	01/12/23 15:51	wtc
Iron, total recoverable	M200.7 ICP	1	16.9			mg/L	0.06	0.15	01/07/23 1:15	aeh
Magnesium, dissolved	M200.7 ICP	1	10.7			mg/L	0.2	1	01/11/23 18:40	aeh
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	01/11/23 18:40	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.051			mg/L	0.01	0.05	01/06/23 16:01	wtc
Manganese, total	M200.7 ICP	1	0.076			mg/L	0.01	0.05	01/11/23 20:38	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U	*	mg/L	0.0002	0.001	12/20/22 14:32	mlh
Potassium, dissolved	M200.7 ICP	1	1.77			mg/L	0.2	1	01/11/23 18:40	aeh
Sodium, dissolved	M200.7 ICP	1	17.2			mg/L	0.2	1	01/11/23 18:40	aeh
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	01/05/23 23:29	aeh

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

ACZ Sample ID: ***L77742-01***
Date Sampled: *12/14/22 09:38*
Date Received: *12/15/22*
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	121			mg/L	2	20	12/22/22 0:00	emk
Carbonate as CaCO3		1	<2	U		mg/L	2	20	12/22/22 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/22/22 0:00	emk
Total Alkalinity		1	121			mg/L	2	20	12/22/22 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-1.8			%			01/13/23 0:00	calc
Sum of Anions			2.8			meq/L			01/13/23 0:00	calc
Sum of Cations			2.7			meq/L			01/13/23 0:00	calc
Chloride	SM4500Cl-E	1	12.5		*	mg/L	1	2	12/28/22 16:53	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		92			mg/L	0.2	5	01/13/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/23/22 12:25	ssr
Residue, Filterable (TDS) @180C	SM2540C	2	152			mg/L	40	80	12/21/22 11:22	emk
Residue, Non-Filterable (TSS) @105C	SM2540D	1	66.0		*	mg/L	5	20	12/20/22 21:07	jck
Sodium Adsorption Ratio in Water	USGS - I1738-78		0.79						01/13/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	2.7	B	*	mg/L	1	5	01/05/23 12:51	gkk

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

ACZ Sample ID: ***L77742-02***
Date Sampled: *12/14/22 10:24*
Date Received: *12/15/22*
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)								12/17/22 7:23	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/20/22 10:00	mlh
Total Hot Plate Digestion	M200.2 ICP								12/21/22 18:48	aeh
Total Recoverable Digestion	M200.2 ICP-MS								12/26/22 13:22	kja
Total Recoverable Digestion	M200.2 ICP								12/19/22 17:41	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00183			mg/L	0.0002	0.001	12/28/22 15:22	kja
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	01/11/23 20:41	aeh
Cadmium, potentially dissolved	M200.7 ICP	1	0.0084	B		mg/L	0.008	0.025	01/06/23 16:11	wtc
Calcium, dissolved	M200.7 ICP	1	88.8			mg/L	0.1	0.5	01/11/23 18:43	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	0.00431			mg/L	0.0005	0.002	12/28/22 15:22	kja
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	01/06/23 16:11	wtc
Iron, dissolved	M200.7 ICP	1	2.08			mg/L	0.06	0.15	01/11/23 18:43	aeh
Iron, total	M200.7 ICP	1	23.4			mg/L	0.06	0.15	01/12/23 15:54	wtc
Iron, total recoverable	M200.7 ICP	1	23.2			mg/L	0.06	0.15	01/07/23 1:19	aeh
Magnesium, dissolved	M200.7 ICP	1	17.9			mg/L	0.2	1	01/11/23 18:43	aeh
Manganese, dissolved	M200.7 ICP	1	0.982			mg/L	0.01	0.05	01/11/23 18:43	aeh
Manganese, potentially dissolved	M200.7 ICP	1	1.07			mg/L	0.01	0.05	01/06/23 16:11	wtc
Manganese, total	M200.7 ICP	1	1.15			mg/L	0.01	0.05	01/11/23 20:41	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U	*	mg/L	0.0002	0.001	12/20/22 14:33	mlh
Potassium, dissolved	M200.7 ICP	1	2.22			mg/L	0.2	1	01/11/23 18:43	aeh
Sodium, dissolved	M200.7 ICP	1	59.2			mg/L	0.2	1	01/11/23 18:43	aeh
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	01/05/23 23:32	aeh

