

PACIFICORP

ONE UTAH CENTER

201 SOUTH MAIN • SUITE 2100 • SALT LAKE CITY, UTAH 84140-0021 • (801) 220-2000

ACT/015/019 #2
Exploration
Folders
RECEIVED

MAY 29 1992

DIVISION OF
OIL GAS & MINING

May 22, 1992

Ms. Pamela Grubaugh-Littig
Permit Supervisor
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

RE: RECLAMATION OF DRILL HOLE EM-66, EXPLORATION DRILLING, PACIFICORP, COTTONWOOD/WILBERG MINE, ACT/015/019, FOLDER #3 AND EM-148, 1991 EAST MOUNTAIN DRILLING PROGRAM, PACIFICORP, CEP/015/019B, FOLDER 33, EMERY COUNTY, UTAH

Dear Ms. Grubaugh-Littig:

During 1991, two (2) drill holes were completed on East Mountain within PacifiCorp's Cottonwood/Wilberg Mine Permit area. Hole EM-66 was drilled on property to which PacifiCorp holds the surface rights and EM-148 was drilled on BLM property.

The drilling plan for EM-66 specified that reclamation work was planned to be completed during the fall of 1991. This did not occur due to onset of winter weather prior to complete drying of the mud pit. However, the area was stabilized (bermed, etc.) pending conditions allowing access in 1992.

PacifiCorp proposes to reclaim the EM-66 drill site when access is possible in early June, 1992. Reclamation will be accomplished in accordance with the approved Drilling Plan. As stated in the plan, reclamation of the drill pad is expected to require three (3) working days.

Drill hole EM-148 was established to facilitate a rock mass deformation study, in cooperation with the Bureau of Mines, using Time Domain Reflectometry. As discussed in the approved drilling plan, after EM-148 was drilled and logged, electronic monitoring equipment was installed at the site. The intent was to monitor rock mass deformation during extraction of the Cottonwood 14th West longwall panel and for two (2) years following mining. Therefore, the plan specified reclamation of the drill site following

Talked to Tom Rasmussen

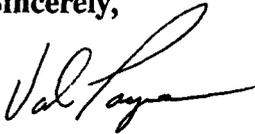
completion of drilling in 1991 and removal of the monitoring equipment and reclamation of the access road in the fall of 1993.

Monitoring results indicate that continuation of the study is superfluous; therefore, PacifiCorp proposes to remove the monitoring equipment and reclaim the access road successively with EM-66 in early June, 1992. Reclamation will be completed in accordance with the approved drilling plan for EM-148. As stated in the plan, removal of the monitoring equipment and reclamation of the access road will require approximately ten (10) working days.

Please consider this submittal as amendments to the previously discussed drilling plans.

Your early attention to this matter will be appreciated. If you have questions or require further information please call me at 653-2312.

Sincerely,



Val Payne
Sr. Environmental Engineer

VP/dw

cc: J. Blake Webster
File



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangert
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

May 28, 1992

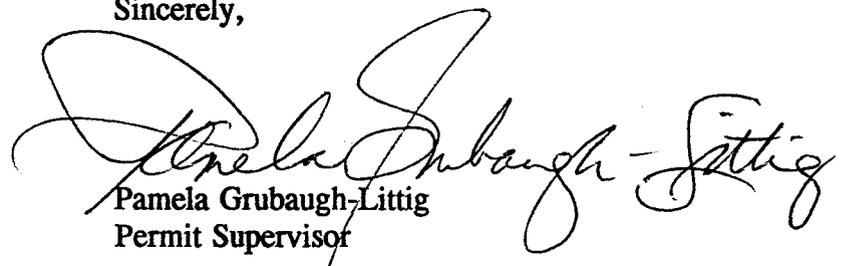
Mr. Val Payne, Sr. Environmental Engineer
PacifiCorp Electric Operations
P.O. Box 1005
Huntington, Utah 84528

Dear Mr. Payne:

Re: Approval to Reclaim Drill Holes EM-66 and EM-148, Exploration Drilling, PacifiCorp, Cottonwood/Wilberg Mine, ACT/015/019-91B (EM-148) and ACT/015/019-91F (EM-66), Folder #3 and Exploration Folders, Emery County, Utah

The Division is in receipt of your notice, dated May 22, 1992, to reclaim drill sites EM-66 and EM-148 early next month. Per your letter, you noted that the reclamation work would proceed as approved. The Division appreciates notification of the proposed reclamation schedule and approves reclamation to begin for these two holes. Reclamation at these two sites will be inspected this fall.

Sincerely,


Pamela Grubaugh-Littig
Permit Supervisor

cc: Henry Sauer



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

pg 2

Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

INSPECTION REPORT

INSPECTION DATE & TIME: October 9, 1991
2:00 p.m. to 4:25 p.m.

Permittee and/or Operators Name: PacifiCorp Electric Operations
Business Address: 210 S Main, Suite 2100, SLC, UT 84140-0021
Mine Name: East Mountain Exploration Permit Number: ACT/015/018-91B
Type of Mining Activity: Underground X Surface Other
County: Emery
Company Official (s): None
State Official(s): Ken Wyatt, Tom Munson
Partial: X Complete: Date of Last Inspection: NA
Weather Conditions: Clear and warm
Acreage: 2.7 Permitted 2.7 Disturbed Regraded Seeded Bonded
Enforcement action: None

COMPLIANCE WITH PERMITS AND PERFORMANCE STANDARDS

	YES	NO	N/A	COMMENTS
1. PERMITS	()	()	()	()
2. SIGNS AND MARKERS	()	()	()	()
3. TOPSOIL	(X)	()	()	(X)
4. HYDROLOGIC BALANCE:				
a. STREAM CHANNEL DIVERSIONS	()	()	()	()
b. DIVERSIONS	()	()	()	()
c. SEDIMENT PONDS AND IMPOUNDMENTS	()	()	()	()
d. OTHER SEDIMENT CONTROL MEASURES	()	()	()	()
e. SURFACE AND GROUNDWATER MONITORING	()	()	()	()
f. EFFLUENT LIMITATIONS	()	()	()	()
5. EXPLOSIVES	()	()	()	()
6. DISPOSAL OF DEVELOPMENT WASTE & SPOIL	()	()	()	()
7. COAL PROCESSING WASTE	()	()	()	()
8. NONCOAL WASTE	()	()	()	()
9. PROTECTION OF FISH, WILDLIFE AND RELATED ENVIRONMENTAL VALUES	()	()	()	()
10. SLIDES AND OTHER DAMAGE	()	()	()	()
11. CONTEMPORANEOUS RECLAMATION	(X)	()	()	(X)
12. BACKFILLING AND GRADING	(X)	()	()	()
13. REVEGETATION	(X)	()	()	(X)
14. SUBSIDENCE CONTROL	()	()	()	()
15. CESSATION OF OPERATIONS	()	()	()	()
16. ROADS				
a. CONSTRUCTION	(X)	()	()	(X)
b. DRAINAGE CONTROLS	()	()	()	()
c. SURFACING	()	()	()	()
d. MAINTENANCE	()	()	()	()
17. OTHER TRANSPORTATION FACILITIES	()	()	()	()
18. SUPPORT FACILITIES				
UTILITY INSTALLATIONS	()	()	()	()

INSPECTION REPORT

(continuation sheet)

Page 2 of 2

PERMIT NUMBER: ACT/015/019

DATE OF INSPECTION: 10/9/91

(Comments are Numbered to Correspond with Topics Listed Above)

Exploration activities on East Mountain in 1991 include two coal exploration drill holes permitted as a minor exploration activity. These include holes EM-66 and EM-148.

EM-148 was completed at the time of this inspection. It included placing a coaxial cable down the hole and cementing it in place to study subsidence and shear stressing of the rock strata following longwall mining. Re-grading and revegetation of the drill pad was complete.

EM-66 was not drilled at this time. During the inspection the drill pad had just been graded and the access road was being graded.

3. TOPSOIL

Topsoil at EM-66 had been segregated above the pad.

11. CONTEMPORANEOUS RECLAMATION

The pad associated with EM-148 had been reclaimed. The topography was acceptable and seed was observed on the pad surface.

13. REVEGETATION

Seed was observed on the surface of EM-148. Since EM-148 is a research facility, the access road is needed for another year, therefore the road was not regraded and seeded.

16a. ROAD: CONSTRUCTION

The access road to EM-66 was being graded at the time of the inspection. A primitive road existed in this area. A dozer was regrading the surface of the road to create better access by the drill rig. The operator of the dozer said that they would be moving the drill rig in as soon as they finished working on Trail Mountain.

The access road to EM-148 was not reclaimed. The applicant intends to maintain access to this site until 1993 after monitoring is completed.

Copy of this Report:

Mailed to: Bernie Freeman (OSM), Blake Webster & Guy Davis (PEO)

Given to: Joe Helfrich (DOGM)

Inspectors Signature: *Kem Wyatt* #42 Date: 10/28/91



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

August 6, 1991

Mr. Blake Webster
PacifiCorp Electric Operations
Fuel Resources
One Utah Center
210 South Main Street, Suite 2100
Salt Lake City, Utah 84140-0021

Dear Mr. Webster:

Re: Approval of 1991 East Mountain Drilling Program EM-140A, PacifiCorp Electric Operations, CEP/015/019-91B, Folder #3, Emery County, Utah

The above-noted exploration is approved subject to the following conditions:

1. Drilling operations will be conducted in accordance with the enclosed stipulations; and
2. Should the drilling or reclamation work extend into the period between December 1 and April 15, no surface-disturbing activity may take place which would remove forage and browse plants used by the mule deer or elk, require a continued human presence within the area (12 hours), or involve sudden loud noise or sustained noise (such as chain saws).

In addition to notification of commencement and completion of the drilling to the BLM, please notify the Division also.

Sincerely,


Pamela Grubaugh-Littig
Permit Supervisor

jbe
Enclosure
AT015019.01

cc: Gene Nodine; Susan White
an equal opportunity employer

COAL EXPLORATION STIPULATIONS
PACIFICORP 1991 EAST MOUNTAIN DRILLING

1. The Chief of the Price Coal Office shall be notified 48 hours prior to the start and completion of the program.
2. The lessee\licensee is responsible to see that all personnel contracted or otherwise doing work on the exploration program are aware of these approval requirements and abide by all regulations governing this program. Any changes to the approved exploration plan must receive approval from the Chief of the Price Coal Office prior to implementation.
3. When artesian flows or horizons with possible development potential are encountered, the Chief of the Price Coal Office shall be notified immediately so that a determination may be made concerning their development potential. When possible, water samples shall be collected by the operator for analysis by the BLM. A written report is required upon completion of exploration as noted by Stipulation 8 H.
4. Upon completion of down-hole procedures, all drill holes shall be properly sealed by emplacing cement through tubing from the bottom of the hole to the collar. Any variance from the procedures itemized below must be approved in advance by the Chief of the Price Coal Office.
5. If adverse down-hole conditions prevent a completed drill hole from being properly plugged after attempting all standard industry plugging procedures, the Chief of the Price Coal Office will be contacted immediately to make a determination as to a final plugging method.
6. The hole location is to be marked by placing an approved marker made of galvanized steel, brass, aluminum or similar noncorrosive metal in the concrete plug. Such markers are to show hole number, year drilled, lessee/licensee name, and as feasible, the section, township, and range in which the hole is located. Top of concrete plug, if located in cultivated field must be set below normal plow depth (10 to 12 inches). In noncultivated areas, all marker caps should not protrude above the ground level. All drill holes shall be surveyed in to assure proper location. An exact survey of each drill hole location will be submitted to the Chief of the Price Coal Office.
7. The Chief of the Price Coal Office shall be notified 24 hours in advance as to the time when each hole is to be plugged so that a representative of the BLM may arrange to observe the plugging procedure.

8. Upon completion of exploration activities, two reports as required by 43 CFR 3485.1 shall be submitted to the Chief of the Price Coal Office, Moab District. The reports at a minimum must contain the following:

A. Location(s) and serial number(s) of lands under Federal lease or license on which exploration was completed.

B. A description of the completed exploration operations that includes the number of holes drilled, total depth of each hole, and completion date of each hole.

C. A map showing the locations of all holes drilled, other excavations, and the coal outcrop lines as appropriate. The scale of the map shall not be less than 1 inch equals 1 mile.

D. Analysis of coal samples and other pertinent tests obtained from exploration operations.

E. Copies of all in-hole mechanical or geophysical stratigraphic surveys or logs, such as electric logs, gamma ray-neutron logs, sonic logs, or any other logs. The records shall include a lithologic log of all strata penetrated and conditions encountered such as water, gas, or any unusual conditions.

F. Status of reclamation of the disturbed areas.

G. Any other information requested by the District Manager.

H. Hydrologic reports using the attached form.



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

UTAH DIVISION OF OIL, GAS AND MINING FACSIMILE TRANSMISSION COVER SHEET

DATE: 8-6-91

FAX # 1-653-2479

ATTN: Val Payne

COMPANY: Pacificorp Electric

FROM: Pamela Grubaugh-Littig

DEPARTMENT: Coal

NUMBER OF PAGES BEING SENT (INCLUDING THIS ONE): 7

If you do not receive all of the pages, or if they are illegible, please call (801) 538-5340.

We are sending from a Murata facsimile Machine. Our telecopier number is (801) 359-3940.

MESSAGES:



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

3482
(U-47978)
(U-065)

Moab District
P.O. Box 970
Moab, Utah 84532

AUG - 2 1991

Mrs. Pamela Grubaugh-Littig
State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
355 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Mrs. Grubaugh-Littig:

PacifiCorp's 1991 drilling proposal that involves a time domain reflectometry study is recommended for approval subject to the following conditions:

1. Drilling operations will be conducted in accordance with the enclosed stipulations;
2. Should the drilling or reclamation work extend into the period between December 1 and April 15, no surface-disturbing activity may take place which would remove forage and browse plants used by the mule deer or elk, require a continued human presence within the area (12 hours), or involve sudden loud noises or sustained noise (such as chain saws).

Additionally, we recommend that PacifiCorp provide a bond in the amount of \$6,000 to cover the cost of plugging the hole, and \$2,000 to cover the cost of reclamation.

If you have any questions, please contact Tom Rasmussen (637-2584) at the Price Coal Office.

