

PERMIT CHANGE TRACKING FORM

- Significant Permit Revision
- Permit Amendment
- Incidental Boundary Change

DATE RECEIVED <u>12-12-95</u>	By: <u>US Mail</u>	PERMIT NUMBER	ACT/015/025
Title of Proposal: <u>Coal Recovery Bin Reclamation</u>		PERMIT CHANGE #	<u>015N</u>
Description: <u>Reduce Bond for coal Recovery bin. Modify disturbed line</u>		PERMITTEE	CO-OP MINING COMPANY
		MINE NAME	BEAR CANYON MINE

<input type="checkbox"/> 15 DAY INITIAL RESPONSE TO PERMIT CHANGE APPLICATION	DATE DUE	DATE DONE	RESULT
<input type="checkbox"/> Notice of Review Status of proposed permit change sent to the Permittee.	<u>12/27/95</u>		<input type="checkbox"/> ACCEPTED <input type="checkbox"/> REJECTED
<input type="checkbox"/> Responses Received.			COMMENTS
<input type="checkbox"/> Notice of Affidavit of Publication. (If change is a Significant Revision.)			

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGM REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
<input checked="" type="checkbox"/> Lead <u>PHH</u>	<u>12/27</u>	<u>12/18</u>				
<input type="checkbox"/> TA (See Attached)						
<input type="checkbox"/> Reviewers						
<input type="checkbox"/> Administrative (AVS)						
<input type="checkbox"/> Biology						
<input checked="" type="checkbox"/> Engineering <u>PHH</u>	<u>12/27</u>	<u>12/18</u>				
<input type="checkbox"/> Geology						
<input type="checkbox"/> Soils						
<input type="checkbox"/> Hydrology						

COORDINATED REVIEWS	SENT	DUE	RECEIVED	SENT	DUE	DONE
<input checked="" type="checkbox"/> OSMRE	<u>1/23/96</u>					
<input checked="" type="checkbox"/> US Forest Service	<u>1/23/96</u>					
<input checked="" type="checkbox"/> Bureau of Land Management	<u>1/23/96</u>					
<input checked="" type="checkbox"/> US Fish and Wildlife Service	<u>N/A</u>					
<input checked="" type="checkbox"/> US National Parks Service	<u>N/A</u>					
<input checked="" type="checkbox"/> UT Environmental Quality	<u>1/23/96</u>					
<input checked="" type="checkbox"/> UT Water Resources	<u>N/A</u>					
<input checked="" type="checkbox"/> UT Water Rights	<u>1/23/96</u>					
<input checked="" type="checkbox"/> UT Wildlife Resources	<u>1/23/96</u>					
<input type="checkbox"/> UT State History (SHPO)	<u>N/A</u>					
<input type="checkbox"/> State Trust Lands	<u>N/A</u>					

<input type="checkbox"/> Public Notice / Comment / Hearing Complete. (If the permit change is a Significant Revision)		<input checked="" type="checkbox"/> Permit Change Approval Form signed and approved effective as of this date.	<u>12-18-95</u>
<input checked="" type="checkbox"/> Copies of permit change marked and ready for MRP.	<u>1/23/96</u>	<input type="checkbox"/> Permit Change Denied.	
<input type="checkbox"/> Special Conditions/Stipulations written for approval.		<input type="checkbox"/> Notice of <input checked="" type="checkbox"/> Approval <input type="checkbox"/> Denial to Permittee.	<u>12-18-95</u>
<input type="checkbox"/> TA and CHIA modified as required.		<input checked="" type="checkbox"/> Copy of Approved Permit Change to File.	<u>1/23/96</u>
<input checked="" type="checkbox"/> Permit Change Approval Form ready for approval.		<input checked="" type="checkbox"/> Copy of Approved Permit Change to Permittee.	<u>1/23/96</u>
		<input checked="" type="checkbox"/> Copies to Other Agencies and <u>SLD</u> Field Office.	<u>1/23/96</u>