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

ACZ Sample ID: ***L77742-02***
Date Sampled: *12/14/22 10:24*
Date Received: *12/15/22*
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	399			mg/L	2	20	12/22/22 0:00	emk
Carbonate as CaCO3		1	<2	U		mg/L	2	20	12/22/22 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/22/22 0:00	emk
Total Alkalinity		1	399			mg/L	2	20	12/22/22 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.8			%			01/13/23 0:00	calc
Sum of Anions			9.5			meq/L			01/13/23 0:00	calc
Sum of Cations			8.8			meq/L			01/13/23 0:00	calc
Chloride	SM4500Cl-E	1	17.7		*	mg/L	1	2	12/28/22 16:53	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		295			mg/L	0.2	5	01/13/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/23/22 12:41	ssr
Residue, Filterable (TDS) @180C	SM2540C	2	508			mg/L	40	80	12/21/22 11:24	emk
Residue, Non-Filterable (TSS) @105C	SM2540D	1	75.0		*	mg/L	5	20	12/20/22 21:10	jck
Sodium Adsorption Ratio in Water	USGS - I1738-78		1.5						01/13/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	47.4		*	mg/L	5	25	01/05/23 12:55	gkk

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

ACZ Sample ID: ***L77742-03***
Date Sampled: *12/14/22 09:52*
Date Received: *12/15/22*
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)								12/17/22 7:31	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/20/22 10:00	mlh
Total Hot Plate Digestion	M200.2 ICP								12/21/22 19:02	aeh
Total Recoverable Digestion	M200.2 ICP-MS								12/26/22 13:33	kja
Total Recoverable Digestion	M200.2 ICP								12/19/22 17:55	aeh

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	01/03/23 14:37	kja
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	01/11/23 20:44	aeh
Cadmium, potentially dissolved	M200.7 ICP	1	0.0083	B		mg/L	0.008	0.025	01/06/23 16:14	wtc
Calcium, dissolved	M200.7 ICP	1	88.6			mg/L	0.1	0.5	01/11/23 18:46	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	0.00127	B		mg/L	0.0005	0.002	01/03/23 14:37	kja
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	01/06/23 16:14	wtc
Iron, dissolved	M200.7 ICP	1	0.145	B		mg/L	0.06	0.15	01/11/23 18:46	aeh
Iron, total	M200.7 ICP	1	0.767			mg/L	0.06	0.15	01/12/23 15:57	wtc
Iron, total recoverable	M200.7 ICP	1	0.608			mg/L	0.06	0.15	01/07/23 1:22	aeh
Magnesium, dissolved	M200.7 ICP	1	20.9			mg/L	0.2	1	01/11/23 18:46	aeh
Manganese, dissolved	M200.7 ICP	1	0.067			mg/L	0.01	0.05	01/11/23 18:46	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.153			mg/L	0.01	0.05	01/06/23 16:14	wtc
Manganese, total	M200.7 ICP	1	0.172			mg/L	0.01	0.05	01/11/23 20:44	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U	*	mg/L	0.0002	0.001	12/20/22 14:34	mlh
Potassium, dissolved	M200.7 ICP	1	1.84			mg/L	0.2	1	01/11/23 18:46	aeh
Sodium, dissolved	M200.7 ICP	1	130			mg/L	0.2	1	01/11/23 18:46	aeh
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	01/05/23 23:35	aeh

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

ACZ Sample ID: ***L77742-03***
Date Sampled: *12/14/22 09:52*
Date Received: *12/15/22*
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	479			mg/L	2	20	12/23/22 0:00	emk
Carbonate as CaCO3		1	<2	U		mg/L	2	20	12/23/22 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/23/22 0:00	emk
Total Alkalinity		1	479			mg/L	2	20	12/23/22 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.0			%			01/13/23 0:00	calc
Sum of Anions			13			meq/L			01/13/23 0:00	calc
Sum of Cations			12			meq/L			01/13/23 0:00	calc
Chloride	SM4500Cl-E	1	28.5		*	mg/L	1	2	12/28/22 16:54	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		307			mg/L	0.2	5	01/13/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/23/22 12:56	ssr
Residue, Filterable (TDS) @180C	SM2540C	1	706			mg/L	20	40	12/21/22 11:26	emk
Residue, Non-Filterable (TSS) @105C	SM2540D	1	9.0	B	*	mg/L	5	20	12/20/22 21:12	jck
Sodium Adsorption Ratio in Water	USGS - I1738-78		3.3						01/13/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	122		*	mg/L	5	25	01/05/23 12:55	gkk

