

## 2023 Exploratory Drilling AML Project

**Contractor:** Earth Energy & Water Systems, Inc.

**Contract Number:** AM-881-23

**Contract Bid Amount:** \$326,500

**Total Project Cost:** \$355,217.55

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

2023 eAMLIS Project Information							
Project	Project Area Number & Name	Project Start Date	Project End Date	Working Days	Project Cost	Estimated Population Impacted	Acres Reclaimed
2023 Exploratory Drilling AML Project	ND024/ Binek B, C, D, E, H	7/05/2023	8/16/2023	30	\$355,218	285 - based on 2021 traffic for Lehigh Road	.01 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.

## 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 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 2022. 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 on April 18, 2023, in the Public Service Commission (PSC) Hearing Room. The meeting sought input from landowners, local government, and anyone else who may be concerned about the abandoned mines near Dickinson.

## Project Overview

The 2023 Exploratory Drilling AML Project was awarded to Earth Energy & Water Systems, Inc. of New Salem, North Dakota through the competitive bidding process. Work began on July 5, 2023, and was completed on August 16, 2023. The final quantities for the project were 25,591 feet of drilling and 3,000 feet of casing. The total contract cost was \$355,217.55. **(Figure 1)** shows the location of the holes drilled.

On August 3, a sinkhole developed below a hole that was cased on July 5 **(Figure 2)**. A change order was issued for \$28,000 to fill and compact the sinkhole. Construction to repair the sinkhole was initiated on August 14 **(Figure 3)** and completed on August 15 **(Figure 4)**.

Sixty-five drill holes were cased in the 2023 Exploratory Drilling AML Project. We anticipate using these cased holes as a conduit to inject grout into the mine voids and stabilize the infrastructure in the area during the 2024 Lehigh Road Phase IX Drilling and Grouting Project.

<b>2023 Dickinson Statistics</b>	
<b>Drilling Dates</b>	<b>July 5th to August 16th 42 calendar days</b>
Total Feet Drilled	25,591
Total Feet Cased	3,000
Days of Drilling	30
Daily Average	Drilling—853 Casing—100
Number of Holes Drilled	452
Number of Holes Cased	65

Figure 1: Project Drilling Map





*Figure 2: A sinkhole developed in an area that had just been drilled and cased.*





**Figure 3:** The sinkhole was over-excavated and is being filled and compacted. The landowner was concerned about the privately owned railroad track.

**Figure 4:** *The sinkhole after it was filled and compacted.*

