

**Application**  
**for**  
**Incidental Boundary Change**

May 1995

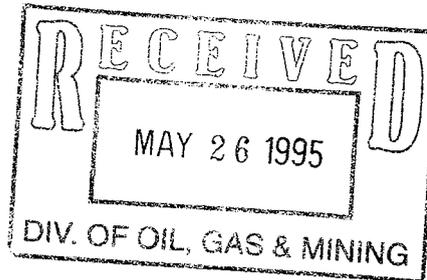
PacifiCorp  
One Utah Center  
201 South Main, Suite 2100  
Salt Lake City, Utah 84140-0021

Deer Creek Mine  
ACT/015/018

Energy West Mining Company  
15 North Main Street  
Huntington, Utah 84518



May 24, 1995



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

Attention: Pamela Grubaugh-Littig

95.B  
Copy Aaron PAM  
#2

**RE: APPLICATION FOR PERMIT CHANGE - INCIDENTAL BOUNDARY CHANGE,  
PACIFICORP, DEER CREEK MINE, ACT/015/018, EMERY COUNTY, UTAH**

Pursuant to R645-303-220, PacifiCorp respectfully submits this application to amend the Deer Creek Mine permit. The amendment involves an Incidental Boundary Change (IBC) to add 42.97 acres of US Forest Service land to the Deer Creek Mine permit area.

Addition of the area will facilitate mining a small portion of Federal coal which is isolated between the current Deer Creek Mine permit boundary and a major fault. This area will be bypassed if it is not mined from the Deer Creek Mine. There is no other viable or potential operation that could logically mine this area.

Underground mining will occur in the IBC area only in the Blind Canyon Seam (see Drawings CM-10894-DR and CM-10895-DR). These drawings depict the modified Resource Recovery and Protection Plan (R2P2), including reconfigured longwall panels, gateroads and main entries, as approved by the Bureau of Land Management (BLM). Information regarding the R2P2 modification is found in Exhibits 8 and 11. Following the decision of the Division, regarding the IBC, updated drawings will be submitted for inclusion as Plates 3-6 and 3-7 of the Deer Creek Mining and Reclamation Plan (MRP).

The land associated with the IBC is comprised of the following parcels:

T. 16 S., R. 6 E. SLM

Section 25 E1/2SE1/4SE1/4                      20.00 acres

T. 16 S., R. 7 E. SLM

Section 30 Lot 4                                      22.97 acres

-----  
Total acreage                                      42.97 acres

The surface owner of record of the subject property is (see Drawing CM-10521-DR):

United States of America  
Department of Agriculture  
US Forest Service  
Manti-LaSal National Forest  
599 Price River Drive  
Price, Utah 84501

The parcels are included in Federal Coal Lease U-06039 as modified May 16, 1995 (see Exhibit 13). Lease U-06039 was assigned to Utah Power and Light Company effective January 1, 1980 (see Exhibit 1).

Surface owners of record of lands adjacent to the IBC area are United States of America and State of Utah (see Drawing CM-10521-DR).

Coal Leases adjacent to the IBC area are (see Drawing CM-10522-DR):

Federal Lease U-7653  
State Lease ML-22509

Both leases are held by the applicant.

Regulations R645-303-222 through R645-303-224 allow for Incidental Boundary Changes as permit amendments if the area meets the following criteria:

1. The IBC area is less than 15% of the surface or subsurface disturbed area under the approved permit (R645-303-224.100);
2. The IBC area is in the cumulative impact area as defined in the Cumulative Hydrologic Impact Assessment (R645-303-224.200);
3. The IBC area is in the same hydrologic basin as operations authorized in the approved permit (R645-303-224.300);

As previously stated, underground mining will occur in the IBC area, only in the Blind Canyon Seam of the Deer Creek Mine. Approximately 100,000 tons of coal will be recovered from both entry development and longwall extraction. The associated subsurface disturbance will be approximately seven (7) acres. Approximately six (6) acres will be associated with entry development and approximately one (1) acre will be associated with longwall extraction. The current subsurface disturbed area at the Deer Creek Mine exceeds 4,000 acres; therefore, the total IBC area of 42.97 acres equates to approximately 1% of the subsurface disturbed area. The estimated seven acres of subsurface disturbed area in the IBC equates to approximately 0.18% of the current subsurface disturbed area. No surface disturbance is expected within the IBC area. Therefore, criterion number 1 is met.

The IBC is within the area covered by the Cumulative Hydrologic Impact Assessment prepared for the Deer Creek Mine and mining within the IBC is within the hydrologic basin for which operations are authorized in the approved permit. Additionally, the IBC area is included in the

current PacifiCorp hydrologic monitoring program conducted at the Deer creek Mine. Therefore, criteria 2 and 3 are met.

Mining in the IBC area will help to maximize recovery of the coal resource by avoiding the creation of a bypass situation. Additionally, information about the Mill Fork Canyon Fault may be gained from this area.

Enclosed are twelve (12) copies of the following drawings:

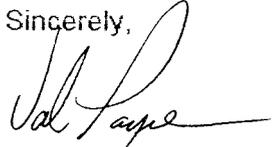
<u>DRAWING NO.</u>	<u>TITLE</u>
CM-10522-DR	Coal Ownership Map of the Deer Creek Mine Permit Area
CM-10521-DR	Surface Ownership Map of the Deer Creek Mine Permit Area
CM-10367-DR	Deer Creek Mine Permit Area Map
CM-10894-DR	Deer Creek Mine Life of Mine Plan, Blind Canyon Coal Seam
CM-10895-DR	Deer Creek Mine Life of Mine Plan, Hiawatha Coal Seam

Additionally, the following Exhibits are provided to assist in the Division's review of the application.

<u>EXHIBIT NO.</u>	<u>SUBJECT</u>
1	Assignment of Coal Lease U-06039 12/13/79
2	USFS Decision Notice / FONSI / Consent to Readjustment of Lease U-06039 5/21/92
3	Readjustment of Lease U-06039, Effective 5/1/93
4	USFS Decision Notice / FONSI / Environmental Assessment for Deer Creek Mine Rilda Canyon Lease Extension 9/27/94
5	BLM Approval of Rilda Canyon Lease Extension and mining under escarpment 12/6/94
6	DOGM Permit ACT/015/018 Deer Creek Mine to Include Rilda Canyon Lease Extension 10/27/94
7	DOI/OSM Deer Creek Mining Plan Approval for Rilda Canyon Lease Extension 12/22/94
8	Deer Creek Mine R2P2 Modification Request 12/5/94
9	Information to USFS, R2P2 Modification Request and Ground Stability Analysis for the Area West of Deer Creek Mine Third North "B" Mains 12/12/94
10	BLM Approval of R2P2 Modification Request 1/24/95
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12	USFS Legal Notice to modify Lease U-06039 to include 42.97 additional acres 3/28/95
13	BLM Approval of Modification of Lease U-06039 5/16/95
14	Archeological Report for Rilda Lease Tract - AERC Paper No. 46, October 1990
15	Archeological Report for Rilda Canyon Escarpment - AERC Project 1444, August 5, 1994

The Division's immediate attention to this application is greatly appreciated. If additional information is required, please call me at (801)687-4722.

Sincerely,

A handwritten signature in black ink, appearing to read "Val Payne", with a long horizontal flourish extending to the right.

Val Payne  
Sr. Environmental Engineer

cc: S. Child w/ enclosure  
M. Moon w/o enclosure  
B. Webster w/ enclosure  
File

# APPLICATION FOR PERMIT CHANGE

Title of Change:  <div style="text-align: center; font-family: cursive; font-size: 1.2em;">INCIDENTAL BOUNDARY CHANGE</div>	Permit Number: <i>ACT1 0151018</i> <hr/> Mine: <i>DEER CREEK</i> <hr/> Permittee: <i>PACIFICORP</i>
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Description, include reason for change and timing required to implement:  
*ADD 42.97 ACRES TO DEER CREEK PERMIT AREA TO FACILITATE MINING IN AREA BETWEEN PERMIT BOUNDARY & MILL FORK CANYON FAULT. MAXIMIZE RESOURCE RECOVERY, AVOID BYPASSING COAL RESOURCE & GAIN INFO. ON NATURE OF FAULT.*

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	1. Change in the size of the Permit Area? <u>42.97</u> acres	<input checked="" type="checkbox"/> increase <input type="checkbox"/> decrease.
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	2. Change in the size of the Disturbed Area? _____ acres	<input type="checkbox"/> increase <input type="checkbox"/> decrease.
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	4. Will permit change include operations in hydrologic basins other than currently approved?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	6. Does permit change require or include public notice publication?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	7. Permit change as a result of a Violation? Violation #	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	8. Permit change as a result of a Division Order? D.O.#	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	9. Permit change as a result of other laws or regulations? Explain:	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	10. Does permit change require or include ownership, control, right-of-entry, or compliance information?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	11. Does the permit change affect the surface landowner or change the post mining land use?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	12. Does permit change require or include collection and reporting of any baseline information?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	14. Does permit change require or include soil removal, storage or placement?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	15. Does permit change require or include vegetation monitoring, removal or revegetation activities?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	16. Does permit change require or include construction, modification, or removal of surface facilities?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	17. Does permit change require or include water monitoring, sediment or drainage control measures?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	18. Does permit change require or include certified designs, maps, or calculations?	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	19. Does permit change require or include underground design or mine sequence and timing?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	20. Does permit change require or include subsidence control or monitoring?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?	
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	23. Is this permit change coal exploration activity <input type="checkbox"/> inside <input type="checkbox"/> outside of the permit area?	

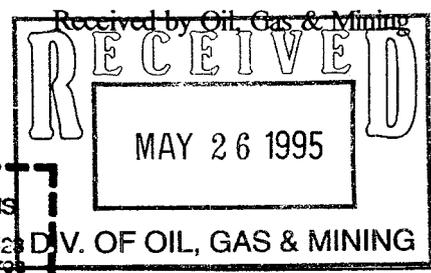
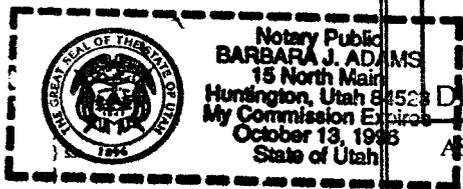
**Attach 3** complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

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

*Val E Payne*  
 Signed - Name - Position - Date  
*Val E Payne SR. ENVIRONMENTAL ENGINEER 5/26/95*

Subscribed and sworn to before me this 25 day of May, 19 95.  
*Barbara J Adams*  
 Notary Public

My Commission Expires: Oct 13, 19 96  
 Attest: STATE OF Utah  
 COUNTY OF Emery

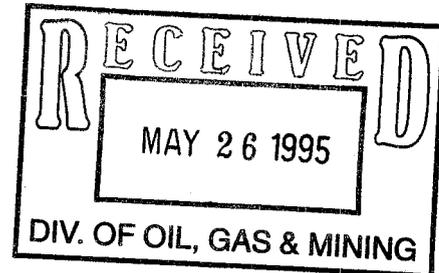


ASSIGNED PERMIT CHANGE NUMBER



May 24, 1995

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



Attention: Pamela Grubaugh-Littig

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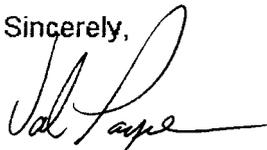
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The Division's immediate attention to this application is greatly appreciated. If additional information is required, please call me at (801)687-4722.

Sincerely,

A handwritten signature in black ink, appearing to read "Val Payne", written in a cursive style.

Val Payne  
Sr. Environmental Engineer

cc: S. Child w/ enclosure  
M. Moon w/o enclosure  
B. Webster w/ enclosure  
File

353  
SL-051  
2: 21  
(11-22)

1979  
DEC 1 3 1979

DECISION

Utah Power and Light Company	:	Coal Leases
P. O. Box 999	:	Salt Lake 051221, Utah 05039
Salt Lake City, Utah 84110	:	Utah 014275, Utah 024317,
	:	and Utah 024319

Assignments of Coal Leases Approved  
Bond Rider Accepted

On May 25, 1979, assignments of coal leases Salt Lake 051221, Utah 05039, Utah 014275, Utah 024317, and Utah 024319, entered into on May 18, 1979, between Utah Power and Light Company as assignee, and Peabody Coal Company as assignor, were filed in this office for approval.

Satisfactory evidence of the qualifications and holdings of Utah Power and Light Company is on file, and the lease accounts are in good standing. The assignments appear to meet the requirements of the regulations and are hereby approved effective January 1, 1980. Approval of the assignments does not constitute approval of any of the terms therein which may be in violation of the lease terms.

Utah Power and Light Company and its surety have also filed a rider to statewide coal bond, No. SL-6239407 which assumes the liability for the necessary reclamation required as a result of operations on the above-mentioned coal leases. The rider is satisfactory and is hereby accepted effective December 10, 1979.

/S/ L POLLUICK

Chief, Minerals Section

Enclosures  
Assignments

cc: Area Mining Supervisor (2)  
Accounts

SBradley:al:12/11/79

1-22.8  
Added 12/28/93

United States  
Department of  
Agriculture

Forest  
Service

Manti-La Sal  
National Forest

Price Ranger District  
55 West Price River Dr.  
Price, Utah 84501

Reply to: 2820

Date: May 21, 1992

Scott M. Child  
Property Management Administrator  
Val E. Payne  
Senior Environmental Engineer  
PacifiCorp, One Utah Center  
201 South Main, Suite 2100  
Salt Lake City, Ut 84140-0021

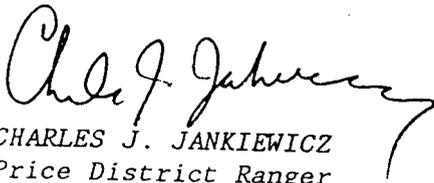


Gentlemen:

The Intermountain Regional Forester has decided to consent to the Bureau of Land Management (BLM) readjusting the terms of Federal Coal Lease U-06039. Enclosed is a copy of the associated Decision Notice/Finding of No Significant Impact with attachments for your information. The Legal Notice documenting this decision was published in the Ogden Standard Examiner on May 19, 1992.

If you have any questions, please don't hesitate to contact me or Walt Nowak of my staff at the above address or by calling 637-2817.

Sincerely,

  
CHARLES J. JANKIEWICZ  
Price District Ranger

enclosure

**DECISION NOTICE  
AND  
FINDING OF NO SIGNIFICANT IMPACT**

**FOR THE READJUSTMENT OF  
FEDERAL COAL LEASE U-06039**

**PRICE RANGER DISTRICT  
MANTI-LA SAL NATIONAL FOREST  
EMERY COUNTY, UTAH**

The Bureau of Land Management (BLM) has notified the Forest Service that Federal Coal Lease U-06039 is subject to a readjustment of terms and conditions on May 1, 1993. Pursuant to established procedures, the BLM has requested that the Forest Service conduct an environmental analysis that identifies stipulations for application to the lease since the lease lands are within the administrative boundary of the Manti-La Sal National Forest. U-06039 is leased by PacifiCorp and is located on East Mountain, at the forks of Rilda Canyon about 11 miles northwest of Huntington in Emery County, Utah (see maps in Attachment A).

Federal Coal Lease U-06039 was previously readjusted on June 1, 1979 based on the October 4, 1976 environmental analysis (EA). On February 20, 1992, a Forest Service Interdisciplinary Team met to evaluate the current proposal and initiate Project Scoping. During evaluation, the Team did not identify any new, unmitigated issues that had not been addressed in previous NEPA documentation. Two alternatives were analyzed by the I. D. Team. Alternative 1 (No Action) corresponds with the readjustment alternative addressed in the 1976 EA. Alternative 2 (Lease Readjustment) involves readjustment of the lease by BLM, incorporating appropriate Forest Service stipulations from the Forest Plan. Copies of the EA and other pertinent documents contained in the case file are available for review at the Price Ranger District and Forest Supervisors offices in Price, Utah.

Coal leasing and development are done under the authority of the following actions: the Mineral Leasing Act of 1920, as amended; the Federal Land Policy and Management Act (FLPMA) of 1976; the Surface Mining Control and Reclamation Act (SMCRA) of 1977; the Multiple Minerals Development Act of 1977; the National Environmental Policy Act of 1969 (NEPA); the Federal Coal Leasing Amendments Act of 1976, as amended; regulations: Title 43 CFR Group 3400 and Group 2800, and Title 30 CFR Group 700; and the Manti-La Sal National Forest Land and Resource Management Plan and Final Environmental Impact Statement (Forest Plan and FEIS), 1986.

It is my decision to consent to the lease readjustment through adoption of Alternative 2 subject to the application of the 18 Special Stipulations contained in Attachment C. This decision is based on public scoping, authorizing actions, and the 1976 EA which is further described in Attachment B, Environmental Analysis Summary Matrix. The readjusted lease terms will incorporate Forest Plan Special Stipulations (Appendix B, pages B-2 to B-4 and B-8): that clearly inform the lessee of specific measures that will be required; that require replacement of any lost water to maintain premining land uses; and that require repair or replacement of existing surface facilities if loss or damage occurs. Management prescriptions for the lease area emphasize timber and forage production. Mineral activities are allowed with "appropriate mitigation measures to assure continued livestock access and use"; and, where "those being authorized to conduct developments will be required to replace losses where development adversely affects long-term production or management" (Forest Plan, page III-66). Alternative 1 was evaluated and not selected as it does not provide the best protection of Federal surface resources and the stipulations are not consistent with the Forest Plan and FEIS.