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

ACZ Sample ID: ***L77742-04***
Date Sampled: *12/14/22 10:35*
Date Received: *12/15/22*
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)								12/17/22 7:38	ssr
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/20/22 10:00	mlh
Total Hot Plate Digestion	M200.2 ICP								12/21/22 19:16	aeh
Total Recoverable Digestion	M200.2 ICP-MS								12/26/22 13:44	kja
Total Recoverable Digestion	M200.2 ICP								12/19/22 18:10	aeh

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	01/03/23 14:38	kja
Boron, total	M200.7 ICP	1	0.032	B		mg/L	0.03	0.1	01/11/23 20:47	aeh
Cadmium, potentially dissolved	M200.7 ICP	1	0.0082	B		mg/L	0.008	0.025	01/06/23 16:17	wtc
Calcium, dissolved	M200.7 ICP	1	63.1			mg/L	0.1	0.5	01/11/23 18:49	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	0.00080	B		mg/L	0.0005	0.002	01/03/23 14:38	kja
Copper, potentially dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	01/06/23 16:17	wtc
Iron, dissolved	M200.7 ICP	1	0.580			mg/L	0.06	0.15	01/11/23 18:49	aeh
Iron, total	M200.7 ICP	1	1.74			mg/L	0.06	0.15	01/12/23 16:01	wtc
Iron, total recoverable	M200.7 ICP	1	1.53			mg/L	0.06	0.15	01/07/23 1:25	aeh
Magnesium, dissolved	M200.7 ICP	1	18.9			mg/L	0.2	1	01/11/23 18:49	aeh
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	01/11/23 18:49	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.030	B		mg/L	0.01	0.05	01/06/23 16:17	wtc
Manganese, total	M200.7 ICP	1	0.032	B		mg/L	0.01	0.05	01/11/23 20:47	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U	*	mg/L	0.0002	0.001	12/20/22 14:35	mlh
Potassium, dissolved	M200.7 ICP	1	2.30			mg/L	0.2	1	01/11/23 18:49	aeh
Sodium, dissolved	M200.7 ICP	1	120			mg/L	0.2	1	01/11/23 18:49	aeh
Zinc, potentially dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	01/05/23 23:38	aeh

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

ACZ Sample ID: ***L77742-04***
Date Sampled: *12/14/22 10:35*
Date Received: *12/15/22*
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	436			mg/L	2	20	12/23/22 0:00	emk
Carbonate as CaCO3		1	<2	U		mg/L	2	20	12/23/22 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/23/22 0:00	emk
Total Alkalinity		1	436			mg/L	2	20	12/23/22 0:00	emk
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.8			%			01/13/23 0:00	calc
Sum of Anions			11			meq/L			01/13/23 0:00	calc
Sum of Cations			10			meq/L			01/13/23 0:00	calc
Chloride	SM4500Cl-E	1	29.0		*	mg/L	1	2	12/28/22 16:55	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		235			mg/L	0.2	5	01/13/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/23/22 13:11	ssr
Residue, Filterable (TDS) @180C	SM2540C	1	586			mg/L	20	40	12/21/22 11:28	emk
Residue, Non-Filterable (TSS) @105C	SM2540D	1	9.0	B	*	mg/L	5	20	12/20/22 21:15	jck
Sodium Adsorption Ratio in Water	USGS - I1738-78		3.4						01/13/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	73.4			mg/L	5	25	01/05/23 12:55	gkk

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: ***L77742***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L77742-01	WG557450	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).
	WG556964	Mercury, total	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG557097	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).
	WG557820	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M1	Matrix spike recovery was high, 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).
L77742-02	WG557450	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).
	WG556964	Mercury, total	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG557097	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).
	WG557820	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M1	Matrix spike recovery was high, 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).
L77742-03	WG557450	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).
	WG556964	Mercury, total	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG557097	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
	WG557820	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M1	Matrix spike recovery was high, 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).
L77742-04	WG557450	Chloride	SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG556964	Mercury, total	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG557097	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

Certification Qualifiers

New Elk Coal Co. , LLC

ACZ Project ID: ***L77742***

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: L77742
Date Received: 12/15/2022 12:15
Received By:
Date Printed: 12/16/2022

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	

The 'sampled by' field on the Chain of Custody was not completed.

7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		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	

L77742-02 : A white container not received and a new container created from the raw .

