

2024 Exploratory Drilling AML Project

Contractor: Earth Energy & Water Systems, Inc.

Contract Number: AM-896-24

Contract Bid Amount: \$258,000

Total Project Cost: \$281,313

Locations:

- Sections 16 & 21, T139N, R85W, Morton County (New Salem)
- Section 24, T131N, R100W, Bowman County (Scranton)
- Section 26, T131N, R100W, Bowman County (South Scranton)

2024 eAMLIS Project Information							
Project	Project Area Number & Name	Project Start Date	Project End Date	Working Days	Project Cost	Estimated Population Impacted	Acres Reclaimed
2024 Exploratory Drilling AML Project	ND000003 – South Scranton	6/10/24	6/19/24	6	\$83,066	120 – Average Daily Traffic Count (2023)	0.10
2024 Exploratory Drilling AML Project	ND000528 - Scranton	6/19/24	6/20/24	2	\$22,997	258 – City of Scranton Census (2020)	0.10
2024 Exploratory Drilling AML Project	ND000054 – New Salem	5/16/24	6/6/24	21	\$175,250	270 – Average Daily Traffic Count (2022)	0.10

AML Background

The Public Service Commission administers the Abandoned Mine Lands (AML) Program on behalf of the State of North Dakota. The State AML Program was approved by the U.S. Department of the Interior in 1981 under the authority of the Surface Mining Control and Reclamation Act of 1977 (P.L. 95-87, Title IV). Program funding comes from a federal reclamation fee on coal that has been mined in the United States since the late 1970's. These fees are placed into the AML fund and the money that North Dakota receives from this fund is used to eliminate existing and potential public hazards resulting from abandoned surface and underground coal mines.

South Scranton Site Background

One known abandoned underground lignite coal mine is located near the work area. The Scranton Lignite Coal Company first recorded mining in 1923. The mine was operated and reported continuous annual production from 1923 through 1946. Since no reports were noted for this mine following 1946, it is assumed that the mine ceased operations at about that time; however, it is possible that the mine was operated but not reported or that it was operated and reported under some other name following 1946. Mining continued well beyond the last recorded mine map (1938). Without accurate and complete mine maps, exploratory drilling is used to characterize and determine the extent of abandoned underground mine workings. The legacy of these mines is exhibited through sinkholes.

The AML Division has conducted multiple sinkhole filling and drilling & grouting projects in the area. The most recent AML project in South Scranton was a sinkhole filling project in May of 2023. The Bowman County Road Superintendent first contacted the AML Division about a settlement feature in Highway 67. This section of road was estimated to be adjacent to the known abandoned mine workings. Since it was close to an abandoned mine, Bowman County Highway Department had one of their contractors core the settling portion of the road. Coring revealed an 8 foot deep by 8 foot wide sinkhole right underneath the roadway surface. The road was immediately closed and the sinkhole was filled through a PSC AML contract. Thankfully the sinkhole was mitigated before it caused any harm to the public.

Scranton Site Background

The first recorded abandoned underground lignite coal mine located within this work area was the Scranton Coal Mine which began operations in 1909. Mining in the area was also conducted by Johnson Fuel Co. Coal Mine (1917-1923), Scranton Coal Mining Company (1924-1929), Scranton Collieries Corporation (1930) Northwestern Power Company (1931), Scranton Coal Mining Company (1932-1936). In 1918, it was reported that the underground system of mining was going to be abandoned and surface (strip) mining was to be pursued; however, the mine continued to be reported as an underground mine through 1936.

Mining continued beyond the last recorded mine map (1929). In addition to the 2024 Exploratory Drilling Project, the AML Division has conducted multiple sinkhole filling projects in the area and three phases of drilling and grouting projects. The PSC AML Division is planning to conduct a drilling and grouting project at both Scranton mine areas in the near future.

New Salem Site Background

There is one known underground abandoned coal mine within the work area. The McCormick Coal Company mined from 1922 to 1932. The Deep Mine Coal Company continued mining operations from 1933 to 1951. The mine's portal was entered via a 190-foot vertical shaft. Two electric cutting machines were used underground. Air shafts and electric fans were used to provide fresh air to the miners. Mining continued twenty-seven years after the last recorded mine map (1924). Without accurate and complete mine maps, exploratory drilling is used to characterize and determine the extent of abandoned underground mine workings. This AML site has not had any reported sinkholes, but the mine map indicated that mining had occurred underneath Highway 10 and other privately owned infrastructure.

This is the second drilling project that the AML Division has conducted in this area. In 1990, a small drilling project was conducted, and one void was found near the vertical mine entrance shaft.

Project Overview

The 2024 Exploratory Drilling AML Project was awarded to Earth Energy & Water Systems, Inc. of New Salem, North Dakota through the competitive bidding process. The original plan quantities called for 20,000 feet of drilling and 4,000 feet of casing. Mine voids encountered through drilling were more numerous than expected, so change orders were issued to increase the amount of casing. Drilling and casing began on May 16, 2024, and was completed on June 20, 2024. The final quantities for the project were 20,092 feet of drilling and 6,362 feet of casing. The total contract cost was \$281,313. Project drilling maps (**Figures 1-2**) show the locations of the holes drilled. The blue dots on the maps represent where coal was encountered indicating that it has not been mined. The red dots on the maps represent mine voids and the white dots represent areas where coal was never present.

