Remediation Project Descriptive Summary

Name of Project: Cottagetown RAMP

Location (county, township, watershed): Somerset County, Shade Township, Stonycreek River Watershed

Project Description

The proposed project involves modifying an existing non-functioning passive treatment system constructed at the Cottagetown RAMP site. In 1988, this system was constructed to treat a 25 GPM discharge. The proposed modification to the site would be the addition of a passive alkalinity-generating system to make better use of the passive treatment areas already constructed on the site.

Water currently leaving the passive treatment system has approximately the same low ph as the water entering the treatment system. For this reason, the existing passive treatment system is, in effect, useless. The water leaving this treatment system is also very high in iron content. The water exiting the existing system then enters Miller Run, the impacted stream, contaminating its waters with acid and iron.

Both acid and iron have a detrimental effect on aquatic life. Most species of algae can not exist in acidic water, nor can many rooted aquatic plants. Without algae and other plants, many insects and fish have no sources of food. Acid water also affects the blood chemistry of fish. The degree that the fish are affected varies according to the species. Acid waters usually also contain dissolved metals such as aluminum, cadmium, lead and manganese that are harmful to aquatic life. For example, aluminum kills fish by damaging their gills, affecting sodium levels in their blood. Fish eggs are also very susceptible to high acidity levels. Even if the fish are able to survive some levels of pollution, they cannot effectively reproduce. In turn, the population eventually dies out.

Another harmful material contained within mine drainage is iron. Iron particles tend to coat the bottom of the waterways, virtually smothering fish eggs and destroying the habitat of bottom-dwelling organisms by filling the nooks and crannies where most aquatic insects live. Miller Run would obviously benefit greatly from the addition of a passive alkalinity-generating system to the Cottagetown RAMP site. The quality of the water leaving the system would improve due to the resulting increase in the ph of the water. Therefore, the water received by Miller Run would be less acidic, thus improving the overall quality of Miller Run, as well as the wildlife living within it.

The project will be implemented according to the following steps: (please refer to the attached as-built drawing)

Step 1: Pond No. 1 will be expanded to the approximate dimensions of 75' x 140' and will be converted not to an alkalinity generating system by the addition of compost and limestone.

Step 2: The existing diversion, D_1, will be moved slightly to allow for the expansion of Pond No's. 1 and 1A. & Pond 2

Step 3: Pond No. 1A will be enlarged and converted into a ~~sedimentation pond.~~ VFP

Step 4: Additional compost will be added to Pond No. 2

Step 5: The rock present in Pond No. 4 will be removed. This rock will be added to Pond No. 1 if needed.

Expected measurable environmental results include the following: the overall quality of the water leaving the treatment system will be improved because the acidity of the water will be lessened due to counteracting alkalinity generated by this system, the overall visual appearance of the site will be improved, the wildlife habitat will be greatly improved, and Miller Run will be enhanced due to the lesser amounts of acidic water entering it.

As for the relationship of this project to other projects in this watershed, this project is part of the overall SCRIP effort. As stated before, this project is a modification of the existing non-functioning passive treatment system constructed at the Cottagetown RAMP site.

Project Schedule

"Goals and Milestones to be Achieved"

1. Project Design
2. Engineering
3. Contracting
4. Construction Inspection
5. Post-Construction Monitoring

"Time Schedule for Each Goal"

1. Project Design - August 1997
2. Engineering - August 1997
3. Contracting - December 1997
4. Construction / Inspection - March - December 1998
5. Post-Construction Monitoring - March - December 1998

"Responsible Party for each Goal"

The ENGINEERING and DESIGN of this project will be completed by the Pennsylvania Mountain Service Corps. (AmeriCorps) in cooperation with the NRCS and the Somerset Conservation District. CONTRACTING and CONSTRUCTION INSPECTION will be managed by the Conservation District. POST-CONSTRUCTION MONITORING will be performed by the Conservation District as well.