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?
3284	4.6	<=6.0	15	Yes

Was ice present in the shipment container(s)?

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

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

Sample Receipt

New Elk Coal Co. , LLC

ACZ Project ID:	L77742
Date Received:	12/15/2022 12:15
Received By:	
Date Printed:	12/16/2022

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 | Accredited Environmental Testing | 2773 Downhill Drive, Steamboat Springs, CO 80487, (970) 879-6590 | L77742

CHAIN of CUSTODY

Report to:

Name: Nicholas Mason	Address: 12250 State Hwy 12 Weston, CO 81091
Company: New Elk Coal Co.	
E-mail: nmason@newelkcoal.com	Telephone: 719-631-6146

Copy of Report to:

Name:	E-mail:
Company:	Telephone:

Invoice to:

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

Copy of Invoice to:

Name:	Address:
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [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: Nick Mason **Sampler's Site Information** **State**_____ **Zip code**_____ **Time Zone**_____

***Sampler's Signature:** [signature]

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

PROJECT INFORMATION

Quote #: 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	12/14/22 9:38	GW	6	
PAW 2	12/14/22 10:24	GW	6	
PAW 8	12/14/22 9:52	GW	6	
PAW 9	12/14/22 10:35	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 refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	12/14/22 3:08	[signature]	12/15/22 12:15

L77742 Chain of Custod

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

Analytical Report

January 17, 2023

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

cc: Ron Thompson

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

Project ID:
ACZ Project ID: L77839

Nicholas Mason:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 21, 2022. This project has been assigned to ACZ's project number, L77839. 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 L77839. 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 16, 2023. 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-6-10A

ACZ Sample ID: ***L77839-01***
Date Sampled: *12/20/22 14:45*
Date Received: *12/21/22*
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)								12/22/22 14:36	kja
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								01/06/23 9:00	kja
Total Hot Plate Digestion	M200.2 ICP								01/12/23 17:42	keh1
Total Recoverable Digestion	M200.2 ICP								01/10/23 19:10	aeh
Total Recoverable Digestion	M200.2 ICP-MS								01/03/23 15:14	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00053	B		mg/L	0.0002	0.001	01/05/23 10:47	kja
Boron, total	M200.7 ICP	1	0.056	B		mg/L	0.03	0.1	01/13/23 20:22	aeh
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	01/13/23 2:17	aeh
Calcium, dissolved	M200.7 ICP	1	3.35			mg/L	0.1	0.5	01/13/23 2:11	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	0.00201			mg/L	0.0005	0.002	01/05/23 10:47	kja
Copper, potentially dissolved	M200.7 ICP	1	0.052			mg/L	0.01	0.05	01/13/23 2:17	aeh
Iron, dissolved	M200.7 ICP	1	0.138	B		mg/L	0.06	0.15	01/13/23 2:11	aeh
Iron, total	M200.7 ICP	1	0.626			mg/L	0.06	0.15	01/13/23 20:22	aeh
Iron, total recoverable	M200.7 ICP	1	1.02			mg/L	0.06	0.15	01/13/23 0:44	aeh
Magnesium, dissolved	M200.7 ICP	1	1.08			mg/L	0.2	1	01/13/23 2:11	aeh
Manganese, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	01/13/23 2:11	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.020	B		mg/L	0.01	0.05	01/13/23 2:17	aeh
Manganese, total	M200.7 ICP	1	0.017	B		mg/L	0.01	0.05	01/13/23 20:22	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	01/03/23 13:12	mlh
Potassium, dissolved	M200.7 ICP	1	3.71			mg/L	0.2	1	01/13/23 2:11	aeh
Sodium, dissolved	M200.7 ICP	1	422		*	mg/L	0.2	1	01/13/23 2:11	aeh
Zinc, potentially dissolved	M200.7 ICP	1	0.085			mg/L	0.02	0.05	01/13/23 2:17	aeh

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

ACZ Sample ID: ***L77839-01***
Date Sampled: *12/20/22 14:45*
Date Received: *12/21/22*
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	859			mg/L	2	20	12/31/22 0:00	jck
Carbonate as CaCO3		1	149			mg/L	2	20	12/31/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/31/22 0:00	jck
Total Alkalinity		1	1010			mg/L	2	20	12/31/22 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.6			%			01/17/23 0:00	calc
Sum of Anions			20			meq/L			01/17/23 0:00	calc
Sum of Cations			19			meq/L			01/17/23 0:00	calc
Chloride	SM4500Cl-E	1	7.63		*	mg/L	1	2	01/12/23 11:56	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		13			mg/L	0.2	5	01/17/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/23/22 16:44	ssr
Residue, Filterable (TDS) @180C	SM2540C	2	1040		*	mg/L	40	80	12/27/22 13:41	svm
Residue, Non-Filterable (TSS) @105C	SM2540D	1	14.0	B	*	mg/L	5	20	12/27/22 11:59	svm
Sodium Adsorption Ratio in Water	USGS - I1738-78		52						01/17/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	2.2	B		mg/L	1	5	01/10/23 14:46	bls

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

ACZ Sample ID: ***L77839-02***
Date Sampled: *12/20/22 15:30*
Date Received: *12/21/22*
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)								12/22/22 14:42	kja
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								01/06/23 9:00	kja
Total Hot Plate Digestion	M200.2 ICP								01/12/23 17:55	keh1
Total Recoverable Digestion	M200.2 ICP								01/10/23 19:24	aeh
Total Recoverable Digestion	M200.2 ICP-MS								01/03/23 15:35	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00059	B		mg/L	0.0002	0.001	01/05/23 10:49	kja
Boron, total	M200.7 ICP	1	0.050	B		mg/L	0.03	0.1	01/13/23 20:25	aeh
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	01/13/23 2:33	aeh
Calcium, dissolved	M200.7 ICP	1	3.82			mg/L	0.1	0.5	01/13/23 2:26	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	0.0202			mg/L	0.0005	0.002	01/05/23 10:49	kja
Copper, potentially dissolved	M200.7 ICP	1	0.074			mg/L	0.01	0.05	01/13/23 2:33	aeh
Iron, dissolved	M200.7 ICP	1	0.314			mg/L	0.06	0.15	01/13/23 2:26	aeh
Iron, total	M200.7 ICP	1	1.79			mg/L	0.06	0.15	01/13/23 20:25	aeh
Iron, total recoverable	M200.7 ICP	1	2.50			mg/L	0.06	0.15	01/13/23 0:47	aeh
Magnesium, dissolved	M200.7 ICP	1	0.77	B		mg/L	0.2	1	01/13/23 2:26	aeh
Manganese, dissolved	M200.7 ICP	1	0.019	B		mg/L	0.01	0.05	01/13/23 2:26	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.040	B		mg/L	0.01	0.05	01/13/23 2:33	aeh
Manganese, total	M200.7 ICP	1	0.038	B		mg/L	0.01	0.05	01/13/23 20:25	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	01/03/23 13:13	mlh
Potassium, dissolved	M200.7 ICP	1	3.03			mg/L	0.2	1	01/13/23 2:26	aeh
Sodium, dissolved	M200.7 ICP	1	256		*	mg/L	0.2	1	01/13/23 2:26	aeh
Zinc, potentially dissolved	M200.7 ICP	1	0.095			mg/L	0.02	0.05	01/13/23 2:33	aeh

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

ACZ Sample ID: ***L77839-02***
Date Sampled: *12/20/22 15:30*
Date Received: *12/21/22*
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	577			mg/L	2	20	12/31/22 0:00	jck
Carbonate as CaCO3		1	56.2			mg/L	2	20	12/31/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/31/22 0:00	jck
Total Alkalinity		1	633			mg/L	2	20	12/31/22 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-4.0			%			01/17/23 0:00	calc
Sum of Anions			13			meq/L			01/17/23 0:00	calc
Sum of Cations			12			meq/L			01/17/23 0:00	calc
Chloride	SM4500Cl-E	1	7.81			mg/L	1	2	01/12/23 14:38	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		13			mg/L	0.2	5	01/17/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/23/22 16:52	ssr
Residue, Filterable (TDS) @180C	SM2540C	1	672		*	mg/L	20	40	12/27/22 13:43	svm
Residue, Non-Filterable (TSS) @105C	SM2540D	1	35.0		*	mg/L	5	20	12/27/22 12:02	svm
Sodium Adsorption Ratio in Water	USGS - I1738-78		32						01/17/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	1.0	B		mg/L	1	5	01/10/23 14:46	bls

