

Project ID: SCRIP

Monitoring Point: DCR1

Coll ID	Date Collected	Initial Flow	Final Flow	Determ Method	pH	pH units	ALK MG/L	HOT A MG/L	FE MG/L	MN MG/L	AL MG/L	SO4 MG/L	TSS MG/L	NA MG/L
4477	119 08/23/2001				2.9		0.0	330.0	8.04	7.46	39.9	289.		
4346	075 10/05/2006				3.1		0.0	176.80	3.44	4.27	18.2	252.4	<3	<3

Project ID: SCRIP

Monitoring Point: DCR1.5

Coll ID	Seq	Date Collected	Initial Flow	Final Flow	Determ Method	pH	pH units	ALK MG/L	HOT A MG/L	FE MG/L	MN MG/L	AL MG/L	SO4 MG/L	TSS MG/L	NA MG/L
4346 076	076	10/05/2006				8.1	127.0	-108.40	<.3	<.05	<.5	242.8	<3		
4346 810	810	12/20/2006	3	3	Est	7.9	117.4	-71.80	<.3	.164	<.5	181.3	<3		
4477 001	001	01/12/2007				7.7	87.2	-62.60	<.3	.215	<.5	154.6	<3		
4346 001	001	04/19/2007				7.0	44.0	-29.40	<.3	.673	1.082	134.2	6.0		
4346 801	801	05/04/2007				8.0	91.0	-58.20	<.3	.211	<.5	167.0	<3		
4346 801	801	06/14/2007	10	10	Est	8.2	106.2	-77.20					12.0		

07/02/2007

Project ID: SCRIP

Module 8.1A By Project

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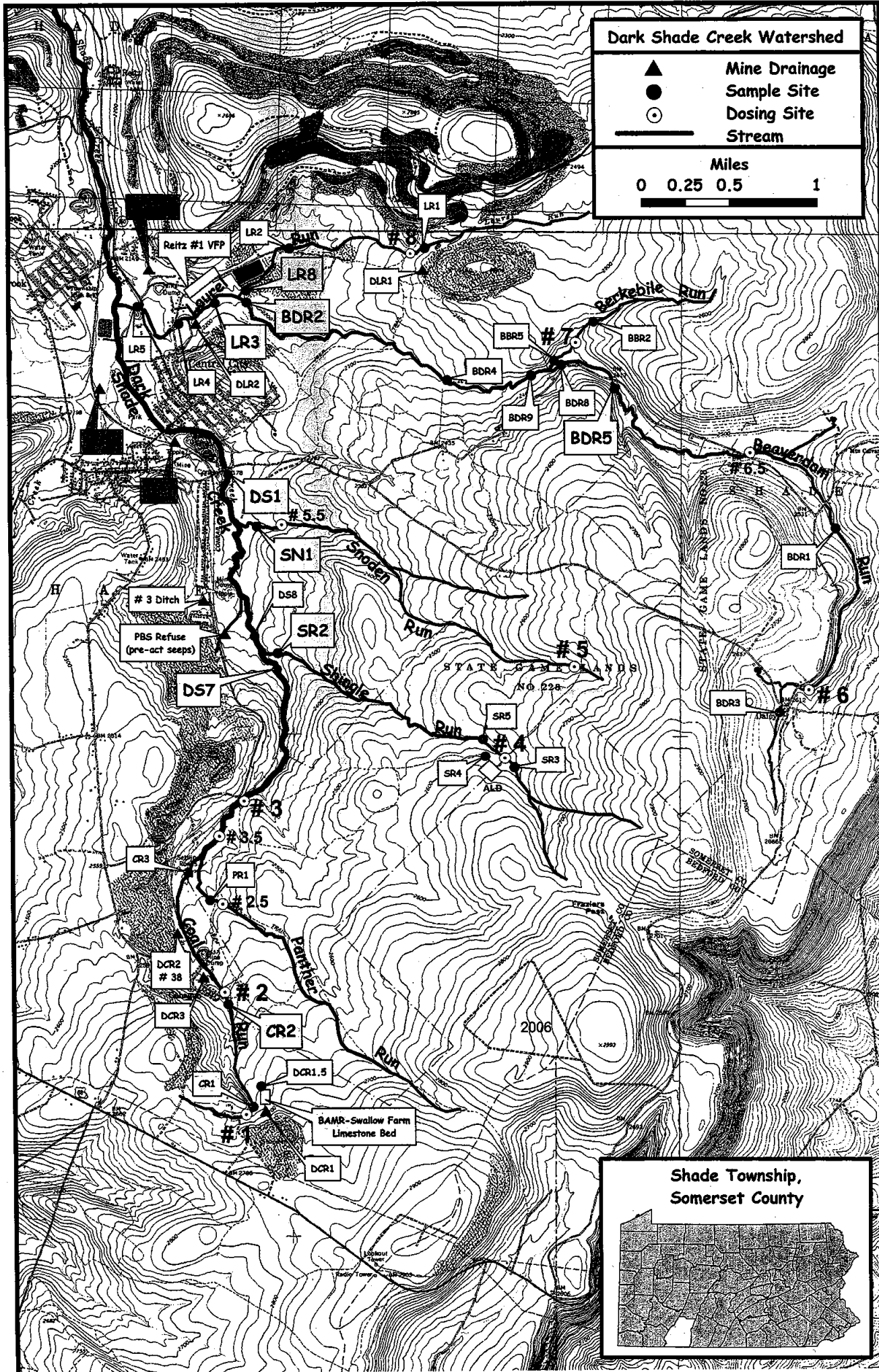
Monitoring Point: CR1

