

Publicly Funded Mine Drainage Treatment or Abatement Project Information Sheet  
**General Project Information**

Project Name and or No.: Reed BF 445-203.1  
Location: Municipality and County: Clarion Twp. Clarion Co.  
Watershed: Lower Clarion River Watershed - 17B  
USGS Quadrangle: Strattanville, PA  
Latitude and Longitude: 41° 13' 05.85" -79° 19' 33.89"

PA-068

**Contact Information**

Contact Organization: PADEP BAMR  
Contact Person: David J. Fromell, P.E.  
Contact Address: 5th Floor, Rachel Carson State Office Building  
400 Market Street  
Harrisburg, PA 17105  
Contact Telephone Number: 717-783-5646  
Contact Email: dfromell@state.pa.us

**Organization Currently Responsible For Project Operations, Monitoring and Maintenance**

Is this organization different from Contact Organization? Same  
Organization Name: \_\_\_\_\_  
Organization Contact Name: \_\_\_\_\_  
Organization Contact Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Organization Telephone Number: \_\_\_\_\_  
Organization Email: \_\_\_\_\_

**Site Information**

Who owns the property the project is constructed upon?

1. Helen J. Williams, PO Box 75, Strattanville, PA, 16258, (814) 764-3747, (863) 993-1614; 2. Evelyn J. Theiss, Box 193, Strattanville, PA, 16258-0193, (814) 764-3267; 3. Lancy Lee & Eunice M. Theiss, 56 Chevy Lane, Clarion, PA, 16214-9801, (814) 764-3221 (H), (814) 764-6294 (W)

Driving Directions to the Project Site (from an easily identifiable reference point):

Project is located approximately 1.0 mile north of the Borough of Strattanville & the intersection of US Route 322 & SR 1011, on the west side of Township road T-572 (Millcreek Road), in Clarion Township, Clarion County

Special instructions for entry to the site (gates, keys, notifications or permissions, etc.):

Site is not gated.

Is there a perpetual access agreement for monitoring and O&M?

☒ Yes ☐ No

Is the site readily accessible (by 2WD vehicle)?

☒ Yes ☐ No

Was project completed as part of an overall watershed restoration plan?

☐ Yes ☒ No

Is the plan available electronically?

☐ Yes ☒ No

Could you provide the DEP a copy of the plan?

☐ Yes ☒ No

Is a copy of the plan attached?

☐ Yes ☒ No

Project Description (Describe the treatment system including each individual component):

4-acre passive treatment system to collect & treat AMD discharges from the reclaimed Glacial Minerals, Inc., Reed Mine site. The project basically consists of one Limestone Buffered Organic Substrate Pond

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(LBOS), an Alkaline Recharge Trench, some ditching, subsurface drains, and grading. The system collects approximately 150 gallons per minute (average) from two locations and directs the AMD to the treatment pond. Flow enters the LBOS directly from RAW#1 & indirectly from RAW#2. Surface runoff is diverted with ditching. Flow from RAW#2 first enters a separate, unlined settling pond before entering the LBOS. Flows from RAW#1 & RAW#2 are not measured. Water flows downward through the LBOS matrix and then out through 5 inline water level control structures (LBOS1 through LBOS5). Each control structure regulates its own separate zone. Flow can be measured from each LBOS outlet using a bucket & stopwatch. The LBOS is completely lined with PVC. Flow from LBOS1 enters an unlined pond and outlets into a ditch. Flows from LBOS2, LBOS3, LBOS4, & LBOS5 enter a ditch and merge with flow from LBOS1. The treated AMD is discharged to the adjacent small UNT to the Clarion River.

