COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Growing our Economy
Growing our Communities
Growing Greener

Growing Greener
Goals and Accomplishments Worksheets

Project Name Klondike AMD Treatment Project

Project Number _____ County Cambria

State Watershed Plan Name and Code _____
(e.g., Clark-Paxton Creeks – 7C)

Date Prepared 11 / 13 / 2008 (month/day/year)

This Report is *(choose one)*:

☐ Project Goals

☒ Project Accomplishments *(to be submitted with final report)*

Project Type *(check all that apply)*

☐ Organization of a Watershed Group *(fill out Sheet A*)*

Watershed Assessments and Development of Restoration and/or Protection Plan
(check all that apply and fill out sheet B)*

- ☐ AML/AMD
- ☐ Non-Point Source
- ☐ Assessment
- ☐ Development of Restoration Plan
- ☐ Development of Protection Plan

Implementation of Watershed Restoration and/or Protection Project
(check all that apply and fill out Sheets C, D, E, F, and G)*

- ☒ AML/AMD
- ☐ Oil and Gas
- ☐ Non-Point Source
- ☐ Restoration
- ☐ Protection

☐ Demonstration *(fill out Sheet H*)*

☐ Education/Outreach *(fill out Sheet I*)*

*Please fill out all the appropriate information on the sheets corresponding to your project type. Leave blank any sheets or information on the sheets that do not apply to your specific project. If you have any questions call the Grants Center at 717-705-5400.

Organization of a Watershed Group

Name of Group _____

Watershed Area _____ Acres

Membership _____ Number

Meetings Held _____ Number Held

_____ Attendance

Mission Defined ☐ Yes ☐ No

Incorporation ☐ Yes _____ Date

☐ Applied _____ Date

☐ No

Non-Profit Status ☐ Yes _____ Date

☐ Applied _____ Date

☐ No

Officers Elected ☐ Yes ☐ No

Strategic Plan Developed ☐ Yes ☐ No _____ Date

Newsletter _____ Number Printed

Brochures _____ Number Printed

Webpage _____ Web Address

Other Outreach ☐ Describe in Narrative

Describe Activities to date for your organization:

Watershed Assessments and Development of Watershed Restoration and/or Protection Plans

Area Assessed _____ acres

Stream Reach _____ feet

☐ Data Gathered _____ briefly describe

☐ Monitoring Measurements _____ type

☐ Maps Developed _____ number/type

☐ Surveys Completed _____ type

☐ Fish Identified _____ species

☐ Macroinvertebrates Identified _____ species

☐ Riparian Buffers Restored _____ feet planned

☐ Riparian Buffers Protected _____ feet planned

Stations Monitored: Chemistry _____ #/frequency

Biology _____ #/frequency

Problems Identified: ☐ AMD ☐ Trash ☐ Point Source Pollutants

☐ Erosion & Sedimentation ☐ Stormwater ☐ Temperature

303D Listed ☐ Yes ☐ No

Chapter 93 designation _____

☐ Nutrient Assessed _____ list below

☐ Frequency of Monitoring _____ describe

☐ Stream Corridors Restored _____ feet planned

☐ Stream Corridors Protected _____ feet planned

☐ Education/Outreach _____ describe

☐ TMDL Completed _____ describe

☐ Public Input _____ describe

Sheet B

Describe your project activities to date:

Receiving Stream Little Laurel Run, Cambria County, Gallitzin-Dean Twps. name/location

Receiving Stream Benefits

Upstream Quality		Downstream Quality	
Before	**After**	**Before**	**After**
Iron 5.5	13.5 mg/L	Iron 7.5	6.0 mg/L
pH 3.62	3.06 S.U.	pH 3.34	4.57 S.U.
Acid 63	96 mg/L as $CaCO_3$	Acid 66	73 mg/L as $CaCO_3$
Alk 0	0 mg/L as $CaCO_3$	Alk 0	0 mg/L as $CaCO_3$
Al 4.0	3.3 mg/L	Al 3.4	3.7 mg/L
Mn 3.9	7.6 mg/L	Mn 5.6	6.8 Mg/L

AMD Treatment

☐ Anoxic Limestone Drain _____ tons Limestone(LS)

☒ Successive Alkalinity Producing System (SAP)
2695 tons (LS) ? tons organic matter