Sincerely yours,

William C. Stungis
Assistant District Manager
Mineral Resources

Enclosure:
Drilling Stipulations

cc:
Manti-La Sal National Forest (w/encl.)
599 West Price River Drive
Price, Utah 84501

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AUG 05 1991

DIVISION OF
OIL GAS & MINING

July 15, 1991

RECEIVED

JUL 18 1991

DIVISION OF
OIL GAS & MINING

Ms. Pamela Grubaugh-Littig
Permit Supervisor
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

RE: 1991 EAST MOUNTAIN DRILLING APPLICATION, PACIFICORP ELECTRIC OPERATIONS, CEP/015/019-91B, FOLDER #2, EMERY COUNTY, UTAH

Dear Ms. Littig:

The accompanying information is provided in response to your letter of June 27, 1991, regarding the above matter. The material addresses recommendations made by Ms. Susan White of your staff. Each recommendation is addressed in the order which it appears in Ms. White's memo to you (memo attached). The submittal includes the following:

1. A Title Page which states the applicant's name, address and telephone number.
2. Revised page 12 with updated Threatened and Endangered plant species information.
3. Attachment 6, Special Conditions regarding EM-148 access road.
4. Attachment 7, Reclamation Cost Estimate.

Regarding the Threatened and Endangered plant information, Ms. White expressed concern about the possibility of Astragalus montii occurring at the site. Mr. John Healy of the US Forest Service Ferron District Office indicated that this species is not known to occur on East Mountain. The only known occurrence of this species is Heliotrope Mountain near the head of the Muddy Creek drainage in San Pete County. This is consistent with information found in 50 CFR 17.96 (10-1-89).

The access road conditions, presented in Attachment 6, were developed in consultation with

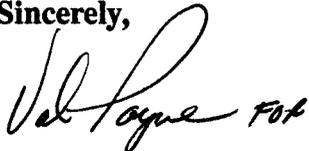
Mr. Henry Sauer, Division soil scientist.

Reclamation costs are less than 0.5% of the current Reclamation Bond; therefore, modification of the bond is considered unnecessary.

As discussed in the original application submittal, the drilling must be completed by the end of July.

Consideration of this matter at your earliest convenience is appreciated.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. Blake Webster".

**J. Blake Webster
Permitting Administrator**

**VP/dw
Enclosure**

**cc: James Dryden - BLM
George Morris - USFS**

PACIFIC POWER • UTAH POWER

324 South State
P.O. Box 26128
Salt Lake City, Utah 84126-0128

for Pam Littig.

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JUL 19 1991

**DIVISION OF
OIL GAS & MINING**

PACIFICORP
ELECTRIC OPERATIONS GROUP

June 21, 1991

Mr. James Dryden
US Department of the Interior
Bureau of Land Management
San Rafael Resource Area
900 North 700 East
PO Box AB
Price, Utah 84501

**RE: PACIFICORP ELECTRIC OPERATIONS, COTTONWOOD/WILBERG MINE,
ACT/015/019, EMERY COUNTY, UTAH**

1991 EAST MOUNTAIN DRILLING ARCHEOLOGICAL INFORMATION

Dear Mr. Dryden:

As stated in page 24 of PacifiCorp's 1991 East Mountain Drilling Plan, submitted to you June 14, 1991, archeological information pertaining to this project would be submitted prior to initiation of activities. Enclosed please find a report, from Archeological-Environmental Research Corporation, which addresses the Cultural Resource Inventory of the access road on which drill hole EM-148 is to be located. The extent of the inventory appears adequate to cover the 1991 project.

Please incorporate this information into the 1991 East Mountain Drilling Plan as Attachment 5.

If you have questions regarding this submittal please call me at 220-4584 or Val Payne at 653-2312.

Thank you for your assistance in this matter.

Sincerely,

Val Payne For

J. Blake Webster
Permitting Administrator

cc: Pamela Grubaugh-Littig - DOGM
George Morris - BLM ~~USFS~~



ARCHEOLOGICAL - ENVIRONMENTAL RESEARCH CORPORATION

588 West 800 South Bountiful, Utah 84010
Tel: (801) 292-7061 or 292-9668

September 22, 1981

Subject: Cultural Resource Inventory of Seven Proposed
Coal Exploration Drill Holes and Access Roads
in the East Mountain Locality of Emery County,
Utah

Project: Utah Power and Light Company, Locations EM-85
through EM-89

Project No.: UFL-81-4

Permit: U.S. Dept. of Interior, 81-Ut-179

To: Mr. Chris Shingleton, Utah Power and Light
Company, Mining Exploration Section, P.O. Box
899, Salt Lake City, Utah 84110

Mr. Sam Rowley, BLM Area Manager, San Rafael
Resource Area, Bureau of Land Management,
P.O. Drawer AB, Price, Utah 84501

Mr. Gene Nodine, BLM District Manager, Moab
District Office, Bureau of Land Management,
P.O. Box 970, Moab, Utah 84532

Info: Mr. Richard Fike, BLM State Archeologist,
Bureau of Land Management, University Club Bldg.,
136 East South Temple, Salt Lake City, Utah 84111

Continuations -

Description of Examination Procedures:

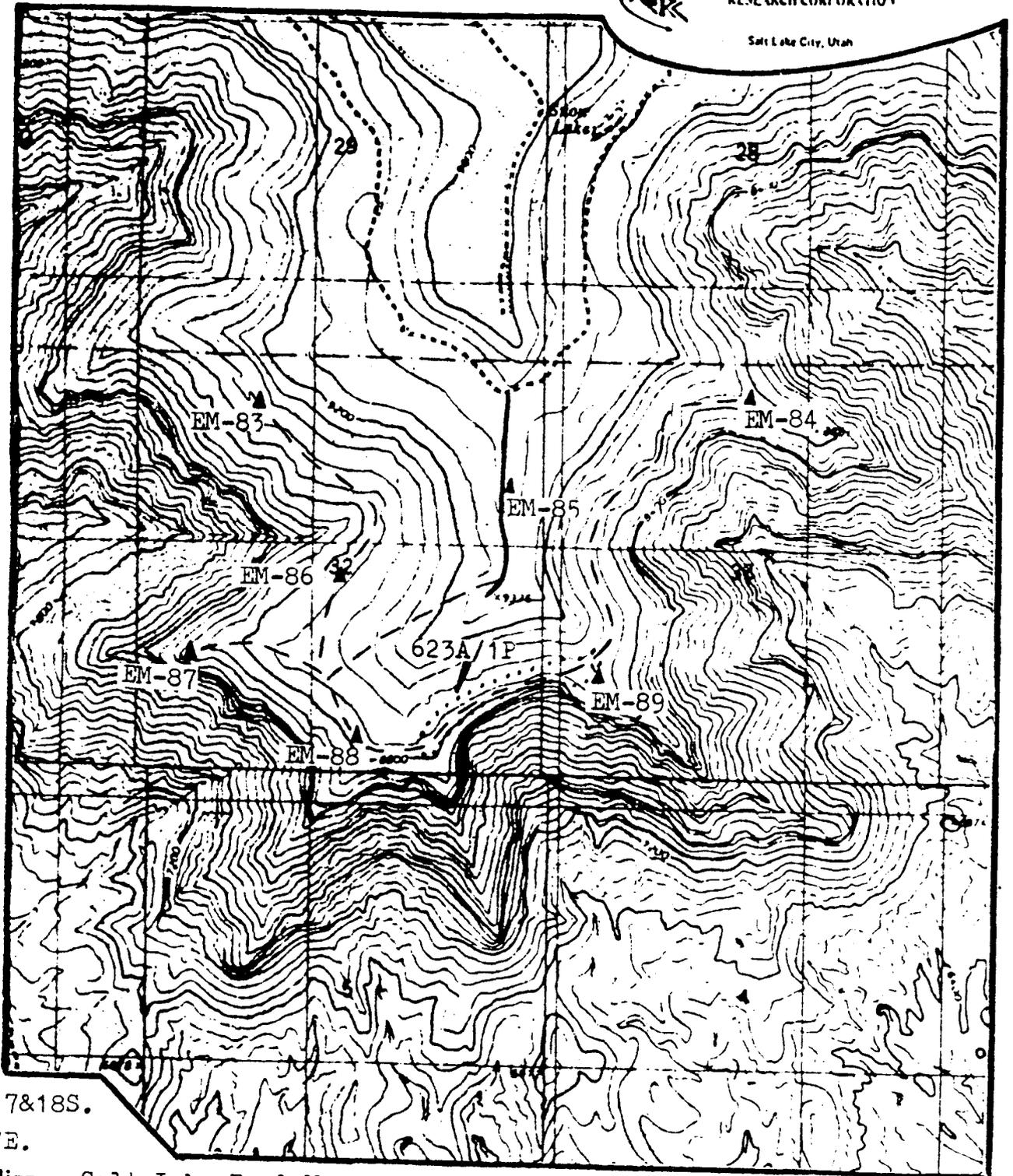
out from the center line so that a corridor 150 feet wide was evaluated. The existing road shown on the attached map was also examined in a similar manner.

Conclusion and Recommendations:

1. All vehicular traffic, personnel movement, and construction be confined to the locations examined and to access roads leading into these locations.

2. All personnel refrain from collecting individual artifacts or from disturbing any cultural resources in the area.

3. A qualified archeologist be consulted should cultural remains from subsurface deposits be exposed during construction work or if the need arises to relocate or otherwise alter the construction area.



T. 17&18S.

R. 7E.

Meridian: Salt Lake B. & M.

Quad:

Project: UPL-81-4
Series: Central Utah
Date: 9-21-81

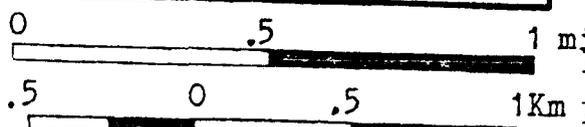
CULTURAL RESOURCE INVENTORY
OF SEVEN PROPOSED
DRILL LOCATIONS IN THE
EAST MOUNTAIN LOCALITY
OF
EMERY COUNTY, UTAH

Mahogany Point,
Utah
7.5 Minute USGS



Legend:

- Proposed drill location 
- Existing road 
- Proposed new road 
- Paleontological locality 



Scale

United States
Department of
Agriculture

Forest
Service

Manti-LaSal National Forest
Ferron Ranger District

P.O. Box 310
Ferron, Utah 84523

Reply to: 2820

Date: July 16, 1991

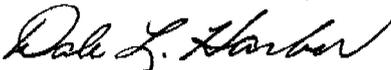
Mrs. Pam Littig
Utah Division of Oil, Gas, and Mining
3 Triad Center
Suite 350
Salt Lake City, Utah 84180-1203

Dear Pam,

Here is a copy of the letter to PacifiCorp concerning their road use permit for drilling hole EM-148 on East Mountain, and a copy of the permit. PacifiCorp has paid the surface replacement fee and posted the required bond.

Please call me at (801) 384-2372 if you need any more information.

Sincerely,



Dale Harber
District Geologist

RECEIVED

JUL 19 1991

DIVISION OF
OIL GAS & MINING

Reply to: 2820/7730

Date: July 1, 1991

Mr. J. Blake Webster
Pacific Power-Utah Power
324 South State
P.O. Box 26128
Salt Lake City, Utah 84126-0128

Dear Mr. Webster

Your operating plan for drilling of a coal exploration hole (EM-148 on Bureau of Land Management) in the Northeast Quarter of Section 32, T. 17 S., R. 7 E., submitted to Bureau of Land Management, will require your use of a Forest Development Road (FDR) not in your current Road Use Permit, dated June 11, 1990. Use can be authorized on FDR #52176 within Forest Service System Lands by payment of a surface replacement fee of \$96, under clause 4a, and performance of per-haul maintenance without further application. The surface replacement fee is for all portions of FDR #50040, #50060, and #52176 currently under jurisdiction of the Forest Service. You must make separate arrangements with private land owners for other sections of these roads.

Your payment of the Maintenance and Resurfacing Required fee and continuation of the \$9,900 bond will verify your continued acceptance of the terms and condition of the amended permit. Please indicate that the payment is for Coal Exploration Hole EM-148 when making payment. The Road Use Permit will still have an expiration date of October 31, 1991. Please notify us of the completion of your drilling program so that a final inspection of the road can be made and your bonds released.

Sincerely,

George A. Morris
for
GEORGE A. MORRIS
Forest Supervisor

B.Barney:bb

cc: D-2

FERRON RANGER DISTRICT	
FERRON, UTAH	
JUL 0 8 1991	
RECEIVED	
TO	INFO/ACTION
DISTRICT RANGER	
RANGE	
RANGE CONSERVATIONIST	
RANGE TECHNICIAN	
WILDLIFE	
FORESTER	
FORESTRY TECHNICIAN	
MINERALS	<i>AKH</i>
SSS	
CLERK	

Reply to: 2820/7730

Date: June 14, 1991

Mr. Scott M. Child
Pacific Power-Utah Power
324 South State
P.O. Box 26128
Salt Lake City, Utah 84126-0128

Dear Mr. Child:

Your application for Road Use Permit for use of the Cottonwood Canyon (FDR#50040), Trail Mountain (FDR#50034), and East Mountain (FDR#50060) Roads for the completion of your 1990 drilling program on Trail Mountain and addition of two holes for your 1991 drilling program on East Mountain can be authorized by: the extension of the Termination dates under clause 12 to terminate on October 31, 1991, adding the following road segment: Forest Development Road (FDR) #50060 from the junction with FDR #50040 to private lands beginning on the north section line of Section 17, T. 17 S., R. 7 E., SLB & M for a distance of 5.8 miles (excluding 1.35 mile of State of Utah land with the Forest), and payment of \$211 under clause 4 a. Maintenance and Resurfacing Requirements and Specifications. Under clause 13 traffic rules date should be change to July 4-7, July 24, Aug. 31 - Sept. 2, Oct. 2-6, and Oct. 19-21, 1991.

Your payment of the Maintenance and Resurfacing Required fee and continuation of bonding will verify your continued acceptance of the terms and condition of the extended permit. Please notify us of the completion of your drilling program so that a final inspection of the road can be made and your bonds released.

Sincerely,

/s/ Aaron Howe

for
GEORGE A. MORRIS
Forest Supervisor

B.Barney:bb

cc: D-2

U.S.D.A. - FOREST SERVICE

ROAD USE PERMIT

(Ref: F.S.M. 7731.44)

Authority: Acts of 6/30/14,
4/24/50, 6/12/60, 10/14/64, and
10/21/76 (16 U.S.C. 498,572,530,
and 532-38; and 43 U.S.C. 1702,
1761, 1764, and 1765).

PacificCorp dba Pacific Power - Utah Power
324 South State
P.O. Box 26128
Salt Lake City, Utah 84126-0128

June 11, 1990

(hereafter called the permittee) is hereby granted use of the following road(s) or road segments:

Forest Development Roads (FDR) #50040 (Cottonwood) from the interior Forest Boundary 3.1 miles from the junction with Forest Highway 8 northward to its junction with FDR #50034 (Trail Mountain) for a distance of 6.65 miles (excluding 0.5 miles of fee land within the Forest) and FDR #50034 southward from its junction with FDR #50040 to its terminus in Section 34 of T. 17 S., R. 6 E. for a distance of 12 miles, on the Manti-LaSal National Forest, subject to the provisions of this permit, including clauses 1 through 13, on page(s) 1 through 4 for the purpose of transporting personnel, equipment, supplies and materials for road maintenance and coal exploratory drilling.

