

Lower Cheat Watershed Passive Treatment Installation

Project:

Pringle Run - Pase Property Phase II

**September 30th Semi-Annual Report
(For funding period October 1, 2010 to April 30, 2011)**

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The following is a semi-annual report on the status of a passive treatment system installed in the Lower Cheat River Watershed. This report is a product of the cooperative effort of the West Virginia Department of Environmental Protection (WVDEP), the watershed organization, Friends of the Cheat, and the National Mine Land Reclamation Center at West Virginia University.

Pase Property

Phase I of the Pase Project was completed in 2004. The project site is located just outside of Tunnelton, WV, and consists of a vertical flow reactor, a metals collection basin, and an open limestone channel to convey the mine drainage into an existing road culvert. A vertical flow reactor contains two components; the first component is a compost filled pond, which drains from the bottom into an anoxic limestone drain. The purpose for the compost pond is to strip the oxygen from the water as well as obtain sulfate reduction from the bacteria living in the compost substrate. The anoxic limestone drain allows the limestone to treat the acidic drainage without iron oxides coating the limestone.

This project was installed in October of 2004, and was efficient in reducing mine drainage for the first several months. Since then, the system’s performance has decreased. As a result of this decrease, NMLRC, in conjunction with WVDEP and FOC, added additional treatment measures to the system. These treatment measures involved using steel slag to line the channels from the seeps to the compost filled pond. Secondly, additional organic material was added into the pond, which added more bacteria to help break down the mine drainage, as well as rejuvenated the bacteria that were already present. Phase II of the Pase project is needed to continue the improvement of the water quality emanating from this site.

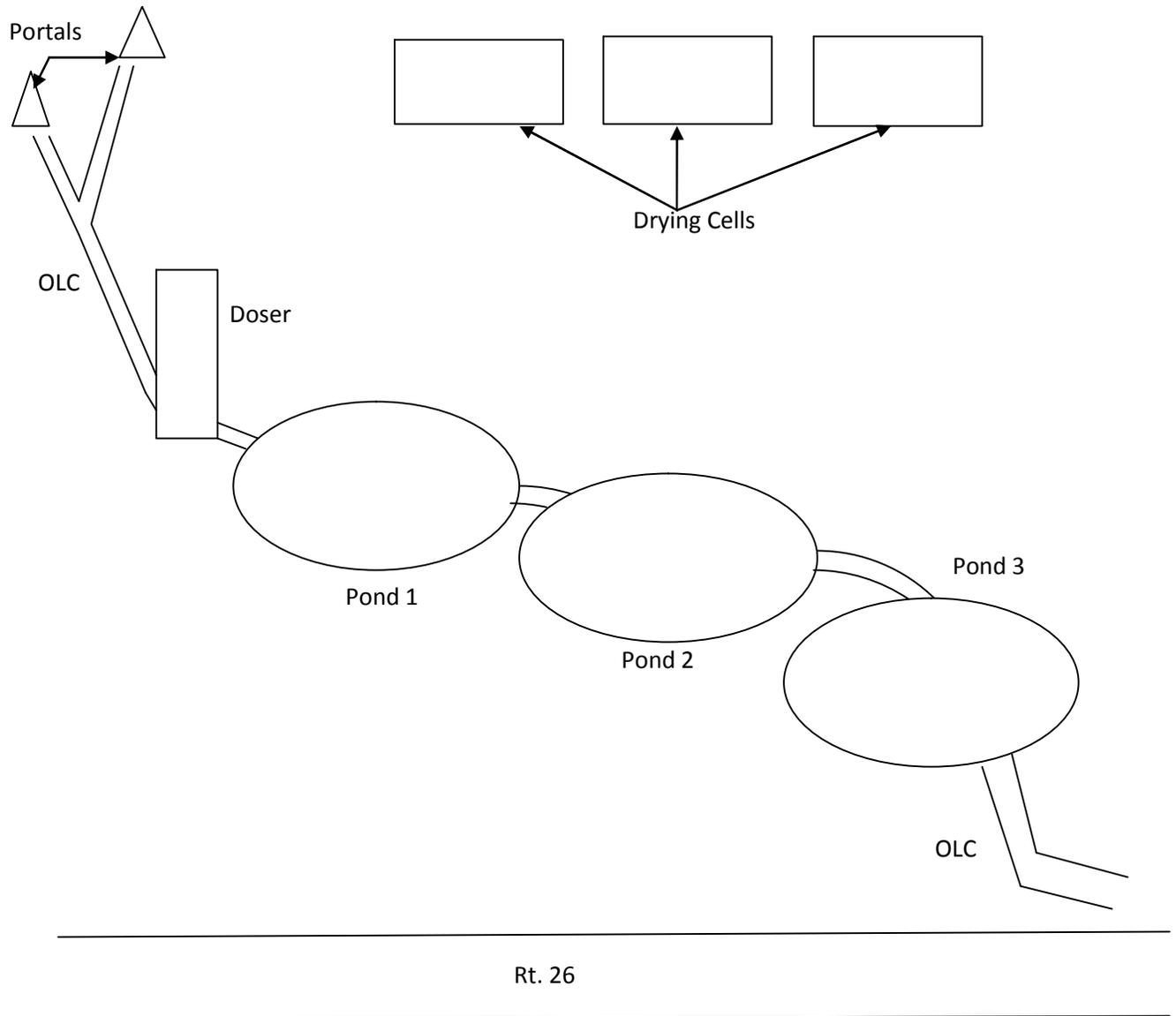
Currently, the treatment system installed during Phase 1 of the Pase project is reducing less acid and metal loads than the amounts that were estimated before construction. While the reductions just from this project currently do not meet the goals set forth in the Cheat River Watershed-Based Plan (WBP) for Pringle Run, Phase II of this project will aid in meeting of the targets specified in the TMDL. The goal of Phase II of this project is to remove 80% of the pre-construction acid and metal loads. Table 1 gives pre-construction loads of acidity and metals with reductions from Phase II of the project as well as the overall acid and metal loads from the Cheat River WBP for the entire Pringle Run watershed.

