# Abatement of AMD at the Germantown AML Site in West Central Missouri[1]

D. P. Wedemeyer[*], P.T. Behum, and M. Meuller[2]

**Abstract:** Between 2015 and 2018 Missouri Department of Natural Resources, Land Reclamation Program (LRP) completed a two-phase acid-mine drainage (AMD) abatement project at the Germantown abandoned mine land (AML) site in west central Missouri. This poster paper will overview the case history and performance of these AMD abatement efforts. The 971-hectare Germantown AML site was formerly the location of the Peabody Coal Company Power Mine, which extracted the Tebo and Wheeler-Pittsburg coal seams. Starting in 1967 Peabody reclaimed by1987 about 30% of this historic mine area. An initial abandoned mine lands (AML) reclamation effort by LRP was conducted in 1988 which attempted to address part of the 486 acres of barren spoil that remained as reported in a 1984-1986 US Geological Survey (USGS) study. This area-type surface operation mined though most of the former receiving stream, Horn Branch of Deepwater Creek leaving about 100 impoundments of which 1/2 were reported by the USGS to have a pH < 4.0. More recent LRP effort included the L-Pit Reclamation Project, conducted 2015-2016 followed by the Duck Pond Reclamation Project in 2016-2018. The L-Pit project centered on 127.4 acres of land reclamation. However, two small passive treatments systems were constructed: a surface flow wetland treating a net alkaline discharge, and a variation of a limestone-buffered, sulfate-reducing bioreactor and associated oxidation cells. This bioreactor, termed organic, limestone and aglime (OLA) cell, treats a low-flow highly acidic seep. Three additional passive treatment systems based on OLA-type bioreactors were installed at the Duck Pond Project in 2017.

**Additional Key Words:** organics limestone and aglime cells, sulfate-reducing bioreactor.

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2. Daniel P. Wedemeyer (*presenter), Environmental Specialist III, and Michael Mueller, Reclamation Specialist, Missouri Department of Natural Resources, Land Reclamation Program, Jefferson City, MO, 65102; Paul T. Behum, Ph.D., Sr. Hydrologist, Office of Surface Mining and Reclamation, Mid-Continent Region, Alton, IL 62002.
3. Work reported here was conducted near 38° 17’ 22” N; 94° 01’ 00” W.