### NEW ELK COAL COMPANY



February 28, 2020

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

RE: New Elk Mine Permit C-1981-012 2019 Annual Hydrology Report

Dear Mr. Zuber:

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.

TR-73 approved December 13, 2018 changed the monitoring requirements for wells NE-1-10, NE-6-10a, NE-6-10b, NM-20, NM-21, NM-22, NM-23, and SF-2. Well NE-1-10 changed monitoring requirements from quarterly to water level being monitored semi-annually and field measurements and lab analysis monitored annually. The rest of the wells changed monitoring requirements so the wells only have to be monitored well the mine is active.

New Elk staff expects to send a revision to DRMS to revise Table 27 to include Discharge Monitoring Site 010 and remove NPDES Station 080 as it is outdated.

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#### **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 2019. Water flow to/from is managed by a system of pumps with a gravity flow discharge through the primary if the water level exceeds the discharge elevation of the primary decant spillway. No water was pumped to or withdrawn from pond 001. Evaporate losses were tracked and reported to the Pueblo District of the Colorado Division of Water Resources. These losses were compensated to the stream by water New Elk has under lease from the Hill Ranch.

**Discharge Monitoring of Site 004 (Pond 4)** 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 little to no water throughout most of 2019. The pond did not have any discharges throughout the year.

**Discharge Monitoring of Site 008 (Pond 8)** held little to no water throughout 2019. There were no discharges throughout the year. The pond has held minimal water in it since the cleaning 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 minimal maintenance on the SAE was done. The minimal maintenance included minor fixes to a silt fence and a check dam.

#### **RDA Monitoring Wells**

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

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

Readings were taken March 7, June 12, September 13, and December 9, 2019. This data is summarized in Table 1 RDA Monitoring Wells following this report. No significant changes were noted at any of the wells.

#### Surface and Groundwater Monitoring

Field data was taken in the second and fourth quarter for the Surface Water, Groundwater, and Mine Water monitoring wells. The field data is compiled in Table 2 Field Data and notes for the field data are shown in **Appendix A Field Notes**. Laboratory Analysis was done on June 6 for Paw-1 and Paw-9. Laboratory Analysis was also completed in the fourth quarter for all Surface Water, Groundwater, and Mine Water monitoring wells. This data is summarized in Table 3 Lab Analysis following this report. The analytical results for these samples are shown in **Appendix B Lab Analytics**. This data was compared to the historical information available in previous AHRs (see 2008 for best tabulation): All observed data fell within the historical range of each parameter.

#### Analysis of Alluvial Groundwater Data

The groundwater wells did not show much change from 2018 to 2019. Paw-1 saw a decrease in Total Suspension Solids (TSS) from the second quarter to the fourth quarter. All data for Paw-1 was consistent with previous year's data. Paw-2 had a decrease in TSS with the rest of the data remaining the same. Paw-8 had a decrease in TSS with all data remaining the same. Paw-9 data was similar to previous years. New-2 and New-4 had a decrease in TSS with the rest of the data staying similar. This is the first set of data for NE-1-10 so we will compare to next year's results.

#### **Rain Water Monitoring**

2019 was a dry year, especially compared to the extremely wet 2017. Snowfall was minimal throughout the first part of the year, followed by a dry Spring and Summer seasons. There was never an event of over an inch in a 24-hour period. The rest of the year was dry until snowfall began in October.

#### **Comments**

New Elk worked with DRMS in revising the water monitoring program in 2018. The data for the added well NE-1-10 is documented in this report.

Please advise me if any additional information is needed.

Regards

Richoles Mason

Nicholas Mason

	Table 1 R	DA Monitor	ing Wells	
		Depth to W	ater in Feet	
Quarter	Q1	Q2	Q3	Q4
Date	7-Mar	12-Jun	13-Sep	9-Dec
Th-01	42.4	42.1	42.5	42.4
Th-02	70.5	70.3	70.6	70.5
Th-03	93.3	93.1	93.6	93.5

			Table 2	2 Field Data						
Second Quarter 2019	Surface	Water		Groundwa	ater Wells			Mine	e Water	
	PRS-1	PRS-4	PAW-1	PAW-2	PAW-8	PAW-9	NEW-2	NEW-4	NEW-1-10	NEW-3
Date	8-May	8-May	6-Jun	16-May	16-May	6-Jun	5-Jun	5-Jun	5-Jun	16-Apr
Field Measurments										
Depth to Water (ft)	-	-	6.9	16.3	32.8	15.2	349.0	355.9	307.4	421.6
Flow Rate (cfs)	77.0	70.9	-	-	-	-	-	-	-	-
Ph (S.U.)	9.28	9.23	7.11	7.35	7.50	7.05	-	-	-	-
Conductivity (µohms/cm²)	249	391	280	1459	1463	1043	-	-	-	-
Temperature (°C)	6.8	6.3	10.0	10.9	12.8	10.9	-	-	-	-
Fourth Quarter 2019	Surface	Water		Groundwa	ater Wells			Mine	e Water	
									NEW/ 1 10	í .
	PRS-1	PRS-4	PAW-1	PAW-2	PAW-8	PAW-9	INE VV-Z	INE VV-4	INE VV-1-10	NEW-3
Date	PRS-1 13-Nov	<b>PRS-4</b> 13-Nov	<b>PAW-1</b> 7-Nov	20-Nov	<b>PAW-8</b> 20-Nov	<b>PAW-9</b> 7-Nov	10-Dec	10-Dec	10-Dec	<b>NEW-3</b> 5-Nov
Date Field Measurments	PRS-1 13-Nov	<b>PRS-4</b> 13-Nov	<b>PAW-1</b> 7-Nov	20-Nov	<b>PAW-8</b> 20-Nov	<b>PAW-9</b> 7-Nov	10-Dec	10-Dec	10-Dec	<b>NEW-3</b> 5-Nov
Date <u>Field Measurments</u> Depth to Water (ft)	PRS-1 13-Nov	PRS-4 13-Nov -	<b>PAW-1</b> 7-Nov 7.6	20-Nov 17.2	PAW-8 20-Nov 33.4	PAW-9 7-Nov 15.8	10-Dec 348.4	10-Dec 354.2	10-Dec 306.5	NEW-3 5-Nov 421.6
Date <u>Field Measurments</u> Depth to Water (ft) Flow Rate (cfs)	PRS-1 13-Nov - 11.7	PRS-4 13-Nov - 11.05	PAW-1 7-Nov 7.6	20-Nov 17.2	PAW-8 20-Nov 33.4	PAW-9 7-Nov 15.8 -	10-Dec 348.4	10-Dec 354.2	10-Dec 306.5	NEW-3 5-Nov 421.6
Date <u>Field Measurments</u> Depth to Water (ft) Flow Rate (cfs) Ph (S.U.)	PRS-1 13-Nov - - 11.7 8.95	PRS-4 13-Nov - 11.05 8.77	PAW-1 7-Nov 7.6 - 7.76	20-Nov 17.2 - 7.50	PAW-8 20-Nov 33.4 - 7.57	PAW-9 7-Nov 15.8 - 7.36	10-Dec 348.4 - 8.06	10-Dec 354.2 - 8.45	10-Dec 306.5 - 10.14	NEW-3 5-Nov 421.6 -
Date <u>Field Measurments</u> Depth to Water (ft) Flow Rate (cfs) Ph (S.U.) Conductivity (µohms/cm <sup>2</sup> )	PRS-1 13-Nov - 11.7 8.95 344	PRS-4 13-Nov - 11.05 8.77 348	PAW-1 7-Nov 7.6 - 7.76 274	20-Nov 17.2 - 7.50 1058	PAW-8 20-Nov 33.4 - 7.57 1312	PAW-9 7-Nov 15.8 - 7.36 1048	NEW-2           10-Dec           348.4           -           8.06           2.21	10-Dec 354.2 - 8.45 2.05	10-Dec 306.5 - 10.14 1316	NEW-3 5-Nov 421.6 - - -

