NEW ELK COAL
COMPANY LLC

February 24, 2021

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

Re: New Elk Mine
Permit C-1981-012
2020 Annual Hydrology Report

Dear Mr. Cunningham:

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 extremely dry. There were few snowstorms at the beginning of the year. There were few precipitation events during the spring and summer. The end of the year did have a couple good snowstorms which should carry over until 2021.

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 2020.

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a revision to DRMS to revise Table 27 to include Discharge Monitoring Site 010 and remove NPDES Station 080 as it is outdated, as part of a Permit Revision to be submitted this year.

**NPDES Discharge Monitoring**

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

**Discharge Monitoring Site 001** did not discharge during 2020. 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 No water was pumped to or withdrawn from pond 001.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 2020. The pond did not have any discharges throughout the year.

**Discharge Monitoring of Site 008 (Pond 8)** held minimal water throughout 2020. There were no discharges throughout the year. The pond has held minimal water in it 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 minimal maintenance on the SAE was done. The minimal maintenance included minor fixes to a silt fence and a check dams.

**RDA Monitoring Wells**

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

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

Readings were taken March 17, June 2, September 16, and December 21, 2020. This data is summarized in Table 1 RDA Monitoring Wells following this report. No significant changes were noted for any of the wells.

**Surface and Groundwater Monitoring**

Field data was taken in the second and fourth quarter for the Surface Water, Groundwater, and Mine Water monitoring wells. The field data is compiled in Table 2 Field Data and notes for the field data are shown in **Appendix A Field Notes**. This data is summarized in Table 3 Lab Analysis following this report. For PRS-1 and PRS-4 there were no major changes aside from flow rate, which was about 70 cubic feet per second faster in the second quarter of 2019 and about 10 cubic feet per second faster in the fourth quarter of 2019 compared to 2020. Ground water wells Paw-1, Paw-2, Paw-8, and Paw-9 had similar field data from 2019 to 2020. Mine water wells New-2, New-4, NE-1-10, and New-3 also had similar field data from 2019 to 2020.

Laboratory Analysis was done on June 6 for Paw-1 and Paw-9. Laboratory Analysis was also completed on Paw-8, New-4, and NE-1-10 on November 18. On December 3 Paw-1, Paw-2, and Paw-9 were all sampled. Finally on December 15 PRS-1, PRS-4, and New-2 were sampled. The analytical results for these samples are shown in **Appendix B Lab Analytics**. This data was compared to the historical information available in previous AHRs (see 2008 for best tabulation): All observed data fell within the historical range of each parameter.

**Analysis of Alluvial Groundwater Data**

The groundwater wells did not show much change from 2019 to 2020. Paw-1 saw a decrease in Total Suspension Solids (TSS) from the second quarter to the fourth quarter as it did in 2019. All data for Paw-1 was consistent with previous year's data. Paw-2 had a increase in TSS with the rest of the data remaining the same. Paw-8 had a huge decrease in TSS from 2019 to 2020 with all data remaining the same. Paw-9 data was similar to previous years and saw a decrease in TSS from the second quarter to the fourth quarter of 2020.

**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 that amended Table 27 and added NE-1-10 to the monitoring program.

Please advise me if any additional information is needed.

Regards

Nicholas Mason

| Table 1 RDA Monitoring Wells | | | | |
|---|---|---|---|---|
| | Depth to Water in Feet | | | |
| **Quarter** | **Q1** | **Q2** | **Q3** | **Q4** |
| **Date** | 17-Mar | 2-Jun | 16-Sep | 21-Dec |
| **Th-01** | 42.7 | 42.5 | 42.7 | 42.7 |
| **Th-02** | 70.5 | 70.3 | 70.9 | 70.8 |
| **Th-03** | 93.5 | 93.4 | 93.7 | 93.6 |

| Table 2 Field Data | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Second Quarter 2020** | **Surface Water** | | **Groundwater Wells** | | | | **Mine Water** | | | |
| | **PRS-1** | **PRS-4** | **PAW-1** | **PAW-2** | **PAW-8** | **PAW-9** | **NEW-2** | **NEW-4** | **NEW-1-10** | **NEW-3** |
| Date | 13-May | 13-May | 16-Jun | 12-May | 12-May | 16-Jun | 2-Jun | 8-Jun | 8-Jun | 29-Apr |
| **Field Measurments** | | | | | | | | | | |
| Depth to Water (ft) | - | - | 7.9 | 17.7 | 33.3 | 15.6 | 346.0 | 352.7 | 306.8 | 421.6 |
| Flow Rate (cfs) | 0.434 | 0.440 | - | - | - | - | - | - | - | - |
| Ph (S.U.) | 8.95 | 9.05 | 8.96 | 7.36 | 6.90 | 8.05 | - | - | - | - |
| Conductivity ($\mu$ohms/cm$^2$) | 222 | 225 | 280 | 1076 | 1388 | 1086 | - | - | - | - |
| Temperature (°C) | 9.6 | 9.0 | 10.6 | 10.9 | 12.5 | 10.6 | - | - | - | - |
| | | | | | | | | | | |
| **Fourth Quarter 2020** | **Surface Water** | | **Groundwater Wells** | | | | **Mine Water** | | | |
| | **PRS-1** | **PRS-4** | **PAW-1** | **PAW-2** | **PAW-8** | **PAW-9** | **NEW-2** | **NEW-4** | **NEW-1-10** | **NEW-3** |
| Date | 15-Dec | 15-Dec | 3-Dec | 3-Dec | 18-Nov | 3-Dec | 15-Dec | 18-Nov | 18-Nov | 6-Nov |
| **Field Measurments** | | | | | | | | | | |
| Depth to Water (ft) | - | - | 7.8 | 17.3 | 33.4 | 15.6 | 344.5 | 351.4 | 305.7 | 421.5 |
| Flow Rate (cfs) | 0.320 | 0.366 | - | - | - | - | - | - | - | - |
| Ph (S.U.) | 7.90 | 7.73 | 8.80 | 7.52 | 7.48 | 7.54 | 7.9 | 8.25 | 10.15 | - |
| Conductivity ($\mu$ohms/cm$^2$) | 332 | 343 | 282 | 839 | 1243 | 974 | 2.28 | 2.11 | 1355 | - |
| Temperature (°C) | 0.2 | 0.2 | 9.1 | 11.6 | 12.0 | 12.6 | 14.9 | 17.3 | 11 | - |

| Table 3 Lab Analysis | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Surface Water** | | **Groundwater Wells** | | | | | | **Mine Water** | | |
| | **PRS-1** | **PRS-4** | **PAW-1** | **PAW-9** | **PAW-1** | **PAW-9** | **PAW-2** | **PAW-8** | **NEW-2** | **NEW-4** | **New-1-10** |
| Date | 15-Dec | 15-Dec | 16-Jun | 16-Jun | 3-Dec | 3-Dec | 3-Dec | 18-Nov | 15-Dec | 18-Nov | 18-Nov |
| **Laboratory Analysis** | | | | | | | | | | | |
| Total Suspended Solids (TSS) (mg/l) | <5 | <5 | 100.0 | 59.0 | 30.0 | 17.0 | 101.0 | 70.0 | 5 | <5 | 6.0 |
| Carbonate (mg/l) | 2.8 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | 35.4 | 77.7 | 300 |
| Bicarbonate (mg/l) | 109 | 114 | 118 | 460 | 120 | 409 | 383 | 493 | 1020 | 1130 | 379 |
| Chloride (mg/l) | 2.08 | 2.67 | 12.60 | 24.10 | 13.60 | 23.70 | 24.20 | 34.40 | 10.30 | 13.40 | 12.50 |
| Sulfate (mg/l) | 27.7 | 30.7 | 2.0 | 84.4 | 1.6 | 86.4 | 47.9 | 110.0 | 191.0 | 17.8 | 26.5 |
| Manganese total (Mn) (mg/l) | 0.022 | 0.028 | 0.210 | 4.080 | 0.067 | 0.076 | 1.380 | 0.679 | 0.062 | <0.01 | <0.01 |
| Manganese dissolved (Mn) (mg/l) | <0.01 | 0.014 | <0.01 | <0.01 | <0.01 | 0.019 | 1.080 | 0.020 | 0.021 | <0.01 | <0.01 |
| Calcium (Ca) (mg/l) | 40.3 | 40.7 | 16.5 | 77.1 | 19.2 | 69.7 | 88.0 | 95.3 | 12.2 | 5.0 | 2.6 |
| Magnesium (Mg) (mg/l) | 6.60 | 6.75 | 9.30 | 20.80 | 10.10 | 19.80 | 17.40 | 22.00 | 5.40 | 2.56 | 2.76 |
| Potassium (K) (mg/l) | 0.97 | 1.16 | 1.40 | 2.30 | 1.33 | 2.07 | 2.09 | 1.82 | 6.82 | 4.96 | 4.06 |
| Sodium (Na) (mg/l) | 5.68 | 7.04 | 18.7 | 123.0 | 20.2 | 118.0 | 70.4 | 155.0 | 510 | 530 | 312 |
| Iron (Fe) (mg/l), Total Dissolved | <0.06 | <0.06 | <0.06 | <0.06 | <0.06 | 0.225 | 0.742 | <0.06 | 0.332 | <0.06 | <0.06 |
| Iron (Fe) (mg/l), Total Recoverable | 0.099 | <0.06 | 46.90 | 3.41 | 12.60 | 5.32 | 24.20 | 3.49 | 1.33 | 0.10 | 0.28 |
| Sodium Absorption Rate (SAR) | 0.22 | 0.27 | 0.92 | 3.20 | 0.94 | 3.20 | 1.80 | 3.80 | 31 | 49 | 33 |
| Total Dissolved Solids (TDS) (mg/l) | 186 | 188 | 132 | 616 | 188 | 618 | 101 | 760 | 1450 | 1360 | 804 |
| Hardness (Calculated) (mg/l) | 128 | 129 | 80 | 278 | 90 | 256 | 291 | 329 | 53 | 23 | 18 |

