Part 2

Part 2 is designed to provide specific technical information about the Mine discharge. By providing data on mine drainage chemistry and flow volumes, treatment options can be evaluated more precisely. Note: Water chemistry samples and flow data at the discharge should be taken monthly for approximately one year to properly assess site conditions.

1. What is the AMD source type? a
   a. Deep mine discharge
   b. Surface mine discharge
   c. Refuse pile discharge
   d. loss of stream to deep mines
   e. other (gas, oil well discharge, etc.)

2. Is the receiving stream impacted by aluminum (white) or iron (orange) precipitate coating the substrate?
   Yes x No _____

3. Is there any chemistry data available for the discharge?
   Yes x No _____
   If yes, please summarize results below. Attach the lab report and any additional chemistry data to this form:

	*Current	Historical
pH Range	5.58	5.3
iron (Fe) range	10.1 mg/L	18 mg/L
aluminum (Al) range	.1 mg/L	-
dissolved oxygen (DO)	N.A.	N.A.
acidity	8 mg/L	24 mg/L
alkalinity	30 mg/L	40 mg/L

4. Is there any flow data available for the discharge?
   Yes x No _____
   If yes, please indicate how the flow measurements were determined:

   (a.) weir/flume
   b. visual
   c. bucket/stopwatch
   d. Manning formula
   e. other

   Please indicate flow measurements below and attach any additional flow information to the form.

   minimum flow 55 gpm
   maximum flow 179 gpm

Considerable historical chemistry is available from the SL 132-5-104.2 and SL 132 Scarlift Reports. Sampling occurred from 4/77 until 11/82. Sampling frequency was monthly in 1979 and 1980 and every 3-5 days between 8/81 and 11/82. Approximately 147 samples (120 with flow data) were taken during this period. The column labeled as historical represents an average of this data. Chemistry taken on 10/31/94 and 2/13/95 are consistant with the SL 132-5-103.2 sampling data. Data in the column labeled current is from a sample taken on 2/13/95.
Of the 120 samples with flow data only 11 exceeded 130 gpm. Average flow for this sampling period was 105 gpm.

5. Is there any biological data available on the receiving stream above and below the discharge site?

   Yes ___x___ No _____

   If yes, please summarize results and attach the information to this form.

As part of an on-going 319 grant on the Brandy Camp Ramp Site, the PF&BC has conducted biological sampling to establish a baseline against which to measure the success of the proposed work at the Brandy Camp Site. No sampling has been done up stream of this proposed site.

6. What are the qualifications of the chemists/ biologists performing the field tests?

   DER Lab

   Analytical Services, Inc.
   R.D. 2, Box 282
   Brockway, PA 15824

   Analytical Services is a licensed commercial laborabory.

7. Please submit a copy of the topographic map section indicating the quadrangle map name, exact location of discharge and any other pertinent information about the site. Photos of the site are also recommended.

   Attached

8. Person filling out the form, please complete the following:

   Name Gary Swope, NRCS

   Address RD 5, Service Center
   Brookville, PA 15825

   Phone Number 814-849-5345

Submit this form along with any additional information available about the site to:

Mark Killar, Regional Coordinator
WPCAMR
c/o Westmoreland Conservation District
Donohoe Center RD 12, Box 202B
Greensburg, PA 15601
(412) 837-5271, 8937 Fax 837-4127

Note: Assistance concerning this form or the WPCAMR AMD abatement program is available if needed. Phone Mark Killar at the number above.