This is not a major federal action that would significantly affect the quality of the human environment; therefore, an environmental impact statement is not needed. This determination was based on the consideration of a number of factors that are discussed in detail in the EA and Attachment B. The primary considerations are as follows:

1. If new surface-disturbing operations or facilities are proposed in the future, a site-specific environmental analysis will be prepared at that time. Additional stipulations may be specified as needed to protect the environment and resource uses.
2. The identified impacts from mining of the lease can be effectively mitigated to an acceptable level. The cumulative impacts are expected to be within the threshold levels established by the Forest Plan and FEIS.
3. No known prime or unique farmlands, wetlands, timber lands, or rangelands; floodplains; alluvial valley floors; cultural or significant paleontological resources; nor Threatened, Endangered, or Sensitive floral or faunal species will be impacted by readjustment of this lease. Biological Evaluations developed for this action, contain 'no effect' determinations.
4. Readjustment of this lease is consistent with the directions and decisions of the Forest Plan and FEIS.
5. Coal leasing, exploration, and development are and have historically been a part of the local economy and lifestyle.

Federal Coal Lease U-03069 should be readjusted by the Bureau of Land Management with the application of the Special Stipulations contained in Attachment C. The Forest Service consent decision can be implemented by the Bureau of Land Management after the 45-day appeal period.

This lease is not presently included in an approved mining and reclamation plan (MRP), therefore, a determination of consistency between the Special Stipulations and a MRP cannot be made. If in the future, this lease is ready for inclusion into a MRP, the Forest Service will conduct an evaluation to ensure that the MRP is consistent with the Special Stipulations.

This decision is subject to administrative review in accordance with 36 CFR 217. Any appeal of this decision must include the information required by 36 CFR 217.9 (Content of Notice of Appeal), including the reasons for appeal. Two (2) copies of the Notice of Appeal must be filed with the Chief, USDA Forest Service, P.O. Box 96090, Washington DC 20090-6090, within 45 days of the date of publication of the Notice of Decision in the Ogden Standard Examiner. This decision is also subject to administrative review in accordance with 36 CFR 251, as is the case of decisions regarding written instruments authorizing occupancy and use of National Forest System lands. Election to appeal under 36 CFR 251 precludes appeal under 36 CFR 217. Any appeal of this decision must include the information required by 36 CFR 251.90 (Content of Notice of Appeal), including the reasons for appeal and must be filed with the Chief, USDA Forest Service, P.O. Box 96090, Washington DC 20090-6090, within 45 days of the date of this decision. A copy of the Notice of Appeal must be filed simultaneously with the Regional Forester, Intermountain Region, Federal Building, 324 25th Street, Ogden, Utah 84401.

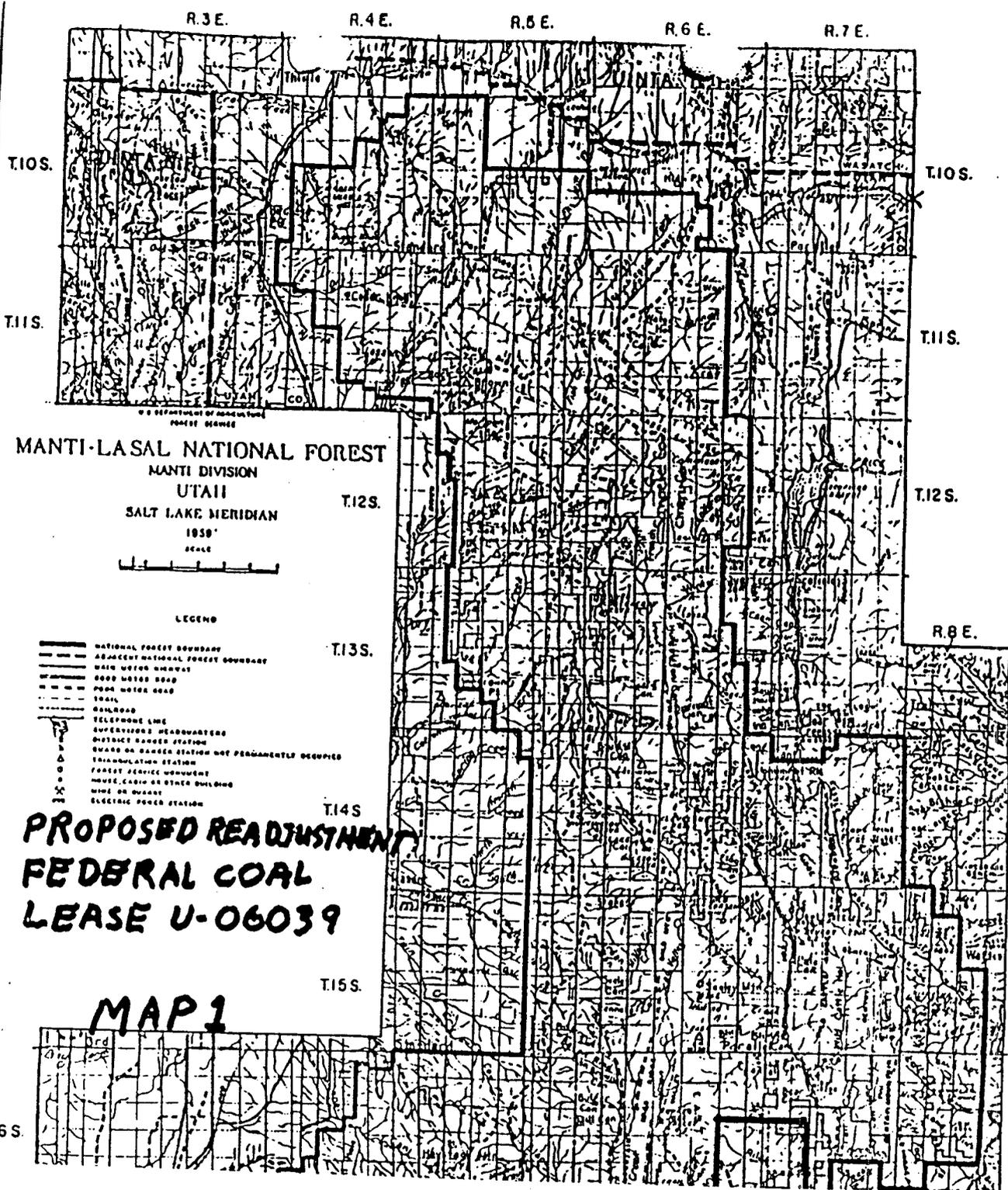
The responsible official is the Regional Forester. If you would like further information concerning this decision, contact the District Ranger, Price Ranger District, 599 West Price River Drive, Price, Utah 84501.

*GR*  
  
\_\_\_\_\_  
Gray F. Reynolds  
Regional Forester

5/15/92  
Date

ATTACHMENT A

MAPS



**MANTI-LASAL NATIONAL FOREST**

MANTI DIVISION

UTAH

SALT LAKE MERIDIAN

1859'

SCALE



**LEGEND**

- NATIONAL FOREST BOUNDARY
- - - ADJACENT NATIONAL FOREST BOUNDARY
- ROAD UNDER CONSTRUCTION
- GOOD UNIMPROVED ROAD
- - - POOR UNIMPROVED ROAD
- - - TRAIL
- RAILROAD
- TELEPHONE LINE
- SUPERVISOR'S HEADQUARTERS
- DISTRICT RANGER STATION
- GUARD OR BARRICADE STATION NOT PERMANENTLY OCCUPIED
- TRIANGULATION STATION
- FOREST SERVICE MONUMENT
- HOUSE, CABIN OR OTHER BUILDING
- WIND OR BUOYANT
- ELECTRIC POWER STATION

**PROPOSED READJUSTMENT  
FEDERAL COAL  
LEASE U-06039**

**MAP 1**

T.16S.

T.12S.

T.13S.

T.14S.

T.15S.

T.10S.

T.11S.

T.12S.

R.8E.

R.3E.

R.4E.

R.5E.

R.6E.

R.7E.

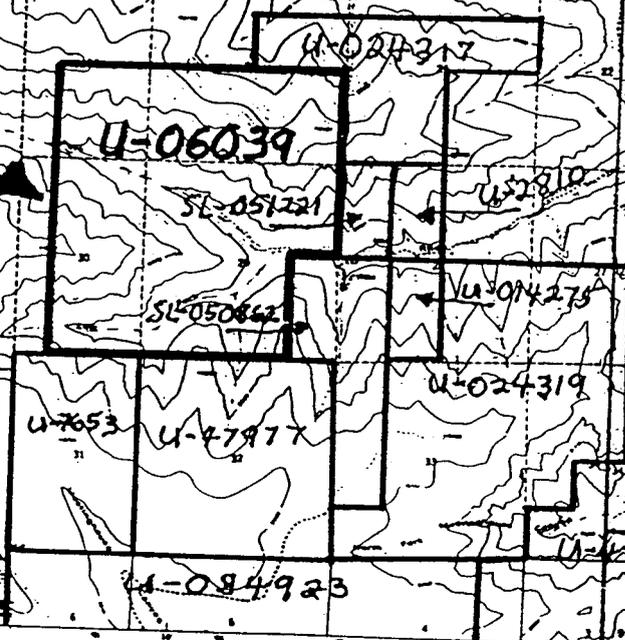
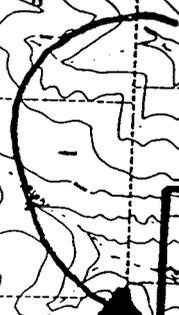
RGE RTE

RTE R8E

T15S  
T16S

T15S  
T16S

PROPOSED COAL  
LEASE READJUSTMENT



T16S  
T17S

T16S  
T17S

RTE R8E

SCALE 1:24,000

ROAD CLASSIFICATION

- Primary Highway
- State Highway
- County Highway
- Local Road
- Unimproved Road
- U.S. Road
- State Road

Revised, edited, and published by the Geological Survey  
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RILDA CANYON, UTAH  
7.5 MINUTE SERIES (TOPOGRAPHIC) DEPARTMENT OF  
GEOLOGICAL SURVEY

MAP 2

THIS MAP WAS PREPARED BY THE UTAH GEOLOGICAL SURVEY, UNDER CONTRACT TO THE U.S. GEOLOGICAL SURVEY, WASHINGTON, D.C. THE UTAH GEOLOGICAL SURVEY IS A FEDERAL AGENCY OF THE U.S. DEPARTMENT OF THE INTERIOR.



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
324 South State, Suite 301  
Salt Lake City, Utah 84111-2303



3451  
U-06039  
(UT-942)

JAN 19 1993



CERTIFIED MAIL--Return Receipt Requested

PacifiCorp  
dba PacifiCorp Electric Operations  
201 South Main Street  
Salt Lake City, UT 84140-0021

### DECISION

:  
: / Coal Lease  
: U-06039  
:

### Readjustment of Coal Lease U-06039 Effective May 1, 1993

The regulations under 43 CFR 3451.1(a)(1) and (2) state:

1. All leases issued prior to August 4, 1976 shall be subject to readjustment at the end of the current 20-year period and at the end of each 10-year period thereafter.

Coal lease U-06039 was issued effective May 1, 1953, and readjusted under the Federal Coal Leasing Amendments Act effective June 1, 1979. By notice dated April 30, 1991, PacifiCorp (formerly Utah Power and Light Company) was notified that the terms and conditions of the readjustment of coal lease U-06039 would be provided no later than May 1, 1993.

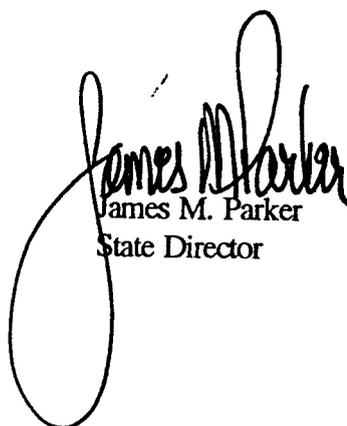
As provided in Sec. 24 of the lease and in accordance with the regulations under 43 CFR 3451.2, enclosed are the terms and conditions of coal lease U-06039 effective May 1, 1993.

A coal lease bond in the amount of \$5,000, conditioned upon compliance with all terms and conditions, is currently on file and is considered adequate bond coverage at the present time.

Information concerning diligent development requirements is enclosed with this decision. This information has been determined to be confidential and will not become a part of the record.

Coal lease U-06039 is hereby readjusted effective May 1, 1993 in accordance with the regulations at 43 CFR 3451.2.

You have the right of appeal to the Board of Land Appeals, Office of the Secretary, in accordance with the regulations at 43 CFR 4.400. If an appeal is taken, you must follow the procedures outlined in the enclosed Form 1842-1, Information on Taking Appeals to the Board of Land Appeals. The appellant has the burden of showing that the decision appealed from is in error.



James M. Parker  
State Director

2 Enclosures  
Coal Lease Readjustment  
Form 1842-1

## DILIGENCE REQUIREMENTS

Section 7 of the Mineral Leasing Act of 1920, as amended, subjects all Federal coal leases to diligence provisions. Diligence provisions include complying with diligent development and continued operation requirements. According to these requirements, Federal coal lease U-06039 became subject to diligence by readjustment on June 1, 1979.

In order for a Federal coal lease to achieve diligent development, it must produce commercial quantities (1 percent of the recoverable reserves) within a 10-year period of the date that it becomes subject to diligence. The diligent development period stops at the end of the royalty reporting period in which production of commercial quantities is achieved or at the end of the 10-year period, whichever comes first.

Once diligent development is achieved, commercial quantities must be produced every year thereafter to maintain continued operation either for the year in question or beginning in the third continued operation year, on the basis of a three year total.

Continued operation can also be satisfied by payment of advance royalty equivalent to the commercial quantities production shortage. This production shortage is based on the year in question or the three-year total, whichever is less. To avoid late payment charges, a lessee must apply to pay advance royalty within 30 days from the beginning of the continued operation year if no production is planned. If production is planned, but falls short of commercial quantities, the lessee must apply to pay advance royalty prior to the end of the continued operation year.

The Bureau of Land Management has determined that Federal coal lease U-06039 contained 13.80 million tons of coal on the date it became subject to diligence on June 1, 1979. Therefore, the commercial quantities requirement is 138,000 tons. According to our records, no production has occurred since the lease became subject to diligence and the diligent development requirement has not been achieved.

On December 23, 1986, coal lease U-06039 was incorporated into the East Mountain Logical Mining Unit (LMU) which has met the diligent development requirement and has satisfied the continued operation requirement from January 1, 1987 to the present. Once a Federal coal lease is included in an LMU, the LMU-specific diligence requirements supersede, but do not eliminate the lease-specific diligent requirements.

If you have any questions, please call Barry Grosely in the Price Coal Office, at (801) 637-4584.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**INFORMATION ON TAKING APPEALS TO THE BOARD OF LAND APPEALS**

**DO NOT APPEAL UNLESS**

1. This decision is adverse to you,  
**AND**
2. You believe it is incorrect

**IF YOU APPEAL, THE FOLLOWING PROCEDURES MUST BE FOLLOWED**

1. NOTICE OF APPEAL . . . . . Within 30 days file a *Notice of Appeal* in the office which issued this decision (see 43 CFR Secs. 4.411 and 4.413). You may state your reasons for appealing, if you desire.
  
2. WHERE TO FILE  
NOTICE OF APPEAL . . . . . State Director, Utah  
Bureau of Land Management  
Utah State Office  
P. O. Box 45155  
Salt Lake City, Utah 84145-0155  
  
SOLICITOR  
ALSO COPY TO . . . . . Regional Solicitor  
Department of the Interior  
Federal Building, Room 6201  
Salt Lake City, Utah 84138
  
3. STATEMENT OF REASONS . . . . . Within 30 days after filing the *Notice of Appeal*, file a complete statement of the reasons why you are appealing. This must be filed with the United States Department of the Interior, Office of the Secretary, Board of Land Appeals, 4015 Wilson Blvd., Arlington, Virginia 22203 (see 43 CFR Sec. 4.412 and 4.413). If you fully stated your reasons for appealing when filing the *Notice of Appeal*, no additional statement is necessary.  
  
SOLICITOR  
ALSO COPY TO . . . . . Regional Solicitor  
Department of the Interior  
Federal Building, Room 6201  
Salt Lake City, Utah 84138
  
4. ADVERSE PARTIES . . . . . Within 15 days after each document is filed, each adverse party named in the decision and the Regional Solicitor or Field Solicitor having jurisdiction over the State in which the appeal arose must be served with a copy of: (a) the *Notice of Appeal*, (b) the *Statement of Reasons*, and (c) any other documents filed (see 43 CFR Sec. 4.413). Service will be made upon the Associate Solicitor, Division of Energy and Resources, Washington, D.C. 20240, instead of the Field or Regional Solicitor when appeals are taken from decisions of the Director (WO-100).
  
5. PROOF OF SERVICE . . . . . Within 15 days after any document is served on an adverse party, file proof of that service with the United States Department of the Interior, Office of the Secretary, Board of Land Appeals, 4015 Wilson Blvd., Arlington, Virginia 22203. This may consist of a certified or registered mail "Return Receipt Card" signed by the adverse party (see 43 CFR Sec. 4.401(c)(2)).

*Unless these procedures are followed your appeal will be subject to dismissal (see 43 CFR Sec. 4.402). Be certain that all communications are identified by serial number of the case being appealed*

**NOTE:** A document is not filed until it is actually received in the proper office (see 43 CFR Sec. 4.401(a))

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

COAL LEASE READJUSTMENT

Serial Number U-06039

Lease Date May 1, 1953

**Part I. LEASE RIGHTS GRANTED**

This lease, entered into by and between the United States of America, hereinafter called the lessor, through the Bureau of Land Management, and

PacifiCorp  
dba PacifiCorp Electric Operations  
201 South Main Street  
Salt Lake City, Utah 84140-0021

hereinafter called lessee, is readjusted, effective May 1, 1993, for a period of 10 years and for so long thereafter as coal is produced in commercial quantities from the leased lands, subject to readjustment of lease terms at the end of each 10 year lease period.

**Sec. 1.** This lease readjustment is subject to the terms and provisions of the:

- Mineral Lands Leasing Act of 1920, Act of February 25, 1920, as amended, 41 Stat. 437, 30 U.S.C. 181-287, hereinafter referred to as the Act;
- Mineral Leasing Act for Acquired Lands, Act of August 7, 1947, 61 Stat. 913, 30 U.S.C. 351-359;

and to the regulations and formal orders of the Secretary of the Interior which are now or hereafter in force, when not inconsistent with the express and specific provisions herein.

**Sec. 2.** Lessor, in consideration of any rents and royalties to be paid, and the conditions and covenants to be observed as herein set forth, hereby grants to lessee the exclusive right and privilege to drill for, mine, extract, remove or otherwise process and dispose of the coal deposits in, upon, or under the following described lands:

T. 16 S., R. 7 E., SLM, Utah  
Sec. 19, SE $\frac{1}{4}$ ;  
Sec. 20, S $\frac{1}{2}$ ;  
Sec. 29, N $\frac{1}{2}$ , SW $\frac{1}{4}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
Sec. 30, E $\frac{1}{2}$ .

containing 1,360.00 acres, more or less, together with the right to construct such works, buildings, plants, structures, equipment and appliances and right to use such on-lease rights-of-way which may be necessary and convenient in the exercise of the rights and privileges granted, subject to the conditions herein provided.

United States  
Department of  
Agriculture

Forest  
Service

Manti-La Sal  
National Forest

599 West Price River Dr.  
Price, Utah 84501

---

DRAFT

Reply to: 2820

Date: September 27, 1994

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

RE: Rilda Canyon Lease Extension and Surface Facilities, Deer Creek Mine,  
PacifiCorp, ACT/015/018-94A, Folder #2, Emery County, Utah

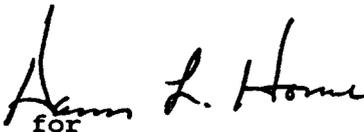
Dear Ms. Littig:

We hereby consent to addition of the extension area into the permit area for the Deer Creek Mine, construction of surface facilities in Rilda Canyon, and mining under the south canyon escarpment in Rilda Canyon by PacifiCorp. Enclosed are a copy of the Environmental Assessment (EA) and Decision Notice/Finding of No Significant Impact (DN/FONSI) for PacifiCorp's proposed surface facilities and mining under the south canyon escarpment. This approval is contingent upon the mitigations attached to the DN/FONSI.

The decision to consent to addition of the extension area is effective immediately, however, the decision to consent to surface facilities and to subside the escarpment is subject to Forest Service appeal regulations 36 CFR 215 and 271. Any appeals must be filed within 45 days of the date that the Forest Service decision is published in the Sun Advocate, which was September 27, 1994. Depending on the results of the appeal process, the earliest that surface operations may begin would November 21, 1994.

If you have any questions, contact us at the Forest Supervisor's Office in Price, Utah.

Sincerely,



for  
GEORGE A. MORRIS  
Forest Supervisor

Enclosures

cc:  
D-3  
Floyd McMullen, Office of Surface Mining  
Val Payne, PacifiCorp

DECISION NOTICE  
AND  
FINDING OF NO SIGNIFICANT IMPACT

PACIFICORP DEER CREEK MINE SURFACE FACILITIES  
AND  
MINING UNDER THE CANYON ESCARPMENT  
IN RILDA CANYON

USDA FOREST SERVICE, INTERMOUNTAIN REGION  
MANTI-LA SAL NATIONAL FOREST  
PRICE RANGER DISTRICT  
EMERY COUNTY, UTAH

INTRODUCTION

PacifiCorp submitted a permit revision and mining plan to the Utah Division of Oil, Gas and Mining (UDOGM) proposing to construct a breakout with ancillary facilities in Rilda Canyon to provide ventilation of underground workings for the Deer Creek Coal Mine. The proposal would include construction of a facilities pad and new access road on Federal Coal Lease U-06039, reconstruction of the existing road in Rilda Canyon to accommodate project and public use, and installation of an overhead 25 KV power transmission line from the Huntington Power Plant in Huntington Canyon to the facilities pad. The facilities pad would contain 3 mine openings or portals, a fan at the easternmost of the three portals, a substation, water storage tank, and pumphouse.

In addition, the mining plan calls for mining beneath the south slope or escarpment of Rilda Canyon, including the lower reaches of the south slope of the Left Fork of Rilda Canyon on Federal Coal Leases U-06039, U-7653, U-47977, SL-050862, U-014275, and U-024319. The proposed mining (longwall method) would induce subsidence that could cause escarpment failures along the Castlegate Sandstone outcrop. Lease stipulations contain a restriction that prohibits underground mining that could cause the creation of hazardous conditions such as escarpment failures and landslides, unless specifically evaluated and approved. Specific evaluation and approval is required to prevent hazardous conditions and associated impacts.

The Forest Supervisor, Manti-La Sal National Forest, must decide whether or not to consent to construction of the surface facilities and mining under the canyon slope that could cause subsidence and potential escarpment failures. Consent authority is provided under the Federal Coal Leasing Amendment's Act of 1975, Surface Mining Control and Reclamation Act of 1977 and Federal Regulations 30 CFR 700 to end. If consent is given, the Forest Supervisor must identify any measures required for the protection of non-mineral resources. In addition, the Forest Supervisor must decide whether or not to issue the required special-use permit for the powerline on National Forest System lands under the Federal Land Policy and Management Act of 1976,

authorize Emery County to reconstruct Forest Development Road 50246 (Rilda Canyon Road) under a project agreement, and grant an easement to Emery County for operation and maintenance under the Federal Roads and Trails Act of 1964.

An Environmental Assessment (EA) was prepared for this proposal by the Forest Service with participation from the Bureau of Land Management and Office of Surface Management which were identified as cooperating agencies. The EA was tiered to the Final Environmental Impact Statement, Manti-La Sal National Forest (Forest Plan FEIS). The EA evaluated three alternatives which consist of (1) No Action, (2) the proposed action (plan as proposed by PacifiCorp) with required mitigations, and (3) a modified proposed action alternative that would not allow mining which would cause subsidence of the canyon slope/escarpment and potential escarpment failures. The analysis considered cumulative impacts to the ecosystems in Rilda Canyon, socioeconomic impacts, and concerns regarding maximum economic recovery of the coal resources in the area.

#### DECISION/RATIONALE (DECISION NOTICE)

Based on the analysis, I have decided to consent to the proposal by PacifiCorp with mitigations designed to mitigate the anticipated impacts (Alternative 2, Proposed Action with Mitigations). A copy of the required mitigations are included as Attachment 1. Implementation of this decision would include issuance of a special-use permit to authorize construction of the 25KV overhead powerline, and completion of a project agreement with Emery County for reconstruction of the Rilda Canyon Road (FDR 50246) currently under Forest Service jurisdiction (from the North Emery Water User's Association (NEWUA) springs to the Forks of Rilda Creek). Once this reconstruction is completed in accordance with the project agreement, an easement would be issued to Emery County, transferring jurisdiction of this road.

I feel that this alternative best meets the needs of the general public by providing a balance between recovery of Federal coal reserves in the area and preserving the integrity of the ecosystems in Rilda Canyon consistent with Forest Plan direction. It would provide for recovery of approximately 10.4 million tons of recoverable coal under the escarpment and necessary ventilation to safely mine reserves to the west. It would involve a low risk of causing long-term impacts to water quality and quantity in Rilda Creek and the North Emery Water User's Association culinary springs. It provides for up-front mitigation of possible impacts to the NEWUA culinary water supply (potential net benefit), and requires measures that would improve the condition of riparian vegetation in the RPN (Emphasis on Riparian Area Management) Management Unit to offset the estimated 2.4 acres of long-term loss of riparian vegetation in the RNG (Emphasis on Production of Forage) Management Unit. The potential public safety hazard is considered low because it is not likely that rocks would reach the Rilda Canyon due to distance, topographic factors, and vegetation.

The decisions required by the cooperating agencies in regard to the proposal will be documented in separate decision documents, released to the public, and appealable in accordance with that agency's specific regulations.

## PUBLIC INVOLVEMENT

Scoping letters were sent to interested parties on May 5, 1994, that briefly described the proposal and requested public comment. A legal notice informing the public of the proposal and requesting public comment was published in the Sun Advocate (publication of record) on May 5, 1994, and the Emery County Progress (supplemental publication) on May 10, 1994. Two response letters were received during project scoping and a third letter was received during preparation of the environmental analysis. Emery County stated that they support the proposal. The Utah Division of Wildlife Resources expressed concern in regard to potential impacts to wildlife and riparian habitat in Rilda Canyon and suggested that measures be taken to mitigate habitat loss and improve riparian habitat in adjacent areas. In the third letter, Huntington-Cleveland Irrigation Company requested a copy of the EA for review when completed.

A copy of the EA was sent to potentially affected parties, and those who responded during project scoping or specifically requested a copy on August 4, 1994. A legal notice was published in the Sun Advocate and Emery County Progress on August 9, 1994 notifying the general public that the EA was available for public review for 30 days and that Alternative 2 was the Forest Service preferred alternative. Two letters were received as described below.

The Huntington Cattleman's Association stated that they protest construction of a fence at the mouth of Rilda Canyon in Huntington Canyon because this area has been grazed for many years and is spring range that is of vital importance to them. In a telephone conversation between District Ranger Jankiewicz and Lee Lemmon of the Cattle Association, it was explained that the fence would prevent grazing of approximately 7.6 Animal Unit Months (AUM) of approximately 4,512 AUMs provided in the Gentry C&H Allotment which has been determined to be an insignificant amount of use in a non-critical area. Lee stated that he would not object further but wanted to be on record as protesting the decision.

Craig Smith of Nielsen & Senior, representing the Huntington-Cleveland Irrigation Company, responded with a series of comments regarding potential impacts to water in the Huntington drainage. The comments and Forest Service responses are included in this document as Attachment 2. As discussed in the responses, I feel that the EA adequately addresses the concerns. The EA and Cumulative Hydrologic Impact Assessment (CHIA) show that the selected alternative would not have a significant impact to the hydrologic balance in Huntington Creek.

## FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Based on the referenced EA for this project, I have determined that implementation of this project is not a major Federal action that would significantly affect the quality of the human environment. Therefore, the preparation of an Environmental Impact Statement is not required. This determination was made considering the following factors:

My decision and the resulting actions comply with direction of the Land and Resource Management Plan, Manti-La Sal National Forest, 1986, as amended (Forest Plan).

There are no anticipated significant effects on the quality of the human environment, either as an individual action, or as part of the cumulative effects of other past, present, and reasonably foreseeable actions within the Rilda Canyon area.

There would be no unacceptable hazards to public health or safety.

There are no highly uncertain, highly controversial, unique, or unknown risks.

There will be no adverse affects to districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places. There will be no loss or destruction of cultural or historical resources.

There will be no adverse affects to endangered, threatened, or sensitive plant or animal species or their habitat, as documented in the Biological Evaluation in the project file.

The decision and resulting actions comply with other Federal, State, and local laws and requirements imposed for the protection of resources.

Mitigation measures specified in this Decision Notice will be monitored to assure that they are carried out as planned.

#### IMPLEMENTATION DATE AND MONITORING

Implementation of this decision may take place no sooner than November 21, 1994 which is the fifth business day following the end of the 45 day appeal period. See appeal rights discussed in the next section.

Monitoring of subsidence, flow and quality of water in Rilda Creek and the NEWUA springs is the responsibility of PacifiCorp under lease stipulations and requirements of the approved mining permit. Water monitoring information is submitted to the Utah Division of Oil, Gas and Mining on intervals specified in the Mine Plan. Subsidence monitoring results and an annual summary of hydrologic monitoring are submitted on an annual basis.

#### APPEAL RIGHTS

This decision is subject to appeal pursuant to 36 CFR Part 215.7 and Part 251.

Any written appeal under 36 CFR Part 215.7 must be postmarked or received by the Appeal Deciding Officer, Dale Bosworth, USDA Forest Service, Intermountain Region, 324 25th Street, Ogden, Utah 84401 within 45 days after publication of the Notice of Decision in the Sun Advocate Newspaper of Price, Utah (publication of record). The Notice of Decision will be published on September 27, 1994, therefore, any appeals must be filed on or before November 14, 1994. Appeals must meet the requirements of 36 CFR 215.14.

This decision is subject to appeal under 36 CFR 251, Subpart C. Any written notice of appeal submitted by the holder of a written instrument to occupy and use National Forest System lands must be fully consistent with 36 CFR 251.90 including the reasons for the appeal and must be filed on or before November 14, 1994. Notice of Appeal and statement of reasons must be submitted in writing to Dale Bosworth, USDA Forest Service, Intermountain Region 324 25th Street, Ogden, Utah 84401. Simultaneously send a copy of the Notice of Appeal to George Morris, Forest Supervisor, Manti-La Sal National Forest, 599 West Price River Drive, 84501.

Required decisions of the cooperating agencies would be subject to review and appeal specific to their appropriate regulations and are not appealable to the Forest Service as specified in the above paragraph.

*George A. Morris*

\_\_\_\_\_  
GEORGE A. MORRIS  
Forest Supervisor

*9-27-94*

\_\_\_\_\_  
Date



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Moab District  
P. O. Box 970  
Moab, Utah 84532



3482  
SL-070645  
U-024319  
(UT-066)

Mr. Daron R. Haddock  
Permit Supervisor  
State of Utah  
Division of Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

DEC 6 1994

Re: Rilda Canyon Lease Extension, PacifiCorp, Deer Creek Mine, ACT/015/018-94A

Dear Mr. Haddock:

The Bureau of Land Management (BLM) recommended to your office in a letter dated February 28, 1991, approval of the subject mine plan modification. The approval for full extraction longwall mining under the Rilda Canyon escarpment was contingent upon ongoing studies to determine the possible impacts to the escarpment from longwall mining subsidence.

The BLM has determined that the proposed mining plan submitted by PacifiCorp, which includes the mining under the escarpment, will not significantly impact the surface and will be in compliance with the Forest Service lease stipulations.

We have determined that the subject plans are consistent with the R2P2 that was evaluated in 1991, which is in compliance with the Mineral Leasing Act of 1920, as amended, the regulations at 43 CFR 3480, Federal lease terms and conditions, and will achieve maximum economic recovery. We recommend approval of the R2P2 for this permit action.

If you have any questions or need further information, please contact George Tetreault at 637-4584.

Sincerely,

/s/ Katherine Kitchell

District Manager

Enclosure

Copy of Letter to UDOGM dated 02/28/91 (2pp)

cc: UT-066, AM, Price (w/encl.)  
UT-921, SD, Utah (w/encl.)  
Office of Surface Mining, Denver (w/encl.)  
PacifiCorp (w/encl.)  
One Utah Center  
201 South Main, Suite 2100  
Salt Lake City, Utah 84140-0021

cc: BLAKE WEBSTER  
VAL PAYNE

Post-It™ brand fax transmittal memo 7671 # of pages > 3

To	VAL PAYNE	From	SCOTT CHILD
Co.		Co.	
Dept.		Phone #	
Fax #		Fax #	

*Handwritten:*  
 Allow file in  
 SL-070645  
 with survey.

3482  
 SL-070645  
 U-02292  
 (U-065)

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

**FEB 28 1991**

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

Dear Ms. Grubaugh-Littig:

On February 21, 1990, the Bureau of Land Management (BLM) received PacifiCorp's proposed Rilda Canyon Lease Tract addition for the Deer Creek Mine Permit Application Package (PAP). The BLM was asked to review the resource recovery and protection plan (R2P2) and submit our findings which are discussed below.

PacifiCorp plans to enlarge the Deer Creek Mine Permit Area (Act/015/018) by adding an adjacent tract to the north. The tract includes one State of Utah coal lease (ML-22509), three Federal coal leases (U-7653, U-47977, and SL-050862) and the southern portion of Federal coal lease U-06039.

The R2P2 calls for the development of main entries in a north-northwest direction beyond the Roan's Canyon Fault. Longwall panels are projected on both sides of these main entries. A number of longwall panels located along the south side of Rilda Canyon will undermine portions of the canyon escarpments (see enclosed highlighted map). This has prompted an in-depth review of potential escarpment failure.

The Manti-LaSal National Forest (FS) has asked BLM to evaluate the R2P2 and determine if the mining plan provides adequate protection of surface resources in accordance with the Federal lease terms and conditions. The BLM is currently working on a response to the FS regarding our analysis of the escarpment issue. Final approval of mining zones that may affect sensitive escarpment areas is contingent on the completion of the technical studies currently underway. Because the mine plan provides adequate flexibility for any necessary future adjustments in these areas, development as proposed for the remainder of the R2P2 is recommended for approval.

We have determined that the R2P2 as submitted is complete and technically adequate. The R2P2 is also in compliance with the Mineral Leasing Act, as amended, the regulatory provisions of 43 CFR 3480, Federal lease terms and conditions, and will achieve maximum economic recovery (MER) of the Federal coal. Therefore, we recommend partial approval of the R2P2 for this permit action.

Sincerely yours,



Assistant District Manager  
Mineral Resources

Enclosure:  
Mine Projection Map

cc: SD, Utah (U-921), w/enclosure  
DM, Hoab (U-065), w/enclosure  
Office of Surface Mining, Denver, w/enclosure  
PacifiCorp, SLC, Utah, w/enclosure  
Manti-LaSal NF, Price, Utah, w/enclosure

SFA1k:ks:2/15/91  
Wang 2015D

FEDERAL

PERMIT  
Permit Number ACT/015/018

OCTOBER 27, 1994

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
(801) 538-5340

This permit, ACT/015/018, is issued for the state of Utah by the Utah Division of Oil, Gas and Mining (Division) to:

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

for the Deer Creek Mine. A Surety Bond is filed with the Division in the amount of \$2,000,000, payable to the State of Utah, Division of Oil, Gas and Mining and the Office of Surface Mining Reclamation and Enforcement (OSM). The Division must receive a copy of this permit signed and dated by the permittee.

**Sec. 1 STATUTES AND REGULATIONS** - This permit is issued pursuant to the Utah Coal Mining and Reclamation Act of 1979, Utah Code Annotated (UCA) 40-10-1 et seq, hereafter referred to as the Act.

**Sec. 2 PERMIT AREA** - The permittee is authorized to conduct underground coal mining activities on the following described lands within the permit area at the Deer Creek Mine, situated in the state of Utah, Emery County:

The area to be mined is contained on the USGS 7.5-minute "Red Point", "Rilda" and "Mahogany Point" quadrangle maps. The areas contained in the permit area, approximately 17,000 acres, involve all or part of the following federal, state, and fee coal leases:

Lease No. SL-064607-064621

Issued to Clara Howard Miller 10/4/46

Township 17 South, Range 7 East, SLM, Utah

Containing 613.92 acres

Section 2: Lots 2, 5, 6, 7, 10, 11 and 12 and SW1/4

Section 3: SE1/4 SE1/4

Section 10: NE1/4

**ACT/0015/018**

**Permit**

**October 27, 1994**

**Page 2**

Lease No. SL-064900

Issued to Cyrus Wilberg 2/3/45

Township 17 South, Range 7 East, SLM, Utah

Containing 160 acres

Section 22: SE1/4 SW1/4, SW1/4 SE1/4, NE1/4 SW1/4, NW1/4 SE1/4

Lease No. U-1358

Issued to Castle Valley Mining Co. 8/1/67

Township 17 South, Range 7 East, SLM, Utah

Containing 320 acres

Section 22: S1/2 NW1/4, W1/2 SW1/4, E1/2 SE1/4

Section 27: E1/2 NE1/4

Lease No. SL-070645, U-02292

Issued to Clara Howard Miller 4/1/52

Township 17 South, Range 7 East, SLM, Utah

Containing 2560 acres

Section 4: SW1/4 SE1/4, S1/2 SW1/4

Section 5: SE1/4 SW1/4, S1/2 SE1/4

Section 8: E1/2, E1/2 W1/2

Section 9: All

Section 10: W1/2

Section 15: N1/2

Section 16: N1/2

Section 17: NE1/4, E1/2 NW1/4

Lease No. U-084923

Issued to Malcolm N. McKinnon 8/1/64

Township 17 South, Range 7 East, SLM, Utah

Containing 2252.42 acres

Section 4: Lots 2, 3, 4, 5, 6, 7, 10, 11, 12, NW1/4 SE1/4, N1/2 SW1/4

Section 5: Lots 1 thru 12, N1/2 S1/2, SW1/4 SW1/4

Section 6: Lots 1 thru 11, SE1/4

Section 7: Lots 1 thru 4, E1/2

Section 8: W1/2 W1/2

Section 17: W1/2 NW1/4

Section 18: Lots 1 and 2, N1/2

ACT/0015/018

Permit

October 27, 1994

Page 3

Lease No. U-084924

Issued to Malcolm N. McKinnon 8/1/64

Township 17 South, Range 6 East, SLM, Utah

Containing 1211.48 acres

Section 1: Lots 1, 2, 3, S1/2 NE1/4, SE1/4 NW1/4, E1/2 SW1/4, SE1/4

Section 12: E1/2, E1/2 W1/2

Section 13: NE1/4, E1/2 NW1/4

Lease No. U-083066

Issued to Cooperative Security Corp. 3/1/62

Township 17 South, Range 6 East, SLM, Utah

Containing 2485 acres

Section 13: E1/2 SW1/4, SE1/4

Section 24: E1/2 W1/2, E1/2

Section 25: N1/2 NE1/4

Township 17 South, Range 7 East, SLM, Utah

Section 17: SW1/4, W1/2 SE1/4

Section 18: Lots 3 and 4, SE1/4

Section 19: Lots 1, 2, 3, 4, E1/2

Section 20: W1/2, W1/2 E1/2

Section 29: NW1/4 NE1/4, N1/2 NW1/4

Section 30: Lots 1, 2, 3, N1/2 NE1/4, SW1/4 NE1/4, NW1/4 SE1/4

Lease No. U-040151

Issued to Cooperative Security Corp. 3/1/62

Township 17 South, Range 7 East, SLM, Utah

Containing 1720 acres

Section 15: SW1/4

Section 16: S1/2

Section 17: E1/2 SE1/4

Section 20: E1/2 E1/2

Section 21: All

Section 22: N1/2 NW1/4

Section 27: N1/2 NW1/4

Section 28: N1/2 N1/2

Section 29: NE1/4 NE1/4

Lease No. U-044025

Issued to Cooperative Security Corp. 8/1/60

Township 17 South, Range 7 East, SLM, Utah

Containing 40 acres

Section 27: NW1/4 NE1/4

**ACT/0015/018**

**Permit**

**October 27, 1994**

**Page 4**

Lease No. U-024319

Issued to Huntington Corp. 5/1/60

Township 16 South, Range 7 East, SLM, Utah

Containing 1040 acres

Section 27: SW1/4

Section 28: SE1/4

Section 33: E1/2, E1/2 NW1/4, NE1/4 SW1/4, S1/2 SW1/4

Section 34: NW1/4, NW1/4 SW1/4

Lease No. U-014275

Issued to John Helco 10/1/55

Township 16 South, Range 7 East, SLM, Utah

Containing 80 acres

Section 28: E1/2 SW1/4

Lease No. U-47979

Issued to Utah Power & Light Co. 10/1/81

Township 16 South, Range 7 East, SLM, Utah

Containing 1,063.38 acres, more or less

Section 34: S1/2 NE1/4, NE1/4 SW1/4, S1/2 SW1/4, SE1/4

Township 17 South, Range 7 East, SLM, Utah

Section 3: Lots 1 thru 8, 10 thru 12, SW1/4, SW1/4 SE1/4

Section 4: Lots 1, 8, 9, E1/2 SE1/4

Lease No. U-47977

Township 16 South, Range 7 East, SLBM

Containing 640 acres

Section 32: All

Lease No. SL-050862 (consolidated to include U-24069 and U-24070)

Township 16 South, Range 7 East, SLBM

Containing 280 acres

Section 28: W1/2 SW1/4

Section 29: E1/2 SE1/4

Section 33: W1/2 NW1/4, NW1/4 SW1/4

Lease No. U-06039

Township 16 South, Range 7 East, SLBM

Containing 400 acres

Section 29: SW1/4, W1/2 SE1/4

Section 30: SE1/4

**ACT/0015/018**  
**Permit**  
**October 27, 1994**  
**Page 5**

Lease No. U-7653  
Township 16 South, Range 7 East, SLBM  
Containing 411.6 acres  
Section 31: All

**OWNERS OF COAL TO BE MINED OTHER THAN THE UNITED STATES**

State Lease ML-22509  
Township 16 South, Range 6 East, SLBM  
Containing 640 acres  
Section 36: All

The Estate of Malcolm McKinnon  
Zions First National Bank, Trustee, Salt Lake City, Utah 84111  
Township 17 South, Range 7 East, SLM, Utah  
Section 10: SE1/4  
Section 11: W1/2 W1/2, NE1/4 NW1/4  
Section 14: W1/2 NW1/4

Cooperative Security Corp.  
115 East South Temple, Salt Lake City, Utah 84111  
Township 17 South, Range 7 East, SLM, Utah  
Section 15: SE1/4  
Section 22: NE1/4

Also:

Beginning at the SE corner of NE1/4 SE1/4 Section 25, T17S, R6E, SLM,  
thence North 160 rods, West 116 rods to center line of Cottonwood Creek;  
thence southerly along center line of said creek to a point 84 rods West of  
the beginning; thence East 84 rods to the beginning.

The above listed surface rights and coal owned or leased by PacifiCorp,  
successor in interest to Utah Power & Light Company.

PacifiCorp  
324 South State, PO Box 26128, Salt Lake City, Utah 84126-0128  
Township 17 South, Range 7 East, SLM, Utah  
Section 14: SW1/4 (West of the Deer Creek Fault)

**ADDITIONAL LANDS TO BE AFFECTED BY MINING**

Township 17 South, Range 7 East, SLM, Utah

State of Utah Special Use Lease Agreement No. 284 utilized for conveyor and power line right-of-ways located in the southeast quarter of Section 2

Township 17 South, Range 8 East, SLM, Utah  
PacifiCorp fee land (successor to Utah Power & Light Company) utilized for a Waste Rock Disposal Site located within Lots 4 and 5 of Section 5 and Lot 1 and the Southeast quarter of the Northeast quarter of Section 6

This legal description is for the permit area of the Deer Creek Mine. The permittee is authorized to conduct underground coal mining activities and related surface activities on the foregoing described property subject to the conditions of all applicable conditions, laws and regulations.

- Sec. 3 COMPLIANCE** - The permittee will comply with the terms and conditions of the permit, all applicable performance standards and requirements of the State Program.
- Sec. 4 PERMIT TERM** - This permit expires on February 15, 1996.
- Sec. 5 ASSIGNMENT OF PERMIT RIGHTS** - The permit rights may not be transferred, assigned or sold without the approval of the Director, Division. Transfer, assignment or sale of permit rights must be done in accordance with applicable regulations, including but not limited to 30 CFR 740.13{e} and R645-303-300.
- Sec. 6 RIGHT OF ENTRY** - The permittee shall allow the authorized representative of the Division, including but not limited to inspectors, and representatives of the Office of Surface Mining Reclamation and Enforcement (OSM), without advance notice or a search warrant, upon presentation of appropriate credentials, and without delay to:
- (a) have the rights of entry provided for in 30 CFR 840.12, R645-400-220, 30 CFR 842.13 and R645-400-110;
  - (b) be accompanied by private persons for the purpose of conducting an inspection in accordance with R645-400-100 and R645-400-200 when the inspection is in response to an alleged violation reported to the Division by the private person.
- Sec. 7 SCOPE OF OPERATIONS** - The permittee shall conduct underground coal mining activities only on those lands specifically designated as within the

permit area on the maps submitted in the approved plan and approved for the term of the permit and which are subject to the performance bond.

**Sec. 8 ENVIRONMENTAL IMPACTS** - The permittee shall take all possible steps to minimize any adverse impact to the environment or public health and safety resulting from noncompliance with any term or condition of the permit, including, but not limited to:

- (a) Any accelerated or additional monitoring necessary to determine the nature and extent of noncompliance and the results of the noncompliance;
- (b) immediate implementation of measures necessary to comply; and
- (c) warning, as soon as possible after learning of such noncompliance, any person whose health and safety is in imminent danger due to the noncompliance.

**Sec. 9 DISPOSAL OF POLLUTANTS** - The permittee shall dispose of solids, sludge, filter backwash or pollutants in the course of treatment or control of waters or emissions to the air in the manner required by the approved Utah State Program and the Federal Lands Program which prevents violation of any applicable state or federal law.

**Sec. 10 CONDUCT OF OPERATIONS** - The permittee shall conduct its operations:

- (a) in accordance with the terms of the permit to prevent significant, imminent environmental harm to the health and safety of the public; and
- (b) utilizing methods specified as conditions of the permit by the Division in approving alternative methods of compliance with the performance standards of the Act, the approved Utah State Program and the Federal Lands Program.

**Sec. 11 EXISTING STRUCTURES** - As applicable, the permittee will comply with R645-301 and R645-302 for compliance, modification, or abandonment of existing structures.

**Sec. 12 RECLAMATION FEE PAYMENTS** - The operator shall pay all reclamation fees required by 30 CFR Part 870 for coal produced under the permit, for sale, transfer or use.

ACT/0015/018

Permit

October 27, 1994

Page 8

- Sec. 13 AUTHORIZED AGENT** - The permittee shall provide the names, addresses and telephone numbers of persons responsible for operations under the permit to whom notices and orders are to be delivered.
- Sec. 14 COMPLIANCE WITH OTHER LAWS** - The permittee shall comply with the provisions of the Water Pollution Control Act (33 USC 1151 et seq,) and the Clean Air Act (42 USC 7401 et seq), UCA 26-11-1 et seq, and UCA 26-13-1 et seq.
- Sec. 15 PERMIT RENEWAL** - Upon expiration, this permit may be renewed for areas within the boundaries of the existing permit in accordance with the Act, the approved Utah State Program and the Federal Lands Program.
- Sec. 16 CULTURAL RESOURCES** - If during the course of mining operations, previously unidentified cultural resources are discovered, the permittee shall ensure that the site(s) is not disturbed and shall notify the Division. The Division, after coordination with OSM, shall inform the permittee of necessary actions required. The permittee shall implement the mitigation measures required by Division within the time frame specified by Division.
- Sec. 17 APPEALS** - The permittee shall have the right to appeal as provided for under R645-300-200.
- Sec. 18 SPECIAL CONDITIONS** - There are special conditions associated with this permitting action as described in attachment A.

The above conditions (Secs. 1-18) are also imposed upon the permittee's agents and employees. The failure or refusal of any of these persons to comply with these conditions shall be deemed a failure of the permittee to comply with the terms of this permit and the lease. The permittee shall require his agents, contractors and subcontractors involved in activities concerning this permit to include these conditions in the contracts between and among them. These conditions may be revised or amended, in writing, by the mutual consent of the Division and the permittee at any time to adjust to changed conditions or to correct an oversight. The Division may amend these conditions at any time without the consent of the permittee in order to make them consistent with any federal or state statutes and any regulations.

ACT/0015/018  
Permit  
October 27, 1994  
Page 9

THE STATE OF UTAH

By: [Signature]  
Date: November 2, 1994

I certify that I have read, understand and accept the requirements of this permit and any special conditions attached.

[Signature]  
Authorized Representative of  
the Permittee  
Date: November 18, 1994

**Attachment A**

**SPECIAL CONDITIONS**

1. If during entry development, sustained quantities of groundwater are encountered which are greater than 5 gpm from a single source in an individual entry, and which continue after operational activities progress beyond the area of groundwater production, PacifiCorp must monitor these flows for quality and quantity under the approved baseline parameters.

PacifiCorp will notify the Division within 24 hours prior to initiation of said monitoring.

2. This permit becomes effective for mining in the Rilda Canyon Lease Extension when the mining plan is approved by the Secretary of the Interior, except for mining under the south canyon escarpment which will be allowed when the Forest Service is satisfied that the appeals process is finalized and that any appeal has been satisfactorily resolved.
3. PacifiCorp must notify the Division within 14 days of the decision on the appeal of outstanding federal violation 93-020-190-05, 1 of 1.
4. PacifiCorp must notify the Division within 14 days of the decision on the appeal of outstanding cessation order 94-020-370-002, 1 of 1.



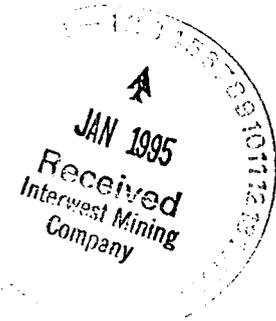
# United States Department of the Interior

## OFFICE OF SURFACE MINING

Reclamation and Enforcement  
1999 Broadway, Suite 3320  
Denver, Colorado 80202-5733

ORIGINAL: V. Payne  
cc: S. Caylo  
B. WEBSTER

December 22, 1994



Mr. Val Payne  
PacifiCorp  
201 South Main, Suite 2100  
Salt Lake City, Utah 84140-0021

Dear Mr. Payne:

The Assistant Secretary, Land and Minerals Management, Department of the Interior, approved on December 13, 1994, the Deer Creek Mine mining plan for Federal leases U-7653, U-06039, U-47977, SL-050862. The mining plan approval authorized mining of about 38 million tons of Federal coal in 1412 acres of Federal leases U-7653, U-06039, U-47977, SL-050862. This mining plan approval supplements the Deer Creek mining plan for Federal leases SL-064607-064621, SL-064900, SL-070645, U-1358, U-02292, U-084923, U-084924, U-083066, U-040151, U-044025, U-014275, U-024319, U-47979, U-47977, and SL-050862 approved on October 11, 1985, the mining plan for Federal leases U-47977 and SL-050862 approved on January 6, 1993, and modified on July 16, 1993 and July 29, 1994, and the mining plan for U-06039 approved on July 29, 1994.

Mining operations must be conducted in accordance with both the Utah State permit and the approved mining plan. I have enclosed a copy of the mining plan approval document. Please read the terms and conditions of the mining plan approval document carefully. If you have any questions, please contact Richard Holbrook or me at (303) 672-5597.

Sincerely,

*Ranvir Singh*  
Ranvir Singh, Chief  
Federal Lands Branch

Attached

cc: BLM Price Resource Area  
Utah Division of Oil, Gas and Mining  
OSM Albuquerque Field Office

UNITED STATES

DEPARTMENT OF THE INTERIOR

This mining plan approval document is issued by the United States of America to:

PacifiCorp  
201 South Main, Suite 2100  
Salt Lake City, Utah 84140-0021

for the Deer Creek Mine mining plan for Federal leases U-7653, U-06039, U-47977, SL-050862 subject to the following conditions. PacifiCorp is hereinafter referred to as the operator.