The exercise of any of the privileges granted in this permit constitutes acceptance of all the conditions of the permit.

1. Compliance with Laws, Regulations, and Rules Governing Use. The permittee, in exercising the privileges granted by this permit, shall comply with the regulations of the Department of Agriculture and all Federal, State, County, and Municipal laws, ordinances, or regulations which are applicable to the area or operations covered by this permit. The permittee, its agents, employees, contractors, and guests of the permittee shall comply with the rules and regulations prescribed by the Forest Service for the control and safety in the use of the road and to avoid damage to the road. Such rules and regulations shall include:

a. Closing the road or restricting the use when required by any government agency which, by law, has jurisdiction to authorize such closing or restrictions.

b. Upon reasonable notice, closing the road during periods when, in Forest Service judgment, there is extraordinary fire or avalanche danger.

c. Traffic controls which, in the judgment of the Forest Service, are required for the safe and effective use of the road by authorized users thereof.

d. The permittee shall not use chemical poison, as defined in section 2 of the Federal Insecticide, Fungicide, and Rodenticide Act of June 25, 1945, as amended (61 Stat. 163; 73 Stat. 286; 75 Stat. 18; 75 Stat. 190), or any chemical or other road surface treatment without the approval of the Forest Supervisor. The application for approval shall be in writing and shall specify the area to be treated, the material used in the treatment, and the time, rate, and method of application.

2. Use Nonexclusive. The privileges granted in this road use permit, including use when the road is closed to public use, is not exclusive. The Forest Service may use the road and authorize others to use the road at any and all times. The permittee shall use the road in such a manner as will not unreasonably or unnecessarily interfere with the use thereof, by other authorized persons including the Forest Service.

3. Use Plans. Prior to use each year this permit is in effect, the permittee shall notify the District Ranger, John Niebergall, P.O. Box 310, at 98 South Main Street, Ferron, Utah 84523, telephone No. 384-2372, in writing of the date and approximate time when such use will commence, the anticipated duration of such use, the names and addresses of permittee's contractors or agents who will use the road on behalf of the permittee, the estimated extent of use, purpose of use, and such other information relative to permittee's anticipated use as the Forest Service may from time to time reasonably request. When there is a significant change in use by the permittee, it is the permittee's responsibility to promptly notify the District Ranger in writing. Plans and changes will be approved by the Forest Supervisor before use may commence.

4. Maintenance. The permittee shall bear the expense of maintenance proportionate to his use. This expense will be borne by the permittee, its agents, operators, and/or contractors.

Where road maintenance standards required by the permittee are above those required by the Forest Service, the permittee shall bear the total incremental cost of maintaining the road to the higher standard. The Forest Service financial responsibility is limited to a commensurate share of those maintenance activities required to be performed for the maintenance level assigned to the road prior to the commercial use.

Maintenance shall be performed in accordance with Forest Service Specifications or requirements for maintenance as hereinafter listed, or as may be mutually agreed upon from time to time and shall consist of (1) current maintenance as necessary to preserve, repair, and protect the roadbed, surface and all structures and appurtenances, and (2) resurfacing equivalent in extent to the wear and loss of surfacing caused by operations authorized in this permit.

a. Maintenance and Resurfacing Requirements and Specifications. Exhibit I, attached, specifies these requirements and shall be adhered to.

- (1) Deferred surface maintenance collection
 - (a) Gravel \$0.022/Equivalent Surface Unit(ESU)-mi x 8295
ESU-mile = \$182
 - (b) Native \$0.005/ESU/mi x 14,969 ESU-mile = \$75
- Deferred Maintenance collection \$257

Payment required \$257.00

- (2) Current maintenance responsibility FDR #50034 from M.P. 0.0 to M.P. 12.0.

5. Performance Bond. In the event the permittee is to perform road maintenance, road resurfacing, or betterment, as determined by the Forest Supervisor, the Forest Service may require as a further guarantee of the faithful performance of such work that the permittee furnish and maintain a surety bond satisfactory to the Forest Service in the sum of ninety-nine hundred dollars (\$9,900), or in lieu of a surety bond, deposit into a Federal depository, as directed by the Forest Service, and maintain therein cash in the sum of ninety-nine hundred dollars (\$9,900), or negotiable securities of the United States having market value at the time of deposit of not less than ninety-nine hundred dollars (\$9,900). As soon as security for the performance of road maintenance or the settlement of claims incident thereto is completed, unencumbered cash guarantees or negotiable securities deposited in lieu of surety bond will be returned to the permittee.

6. Fire Prevention and Suppression. The permittee shall take all reasonable precautions to prevent and suppress forest fires. No material shall be disposed of in open fires during the closed fire season established by law or regulation, without a written permit from the Forest Service.

7. Damages. The permittee shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this permit, and shall promptly repair or upon demand, pay the United States for any damage resulting from negligence, or from violation of the terms of this permit or of any law or regulation applicable to the National Forests, by the permittee, or by his agents, contractors, or employees of the permittee acting within the scope of their agency, contract, or employment. Five days notice shall be given to the District Ranger if other than legal loads (H-20) are to be hauled on Forest Development Roads. An inspection and evaluation of roadway structures will be made prior to and after the haul to determine feasibility of the haul and to check for any damage to roadway structures.

8. Officials Not to Benefit. No member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this agreement or any benefit that may arise herefrom unless it is made with a corporation for its general benefit.

9. Outstanding Rights. This permit is subject to all outstanding rights.

10. Suspension. Upon the failure of the permittee, its agents, employees or contractors to comply with any of the requirements of this permit, the officer issuing the permit may suspend operations in pursuance of this permit.

11. Permission must be obtained from Utah Division of Lands to cross state land in section 35.

12. Termination. This permit shall terminate on September 31, 1990. It may be terminated upon breach of any of the conditions herein.

13. Traffic Rules.

1. Roads must not be used when they are wet and susceptible to damage.
2. Roads must be watered if dust becomes a problem or if excessive loss of road material occurs.
3. All traffic must maintain safe speeds commensurate with existing conditions.
4. The permittee is responsible for repair of any damage to roads which are caused by his operators.
5. Heavy equipment may not be moved on Forest Development Roads on the following dates: July 4, July 21-24, September 1-3, October 3-8, and October 19-22, 1990.

This permit is accepted subject to all of its terms and conditions.

D. W. Jense
ACCEPTED Permittee (Name and Signature) D. W. Jense Managing Director/Administration 6/12/90
Date

Arvin L. Howe
APPROVED Issuing Officer (Name and Signature) Arvin L. Howe FOREST ENGR 6/14/90
Title Date

MAINTENANCE REQUIREMENTS

EXHIBIT I

Road Maintenance. Road maintenance is defined as the performance of work on the entire road facility commensurate with permittee's use. This work consists of restoration and preservation of surface, shoulders, roadsides, structures, drainage, sight distance, and such traffic control devices as are necessary for prevention of excessive erosion damage to the facility and adjacent lands.

- I. Description. Maintenance work to be done currently during the periods of use by the permittee shall include:
- A. Removal of slides and boulders, which obstruct safe sight distance.
 - B. Adequate blading and shaping of roadway surfaces, ditches, and grade dips to maintain the original cross-sections.
 - C. Removal of earth and debris from ditches and culverts so that the drainage systems will function efficiently at all times.
 - D. Prevention of excessive dusting of road surface materials.
 - E. Repair of damages to fences, cattleguards, culverts, and other roadway structures including traffic regulatory and directional signs.
 - F. Restoration of eroded fills and repair and protection of shoulder berms, berm outlets, stabilized waterways, vegetated slopes, and other erosion control features.
 - G. Removal of snow from roadway surface.
 - H. Replacement of roadway and/or surfacing material worn out and lost through use of the roadway.
- II. Performance. All items of maintenance work shall be done currently as necessary to insure safe, efficient transportation and to protect roads, streams, and adjacent lands from excessive damage. Work shall be done in accordance with the following minimum standards of performance.
- A. Removal of Material. Earth, rocks, trees, brush, and debris removed from roadways and ditches shall not be deposited in stream channels or upon slope stabilization and erosion control features.

- B. During roadway blading and shaping operations, banks shall not be undercut nor shall gravel or other selected surfacing material be bladed off the roadway surface. The original crown or slope of the road shall be preserved. Mud, debris, and oversize material shall be deposited outside the roadway by hand or by careful blading, and these materials shall not be mixed with the road surfacing material.
- C. Ditches, culverts, drop inlets, trash racks, downspouts, and splatter structures shall be kept clear of earth, slash, and other debris so that drainage systems will function efficiently during, and immediately following, periods of road use by permittees. This includes correcting and eliminating causes of erosion or plugging of the structure, and actual repair of the structure and riprap if damages.
- D. Fugitive dust shall be controlled to prevent hazardous driving conditions or loss of road surface or binder material. The permittee shall control such dusting by sprinkling, or other approved surface treatment.
- E. Permittee shall promptly repair all damages, caused by the permittee's operations, to the road surface or to any structures in or adjacent to the roadways. To transport any overweight loads (those that exceed HS-20 loading) will require five (5) days notice prior to transporting on Forest Development Roads. An inspection of drainage and other structures (bridges, etc.) will be made to determine if the structure can safely accommodate the load.
- F. Any washing or settling of roadway fills shall be corrected promptly to prevent additional soil erosion or roadway damage. Shoulder berms, berm outlets, and stabilized waterways shall be protected during road maintenance operations and, if damaged, such structures shall be promptly restored to their original condition, including repair and reseeding of vegetation established to control slope erosion. No earth, rocks, or other debris shall be deposited upon any roadside slope stabilization structure or feature.
- G. Snow Removal
1. Requirements
 - a. Sanding of hazardous areas shall be with sand. Coal dust, chemicals, or salt are not to be used.
 - b. Equipment - The equipment should be in sound operating condition, be equipped with angle blade or adequate grousers or traction tires, and be operated by a fully qualified operator.

c. Removal

Width - Snow will be removed to the full width of the road plus any turnouts and ditch lines. Through-cuts will be allowed only after snow depths exceed the height of the cab or across flat ground. Disposal shall always be to the outside or downhill side of the road.

Outlets - Outlets for surface runoff shall be placed in all snow through-cuts at points where water can flow off the road surface at the following intervals:

8% or less grades - 500 feet center to center minimum.

8% and up grades - 300 feet center to center minimum.

Snow Floor - A four to six-inch snow floor shall be allowed to accumulate on the road bed to prevent removal of road bed surfacing.

Cattleguards - Crawler tractors will not be operated across cattleguards.

Culvert Cleaning - Culvert heads and outlets shall be cleaned of snowpack by hand.

Tree Damage - Snow should not be pushed, blown, or stacked on trees along the roadside. Care will be taken to avoid scarring trees with equipment.

2. Travel

- a. The road may be used while the snow floor remains intact or under frozen conditions.
- b. All travel must cease when temperatures allow the road to thaw and rutting of the road surface is occurring.
- c. This closure will be in effect until the surface dries or refreezes.

3. Inspections

- a. Intermittent inspections may be made during snow removal operations.
- b. Final inspection will be made to check for full compliance and damages.



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangertor

Governor

Dee C. Hansen

Executive Director

Dianne R. Nielson, Ph.D.

Division Director

355 West North Temple

3 Triad Center, Suite 350

Salt Lake City, Utah 84180-1203

801-538-5340

July 16, 1991

Mr. Gene Nodine
Bureau of Land Management
P.O. Box 970
82 East Dogwood
Moab, Utah 84532

EM140A

Dear Mr. Nodine:

Re: 1991 East Mountain Drilling Application, PacifiCorp Electric Operations, CEP/015/019-91B, Folder #2, Emery County, Utah

PacifiCorp Electric Operations has proposed to drill one hole as part of a time domain reflectrometry study. This hole is located within the permit area above the Cottonwood Mine on East Mountain. Electronic monitoring equipment will be installed in the drill hole where monitoring will be conducted for two years. The drill site will be reclaimed in 1991 and the road reclaimed in 1993 when monitoring is completed.

Due to the fact that this drill hole is located within the permit area, the Division has the lead and will coordinate comments and issue the approval. Therefore, if you have any concerns, please forward them to me at the Division. I appreciate your cooperation.

If you have any questions, please call me.

Sincerely,


Pamela Grubaugh-Littig
Permit Supervisor

jbe

cc: Susan White

AT015019.5



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangarter
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

Letter to
BLM

July 12, 1991

1991

TO: Pamela Grubaugh-Littig, Permit Supervisor

FROM: Henry Sauer, Senior Reclamation Soils Specialist *HS*

RE: 1991 East Mountain Drilling Application, PacifiCorp Electric Operations, CEP/015/019-91B, Folder #2, Emery County, Utah

Synopsis

PacifiCorp Electric Operations (PEO) has applied for an exploration drilling permit within the Cottonwood/Wilberg Permit Area. Susan White (DOGM), in a letter dated June 27, 1991, enumerated my concerns regarding topsoil removal, storage, and redistribution.

A meeting between Val Payne (PEO) and myself was held on July 11, 1991 to discuss the soil issues. The forthcoming analysis is an outline of the discussions and agreements made on that day.

Analysis

All roads leading to the two drill sites, as well as the drill pads themselves, have been previously disturbed and reclaimed (backfilled and seeded). Topsoil, as defined in R614-100-200 Definitions., no longer exist. Therefore, the requirements of R614-202-233 are not applicable.

Additionally, Mr. Payne explained and demonstrated reclamation previously performed on the roads has been successful. Therefore, Mr. Payne and myself agreed that soil material on the surface of the drill pads would be separately removed, stockpiled, and seeded. Soil material on the surface of the previously disturbed roads would be downcast on the down slope side of the road and seeded with the approved seed mixture. Mr. Payne also agreed that prior to soil placement, all areas would be deep ripped, utilizing a ripper equipped bulldozer.

Recommendations

Mr. Payne must integrate the above agreements into the narrative of the drilling application. Upon receipt of above commitments, approve said exploration drilling application.

jbe
AT015019.4



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangertter
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

June 27, 1991

Mr. Blake Webster
PacifiCorp Electric Operations
Fuel Resources
P.O. Box 26128
Salt Lake City, Utah 84126-0128

Dear Mr. Webster:

Re: 1991 East Mountain Drilling Application, PacifiCorp Electric Operations,
CEP/015/019-91B, Folder #2, Emery County, Utah

Enclosed please find deficiencies related to the proposed drill hole within the Cottonwood Mine permit area. Since the activity is not subject to the requirements of 43 CFR Parts 3480-3487 (exploration for Federal Coal within an approved permit area) and the drill hole is a surface disturbance related to coal mining operations, the R614 Rules apply.

