

implemented in areas deemed hazardous for equipment and or in sensitive areas such as along Bear Creek where down cast material could adversely effect the drainage. This, in turn, decreases the impact on adjacent watersheds and improves quality of surface waters.

Those areas which are terraced provide a more favorable ecosystem than that of an equivalent slope. It facilitates better utilization of grasses and forage for grazing animals; to some degree it modifies climate in that severity of wind and weather is somewhat diminished. Also, the cut face acts in much the same as a snow drift fence does in trapping and causing small areas of snow

The need to terrace all of the steeper slopes within the mine plan area currently is not anticipated. Erosion control measures to be employed, will be specific to each situation. Mulching, silt fences, straw, etc. will be used as described in Section 7.2.6, to reduce and limit rainfall/erosion impacts.

3.6.4.4 Soil Redistribution and Stabilization

Soil redistribution and stabilization will be completed as defined in Section 8.8 of this plan. Co-Op will exercise care to guard against erosion during and after application of topsoil and will employ the necessary measures to ensure the stability of topsoil on graded slopes.

In addition to the vegetative stabilization discussed in Section 3.6.5, Revegetation Plan, physical stabilization of the soil is also planned. The specific methods to be implemented are defined in Chapter 8 and 9.

3.6.5 Revegetation Plan

All disturbed areas will be planted and revegetated during the first appropriate season following grading and topsoil redistribution procedures and will include, the addition of remedial soil treatments. A permanent, diverse vegetative cover, using approved seed mixes listed in Chapter 9, Section 9.5, will be established on all reclaimed areas. See Section 9.4 for full reclamation revegetation plan.

The operator will submit a detailed revegetation plan in the last Five-Year Permit Renewal prior to reclamation. The plan will include detailed map(s) of sufficient scale to show exact areas and methods of revegetation (i.e., drill seeding, terraces, netting, etc...) based on the best available technology and final mine site conditions.

Gently sloping and flat areas will be seeded with a drill seeder. Steeper slopes will be seeded with a hydroseeder or by hand. Many shrubs and all trees will be planted by hand setting to ensure a permanent plant cover.

Seedlings will be planted in Apr - May or Sept - Oct depending on availability and sequence of completion, plants will be grouped to provide wildlife cover. Spacing within the group is defined in Chapter 9 and will be correlated to the reference area.

3.6.5.1 Mulching

On all reclaimed areas a wood fiber mulch will be used to enhance moisture retention required for seed germination. Tackifier will be added to the mulch to help it adhere to the soil. A min of 60 lbs tackifier/ton fiber will be applied, with steeper sloping areas requiring more as shown in Section 9.5. Some steeply sloped areas may require erosion control matting. These areas will be noted on the detailed revegetation plan and maps to be submitted in the last Five-Year Permit Renewal prior to reclamation.

3.6.5.2 Irrigation

Since the species used for reclamation are known for their survival characteristics, it is felt that artificial application of additional water will not be required. Should lower than average precipitation or irregularities in distribution of precipitation occur following the initiation of reclamation procedures which temporarily precludes vegetation establishment, a preferred course of action would be to replant problem areas.

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>Actual Time</u>
a. Seal Portal - 1 week	1 week
b. Remove Structures - 2.5 weeks	3.5 weeks
c. Soil Placement (backfilling and grading)	
1. Upper Pad - 1 weeks (including road)	4.5 weeks
2. Channel Restoration - 1.5 weeks	6 weeks
3. Lower Pad and Diversions - 1.5 weeks (including road)	7.5 weeks
d. Seed-bed Material and Handling - 1 week	8.5 weeks
e. Reseeding and Fertilizing - 1 week	9.5 weeks
f. Mulching - .5 week	10 weeks
g. Protective Fencing - 2 weeks (concurrently)	10 weeks

Summary of Reclamation Cost Estimate

a.	Seal Portals and Backfill	\$ 35,000.00
b.	Removal Structures	\$ 32,595.00
c.	Solid Waste Removal	\$ 2,451.44
d.	Soil Placement (backfilling and grading)	\$ 42,760.00
e.	Channel Restoration	\$ 16,892.24
f.	Drill Seeding	\$ 7,128.00
g.	Hydroseeding	\$ 11,669.00
h.	Riparian Area Seeding	\$ 2,210.00
i.	Baseball Park Seeding	\$ 3,495.00
j.	Retaining Wall Removal	\$ 442.66
k.	Borehole Plugging	\$ 343.40
l.	Maintenance and Monitoring of Subsidence, Vegetation and Erosion (10 yr bond liability period)	\$ 19,460.00
m.	Hydrology Monitoring (10 yr bond liability period)	\$ 23,072.00
n.	Supervision (10 weeks)	\$ 9,640.00
o.	Mobilization and Demobilization	<u>\$ 2,500.00</u>
		\$209,658.74
	10 pct Contingency	<u>\$ 20,965.87</u>
	(1990 dollars)	\$230,624.61

<u>Escalated Values</u>	<u>Escalation Factor</u>
1991 - \$234,868	1.84% (actual)
1992 - \$239,190	1.84% (est)
1993 - \$243,591	1.84% (est)
1994 - \$248,073	1.84% (est)
1995 - \$252,637	1.84% (est)

An irrevocable letter of credit was posted in July 1990 for \$290,000 by Co-Op (C. W. Mining Co.).

NOTE: Section 3.6.8.3 modification and adjustment

Reclamation Costs (cont)

Cross Conveyor

Labor - 3 men x 176.80/day x 1 day	\$	530.40
Equipment (hauling) truck + operator x 6 hrs x 70.48/hr		422.88
loader + operator x 8 hrs x \$118.30 (950B - 2 1/2 cu. yd. bucket)		946.40
Crane - 2 hrs. @ \$101.70/hr.		<u>203.40</u>
Subtotal	\$	2,103.08

c. Waste Removal

Labor - 2 men x \$176.80/day x 4 days	\$	1,414.40
Hauling - truck + operator x 8 hrs x \$70.48/hr		563.84
Loader (+ operator) - 4 hrs x \$118.30		<u>473.20</u>
SUBTOTAL	\$	2,451.44

d. Soil Placement and Seed-Bed Material & Handling

SUBTOTAL \$ 42,760.00

e. Channel Restoration (pulling culverts, reshaping channel, rip-rap and gabion structures)

Backhoe + operator x \$221.33 x 48 hrs	\$	10,623.84
Labor - 4 men x \$176.80/day x 4 days		1,414.40
Cat x 1 day @ \$124.50/hr		996.00
Gabion Structures @ \$63.00/sy (53.3 sy)		3,358.00
Miscellaneous Rip-rap- \$500.00		<u>500.00</u>
SUBTOTAL	\$	16,892.24

f. Drill Seeding (Section 9.5)

8 acres x \$ 891.00/acre		
SUBTOTAL	\$	7,128.00

g. Hydroseeding (Section 9.5)

7 acres x \$1,667.00/acre		
SUBTOTAL	\$	11,669.00

h. Riparian Area Planting (Section 9.5)

1 acre x \$2,210.00/acre		
SUBTOTAL	\$	2,210.00

and siltation, air and water pollution, and damage to public or private property.

The road is located along the canyon floor above the stream, and along the stable slope leading to the portals. The overall grade of the road does not exceed 1:V:10h (10 pct) and the maximum pitch grade does not exceed 1V:6.5h (15 pct). The horizontal alignment is consistent with the existing topography and with the volume, speed, and weight of anticipated traffic.

As mentioned earlier, the initial road was constructed under pre-law conditions, using the cut/fill side-cast method. A stability analyses was performed on the road by Dames & Moore in 1981 (Appendix 3-F). Their conclusion was that the Bear Canyon Portal Access Road has a stability factor of safety of a minimum of 1.43, and ranges upward to 2.15.

There are 3 other Primary roads within the Permit Area. Following is a description of each of these:

- a. Road to Sediment Pond A. This road is 430 ft long and was constructed to allow access to the Sediment Pond and to facilitate cleaning of the drainage to the pond. The road is in actuality the disturbed drainage ditch to sediment "Pond A", and is used infrequently to clean sediment from "Pond A". The road has an overall slope of approximately 4.0 pct and does not exceed 15 pct at any point. The horizontal alignment

is consistent with the existing topography and with the volume, speed, and weight of anticipated traffic.

b. Road to the Coal Preparation Facility. This road is 600 ft long, and was constructed to provide access to the Coal Preparation Facility. The road has an overall slope of approximately 10.0 pct, and does not exceed 15 pct at any point. The horizontal alignment is consistent with the existing topography and with the volume speed, and weight of the anticipated traffic.

c. Bathhouse Road. This road is 160 ft long, and provides access to the bathhouse. The road has an overall slope of approximately 3.0 pct, and does not exceed 15 pct at any point. The horizontal alignment is consistent with the existing topography and with the volume, speed, and weight of the anticipated traffic.

Ditches and culverts have been added to the roads to control run-off and safely pass the run-off from a 10-year, 24-hour precipitation event. (see Plates 3-1 and 3-5). Ditches shall be maintained at a minimum depth of 1.8 ft, and at least 30 in. of headwater depth will be maintained at the inlet of the 18 in. culverts. Culverts are fitted with trash racks to prevent plugging, and buried and compacted a minimum of 30 in. to prevent crushing. In areas where velocities of run-off exceed 5 fps,

erosion protection such as straw bales at 100 ft intervals or 6 in. median diameter rip rap on a bed of 2 in. gravel/sand 6 in. thick shall be maintained. Rock or concrete headwalls shall be provided at the inlet to all culverts, and rip rap or other erosion protection shall be provided at the outlet.

The roads are surfaces with 4 in. of -3/4 gravel, and is maintained in such a manner that the approved design standards are met throughout the life of the facility. Damage to the roads from use or weather events shall be promptly repaired.

These roads shall be removed upon completion of the mining operation. The timing and procedure of removal and reclamation is discussed in detail under the Backfilling and Grading Plan in Sec. 3.6.4.

