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

Analytical Report

April 24, 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: L79581

Nicholas Mason:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on April 03, 2023. This project has been assigned to ACZ's project number, L79581. 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 L79581. 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 24, 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: ***L79581-01***
Date Sampled: *03/31/23 12:48*
Date Received: *04/03/23*
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)								04/04/23 13:07	gjl
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								04/10/23 10:00	mlh
Total Hot Plate Digestion	M200.2 ICP								04/11/23 14:23	aeh
Total Recoverable Digestion	M200.2 ICP-MS								04/12/23 11:36	kja
Total Recoverable Digestion	M200.2 ICP								04/12/23 13:57	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	2	0.00072	B	*	mg/L	0.0004	0.002	04/14/23 14:30	kja
Boron, total	M200.7 ICP	1	0.065	B		mg/L	0.03	0.1	04/18/23 16:53	keh1
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	04/08/23 0:49	keh1
Calcium, dissolved	M200.7 ICP	1	4.16			mg/L	0.1	0.5	04/12/23 16:41	keh1
Chromium, total recoverable	M200.8 ICP-MS	2	0.00753			mg/L	0.001	0.004	04/14/23 14:30	kja
Copper, potentially dissolved	M200.7 ICP	1	0.051			mg/L	0.01	0.05	04/08/23 0:49	keh1
Iron, dissolved	M200.7 ICP	1	0.092	B		mg/L	0.06	0.15	04/12/23 16:41	keh1
Iron, total	M200.7 ICP	1	2.99			mg/L	0.06	0.15	04/15/23 15:32	wtc
Iron, total recoverable	M200.7 ICP	1	3.09			mg/L	0.06	0.15	04/15/23 12:29	keh1
Magnesium, dissolved	M200.7 ICP	1	1.09			mg/L	0.2	1	04/12/23 16:41	keh1
Manganese, dissolved	M200.7 ICP	1	0.022	B		mg/L	0.01	0.05	04/12/23 16:41	keh1
Manganese, potentially dissolved	M200.7 ICP	1	0.052			mg/L	0.01	0.05	04/08/23 0:49	keh1
Manganese, total	M200.7 ICP	1	0.056			mg/L	0.01	0.05	04/15/23 15:32	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	04/11/23 12:16	mlh
Potassium, dissolved	M200.7 ICP	1	4.91			mg/L	0.2	1	04/12/23 16:41	keh1
Sodium, dissolved	M200.7 ICP	1	459			mg/L	0.2	1	04/12/23 16:41	keh1
Zinc, potentially dissolved	M200.7 ICP	1	0.093			mg/L	0.02	0.05	04/08/23 0:49	keh1

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

ACZ Sample ID: ***L79581-01***
Date Sampled: *03/31/23 12:48*
Date Received: *04/03/23*
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	971			mg/L	2	20	04/13/23 0:00	jck
Carbonate as CaCO3		1	73.2			mg/L	2	20	04/13/23 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	04/13/23 0:00	jck
Total Alkalinity		1	1040			mg/L	2	20	04/13/23 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			0.0			%			04/21/23 0:00	calc
Sum of Anions			21			meq/L			04/21/23 0:00	calc
Sum of Cations			21			meq/L			04/21/23 0:00	calc
Chloride	SM4500Cl-E	1	5.71		*	mg/L	1	2	04/12/23 13:00	mrd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		15			mg/L	0.2	5	04/21/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1							04/11/23 6:59	mlh
Residue, Filterable (TDS) @180C	SM2540C	5	1160			mg/L	100	200	04/06/23 11:51	svm
Residue, Non-Filterable (TSS) @105C	SM2540D	1	67.0			mg/L	5	20	04/06/23 13:24	cm
Sodium Adsorption Ratio in Water	USGS - I1738-78		52						04/21/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	17.7		*	mg/L	1	5	04/17/23 16:25	gkk