☐ Wetlands _____ aerobic acres
_____ anaerobic acres

☐ Diversion Wells _____ #
_____ total LS capacity

☒ Settling Ponds 4# 330 capacity (gpm)

☒ Limestone Channel 200 ft. OLC _____ ft. MOLC

☐ Limestone Dosing/Dumping _____ tons LS

☐ Reverse Alkalinity Producing Systems _____ #

☐ Bactericide Remediation _____ lbs/acre

☐ Beneficial Use of Dredged Material _____ tons

☐ Manganese Oxidizing Bacteria Systems _____ #

Total Treated Flow Rate

166 gpm average 664 gpm high

Predicted lifespan of system 25 years

Sludge Capacity 25 years

Contaminants removed/Contained by system (average)

Iron 30 ppd Al 1.4 ppd

Mn _____ ppd Acid 166 ppd

Excess Alkalinity added 56 ppd

pH change 3.5 influent 5.8 effluent

AML

☐ Openings Closed _____ #

☐ High Walls Removed _____ Feet

☐ Land Remined _____ Acres

☐ Wildlife Habitat Improved _____ Acres

☐ Trees Planted _____ #

☐ Sealing Mine Portals _____ #
_____ wet or dry seal

☐ Revegetation _____ acres

☐ Grout Injection _____ tons

☐ Mine Capping _____ acres

Oil and Gas

Wells Plugged _____ #

Total Flow Before _____ gpm

Total Flow After _____ gpm

Contaminants Removed/Prevented

Iron _____ (ppd) pounds per day

Acidity _____ (ppd)

Alkalinity _____ (ppd)

Wildlife Habitat Created _____ acres

Describe Activities to Date: Two passive treatment systems, KL-1 and KL-2 have been constructed to treat two abandoned mine discharges. KL-1 treats a flow averaging 15 gal/min with pH 3.3, 380 mg/L acidity and 137 mg/L Fe. KL-2 treats a discharge with a flow averaging 166 gal/min with pH 3.6, 51 acidity and 5.4 mg/L Fe. KL-2 is releasing distinctly net alkaline water. KL-1 is removing most of the aicidty and Fe, but has had some difficulty with Fe precipitation on the compost. Modifications have been made to correct this problem.

Sheet C

Name of Project: _____

Sheet D

Non-Point Agricultural

Farmstead/Barnyard

Manure Storages:

	Number	Cubic Feet	AEUs
Dairy			
Beef			
Swine			
Poultry			

Latitude _____ Longitude _____

Barnyard runoff controls:

Built with manure storage _____ number

Built without manure storage _____ number

Curbing _____ feet

Roof Gutters _____ feet

Buffer Strips _____ feet

Other (Describe)

Upland

Soil Conservation Plans Developed

On conventional cropland _____ acres

On hayland _____ acres

On pasture _____ acres

Grazing land _____ acres protected

No till _____ acres protected

Cover crops planted _____ acres planted

Nutrient management plans _____ acres

Waterways _____ feet

Diversions/Terraces _____ feet

Pesticide management _____ acres

Wildlife land improved _____ acres

Woodland improved _____ acres

Stream Fencing _____ feet

Stabilized Crossings _____ #

Latitude _____ Longitude _____

Streams/Wetlands

Measures on Separate pages

Describe your implementation activities to date:

Name of Project: _____

Non-Point Other

Stormwater

Latitude _____ Longitude _____

Extended dry detention basin	_____	number	_____	drainage area	Sediment Ponds	_____	number
Wet detention pond	_____	number	_____	drainage area	Septic Pumping	_____	number
Conversion of dry retention to wet	_____	number	_____	drainage area	Home Septic		
Pond-wetland system	_____	number	_____	drainage area	Denitrification installed	_____	number
Stormwater wetland	_____	number	_____	drainage area	Septic systems connected		
Sand Filter	_____	number	_____	drainage area	to WWTP POTW	_____	number
Infiltration Swale	_____	number	_____	drainage area	Nutrient Management	_____	acres
Porous Pavement	_____	number	_____	drainage area	Dirt/Gravel Road Maintenance	_____	feet
Roof Water Management	_____	number	_____	drainage area	Road Bank Stabilized	_____	ft^2

Operation & Maintenance (describe below)

Other (describe below)