PREPROPOSAL FOR WPCAMR SECTION 319(H) FUNDS
SUBMITTED BY
THE ELK COUNTY CONSERVATION DISTRICT AND
HEADWATERS RESOURCE CONSERVATION AND DEVELOPMENT COUNCIL

TITLE: COAL HOLLOW ROAD SITE

LOCATION: LITTLE TOBY CREEK WATERSHED, FOX TOWNSHIP, ELK COUNTY

PROJECT DESCRIPTION:

THIS PROJECT IS BEING COMPLETED AS PART OF AN INTEGRATED, MULTI-AGENCY APPROACH TO IMPROVE WATER QUALITY IN THE LITTLE TOBY CREEK WATERSHED. THIS WATERSHED HAS RECEIVED MUCH ATTENTION OVER THE YEARS DUE LARGELY TO THE EFFORTS OF THE TOBY CREEK WATERSHED ASSOCIATION (TCWA). FOR THE PAST 20 YEARS THE TCWA HAS CONDUCTED AN ACTIVE TREE PLANTING PROGRAM IN AN ATTEMPT TO REFOREST THE MANY ACRES OF STRIPMINED LAND IN THE WATERSHED. THEY HAVE ACTIVELY SUPPORTED BOTH FEDERAL AND STATE RECLAMATION EFFORTS. UNDER THE RURAL ABANDONED MINE PROGRAM (RAMP), THREE MINE SITES HAVE BEEN RECLAIMED; ONE IS IN PROGRESS AND CONSTRUCTION FOR ANOTHER IS SCHEDULED FOR THIS SPRING.

DER'S ABANDONED MINE LAND (AML) PROGRAM HAS ALSO BEEN ACTIVE WITH THE MOST RECENT EFFORT BEING THE COMPLETION OF A 2.4 MILLION DOLLAR TREATMENT PLANT ON LIMESTONE RUN, APPROXIMATELY ONE-HALF MILE FROM THIS PROPOSED PROJECT.

ON GOING EFFORTS TO IMPROVE WATER QUALITY IN THE WATERSHED INCLUDE A PROPOSAL UNDER THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) PL-566 PROGRAM, AN APPALACHIAN CLEAN STREAMS INITIATIVE LEAD BY THE BUREAU OF MINING OPERATIONS AND THE IMPLEMENTATION OF A 319(H) GRANT THROUGH A COOPERATIVE EFFORT OF HEADWATERS CHARITABLE TRUST (HEADWATERS) AND THE BUREAU OF ABANDONED MINE RECLAMATION. THE PENNSYLVANIA FISH AND BOAT COMMISSION (PF&BC) HAS ACTIVELY SUPPORTED AND ASSISTED WITH MANY OF THESE EFFORTS. RECENTLY, COUNTY COMMISSIONERS IN ELK, JEFFERSON, CLARION AND FOREST COUNTIES FORMED THE CLARION RIVER BASIN COMMISSION WHICH IN ADDITION TO SUPPORTING AMD EFFORTS, IS WORKING TOWARDS ADDRESSING ALL RESOURCE PROBLEMS IN THE BASIN.

THIS PROPOSED PROJECT WILL TREAT AN ACID MINE DISCHARGE FROM A WPA MINE SEAL ALONG THE COAL HOLLOW ROAD. IT IS SIGNIFICANT IN THAT IT IS THE ONLY DEFINED DISCHARGE ABOVE THE NEW TREATMENT PLANT THAT HAS NOT BEEN ADDRESSED.

TREATMENT FOR THIS DISCHARGE WILL REMOVE 90% OF THE IRON LOADING AND RETURN NET ALKALINE WATER TO LITTLE TOBY CREEK.

THE PROPOSED TREATMENT WILL INVOLVE AERATION, A SETTING BASIN AND AN AEROBIC WETLAND. THIS DISCHARGE WAS SAMPLED FOR AN ENTIRE YEAR IN 1982 UNDER SCARLIFT CONTRACT NO. SL 132-5-104.2. RECENT SAMPLES TAKEN IN 10/94 AND 2/95 INDICATE THE CHEMISTRY AND FLOW

DATA TO BE CONSISTENT WITH THE 1982 SAMPLING. PERIODIC SAMPLING AND FLOW MEASUREMENTS WILL CONTINUE UNTIL THE TIME OF FINAL DESIGN. WATER QUALITY WILL BE MONITORED MONTHLY AFTER INSTALLATION FOR A PERIOD OF ONE YEAR AND QUARTERLY FOR A PERIOD OF TWO YEARS.