			Tabl	e 3 Lab Ana	ysis						
	Surface	Water			Groundwa	ater Wells				Mine Wate	r
	PRS-1	PRS-4	PAW-1	PAW-9	PAW-2	PAW-8	PAW-1	PAW-9	NEW-2	NEW-4	New-1-10
Date	13-Nov	13-Nov	6-Jun	6-Jun	20-Nov	20-Nov	7-Nov	7-Nov	10-Dec	10-Dec	10-Dec
Laboratory Analysis											
Total Suspended Solids (TSS) (mg/l)	<5	<5	63.0	44.0	176.0	536.0	31.0	47.0	<5	5.0	15.0
Carbonate (mg/l)	<2	3.2	<2	<2	<2	<2	<2	<2	44.4	79.5	264
Bicarbonate (mg/l)	116	117	128	442	453	542	114.0	458.0	1010	1130	395
Chloride (mg/l)	2.6	2.4	12.1	22.3	34.3	37.0	14.1	21.7	10.5	14.3	9.4
Sulfate (mg/l)	42.5	42.1	2.8	75.2	71.9	153.0	1.4	80.2	214	29.9	23.3
Manganese total (Mn) (mg/l)	0.01	0.02	0.15	1.7	1.77	1.81	0.160	2.2	0.05	< 0.01	<0.01
Manganese dissolved (Mn) (mg/l)	< 0.01	<0.01	0.09	0.24	1.37	< 0.01	<0.01	<0.01	0.03	< 0.01	<0.01
Calcium (Ca) (mg/l)	43.8	44.5	19.0	76.9	108.0	115.0	18.9	73.8	13.5	5.0	2.3
Magnesium (Mg) (mg/l)	7.1	7.2	10.4	21.1	21	25.3	9.2	19.6	5.7	2.2	2.3
Potassium (K) (mg/l)	1.5	1.2	2	2.2	2.7	2	2.6	2.8	7	5.1	4.3
Sodium (Na) (mg/l)	6	6.5	21.1	129.0	92.9	170.0	18.1	125.0	532.0	529.0	297.0
Iron (Fe) (mg/l), Total Dissolved	<0.03	<0.03	0.19	0.08	1.15	<0.03	<0.03	<0.03	0.17	<0.03	<0.03
Iron (Fe) (mg/I), Total Recoverable	0.03	0.04	33.20	2.11	41.30	22.80	15.0	2.4	0.49	0.29	0.82
Sodium Absorption Rate (SAR)	0.22	0.24	0.98	3.40	2.20	3.80	0.9	3.4	31.00	50.00	34.00
Total Dissolved Solids (TDS) (mg/l)	194	204	162	642	630	864	146	630	1450	1330	784
Hardness (Calculated) (mg/l)	139	141	90	279	356	391	85	265	57	22	15

	Ta	able 4 New Elk I	Rain Gauge Dat	a	
Date	Rain Fall(in)	Date	Rain Fall(in)	Date	Rain Fall(in)
1-Apr	0.0	10-Jun	0.0	15-Aug	0.0
2-Apr	0.0	11-Jun	0.0	16-Aug	0.0
3-Apr	0.0	12-Jun	0.0	19-Aug	0.0
4-Apr	0.0	13-Jun	0.4	20-Aug	0.0
9-Apr	0.0	18-Jun	0.0	21-Aug	0.0
10-Apr	0.0	19-Jun	0.0	22-Aug	0.0
11-Apr	0.0	20-Jun	0.0	27-Aug	0.8
12-Apr	0.0	21-Jun	0.0	28-Aug	0.2
15-Apr	0.0	23-Jun	0.0	29-Aug	0.0
16-Apr	0.0	24-Jun	0.0	30-Aug	0.0
17-Apr	0.0	25-Jun	0.0	3-Sep	0.1
23-Apr	0.2	26-Jun	0.0	4-Sep	0.2
24-Apr	0.1	27-Jun	0.0	5-Sep	0.0
25-Apr	0.0	2-Jul	0.4	7-Sep	0.3
26-Apr	0.2	5-Jul	0.2	10-Sep	0.2
29-Apr	0.0	6-Jul	0.7	11-Sep	0.0
30-Apr	0.5	8-Jul	0.0	12-Sep	0.0
1-May	0.0	9-Jul	0.0	13-Sep	0.0
2-May	0.0	10-Jul	0.0	16-Sep	0.0
7-May	0.0	11-Jul	0.0	17-Sep	0.0
8-May	0.1	16-Jul	0.0	18-Sep	0.0
9-May	0.7	17-Jul	0.0	19-Sep	0.0
10-May	0.3	18-Jul	0.0	24-Sep	0.0
13-May	0.0	19-Jul	0.0	25-Sep	0.0
14-May	0.0	22-Jul	0.2	26-Sep	0.0
15-May	0.0	23-Jul	0.6	27-Sep	0.0
16-May	0.0	24-Jul	0.0	30-Sep	0.0
21-May	0.1	25-Jul	0.0		
22-May	0.0	30-Jul	0.5		
23-May	0.1	31-Jul	0.3		
24-May	0.0	1-Aug	0.0		
28-May	0.0	2-Aug	1		
29-May	0.0	3-Aug	0.6		
30-May	0.2	5-Aug	0.9		
4-Jun	0.8	6-Aug	0.0		
5-Jun	0.3	7-Aug	0.3		
6-Jun	0.4	13-Aug	0.6		
7-Jun	0.1	14-Aug	0.0		

Table 27 Hydro	ologic Monitorir	ng Frequency Rec	quirements	
-				
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	А	
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	Α	
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 (mine water				+
oond)				
NE 004 (Pond 4)				+
NE 007 (Pond 7)				+
NE 008 (Pond 8)				+
NE 080 (PRS-4)				+
KEY S=Semi annually	(2nd and 4th quarters)	Q=quarterly	A=Annually(4th quarter	)
' Monitoring of the w	vells is suspended while	e the mine remians inact	tive, but the full monitor	ring program will be
esumed 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 mo	nitoring

Table 28 Water Quality Analysis Parameters	
Field Measurments	Units
Flow rate/water level	cfs/feet below top of casing
рН	
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 <sup>1</sup>
Hardness (calculated)	calculated
Sodium Absorption Ratio	unit
Sediment Ponds	
Frequency and analysis in accordance with NPDES permit	
<sup>1</sup> surface water only	

### Appendix A

(Field Notes)

THO2 8:35 70.54 No No No No THO1 8:17 42.44 THO3 8:50 93.3\$ No No No No SITE ID TIME DEPTH No No No No рH CONDUCTIVITY TEMPERATURE SAMPLE (Y/N) NEW ELK MINE HYDROLOGIC . "ONITORING FIELD REPORT MINE HYDROLOGIC "ONITORING FIELD KEPUNI DATE: Mar, 7, 2019 WEATHER: Clear, Windy, 54° F Jim 1st Quarter Begano Depth Reading Jim 1st Quarter Jim 1st Quarter Jim 1st Quarter Begano Depth Reading

Now EIL MA

					PRS 1		PRS-4	Site ID	Date: May &,
					9:55		9:20	Time	2019
					0.9ft		0.7 <i>f</i> +	Depth	Weather: 4.
					9,28		9.23	рН	2°C M
					24945		39145	Conductivity	einly el
					6.8°C		6.30	Temperature Degrees C	oudy c
					No		No	Sample (Y/N)	"I" nai
				1	Jim Begzno	)	Begeno	Sampled By	nfall pre
				-	Flow = 592, 4vallse	6	Flow = 545, 4 gal/se	Notes	Evious 24 HRS.

and the state of the		
MA W	PAW	SITE ID
13:35	13:00	TIME
32.8	16,3'	DEPTH
7.50	7.35	Н
146325	145945	NEW ELK
12.00	10.9°C	MINE HYDRO
in the second se	Yes	SAMPLE (Y/N)
Jim	Jim Begano	ORING FIELD REPO
		artly C
		y loudy
		52°F

Date: June	5,2019	Weather: $O_{d}$	5 your	70/	0.3"+	Contours	24 Hou	SUI
Site ID	Time	Depth	Н	Conductivity	Temperature Degrees C	Sample (Y/N)	Sampled By	Notes
NE-1-10	8:56	307.4	No	No	No	No	Jim Begëno	semi-2nnual monitor
NEW 2	9:33	349.0	No	No	No	No	Becano	semi-2nnual monitor
NEW4	10:07	355.9	No	No	No	No	J.m.	Semi-Znnuzl monitor
-							Ļ	

*					PAW9 14:40 15,		PAW1 14:00 6	Site ID Time D.	Sur SUN &, XOIY MEAN
					1.7 H 7.0		oft 12.1	epth pH	121+14
					5 1043us		1 28045	Conductivity	Cloudy
					10,9°C		10.02	Temperature Degrees C	14-1-
				1	Ves	,	YPS	Sample (Y/N)	O.4 INC
				4	Jim Begano	1	Diegono	Sampled By	tes 1211
					Sample to ACTA		Semi-2nnual test	Votes	~ previous 24 HRS

Date: $Juve 12, 2019$ Weather: $Suvvy/deer 70°F$ $0.0^{\prime\prime}$ Site ID       Time       Depth       PH        Temperature       Sample (V)         THO1 $12:55$ $42.1'$ $No$	) ~ F 0,0 ~ o Temperature Degrees C Sample (Y/N IVo IVo IVo IVo IVo IVo	Vin Sampled By Notes (V/N) Sampled By Notes (V/N) Sampled By Notes Do Begano 2nd Quarter re Do Begano 2nd Quarter re Jon Begano 2nd Quarter re

Site ID Date: Sept. 13, 2019 Weather: Clear 53°F D.O inches precipitation last 24 Hps. 1# 202 THZOI TH203 9:12 93.6A No 8:55 42.54 9:02 Time 72.6A Depth No рH No Conductivity No No 20 
 Temperature
 Sample (Y/N)
 Sampled By
 Notes
 No *°* No  $\stackrel{\circ}{>}$ So No Begano Allappears okay Begano All appears okay Begano All appears of GAR.

