

## PERMIT CHANGE TRACKING FORM

DATE RECEIVED	6/6/94 <i>Intentional</i>	PERMIT NUMBER	ACT/015/018
Title of Proposal:	Sediment <del>Control</del> Box	PERMIT CHANGE #	94G
Description:	Denied 10/93 and 4/6/94 Now Resubmitted again	PERMITTEE	<i>Triflorop</i>
		MINE NAME	<i>Deer Mine</i>

<input checked="" type="checkbox"/> 15 DAY INITIAL RESPONSE TO PERMIT CHANGE APPLICATION  <input type="checkbox"/> Notice of Review Status of proposed permit change sent to the Permittee. <input type="checkbox"/> Request additional review copies prior to Division/Other Agency review. <input type="checkbox"/> Notice of Approval of Publication. (If change is a Significant Revision.) <input type="checkbox"/> Notice of request to modify proposed permit change prior to approval.	DATE DUE	DATE DONE	RESULT	
			<i>6/7</i>	<input checked="" type="checkbox"/> ACCEPTED <input type="checkbox"/> REJECTED
			Permit Change Classification	
			<input type="checkbox"/> Significant Permit Revision	
			<input type="checkbox"/> Permit Amendment	
			<input type="checkbox"/> Incidental Boundary Change	

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGM REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> Administrative						
<input type="checkbox"/> Biology						
<input checked="" type="checkbox"/> Engineering <span style="float: right;"><i>ww</i></span>		<i>7/7</i>		<i>8/31 ww</i>		
<input type="checkbox"/> Geology						
<input type="checkbox"/> Soils						
<input type="checkbox"/> Hydrology						
<input type="checkbox"/> Bonding						
<input type="checkbox"/> AVS Check						

COORDINATED REVIEWS	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> OSMRE						
<input type="checkbox"/> US Forest Service						
<input type="checkbox"/> Bureau of Land Management						
<input type="checkbox"/> US Fish and Wildlife Service						
<input type="checkbox"/> US National Parks Service						
<input type="checkbox"/> UT Environmental Quality						
<input type="checkbox"/> UT Water Resources						
<input type="checkbox"/> UT Water Rights						
<input type="checkbox"/> UT Wildlife Resources						
<input type="checkbox"/> UT State History						
<input type="checkbox"/> Other						

<input type="checkbox"/> Public Notice/Comment/Hearing Complete (If the permit change is a Significant Revision) <input type="checkbox"/> Copies of permit change marked and ready for MRP. <input type="checkbox"/> Special Conditions/Stipulations written for approval. <input type="checkbox"/> TA and CHIA modified as required. <input type="checkbox"/> Permit Change Approval Form ready for approval.	<input type="checkbox"/> Permit Change Approval Form signed and approved effective as of this date. <input type="checkbox"/> Permit Change Denied. <input type="checkbox"/> Notice of <input type="checkbox"/> Approval <input type="checkbox"/> Denial to Permittee. <input type="checkbox"/> Copy of Approved Permit Change to File. <input type="checkbox"/> Copy of Approved Permit Change to Permittee. <input type="checkbox"/> Copies to Other Agencies and Price Field Office.
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Copy from #3  
File Folder #3

**PERMIT AMENDMENT APPROVAL**

Title: <u>Sediment Retention Box</u>	PERMIT NUMBER: <u>015/018 #3</u>
Description:	PERMIT CHANGE #: <u>94 G</u>
	MINE: <u>Deer Creek</u>
	PERMITTEE: <u>Pacificorp</u>

**WRITTEN FINDINGS FOR PERMIT APPLICATION APPROVAL**

YES, NO or N/A

1.	The application is complete and accurate and the applicant has complied with all the requirements of the State Program.	Yes
2.	The proposed permit area is not within an area under study or administrative proceedings under a petition, filed pursuant to R645-103-400 or 30 CFR 769, to have an area designated as unsuitable for coal mining and reclamation operations, unless:	Yes
A.	The applicant has demonstrated that before January 4, 1977, substantial legal and financial commitments were made in relation to the operation covered by the permit application, or	Yes
B.	The applicant has demonstrated that the proposed permit area is not within an area designated as unsuitable for mining pursuant to R645-103-300 and R645-103-400 or 30 CFR 769 or subject to the prohibitions or limitations of R645-103-230.	Yes
3.	For coal mining and reclamation operations where the private mineral estate to be mined has been severed from the private surface estate, the applicant has submitted to the Division the documentation required under R645-301-114.200.	Yes
4.	The Division has made an assessment of the probable cumulative impacts of all anticipated coal mining and reclamation operations on the hydrologic balance in the cumulative impact area and has determined that the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area.	Yes
5.	The operation would not affect the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.).	Yes
6.	The Division has taken into account the effect of the proposed permitting action on properties listed on and eligible for listing on the National Register of Historic Places. This finding may be supported in part by inclusion of appropriate permit conditions or changes in the operation plan protecting historic resources, or a documented decision that the Division has determined that no additional protection measures are necessary.	Yes
7.	The Applicant has demonstrated that reclamation as required by the State Program can be accomplished according to information given in the permit application.	Yes
8.	The Applicant has demonstrated that any existing structure will comply with the applicable performance standards of R645-301 and R645-302.	Yes
9.	The Applicant has paid all reclamation fees from previous and existing coal mining and reclamation operations as required by 30 CFR Part 870.	Yes
10.	The Applicant has satisfied the applicable requirements of R645-302.	NA
11.	The Applicant has, if applicable, satisfied the requirements for approval of a long-term, intensive agricultural postmining land use, in accordance with the requirements of R645-301-353.400.	NA

**SPECIAL CONDITIONS OR STIPULATIONS TO THE PERMIT AMENDMENT APPROVAL**

YES NO

1.	Are there any variances associated with this permit amendment approval? If yes, attach.		X
2.	Are there any special conditions associated with this permit amendment approval? If yes, attach.		X
3.	Are there any stipulations associated with this permit amendment approval? If yes, attach.		X

The Division hereby grants approval for Permit Amendment to the Existing Permit by incorporation of the proposed changes described herein and effective the date signed below. All other terms and conditions of the Existing Permit shall be maintained and in effect except as superseded by this Permit Amendment.

Signed Dan R. Haddock  
Division of Oil, Gas and Mining

August 31, 1994  
EFFECTIVE DATE



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor  
Ted Stewart  
Executive Director  
James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

August 31, 1994

TO: Daron Haddock, Permit Supervisor  
FROM: Wayne H. Western, Reclamation Engineer *WHW*  
RE: Sediment Retention Box Amendment, PacifiCorp, Deer Creek Mine,  
ACT/015/018, Folder #2, Emery County, Utah

SYNOPSIS

In the Division's letter of June 17, 1994, two deficiencies to the Operator's sediment retention box were stated. The deficiencies involved: (1) a stability analysis of the slope on which the box would be located, and (2) showing the access road to the pond on the surface facilities map.

The Operator has supplied the Division with a stability analysis. The access road is shown on drawing DS1491D, Deer Creek Mine Sediment Retention Box.

ANALYSIS

The slope on which the sediment pond will be located must have a minimum static safety factor of 1.3. The Operator has submitted a stability analysis showing the slope has a safety factor of 7.04, which exceeded the regulatory requirement. The road to the retention box is shown on a surface facilities map. All of the deficiencies addressed in the June 17, 1994 letter have been met.

RECOMMENDATION

Approve the proposal.

DEERBOX.WHW

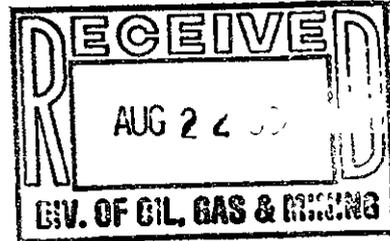
One Utah Center  
201 South Main, Suite 2100  
Salt Lake City Utah 84140-0021  
(801) 220-2000

Val E. Payne  
Sr. Env. Engineer  
PacifiCorp Field Office  
P. O. Box 1005  
Huntington, UT 84528  
(801) 653-2312  
FAX (801) 653-2479



August 16, 1994

Utah Coal Regulatory Program  
Division of Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203



Attention: Pamela Grubaugh-Littig

RE: SEDIMENT RETENTION BOX AMENDMENT, PACIFICORP, DEER CREEK MINE,  
ACT/015/018, EMERY COUNTY, UTAH

Dear Pamela,

In response to your letter dated June 17, 1994 and conversations with the Division's Wayne Western, which brought up two deficiencies, please find the following as changes to the June 1, 1994 "Sediment Retention Box Amendment". The deficiencies are:

1. Slope stability
2. Labeling the present access to the sediment pond area on drawing DS149D.

The slope stability concern is addressed by replacing the 6/1/94 page 6.1 with pages 6.1 and 6.2 of this submittal. Drawing DS149D has been corrected to address the second deficiency. Please replace the drawing submitted on 6/1/94 with the enclosed drawing. A modification to the 6/1/94 The "Application for Permit Change, Detailed Schedule of Changes to the Permit", is submitted to reflect the changes.

The other information submitted in the 6/1/94 submittal remains unchanged, and with the above changes is submitted as the "Sediment Retention Box Amendment".

If you have any questions, please call Guy Davis or me at 653-2321, ext. 19 or 16.

Sincerely,

A handwritten signature in cursive script that reads "Val E. Payne".

Val E. Payne  
Sr. Env. Engineer

cc: Morgan Moon  
John Christensen

## Application for Permit Change Detailed Schedule of Changes to the Permit

Title of Change:

SEDIMENT RETENTION BOX

Permit Number: ACT 10151018

Mine: DEER CREEK

Permittee: PACIFIC COP

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. Include page, section and drawing numbers as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4, TABLE OF CONTENTS, REVISED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4.1, TABLE OF CONTENTS, ADDED 5/23/94
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 3-22, REVISED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 3-22.1, ADDED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 3-22.2, ADDED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 3-22.3, ADDED 5/23/94
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4-10, REVISED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4-10.1, ADDED 5/23/94
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4-53, REVISED 5/23/94
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4-54, REVISED 5/23/94
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4-59.2.1, REVISED 5/23/94
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4-65, REVISED 5/23/94
<del><input checked="" type="checkbox"/> ADD</del>	<del><input type="checkbox"/> REPLACE</del>	<del><input type="checkbox"/> REMOVE</del>	<del>PAGE 6.1, APPENDIX III, ADDED 5/23/94</del>
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 29, APPENDIX IX, ADDED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 30, APPENDIX IX, ADDED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 31, APPENDIX IX, ADDED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	DRAWING DS1491D, PACKET 3-14
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 6.1, APPENDIX III, ADDED 8/16/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 6.2, APPENDIX III, ADDED 8/16/94
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

File: SEDPOND - SEDIMENT CONTAINMENT BOX, DEER CREEK MINE  
 SINGLE CENTER ANALYSIS  
 Approximately 20 slices selected  
 Circle center at X= 65.8, Y= 295.8  
 FS= 7.060 at R= 81.5

= 65.8 Y= 295.8 R= 81.5

SLICE	X-LEFT	DX	TAN THETA	TAN PHI	COHESION	VERTICAL FORCE	PORE WATER FORCE	RESISTING TERM	DRIVING TERM
The following slice has a normal force=						-384			
1	2.4	4.6	1.136	0.577	1872	1108	640	12302	832
2	7.0	4.6	0.964	0.577	1872	3128	1807	12071	2170
3	11.6	4.6	0.827	0.577	1872	4794	2770	11891	3055
4	16.2	4.6	0.713	0.577	1872	6175	3568	11746	3586
5	20.8	4.6	0.616	0.577	1872	7313	4225	11625	3834
6	25.4	4.6	0.529	0.577	1872	8241	4762	11521	3855
7	30.0	5.0	0.448	0.577	1872	8794	5081	12160	3595
8	35.0	5.0	0.371	0.577	1872	7469	4316	11573	2595
9	40.0	5.0	0.299	0.577	1872	7158	4136	11313	2047
10	45.0	5.0	0.231	0.577	1872	7872	4548	11361	1768
11	50.0	0.1	0.197	0.577	1872	190	95	243	37
12	50.1	1.9	0.184	0.577	1872	4137	1820	4903	749
13	52.0	0.1	0.171	0.577	1872	181	97	236	-1688
14	52.1	4.6	0.142	0.577	1872	6633	4520	9753	930
15	56.7	4.6	0.084	0.577	1872	6887	4667	9798	579
16	61.2	4.6	0.028	0.577	1872	7014	4741	9843	197
17	65.8	4.1	-0.025	0.577	1872	6303	4259	8876	-159
18	69.9	1.2	-0.058	0.577	1872	2302	1240	2878	1586
19	71.1	0.9	-0.071	0.577	1872	2071	926	2365	-146
20	72.0	0.1	-0.077	0.577	1872	161	78	237	-12
21	72.1	5.3	-0.111	0.577	1872	4164	2406	11167	-458
22	77.4	5.3	-0.178	0.577	1872	2647	1529	10957	-465
23	82.8	5.3	-0.248	0.577	1872	918	531	10736	-221

GEOSYSTEM SLOPE STABILITY PROGRAM  
 SB-SLOPE

PROJECT DATA:

Project: SEDIMENT CONTAINMENT BOX

Location: DEER CREEK MINE

Filename: SEDPOND Description: SEDIMENT CONTAINMENT BOX, DEER CREEK MINE

ANALYSIS DATA:

Point No.	X	Y	Line No.	Left Point	Right Point	Soil No.	Phreatic Line	Soil No.	Density pcf	Cohesion psf	Phi Deg
1	0.0	245.0	1	1	2	1	Y	1	108.0	1872	30.
2	30.0	240.0	2	2	3	1	Y	2	160.0	9000	45.
3	40.0	231.0	3	3	4	1	Y				
4	50.0	231.0	4	4	5	2	Y				
5	52.0	231.0	5	5	8	2	Y				
6	71.1	231.0	6	8	9	2	Y				
7	72.0	231.0	7	9	6	2	Y				
8	52.1	223.0	8	6	7	2	Y				
9	69.9	223.0	9	7	10	2	Y				
10	72.1	223.0	10	10	13	1	Y				
11	50.1	221.0	11	4	11	1	Y				
12	72.0	221.0	12	11	12	1	Y				
13	95.0	215.0	13	12	10	1	Y				

APPENDIX III  
 6.1  
 Added 8/16/94

Free water surface, left point = 5  
 right point = 6

# SB-SLOPE

## Simplified Bishop Slope Stability Analysis

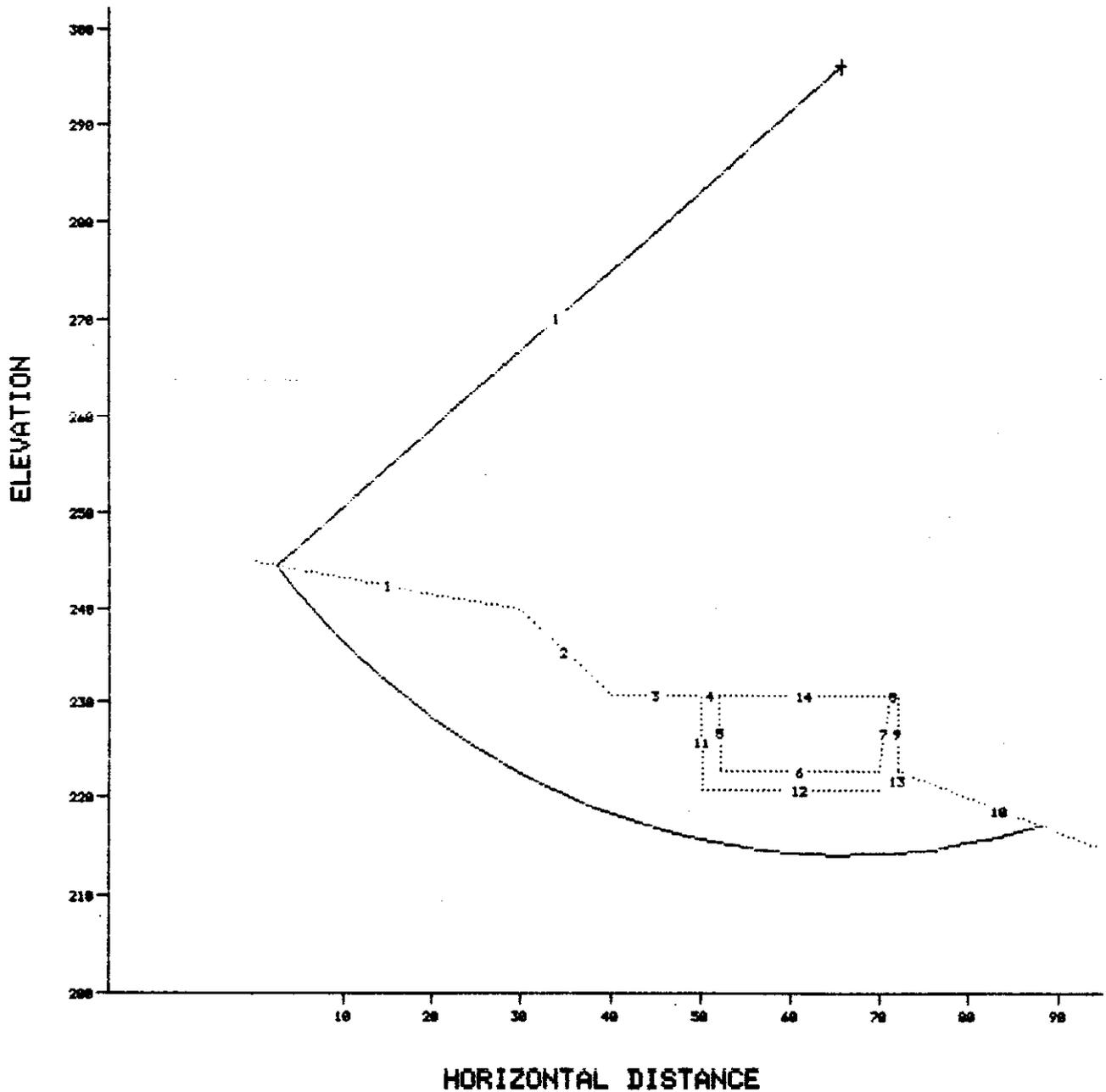
PROJECT: SEDIMENT CONTAINMENT BOX

LOCATION: DEER CREEK MINE

FILE: SEDPOND

COMPLETE SLOPE CROSS SECTION

CIRCLE	X	Y	RADIUS	FS
1	65.8	295.8	81.5	7.04



OSMRE - TIPS

APPENDIX III

6.2

Added 8/16/94

File: SEDPOND - SEDIMENT CONTAINMENT BOX, DEER CREEK MINE  
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GEOSYSTEM SLOPE STABILITY PROGRAM  
 SB-SLOPE

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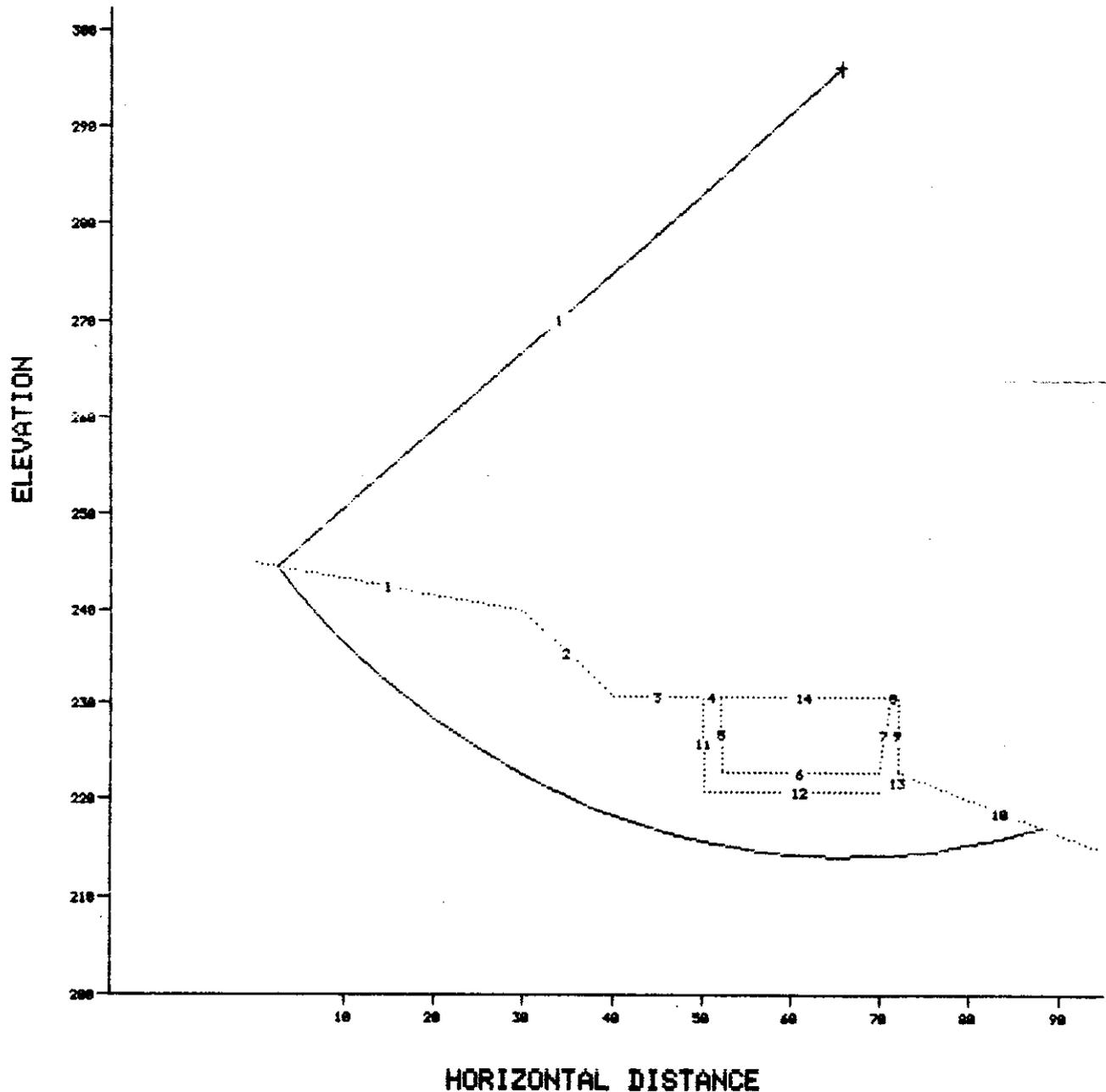
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22	77.4	5.3	-0.178	0.577	1872	2647	1529	10957	-465
23	82.8	5.3	-0.248	0.577	1872	918	531	10736	-221

GEOSYSTEM SLOPE STABILITY PROGRAM  
 SB-SLOPE

PROJECT DATA:

Project: SEDIMENT CONTAINMENT BOX

Location: DEER CREEK MINE

Filename: SEDPOND Description: SEDIMENT CONTAINMENT BOX, DEER CREEK MINE

ANALYSIS DATA:

Point No.	X	Y	Line No.	Left Point	Right Point	Soil No.	Phreatic Line	Soil Density pcf	Cohesion psf	Phi Deg
1	0.0	245.0	1	1	2	1	Y	108.0	1872	30.
2	30.0	240.0	2	2	3	1	Y	160.0	9000	45.
3	40.0	231.0	3	3	4	1	Y			
4	50.0	231.0	4	4	5	2	Y			
5	52.0	231.0	5	5	8	2	Y			
6	71.1	231.0	6	8	9	2	Y			
7	72.0	231.0	7	9	6	2	Y			
8	52.1	223.0	8	6	7	2	Y			
9	69.9	223.0	9	7	10	2	Y			
10	72.1	223.0	10	10	13	1	Y			
11	50.1	221.0	11	4	11	1	Y			
12	72.0	221.0	12	11	12	1	Y			
13	95.0	215.0	13	12	10	1	Y			

APPENDIX III

6.1

Added 8/16/94

Free water surface, left point = 5  
 right point = 6

# SB-SLOPE

## Simplified Bishop Slope Stability Analysis

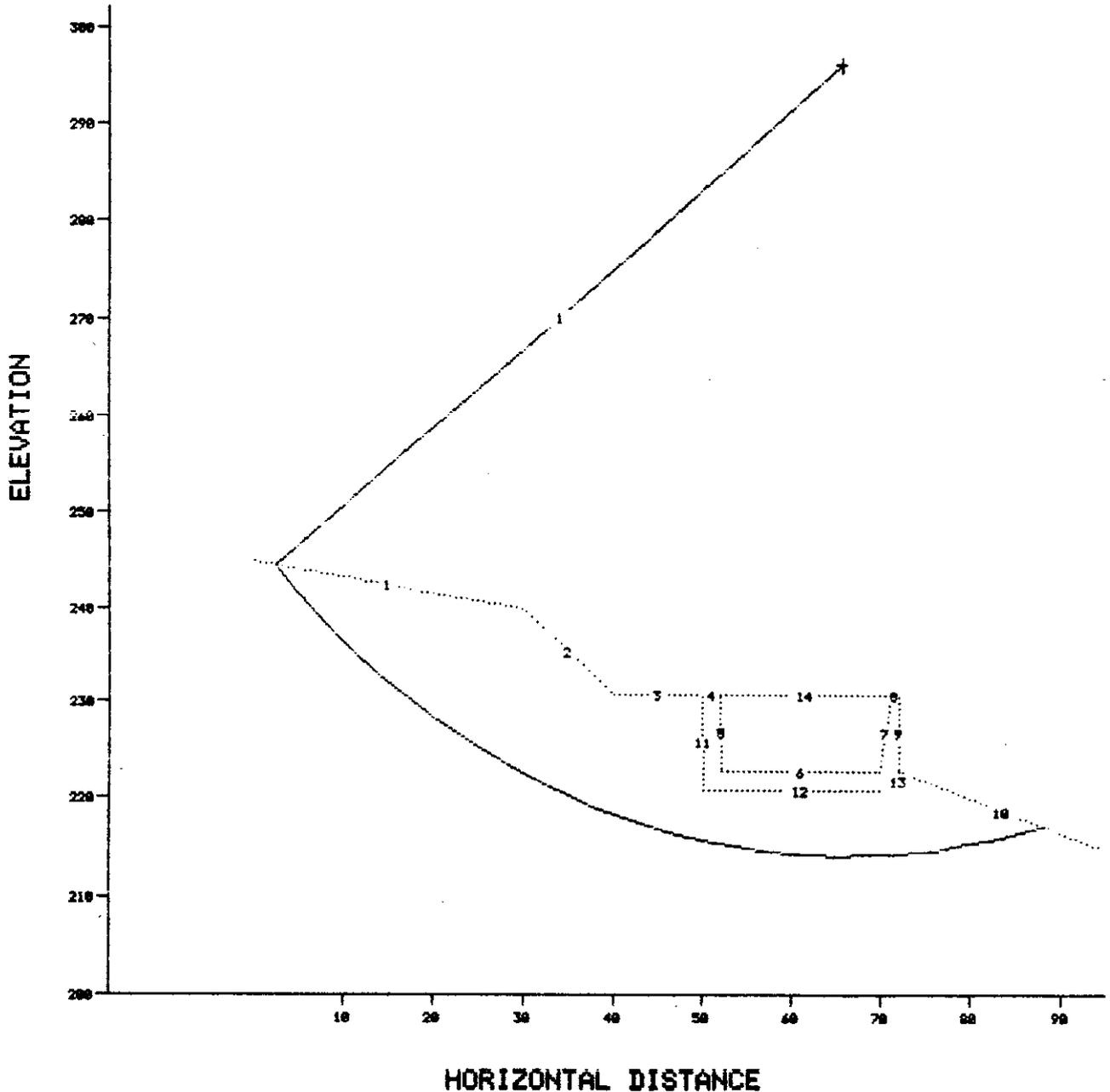
PROJECT: SEDIMENT CONTAINMENT BOX

LOCATION: DEER CREEK MINE

FILE: SEDPOND

COMPLETE SLOPE CROSS SECTION

CIRCLE	X	Y	RADIUS	FS
1	65.8	295.8	81.5	7.04



OSMRE - TIPS

APPENDIX III

6.2

Added 8/16/94

946

DEER CREEK MAPS AND DRAWINGS

Volume 4

**Legal, Financial, Compliance Information**

1-1	Coal Ownership	CM-10522-DR
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2-19	Mule Deer Habitat Elk Habitat (8 1/2 x 11)	CM-10543-DR

**Operation Plan**

3-1	Mine Plan-Blind Canyon Seam (sheet 1)	CM-10856-DR
3-2	Mine Plan-Blind Canyon Seam (sheet 2)	CM-10856-DR
3-3	Mine Plan-Blind Canyon Seam (sheet 3)	CM-10856-DR
3-4	Deleted 10/9/90	
3-5	Deleted 10/9/90	

Volume 5

3-6	Life of Mine Plan 5 Year Increments- Blind Canyon Seam	CM-10857-DR
3-7	Life of Mine Plan 5 Year Increments- Hiawatha Seam	CM-10858-DR
3-8	Deleted 10/9/90	
3-9	Surface Yard Map Sediment Trap	DS-202E DS1159C

3-10	Sanitation System/Sewer Lines (R&S)	7750-C1
3-11	Sanitation System Seepage Pit Design Sewer Pipeline Plan View	DS-667-C DS-668-C
3-12	Deleted 10/9/90	
3-13	Deleted 10/9/90	
3-14	Sediment Retention Box	DS1491D
3-15	Sedimentation Pond Sedimentation Pond Cross Section	CM-10867-DR CM-10593-DR
3-16	Sedimentation Pond	MK-00-52-1-010

slopes. Fill slopes are 2.5h:1V. The rip-rapped upstream dam slope is constructed at 2.5H:1V. The downstream dam slope is 2H:1V.

The outlet works for the sediment pond are constructed of 24" CSP, screened to prevent clogging and capped with a skimmer ring.

Slopes constructed on fill have been revegetated to minimize erosion. (Fall 1988)

Maintenance of the sediment pond includes quarterly inspections and monthly discharge monitoring. A copy of the inspection reports is submitted annually to the Division by a registered professional engineer. A copy of the discharge report is submitted monthly to the Division. The pond will be dredged of sediment when sediment volume is 60% of design capacity.

The cleaning of the sediment pond is very time consuming, costly and difficult. To prolong the times between cleaning the sediment from the pond, a "Sediment Retention Box" has been installed on the west bank of the pond. The Sediment Retention Box will reduce the cleaning of the pond to an estimated once every 5 to 8 years. The Sediment Retention Box will be cleaned 2 to 3 times a year or as needed.

The inside dimensions of the box are 35 ft. long, 15 ft. wide and 8 ft. high. The volume is 155 cubic yards (.1 acre ft.) and will be cleaned at 80% capacity. The walls are reinforced concrete, 1 ft. thick. A diversion dam is constructed downstream of the culvert outlet near the Weigh Bin Building. The diversion dam is of reinforced concrete, one slide gate and is anchored by dowelling to the bottom of the existing pond inlet channel. When the gate is open flow will enter into the 12 inch PVC pipe leading to the Sediment Retention Box. In the event that the 12 inch culvert cannot handle the storm event flow, the water will flow over the diversion and enter the sediment pond. The overflow channel is the same design and dimensions as the existing channel. The Sediment Retention Box will be removed from operation if ice build-up problems occur, due to winter conditions. Winter runoff will go directly to the sediment pond if this occurs.

Access to the Sediment Retention Box is provided for removal of the accumulated sediment.

Under normal operation, the disturbed water will enter the diversion dam and flow through the 12 inch by-pass into the box. A series of removeable baffles are installed in the box to

increase the effective settling distance. The water then exits the box into the existing sediment pond via four 1' half-round pipes. A 24" half-round discharge culvert carries the flow from the retention box to the pond. Minor erosion at this discharge point will be controlled by extending the half-round into the pond below the normal water level. When the box fills to 80% capacity, the gate at the diversion dam will be closed, directing the flow directly to the pond. The box will be decanted into the pond and the sediment will be removed and hauled to the Deer Creek Waste Rock Facility for disposal. Once the box is cleaned the gate at the diversion dam will be opened again returning to normal operation.

The Sediment Retention Box will be removed in conjunction with reclamation of the sediment pond.

Reclamation of the pond will complete the proposed Deer Creek reclamation process. The pond will be allowed to dry followed by backfilling and grading. Graded contours will be compatible with the natural surroundings. Revegetation will be performed as outlined in Reclamation Plan.

Mine Facilities Pad - An earthen fill structure is utilized for material storage and personnel facilities. The fill

occupies approximately 8 1/2 acres. Construction material for the fill was obtained from the south slope of the Deer Creek drainage and from the sediment pond excavation.

Approximately 50% of the fill structure is asphalt or concrete surfaced providing access to mine facilities and

The equipment used is listed below:

	<u>Hourly Rate</u>
988B Loader, 375 HP, 7 yd. bucket	\$106.88
769C Off-highway Truck, 35-Ton	74.62
825C Compactor, 300 HP	88.85
621B Scrapers, 330 HP, 14 cy	84.59
D8G Dozer w/straight blade	63.00
235 Excavator, 195 HP, std. bucket	107.84
D6D Dozer w/angle blade	46.69
John Deere 500 Backhoe	22.30
Flat-Bed Truck, diesel, mediu, 250 HP	16.24
Dump Truck, 50 Ton, 773	84.39
Crane 50T, diesel, hydraulic, Trk MTD	71.90
Air Drill, Track, IR DM25	90.09
Dump Truck, 10 yard	30.00

The labor rates used are as follows:

Supervisor	\$36.70 per hour
Operator	\$34.20 per hour
Laborer	\$26.05 per hour
Truck Driver	\$27.05 per hour
Laborer (Wrecking)	\$28.85 per hour

Stability:

Backfilled slopes will be constructed not to exceed 2:1. material used will be 3 foot diameter and less. The material will be placed in 18 inch lifts and compacted with a 825C Compactor with a dozer blade.

No ground water is located in any of the backfill

regraded, or otherwise stabilized; topsoil will be replaced; and the areas will be reseeded or replanted. Based on our present maintenance program for fill slopes, we estimate 32 hours per year of work will be needed.

#### PLAN FOR GRADING ALONG THE CONTOUR

All final grading, preparation of overburden before replacement of topsoil, and placement of topsoil, shall be done along the contour to minimize subsequent erosion and instability. If such grading, preparation, or placement along the contour is hazardous to equipment operators, then grading, preparation, or placement in a direction other than generally parallel to the contour may be used. In all cases, grading, preparation, or placement shall be conducted in a manner which minimizes erosion and provides a surface for replacement of topsoil which will minimize slippage.

All roads servicing disturbed areas will be scarified prior to topsoil placement.

#### RECLAMATION COST R645-301-334

Estimated costs for reclamation are based on 1990 values and include all lands having been disturbed for the purpose of handling, crushing, storing and transporting coal extracted through the Deer Creek Mine.

The following are the estimated costs for reclamation:

Total Reclamation Costs	\$1,473,173
Mobilization and Demobilization*	10,000
10% Contingency	147,317
4.3% Reclamation Management	<u>63,346</u>
1990 Total Reclamation Cost	\$1,693,836

\*It is customary for contractors, who must move men and equipment from job site to job site, to charge additional monies to competitively bid for such purpose. This charge is usually in the form of mobilization and demobilization. On very large projects these charges are usually built into the unit costs of work. Applicant states no costs are built into the reclamation work and will provide a lump sum of \$10,000 for such purpose. It is felt this sum is sufficient to transport the needed equipment from any of the three major cities along the Wasatch Front.

(The average cost increase, during the preceding three years, as provided by the Means Historical Cost/Index (Salt Lake Index) is 1.84%.)

Using the 1990 reclamation costs of \$1,693,836 this compounds to \$1,889,651 for 1996 reclamation costs.

The performance bond will be conditional upon the faithful performance of the requirements of the act, the regulatory program and the reclamation plan.

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>MANPOWER</u>	<u>QUANTITIES</u>	<u>COST</u>	<u>DAYS</u>	<u>COMMENTS</u>
1-AI	Stand-By Fan	Crane Backhoe Loader Dump Truck Breaker Compressor	1 Job	\$ 10,310	7 Days	\$1,473/day
1-AJ	Removal of Sediment Retention Box, 12" pipe, Diversion Dam	235 Backhoe 500 Backhoe D. Truck (10 yd) Flatbed Truck 2 Operators 2 Laborers	1 Job	\$ 9,781	5 Days	\$1,956/day
<b>TOTALS.....</b>				<b>\$408,416</b>	<b>206.5 Days</b>	

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>EQUIPMENT MANPOWER</u>	<u>QUANTITIES</u>	<u>TOTAL COST</u>	<u>CONSTR. DAYS</u>	<u>COMMENTS</u>
14-B	Sediment Traps @ Tipple	500 Backhoe Dump Truck 2 Man Crew	1 Job	\$ 1,355	1 Day	\$1,355/day
	Add Material: Riprap 11.00 x 920 Gravel Liner 9.00 x 157			\$ 11,533		
	Total.....			\$ 27,851		
15-A	Overland Conveyor Belt Revegetation (includes material)			\$ 19,877	5 Days	
16-A	Waste Rock Disposal Site (Reclamation Costs From Volume 10)			\$ 413,664	201 Days	
	SUBTOTAL.....			\$1,473,173		
	MOBILIZATION.....			\$ 10,000		
	10% CONTINGENCY.....			\$ 147,317		
	4.3% RECLAMATION MANAGEMENT.....			\$ 63,346		
	TOTAL CONTRUCTION COST*.....			\$1,693,836		

\*Total reclamation and bonding costs will be adjusted, during major permitting actions, to include PAP amendments for which the individual reclamation costs are less than 5% of the current bond.

**DEER CREEK  
SEDIMENT BOX ACCESS**

- (H) = Height of Slope = 9'
- (C) = Cohesion\* = 1872 psf
- ( $\phi$ ) = Friction Angle\* = 30°
- (1f) = Slope Angle = 45° or 1:1
- (y) = Unit Weight\* = 108 pcf
- (A) = Chart reading along arc from x to y axis
- (a) = Chart reading along y axis
- (b) = Chart reading along x axis
- (F) = Factor of Safety

**FORMULAS**

$$\frac{C}{yxHxtan\phi} = A$$

(x to y axis Formula)

$$\frac{tan\phi}{F} = a, so, F = \frac{tan\phi}{a}$$

(y axis formula)

$$\frac{c}{yxHxF} = b, so, F = \frac{c}{yxH}$$

(x axis formula)

**CALCULATIONS**

$$\frac{1872}{108 \times 9 \times \tan 30^\circ} = 3.33$$

(using chart No. 5, a = .06)

$$A = 3.33$$

$$a = .06$$

$$\frac{tan 30^\circ}{F} = .06, so, F = \frac{tan 30^\circ}{.06} = 9.62$$

**F = 9.62 FACTOR OF SAFETY**

\* Values taken from Triaxial Shear Tests (attached) taken in Cottonwood Canyon on soil material that has the same soil characteristics.

Circular Channel Analysis & Design  
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: DC SEDIMENT BOX

Comment: 12" MINE PIPE DISCHARGE

Solve For Actual Depth

Given Input Data:

Diameter.....	1.00 ft
Slope.....	0.1600 ft/ft
Manning's n.....	0.011
Discharge.....	16.48 cfs

Computed Results:

Depth.....	0.80 ft
Velocity.....	24.44 fps
Flow Area.....	0.67 sf
Critical Depth....	1.00 ft
Critical Slope....	0.1495 ft/ft
Percent Full.....	80.09 %
Full Capacity.....	16.84 cfs
QMAX @.94D.....	18.12 cfs
Froude Number.....	4.69 (flow is Supercritical)

Open Channel Flow Module, Version 3.21 (c) 1990  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708

Circular Channel Analysis & Design  
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: DC SEDIMENT BOX

Comment: (4) 1' HALF-ROUND DISCHARGE

Solve For Actual Depth

Given Input Data:

Diameter.....	1.00 ft
Slope.....	0.0500 ft/ft
Manning's n.....	0.011
Discharge.....	4.12 cfs

Computed Results:

Depth.....	0.46 ft
Velocity.....	11.59 fps
Flow Area.....	0.36 sf
Critical Depth....	0.86 ft
Critical Slope....	0.0089 ft/ft
Percent Full.....	46.28 %
Full Capacity.....	9.42 cfs
QMAX @.94D.....	10.13 cfs
Froude Number.....	3.42 (flow is Supercritical)

Open Channel Flow Module, Version 3.21 (c) 1990  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708

Circular Channel Analysis & Design  
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: DC SEDIMENT BOX

Comment: 2' HALF-ROUND DISCHARGE

Solve For Actual Depth

Given Input Data:

Diameter.....	2.00 ft
Slope.....	0.1000 ft/ft
Manning's n.....	0.015
Discharge.....	16.48 cfs

Computed Results:

Depth.....	0.70 ft
Velocity.....	16.69 fps
Flow Area.....	0.99 sf
Critical Depth....	1.46 ft
Critical Slope....	0.0090 ft/ft
Percent Full.....	35.20 %
Full Capacity.....	62.00 cfs
QMAX @.94D.....	66.69 cfs
Froude Number.....	4.09 (flow is Supercritical)

Open Channel Flow Module, Version 3.21 (c) 1990  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
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355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

June 17, 1994

Mr. Val Payne  
Sr. Environmental Engineer  
PacifiCorp  
P.O. Box 1005  
Huntington, UT 84528

Re: Sediment Retention Box, Deer Creek Mine, PacifiCorp, ACT/015/018-94G,  
Folder #3, Emery County, Utah

Dear Mr. Payne:

The above-noted submittal received June 6, 1994 has been reviewed and is denied. There were four deficiencies in the April 6, 1994 Division denial letter and only two of the deficiencies have been adequately addressed.

This proposal contained no designs for the road that will be constructed to provide access to the sediment retention box and the slope stability analysis did not include the safety factor. Additionally, the Division is concerned about placing three-foot diameter material in eighteen-inch lifts due to the fact that such large material would decrease the slope's stability factor.

If you have any questions, please call me.

Sincerely,

A handwritten signature in cursive script, reading "Pamela Grubaugh-Littig".

Pamela Grubaugh-Littig  
Permit Supervisor



## PERMIT CHANGE TRACKING FORM

DATE RECEIVED	6/6/94	PERMIT NUMBER	ACT/015/018
Title of Proposal:	Sediment Containment Box	PERMIT CHANGE #	94G
Description:	Denied 10/93 and 4/6/94 Now Resubmitted again	PERMITTEE	PacificCorp
		MINE NAME	Deer Mine

<input checked="" type="checkbox"/> 15 DAY INITIAL RESPONSE TO PERMIT CHANGE APPLICATION  <input type="checkbox"/> Notice of Review Status of proposed permit change sent to the Permittee. <input type="checkbox"/> Request additional review copies prior to Division/Other Agency review. <input type="checkbox"/> Notice of Approval of Publication. (If change is a Significant Revision.) <input type="checkbox"/> Notice of request to modify proposed permit change prior to approval.	DATE DUE	DATE DONE	RESULT	
			6/7	<input checked="" type="checkbox"/> ACCEPTED <input type="checkbox"/> REJECTED
			Permit Change Classification	
			<input type="checkbox"/> Significant Permit Revision	
			<input type="checkbox"/> Permit Amendment	
			<input type="checkbox"/> Incidental Boundary Change	

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGM REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> Administrative						
<input type="checkbox"/> Biology						
<input checked="" type="checkbox"/> Engineering	WW	7/7		6/13		
<input type="checkbox"/> Geology						
<input type="checkbox"/> Soils						
<input type="checkbox"/> Hydrology						
<input type="checkbox"/> Bonding						
<input type="checkbox"/> AVS Check						

COORDINATED REVIEWS	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> OSMRE						
<input type="checkbox"/> US Forest Service						
<input type="checkbox"/> Bureau of Land Management						
<input type="checkbox"/> US Fish and Wildlife Service						
<input type="checkbox"/> US National Parks Service						
<input type="checkbox"/> UT Environmental Quality						
<input type="checkbox"/> UT Water Resources						
<input type="checkbox"/> UT Water Rights						
<input type="checkbox"/> UT Wildlife Resources						
<input type="checkbox"/> UT State History						
<input type="checkbox"/> Other						

<input type="checkbox"/> Public Notice/Comment/Hearing Complete (If the permit change is a Significant Revision)  <input type="checkbox"/> Copies of permit change marked and ready for MRP.  <input type="checkbox"/> Special Conditions/Stipulations written for approval.  <input type="checkbox"/> TA and CHIA modified as required.  <input type="checkbox"/> Permit Change Approval Form ready for approval	<input type="checkbox"/> Permit Change Approval Form signed and approved effective as of this date. <input checked="" type="checkbox"/> Permit Change Denied.  <input type="checkbox"/> Notice of <input type="checkbox"/> Approval <input checked="" type="checkbox"/> Denial to Permittee.  <input type="checkbox"/> Copy of Approved Permit Change to File.  <input type="checkbox"/> Copy of Approved Permit Change to Permittee.  <input type="checkbox"/> Copies to Other Agencies and Price Field Office
	6/17/94 6/17/94



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TO: Daron Haddock, Permit Supervisor

FROM: Wayne H. Western, Reclamation Engineer *W H W*

DATE: June 13, 1994

RE: Sediment <sup>Retention</sup> Containment Box, Deer Creek Mine, PacifiCorp  
ACT/015/018

Synopsis of Proposal

In the Division's denial response of April 6, 1994, four deficiencies were discussed. The Operator adequately addressed two of the deficiencies, which involved certification of maps and culvert sizing.

A discussion on slope stability was included in the submittal. The slopes will not exceed a slope of one vertical to two horizontal. The material placed in the slope will be three foot diameter and less. The material will be placed in eighteen-inch lifts, and compacted with a 825C Compactor with a dozer blade. There was no mention of the access road.

Analysis

The Operator submitted a certified copy of the sediment retention box along with design specifications for the culverts. Two of the four deficiencies have been resolved.

The slope stability analysis did not include the safety factor. The Operator also proposed placing three-foot diameter materials in eighteen-inch lifts. The Division has concerns that such large materials would decrease the slope's safety factor. The Operator needs to submit a detailed slope stability analysis that includes the slope's safety factor. A safety factor of at least 1.3 is required for the slope. The Operator's response is insufficient.

The Operator failed to supply the Division with the designs for the road that will be constructed to provide access to the sediment retention box.

Recommendation

Deny the proposal. The Operator failed to supply the Division with any information on the access road. The response to the pond's slope stability is insufficient.



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**TO:** Daron Haddock, Permit Supervisor  
**FROM:** Wayne H. Western, Reclamation Engineer  
**DATE:** June 13, 1994  
**RE:** Sediment Retention Box, Deer Creek Mine, PacifiCorp  
 ACT/015/018

Synopsis of Proposal

In the Division's denial response of April 6, 1994, four deficiencies were discussed. The Operator adequately addressed two of the deficiencies, which involved certification of maps and culvert sizing.

A discussion on slope stability was included in the submittal. The slopes will not exceed a slope of one vertical to two horizontal. The material placed in the slope will be three foot diameter and less. The material will be placed in eighteen-inch lifts, and compacted with a 825C Compactor with a dozer blade. There was no mention of the access road.

Analysis

The Operator submitted a certified copy of the sediment retention box along with design specifications for the culverts. Two of the four deficiencies have been resolved.

The slope stability analysis did not include the safety factor. The Operator proposed placing three-foot diameter materials in eighteen-inch lifts. The Division has concerns that such large lifts would increase the slope's safety factor. The Operator failed to submit a detailed slope stability analysis that includes the slope's safety factor. A safety factor of at least 1.3 is required for the slope. The Operator's response is insufficient.

*Yes - didn't state you ~~are~~ the opposite of the ~~the~~ ~~them?~~*

The Operator failed to supply the Division with the designs for the road. The road will be constructed to provide access to the sediment retention box.

Recommendation

Deny the proposal. The Operator failed to supply the Division with an engineering plan on the access road. The response to the pond's slope stability is insufficient.



**State of Utah**  
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**TO:** Daron Haddock, Permit Supervisor  
**FROM:** Wayne H. Western, Reclamation Engineer  
**DATE:** June 13, 1994  
**RE:** Sediment Retention Box, Deer Creek Mine, PacifiCorp  
 ACT/015/018

Synopsis of Proposal

In the Division's design, four deficiencies were identified. Two of the deficiencies were related to culvert sizing.

A discussion on slope stability. The slopes will not be horizontal. The maximum diameter and less than 18-inch lifts, and compacted. There was no mention of

6/17  
 I did state the opposite and I stand by what I said. The assumption of this paragraph is, for stuff above gravel size, not correct.  
 Jek

4, four deficiencies were directly addressed in the revision of maps and specifications submitted. The maximum diameter will be three foot lifts, and compacted by a dozer blade.

Analysis

The Operator submitted design for sediment retention box along with design specifications for the culverts. Two of the four deficiencies have been resolved.

The slope stability analysis did not include the safety factor. The Operator also proposed placing three-foot diameter materials in eighteen-inch lifts. The Division has concerns that such large materials would decrease the slope's safety factor. The Operator needs to submit a detailed slope stability analysis that includes the slope's safety factor. A safety factor of at least 1.3 is required for the slope. The Operator's response is insufficient.

*you didn't state you opposed the proposal. I'd like to see the*

The Operator failed to supply the Division with the designs for the road. The road will be constructed to provide access to the sediment retention box.

Recommendations

Deny the permit. The Operator failed to supply the Division with an engineering plan on the access road. The response to the pond's slope stability is insufficient.



**DEER CREEK MAPS AND DRAWINGS**

**Volume 4**

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3-5	Deleted 10/9/90	

**Volume 5**

3-6	Life of Mine Plan 5 Year Increments- Blind Canyon Seam	CM-10857-DR
3-7	Life of Mine Plan 5 Year Increments- Hiawatha Seam	CM-10858-DR
3-8	Deleted 10/9/90	
3-9	Surface Yard Map Sediment Trap	DS-202E DS1159C

3-10	Sanitation System/Sewer Lines (R&S)	7750-C1
3-11	Sanitation System Seepage Pit Design Sewer Pipeline Plan View	DS-667-C DS-668-C
3-12	Deleted 10/9/90	
3-13	Deleted 10/9/90	
3-14	Sediment Retention Box	DS1491D
3-15	Sedimentation Pond Sedimentation Pond Cross Section	CM-10867-DR CM-10593-DR
3-16	Sedimentation Pond	MK-00-52-1-010

slopes. Fill slopes are 2.5h:1V. The rip-rapped upstream dam slope is constructed at 2.5H:1V. The downstream dam slope is 2H:1V.

The outlet works for the sediment pond are constructed of 24" CSP, screened to prevent clogging and capped with a skimmer ring.

Slopes constructed on fill have been revegetated to minimize erosion. (Fall 1988)

Maintenance of the sediment pond includes quarterly inspections and monthly discharge monitoring. A copy of the inspection reports is submitted annually to the Division by a registered professional engineer. A copy of the discharge report is submitted monthly to the Division. The pond will be dredged of sediment when sediment volume is 60% of design capacity.

The cleaning of the sediment pond is very time consuming, costly and difficult. To prolong the times between cleaning the sediment from the pond, a "Sediment Retention Box" has been installed on the west bank of the pond. The Sediment Retention Box will reduce the cleaning of the pond to an estimated once every 5 to 8 years. The Sediment Retention Box will be cleaned 2 to 3 times a year or as needed.

The inside dimensions of the box are 35 ft. long, 15 ft. wide and 8 ft. high. The volume is 155 cubic yards (.1 acre ft.) and will be cleaned at 80% capacity. The walls are reinforced concrete, 1 ft. thick. A diversion dam is constructed downstream of the culvert outlet near the Weigh Bin Building. The diversion dam is of reinforced concrete, one slide gate and is anchored by dowelling to the bottom of the existing pond inlet channel. When the gate is open flow will enter into the 12 inch PVC pipe leading to the Sediment Retention Box. In the event that the 12 inch culvert cannot handle the storm event flow, the water will flow over the diversion and enter the sediment pond. The overflow channel is the same design and dimensions as the existing channel. The Sediment Retention Box will be removed from operation if ice build-up problems occur, due to winter conditions. Winter runoff will go directly to the sediment pond if this occurs.

Access to the Sediment Retention Box is provided for removal of the accumulated sediment.

Under normal operation, the disturbed water will enter the diversion dam and flow through the 12 inch by-pass into the box. A series of removeable baffles are installed in the box to

increase the effective settling distance. The water then exits the box into the existing sediment pond via four 1' half-round pipes. A 24" half-round discharge culvert carries the flow from the retention box to the pond. Minor erosion at this discharge point will be controlled by extending the half-round into the pond below the normal water level. When the box fills to 80% capacity, the gate at the diversion dam will be closed, directing the flow directly to the pond. The box will be decanted into the pond and the sediment will be removed and hauled to the Deer Creek Waste Rock Facility for disposal. Once the box is cleaned the gate at the diversion dam will be opened again returning to normal operation.

The Sediment Retention Box will be removed in conjunction with reclamation of the sediment pond.

Reclamation of the pond will complete the proposed Deer Creek reclamation process. The pond will be allowed to dry followed by backfilling and grading. Graded contours will be compatible with the natural surroundings. Revegetation will be performed as outlined in Reclamation Plan.

Mine Facilities Pad - An earthen fill structure is utilized for material storage and personnel facilities. The fill

occupies approximately 8 1/2 acres. Construction material for the fill was obtained from the south slope of the Deer Creek drainage and from the sediment pond excavation.

Approximately 50% of the fill structure is asphalt or concrete surfaced providing access to mine facilities and

The equipment used is listed below:

	<u>Hourly Rate</u>
988B Loader, 375 HP, 7 yd. bucket	\$106.88
769C Off-highway Truck, 35-Ton	74.62
825C Compactor, 300 HP	88.85
621B Scrapers, 330 HP, 14 cy	84.59
D8G Dozer w/straight blade	63.00
235 Excavator, 195 HP, std. bucket	107.84
D6D Dozer w/angle blade	46.69
John Deere 500 Backhoe	22.30
Flat-Bed Truck, diesel, mediu, 250 HP	16.24
Dump Truck, 50 Ton, 773	84.39
Crane 50T, diesel, hydraulic, Trk MTD	71.90
Air Drill, Track, IR DM25	90.09
Dump Truck, 10 yard	30.00

The labor rates used are as follows:

Supervisor	\$36.70 per hour
Operator	\$34.20 per hour
Laborer	\$26.05 per hour
Truck Driver	\$27.05 per hour
Laborer (Wrecking)	\$28.85 per hour

Stability:

Backfilled slopes will be constructed not to exceed 2:1. material used will be 3 foot diameter and less. The material will be placed in 18 inch lifts and compacted with a 825C Compactor with a dozer blade.

No ground water is located in any of the backfill

regraded, or otherwise stabilized; topsoil will be replaced; and the areas will be reseeded or replanted. Based on our present maintenance program for fill slopes, we estimate 32 hours per year of work will be needed.

#### PLAN FOR GRADING ALONG THE CONTOUR

All final grading, preparation of overburden before replacement of topsoil, and placement of topsoil, shall be done along the contour to minimize subsequent erosion and instability. If such grading, preparation, or placement along the contour is hazardous to equipment operators, then grading, preparation, or placement in a direction other than generally parallel to the contour may be used. In all cases, grading, preparation, or placement shall be conducted in a manner which minimizes erosion and provides a surface for replacement of topsoil which will minimize slippage.

All roads servicing disturbed areas will be scarified prior to topsoil placement.

#### RECLAMATION COST R645-301-334

Estimated costs for reclamation are based on 1990 values and include all lands having been disturbed for the purpose of handling, crushing, storing and transporting coal extracted through the Deer Creek Mine.

The following are the estimated costs for reclamation:

Total Reclamation Costs	\$1,473,173
Mobilization and Demobilization*	10,000
10% Contingency	147,317
4.3% Reclamation Management	<u>63,346</u>
1990 Total Reclamation Cost	\$1,693,836

\*It is customary for contractors, who must move men and equipment from job site to job site, to charge additional monies to competitively bid for such purpose. This charge is usually in the form of mobilization and demobilization. On very large projects these charges are usually built into the unit costs of work. Applicant states no costs are built into the reclamation work and will provide a lump sum of \$10,000 for such purpose. It is felt this sum is sufficient to transport the needed equipment from any of the three major cities along the Wasatch Front.

(The average cost increase, during the preceding three years, as provided by the Means Historical Cost/Index (Salt Lake Index) is 1.84%.)

Using the 1990 reclamation costs of \$1,693,836 this compounds to \$1,889,651 for 1996 reclamation costs.

The performance bond will be conditional upon the faithful performance of the requirements of the act, the regulatory program and the reclamation plan.

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>MANPOWER</u>	<u>QUANTITIES</u>	<u>COST</u>	<u>DAYS</u>	<u>COMMENTS</u>
1-AI	Stand-By Fan	Crane Backhoe Loader Dump Truck Breaker Compressor	1 Job	\$ 10,310	7 Days	\$1,473/day
1-AJ	Removal of Sediment Retention Box, 12" pipe, Diversion Dam	235 Backhoe 500 Backhoe D. Truck (10 yd) Flatbed Truck 2 Operators 2 Laborers	1 Job	\$ 9,781	5 Days	\$1,956/day
<b>TOTALS.....</b>				<b>\$408,416</b>	<b>206.5 Days</b>	

4-59.2.1  
Revised 5/23/94

<u>ITEM#</u>	<u>DESCRIPTION</u>	<u>EQUIPMENT MANPOWER</u>	<u>QUANTITIES</u>	<u>TOTAL COST</u>	<u>CONSTR. DAYS</u>	<u>COMMENTS</u>
14-B	Sediment Traps @ Tipple	500 Backhoe Dump Truck 2 Man Crew	1 Job	\$ 1,355	1 Day	\$1,355/day
	Add Material: Riprap 11.00 x 920 Gravel Liner 9.00 x 157			\$ 11,533		
	Total.....			\$ 27,851		
15-A	Overland Conveyor Belt Revegetation (includes material)			\$ 19,877	5 Days	
16-A	Waste Rock Disposal Site (Reclamation Costs From Volume 10)			\$ 413,664	201 Days	
	SUBTOTAL.....			\$1,473,173		
	MOBILIZATION.....			\$ 10,000		
	10% CONTINGENCY.....			\$ 147,317		
	4.3% RECLAMATION MANAGEMENT.....			\$ 63,346		
	TOTAL CONTRUCTION COST*.....			\$1,693,836		

\*Total reclamation and bonding costs will be adjusted, during major permitting actions, to include PAP amendments for which the individual reclamation costs are less than 5% of the current bond.

**DEER CREEK  
SEDIMENT BOX ACCESS**

- (H) = Height of Slope = 9'
- (C) = Cohesion\* = 1872 psf
- ( $\phi$ ) = Friction Angle\* = 30°
- (1f) = Slope Angle = 45° or 1:1
- (y) = Unit Weight\* = 108 pcf
- (A) = Chart reading along arc from x to y axis
- (a) = Chart reading along y axis
- (b) = Chart reading along x axis
- (F) = Factor of Safety

**FORMULAS**

$$\frac{C}{yxH\tan\phi} = A$$

(x to y axis Formula)

$$\frac{\tan\phi}{F} = a, \text{ so, } F = \frac{\tan\phi}{a}$$

(y axis formula)

$$\frac{c}{yxHxF} = b, \text{ so, } F = \frac{c}{yxHb}$$

(x axis formula)

**CALCULATIONS**

$$\frac{1872}{108 \times 9' \times \tan 30^\circ} = 3.33$$

(using chart No. 5, a = .06)

$$A = 3.33$$

$$a = .06$$

$$\frac{\tan 30^\circ}{F} = .06, \text{ so, } F = \frac{\tan 30^\circ}{.06} = 9.62$$

**F = 9.62 FACTOR OF SAFETY**

\* Values taken from Triaxial Shear Tests (attached) taken in Cottonwood Canyon on soil material that has the same soil characteristics.

Circular Channel Analysis & Design  
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: DC SEDIMENT BOX

Comment: 12" MINE PIPE DISCHARGE

Solve For Actual Depth

Given Input Data:

Diameter.....	1.00 ft
Slope.....	0.1600 ft/ft
Manning's n.....	0.011
Discharge.....	16.48 cfs

Computed Results:

Depth.....	0.80 ft
Velocity.....	24.44 fps
Flow Area.....	0.67 sf
Critical Depth....	1.00 ft
Critical Slope....	0.1495 ft/ft
Percent Full.....	80.09 %
Full Capacity.....	16.84 cfs
QMAX @.94D.....	18.12 cfs
Froude Number.....	4.69 (flow is Supercritical)

Open Channel Flow Module, Version 3.21 (c) 1990  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708

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Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: DC SEDIMENT BOX

Comment: (4) 1' HALF-ROUND DISCHARGE

Solve For Actual Depth

Given Input Data:

Diameter.....	1.00 ft
Slope.....	0.0500 ft/ft
Manning's n.....	0.011
Discharge.....	4.12 cfs

Computed Results:

Depth.....	0.46 ft
Velocity.....	11.59 fps
Flow Area.....	0.36 sf
Critical Depth....	0.86 ft
Critical Slope....	0.0089 ft/ft
Percent Full.....	46.28 %
Full Capacity.....	9.42 cfs
QMAX @.94D.....	10.13 cfs
Froude Number.....	3.42 (flow is Supercritical)

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## DEER CREEK MAPS AND DRAWINGS

### Volume 4

#### **Legal, Financial, Compliance Information**

1-1	Coal Ownership	CM-10522-DR
1-2	Surface Ownership	CM-10521-DR
1-3	Permit Area with Mine Development as of 8/3/77	CM-10367-DR

2-1 Thru 2-12 Have Been Deleted. These Geologic and Hydrologic Data Maps are found in Volume 8 & 9.

#### **Environmental Resources, Vegetation and Soils**

2-13	Cross Section of Roans Canyon Fault System (sheet 1 of 2)	CE-10517-EM
2-14	Vegetation Map	CE-10488-DR
2-15	Mine Plan Area Vegetation Map	CM-10485-DR
2-16	General Soils Map	CE-10498-DR
2-17	Mine Plan Area Soils Map	CM-10344-DR
2-18A	Land Use Map	CM-10595-DR
2-18B	Raptor Nesting Map	CM-10588-DR
2-19	Mule Deer Habitat Elk Habitat (8 1/2 x 11)	CM-10543-DR

#### **Operation Plan**

3-1	Mine Plan-Blind Canyon Seam (sheet 1)	CM-10856-DR
3-2	Mine Plan-Blind Canyon Seam (sheet 2)	CM-10856-DR
3-3	Mine Plan-Blind Canyon Seam (sheet 3)	CM-10856-DR
3-4	Deleted 10/9/90	
3-5	Deleted 10/9/90	

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John Deere 500 Backhoe	22.30
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Dump Truck, 50 Ton, 773	84.39
Crane 50T, diesel, hydraulic, Trk MTD	71.90
Air Drill, Track, IR DM25	90.09
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<b>TOTALS.....</b>				<b>\$408,416</b>	<b>206.5 Days</b>	

4-59.2.1  
Revised 5/23/94

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	Add Material: Riprap 11.00 x 920 Gravel Liner 9.00 x 157			\$ 11,533		
	Total.....			\$ 27,851		
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	10% CONTINGENCY.....			\$ 147,317		
	4.3% RECLAMATION MANAGEMENT.....			\$ 63,346		
	TOTAL CONTRUCTION COST*.....			\$1,693,836		

\*Total reclamation and bonding costs will be adjusted, during major permitting actions, to include PAP amendments for which the individual reclamation costs are less than 5% of the current bond.

**DEER CREEK  
SEDIMENT BOX ACCESS**

- (H) = Height of Slope = 9'
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- ( $\phi$ ) = Friction Angle\* = 30°
- (1f) = Slope Angle = 45° or 1:1
- (y) = Unit Weight\* = 108 pcf
- (A) = Chart reading along arc from x to y axis
- (a) = Chart reading along y axis
- (b) = Chart reading along x axis
- (F) = Factor of Safety

**FORMULAS**

$$\frac{C}{yxHx\tan\phi} = A$$

(x to y axis Formula)

$$\frac{\tan\phi}{F} = a, \text{so, } F = \frac{\tan\phi}{a}$$

(y axis formula)

$$\frac{c}{yxHxF} = b, \text{so, } F = \frac{c}{yxHb}$$

(x axis formula)

**CALCULATIONS**

$$\frac{1872}{108 \times 9' \times \tan 30^\circ} = 3.33$$

(using chart No. 5, a = .06)

$$A = 3.33$$

$$a = .06$$

$$\frac{\tan 30^\circ}{F} = .06, \text{so, } F = \frac{\tan 30^\circ}{.06} = 9.62$$

**F = 9.62 FACTOR OF SAFETY**

\* Values taken from Triaxial Shear Tests (attached) taken in Cottonwood Canyon on soil material that has the same soil characteristics.

Circular Channel Analysis & Design  
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: DC SEDIMENT BOX

Comment: 12" MINE PIPE DISCHARGE

Solve For Actual Depth

Given Input Data:

Diameter.....	1.00 ft
Slope.....	0.1600 ft/ft
Manning's n.....	0.011
Discharge.....	16.48 cfs

Computed Results:

Depth.....	0.80 ft
Velocity.....	24.44 fps
Flow Area.....	0.67 sf
Critical Depth....	1.00 ft
Critical Slope....	0.1495 ft/ft
Percent Full.....	80.09 %
Full Capacity.....	16.84 cfs
QMAX @.94D.....	18.12 cfs
Froude Number.....	4.69 (flow is Supercritical)

Open Channel Flow Module, Version 3.21 (c) 1990  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708

Circular Channel Analysis & Design  
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: DC SEDIMENT BOX

Comment: (4) 1' HALF-ROUND DISCHARGE

Solve For Actual Depth

Given Input Data:

Diameter.....	1.00 ft
Slope.....	0.0500 ft/ft
Manning's n.....	0.011
Discharge.....	4.12 cfs

Computed Results:

Depth.....	0.46 ft
Velocity.....	11.59 fps
Flow Area.....	0.36 sf
Critical Depth....	0.86 ft
Critical Slope....	0.0089 ft/ft
Percent Full.....	46.28 %
Full Capacity.....	9.42 cfs
QMAX @.94D.....	10.13 cfs
Froude Number.....	3.42 (flow is Supercritical)

Open Channel Flow Module, Version 3.21 (c) 1990  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708

Circular Channel Analysis & Design  
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: DC SEDIMENT BOX

Comment: 2' HALF-ROUND DISCHARGE

Solve For Actual Depth

Given Input Data:

Diameter.....	2.00 ft
Slope.....	0.1000 ft/ft
Manning's n.....	0.015
Discharge.....	16.48 cfs

Computed Results:

Depth.....	0.70 ft
Velocity.....	16.69 fps
Flow Area.....	0.99 sf
Critical Depth....	1.46 ft
Critical Slope....	0.0090 ft/ft
Percent Full.....	35.20 %
Full Capacity.....	62.00 cfs
QMAX @.94D.....	66.69 cfs
Froude Number.....	4.09 (flow is Supercritical)

Open Channel Flow Module, Version 3.21 (c) 1990  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708

8. SUGGESTED ALTERNATIVES:

The No Action alternative must be evaluated for all proposals. Under this alternative the proposal would not be approved.

Allow construction of the proposed surface facilities and access with mitigation measures that would mitigate the impacts to the maximum degree practical.

Allow the surface facilities but ~~do not allow mining under the canyon slope/escarpment that is likely to cause slope/escarpment failure.~~

Allow the surface facilities but do not allow mining under the canyon bottom that is would disrupt the drainage and divert surface flow into the mine workings.

Allow the surface facilities, mining under the escarpment, and some failure of the slope/escarpment with conditions that the operator must control sediment on the disturbed areas and reclaim/revegetate them with suitable vegetation.

Allow construction of the pad but do not allow improvement of the Forest Development Road from the NEWUA springs to the Forks or construction of the new road from the Forks to the facilities pad. All access to the pad would be provided through the mine workings and/or by helicopter.

9. ANALYSIS AND DECISION CRITERIA:

The powerline would be located in a MMA (Emphasis on Leasable Minerals Development) Management Unit. The new road and facilities pad would lie within a RNG (Emphasis on Production of Forage) Management Unit.

The decision must be consistent with applicable laws and regulations, as well as Forest Plan Forestwide management goals for the affected resources, and management prescriptions for the MMA and RNG Management Units.

The mine plan must be in compliance with the Surface Mining Control and Reclamation Act of 1977, Federal Regulations 30 CFR 700 to end, and the Utah Coal Rules.

Rilda Canyon  
Surface Facility  
Amendment File

CASTLEGATE SANDSTONE  
946

7. ISSUES:

The following are preliminary issues identified by the District Ranger and his staff that need to be evaluated further to determine if they should be considered in the environmental analysis:

Due to the steep slopes in Rilda Canyon there is potential for mining induced subsidence to cause cracks along the canyon slope and bottom. Subsidence could cause rock falls or topples at the Castlegate Sandstone outcrop and other failures along the slope.

✓ If slope failures occur they could damage or destroy existing vegetation along the slope, decreasing wildlife habitat and increasing erosion.

If the Castlegate Sandstone fails in the vicinity of Golden Eagle nest 296A, the nest could be destroyed. It was last active in 1989 and has been inactive to the present. It was tended in 1991.

✓ Construction of the new road and facilities would remove approximately 2.5 acres of vegetation that could increase the amount of sediment production in Rilda Creek.

Construction and use of the facilities would cause human activity that would disturb wildlife and decrease available habitat. After construction is completed, the disturbance caused by vehicle access would be infrequent, however, the disturbance caused by exhaust fan noise would be constant. Golden Eagle Nest Sites 296A and Cooper's Hawk Nest Site 783.2 are located within 1/2 mile of the proposed facilities pad. Both nests have been inactive since 1989. Nest 296A was tended in 1991.

The powerline would be visible along the Rilda Canyon road. The pad facility would be visible along the trail in the South Fork of Rilda Creek. The facility would be consistent with the visual quality objective for the area (modification) but the visual quality would be decreased.

The project would be consistent with the Recreation Opportunity Spectrum (ROS) classification for the area (Roaded Natural Appearing) but could decrease the recreation experience by users of Rilda Canyon due to the fan noise and visibility of facilities.

✓ Mining in the area and construction of the proposed facilities could affect flow and quality of North Emery Water User's Association's springs in Rilda Canyon that lie approximately one mile downstream of the proposed facilities pad.

✓ Mining under the Rilda Creek channel where the overburden is shallow (less than 400 feet) could disrupt/crack the channel and divert surface water underground, potentially into the mine workings.

4.3% Reclamation Management	<u>62,345</u>
1990 Total Reclamation Cost	\$1,667,212

\*It is customary for contractors, who must move men and equipment from job site to job site, to charge additional monies to competitively bid for such purpose. This charge is usually in the form of mobilization and demobilization. On very large projects these charges are usually built into the unit costs of work. Applicant states no costs are built into the reclamation work and will provide a lump sum of \$10,000 for such purpose. It is felt this sum is sufficient to transport the needed equipment from any of the three major cities along the Wasatch Front.

(The average cost increase, during the preceding three years, as provided by the Means Historical Cost/Index (Salt Lake Index) is 1.84%.)

Using the 1990 reclamation costs of \$1,667,212 this compounds to \$1,859,950 for 1996 reclamation costs.

The performance bond will be conditional upon the faithful performance of the requirements of the act, the regulatory program and the reclamation plan.

**SUPERSEDED**  
EFFECTIVE:

SEP 1 1994

**UTAH DIVISION OIL, GAS AND MINING**

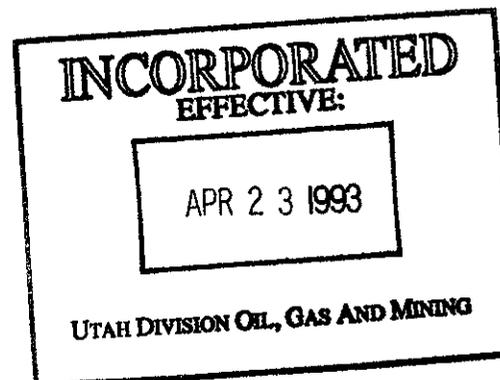
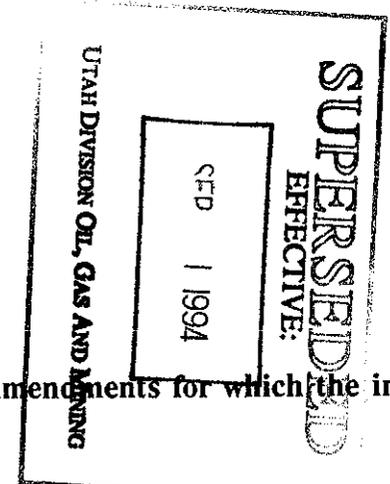
**INCORPORATED**  
EFFECTIVE:

APR 23 1993

**UTAH DIVISION OIL, GAS AND MINING**

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>EQUIPMENT MANPOWER</u>	<u>QUANTITIES</u>	<u>TOTAL COST</u>	<u>CONSTR. DAYS</u>	<u>COMMENTS</u>
14-B	Sediment Traps @ Tipple	500 Backhoe Dump Truck 2 Man Crew	1 Job	\$ 1,355	1 Day	\$1,355/day
	Add Material: Riprap 11.00 x 920 Gravel Liner 9.00 x 157			\$ 11,533		
	Total.....			\$ 27,851		
15-A	Overland Conveyor Belt Revegetation (includes material)			\$ 19,877	5 Days	
16-A	Waste Rock Disposal Site (Reclamation Costs From Volume 10)			\$ 413,664	201 Days	
	SUBTOTAL.....			\$1,449,879		
	MOBILIZATION.....			\$ 10,000		
	10% CONTINGENCY.....			\$ 144,988		
	4.3% RECLAMATION MANAGEMENT.....			\$ 62,345		
	TOTAL CONTRUCTION COST*.....			\$1,667,212		

\*Total reclamation and bonding costs will be adjusted, during major permitting actions, to include PAP amendments for which the individual reclamation costs are less than 5% of the current bond.



regraded, or otherwise stabilized; topsoil will be replaced; and the areas will be reseeded or replanted. Based on our present maintenance program for fill slopes, we estimate 32 hours per year of work will be needed.

PLAN FOR GRADING ALONG THE CONTOUR

All final grading, preparation of overburden before replacement of topsoil, and placement of topsoil, shall be done along the contour to minimize subsequent erosion and instability. If such grading, preparation, or placement along the contour is hazardous to equipment operators, then grading, preparation, or placement in a direction other than generally parallel to the contour may be used. In all cases, grading, preparation, or placement shall be conducted in a manner which minimizes erosion and provides a surface for replacement of topsoil which will minimize slippage.

All roads servicing disturbed areas will be resurfaced prior to topsoil placement.

RECLAMATION COST R645-301-334

Estimated costs for reclamation are based on 1990 values and include all lands having been disturbed for the purpose of handling, crushing, storing and transporting coal extracted through the Deer Creek Mine.

The following are the estimated costs for reclamation:

Total Reclamation Costs	\$1,449,879
Mobilization and Demobilization*	10,000
10% Contingency	144,988

**INCORPORATED**  
EFFECTIVE:

APR 23 1993

UTAH DIVISION OIL, GAS AND MINING

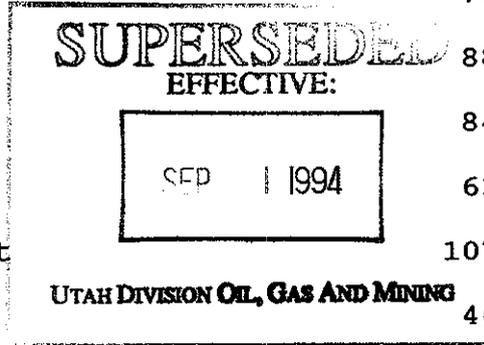
**SUPERSEDED**  
EFFECTIVE:

SEP 1 1994

UTAH DIVISION OIL, GAS AND MINING

The equipment used is listed below:

	<u>Hourly Rate</u>
988B Loader, 375 HP, 7 yd. bucket	\$106.88
769C Off-highway Truck, 35-Ton	74.62
825C Compactor, 300 HP	88.85
621B Scrapers, 330 HP, 14 cy	84.59
D8G Dozer w/straight blade	63.00
235 Excavator, 195 HP, std. bucket	107.84
D6D Dozer w/angle blade	46.69
John Deere 500 Backhoe	22.30
Flat-Bed Truck, diesel, mediu, 250 HP	16.24
Dump Truck, 50 Ton, 773	84.39
Crane 50T, diesel, hydraulic, Trk MTD	71.90
Air Drill, Track, IR DM25	90.09



The labor rates used are as follows:

Supervisor	\$36.70 per hour
Operator	\$34.20 per hour
Laborer	\$26.05 per hour
Truck Driver	\$27.05 per hour
Laborer (Wrecking)	\$28.85 per hour

Stability:

Backfilled slopes will be constructed not to exceed 2:1. material used will be 3 foot diameter and less. The material will be placed in 18 inch lifts and compacted with a 825C Compactor with a dozer blade.

No ground water is located in any of the backfill

slopes. Fill slopes are 2.5h:1V. The rip-rapped upstream dam slope is constructed at 2.5H:1V. The downstream dam slope is 2H:1V.

The outlet works for the sediment pond are constructed of 24" CSP, screened to prevent clogging and capped with a skimmer ring.

Slopes constructed on fill have been revegetated to minimize erosion. (Fall 1988)

Maintenance of the sediment pond includes quarterly inspections and monthly discharge monitoring. A copy of the inspection reports is submitted annually to the Division by a registered professional engineer. A copy of the discharge report is submitted monthly to the Division. The pond will be dredged of sediment when sediment volume is 60% of design capacity.

Reclamation of the pond will complete the proposed Deer Creek reclamation process. The pond will be allowed to dry followed by backfilling and grading. Graded contours will be compatible with the natural surroundings. Revegetation will be performed as outlined in Reclamation Plan.

Mine Facilities Pad - An earthen fill structure is utilized for material storage and personnel facilities. The fill occupies approximately 8 1/2 acres. Construction material for the fill was obtained from the south slope of the Deer Creek drainage and from the sediment pond excavation.

