



CASE STUDY

PROJECT NAME

Triad Coal Mine Worker Facility
Sturgeon, Indiana

SYSTEM SPECIFICATIONS

ATL by Infiltrator modular geotextile media, sand-lined wastewater treatment and dispersal leachfield system

INFILTRATOR PRODUCTS USED

2000 feet of ATL by Infiltrator

DESIGN FLOW

3150 gpd

INSTALLATION DATE

Fall 2015

ENGINEER

Kruse Consulting
Avon, Indiana

CONTRACTOR

Hacker Plumbing and Drilling
Vincennes, Indiana



INFILTRATOR
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ATL™ by Infiltrator Wastewater Treatment System Enables Expansion of Worker Facilities at Indiana Mine Operation

The design and installation of an Infiltrator Advanced Treatment Leachfield (ATL) system was key to the needed expansion of worker facilities at an Indiana coal mining operation. Using the ATL by Infiltrator system reduced the drainfield footprint by nearly half as compared to a stone and pipe system.

CHALLENGES

The reduced footprint of the onsite wastewater treatment system was critical due to the presence of disturbed mine spoils, shale, and limestone throughout the site making system siting a challenge. The Department of Health had assigned a loading rate of 0.25 gpd per square foot for disturbed soils, but the significant voids between boulders threatened to short circuit effluent. Extensive soils investigation and testing were conducted to locate the 3150 gpd system over soils where there were not as many potentially large voids that would allow effluent to migrate into the native soils without proper treatment.

ATL by Infiltrator is a modular geotextile media, sand-lined wastewater treatment and dispersal leachfield system that is quick and easy to install, has no moving parts, and no venting or additional sand cover requirements. Effective in shallow, level, sloped, sub-surface, and above ground system designs, the ATL by Infiltrator has passed the NSF 40 Class 1 protocol.

SYSTEM DETAILS

Mark Hacker, Hacker Plumbing and Drilling and Dale Kruse, P.E., of Kruse Consulting designed the ATL by Infiltrator system to treat the effluent from locker room showers before it enters the disturbed soils. Effluent exits the facility via a 4-inch PVC pipe then enters the first septic tank. It then flows to a pump tank where it is dosed twice daily using on-demand alternating pumps to four 102- x 22-foot Infiltrator ATL beds creating a 408 x 88-foot-wide drainfield. To ensure the proper distance between conduits, Hacker designed and fabricated five spacers from reinforced 1-inch PVC pipe. Effluent exits the ATL system and is absorbed into the underlying native soil. During NSF/ANSI Standard 40 testing, the system achieved average treatment levels of 9 mg/L CBOD5 and 11 mg/L TSS. Each zone took two days to install, then it was covered with 12 inches of topsoil hauled from another area of the mine and seeded.