

2024 Lehigh Road Phase IX AML Project Summary

Drilling and Grouting Contractor: Earth Energy & Water Systems, Inc.

Drilling and Grouting Contract Number: AM-897-24

Drilling and Grouting Project Cost: \$1,229,309

Material Testing Contractor: Geoserv, Inc.

Material Testing Contract Number: AM-898-24

Material Testing Project Cost: \$5,184

Total Project Costs: \$1,229,309+ \$5,184= **\$1,234,493**

Location: Four miles southeast of Dickinson, ND, including portions of Sections 7, 8, 17, and 18, T139N, R95W, Stark County

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 Lehigh Road Phase IX AML Project	ND024/ Binek B, C, D, E, H	7/18/2024	9/19/2024	30	\$1,234,493	285 - based on 2021 traffic for Lehigh Road	0.89 Acres

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.

Infrastructure Investment and Jobs Act (IIJA)

The Infrastructure Investment and Jobs Act, also known as The Bipartisan Infrastructure Law (BIL) was enacted on November 15, 2021. In addition to the extension of abandoned mine land (AML) fee collections and mandatory AML Grant distributions, \$11.293 billion in new funding was authorized to be appropriated for deposit into the Abandoned Mine Reclamation Fund. The OSMRE (Office of Surface Mining Reclamation and Enforcement) is now required to submit a report to Congress within six years of the first IIJA AML grant allocations. This report will detail the progress made under the IIJA AML provisions in addressing outstanding reclamation needs under subsections (a) and (b) of section 403 and section 410 of SMCRA. OSMRE has asked States and Tribal AML Programs to collect the following metrics. However, this project was funded with the federal reclamation fee on mined coal.

IIJA Metrics:

AML Reclamation Environmental Benefits

- Number of acres reforested: 0 acres

- Number of trees planted on AML sites: 0 trees – This site would be eligible for future tree plantings.
- Number of bat gates installed: 0 bat gates
- Number of acres of endangered species habitat re-established: 0 acres
- Number of tons of rare earth elements, metals, or sediment recovered for reuse: 0 tons
- Amount of methane emissions reduced: 0

Socio-economic Benefits of IJJA AML Projects

- Percent of overall benefits and types of benefits that accrue to disadvantaged communities, communities of color, low-income communities, or Tribal or Indigenous communities: 0%
- Number of former/current employees of the coal industry employed in AML reclamation: 0 employees
- Demographics of workers and number of workers from under-represented groups: 0 workers
- Percentage of workers employed at AML sites that reside in the county in which the AML project is located, or in adjacent counties: 0%
- If there is a community benefit agreement as part of the project: No
- Number of project partners involved in AML reclamation projects: 0 project partners
- Number of contract(s) awarded that aggregated projects exceeding a value of \$1 million at the time of award: 2 contracts were awarded that aggregated over \$1 million
- Number of businesses constructed on reclaimed AML sites, and number of people employed at those sites: 0 businesses
- Number of job hours involved in IJJA AML remediation: 750.27 hours
- Number of people receiving potable water after completion of water supply restoration projects: 0 people
- Number of residents positively impacted by the restoration of previously polluted waterways: 0 residents
- Number of residents within one mile of an IJJA-funded project: 22 residents

Further, for projects or aggregated projects in excess of \$1 million, States or Tribes should require that contractors, consistent with State or Tribal applicable law, provide:

- 1) a certification that the project uses a unionized project workforce;
- 2) a certification that the project includes a project labor agreement; or
- 3) a project workforce continuity plan:
 - Not Applicable – North Dakota is a right to work state.