1. Statutes and Regulations.--This mining plan approval is issued pursuant to Federal leases U-7653, U-06039, U-47977, SL-050862; the Mineral Leasing Act of 1920, as amended (30 U.S.C. 181 et seq.); and in the case of acquired lands, the Mineral Leasing Act for Acquired Lands of 1947, as amended (30 U.S.C. 351 et seq.). This mining plan approval is subject to all applicable regulations of the Secretary of the Interior which are now or hereafter in force; and all such regulations are made a part hereof. The operator shall comply with the provisions of the Water Pollution Control Act (33 U.S.C. 1151 et seq.), the Clean Air Act (42 U.S.C. 7401 et seq.), and other applicable Federal laws.
2. This document approves the Deer Creek Mine mining plan for Federal leases U-7653, U-06039, U-47977, SL-050862, and authorizes coal development or mining operations on the Federal leases within the area of mining plan approval. This authorization is not valid beyond

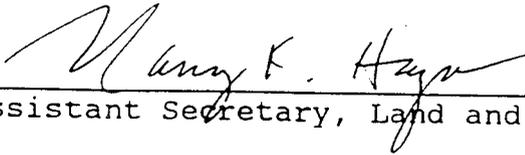
T. 16 S., R. 7 E., Salt Lake Baseline and Meridian

Sec. 28 W1/2 SW1/4  
Sec. 29 E1/2 SE1/4, SW1/4, W1/2 SE1/4  
Sec. 30 SE1/4  
Sec. 31 All  
Sec. 32 All  
Sec. 33 W1/2 NW1/4, NW1/4 SW 1/4

as shown on the map appended hereto as Attachment A.

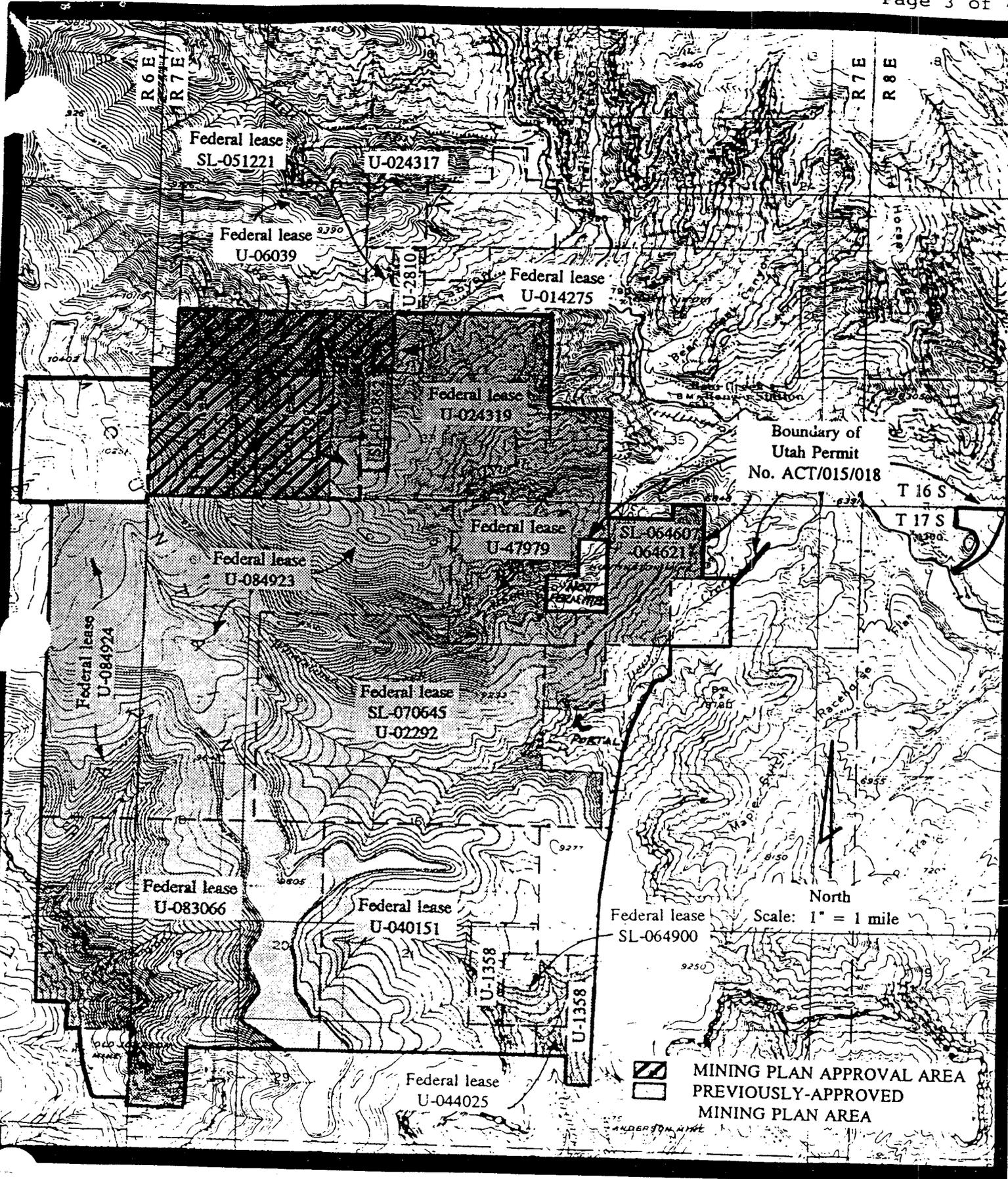
3. The operator shall conduct coal development and mining operations only as described in the complete permit application package, and approved by the Utah Division of Oil, Gas and Mining, except as otherwise directed in the conditions of this mining plan approval.

4. The operator shall comply with the terms and conditions of the leases, this mining plan approval, the special conditions appended hereto as Attachment B, and the requirements of the Utah Permit No. ACT/015/018 issued under the Utah State program, approved pursuant to the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201 et seq.).
5. This mining plan approval shall be binding on any person conducting coal development or mining operations under the approved mining plan and shall remain in effect until superseded, cancelled, or withdrawn.
6. If during mining operations unidentified prehistoric or historic resources are discovered, the operator shall ensure that the resources are not disturbed and shall notify Utah Division of Oil, Gas and Mining and the Office of Surface Mining Reclamation and Enforcement (OSM). The operator shall take such actions as are required by Utah Division of Oil, Gas and Mining in coordination with OSM.



Acting Deputy Assistant Secretary, Land and Minerals Management

12-13-84  
Date



Attachment A  
Mining Plan Approval Area  
Deer Creek Mine  
Emery County, Utah

ATTACHMENT B

Special Conditions

1. In the event that rocks or other debris from the escarpment above Rilda Creek reach Rilda Creek and cause blockage or alteration of the natural flows, the operator will be required to remove the materials causing the blockage, take necessary measures to prevent sediment production, replace riparian vegetation through reclamation or other means, and re-establish the natural flow patterns. The method of conducting these required activities must be approved in advance by the regulatory authority with consent from the Forest Service.
2. Any damage to fences, roads, spring developments, or other structures caused by escarpment failures or other operations must be repaired or replaced as soon as possible. Methods for repair or replacement of such facilities must be approved in advance by the regulatory authority with consent from the Forest Service.
3. The operator must take necessary measures to prevent raptors from building and occupying nests in the escarpment area during periods that they would be at risk from subsidence. Golden eagle nest 296A must be protected from subsidence unless the operator obtains a take permit from the U.S. Fish and Wildlife Service.
4. The operator must monitor subsidence and escarpment areas to determine the extent of escarpment failures that occur and to determine when they stabilize. The operator is responsible to ensure public safety in the areas where escarpment failures are likely to occur until it is determined that subsidence is substantially complete and the escarpments have stabilized. Methods of providing for public safety and for monitoring escarpment failures, including the frequency of monitoring, must be approved in advance by the regulatory authority with consent from the Forest Service.
5. Should escarpment failures occur to an extent beyond that predicted in the Forest Service's August 1994 environmental assessment or cause functional impairment of surface resources (impacts that are not consistent with management prescriptions in the Forest Plan), additional operations that could cause escarpment failures must be suspended until subsidence effects are re-evaluated by the regulatory authority in consultation with the Forest Service.

One Utah Center, Suite 2000  
Salt Lake City, Utah 84140-0020  
(801) 220-4616 • FAX (801) 220-4725



*A Subsidiary of PacifiCorp*

Dec. 5, 1994

Mr. Mark Bailey  
District Area Manager  
Bureau of Land Management  
Moab District, Price River Resource Area  
900 North 700 East  
Price, Utah 84501

Re: Deer Creek Mine Resource Recovery and Protection Plan (R2P2);

**MODIFICATION REQUEST: MINE PLAN LAYOUT AND SEQUENCE  
CHANGE; 3RD NORTH "B" MAINS, WESTSIDE RESERVES; BETWEEN THE  
2ND WEST AND 10TH WEST MAINS; BLIND CANYON COAL SEAM, DEER  
CREEK MINE.**

Mr. Bailey:

PacifiCorp, by and through its wholly-owned subsidiaries, Interwest Mining Company ("Interwest") as managing agent and Energy West Mining Company ("Energy West") as mine operator, submits the following R2P2 modification request concerning required mine plan layout and sequence changes for the 3rd North "B", westside reserves; between the 2nd West and the 10th West Mains; Blind Canyon Seam, Deer Creek Mine.

As a result of: (1) reserve loss due to outcrop burn in the reserve block east of the 3rd North "B" Mains; (2) timing delays and second mining issues regarding pending mine permit application approvals for the Rilda Lease Tract Extension and proposed Rilda Canyon Surface Support Facilities; and (3) the need for additional field exploration time for reserve delineation and permitting of the projected North Rilda Canyon reserves - PacifiCorp submits the attached reconfigured Deer Creek Mine resource recovery and protection plan for BLM's review and approval (See Enclosure #1).

## REVIEW / APPROVAL REQUEST

Due to the urgency of sequence timing with regard to longwall panel development for uninterrupted longwall production, PacifiCorp requests the BLM to first consider the "westside", 3rd North "B" Mains portion of the plan: South of the proposed 10 West Mains; north of the proposed 2nd West Mains; and east of the eastern boundary of State Lease ML-22509. Timely approval of this portion of the plan will allow for development to begin to the west of the existing 3rd North "B" Mains upon final approval of the Rilda Lease Tract Extension permit application, currently pending final approval signature.

## HISTORICAL BACKGROUND:

PacifiCorp's initial Deer Creek Mine (Blind Canyon Seam) R2P2 layout, for reserves north of the Roan's Canyon Fault area, was premised on layout orientation and sequence of the proposed underground workings - maximizing resource recovery and coal quality.

With these factors being fully considered, mine planning and mine sequence timing assumed a timely mine permit approval process of the Rilda Lease Tract Extension Area; Rilda Canyon Surface Facilities; and North Rilda Canyon Extension Area.

It was also assumed, from extensive exploration work done in the Rilda Canyon area, that unidentified adverse geologic or geotechnical conditions (i.e.: structural faulting, horizontal/vertical stress effects, joint system/ fracture orientation, channel scouring, water oxidation zones, outcrop burn areas, overburden condition, etc.) would only have minimal effect to the overall mine plan and subsequent reserve recovery.

## HISTORICAL TIME LINE

The following is a time line of events with regard to permitting and mining of the area north of the Roans Canyon Fault:

- Feb./1990: Rilda Lease Tract Extension Area Permit Application submitted.
- Jun./1990: Roan's Canyon Fault crossing completed.
- Sep./1992: Roan's Canyon "Second" Fault crossing completed.
- Jan./1994: 2nd East Longwall Panel completed.
- Mar./1994: Rilda Canyon Surface Facility Permit Application submitted.

- Jun./1994: Left Fork of Rilda Canyon (second mining); withdrawn from Rilda Lease Ext. Permit pending further environmental impact evaluation.
- Jul./1994: 5th East Development encountered burn coal margin.
- Aug./1994: 3rd East Longwall Panel completed.
- Sep./1994: 5th East Setup moved to crosscut #48; approx. 3100 ft. outby planned setups.
- Oct./1994: 6th East Development encountered burn coal margin.
- Oct./1994: 6th East Setup moved to crosscut #42; approx. 4400 ft. outby planned setups.
- Nov./1994: 7th East Longwall Panel - exploration drilling from 6th East gate on-going at crosscut #32; burn line trending east - west through middle of panel.
- Nov./1994: Rilda Lease Tract Extension Permit; approved by USFS/DOGM; OSM solicitor review in progress; pending final approval from Sec. of Interior.
- Nov./1994: Rilda Surface Facilities Permit; special use permit approved by USFS; response to DOGM deficiency list ongoing; pending final approval.

From review of the above referenced time line; adverse geologic conditions, reserve loss and delays in required permit application approvals has made it necessary to modify the current approved Deer Creek Mine resource recovery and protection plan (R2P2).

Based on this current situation, PacifiCorp proposes immediate modification to the approved Deer Creek Mine R2P2, for both sequence and layout, to facilitate immediate 3rd North "B" Mains, westside development.

### **RECONFIGURATION**

The proposed reconfigured mine plan is developed with full consideration to geotechnical parameters as well as maximum reserve recovery. Westside longwall panel gateroads and the 10th West Mains are reconfigured with east - west orientation; differing from the currently approved N-65deg.-E (panel/mains) orientation.

### **GEOTECHNICAL CONSIDERATION**

From a geotechnical perspective, the proposed east - west orientation provides two major improvements; (1) improved gate road stability and (2) improved longwall cavability through better alignment with the principal horizontal stress field (N-50deg.-W). and the existing joint/fracture system (N-S).

### RESERVE RECOVERY

Reserve recovery, with the proposed east - west orientation, is calculated to be approximately 7% greater, overall, as compared with the approved orientation; based on recoverable reserves south of the 10th West Mains, north of 2nd West gate development and east of State Lease ML-22509.

### PROTECTIVE BARRIERS

Mainline and bleeder entry solid coal protection barriers are sized with regard to; (1) intended duration of use, (2) depth of cover in the area, (3) geologic conditions and (4) historical performance of similar sized barriers in similar conditions.

The following barrier sizes are presented with the proposed layout/configuration (See Enclosure #1):

. 3rd North "B" Mains -----	500' Barrier
. 10th West Mains -----	300' to 400' Barrier
. 2nd West Mains -----	500' Barrier
. 2nd West - 9th West Bleeder -----	400' Barrier
. Property Boundary -----	50' Barrier

### SEQUENCE MODIFICATION:

The current approved Deer Creek Mine R2P2 sequence for the reserves north of the Roans Canyon Fault area is as follows:

- (1) Eastside of 3rd North "B" Mains (2nd East - 7th East - BC)
- (2) North Rilda - Blind Canyon Reserves
- (3) North Rilda - Hiawatha Reserves
- (4) Westside of 3rd North "B" Mains (Blind Canyon Reserves)
- (5) South Rilda Canyon - Hiawatha Reserves

The proposed sequence for the newly configured modification request for the reserves north of the Roans Canyon Fault area is as follows:

- (1) Eastside of 3rd North "B" Mains (2nd East - 7th East - BC)
- (2) Westside of 3rd North "B" Mains (8th West - 2nd West - BC)
- (3) North Rilda - Blind Canyon Reserves
- (4) North Rilda - Hiawatha Reserves
- (5) South Rilda Canyon - Hiawatha Reserves

Due to reserve loss on the eastside of 3rd North "B" Mains and issues with permitting the 10th West / 4th North (Left Fork) area of Rilda Canyon, development timing and required longwall sequence is not facilitated with the approved plan.

Timing of the North Rilda reserves requires additional field and geotechnical exploration with regard to possible extent of outcrop burn prior to formal permit application submittal. Also, further analysis is required with regard to Castlegate escarpment protection and subsurface water issues in the North Rilda reserve area. These factors currently preclude mining north of the northern boundary of the Rilda Lease Tract Extension Area.

#### MODIFICATION REQUEST

With consideration to the various issues at hand, PacifiCorp submits this R2P2 modification request with regard to identified mine plan layout and sequence changes for the 3rd North "B" Mains, westside reserves; between 2nd West and 10th West Mains, Blind Canyon Coal Seam, Deer Creek Mine.

Due to the urgency of this request, timely BLM review and approval of the proposed plan is essential to allow for direct commencement of development upon final approval of the pending Rilda Lease Tract Extension permit application.

If you require additional information or have questions, please let me know.

Sincerely,



For: Steven E. Kochevar, P.E.  
Mine Planning Administrator

1 Enclosure.

#1 Enclosure - Deer Creek Mine Proposed Layout and Sequence Changes; Submitted 11/30/94.

cc: Brent Northrup, BLM  
Doug Koza, BLM  
Alan Rabinoff, BLM  
Stan Perkes, BLM  
Dan Baker, Interwest  
John Boylen, EWMC  
Scott Child, Interwest  
Garth Nielson, EWMC  
Morgan Moon, EWMC  
Val Payne, EWMC  
Ken Fleck, EWMC  
L.J. LaFrentz, EWMC  
Gary Takenaka, Interwest



December 12, 1994

Mr. Carter Reed  
U. S. Forest Service  
Manti-LaSal National Forest  
599 Price River Drive  
Price, Utah 84501

**Re: Deer Creek Mine Resource Recovery and Protection Plan (R2P2)**

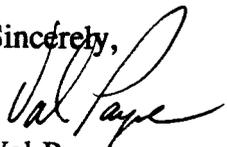
Dear Mr. Reed:

Enclosed, for your information, is a copy of the Modification Request for the Deer Creek Mine R2P2, which was submitted to the Bureau of Land Management on December 5, 1994.

Accompanying the R2P2 information is a report titled **Ground Stability Analysis for the Area West of Deer Creek Third North "B" Mains**. This report discusses the R2P2 Modification Request in relationship to the concerns regarding the Left Fork of Rilda Canyon.

Two (2) additional copies of the above referenced materials are provided for your use. If you have questions, please call me at 653-2312, ext. 16. Additionally, as we discussed, I would like to meet with USFS personnel, as soon as possible, to discuss this information.