| Table 4 New Elk Rain Gauge Data | | | | | |
|---|---|---|---|---|---|
| Date | Rain Fall(in) | Date | Rain Fall(in) | Date | Rain Fall(in) |
| 1-Apr | 0.0 | 5-Jun | 0.0 | 12-Aug | 0.0 |
| 2-Apr | 0.0 | 8-Jun | 0.0 | 13-Aug | 0.0 |
| 3-Apr | 0.0 | 9-Jun | 0.0 | 14-Aug | 0.0 |
| 6-Apr | 0.0 | 10-Jun | 0.0 | 17-Aug | 0.0 |
| 7-Apr | 0.0 | 11-Jun | 0.0 | 18-Aug | 0.0 |
| 8-Apr | 0.0 | 16-Jun | 0.0 | 19-Aug | 0.0 |
| 9-Apr | 0.0 | 17-Jun | 0.0 | 20-Aug | 0.0 |
| 10-Apr | 0.0 | 18-Jun | 0.0 | 25-Aug | 0.0 |
| 13-Apr | 0.0 | 19-Jun | 0.1 | 26-Aug | 0.0 |
| 14-Apr | 0.0 | 22-Jun | 0.0 | 27-Aug | 0.1 |
| 15-Apr | 0.0 | 23-Jun | 0.0 | 28-Aug | 0.2 |
| 16-Apr | 0.0 | 24-Jun | 0.2 | 31-Aug | 0.2 |
| 21-Apr | 0.2 | 25-Jun | 0.0 | 1-Sep | 0.0 |
| 22-Apr | 0.1 | 30-Jun | 0.0 | 2-Sep | 0.0 |
| 23-Apr | 0.0 | 1-Jul | 0.0 | 3-Sep | 0.4 |
| 24-Apr | 0.0 | 2-Jul | 0.0 | 9-Sep | 0.2 |
| 27-Apr | 0.0 | 3-Jul | 0.0 | 10-Sep | 0.0 |
| 28-Apr | 0.0 | 6-Jul | 0.5 | 14-Sep | 0.0 |
| 29-Apr | 0.0 | 7-Jul | 0.0 | 15-Sep | 0.0 |
| 30-Apr | 0.0 | 8-Jul | 0.0 | 16-Sep | 0.0 |
| 5-May | 0.0 | 9-Jul | 0.0 | 17-Sep | 0.0 |
| 6-May | 0.0 | 14-Jul | 0.0 | 22-Sep | 0.0 |
| 7-May | 0.0 | 15-Jul | 0.0 | 23-Sep | 0.0 |
| 8-May | 0.0 | 16-Jul | 0.0 | 24-Sep | 0.0 |
| 11-May | 0.0 | 17-Jul | 0.6 | 25-Sep | 0.0 |
| 12-May | 0.3 | 20-Jul | 0.3 | 28-Sep | 0.0 |
| 13-May | 0.0 | 21-Jul | 0.1 | 29-Sep | 0.0 |
| 14-May | 0.0 | 22-Jul | 0.3 | 30-Sep | 0.0 |
| 19-May | 0.0 | 23-Jul | 0.0 | | |
| 20-May | 0.0 | 28-Jul | 1.4 | | |
| 21-May | 0.0 | 29-Jul | 0.0 | | |
| 22-May | 0.0 | 30-Jul | 0.1 | | |
| 27-May | 0.0 | 31-Jul | 0.0 | | |
| 28-May | 0.0 | 3-Aug | 0.3 | | |
| 31-May | 0.3 | 4-Aug | 1.0 | | |
| 2-Jun | 0.1 | 5-Aug | 0.0 | | |
| 3-Jun | 0.0 | 6-Aug | 0.0 | | |
| 4-Jun | 0.0 | 11-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 (mine water pond) | | | | + |
| 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 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

| Table 28 Water Quality Analysis Parameters | |
|---|---|
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| **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 'ONITORING FIELD REPORT

DATE: Mar. 17, 2020 WEATHER: Clear 49°F

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| TH03 | 9:28 | 93.5' | — | — | — | — | — | 1st quarterly measurement 2020 |
| TH02 | 9:35 | 70.5' | — | — | — | — | — | 1st quarterly measurement 2020 |
| TH01 | 9:41 | 42.7' | — | — | — | — | — | 1st quarterly measurement 2020 |
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NEW ELK MINE HYDROLOGIC ONITORING FIELD REPORT

DATE: April 29, 2020 WEATHER: Clear 50° F

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| NEW 3 | 09:45 | 421.6' | No | No | No | No | Jim Begaro | Semi-annual Depth Measurement |
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NEW ELK MINE HYDROLOGIC *ONITORING FIELD REPORT

DATE: May 12, 2020 WEATHER: Cloudy 60°F 0.3 inches rainfall

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| PAW 2 | 09:55 | 17.1ft | 7.36 | 1076uS | 10.9°C | No | Jim Begeno | Semi-annual purged 2 tested 3rd |
| PAW 8 | 09:34 | 33.35ft | 6.9 | 1388uS | 12.5°C | No | Jim Begeno | Semi-annual purged 3 tested 4th |
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NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

DATE: May 13, 2020 WEATHER: Cloudy 60°F 0.0 inches re...

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| PRS4 | 09:00 | 197.5 gal/min | 9.05 | 225uS | 9.0°C | No | Jim Begeno | Semi-annual<br>width 20.0ft<br>depth 0.6ft<br>flow 2.2'min |
| PRS1 | 09:40 | 194.8 gal/min | 8.95 | 222uS | 9.6°C | No | Jim Begeno | Semi annual<br>width 20.0ft<br>depth 0.5ft<br>flow 2.6'min |
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NEW ELK MINE HYDROLOGI' 'ONITORING FIELD REPORT

DATE: June 2, 2020 WEATHER: Sunny 58°F 0.1 inch rain

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| NEW 2 | 07:20 | 346.0 ft. | No | No | No | No | Jim Begeno | Semi-annual measurement |
| TH01 | 09:10 | 42.5 ft. | No | No | No | No | Jim Begeno | Quarter 2 measurement |
| TH02 | 09:27 | 70.3ft | No | No | No | No | Jim Begeno | Quarter 2 measurement |
| TH03 | 09:46 | 93.4 ft. | No | No | No | No | Jim Begeno | 2nd Quarter measurement |
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NEW ELK MINE HYDROLOGIC `ONITORING FIELD REPORT

DATE: June 8, 2020 WEATHER: Clear 78°F

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| NEW 4 | 12:52 | 352.7 ft | No | No | No | No | Jim Begano | Semi-annual measurement |
| NE-1-10 | 13:28 | 306.8 ft | No | No | No | No | Jim Begano | Semi-annual measurement |
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NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

DATE: 6/16/20 WEATHER: Cloudy 77°F No rain 24Hrs

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| PAW 9 | 13:49 | 15.6' | 8.05 | 1086 | 10.6°C | Yes | Jim Begano | Semi annual Test Samples sent to ACZ Labs |
| PAW 1 | 14:35 | 7.9' | 8.96 | 280 | 10.6°C | Yes | Jim Begano | Semi annua test Samples sent to ACZ LABS |
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NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