Please submit your responses to the Division by July 15, 1991.

Sincerely,

A handwritten signature in cursive script that reads "Susan White" with a flourish at the end.

Pamela Grubaugh-Littig
Permit Supervisor

jbe
Enclosure
cc: Susan White
AT015019.005



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangarter
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

June 27, 1991

TO: Pamela Grubaugh-Littig, Permit Supervisor

FROM: Susan M. White, Reclamation Biologist *SMW*

RE: 1991 East Mountain Drilling Application, PacifiCorp Electric Operations, CEP/015/019-91B, Folder #2, Emery County, Utah

Synopsis and Analysis

PacifiCorp Electric Operations has proposed to drill one drill hole as part of a time domain reflectometry study. The hole is located within the permit area above the Cottonwood Mine on East Mountain. Electronic monitoring equipment will be installed in the drill hole. Monitoring will be conducted for two years. The drill site will be reclaimed in 1991. The road will be reclaimed when monitoring is completed in 1993.

The application is mostly complete; however, several items should be clarified as discussed in recommendations.

Recommendations

The application fails to clearly state the applicant's name, address and telephone number. I would assume the applicant is either PacifiCorp Electric Operations, or Energy West; however, this should be clarified.

The threatened and endangered plant species information is outdated. Several of the species listed on page 12 are no longer a concern and others have official listing status. Astragalus montii, which is listed as threatened, is not discussed. This plant was found on Ferron Mountain on outcrops of the Flagstaff Limestone formation. Geologic maps indicate that outcrops of the Flagstaff Limestone occur near the proposed drill site. The information in this section should be updated.

Page 2
Memo/PGL
CEP/015/019-91B
June 27, 1991

The Division's soil scientist, Henry Sauer, is concerned about the topsoil on the road for two years. No plans are discussed for the roads topsoil salvage and storage. Mr. Sauer suggested that topsoil should be wind rowed adjacent to the road.

R614-201-140 states that the applicant will include in the exploration plan a detailed estimate of the cost of reclamation of the surface disturbance with supporting calculations.

jbe
AT015019.004

PACIFICORP
ELECTRIC OPERATIONS
1991 EAST MOUNTAIN DRILLING PLAN

APPLICANT:

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

TABLE 1
THREATENED AND ENDANGERED PLANT SPECIES
OCCURRING IN EMERY COUNTY^{1,2}

<u>PLANT</u>	<u>STATUS³</u>	<u>LOCATION</u>
<u>Cycladenia humilis</u> var. <u>jonesii</u>	T	San Rafael Swell. Eriogonum-ephedra, mixed desert shrub, juniper communities; 1340 to 1830 m; Cutler, Summerville, Chinle formations.
<u>Erigeron maguirei</u> var. <u>maguirei</u>	E	San Rafael Swell. Canyon bottoms; 1640 to 1740 m; Wingate (?) and Navajo formations.
<u>Townsendia aprica</u>	T	Salt desert shrub, pinyon-juniper communities; 1860 to 2440 m; Mancos Shale (Blue Gate Member).
<u>Echinocereus triglochidiatus</u> var. <u>inermis</u>	E	Blackbrush, ephedra, sagebrush, pinyon-juniper, mountain brush, aspen communities; 975 to 2562 m.
<u>Pediocactus despainii</u>	E	San Rafael Swell. Open pinyon-juniper community on limestone gravels; ca 1830 m.
<u>Sclerocactus wrightiae</u>	E	Salt desert shrub, shrub-grass to juniper communities; 1460 to 1865 m; Mancos Shale (Blue Gate, Tununk, Emery, Ferron Members), Dakota, Morrison, Summerville, Entrada formations.

1 - USDI, USFWS 1990

2 - Welsh, et al 1987

3 - T = Threatened

E = Endangered

1991 EAST MOUNTAIN DRILLING

DRILL HOLE EM-148

**ACCESS ROAD SPECIAL CONDITIONS
DIVISION OF OIL, GAS AND MINING**

Because the access road will remain in-use for two (2) years, the following conditions will apply:

1. Contemporaneously with construction, the road outsoles will be seeded to provide a protective vegetative cover. The following seed mixture will be hand broadcast at the specified rates.

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>	<u>LBS/ACRELS</u>	<u>PLS/ft²</u>
Thickspike Wheatgrass	<u>Agropyron dasytachyum</u>	8	28
Mountain Brome	<u>Bromus marginatus</u>	8	23
Yellow Sweetclover	<u>Melilotus officinalis</u>	4	24

Following seeding, the areas will be raked to cover the seed.

2. Prior to redistribution of topsoil material, the road surface will be scarified to eliminate any surface traffic pan that might have developed.

1991 EAST MOUNTAIN DRILLING

DRILL HOLE EM-148

RECLAMATION COSTS

EQUIPMENT

HOURLY RATE

Backhoe	\$22.30
D8 Dozer	63.00

MANPOWER

Supervisor	\$36.70
Operator	34.20

COST SUMMARY

<u>AREA</u>	<u>HRS</u>	<u>EQUIPMENT</u>	<u>LABOR</u>	<u>MATERIALS</u>	<u>COSTS</u>	<u>DAYS</u>
Drill Pad	24	Dozer \$1500 Backhoe <u>535</u>	1 Supervisor \$880 1 Operator <u>820</u>	\$10 —	— —	3 —
Subtotal		\$2035	\$1700	\$10	\$3745	3
Road	80	Backhoe \$1785 —	1 Supervisor \$2935 1 Operator <u>2735</u>	— —	— —	— —
Subtotal		<u>\$1785</u>	<u>\$5670</u>	<u>\$55</u>	<u>\$7510</u>	<u>10</u>
TOTAL		\$3820	\$7370	\$65	\$11,255	13

PACIFIC POWER • UTAH POWER

324 South State
P.O. Box 28128
Salt Lake City, Utah 84126-0128

for Tom G-kittig

◆ PACIFICORP
ELECTRIC OPERATIONS GROUP

June 14, 1991

RECEIVED

JUL 19 1991

DIVISION OF
OIL GAS & MINING

Mr. James Dryden
US Department of the Interior
Bureau of Land Management
San Rafael Resource Area
900 North 700 East
PO Box AB
Price, Utah 84501

RE: PACIFICORP ELECTRIC OPERATIONS COTTONWOOD/WILBERG MINE,
ACT/015/019, EMERY COUNTY, UTAH

1991 EAST MOUNTAIN DRILLING

Dear Mr. Dryden:

Enclosed please find PacifiCorp's proposed 1991 Surface Drilling Plan within the Cottonwood/Wilberg Mine permit area for the following:

<u>DRILL HOLE #</u>	<u>LOCATION</u>	<u>DEPTH</u>	<u>SURFACE OWNER</u>	<u>OBJECTIVE</u>
EM-148	1520' S 2250' W NE Corner Sec. 32 T17S, R7E	1350'	BLM	Time Domain Reflectometry Study in cooperation with Bureau of Mines.

The drilling will be conducted in accordance with previously approved East Mountain Exploration Plans. Accompanying the Drilling Plan are the following:

- Drawings:
 - East Mountain Property
 - 1991 Surface Drilling
 - EM-148
 - East Mountain Property
 - Proposed Drill Hole Location
 - Time Domain Reflectometry Study

Both drawings are 8 1/2" x 11" portions of Drawing CE-10424-EM, Surface Exploration Drill Holes, Packet 2-1 Cottonwood/Wilberg Mine Permit Application Package.

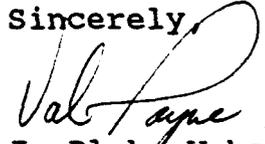
ATTACHMENTS:

- 1- DOGM memo regarding Revegetation Seed Mix for East Mountain Coal Exploration - 1 page.
- 2- BLM Coal/Tar Sand Exploration Drilling Stipulations - 3 pages.
- 3- BLM memo regarding Reclamation Recommendations for Utah Power and Light Company Drilling Program on Coal Lease U-47978 - 4 pages.
- 4- US Forest Service East Mountain Road Use Permit - 7 pages.

As stated in the plan, the purpose of drill hole EM-148 is to conduct a rock mass deformation study, in cooperation with the Bureau of Mines, using Time Domain Reflectometry. Drilling and installation of the monitoring equipment is expected to require approximately seven (7) days and must be completed by August 1, 1991 to coincide with the mining schedule.

Your help in facilitating this project is greatly appreciated. Please coordinate any other agency approvals necessary. If you require additional copies of this submittal or further information please contact me at 220-4584 or Val Payne at 653-2312.

Sincerely,


Val Payne For
J. Blake Webster
Permitting Administrator

VP/dw
Enclosure

cc: P. Grubaugh-Littig - DOGM
G. Morris - USFS Price

PACIFICORP

ELECTRIC OPERATIONS

1991 EAST MOUNTAIN DRILLING PLAN

It is planned to conduct surface drilling above the Cottonwood Mine located near Huntington, Utah.

Proposed is one (1) drill hole as shown on the enclosed map.

PacifiCorp has entered into a cooperative agreement with the Bureau of Mines to measure rock mass deformation using Time Domain Reflectometry. The project requires drilling a hole (EM-148) on top of East Mountain and penetrating a longwall panel. The project originally involved drilling into the 6th Right panel in the Deer Creek Mine. However, a change in the Deer Creek Mine plan, resulting from adverse geologic conditions, has necessitated relocation of the drill hole.

Drill hole EM-148 is proposed to be located above the Cottonwood Mine as indicated on the accompanying map. The hole will be located on a reclaimed drilling access road 1,520 feet south and 2,250 feet west of the Northeast corner of Section 32, Township 17 South, Range 7 East. It will be drilled to a depth of 1,350 feet, penetrating the 14th West longwall panel in the Hiawatha coal seam.

After drilling is completed the hole will be geophysically logged, a coaxial cable will be inserted to the full depth and the hole will be cemented in its entirety. Electronic monitoring

equipment will be installed at the site providing a radio link for data transfer. Monitoring will be conducted for up to two years; therefore, it will be necessary that the road remain open for access during summer months and the site be utilized until the fall of 1993.

In accordance with federal regulations 30 CFR 211 and the Utah Permanent Coal Mining Regulations, the following is submitted:

Name and address of responsible person:

Mr. J. Brett Harvey
Fuel Resources
PacifiCorp Electric Operations
One Utah Center
201 South Main
Salt Lake City, Utah 84140-0021

Surface Ownership other than United States:

None

Subsurface Ownership other than United States:

None

METHOD OF DRILLING

It is proposed to drill one (1) drill hole to a depth of 1350 feet. Drilling will be accomplished by means of surface drilling utilizing a rotary drill rig.

Drilling Equipment:

Drill Rig:

1 - 1500 rotary drill rig

The drilling rig will require supporting vehicles as follows:

1 - Water truck, 80 to 100 barrel capacity

1 - Flat-bed truck for carrying drill pipe and casing

1 - D8H Crawler Tractor

- 1 - Landscape Tractor/Trailer
- 1 - Semi-Truck/Flat Bed Trailer
- 1 - Logging Truck (Geophysical Probe Truck)
- 1 - 4 Pickup Trucks (Crew Transportation)
- 1 - 700 CFM Compressor and Booster

The access road, pad and mud pits will be constructed using a crawler tractor and backhoe. On near flat areas blade work will be minimal, only the low growing brush will be removed by back-blading the surface.

Drill hole EM-148 is located on a reclaimed drill access road.

Preservation of topsoil is managed by stripping the drill pad and stockpiling the topsoil adjacent to the drilling site.

Drilling sequence is as follows:

A crawler tractor constructs a minimum width road from the existing road system to the proposed site. This rough construction road is built balancing the cuts and fills. The drill pad, usually 50 x 75 feet is laid out to fit the slope of ground allowing for the least amount of cut.

If the drill site is level the area is back-bladed to remove the vegetation leaving the topsoil in place, otherwise, the site is cleared of brush and topsoil stripped and stockpiled awaiting reclamation work. Mud pits are then excavated. Upon completion of the site the drill rig is driven to the site and set up to begin drilling. Ancillary equipment such as compressors, booster, water truck and flat-bed (drill pipe) trucks are positioned on the pad.

Once drilling has begun it continues until the exploration

hole is completed or in the case of a planned core hole, casing is set at the prescribed depth. During the drilling period, drilling materials and cement are delivered to the site awaiting plugging of the hole.

After reaching the planned depth the drill string is removed from the hole and the geophysical logging truck is positioned to probe the hole. Upon recording the necessary data (geophysical logs) the coaxial cable is installed and the hole is plugged using a two to one cement/water slurry plugging the entire length of the hole drilled. The drilling rig and support equipment are then moved from the site. The drilling site is cleaned of waste and trash and reclamation of the site will begin as soon as the mud pits have lost their fluids.

POLLUTION CONTROL MEASURES

Fire Prevention:

In the past fire hazard has not been a major problem. The clearing of drill sites reduces the chance of machine related ignitions and the storing of combustible fuels in a safe area further lessens any fire hazards associated to drilling. Each drilling rig is attended both day and night and if needed, a 3,000 gallon water truck is available for fire suppression.

Soil Erosion:

Short-term soil erosion protection is accomplished by road design, that is, during road construction the roads are designed to the minimum grade possible and out-sloped for drainage. Reclamation work requires all roads not obliterated to have water

bars installed and all disturbed areas will be seeded.

Water Pollution Control Measures:

What little surface water exists on East Mountain is found in the form of springs, seeps and small ponds. These waters are used primarily for stock and wildlife and some are developed with tanks and troughs. All access roads and pads located across or adjacent to live or intermittent streams will require culverts or other protective measures to safeguard water quality. Ground water encountered during drilling will be evaluated for monitoring purposes.

Present DOGM regulations are specific in monitoring ground water (hydrologic balance) for determining future impacts associated with mining. Measures to protect the migration of ground water will be to cement the hole completely.

Air Pollution:

We anticipate no significant impact to the air quality due to the drilling and other than watering roads for dust suppression no specific measures are planned.

Damage to Fish and Wildlife:

The area of drilling is abundant with wildlife and is known primarily for its deer and elk harvest each Fall. Past experience has proven the wildlife disturbance is minimal. The drilling period occurs after the calving season and the area of drilling activities is small and isolated.

Fisheries:

There are no major fisheries within the drilling influence

zone.

OTHER NATURAL RESOURCES

The drill hole is located on a reclaimed drill road; therefore, impacts will be minimal. Disturbance will involve reopening approximately 0.9 mile of reclaimed road and construction of the drill pad on the road. It is estimated that a total of approximately 1.7 acres will be disturbed. For the most part, this disturbance will occur on open grass-covered range land. Specific action to reduce this impact will be revegetative seeding.