Dickinson Site Background

There are several abandoned underground lignite coal mines located within a mile of the work area. The first recorded was the Missouri Slope Company Mine which is referenced in a 1901 report. Mining in the area was also conducted by Republic Coal Mine (1921), Lehigh Mining Co. (aka Lehigh Coal Mining Co., Lehigh Coal Co.) (1923-1927), Lehigh Briquetting Co. (1928-1948), Dakota Briquets & Tar Products, Inc. (1949-1957), Pelton Coal Mine (1910-1911), Pittsburg (aka Pittsburgh) Coal Mine (1912-1918), Dakota Lignite Mines Co. (1919), Pittsburg (aka Pittsburgh) Mine (aka Coal Mine, Coal Co., Coal Mining Co.) (1920-1940), Dickinson Coal Mining (aka Mine) Co. (aka Dickinson Coal Co./Company) (1941-1975), and the Husky Briquetting, Inc. (1967-1971).

Although we have some records, mining continued much beyond the last recorded mine maps. Without accurate 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 projects in the area and eight phases of drilling and grouting projects.

Exploratory drilling was last conducted in 2023. This drilling helped identify several abandoned underground mine workings in new locations and it showed that more drilling is necessary to reveal the extent of mining. The AML Division then began planning the next phase of drilling. A public meeting was held in the Dickinson City Hall on February 7, 2024. The meeting sought input from landowners, local government, and anyone else who may be concerned about the abandoned mines near Dickinson.

Reclamation Procedures

In North Dakota, remote backfilling is the preferred method to stabilize abandoned underground coal mines near public infrastructure. This process involves pumping pressurized grout into the mine voids. Backfilling begins with drilling injection holes about every 10 linear feet (**Figure 2**). The relatively close spacing of drill holes is essential to target the mine workings because the underground haul tunnels were usually 10 feet wide. Angle or directional drilling may be used to drill under buildings, utilities, or roads. Drill holes that intercept mine workings are cased from the ground surface to within five feet of the mine voids with 3" diameter Schedule 40 PVC pipe. Casing the holes allows for mine inspection with a borehole camera and also serves as a conduit for grout to be pumped into mine voids. The grout is designed to mimic the strength of the removed coal and prevent collapse.

Project Overview

The 2024 Lehigh Road Phase IX AML Project was awarded to Earth Energy & Water Systems, Inc. of New Salem, North Dakota through the competitive bidding process. The total contract cost was \$1,229,309.

The 2024 Lehigh Road Phase IX AML Materials Testing Project contract was awarded to GEOSERV, Inc. of Bismarck, ND. The material testing contractor was not able to fulfill all duties of the contract. The total contract cost was \$5,184. The material testers collect grout samples and cast grout cylinders. They also test the fine aggregate and perform slump, spread, and strength tests of the grout.

Work began on July 18, 2024. **Figure 1** shows the location of the holes drilled and grouted. Several mine voids were found between railroad tracks (**Figure 3**) and Lehigh Road (**Figure 4**). Eighty-six drill holes were cased in the 2024 Lehigh Road Phase IX AML Project. Grout was pumped into thirty-one cased drill holes (**Figure 5**). Fifty-eight additional holes were filled from adjacent pumping. Work was completed on

September 19, 2024. The final quantities for the project include 22,338 feet of drilling, 3,933 feet of casing, and 3,401 cubic yards of grout injection.

All eighty-nine of the filled drill holes were drilled and cased under the 2022 Exploratory Drilling Project, the 2023 Exploratory Drilling Project, or the 2024 Lehigh Road Phase IX Project. The remaining cased holes are labeled as voids in the project drilling map (**Figure 1**). We anticipate pumping grout into the remaining cased holes in the 2025 Lehigh Road Phase X Drilling and Grouting Project.

2024 Lehigh Road Phase IX Project Statistics:

Total holes drilled: 363
Total feet drilled: 22,338 feet
Average depth drilled: 61.54 feet
Total holes cased: 86
Total casing installed: 3,933 feet
Total grout pumped: 3,401 cubic yards
Average grout pumped per hole: 109.7 cubic yards
Total holes pumped: 31
Holes filled by adjacent pumping: 58
Estimated area reclaimed: 0.89 Acres