3.6.8 Reclamation Bonding

BOND

CO-OP MINING COMPANY

BEAR CANYON MINE

ACT/015/025, EMERY COUNTY, UTAH

3.6.8.1 Detailed Timetable for Completion of Major Reclamation Processes

The following schedule of reclamation is proposed to be initiated within 90 days (weather permitting) of final abandonment of the mining operation:

	<u>Accumulated Time</u>
a. Seal Portals - 1.5 weeks	1.5 weeks
b. Remove Structures - 8 weeks	9.5 weeks
c. Soil Replacement and Ripping - 7 weeks	16.5 weeks
d. Channel Restoration - 2.2 weeks	18.7 weeks
e. Revegetation - 1 week	20.2 weeks

RECEIVED
FEB 20 1994
DEPARTMENT OF ENERGY AND MINING

The above reclamation tasks can, therefore, be completed within 20.3 weeks following the start of reclamation activities.

RECEIVED
MAY 22 1994

Summary of Reclamation Cost Estimate

a.	Seal Portals and Backfill	\$ 45,500.00
b.	Removal of Structures	\$ 62,025.00
c.	Soil Placement and Ripping	\$ 76,398.32
d.	Channel Restoration	\$ 51,045.00
e.	Revegetation	\$ 44,119.78
f.	Monitor Well Plugging	\$ 114.32
g.	Maintenance and Monitoring of Subsidence, Vegetation and Erosion (10 yr bond liability Period)	\$ 39,143.20
h.	Hydrology Monitoring (10 yr bond liability period)	\$ 29,630.00
i.	Supervision (20.2 weeks)	\$ 14,285.44
j.	Mobilization and Demobilization	<u>\$ 2,500.00</u>
		\$ 364,761.06
	5.1% Reclamation Management Cost	\$ 18,602.81
	10 pct contingency	<u>\$ 36,476.11</u>
	(1990 dollars)	\$419,839.98

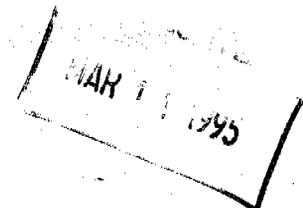
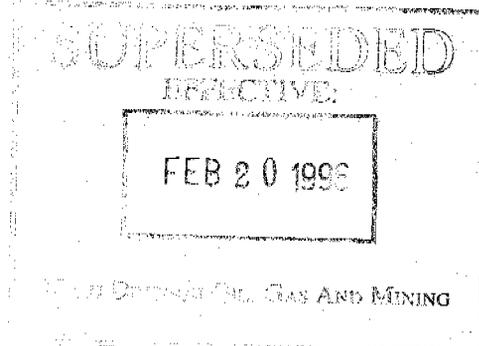
Escalated Values

1991 - \$425,172
1992 - \$434,568
1993 - \$445,606
1994 - \$454,563
1995 - \$463,700
1996 - \$473,020
1997 - \$482,528
1998 - \$492,227
1999 - \$502,120

Escalation Factor

1.27% (actual)
2.21% (actual)
2.54% (actual)
2.01% (est)

Bond will be posted in accordance with R645-301-820.



95P

Hiawatha Bin

Approx. 20 ft x 20 ft high bin (1/2 in plate with stiffeners, tapers down at bottom) with (4) 12 in I-beams (30 ft legs) and angles for cross bracing.

Cut into pieces and load in dumpster. Assume average thickness of bin w/stiffeners, etc. equal to 1/2 in plate.

Cut each side 3 places and each leg twice.

Approx cut length = (3 cuts)(4 sides)(20 ft) + (2 cuts)(4 legs)(32in/12) = 261.3 ft

020-730-0010 (Torch Cutting, 1 in Plate)

Equivalent length (For 1 in plate) = (1/2)(261.3 ft) = 163.3 ft

Cutting cost = (0.923)(2.65/ft)(163.3 ft) = \$399.42

Cutting time = 163.3 ft / (95 ft/day) = 1.72 days / 3 crews = 0.57 days

Assume each piece takes 10 min. average to load in dumpster with crane after cutting.