		NEW	SITE ID	
		13:05	TIME	
		-t5 う*1どわ	DEPTH	
		Z 0	рH	
		S	CONDUCTIVITY	
		No	TEMPERATURE	)ATE: 11 -
		S S	SAMPLE (Y/N)	2-1019
		Jim	SAMPLED BY	WEATHER: 01
		Semi-annual test.	NOTES	Par Sunny 610F

PRS-4	PRS-1	SITE ID
14:45	14:15	TIME
, S S	0.4'	DEPTH
2.77	8.95	рН
34845	344.4S	NEW ELK N D CONDUCTIVITY
6.0°	6.00	ATE: 11/12
tes	20 ×	SAMPLE (Y/N)
Degano	Jim	RING FIELD REPO WEATHER:
Semi-annual test Sample to ACZ Laz BS gal/sec	Semi-znnuzi test Semple to ACZ Lab 90 gal/sec	NOTES

PAU	PAN	SITE ID
14:3715.81	14:15 7.6	TIME DEPTH
7.36 104845 12.5	7.76 274 5 11.3	pH CONDUCTIVITY TEMPERATI
Sec Yes Dega, Do	C Yes Bego	URE SAMPLE (Y/N) SAMPLED B
10 Demple to ACEN	no contra la Arti	NOTES NOTES

PAN	SA CO	SITE ID	
14:40	14:00	TIME	
17,2'	33.4	DEPTH	
7.5	7.57	рН	
1058	1312	CONDUCTIVITY	NEW ELK 1
12.0°C	12.18	TEMPERATURE	MINE HYDROL
Yes	Yes	SÁMPLE (Y/N)	OGIC MONITO
Degeno	Begano	SAMPLED BY	RING FIELD REPOR
Semple Sent to	Labs to AUL	NOTES	udy 56°F

THO3	TH02	THOI	SITE ID	
10:45	10:23	10:03	TIME	
93.5	70.5	42.4	DEPTH	
No	No	$\sim_{\circ}$	рН	
$\sim_{o}$	No	$\gtrsim$	CONDUCTIVITY	NEW ELK
No	No	No	DATE: Dec.	MINE HYDRO
No	No	$\mathcal{N}_{\mathcal{O}}$	9, 2019 SAMPLE (Y/N)	
Jim Begano	Jim Begano	Jim Begano	WEATHER: 0/	<b>DRING FIELD REPO</b>
All appears good	All appears good	All appears good	oudy 31°F	IRT

NEI-IC 12	NEW4 14	NEW2 14	SITE ID TIN	
55 306.5	50 354.2	105 348.4	VIE DEPTH	
10.14	8.45	8.06	рH	
SM91E1	2.05 mS	2.21mS	CONDUCTIVITY	
9.6°C	16,00	15,9°C	TEMPERATURE	
Yes	Yes	Yes	SAMPLE (Y/N)	
Jim Begeno	Jim Bajano	Jim Begano	SAMPLED BY	WEATHER.
Samples sent + ACZ Labs	Samples sent to ACZ Labs	ACZLabs	NOTES	1~- 470 r

NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

### Appendix B

(Lab Analytics)

New Elk Coal Co., LLC

Project ID:

Sample ID: PAW 1

ACZ Sample ID:	L52308-01
Date Sampled:	06/06/19 14:00
Date Received:	06/07/19
Sample Matrix:	Groundwater

Inorganic Prep									
Parameter	EPA Method	Dilution	Repult	Qual XQ	Units	MDL	PQL	Date A	malyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002- 31.5.31 (2009)							06/07/19 16:08	гар
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A							06/17/19 12:05	bsu
Total Hot Plate Digestion	M200.2 ICP							06/17/19 14:41	jlw
Total Recoverable Digestion	M200.2 ICP-MS			•				06/14/19 15:45	гар
Total Recoverable Digestion	M200.2 ICP							06/14/19 14:13	aeh
Metals Analysis							11111 A		and a second
Parameter	EPA Method	Dilution	Result	Qual XQ	Units	MDL	PQL	Date A	nalyst
Arsenic, total recoverable	M200.8 ICP-MS	2	0.0013	В	mg/L	0.0004	0.002	06/17/19 11:22	bsu
Boron, total	M200.7 ICP	1		U	mg/L	0.02	0.1	06/19/19 7:24	jlw
Cadmium, potentially dissolved	M200.7 ICP	1		U	mg/L	0.008	0.03	06/12/19 18:00	jlw
Calcium, dissolved	M200.7 ICP	1	19.0		mg/L	0.1	0.5	06/21/19 5:47	aeh
Chromium, total recoverable	M200.8 ICP-MS	2		U	mg/L	0.001	0.004	06/17/19 11:22	bsu
Copper, potentially dissolved	M200.7 ICP	1		U	mg/L	0.01	0.05	06/12/19 18:00	jlw
Iron, dissolved	M200.7 ICP	1	0.19		mg/L	0.03	0.08	06/22/19 8:50	jlw
Iron, total	M200.7 ICP	1	33.1		mg/L	0,03	0.08	06/19/19 7:24	jlw
Iron, total recoverable	M200.7 ICP	1	33.2		mg/L	0.03	0.08	06/17/19 21:05	aeh
Magnesium, dissolved	M200.7 ICP	1	10.4		mg/L	0.2	1	06/21/19 5:47	aeh
Manganese, dissolved	M200.7 ICP	1		U	mg/L	0.01	0.05	06/21/19 5:47	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.09		mg/L	0.01	0.05	06/12/19 18:00	jlw
Manganese, total	M200.7 ICP	1	0.15		mg/L	0.01	0.05	06/19/19 7:24	jlw
Mercury, total	M245.1 CVAA	1		U	mg/L	0.0002	0.001	06/13/19 16:08	slm
Potassium, dissolved	M200.7 ICP	1	2.0		mg/L	0.2	1	06/21/19 5:47	aeh
Sodium, dissolved	M200.7 ICP	1	21.1		mg/L	0.2	1	06/21/19 5:47	aeh
Zinc, potentially dissolved	M200.7 ICP	1		U	mg/L	0.01	0.05	06/12/19 18:00	jlw

#### New Elk Coal Co., LLC

Project ID:

Sample ID: **PAW 1** 

ACZ Sample ID:	L52308-01
Date Sampled:	06/06/19 14:00
Date Received:	06/07/19
Sample Matrix:	Groundwater

Wet Chemistry			Toronto.	Avral VA	III	MDI	D/N	Data	Analyst
Parameter	EPA Method	Dilation	Result	Cillan Act	Unites	- MILAL	I MARIE	Data	Anatyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		1	128		mg/L	10	20	06/13/19 0:00	enb
Carbonate as CaCO3		1		U	mg/L	10	20	06/13/19 0:00	enb
Hydroxide as CaCO3		1		U	mg/L	10	20	06/13/19 0:00	enb
Total Alkalinity		1	128		mg/L	10	20	06/13/19 0:00	enb
Cation-Anion Balance	Calculation								
Cation-Anion Balance			-3.4		%			06/24/19 0:00	calc
Sum of Anions			3		meq/L			06/24/19 0:00	calc
Sum of Cations			2.8		meq/L			06/24/19 0:00	calc
Chloride	SM4500CI-E	1	12.1		mg/L	0.5	2	06/11/19 15:20	wtc
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		90		mg/L	0.2	5	06/24/19 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1						06/13/19 11:23	kja
Residue, Filterable (TDS) @180C	SM2540C	1	162		mg/L	20	40	06/12/19 12:13	eij
Residue, Non- Filterable (TSS) @105C	SM2540D	1	63.0		mg/L	5	20	06/12/19 10:49	eij
Sodium Adsorption Ratio in Water	USGS - 11738-78		0.98					06/24/19 0:00	calc
Sulfate	D516-02/-07 - Turbidimetric	1	2.8	в	mg/L	1	5	06/14/19 15:22	wtc

#### New Elk Coal Co., LLC

Project ID: Sample ID: PAW 9

### Inorganic Analytical Results

ACZ Sample ID:	L52308-02
Date Sampled:	06/06/19 14:40
Date Received:	06/07/19
Sample Matrix:	Groundwater