Ancillary Roads

The only Ancillary Road on the permit area is a jeep trail that was constructed pre-law, probably as a cattle trail. This road is shown on Plate 2-2, Surface Facilities Map. The road is blocked off and is not used; therefore, no maintenance or reclamation plan is proposed for this trail.

TOXIC MATERIALS & HANDLING

Any material that is contaminated with coal, as determined by visual observation, will be placed against the highwall and buried beneath a min of 2 ft of fill material during reclamation. Material that is contaminated with oil or grease or any other potentially acid or toxic matter, as determined by visual means, will be placed against the highwall and covered with a min of 4 ft fill, top soiled, and reclaimed. Interim isolation of such material will be by use of berms created by a backhoe or loader.

Since the roof material from the mine has shown a high SAR value, any roof rock that is stored on the surface will be isolated by a berm as long as it is stored on site. During reclamation, this material will be placed against the top of the highwall and covered with a minimum of 4 ft of material, covered with required plant growth medium and revegetated.

Covering Coal and Acid and Toxic Forming materials

The pH, acid-base potential, texture and electrical conductivity of these materials must be included on the date reported.

Co-Op reply. Co-Op submitted a sample to CT&E testing for this data and the results are included attached. Co-Op will commit to removing any and all such material or disposing of them in a manner

METHODOLOGY

Phase 1 - Earth Moving

The pad down slopes will be brought back to a reasonable configuration by implementation of a crawler tractor. The actual method will involve smooth contouring of the existing soil and walking the crawler up and down the slope attempting to minimize compaction while at the same time creating small indentations by the grouser on the track. This methodology creates an enhanced micro-climate for the establishment of seed and guarantees sufficient compaction as to assure integrity and stability of embankment and prohibit failure.

Phase 2 - Seeding and Mulching

The entire disturbed area will be hydroseeded during the mid fall season with a Target completion date of 15 October. The seed mix and rate of application for interim reclamation is shown in Table 3G-1. Hydro-seeding and mulching will be carried out in conjunction with the earth work of Phase 1. All hydroseeded or hand seeded areas will be lightly raked to insure adequate soil/seed contact. Recommendations for the hydroseeding and mulching operation are shown in Table 3G-2.

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GENERAL

Upon inspection of the Mine permit area it was found that the areas described below exist in the undisturbed zones and that surface runoff going through these areas does not pass through the sediment pond treatment facilities. In order to provide adequate treatment for these areas, straw bale dikes and/or silt fences will be installed as indicated on Plate 7-1. The sediment control structures will be positioned so that surface runoff passes through them before entering Bear Creak. Treatment facilities will be maintained for each area until approved and determined that adequate revegetation cancels the need for treatment. These areas are designated as "Best Technology Currently Available" or BTCA Areas. Drainage from these areas will be monitored as possible to show compliance with the state and federal limitations.

OUTSLOPE BANK OF UPPER STORAGE PAD.

During construction of the Upper Storage Pad (Plate 7-1) some fill was apparently overcast down the face of the slope below. The area covers approximately 800 sq ft. A silt fence will be installed and maintained at the inlet to culvert C-8U. In 1991, culvert C-8U will be eliminated, and the drainage will go to Sediment pond "A". The runoff volume for this area is calculated to be 0.0013 acre ft.

AREA NEAR PORTAL NO.1

This area lies between the upper lamphouse/mine portal bermed pad and the portal access road, extending from the road junction on the south to just north of the upper office trailer at the beginning of the Cattle Co. Road. The area is approx. 0.28 acres. A silt fence is installed at the north end of the area where runoff flows down hill from the Cattle Co. Road area. Runoff from the area passes through a silt fence near the inlet to culvert C-6U. Runoff volume from this area is calculated to be 0.019 acre ft.

BALL PARK TOPSOIL PILE

The ball park covers 1.2 acres. Straw bale dikes and/or silt fences will be installed on the south east side, in line with the natural flow to treat runoff before it enters Bear creak. Runoff volume from this area is calculated to be 0.082 acre ft.

TOPSOIL STOCKPILE

The main topsoil storage pile covers approx 0.1 acres. The area is encircled by an 18 in. berm and is protected by established vegetation. Runoff volume from this area is calculated to be 0.0068 acre ft.

Note: Runoff volumes are based on the 10 yr 24 hr event of 2.25 in. and runoff CN of 82.

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has been purchased to relieve the deficiencies in the present stockpile. These results are attached in Appendix 8-A.

8.6 SELECTED OVERBURDEN MATERIALS OR SUBSTITUTES

There are approx 16 acres of disturbed area at the Bear Canyon Mine site. Of the 15.63 acres, approx 3.8 acres were constructed prelaw, and although no topsoil was saved, native material is available as down-cast material. In order to show that the downcast material is adequate and suitable as final reclamation plant growth material for the 3.8 acres, procedures outlined in Appendix 8-D will be followed.

The remaining approx 12 acres of disturbance will be covered with 6 in. of topsoil during reclamation. This will require approx 9,550 cu yds of topsoil. There are two existing topsoil storage areas on site (Plate 8-3), with storage quantities that meet this requirement.

8.6.1 Main Topsoil Storage Pile

The original topsoil storage pile was located north-east of the scale house in Bear Canyon. This pile consisted of approx 2,600 cu yds of topsoil stripped from the Bear Canyon disturbance. In 1990 this pile is proposed to be moved to the location shown on Plate 8-3. During the construction of the new storage pile and culvert

extension, additional topsoil will be recovered and incorporated into the pile following methods described in Section 8.7 and other applicable section of the mine plan. Surplus suitable plant growth material will be recovered from below the original Topsoil Pile when the area is graded for the proposed Bath house and from the new topsoil pile area. The new pile will be marked and protected by a berm and vegetation to prevent soil loss (Plate 8-2) as defined in Section 8.7.1.3. With the experience of Trail Canyon and the expected condition of the material to be recovered, Co-Op is confident that the deficiency will be covered. The SCS is scheduled to do a survey of the proposed material in Oct 1990.

8.6.3 Topsoil Summary

The following table summarizes the information discussed in the previous Sections:

Table 8.6-2 Summary Table

Total mine disturbance	15.63 acres
Area with topsoil (pre-law, down-cast material)*	3.8 acres
Area requiring topsoil	11.83 acres
Topsoil required	
11.83 acres x 6 in. depth	9,545 cu yds
Topsoil stored	
Upper site	3,600 cu yds
Ball Park site	3,400 cu yds
Total topsoil available	7,000 cu yds
Additional plant growth material to be recovered**	2,545 cu yds

* Downcast material to be used as substitute plant growth material.

** If only 3 to 4 ft of additional material is available at the existing and proposed topsoil site, the Ball Park site material will not be required for reclamation.

8.7 REMOVAL, STORAGE AND PROTECTION OF SOILS

8.7.1 Physical and Chemical Properties of Soils

The 1982 Co-Op field investigations provided information on the physical and chemical properties of soils in the permit area and is discussed in Appendix A. A rating for topsoil is included on the forms, as are some chemical properties. Soils found on-site are listed in the Soils Legend and shown on Plate 8-1. In studies during the 1984 field season on site sampling was analyzed

for the required chemical properties in all horizons (see Appendix A).

8.7.1 Soil Removal, Handling, Storage, and Protection Plans

Prior to the start of all new construction, topsoil will be analyzed as outlined in Table 8.7-1, in accordance with Division recommendations to determine the extent and depth of suitable plant growth medium and will be separately salvaged and stockpiled. Topsoil is stockpiled, consolidated and protected from wind and water erosion and contamination which might lessen its capability to support vegetation. The following subsections deal specifically with the various phases of the topsoil and subsoil handling plan.

8.7.1.1 Topsoil Removal

The depth of topsoil removed previous to 1990 was determined by the amount of A and B horizon material as defined in OSM Regulation 30 CFR 783.22. Existing vegetation was removed and topsoil was collected prior to excavation or other disturbance operations within the affected areas. The topsoil removed in these areas consists of A horizon quality material and B horizon quality material with virtually no distinctive difference. The C horizon material was not removed since it was not sufficiently capable of supporting diverse vegetation due to the excessive rock.

Table 8.7-1 Analytical Parameters for Baseline Soils Data

Test to be Performed	Reported As	Suggested Methods ¹
Soil Color	Hue Value/Chroma	Munsell notation
Soil texture	% sand, silt, clay	Hydrometer method. Black et al. 1965. Methods of soil analysis. ASA Mono No. 9, Part 1, method 43-5, pages 562-566.
pH	standard units	ASA Mono. No. 9, part c (2 ed). 1982. Method 10-3.2, page 171. pH performed on saturation paste, method 10-2.3.1, page 169.
Organic Carbon	%	ASA Mono No. 9, Part 2, 1982 (2 ed). Method 29-5.3. pages 571-573.
Saturation Percentage	%	SP = 100(total wt of water)/ (wt of oven-dry soil). Wts of water and soil known when making a saturated paste.
Alkalinity	meq/ liter	Std. Methods for Examination of waters and waste water, 15 ed., 1980, Method 403.4. Bromocresol green-method red indicator.
Electrical Conductivity	mmhos/cm @ 25°C	ASA Mono. No. 9, Part 2 1982, (2 ed). Method 10-3.3, pages 172-173. Use saturation paste extract.
CaCO ₃	%	ASA Mono. No. 9, Part 2, 1982 (2 ed). Method 11-2.4, pages 188-191.

Table 8.7-1 Analytical Parameters for Baseline Soils Data (cont)

Test to be Performed	Reported As	Suggested Methods ¹
Soluble Potassium, Magnesium, Calcium & Sodium	meq/l	ASA Mono. No. 9, Part 2, (2 ed), 1982. Method 10-3.4. pages 173-174.
Sodium Adsorption Ratio ²	SAR calculated from soluble Ca, Mg & Na (meq/l)	$\frac{[Na^+]}{([Ca^{2+} + Mg^{2+}]/2)^{0.5}}$
Total N	%	ASA Mono. No. 9, Part 2 (2 ed), 1982. Method 31-3, pages 610-616.
Available Phosphorus	mg/Kg	ASA Mono. No. 9, Part 2, (2 ed), 1982. Method 24-5.4, pages 421-422.
Available Water Capacity	in/in	USDA SCS Soil Survey Investigation Report No. 1, Method 4C1, page 24.
Rock Fragments	% Volume	USDA SCS Soil Survey Investigation Report No. 1, Method 3B, page 18.

¹These are suggested methods, other equivalent methods may be used if described and can be justified prior to sampling.

²If samples have a SAR greater than 12 for clay textured soils or greater than 15 for sandy textured soils, then exchangeable sodium percentage should be analyzed.

Note: This table is from Table 1 of the Department's "Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining", April 1988.

The equipment used for topsoil removal consists of bulldozers, front-end loaders, and dump trucks. The use of bulldozers requires pushing of the topsoil to a collection point for loading into dump trucks or other means of transportation to the designated stockpile. Adequate supervisory personnel are present at the time of the topsoil removal to instruct the equipment operators in the proper techniques of topsoil removal and to ensure that required horizons are removed and stored.

8.7.1.2 Topsoil Stockpile

Plans involving topsoil storage can be labeled as "short term" or "long term" depending on completion of activities in each area and the reclamation schedule presented.

Short-Term Topsoil Storage Areas. Short-term stockpiles of topsoil will be for areas to be reclaimed almost immediately upon cutting. At final grade topsoil will be redistributed promptly to minimize natural degradation processes. No short-term piles are anticipated at this time. If a need arises, a site-specific plan will be submitted prior to disturbance.

Long-Term Topsoil Storage Areas. During any new construction of areas that will be used for the duration of the mining operation within the permit area, topsoil will be collected and stockpiled. The topsoil will be used for post-mining reclamation.

Topsoil is presently being stored within areas of the permit boundary (Section 8.6). These piles should be considered "long term".

8.7.1.3 Topsoil Protection

The short-term topsoil stockpile will be sprayed with water or temporarily vegetated to retard erosion. The long-term topsoil stockpile will be protected by the following operational steps:

1. A stable surface will be provided in an area outside the influence of active operations.
2. As a stockpile is completed, it will be left in a rough condition to minimize erosion.
3. Stockpiles will be situated out of drainages to prevent water erosion.
4. Storage piles will be vegetated with quick growing, soil-stabilizing plants. Revegetation will involve the immediate seeding of stockpiles during the next planting season with the seed mixture recommended in Section 9.5, in compliance with the requirements of the appropriate land management agency.

5. Signs will be posted to protect the stockpiles from accidental use as fill or from other inadvertent material contamination. The establishment of noxious plant species will be prevented.
6. Stockpiled topsoil will not be removed or otherwise disturbed until required for redistribution on a prepared and regraded disturbed area.

8.8 REDISTRIBUTION OF SOILS

Following backfilling and regrading (Section 3.6.4) and prior to topsoil redistribution, regraded land will be scarified by a ripper to a depth of 14 in. in order to reduce surface compaction, provide a roughened surface assuring topsoil adherence, and promote root penetration. Steep slope areas which must remain after abandonment will receive special ripping to create ledges, crevices, pockets, and screes. This will allow better soil retention and vegetation establishment.

Prior to seeding, topsoil will be distributed on areas to be reclaimed. Topsoil redistribution procedures will ensure an approx uniform thickness of 6 inches as indicated by Soil Survey - March 1980 (Appendix 8-B). Topsoil will be redistributed in the fall of the year (Oct.) suitable for establishment of permanent vegetation. A very roughened seed bed will be left in all cases.

To minimize compaction of the topsoil following redistribution, travel on reclaimed areas will not be allowed. Co-Op will exercise care to guard against erosion during and after application of topsoil and will employ wood fiber mulch and tackifiers to ensure the stability of topsoil on the graded slopes. The specific methods to be implemented are defined in Section 9.

The soil stabilization methodology that will be used includes the placement of crushed and heavier material at the toe of road fill slopes, and the random placement of large rocks and boulders on the surface. This procedure will enhance the microclimate as well as make the reclaimed area more aesthetically compatible with the undisturbed surroundings. Erosion control matting will be installed on steep slopes where it is determined that the use is required for the proper establishment of vegetation and erosion control. The detailed revegetation plan to be submitted in the last five year permit renewal prior to reclamation, will include maps showing the areas to receive matting.

8.9 NUTRIENTS AND SOIL AMENDMENTS

Chemical analysis for micronutrients will be conducted by testing soil extracts from the redistributed material as outlined in Table 8.7-1. All necessary fertilization and/or neutralizing compounds will be applied according to the results of the soil sampling and analysis program approved by the division.

8.10 EFFECTS OF MINING OPERATIONS ON TOPSOIL, NUTRIENTS, AND SOIL AMENDMENTS

Since the Bear Canyon Mine is an underground mine, the impact of mining on soils will be minor overall. The impacts of surface operations and mining facilities on soil resources consist of coverage of soil by land-fills¹ and refuse, disturbance of soils during construction activities, erosion created by removing vegetation, reduced forage growth due to nutrient degradation, reduced livestock capacity, and particulate emissions to the air.

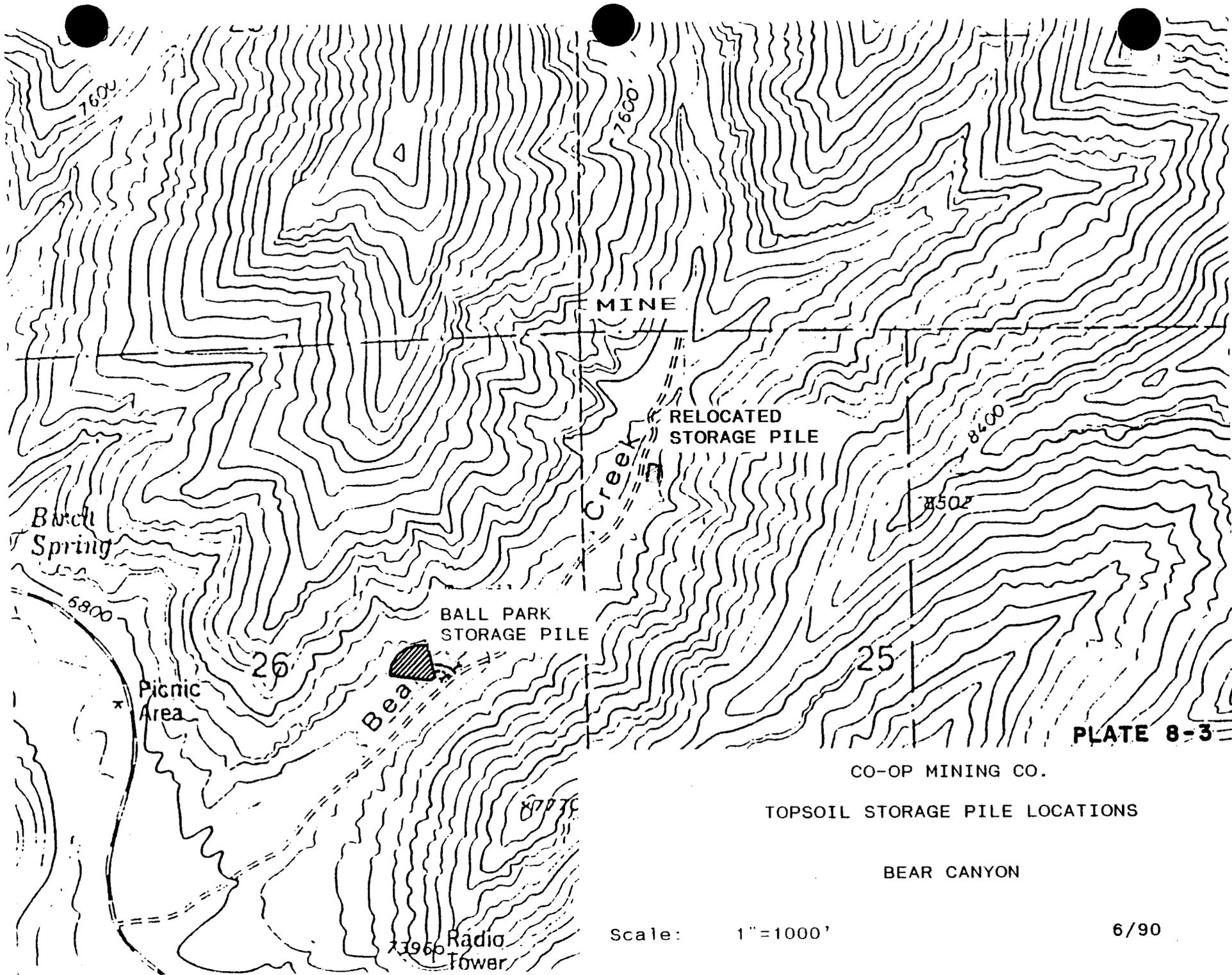
The areas in which soils have been disturbed to date within the permit area, includes the loadout area, offices, shops and substations, roads, portal areas, and the topsoil areas. Additional acreage may be disturbed in the future if Co-Op elects to proceed with certain projects it is considering.

¹Coverage of soil by landfills occurred pre-SMCRA.

8.11 MITIGATION AND CONTROL PLANS

Detailed Interim Reclamation Plans are included in Appendix 3-G of this Reclamation Plan in regard to stockpiling, long and short-term plans, and goals for final reclamation.

Co-Op is committed to take whatever steps are necessary to minimize loss of soil through erosion. Whenever rills or gullies become evident, will be filled, regraded, rip-rapped and re-seeded tackified, and mulched. This work will commence prior to any significant loss (Rills and Gullies, less than 9 in.).



MINE

RELOCATED
STORAGE PILE

Bear
Creek

BALL PARK
STORAGE PILE

Buck
Spring

Picnic
Area

Radio
Tower

PLATE 8-3

CO-OP MINING CO.

TOPSOIL STORAGE PILE LOCATIONS

BEAR CANYON

Scale: 1" = 1000'

6/90

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Plate 9-1 Vegetation Map

9.5.1 Phase 1 - Backfilling and Grading

Backfilling and Grading plans are found in Section 3.6.4 of this plan. Roads will be brought back to a reasonable configuration as described in Appendix 3-D.

9.5.2 Phase 2 - Site Preparation

Site stability will be largely accomplished through the grading, compacting and the utilization of a tackifying agent. However, terracing and erosion control matting will be required on some of the steeper slopes of more than 2:1. See Section 3.6.4. Mapping of each area receiving each control measure will be submitted with the detailed revegetation plan in the last five year permit renewal prior to reclamation.

Soil redistribution and stabilization will be completed as defined in Section 8.8 of this plan.

9.5.3 Phase 3 - Seeding and Mulching

The entire area of disturbance will be drilled or hydroseeded during the first Fall following the complete abandonment and earth work (September through November). Spring seeding was considered too speculative to be implemented based on the variation in Spring moisture regimes.

9.5.3.1 Drill Seeding

The largest portion of the recontoured site will facilitate drill seeding. The balance of the area would then be hydroseeded (Section 9.5.3.1). In order to lessen compaction, a rangeland drill seeder pulled behind a small crawler tractor will be utilized. The seed mix and rate of application is given in Section 9.5.5.

All drill seeded areas will be mulched with two tons per acre alfalfa, straw or grass hay. The mulch will be certified as weed free by the county agriculture agent. Copies of this certification, along with weight tickets from a certified scale will be submitted to the Division.

9.5.3.2 Hydroseeding

Steep slopes will be seeded with a hydro-seeder or possibly hand seeded. The seed mix and rate of application is given in Section 9.5.5.

All hydroseeded or hand seeded areas, will be lightly raked to insure adequate soil/seed contact. On slopes greater than 2:1, a two step hydroseeding methods will be used. One half of the seed amount will be applied and raked and then the remaining seed will be applied.

In combination with the seed, the following rates of tackifier will be utilized:

Table 9.5-2 Suggested Ratios of Tack to Fiber

<u>slope angle (deg)</u>	<u>slope ratio (rise:run)</u>	<u>percent slope</u>	<u>lbs. Tack per ton fiber</u>	<u>ratio tack to fiber</u>
14	1 : 4	25	60(min)*	1 : 30
26	1 : 2	50	80	1 : 25
33	1 : 1 1/2	66	100	1 : 20
45	1 : 1	100	120	1 : 16
57	1 1/2 : 1	150	140	1 : 14
64	2 : 1	200	160(min)	1 : 12

* 60 pounds is suggested as a minimum to insure excellent stabilization; however, in many conditions 40 pounds of Tack per acre has given excellent results on a 1:4 or less slope.

(Rates of Tack were developed with respect to velocity and erosive power of water which is proportional to the square root of the slope.) An empirical factor was determined from laboratory and field studies to arrive at the minimum Tack fiber ratio. Thus, 60 pounds of Tack per ton of fiber is about minimum for slopes up to 20 pct and the empirical factor is determined as 60 divided 20 pct = For a 100 pct slope (1:1 or 45 degrees) the ratio of Tack to fiber is calculated as:

(100 pct) (12) = 120 pounds. Tackifier to be used for Hydroseeding and Hydromulching to Serve as Mulch or Soil Binder.

9.5.3.3 Mulching

Following the seeding effort the entire area of disturbance will be hydromulched and fertilized. The rate of application of the wood fiber mulch is:

1,200 to 1,500 lbs/acre on flat areas or gentle slopes
2,000 to 2,500 lbs/acre on slopes exceeding 3:1 (horiz
to vert) slopes

The mulch will also be fortified with Tack as previously indicated according to slope. Fertilization and/or neutralizing compounds required according to Section 8.9. will be incorporated in the mulch slurry.

9.5.5 Recommended Seed Mix

All seed obtained will comply with all state and federal seed laws. Copies of certificates for testing and poundage of seed purchased, will be submitted to the division. Any changes in the approved seed mixes will first be cleared with the Division. Costs listed below were gathered from suppliers in Nov. 1990.

It is currently recommended by the State of Utah, Division of Oil, Gas & Mining (DOGGM) that riparian areas such as the one in Bear Canyon Mine site not be seeded. It is often impractical to attempt to seed these narrow corridors in conjunction with the surrounding seeded areas. Instead it is recommended that the operator plant woody plant seedlings.

Table 9.5-2 Recommended Seed Mix, Riparian-Creek Bottom

<u>Scientific Name</u>	<u>Common Name</u>	<u>Plants/ac</u>	<u>Cost/ac*</u>
<u>Populus angustifolia</u>	Cottonwood	150	\$120
<u>Prunus virginiana</u>	Chokecherry	150	\$120
<u>Rosa woodsii</u>	Wood's Rose	500	\$400
<u>Sambucus caerulea</u>	Elderberry	100	\$ 80
<u>Salix spp.</u>	Willow	2000	\$400
	TOTAL	2900	\$1120

* Cost of all (except Salix spp.) estimates plant material cost only (labor not included).

Salix should be cut from a source area in close proximity to the mine site and planted in the reclaimed area. The cost of this species is based on estimated labor to accomplish this.

After two years the seeding effort will be evaluated and planting will be instigated in the event it appears necessary to bring the density and diversity of woody species up to the confidence levels of the corresponding reference area. The same species will be planted as listed above under shrubs. In addition, the following tree species will be planted:

<u>Species</u>	<u>Number per Acre</u>	<u>Spacing within Clumps*</u>
<u>Pinus edules</u>	18	5 ft
<u>Acer glabrum torr.</u>	18	5 ft
<u>Prunus virginiana</u>	5	25 ft

* Clumps spaces at 30 yd. intervals for wildlife cover

9.5.5.1 Noxious Weeds

The following weeds are officially designated as noxious for the State of Utah, as per the authority vested in the Commissioner of Agriculture under Section 4-17-3, Utah Noxious Weed Act, and will be controlled as directed by the Emery County, Extension Agent if found within the permit area:

Bermudagrass	<u>Cynodon dactylon</u>
Bindweed	<u>Convolvulus spp.</u>
Broadleaved Peppergrass	<u>Lepidium latifolium</u>
Canada Thistle	<u>Cirsium arvense</u>
Dyers Woad	<u>Isatis tinctoria</u>
Johnson Grass	<u>Sorghum halepense</u>
Leafy Spurge	<u>Euohorbia esula</u>
Musk Thistle	<u>Carduus nutans</u>
Quackgrass	<u>Agropyron repens</u>
Russian Knapweed	<u>Centaurea repens</u>
Scotch Thistle	<u>Onopordium acanthium</u>
Whitetop	<u>Cardaria spp.</u>

9.6 RECLAMATION VEGETATION MONITORING

All reclaimed areas will be monitored to determine when bond release parameters are achieved. Success standards will be based on the reference area. Qualitative (ocular estimates) monitoring will be completed each year until bond release with the intent of identifying problem areas. Quantitative monitoring will be made during years 2, 3, 5, 9 and 10 until bond releases. Both the final reclaimed area and reference area will be sampled for cover, density (woody plants). Species composition data will be collected and compiled every two years, using cover sampling data. Productivity measurements will be collected during years 9 and 10 of the bond liability period.

The success of the reclamation effort will be evaluated by detailed sampling of cover, woody plant density and production of reference and reclaimed areas. The data from the reclaimed areas and the reference area will be collected during the same growing season. If there is no significant difference in cover woody plant density and production between the reclaimed areas and the reference areas when tested at the 90 pct significance level using a one-tailed t-test, then the areas will be judged to adequately reclaimed relative to cover and production.

Wood plant density standards will be sampled for each reference area as well as the reclaimed areas and the success of

the reclaimed area based on the results from the reference areas (90 pct pre-mining stock level survival at bond release) cover, woody plant density on reclaimed and reference areas will be measured using the same methods employed during the baseline studies. At the time of bond release, trees and shrubs, used to achieve success, will be healthy and at least 80 pct will have been in place for at least eight growing seasons. No trees and shrubs in place for less than two growing seasons will be counted in determining stocking adequacy.

Standard methods, as outlined in Chapter 9, Vegetative Resources, will be applied to determine the degree of success for revegetation attempts. Production will be measured using a Harvest methodology. Shrub density data will be collected, using 1 m x 50 m transects.

One of the greatest challenges of revegetation is to create reclaimed areas which have a large number of desirable species. Species diversity on the reclaimed areas will be encouraged by including a variety of grasses, forbs, and shrubs in seeding and planting mixes.

Species diversity will be judged adequate when the relative cover and pct distribution of biomass for the major life form groups approx that which occurs in the reference areas. That is, if the relative cover by perennial grasses is 50 pct in the

reference areas, then the relative cover by perennial grasses on the reclaimed areas should also be approx 50 pct. This same relationship should also hold true for productivity. If most of the cover and production were being provided by annual forbs on the reclaimed areas and by perennial grasses on the reference areas, then the reclamation would be judged unsuccessful.

The purpose of the above procedures is to demonstrate that based on cover, production, woody plant density, and species diversity, the disturbed areas have been returned to stable plant communities capable of withstanding the intended post-mining land use.

(d) Minimum production.--Beginning with the sixth year of the lease, except when operations are interrupted by strikes, the elements, or casualties not attributable to the lessee, or unless on application and showing made, operations shall be suspended when market conditions are such that the lessee cannot operate except at a loss or suspended for the other reasons specified in section 39 of the act, to mine coal each year and pay a royalty thereon to a value of \$1 an acre or fraction thereof. Operations under this lease shall be continuous except in the circumstances described or unless the lessee shall pay a royalty, less rent, on such minimum amount of the leased deposits, for one year in advance, in which case operations may be suspended for that year.