Other BMP

Measures on separate pages

Streams/Wetlands

Sheet E

Describe your implementation activities to date: (Advise if your improvements are new construction, replacements, or changes to existing systems)

Streams

Name of Project: _____ **303D Listed** ☐ Yes ☐ No

Chapter 93 Designation
☐ WWF ☐ CWF ☐ TSF
☐ HQ ☐ EV

Riparian buffers installed _____ length (ft) _____
avg width (ft) _____ _____ type (trees, shrubs, grasses)
(Report both sides of stream if appropriate)

Latitude _____ Longitude _____

Prior land use where established _____ type

Filter Strips installed _____ length (ft) _____ avg width (ft)

Land use where established _____ type

Stream bank protection with fencing _____ length (ft) _____ avg. width (FT)

Stream bank protection without fencing _____ length (ft) _____ avg. width (FT)

Sheet F

Barerooted plantings ☐ _____ type/species (trees, shrubs, grasses)

Container grown plants ☐ _____ type/species (trees, shrubs, grasses)

Protected root stock ☐ _____ type/species (trees, shrubs, grasses)

Weed control ☐ _____ type/species (trees, shrubs, grasses)

Invasive species removed ☐ _____ type/species (trees, shrubs, grasses)

Dams removed _____ number _____ length (ft) _____ height (ft)

Fluvial Geomorphology (FGM) _____ (ft)

Stream channel restoration _____ length (ft)

Fish structures _____ number _____ type

Rootwads ☐ _____ length

J-hook vanes _____ ☐ _____ number

Trash removed _____ tons _____ number of sites

Protection Measures Implemented (describe below)

Please describe activities to date: (include sources of technical assistance)

Wetlands

Existing Site Conditions

Are wetlands present on the site? ☐ Yes ☐ No

If present, what are the types and acreages:

Type:	Size:
☐ PEM (palustrine emergent)	
☐ PSS (palustrine scrub/shrub)	
☐ PFO (palustrine forested)	
☐ POW (palustrine open water)	
Total Size:	

Are any water course(s) affected by the project? ☐ Yes ☐ No

If affected, what are the Ch. 93 Classification(s):

☐ WWF (Warm Water Fishery) ☐ CWF (Cold Water Fishery) ☐ TSF (Trout Stocks) ☐ HQ (High Quality) ☐ EV (Exceptional Value)

What is the contributing drainage area to the wetland project (in acres)?

_____ acres

What is the predominant land use in the contributing drainage area?

_____

Are prior Converted Wetlands Areas Present? ☐ Yes ☐ No

Sheet G

Wetland Protection/Restoration/Creation Projects

Hydrogeomorphic Classification of Wetland
(stream areas are considered riverine):

Existing Wetland Acreage Impacted (0.0):		Acreage Restored or created (0.0):	
Type	Size	Type	Size
☐ PEM		☐ PEM	
☐ PSS		☐ PSS	
☐ PFO		☐ PFO	
☐ POW		☐ POW	

Latitude _____ Longitude _____ Latitude _____ Longitude _____

Enhancement/Functional Gain Projects

Hydrogeomorphic Classification of Wetland
(stream areas are considered riverine):

Enhancement Activity Type	Size of area affected (0.0)
☐ Streambank Fencing	
☐ Wetland Fencing	
☐ Exotic/Invasive Sp. Cont	
☐ Hydrologic Manipulation	
☐ Other	

Other Desc.: _____

Latitude _____ Longitude _____

Please describe activities to date:

Demonstration Project

Name of project: _____

Type of project _____

Mining Related ☐ Yes ☐ No

Non-point Related ☐ Yes ☐ No

Demonstrations Held _____ Number

_____ Attendance

Publicity _____ Number

Newspapers _____ Number

Radio Spots _____ Number

TV Spots _____ Number

Internet _____ Number

Magazine Articles _____ Number

Other _____ Number

Describe activities and technologies developed to date for your demonstration project:

Education Project/Outreach

Schools reached	_____	number
Children reached	_____	number
Adults reached	_____	number
Brochures distributed	_____	number
Newspaper articles	_____	number
Radio/TV spots	_____	number
Magazines	_____	number
Web site hits	_____	number
Training sessions held	_____	number
	_____	attendance
Workshops held	_____	number
	_____	attendance

Describe your efforts to date: