AS-BUILT REPORT

Sedimentation Structure

J21-C2

Kayenta Mine

Navajo County, Arizona

PEABODY COAL COMPANY

JUL 09 1991

TABLE OF CONTENTS

Introduction

Sedimentation Structure J21-C2 is an earthen embankment constructed in 1991 by Peabody Coal Company as a temporary sedimentation structure to control runoff and sediment from disturbed areas at the Kayenta Mine. The location of Structure J21-C2 and its watershed boundary is shown on Drawing No. 85400 (Sheet N-10), and Drawing No. 85405. The site-specific details and dimensions are shown on the attached J21-C2 (as-built) drawing.

This as-built report contains information specific to Structure J21-C2. Regional site information is presented in the "General Report, Kayenta and Black Mesa Mines, Navajo County, Arizona for Peabody Coal Company", December, 1985 (PAP), Chapter 6, Attachment D, Volume 2, along with the methods and results of analyses used for slope stability, hydrology, and hydraulics.

Inspection

The construction site of Structure J21-C2 was inspected by a Registered Professional Engineer from Peabody Coal Company to ensure that the location was suitable and no adverse conditions existed to prevent the successful construction of the structure. A detailed geotechnical investigation was not performed, rather, the information in Chapter 6, Attachment D was utilized for embankment design and construction. An embankment category (A-3) was determined during construction. Periodic inspections were also conducted during construction.

Site Description

Land Use

Structure J21-C2 has a 400-acre drainage area and is located on a tributary to Dinnebito Wash at the Kayenta Mine. The watershed is classified as 9 percent pinyon-juniper, 9 percent sagegrass, 66 percent disturbed and 16 percent reclaimed.

Design Analyses

General

Structure J21-C2 was designed by a Registered Professional Engineer from Peabody Coal Company. The design was performed in accordance with applicable 30 CFR 780 and 816

to the sedimentation structure, outflow from the structure, and the resulting water surface elevations. The initial conditions and results of the analysis are summarized in the following J21-C2 hydraulics table.

Principal Spillway

The principal spillway for J21-C2 will be a perforated drop inlet, corrugated metal pipe with the following dimensions:

Riser Diameter . . . . . 18.0 in.

Barrel Diameter . . . . . 18.0 in.

Pipe Length . . . . . 155 ft.

Average Slope . . . . . 1.6 %

Inlet Elevation 6914.6

Lowest Orifice Elevation 6911.0

Perforations . . . . . 5 layers with 4 holes each layer, 1-inch diameter

Emergency Spillway and Outlet Channel

The emergency spillway and outlet channel for J21-C2 will be a trapezoidal channel with the following dimensions:

Minimum Channel Depth (Spillway) . . . . 1.9 ft.

(Outflow) . . . . 1.3 ft.

Channel Width . . . . . 36 ft.

Channel Length (Spillway) . . . . . 55 ft.

(Outflow) . . . . . 330 ft.

Side Slopes (Horizontal to Vertical) . . 3:1 or flatter

Average Slopes (Spillway) . . . . . 0 %

(Outflow) . . . . . 10 %

Inlet Elevation 6917.2

The outflow channel has erosion protection at the outlet of the drop inlet corrugated metal pipe and emergency spillway channel.

Storage Capacity

The impoundment volume-elevation table is based on a site-specific aerial topography survey and field surveys (see J21-C2 (as-built) drawing).

The calculations for the sediment load entering Structure J21-C2 were made utilizing the Revised Universal Soil Loss Equation with the following parameters:

1. Rainfall Factor, R 40
2. Soil Erodibility Factor, K 0.27
3. Slope Factor, LS 1.94
4. Cover Factor, C 0.33
5. Erosion Control Factor, P 0.90

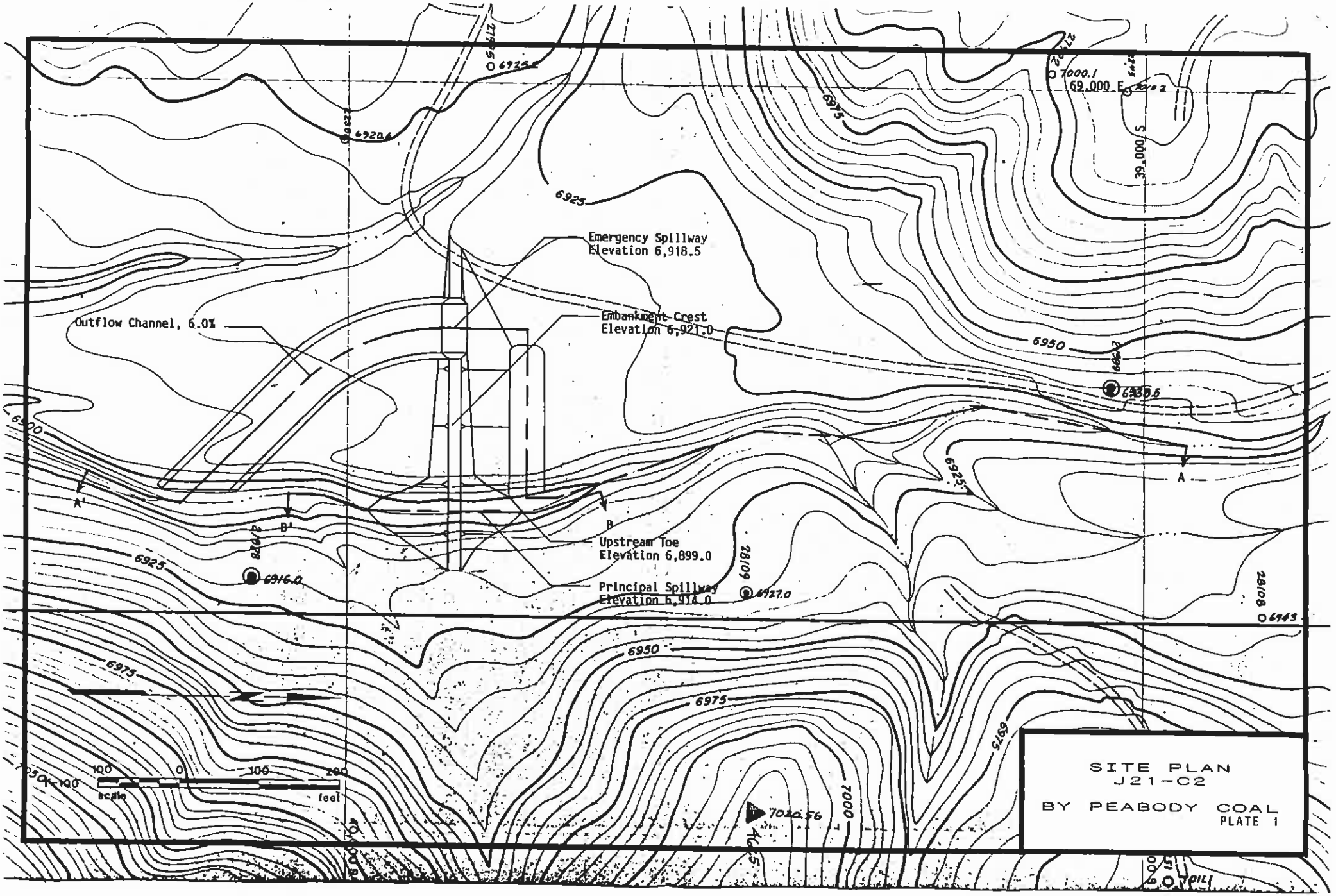
The hydrologic analysis gives the storage volume required to treat the 10-year, 24-hour storm, and the remaining storage volume available for storing sediment. The proposed storage capacity of J21-C2 and the results of the sediment inflow analysis are summarized in the following table.

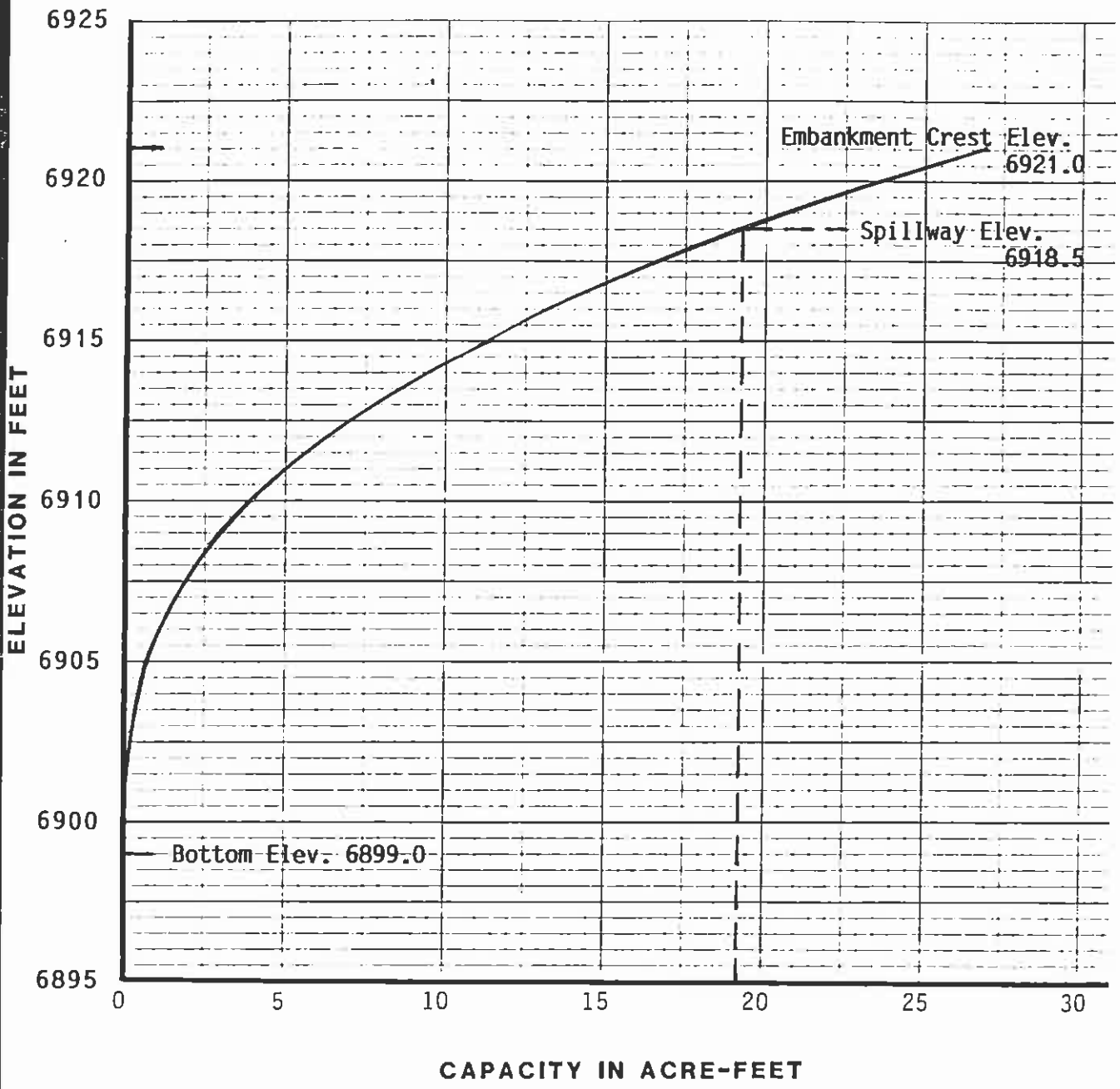
J21-C2 Storage

Total Storage Capacity	19.51 acre-ft.
Active Storage Capacity	11.77 acre-ft.
Sediment Storage Capacity	7.74 acre-ft.
Sediment Inflow Rate	1.100 ac-ft/yr
Sediment Storage Life	7.0 yrs.

Conclusion

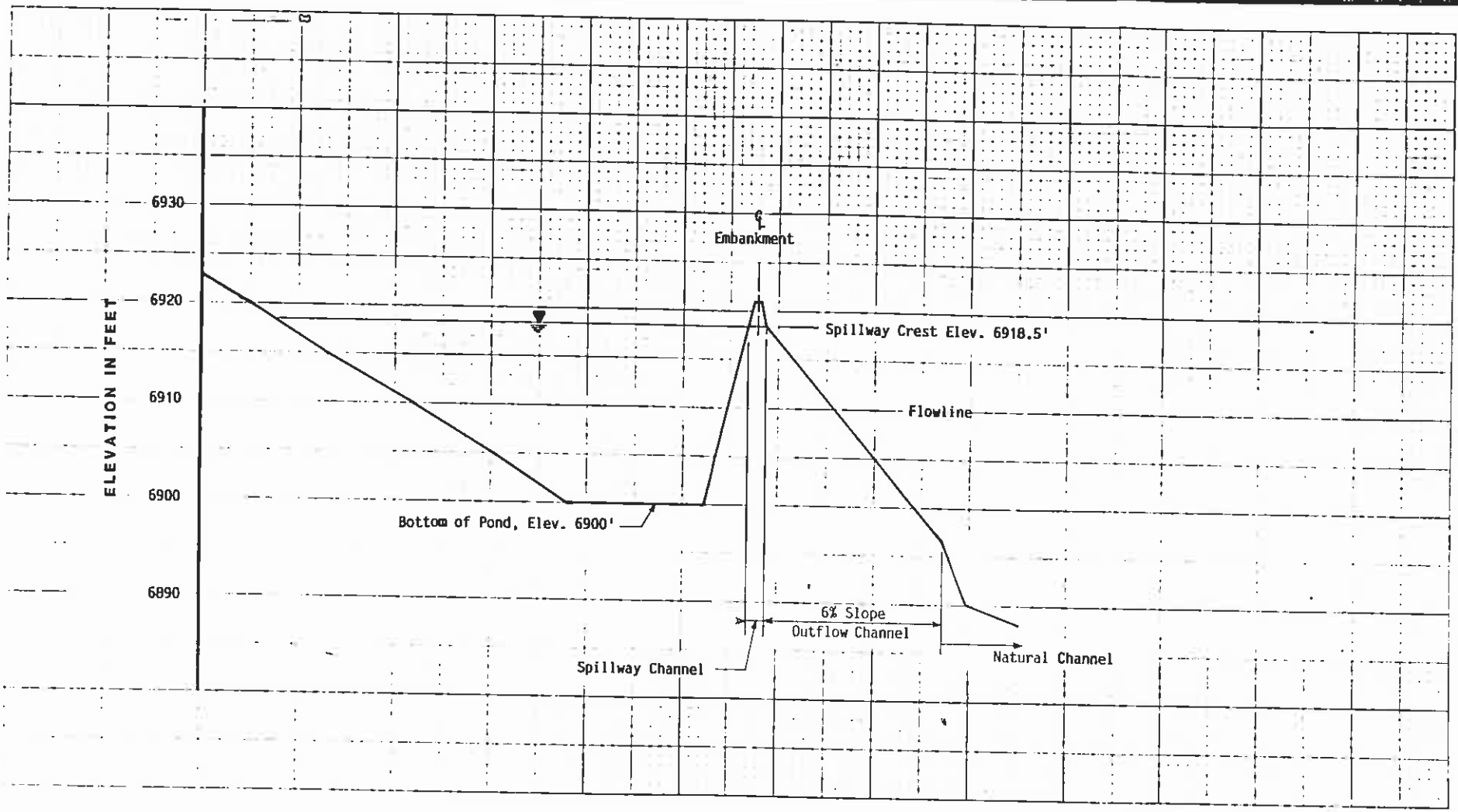
A water quality analysis of J21-C2 was performed for settleable solids utilizing the SEDCAD^{+} computer model. Structure J21-C2 is in series with Structure J21-C; therefore, the NPDES discharge point is Structure J21-C. NPDES Permit No. AZ0022179 issued to Peabody Coal, limits the discharge of settleable solids as the result of a rainfall event less than or equal to a 10-year, 24-hour precipitation event to a daily maximum of 0.5 ml/l. The result of the SEDCAD^{+} computer analysis indicates that J21-C2, in series with Structure J21-C, will comply with the NPDES requirements.


Emergency Spillway
Elevation 6,918.5
Outflow Channel, 6.0%
Embankment Crest
Elevation 6,921.0
Upstream Toe
Elevation 6,899.0
Principal Spillway
Elevation 6,914.0
6916.0
6927.0
6935.6
6925
6950
6975
7000
A
A'
B
B'
100 0 100 200
scale feet
SITE PLAN
J21-C2
BY PEABODY COAL
PLATE 1



VOLUME-ELEVATION CURVE
J21-C2

BY **PEABODY COAL CO.** Plate 2



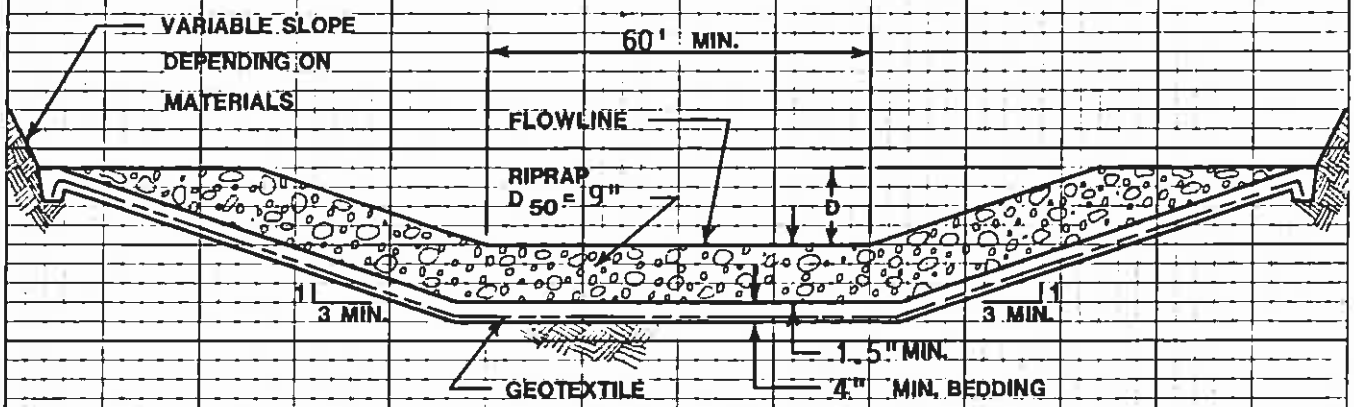
CHANNEL PROFILE A-A'

J21-C2

Scale : 1"= 200'

SEE PLATE 1 FOR LOCATION

BY **PEABODY COAL CO.** Plate 3



SPILLWAY CHANNEL

D = 2.5'

LENGTH = 30'

FLOWLINE ELEV. = 6918.5'

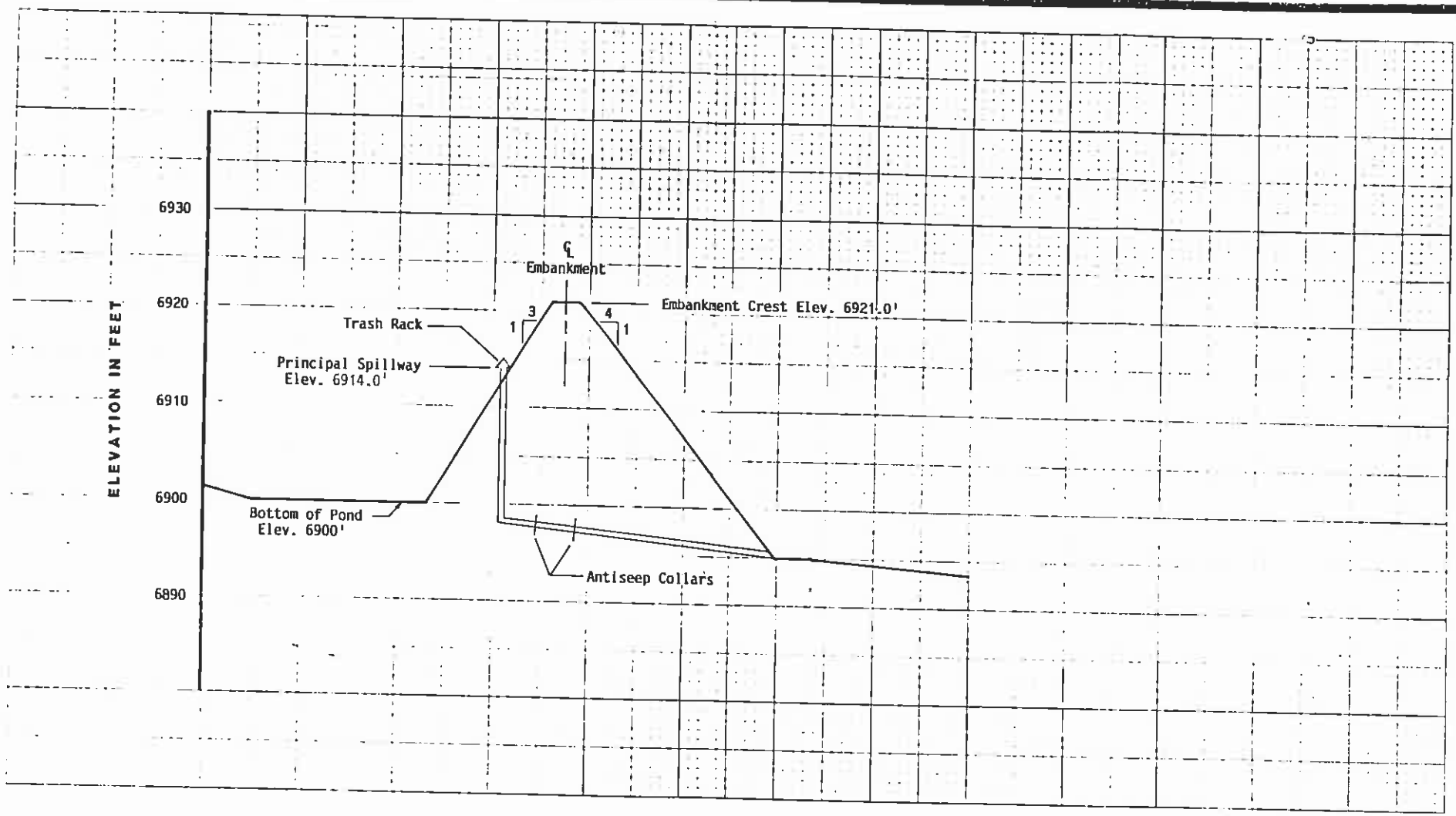
OUTFLOW CHANNEL

D = 2.0'

SPILLWAY AND OUTFLOW CHANNEL CROSS SECTION

J21-C2

BY **PEABODY COAL CO.** Plate 4



EMBANKMENT PROFILE B - B'
J21-C2

Scale : 1"= 50'

SEE PLATE 1 FOR LOCATION

BY **PEABODY COAL CO.** Plate 5

APPENDIX A

HYDROLOGY AND HYDRAULIC CALCULATIONS

J21-C2

Time of Concentration, Tc Calculations (Overland Method - SEDCAD+):

Segment #1, Land Use #5 (SEDCAD+)

L = 1,040 ft.

E = 40 ft.

Segment #2, Land Use #7

L = 1,240 ft.

E = 70 ft.

Segment #3, Land Use #8

L = 2,000 ft.

E = 60 ft.

tc = 0.326 hours

J21-C2

Time of Concentration, Tc (Overland Method):

Segment #1, Land Use #5 (SEDCAD+)

L = 1,200 ft.

E = 60 ft.

Segment #2, Land Use #7

L = 2,400 ft.

E = 100 ft.

Segment #3, Land Use #8

L = 4,160 ft.

E = 90 ft.

tc = 0.573 hours

J21-C2

Revised USLE Calculation:

$$A = R * K * LS * C * P$$

$R = 40$

$K = 0.27$

$$LS = \left(\frac{L}{72.6}\right)^{m} * (10 \sin\theta + 0.027)$$

$L = 400$ ft.

$S = 8$ %

$m = 0.5$

$LS = 1.94$

$C = 0.33$

$P = 0.90$

$A = 6.23$ ton/acre

Sediment Inflow Rate:

$$SI = A * DA * SDR * 94/192,400$$

$A = 6.23$ ton/acre

$DA = 400$ acres

$SDR = 0.90$

$SI = 1.10$ ac-ft/yr.

TRAPEZOIDAL CHANNEL ANALYSIS
CRITICAL DEPTH COMPUTATION

August 14, 1991
121-02 SPILLWAY 25 YR.STORM

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Flow Rate (cubic feet per second).....	22.0
Manning's Roughness Coefficient (n-value).....	0.0400
Channel Side Slope - Left Side (horizontal/vertical)....	3.20
Channel Side Slope - Right Side (horizontal/vertical)...	3.80
Channel Bottom Width (feet).....	26.0

PROGRAM RESULTS:

DESCRIPTION	VALUE
Critical Depth (feet).....	0.40
Critical Slope (feet per foot).....	0.0323
Flow Velocity (feet per second).....	3.51
Froude Number.....	1.000
Velocity Head (feet).....	0.19
Energy Head (feet).....	0.59
Cross-Sectional Area of Flow (square feet).....	14.32
Top Width of Flow (feet).....	36.77

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

August 14, 199[illegible]
JZI-02 SPILLWAY 25 YR. STORM

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Flow Rate (cubic feet per second).....	32.0
Channel Bottom Slope (feet per foot).....	0.1000
Manning's Roughness Coefficient (n-value).....	0.0400
Channel Side Slope - Left Side (horizontal/vertical)....	3.20
Channel Side Slope - Right Side (horizontal/vertical)...	3.20
Channel Bottom Width (feet).....	36.00

PROGRAM RESULTS:

DESCRIPTION	VALUE
Normal Depth (feet).....	0.28
Flow Velocity (feet per second).....	4.97
Froude Number (Flow is Super-Critical).....	1.[illegible]3
Velocity Head (feet).....	0.38
Energy Head (feet).....	0.67
Cross-Sectional Area of Flow (square feet).....	10.46
Top Width of Flow (feet).....	37.98

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-6322. A manual with equations & flow chart is available.

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

August 14, 1991
JC1-C2 SPILLWAY 25 YR.STORM

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PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0100
Manning's Roughness Coefficient (n-value).....	0.0400
Channel Side Slope - Left Side (horizontal/vertical)....	3.00
Channel Side Slope - Right Side (horizontal/vertical)...	3.00
Channel Bottom Width (feet).....	36.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.5	42.8	2.27	0.577	0.080	0.580	18.9	39.0
1.0	138.1	3.50	0.643	0.190	1.190	39.5	42.0
1.5	276.4	4.47	0.682	0.310	1.810	61.9	46.5
2.0	455.2	5.29	0.711	0.435	2.435	86.0	50.0
2.5	672.7	6.02	0.734	0.563	3.063	111.7	53.5
3.0	932.0	6.68	0.753	0.693	3.693	139.5	57.0
3.5	1230.4	7.29	0.769	0.824	4.324	168.9	60.5
4.0	1567.8	7.85	0.782	0.957	4.957	200.0	64.0

==========

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.0 (c) 1986 Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092 (713) 895-8322. A manual with equations & flow chart is available.

APPENDIX B

J21-C2

SEDCAD+ (Input and Output)

10-Year, 24-Hour Storm

CIVIL SOFTWARE DESIGN

SEDCAD+ Version 3.0

PCNO J21-C/C2 AS-BUILT 10 YR. STORM

by

Name: JGS

Company Name: Peabody Coal Company
File Name: C:\SEDCAD3\BM\C2AB1C8

Date: 08-13-1991

Civil Software Design -- CEDCAD4 Version 3.0

Company Name: Peabody Coal Company
Filename: C:\CEDCAD3\BM\C2AS10B User: JGS
Date: 08-13-1991 Time: 10:50:38
POND J21-C/C2 AS-BUILT 10 YR. STORM
Storm: 2.10 inches, 10 year-24 hour, SCS Type II
Hydrograph Convolution Interval: 0.5 hr

GENERAL INPUT TABLE

Specific Gravity: 2.65
Submerged Bulk Specific Gravity: 1.25

Particle Size Distribution(s):

Size (mm)	POND 1 DIST. % Finer
0.0740	100.00
0.0370	57.00
0.0190	45.00
0.0090	35.00
0.0050	28.00
0.0020	23.00
0.0010	20.00
0.0001	0.00

Company Name: Peabody Coal Company
Filename: C:\SEDCAD3\BM\C2AB10B User: JGS
Date: 05-13-1991 Time: 10:30:33
POND J21-C/C2 AS-BUILT 10 YR. STORM
Storm: 3.10 inches, 10 year-24 hour, SCS Type II
Hydrograph Convolution Interval: 0.5 hr

SUBWATERSHED/STRUCTURE INPUT/OUTPUT TABLE

-Hydrology-

JGS	SWS	Area (ac)	CN	UHS	Tc (hrs)	(hrs)	X	Base-Flow (cfs)	Runoff Volume ac-ft)	Peak Discharge cfs)
111	1	222.00*	83	M	0.226	0.000	0.000	0.0	14.14	112.73
		Type: Null Label: UPPER J21-C2								
111 Structure		222.00							14.14	
111 Total IN/OUT		222.00							14.14	112.73
112	1	0.00*	0	F	0.000	0.000	0.000	0.0	0.00	0.00
		Type: Null Label: UPPER J21-C2								
112 Structure		0.00							14.14	
112 Total IN/OUT		222.00							14.14	277.83
111 to 112 Routing						0.000	0.000			
121	1	178.00*	82	M	0.573	0.000	0.000	0.0	10.61	83.36
		Type: Pond Label: J21-C2 POND								
121 Structure		178.00							10.61	
121 Total IN		178.00							10.61	83.36
121 Total OUT									9.86	3.05
211	1	0.00*	0	F	0.000	0.000	0.000	0.0	0.00	0.00
		Type: Null Label: J21-C2 POND								
211 Structure		0.00							24.75	
211 Total IN/OUT		400.00							24.75	271.19
111 to 211 Routing						0.075	0.302			
311	1	332.00*	80	M	0.350	0.000	0.000	0.0	19.33	146.11
		Type: Pond Label: J21-C POND								
311 Structure		332.00							24.75	
311 Total IN		782.00							44.08	325.97
311 Total OUT									44.02	227.42
211 to 311 Routing						0.000	0.000			
312	1	0.00*	0	F	0.000	0.000	0.000	0.0	0.00	0.00
		Type: Null Label: J21-C POND								
312 Structure		0.00							44.02	
312 Total IN/OUT		782.00							44.02	227.42

SUBWATERSHED/STRUCTURE INPUT/OUTPUT TABLE

-Sedimentology-

SED: Sediment
Qpk: Peak Sediment Concentration
SSp: Peak Settleable Concentration
24VW: Volume Weighted Average Settleable Concentration - Peak 24 hours
24AA: Arithmetic Average Settleable Concentration - Peak 24 hours

SUB SWC	I	L (ft)	S	CN	T (hrs)	#	SED (tons)	Qpk (mg/l)	SSp (ml/l)	24VW (ml/l)	24AA (ml/l)
R 111	1	0.26	350.0	7.5	0.160	0.000	1	417.3			
Type: Null Label: UPPER J21-C2											
111 Structure								417.3			
111 Total IN/OUT								417.3	38852	15.39	3.47	2.36
R 112	1	0.00	0.0	0.0	0.000	0.000	0	0.0			
Type: Null Label: UPPER J21-C2											
112 Structure								417.3			
112 Total IN/OUT								417.3	38852	15.39	3.06	2.37
111 to 112 Routing					0.000						
R 121	1	0.27	400.0	8.0	0.300	0.000	1	371.7			
Type: Pond Label: J21-C2 POND											
121 Structure								371.7			
121 Total IN								371.7	36701	21.78	12.57	4.02
121 Total OUT								137.4	11282	0.00	0.00	0.00
R 211	1	0.00	0.0	0.0	0.000	0.000	0	0.0			
Type: Null Label: J21-C2 POND											
211 Structure								554.8			
211 Total IN/OUT								554.8	38400	11.31	5.93	3.44
111 to 211 Routing					0.075						
R 211	1	0.26	350.0	7.5	0.160	0.000	1	584.7			
Type: Pond Label: J21-C2 POND											
211 Structure								1007.2			
211 Total IN								1007.2	85178	9.00	5.28	3.07
211 Total OUT								447.7	32710	0.39	0.20	0.13
211 to 311 Routing					0.050						
R 312	1	0.00	0.0	0.0	0.000	0.000	0	0.0			
Type: Null Label: J21-C POND											
312 Structure								447.7			
312 Total IN/OUT								447.7	32946	0.39	0.20	0.13
311 to 312 Routing					0.021						

Company Name: Peabody Coal Company
Filename: C:\SEDCAD3\BM\C2\B10B User: JGS
Date: 08-13-1991 Time: 10:30:35
POND J21-C/C2 AS-BUILT 10 YR. STORM
Storm: 2.10 inches. 10 year-24 hour. SCS Type II
Hydrograph Convolution Interval. 0.5 hr

==========
POND INPUT/OUTPUT TABLE
==========

J1, B2, S1
J21-C2 POND

Drainage Area from J1, B2, S1, SWS(s-1. 178.0 acres
Total Contributing Drainage Area: 178.0 acres

DISCHARGE OPTIONS.

	Perf. Riser	Emergency Spillway
Riser Diameter (in)	18.0	----
Riser Height (ft)	5.00	----
Barrel Diameter (in)	18.0	----
Barrel Length (ft)	155.00	----
Barrel Slope (%)	1.60	----
Manning's n of Pipe	0.017	----
Spillway Elevation	6914.6	----
Lowest Elevation of Holes	6911.0	----
# of Holes/Elevation	4	----
Entrance Loss Coefficient	----	----
Tailwater Depth (ft)	----	----
Notch Angle (degrees)	----	----
Weir Width (ft)	----	----
Siphon Crest Elevation	----	----
Siphon Tube Diameter (in)	----	----
Siphon Tube Length (ft)	----	----
Manning's n of Siphon	----	----
Siphon Inlet Elevation	----	----
Siphon Outlet Elevation	----	----
Emergency Spillway Elevation	----	[illegible]
Crest Length (ft)	----	[illegible]
Z:1 (Left and Right)	[illegible]	[illegible]
Bottom Width (ft)	----	[illegible]

POND RESULTS.

Sediment Storage (ac-ft)	Permanent Pool (ac-ft)	Dead Space (%)	Sediment Algorithm
0.0	7.7	30.00	COTPS

*Sediment Capacity based on NO INPUT

	Volume (ac-ft)	Inflow (cfs)	Sediment (tons)	Concentration (mg/l)	Concentration (ml/l)	Zinc (mg/l)	Iron (mg/l)
IN	10.61	62.36	871.7	66701	21.78	12.67	4.52
OUT	9.86	5.05	137.4	11282	0.00	0.00	0.00

Peak Elevation	Trap Efficiency (%)	--Hydrograph Detention Time Based on-- Peak Flows (hrs)	Hydrograph Centroids (hrs)
6915.2	75.97	49.08	49.08

Dewatering Time (Max. Perf. Riser Elev to Lowest Orifice): 12.2 days

****

CAUTION: THE STAGE OF YOUR PRINCIPLE SPILLWAY MAY CAUSE BED SCOUR.
YOUR OBSERVED EFFLUENT MAY NOT MEET THE DESIRED EFFLUENT STANDARD.
INCREASE THE STAGE OF YOUR PRINCIPAL SPILLWAY.

J3, B1, S1
J21-C POND

Drainage Area from J3, B1, S1, SWS(s/l): 382.0 acres
Total Contributing Drainage Area. 782.0 acres

DISCHARGE OPTIONS:

	Trickle Tube	Perf. Riser	Emergency Spillway
Riser Diameter (in)	----	36.0	----
Riser Height (ft)	----	13.50	----
Barrel Diameter (in)	24.0	36.0	----
Barrel Length (ft)	72.00	180.00	----
Barrel Slope (%)	2.00	1.90	----
Manning's n of Pipe	0.027	0.013	----
Spillway Elevation	6889.5	6889.5	----
Lowest Elevation of Holes	----	6882.5	----
# of Holes/Elevation	----	5	----
Entrance Loss Coefficient	0.9	----	----
Tailwater Depth (ft)	0.0	----	----
Notch Angle (degrees)	----	----	----
Weir Width (ft)	----	----	----
Siphon Crest Elevation	----	----	----
Siphon Tube Diameter (in)	----	----	----
Siphon Tube Length (ft)	----	----	----
Manning's n of Siphon	----	----	----
Siphon Inlet Elevation	----	----	----
Siphon Outlet Elevation	----	----	----
Emergency Spillway Elevation	----	----	6894.0
Crest Length (ft)	----	----	50.0
Z:1 (Left and Right)	----	----	4 : 1
Bottom Width (ft)	----	----	22.0

POND RESULTS:

	Sediment	Permanent	[illegible]	Effluent
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

0.0	1.0	20.00	OSTRC

*Sediment Capacity based on NO INPUT

	Runoff Volume (ac-ft)	Peak Discharge (cfs)	Sediment (tons)	Peak Sediment Concentration (mg/l)	Peak Settleable Concentration (ml/l)	24-W (ml/l)	24-H (ml/l)
IN	44.63	265.47	1007.2	33175	9.68	5.28	1.69
OUT	44.62	227.43	e47.7	22710	0.39	0.20	0.17

Peak Elevation	Trap Efficiency (%)	--Hydrograph Detention Time Based on-- Peak Flows (hrs)	Hydrograph Centroids (hrs)
6894.3	95.69	2.73	2.72

Dewatering Time (Max. Perf. Riser Elev to Lowest Orifice): 0.5 days

****

Company Name: Peabody Coal Company
Filename: C:\SEDCAD3\BM\CCA0103 User: JGC
Date: 08-13-1991 Time: 10:30:35
POND J21-C/C2 AS-BUILT 10 YR. STORM
Storm: 2.10 inches, 10 year-24 hour, SCS Type II
Hydrograph Convolution Interval: 0.5 hr

==========
ELEVATION-DISCHARGE TABLE
==========

J1, C2, S1
J21-C2 POND

Drainage Area from J1, B2, S1, CWS's:1: 178.0 acres
Total Contributing Drainage Area: 178.0 acres

Elevation	Perf Riser (cfs)	Emergency Spillway (cfs)	Total Discharge (cfs)
6903.00	0.0	0.0	0.0
6903.50	0.0	0.0	0.0
6904.00	0.0	0.0	0.0
6904.50	0.0	0.0	0.0
6905.00	0.0	0.0	0.0
6905.50	0.0	0.0	0.0
6906.00	0.0	0.0	0.0
6906.50	0.0	0.0	0.0
6907.00	0.0	0.0	0.0
6907.50	0.0	0.0	0.0
6908.00	0.0	0.0	0.0
6908.50	0.0	0.0	0.0
6909.00	0.0	0.0	0.0
6909.50	0.0	0.0	0.0
6910.00	0.0	0.0	0.0
6910.50	0.0	0.0	0.0
6911.00	0.0>1.00	0.0	0.0
6911.50	0.1>1.00	0.0	0.1
6912.00	0.2>1.00	0.0	0.2
6912.50	0.3>1.00	0.0	0.3
6913.00	0.5>1.00	0.0	0.5
6913.50	0.6	0.0	0.6
6914.00	0.6	0.0	0.6
6914.50	0.7	0.0	0.7
6915.00	0.7	0.0	0.7
6915.50	3.1	0.0	3.1
6916.00	10.1	0.0	10.1
6916.50	11.7	0.0	11.7
6917.00	13.2	0.0	13.2
6917.50	13.7	0.0	13.7
6918.00	14.5	0.0	14.5
6918.10	15.7	14.4	30.1
6918.20	15.9	55.1	71.0
6918.30	16.1	86.6	102.7
6918.50	16.5	118.3	135.1
6918.70	17.2	158.7	175.9
6919.00	17.9	216.0	233.9

[illegible]	[illegible]	[illegible]		[illegible]
6920.00	19.5	474.6		494.1
6920.20	19.7	537.9		557.6
6920.50	19.9	645.6		665.4
6920.70	20.0	722.2		742.2
6921.00	20.2	844.5		864.7
6921.20	20.3	930.9		951.3
6921.50	20.5	1067.9		1088.4
6921.70	20.7	1164.1		1184.8
6922.00	20.9	1315.9		1336.8

J3, B1, S1
J21-C POND

Drainage Area from J3, B1, S1, SW3(s)1: 382.0 acres
Total Contributing Drainage Area: 782.0 acres

Elevation	Trickle Tube (cfs)	Perf. Riser (cfs)	Emergency Spillway (cfs)	Total Discharge (cfs)
6879.00	0.0	0.0	0.0	0.0
6879.50	0.0	0.0	0.0	0.0
6880.00	0.0	0.0	0.0	0.0
6880.50	0.0	0.0	0.0	0.0
6881.00	0.0	0.0	0.0	0.0
6881.50	0.0	0.0	0.0	0.0
6882.00	0.0	0.0	0.0	0.0
6882.50	0.0	0.0>4.00	0.0	0.0
6883.00	0.0	1.5>4.00	0.0	1.5
6883.50	0.0	3.6>4.00	0.0	3.6
6884.00	0.0	6.2>4.00	0.0	6.2
6884.50	0.0	9.1>4.00	0.0	9.1
6885.00	0.0	12.5	0.0	12.5
6885.50	0.0	12.8	0.0	12.8
6886.00	0.0	13.1	0.0	13.1
6886.50	0.0	13.3	0.0	13.3
6887.00	0.0	13.6	0.0	13.6
6887.50	0.0	13.8	0.0	13.8
6888.00	0.0	14.1	0.0	14.1
6888.50	0.0	14.3	0.0	14.3
6889.00	0.0	14.5	0.0	14.5
6889.50	0.0	14.7	0.0	14.7
6890.00	5.2	14.9	0.0	20.1
6890.50	14.7	29.2	0.0	43.9
6891.00	26.9	41.7	0.0	68.6
6891.50	41.8	46.1	0.0	87.8
6892.00	58.0	53.8	0.0	111.8
6892.50	76.2	59.0	0.0	135.2
6893.00	96.0	63.7	0.0	159.7
6893.50	117.3	68.1	0.0	185.4
6894.00	139.9	72.2	0.0	212.1
6894.50	163.9	76.1	0.0	240.0
6895.00	189.1	79.8	0.0	268.9
6895.50	204.9	81.4	100.1	286.3
6895.40	210.2	82.7	124.0	416.8
6895.50	215.4	83.4	149.7	448.5
6896.00	242.9	86.8	352.4	682.0
6896.50	271.5	90.0	565.4	926.9
6897.00	301.0	93.2	834.8	1229.0
6897.50	331.7	96.3	1147.3	1575.3
6898.00	357.4	99.2	1522.1	1978.7