Inorganic Prep									
Parameter	EPA Method	Dilution	Result	Qual XQ	Units	MDL	POL	Date /	nalyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002- 31.5.31 (2009)							06/07/19 16:19	гар
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A							06/17/19 12:05	bsu
Total Hot Plate Digestion	M200.2 ICP							06/17/19 14:53	jlw
Total Recoverable Digestion	M200.2 ICP-MS							06/14/19 16:02	rap
Total Recoverable Digestion	M200.2 ICP							06/14/19 14:39	aeh
Metals Analysis									
Parameter	EPA Method	Dilution	Result	Qual XQ	Units	MDL.	PQL	Date /	inalyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.0002	В	mg/L	0.0002	0.001	06/17/19 11:24	bsu
Boron, total	M200.7 ICP	1	0,04	В	mg/L	0.02	0.1	06/19/19 7:28	jlw
Cadmium, potentially dissolved	M200.7 ICP	1		U	mg/L	0.008	0.03	06/12/19 18:03	jlw
Calcium, dissolved	M200.7 ICP	1	76.9		mg/L	0.1	0.5	06/21/19 5:50	aeh
Chromium, total recoverable	M200.8 ICP-MS	1	0.0014	В	mg/L	0.0005	0.002	06/17/19 11:24	bsu
Copper, potentially dissolved	M200.7 ICP	1		U	mg/L	0.01	0.05	06/12/19 18:03	jlw
Iron, dissolved	M200.7 ICP	1	0.08		mg/L	0.03	0.08	06/22/19 8:54	jlw
Iron, total	M200.7 ICP	ৰ	2.13		mg/L	0.03	0.08	06/19/19 7:28	jlw
Iron, total recoverable	M200.7 ICP	4	2.11		mg/L	0.03	0.08	06/17/19 21:08	aeh
Magnesium, dissolved	M200.7 ICP	1	21.1		mg/L	0.2	1	06/21/19 5:50	aeh
Manganese, dissolved	M200.7 ICP	1		U	mg/L	0.01	0.05	06/21/19 5:50	aeh
Manganese, potentially dissolved	M200.7 ICP	1	0.24		mg/L	0.01	0.05	06/12/19 18:03	jlw
Manganese, total	M200.7 ICP	1	1.70		mg/L	0.01	0.05	06/19/19 7:28	jlw
Mercury, total	M245.1 CVAA	1		U	mg/L	0.0002	0.001	06/13/19 16:09	slm
Potassium, dissolved	M200.7 ICP	1	2.2		mg/L	0.2	1	06/21/19 5:50	aeh
Sodium, dissolved	M200.7 ICP	1	129		mg/L	0.2	1	06/21/19 5:50	aeh
Zinc, potentially	M200.7 ICP	1		U	mg/L	0.01	0.05	06/12/19 18:03	jlw

dissolved

#### New Elk Coal Co., LLC

Project ID: Sample ID: PAW 9

ACZ Sample ID:	L52308-02
Date Sampled:	06/06/19 14:40
Date Received:	06/07/19
Sample Matrix:	Groundwater

Wet Chemistry									
Parameter	EPA Method	Dilution	Result	Qual XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as		1	442		mg/L	10	20	06/13/19 0:00	enb
CaCO3									
Carbonate as CaCO3	ł	1		U	mg/L	10	20	06/13/19 0:00	enb
Hydroxide as CaCO3		1		U	mg/L	10	20	06/13/19 0:00	enb
Total Alkalinity		1	442		mg/L	10	20	06/13/19 0:00	enb
Cation-Anion Balance	Calculation								
Cation-Anion Balance	2		0.0		%			06/24/19 0:00	calc
Sum of Anions			11.0		meq/L			06/24/19 0:00	calc
Sum of Cations			11		meq/L			06/24/19 0:00	calc
Chloride	SM4500CI-E	1	22.3	100	mg/L	0.5	2	06/11/19 15:20	wtc
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		279		mg/L	0.2	5	06/24/19 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1						06/13/19 11:27	kja
Residue, Filterable (TDS) @180C	SM2540C	1	642		mg/L	20	40	06/12/19 12:15	eij
Residue, Non- Filterable (TSS) @105C	SM2540D	1	44.0		mg/L	5	20	06/12/19 10:51	eij
Sodium Adsorption Ratio in Water	USGS - 11738-78		3.4					06/24/19 0:00	calc
Sulfate	D516-02/-07 - Turbidimetric	5	75.2		mg/L	5	25	06/14/19 15:52	wtc

2773 Downhill Drive S	_aboratories, Steamboat Springs, CO 804	<b>Inc.</b> #87 (800) 3	34-5493					orga	Results	Cal
New Elk Coal Co. Project ID: Sample ID: Pl	RS1					ACZ Dat Dat Sar	Sample te Sampl e Receiv mple Mat	ID: <i>L</i> ed: <i>1</i> ed: <i>1</i> rix: S	<b>55888-01</b> 1/13/19 14:15 1/14/19 Surface Water	
Inorganic Prop										
Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date /	Analyst
Lab Filtration (0.45um)	M200.7/200.8/3005A		COLUMN AND DECK						11/18/19 14:46	kja
Total Hot Plate	M200.2 ICP								11/21/19 18:00	kja
Total Recoverable Digestion	M200.2 ICP								11/21/19 14:34	kja
Metals Analysis								w1117-022.05		
Parameter	EPA Method	Dilution	Result	Qual	xa	Units	MDL	PQL	Date /	Analyst
Calcium, dissolved	M200.7 ICP	1	43,8			mg/L	0.1	0.5	11/20/19 12:32	kja
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.08	11/20/19 12:32	kja
Iron, total	M200.7 ICP	1	0.06	В		mg/L	0.03	0.08	11/22/19 21:01	kja 
Iron, total recoverable	M200.7 ICP	1	0.03	В		mg/L	0.03	80.0	11/22/19 18:11	jiw
Magnesium, dissolved	M200.7 ICP	1	7.1			mg/L	0.2	1	11/20/19 12:32	kja
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/20/19 12:32	kja
Manganese, total	M200.7 ICP	1	0.01	В		mg/L	0.01	0.05	11/22/19 21:01	kja
Potassium, dissolved	M200.7 ICP	1	1.5			mg/L	0.2	1	11/20/19 12:32	kja
Sodium, dissolved	M200.7 ICP	1	6.0			mg/L	0.2	1	11/20/19 12:32	kja
Wet Chemistry										
Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date /	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	116			mg/L	2	20	11/21/19 0:00	emk
Carbonate as CaCO3	l .	1		U		mg/L	2	20	11/21/19 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	11/21/19 0:00	emk
Total Alkalinity		1	117			mg/L	2	20	11/21/19 0:00	emk
Chloride	SM4500CI-E	1	2.6		*	mg/L	0.5	2	11/19/19 13:36	wtc
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		139			mg/L	0.2	5	11/25/19 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							11/15/19 10:17	jck
Residue, Filterable (TDS) @180C	SM2540C	1	194			mg/L	20	40	11/15/19 15:03	jck
Residue, Non- Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	11/15/19 16:35	jck
Sodium Adsorption Ratio in Water	USGS - 11738-78		0.22						11/25/19 0:00	calc
Sulfate	D516-02/-07 - Turbidimetric	5	42.5			mg/L	5	25	11/20/19 13:52	mss2

Arizona license number: AZ0102

Inorganic Analytical

ACZ	Laboratories Steamboat Springs, CO 80	, <b>Inc.</b> 0487 (800) 3	34-5493				In	orga	nic Analyt Results	ical
New Elk Coal Co	LLC					ACZ	Sample	ID: L	55888-02	
Project ID:						Da	te Samn	led <sup>.</sup> 1	1/13/19 14:45	
Sample ID: P	RS4					Dat	o Bosois	rod: 1	1/10/10 14:40	
						Dat	e Recen	veu. v	1/14/19	
						Sa	mple Ma	trix: S	urface Water	
Inorganic Prep										
Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	POL	Date /	Analyst
Lab Filtration (0.45um)	M200.7/200.8/3005A								11/18/19 14:46	kja
& Aciunication	M200.2 ICP								11/21/19 18-14	kia
Digestion	11200.2 101								11121110 10.11	Nju
Total Recoverable Digestion	M200.2 ICP								11/21/19 15:38	kja
Metals Analysis										
Parameter	EPA Method	Dilution	Result	Qual	xq	Units	MDL	PQL	Date /	Analyst
Calcium, dissolved	M200.7 ICP	1	44.5			mg/L	0.1	0.5	11/20/19 12:36	kja
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.08	11/20/19 12:36	kja
Iron, total	M200.7 ICP	1	0.07	В		mg/L	0.03	0.08	11/22/19 21:04	kja
Iron, total recoverable	M200.7 ICP	1	0.04	В		mg/L	0.03	0.08	11/22/19 18:20	jlw
Magnesium, dissolved	M200.7 ICP	1	7.2			mg/L	0.2	1	11/20/19 12:36	kja
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/20/19 12:36	kja
Manganese, total	M200.7 ICP	1	0.02	В		mg/L	0.01	0.05	11/22/19 21:04	kja
Potassium, dissolved	M200.7 ICP	1	1.2			mg/L	0.2	1	11/20/19 12:36	kja
Sodium, dissolved	M200.7 ICP	1	6.5			mg/L	0.2	1	11/20/19 12:36	kja
Wet Chemistry										
Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date A	Analyst
Alkalinity as CaCO3	SM2320B - Titration	Contract States	Alarma Caracter Car	And a state of the local diversion of the loc	Column Pro-		COLUMN TWO IS NOT	Contractory of the		a sublicit of the
Bicarbonate as CaCO3		1	117			mg/L	2	20	11/21/19 0:00	emk
Carbonate as CaCO3		1	3.2	В		mg/L	2	20	11/21/19 0:00	emk
Hydroxide as CaCO3		1		U		mg/L	2	20	11/21/19 0:00	emk
Total Alkalinity		1	120			mg/L	2	20	11/21/19 0:00	emk
Chloride	SM4500CI-E	1	2.4		*	mg/L	0.5	2	11/19/19 13:36	wtc
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		141			mg/L	0.2	5	11/25/19 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							11/15/19 10:23	jck
Residue, Filterable (TDS) @180C	SM2540C	1	204			mg/L	20	40	11/15/19 15:06	jck
Residue, Non- Filterable (TSS) @105C	SM2540D	1		U	ŝ	mg/L	5	20	11/15/19 16:37	jck
Sodium Adsorption Ratio in Water	USGS - 11738-78		0.24						11/25/19 0:00	calc
Sulfate	D516-02/-07 - Turbidimetric	5	42.1			mg/L	5	25	11/20/19 13:52	mss2