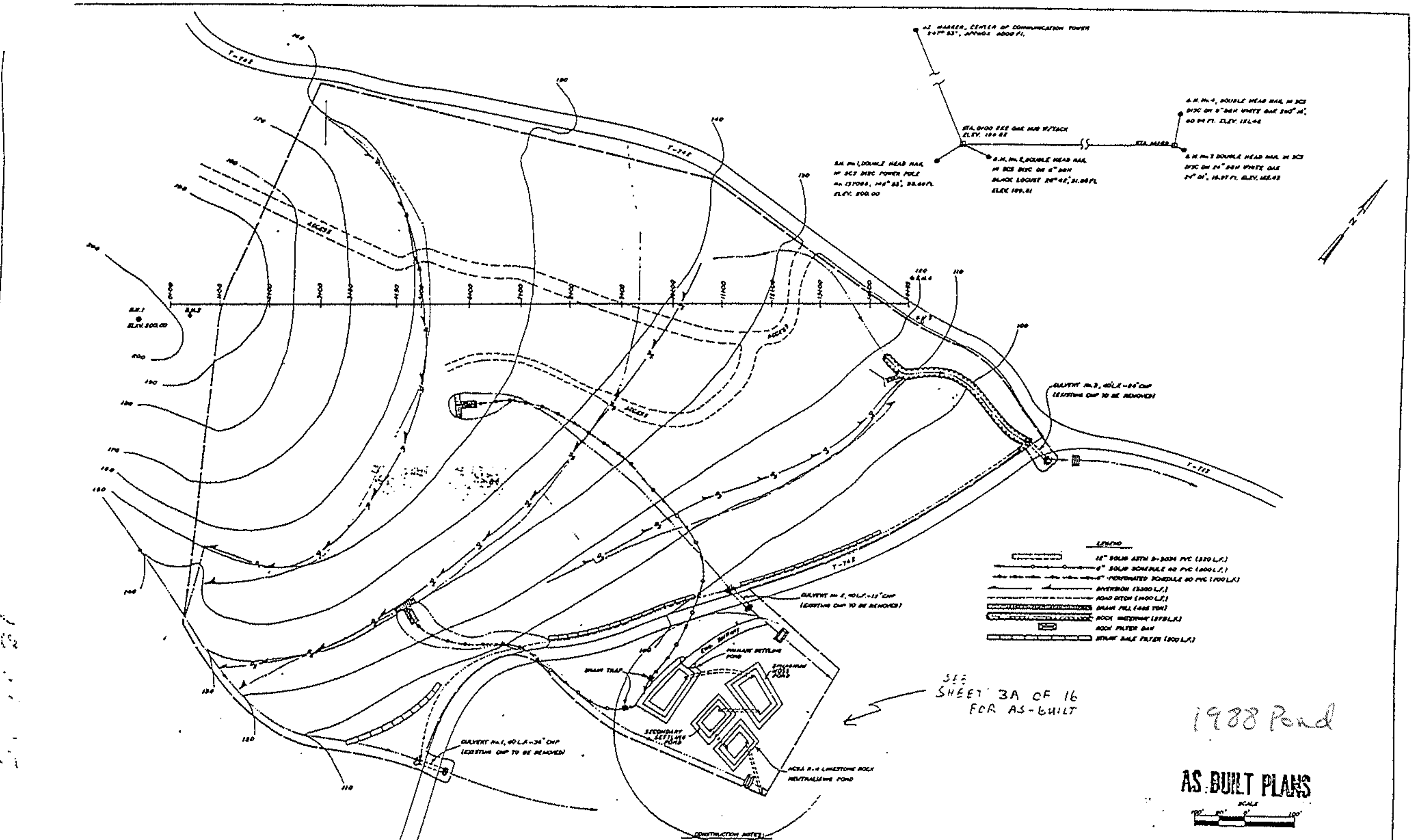
Budget

"Annual Breakdown of Individual Components (e.g. design, construction, monitoring, personnel, administration, etc.)"

Engineering and Design	$0.00
Equipment	$0.00
Supplies	$4,000.00
Construction	$60,000.00
Administration	$6,000.00

"Total of the Budget"

The total proposed budget comes to $70,000.00
The total proposed local match for the project is approximately $23,500.00
The total estimated project cost is approximately $93,500.00



CONSTRUCTION NOTES:

1. ROCK FILTER DAMS AND TREATMENT PONDS SHALL BE CONSTRUCTED BEFORE ANY OTHER WORK IS STARTED.
2. FOR SETTLING POND INFORMATION, SEE DETAIL SHEET 4 OF 11.