Sincerely,

  
Val Payne  
Sr. Environmental Engineer

cc: L. LaFrentz  
M. Moon  
B. Webster  
File

Huntington Office:  
(801) 687-9821  
Fax # (801) 687-2695

Deer Creek Mine:  
(801) 381-2317  
Fax # (801) 381-2285

Cottonwood Mine:  
(801) 748-2319  
Fax # (801) 748-2380

One Utah Center, Suite 2000  
Salt Lake City, Utah 84140-0020  
(801) 220-4616 • FAX (801) 220-4725



*A Subsidiary of PacifiCorp*

Dec. 5, 1994

Mr. Mark Bailey  
District Area Manager  
Bureau of Land Management  
Moab District, Price River Resource Area  
900 North 700 East  
Price, Utah 84501

Re: Deer Creek Mine Resource Recovery and Protection Plan (R2P2);

**MODIFICATION REQUEST: MINE PLAN LAYOUT AND SEQUENCE  
CHANGE; 3RD NORTH "B" MAINS, WESTSIDE RESERVES; BETWEEN THE  
2ND WEST AND 10TH WEST MAINS; BLIND CANYON COAL SEAM, DEER  
CREEK MINE.**

Mr. Bailey:

PacifiCorp, by and through its wholly-owned subsidiaries, Interwest Mining Company ("Interwest") as managing agent and Energy West Mining Company ("Energy West") as mine operator, submits the following R2P2 modification request concerning required mine plan layout and sequence changes for the 3rd North "B", westside reserves; between the 2nd West and the 10th West Mains; Blind Canyon Seam, Deer Creek Mine.

As a result of: (1) reserve loss due to outcrop burn in the reserve block east of the 3rd North "B" Mains; (2) timing delays and second mining issues regarding pending mine permit application approvals for the Rilda Lease Tract Extension and proposed Rilda Canyon Surface Support Facilities; and (3) the need for additional field exploration time for reserve delineation and permitting of the projected North Rilda Canyon reserves - PacifiCorp submits the attached reconfigured Deer Creek Mine resource recovery and protection plan for BLM's review and approval (See Enclosure #1).

## REVIEW / APPROVAL REQUEST

Due to the urgency of sequence timing with regard to longwall panel development for uninterrupted longwall production, PacifiCorp requests the BLM to first consider the "westside", 3rd North "B" Mains portion of the plan: South of the proposed 10 West Mains; north of the proposed 2nd West Mains; and east of the eastern boundary of State Lease ML-22509. Timely approval of this portion of the plan will allow for development to begin to the west of the existing 3rd North "B" Mains upon final approval of the Rilda Lease Tract Extension permit application, currently pending final approval signature.

## HISTORICAL BACKGROUND:

PacifiCorp's initial Deer Creek Mine (Blind Canyon Seam) R2P2 layout, for reserves north of the Roan's Canyon Fault area, was premised on layout orientation and sequence of the proposed underground workings - maximizing resource recovery and coal quality.

With these factors being fully considered, mine planning and mine sequence timing assumed a timely mine permit approval process of the Rilda Lease Tract Extension Area; Rilda Canyon Surface Facilities; and North Rilda Canyon Extension Area.

It was also assumed, from extensive exploration work done in the Rilda Canyon area, that unidentified adverse geologic or geotechnical conditions (i.e.: structural faulting, horizontal/vertical stress effects, joint system/ fracture orientation, channel scouring, water oxidation zones, outcrop burn areas, overburden condition, etc.) would only have minimal effect to the overall mine plan and subsequent reserve recovery.

## HISTORICAL TIME LINE

The following is a time line of events with regard to permitting and mining of the area north of the Roans Canyon Fault:

- Feb./1990: Rilda Lease Tract Extension Area Permit Application submitted.
- Jun./1990: Roan's Canyon Fault crossing completed.
- Sep./1992: Roan's Canyon "Second" Fault crossing completed.
- Jan./1994: 2nd East Longwall Panel completed.
- Mar./1994: Rilda Canyon Surface Facility Permit Application submitted.

- Jun./1994: Left Fork of Rilda Canyon (second mining); withdrawn from Rilda Lease Ext. Permit pending further environmental impact evaluation.
- Jul./1994: 5th East Development encountered burn coal margin.
- Aug./1994: 3rd East Longwall Panel completed.
- Sep./1994: 5th East Setup moved to crosscut #48; approx. 3100 ft. outby planned setups.
- Oct./1994: 6th East Development encountered burn coal margin.
- Oct./1994: 6th East Setup moved to crosscut #42; approx. 4400 ft. outby planned setups.
- Nov./1994: 7th East Longwall Panel - exploration drilling from 6th East gate on-going at crosscut #32; burn line trending east - west through middle of panel.
- Nov./1994: Rilda Lease Tract Extension Permit; approved by USFS/DOGM; OSM solicitor review in progress; pending final approval from Sec. of Interior.
- Nov./1994: Rilda Surface Facilities Permit; special use permit approved by USFS; response to DOGM deficiency list ongoing; pending final approval.

From review of the above referenced time line; adverse geologic conditions, reserve loss and delays in required permit application approvals has made it necessary to modify the current approved Deer Creek Mine resource recovery and protection plan (R2P2).

Based on this current situation, PacifiCorp proposes immediate modification to the approved Deer Creek Mine R2P2, for both sequence and layout, to facilitate immediate 3rd North "B" Mains, westside development.

### **RECONFIGURATION**

The proposed reconfigured mine plan is developed with full consideration to geotechnical parameters as well as maximum reserve recovery. Westside longwall panel gateroads and the 10th West Mains are reconfigured with east - west orientation; differing from the currently approved N-65deg.-E (panel/mains) orientation.

### **GEOTECHNICAL CONSIDERATION**

From a geotechnical perspective, the proposed east - west orientation provides two major improvements; (1) improved gate road stability and (2) improved longwall cavability through better alignment with the principal horizontal stress field (N-50deg.-W). and the existing joint/fracture system (N-S).

**RESERVE RECOVERY**

Reserve recovery, with the proposed east - west orientation, is calculated to be approximately 7% greater, overall, as compared with the approved orientation; based on recoverable reserves south of the 10th West Mains, north of 2nd West gate development and east of State Lease ML-22509.

**PROTECTIVE BARRIERS**

Mainline and bleeder entry solid coal protection barriers are sized with regard to; (1) intended duration of use, (2) depth of cover in the area, (3) geologic conditions and (4) historical performance of similar sized barriers in similar conditions.

The following barrier sizes are presented with the proposed layout/configuration (See Enclosure #1):

- . 3rd North "B" Mains ----- 500' Barrier
- . 10th West Mains ----- 300'to 400' Barrier
- . 2nd West Mains ----- 500' Barrier
- . 2nd West - 9th West Bleeder ----- 400' Barrier
- . Property Boundary ----- 50' Barrier

**SEQUENCE MODIFICATION:**

The current approved Deer Creek Mine R2P2 sequence for the reserves north of the Roans Canyon Fault area is as follows:

- (1) Eastside of 3rd North "B" Mains (2nd East - 7th East - BC)
- (2) North Rilda - Blind Canyon Reserves
- (3) North Rilda - Hiawatha Reserves
- (4) Westside of 3rd North "B" Mains (Blind Canyon Reserves)
- (5) South Rilda Canyon - Hiawatha Reserves

The proposed sequence for the newly configured modification request for the reserves north of the Roans Canyon Fault area is as follows:

- (1) Eastside of 3rd North "B" Mains (2nd East - 7th East - BC)
- (2) Westside of 3rd North "B" Mains (8th West - 2nd West - BC)
- (3) North Rilda - Blind Canyon Reserves
- (4) North Rilda - Hiawatha Reserves
- (5) South Rilda Canyon - Hiawatha Reserves

Due to reserve loss on the eastside of 3rd North "B" Mains and issues with permitting the 10th West / 4th North (Left Fork) area of Rilda Canyon, development timing and required longwall sequence is not facilitated with the approved plan.

Timing of the North Rilda reserves requires additional field and geotechnical exploration with regard to possible extent of outcrop burn prior to formal permit application submittal. Also, further analysis is required with regard to Castlegate escarpment protection and subsurface water issues in the North Rilda reserve area. These factors currently preclude mining north of the northern boundary of the Rilda Lease Tract Extension Area.

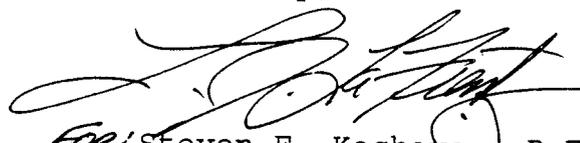
#### MODIFICATION REQUEST

With consideration to the various issues at hand, PacifiCorp submits this R2P2 modification request with regard to identified mine plan layout and sequence changes for the 3rd North "B" Mains, westside reserves; between 2nd West and 10th West Mains, Blind Canyon Coal Seam, Deer Creek Mine.

Due to the urgency of this request, timely BLM review and approval of the proposed plan is essential to allow for direct commencement of development upon final approval of the pending Rilda Lease Tract Extension permit application.

If you require additional information or have questions, please let me know.

Sincerely,



For: Steven E. Kochevar, P.E.  
Mine Planning Administrator

1 Enclosure

#1 Enclosure - Deer Creek Mine Proposed Layout and Sequence  
Changes; Submitted 11/30/94.

cc: Brent Northrup, BLM  
Doug Koza, BLM  
Alan Rabinoff, BLM  
Stan Perkes, BLM  
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Morgan Moon, EWMC  
Val Payne, EWMC  
Ken Fleck, EWMC  
L.J. LaFrentz, EWMC  
Gary Takenaka, Interwest

# **ENERGY WEST MINING COMPANY**

**GROUND STABILITY ANALYSIS FOR THE AREA WEST OF THE  
DEER CREEK THIRD NORTH "B" MAINS**

**BY: MORGAN MOON**

**DECEMBER 12, 1994**

## GROUND STABILITY ANALYSIS FOR THE AREA WEST OF THE DEER CREEK THIRD NORTH "B" MAINS

Ground control problems associated with longwall extraction of the panels east of the 3rd North "B" Mains and permitting issues with the current plan to extract longwall panels under the Left Fork of Rilda Canyon has required a change in the panel orientation and layout for the reserves west of the 3rd North "B" Mains. The current plan shows panels being developed normal to the 3rd North "B" Mains on the same Northeast-Southwest bearing as the eastern panels, with longwall extraction under the Left Fork of Rilda Canyon. To improve longwall extraction ground control and to address concerns regarding possible impacts associated with longwall extraction beneath the Left Fork and possible interruption of contributions to perennial flow in the lower portions of Rilda Creek, the plan was redesigned with panels oriented east-west and the 10th West Mains and barrier pillar being positioned under the Left Fork.

The present, northeast, panel orientation results in adverse ground control conditions when longwall mining takes place. The longwall face is at an oblique angle to the discontinuity planes which results in poor caving characteristics of the roof behind the longwall supports. The headgate and tailgate entries are subjected to high mining induced stress, caused by cantilever loads from the roof's poor caving characteristics. This high stress results in severe floor heave, entry distortion and convergence, coal bursts and roof control problems. The mining operation has been able to deal with these problems, on the east side of 3rd North "B" Mains, because of low depth of overburden. Geotechnical analysis (Agapito, 1994, Exhibit 1) shows that the maximum horizontal stress direction is normal to the strike of the entries. This orientation of gate entries results in a greater potential for ground control problems, due to the horizontal stress field.

Panels on the west side of the 3rd North "B" Mains will be under some of the deepest overburden encountered in Deer Creek Mine, with depths in excess of 2000 feet. The increased stress will exacerbate ground control in this area. In order to minimize the effect of the high horizontal stress component and to facilitate caving along the natural joint planes the panels have been reoriented to an east-west direction. This will place the longwall gate-entries in an improved orientation with respect to ground control.

To address the concerns raised about potential impacts of longwall mining under the shallow overburden depths in the Left Fork, the mine plan was changed to place the 10th West Mains and protective barrier under this area. A series of cross-sections of the alluvium in the Left Fork were developed and the analysis shows that the subsidence from the panels extracted to the south of the 10th West Mains and barriers will not affect the alluvial material. The 10th West Mains section configuration was also analyzed, to determine the long term stability of this section (see Exhibit 2). Using the tributary loading method, the proposed pillars design exhibited a safety factor in excess of 4. A safety factor of 1 or greater indicates stability. A generally accepted engineering criteria is that a safety factor of 2 is adequate for long term stability.

Roof falls within this sections will not have an effect on the long term stability of the entries because of the large safety factor. Although the immediate roof could fail over time, the natural arching of the roof, when it is supported by very stable pillars, reaches an equilibrium where further movement toward the surface ceases a short distance above the mine's roof.

Concern has been expressed regarding reduced pillar and pillar foundation stability resulting from exposure to flooding. Areas of the Deer Creek Mine and other operations on East Mountain that were developed 30 to 40 years ago, with pillars that do not approach the safety

factor of the proposed system, have been flooded; but, remain stable and do not show evidence of instability or surface subsidence. Flooded "old workings" have been drained, rehabilitated and placed back into operation. The pillars in these areas remain stable with no indication of flooding-related instability. This evidence supports the conclusions reached about long term stability of this section.

### ESCARPMENT STABILITY ANALYSES

The escarpment stability was analyzed for the revised mine plan to insure that the plan provides for a stable escarpment that would allow for the maximum recovery of coal while protecting the related resources. The plan, as proposed, will provide the same degree of escarpment protection as did the original plan.

#### Escarpment Characteristics

The escarpment in the Left Fork of Rilda Canyon is at a slope of 45% grade, at the site where cross-sections were prepared. The escarpment over the two effected panels is covered by vegetation over 42.5% of the area and has steep or rock slopes over 4.5% of the area. The remaining 53% escarpment consists of cliffs which are relatively low and not well developed. The characteristics of the escarpment indicates stability in the unmined state and will contribute to stable conditions when mining takes place. A series of cross-sections, which demonstrate the premining conditions, were developed for this area (see Exhibit 3).

#### Panel Orientation

The panels were designed in an east-west orientation to provide for safe ground control in the underground operation and to provide a logical mining plan to protect the alluvium in the Left Fork. Positioning the panels in this direction places the majority of the escarpment in a N65°W orientation in relation to the panel. The other areas of the escarpment will be roughly

perpendicular to the panel orientation. The oblique relationship of the escarpment to the longwall panels will provide stability. The joint discontinuities will intersect the escarpment at an oblique angle which will result in outcrop stability. This was demonstrated by the same principle on the south side of Newberry Canyon.

#### Panel Position

The panels were designed to place the escarpment in the subsidence trough, created by the 8th West and 7th West panels, to take advantage of the maximum number of positive controls to protect it. This will place the escarpment in the compression zone of the subsidence basin and will not subject it to the tensional forces. The proposed panel orientation will place the escarpment in the subsidence basin for each panel, subjecting it to compressional forces. The extraction of the two panels will be super critical under this depth of cover which will produce a subsidence basin that will continue to the south as the panels are extracted. This will produce stability as reported by Pariseau in the Mining Induced Subsidence Study Report to the Bureau of Land Management District Office, August 1992.

### SUMMARY AND CONCLUSIONS

Adverse ground control conditions encountered on the east side of 3rd North "B" Mains and the higher stress that will be present on the west side have required the mine plan to be changed and the panels on the west to be oriented to east-west. In addition concerns over possible effects of longwall mining under the Left Fork required a redesign of the mine plan to address these concerns. The stability of the escarpment was evaluated and it was determined that it would be as stable as that portion of the escarpment on the east side of 3rd North "B" Mains, that was approved for mining. This conclusion is based on the following.

1. The escarpment in this area is not well developed. A major portion of the

escarpment consists of vegetated slopes with little exposed outcrop. The areas where cliffs are present are on moderate slopes and the outcrops are not high or well developed. The stability of the slope before mining indicates that it will remain relatively stable after mining.

2. The escarpment will intersect the panels and the major discontinuities at an oblique angle that will result in stable conditions. This principle was demonstrated on the south side of Newberry Canyon where similar conditions occurred.
3. The escarpment was positioned to keep it from being subjected to the tensional forces that are present outside the subsidence basin. Placing the escarpment inside the subsidence basin subjects it to compressional forces which resists movement along the discontinuity plane. Finite element analysis, which analyzed safety factors, stress and displacements, demonstrates that widening the excavation to a width that places the escarpment into the compressive zone of the subsidence basin allows the escarpment to yield without a large stress gradient and results in a stable escarpment.
4. The area of the Left Fork where the coal seam has been burnt, resulting in complete removal of the coal seam under the escarpment, does not indicate evidence of large scale instability. This supports the conclusions reached.

## REFERENCES

1. Seegmiller, B.L. Surface Stability Evaluation 6E/7E and 9W/10W Panels Cottonwood Mine. Report to Utah Power and Light Company. November 1987.
2. Jones, R.E., W.G. Pariseau, V. Payne and G. Takenaka. Sandstone Escarpment Stability in Vicinity of Longwall Mining Operations. In: Proc. 31st U.S. Symposium on Rock Mechanics. Balkema, 1990, pp 555-562.
3. Pariseau, W.G. Escarpment Stability Study. Newberry and Rilda Canyon Report to Interwest Mining Company. March 1993.
4. Pariseau, W.G. Mining Induced Subsidence Study. Report to the Bureau of Land Management Moab District Office. August 1992.
5. Moon, M.R. Deer Creek Mine Lease Extension Mine Plan and Escarpment Stability Analysis. January 1994.
6. Agapito, J.F.T. and Associates. Evaluation of Panel Orientation for Rilda Canyon Area. September 1994.

The observation that openings in rock and soil remain stable without any artificial support, if the roof becomes arched or peaked, has led to the adaption of arch or dome theories. This approach is most generally accepted in order to obtain an understanding of the complex mechanics involved in ground stability with underground mining.