Number of pieces = 12 plates + 4 legs = 16 pieces

Crane Time = 16(.17 hr) = 2.72 hrs

Labor = (2 men)(2.72 hrs)(\$15.83/hr) \$ 86.12

Crane + operator = (2.72 hrs)(\$78.25/hr) \$ 212.84

\$ 298.96

Time = 0.34 days

020-554-5200 (Reinforced Concrete)

Wall Volume = (60 ft)(6 ft)(1ft) = 360 cu ft

Footing Volume = (4)(3 ft)(3 ft)(1 ft) = 33 cu ft

Volume = 360 + 33 = 393 cu ft / 27 = 14.56 cu yd

Cost = (0.923)(86.00/cu yd)(14.56 cu yd) = \$1,155.74

Time = 14.56 cu yd / (25 cu yd/day) = 0.58 days

020-554-5000 (Plain Concrete)

Slab Volume = (30 ft)(30 ft)(8/12) = 600 cu ft / 27 = 22.22 cu yd

Cost = (0.923)(47.80/cu yd)(22.22 cu yd) = \$980.33

Time = 22.22 cu yd / (45 cu yd/day) = 0.49 days

020-554-5550 (Concrete Disposal on Site)

Volume = 14.56 + 22.22 = 36.78 cu yd

Cost = (0.923)(4.64/cu yd)(36.78 cu yd) = 15.50

INACTIVE

Cost Subtotal \$2,991.97

Time Subtotal 2.14 days

FEB 20 1996

Lump Coal Bin

Approx. 30 ft x 36 ft x 20 ft high bin (1/2 in plate with leg/stiffeners around outside, tapers down at bottom). Cut into pieces and load in dumpster. Assume average thickness of bin with stiffeners, etc. equal to 1/2 in plates.

Cut each side 3 places and 2 sides 5 places.

Approx cut length = (4 cuts)(2 sides)(20 ft) + (5 cuts)(2 sides)(20 ft) = 360 ft

INACTIVE

FEB 20 1996

INCORPORATED

DEC 1993

B.C.

3-90 DIVISION OF OIL, GAS AND MINING

8/20/93

UTAH DIVISION OF

020-730-0010 (Torch Cutting, 1 Plate)

Equivalent length (for 1 in plate) = (1/8)(360 ft) = 225 ft

Cutting cost = (0.923)(2.65/ft)(225 ft) = \$550.34

Cutting time = 225 ft/(95 ft/day) = 2.37 days/3 crews = 0.79 days

Assuming each piece takes 10 min. average to load in dumpster with crane after cutting.

Number of pieces = 18 plates + 8 legs = 26 pieces

Crane Time = 26(0.17 hrs) = 4.42 hrs

Labor = (2 men)(4.42 hrs)(\$15.83/hr) \$ 139.94

Crane + operator = (4.42 hrs)(\$78.25/hr) \$ 345.87

\$ 485.81

Time = 0.55 days

020-554-5200 (Reinforced Concrete)

Footing Volume = [2(36ft) + 30 ft](2ft)(1ft) = 204 cu ft/27 = 7.56 cu yd

Cost = (0.923)(86.00/cu yd)(7.56/cu yd) = \$600.10

Time = 7.56 cu yd/(25 ft/day) = 0.30 days

020-554-5550 (Concrete Disposal on Site)

Volume = 7.56 cu yd

Cost = (0.923)(4.64/cu yd)(7.56/cu yd) = \$32.38

Time = 7.56/cu yd/(232 cu yd/day) = 0.03 days

Cost Subtotal

\$1,668.63

Time Subtotal

1.67 days

INCORPORATED
EFFECTIVE:

DEC - 9 1993

Coal Recovery Bin

Approx. dimensions:

Down Hill Side = 40 ft x 30 ft high

Two Other Sides = 60 ft x 35 ft (Average, Sloped)

1/2 in plate w/stiffeners

Assume average thickness w/ stiffeners equal to 1/8 in plate.

Cut into pieces and load in dumpster.

Cut down hill side (5+1) places and other sides (8+1) places.

Approx. Cut length:

Down hill side = (5 cuts)(30 ft) + (1 Cut)(40 ft) = 190 ft

Two other sides = 2 sides [(8 cuts)(35ft) + (1 cut)(60ft)] = 680 ft

Total = 190 ft + 680 ft = 870 ft

020-730-0010 (Torch Cutting, 1 in Plate)

Equivalent length (for 1 in plate) = 5/8(870 ft) = 544 ft

Cutting Cost = (0.923)(2.65/ft)(544 ft) = \$1,330.60

Cutting Time = 544 ft/(95 ft/day) = 5.73 days/3 crews = 1.91 days

Assume ea. piece takes 10 min. average to load in dumpster with crane after cutting.

Number of pieces = (2)(5 plates) + (2 sides)(2)(8 plates) = 42 pieces

Crane Time = 42(0.17 hr) = 7.14 hrs

Labor = (2 men)(7.14 hrs)(\$15.83/hr) =

Crane + operator = (7.14 hrs)(\$78.25/hr) =

\$ 226.05

\$ 558.76

\$ 784.76

INCORPORATED
EFFECTIVE:

DEC 20 1996

Time = 0.89 days

UTAH DIVISION OIL, GAS AND MINING

8/20/93

020-554-5200 (Reinforced Concrete)

Footing Volume = (2.5 ft)(1 ft)[40ft + 2(60ft)] = 400 cu ft/27 = 14.8 cu yd
Cost = (0.923)(86.00/cu yd)(14.8 cu yd) = \$1,174.79
Time = 14.8 cu yd/(25 cu yd/day) = 0.59 days

020-554-5550 (Concrete Disposal on Site)

Volume = 14.8 cu yd
Cost = (0.923)((6.64/cu yd)(14.8 cu yd) = \$63.38
Time = 14.8 cu yd/(232 cu yd/day) = 0.06 days

Cost Subtotal \$3,353.53
Time Subtotal 3.45 days

Slack Bin

Approx. 12 ft x 12 ft high bin (1/2 in plate with stiffeners, tapers down at bottom) with (4) 8 in I-beams X 30 ft legs and angle cross bracing.

Cut legs off at bottom and load on truck.

Assume average thickness of elgs, etc. equal to % in plate.

Approx cut length = (4 legs)(24 in) = 8 ft.

020-730-0010 (Torch Cutting, 1 in Plate)

Equivalent length (for 1 in plate) = (%) (8 ft) = 3 ft

Cutting Cost = (0.923)(2.65/ft)(3 ft) = \$7.34

Cutting Time = 3 ft/(95 ft/day) = 0.03 days

Assume it takes 1 hr to load the bin on truck with crane after cutting legs.

Labor = (2 men)(1 hrs)(\$15.83/hr) = \$ 31.66

Crane + operator = (1 hr)(\$78.25/hr) = \$ 78.25

\$ 109.91

Time = 0.13 days

020-554-5200 (Reinforced Concrete)

Footing Volume = 4(2.5ft)(2.5ft)(1ft) = (25 cu ft/27 = 0.93 cu yd

Cost = (0.923)(86.00/cu yd)(0.93 cu yd) = \$73.82

Time = (0.93 cu yd)(25 cu yd/day) = 0.04 days

020-554-5000 (Plain Concrete)

Slab Volume = (12ft)(16ft)(4/12) = 64 cu ft/27 = 2.37 cu yd

Cost = (0.923)(47.80/cu yd)(2.37 cu yd) = \$104.56

Time = 2.37 cu yd/(45 cu yd/day) = 0.05 days

020-554-5550 (Concrete Disposal on Site)