AGSA R-4 ROCK			
LOCATION	QUANTITY	BID ITEM	TYPE
3 - DRAIN TRENCHES	73 TONS	No. 10 ROCK FILL	SANDSTONE
TREATMENT POND	380 TONS	No. 10 ROCK FILL	LIMESTONE
ROAD CULVERT No. 1 (INLET AND OUTLET)	20 TONS	No. 10 ROCK FILL	SANDSTONE
ROAD CULVERT No. 2 (INLET AND OUTLET)	30 TONS	No. 10 ROCK FILL	SANDSTONE
ROAD CULVERT No. 3 (OUTLET)	10 TONS	No. 10 ROCK FILL	SANDSTONE
ROCK WATERWAY	343 TONS ROCK (130 TONS ALONG ST BED)	No. 17 WATERWAY ROCK LINED	LIMESTONE
ROCK FILTER DAMS	40 TONS PER DAM	No. 4 POLLUTION CONTROL ROCK FILTER DAM	SANDSTONE

SEEDING MIXTURE

MATERIAL	RATE PER ACRE
TALL FESCUE, KY 31	20 POUNDS
DEER TONGUE, TIOGA	15 POUNDS
BIRDSFOOT TREFOIL, EMP.	6 POUNDS
MULCH	3 TONS OAT OR WHEAT STRAW, OR 4 TONS HAY
LIMESTONE - TYPE NO	16 TONS
FERTILIZER	100 - 200 - 200 POUNDS

FINAL TOPO & PLAN VIEW
COTTAGETOWN R.A.M.P. SITE
SOMERSET COUNTY, PA.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed GARY MILLER 2-82
Drawn GARY MILLER 2-82
Traced R.E. PETERSON 2-82
Checked [illegible]

WILMORE COAL COMPANY

Subsidiary of Berwind Natural Resources Corporation

509 FIFTEENTH STREET
WINDBER, PENNSYLVANIA 15963
(814) 467-4557
FAX: (814) 467-4559

David A. Steele, District Manager
Somerset Conservation District
1590 North Center Avenue, Suite 103
Somerset, PA 15501

February 12, 1997

Re: Cottagetown RAMP Site

Dear Mr. Steele:

Upon your acknowledgement and acceptance of the following terms, this letter will be your authority to enter property owned by Berwind Corporation ("Berwind") and leased to Berwind's affiliate, Wilmore Coal Company, specifically Tract 1099 in Shade Township, Somerset County, to rehabilitate existing acid mine drainage ponds known as the Cottagetown RAMP site. These ponds are located along Township Road 742 as shown on Map No. 3A of 16 attached hereto.

(1) The Somerset Conservation District (SCD) will confine its activities to the area shown in yellow on the attached map.
(2) All disturbed areas will be graded and seeded upon completion of the project.
(3) The SCD will notify Berwind of the beginning and completion dates of work on the project.
(4) Berwind will not be liable for any injuries sustained while work is being performed at the site, and the SCD, its agents, employees and contractors, will indemnify and hold Berwind Corporation and Wilmore Coal Company harmless from and against any claim, loss, damage, expense or liability (including attorneys' fees and other costs incurred in the defense of any claim) resulting to any person or property in or upon said premises by reason of any use which may be made of the premises or any part thereof, or by reason of any act or thing done or omitted to be done in, upon or about the premises or any part thereof.
(5) All work shall be completed by December 31, 1997, unless extended in writing by Berwind.

Please acknowledge and return one copy of this letter agreement before entering the premises.

