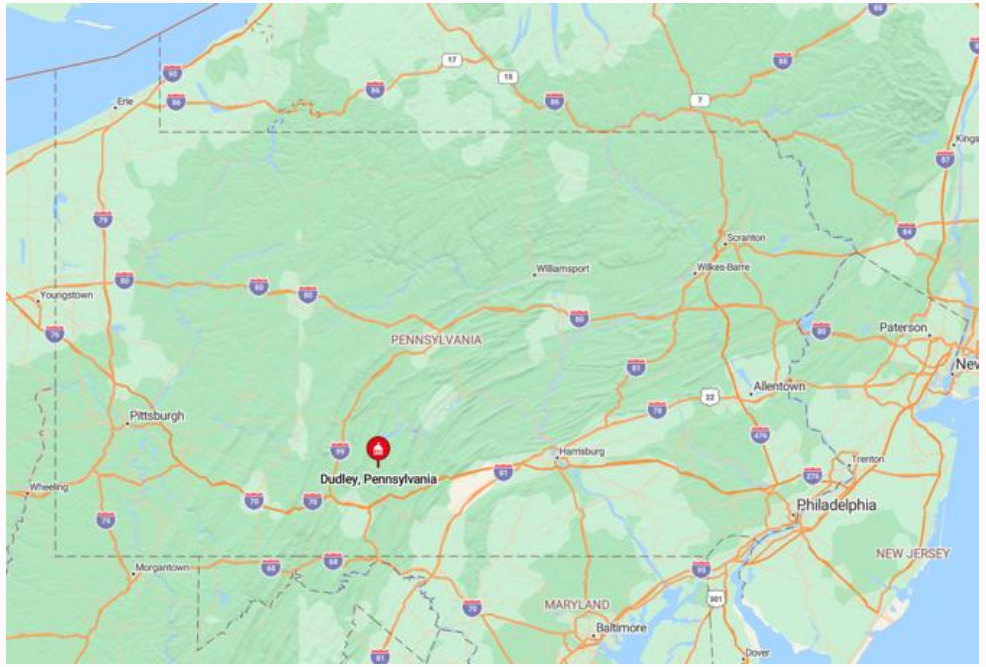
ALVAN - GREAT TROUGH CREEK

Department of Environmental Protection
Bureau of Abandoned Mine Reclamation
October 2025

Pennsylvania
Department of
Environmental Protection

Project Description

A stream restoration project was completed to eliminate inflow and infiltration to an existing underground mine complex that contributes to the flow of an underground mine discharge near the town of Dudley, Pennsylvania. The project has restored 6,300 linear feet of stream, reduced the discharge rate at a nearby underground mine discharge, removed multiple mining related hazards and restored 52.5 acres of abandoned mine lands.



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The Dudley Discharge

A major contributor to the acid mine drainage issues within the area.

Difficult to treat due to the location and topography as current flow volumes require a large treatment facility.

By removing the inflow and infiltration at the “Alvan” project location it is anticipated to greatly reduce the discharge flows.

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The project site was unique in the fact that it had a combination of AML and AMD features as there were highwalls, mine pits, spoil piles, reclaimed lands and acid mine drainage issues.

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Previously, two stream tributaries entered the underground mine complex, one by flowing directly into a mine portal and the other by infiltrating fractured bedrock below the mine pit.

The project's main focus was to reroute the tributaries away from entering the underground mine complex by installing 6,300 linear feet of clay and rock lined stream channels to convey the clean surface water ways from the mine complex and discharge it into the headwaters of Great Trough Creek.

With completion of this project, it is estimated to reduce the base discharge flow by 10% or 800 gallons per minute of acid mine drainage.

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In addition, once completed the project removed multiple sections of Highwall, two mine pits, the restoration of 52.5 acres of abandoned mine lands and created 6,300 linear feet of new stream that will become a permitted waterway of Pennsylvania.

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Stream Channel Excavation

Stream Channel Excavation with Bypass Pumping

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Although having a starting forward concept, the project had many unique attributes. Multiple areas were uncovered where the surface water was lost during construction of the stream channel because the subsurface geologic make up is fractured from previous mining operations.

During the stream bed excavation, a layer of bed rock was found and required a blasting operation as it could not be ripped or excavated.

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The blasted and excavated stone was then crushed and sorted for project use, resulting in minimal material having to be brought onto the project site.

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A water mainline had to be relocated and encased under the new stream bed to minimalize future maintenance issues for the local water authority.

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Two stream crossings had to be enlarged to convey the increase in flow.

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Project Start Date: July 2023

Project End Date: July 2024

Contractor: Ligonier Construction, Inc.

Project Cost: $4,138,525.65

The project site serves as a complete restoration effort by replacing the tributaries to be as close to the original landscape topography as possible prior to mining operations and by reclaiming the abandoned mine land with reforestation efforts for habitat improvement.

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Questions?

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Get In Touch

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