PUBLIC HEALTH AND SAFETY

Due to the remoteness of the drilling area, public safety involvement is small.

PacifiCorp requires by contract that the drilling contractor is knowledgeable and complies with all state and local laws related to his drilling operations and that all equipment used in conjunction with this project meet the safety standards of the federal, state and local governing agencies.

Method of Plugging Drill Holes:

After the hole is drilled and geophysically logged, a coaxial cable will be inserted the full length and the hole will be cemented in its entirety. A proper cement slurry shall be placed in the hole through the open-ended drill pipe using 200 foot segmented lifts for inducing a pressure grout for plugging the drill hole. Following removal of the monitoring equipment, a hole location marker shall be placed on the surface of the hole to witness its location. This procedure will achieve compliance with the BLM hole

plugging requirements.

SURFACE RECLAMATION

Reclamation Schedule:

It is planned to reclaim the drill site as soon after completion of drilling as possible. However, the access road will remain open for approximately two (2) years to allow access to the monitoring equipment during the summer months. We have found from prior drilling in this area that the mud pits require at least two weeks or more to dissipate their fluids. After the reclamation sequence has started it will continue until complete.

Completion of the drilling and installation of the monitoring equipment is expected to require seven (7) days. Reclamation work at the site will require approximately two days. We are planning to complete the drill site reclamation work during 1991.

Grading and Backfilling:

Road removal will be completed in the fall of 1993, in accordance with the surface management agency's stipulations.

Using a crawler tractor, mud pits will be filled in, the drill pad bladed, contoured to its original shape and the previously stockpiled topsoil spread evenly over the disturbed area.

In the fall of 1993 the monitoring equipment will be removed and the access road will be reclaimed. Where the road has grades in excess of 12% or side slopes too steep to safely work a crawler tractor, a backhoe will be required to pull back the fill areas.

Method of Soil Preparation and Fertilizer Application:

There is not special soil preparation planned excepting

harrowing the disturbed areas after seeding. No fertilizer is planned unless stipulated by the surface owner.

Type and Mixture of Seeds (see Attachment 1):

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>	<u>LBS/ACRE</u>	<u>PLS</u>	<u>PLS/ft²</u>
Thickspike Wheatgrass	<u>Agropyron dasytachyum</u>	8		28
Mountain Brome	<u>Bromus marginatus</u>	8		23
Yellow Sweetclover	<u>Melilotus officinalis</u>	4		24
Louisiana Sagewort	<u>Artemisia ludoviciana</u>	.2		20

Method of Planting:

All seeds are broadcast by a hand-held rotary broadcaster. Areas seeded are cultivated and raked with a tractor-drawn tooth harrow. The rate of application is approximately 20.2 pounds per acre.

Estimated Timetable and Completion Date for Reclamation Work:

Drilling and installation of monitoring equipment must be completed by August 1, 1991 to coincide with the mining schedule. The drill site will be reclaimed as soon as possible after the hole has been completed. The access road will be reclaimed in 1993.

Once reclamation of a drill site begins all phases are continuous, that is, cat work, spreading topsoil, ditching, seeding, and harrowing.

Included in this submittal are 8 1/2" x 11" portions of the East Mountain Drill Hole map showing existing roads, major drainages, surface ownership and the proposed drilling site with proposed access road.

1991 PROPOSED DRILLING

EAST MOUNTAIN

<u>Drill Hole</u> <u>Number</u>	<u>Location</u>	<u>Sec.</u>	<u>Township</u>	<u>Range</u>	<u>Total</u> <u>Depth</u> <u>Feet</u>	<u>Lease</u> <u>Number</u>	<u>Surface</u> <u>Owner</u>
EM-148	SW NE	32	17S	7E	1350	U-47978	BLM

ENVIRONMENT

The area of exploration is located on East Mountain in the high plateau and canyonland area of eastern Utah near Huntington.

Soils

In the general vicinity of Huntington, soils range from deep, alkaline types in the valleys to very shallow soils and bare rock on the steep slopes of East Mountain (Wilson, et al, 1975). The dry, desert soils of the valley east and south of the mines are used mainly for range and pasture. Irrigated cropland occurs in small areas where water is available. These valley soils receive 8 to 14 inches of precipitation annually and have a low to moderate erosion potential (Wilson, et al, 1975).

The soil types of the mountainous areas surrounding the exploration area are characteristic of canyon slopes, geologic folds and faults. Bare rock and shallow soils over sandstone bedrock occur over most of the area. These soils support valuable watersheds, recreational areas and wildlife habitat. Runoff in these areas is high and contributes to heavy sedimentation and erosion problems. These erosion characteristics indicate that the revegetation potential is poor (Wilson, et al, 1975).

Vegetation

The dominant vegetation types are characteristic of central Utah (Foster, 1968). Pinion-juniper woodland is on the dry, south slopes and intergrades with sagebrush and grassland types at higher elevations on East Mountain. Spruce-fir Douglas fir forest occupies the ravines, ridge top, and the more mesic north slopes at elevations above 8,000 feet (Holmgren, 1972). Riparian woodland occurs along Deer Creek in the northern portion and trees are scattered along Grimes Wash. In mesic areas surrounding springs and seeps on the mountain tops, small meadows are present.

Pinion pine (Pinus edulis), juniper (Juniperus osteosperma), mountain mahogany (Cercocarpus spp.), and serviceberry (Amelanchier utahensis) are the common woody plant species. These forms provide an open canopy. Pinion pine and juniper density in the vicinity of the mine ranges from 240 to 420 trees/acre (University of Utah Research Institute, 1975b). The understory of pinion-juniper habitat is sparse and consists of scattered clumps of Indian ricegrass (Oryzopsis hymenoides) and forbs. Total vegetative cover in this area is generally less than 10 percent (University of Utah Research Institute, 1975b) because of steep slopes and southern exposure. Much of the remaining surface is bare rock.

White fir (Abies concolor), Douglas fir (Pseudotsuga menziesii), and Engelmann spruce (Picea engelmannii), are the characteristic overstory species in the spruce-fir Douglas fir vegetation type. Stands of aspen (Populus tremuloides) are scattered throughout the conifer vegetation. The understory

associated with the conifers includes snowberry (Symphoricarpos oreophilus), buffaloberry (Shepherdia canadensis), twinflower (Linnaea borealis), blueberry (Vaccinium caespitosum), and miterwort (Mitella stenopetala). Annuals make up a very minor part of the cover. Conifer density on Horn Mountain, southeast of the mine property, ranged from 150 to 230 trees/acre (University of Utah Research Institute 1975b). Vegetative cover in this area is approximately 25% (University of Utah Research Institute 1975b).

The riparian woodland is limited to Deer Creek and scattered trees along Grimes Wash. Cottonwood (Populus angustifolia) and willows (Salix spp.) dominate the streamsides. A frequent shrub is narrow leaf rabbitbrush (Chrysothamnus linifolius) and grasses occur in abundance.

Seven plants on the proposed federal list of endangered species (USDI, 1976) occur in Emery County (Table 1), but no rare or endangered species are known from the immediate area (Welsh, et al, 1975). Most of the endangered plant species in Emery County occur in the San Rafael Swell (Welsh, et al, 1975) in the eastern part of the county.

Fish and Wildlife

The southern area is in pinion-juniper habitat. A number of important vertebrate species are typical of this habitat within the region. The sparse vegetation and steep, dry conditions present at the Cottonwood/Wilberg portal are less suitable for wildlife than are densely vegetated portions of pinion-juniper habitat on gently sloping terrain south and east of the mine property.

TABLE 1

PROPOSED ENDANGERED PLANT SPECIES OCCURRING IN EMERY COUNTY *,**

PLANT SPECIES

DISTRIBUTION

Cycladenia jonesii

San Rafael Swell, Emery County;
Castle Valley, Grand County

Erigeron maguieri

Calif Spring Wash on San Rafael Swell, Emery County

Eriogonum Smithii

San Rafael Desert, Emery County

Festuca dasyclada

Joes Valley, Emery County;
Sanpete County, Colorado

Gaillardia flava

Price River, Emery County

Parthenium ligulatum

Duchesne County; Emery County

Sclerocactus wrightiae

San Rafael Ridge, Emery County;
Wayne County

* USDI, 1976

** Welsh, et al, 1975

The mule deer is the most conspicuous large mammal in pinion-juniper habitat in the mine vicinity. Other mammal species found in this habitat include black-tailed jackrabbit, mountain cottontail, coyote, badger, striped skunk, deer mouse, pinion mouse, least chipmunk, hoary bat, and western big-eared bat (Brown, et al, 1958).

Typical birds in pinion-juniper habitat include the mourning dove, pinion jay, western bluebird, western kingbird, American kestrel, and chipping sparrow (Brown, et al, 1958). Chukar partridge inhabit the rock escarpment areas near the Cottonwood/Wilberg portal.

Dry surface conditions and the absence of standing water virtually preclude the presence of amphibians from pinion-juniper habitat in the immediate vicinity, but several reptile species are common. The side-blotched lizard, eastern fence lizard, sagebrush lizard, racer, gopher snake, and western rattlesnake are representative species in this habitat type through the region (Stebbins, 1966).

Open stands of spruce-fir Douglas fir forest with Douglas fir as a dominant species occur on sheltered north-facing slopes at higher elevations within the exploration area. Spruce-fir Douglas fir and pinion-juniper habitats intermingle in canyon bottoms and at intermediate elevations to form a transition zone between the two vegetation types. Aspen groves in the spruce-fir Douglas fir communities offer excellent calving areas for elk (US Forest Service, 1976). Mule deer, snowshoe hare, and blue grouse are

important game species in forested areas. Non-game mammals which inhabit forest areas include bobcat, beaver, porcupine, red fox, coyote, mountain vole, deer mouse, hoary bat, and silver-haired bat.

Many bird species frequent the forested portions of East Mountain. Conspicuous breeding birds include band-tailed pigeon, plain titmouse, Clark's nutcracker, raven, turkey vulture, great horned owl, red-tailed hawk, and golden eagle.

Amphibian species such as the chorus frog and western toad inhabit mesic areas of the site. Reptiles are probably not abundant, but the short-horned lizard, sagebrush lizard, gopher snake, and western terrestrial garter snake inhabit sagebrush and forest-sagebrush ecotones in the site region.

Sagebrush and grassland habitat, and some mesic vegetation types occur on the relatively flat upper benches of East Mountain. Meadow habitat is limited to small drainage areas and a few springs. These habitats, combined with the forest edge ecotonal areas, are suitable for elk, mule deer, sage grouse, ruffed grouse, blue grouse, and snowshoe hare.

The additional moisture, increased vegetation, and structural diversity of the vegetation in the forest-sagebrush and forest-grassland ecotones provide habitat for more vertebrate species than is provided by pinion-juniper woodland.

Although there are no fisheries in the immediate vicinity, the tributaries which drain some of the area flow into Huntington Creek which does support a fishery (US Forest Service, 1976). According

to the US Forest Service (1976) the upper portions (32 miles) of Huntington Creek are rated as Class III (of significant importance to the State fishery program) whereas the lower 24 miles are rated Classes V and VI (of little or no value to the State fishery program). The tributaries (Deer Creek and Meetinghouse Creek) enter Huntington Creek in the lowest reaches of the Class III segment. Fish species which may be found in the Class reaches of Huntington Creek include brown trout, cutthroat trout, rainbow trout, brook trout, speckled dace, mountain sucker, and mottled sculpin.

Important Species

Important wildlife species are defined as those which are of recreational or economic value, are essential to the structure and function of the ecosystems in which they occur, or which have special status (e.g. endangered, declining, protected, etc.) within the region.

Several important species occur on and near East Mountain. The status, known distribution in the region and general habitat preference of each are discussed below.

- o Mule Deer (Odocoileus hemionus) - Mule deer range throughout all habitats on East Mountain. Pinion-juniper on the lower slopes of East Mountain are used as winter range. During other seasons deer concentrations are greater at high elevations. Although deer populations have declined over the past several years, the deer herd and habitat in the mine vicinity are in good condition

(Dalton, 1977).

- o Elk (Cervus Canadensis) - Elk inhabit the sagebrush and forest areas at the upper elevations on East Mountain, but do not ordinarily range into pinion-juniper habitat. The seven year average of elk censused on East Mountain (1970-1976) was 76 antlerless and two antlered individuals seen per year (Dalton, 1977). This census included larger groups only and does not reflect a total population estimate (Dalton, 1977).
- o Mountain Lion (Felis concolor) - This species inhabits rugged mountains and forest areas in the region and may occasionally occur on East Mountain (Dalton, 1977).
- o Snowshoe Hare (Lepus americanus) - this species occurs in forested portions of mountainous areas in the region. It inhabits higher elevations on East Mountain (Dalton, 1977).
- o Mountain Cottontail (Sylvilagus nuttalli) - Mountain cottontails inhabit brushy areas and forests, particularly on rocky slopes throughout the region (USDI Bureau of Land Management, 1976).
- o Blue Grouse (Dendragapus obscurus) - Open conifer stands with brushy understory at higher elevations provide suitable habitat for this species. Blue grouse occur on East Mountain. The greatest density of the species in Utah is in the northern Wasatch Range (Rawley and Bailey, 1972).

- o Ruffed Grouse (Bonasa umbellus) - Brushy woodlands (aspens, willows and conifers) near streams and springs are suitable habitat. This species occurs at higher elevations on East Mountain.
- o Chukar Partridge (Alectoris graeca) - This species prefers steep, rock semiarid slopes with low shrubs and rock outcrops. This species was introduced in Utah from 1951 to 1968. During this period 185,911 individuals were released at 191 different locations (Rawley and Bailey, 1972). The species is now widely distributed throughout Utah and other western states.
- o Mourning Dove (Zenaidura macroura) - This is an important game bird in many parts of North America. Mourning doves prefer open field and forest edge habitat, but occur over a broad range of vegetation types throughout the 48 conterminous United States. The species occurs in pinion-juniper and forest edge habitat on East Mountain.

Special Status Species

No federally listed endangered or threatened species are known to occur on the site property (USDI, Fish and Wildlife Service, 1976). The black-footed ferret (Mustela nigripes), a federally endangered species, has been reported near Ferron, several miles south of the site (Dalton, 1977). This species is not likely to occur on site because preferred habitat (a prairie dog town) (USDI Bureau of Land Management, 1972a) is not present. American peregrine falcon (Falco peregrinus anatum) has been observed within

25 miles of the site in the winter (Dalton, 1977). It is probably a winter visitor in the area (USDI Bureau of Land Management, 1972b), although, historically peregrine falcon aeries existed in the San Rafael swell area 30 miles southeast of the site.

Land Use:

Land in the exploration area of East Mountain is used for range forage, wildlife habitat, timber, recreation, and mineral extraction. The timber value of spruce and fir in the area is minimal. Most of the timber is classified as non-commercial (USDI Forest Service and BLM, 1976) since inaccessibility, size class distribution and market conditions limit the economic feasibility of commercial operations.

This area includes range allotments, the Gentry Mountain Cattle and Horses Allotment on the Ferron Ranger District. Areas occurring in the Gentry Mountain Cattle and Horses Allotment are classified as non-range because of the steep terrain, inaccessibility, and scarcity of vegetation. A portion of the East Mountain Cattle and Horses Allotment is primary range (includes preferred forage-producing areas that are accessible and have available water). The range condition in this unit is fair and improving (USDI Forest Service and BLM, 1976). Some of the principal species are western yarrow, orange sneezeweed, Kentucky bluegrass, crested wheatgrass, big sagebrush, and twistleaf rabbit brush. The range allotments are managed on a rest-rotation grazing cycle (USDI Forest Service and BLM, 1976).

GEOLOGY

The area of interest for exploration is centered on East Mountain, a part of the Wasatch Plateau located near Huntington in Emery County.

East Mountain is a prominent topographical mesa rising over 5,000 feet from the flatlands of Castle Valley. The eastern limits are marked by precipice sandstone cliffs intersected by narrow and steep drainages. Particularly the exploration area lies within the drainages of Straight Canyon and Cottonwood Canyon on the south and west respectively, and Huntington Canyon on the north.

Significant geologic conditions in the project area pertain to the stratigraphy and structure of the area. The sedimentary strata in which the coal seams are enclosed generally consist of massive and bedded sandstones which are interbedded with siltstones and mudstones.

The lithologic logs of surface drill holes from locations drilled on the property also show the stratigraphic formations of the area. These logs indicate the two coal seams are of minable thickness in the area. The upper, or Blind Canyon Seam, and the lower, or Hiawatha Seam, are both interstratified with the lenticular sandstones, siltstones, and mudstones of the lower portion of the Blackhawk Formation. The Hiawatha Seam forms the basal unit of the Blackhawk Formation and is underlain by the massive Starpoint Sandstone.

The Blackhawk Formation which ranges from 700 feet to 800 feet thick in the area, consists of ever-increasing amounts of sandstone

in its upper portions, and is conformably overlain by the Castlegate Sandstone. The Castlegate averages about 200 feet thick in the area and consists nearly entirely of massive, medium to coarse-grained sandstone. The Castlegate forms a massive cliff and is conformably overlain by the lenticular sandstones of the Price River Formation. The Price River is about 600 feet thick and grades upward from predominantly sandy beds to interbedded sandstone, siltstone, and mudstone. The formation is overlain conformably by the slope-forming mudstones, siltstones, sandstones, and occasional limestone lenses of the North Horn Formation. The North Horn Formation ranges from 900 feet to 1100 feet thick in the area and is unconformably overlain by the lowermost remnants of the Flagstaff Limestone.

The weathering of strata in the area has resulted in the exposure of the coal seams along lower canyon walls and mesa cliffs. The sediments which enclose the coal seams form steep slopes which are capped by the cliff-forming Castlegate Sandstone. The earth materials just above the Castlegate form steep slopes that gradually lessen in intensity higher in the stratigraphic section, particularly in the North Horn Formation. The Flagstaff Formation caps the highest points of the East Mountain Mesa.

Structurally, the area is fairly simple. The gentle down-folded strata crossing the area from the southwest to northeast form the Straight Canyon Syncline. Dips into the syncline range from 2 to 4 degrees. The Flat Canyon Anticline is located just to the north of the subject area.

The coal-bearing strata is locally offset and displaced as much as 150 feet by a series of north-south trending normal faults near the escarpments that face Castle Valley. These faults are usually "clean" and do not have significant amounts of fault gouge or other fractures associated with them.

Only a few widely spaced drill holes have been completed in the northern portion of the property, the reliability of interpretations concerning coal seam distributions and thicknesses is lower than that for the mine areas that have been intensely drilled and mapped.

WATER

Surface waters within the exploration area are mostly mountain springs and seeps which have improvements of small ponds and troughs for stock watering.

A large portion of East Mountain is relatively flat, intersected by numerous steep canyons that contain intermittent streams that feed two major drainages.

The higher and steeper northern section of East Mountain is drained by Huntington Creek whereas the lower southern portion flows into Cottonwood Creek.

East Mountain is a narrow plateau with steep slopes and extends for about twelve miles in a northwest to southeasterly direction. The northern and eastern slopes drain into Huntington Creek while the western and southern slopes drain into Spoon Creek and Upper Joes Valley and into Cottonwood Creek. Both Huntington Creek and Cottonwood Creek drain to the southeast into the Castle

Valley System.

The peaks on the East Mountain range in elevation between 10,706 feet in the northwest to 9,600 feet in the southeast. The plateau varies in topography from flat to steeply sloping, and ranges from a quarter of a mile to a mile in width. The southwestern slope of the mountain drops 2,750 feet in 1.5 miles while the northeastern slopes are more gentle and decrease from the 10,200 foot to the 7,000 foot elevations in a horizontal distance of about 3.5 miles.

The primary year-round water resources on the mountain result from scattered seeps along the upper slopes draining the mountain's sandstone aquifers which are supplied by seasonal patterns of precipitation.

ARCHEOLOGY

Because of the mountain's steep slopes, access to its upper meadows and terraces is most easily accomplished on foot by climbing its long, narrow eastern ridges above Huntington Creek, or by climbing the western slopes in the vicinity of Upper Joes Valley and Flat Canyon. Prehistoric access to the plateau was probably predominantly accomplished on those slopes since the steepness and the frequent sandstone cliffs along the southwestern, southern, and southeastern slopes probably discouraged easy movement between and higher meadows and Castle Valley.

As an aid to determining the extent and location of presently known prehistoric sites distributed in the area, a records search was carried out involving files of the Antiquities Section of the

Division of State History and files of the Environmental Research Section of Utah Power & Light Company. As a result of these file checks, known prehistoric sites within the East Mountain area can be categorized into three sets, i.e., lower elevation sites located between 5,800 and 7,200 feet, middle elevation sites located between 7,200 and 9,000 feet, and higher elevation sites located above 9,000 feet.

Existing records and current research have demonstrated that prehistoric human activity in the area has diminished as elevation is increased. Newly discovered sites along Grimes Creek, the sites found adjacent to the new Huntington Power Plant and site 42Em176 near the mouth of Huntington Canyon can all be considered as falling in the lower elevation category and are predominantly within the pinion-juniper ecosystem. In 1971, Raymond Matheny's field crews identified a number of archeological sites in Huntington Canyon which have since been covered by the Huntington Reservoir. Those sites and site 42Em722 in Crandall Canyon can all qualify as falling within the second and middle elevation category which consists primarily of the montane ecosystem.

The higher elevation category which involves the upper montane and sub-alpine ecosystems includes only one known site, 42Em721, which is located on Trail Mountain to the west of East Mountain. This site and the majority of sites situated in the middle elevations consist of lithic fragment scatters having low to marginal significance in National Register terms. In contrast, the sites found in the lower elevation zone are not only more abundant,

but often are of greater significance, having been the foci of year-round habitation related activities.

During past years archeological sweeps (surveys) were limited to planned exploration disturbances.

In 1977, public law 95-87 was enacted. Regulations promulgated under this act expanded environmental requirements for permitting coal mines.

One such requirement was to broaden cultural resource information above underground mining activities.

A 15 percent random survey was conducted during the summer of 1980 and the report of the survey is included in the Mining and Reclamation Plan.

Archeological information pertaining to the current project will be provided prior to initiation of exploration activities.

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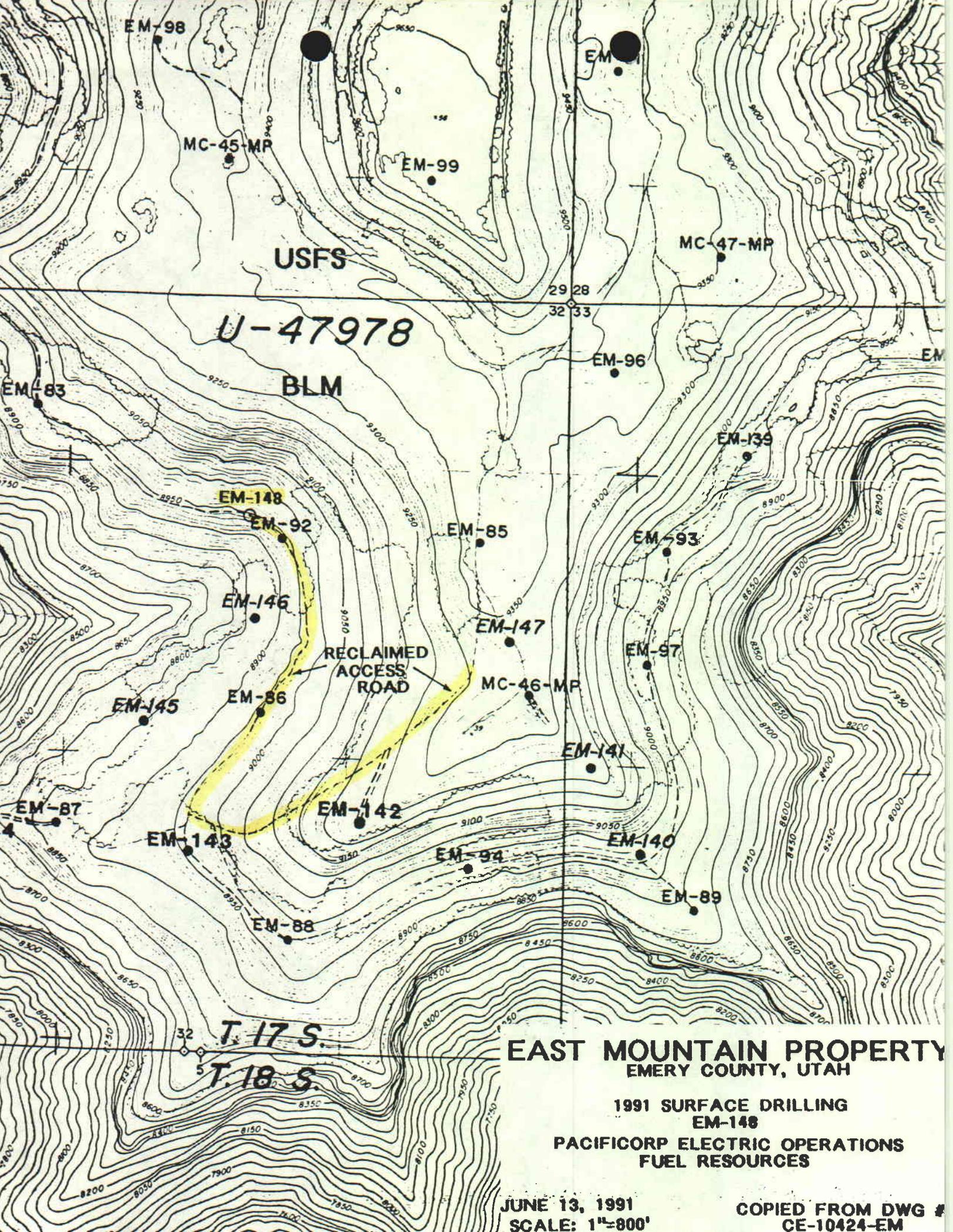
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U-47978

USFS

BLM

RECLAIMED ACCESS ROAD

EAST MOUNTAIN PROPERTY
EMERY COUNTY, UTAH

1991 SURFACE DRILLING
EM-148

PACIFICORP ELECTRIC OPERATIONS
FUEL RESOURCES

JUNE 13, 1991
SCALE: 1"=800'

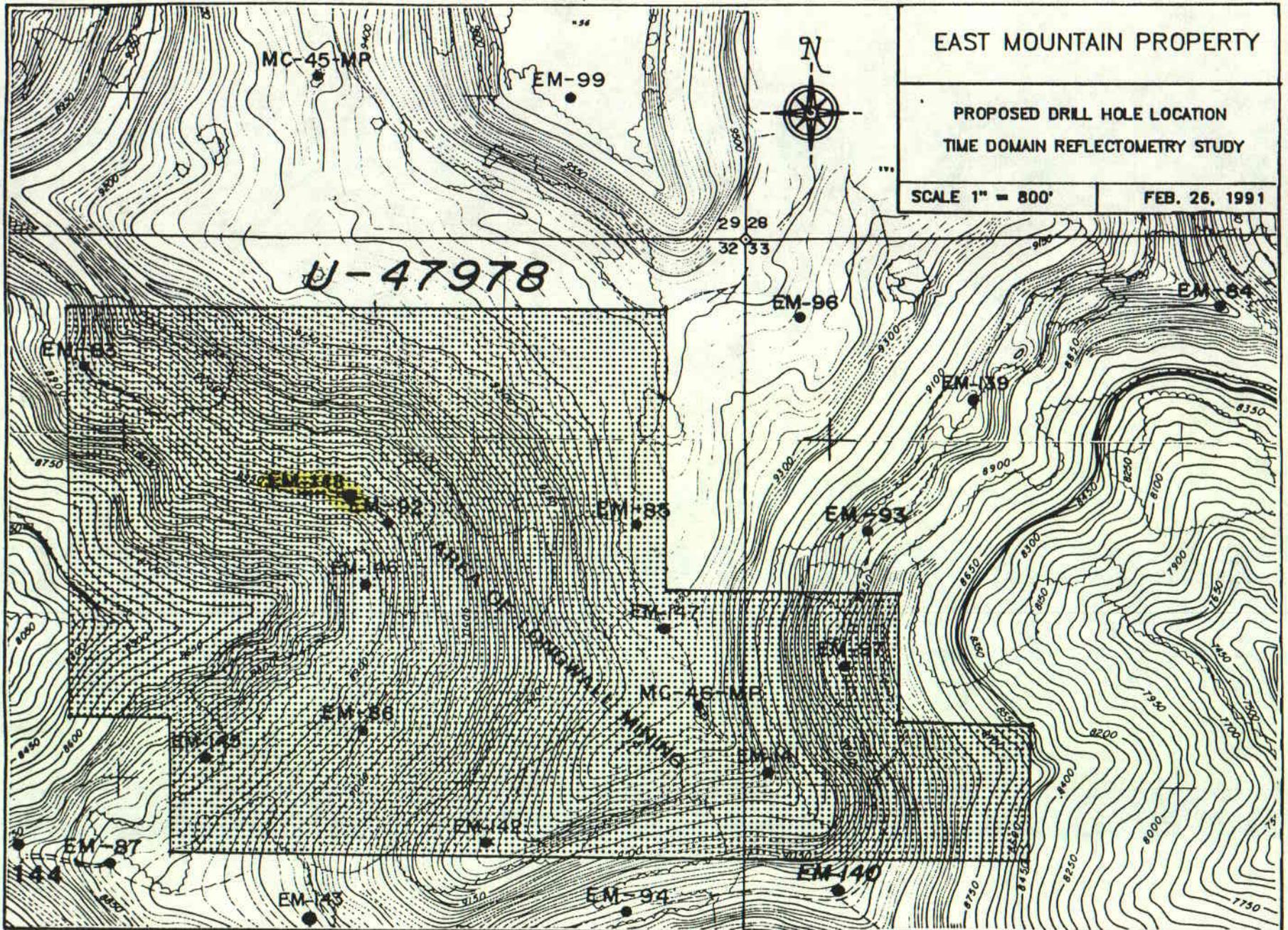
COPIED FROM DWG #
CE-10424-EM

EAST MOUNTAIN PROPERTY

PROPOSED DRILL HOLE LOCATION
TIME DOMAIN REFLECTOMETRY STUDY

SCALE 1" = 800'

FEB. 26, 1991





355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

April 19, 1988

TO: John Whitehead, Permit Supervisor
FROM: Brent Stettler, Reclamation Biologist *Boent*
RE: Revegetation Seed Mix for Coal Exploration, 1988 East Mountain Project, Utah Power and Light Company, CEP/015/033-87A, Emery County, Utah

I was asked to resolve the conflict between the seed mixes recommended by the Division and Bureau of Land Management (BLM) for this Utah Power and Light Company (UP&L) project. I consulted with Merv Miles of the BLM office responsible for Natural Resource Surface Protection in Emery County.