(e) Payments.--Unless otherwise directed by the lessor, to make rental, royalty, or other payments to the Regional Mining Supervisor of the United States Geological Survey of the region in which the leased lands are situated. All remittances must be made payable to the United States Geological Survey.

(f) Plats, reports, maps.--At such times and in such form as the lessor may prescribe, to furnish a plat showing development work and improvements on the leased lands and a report with respect to stockholders, investment, depreciation, and costs. To furnish in such form as the lessor may prescribe, within 30 days from the expiration of each quarter a report covering such quarter, certified by the superintendent of the mine, or by such other agent having personal knowledge of the facts as may be designated by the lessee for such purpose, showing the amount of leased deposits mined during the quarter, the character and quality thereof, amount of its products and byproducts disposed of and price received therefor, and amount in storage or held for sale. To keep and prepare maps of the leased lands in accordance with the regulations in 30 CFR, Part 211.

(g) Weights.--To determine accurately the weight or quantity and quality of all leased deposits mined, and to enter accurately the weight or quantity and quality thereof in due form in books to be kept and preserved by the lessee for such purposes.

(h) Inspection.--To permit at all reasonable times (1) inspection by any duly authorized officer of the Department, of the leased premises and all surface and underground improvements, works, machinery, equipment, and all books and records pertaining to operations and surveys or investigations under this lease; and (2) the lessor to make copies of and extracts from any or all books and records pertaining to operations under this lease, if desired.

(i) Assignment of lease or interest therein.--To file for approval with the office prescribed in the regulations, within 90 days from the date of final execution, any assignment, sublease, or transfer made of this lease, whether by direct assignment, working agreement, transfer of royalty interest, or otherwise. Such instrument will take effect the first day of the month following its final approval by the Bureau of Land Management, or if the assignee requests, the first day of the month of the approval.

(j) Nondiscrimination.--In connection with the performance of work under this lease, the lessee agrees not to discriminate against any employee or applicant for employment because of race, religion, color or national origin. The aforesaid provision shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The lessee agrees to post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the nondiscrimination clause. The lessee further agrees to insert the foregoing provision in all subcontracts hereunder, except subcontracts for standard commercial supplies or raw materials.

(k) Lands disposed of with the coal deposits reserved to the United States.--If the lands embraced herein have been or shall hereafter be disposed of under laws reserving to the United States the deposits of coal therein, to comply with all conditions as are or may hereafter be provided by the laws and regulations reserving such coal.

(l) Operations, wages, freedom of purchase.--To comply with the operating regulations (30 CFR, Part 211), to exercise reasonable diligence, skill, and care in the operation of the property, and to carry on all operations in accordance with approved methods and practices as provided in the operating regulations, having due regard for the prevention of injury to life, health or property, and of waste or damage to any water or mineral deposits; to fairly and justly weigh or measure the coal mined by each miner; to pay all wages due miners and employees, both above and below ground, at least twice each month in lawful money of the United States; to accord all miners and employees complete freedom of purchase; to restrict the workday to not exceeding eight hours in any one day for underground workers, except in cases of emergency; to employ no boy under the age of sixteen and no girl or woman, without regard to age, in any mine below the surface; unless the laws of the State otherwise provide, in which case the State laws control.

(m) Taxes.--To pay when due, all taxes lawfully assessed and levied under the laws of the State or the United States upon improvements, output of mines, or other rights, property, or assets of the lessee.

(n) Overriding royalties.--Not to create, by assignment or otherwise, an overriding royalty interest in excess of 50 percent of the rate of royalty first payable to the United States under this lease or an overriding royalty interest which when added to any other outstanding overriding royalty interest exceeds that percentage, excepting, that where an interest in the leasehold or in an operating agreement is assigned, the assignor may retain an overriding royalty interest in excess of the above limitation if he shows to the satisfaction of the Bureau of Land Management, that he has made substantial investments for improvements on the land covered by the assignment.

(o) Delivery of premises in case of forfeiture.--In case of forfeiture of this lease, to deliver up to the lessor in good order and condition the land leased, including all buildings, and underground timbering and such other supports and structures as are necessary for the preservation of the mine or deposit.

Sec. 3. The lessor expressly reserves:

(a) Rights reserved.--The right to permit for joint or several use such easements or rights-of-way, including easements in tunnels upon, through, or in the land leased, occupied, or used as may be necessary or appropriate to the working of the same or other lands containing the deposits described in the act, and the treatment and shipment of the products thereof by or under authority of the Government, its lessees or permittees, and for other public purposes.

(b) Disposition of surface.--The right to lease, sell, or otherwise dispose of the surface of the leased lands under existing law or laws hereafter enacted, insofar as said surface is not necessary for the use of the lessee in the extraction and removal of the coal therein, or to dispose of any resource in such lands which will not unreasonably interfere with operations under this lease.

(c) Monopoly and fair prices.--Full power and authority to promulgate and enforce all the provisions of section 30 of the act to insure the sale of the production of said leased lands to the United States and to the public at reasonable prices, to prevent monopoly, and to safeguard the public welfare.

(d) Readjustment of terms.--The right reasonably to readjust and fix royalties payable hereunder and other terms and conditions at the end of 20 years from the date hereof and thereafter at the end of each succeeding 20-year period during the continuance of this lease unless otherwise provided by law at the time of the expiration of any such period. Unless the lessee files objections to the proposed terms or a relinquishment of the lease within 30 days after receipt of the notice of proposed terms for a 20-year period, he will be deemed to have agreed to such terms.

(e) Waiver of conditions.--The right to waive any breach of the conditions contained herein, except the breach of such conditions as are required by the act, but any such waiver shall extend only to the particular breach so waived and shall not limit the rights of the lessor with respect to any future breach; nor shall the waiver of a particular cause of forfeiture prevent cancellation of this lease for any other cause, or for the same cause occurring at another time.

Sec. 4. Relinquishment of lease.--Upon a satisfactory showing that the public interest will not be impaired, the lessee may surrender the entire lease or any legal subdivision thereof. A relinquishment must be filed in duplicate in the appropriate land office. Upon its acceptance it shall be effective as of the date

it is filed, subject to the continued obligation of the lessee and his surety to make payment of all accrued rentals and royalties and to provide for the preservation of any mines or productive works or permanent improvements on the leased lands in accordance with the regulations and terms of the lease.

Sec. 5. Protection of the surface, natural resources, and improvements.-- The lessee agrees to take such reasonable steps as may be needed to prevent operations from unnecessarily: (1) Causing or contributing to soil erosion or damaging any forage and timber growth thereon; (2) polluting the waters of springs, streams, wells, or reservoirs; (3) damaging crops, including forage, timber, or improvements of a surface owner; or (4) damaging range improvements whether owned by the United States or by its grazing permittees or lessees; and upon any partial or total relinquishment or the cancellation or expiration of this lease, or at any other time prior thereto when required by the lessor and to the extent deemed necessary by the lessor, to fill any sump holes, ditches and other excavations, remove or cover all debris, and, so far as reasonably possible, restore the surface of the leased land to its former condition, including the removal of structures as and if required. The lessor may prescribe the steps to be taken and restoration to be made with respect to lands of the United States and improvements thereon.

Sec. 6. Removal of equipment, etc., on termination of lease.-- Upon termination of this lease, by surrender or forfeiture, the lessee shall have the privilege at any time within a period of 90 days thereafter of removing from the premises all machinery, equipment, tools and materials, other than underground timbering placed by the lessee in or on the leased lands, which are not necessary for the preservation of the mine. Any materials, tools, appliances, machinery, structures, and equipment, subject to removal as above provided, which are allowed to remain on the leased lands shall become the property of the lessor on expiration of the 90-day period or such extension thereof as may be granted because of adverse climatic conditions, but the lessee shall remove any or all of such property where so directed by the lessor.

Sec. 7. Proceedings in case of default.-- If the lessee shall not comply with any of the provisions of the act or the regulations thereunder or default in the performance or observance of any of the provisions of this lease, and such default shall continue for a period of 30 days after service of written notice thereof by the lessor, the lessor may institute appropriate proceedings in a court of competent jurisdiction for the forfeiture and cancellation of this lease as provided in section 31 of the act (30 U.S.C., sec. 188). If the lessee fails to take prompt and necessary steps to prevent loss or damage to the mine, property, or premises, or danger to the employees, the lessor may enter on the premises and take such measures as may be deemed necessary to prevent such loss or damage or to correct the dangerous or unsafe condition of the mine or works thereof, which shall be at the expense of the lessee. However, the lessee shall not be held responsible for delays or casualties occasioned by causes beyond the lessee's control.

Sec. 8. Heirs and successors in interest.-- Each obligation hereunder shall extend to, and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

Sec. 9. Unlawful interest.-- No Member of, or Delegate to, Congress or Resident Commissioner, after his election or appointment, or either before or after he has qualified and during his continuance in office, and no officer, agent, or employee of the Department of the Interior, except as provided in 43 CFR 7.4(a)(1), shall be admitted to any share or part in this lease or derive any benefit that may arise therefrom; and the provisions of section 3741 of the Revised Statutes of the United States, as amended (41 U.S.C., sec. 22), and sections 431, 432, and 433, title 18, U.S. Code, relating to contracts, enter into and form a part of this lease so far as the same may be applicable.