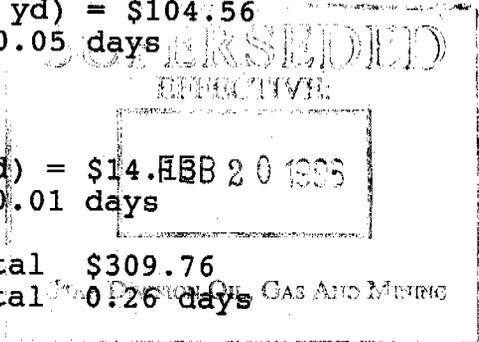
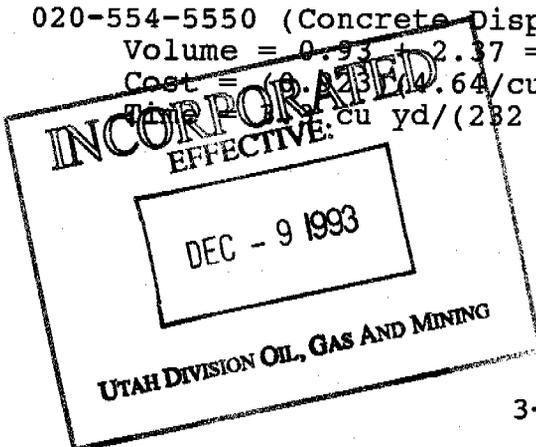
Volume = 0.93 + 2.37 = 3.3 cu yd

Cost = (0.923)((6.64/cu yd)(3.3 cu yd) = \$14.56

Time = 3.3 cu yd/(232 cu yd/day) = 0.01 days

Cost Subtotal \$309.76

Time Subtotal 0.26 days



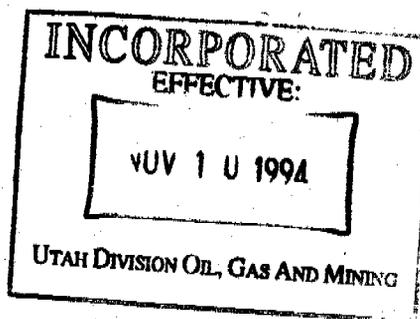
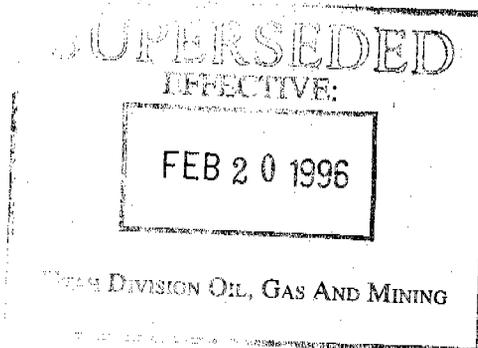
Cost Subtotal \$7,280.75
Time Subtotal 7.43 days

Building Enclosure for Tank Seam Belt Portal

020-604-0500 (Steel Building, includes disposal)
Volume = (12 ft)(12 ft)(12 ft) = 1,728 cu ft
Cost = (0.923)(0.16/cu ft)(1,728 cu ft) = \$255.19
Time = 1,728 cu ft/(14,800 cu ft/day) = 0.12 days

Cost Subtotal \$255.19
Time Subtotal 0.12 days

Remove Structures Cost Total = \$62,025.00
Remove Structures Time Total = 39.58 days



e. Revegetation

Drill Seeding (Section 9.5) 16 acres x \$891.00/acre	\$14,256.00
Hydroseeding (Section 9.5) 9.7 acres x \$1,667.00/acre	\$16,169.90
Riparian Area Planting (Section 9.5) 1 acre x \$2,210.00/acre	\$ 2,210.00
Install Matting (Section 9.5) 3.7 acres x \$3,103.75/acre	<u>\$11,483.88</u>
Cost Total	\$44,119.78

f. Monitor Well Plugging

Approx. 4 in diam x 40 ft deep	
1 yds cement @ \$51.00/yd	\$ 51.00
4 hrs labor @ \$15.83/hr	<u>\$ 63.32</u>
Cost Total	\$ 114.32

g. Maintenance and/or Monitoring for Vegetation, Erosion, and Subsidence

(Bond for 10-year bond liability period)