#### Arizona license number: AZ0102

New Elk Coal Co., LLC

PAW-1

Project ID:

Sample ID:

ACZ Sample ID:	L55752-01
Date Sampled:	11/07/19 14:15
Date Received:	11/08/19
Sample Matrix:	Groundwater

Inorganic Prep					- I I I I I I I I I I I I I I I I I I I	MIN	ROL	Date	Analyst
Parameter	EPA Method	Dilution	Result	Qual XQ	Unas	MIDL	ALC: LOUGH	11/08/10 14:41	ran
Acidify and filter	Colorado 5 CCR 1002-							11/06/19 14:41	Tap
(Potentially Dissolved)	31.5.31 (2009)							11/13/19 13:15	kja
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A							11/15/19 14:49	kia
Total Hot Plate	M200.2 ICP							11110/10 11110	
Digestion								11/15/19 10:41	гар
Total Recoverable	M200.2 ICP-MS							11/10/10 10:11	, ap
Digestion								11/18/19 13:23	jlw
Total Recoverable Digestion	M200.2 ICP			-					,
Metals Analysis					11-24-	BEDI	POL	Date	Analyst
Parameter	EPA Method	Dilution	Result	Qual XQ	Units	INTE	GIE	14 14 0 14 0 10 147	no fro
Arsenic, total	M200.8 ICP-MS	1	0.0006	В	mg/L	0.0002	0.001	11/19/19 10:17	
recoverable Reconstated	M200 7 ICP	1	0.04	В	mg/L	0.02	0.1	11/18/19 12:20	) kja

recoverable		a	0.04	D		ma/l	0.02	0.1	11/18/19 12:20	kja
Boron, total	M200.7 ICP	1	0.04			ng/L mg/l	0.02	0.03	11/11/19 20:23	kja
Cadmium, potentially	M200.7 ICP	1		U	'	ng/L	0.000	0.00	101010	
dissolved			40.0			ma/l	0.1	0.5	11/14/19 17:31	jlw
Calcium, dissolved	M200.7 ICP	1	10.9			mg/L	0.0005	0.002	11/19/19 16:17	mfm
Chromium, total	M200.8 ICP-MS	1	0.0007	в		mg/L	0.0005	0.002	11110110	
recoverable		an				ma/l	0.01	0.05	11/11/19 20:23	kja
Copper, potentially	M200.7 ICP	1		0		ing/L	0107			
dissolved	N000 7 100	1		U		mg/L	0.03	0.08	11/14/19 17:31	jlw
Iron, dissolved	M200.7 ICP		14.4	Ť		ma/l	0.03	0.08	11/18/19 12:20	kja
iron, total	M200.7 ICP	1	14.4			ma/l	0.06	0.2	11/19/19 19:41	jlw
Iron, total recoverable	M200.7 ICP	2	15.0			mg/L	0.00	1	11/14/19 17:31	ilw
Magnesium, dissolved	M200.7 ICP	1	9.2			mg/∟ ″	0.2	0.05	11/1/10 17:31	ilw
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	44/44/40 20:22	kia
Manganese, potentially	M200.7 ICP	1	0.11			mg/L	0.01	0.05	11/11/19 20.23	кја
dissolved							0.01	0.05	11/18/19 12:20	kia
Manganese, total	M200.7 ICP	1	0.16			mg/L	0.01	0.00	11/10/10 14:31	elm
Mercury, total	M245.1 CVAA	1		U		mg/L	0.0002	0.001	11/13/19 14:01	ilur
Potassium dissolved	M200.7 ICP	1	2.6			mg/L	0.2	1	11/14/19 17:31	JIW
Codium dissolved	M200 7 ICP	1	18.1		*	mg/L	0.2	1	11/14/19 17:31	JIW
Sodium, dissolved	M200.7 ICD	1		U		mg/L	0.01	0.05	11/11/19 20:23	kja
Zinc, potentially dissolved	M200.7 ICP			-		-				

#### New Elk Coal Co. , LLC

Project ID:

Sample ID: PAW-1

ACZ Sample ID:	L55752-01
Date Sampled:	11/07/19 14:15
Date Received:	11/08/19
Sample Matrix:	Groundwater

Wet Chemistry			STATE OF STREET			DECI	POI	Date	Analyst
Parameter	EPA Method	Dilution	Result	Qual XQ	Units	MIDE	1 Cal Im		Eastern Annut
Alkalinity as CaCO3	SM2320B - Titration					0	20	11/12/10 0.00	nmc
Bicarbonate as		1	114		mg/L	2	20	11/12/13 0.00	11110
CaCO3					ma/l	2	20	11/12/19 0:00	nmc
Carbonate as CaCO3		1		0	mg/L	2	20	11/12/19 0:00	nmc
Hydroxide as CaCO3		1		U	mg/∟	2	20	11/12/19 0.00	птс
Total Alkalinity		1	116		mg/L	2	20	11112/10 0.00	
Cation-Anion Balance	Calculation				0/			11/22/19 0.00	calc
Cation-Anion Balance			-1.9		%			11/22/10 0:00	calc
Sum of Anions			2.7		meq/L			11/22/19 0:00	calc
Sum of Cations			2.6		meq/L		_	11/22/19 0.00	taic #~
Chloride	SM4500CI-E	1	14.1		mg/L	0.5	2	11/12/19 15:00	ug
Hardness as CaCO3	SM2340B - Calculation		85		mg/L	0.2	5	11/22/19 0:00	caic
(dissolved)								11/11/10 10:37	ick
Lab Filtration (0.45um	SOPWC050	1						11/11/19 10:57	Jok
filter)			4.40	÷	mall	20	40	11/08/19 14:37	jck
Residue, Filterable	SM2540C	1	146		my/c	20			
(TDS) @180C	01105100	4	31.0	*	ma/L	5	20	11/11/19 16:38	jck
Residue, Non-	SM2540D	1	31.0						
Filterable (155)									
Sodium Adsorption	USGS - 11738-78		0.86					11/22/19 0:00	calc
Ratio in Water						1.76	-	44/44/40 45:24	mee?
Sulfate	D516-02/-07 - Turbidimetric	1	1.4	В	mg/L	1	5	11/11/19 15.24	11002



#### New Elk Coal Co. , LLC

Project ID:

Sample ID: PAW-9

ACZ Sample ID:	L55752-02
Date Sampled:	11/07/19 14:37
Date Received:	11/08/19
Sample Matrix:	Groundwater