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

ACZ Sample ID: ***L77839-03***
Date Sampled: *12/20/22 13:00*
Date Received: *12/21/22*
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)								12/22/22 14:48	kja
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								01/06/23 9:00	kja
Total Hot Plate Digestion	M200.2 ICP								01/12/23 18:09	keh1
Total Recoverable Digestion	M200.2 ICP								01/10/23 19:39	aeh
Total Recoverable Digestion	M200.2 ICP-MS								01/03/23 15:56	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.0176			mg/L	0.0002	0.001	01/05/23 10:51	kja
Boron, total	M200.7 ICP	1	0.051	B		mg/L	0.03	0.1	01/13/23 20:35	aeh
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	01/13/23 2:37	aeh
Calcium, dissolved	M200.7 ICP	1	5.13			mg/L	0.1	0.5	01/13/23 2:29	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	0.0109			mg/L	0.0005	0.002	01/05/23 10:51	kja
Copper, potentially dissolved	M200.7 ICP	1	0.071			mg/L	0.01	0.05	01/13/23 2:37	aeh
Iron, dissolved	M200.7 ICP	1	0.239			mg/L	0.06	0.15	01/13/23 2:29	aeh
Iron, total	M200.7 ICP	1	10.6			mg/L	0.06	0.15	01/13/23 20:35	aeh
Iron, total recoverable	M200.7 ICP	1	5.91			mg/L	0.06	0.15	01/13/23 0:57	aeh
Magnesium, dissolved	M200.7 ICP	1	2.73			mg/L	0.2	1	01/13/23 2:29	aeh
Manganese, dissolved	M200.7 ICP	1	0.022	B		mg/L	0.01	0.05	01/13/23 2:29	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.086			mg/L	0.01	0.05	01/13/23 2:37	aeh
Manganese, total	M200.7 ICP	1	0.126			mg/L	0.01	0.05	01/13/23 20:35	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	01/03/23 13:14	mlh
Potassium, dissolved	M200.7 ICP	1	6.83			mg/L	0.2	1	01/13/23 2:29	aeh
Sodium, dissolved	M200.7 ICP	1	331		*	mg/L	0.2	1	01/13/23 2:29	aeh
Zinc, potentially dissolved	M200.7 ICP	1	0.078			mg/L	0.02	0.05	01/13/23 2:37	aeh

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

ACZ Sample ID: ***L77839-03***
Date Sampled: *12/20/22 13:00*
Date Received: *12/21/22*
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	650			mg/L	2	20	12/31/22 0:00	jck
Carbonate as CaCO3		1	106			mg/L	2	20	12/31/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/31/22 0:00	jck
Total Alkalinity		1	756			mg/L	2	20	12/31/22 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-3.2			%			01/17/23 0:00	calc
Sum of Anions			16.0			meq/L			01/17/23 0:00	calc
Sum of Cations			15			meq/L			01/17/23 0:00	calc
Chloride	SM4500Cl-E	1	14.6			mg/L	1	2	01/12/23 14:39	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		24			mg/L	0.2	5	01/17/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/23/22 17:00	ssr
Residue, Filterable (TDS) @180C	SM2540C	1	822		*	mg/L	20	40	12/27/22 13:46	svm
Residue, Non-Filterable (TSS) @105C	SM2540D	1	30.0		*	mg/L	5	20	12/27/22 12:04	svm
Sodium Adsorption Ratio in Water	USGS - I1738-78		30						01/17/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	23.4			mg/L	1	5	01/10/23 14:46	bls