Vegetation - field survey, sampling, analysis and report writing @ \$1,000.000/day + \$80.00/day vehicle expense (Mt. Nebo Scientific), 3 days/yr	\$3,240.00/yr
Erosion - 1 day to field survey @ \$141.44/day	141.44/yr
Subsidence	
2 day field survey @ \$141.44/day	
1 day certified surveyor @ \$250/day	532.88/yr
Subtotal	<u>\$3,914.32/yr</u>
Cost Total	10 yrs x \$3,914.32 = \$39,143.20

h. Hydrology Monitoring, Quarterly

Labor - 4 days annually @ \$126.64/day	\$-506.56/yr
Laboratory work - per Commercial Testing and Engineering Co. Huntington, Utah (\$87.73/sample)(7 samples) - \$614.11/quarter x 4	2,456.44/yr
Subtotal	<u>\$2,963.00/yr</u>
Cost Total	10 yrs x \$2,963.00 = \$29,630.00

i. Supervision - 20.2 weeks @ \$707.20/week \$14,285.44

j. Mobilization and Demobilization of 5 pieces of equipment @ \$500 each \$2,500.00

The above listed costs include reclamation costs added between 1985 and the latest modification.

OFFICE SUPERVISOR
EFFECTIVE: 532.88/yr
\$3,914.32/yr
FEB 20 1996
DIVISION OIL, GAS AND MINING
EFFECTIVE: \$2,500.00
JUL 22 1994

EXISTING STRUCTURES

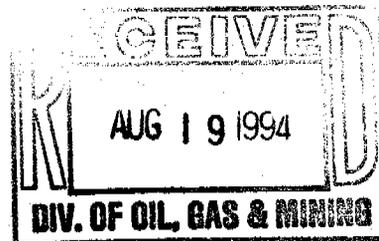
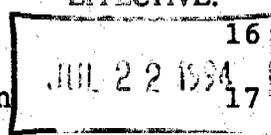
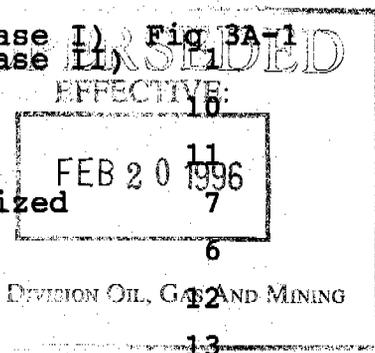


Table 3A-1 lists each structure and construction dates. Reclamation is expected in 2012.

Table 3A-1 Existing Structures

<u>Existing Structure</u>	<u>Construction Dates</u>		<u>Photo #</u>
	<u>Starting</u>	<u>Completion</u>	
Fuel Tanks	10/83	6/84	2
Truck Loading Facility	9/82	4/83	3
Shop - Bathhouse - Warehouse	10/83	9/84	4
Added Machine Shop	11/89	12/89	5
Oil Slack Loading Facility	4/83	7/83	3
Storage & Stacking Facility	6/80	4/84	3
Coal Processing Facility	4/80	12/85	6
Non-Coal Storage Yard	3/80	9/84	7
Transformer Sub-Station	4/80	6/80	8
Conveyor Structures	3/80	6/80	3
Cross Conveyor	7/89	9/89	9
Sales Receiving-Scale Office	6/84	10/87 (Phase I) 10/92 (Phase II)	Fig 3A-1 10
Lamp House	10/83	4/84	10
Coal Storage Bins	4/85	10/85	11
Powder Magazine	9/82	containerized	7
Lump Coal Facility	10/83	12/85	6
Electric Service Depot	Mobile Trailer		12
Water Tanks & System	8/82	11/82	13
Mine Fan	9/82	11/82	14
Lump Coal Storage Pad	8/92	10/92	15
Equipment Wash Pad	8/92	10/92	16
Shower House	under construction		17
Antifreeze Storage Tank	12/93	1/94	18
Tank Seam Fan	under construction		19
Tank Seam Borehole Structure	under construction		20



10. Conveyor Structures. These conveyors are the route by which the coal exits the mine to the storage piles and loadouts. Photo #3 pictures the conveyors and load out facilities from below.

