

**AMD TREATMENT SYSTEM FORM FOR DATASHED
 AML/AMD REMEDIATION PROJECTS**

Project Name: Maiden Mine AMLIS #: PA-2776
 Latitude: 39.748609 Longitude: -79.964083 Determined by GPS? Y N
 Watershed Name: Dunkard Creek Receiving Stream: Tributary to Dunkard Creek
 USGS Quadrangle: Morgantown North County: Greene County
 Township/City: Dunkard Township

Contact Person/Organization:							
Name:				Address:			
Cliff Denholm				PO Box 837, Slippery Rock, PA 16057			
Telephone Number + Area Code:							
724-279-5080							
Email Address:							
cliff@streamrestorationinc.org							
Organization responsible for operation/maintenance of project if different than above:							
Name:				Address:			
Stream Restoration Incorporated				PO Box 837, Slippery Rock, PA 16057			
Telephone Number + Area Code:							
714-316-9231							
Email Address:							
cliff@streamrestorationinc.org							
Source of AMD:							
Underground	<input checked="" type="checkbox"/>	Surface	<input type="checkbox"/>	Refuse	<input type="checkbox"/>	Oil-Gas well	<input type="checkbox"/>
Treatment System Information:							
Year Constructed:	2006, rehabbed 2025			Total Capital Cost:	\$ 468,910.00		
Was this a Rehabilitation Project?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Date of Original System:	2006	Costs Of Rehabilitation:	\$ 757,929	
Describe Rehabilitation Activities: Rehab of the Maiden passive treatment system included cleaning, repurposing, and reusing ~9,000 tons of limestone from the existing system for use in all VFPs on site, as well as addition of new treatment media, reconfiguration of the oxidation precipitation channel (OPC) into two moats, reconfiguration of the Horizontal Flow Limestone Bed (HFLB) into a Jennings-style mixed-media vertical flow Pond (VFP2C), repairing siphons and fixing other minor issues as needed.							

If this project includes land reclamation as more than 50% of the total cost, what is the estimated cost of the land reclamation? \$ N/A

Primary Funding Partners and Funding Provided	
Source	Amount
Title IV, Appalachian Clean Streams	
PADEP Growing Greener	\$244,240.00
PADEP Other	
PADCNR	
AMD Set Aside Funds	
EPA Section 319	
OSM Watershed Cooperative Assistance Program	\$100,000.00
NRCS	
EPA Watershed Protection	
USCOE	
University	
Bond Forfeiture	
Reclamation in Lieu of Penalty	
Consent Order	
Foundation for PA Watersheds	
Private/Foundation	\$20,000.00
In-kind Contributions	\$343,689.00
Other Funding Partner (Please note)	Greylock Production, \$50,000

Treatment Technology: Select all that apply at the site.				
Treatment System	# of Treatment Cells	Contain Siphon Automatic Flushing		Comments
		Y	N	
Typical methods		<input type="checkbox"/>	<input type="checkbox"/>	
Aerobic Wetland	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1 constructed aerobic wetland (27,900 SF)
Anaerobic Wetland		<input type="checkbox"/>	<input type="checkbox"/>	
ALD		<input type="checkbox"/>	<input type="checkbox"/>	
Limestone Sand Dosing		<input type="checkbox"/>	<input type="checkbox"/>	
Diversion Well/Mechanical Limestone Addition		<input type="checkbox"/>	<input type="checkbox"/>	
Oxic Limestone Drain (OLD)		<input type="checkbox"/>	<input type="checkbox"/>	
Oxic Limestone Channel (OLC)		<input type="checkbox"/>	<input type="checkbox"/>	
Low pH Fe Oxidation Channel	2	<input type="checkbox"/>	<input type="checkbox"/>	The previous existing 1,200 linear foot OPC was deepened and converted to 2 long moats flowing in a series to convey water and facilitate settling, similar to two long settling ponds.
Limestone Pond (<i>Specify UP, DF or HF under comments</i>)	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Limestone-only, siphon-based, auto-flushing, DF VFPs (VFP1, VFP2B, and VFP3)
SAP (<i>Specify UP, DF or HF under comments</i>)		<input type="checkbox"/>	<input type="checkbox"/>	
Bio-Reactor (<i>Specify UP, DF or HF under comments</i>)		<input type="checkbox"/>	<input type="checkbox"/>	
VFP (<i>Specify UP, DF or HF under comments</i>)	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2 Jennings-style, mixed media, VFPs (VFP2A and VFP2C) described in more detail in the 2025 Maiden PTS Final Report Narrative.
Manganese Removal Bed		<input type="checkbox"/>	<input type="checkbox"/>	
Pyrolusite Bed		<input type="checkbox"/>	<input type="checkbox"/>	
Settling/oxidation Pond	2	<input type="checkbox"/>	<input type="checkbox"/>	2 settling ponds from the original Maiden system remained the same.

UF = Upflow

DF = Downflow (like in a traditional SAP)

HF = Horizontal Flow

Other Methods	Comments
Well Plugging	
Steel Slag	
Land Reclamation to cover toxic material or prevent water infiltration.	
In-Situ Treatment <i>(Include type under comments)</i>	
Chemical Addition Treatment Plant <i>(Include Chemical used under comments)</i>	
Lime Doser <i>(Include Chemical used under comments)</i>	
Mechanical Aeration <i>(Include type under comments)</i>	
Others <i>(discuss in comments)</i>	

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Project Designer:			
Donovan Clayton			
Organization:			Telephone Number + Area Code:
BioMost, Inc.			724-776-0161
Water Information:			
	Inflow	Outflow	Load Reductions (lbs/day)
Flow (gpm)	96	116	
pH	2.56	7.5 Field, 5.75 Lab	
Total Iron (mg/L)	35.50	0.57	45.6
Ferrous Iron (mg/L)	not measured	not measured	not measured
Hot Acidity (mg/L)	290	12	409.2
Alkalinity (mg/L)	0	10	
Total Aluminum (mg/L)	17.6	1.4	25.5
Total Manganese (mg/L)	3.4	4.7	NA
Date of Collection	8/26/2025	8/26/2025	8/26/2025

If more detailed water quantity and quality data is available, please provide the following:	
Contact:	Stream Restoration Incorporated
Telephone:	724-279-5080
Email:	sri@streamrestorationinc.org

If receiving stream or macroinvertebrate information is available please provide the following:		
Contact:		
Telephone:		
Email:		
Comments: <i>(specific to O&M; performance; impact on receiving stream. Include date of inspection and name and telephone number of person making comment)</i>		
Date	Name	Telephone Number + Area Code
Comment:		

Any links specific to this watershed that should be included?	
Web Address	

Send to your DEP Project Advisor with your Final Report Paperwork: One digital copy of the AMD Treatment System Form for Dashed, the Operational, Maintenance and Repair/Replacement (O, M & R) Plan that includes the “as-built” drawings and site schematics in PDF, and any water quality information in EXCEL format.