

Slippery Rock Watershed Coalition
SR109 PASSIVE TREATMENT SYSTEM FACT SHEET

PA Game Lands No. 95, Washington Township, Butler County, PA

FUNDING SOURCE:

EPA 104(b)(3) Grant

PROJECT PARTICIPANTS:

| | |
|----------------------------------|--|
| Puryear Excavating and Trucking | PA Bureau of District Mining Operations (Knox) |
| Bureau of Mining and Reclamation | PA DEP Northwest Regional Office |
| PA Game Commission | Butler County Conservation District |
| NRCS | WPCAMR |
| PA Fish and Boat Commission | Slippery Rock Watershed Coalition |
| Slippery Rock University | |

COMPLETION DATE:

Major construction completed August 1998
Water Quality Monitoring ongoing: PA DEP - Knox DMO

MATERIALS USED FOR TREATMENT:

166 yd³ of compost (1 foot layer)
450 tons of AASHTO No. 1 limestone (3 foot layer)

WATER COLLECTION AND DISTRIBUTION:

Collection: By check dam and rock lined channel.

Inlet: From the collection system, flow is distributed vertically down through a 1 foot layer of compost and then continues down through a 3 foot layer of AASHTO No. 1 limestone to the underdrain system consisting of 3 rows of 6" perforated Schedule 40 PVC connected to a 6" Schedule 40 PVC manifold of the vertical flow system.

Outlet: Flow from the underdrain system rises vertically through 6" Schedule 40 PVC pipes and is discharged to the retention pond/wetland. The current elevation of the outlet of the pipes creates a 4 foot depth of water above the top of the compost. Discharge from the retention pond/wetland is via a rock lined channel to the stream.

SYSTEM DIMENSIONS (FEET):

| | <u>Length</u> | <u>Width</u> | <u>Depth</u> |
|-----------------------------|---------------|--------------|--------------|
| <u>Vertical Flow System</u> | 144 | 91 | 12 |
| <u>Retention Pond</u> | 70 | 40 | 5 |
| <u>Wetland</u> | 70 | 40 | 3 |

SOIL AMENDMENTS AND SEED MIXTURE:

Birdsfoot trefoil @ 10 lbs/ac; White Dutch clover @ 4 lbs/ac; Reed Canary Grass @ 15

lbs/ac; Winter Wheat cover @ 120 lbs/ac, Aglime @ 10 tons/ac; 10-20-20 fertilizer; straw @ 3 tons/ac

WATER QUALITY (representative):

| | <u>Flow(gpm)</u> | <u>pH</u> | <u>alk(mg/l)</u> | <u>acd(mg/l)</u> | <u>Fe(mg/l)</u> | <u>Al(mg/l)</u> |
|---------------------------------|------------------|-----------|------------------|------------------|-----------------|-----------------|
| <u>Pre-construction: Raw</u> | 14 | 4.9 | 9 | 14 | 3.1 | 0 |
| <u>Post-construction: Final</u> | 12 | 7.5 | 135 | 0 | 0 | 0 |