Company Name: Peabody Coal Company
Filename: C:\SEDCAD3\BM\C2ND1CB User: JGS
Date: 08-13-1991 Time: 10:30:35
POND J21-C/C2 AS-BUILT 10 YR. STORM
Storm: 2.10 inches, 10 year 24 hour SCS Type II
Hydrograph Convolution Interval: 0.5 hr

ELEVATION-AREA-CAPACITY-DISCHARGE TABLE

J1, B2, C1
J21-C2 POND

Drainage Area from J1, B2, C1, SWS's,1: 178.0 acres
Total Contributing Drainage Area: 178.0 acres

SW#1: Perforated Riser
SW#2: Emergency Spillway

Elev	Stage (ft)	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	
6903.0	0.0	0.0	0.00	0.00	Top of Sediment Storage (0 Stage)
6903.5	0.5	0.2	0.04	0.00	
6904.0	1.0	0.3	0.16	0.00	
6904.5	1.5	0.5	0.35	0.00	
6905.0	2.0	0.6	0.62	0.00	
6905.5	2.5	0.8	0.96	0.00	
6906.0	3.0	0.9	1.38	0.00	
6906.5	3.5	1.0	1.85	0.00	
6907.0	4.0	1.1	2.37	0.00	
6907.5	4.5	1.1	2.92	0.00	
6908.0	5.0	1.2	3.52	0.00	
6908.5	5.5	1.3	4.14	0.00	
6909.0	6.0	1.4	4.80	0.00	
6909.5	6.5	1.4	5.49	0.00	
6910.0	7.0	1.5	6.22	0.00	
6910.5	7.5	1.5	6.96	0.00	
6911.0	8.0	1.6	7.73	0.00	Low Orifice of SW#1
6911.5	8.5	1.6	8.53	0.07	
6912.0	9.0	1.7	9.34	0.18	
6912.5	9.5	1.7	10.19	0.31	
6913.0	10.0	1.8	11.06	0.46	
6913.5	10.5	1.8	11.95	0.62	
6914.0	11.0	1.9	12.86	0.84	
6914.5	11.5	1.9	13.81	0.98	
6914.6	11.6	1.9	14.00	1.00	Stage of SW#1
6915.0	12.0	2.0	14.78	3.03	
6915.2	12.2	2.0	15.09	5.05	Peak Stage
6915.5	12.5	2.0	15.79	8.07	
6916.0	13.0	2.1	16.82	10.07	
6916.5	13.5	2.2	17.89	11.73	
6917.0	14.0	2.3	19.03	12.16	
6917.2	14.2	2.4	19.50	13.70	Stage of SW#2
6917.5	14.5	2.5	20.23	14.49	
6918.0	15.0	2.6	21.50	60.08	
6918.1	15.1	2.6	21.76	71.00	
6918.5	15.5	2.7	22.82	102.71	
6919.0	16.0	2.7	23.89	135.08	

6919.5	16.5	3.1	25.74	351.16
6919.7	16.7	3.1	26.35	405.19
6920.0	17.0	3.2	27.31	494.07
6920.2	17.2	3.3	27.96	557.55
6920.5	17.5	3.5	28.99	665.44
6920.7	17.7	3.6	29.68	742.23
6921.0	18.0	3.7	30.78	864.71
6921.2	18.2	3.8	31.53	951.25
6921.5	18.5	4.0	32.70	1088.40
6921.7	18.7	4.1	33.90	1184.00
6922.0	19.0	4.2	34.75	1336.81

****

J3, B1, S1
J21-C POND

Drainage Area from J3, B1, S1, SW2(s)1. 382.0 acres
Total Contributing Drainage Area: 782.0 acres

SW#1: Trickle Tube
SW#2: Perforated Riser
SW#3: Emergency Spillway

Elev	Stage (ft)	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	
6879.0	0.0	0.0	0.00	0.00	Top of Sediment Storage (0 Stage)
6879.5	0.5	0.0	0.01	0.00	
6880.0	1.0	0.1	0.04	0.00	
6880.5	1.5	0.2	0.13	0.00	
6881.0	2.0	0.3	0.28	0.00	
6881.5	2.5	0.4	0.47	0.00	
6882.0	3.0	0.6	0.73	0.00	
6882.5	3.5	0.7	1.03	0.00	Low Orifice of SW#2
6883.0	4.0	0.7	1.38	1.49	
6883.5	4.5	0.8	1.77	3.39	
6884.0	5.0	0.9	2.22	6.16	
6884.5	5.5	1.0	2.71	9.13	
6885.0	6.0	1.1	3.22	12.45	
6885.5	6.5	1.1	3.77	12.77	
6886.0	7.0	1.2	4.34	13.06	
6886.5	7.5	1.2	4.95	13.33	
6887.0	8.0	1.3	5.59	13.59	
6887.5	8.5	1.4	6.26	13.83	
6888.0	9.0	1.4	6.96	14.06	
6888.5	9.5	1.5	7.70	14.28	
6889.0	10.0	1.6	8.46	14.49	
6889.5	10.5	1.7	9.25	14.69	Stage of SW#1, SW#2
6890.0	11.0	1.7	10.14	20.07	
6890.5	11.5	1.8	11.07	43.36	
6891.0	12.0	1.9	11.96	65.61	
6891.5	12.5	2.0	12.93	89.64	
6892.0	13.0	2.1	13.94	111.80	
6892.5	13.5	2.2	15.00	132.16	
6893.0	14.0	2.3	16.12	150.69	
6893.5	14.5	2.4	17.29	166.35	
6894.0	15.0	2.5	18.52	212.11	
6894.3	15.3	2.6	19.23	227.43	Peak Stage
6894.5	15.5	2.6	19.81	240.00	Stage of SW#3
6895.0	16.0	2.8	21.16	368.83	
6895.5	16.5	2.8	21.99	390.43	
6895.4	16.4	2.8	22.27	416.23	
6895.5	16.5	2.9	22.56	440.47	

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6897.2	15.2	3.4	28.83	1575.81
6898.0	19.0	3.6	50.63	1978.06

APPENDIX C

J21-C2

SEDCAD+ (Input and Output)

25-Year, 6-Hour Storm

CIVIL SOFTWARE DESIGN

SEDCAD+ Version 3.0

POND 201-0202 AS-BUILT 25 YR. STORM

by

Name: JGO

Company Name: Peabody Coal Company
File Name: D:\SEDCAD3\BM\02AB25B

Date: 08-13-1991

Company Name: Peabody Coal Company
Filename: C:\SEDCAD2\BM\C2AB25B User: JGS
Date: 08-13-1991 Time: 15:00:00
POND J21-C/C2 AS-BUILT 25 YR. STORM
Storm: 1.90 inches, 25 year - 6 Hour, SCS Type II
Hydrograph Convolution Interval: 0.5 hr

GENERAL INPUT TABLE

Specific Gravity: 2.60
Submerged Bulk Specific Gravity: 1.25

Particle Size Distribution(s):

Size (mm)	POND 1 DIST. % Finer
0.0740	100.00
0.0370	67.00
0.0190	45.00
0.0090	36.00
0.0050	28.00
0.0021	23.00
0.0010	20.00
0.0001	0.00

Company Name: Peabody Coal Company
Filename: C:\SEDCAD3\BM\C2A825B User: JGS
Date: 02-13-1991 Time: 15:00:30
POND J21-C/C2 AS-BUILT 25 YR. STORM
Storm: 1.90 inches, 25 year- 6 hour, SCS Type II
Hydrograph Convolution Interval: 0.5 hr

SUBWATERSHED/STRUCTURE INPUT/OUTPUT TABLE

-Hydrology-

JGS SWS	Area (ac	CN	UHS	Tc (hrs)	K (hrs)	X	Base-Flow (cfs)	Runoff Volume (ac-ft)	Peak Discharge (cfs)
111 1	222.00*	83	M	0.326	0.000	0.000	0.0	11.61	127.78
Type: Null Label: UPPER J21-C2									
111 Structure	222.00							11.61	
111 Total IN/OUT	222.00							11.61	127.78
112 1	0.00*	0	F	0.000	0.000	0.000	0.0	0.00	0.00
Type: Null Label: UPPER J21-C2									
112 Structure	0.00							11.61	
112 Total IN/OUT	222.00							11.61	127.78
111 to 112 Routing					0.000	0.000			
121 1	178.00*	82	M	0.573	0.000	0.000	0.0	8.66	69.91
Type: Pond Label: J21-C2 POND									
121 Structure	178.00							8.66	
121 Total IN	178.00							8.66	69.91
121 Total OUT								8.66	51.99
211 1	0.00*	0	F	0.000	0.000	0.000	0.0	0.00	0.00
Type: Null Label: J21-C2 POND									
211 Structure	0.00							20.27	
211 Total IN/OUT	400.00							20.27	111.57
111 to 211 Routing					0.075	0.382			
211 1	222.00*	80	M	0.256	0.000	0.000	0.0	12.00	104.11
Type: Pond Label: J21-C POND									
211 Structure	222.00							32.27	
211 Total IN	222.00							32.27	104.11
211 Total OUT								32.27	249.19
211 to 212 Routing					0.050	1.326			
212 1	0.00*	0	F	0.000	0.000	0.000	0.0	0.00	0.00
Type: Null Label: J21-C POND									
212 Structure	0.00							32.27	
212 Total IN/OUT	782.00							32.27	249.19

SUBWATERSHED/STRUCTURE INPUT/OUTPUT TABLE

-Sedimentology-

SED: Sediment
SCp: Peak Sediment Concentration
SSp: Peak Settleable Concentration
24VW: Volume Weighted Average Settleable Concentration - Peak 24 hours
24AA: Arithmetic Average Settleable Concentration - Peak 24 hours

JBS	SWC	K	L (ft)	S (%)	CP	Tt (hrs)	*	SED (tons)	SCp (mg/l)	SSp (ml/l)	24VW (ml/l)	24AA (ml/l)
	111	1	0.26	350.0	7.5	0.160	0.000	1	401.4			
				Type: Null		Label: UPPER J21-C2						
	111 Structure								401.4			
	111 Total IN/OUT								401.4	37492	13.71	2.09	1.15
R	112	1	0.00	0.0	1.0	0.000	0.000	0	0.0			
				Type: Null		Label: UPPER J21-C2						
	112 Structure								401.4			
	112 Total IN/OUT								401.4	37492	13.71	10.08	1.17
	111 to 112 Routing					0.000						
R	121	1	0.27	400.0	3.0	0.300	0.000	1	538.1			
				Type: Pond		Label: J21-C2 POND						
	121 Structure								538.1			
	121 Total IN								538.1	63474	13.36	12.22	1.32
	121 Total OUT								51.5	11152	0.00	0.00	0.00
R	211	1	0.00	0.0	0.0	0.000	0.000	0	0.0				
				Type: Null		Label: J21-C2 POND						
	211 Structure								482.6				
	211 Total IN/OUT								482.6	36511	11.15	5.74	1.36
	111 to 211 Routing					0.075						
R	311	1	0.26	350.0	7.5	0.160	0.000	1	552.6			
				Type: Pond		Label: J21-C [illegible]						
	311 Structure								1035.1			
	311 Total IN								1035.1	36771	12.06	7.35	1.57
	311 Total OUT								513.7	15690	0.33	1.03	0.12
	211 to 311 Routing					0.052							
R	312	1	0.00	0.0	0.0	0.000	1.000	0	0.0				
				Type: Null		Label: J21-C POND							
	312 Structure								513.5				
	312 Total IN/OUT								513.5	15679	0.33	0.37	0.11
	311 to 312 Routing					0.031							

Company Name: Peabody Coal Company
Filename: C:\SEDCAD3\BM\C2AE25B User: JGS
Date: 08-13-1991 Time: 13:00:30
POND J21-C/C2 AS-BUILT 25 YR. STORM
Storm: 1.90 inches, 25 year- 6 hour, SCS Type II
Hydrograph Convolution Interval: 0.5 hr

==========
POND INPUT/OUTPUT TABLE
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J1, B2, S1
J21-C2 POND

Drainage Area from J1, B2, S1, SWS(s): 178.0 acres
Total Contributing Drainage Area: 178.0 acres

DISCHARGE OPTIONS:

	Emergency Spillway
Riser Diameter (in)	----
Riser Height (ft)	----
Barrel Diameter (in)	----
Barrel Length (ft)	----
Barrel Slope (%)	----
Manning's n of Pipe	----
Spillway Elevation	----
Lowest Elevation of Holes	----
# of Holes/Elevation	----
Entrance Loss Coefficient	----
Tailwater Depth (ft)	----
Notch Angle (degrees)	----
Weir Width (ft)	----
Siphon Crest Elevation	----
Siphon Tube Diameter (in)	----
Siphon Tube Length (ft)	----
Manning's n of Siphon	----
Siphon Inlet Elevation	----
Siphon Outlet Elevation	----
Emergency Spillway Elevation	[illegible]
Crest Length (ft)	[illegible]
Z:1 (Left and Right)	[illegible]
Bottom Width (ft)	[illegible]

POND RESULTS:

Sediment Storage* (ac-ft)	Permanent Pool (ac-ft)	Dead Space (%)	Sediment Algorithm
0.0	23.2	30.00	USER

*Sediment Capacity based on NO INPUT

	Volume (ac-ft)	Discharge (cfs)	Sediment (tons)	Concentration (mg/l)	Concentration (ml/l)	24HW (ml/l)	24HA (ml/l)
IN	3.55	69.91	538.1	63474	10.36	12.93	1.93
OUT	3.00	51.99	31.5	11152	0.00	0.00	0.00

Peak Elevation	Trap Efficiency (%)	--Hydrograph Detention Time Based on-- Peak Flows (hrs)	Hydrograph Centroids (hrs)
5913.1	94.08	0.34	0.34

****

J3, B1, S1
J21-C POND

Drainage Area from J3, B1, S1, DWS(s)1: 382.0 acres
Total Contributing Drainage Area: 782.0 acres

DISCHARGE OPTIONS:

	Emergency Spillway
Riser Diameter (in)	----
Riser Height (ft)	----
Barrel Diameter (in)	----
Barrel Length (ft)	----
Barrel Slope (%)	----
Manning's n of Pipe	----
Spillway Elevation	----
Lowest Elevation of Holes	----
# of Holes/Elevation	----
Entrance Loss Coefficient	----
Tailwater Depth (ft)	----
Notch Angle (degrees)	----
Weir Width (ft)	----
Siphon Crest Elevation	----
Siphon Tube Diameter (in)	----
Siphon Tube Length (ft)	----
Manning's n of Siphon	----
Siphon Inlet Elevation	----
Siphon Outlet Elevation	----
Emergency Spillway Elevation	5914.1
Crest Length (ft)	50.0
S's (Left and Right)	4 4
Bottom Width (ft)	30.0

POND RESULTS:

Sediment Storage* (ac-ft)	Permanent Pool (ac-ft)	Dead Space (%)	Sediment Algorithm
0.0	11.2	20.00	MSTPS

*Sediment Capacity based on NO INPUT

IN	36.27	264.36	1035.1	36971	12.06	7.35	1.33
OUT	36.27	245.18	613.7	16690	0.57	0.38	0.12

Peak Elevation	Trap Efficiency (%)	--Hydrograph Detention Time Based on-- Peak Flows (hrs)	Hydrograph Centroids (hrs)
5895.7	40.72	0.11	0.11

****

Company Name: Peabody Coal Company
Filename: C:\SEDCAD3\DM\C2AB25B User: JGS
Date: 08-13-1991 Time: 15:00:00
POND J21-C/C2 AS-BUILT 25 YR. STORM
Storm: 1.00 inches, 25 year - 6 hour, SCS Type II
Hydrograph Convolution Interval: 0.5 hr

ELEVATION-DISCHARGE TABLE

J1, B2, C2
J21-C2 POND

Drainage Area from J1, B2, C1, SWS(s)1. 178.0 acres
Total Contributing Drainage Area: 178.0 acres