DATE: Sept. 16, 2020 WEATHER: Clear 67°F 0.0 inches Rain

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| TH01 | 10:05 | 42.7' | No | No | No | No | Jim Begeno | 3rd Qtr. |
| TH02 | 10:15 | 70.9' | No | No | No | No | Jim Begeno | 3rd Qtr. |
| TH03 | 10:20 | 93.7' | No | No | No | No | Jim Begeno | 3rd Qtr. |
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NEW ELK MINE HYDROLOG' 1ONITORING FIELD REPORT

DATE: 11-6-2020 WEATHER: Clear 70°F

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| NEW 3 | 12:55 | 421.5' | No | No | No | No | Jim Begano | Semi-annual monitoring |
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NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

DATE: 11-18-2020 WEATHER: Cloudy 60°F 0.0" Rainfall

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| PAW 8 | 12:45 | 33.4' | 7.48 | 1243 µS | 12°C | Yes | Jim Begano | Sample sent to ACZ Labs |
| NE-1-10 | 13:10 | 305.7' | 10.15 | 1355 µS | 11°C | Yes | Jim Begano | Sample sent to ACZ Labs |
| NEW 4 | 13:58 | 351.4' | 8.25 | 2.11mS | 17.3°C | Yes | Jim Begano | Sample sent to ACZ Labs |
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NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

DATE: Dec. 3, 2020 WEATHER: Clear 38°F 0.0 inches rainfall

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| PAW 1 | 13:09 | 7.8' | 8.8 | 282 µS | 9.1°C | Yes | Jim Begano | Samples sent to ACZ Labs. Annual Test |
| PAW 2 | 13:28 | 17.3' | 7.52 | 839 µS | 11.6°C | Yes | Jim Begano | Samples sent to ACZ Labs. Annual Test |
| PAW 9 | 13:58 | 15.6' | 7.54 | 974 µS | 12.6°C | Yes | Jim Begano | Samples sent to ACZ Labs Annual Test |
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NEW ELK MINE HYDROLOGIC MONITORING FIELD REPORT

DATE: 12-15-2020 WEATHER: Cloudy 18°F 1inch SNOW/24 HRS

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| PRS1 | 13:05 | 143.6 gal/sec | 7.9 | 332uS | 0.2°C | Yes | Jim Begano | Annual Test Sample sent to ACZ Labs |
| PRS4 | 12:27 | 164.3 gal/sec | 7.73 | 343uS | 0.2°C | Yes | Jim Begano | Annual Test Sample sent to ACZ Lab |
| New 2 | 13:44 | 344.5' | 7.90 | 2.28mS | 14.9°C | Yes | Jim Begano | Annual Test sample sent to ACZ Lab. |
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NEW ELK MINE HYDROLOG MONITORING FIELD REPORT

DATE: 12-21-2020 WEATHER: Clear 49°F 0.0 inches previous 24Hr

| SITE ID | TIME | DEPTH | pH | CONDUCTIVITY | TEMPERATURE | SAMPLE (Y/N) | SAMPLED BY | NOTES |
|---|---|---|---|---|---|---|---|---|
| TH01 | 9:55 | 42.7' | — | — | — | — | — | Quarterly Measurement. |
| TH02 | 10:10 | 70.8' | — | — | — | — | — | Quarterly Measurement |
| TH03 | 10:28 | 93.6' | — | — | — | — | — | Quarterly Measurement |
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# Appendix B

## (Lab Analytics)

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

# Inorganic Analytical Results

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

ACZ Sample ID: ***L59724-01***
Date Sampled: *06/16/20 14:35*
Date Received: *06/18/20*
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) | | | | | | | | 06/18/20 15:48 | bsu/en |
| Lab Filtration (0.45um) & Acidification | M200.7/200.8/3005A | | | | | | | | 06/23/20 12:31 | kja |
| Total Hot Plate Digestion | M200.2 ICP | | | | * | | | | 06/24/20 11:00 | jlw |
| Total Recoverable Digestion | M200.2 ICP | | | | * | | | | 06/24/20 17:58 | jlw |
| Total Recoverable Digestion | M200.2 ICP-MS | | | | | | | | 06/24/20 9:30 | enb |

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic, total recoverable | M200.8 ICP-MS | 1 | 0.0024 | | | mg/L | 0.0002 | 0.001 | 06/24/20 17:40 | mfm |
| Boron, total | M200.7 ICP | 2 | | U | | mg/L | 0.04 | 0.2 | 06/25/20 10:21 | jlw |
| Cadmium, potentially dissolved | M200.7 ICP | 1 | | U | | mg/L | 0.008 | 0.03 | 06/24/20 12:58 | jlw |
| Calcium, dissolved | M200.7 ICP | 1 | 16.5 | | | mg/L | 0.1 | 0.5 | 06/26/20 11:42 | kja |
| Chromium, total recoverable | M200.8 ICP-MS | 1 | 0.0014 | B | | mg/L | 0.0005 | 0.002 | 06/24/20 17:40 | mfm |
| Copper, potentially dissolved | M200.7 ICP | 1 | | U | | mg/L | 0.01 | 0.05 | 06/24/20 12:58 | jlw |
| Iron, dissolved | M200.7 ICP | 1 | | U | | mg/L | 0.06 | 0.2 | 06/25/20 11:15 | kja |
| Iron, total | M200.7 ICP | 2 | 47.1 | | | mg/L | 0.1 | 0.3 | 06/25/20 23:51 | jlw |
| Iron, total recoverable | M200.7 ICP | 2 | 46.9 | | | mg/L | 0.1 | 0.3 | 06/29/20 15:19 | jlw |
| Magnesium, dissolved | M200.7 ICP | 1 | 9.3 | | | mg/L | 0.2 | 1 | 06/25/20 11:15 | kja |
| Manganese, dissolved | M200.7 ICP | 1 | | U | | mg/L | 0.01 | 0.05 | 06/25/20 11:15 | kja |
| Manganese, potentially dissolved | M200.7 ICP | 1 | 0.13 | | | mg/L | 0.01 | 0.05 | 06/24/20 12:58 | jlw |
| Manganese, total | M200.7 ICP | 2 | 0.21 | | | mg/L | 0.02 | 0.1 | 06/25/20 23:51 | jlw |
| Mercury, total | M245.1 CVAA | 1 | | U | | mg/L | 0.0002 | 0.001 | 06/22/20 17:31 | slm |
| Potassium, dissolved | M200.7 ICP | 1 | 1.4 | | | mg/L | 0.2 | 1 | 06/25/20 11:15 | kja |
| Sodium, dissolved | M200.7 ICP | 1 | 18.7 | | | mg/L | 0.2 | 1 | 06/26/20 11:42 | kja |
| Zinc, potentially dissolved | M200.7 ICP | 1 | | U | | mg/L | 0.02 | 0.05 | 06/24/20 12:58 | jlw |

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

**Inorganic Analytical Results**

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

ACZ Sample ID: ***L59724-01***
Date Sampled: *06/16/20 14:35*
Date Received: *06/18/20*
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 | 118 | | | mg/L | 2 | 20 | 06/27/20 0:00 | eep |
| Carbonate as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 06/27/20 0:00 | eep |
| Hydroxide as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 06/27/20 0:00 | eep |
| Total Alkalinity | | 1 | 118 | | * | mg/L | 2 | 20 | 06/27/20 0:00 | eep |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -5.7 | | | % | | | 06/30/20 0:00 | calc |
| Sum of Anions | | | 2.8 | | | meq/L | | | 06/30/20 0:00 | calc |
| Sum of Cations | | | 2.5 | | | meq/L | | | 06/30/20 0:00 | calc |
| Chloride | SM4500Cl-E | 1 | 12.6 | | * | mg/L | 0.5 | 2 | 06/26/20 10:18 | mss2 |
| Hardness as CaCO3 (dissolved) | SM2340B - Calculation | | 80 | | | mg/L | 0.2 | 5 | 06/30/20 0:00 | calc |
| Lab Filtration (0.45um filter) | SOPWC050 | 1 | | | | | | | 06/19/20 12:30 | mlh |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 132 | | * | mg/L | 20 | 40 | 06/19/20 13:20 | eij |
| Residue, Non-Filterable (TSS) @105C | SM2540D | 1 | 100.0 | | | mg/L | 5 | 20 | 06/19/20 15:46 | eij |
| Sodium Adsorption Ratio in Water | USGS - I1738-78 | | 0.92 | | | | | | 06/30/20 0:00 | calc |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 1 | 2.0 | B | * | mg/L | 1 | 5 | 06/25/20 11:49 | mss2 |