RELATIONSHIP TO N.P.S. MANAGEMENT PROGRAM:

THIS PROJECT ADDRESSES THE GOALS ESTABLISHED UNDER THE COMMONWEALTH OF PENNSYLVANIA NON POINT SOURCE MANAGEMENT PROGRAM FOR RESOURCE EXTRACTION AND THE WESTERN PENNSYLVANIA COALITION FOR ABANDONED MINE RECLAMATION'S OBJECTIVES TO:

A) PREVENT NON-POINT SOURCE POLLUTION OF GROUNDWATER DUE TO MINING ACTIVITIES.
B) CARRY OUT PROGRAMS THROUGH COUNTY CONSERVATION DISTRICTS WITH ASSISTANCE AND INPUT FROM THE DEPARTMENT OF ENVIRONMENTAL RESOURCES.

RESPONSIBILITIES:

THE ELK COUNTY CONSERVATION DISTRICT (ECCD) WILL PROVIDE FOR OVER ALL ADMINISTRATION OF THE PROJECT. LANDRIGHTS WILL BE ACQUIRED THROUGH A COMBINED EFFORT OF ALL PROJECT PARTICIPANTS. THE NRCS WILL PROVIDE DESIGN AND INSPECTION ASSISTANCE. THE ECCD WILL CARRY OUT THE MONITORING PROGRAM FOR 3 YEARS FOLLOWING CONSTRUCTION. THE TCWA WILL ASSIST BY PROVIDING WATER TESTING AND HEADWATERS CHARITABLE TRUST WILL ASSIST WITH THE CONTRACTING.

GOALS AND MILESTONES

1) ACQUIRE LAND RIGHTS
   RESPONSIBILITY: ECCD, NRCS, HEADWATERS
   COMPLETION DATE: IN PROGRESS - 3/95

2) DESIGN SYSTEM
   RESPONSIBILITY: NRCS
   COMPLETION DATE: 5/95

3) CONTRACT EARTH MOVING
   RESPONSIBILITY: ECCD, HEADWATERS
   COMPLETION DATE: 6/95

4) MATERIALS ACQUISITION
   RESPONSIBILITY: ECCD, HEADWATERS
   COMPLETION DATE: 6/95

5) PROJECT CONSTRUCTION
   RESPONSIBILITY: ECCD, HEADWATERS, NRCS
   COMPLETION DATE: 8/95

6) MONITORING PROGRAM
   RESPONSIBILITY: ECCD, TCWA
   COMPLETION DATE: 8/98

7) PROGRESS REPORTS
   RESPONSIBILITY: ECCD, HEADWATERS
   COMPLETION DATE: QUARTERLY

8) FINAL REPORT
   RESPONSIBILITY: ECCD, NRCS, HEADWATERS
   COMPLETION DATE: ONE YEAR FROM PROJECT APPROVAL

BUDGET:

INCOME:

WPCAMR		$30744
ECCD		800
NRCS		3920
TCWA		1000
HEADWATERS		1000
PRIVATE (FOUNDATION)		6500
	TOTAL	$43964

EXPENSES:

DESIGN AND INSPECTION		$ 3920
CONSTRUCTION		34844
MATERIALS		3000
MONITORING		1000
ANALYTICAL TESTING		1000
INDIRECT (PHONE, MILEAGE)		200
	TOTAL	$43964

COMPUTATION SHEET — U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

SCS-ENG-523A (Rev. 8-80)

STATE PR | PROJECT W.P.C.A.M.C. - 319 Program

BY C. Swope | DATE 8-8-95 | CHECKED BY EFS | DATE 8/95 | JOB NO.