I also called Ray Christensen about the agreed-upon seed mix. He stated that a revised permit, including additional drill hole locations, had just been mailed. The revised permit included the seed mix recommended by the BLM in 1981 and reiterated in correspondence dated March 21, 1988. Ray did not think there would be a problem with changing the seed mix as part of the review process.

The following seed mix is approved for use in reclaiming drill holes EM-68 and EM-139 (T17S, R7E, sections 8 and 33 respectively). The mix may be suitable for the new drill hole locations as well.

<u>Common Name</u>	<u>Scientific Name</u>	<u>lbs/acre PLS</u>	<u>PLS/ft²</u>
Thickspike Wheatgrass	<u>Agropyron dasytachyum</u>	8	28
Mountain Brome	<u>Bromus marginatus</u>	8	23
Yellow Sweetclover	<u>Mellilotus officinalis</u>	4	24
Louisiana Sagewort	<u>Artemisia ludoviciana</u>	.2	20

Justification: UMC 815.15(f)(1-2) Requires prompt re-establishment of vegetative cover and recovery of productivity, using the same seasonal varieties native to the disturbed area. Prompt cover re-establishment, soil stabilization, and initial productivity will be provided by the forbs. Grasses will take over in the long-term. The seed mix consists of three native and one introduced species. The introduced species, yellow sweetclover, is non-persistent. Rate of seeding is heavy to compensate for broadcast seeding, and to assure adequate soil protection. Natural invasion of reclaimed areas is expected to enhance diversity.

djh
cc: R. Christensen, UP&L
J. W. Dryden, BLM
1369R/21

ATTACHMENT 1

COAL/TAR SAND EXPLORATION DRILLING STIPULATIONS

1. The BLM Area Manager shall be notified 48 hours prior to start and completion of the program.
2. The lessee/licensee is responsible to see that all personnel contracted or otherwise doing work on the exploration program are aware of these approval requirements and abide by all regulations and stipulations governing this program. Any changes to the approved exploration plan must receive approval from the Area Manager prior to implementation.
3. When artesian flows or water horizons with possible development potential are encountered, the BLM Area Manager shall be notified immediately so that a determination may be made concerning their development potential. When possible, water samples shall be collected by the operator for analysis by the BLM. A written report is required upon completion of exploration as noted by Stipulation 9 H.
4. Upon completion of down-hole procedures, all drill holes shall be properly sealed from the bottom to the collar. Any variance from the procedures itemized below must be approved by the Area Manager.
 - A. Drill holes in coal deposits amenable to underground mining must be cemented from the bottom of the hole to at least 50 feet above the highest minable coal bed (4 feet thick or more) or aquifer.
 - B. The remainder of the hole to within 5 feet of the surface may be filled with a gel rather than cement which meets or exceeds the following standards:
 - 1) Ten-minute gel strength of 20 pounds/100 square feet.
 - 2) Filtrate volume should measure 13.5 cc on an API standard filter test.
 - 3) The marsh funnel viscosity should be a minimum of 50 seconds.
 - C. The 5-foot void at the surface will be plugged with cement except as required in stipulation #7.
5. Drill holes in tar sand deposits may be plugged with cement or plugging gels. Gels must meet the specifications identified in 4 B above. The 5-foot surface plug would still apply. Cementing aquifers would also be applicable as above.
6. If adverse downhole conditions prevent a completed drill hole from being properly plugged after attempting all standard industry plugging procedures, the Area Manager will be contacted immediately to make a determination as to a final plugging method.

7. The hole location is to be marked by placing an approved marker made of galvanized steel, brass, aluminum or similar non-corrosive metal in the concrete plug. Such markers are to show hole number, year drilled, lessee/licensee name, and as feasible, the section, township, and range in which the hole is located. Top of concrete plug, if located in cultivated field, must be set below normal plow depth (10 to 12 inches). In noncultivated areas, all marker caps should not protrude above the ground level.

8. The Area Manager shall be notified as to the time when the first hole is to be plugged so that a representative of the BLM may arrange to observe the plugging procedure. Subsequent observations of other holes being plugged will be arranged as appropriate.

9. Upon completion of exploration activities, a report as required by 43 CFR 3485.1 (formerly 30 CFR 211.62) shall be submitted to the Moab District Office. The report at a minimum must contain the following:

A. Location(s) and serial number(s) of lands under Federal lease or license on which exploration was conducted.

B. A description of the completed exploration operations that includes the number of holes drilled, total depth of each hole, and completion date of each hole.

C. A map showing the locations of all holes drilled, other excavations, and the coal or tar sand outcrop lines as appropriate. The scale of the map shall not be less than 1 inch equals 1 mile.

D. Analysis of coal or tar sand samples and other pertinent tests obtained from exploration operations.

E. Copies of all in-hole mechanical or geophysical stratigraphic surveys or logs, such as electric logs, gamma ray-neutron logs, sonic logs, or any other logs. The records shall include a lithologic log of all strata penetrated and conditions encountered such as water, gas or any unusual conditions.

F. Status of reclamation of the disturbed areas.

G. Any other information requested by the District Manager.

H. Hydrologic reports using the attached form.

10. An individual lease or license bond in an amount to be determined by the Area Manager shall have been filed with the proper office before commencement of exploration activities. The bond shall be used as required to cover costs incurred by the BLM to correct any violation of this program.

REPORT OF WATER OBSERVED

Company: _____ Lease/License Number: _____

Address: _____ Drill Hole Number: _____

_____ Date Completed: _____

_____ Total Depth: _____

Company Contact: _____

Phone Number: _____

Drilling Contractor: _____

Address: _____

Company Contact: _____

Phone Number: _____

Location of Hole: T. ___ S., R. ___ E., SLB&M, Section. ___: ___ 1/4 ___ 1/4 ___ 1/4

Collar Elevation of Hole: _____ Hole Diameter: _____

Drilling Method/Medium: _____

Static Water Level: _____

Acquifer #1

Depth below Collar Elevation: _____ Formation: _____

Rock Type: _____ Yield(GPM): _____

Date Reported to BLM: * _____ Requirements of BLM: * _____

_____ Water Sample Provided to BLM? _____

Acquifer #2

Depth below Collar Elevation: _____ Formation: _____

Rock Type: _____ Yield(GPM): _____

Date Reported to BLM: * _____ Requirements of BLM: * _____

_____ Water Sample Provided to BLM? _____

* Refer to Stipulation Number 3

Moab District
San Rafael Resource Area
P. O. Drawer AB
Price, Utah 84501

September 14, 1981

Memorandum

To: District Mining Supervisor, USGS, Salt Lake City, Utah

From: Area Manager, San Rafael

Subject: Reclamation Recommendations for Utah Power and Light Company
Drilling Program on Coal Lease U-47978

A field inspection was conducted on August 12, 1981 by Stephen Falk and Joe Hirschi, USGS; Dale Wilson, Utah Power and Light Company; and Merv Miles and Neil Simmons, BLM, for the purpose of assessing the drill sites and access roads of Utah Power and Light Company's exploration program.

The following are our recommendations and stipulations:

1. Utah Power and Light Company will notify the Authorized Officer at least ten days in advance of their intent to commence any field operations.
2. Utah Power and Light Company will be held responsible for compliance and paleontological values. Prior to entry upon the land to conduct surface disturbance activities, a complete inventory of all cultural and paleontological values of the area to be impacted will be required by the Authorized Officer. The survey will be completed by a qualified professional approved by the Authorized Officer. An acceptable report of the results and information of the survey will be provided to the Authorized Officer. If any cultural values are observed during operations, they will be left intact and the Authorized Officer surface management agency notified. The permittee will be required to take such measures as deemed necessary to preserve or avoid destruction of antiquities. This may include an intensive survey and salvage of artifacts, relocation of proposed facilities or other protective measures deemed necessary by the Authorized Officer to facilitate protection. All costs of the survey and salvage of artifacts will be borne by the permittee and all objects of antiquity salvaged will remain under the jurisdiction of the United States Government.
3. Utah Power and Light Company will comply with all applicable State and Federal laws and regulations pertaining to air quality. The air quality will be maintained at an acceptable level that does not degrade the aesthetics, cause environmental deterioration or create health and safety hazards. The

permittee will be required to employ such practices or follow such procedures as determined necessary to maintain air quality standards and control all potential air pollutants resulting from the operation of the permit.

4. Utah Power and Light Company shall provide the necessary dust control measures to suppress air pollutants resulting from construction or operation on all roads and pads and other actions or functions that could cause degradation of air quality.
5. Utah Power and Light Company will comply with all applicable State and Federal laws and regulations pertaining to water quality. Present water quality shall be maintained at present levels or to standards which meet or exceed the greater of State and Federal requirements. The permittee shall not permit toxic chemicals, metals, pesticide, untreated human and animal waste, thermal pollution or permit excessive sedimentation and floating debris to cause degradation of water quality. Pollution, channeling or any erosion or degradation of lands, water quality, streams, lakes, or domestic livestock water will not be allowed.
6. All garbage and foreign debris will be removed to an authorized dump site at least weekly or as otherwise specified. All access routes and areas of use will be kept clean of all garbage and foreign debris. Sanitary facilities for all solid and liquid waste disposal will meet all State, Federal, and local codes and regulations. All areas of use will be kept clean and free of debris. The area shall be maintained in a neat appearing condition at all times, consistent with the operation.
7. All survey monuments, witness corners, reference monuments and bearing trees must be protected against destruction, obliteration or damage. Any damaged or obliterated markers must be reestablished at the permittee's expense, in accordance with accepted BLM survey practices as set forth in the Manual of Surveying Instructions. A complete record of the monumentation and the methods used in reestablishment will be furnished to the Chief, Branch of Cadastral Survey at the appropriate State Director's Office, BLM.
8. All existing improvements, including but not limited to, fences, gates, cattle guards, roads, trails, pipelines, bridges, water developments, campgrounds or other improvements placed on public lands shall not be disturbed unless authorized by the Authorized Officer. Where disturbance or use is made of such facilities, they shall be left in their original or better condition. Damaged or destroyed improvements shall be replaced, restored or appropriately compensated for at the discretion of the Authorized Officer.

9. Where possible, existing roads and trails are to be utilized. Access across short distances of public land where no trail exists and requiring no improvements shall be identified and flagged by BLM following an inspection.
10. Roads shall be constructed in accordance with class III road specifications and maintained in such a condition so as to control and minimize channeling and other erosion problems. Drainage crossings shall be made only at locations approved or designated by the Authorized Officer. The Authorized Officer may set such standards that are deemed necessary to minimize disruption of the surface resources and/or maintain the reclamation potential. All proposed designs shall be submitted to and approved by the Authorized Officer prior to construction.
11. Portable mud pits may be used when necessary. Where excavated mud pits are required to maintain circulation, these pits will be constructed so as not to allow seepage or drainage of drilling fluids into surrounding drainages. After completion of drilling activities, these mud pits will be filled in, drill cuttings will be dispersed or buried, and all areas disturbed during the drilling activity will be returned to the original ground contours.
12. All surface damages which would result in accelerated soil movement and potential air and water degradation shall be corrected. Those areas not required for the continued operation of the permit shall be reclaimed upon termination of the construction activities or the surface use of any part of a site. The permittee shall employ such practices as deemed necessary by the Authorized Officer to prevent the loss of soil and the sedimentation of drainages.
13. Disturbance of drainage ways and high erosion hazard areas shall be kept to a minimum. Drainages shall not be blocked nor shall the permittee cause, through his operations, the siltation or accumulation of debris in the drainage channels. All damages to drainages resulting from the operations of the permittee shall be corrected to the satisfaction of the Authorized Officer.
14. All access to drill sites will be prohibited when roads and soil material are in a muddy or soft condition.
15. The Authorized Officer shall approve or may prescribe such construction and rehabilitation methods and practices as determined to achieve desired reclamation results. Reclamation is critically site specific; therefore, such prescription as issued by the Authorized Officer may include determination of the final topography, drainage system, revegetation methods, seed mixtures, soil treatments and amendments, water control device, segregation of spoil materials, surface manipulations,

waste disposal and other practices deemed necessary to successfully rehabilitate disturbed areas.

16. The topsoil shall be stripped from areas where soil disturbance is necessary and stockpiled in such a manner and place that will allow easy restoration to the disturbed area. The topsoil will be returned to these areas, including road cuts and fills that are not required for the continued basic operation of the permit.

17. Except for solid rock faces, those areas disturbed by operations conducted by the permittee shall be graded to a natural contour and revegetated when their use is no longer required by the permittee. Final grading of backfill areas, waste piles, and other unconsolidated materials shall be so performed so as to present a surface susceptible to revegetation and to a desired land form. All areas shall be reseeded with a mixture of grasses at a rate of 18 pounds per acre. The disturbed surface should be roughened and seeded with a drill. If a drill is not available, the seeding mixture shall be broadcast, then lightly harrowed into the soil. The seed should be no more than 1/2 inch below the soil surface. The following seed mixture should be used:

	<u>Rate lbs/acre</u>
Intermediate wheat	8 lbs
Smooth Brome	6 lbs
Yellow sweet clover	4 lbs

Seeding shall be accomplished between October 15 and November 15 following completion of the drilling program and shall be repeated for a period of five consecutive years or until a satisfactory stand of vegetation is obtained that is acceptable to the Authorized Officer.