It has been observed that the zone of influence above an opening assumes an elliptical shape with a height of two times its span. To compute the height of the arch that might develop before the roof reaches equilibrium can be obtained by the following equation:

$$\frac{L/2}{H} = \frac{1}{M-1}$$

Where:

L = width or span of opening

H = height of influence zone

M = Poissons Number

For the Deer Creek Mine's 10th West Mains the maximum height of potential failure is computed as follows:

$$L = 20 \text{ feet}$$

$$M = 5$$

$$\frac{L/2}{H} = \frac{1}{M-1}$$

$$H = 2L$$

$$H = 2(20 \text{ feet})$$

$$H = 40 \text{ feet}$$

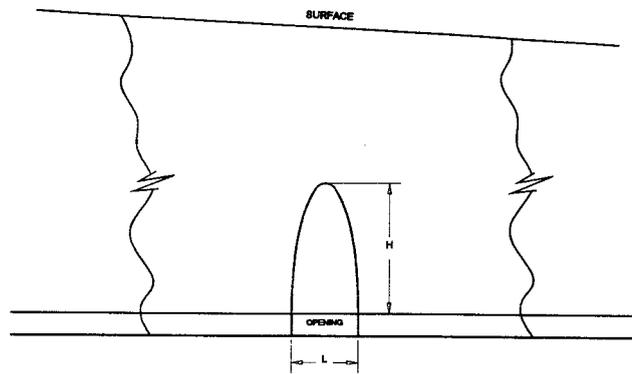


FIGURE 1

## REFERENCE

Adler, L. and Sun, M. "Ground Control In Bedded Formations, " Bulletin 28, Research Division, Virginia Polytechnic Institute, 1968.

## REFERENCE ON SAFETY FACTORS

Bieneawski, Z.T., "Ground Control," Chapter 10.5 in SME "Mining Engineering Handbook," 2nd Edition (ed. H.L. Hartman), SME, Littleton CO., pp 924-927.

**EXHIBIT 1**

**J.F.T. AGAPITO & ASSOCIATES, INC.**  
CONSULTING ENGINEERS

715 HORIZON DRIVE, SUITE 340, GRAND JUNCTION, CO 81506 USA 303/242-4220 FAX 245-9234

September 17, 1994

180-11

Mr. Morgan Moon  
Energy West Mining Co.  
P. O. Box 310  
Huntington, UT 84528

**RE: Evaluation of Panel Orientation for the Rilda Canyon Area**

Dear Morgan:

This letter report addresses the structural stability of the gateroads and the longwall face due to reorientation of longwall panels in the Rilda Canyon area of the Deer Creek Mine. Issues and details regarding panel reorientation were discussed during our August 12, 1994 meeting in Grand Junction. Three tasks were outlined pertaining to structural design for the Rilda Canyon area. The results presented here were described as Task 1 in our proposal dated August 25, 1994. Permission to commence work on Task 1 was given via your letter to Joe Agapito dated August 31, 1994.

Major topics discussed in this report are:

1. Statement of the Problem and Geotechnical Data
2. Evaluation of Gateroad Stability with Respect to Measured Horizontal Stress Anisotropy and Longwall Panel Orientation
3. Evaluation of Face and Gateroad Stability with Respect to Longwall Panel and Primary Joint Set Orientation
4. Conclusions and Recommendations

## 1. Statement of the Problem and Geotechnical Data

This study is to assess whether there are structural advantages to reorienting longwall panels in the Rilda Canyon area of the Deer Creek Mine. The current mine plan for the Rilda Canyon area is shown in Figure 1. Extensive development mining has already been completed to the east of the 3rd North Mains. The proposed plan after reorientation of undeveloped panels is shown in Figure 2. Two longwalls have been retreated to the east of the mains and a third is underway. Orientation of the developed gateroads and 2 extracted longwalls is N65°E. Depths of cover for the panels mined thus far were between 1500 and 1800 ft.

Adverse ground conditions were reportedly experienced during retreat of the longwall panels shown in Figure 2. As much as 100 ft of hang-up in the gob behind the shields was observed. The effects of hanging of the gob was also often noted in the gate entries. The poor cave resulted in excessive loading at the face and in the gate-pillars. A consequence of the excessive abutment loads was severe floor heave in the tailgate and some heaving in the headgate. Periodic bounces occurred in the tailgate pillars generally when located approximately adjacent to the face.

The parameters to be considered in the structural stability evaluation of panel orientation include horizontal stress anisotropy, deep cover, primary joint set orientation and geology. These parameters were incorporated quantitatively and qualitatively into numerical models for the stability evaluation of the panel orientation alternatives N65°E versus East-West.

The in situ stress field components based on overcore measurements in the Rilda Canyon area are summarized in Table 1. Overcore stress measurements conducted in the 3rd North Mains near crosscut 24 indicate a maximum to minimum horizontal stress ratio of 2:1 with the maximum component oriented approximately N50°W. The horizontal stresses, however, are relatively low in comparison to the vertical stress. At the overcore site, where the depth of cover was 1800 ft, the ratio of the in situ vertical stress to the maximum horizontal stress was approximately 2:1. In situ stresses for normal and parallel components to the current and proposed longwall orientations are also shown in Table 1. Depths of cover in the proposed panel reorientation area range from 500 to over 2000 ft.

**Table 1 Measured Stress Field in the 3rd North Mains Near Crosscut 24  
at a Depth of 1800 ft and Extrapolated Values for a Depth of 2000 ft**

Depth (ft)	Vertical Stress (psi)*	Horizontal Principal Stress		Horizontal Stress (psi)			
		Maximum N50°W (psi)	Minimum N30°E (psi)	N65°E	N25°W	East-West	North-South
1,800	1,913	951	450	546	855	753	648
2,000	2,125	1,056	500	606	949	836	719

\* Assuming 153 lb/ft<sup>3</sup>

Mapping and exploration thus far suggests a primary joint system striking North-South ( $\pm 16^\circ$ ) and predominantly vertically-dipping. Based on fracture mapping of Castlegate Sandstone outcrops in Rilda Canyon, 90% of the joints mapped exhibited strikes between N10°E and N10°W with an average joint spacing of 8 ft. Studies have not indicated other joint sets in the Rilda Canyon area.

Stratigraphically the local geology of the Blind Canyon Seam in the Rilda Canyon area is similar to the southern portions of the Deer Creek Mine with a major exception that the seam thickness has increased to 14 to 16 ft in the Rilda Canyon area. Due to experiences with poor top coal stability, the top 8 ft are mined on development leaving approximately 6 ft of coal in the floor. A relatively weak mudstone floor predominates in the southern portions of the mine, while the Rilda Canyon area has a more competent coal floor. The floor coal may provide an improved foundation for pillars which could in turn result in increases in the pillar-system yield strength.

## **2. Evaluation of Gateroad Stability with Respect to Measured Horizontal Stress Anisotropy and Longwall Panel Orientation**

Stress analyses using numerical models were conducted to evaluate gateroad stability with respect to the stress field and panel orientation. Geometries analyzed were for 2 entry gateroads oriented N65°E and East-West. Loading conditions analyzed were for development mining and headgate loading near the face under depths of cover of 1800 and 2000 ft. The approximate locations for the development mining and headgate models are labeled in Figure 3. Two-dimensional vertical cross section models were prepared and analyzed using an elastic-plastic finite element code (JAC). The stress field used in the analyses is given in Table 1 along with the normal and parallel components for the two orientations and cover depths.

The material properties used in this analysis are given in Table 2. Stress analyses results were postprocessed and a factor of safety was calculated for the rock mass surrounding the gate-entry based on the Mohr-Coulomb failure criteria and the strength parameters given in Table 2 for each material. The factor of safety contours and plots are shown in Figures 4 through 7. In these figures, regions where the factor of safety is less than 1.0 represent zones of potential failure. For clarity the regions of potential failure have been blackened in the figures.

Results of the analyses indicate that there is no improvement in entry stability during development mining when mining East-West as compared to mining N65°E. Figures 4 and 5 show factor of safety contours for development loading at depths of 1800 ft and 2000 ft respectively. In both figures the plot on the left shows the results for East-West oriented gateroads and the plot on the right shows the results for N65°E oriented gateroads. Based on the size of the regions in these plots where the factor of safety is less than 1.0, there is a slight increase in the size of the region of potential failure for the East-West orientation. However,

the subtle differences in entry stability indicated by these analytical results are essentially unremarkable.

**Table 2 Material Properties Used in the Evaluation of Gateroad Stability with Respect to Measured Horizontal Stress Anisotropy**

	Elastic Modulus (psi)	Poisson's Ratio	Uniaxial Compressive Strength (psi)	Tensile Strength (psi)	Internal Friction Angle (degrees)	Approximate Yield Strength (psi)
Sandstone Roof	800,000	0.3	3,000	400	30	-
Coal	400,000	0.3	2,500	300	30	-
Headgate Coal Pillar and Rib	400,000	0.3	2,500	300	30	4,500
Mudstone	400,000	0.15	2,000	100	30	-

The results of headgate loading near the face for the stress field in the Rilda Canyon area indicate that there is an improvement in the structural stability of the gate entries in the form of potential floor heave due to longwall panel orientation. Figures 6 and 7 show factor of safety contour plots for the rock mass surrounding a headgate entry adjacent to the gob for depths of 1800 and 2000 ft respectively. Load conditions for these analyses assume that the vertical cross section was located within one pillar length from the face and that some rib yielding had occurred but that the pillar core was intact. In each figure, the left plot represents an East-West longwall panel orientation and the right plot represents a N65°E orientation. Based on the size of the regions where the factor of safety is less than 1.0 in figures 6 and 7, the results for the N65°E longwall orientation indicate a larger region of potential failure in the floor of the entry for both 1800 ft and 2000 ft depths. The zone of potential floor failure represents a potential initiation point for floor heave which ultimately could propagate throughout the floor of the entry.

The results from the headgate loading can be extrapolated to the tailgate in the area outby the face where the loading is similar to that analyzed for the headgate. The results suggest that when longwall panels are oriented N65°E floor heave may be initiated at a position further in front of the face than when panels are oriented East-West due to the horizontal stress anisotropy.

**3. Evaluation of Face and Gateroad Stability With Respect to Longwall Panel and Primary Joint Set Orientation**

The evaluation of face and gateroad stability with respect to longwall panel and joint orientation was conducted using a numerical model (EXPAREA, quasi-3D displacement

discontinuity) to simulate stress redistribution due to longwall mining. Skewed longwall panel orientations with respect to East-West have reportedly produced adverse face and gateroad conditions due to hanging of the gob. Poor cave conditions were simulated for the N65°E panel orientation to demonstrate the resulting excessive load concentrations.

To simulate the difference in abutment load concentrations in the face and tailgate areas cave conditions for the N65°E oriented longwall panels were assumed to be much poorer than the cave conditions for the East-West oriented longwall panels. The poor cave conditions in the N65°E oriented longwall panels were intended to simulate the gob hanging that has been observed when mining in this orientation. For both orientations stress redistributions were computed for depths of cover of 1800 and 2000 ft. Material properties used in the EXPAREA analyses are given in Table 3.

**Table 3 Material Properties Used in the Evaluation of Face and Gateroad Stability With Respect to Longwall Panel and Joint System Orientation**

Roof Elastic Modulus (psi)	4,000,000
Roof Poisson's Ratio	0.15
Seam Elastic Modulus (psi)	200,000
30 ft X 80 ft Yield Pillar Strength (psi)	4,800
Rib Strength (psi)	4,800
Gob Closure for East-West Orientation (ft)	0.55
Gob Closure for N65°E Orientation (ft)	0.75

Figures 8 through 15 show the stress results of the EXPAREA analyses. Note that for each stress contour plot (Figures 8, 10, 12 and 14) a vertical cross section plot (Figures 9, 11, 13 and 15, respectively) is also included corresponding to line AA' in each figure. The plots along line AA' are graphs of vertical stresses through the row of elements 15 ft behind the longwall face. Table 4 presents for comparison the average stress on a 200 ft by 200 ft corner of the longwall face immediately adjacent to the tailgate for the two longwall panel orientations and depths of 1800 and 2000 ft.

Figures 8 and 10 are vertical stress contour plots of the stress redistributions for longwall panels at a depth of 1800 ft oriented East-West and N65°E respectively. For comparison of these two analyses the average stress on a 200 ft by 200 ft corner adjacent to the face and tailgate is 4676 psi for the East-West oriented longwall panel and 5210 psi for the N65°E oriented longwall panel. The depth and orientation portrayed in the analytical results in Figure 10 are similar to those encountered during extraction of the second longwall in the Rilda Canyon area shown in Figure 2. The 5210 psi stress level for the corner in the N65°E analysis is in general agreement with burst prone stress levels reported in our letter report from Joe Agapito to Gary Takenaka dated July 1, 1993, RE: Evaluation of Gob/Mining Width and Sandstone Channel Stresses.

Figures 12 and 14 are vertical stress contour plots of the stress redistributions for longwall panels oriented East-West and N65°E respectively at a depth of 2000 ft. Comparing these results indicates that the average stress on a 200 ft by 200 ft corner adjacent to the face and tailgate is 5162 psi for the East-West oriented longwall panel and 5703 psi for the N65°E oriented longwall panel. Although the East-West analyses suggests average loads approaching the burst prone levels, the N65°E average value of 5702 psi is significantly greater. This difference represents an approximate 10% increase in face corner loads due to the panel orientation skewed to N65°E from East-West.

**Table 4 Average Stresses on a 200 ft by 200 ft Panel Area  
Adjacent to the Face and Tailgate**

Panel Orientation	Depth (ft)	Average Vertical Stress (psi)
East-West	1,800	4,676
N65°E	1,800	5,210
East-West	2,000	5,162
N65°E	2,000	5,703

#### **4. Conclusions and Recommendations**

Analyses of the structural stability of gateroads for development, headgate and tailgate loading conditions suggests that the horizontal stress anisotropy has an impact on entry stability during panel retreat. Results indicate that there is a greater potential for floor heave in the headgate and tailgate areas when longwall panels are oriented N65°E than when oriented East-West.

In addition to the adverse effects of the horizontal stress anisotropy on gateroad stability, it is likely that the hanging of the gob and poor ground conditions are attributable to the primary joint set orientation. Stress analyses for depths of cover of 1800 and 2000 ft showed that a worsening of cave conditions can increase bounce-prone conditions near the face.

Experience reported for the Deer Creek Mine has suggested that an East-West panel orientation produces the most favorable cave conditions. The adverse stability experienced during extraction of longwall panels in the Rilda Canyon area are consistent with problems encountered in the southern portions of the Deer Creek Mine when longwall panels were skewed from an East-West panel orientation. In particular, N65°E oriented longwall panels produced severe floor heave which nearly closed entries in the 7th East tailgate off of the 3rd North Mains.

The bounces experienced in the 30 ft yield pillars in the tailgate may indicate a change in the strength of the gate-pillar system. Prior experience and back-analysis of longwall sections in the southern portions of the Deer Creek Mine have shown that these pillars yield at approximately 4000 to 4500 psi under 1500 to 2000 ft of cover. In these areas 30 ft yield pillars have seldom bounced as their yield strength was closely matched but slightly below the burst prone stress levels. The periodic bouncing of the tailgate pillars in the Rilda Canyon area indicates that these pillars are not performing as expected. Several factors may be contributing to the apparent increase in yield pillar strength:

- The loading rate may have increased due to an unfavorable orientation with respect to the primary joint system. Due to the hanging up of the gob, load transfers may be abrupt at the panel corners (and in gateroads) when undermining jointed blocks at a skewed orientation.
- The increased seam thickness has resulted in a thick coal floor rather than the mudstone floor more common in the southern portions of the mine. The more competent floor coal resists desired pillar degradation near the base of the pillar that may be required for proper yielding.
- A change in pillar strength may also be attributed to a reduction in cleat density. Reducing cleat density would, in effect, increase the rock mass strength.
- Coal strength may be greater in the Rilda Canyon area.

Although pillar bounce frequency in the tailgate may be reduced by a reduction in pillar widths, say to 25 ft, this presents difficulties with equipment storage and operating efficiency. A possible alternative would be to reduce pillar length. This, in effect, would increase crosscut frequency and overall extraction ratio in the gateroads. The increase in extraction ratio would result in a higher 'preload' on the pillars prior to abutment loading during panel retreat. Although the shorter pillars may yield further in front of the face, the yield may be more controllable and ultimately produce the desired effect of reducing bounce frequency. Of course, increased crosscut frequency would contribute to higher development costs.

Investigations should be pursued to assess yield pillar performance for the Rilda Canyon area. If panel reorientation results in a reduction in bounce frequency in tailgate pillars, then it may be concluded that the loading rate was the contributing factor. However, in the meantime, the coal seam should be examined with respect to lithology and cleating and compared to the southern portions of the mine. Lithologic changes in the seam or a decrease in cleat density may justify further coal strength testing.

Regardless of panel orientation, panel extraction sequencing should proceed from areas of deepest cover to areas of shallowest cover. The depth of cover over longwall panels to the west of the 3rd North Mains is decreasing to the north towards Rilda Canyon. Structurally,

Mr. Morgan Moon  
September 17, 1994

Page 8

the preferred sequencing would be to retreat the southernmost panel first (nearest the Roans Canyon Fault) and proceed with panel retreats northward. Mining into deeper cover has the disadvantage of an increasing cover load in addition to an increasing face or side abutment load as the extracted region approaches the critical mining width.