SUBJECT Carl Hollas Road AMD Site | SHEET 1 OF

Design Parameters:

Flow = 136 gpm - OK

Chemistry - Not Alkalinity
Fe ~ 10 mg/l

System: ① Settling basin to provide 24 hr. detention
② Aerobic wetland to also provide for Fe removal at 20 g/m²/day

Historic V-Notch Weir measurements have been ≈ 4 7/8" i.e. use 5"

$Q = 2.52 (H)^{2.47}$

$Q = 2.52 (5/12)^{2.47}$ 7.48 130 gpm

$Q = .29 \text{ cfs} \times 60 \text{ s/m} \times 7.81 \text{ g/ft}^3 = 1364 \text{ gpm}$

Calculate 24 hr. storage volume for settling basin:

136 gpm x 60 m/hr. x 24 hr = 19584.0 gal./24 hr.

÷ 7.48 gal/ft³ = 2507.6 ft³ (187,200 gal.; 25,027 c.f.)

Fe loading & 20 yr. storage for basin

10 mg/l x 136 gpm x 5.45 = 7412 g/day

1 g ≈ 1 cc

7412 cc / 28316.8 = .26 ft³/day loading for Fe

2.54 cm/in x 12 in
30.48 cm/ft
30.48 cm³ = 28316.8 cc

.26 ft³/d x 365 d/yr. x 20 yrs = 1911 ft³

Total storage area for basin 25076 ft³ + 1911 ft³ = 26987 ft³

Calculate Surface area for W.L.:

Loading 7412 g/d ÷ Removal 20 g/m²/day

= 321 m² ÷ .836 m²/yd² = 444 yd² x 9 ft²/yd² = 3996 ft²

PA. WPCAMR - 319 Program

6. Surge 8-8-9 EES 8/95

Coal Hollow Road Site

Volume calculations ~ Settling basin & Surface Area - W.L.

Station	X-Sect. Area (ft^2)	Ave. Area	Dist. (ft)	Storage (ft^3)	Running Total (ft^3)
2+00	75				
		100	50	5000	5000
2+50	125				
		125	50	6250	11250
3+00	125				
		155	50	7750	19000
3+50	185				
		180	50	9000	28000 ft^3
Basin Wetland 4+00	175 (40) Surface Area 36			Surface Area ft^2	
		38	50	1900	1900
4+50					
		28	50	1400	3300
5+00	20				
		20	50	1000	4300 ft^2
5+50	20				

System Notes:

- Settling basin depth — 5.0' + 1' FREEBOARD
- Cut slopes 2:1
- Basin outside slopes 3:1
- " inside slopes 2:1,
- Freeboard on basin ~ 1.0', Freeboard on W.L. ~ 2.0' (to use up additional cut material height of dike was kept constant)
- Rock spillway at 4+00 ~ width - 10, length - 6' will drop water 1.0' in elevation & provide aeration.
- Depth of W.L. ~ .5' - 1.5' (Variable depth)
- Wetland Outlet @ 5+50 - water control structure w/ splash boards & pipe outlet below railroad grade.
- W.L. will also have rock lined - Emergency spillway (1.0' above pool
- Culvert pipe at 2+65 will be angled south, so flow will go around dike. Pipe for AMD will be installed in same ditch. PennDot basically agreed to do this.
- Culvert at 4+90 will be routed around end of dike.
- Precast concrete box will be placed at or near existing mine seal & flow directed into new box. PVC pipe will carry AMD under road to splash above settling pond.
- System embankment will toe out at edge of railroad grade nearest the State Road so that R.R. grade will remain open & accessable for owner

Considerable historical chemistry is available from the SL 132-5-104.2 and SL 132 Scarlift Reports. Sampling occurred from 4/77 until 11/82. Sampling frequency was monthly in 1979 and 1980 and every 3-5 days between 8/81 and 11/82. Approximately 147 samples (120 with flow data) were taken during this period. The column labeled as historical represents an average of this data. Chemistry taken on 10/31/94 and 2/13/95 are consistant with the SL 132-5-103.2 sampling data. Data in the column labeled current is from a sample taken on 2/13/95.
Of the 120 samples with flow data only 11 exceeded 130 gpm. Average flow for this sampling period was 105 gpm.