IN WITNESS WHEREOF:

Joseph L. French
Thomas A. Parry
(Witnesses to signature of lessee)

THE UNITED STATES OF AMERICA,
By [Signature]
(Signing Officer) APR 14 1958
Manager Land Office
(Title) (Date)

HUNTINGTON CORPORATION
(Lessee's signature)
By Laurence G. [Signature]
(Lessee's signature)
Laurence G. [Signature] Secretary

(If this lease is executed by a corporation, it must bear the corporate seal)

2F-6

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By [Signature] 7/90
Frederick A. [Signature]

1952
UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management

STIPULATION FOR LANDS UNDER JURISDICTION OF DEPARTMENT OF AGRICULTURE

The lands embraced in this lease (permit) issued under the Mineral Leasing Act of February 25, 1920 (41 Stat. 437, 30 U.S.C., 1946 ed., sec. 181 et seq.), as amended, the Mineral Leasing Act for Acquired Lands of August 7, 1947 (61 Stat. 913, 30 U.S.C., 1946 ed., Supp. III, sec. 351 et seq.) the act of September 1, 1949 (63 Stat. 683, 30 U.S.C., 1946 ed., Supp. III, sec. 192c) the act of June 30, 1950 (64 Stat. 311, 16 U.S.C., 1946 ed., Supp. IV, sec. 508(b)) or under the authority of any of the acts cited in section 402 of the President's Reorganization Plan No. 3 of 1946 (60 Stat. 1097, 5 U.S.C. 1946 ed., sec. 133 y-16, note) being under the jurisdiction of the Secretary of Agriculture, the lessee (permittee) hereby agrees:

(1) To conduct all operations authorized by this lease (permit) with due regard for good land management, not to cut or destroy timber without first obtaining permission from the authorized representative of the Secretary of Agriculture, and to pay for all such timber cut or destroyed at the rates prescribed by such representative; to avoid unnecessary damage to improvements, timber, crops, or other cover; unless otherwise authorized by the Secretary of Agriculture, not to drill any well, carry on operations, make excavations, construct tunnels, drill, or otherwise disurb the surface of the leased (permitted) lands within 200 feet of any building standing on the leased (permitted) lands and whenever required in writing by the authorized representative of the Secretary of Agriculture to fence or fill all sump holes, ditches and other excavations, remove or cover all debris, and so far as reasonably possible, restore the surface of the leased (permitted) lands to their former condition, including the removal of structures as and if required, and when required by such representative to bury all pipelines below plow depth.

(2) To do all in his power to prevent and suppress forest, brush or grass fires on the leased (permitted) land and in its vicinity, and to require his employees, contractors, subcontractors, and employees of contractors or subcontractors to do likewise. Unless prevented by circumstances over which he has no control, the lessee (permittee) shall place his employees, contractors, subcontractors, and employees of contractors and subcontractors employed on the leased (permitted) land at the disposal of any authorized officer of the Department of Agriculture for the purpose of fighting forest, brush, or grass fires on or originating on the leased (permitted) lands or on adjacent areas or caused by the negligence of the lessee (permittee) or his employees, contractors, subcontractors and employees of contractors and subcontractors, with the understanding that payment for such services shall be made at rates to be determined by the authorized representative of the Secretary of Agriculture, which rates shall not be less than the current rates of pay prevailing in the vicinity for services of a similar character: Provided, that if the lessee (permittee), his employees, contractors, subcontractors, or employees of contractors or subcontractors, caused or could have prevented the origin or spread of said fire or fires, no payment shall be made for services so rendered.

During periods of serious fire danger to forest, brush, or grass, as may be specified by the authorized representative of the Secretary of Agriculture, the lessee (permittee) shall prohibit smoking and the building of camp and lunch fires by his employees, contractors, subcontractors, and employees of contractors or subcontractors within the leased (permitted) area except at established camps, and shall enforce this prohibition by all means within his power: Provided, that the authorized representative of the Secretary of Agriculture may designate safe places where, after all inflammable material has been cleared away, campfires may be built for the purpose of heating lunches and where, at the option of the lessee (permittee), smoking may be permitted.

The lessee (permittee) shall not burn rubbish, trash or other inflammable materials except with the consent of the authorized representative of the Secretary of Agriculture and shall not use explosives in such a manner as to scatter inflammable materials on the surface of the land during the forest, brush, or grass fire season, except as authorized to do so on areas approved by such representative.

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The lessee (permittee) shall build or construct such structures or do such clearing on the leased land as the authorized representative of the Secretary of Agriculture decides is essential for forest, brush, and grass fire prevention which is or may be necessitated by the exercise of the privileges authorized by this lease (permit) and shall maintain such structures at his headquarters or at the appropriate

(3) In the location, design, construction and maintenance of all authorized works, buildings, plants, waterways, roads, telegraph or telephone lines, pipelines, reservoirs, tanks, pumping stations, or other structures or clearances, the lessee (permittee) shall take all reasonable and necessary measures to prevent or reduce to the minimum extent scarring and erosion of the land, pollution of the water resources and any damage to the watershed. Where construction, operation, or maintenance of any of the facilities on or connected with this lease (permit) causes damage to the watershed or pollution of the water resources, the lessee (permittee) agrees to repair such damage and to take such corrective measures to prevent further pollution or damage to the watershed as are deemed necessary by the authorized representative of the Secretary of Agriculture.

(4) To pay the lessor (permitter) or his tenant or the surface owner or his tenant, as the case may be, for any and all damage to or destruction of property caused by lessee's (permittee's) operations hereunder; to save and hold the lessor (permitter) or the surface owner or their tenants harmless from all damage or claims for damage to persons or property resulting from lessee's (permittee's) operations under this lease (permit).

(5) To recognize existing uses and commitments, in the form of Department of Agriculture grazing, timber cutting, and special use permits, water developments, ditch, road, trail, pipeline, telephone line, and fence rights-of-way and other similar improvements, and to conduct his operations so as to interfere as little as possible with the rights and privileges granted by these permits or with other existing uses.

(6) To install and maintain cattle guards to prevent the passage of livestock in any openings made in fences by the lessee (permittee) or his contractors to provide access to the lands covered by this lease (permit) for automotive and other equipment.

(7) If lessee (permittee) shall construct any camp on the land, such camp shall be located at a place approved by the authorized representative of the Secretary of Agriculture, and such representative shall have authority to require that such camp be kept in a neat and sanitary condition.

(8) To comply with all the rules and regulations of the Secretary of Agriculture governing the national forests or other lands under his jurisdiction which are embraced in this lease (permit).

(9) Unless otherwise authorized, prior to the beginning of operations to appoint and maintain at all times during the term of this lease (permit) a local agent upon whom may be served written orders or notices respecting matters contained in this stipulation, and to inform the authorized representative of the Secretary of Agriculture, in writing, of the name and address of such agent. If a substitute agent is appointed, the lessee (permittee) shall immediately so inform the said representative.

(10) To address all matters relating to this stipulation to Regional Forester, U. S. Forest Service, Forest Service Building, Ogden, Utah.

at _____ who is the authorized representative of the Secretary of Agriculture, or to such other representative as may from time to time, be designated, provided that such designation shall be in writing and be delivered to the lessee (permittee) or his agent.

(11) If all or any part of the leased (permitted) lands lie within a municipal watershed or are, in the opinion of the authorized representative of the Secretary of Agriculture, primarily valuable for watershed protection, the lessee (permittee) shall reseed or otherwise restore the vegetative cover, as required by the authorized representative of the Secretary of Agriculture, for watershed protection and erosion prevention on any areas damaged because of the operation.

This lease authorizes mining by underground methods only.

No roads or tipples sites will be located on national forest lands without obtaining prior written approval of the forest supervisor.

HUNTINGTON CORPORATION

Lessee (Permittee)

By: _____

Secretary

2F-8

By: _____

Frederick L. Anderson, President

7/90

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Land Office
Post Office Box No. 777
Salt Lake City 10, Utah

Office Salt Lake City, Utah

Serial No. Utah 024315

LEASE OF COAL LANDS UNDER THE ACT OF
FEBRUARY 25, 1920, AS AMENDED

This lease, entered into on May 1, 1958, by the United States of America, the lessor, through the Bureau of Land Management, and Huntington Corporation, Box 1001, Palo Alto, California

the lessee, pursuant and subject to the terms and provisions of the act of February 25, 1920 (41 Stat. 437), as amended, hereinafter referred to as the act, and to all reasonable regulations of the Secretary of the Interior now in force which are made a part hereof,

WITNESSETH:

Section 1. Rights of lessee.—The lessor, in consideration of the rents and royalties to be paid and the conditions to be observed as hereinafter set forth, does hereby grant and lease to the lessee the exclusive right and privilege to mine and dispose of all the coal in the following-described tracts of land, situated in the State of Utah

T. 16 S., R. 7 E., 21 Mer, Utah

T. 16 S., R. 8 E., 21 Mer, Utah

Sec. 24: SE1/4, E1/4

Sec. 19: Lots 2, 3, 4, SW1/4, SE1/4, E1/4

Sec. 25: N1/4, SW1/4, W1/4, SE1/4, SW1/4, NE1/4

Sec. 26: E1/4

containing 820.39 acres, more or less, together with the right to construct all such works, buildings, plants, structures, and appliances as may be necessary and convenient for the mining and preparation of the coal for market, the manufacture of coke or other products of coal, the housing and welfare of employees, and, subject to the conditions herein provided, to use so much of the surface as may reasonably be required in the exercise of the rights and privileges herein granted.

Sec. 2. In consideration of the foregoing, the lessee hereby agrees:

(a) Bond.—To maintain the bond furnished upon the issuance of this lease, which bond is conditioned upon compliance with all the provisions of the lease, and to increase the amount of or furnish such other bond as may be required.

(b) Rental.—To pay the lessor annually, in advance, for each acre or part thereof covered by this lease, beginning with the date hereof, the following rentals: 25 cents for the first year, 50 cents for the second, third, fourth, and fifth years, respectively, and \$1 for the sixth and each succeeding year during the continuance of the lease, such rental for any year to be credited against the first royalties as they accrue under the lease during the year for which the rental was paid.

(c) Royalty.—To pay the lessor a royalty of 15 cents on every ton of 2,000 pounds of coal mined during the first 20 years succeeding the execution of this lease. Royalties shall be payable quarterly within 30 days from the expiration of the quarter in which the coal is mined.

