

POLLUTION LOADING TRACKING TO CHARACTERIZE SUCCESS OF AN ANOXIC LIMESTONE DRAIN INSTALLATION ON LAMBERT'S RUN, SOUTHWESTERN PENNSYLVANIA¹

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Abstract: Mining has been an integral part of the history of Western Pennsylvania since the 1700s when the first bituminous coal mines opened. An unfortunate byproduct of this extensive mining history is the occurrence of acid mine drainage (AMD) in local watersheds. The Lambert's Run AMD treatment system, located in Somerset County, is the result of an AMD-affected artesian well discharging directly into a wetland that empties into Lamberts Run, a tributary of the Stonycreek River. The discharge is characterized as having pH of around 3 and little to no alkalinity. This site has been monitored for years by the Pennsylvania Department of Environmental Protection as well as the Somerset County Conservation District prior to installing an Anoxic Limestone Drain (ALD) to treat the discharge. Currently, pollution loading tracking studies are being completed in order to characterize the success of the ALD treatment system and to determine other significant sources of AMD in Lamberts Run. According to the pollution loading strategies completed, the pH of discharge has increased to over 5 and alkalinity to over 30 mg/L. Thus far, the data suggests that the system as it stands may not be enough to fully remediate Lambert's Run. The ALD was always envisioned as a first step to remediate this water resource and further work may be necessary for a return to suitable water quality.

Additional Key Words: alkalinity, iron, passive treatment, pyrite, specific conductivity, total metals concentration

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