Approximately 50% of the fill structure is asphalt or concrete surfaced providing access to mine facilities and

**SUPERSEDED**  
EFFECTIVE:

SEP | 1994

UTAH DIVISION OIL, GAS AND MINING

DEER CREEK MAPS AND DRAWINGS

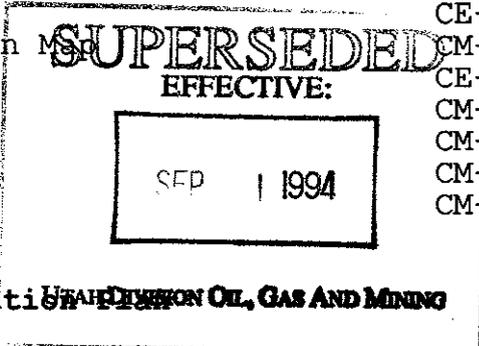
Volume 4

**Legal, Financial, Compliance Information**

1-1	Coal Ownership	CM-10522-DR
1-2	Surface Ownership	CM-10521-DR
1-3	Permit Area with Mine Development as of 8/3/77	CM-10367-DR
1-4	Disturbed Area Boundary	CM-10882-DR
2-1	Thru 2-12 Have Been Deleted. These Geologic and Hydrologic Data Maps are found in Vol. 8 & 9.	

**Environmental Resources, Vegetation and Soils**

2-13	Cross Section of Roans Canyon Fault System (sheet 1 of 2)	CE-10517-EM
2-14	Vegetation Map	CE-10488-DR
2-15	Mine Plan Area Vegetation Map	CE-10485-DR
2-16	General Soils Map	CE-10498-DR
2-17	Mine Plan Area Soils Map	CM-10344-DR
2-18A	Land Use Map	CM-10595-DR
2-18B	Raptor Nesting Map	CM-10588-DR
2-19	Mule Deer Habitat Elk Habitat (8 1/2 X 11)	CM-10543-DR



3-1	Mine Plan-Blind Canyon Seam (sheet 1)	CM-10856-DR
3-2	Mine Plan-Blind Canyon Seam (sheet 2)	CM-10856-DR
3-3	Mine Plan-Blind Canyon Seam (sheet 3)	CM-10856-DR
3-4	Deleted 10/9/90	
3-5	Deleted 10/9/90	

Volume 5

3-6	Life of Mine Plan 5 Year Increments- Blind Canyon Seam	CM-10857-DR
3-7	Life of Mine Plan 5 Year Increments- Hiawatha Seam	CM-10858-DR
3-8	Deleted 10/9/90	
3-9	Surface Yard Map Sediment Trap	DS202E DS1159C
3-10	Sanitation System/Sewer Lines (R&S)	7750-C1
3-11	Sanitation System Seepage Pit Design Sewer Pipeline Plan View	DS-667-C DS-668-C
3-12	Deleted 10/9/90	
3-13	Deleted 10/9/90	
3-14	Deleted 10/9/90	
3-15	Sedimentation Pond Sedimentation Pond Cross Section	CM-10867-DR CM-10593-DR
3-16	Sedimentation Pond	MK-00-52-1-010



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

June 7, 1994

Mr. Val Payne  
Sr. Environmental Engineer  
PacifiCorp  
P.O. Box 1005  
Huntington, UT 84528

Re: Initial Review Response--Accepted, PacifiCorp, Deer Creek Mine,  
ACT/015/018-94G, Folder #2, Carbon County, Utah

Dear Mr. Payne:

The Division recieved the proposed amendment, Sediment Containment Box, on June 6, 1994 and has determined the application complete. This amendment has been assigned the permit change number ACT/015/018-94G.

We anticipate completion of this review by July 7, 1994, at which time you will be notified of amendment status.

If you have any questions or concerns, please feel free to call.

Sincerely,

  
Pamela Grubaugh-Littig  
Permit Supervisor

ALTI



One Utah Center  
201 South Main, Suite 2100  
Salt Lake City, Utah 84140-0021  
(801) 220-2000

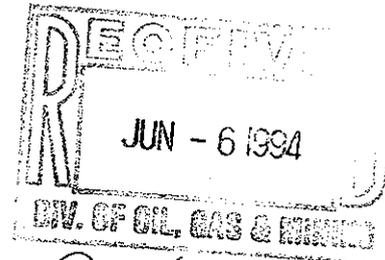
A Division of PacifiCorp

Val E. Payne  
Sr. Env. Engineer  
PacifiCorp Field Office  
P. O. Box 1005  
Huntington, UT 84528  
(801) 653-2312  
FAX (801) 653-2479



May 27, 1994

Utah Coal Regulatory Program  
Division of Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203



946

Attention: Pamela Grubaugh-Littig

RE: **SEDIMENT RETENTION BOX AMENDMENT, PACIFICORP, DEER CREEK  
MINE, ACT/015/018, EMERY COUNTY, UTAH**

Dear Pamela,

#2

copy for amendment file

In response to the April 5, 1994 deficiency letter, we are re-submitting the complete amendment due to the amount of changes required. The amendment title has been changed from "Sediment Containment Box" to "Sediment Retention Box".

Details of the proposed sediment retention box project are found in revised page 3-22 and added pages 3-22.1 through 3-22.3. Drawing DS1491D (Map Packet 3-14) is enclosed for construction design. After construction, the following "As Built" Drawings will be revised to reflect any changes:

- Surface yard map (DS202E, Packet 3-9)
- Sediment Pond (CM-10593-DR and CM-10867-DR, Packet 3-15)

Details of the Reclamation Cost changes are found on revised pages 4-10, 4-53, 4-54, 4-59.2.1, 4-65 and added page 4-10.1.

Slope stability and flow calculations are found on added pages 6.1 (Appendix III) and 29 through 31 (Appendix IX).

The added reclamation cost by the proposed amendment is estimated to increase the total reclamation cost by \$9,781. The current Bond is at \$2,000,000 and the Total 1996 Reclamation Cost is now \$1,889,651, therefore no adjustments to the bond is required.

The estimated cost breakdown is as follows:

	<u>LABOR COSTS</u>	<u>TOTAL</u>
Sed. Box	(2 Oper) (16 Hr) (\$34.20/Hr)	\$1094.40
	(2 Lab) (16 Hr) (\$26.05/Hr)	833.60
Pipe	(2 Oper) (16 Hr) (\$34.20/Hr)	1094.40
	(2 Lab) (16 Hr) (\$26.05/Hr)	833.60
Diversion dam	(1 Oper) (8 Hr) (\$34.20/Hr)	273.60
	(3 Lab) (8 Hr) (\$26.05/Hr)	625.20
Road	(2 Oper) (8 Hr) (\$34.20/Hr)	<u>547.20</u>
	SUBTOTAL	<u>\$5,302.00</u>

	<u>EQUIPMENT COSTS</u>	
Sed. Box	235 Backhoe (16 Hr) (\$107.84/Hr)	\$1,725.44
	Dump Truck (16 Hr) (\$30.00/Hr)	480.00
Pipe	500 J.D. Backhoe (8 Hr) (\$22.30/Hr)	178.40
	Truck (8 Hr) (\$16.24/Hr)	129.92
Diversion Dam	235 Backhoe (8 Hr) (\$107.84/Hr)	\$862.72
Road	235 Backhoe (8 Hr) (\$107.84/Hr)	862.72
	Dump Truck (8 Hr) (\$30.00/Hr)	<u>240.00</u>
	SUBTOTAL	<u>\$4,479.20</u>
	GRAND TOTAL	<u>\$9,781.20</u>

Your immediate consideration of this request would be appreciated as construction is scheduled this quarter. If you have any questions, please call Guy Davis or me at 653-2312.

Sincerely,



Val Payne  
Sr. Env. Engineer

cc: Morgan Moon (w/o drawing)  
John Christensen "

f:\users\dgd\amendmnt\dcretent.box

# APPLICATION FOR PERMIT CHANGE

Title of Change:

*SEDIMENT RETENTION BOX*

Permit Number:

*ACT1 0151018*

Mine:

*DEER CREEK*

Permittee:

*PACIFICORP*

Description, include reason for change and timing required to implement:

*CONSTRUCTION OF A SEDIMENT RETENTION BOX TO REDUCE THE FREQUENCY OF POND CLEANING.*

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 1. Change in the size of the Permit Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease.               |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 2. Change in the size of the Disturbed Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease.            |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?  |
| <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | 4. Will permit change include operations in hydrologic basins other than currently approved?   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?                                  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 6. Does permit change require or include public notice publication?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 7. Permit change as a result of a Violation? Violation # _____   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 8. Permit change as a result of a Division Order? D.O.# _____  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 9. Permit change as a result of other laws or regulations? Explain: _____  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 10. Does permit change require or include ownership, control, right-of-entry, or compliance information?                                 |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 11. Does the permit change affect the surface landowner or change the post mining land use?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 12. Does permit change require or include collection and reporting of any baseline information?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?                                |
| <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | 14. Does permit change require or include soil removal, storage or placement?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 15. Does permit change require or include vegetation monitoring, removal or revegetation activities?                                     |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 16. Does permit change require or include construction, modification, or removal of surface facilities?                                  |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 17. Does permit change require or include water monitoring, sediment or drainage control measures?                                       |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 18. Does permit change require or include certified designs, maps, or calculations?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 19. Does permit change require or include underground design or mine sequence and timing?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 20. Does permit change require or include subsidence control or monitoring?  |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?                                  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?                           |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 23. Is this permit change coal exploration activity <input type="checkbox"/> inside <input type="checkbox"/> outside of the permit area? |

Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

*Val Stange* SR. ENVIRONMENTAL ENGINEER *6/1/94*  
Signed - Name - Position - Date

Received by Oil, Gas & Mining

JUN - 6 1994

Subscribed and sworn to before me this *1st* day of *June*, 19 *94*.  
*Notary Public*  
My Commission Expires *Nov. 19*, 19 *96*  
Attest: STATE OF *Utah*  
COUNTY OF *Emery*



NOTARY PUBLIC  
**SHELEA M. HURT**  
15 South  
Main St.  
Hatch, Utah 84328  
My Commission Expires  
November 19, 1996  
STATE OF UTAH

ASSIGNED PERMIT CHANGE NUMBER

## Application for Permit Change Detailed Schedule of Changes to the Permit

Title of Change:  <div style="font-size: 1.2em; font-family: cursive;">SEDIMENT RETENTION BOX</div>	Permit Number: <i>ACT 1 015 1 018</i> Mine: <i>DEER CREEK</i> Permittee: <i>PACIFI CORP</i>
---	---

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the exiting mining and reclamation plan. **Include page, section and drawing numbers as part of the description.**

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4, TABLE OF CONTENTS, REVISED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4.1, TABLE OF CONTENTS, ADDED 5/23/94
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 3-22, REVISED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 3-22.1, ADDED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 3-22.2, ADDED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 3-22.3, ADDED 5/23/94
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4-10, REVISED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4-10.1, ADDED 5/23/94
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4-53, REVISED 5/23/94
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4-54, REVISED 5/23/94
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4-59.2.1, REVISED 5/23/94
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 4-65, REVISED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 6.1, APPENDIX III, ADDED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 29, APPENDIX IX, ADDED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 30, APPENDIX IX, ADDED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	PAGE 31, APPENDIX IX, ADDED 5/23/94
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	DRAWING DS1491D, PACKET 3-14
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
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<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?