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

# Inorganic Analytical Results

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

ACZ Sample ID: ***L59724-02***
Date Sampled: *06/16/20 13:49*
Date Received: *06/18/20*
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) | | | | | | | | 06/18/20 15:52 | bsu/en |
| Lab Filtration (0.45um) & Acidification | M200.7/200.8/3005A | | | | | | | | 06/23/20 12:31 | kja |
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | | 06/24/20 11:14 | jlw |
| Total Recoverable Digestion | M200.2 ICP | | | | | | | | 06/24/20 18:12 | jlw |
| Total Recoverable Digestion | M200.2 ICP-MS | | | | | | | | 06/24/20 9:44 | enb |

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic, total recoverable | M200.8 ICP-MS | 1 | 0.0005 | B | | mg/L | 0.0002 | 0.001 | 06/24/20 17:42 | mfm |
| Boron, total | M200.7 ICP | 1 | | U | | mg/L | 0.02 | 0.1 | 06/25/20 10:24 | jlw |
| Cadmium, potentially dissolved | M200.7 ICP | 1 | | U | | mg/L | 0.008 | 0.03 | 06/24/20 13:01 | jlw |
| Calcium, dissolved | M200.7 ICP | 1 | 77.1 | | | mg/L | 0.1 | 0.5 | 06/26/20 11:45 | kja |
| Chromium, total recoverable | M200.8 ICP-MS | 1 | 0.0035 | | | mg/L | 0.0005 | 0.002 | 06/24/20 17:42 | mfm |
| Copper, potentially dissolved | M200.7 ICP | 1 | | U | | mg/L | 0.01 | 0.05 | 06/24/20 13:01 | jlw |
| Iron, dissolved | M200.7 ICP | 1 | | U | | mg/L | 0.06 | 0.2 | 06/25/20 11:18 | kja |
| Iron, total | M200.7 ICP | 1 | 3.46 | | | mg/L | 0.06 | 0.2 | 06/25/20 23:54 | jlw |
| Iron, total recoverable | M200.7 ICP | 1 | 3.41 | | | mg/L | 0.06 | 0.2 | 06/29/20 15:23 | jlw |
| Magnesium, dissolved | M200.7 ICP | 1 | 20.8 | | | mg/L | 0.2 | 1 | 06/25/20 11:18 | kja |
| Manganese, dissolved | M200.7 ICP | 1 | | U | | mg/L | 0.01 | 0.05 | 06/25/20 11:18 | kja |
| Manganese, potentially dissolved | M200.7 ICP | 1 | 0.82 | | | mg/L | 0.01 | 0.05 | 06/24/20 13:01 | jlw |
| Manganese, total | M200.7 ICP | 1 | 4.08 | | | mg/L | 0.01 | 0.05 | 06/25/20 23:54 | jlw |
| Mercury, total | M245.1 CVAA | 1 | | U | | mg/L | 0.0002 | 0.001 | 06/22/20 17:32 | slm |
| Potassium, dissolved | M200.7 ICP | 1 | 2.3 | | | mg/L | 0.2 | 1 | 06/25/20 11:18 | kja |
| Sodium, dissolved | M200.7 ICP | 1 | 123 | | | mg/L | 0.2 | 1 | 06/26/20 11:45 | kja |
| Zinc, potentially dissolved | M200.7 ICP | 1 | | U | | mg/L | 0.02 | 0.05 | 06/24/20 13:01 | jlw |

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

**Inorganic Analytical Results**

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

ACZ Sample ID: ***L59724-02***
Date Sampled: *06/16/20 13:49*
Date Received: *06/18/20*
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 | 06/27/20 0:00 | eep |
| Carbonate as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 06/27/20 0:00 | eep |
| Hydroxide as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 06/27/20 0:00 | eep |
| Total Alkalinity | | 1 | 460 | | | mg/L | 2 | 20 | 06/27/20 0:00 | eep |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -4.3 | | | % | | | 06/30/20 0:00 | calc |
| Sum of Anions | | | 12 | | | meq/L | | | 06/30/20 0:00 | calc |
| Sum of Cations | | | 11.0 | | | meq/L | | | 06/30/20 0:00 | calc |
| Chloride | SM4500Cl-E | 1 | 24.1 | | * | mg/L | 0.5 | 2 | 06/26/20 10:24 | mss2 |
| Hardness as CaCO3 (dissolved) | SM2340B - Calculation | | 278 | | | mg/L | 0.2 | 5 | 06/30/20 0:00 | calc |
| Lab Filtration (0.45um filter) | SOPWC050 | 1 | | | | | | | 06/19/20 12:37 | mlh |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 616 | | * | mg/L | 20 | 40 | 06/19/20 13:22 | eij |
| Residue, Non-Filterable (TSS) @105C | SM2540D | 1 | 59.0 | | | mg/L | 5 | 20 | 06/19/20 15:48 | eij |
| Sodium Adsorption Ratio in Water | USGS - I1738-78 | | 3.2 | | | | | | 06/30/20 0:00 | calc |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 5 | 84.4 | | * | mg/L | 5 | 25 | 06/25/20 11:57 | mss2 |

**New Elk Coal Co. , LLC**
Project ID:
Sample ID: NE1-10

ACZ Sample ID: ***L62966-01***
Date Sampled: *11/18/20 13:10*
Date Received: *11/20/20*
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) | | | | | | | | 11/20/20 16:35 | enb/cbj |
| Lab Filtration (0.45um) & Acidification | M200.7/200.8/3005A | | | | | | | | 11/24/20 10:51 | cbj |
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | | 11/24/20 11:57 | jlw |
| Total Recoverable Digestion | M200.2 ICP-MS | | | | | | | | 11/24/20 4:03 | bsu |
| Total Recoverable Digestion | M200.2 ICP | | | | | | | | 11/24/20 13:17 | jlw |

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic, total recoverable | M200.8 ICP-MS | 1 | 0.0123 | | | mg/L | 0.0002 | 0.001 | 11/25/20 12:55 | mfm |
| Boron, total | M200.7 ICP | 1 | <0.02 | U | | mg/L | 0.02 | 0.1 | 11/25/20 12:22 | jlw |
| Cadmium, potentially dissolved | M200.7 ICP | 1 | <0.008 | U | | mg/L | 0.008 | 0.025 | 11/24/20 14:52 | jlw |
| Calcium, dissolved | M200.7 ICP | 1 | 2.56 | | | mg/L | 0.1 | 0.5 | 11/30/20 22:58 | jlw |
| Chromium, total recoverable | M200.8 ICP-MS | 1 | 0.00171 | B | | mg/L | 0.0005 | 0.002 | 11/25/20 12:55 | mfm |
| Copper, potentially dissolved | M200.7 ICP | 1 | <0.01 | U | | mg/L | 0.01 | 0.05 | 11/24/20 14:52 | jlw |
| Iron, dissolved | M200.7 ICP | 1 | <0.06 | U | | mg/L | 0.06 | 0.15 | 11/30/20 22:58 | jlw |
| Iron, total | M200.7 ICP | 1 | 0.285 | | | mg/L | 0.06 | 0.15 | 11/25/20 12:22 | jlw |
| Iron, total recoverable | M200.7 ICP | 1 | 0.277 | | | mg/L | 0.06 | 0.15 | 11/25/20 12:03 | jlw |
| Magnesium, dissolved | M200.7 ICP | 1 | 2.76 | | | mg/L | 0.2 | 1 | 11/30/20 22:58 | jlw |
| Manganese, dissolved | M200.7 ICP | 1 | <0.01 | U | | mg/L | 0.01 | 0.05 | 11/30/20 22:58 | jlw |
| Manganese, potentially dissolved | M200.7 ICP | 1 | <0.01 | U | | mg/L | 0.01 | 0.05 | 11/24/20 14:52 | jlw |
| Manganese, total | M200.7 ICP | 1 | <0.01 | U | | mg/L | 0.01 | 0.05 | 11/25/20 12:22 | jlw |
| Mercury, total | M245.1 CVAA | 1 | <0.0002 | U | | mg/L | 0.0002 | 0.001 | 12/01/20 14:48 | aeh |
| Potassium, dissolved | M200.7 ICP | 1 | 4.06 | | | mg/L | 0.2 | 1 | 11/30/20 22:58 | jlw |
| Sodium, dissolved | M200.7 ICP | 1 | 312 | | | mg/L | 0.2 | 1 | 11/30/20 22:58 | jlw |
| Zinc, potentially dissolved | M200.7 ICP | 1 | <0.02 | U | | mg/L | 0.02 | 0.05 | 11/24/20 14:52 | jlw |

