

Taylor Creek Impoundment

Submitted by:

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Division of Land Restoration
West Virginia Department of Environmental
Protection**

Project Name and Location:

Taylor Creek Impoundment – About two miles southwest of Widen in Clay County, West Virginia

Name, Title Organization, Address, Phone Numbers and E-Mail:

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Project Start and Completion Dates:

August 19, 1996 - February 14, 1998

Construction Costs and Funding Sources:

**West Virginia AML Program ----- \$ 4,185,344
Total Cost ----- \$ 4,185,344**

Contractor:

**B. F. Foster Co., Inc.
P.O. Box 629
115 Brookside Drive
Scott Depot, WV 25560**

Consultant:

**CTL Engineering of West Virginia, Inc.
733 Fairmont Road
Morgantown, West Virginia 26501**

West Virginia Department of Environmental Protection Staff:

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I. Background and Project Need

Located in central West Virginia, this 90 acre Clay County site, about two miles southeast of the Widen community, was originally part of a massive abandoned coal preparation and waste disposal facility that ceased operation in the 1950's.

This site consisted of two large refuse areas totaling 72 acres along with an 18-acre impoundment filled with 1.5 million gallons of acidic mine water. A sizeable portion of the refuse, about 10 acres, was also burning, generating irritating, noxious fumes for nearby residents. Most of the refuse pile had extremely steep embankments with 1:1 outslopes. In several places, material routinely slipped onto a county roadway, sometimes blocking access for local traffic. Water flowing in Taylor Creek also eroded the pile's toe causing large quantities of material to repeatedly slip into the stream. The looming potential for a slide of sufficient size to completely block Taylor Creek greatly concerned nearby residents and mine restoration officials alike. Even more ominous, should the original spillway become completely blocked with enough slipping material, water could easily become re-routed and flow over the refuse embankment itself. Had such an event occurred, residents living downstream would have most likely suffered catastrophic flooding.

Taylor Creek Impoundment's large, unreclaimed refuse piles also served as a dangerous attraction to local ATV users. Large numbers of ATV trails crisscrossed the steeply sloped pile. These tracks offered clear evidence to the large degree of visitation and seriousness of the problem. Riders often traversed along the embankment's unstable edges. Had these sections broken loose under the weight of the rider and vehicle, such individuals could have easily been seriously injured or even killed. West Virginia has one of the nation's highest ATV injury rates. Mine reclamation officials were quite cognizant of this fact and determined to address and correct the problem before tragedy befell upon this site.

Another serious problem surrounded the site's dangerous 18-acre, water-filled impoundment. With an average depth of 20 feet and near vertical slopes along its edge, this structure posed a serious health and safety threat to an unsuspecting passerby or swimmer. Anyone unfortunate enough to fall or jump into the impoundment would find it near impossible to escape due to the looseness and steepness of the surrounding refuse material along its edge. Mine restoration officials were anxious to address this danger before someone got injured, or worse, drowned.

II. Reclamation Plan

During the summer of 1996, the AML & R office contracted with the B. F. Foster Company to begin site restoration. The selected reclamation plan involved eliminating the water-filled impoundment; extinguishing the burning refuse along with regrading and soil covering the remaining areas of toxic coal refuse; restoring the main stream channel; and constructing badly needed drainage control structures.

Upon completion, the contractor had excavated and reshaped 1.8 million cubic yards of refuse along with extinguishing 10 acres of burning material; drained and

II. Reclamation Plan (continued)

treated 1.5 million gallons of acidic mine water from the 18-acre impoundment; re-established nearly 4,000 L.F. of Taylor Creek; constructed three-fourths mile of various size drainage control channel; and soil covered and re-vegetated the entire 90 acre construction area. Construction activities concluded during the spring of 1998 with a final project cost of approximately \$4.2 million.

III. Reclamation Benefits

In addition to successfully restoring much of this site's pre-mined aesthetic values and appeal, other tangible, noteworthy benefits were realized. It not only effectively addressed and removed several obvious health and safety related problems, but it also eliminated the potential for serious future flooding. More specifically, this project:

- eliminated a dangerous attraction to numerous ATV users
- removed the frightening possibility of catastrophic flooding
- eliminated a major drowning hazard
- stopped the production of noxious gases that threatened the health of local residents
- checked on-site erosion and eliminated a major source of siltation, and
- improved water quality in some of the state's most important waterways.

Residents in and around the Widen area, as well as those living downstream along Buffalo Creek, are especially thankful that the potential for disastrous flooding has been successfully averted. In addition to the fantastic visual improvements realized by the Abandoned Mine Land's restoration program, local citizens are also quite pleased that all the health and safety problems were eliminated. Because Taylor Creek eventually drains into the Elk River, which serves as a source of recreation and drinking water for thousands of downstream residents in numerous communities along its course, the resulting improvements in water quality had multi-county benefits. These rewards go far beyond those typically realized by most AML reclamation projects.

Attached are six before and after photographs. These pictures further attest to this project's success and plainly display the astounding transformation achieved through successful reclamation. Captions for each photograph are noted below.

Photo #1: August, 1995 aerial view looking westward. The pile's steep slopes with eroding refuse leading down to the dangerous impoundment below are clearly shown. One of this site's more hazardous embankments is just out of sight, near top center of the photo. This impoundment and the adjoining dangerous embankment were eliminated through reclamation.

Photo #2: Aerial view looking westward, showing much of the refuse area. One of the dangerous embankments regularly used by ATV enthusiasts is located next to the small group of trees shown at the photo's lower left center. Also shown is a well-used access road extending through the refuse area, just downstream of the impoundment. All of the refuse material was regraded and stabilized thereby eliminating several health and safety hazards.

III. Reclamation Benefits (continued)

Photo #3: Taylor Creek flowing along the refuse pile's toe, just downstream of the embankment. Notice both the steeply inclined and vertical slopes adjacent to the stream showing clear signs of erosion. Large clinkers (burnt coal) are strewn in the stream channel. Reclamation re-established the stream channel and stabilized outslopes in this area.

Photo #4: Backfilling/stabilization work at the eastern (upstream) end of the subsequently dewatered impoundment. Taylor Creek is shown flowing through the sediment bed of a former "lake" preceding stream channel re-construction.

Photo #5: Nice Fall, 1998 photo of reclaimed refuse slopes near the project's eastern end. The re-constructed channel of Taylor Creek can be seen in the shadow in the photo's lower left center. Also visible is one of the rock riprap ditches (in upper left quadrant of photo) which conveys surface drainage off the slope. The dark lines on the slopes are naturally decaying remains of straw bale sediment/erosion control structures.

Cover Photo - Photo #6: Beautiful post-reclamation aerial view of the project, looking westward toward the Town of Clay. Taylor Creek flows along the reclaimed pile's toe, hidden in the shadows.