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

ACZ Sample ID: ***L79581-02***
Date Sampled: *03/31/23 13:30*
Date Received: *04/03/23*
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)								04/04/23 13:15	gjl
Lab Filtration (0.45um) & Acidification	M200.7/200.8/3005A								04/10/23 10:00	mlh
Total Hot Plate Digestion	M200.2 ICP								04/11/23 14:37	aeh
Total Recoverable Digestion	M200.2 ICP-MS								04/12/23 11:47	kja
Total Recoverable Digestion	M200.2 ICP								04/12/23 14:11	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total recoverable	M200.8 ICP-MS	2	0.00058	B	*	mg/L	0.0004	0.002	04/14/23 14:32	kja
Boron, total	M200.7 ICP	1	0.052	B		mg/L	0.03	0.1	04/18/23 16:56	keh1
Cadmium, potentially dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.025	04/08/23 0:52	keh1
Calcium, dissolved	M200.7 ICP	1	4.65			mg/L	0.1	0.5	04/13/23 8:44	wtc
Chromium, total recoverable	M200.8 ICP-MS	2	0.00673			mg/L	0.001	0.004	04/14/23 14:32	kja
Copper, potentially dissolved	M200.7 ICP	1	0.047	B		mg/L	0.01	0.05	04/08/23 0:52	keh1
Iron, dissolved	M200.7 ICP	1	0.243			mg/L	0.06	0.15	04/13/23 8:44	wtc
Iron, total	M200.7 ICP	1	2.72			mg/L	0.06	0.15	04/15/23 15:35	wtc
Iron, total recoverable	M200.7 ICP	1	2.93			mg/L	0.06	0.15	04/15/23 12:32	keh1
Magnesium, dissolved	M200.7 ICP	1	0.35	B		mg/L	0.2	1	04/13/23 8:44	wtc
Manganese, dissolved	M200.7 ICP	1	0.033	B		mg/L	0.01	0.05	04/13/23 8:44	wtc
Manganese, potentially dissolved	M200.7 ICP	1	0.042	B		mg/L	0.01	0.05	04/08/23 0:52	keh1
Manganese, total	M200.7 ICP	1	0.058			mg/L	0.01	0.05	04/15/23 15:35	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	04/11/23 12:17	mlh
Potassium, dissolved	M200.7 ICP	1	2.94			mg/L	0.2	1	04/13/23 8:44	wtc
Sodium, dissolved	M200.7 ICP	1	198			mg/L	0.2	1	04/13/23 8:44	wtc
Zinc, potentially dissolved	M200.7 ICP	1	0.060			mg/L	0.02	0.05	04/08/23 0:52	keh1

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

ACZ Sample ID: ***L79581-02***
Date Sampled: *03/31/23 13:30*
Date Received: *04/03/23*
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	460			mg/L	2	20	04/13/23 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	04/13/23 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	04/13/23 0:00	jck
Total Alkalinity		1	460			mg/L	2	20	04/13/23 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			-2.2			%			04/21/23 0:00	calc
Sum of Anions			9.5			meq/L			04/21/23 0:00	calc
Sum of Cations			9.1			meq/L			04/21/23 0:00	calc
Chloride	SM4500Cl-E	1	9.87		*	mg/L	1	2	04/12/23 13:00	mrd
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		13			mg/L	0.2	5	04/21/23 0:00	calc
Lab Filtration (0.45um filter)	SOPWC050	1			*				04/11/23 7:02	mlh
Residue, Filterable (TDS) @180C	SM2540C	5	540			mg/L	100	200	04/06/23 11:54	svm
Residue, Non-Filterable (TSS) @105C	SM2540D	1	44.0			mg/L	5	20	04/06/23 13:27	cm
Sodium Adsorption Ratio in Water	USGS - I1738-78		24						04/21/23 0:00	calc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	<1	U	*	mg/L	1	5	04/17/23 16:27	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

Inorganic Extended Qualifier Report

New Elk Coal Co. , LLC

ACZ Project ID: ***L79581***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L79581-01	WG564162	Arsenic, total recoverable	M200.8 ICP-MS	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
	WG563976	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).
	WG564251	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).
L79581-02	WG564162	Arsenic, total recoverable	M200.8 ICP-MS	D5	Sample required dilution. Sample matrix causing internal standards to recover outside method limits.
	WG563976	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).
	WG564251	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).

Certification Qualifiers

New Elk Coal Co. , LLC

ACZ Project ID: ***L79581***

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: L79581
Date Received: 04/03/2023 10:39
Received By:
Date Printed: 4/4/2023

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?
6975	4.7	<=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:	L79581
Date Received:	04/03/2023 10:39
Received By:	
Date Printed:	4/4/2023

[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 | L79581

CHAIN of CUSTODY

Report to:

Name: Nick Mason
Company: New Elk Coal Company
E-mail: nmason@newelkcoal.com
Address: 12250 St. 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 Company
E-mail: mcruz@newelkcoal.com
Address: 12250 St. Hwy. 12, Weston, CO 81091
Telephone: 719-631-6141

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

***Sampler's Signature:** Nick Mason

*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	3/31/23 12:10	GW	6	
NE-6-10B	3/31/23 13:30	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
Sample Bottles - 6 GW sets extra
Extra Paperwork

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Nick Mason	3/31/23 15:05		4/3/23 1039

L79581 Chain of Custod