Table 1. Acid and metal loads related to Phase II of the Pase project.

	Acid load	Fe load	Al load	Mn load
	lbs/yr	lbs/yr	lbs/yr	lbs/yr
Pre-construction	95,600	3,200	8,200	1,200
Estimated Phase II post-construction loads	76,480	2,560	6,560	960
Target loads (all of Pringle Run)	Not calculated	87,200	40,500	9,300

During the reporting period from October 2009 to April 2010, a meeting with Office of Surface Mining was conducted to determine possible changes to the project design at the Pase phase II site. This meeting discussed the advantages/disadvantages of passive treatment and active treatment at the Pase site. The project design was reevaluated due to the information gathered during this meeting. It was decided that active treatment would be used at the Pase site. Figure 1 shows the conceptual design for the Pase site.

Figure 1. Conceptual design for Pase Phase II.



An engineering-pre bid meeting was held in February 2011 and bids were submitted by multiple engineering companies. An engineer has been selected and engineering/surveying is ongoing. Construction will follow directly after engineering, likely in the summer of 2011. Map 1 is a portion of the Kingwood quadrangle detailing the locations of the Pase property passive treatment system in the Pringle Run watershed.

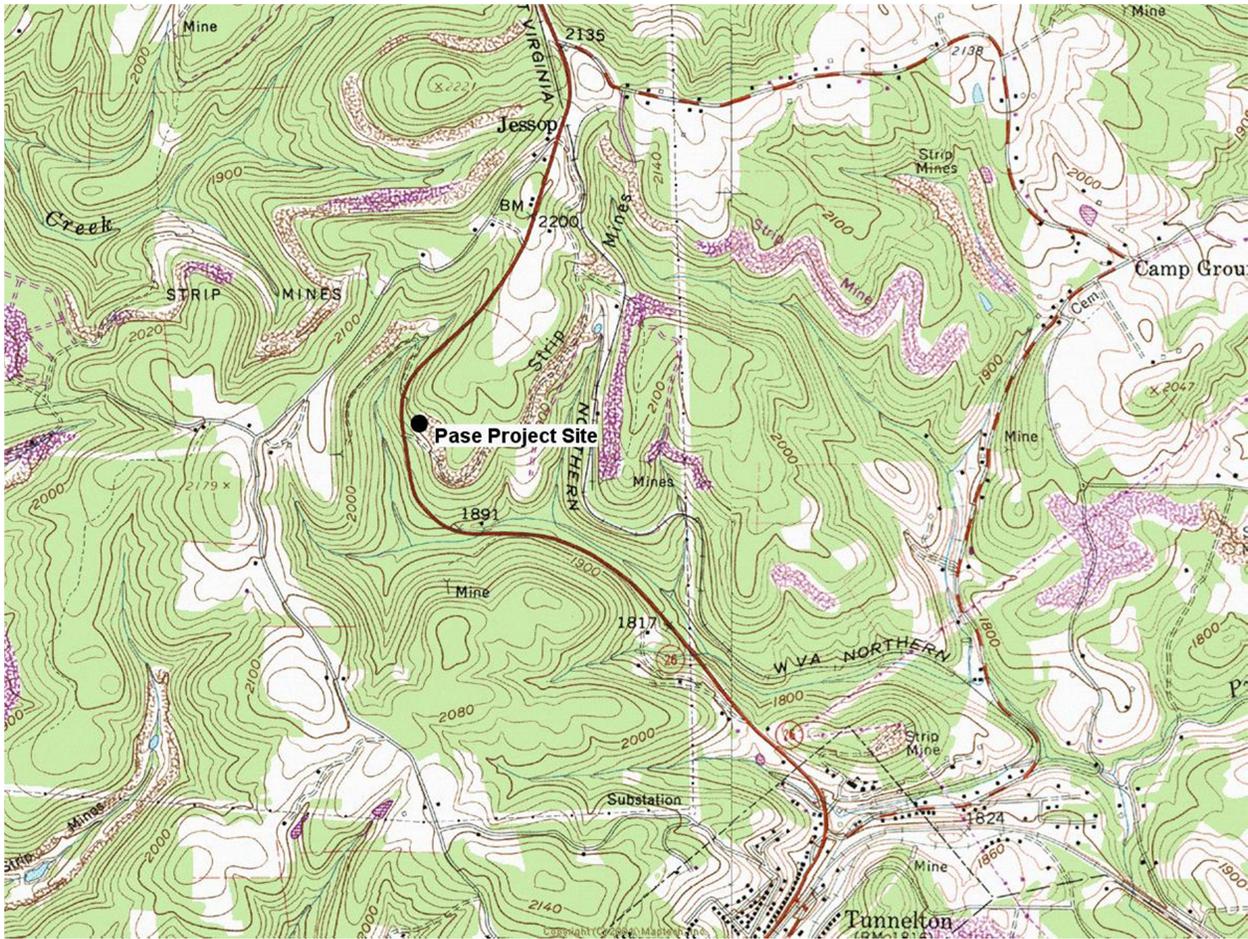


Figure 2. A portion of the Kingwood 7.5' quadrangle that shows the Pase project site as well as the surrounding area.

Table 2 details project milestones and the approximate percentage of completion of each milestone.

Table 2. Project milestones and approximate percentage of completion.

Project milestone	Percent completion
Pre-construction sampling	90%
Surveying/Engineering	10%
Permit Application/Approval	20%
Construction	0%
Post-Construction Sampling	0%

Financial Expenditures

Minimal expenditures were made during the reporting period. Table 3 shows expenses for the reporting period.

Table 3. Financial report for the Pase property Phase II project.

Semi-Annual 319 Financial Report			
Project:	Pase Property Phase II		
NPS #:	_____	Phone:	304-293-2867 x 5445
Fiscal Year:	2008	Fax:	304-293-7822
E-mail:	brady.gutta@mail.wvu.edu		
Grantee:	Friends of the Cheat, Inc.		
Contact:	Brady Gutta		
Reporting period:	4/30/2011	10/01/10	
	To	From	
319 Grant Funds Awarded:	\$150,000.00		
Items for match	Match \$		
None			
Totals	\$0.00		
Request for reimbursement(s) during period	Spent \$		
Salaries	\$1,863.00		
F&A	\$233.00		
Fringe Benefits	\$2,328.00		
Totals	\$4,424.00		
Remaining Balance	\$145,576.00		