Cross Conveyor. In order to reduce problems encountered with the use of the Coal Recovery bin (i.e. fires and coal fine movement) a cross-over belt from the Blind Canyon Seam conveyor to the Hiawatha Seam conveyor was installed in 1989, bypassing the bin. See Photo #9.

11. Lamp House. Located near the mine portal to charge cap lamps, and to store safety equipment & supplies. See Photo #10.

12. Caretakers Residence. There is not a caretakers Residence in the Permit area at the Present time.

13. Coal Recovery Bin. As the name implies, is approx 50 ft X 100 ft bin where coal fall from the conveyor chute prior to traveling to the crusher is pictured in Photo #11. - To be removed -

14. Powder Magazine. Consists of a storage shed. See Photo #7.

15. Lump Coal Facility. Consists of storage bin & loading conveyor. See Photo #6.

NO PORTAL
EFFECTIVE:

JUL 22 1994

REVERSE SIDED
EFFECTIVE:

FEB 20 1996

DEVISION OIL, GAS AND MINING
10/22/93



Photo #11 Coal
Recovery Bin

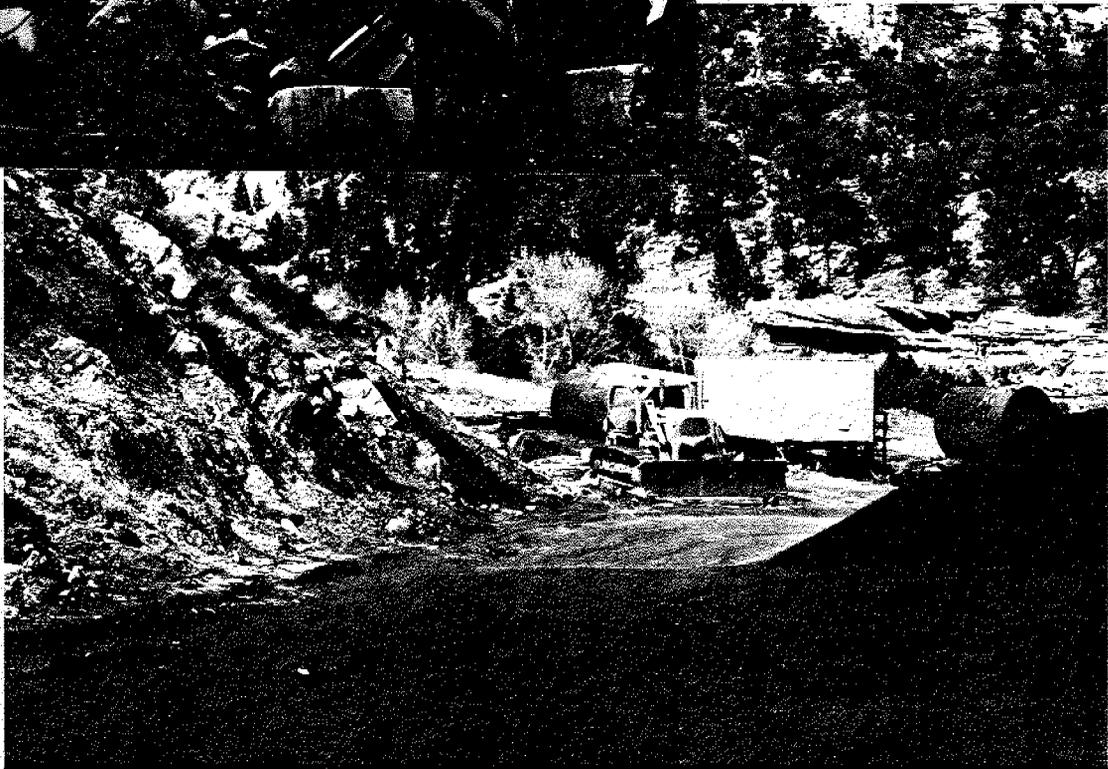


Photo #12 Electrical Service Depot

3A-14

FEB 20 1996

7/90