**New Elk Coal Co. , LLC**
Project ID:
Sample ID: NE1-10

ACZ Sample ID: ***L62966-01***
Date Sampled: *11/18/20 13:10*
Date Received: *11/20/20*
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 | 379 | | | mg/L | 2 | 20 | 12/02/20 0:00 | jck |
| Carbonate as CaCO3 | | 1 | 300 | | | mg/L | 2 | 20 | 12/02/20 0:00 | jck |
| Hydroxide as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/02/20 0:00 | jck |
| Total Alkalinity | | 1 | 679 | | | mg/L | 2 | 20 | 12/02/20 0:00 | jck |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -3.4 | | | % | | | 12/07/20 0:00 | calc |
| Sum of Anions | | | 15 | | | meq/L | | | 12/07/20 0:00 | calc |
| Sum of Cations | | | 14 | | | meq/L | | | 12/07/20 0:00 | calc |
| Chloride | SM4500Cl-E | 1 | 12.5 | | * | mg/L | 0.5 | 2 | 12/03/20 22:27 | syw/rbt |
| Hardness as CaCO3 (dissolved) | SM2340B - Calculation | | 18 | | | mg/L | 0.2 | 5 | 12/07/20 0:00 | calc |
| Lab Filtration (0.45um filter) | SOPWC050 | 1 | | | | | | | 11/25/20 9:49 | mlh |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 804 | | | mg/L | 20 | 40 | 11/24/20 8:39 | mlh |
| Residue, Non-Filterable (TSS) | SM2540D | 1 | 6.0 | B | * | mg/L | 5 | 20 | 11/24/20 18:46 | scd |
| Sodium Adsorption Ratio in Water | USGS - I1738-78 | | 33 | | | | | | 12/07/20 0:00 | calc |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 1 | 26.5 | | * | mg/L | 1 | 5 | 12/01/20 17:00 | ttg |

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

ACZ Sample ID: ***L62966-02***
Date Sampled: *11/18/20 13:58*
Date Received: *11/20/20*
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) | | | | | | | | 11/20/20 16:35 | enb/cbj |
| Lab Filtration (0.45um) & Acidification | M200.7/200.8/3005A | | | | | | | | 11/24/20 10:51 | cbj |
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | | 11/24/20 12:12 | jlw |
| Total Recoverable Digestion | M200.2 ICP-MS | | | | | | | | 11/24/20 4:41 | bsu |
| Total Recoverable Digestion | M200.2 ICP | | | | | | | | 11/24/20 13:35 | jlw |

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic, total recoverable | M200.8 ICP-MS | 1 | <0.0002 | U | | mg/L | 0.0002 | 0.001 | 11/25/20 12:57 | mfm |
| Boron, total | M200.7 ICP | 1 | <0.02 | U | | mg/L | 0.02 | 0.1 | 11/25/20 12:26 | jlw |
| Cadmium, potentially dissolved | M200.7 ICP | 1 | <0.008 | U | | mg/L | 0.008 | 0.025 | 11/24/20 14:55 | jlw |
| Calcium, dissolved | M200.7 ICP | 1 | 5.02 | | | mg/L | 0.1 | 0.5 | 11/30/20 23:02 | jlw |
| Chromium, total recoverable | M200.8 ICP-MS | 1 | <0.0005 | U | | mg/L | 0.0005 | 0.002 | 11/25/20 12:57 | mfm |
| Copper, potentially dissolved | M200.7 ICP | 1 | <0.01 | U | | mg/L | 0.01 | 0.05 | 11/24/20 14:55 | jlw |
| Iron, dissolved | M200.7 ICP | 1 | <0.06 | U | | mg/L | 0.06 | 0.15 | 11/30/20 23:02 | jlw |
| Iron, total | M200.7 ICP | 1 | 0.078 | B | | mg/L | 0.06 | 0.15 | 11/25/20 12:26 | jlw |
| Iron, total recoverable | M200.7 ICP | 1 | 0.103 | B | | mg/L | 0.06 | 0.15 | 11/25/20 12:06 | jlw |
| Magnesium, dissolved | M200.7 ICP | 1 | 2.56 | | | mg/L | 0.2 | 1 | 11/30/20 23:02 | jlw |
| Manganese, dissolved | M200.7 ICP | 1 | <0.01 | U | | mg/L | 0.01 | 0.05 | 11/30/20 23:02 | jlw |
| Manganese, potentially dissolved | M200.7 ICP | 1 | <0.01 | U | | mg/L | 0.01 | 0.05 | 11/24/20 14:55 | jlw |
| Manganese, total | M200.7 ICP | 1 | <0.01 | U | | mg/L | 0.01 | 0.05 | 11/25/20 12:26 | jlw |
| Mercury, total | M245.1 CVAA | 1 | <0.0002 | U | | mg/L | 0.0002 | 0.001 | 12/01/20 14:49 | aeh |
| Potassium, dissolved | M200.7 ICP | 1 | 4.96 | | | mg/L | 0.2 | 1 | 11/30/20 23:02 | jlw |
| Sodium, dissolved | M200.7 ICP | 1 | 530 | | | mg/L | 0.2 | 1 | 11/30/20 23:02 | jlw |
| Zinc, potentially dissolved | M200.7 ICP | 1 | <0.02 | U | | mg/L | 0.02 | 0.05 | 11/24/20 14:55 | jlw |

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

ACZ Sample ID: ***L62966-02***
Date Sampled: *11/18/20 13:58*
Date Received: *11/20/20*
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 | 12/02/20 0:00 | jck |
| Carbonate as CaCO3 | | 1 | 77.7 | | | mg/L | 2 | 20 | 12/02/20 0:00 | jck |
| Hydroxide as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/02/20 0:00 | jck |
| Total Alkalinity | | 1 | 1210 | | | mg/L | 2 | 20 | 12/02/20 0:00 | jck |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -2.0 | | | % | | | 12/07/20 0:00 | calc |
| Sum of Anions | | | 25 | | | meq/L | | | 12/07/20 0:00 | calc |
| Sum of Cations | | | 24 | | | meq/L | | | 12/07/20 0:00 | calc |
| Chloride | SM4500Cl-E | 1 | 13.4 | | * | mg/L | 0.5 | 2 | 12/03/20 22:27 | syw/rbt |
| Hardness as CaCO3 (dissolved) | SM2340B - Calculation | | 23 | | | mg/L | 0.2 | 5 | 12/07/20 0:00 | calc |
| Lab Filtration (0.45um filter) | SOPWC050 | 1 | | | | | | | 11/25/20 9:53 | mlh |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 1360 | | | mg/L | 20 | 40 | 11/24/20 8:57 | mlh |
| Residue, Non-Filterable (TSS) | SM2540D | 1 | <5 | U | * | mg/L | 5 | 20 | 11/24/20 18:47 | scd |
| Sodium Adsorption Ratio in Water | USGS - I1738-78 | | 49 | | | | | | 12/07/20 0:00 | calc |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 1 | 17.8 | | * | mg/L | 1 | 5 | 12/01/20 17:00 | ttg |

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

ACZ Sample ID: ***L62966-03***
Date Sampled: *11/18/20 12:45*
Date Received: *11/20/20*
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) | | | | | | | | 11/20/20 16:35 | enb/cbj |
| Lab Filtration (0.45um) & Acidification | M200.7/200.8/3005A | | | | | | | | 11/24/20 10:51 | cbj |
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | | 11/24/20 12:26 | jlw |
| Total Recoverable Digestion | M200.2 ICP-MS | | | | | | | | 11/24/20 5:19 | bsu |
| Total Recoverable Digestion | M200.2 ICP | | | | | | | | 11/24/20 13:53 | jlw |