Twenty-one drill holes were cased near Scranton and twenty-five drill holes were cased near New Salem during the 2024 Exploratory Drilling AML Project. This project revealed the extent of the underground mines near Scranton and New Salem were both larger than expected. Additional drilling and grouting projects will be planned in the next few years at these AML sites. The AML Division prioritizes projects based on hazards and risks associated to the public.

2024 South Scranton Statistics	
Drilling Dates	June 10th to June 19th 10 calendar days
Total Feet Drilled	6,835
Total Feet Cased	900
Days of Drilling	6
Daily Average	Drilling—1139 Casing—150
Number of Holes Drilled	75
Number of Holes Cased	14

2024 Scranton Statistics	
Drilling Dates	June 19th to June 20th 2 calendar days
Total Feet Drilled	1,046
Total Feet Cased	366
Days of Drilling	2
Daily Average	Drilling—523 Casing—183
Number of Holes Drilled	15
Number of Holes Cased	7

2024 New Salem Statistics	
Drilling Dates	May 16th to June 6th 21 calendar days
Total Feet Drilled	12,211
Total Feet Cased	5,096
Days of Drilling	11
Daily Average	Drilling—1110 Casing—463
Number of Holes Drilled	55
Number of Holes Cased	25

Figure 1: Project drilling map in New Salem

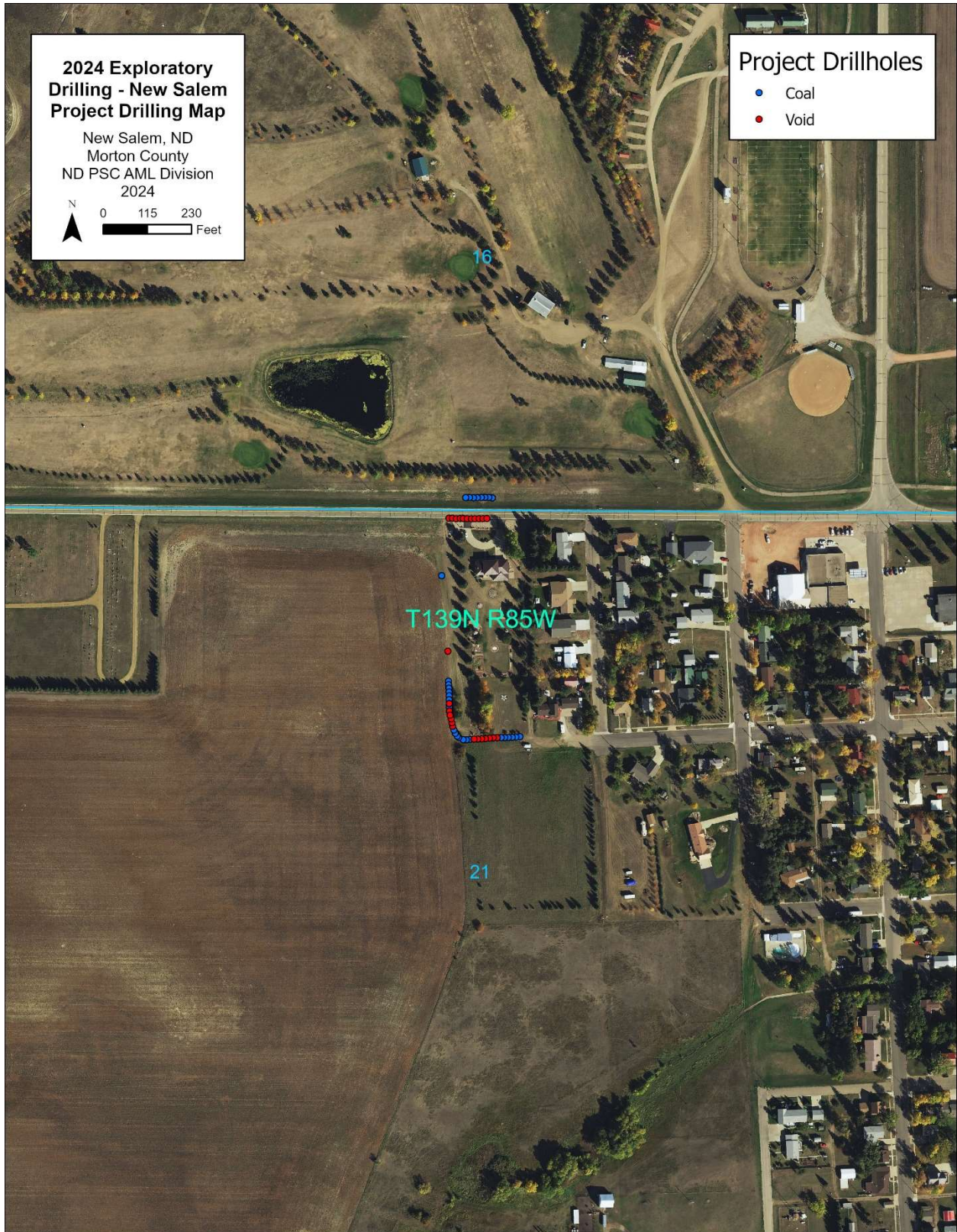


Figure 2: Project drilling map in Scranton



Figure 3: Drill rig setting up along HWY 67 south of Scranton.



Figure 4: Drilling along ND HWY 10 in New Salem.