(d) Minimum production.--Beginning with the sixth year of the lease, except when operations are interrupted by strikes, the elements, or casualties not attributable to the lessee, or unless on application and showing made, operations shall be suspended when market conditions are such that the lessee cannot operate except at a loss or suspended for the other reasons specified in section 39 of the act, to mine coal each year and pay a royalty thereon to a value of \$1 an acre or fraction thereof. Operations under this lease shall be continuous except in the circumstances described or unless the lessee shall pay a royalty, less rent, on such minimum amount of the leased deposits, for one year in advance, in which case operations may be suspended for that year.

(e) Payments.--Unless otherwise directed by the lessor, to make rental, royalty, or other payments to the Regional Mining Supervisor of the United States Geological Survey of the region in which the leased lands are situated. All remittances must be made payable to the United States Geological Survey.

(f) Plats, reports, maps.--At such times and in such form as the lessor may prescribe, to furnish a plat showing development work and improvements on the leased lands and a report with respect to stockholders, investment, depreciation, and costs. To furnish in such form as the lessor may prescribe, within 30 days from the expiration of each quarter a report covering such quarter, certified by the superintendent of the mine, or by such other agent having personal knowledge of the facts as may be designated by the lessee for such purpose, showing the amount of leased deposits mined during the quarter, the character and quality thereof, amount of its products and byproducts disposed of and price received therefor, and amount in storage or held for sale. To keep and prepare maps of the leased lands in accordance with the regulations in 30 CFR, Part 211.

(g) Weights.--To determine accurately the weight or quantity and quality of all leased deposits mined, and to enter accurately the weight or quantity and quality thereof in due form in books to be kept and preserved by the lessee for such purposes.

(h) Inspection.--To permit at all reasonable times (1) inspection by any duly authorized officer of the Department, of the leased premises and all surface and underground improvements, works, machinery, equipment, and all books and records pertaining to operations and surveys or investigations under this lease; and (2) the lessor to make copies of and extracts from any or all books and records pertaining to operations under this lease, if desired.

(i) Assignment of lease or interest therein.--To file for approval with the office prescribed in the regulations, within 90 days from the date of final execution, any assignment, sublease, or transfer made of this lease, whether by direct assignment, working agreement, transfer of royalty interest, or otherwise. Such instrument will take effect the first day of the month following its final approval by the Bureau of Land Management, or if the assignee requests, the first day of the month of the approval.

(j) Nondiscrimination.--In connection with the performance of work under this lease, the lessee agrees not to discriminate against any employee or applicant for employment because of race, religion, color or national origin. The aforesaid provision shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The lessee agrees to post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the nondiscrimination clause. The lessee further agrees to insert the foregoing provision in all subcontracts hereunder, except subcontracts for standard commercial supplies or raw materials.

(k) Lands disposed of with the coal deposits reserved to the United States.--If the lands embraced herein have been or shall hereafter be disposed of under laws reserving to the United States the deposits of coal therein, to comply with all conditions as are or may hereafter be provided by the laws and regulations reserving such coal.

(l) Operations, wages, freedom of purchase.--To comply with the operating regulations (30 CFR, Part 211), to exercise reasonable diligence, skill, and care in the operation of the property, and to carry on all operations in accordance with approved methods and practices as provided in the operating regulations, having due regard for the prevention of injury to life, health or property, and of waste or damage to any water or mineral deposits; to fairly and justly weigh or measure the coal mined by each miner; to pay all wages due miners and employees, both above and below ground, at least twice each month in lawful money of the United States; to accord all miners and employees complete freedom of purchase; to restrict the workday to not exceeding eight hours in any one day for underground workers, except in cases of emergency; to employ no boy under the age of sixteen and no girl or woman, without regard to age, in any mine below the surface; unless the laws of the State otherwise provide, in which case the State laws control.

(m) Taxes.--To pay when due, all taxes lawfully assessed and levied under the laws of the State or the United States upon improvements, output of mines, or other rights, property, or assets of the lessee.

(n) Overriding royalties.--Not to create, by assignment or otherwise, an overriding royalty interest in excess of 50 percent of the rate of royalty first payable to the United States under this lease or an overriding royalty interest which when added to any other outstanding overriding royalty interest exceeds that percentage, excepting, that where an interest in the leasehold or in an operating agreement is assigned, the assignor may retain an overriding royalty interest in excess of the above limitation if he shows to the satisfaction of the Bureau of Land Management, that he has made substantial investments for improvements on the land covered by the assignment.

(o) Delivery of premises in case of forfeiture.--In case of forfeiture of this lease, to deliver up to the lessor in good order and condition the land leased, including all buildings, and underground timbering and such other supports and structures as are necessary for the preservation of the mine or deposit.

Sec. 3. The lessor expressly reserves:

(a) Rights reserved.--The right to permit for joint or several use such easements or rights-of-way, including easements in tunnels upon, through, or in the land leased, occupied, or used as may be necessary or appropriate to the working of the same or other lands containing the deposits described in the act, and the treatment and shipment of the products thereof by or under authority of the Government, its lessees or permittees, and for other public purposes.

(b) Disposition of surface.--The right to lease, sell, or otherwise dispose of the surface of the leased lands under existing law or laws hereafter enacted, insofar as said surface is not necessary for the use of the lessee in the extraction and removal of the coal therein, or to dispose of any resource in such lands which will not unreasonably interfere with operations under this lease.

(c) Monopoly and fair prices.--Full power and authority to promulgate and enforce all the provisions of section 30 of the act to insure the sale of the production of said leased lands to the United States and to the public at reasonable prices, to prevent monopoly, and to safeguard the public welfare.

(d) Readjustment of terms.--The right reasonably to readjust and fix royalties payable hereunder and other terms and conditions at the end of 20 years from the date hereof and thereafter at the end of each succeeding 20-year period during the continuance of this lease unless otherwise provided by law at the time of the expiration of any such period. Unless the lessee files objections to the proposed terms or a relinquishment of the lease within 30 days after receipt of the notice of proposed terms for a 20-year period, he will be deemed to have agreed to such terms.

(e) Waiver of conditions.--The right to waive any breach of the conditions contained herein, except the breach of such conditions as are required by the act, but any such waiver shall extend only to the particular breach so waived and shall not limit the rights of the lessor with respect to any future breach; nor shall the waiver of a particular cause of forfeiture prevent cancellation of this lease for any other cause, or for the same cause occurring at another time.

Sec. 4. Relinquishment of lease.--Upon a satisfactory showing that the public interest will not be impaired, the lessee may surrender the entire lease or any legal subdivision thereof. A relinquishment must be filed in duplicate in the appropriate land office. Upon its acceptance it shall be effective as of the date

it is filed, subject to the continued obligation of the lessee and his surety to make payment of all accrued rentals and royalties and to provide for the preservation of any mines or productive works or permanent improvements on the leased lands in accordance with the regulations and terms of the lease.

Sec. 5. Protection of the surface, natural resources, and improvements.--The lessee agrees to take such reasonable steps as may be needed to prevent operations from unnecessarily: (1) Causing or contributing to soil erosion or damaging any forage and timber growth thereon; (2) polluting the waters of springs, streams, wells, or reservoirs; (3) damaging crops, including forage, timber, or improvements of a surface owner; or (4) damaging range improvements whether owned by the United States or by its grazing permittees or lessees; and upon any partial or total relinquishment or the cancellation or expiration of this lease, or at any other time prior thereto when required by the lessor and to the extent deemed necessary by the lessor, to fill any sump holes, ditches and other excavations, remove or cover all debris, and, so far as reasonably possible, restore the surface of the leased land to its former condition, including the removal of structures as and if required. The lessor may prescribe the steps to be taken and restoration to be made with respect to lands of the United States and improvements thereon.

Sec. 6. Removal of equipment, etc., on termination of lease.--Upon termination of this lease, by surrender or forfeiture, the lessee shall have the privilege at any time within a period of 90 days thereafter of removing from the premises all machinery, equipment, tools and materials, other than underground timbering placed by the lessee in or on the leased lands, which are not necessary for the preservation of the mine. Any materials, tools, appliances, machinery, structures, and equipment, subject to removal as above provided, which are allowed to remain on the leased lands shall become the property of the lessor on expiration of the 90-day period or such extension thereof as may be granted because of adverse climatic conditions, but the lessee shall remove any or all of such property where so directed by the lessor.

Sec. 7. Proceedings in case of default.--If the lessee shall not comply with any of the provisions of the act or the regulations thereunder or default in the performance or observance of any of the provisions of this lease, and such default shall continue for a period of 30 days after service of written notice thereof by the lessor, the lessor may institute appropriate proceedings in a court of competent jurisdiction for the forfeiture and cancellation of this lease as provided in section 31 of the act (30 U.S.C., sec. 188). If the lessee fails to take prompt and necessary steps to prevent loss or damage to the mine, property, or premises, or danger to the employees, the lessor may enter on the premises and take such measures as may be deemed necessary to prevent such loss or damage or to correct the dangerous or unsafe condition of the mine or works thereof, which shall be at the expense of the lessee. However, the lessee shall not be held responsible for delays or casualties occasioned by causes beyond the lessee's control.

Sec. 8. Heirs and successors in interest.--Each obligation hereunder shall extend to, and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

Sec. 9. Unlawful interest.--No Member of, or Delegate to, Congress or Resident Commissioner, after his election or appointment, or either before or after he has qualified and during his continuance in office, and no officer, agent, or employee of the Department of the Interior, except as provided in 43 CFR 7.4(a)(1), shall be admitted to any share or part in this lease or derive any benefit that may arise therefrom; and the provisions of section 3741 of the Revised Statutes of the United States, as amended (41 U.S.C., sec. 22), and sections 431, 432, and 433, title 18, U.S. Code, relating to contracts, enter into and form a part of this lease so far as the same may be applicable.