18. All drill holes will be plugged and abandoned according to USGS specifications.

19. Utah Power and Light Company shall ensure that full compliance with the stipulations is made by all persons acting in his behalf, including operators, and by all employees, agents, contractors, sub-contractors and employees of contractors or sub-contractors. Copies of the stipulations will be available at operating sites and will be made known to all on-the-ground construction and operating personnel.

/s/ Samuel R. Rowley

ROAD USE PERMIT
(re: FSM 7731.44)

Authority:

Acts of 6/30/48, 4/24/50, 6/12/60,
10/14/64, and 10/21/76 (16 USC 498,
572, 530, and 532-38; and 43 USC 1702,
1761, 1764, and 1765).

UTAH POWER & LIGHT COMPANY

of

P.O. Box 899
Salt Lake City, Utah 84110

(Name)

(Address and ZIP Code)

(hereafter called the permittee) is hereby granted use of the following road(s) or road segments: (See map attached)

Forest Road No. 50040 (Cottonwood Road) from State Highway 29 northward 7.7 miles to the junction with FDR No. 50060 (East Mountain Road), then southeasterly for 8.0 miles on the East Mountain Road. FDR No. 50189 (Deer Creek) 1.4 miles westward from its junction with FDR No. 50060.

FDR No. 50113 (South East Mountain) southward 1.6 miles from its junction with FDR 50060. FDR No. 50143 (Roams Canyon) from its junction with FDR No. 50060, 0.8 miles westward. FDR No. 50145 (Flat Canyon) 0.3 miles eastward from its jct. with FDR No. 50060 and 50143,

on the Manti-LaSal National Forest, subject to the provisions of this permit, including clauses 1 through 13, on page(s) 1 through 4 for the purpose of transporting personnel, drilling equipment, material and supplies for coal exploratory drilling on East Mountain.

The exercise of any of the privileges granted in this permit constitutes acceptance of all the conditions of the permit.

1. Compliance with Laws, Regulations, and Rules Governing Use. The permittee, in exercising the privileges granted by this permit, shall comply with the regulations of the Department of Agriculture and all Federal, State, County, and Municipal laws, ordinances, or regulations which are applicable to the area or operations covered by this permit. The permittee, its agents, employees, contractors, employees of contractors, and guests of the permittee shall comply with the rules and regulations prescribed by the Forest Service for the control and safety in the use of the road and to avoid damage to the road. Such rules and regulations shall include:
 - a. Closing the road or restricting the use when required by any government agency which, by law, has jurisdiction to authorize such closing or restrictions.
 - b. Upon reasonable notice closing the road during periods when, in Forest Service judgment, there is extraordinary fire or avalanche danger.
 - c. Traffic controls which, in the judgment of the Forest Service, are required for the safe and effective use of the road by authorized users thereof.
 - (1) Maintain safe speeds commensurate with existing conditions.

This permit is accepted subject to all of its terms and conditions.

ACCEPTED	Permittee (Name and Signature) <i>D. L. Bryner</i> D. L. Bryner Senior Vice President	Date 4-16-84
	Issuing Officer (Name and Signature) Title <i>William G. Boley</i> Acting Forest Supervisor	Date 4/26/84

d. The permittee shall not use chemical poison, as defined in Section 2 of the Federal Insecticide, Fungicide, and Rodenticide Act of June 25, 1945, as amended (61 Stat. 163; 73 Stat. 286; 75 Stat. 18; 75 Stat. 190), or any chemical or other road surface treatment without the approval of the Regional Forester or his designated representative. The application for approval shall be in writing and shall specify the area to be treated, the material used in the treatment, and the time, rate, and method of application.

2. Use Nonexclusive. The privileges granted in this road use permit, including use when the road is closed to public use, is not exclusive. The Forest Service may use the road and authorize others to use the road at any and all times. The permittee shall use the road in such a manner as will not unreasonably or unnecessarily interfere with the use thereof, by other authorized persons including the Forest Service.

3. Use Plans. Prior to use each year this permit is in effect, the permittee shall notify the District Ranger John Niebergall 98 South Main St., Ferron, Utah 84523, telephone No. 801-384-2372 in writing of the date and approximate time when such use will commence; the anticipated duration of such use, the names and addresses of permittee's contractors or agents who will use the road on behalf of the permittee, the estimated extent of use, purpose of use, and such other information relative to permittee's anticipated use as the Forest Service may from time to time reasonably request. When there is a significant change in use by the permittee, it is the permittee's responsibility to promptly notify the District Ranger in writing. Plans and changes will be approved by the Forest Supervisor before use may commence. If operations go into the wet season, the requirements in the Transportation Engineering Report of the Environmental Assessment shall be adhered to.

Operation of equipment is not desirable on these roads when wet surface or saturated subgrade conditions would cause excessive damage. A sustained winter operation is prohibited, and snow removal is to be done only on an emergency basis unless specifically approved. Where emergency access by the permittee is required during periods when excessive damage will occur, the permittee will promptly repair the damage.

4. Maintenance. The permittee shall bear the expense of maintenance proportionate to his use. ~~This expense will be borne by the permittee, its agents, operators, and/or contractors.~~ The Forest Service will make a determination of the proportionate road use and resulting road maintenance responsibilities and assign the maintenance accordingly.

Where road maintenance standards required by the permittee are above those required by the Forest Service, the permittee shall bear the total incremental cost of maintaining the road to the higher standard.

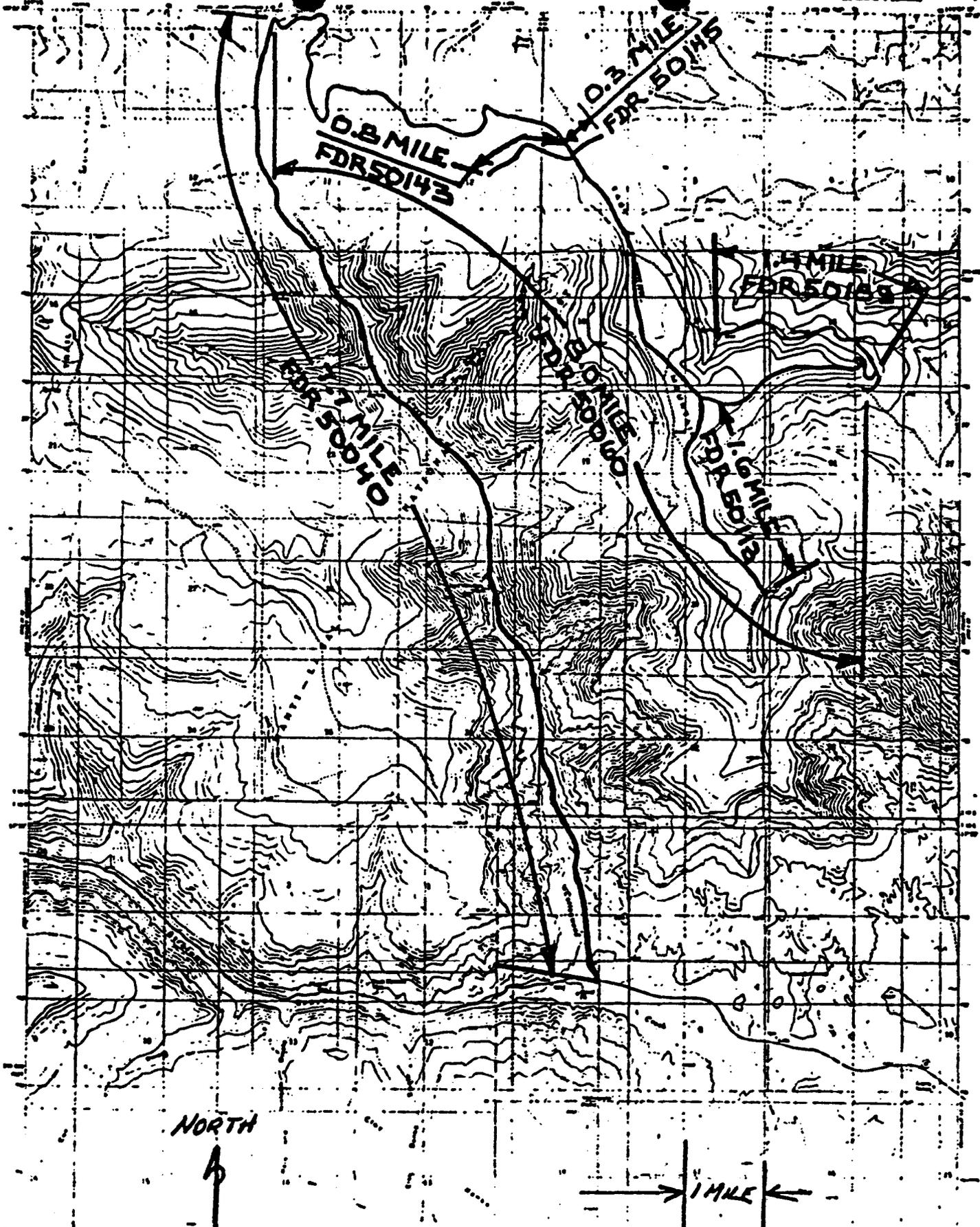
Maintenance shall be performed in accordance with Forest Service specifications or requirements for maintenance as hereinafter listed, or as may be mutually agreed upon from time to time and shall consist of (1) current

maintenance as necessary to preserve, repair, and protect the roadbed, surface and all structures and appurtenances, and (2) resurfacing equivalent in extent to the wear and loss of surfacing caused by operations authorized by this permit.

- a. Maintenance and Resurfacing Requirements and Specifications. Exhibit I, attached, specifies these requirements and shall be adhered to.
5. Performance Bond. In the event the permittee is to perform his proportionate share of road maintenance, road resurfacing, or betterment, as determined and within time periods established by the Forest Supervisor, the Forest Service may require as a further guarantee of the faithful performance of such work that the permittee furnish and maintain a surety bond satisfactory to the Forest Service in the sum of Ten Thousand dollars (\$ 10,000), or in lieu of a surety bond, deposit into a Federal depository, as directed by the Forest Service, and maintain therein cash in the sum of Ten Thousand dollars (\$ 10,000), or negotiable securities of the United States having market value at the time of deposit of not less than Ten Thousand dollars (\$ 10,000). As soon as security for the performance of road maintenance (and betterment) requirements or the settlement of claims incident thereto is completed, unencumbered cash guarantees or negotiable securities deposited in lieu of surety bond will be returned to the permittee.
6. Fire Prevention and Suppression. The permittee shall take all reasonable precautions to prevent and suppress Forest fires. No material shall be disposed of by burning in open fires during the closed fire season established by law or regulation, without a written permit from the Forest Service.
7. Damages. The permittee shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this permit, and shall promptly repair or upon demand, pay the United States for any damage resulting from negligence, or from violation of the terms of this permit or of any law or regulation applicable to the National Forests, by the permittee, or by his agents, contractors, or employees of the permittee acting within the scope of their agency, contract, or employment.
8. Officials Not to Benefit. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise herefrom unless it is made with a corporation for its general benefit.
9. Outstanding Rights. This permit is subject to all outstanding rights.
10. Suspension. Upon the failure of the permittee, its agents, employees or contractors to comply with any of the requirements of this permit, the officer issuing the permit may suspend operations in pursuance of this permit.

11. Termination. This permit shall terminate when work on this drilling project (described in the Environmental Assessment approved April 2, 1984) has been completed. It may be terminated upon breach of any condition herein.
12. The Environmental Assessment prepared for this project is hereby made a provision of this permit.
13. Any 10-wheel vehicle or larger will not be permitted to use the Forest Development Roads from September 30 to October 10, and from October 20 to October 24.

A pilot car is to proceed any vehicle 10-wheel or larger for the duration of the drilling program.



NORTH
↑

1 MILE
← →

MAINTENANCE REQUIREMENTS

EXHIBIT I

Road Maintenance. Road maintenance is defined as the performance of work on the entire road facility commensurate with Permittee's use. This work consists of restoration and preservation of surface, shoulders, roadsides, structures, drainage, sight distance, and such traffic control devices as are necessary for prevention of excessive erosion damage to the facility and adjacent lands.

I. Description. Maintenance work to be done currently during the periods of use by the Permittee shall include:

- A. Removal of slides and boulders, which obstruct safe sight distance.
- B. Adequate blading and shaping of roadway surfaces, ditches, and grade dips to maintain the original cross sections.
- C. Removal of earth and debris from ditches and culverts so that the drainage systems will function efficiently at all times.
- D. Prevention of excessive dusting of road surface materials.
- E. Repair of damages to fences, cattleguards, culverts, and other roadway structures including traffic regulatory and directional signs.
- F. Restoration of eroded fills and repair and protection of shoulder berms, berm outlets, stabilized waterways, vegetated slopes, and other erosion control features.
- G. Replacement of roadway and/or surfacing material worn out and lost through use of the roadway.

II. Performance. All items of maintenance work shall be done currently as necessary to insure safe, efficient transportation and to protect roads, streams, and adjacent lands from excessive damage. Work shall be done in accordance with the following minimum standards of performance:

- A. Removal of Material. Earth, rocks, trees, brush, and debris removed from roadways and ditches shall not be deposited in stream channels or upon slope stabilization and erosion control features.

- B. During roadway blading and shaping operations, banks shall not be undercut nor shall gravel or other selected surfacing material be bladed off the roadway surface. The original crown or slope of the road shall be preserved. Mud, debris, and oversize material shall be deposited outside the roadway by hand or by careful blading, and these materials shall not be mixed with the road surfacing material.
- C. Ditches, culverts, drop inlets, trash racks, downspouts, and splatter structures shall be kept clear of earth, slash, and other debris so that drainage systems will function efficiently during, and immediately following, periods of road use by Permittees. This includes correcting and eliminating causes of erosion or plugging of the structure, and actual repair of the structure and riprap if damaged.
- D. Fugitive dust shall be controlled to prevent hazardous driving conditions or loss of road surface or binder material. The Permittee shall control such dusting by sprinkling, or other approved surface treatments.
- E. Permittee shall promptly repair all damages, caused by the Permittee's operations, to the road surface or to any structures in or adjacent to the roadways.
- F. Any washing or settling of roadway fills shall be corrected promptly to prevent additional soil erosion or roadway damage. Shoulder berms, berm outlets, and stabilized waterways shall be protected during road maintenance operations and, if damaged, such structures shall be promptly restored to their original condition including repair and reseeding of vegetation established to control slope erosion. No earth, rocks, or other debris shall be deposited upon any roadside slope stabilization structure or feature.
- G. Final inspection will be made to check for full compliance and damages.