Very truly yours,

A. T. Sossong
President

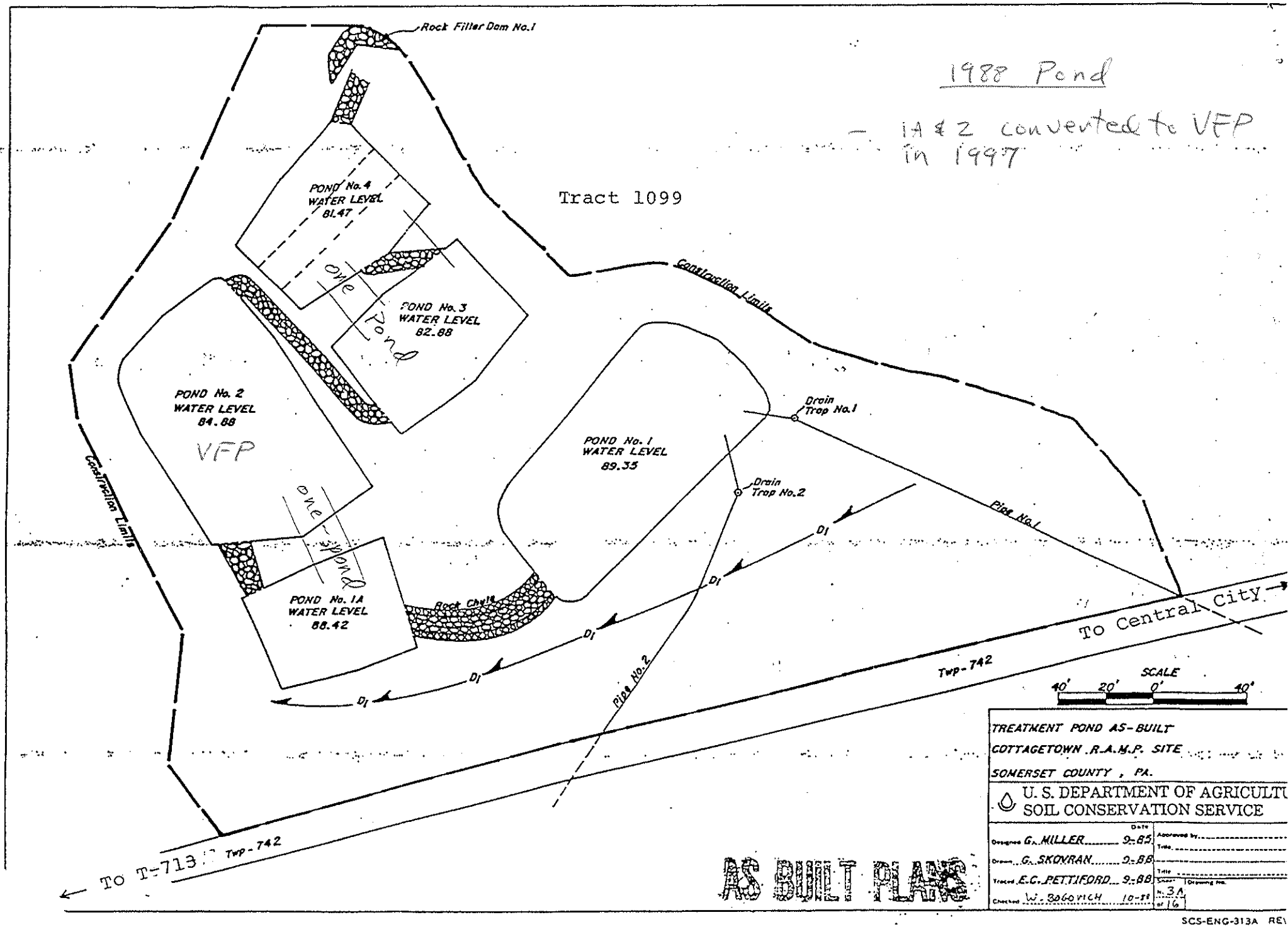
The foregoing terms and conditions are acknowledged and accepted this 18th day of February, 1997:

WITNESS:

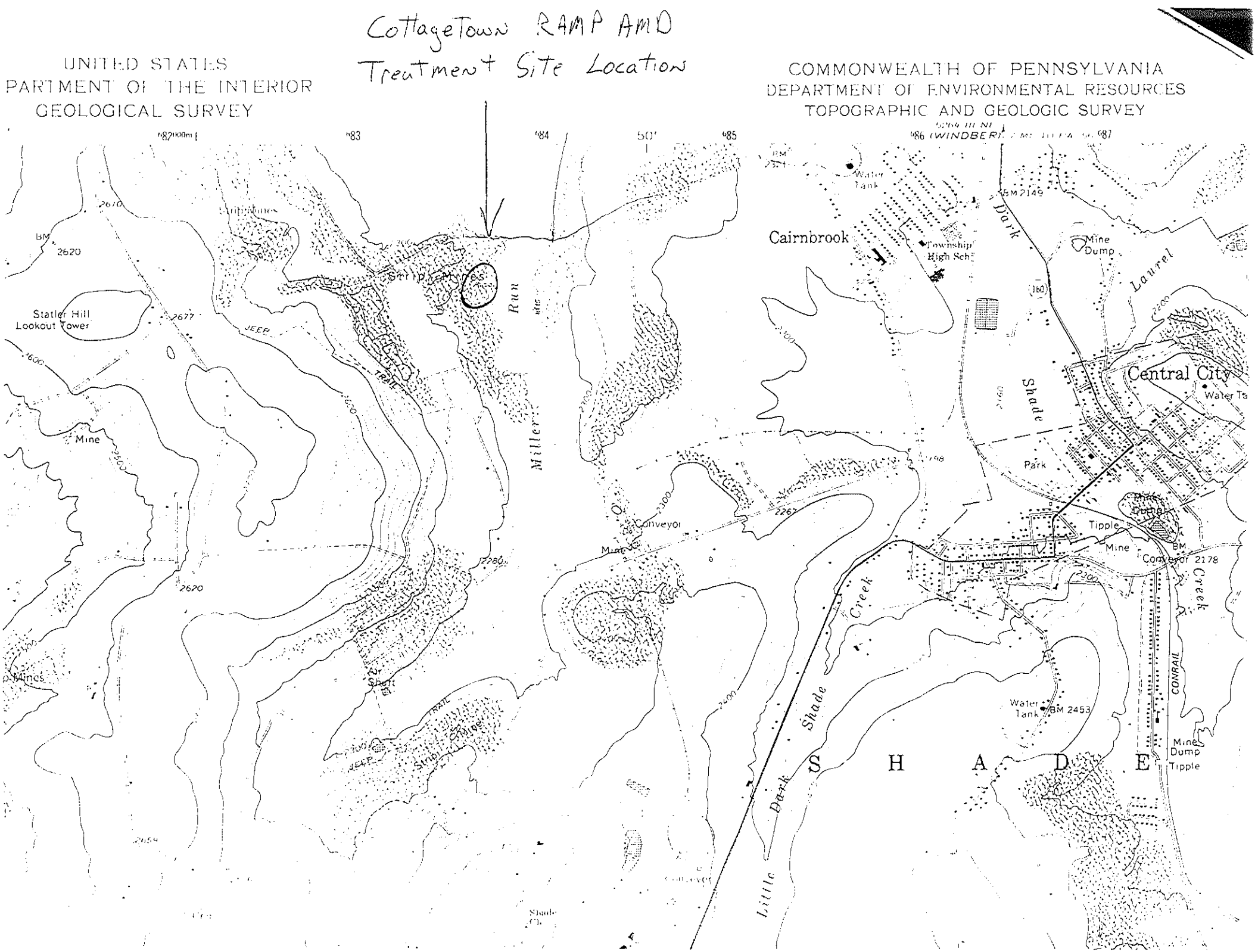
Susan J. Moon

SOMERSET CONSERVATION DISTRICT

By: David A. Steele
Title: District Manager


1988 Pond
- 1A & 2 converted to VFP in 1997
Rock Filter Dam No.1
Tract 1099
POND No.4 WATER LEVEL 81.47
One-Pond
POND No.3 WATER LEVEL 82.88
Construction Limits
POND No.2 WATER LEVEL 84.88
VFP
One-Pond
POND No.1 WATER LEVEL 89.35
Drain Trap No.1
Drain Trap No.2
Pipe No.1
POND No.1A WATER LEVEL 88.42
Rock Chute
Pipe No.2
To Central City
Twp-742
To T-713
Twp-742
SCALE
40' 20' 0' 40'
TREATMENT POND AS-BUILT
COTTAGETOWN R.A.M.P. SITE
SOMERSET COUNTY, PA.
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Designed G. MILLER 9-85
Drawn G. SKOVRAN 9-88
Traced E.C. PETTIFORD 9-88
Checked W. BOGOVICH 10-88
Approved by
Title
Sheet No. 3A of 10
AS BUILT PLANS
SCS-ENG-313A REV

Cottage Town RAMP AMD
Treatment Site Location



d & Cottage Town - Input
CT 01

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

PAGE: 1

LABORATORY REPORT
FOR SAMPLE NUMBER H9639570

RECEIVED 7/23/96
REPORTED 8/14/96

pH 3.8
cond 854
flow. 30 gpm

Before SAP
Construction

COLLECTOR	SO.ALLEGHENIES WATERSHEDS	SAMPLING DATE	7/22/96
COLLECTOR NO.	7441038	SAMPLING TIME	
ESTABLISHMENT	QUEMAHOMING CREEK	STANDARD ANAL	711
CASE NAME	SOMERSET	TYPE CODE	
FACILITY	SHADE TWP	WQN	
ID CODE		STREAM CODE	
		RIVER MILE IND	