Elevation	Emergency Spillway (cfs)	Total Discharge (cfs)
6902.00	0.0	0.0
6902.50	0.0	0.0
6903.00	0.0	0.0
6903.50	0.0	0.0
6904.00	0.0	0.0
6904.50	0.0	0.0
6905.00	0.0	0.0
6905.50	0.0	0.0
6906.00	0.0	0.0
6906.50	0.0	0.0
6907.00	0.0	0.0
6907.50	0.0	0.0
6908.00	0.0	0.0
6908.50	0.0	0.0
6909.00	0.0	0.0
6909.50	0.0	0.0
6910.00	0.0	0.0
6910.50	0.0	0.0
6911.00	0.0	0.0
6911.50	0.0	0.0
6912.00	0.0	0.0
6912.50	0.0	0.0
6913.00	0.0	0.0
6913.50	0.0	0.0
6914.00	0.0	0.0
6914.50	0.0	0.0
6915.00	0.0	0.0
6915.50	0.0	0.0
6916.00	0.0	0.0
6916.50	0.0	0.0
6917.00	0.0	0.0
6917.20	0.0	0.0
6917.50	0.0	0.0
6918.00	44.4	44.4
6918.10	55.1	55.1
6918.20	66.6	66.6
6918.50	118.3	118.3
6918.70	158.7	158.7
6919.00	216.0	216.0
6919.20	258.1	258.1
[illegible]	[illegible]	[illegible]

6920.00	413.6	413.6
6920.20	537.9	537.9
6920.50	645.6	645.6
6920.70	722.2	722.2
6921.00	844.5	844.5
6921.20	930.9	930.9
6921.50	1067.9	1067.9
6921.70	1164.1	1164.1
6922.00	1315.9	1315.9

J3, B1, S1
J21-C POND

Drainage Area from J3, B1, S1, SWE(s)1: 382.0 acres
Total Contributing Drainage Area: 782.0 acres

Elevation	Emergency Spillway (cfs)	Total Discharge (cfs)
6879.00	0.0	0.0
6879.50	0.0	0.0
6880.00	0.0	0.0
6880.50	0.0	0.0
6881.00	0.0	0.0
6881.50	0.0	0.0
6882.00	0.0	0.0
6882.50	0.0	0.0
6883.00	0.0	0.0
6883.50	0.0	0.0
6884.00	0.0	0.0
6884.50	0.0	0.0
6885.00	0.0	0.0
6885.50	0.0	0.0
6886.00	0.0	0.0
6886.50	0.0	0.0
6887.00	0.0	0.0
6887.50	0.0	0.0
6888.00	0.0	0.0
6888.50	0.0	0.0
6889.00	0.0	0.0
6889.50	0.0	0.0
6890.00	0.0	0.0
6890.50	0.0	0.0
6891.00	0.0	0.0
6891.50	0.0	0.0
6892.00	0.0	0.0
6892.50	0.0	0.0
6893.00	0.0	0.0
6893.50	0.0	0.0
6894.00	0.0	0.0
6894.50	0.0	0.0
6895.00	0.0	0.0
6895.30	100.1	100.1
6895.40	124.0	124.0
6895.50	149.7	149.7
6896.00	352.4	352.4
6896.50	563.4	563.4
6897.00	834.8	834.8
6897.50	1147.9	1147.9
6898.00	1522.3	1522.3

Company Name: Peabody Coal Company
Filename: C:\SEDCAD3\BM\C2AB2SB User: BJB
Date: 08-13-1991 Time: 15:00:30
POND J21-C/C2 AS-BUILT 25 YR. STORM
Storm: 1.90 inches, 25 year- 6 hour, SCS Type II
Hydrograph Convolution Interval: 0.5 hr

ELEVATION-AREA-CAPACITY-DISCHARGE TABLE

J1, B2, S1
J21-C2 POND

Drainage Area from J1, B2, S1, SWS(s)1: 178.0 acres
Total Contributing Drainage Area: 178.0 acres

SW#1: Emergency Spillway

Elev	Stage (ft)	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	
6903.0	0.0	0.0	0.00	0.00	Top of Sediment Storage (0 Stage)
6903.5	0.5	0.2	0.04	0.00	
6904.0	1.0	0.3	0.15	0.00	
6904.5	1.5	0.5	0.35	0.00	
6905.0	2.0	0.6	0.62	0.00	
6905.5	2.5	0.8	0.96	0.00	
6906.0	3.0	0.9	1.38	0.00	
6906.5	3.5	1.0	1.85	0.00	
6907.0	4.0	1.1	2.37	0.00	
6907.5	4.5	1.1	2.92	0.00	
6908.0	5.0	1.2	3.52	0.00	
6908.5	5.5	1.3	4.14	0.00	
6909.0	6.0	1.4	4.80	0.00	
6909.5	6.5	1.4	5.49	0.00	
6910.0	7.0	1.5	6.22	0.00	
6910.5	7.5	1.5	6.96	0.00	
6911.0	8.0	1.6	7.73	0.00	
6911.5	8.5	1.6	8.53	0.00	
6912.0	9.0	1.7	9.34	0.00	
6912.5	9.5	1.7	10.19	0.00	
6913.0	10.0	1.8	11.06	0.00	
6913.5	10.5	1.8	11.95	0.00	
6914.0	11.0	1.9	12.86	0.00	
6914.5	11.5	1.9	13.81	0.00	
6915.0	12.0	2.0	14.78	0.00	
6915.5	12.5	2.0	15.79	0.00	
6916.0	13.0	2.1	16.82	0.00	
6916.5	13.5	2.2	17.89	0.00	
6917.0	14.0	2.3	19.03	0.00	
6917.1	14.2	2.4	19.50	0.00	Stage of SW#1
6917.5	14.5	2.5	20.23	0.00	
6918.0	15.0	2.6	21.50	44.09	
6918.1	15.1	2.6	21.68	51.09	Peak Stage
6918.1	15.1	2.6	21.76	55.08	
6918.2	15.2	2.7	22.02	66.60	
6918.5	15.5	2.7	22.83	118.29	
6918.7	15.7	2.8	23.39	158.71	
6919.0	16.0	2.9	24.24	225.[illegible]	

6920.0	17.0	3.2	27.31	474.56
6920.3	17.2	3.3	27.96	537.90
6920.5	17.5	3.5	28.98	645.58
6920.7	17.7	3.6	29.68	722.23
6921.0	18.0	3.7	30.78	844.51
6921.2	18.2	3.8	31.53	930.92
6921.5	18.5	4.0	32.70	1067.88
6921.7	18.7	4.1	33.50	1164.13
6922.0	19.0	4.2	34.75	1315.94

J3, B1, S1
J21-C POND

Drainage Area from J3, B1, S1, SWS(s)1: 332.0 acres
Total Contributing Drainage Area: 732.0 acres

SW#1. Emergency Spillway

Elev	Stage (ft)	Area (ac)	Capacity (ac-ft)	Discharge (cfs)	
6879.0	0.0	0.0	0.00	0.00	Top of Sediment Storage (= Stage 0
6879.5	0.5	0.0	0.01	0.00	
6880.0	1.0	0.1	0.04	0.00	
6880.5	1.5	0.2	0.13	0.00	
6881.0	2.0	0.3	0.28	0.00	
6881.5	2.5	0.4	0.47	0.00	
6882.0	3.0	0.6	0.73	0.00	
6882.5	3.5	0.7	1.03	0.00	
6883.0	4.0	0.7	1.38	0.00	
6883.5	4.5	0.8	1.77	0.00	
6884.0	5.0	0.9	2.22	0.00	
6884.5	5.5	1.0	2.71	0.00	
6885.0	6.0	1.1	3.22	0.00	
6885.5	6.5	1.1	3.77	0.00	
6886.0	7.0	1.2	4.34	0.00	
6886.5	7.5	1.2	4.95	0.00	
6887.0	8.0	1.3	5.59	0.00	
6887.5	8.5	1.4	6.26	0.00	
6888.0	9.0	1.4	6.96	0.00	
6888.5	9.5	1.5	7.70	0.00	
6889.0	10.0	1.6	8.48	0.00	
6889.5	10.5	1.7	9.29	0.00	
6890.0	11.0	1.7	10.14	0.00	
6890.5	11.5	1.8	11.03	0.00	
6891.0	12.0	1.9	11.96	0.00	
6891.5	12.5	2.0	12.93	0.00	
6892.0	13.0	2.1	13.94	0.00	
6892.5	13.5	2.2	15.00	0.00	
6893.0	14.0	2.3	16.12	0.00	
6893.5	14.5	2.4	17.29	0.00	
6894.0	15.0	2.5	18.52	0.00	
6894.5	15.5	2.6	19.81	0.00	Stage of SW#1
6895.0	16.0	2.8	21.16	0.00	
6895.3	16.3	2.8	21.99	100.10	
6895.4	16.4	2.9	22.27	124.01	
6895.5	16.5	2.9	22.56	149.67	
6895.7	16.7	2.9	23.25	245.18	Peak Stage
6896.0	17.0	3.0	24.33	332.37	
6896.5	17.5	3.1	25.56	565.45	
6897.0	18.0	3.3	27.16	334.76	
6897.5	18.5	3.4	28.83	1147.70	