Total Samples 147
120 w/ flow data (SL 132-5-104.2)
27 — SL 132

3 Samples - 1977
2 " - 1978
monthly - 9/80 to 6/81
every 2 days 7.11 8/81
" 3-5 " - 7.11 11/82
min. flow 55
max 179 - 2 days only
2 flows in 80/81 ≈ 250

24/120 > 120 gpm (20%)
11/130 > 130 (9%)

Analytical Services, Inc.

R.D. #2, Box 282
Brockway, PA 15824

Laboratory (814) 265-8749
FAX (814) 265-8749

GENERAL CHEMICAL ANALYSIS REPORT

CUSTOMER: Jefferson Co. Service Center
R.D. #5
Brookville, PA 15825
Attn: Gary Swope

SAMPLE DATE: 04/20/95 REPORT DATE: 04/20/95

ASI ID#: 001 SAMPLE RECEIVED: 04/20/95

DESCRIPTION OF SAMPLE: Coal Hollow Deep Mine Discharge

ANALYSIS RESULTS:

PARAMETER	RESULT	METHOD	BY/DATE
pH	5.45	150.1	RLD 04/20/95
Alkalinity	28 mg/L	310.1	RLD 04/20/95
Acidity	38 mg/L	305.1	RLD 04/20/95
Iron	10.0 mg/L	236.1	WJS 04/20/95
Manganese	1.6 mg/L	243.1	WJS 04/20/95
Aluminum	.2 mg/L	202.1	WJS 04/20/95
Sulfate	247.5 mg/L	375.4	RLD 04/20/95
Net Acidity	10 mg/L	305.1	RLD 04/20/95

All iron would be ferrous

We certify that the above reported values were obtained by use of procedures appropriate for the sample as submitted.

BY: William J. Sabatose Date: 04/20/95

Title: Chief Chemical Analyst

TA/RD to Bill 2/13/95
Tested run w/ Hot Acid method
~~Soluble~~ not alkalinity

Analytical Services, Inc.

R.D. #2, Box 282
Brockway, PA 15824

Laboratory (814) 265-8749
FAX (814) 265-8749

pH color 4
add acid to get pH to
above 4

GENERAL CHEMICAL ANALYSIS REPORT

CUSTOMER: Soil Conservation Service

SAMPLE DATE: 2/12/95 RECEIPT: 2/13/95 REPORT DATE: 2/13/95

DESCRIPTION OF SAMPLE: Coal Hollow Deep Mine Discharge

TOTAL ANALYSIS RESULTS:

PARAMETER	RESULT	METHOD	BY/DATE
pH	5.58	150.1	WJS 2/13/95
Alkalinity	30 mg/L	310.1	WJS 2/13/95
Acidity	8 mg/L	305.1	WJS 2/13/95
Iron	10.1 mg/L	236.1	WJS 2/13/95
Manganese	1.6 mg/L	243.1	WJS 2/13/95
Aluminum	.1 mg/L	202.1	WJS 2/13/95
Sulfate	198.5 mg/L	375.4	RM 2/13/95
Net Alkalinity	22 mg/L	310.1	WJS 2/13/95

Flow - drop ft 4.5" $\frac{4.5}{12} = .375'$

$Q = 2.52H^{2.47} = 2.52(.375)^{2.47} = .2235$ cfs

$.2235$ cfs $\times 7.81$ g/cf $\times 60$ sec/min $= 105$ gpm
2/15/95

We certify that the above reported values were obtained by use of procedures appropriate for the sample as submitted.

BY: William Sabatose Date: 2/13/95

Title: Chief Chemical Analyst

Flow to l/min
x mg/l x 1.44 = g/day

Fe^{2} $\frac{2 \times 10.1}{56} = .036$

Fe^{3} $\frac{3 \times 0}{56} = 0$ $1000(10^{-5.58})$

Al $\frac{3 \times .1}{27} = .11$

Mn $2 \times 1.6 = .06$

D.E.K.
Field Operations
Knox District Office
Fax No. (814) 797-2706

A friend of earth

FACSIMILE COVER PAGE

DATE: 2-10-95

TO (OFFICE): JEFFERSON CO. CONSERV. DIST.