#### Pre-Construction Discharge Flow and Monitoring Data

Is data available electronically? ☒ Yes ☐ No  
In what format? Microsoft Excel ☒ Access Database ☐ Other (specify) MS Word, AutoCAD  
Indicate how flow was measured: V-notch Weir & bucket & stopwatch.  
Indicate laboratory that analyzed samples (or whether field kits were used)  
DEP Labs (Pre-construction SIS Project ID's: STRATTAN and BF445101.2).  
Could you provide this data to the DEP? ☒ Yes ☐ No  
Is a copy of the data attached? ☐ Yes ☒ No

#### Pre-Construction Receiving Stream Flow and Monitoring Data

Is data available electronically? ☐ Yes ☒ No  
In what format? Microsoft Excel ☐ Access Database ☐ Other (specify) Not available  
Indicate how flow was measured: Receiving stream (UNT to Clarion River) flow not being measured  
Indicate laboratory that analyzed samples  
Were any biological or fish surveys completed? ☐ Yes ☒ No  
Could you provide this data to the DEP? ☐ Yes ☒ No  
Is a copy of the data attached? ☐ Yes ☒ No

#### Treatment System Design Information and Criteria

Who or what firm completed project design? (Include name, address, phone, email and contact person, if available): Steven L. Golembiewski Jr., P.E.

PADEP BAMR

Rachel Carson State Office Building, 400 Market Street, Harrisburg, PA 17105  
717-783-7949, email: stgolembie@state.pa.us

Are digital photographs of the site before, during and/or after construction available? ☒ Yes ☐ No  
Was there a Specific Restoration or Treatment Goal for this treatment system? ☒ Yes ☐ No  
If yes, please describe the goal: Treatment was part of the Bond Forfeiture reclamation requirements.  
The goal was to improve the water quality of the AMD discharge in terms of pH, alkalinity, and metals.  
What is the Design Flow Rate? 150 gpm

Other design criteria (retention time, acidity loading or removal rate, metals loading or removal rate, alkalinity generation rate, etc.) LBOS design based directly upon the 2002 doctoral research of Dr. Robert Carl Thomas, "Passive Treatment of Low pH, Ferric Iron-Dominated Acid Rock Drainage".  
Estimated lifespan > 10 years. Key component: fine limestone particles uniformly distributed within an organic matrix.

Does the treatment system take all of the flow or is some of the flow bypassed?  
All of the flow that could be intercepted is being treated.

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## Plans and Specifications:

As-Bid Project Drawings and Technical Specifications

Is this information available electronically?

☒ Yes ☐ No

Could you provide the DEP a copy of the plan?

☒ Yes ☐ No

Is a copy attached?

☐ Yes ☒ No

As-Built Drawings

Is this information available electronically?

☐ Yes ☒ No

Could you provide the DEP a copy of the plan?

☐ Yes ☒ No

Is a copy attached?

☐ Yes ☒ No

## Construction and Project Funding Information

What year was the project constructed? 2008

When (specific date) did project construction begin? 02/09/2007

When (specific date) was project construction completed? 05/19/2008

Who was the Construction Contractor? (Name, Address, Phone, email, contact person)

Quality Aggregates, Inc., 200 Neville Road, Neville Island, PA 15225-1620, 412-777-6703, Joseph Aloe, President

When (specific date) did the treatment system go on-line? 05/07/2008

### Primary Funding Partners, and funding provided:

Source	True or false	Amount
Title IV, Appalachian Clean Streams	<u>False</u>	<u>0</u>
PADEP Growing Greener	<u>True</u>	<u>\$1,084,305.96</u>
10% AMD Set Aside Funds	<u>False</u>	<u>0</u>
EPA Section 319	<u>False</u>	<u>0</u>
OSM Watershed Cooperative Assistance Program	<u>False</u>	<u>0</u>
NRCS	<u>False</u>	<u>0</u>
EPA Watershed Protection	<u>False</u>	<u>0</u>
USCOE	<u>False</u>	<u>0</u>
University	<u>False</u>	<u>0</u>
Private/Foundation	<u>False</u>	<u>0</u>

How or by whom was treatment system construction funded or other funding not included in the table?