IN WITNESS WHEREOF:

James B. Zuercher
Thomas A. Carr
(Witnesses to signature of lessee)

THE UNITED STATES OF AMERICA,

By [Signature]
(Signing Officer)

Manager Land Office MAY 1 - 1953
(Title) (Date)

BUNTINGTON CORPORATION
(Lessee's signature)
By Laurence G. Duerig
(Lessee's signature)
Laurence G. Duerig, Secretary

(If this lease is executed by a corporation, it must bear the corporate seal)

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management

STIPULATION FOR LANDS UNDER JURISDICTION OF DEPARTMENT OF AGRICULTURE

The lands embraced in this lease (permit) issued under the Mineral Leasing Act of February 25, 1920 (41 Stat. 437, 30 U.S.C., 1946 ed., sec. 181 et seq.), as amended, the Mineral Leasing Act for Acquired Lands of August 7, 1947 (61 Stat. 913, 30 U.S.C., 1946 ed., Supp. III, sec. 351 et seq.) the act of September 1, 1949 (63 Stat. 683, 30 U.S.C., 1946 ed., Supp. III, sec. 192c) the act of June 30, 1950 (64 Stat. 311, 16 U.S.C., 1946 ed., Supp. IV, sec. 508(b)) or under the authority of any of the acts cited in section 402 of the President's Reorganization Plan No. 3 of 1946 (60 Stat. 1097, 5 U.S.C. 1946 ed., sec. 133 y-16, note) being under the jurisdiction of the Secretary of Agriculture, the lessee (permittee) hereby agrees:

(1) To conduct all operations authorized by this lease (permit) with due regard for good land management, not to cut or destroy timber without first obtaining permission from the authorized representative of the Secretary of Agriculture, and to pay for all such timber cut or destroyed at the rates prescribed by such representative; to avoid unnecessary damage to improvements, timber, crops, or other cover; unless otherwise authorized by the Secretary of Agriculture, not to drill any well, carry on operations, make excavations, construct tunnels, drill, or otherwise disurb the surface of the leased (permitted) lands within 200 feet of any building standing on the leased (permitted) lands and whenever required in writing by the authorized representative of the Secretary of Agriculture to fence or fill all sump holes, ditches and other excavations, remove or cover all debris, and so far as reasonably possible, restore the surface of the leased (permitted) lands to their former condition, including the removal of structures as and if required, and when required by such representative to bury all pipelines below plow depth.

(2) To do all in his power to prevent and suppress forest, brush or grass fires on the leased (permitted) land and in its vicinity, and to require his employees, contractors, subcontractors, and employees of contractors or subcontractors to do likewise. Unless prevented by circumstances over which he has no control, the lessee (permittee) shall place his employees, contractors, subcontractors, and employees of contractors and subcontractors employed on the leased (permitted) land at the disposal of any authorized officer of the Department of Agriculture for the purpose of fighting forest, brush, or grass fires on or originating on the leased (permitted) lands or on adjacent areas or caused by the negligence of the lessee (permittee) or his employees, contractors, subcontractors and employees of contractors and subcontractors, with the understanding that payment for such services shall be made at rates to be determined by the authorized representative of the Secretary of Agriculture, which rates shall not be less than the current rates of pay prevailing in the vicinity for services of a similar character: Provided, that if the lessee (permittee), his employees, contractors, subcontractors, or employees of contractors or subcontractors, caused or could have prevented the origin or spread of said fire or fires, no payment shall be made for services so rendered.

During periods of serious fire danger to forest, brush, or grass, as may be specified by the authorized representative of the Secretary of Agriculture, the lessee (permittee) shall prohibit smoking and the building of camp and lunch fires by his employees, contractors, subcontractors, and employees of contractors or subcontractors within the leased (permitted) area except at established camps, and shall enforce this prohibition by all means within his power: Provided, that the authorized representative of the Secretary of Agriculture may designate safe places where, after all inflammable material has been cleared away, campfires may be built for the purpose of heating lunches and where, at the option of the lessee (permittee), smoking may be permitted.

The lessee (permittee) shall not burn rubbish, trash or other inflammable materials except with the consent of the authorized representative of the Secretary of Agriculture and shall not use explosives in such a manner as to scatter inflammable materials on the surface of the land during the forest, brush, or grass fire season, except as authorized to do so or on areas approved by such representative.

The lessee (permittee) shall build or construct such roads or do such clearing on the leased land as the authorized representative of the Secretary of Agriculture decides is essential for forest, brush, and grass fire prevention which is or may be necessitated by the exercise of the privileges authorized by this lease (permit) and shall maintain such roads at his headquarters or at the appropriate location on the leased land.

(3) In the location, design, construction and maintenance of all authorized dikes, buildings, plants, waterways, roads, telegraph or telephone lines, pipelines, reservoirs, tanks, pumping stations, or other structures or clearances, the lessee (permittee) shall do all things reasonably necessary to prevent or reduce to the fullest extent scarring and erosion of the land, pollution of the water resources and any damage to the watershed. Where construction, operation, or maintenance of any of the facilities on or connected with this lease (permit) causes damage to the watershed or pollution of the water resources, the lessee (permittee) agrees to repair such damage and to take such corrective measures to prevent further pollution or damage to the watershed as are deemed necessary by the authorized representative of the Secretary of Agriculture.

(4) To pay the lessor (permitter) or his tenant or the surface owner or his tenant, as the case may be, for any and all damage to or destruction of property caused by lessee's (permittee's) operations hereunder; to save and hold the lessor (permitter) or the surface owner or their tenants harmless from all damage or claims for damage to persons or property resulting from lessee's (permittee's) operations under this lease (permit).

(5) To recognize existing uses and commitments, in the form of Department of Agriculture grazing, timber cutting, and special use permits, water developments, ditch, road, trail, pipeline, telephone line, and fence rights-of-way and other similar improvements, and to conduct his operations so as to interfere as little as possible with the rights and privileges granted by these permits or with other existing uses.

(6) To install and maintain cattle guards to prevent the passage of livestock in any openings made in fences by the lessee (permittee) or his contractors to provide access to the lands covered by this lease (permit) for automotive and other equipment.

(7) If lessee (permittee) shall construct any camp on the land, such camp shall be located at a place approved by the authorized representative of the Secretary of Agriculture, and such representative shall have authority to require that such camp be kept in a neat and sanitary condition.

(8) To comply with all the rules and regulations of the Secretary of Agriculture governing the national forests or other lands under his jurisdiction which are embraced in this lease (permit).

(9) Unless otherwise authorized, prior to the beginning of operations to appoint and maintain at all times during the term of this lease (permit) a local agent upon whom may be served written orders or notices respecting matters contained in this stipulation, and to inform the authorized representative of the Secretary of Agriculture, in writing, of the name and address of such agent. If a substitute agent is appointed, the lessee (permittee) shall immediately so inform the said representative.

(10) To address all matters relating to this stipulation to Regional Forester, U. S. Forest Service, Forest Service Building, Ogden, Utah.

It is the intent of the parties hereto that the person who is the authorized representative of the Secretary of Agriculture, or to such other representative as may from time to time, be designated, provided that such designation shall be in writing and be delivered to the lessee (permittee) or his agent.

(11) If all or any part of the leased (permitted) lands lie within a municipal watershed, or are, in the opinion of the authorized representative of the Secretary of Agriculture, primarily valuable for watershed protection, the lessee (permittee) shall reseed or otherwise restore the vegetative cover, as required by the authorized representative of the Secretary of Agriculture, for watershed protection and erosion prevention on any areas damaged because of the operation.

This lease authorizes mining by underground methods only.
No roads or tipple sites will be located on national forest lands without obtaining prior written approval of the forest supervisor.

HUNTINGTON CORPORATION

Lessee (Permittee)

By Laurence G. Duerig
Laurence G. Duerig, Secretary

2F-14

7/90

By Frederick L. Anderson
Frederick L. Anderson, Forester

APPENDIXES

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Plate 2-2	Surface Ownership
Plate 2-3	Sub-Surface Ownership
Plate 2-4	Surface Facilities

2.2.2 Holders of Leasehold Interest in Surface Area and Coal Rights

The names and addresses of holders of record in Leasehold interest are listed below: Coal mining lease by and between Co-Op Mining Co. and Peabody Coal Co., executed 1 December 1975 (Plate 2-1).

T16S, R7E SLBM	Sec. 14 SW 1/4, SE 1/4
	Sec. 23 E1/2, E1/2 W1/2
	Sec. 24 All West of N-S Fault
	Sec. 25 All West of N-S Fault
(Fed. Lease U024316)	Sec. 13 W 1/2 W 1/2
	Sec. 14, E 1/2 NW 1/4, NE 1/4
(Fed. Lease U024318)	Sec. 26 E 1/2 NW 1/4

The right to mine and remove from, and use for purposes incident to mining, including access roads, camp facilities, surface operations, storage of coal, and other activities. Also unrestricted use of all access roads leading to and from property. Lease is binding on the successors to the parties of the lease. Co-Op also holds Federal Lease U024316 (See Appendix 2-F, Plate 2-1).

2.2.3 Purchase of Record Under a Real Estate Contract for Surface Area Coal

See Appendix 2-B Title Insurance Policy and Property Title.

2.2.4 Operator, if Different from Applicant

Same as above.

2.5.1 Waiver of Owners of Nearby Occupied Dwellings

Applicant does not propose to conduct or locate surface facilities within 300 feet of an occupied dwelling.

2.6 PERMIT TERM INFORMATION - ANTICIPATED FOR EACH PHASE

2.6.1 Starting Date

The mine started construction in 1981 and was in production by late fall of 1981. Mining in the 160 acre Lease addition area is proposed to begin in the spring of 1989 (Appendix 3-K).

2.6.2 Termination Dates

Termination dates anticipated for each phase of mining are nebulous at this time although a detailed estimate of production and reserves are included in the Geology Section and a projection of 22-years appears realistic (from 1990). The final termination date for the mining operation is expected to be 2012.

2.6.3 Numbers or Surface Acres Affected

The anticipated disturbance by the Bear Canyon Mine totals about 16 acres. Plate 2-1 shows potential property expansion and future facilities of the mine.