ATTENTION: GARY SWOPE

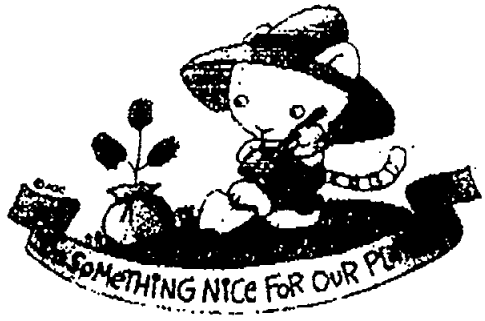
FROM: DOUG CAYLOR

NUMBER OF PAGES: 2
(INCLUDING COVER PAGE)

ADDITIONAL COMMENTS:

HERE IS THE ANALYSIS FOR THE DEEP MINE DISCHARGE ABOVE JOE LARGEY'S HOUSE. THIS WAS TAKEN 10-17-94, IF YOU HAVE TROUBLE READING IT, GIVE ME A CALL AND I'LL TRY AND OBTAIN A CLEARER COPY.

DOUG



Telephone No. (814) 797-1191

SINGLE SAMPLE INQUIRY

--- INQUIRY OF SAMPLE HD461415 ---

FAIRVIEW COAL CO. COLLECTION NO.: 4233000 SMP ANALYSIS 420
FOX/CLK DATE COLLECTED: 10/17/94 INITIAL FLOW 00
SIPSAM TIME COLLECTED: 00:00 FINAL FLOW 00
DATE RECEIVED : 10/18/94 TYPE 00

SAMPLE STATUS: REPORTED ON 10/31/94
STREAM CODE RIVER MILE IND . MONITORING PT
REASON CODE 000 REASON ID ID CODE 21510103
GRAB WTR NO WQN 000

DESCRIPTION		RESULT	UNITS	VC	ANALYST	VER-DATE	COMMENT	
PH LAB		5.8000		G	HWS	10/19/94	00	00403
T ALK CACO3		42.0000	MG/L	G	HWS	10/19/94	00	00410
RES TOT NON		16.0000	MG/L	G	KLS	10/31/94	00	00530 A
NA	<	10.0000	MG/L	G	SRD	10/24/94	00	00929 Z
SO4 TOTAL		296.0000	MG/L	G	KLS	10/24/94	00	00945 A
FE		7490.0000	UG/L	G	SRD	10/24/94	00	01045 Z
MN		1690.0000	UG/L	G	SRD	10/24/94	00	01055 Z
AL	<	500.0000	UG/L	G	SRD	10/24/94	00	01105 Z
T ACIDITY H		32.0000	MG/L	G	MRD	10/24/94	00	70509
		0.0000				/ /		
		0.0000				/ /		
		0.0000				/ /		

US Department of Agriculture
Soil Conservation Service

DESIGN WORKSHEET
for
Trapezoidal Channel Section

prepared for

Coal Hollow Road AMD

in

ELK County, PA

Rock spillway between Basin & W.L. @ 4+00 & emergency spillway @ 5+50.

Designer : G.Swope
Date : 07/28/95

Checker _____
Date _____

****

Spillway- Settling pond-Wetlan

Slope	= 0.0001 ft/ft	Hydr Radius	= 0.53
'n' value	= 0.060	Area	= 6.72 sq.ft.
		Velocity	= 0.2 fps
		Capacity	= 1.09 cfs

Sideslope	=	2.0 :1
Bottom width	=	10.0 ft.
Depth	=	0.6 ft.
Width @ Flow Depth	=	12.4 ft.

R3-R4 rock would work on spillway

136 gpm flow ≈ 17.4 ft^3/min = .29 ft^3

Flow over spillway at 4+00 would only be a couple of inches.