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic, total recoverable | M200.8 ICP-MS | 1 | 0.00044 | B | | mg/L | 0.0002 | 0.001 | 11/25/20 12:59 | mfm |
| Boron, total | M200.7 ICP | 1 | <0.02 | U | | mg/L | 0.02 | 0.1 | 11/25/20 12:35 | jlw |
| Cadmium, potentially dissolved | M200.7 ICP | 1 | <0.008 | U | | mg/L | 0.008 | 0.025 | 11/24/20 14:58 | jlw |
| Calcium, dissolved | M200.7 ICP | 1 | 95.3 | | | mg/L | 0.1 | 0.5 | 11/30/20 23:11 | jlw |
| Chromium, total recoverable | M200.8 ICP-MS | 1 | 0.00336 | | | mg/L | 0.0005 | 0.002 | 11/25/20 12:59 | mfm |
| Copper, potentially dissolved | M200.7 ICP | 1 | <0.01 | U | | mg/L | 0.01 | 0.05 | 11/24/20 14:58 | jlw |
| Iron, dissolved | M200.7 ICP | 1 | <0.06 | U | | mg/L | 0.06 | 0.15 | 11/30/20 23:11 | jlw |
| Iron, total | M200.7 ICP | 1 | 3.54 | | | mg/L | 0.06 | 0.15 | 11/25/20 12:35 | jlw |
| Iron, total recoverable | M200.7 ICP | 1 | 3.49 | | | mg/L | 0.06 | 0.15 | 11/25/20 12:09 | jlw |
| Magnesium, dissolved | M200.7 ICP | 1 | 22.0 | | | mg/L | 0.2 | 1 | 11/30/20 23:11 | jlw |
| Manganese, dissolved | M200.7 ICP | 1 | 0.020 | B | | mg/L | 0.01 | 0.05 | 11/30/20 23:11 | jlw |
| Manganese, potentially dissolved | M200.7 ICP | 1 | 0.277 | | | mg/L | 0.01 | 0.05 | 11/24/20 14:58 | jlw |
| Manganese, total | M200.7 ICP | 1 | 0.679 | | | mg/L | 0.01 | 0.05 | 11/25/20 12:35 | jlw |
| Mercury, total | M245.1 CVAA | 1 | <0.0002 | U | | mg/L | 0.0002 | 0.001 | 12/01/20 14:50 | aeh |
| Potassium, dissolved | M200.7 ICP | 1 | 1.82 | | | mg/L | 0.2 | 1 | 11/30/20 23:11 | jlw |
| Sodium, dissolved | M200.7 ICP | 1 | 155 | | | mg/L | 0.2 | 1 | 11/30/20 23:11 | jlw |
| Zinc, potentially dissolved | M200.7 ICP | 1 | <0.02 | U | | mg/L | 0.02 | 0.05 | 11/24/20 14:58 | jlw |

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**Inorganic Analytical Results**

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

ACZ Sample ID: ***L62966-03***
Date Sampled: *11/18/20 12:45*
Date Received: *11/20/20*
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 | 493 | | | mg/L | 2 | 20 | 12/02/20 0:00 | jck |
| Carbonate as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/02/20 0:00 | jck |
| Hydroxide as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/02/20 0:00 | jck |
| Total Alkalinity | | 1 | 493 | | | mg/L | 2 | 20 | 12/02/20 0:00 | jck |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | 0.0 | | | % | | | 12/07/20 0:00 | calc |
| Sum of Anions | | | 13 | | | meq/L | | | 12/07/20 0:00 | calc |
| Sum of Cations | | | 13 | | | meq/L | | | 12/07/20 0:00 | calc |
| Chloride | SM4500Cl-E | 1 | 34.4 | | * | mg/L | 0.5 | 2 | 12/03/20 22:27 | syw/rbt |
| Hardness as CaCO3 (dissolved) | SM2340B - Calculation | | 329 | | | mg/L | 0.2 | 5 | 12/07/20 0:00 | calc |
| Lab Filtration (0.45um filter) | SOPWC050 | 1 | | | | | | | 11/25/20 9:57 | mlh |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 760 | | | mg/L | 100 | 200 | 11/24/20 8:59 | mlh |
| Residue, Non-Filterable (TSS) | SM2540D | 1 | 70.0 | | * | mg/L | 5 | 20 | 11/24/20 18:49 | scd |
| Sodium Adsorption Ratio in Water | USGS - I1738-78 | | 3.8 | | | | | | 12/07/20 0:00 | calc |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 5 | 110 | | * | mg/L | 5 | 25 | 12/01/20 17:08 | ttg |

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# Inorganic Analytical Results

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

ACZ Sample ID: ***L63148-01***
Date Sampled: *12/03/20 13:09*
Date Received: *12/04/20*
Sample Matrix: *Groundwater*

Inorganic Prep

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Lab Filtration (0.45um) & Acidification | M200.7/200.8/3005A | | | | | | | | 12/10/20 11:44 | kja |
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | | 12/09/20 14:57 | kja |
| Total Recoverable Digestion | M200.2 ICP | | | | | | | | 12/09/20 14:23 | kja |

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium, dissolved | M200.7 ICP | 1 | 19.2 | | | mg/L | 0.1 | 0.5 | 12/11/20 16:37 | kja |
| Iron, dissolved | M200.7 ICP | 1 | <0.06 | U | | mg/L | 0.06 | 0.15 | 12/11/20 16:37 | kja |
| Iron, total | M200.7 ICP | 1 | 13.2 | | | mg/L | 0.06 | 0.15 | 12/10/20 12:04 | kja |
| Iron, total recoverable | M200.7 ICP | 1 | 12.6 | | | mg/L | 0.06 | 0.15 | 12/10/20 19:25 | jlw |
| Magnesium, dissolved | M200.7 ICP | 1 | 10.1 | | | mg/L | 0.2 | 1 | 12/11/20 16:37 | kja |
| Manganese, dissolved | M200.7 ICP | 1 | <0.01 | U | | mg/L | 0.01 | 0.05 | 12/11/20 16:37 | kja |
| Manganese, total | M200.7 ICP | 1 | 0.067 | | | mg/L | 0.01 | 0.05 | 12/10/20 12:04 | kja |
| Potassium, dissolved | M200.7 ICP | 1 | 1.33 | | | mg/L | 0.2 | 1 | 12/11/20 16:37 | kja |
| Sodium, dissolved | M200.7 ICP | 1 | 20.2 | | | mg/L | 0.2 | 1 | 12/11/20 16:37 | kja |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 120 | | | mg/L | 2 | 20 | 12/08/20 0:00 | eep |
| Carbonate as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/08/20 0:00 | eep |
| Hydroxide as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/08/20 0:00 | eep |
| Total Alkalinity | | 1 | 120 | | | mg/L | 2 | 20 | 12/08/20 0:00 | eep |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -1.8 | | | % | | | 12/17/20 0:00 | calc |
| Sum of Anions | | | 2.8 | | | meq/L | | | 12/17/20 0:00 | calc |
| Sum of Cations | | | 2.7 | | | meq/L | | | 12/17/20 0:00 | calc |
| Chloride | SM4500Cl-E | 1 | 13.6 | | | mg/L | 0.5 | 2 | 12/11/20 18:36 | syw/wtc |
| Hardness as CaCO3 (dissolved) | SM2340B - Calculation | | 90 | | | mg/L | 0.2 | 5 | 12/17/20 0:00 | calc |
| Lab Filtration (0.45um filter) | SOPWC050 | 1 | | | | | | | 12/07/20 15:34 | scd |
| Residue, Filterable (TDS) @180C | SM2540C | 2 | 188 | | | mg/L | 40 | 80 | 12/08/20 11:48 | scd |
| Residue, Non-Filterable (TSS) @105C | SM2540D | 1 | 30.0 | | * | mg/L | 5 | 20 | 12/08/20 14:46 | eep |
| Sodium Adsorption Ratio in Water | USGS - I1738-78 | | 0.94 | | | | | | 12/17/20 0:00 | calc |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 1 | 1.6 | B | * | mg/L | 1 | 5 | 12/14/20 13:01 | rbt |

REPIN.02.06.05.01

** Please refer to Qualifier Reports for details.*

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# Inorganic Analytical Results

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

ACZ Sample ID: ***L63148-02***
Date Sampled: *12/03/20 13:28*
Date Received: *12/04/20*
Sample Matrix: *Groundwater*

Inorganic Prep

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Lab Filtration (0.45um) & Acidification | M200.7/200.8/3005A | | | | | | | | 12/10/20 11:44 | kja |
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | | 12/09/20 15:11 | kja |
| Total Recoverable Digestion | M200.2 ICP | | | | | | | | 12/09/20 14:45 | kja |