Inorganic Prep	EDA Method	Dilution	Result	Qual XQ	Units	MDL	PQL	Date A	nalyst
Parameter	Celorado 5 CCR 1002-	CINCLE AND	Philippine and the second s					11/08/19 14:50	rap
(Potentially Dissolved)	31.5.31 (2009)							44/40/40 12:15	kia
Lab Filtration (0.45um)	M200.7/200.8/3005A							11/13/19 13.15	кја
& Acidification								11/15/19 15:12	kja
Total Hot Plate	M200.2 ICP								
Digestion Total Recoverable	M200.2 ICP-MS							11/15/19 10:58	rap
Digestion								11/18/19 13:46	ilw
Total Recoverable	M200.2 ICP							11/10/13 10:40	J
Digestion									
Metals Analysis			The second s		11-24-	MEDI	POI	Date A	nalvst
Parameter	EPA Method	Dilution	Result	Qual XQ	UNITS	0.0002	0.001	11/19/19 16:19	mfm
Arsenic, total	M200.8 ICP-MS	1	0.0003	в	mg/L	0.0002	0.001		
recoverable		1	0.05	в	mg/L	0.02	0.1	11/18/19 12:23	kja
Boron, total	M200.7 ICP	1	0.00	U U	mg/L	0.008	0.03	11/11/19 20:26	kja
Cadmium, potentially	M200.7 ICP	I		U					
Calcium dissolved	M200.7 ICP	1	73.8		mg/L	0.1	0.5	11/14/19 17:34	JIW
Chromium, total	M200.8 ICP-MS	1	0.0017	В	mg/L	0.0005	0.002	11/19/19 16:19	mm
recoverable						0.01	0.05	11/11/19 20:26	kia
Copper, potentially	M200.7 ICP	1		U	mg/L	0.01	0.00		
dissolved	N000 7 ICD	8		U	mg/L	0.03	0.08	11/14/19 17:34	jlw
Iron, dissolved	M200.7 ICP	4	2 39		mg/L	0.03	0.08	11/18/19 12:23	kja
Iron, total	M200.7 ICP	4	2.00		mg/L	0.03	0.08	11/19/19 19:44	jlw
Iron, total recoverable	M200.7 ICP	÷.	19.6		ma/L	0.2	1	11/14/19 17:34	jlw
Magnesium, dissolved	M200.7 1CP	4	10.0	U.	ma/L	0.01	0.05	11/14/19 17:34	jlw
Manganese, dissolved	M200.7 ICP	1	0.50	Ū	ma/L	0.01	0.05	11/11/19 20:26	kja
Manganese, potentially	/ M200.7 ICP	-18	0.00						
Manganese total	M200.7 ICP	1	2.21		mg/L	0.01	0.05	11/18/19 12:23	кја
Mercury total	M245.1 CVAA	1		U	mg/L	0.0002	0.001	11/13/19 14:32	sim
Potassium dissolved	M200.7 ICP	1	2.8		mg/L	0.2	1	11/14/19 17:34	JIW
Sodium dissolved	M200.7 ICP	1	125		mg/L	0.2	1	11/14/19 17:34	JIW
Zinc notentially	M200.7 ICP	1		U	mg/L	0.01	0.05	11/11/19 20:26	kja
dissolved									

### New Elk Coal Co. , LLC

Project ID: Sample ID: PAW-9

ACZ Sample ID:	L55752-02
Date Sampled:	11/07/19 14:37
Date Received:	11/08/19
Sample Matrix:	Groundwater

Wet Chemistry					11-10-2	MEN	POI	Date A	nalvst
Parameter	EPA Method	Dilution	Result	Qual XQ	Units	110575	1.041		Normal Amount
Alkalinity as CaCO3	SM2320B - Titration					0	20	11/12/19 0.00	nmc
Bicarbonate as		1	458		mg/L	2	20	11/12/13 0.00	11110
CaCO3		2			ma/l	2	20	11/12/19 0:00	nmc
Carbonate as CaCO3		1		0	mg/L	2	20	11/12/19 0:00	nmc
Hydroxide as CaCO3		1		U	nig/L	2	20	11/12/19 0.00	រា៣០
Total Alkalinity		1	458		mg/L	2	20	11/12/10 0.00	
Cation-Anion Balance	Calculation							11/22/10 0.00	calc
Cation-Anion Balance			-4.3		%			11/22/19 0:00	calc
Sum of Anions			12		meq/L			1/22/19 0.00	cale
Sum of Cations			11		meq/L		-	11/22/19 0.00	taic #a
Chloride	SM4500CI-E	1	21.7		mg/L	0.5	2	11/12/19 15:00	uy
Hardness as CaCO3	SM2340B - Calculation		265		mg/L	0.2	5	11/22/19 0:00	caic
(dissolved)								44/44/40 10:44	ick
Lab Filtration (0.45um	SOPWC050	1						11/11/18 10.44	Join
filter)		2			mall	20	40	11/08/19 16:17	ick
Residue, Filterable	SM2540C	1	630		my∕∟	20	40		
(TDS) @180C		4	47.0	*	ma/l	5	20	11/11/19 16:41	jck
Residue, Non-	SM2540D	1	47.0						
Filterable (155)									
Sodium Adsorption	USGS - 11738-78		3.4					11/22/19 0:00	calc
Ratio in Water						_	05	44/44/40 45:21	mee?
Sulfate	D516-02/-07 - Turbidimetric	5	80.2		mg/L	5	25	11/11/18 10:01	11332

#### New Elk Coal Co., LLC

PAW 2

Project ID:

Sample ID:

ACZ Sample ID:	L56083-01
Date Sampled:	11/20/19 14:40
Date Received:	11/22/19
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)								11/24/19 14:18	rap
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/02/19 15:20	гар
Total Hot Plate	M200.2 ICP				÷				12/03/19 10:58	jlw
Total Recoverable	M200.2 ICP-MS								12/03/19 15:01	rap
Total Recoverable Digestion	M200.2 ICP								12/04/19 15:19	kja
Metals Analysis							- 300007			1000
Parameter	EPA Method	Dilution	Result	Qual	xa	Units	MDL	POL	Date	unalyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.0033			mg/L	0.0002	0.001	12/05/19 14:27	mfm
Boron, total	M200.7 ICP	2	0.07	В		mg/L	0.04	0.2	12/05/19 14:32	jlw
Cadmium, potentially dissolved	M200.7 ICP	1		U		mg/L	0.008	0.03	11/25/19 17:15	kja
Calcium, dissolved	M200.7 ICP	1	108			mg/L	0.1	0.5	12/04/19 22:46	jlw
Chromium, total recoverable	M200.8 ICP-MS	1	0.0063			mg/L	0.0005	0.002	12/05/19 14:27	mfm
Copper, potentially dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	11/25/19 17:15	kja
Iron, dissolved	M200.7 ICP	1	1.15			mg/L	0.03	0.08	12/04/19 22:46	jlw
Iron, total	M200.7 ICP	2	44.9			mg/L	0.06	0.2	12/05/19 14:32	jlw
Iron, total recoverable	M200.7 ICP	1	41.3			mg/L	0.03	0.08	12/05/19 10:40	jlw
Magnesium, dissolved	M200.7 ICP	1	21.0			mg/L	0.2	1	12/04/19 22:46	jlw
Manganese, dissolved	M200.7 ICP	1	1.37			mg/L	0.01	0.05	12/04/19 22:46	jlw
Manganese, potentially dissolved	M200.7 ICP	1	1.67		*	mg/L	0.01	0.05	11/26/19 14:18	jlw
Manganese, total	M200.7 ICP	2	1.77			mg/L	0.02	0.1	12/04/19 15:31	kja
Mercury, total	M245.1 CVAA	1		υ		mg/L	0.0002	0.001	12/03/19 10:49	slm
Potassium, dissolved	M200.7 ICP	1	2.7			mg/L	0.2	1	12/04/19 22:46	jlw
Sodium, dissolved	M200.7 ICP	1	92.9			mg/L	0.2	1	12/04/19 22:46	jlw
Zinc, potentially dissolved	M200.7 ICP	1	0.04	В		mg/L	0.01	0.05	11/25/19 17:15	kja

#### New Elk Coal Co., LLC

Project ID: Sample ID: PAW 2

ACZ Sample ID:	L56083-01
Date Sampled:	11/20/19 14:40
Date Received:	11/22/19
Sample Matrix:	Groundwater

Wet Chemistry	and the second				11 . 22	MIN	DOI	Dete	Anabust
Parameter	EPA Method	Dilution	Result	Qual XQ	Units	MDL	PUL	Datta	Milatyse
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		1	453		mg/L	2	20	12/03/19 0:00	nmc
Carbonate as CaCO3		1		U	mg/L	2	20	12/03/19 0:00	nmc
Hydroxide as CaCO3		1		U	mg/L	2	20	12/03/19 0:00	nmc
Total Alkalinity		1	453	*	mg/L	2	20	12/03/19 0:00	nmc
Cation-Anion Balance	Calculation								
Cation-Anion Balance			-4.3		%			12/10/19 0:00	calc
Sum of Anions			12		meq/L			12/10/19 0:00	calc
Sum of Cations			11		meq/L			12/10/19 0:00	calc
Chloride	SM4500CI-E	1	34.3	(* )	mg/L	0.5	2	12/03/19 13:42	rbt
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		356		mg/L	0.2	5	12/10/19 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1						11/25/19 16:03	jck
Residue, Filterable (TDS) @180C	SM2540C	1	630		mg/L	20	40	11/25/19 17:40	nmc
Residue, Non- Filterable (TSS) @105C	SM2540D	4	176	*	mg/L	20	80	11/22/19 15:38	еер
Sodium Adsorption Ratio in Water	USGS - 11738-78		2.2					12/10/19 0:00	calc
Sulfate	D516-02/-07/-11 - Turbidimetri	c 5	71.9		mg/L	5	25	12/10/19 9:56	rbt

#### New Elk Coal Co., LLC

Project ID:

Sample ID: PAW 8

ACZ Sample ID:	L56083-02
Date Sampled:	11/20/19 14:00
Date Received:	11/22/19
Sample Matrix:	Groundwater