Coll ID	Date Collected	Initial Flow	Final Flow	Determ Method	pH	pH units	ALK MG/L	HOT A MG/L	FE MG/L	MN MG/L	AL MG/L	SO4 MG/L	TSS MG/L	NA MG/L
4477 118	08/23/2001				6.7		22.0	0	<.3	.164	<.5	29.4		<3

Project ID: SCRIP

Monitoring Point: CR2

Coll ID	Seq	Date Collected	Initial Flow	Final Flow	Determ Method	pH	pH units	ALK MG/L	HOT A MG/L	FE MG/L	MN MG/L	AL MG/L	SO4 MG/L	TSS MG/L	NA MG/L
4477	002	01/26/2001				3.8		0.0	50.00	.866	1.33	5.51	72.0	<2	3.94
4477	001	05/23/2001				3.6		0.0	80.0	.909	1.77	7.86	86.5	<3	
4477	120	08/23/2001				3.4		0.0	104.0	.561	2.85	11	128.	<3	
4477	008	02/25/2005				3.6		0.0	73.40	1.24	1.24	6.73	104.4	<3	
4477	002	05/10/2006				3.5		0.0	105.00	1.306	2.375	12.13	165.4	<3	
4477	001	10/10/2006				3.4		0.0	84.00	.685	2.57	9.31	159.6	<3	
4346	801	12/20/2006	42	42		3.4		0.0	134.00	1.39	2.28	13.5	196.0	<3	
4477	002	01/12/2007				3.8		0.0	60.00	.734	.865	4.28	99.2	<3	
4477	001	02/21/2007				3.6		0.0	73.40	.96	1.47	7.54	109.5	<3	
4346	002	04/19/2007				3.8		0.0	41.40	.89	.747	3.919	85.3	4.0	
4346	802	05/04/2007				3.5		0.0	100.40	1.6	1.72	9.95	173.9	<3	
4346	802	06/14/2007				3.5		0.0	79.60	.784	1.32	6.22		<3	



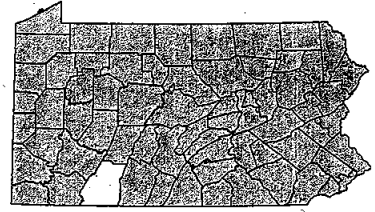
Dark Shade Creek Watershed

- ▲ Mine Drainage
- Sample Site
- Dosing Site
- Stream

Miles

0 0.25 0.5 1

Shade Township,
Somerset County



Qualitative Bio-screening and Water Quality Results
Dark Shade Creek Watershed, Somerset County - DEP - Alexander - 2008