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

ACZ Sample ID: ***L77839-04***
Date Sampled: *12/20/22 13:55*
Date Received: *12/21/22*
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)								12/22/22 14:54	kja
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								01/06/23 9:00	kja
Total Hot Plate Digestion	M200.2 ICP				*				01/12/23 18:22	keh1
Total Recoverable Digestion	M200.2 ICP								01/10/23 19:53	aeh
Total Recoverable Digestion	M200.2 ICP-MS								01/03/23 16:58	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.00078	B		mg/L	0.0002	0.001	01/05/23 11:00	kja
Boron, total	M200.7 ICP	5	<0.15	U		mg/L	0.15	0.5	01/13/23 20:38	aeh
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	01/13/23 2:40	aeh
Calcium, dissolved	M200.7 ICP	1	6.20			mg/L	0.1	0.5	01/13/23 2:33	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	0.00666			mg/L	0.0005	0.002	01/05/23 11:00	kja
Copper, potentially dissolved	M200.7 ICP	1	0.029	B		mg/L	0.01	0.05	01/13/23 2:40	aeh
Iron, dissolved	M200.7 ICP	1	0.155			mg/L	0.06	0.15	01/13/23 2:33	aeh
Iron, total	M200.7 ICP	5	2.93			mg/L	0.3	0.75	01/13/23 20:38	aeh
Iron, total recoverable	M200.7 ICP	1	2.93			mg/L	0.06	0.15	01/13/23 1:00	aeh
Magnesium, dissolved	M200.7 ICP	1	2.91			mg/L	0.2	1	01/13/23 2:33	aeh
Manganese, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.01	0.05	01/13/23 2:33	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.027	B		mg/L	0.01	0.05	01/13/23 2:40	aeh
Manganese, total	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	01/13/23 20:38	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	01/03/23 13:15	mlh
Potassium, dissolved	M200.7 ICP	1	7.22			mg/L	0.2	1	01/13/23 2:33	aeh
Sodium, dissolved	M200.7 ICP	1	525		*	mg/L	0.2	1	01/13/23 2:33	aeh
Zinc, potentially dissolved	M200.7 ICP	1	0.093			mg/L	0.02	0.05	01/13/23 2:40	aeh

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

ACZ Sample ID: ***L77839-04***
Date Sampled: *12/20/22 13:55*
Date Received: *12/21/22*
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	1200			mg/L	2	20	12/31/22 0:00	jck
Carbonate as CaCO3		1	102			mg/L	2	20	12/31/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/31/22 0:00	jck
Total Alkalinity		1	1300			mg/L	2	20	12/31/22 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-5.9			%			01/17/23 0:00	calc
Sum of Anions			27			meq/L			01/17/23 0:00	calc
Sum of Cations			24			meq/L			01/17/23 0:00	calc
Chloride	SM4500Cl-E	1	13.6			mg/L	1	2	01/12/23 14:40	bls
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		28			mg/L	0.2	5	01/17/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/23/22 17:08	ssr
Residue, Filterable (TDS) @180C	SM2540C	1	1380		*	mg/L	20	40	12/27/22 13:49	svm
Residue, Non-Filterable (TSS) @105C	SM2540D	1	38.0		*	mg/L	5	20	12/27/22 12:06	svm
Sodium Adsorption Ratio in Water	USGS - I1738-78		44						01/17/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	14.9			mg/L	1	5	01/10/23 14:46	bls

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: ***L77839***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L77839-01	WG558327	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).
	WG557366	Residue, Filterable (TDS) @180C	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).
	WG557355	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
	WG558343	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.
L77839-02	WG557366	Residue, Filterable (TDS) @180C	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).
	WG557355	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).
	WG558343	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.
L77839-03	WG557366	Residue, Filterable (TDS) @180C	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).
	WG557355	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).
	WG558343	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.
L77839-04	WG557366	Residue, Filterable (TDS) @180C	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).
	WG557355	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).
	WG558343	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.
	WG558321	Total Hot Plate Digestion	M200.2 ICP	DH	Sample required dilution due to high TDS and/or EC value.

Certification Qualifiers

New Elk Coal Co. , LLC

ACZ Project ID: ***L77839***

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: L77839
Date Received: 12/21/2022 12:23
Received By:
Date Printed: 12/22/2022

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?
6935	3.6	<=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:	L77839
Date Received:	12/21/2022 12:23
Received By:	
Date Printed:	12/22/2022

[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. L77839

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

CHAIN of CUSTODY

Report to:

Name: Nicholas Mason	Address: 12250 St. Hwy. 12
Company: New Elk Coal Co.	Weston, CO 81091
E-mail: nmason@newelkcoal.com	Telephone: 719-631-6146

Copy of Report to:

Name:	E-mail:
Company:	Telephone:

Invoice to:

Name: Melissa Cruz	Address: 12250 St. Hwy. 12
Company: New Elk Coal Co.	Weston, CO 81091
E-mail: mcruz@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: Nick Mason **Sampler's Site Information** State CO Zip code 81091 Time Zone MT

***Sampler's Signature:** [signature]

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

PROJECT INFORMATION

Quote #: 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-6-10A	12/20/22 14:45	GW	6	
NE-6-10B	12/20/22 15:30	GW	6	
NE-1-10	12/20/22 13:00	GW	6	
NEW 4	12/20/22 13:55	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
Ice containers
Paperwork
4 => 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
[signature]	12/20/22 16:00	[signature]	12/21/22 1223

L77839 Chain of Custod