Inorganic Prep							001-02-002-0	1	No. of Concession
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)							11/24/19 14:31	, rap
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A							12/02/19 15:20	) rap
Total Hot Plate Digestion	M200.2 ICP							12/03/19 11:10	) jiw
Total Recoverable Digestion	M200.2 ICP-MS							12/03/19 15:58	) rap
Total Recoverable Digestion	M200.2 ICP							12/04/19 15:42	i kja
Metals Analysis					and successive and the	of switting		No. of Concession, Name	1.000.00000
Parameter	EPA Method	Dilution	Result	Qual XQ	Unite	MDL	PGL	Date	Analyst
Arsenic, total	M200.8 ICP-MS	1	0.0025		mg/L	0.0002	0.001	12/05/19 14:29	) mfm

Arsenic, total recoverable	M200.8 ICP-MS	1	0.0025		m	g/L	0.0002	0.001	12/05/19 14:29	mim 
Boron, total	M200.7 ICP	2	0.06	В	m	g/L	0.04	0.2	12/05/19 14:35	JIW
Cadmium, potentially dissolved	M200.7 ICP	1		U	m	g/L	0.008	0.03	11/25/19 17:19	kja 
Calcium, dissolved	M200.7 ICP	1	115		m	g/L	0.1	0.5	12/04/19 22:49	jiw
Chromium, total recoverable	M200.8 ICP-MS	1	0.0145		m	g/L	0.0005	0.002	12/05/19 14:29	mfm
Copper, potentially dissolved	M200.7 ICP	1	0.02	В	m	g/L	0.01	0.05	11/25/19 17:19	kja
Iron, dissolved	M200.7 ICP	1		U	m	g/L	0.03	0.08	12/04/19 22:49	jiw
Iron, total	M200.7 ICP	2	24.6		m	g/L	0.06	0.2	12/05/19 14:35	jlw
Iron, total recoverable	M200.7 ICP	1	22.8		m	g/L	0.03	0.08	12/05/19 10:43	jlw
Magnesium, dissolved	M200.7 ICP	1	25.3		m	g/L	0.2	1	12/04/19 22:49	jlw
Manganese, dissolved	M200.7 ICP	1		U	m	g/L	0.01	0.05	12/04/19 22:49	jlw
Manganese, potentially dissolved	M200.7 ICP	1	1.27		°∗∂ m	g/L	0.01	0.05	11/26/19 14:21	jlw
Manganese, total	M200.7 ICP	2	1.81		m	g/L	0.02	0.1	12/04/19 15:35	kja
Mercury, total	M245.1 CVAA	1		υ	m	g/L	0.0002	0.001	12/03/19 10:50	slm
Potassium, dissolved	M200.7 ICP	1	2.0		m	g/L	0.2	1	12/04/19 22:49	jlw
Sodium dissolved	M200.7 ICP	1	170		m	g/L	0.2	1	12/04/19 22:49	jlw
Zinc, potentially dissolved	M200.7 ICP	1	0.04	В	rr	g/L	0.01	0.05	11/25/19 17:19	kja

#### New Elk Coal Co., LLC

Project ID: Sample ID: PAW 8

ACZ Sample ID:	L56083-02
Date Sampled:	11/20/19 14:00
Date Received:	11/22/19
Sample Matrix:	Groundwater

Wet Chemistry						0.000244.925038	a state of the state		and the state
Parameter	EPA Method	Dilution	Result	Qual XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as		1	542		mg/L	2	20	12/03/19 0:00	nmc
CaCO3							00	40/00/40 0:00	
Carbonate as CaCO3		1		U	mg/L	2	20	12/03/19 0.00	ninc
Hydroxide as CaCO3		1		U	mg/L	2	20	12/03/19 0:00	nmc
Total Alkalinity		1	542	*	mg/L	2	20	12/03/19 0:00	nmc
Cation-Anion Balance	Calculation								
Cation-Anion Balance			0.0		%			12/10/19 0:00	calc
Sum of Anions			15		meq/L			12/10/19 0:00	calc
Sum of Cations			15		meq/L			12/10/19 0:00	calc
Chloride	SM4500CI-E	1	37.0	*	mg/L	0.5	2	12/03/19 13:42	2 rbt
Hardness as CaCO3	SM2340B - Calculation		391		mg/L	0.2	5	12/10/19 0:00	calc
(dissolved)									
Lab Filtration (0.45um	SOPWC050	1						11/25/19 16:06	jck
filter)		_				40	80	11/25/10 17:43	
Residue, Filterable	SM2540C	2	864		mg/L	40	00	11/20/19 11:42	. mile
	SM0E40D	4	536	*	ma/l	20	80	11/22/19 15:40	) eep
Filterable (TSS)	510120400	-	330		ing				
@105C									
Sodium Adsorption	USGS - 11738-78		3.8					12/10/19 0:00	calc
Ratio in Water						-	05	40/40/40 0.57	rbt
Sulfate	D516-02/-07/-11 - Turbidimetri	c 5	153		mg/L	5	25	12/10/19 9:57	ומו

#### New Elk Coal Co., LLC

Project ID: Sample ID: NEW-2

ACZ Sample ID:	L56404-01
Date Sampled:	12/10/19 14:05
Date Received:	12/12/19
Sample Matrix:	Groundwater

Inorganic Prep										
Parameter	EPA Method	Dilution	Result	Qual	xo	Units	MDL	PQL	Date	Analyst
Acidify and filter (Potentially Dissolved)	Colorado 5 CCR 1002- 31.5.31 (2009)								12/13/19 14:23	в гар
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/17/19 14:00	) kja
Total Hot Plate Digestion	M200.2 ICP								12/17/19 14:33	B jlw
Total Recoverable Digestion	M200.2 ICP-MS								12/18/19 12:01	rap
Total Recoverable Digestion	M200.2 ICP								12/18/19 13:38	3 kja
Metals Analysis								100000000000000000000000000000000000000	and sealing the	a handle services
Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst

rarameter	EF A MEDICO	Diration	and the second sec	And in case of the local division of the	and the state of t	THE OWNER WHEN	Contraction of the local division of the	A STATE OF THE OWNER OF THE	Contract, Station
Arsenic, total recoverable	M200.8 ICP-MS	1	0.0004	В	mg/L	0.0002	0.001	12/18/19 17:55	mfm
Boron, total	M200.7 ICP	1	0.04	В	mg/L	0.02	0.1	12/18/19 14:53	jlw
Cadmium, potentially dissolved	M200.7 ICP	1		U	mg/L	0.008	0.03	12/16/19 22:26	kja
Calcium, dissolved	M200.7 ICP	1	13.5		mg/L	0.1	0.5	12/18/19 21:41	jlw
Chromium, total recoverable	M200.8 ICP-MS	1		U	mg/L	0.0005	0.002	12/18/19 17:55	mfm
Copper, potentially dissolved	M200.7 ICP	1		U	mg/L	0.01	0.05	12/16/19 22:26	kja
Iron, dissolved	M200.7 ICP	1	0.17		mg/L	0.03	0.08	12/18/19 21:41	jlw
Iron, total	M200.7 ICP	1	0.46		mg/L	0.03	0.08	12/18/19 14:53	jlw
Iron, total recoverable	M200.7 ICP	1	0.49		mg/L	0.03	0.08	12/19/19 12:53	kja
Magnesium, dissolved	M200.7 ICP	1	5.7		mg/L	0.2	1	12/18/19 21:41	jlw
Manganese, dissolved	M200.7 ICP	1	0.03	В	mg/L	0.01	0.05	12/18/19 21:41	jlw
Manganese, potentially dissolved	M200.7 ICP	1	0.06		mg/L	0.01	0.05	12/17/19 15:40	jlw
Manganese, total	M200.7 ICP	1	0.05		mg/L	0.01	0.05	12/18/19 14:53	jlw
Mercury, total	M245.1 CVAA	1		U *	mg/L	0.0002	0.001	12/16/19 15:40	slm
Potassium, dissolved	M200.7 ICP	1	7.0		mg/L	0.2	1	12/18/19 21:41	jlw
Sodium, dissolved	M200.7 ICP	1	532		mg/L	0.2	1	12/18/19 21:41	jlw
Zinc, potentially dissolved	M200.7 ICP	1		U	mg/L	0.01	0.05	12/16/19 22:26	kja

#### New Elk Coal Co., LLC

Project ID: Sample ID: NEW-2

ACZ Sample ID:	L56404-01
Date Sampled:	12/10/19 14:05
Date Received:	12/12/19
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	1010			mg/L	2	20	12/17/19 0:00	enb
Carbonate as CaCO3		1	44.4			mg/L	2	20	12/17/19 0:00	епb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/17/19 0:00	епр
Total Alkalinity		1	1050			mg/L	2	20	12/17/19 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.0			%			12/31/19 0:00	calc
Sum of Anions			26			meq/L			12/31/19 0:00	calc
Sum of Cations			25			meq/L			12/31/19 0:00	calc
Chloride	SM4500CI-E	1	10.5		*	mg/L	0.5	2	12/20/19 12:46	wtc
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		57			mg/L	0.2	5	12/31/19 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/19/19 16:26	mlh
Residue, Filterable (TDS) @180C	SM2540C	1	1450		*	mg/L	20	40	12/13/19 10:46	jck
Residue, Non- Filterable (TSS) @105C	SM2540D	1		U	*	mg/L	5	20	12/13/19 16:04	mlh
Sodium Adsorption Ratio in Water	USGS - 11738-78		31						12/31/19 0:00	calc
Sulfate	D516-02/-07/-11 - Turbidimetri	c 10	214		*	mg/L	10	50	12/30/19 11:16	mss2