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium, dissolved | M200.7 ICP | 1 | 88.0 | | | mg/L | 0.1 | 0.5 | 12/11/20 16:40 | kja |
| Iron, dissolved | M200.7 ICP | 1 | 0.742 | | | mg/L | 0.06 | 0.15 | 12/11/20 16:40 | kja |
| Iron, total | M200.7 ICP | 1 | 24.2 | | | mg/L | 0.06 | 0.15 | 12/10/20 12:07 | kja |
| Iron, total recoverable | M200.7 ICP | 1 | 24.2 | | | mg/L | 0.06 | 0.15 | 12/10/20 19:29 | jlw |
| Magnesium, dissolved | M200.7 ICP | 1 | 17.4 | | | mg/L | 0.2 | 1 | 12/11/20 16:40 | kja |
| Manganese, dissolved | M200.7 ICP | 1 | 1.08 | | | mg/L | 0.01 | 0.05 | 12/11/20 16:40 | kja |
| Manganese, total | M200.7 ICP | 1 | 1.38 | | | mg/L | 0.01 | 0.05 | 12/10/20 12:07 | kja |
| Potassium, dissolved | M200.7 ICP | 1 | 2.09 | | | mg/L | 0.2 | 1 | 12/11/20 16:40 | kja |
| Sodium, dissolved | M200.7 ICP | 1 | 70.4 | | | mg/L | 0.2 | 1 | 12/11/20 16:40 | kja |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 383 | | | mg/L | 2 | 20 | 12/08/20 0:00 | eep |
| Carbonate as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/08/20 0:00 | eep |
| Hydroxide as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/08/20 0:00 | eep |
| Total Alkalinity | | 1 | 383 | | * | mg/L | 2 | 20 | 12/08/20 0:00 | eep |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -1.1 | | | % | | | 12/17/20 0:00 | calc |
| Sum of Anions | | | 9.3 | | | meq/L | | | 12/17/20 0:00 | calc |
| Sum of Cations | | | 9.1 | | | meq/L | | | 12/17/20 0:00 | calc |
| Chloride | SM4500Cl-E | 1 | 24.2 | | | mg/L | 0.5 | 2 | 12/15/20 21:08 | syw |
| Hardness as CaCO3 (dissolved) | SM2340B - Calculation | | 291 | | | mg/L | 0.2 | 5 | 12/17/20 0:00 | calc |
| Lab Filtration (0.45um filter) | SOPWC050 | 1 | | | | | | | 12/07/20 15:39 | scd |
| Residue, Filterable (TDS) @180C | SM2540C | 2 | 540 | | | mg/L | 40 | 80 | 12/08/20 11:52 | scd |
| Residue, Non-Filterable (TSS) @105C | SM2540D | 1 | 101 | | * | mg/L | 5 | 20 | 12/08/20 14:48 | eep |
| Sodium Adsorption Ratio in Water | USGS - I1738-78 | | 1.8 | | | | | | 12/17/20 0:00 | calc |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 5 | 47.9 | | * | mg/L | 5 | 25 | 12/14/20 13:08 | rbt |

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# Inorganic Analytical Results

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

ACZ Sample ID: ***L63148-03***
Date Sampled: *12/03/20 13:58*
Date Received: *12/04/20*
Sample Matrix: *Groundwater*

Inorganic Prep

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Lab Filtration (0.45um) & Acidification | M200.7/200.8/3005A | | | | | | | | 12/10/20 11:44 | kja |
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | | 12/09/20 15:25 | kja |
| Total Recoverable Digestion | M200.2 ICP | | | | | | | | 12/09/20 15:07 | kja |

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium, dissolved | M200.7 ICP | 1 | 69.7 | | | mg/L | 0.1 | 0.5 | 12/11/20 16:43 | kja |
| Iron, dissolved | M200.7 ICP | 1 | 0.225 | | | mg/L | 0.06 | 0.15 | 12/11/20 16:43 | kja |
| Iron, total | M200.7 ICP | 1 | 5.44 | | | mg/L | 0.06 | 0.15 | 12/10/20 12:16 | kja |
| Iron, total recoverable | M200.7 ICP | 1 | 5.32 | | | mg/L | 0.06 | 0.15 | 12/10/20 19:32 | jlw |
| Magnesium, dissolved | M200.7 ICP | 1 | 19.8 | | | mg/L | 0.2 | 1 | 12/11/20 16:43 | kja |
| Manganese, dissolved | M200.7 ICP | 1 | 0.019 | B | | mg/L | 0.01 | 0.05 | 12/11/20 16:43 | kja |
| Manganese, total | M200.7 ICP | 1 | 0.076 | | | mg/L | 0.01 | 0.05 | 12/10/20 12:16 | kja |
| Potassium, dissolved | M200.7 ICP | 1 | 2.07 | | | mg/L | 0.2 | 1 | 12/11/20 16:43 | kja |
| Sodium, dissolved | M200.7 ICP | 1 | 118 | | | mg/L | 0.2 | 1 | 12/11/20 16:43 | kja |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 409 | | | mg/L | 2 | 20 | 12/08/20 0:00 | eep |
| Carbonate as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/08/20 0:00 | eep |
| Hydroxide as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/08/20 0:00 | eep |
| Total Alkalinity | | 1 | 409 | | | mg/L | 2 | 20 | 12/08/20 0:00 | eep |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -4.8 | | | % | | | 12/17/20 0:00 | calc |
| Sum of Anions | | | 11 | | | meq/L | | | 12/17/20 0:00 | calc |
| Sum of Cations | | | 10 | | | meq/L | | | 12/17/20 0:00 | calc |
| Chloride | SM4500Cl-E | 1 | 23.7 | | | mg/L | 0.5 | 2 | 12/15/20 21:08 | syw |
| Hardness as CaCO3 (dissolved) | SM2340B - Calculation | | 256 | | | mg/L | 0.2 | 5 | 12/17/20 0:00 | calc |
| Lab Filtration (0.45um filter) | SOPWC050 | 1 | | | | | | | 12/07/20 15:43 | scd |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 618 | | | mg/L | 20 | 40 | 12/08/20 11:59 | scd |
| Residue, Non-Filterable (TSS) @105C | SM2540D | 1 | 17.0 | B | * | mg/L | 5 | 20 | 12/08/20 14:50 | eep |
| Sodium Adsorption Ratio in Water | USGS - I1738-78 | | 3.2 | | | | | | 12/17/20 0:00 | calc |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 5 | 86.4 | | * | mg/L | 5 | 25 | 12/14/20 13:27 | rbt |

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**Inorganic Analytical Results**

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

ACZ Sample ID: ***L63384-01***
Date Sampled: *12/15/20 13:05*
Date Received: *12/16/20*
Sample Matrix: *Surface Water*

Inorganic Prep

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Lab Filtration (0.45um) & Acidification | M200.7/200.8/3005A | | | | | | | | 12/21/20 8:55 | cbj |
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | | 12/17/20 19:07 | kja |
| Total Recoverable Digestion | M200.2 ICP | | | | | | | | 12/17/20 18:38 | kja |

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium, dissolved | M200.7 ICP | 1 | 40.3 | | | mg/L | 0.1 | 0.5 | 12/22/20 14:57 | jlw |
| Iron, dissolved | M200.7 ICP | 1 | <0.06 | U | | mg/L | 0.06 | 0.15 | 12/22/20 14:57 | jlw |
| Iron, total | M200.7 ICP | 1 | 0.134 | B | | mg/L | 0.06 | 0.15 | 12/18/20 15:21 | kja |
| Iron, total recoverable | M200.7 ICP | 1 | 0.099 | B | | mg/L | 0.06 | 0.15 | 12/18/20 12:23 | kja |
| Magnesium, dissolved | M200.7 ICP | 1 | 6.60 | | | mg/L | 0.2 | 1 | 12/22/20 14:57 | jlw |
| Manganese, dissolved | M200.7 ICP | 1 | <0.01 | U | | mg/L | 0.01 | 0.05 | 12/22/20 14:57 | jlw |
| Manganese, total | M200.7 ICP | 1 | 0.022 | B | | mg/L | 0.01 | 0.05 | 12/18/20 15:21 | kja |
| Potassium, dissolved | M200.7 ICP | 1 | 0.97 | B | | mg/L | 0.2 | 1 | 12/22/20 14:57 | jlw |
| Sodium, dissolved | M200.7 ICP | 1 | 5.68 | | * | mg/L | 0.2 | 1 | 12/22/20 14:57 | jlw |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 109 | | | mg/L | 2 | 20 | 12/21/20 0:00 | emk |
| Carbonate as CaCO3 | | 1 | 2.8 | B | | mg/L | 2 | 20 | 12/21/20 0:00 | emk |
| Hydroxide as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/21/20 0:00 | emk |
| Total Alkalinity | | 1 | 112 | | | mg/L | 2 | 20 | 12/21/20 0:00 | emk |
| Chloride | SM4500Cl-E | 1 | 2.08 | | | mg/L | 0.5 | 2 | 12/30/20 13:18 | rbt |
| Hardness as CaCO3 (dissolved) | SM2340B - Calculation | | 128 | | | mg/L | 0.2 | 5 | 12/31/20 0:00 | calc |
| Lab Filtration (0.45um filter) | SOPWC050 | 1 | | | | | | | 12/21/20 9:48 | emk |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 186 | | * | mg/L | 20 | 40 | 12/18/20 14:04 | mlh |
| Residue, Non-Filterable (TSS) @105C | SM2540D | 1 | <5 | U | * | mg/L | 5 | 20 | 12/17/20 15:22 | scd |
| Sodium Adsorption Ratio in Water | USGS - I1738-78 | | 0.22 | | | | | | 12/31/20 0:00 | calc |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 2 | 27.7 | | * | mg/L | 2 | 10 | 12/29/20 10:56 | rbt |