Source	Amount
<u>APPRO. 695 - BF RESTRICTED BOND</u>	<u>\$85,270.91</u>

## Post Construction Operation, Monitoring and Maintenance

Is there a Sampling and Monitoring Plan?

☒ Yes ☐ No

Is the plan available electronically?

☒ Yes ☐ No

Is a copy of the plan attached?

☐ Yes ☒ No

Is treatment system currently being sampled and monitored?

☒ Yes ☐ No

If so, by whom? PADEP BAMR Staff

Approximately how many hours per year are spent doing O,M&M for this system? 50

Where are samples being analyzed? (Name, Address, Phone, email, contact person)

PA DEP Labs

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If DEP Lab is being used, what is the project ID and the Sample Information System (SIS) monitoring point IDs?

Project ID: BF445-203.1 Monitoring Point Alias: RAW#1, RAW#2, LBOS1, LBOS2, LBOS3, LBOS4, LBOS5, D1, POND1, D2

Is there an Operation and Maintenance Plan?

☒ Yes ☐ No

Is the plan available electronically?

☒ Yes ☐ No

Could you provide the DEP a copy of this information?

☒ Yes ☐ No

Is a copy of the information attached?

☐ Yes ☒ No

Comments on the treatment system: Operating very well as of 12/22/2008

## Post- Construction Discharge Flow and Monitoring Data

Is the data available electronically?

☒ Yes ☐ No

In what format? Microsoft Excel ☒ Access Database ☐ Other(specify) \_\_\_\_\_

Indicate how flow was measured: Bucket & Stop Watch

☒ Yes ☐ No

Could you provide the DEP a copy of this information?

☐ Yes ☒ No

Is a copy of the information attached?

## Post-Construction Receiving Stream Flow and Monitoring Data

Is the data available electronically?

☐ Yes ☒ No

In what format? Microsoft Excel ☐ Access Database ☐ Other(specify) Not available

Indicate how flow was measured: Receiving stream (UNT to Clarion River) flow not being measured

☐ Yes ☒ No

Could you provide the DEP a copy of this information?

☐ Yes ☒ No

Is a copy of the information attached?

☐ Yes ☒ No

Were any biological or fish surveys that were completed on the receiving stream?

## Treatment System Maintenance and/or Rehabilitation

Has rehabilitation work been performed at the site?

☐ Yes ☒ No

True(yes) or false(no): \_\_\_\_\_

If yes, please list the rehabilitation activity. \_\_\_\_\_

If yes, please list the date of rehabilitation. \_\_\_\_\_

If yes, please list the rehabilitation cost. \_\_\_\_\_

What routine or non-routine maintenance issues have arisen since system was put online?

Adjusting AgriDrain stop logs & water monitoring.

How was maintenance work funded?

AML non-water. Also Cambria Office Staff.

What routine or non-routine maintenance is currently needed or anticipated in the next 1-3 years?

Bio-Reactor systems should require little maintenance, other than adjusting AgriDrain stop-logs and occasionally flushing pipes.

## Other Comments

Electronic Links to system information:

\\Epencofs02\BAMR\Active Project WS\HBG CO\Steve Golembiewskis Share\Field Trip Photos\BF 4 45 203.1

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\\Epercfs02\BAMR\Active Project WS\HBG CO\Steve Golembiewskis Share\Operation And Maintenance\BF 445 203 1\Public

**Person(s) Completing this Form (Name, Address, Phone, email, Date Completed):**

Steven L. Golembiewski Jr., P.E.

5th Floor, Rachel Carson State Office Building, 400 Market Street, Harrisburg, PA 17105

717-783-7949

stgolembie@state.pa.us

Form completed 12/23/2008

**Is there any other person, company or organization that should be contacted for information about this treatment system or the information requested in this form?**

(Include Name, Address, Phone, email, etc):

Steve Golembiewski or Dave Fromell