New Elk Coal Co., LLC

Project ID: Sample ID:

NEW-4

#### Inorganic Analytical Results

ACZ Sample ID:	L56404-02
Date Sampled:	12/10/19 14:50
Date Received:	12/12/19
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)							12/13/19 14:26	rap
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A							12/17/19 14:00	kja
Total Hot Plate Digestion	M200.2 ICP							12/17/19 14:57	jlw
Total Recoverable Digestion	M200.2 ICP-MS							12/18/19 12:16	гар
Total Recoverable Digestion	M200.2 ICP							12/18/19 14:01	kja
Metals Analysis									
Parameter	EPA Method	Dilution	Result	Qual XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1		U	mg/L	0.0002	0.001	12/18/19 17:57	mfm
Boron, total	M200.7 ICP	1	0.03	В	mg/L	0.02	0.1	12/18/19 14:56	jlw
Cadmium, potentially dissolved	M200.7 ICP	1		U	mg/L	0.008	0.03	12/16/19 22:30	kja
Calcium, dissolved	M200.7 ICP	1	5.0		mg/L	0.1	0.5	12/18/19 21:45	jlw
Chromium, total recoverable	M200.8 ICP-MS	1		U	mg/L	0.0005	0.002	12/18/19 17:57	mfm
Copper, potentially dissolved	M200.7 ICP	1		U	mg/L	0.01	0.05	12/16/19 22:30	kja
Iron, dissolved	M200.7 ICP	1		U	mg/L	0.03	0.08	12/18/19 21:45	jlw
Iron, total	M200.7 ICP	1	0.23		mg/L	0.03	0.08	12/18/19 14:56	jlw
Iron, total recoverable	M200.7 ICP	1	0.29		mg/L	0.03	0.08	12/19/19 12:56	kja
Magnesium, dissolved	M200.7 ICP	1	2.2		mg/L	0.2	1	12/18/19 21:45	jlw
Manganese, dissolved	M200.7 ICP	1		U	mg/L	0.01	0.05	12/18/19 21:45	jlw
Manganese, potentially dissolved	M200.7 ICP	1	0.01	В	mg/L	0.01	0.05	12/17/19 15:43	jlw
Manganese, total	M200.7 ICP	1		U	mg/L	0.01	0.05	12/18/19 14:56	jlw
Mercury, total	M245.1 CVAA	1		U +	mg/L	0.0002	0.001	12/16/19 15:41	slm

1

1

1

5.1

529

0.03

В

12/18/19 21:45

12/18/19 21:45

12/16/19 22:30

jlw

jlw

kja

0.2

0.2

0.01

1

1

0.05

mg/L

mg/L

mg/L

Potassium, dissolved M200.7 ICP

M200.7 ICP

M200.7 ICP

Sodium, dissolved

Zinc, potentially

dissolved

#### New Elk Coal Co., LLC

Project ID: Sample ID: NEW-4

ACZ Sample ID:	L56404-02
Date Sampled:	12/10/19 14:50
Date Received:	12/12/19
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	1130			mg/L	2	20	12/17/19 0:00	enb
Carbonate as CaCO3	3	1	79.5			mg/L	2	20	12/17/19 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/17/19 0:00	enb
Total Alkalinity		1	1210			mg/L	2	20	12/17/19 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance	)		-2.0			%			12/31/19 0:00	calc
Sum of Anions			25			meq/L			12/31/19 0:00	calc
Sum of Cations			24			meq/L			12/31/19 0:00	calc
Chloride	SM4500CI-E	1	14.3		*	mg/L	0.5	2	12/20/19 12:46	wtc
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		22			mg/L	0.2	5	12/31/19 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/19/19 16:32	mlh
Residue, Filterable (TDS) @180C	SM2540C	1	1330		*	mg/L	20	40	12/13/19 10:49	jck
Residue, Non- Filterable (TSS) @105C	SM2540D	1	5.0	В	•	mg/L	5	20	12/13/19 16:07	' mlh
Sodium Adsorption Ratio in Water	USGS - 11738-78		50						12/31/19 0:00	calc
Sulfate	D516-02/-07/-11 - Turbidimetric	2 1	29.9		*	mg/L	1	5	12/30/19 10:57	mss2

New Elk Coal Co., LLC

Project ID: Sample ID:

### NE 1-10

ACZ Sample ID:	L56404-03
Date Sampled:	12/10/19 12:55
Date Received:	12/12/19
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)								12/13/19 14:30	rap
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								12/17/19 14:00	kja
Total Hot Plate Digestion	M200.2 ICP								12/17/19 15:20	jlw
Total Recoverable Digestion	M200.2 ICP-MS								12/18/19 12:30	rap
Total Recoverable Digestion	M200.2 ICP								12/18/19 14:24	kja
Metals Analysis										
Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	1	0.0159			mg/L	0.0002	0.001	12/18/19 17:59	mfm
				-				<b>A</b> 4	40/40/40 44.50	26

recoverable						0				
Boron, total	M200.7 ICP	1	0.02	В		mg/L	0.02	0.1	12/18/19 14:59	jlw
Cadmium, potentially dissolved	M200.7 ICP	1		U		mg/L	0.008	0.03	12/16/19 22:39	kja
Calcium, dissolved	M200.7 ICP	1	2,3			mg/L	0.1	0.5	12/18/19 21:48	jlw
Chromium, total recoverable	M200.8 ICP-MS	1	0.0022			mg/L	0.0005	0.002	12/18/19 17:59	mfm
Copper, potentially dissolved	M200.7 ICP	1	0.01	В		mg/L	0.01	0.05	12/16/19 22:39	kja
Iron, dissolved	M200.7 ICP	1		U		mg/L	0.03	0.08	12/18/19 21:48	jlw
Iron, total	M200.7 ICP	1	0.77			mg/L	0.03	0.08	12/18/19 14:59	jlw
Iron, total recoverable	M200.7 ICP	1	0.82			mg/L	0.03	0.08	12/19/19 12:59	kja
Magnesium, dissolved	M200.7 ICP	1	2.3			mg/L	0.2	1	12/18/19 21:48	jlw
Manganese, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	12/18/19 21:48	jlw
Manganese, potentially dissolved	M200.7 ICP	1	0.01	В		mg/L	0.01	0.05	12/17/19 15:46	jlw
Manganese, total	M200.7 ICP	1		U		mg/L	0.01	0.05	12/18/19 14:59	jlw
Mercury, total	M245.1 CVAA	1		U	*	mg/L	0.0002	0.001	12/16/19 15:41	slm
Potassium, dissolved	M200.7 ICP	1	4.3			mg/L	0.2	1	12/18/19 21:48	jlw
Sodium, dissolved	M200.7 ICP	1	297			mg/L	0.2	1	12/18/19 21:48	jlw
Zinc, potentially dissolved	M200.7 ICP	1	0.02	В		mg/L	0.01	0.05	12/16/19 22:39	kja

#### New Elk Coal Co., LLC

Project ID: Sample ID: NE 1-10

ACZ Sample ID:	L56404-03
Date Sampled:	12/10/19 12:55
Date Received:	12/12/19
Sample Matrix:	Groundwater

Wet Chemistry										
Parameter	EPA Method	Dilution	Result	Qual >	(Q	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	395			mg/L	2	20	12/17/19 0:00	enb
Carbonate as CaCO3		1	264			mg/L	2	20	12/17/19 0:00	enb
Hydroxide as CaCO3		1		U		mg/L	2	20	12/17/19 0:00	enb
Total Alkalinity		1	659			mg/L	2	20	12/17/19 0:00	enb
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			12/31/19 0:00	calc
Sum of Anions			14			meq/L			12/31/19 0:00	calc
Sum of Cations			14			meq/L			12/31/19 0:00	calc
Chloride	SM4500CI-E	1	9.4		*	mg/L	0.5	2	12/20/19 12:46	wtc
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		15			mg/L	0.2	5	12/31/19 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							12/19/19 16:38	młh
Residue, Filterable (TDS) @180C	SM2540C	1	784		*	mg/L	20	40	12/13/19 10:51	jck
Residue, Non- Filterable (TSS) @105C	SM2540D	1	15.0	В	•	mg/L	5	20	12/13/19 16:10	mlh
Sodium Adsorption Ratio in Water	USGS - 11738-78		34						12/31/19 0:00	calc
Sulfate	D516-02/-07/-11 - Turbidimetri	c 1	23.3		*	mg/L	1	5	12/30/19 10:57	mss2