TEST	DESCRIPTION	RESULT	CONC	VERIFY	BY	VERIFY DATE
00403	PH LAB	3.3000		G	HWS	7/23/96
00410	T ALK CACO3	0.0000	MG/L	G	HWS	7/23/96
00436	PH4	40.0000	MG/L	G	MRD	8/01/96
00900A	T HARD CACO3	315.0000	MG/L	G	DJD	8/13/96
00945A	SO4 TOTAL	273.0000	MG/L	G	EVC	8/01/96
01045A	FE	12000.0000	UG/L	G	MYM	7/25/96
01047A	FERROUS	5040.0000	UG/L	G	MLB	7/26/96
01055A	MN	3040.0000	UG/L	G	MYM	7/25/96
01105A	AL	9030.0000	UG/L	G	MYM	7/25/96
70508	T ACIDITY HT	144.0000	MG/L	G	MRD	7/25/96

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 10

I N T E R O F F I C E M E M O R A N D U M

Date: 03-Mar-1999 01:27am EST
From: SIS_MANAGER
SIS_MANAGER@DER002@MRGATE@DER0
Dept:
Tel No:

TO: MILAVEC.PAMELA@A1

Subject: FINALRPT:I744102111999538-64.DOC - FINAL REPORT FOR SAMPLE

03/03/1999 12:07:22 AM

Laboratory Report For
Abandoned Mine Reclamation

Sample ID: 7441 538 02/11/1999 Status: COMPLETED

Collector: Southern Alleghenies Watersheds
County: NOT INDICATED
Municipality: NOT INDICATED State:
Location: NOT INDICATED
Reason: Routine Sampling

Laboratory Sample ID: I1999006496
Standard Analysis: 711 BASIC AMD - METALS COMPLETED

Test/CAS#	Description	Reported Results	Completed
00403	PH	4. pH units	02/17/1999
00410	ALKALINITY	0.0 MG/L	02/17/1999
00900	Hardness T	202.092 MG/L	02/19/1999
00916A	CALCIUM T	37.0 MG/L	02/19/1999
00927A	MAGNESIUM T	26.6 MG/L	02/19/1999
00945A	SULFATE T	194. MG/L	02/19/1999
01045A	IRON T	6200.0 UG/L	02/19/1999
01055A	MANGANESE T	2030.0 UG/L	02/19/1999
01105A	ALUMINUM T	2250.0 UG/L	02/19/1999
00530	T SUSP SOLID	<2 MG/L	02/24/1999
70508	HOT ACIDITY	38.0 MG/L	02/24/1999
01047A	FERROUS IRON	200.0 UG/L	02/26/1999

IN Flow

After
SAP
Construction

I N T E R O F F I C E M E M O R A N D U M

Date: 03-Mar-1999 01:27am EST
From: SIS_MANAGER
SIS_MANAGER@DER002@MRGATE@DER0
Dept:
Tel No:

TO: MILAVEC.PAMELA@A1

Subject: FINALRPT:I744102111999539-63.DOC - FINAL REPORT FOR SAMPLE

03/03/1999 12:07:22 AM

Laboratory Report For
Abandoned Mine Reclamation

Page: 001

Sample ID: 7441 539 02/11/1999 Status: COMPLETED

Collector: Southern Alleghenies Watersheds
County: NOT INDICATED
Municipality: NOT INDICATED State:
Location: NOT INDICATED
Reason: Routine Sampling

Laboratory Sample ID: I1999006497
Standard Analysis: 711 BASIC AMD - METALS COMPLETED

Test/CAS#	Description	Reported Results	Completed
00403	PH	7.5 pH units	02/17/1999
00410	ALKALINITY	86.0 MG/L	02/17/1999
00900	Hardness T	292.778 MG/L	02/19/1999
00916A	CALCIUM T	76.9 MG/L	02/19/1999
00927A	MAGNESIUM T	24.4 MG/L	02/19/1999
00945A	SULFATE T	217. MG/L	02/19/1999
01045A	IRON T	830.0 UG/L	02/19/1999
01055A	MANGANESE T	1080.0 UG/L	02/19/1999
01105A	ALUMINUM T	<200.0 UG/L	02/19/1999
70508	HOT ACIDITY	0 MG/L	02/17/1999
00530	T SUSP SOLID	<2 MG/L	02/24/1999
01047A	FERROUS IRON	730.0 UG/L	02/26/1999

Out Flow
After
SAP
Construction