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

**Inorganic Analytical Results**

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

ACZ Sample ID: ***L63384-02***
Date Sampled: *12/15/20 12:27*
Date Received: *12/16/20*
Sample Matrix: *Surface Water*

Inorganic Prep

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Lab Filtration (0.45um) & Acidification | M200.7/200.8/3005A | | | | | | | | 12/21/20 8:55 | cbj |
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | | 12/17/20 19:20 | kja |
| Total Recoverable Digestion | M200.2 ICP | | | | | | | | 12/17/20 19:06 | kja |

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Calcium, dissolved | M200.7 ICP | 1 | 40.7 | | | mg/L | 0.1 | 0.5 | 12/22/20 15:00 | jlw |
| Iron, dissolved | M200.7 ICP | 1 | <0.06 | U | | mg/L | 0.06 | 0.15 | 12/22/20 15:00 | jlw |
| Iron, total | M200.7 ICP | 1 | 0.093 | B | | mg/L | 0.06 | 0.15 | 12/18/20 15:24 | kja |
| Iron, total recoverable | M200.7 ICP | 1 | <0.06 | U | | mg/L | 0.06 | 0.15 | 12/18/20 12:26 | kja |
| Magnesium, dissolved | M200.7 ICP | 1 | 6.75 | | | mg/L | 0.2 | 1 | 12/22/20 15:00 | jlw |
| Manganese, dissolved | M200.7 ICP | 1 | 0.014 | B | | mg/L | 0.01 | 0.05 | 12/22/20 15:00 | jlw |
| Manganese, total | M200.7 ICP | 1 | 0.028 | B | | mg/L | 0.01 | 0.05 | 12/18/20 15:24 | kja |
| Potassium, dissolved | M200.7 ICP | 1 | 1.16 | | | mg/L | 0.2 | 1 | 12/22/20 15:00 | jlw |
| Sodium, dissolved | M200.7 ICP | 1 | 7.04 | | * | mg/L | 0.2 | 1 | 12/22/20 15:00 | jlw |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 114 | | | mg/L | 2 | 20 | 12/21/20 0:00 | emk |
| Carbonate as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/21/20 0:00 | emk |
| Hydroxide as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/21/20 0:00 | emk |
| Total Alkalinity | | 1 | 115 | | | mg/L | 2 | 20 | 12/21/20 0:00 | emk |
| Chloride | SM4500Cl-E | 1 | 2.67 | | | mg/L | 0.5 | 2 | 12/30/20 13:18 | rbt |
| Hardness as CaCO3 (dissolved) | SM2340B - Calculation | | 129 | | | mg/L | 0.2 | 5 | 12/31/20 0:00 | calc |
| Lab Filtration (0.45um filter) | SOPWC050 | 1 | | | | | | | 12/21/20 9:49 | emk |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 188 | | * | mg/L | 20 | 40 | 12/18/20 14:08 | mlh |
| Residue, Non-Filterable (TSS) @105C | SM2540D | 1 | <5 | U | * | mg/L | 5 | 20 | 12/17/20 15:24 | scd |
| Sodium Adsorption Ratio in Water | USGS - I1738-78 | | 0.27 | | | | | | 12/31/20 0:00 | calc |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 1 | 30.7 | | * | mg/L | 1 | 5 | 12/29/20 10:33 | rbt |

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

ACZ Sample ID: ***L63384-03***
Date Sampled: *12/15/20 13:44*
Date Received: *12/16/20*
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) | | | | | | | | 12/18/20 14:08 | cbj |
| Lab Filtration (0.45um) & Acidification | M200.7/200.8/3005A | | | | | | | | 12/21/20 9:20 | cbj |
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | | 12/17/20 19:34 | kja |
| Total Recoverable Digestion | M200.2 ICP-MS | | | | | | | | 12/20/20 16:53 | bsu |
| Total Recoverable Digestion | M200.2 ICP | | | | | | | | 12/17/20 19:34 | kja |

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic, total recoverable | M200.8 ICP-MS | 1 | 0.00064 | B | | mg/L | 0.0002 | 0.001 | 12/21/20 16:40 | bsu |
| Boron, total | M200.7 ICP | 1 | 0.039 | B | | mg/L | 0.02 | 0.1 | 12/18/20 15:28 | kja |
| Cadmium, potentially dissolved | M200.7 ICP | 1 | <0.008 | U | | mg/L | 0.008 | 0.025 | 12/21/20 10:17 | jlw |
| Calcium, dissolved | M200.7 ICP | 1 | 12.2 | | | mg/L | 0.1 | 0.5 | 12/22/20 15:03 | jlw |
| Chromium, total recoverable | M200.8 ICP-MS | 1 | 0.00065 | B | | mg/L | 0.0005 | 0.002 | 12/21/20 16:40 | bsu |
| Copper, potentially dissolved | M200.7 ICP | 1 | 0.031 | B | | mg/L | 0.01 | 0.05 | 12/21/20 10:17 | jlw |
| Iron, dissolved | M200.7 ICP | 1 | 0.332 | | | mg/L | 0.06 | 0.15 | 12/22/20 15:03 | jlw |
| Iron, total | M200.7 ICP | 1 | 1.46 | | | mg/L | 0.06 | 0.15 | 12/18/20 15:28 | kja |
| Iron, total recoverable | M200.7 ICP | 1 | 1.33 | | | mg/L | 0.06 | 0.15 | 12/18/20 12:29 | kja |
| Magnesium, dissolved | M200.7 ICP | 1 | 5.40 | | | mg/L | 0.2 | 1 | 12/22/20 15:03 | jlw |
| Manganese, dissolved | M200.7 ICP | 1 | 0.021 | B | | mg/L | 0.01 | 0.05 | 12/22/20 15:03 | jlw |
| Manganese, potentially dissolved | M200.7 ICP | 1 | 0.050 | | | mg/L | 0.01 | 0.05 | 12/21/20 10:17 | jlw |
| Manganese, total | M200.7 ICP | 1 | 0.062 | | | mg/L | 0.01 | 0.05 | 12/18/20 15:28 | kja |
| Mercury, total | M245.1 CVAA | 1 | <0.0002 | U | | mg/L | 0.0002 | 0.001 | 12/21/20 12:12 | llr |
| Potassium, dissolved | M200.7 ICP | 1 | 6.82 | | | mg/L | 0.2 | 1 | 12/22/20 15:03 | jlw |
| Sodium, dissolved | M200.7 ICP | 1 | 510 | | * | mg/L | 0.2 | 1 | 12/22/20 15:03 | jlw |
| Zinc, potentially dissolved | M200.7 ICP | 1 | 0.056 | | | mg/L | 0.02 | 0.05 | 12/21/20 10:17 | jlw |

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

ACZ Sample ID: ***L63384-03***
Date Sampled: *12/15/20 13:44*
Date Received: *12/16/20*
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 | 1020 | | | mg/L | 2 | 20 | 12/21/20 0:00 | emk |
| Carbonate as CaCO3 | | 1 | 35.4 | | | mg/L | 2 | 20 | 12/21/20 0:00 | emk |
| Hydroxide as CaCO3 | | 1 | <2 | U | | mg/L | 2 | 20 | 12/21/20 0:00 | emk |
| Total Alkalinity | | 1 | 1060 | | | mg/L | 2 | 20 | 12/21/20 0:00 | emk |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -2.0 | | | % | | | 12/31/20 0:00 | calc |
| Sum of Anions | | | 25 | | | meq/L | | | 12/31/20 0:00 | calc |
| Sum of Cations | | | 24 | | | meq/L | | | 12/31/20 0:00 | calc |
| Chloride | SM4500Cl-E | 1 | 10.3 | | | mg/L | 0.5 | 2 | 12/30/20 13:18 | rbt |
| Hardness as CaCO3 (dissolved) | SM2340B - Calculation | | 53 | | | mg/L | 0.2 | 5 | 12/31/20 0:00 | calc |
| Lab Filtration (0.45um filter) | SOPWC050 | 1 | | | | | | | 12/21/20 9:51 | emk |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 1450 | | * | mg/L | 20 | 40 | 12/18/20 14:14 | mlh |
| Residue, Non-Filterable (TSS) @105C | SM2540D | 1 | 5.0 | B | * | mg/L | 5 | 20 | 12/17/20 15:28 | scd |
| Sodium Adsorption Ratio in Water | USGS - I1738-78 | | 31 | | | | | | 12/31/20 0:00 | calc |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 5 | 191 | | * | mg/L | 5 | 25 | 12/29/20 10:12 | rbt |