Lowest flow for "n" chart in figure 1 is .5'

Spillway can have level section across dike & riprap down 2:1 slope to water level in W.L.

OH-Ver 2.0

US Department of Agriculture
Soil Conservation Service

DESIGN WORKSHEET
for
Trapezoidal Channel Section

prepared for

Coal Hollow Road AMD

in

Jefferson County, PA

Designer : G.Swope
Date : 08/07/95

Checker _____
Date _____

****

Spillway

Slope = 0.0001 ft/ft
`n' value = 0.045

Hydr Radius = 0.45
Area = 5.50 sq.ft.
Velocity = 0.2 fps
Capacity = 1.07 cfs

Sideslope = 2.0 :1
Bottom width = 10.0 ft.
Depth = 0.5 ft.
Width @ Flow Depth = 12.0 ft.

****

ign Plus Software/A.C.E.S. 537-6166(800)

NAME...COAL HOLLOW AMD JOB CODE...A1AMD951

E:08-03-1995 TIME:13:57:27

ECTION ROUTINES/EARTHWORK VIA X-SECTIONS----------707

****

SS SECTION DATA FOR ROAD OR ALIGNMENT...ORIGGND/TRIAL 1

INKAGE FACTOR FOR FILLS..... 10 %

TION	LEFT OF B/L		RIGHT OF B/L		AREA IN CUT/FILL		ACCUMULATED VOLUMES		ECCENTRICITY	TEMPLATE
----	S/S	TS/BS	S/S	TS/BS	AIC	AIF	CUT	FILL	CUT / FILL	
)	3/1	5	2/1	5	0	0	0	0		
)	3/1	97	2/1	26.3	154.9	75.5	28.7	15.4		
)	3/1	111	2/1	2.4	184	144.8	342.6	239.8		
)	3/1	112	2/1	.2	356.8	171.6	843.4	562		
)	3/1	117.2	2/1	10.2	316.9	214.1	1467.2	954.9		
)	3/1	115	2/1	2.4	306.6	149.6	2044.6	1325.3		
)	3/1	116.8	2/1	26.3	140.6	122.9	2458.6	1602.8		
)	3/1	114.2	2/1	44.6	71.4	44.6	2654.8	1773.4		
)	3/1	114.2	2/1	44.1	65.2	39.6	2781.3	1859.2		
)	3/1	6	2/1	6	0	0	2811.5	1879.4		

****

ign Plus Software/A.C.E.S. 537-6166(800)

NAME...COAL HOLLOW AMD JOB CODE...A1AMD951

E:08-03-1995 TIME:13:53:44

ECTION ROUTINES/EARTHWORK VIA X-SECTIONS----------707

****

SS SECTION DATA FOR ROAD OR ALIGNMENT...ORIGGND / TRIAL 1

INKAGE FACTOR FOR FILLS....(20 %

TION	LEFT OF B/L		RIGHT OF B/L		AREA IN CUT/FILL		ACCUMULATED VOLUMES		ECCENTRICITY	TEMPLATE
----	S/S	TS/BS	S/S	TS/BS	AIC	AIF	CUT	FILL	CUT / FILL	
0	3/1	5	2/1	5	0	0	0	0		
0	3/1	97	2/1	26.3	154.9	75.5	28.7	16.8		
0	3/1	111	2/1	2.4	184	144.8	342.6	261.6		
0	3/1	112	2/1	.2	356.8	171.6	843.4	613.1		
0	3/1	117.2	2/1	10.2	316.9	214.1	1467.2	1041.7		
0	3/1	115	2/1	2.4	306.6	149.6	2044.6	1445.8		
0	3/1	116.8	2/1	26.3	140.6	122.9	2458.6	1748.6		
0	3/1	114.2	2/1	44.6	71.4	44.6	2654.8	1934.7		
0	3/1	114.2	2/1	44.1	65.2	39.6	2781.3	2028.2		
5	3/1	6	2/1	6	0	0	2811.5	2050.2		