Figure 1: Project Drilling Map

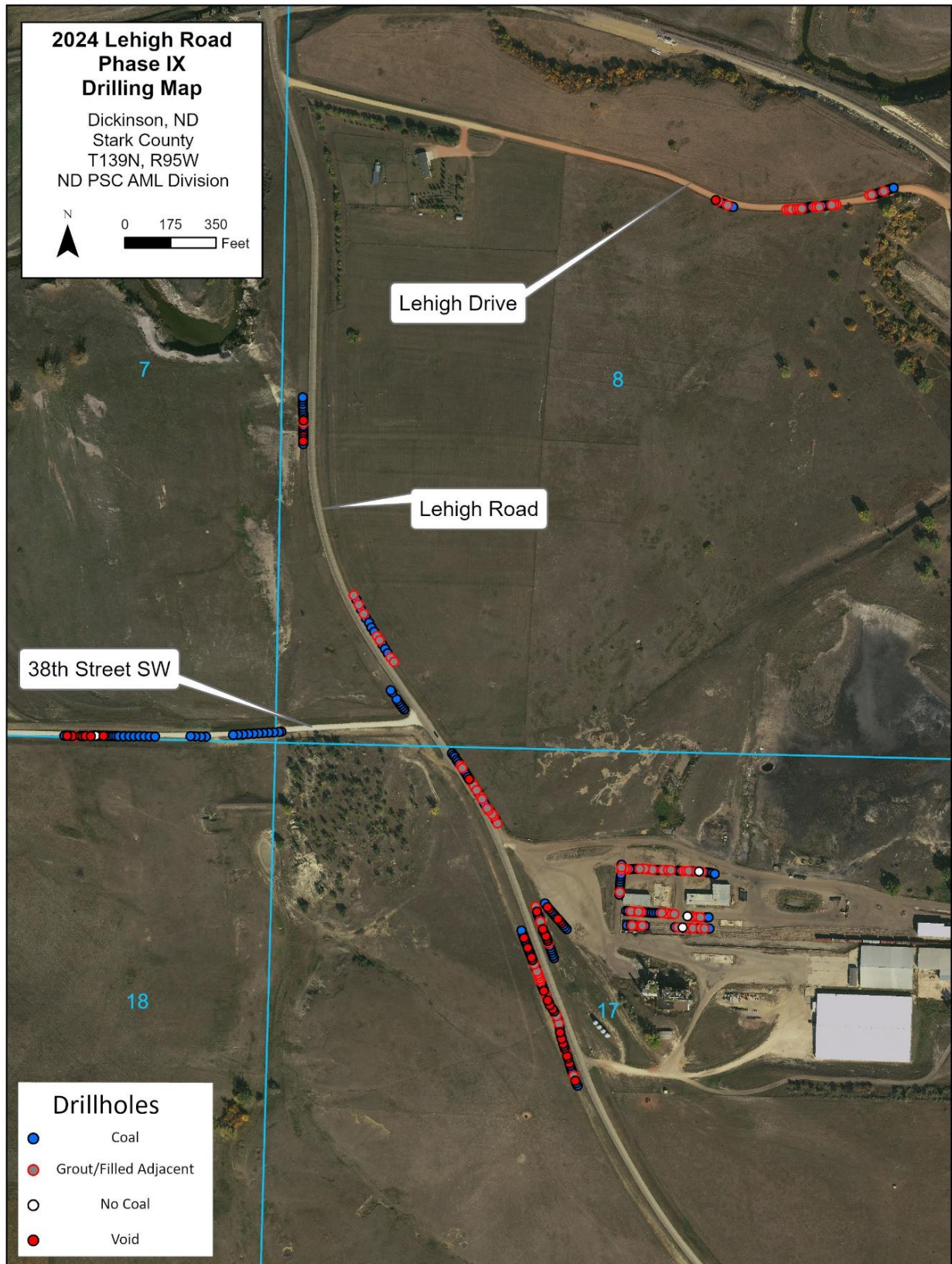


Figure 1: Drill rig setting up to drill along Lehigh Road



Figure 2: *Drilling between railroad tracks*



Figure 3: Drilling along Lehigh Drive



Figure 5: Pumping grout in front of the Lehigh Briquetting Plant

