

RECLAMATION OF MINING IMPACTED LANDS IN THE COPPER BASIN – A CASE STUDY¹

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Abstract. The Copper Basin Site, located in southeast TN, is the site of extensive metals and copper mining and sulfuric acid production dating back to the mid 1800s. The Site includes the Ducktown mining district which is approximately 2600 hectares in area, drained principally by North Potato Creek (NPC) and Davis Mill Creek (DMC). Historic mining and related activities at the Site have resulted in mine-scarred lands that produce acid mine drainage which ultimately discharges into the Ocoee River.

In order to improve the health of the Ocoee River, the USEPA, TDEC, and GSH agreed to conduct a cooperative, voluntary environmental remediation and redevelopment of the Copper Basin as outlined in an Agreement on Consent. Part of this agreement was to develop and implement interim actions reducing contaminant loading to the Ocoee River so that immediate progress in improving ecological health could be realized while a phased approach of long-term remedial actions are identified and implemented in upper parts of the watershed. Remedial actions that have been implemented to date, resulting in substantial reductions of contaminant loading to the Ocoee River, include diversion of clean water around contaminated water, treatment of acid and metal-laden tributaries, capping of mining wastes, remediation of PCB contaminated soils, revegetation of mine-scarred lands, stream restoration, and demonstration wetlands for passive treatment of acid mine drainage.

This paper presents a case study of an interactive approach to watershed restoration and discusses the advantages of early identification of the most significant problems that impact ecological risks at the Site. The major benefit of this process has been identification and remediation of the worst problems in a complex set allowing valuable resources traditionally utilized for full site characterizations to be applied toward remedial activities, which potentially change the original character of the site.

¹ Paper was presented at the 2006 Billings Land Reclamation Symposium, June 4-8, 2006, Billings MT and jointly published by BLRS and ASMR, R.I. Barnhisel (ed.) 3134 Montavesta Rd., Lexington, KY 40502.

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