			Dark Shade Creek	Snoden Run	Shingle Run	Dark Shade Creek	Panther Run	Coal Run
			DS1	SN1	SR2	DS7	PR1	CR2
			6/14/07	12/20/06	12/20/06	6/14/07	12/20/06	6/14/07
PA Hilsenhoff Tolerance Index (0-10)			Range of Individuals for Each Taxa: Rare-< 3, Present-3-9, Common-10-24, Abundant-25-100, Very Abundant-100 or >					
Macroinvertebrates	Common Name							
Coleoptera	Beetles							
Elmidae	Riffle Beetles	5						
Decapoda	Arthropods							
Cambaridae	Crayfish	6						
Ephemeroptera	Mayflies							
Baetidae	Small Minnow	6						
Ephemerellidae	Spiny Crawlers	2						
Ephemeridae	Common Burrowers	4						
Heptageniidae	Flatheaded	3						
Diptera	True Flies							
Athericidae	Snipe Flies	2						
Ceratopogonidae	Biting Midges	6						
Chironomidae	Midges	6	Rare					
Simuliidae	Black Flies					Rare		Rare
Tipulidae	Craneflies	4		Present	Rare		Rare	
Megaloptera	Dobson/Alderflies							
Corydalidae	Dobsonflies	3	Present					Present
Sialidae	Alderflies	6		Rare		Present		Common
Odonata	Dragon/Damselflies							
Calopterygidae	Damselflies	5						
Gomphidae	Dragonflies	4						
Lestidae	Damselflies	9						
Oligochaeta	Aquatic Earthworms	10		Rare	Rare		Rare	
Plecoptera	Stoneflies							
Capniidae	Capniid	3		Rare				
Leuctridae	Rollerwinged	0	Rare				Rare	
Nemouridae	Broadbacks	2	Present			Abundant		
Peltoperlidae	Roachlike	2						
Perlidae	Common	3			Rare			
Perlodidae	Perlodid	2		Rare		Rare	Rare	
Pteronarcyidae	Giant	2						
Taeniopterygidae	Broadbacks	2					Present	
Trichoptera	Caddisflies							
Hydropsychidae	Common Netspinner	5	Rare	Present		Present		
Limnephilidae	Northern Casemaker	4	Rare	Rare	Rare			
Philopotamidae	Fingernet	3					Rare	
Rhyacophilidae	Freeliving	1						
Total Number of Individuals				21	4		17	
Total Number of Families			6	7	4	5	6	3

100 meters

FISH

Total Number of Individuals	0	0	0	0	0	0
Total Number of Species	0	0	0	0	0	0

100 meters

WATER QUALITY

	12/20/06	12/20/06	12/20/06	12/20/06	5/10/06	12/20/06
Field pH	4.50	4.50	4.50	4.00	N/A	3.60
Lab pH	4.50	4.70	5.10	4.40	4.30	3.40
Lab Alkalinity (mg/L)	6.80	7.20	7.60	5.80	5.00	0.00
Hot Acidity (mg/L)	57.00	18.80	11.80	52.00	14.60	134.00
Total Sulfates (mg/L)	< 20.00	< 20.00	< 20.00	24.60	< 20.00	196.00
Total Dissolved Aluminum (mg/L)	1.08	0.61	< 0.55	1.42	0.76	13.50
Total Dissolved Iron (mg/L)	< 0.30	< 0.30	< 0.30	< 0.30	< 0.3	1.39
Total Dissolved Manganese (mg/L)	0.22	0.12	0.07	0.22	0.12	2.28
Total Suspended Solids (mg/L)	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00

WATER MONITORING monthly field test

Shade Creek Watershed Assoc. -- 2007 -- Limestone-sand dosing project/Limestone Bed

Red sites are upstream base-line monitoring points Blue sites are on-stream PTS

Blue sites are on-stream PTS

Shade Twp. Somerset Co.

Dark Shade

[illegible]

DEP Bureau of Laboratories

Date of Issue: 08/07/2008 00:30:02

DEP Bureau of Laboratories - Harrisburg

P.O. Box 1467

2575 Interstate Drive

Harrisburg

, PA 17105-1467

Analytical Report FOR
Mining And Reclamation

seep above Swallow dose pt.
above Limestone bed

DCR 1.2

Sample ID: 4346 851 07/11/2008

Status: COMPLETED

Test Codes/CAS# - Description	Reported Results	Date		Approver	Test Method
		Approved	Test Method		
00403M pH w/3.9 Alk	2.7 pH units	07/15/2008	SHUTCHISON	EPA 9040??	
** Comment ** Time Limit For Test Exceeded					
00945M Sulfate T	626.2 MG/L	07/30/2008	ERBAILEY	EPA 375.2	
01045Z IRON T	10521.00 UG/L	07/24/2008	MMAHMOUD	EPA 200.7	
01055Z MANGANESE T	8696.00 UG/L	07/24/2008	MMAHMOUD	EPA 200.7	
00530A T SUSP SOLID	6 MG/L	07/21/2008	JOMCCARTHY	USGS I-3765	
70508 HOT ACIDITY	484.90 MG/L	08/05/2008	AMCANENY	SM 2310B	
** Comment ** Acidity Measured to Endpoint 8.3					
00403M pH w/3.9 Alk	2.7 pH units	07/15/2008	SHUTCHISON	SM 4500H-B	
** Comment ** Time Limit For Test Exceeded					
00410M ALK @ pH 3.9	0.0 MG/L	07/15/2008	SHUTCHISON	SM 2320B	
01105Z ALUMINUM T	56776.00 UG/L	07/24/2008	MMAHMOUD	EPA 200.7	

flow estimates 3-159ppm
(continued)

56 AL!
10 Fe

484 acidity!

Banking Hours
Mon-Fri 9:00AM - 5:00PM
Sat 9:00AM - 12:00PM
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