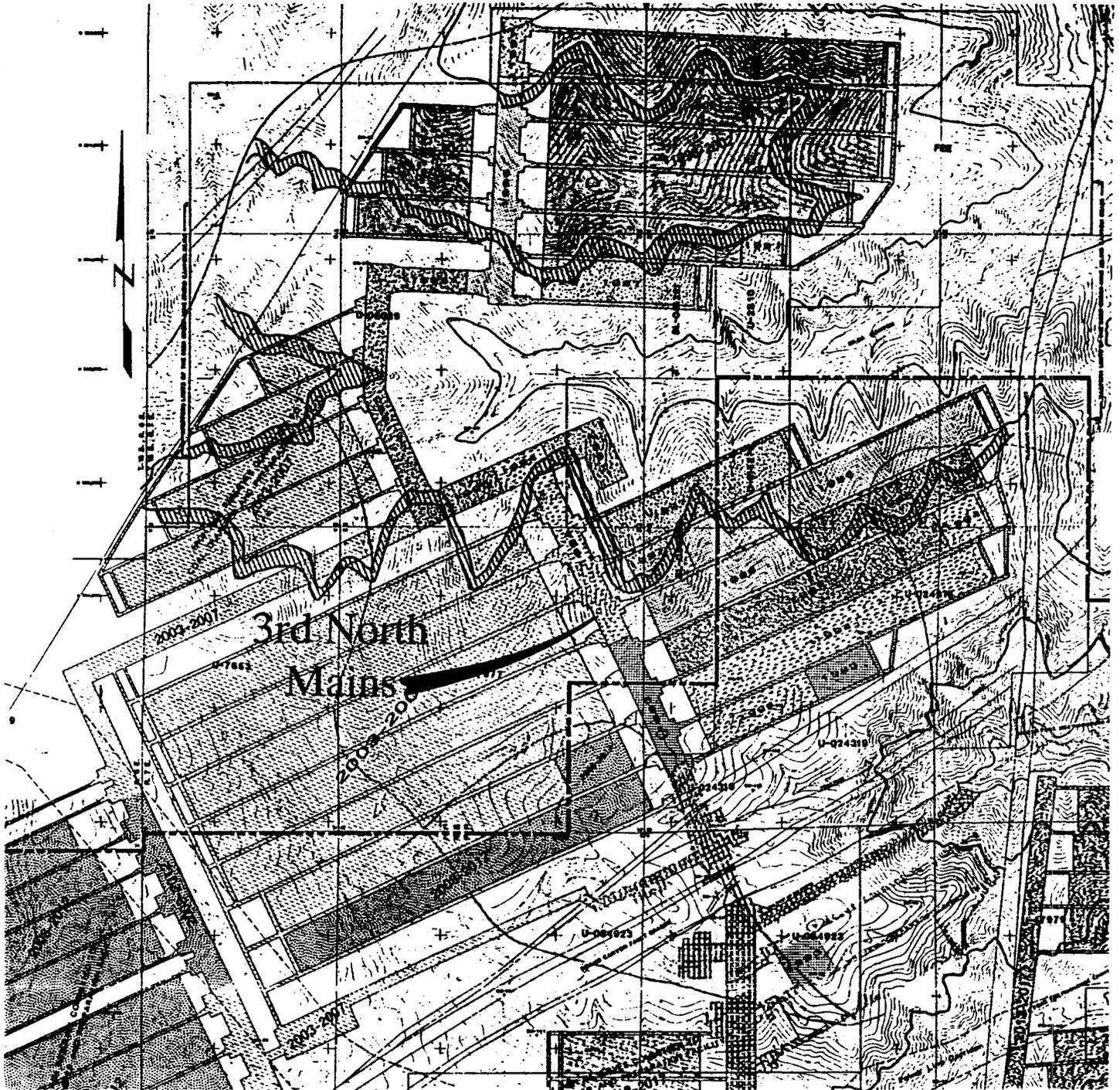
Please call if you have any questions or comments.

Sincerely,

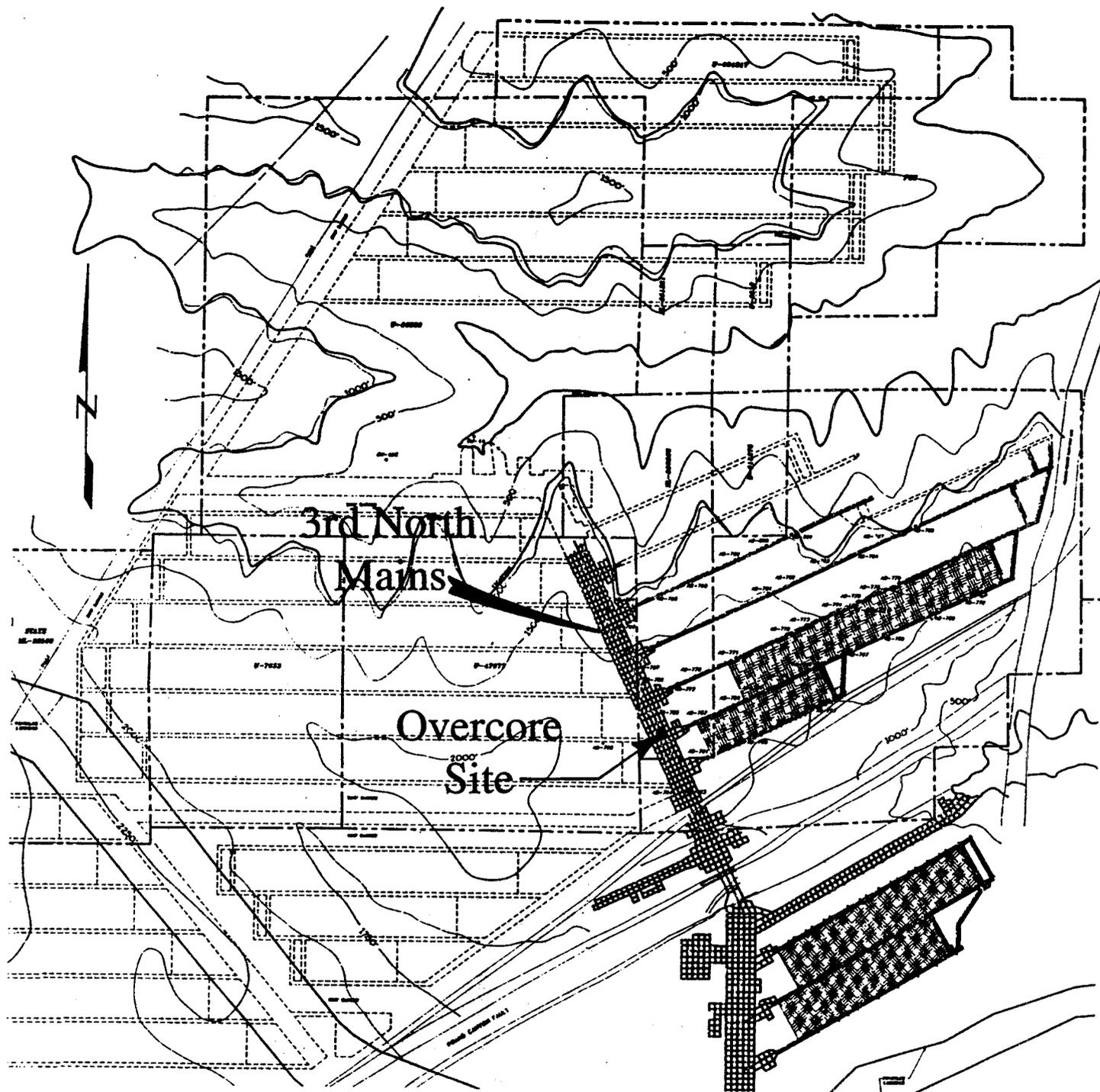


Rex R. Goodrich  
Senior Engineer

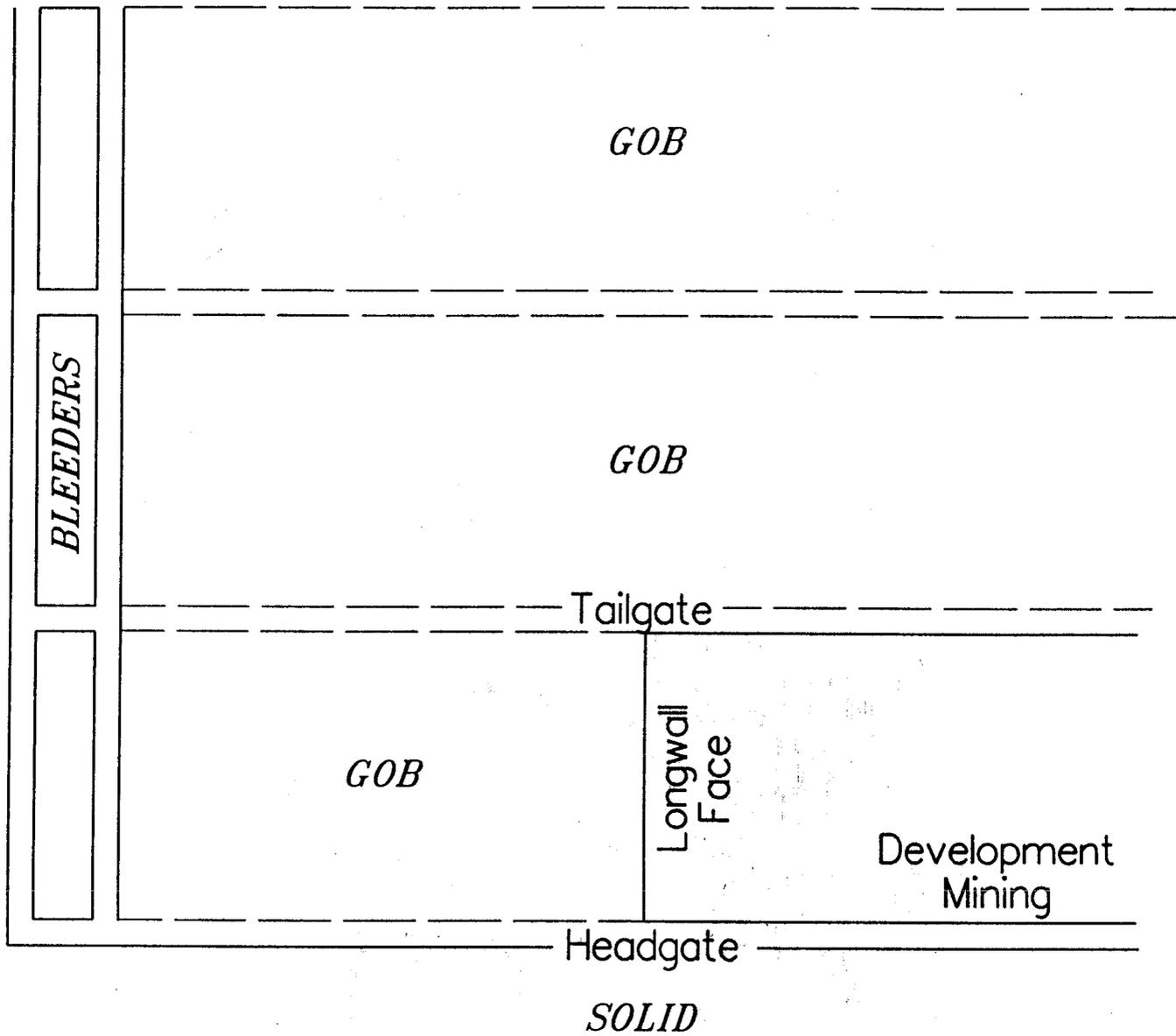
RRG:nm  
Attachments



**Figure 1 North Rilda Mine Area with Longwall Panels Oriented N65°E  
Per Current Plan**

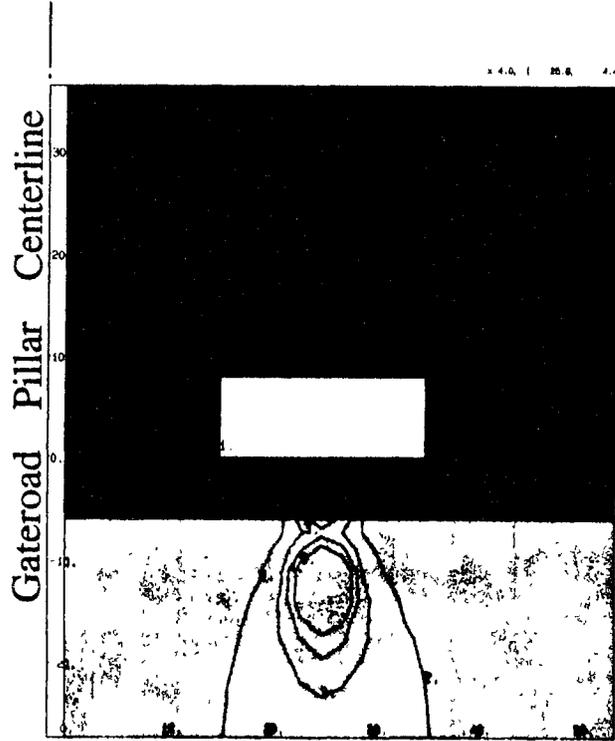


**Figure 2 Proposed North Rilda Mine Area with Longwall Panels Reoriented East-West**



**Figure 3 Generalized Plan View of Longwall Panel Geometry Used for Structural Stability Analyses**

JAC ANALYSIS  
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 STEP 1, TIME .1000E+01

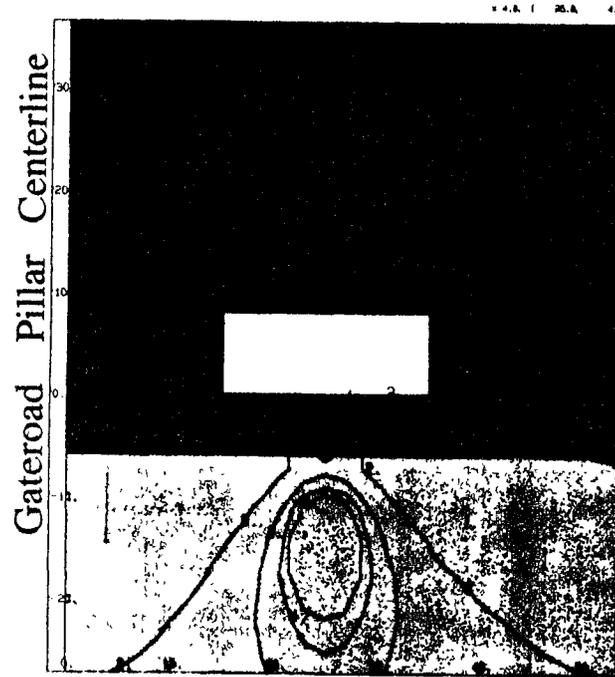


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POSTJAC, V9.0, DATE PLOTTED: 9/15/94  
 FILE=EMD1800.FPL

**East-West Oriented Gateroads**

JAC ANALYSIS  
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 STEP 1, TIME .1000E+01



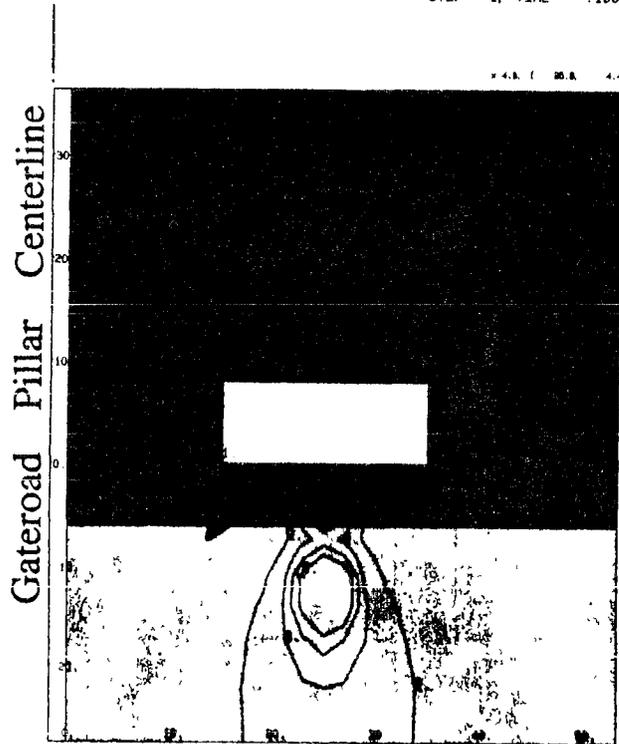
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**N65°E Oriented Gateroads**

**Figure 4 Factor of Safety Contours for Development Mining Under 1800 ft of Cover**

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 STEP 1, TIME .1000E+01

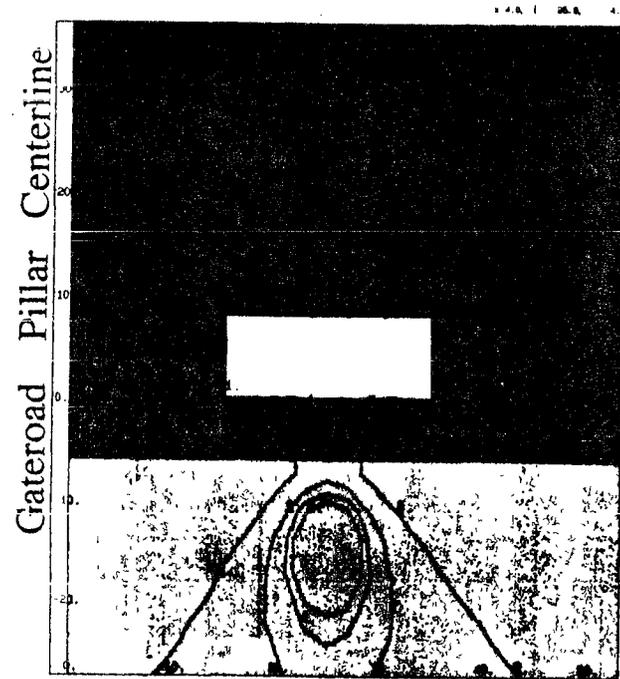


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East-West Oriented Gateroads

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 STEP 1, TIME .1000E+01



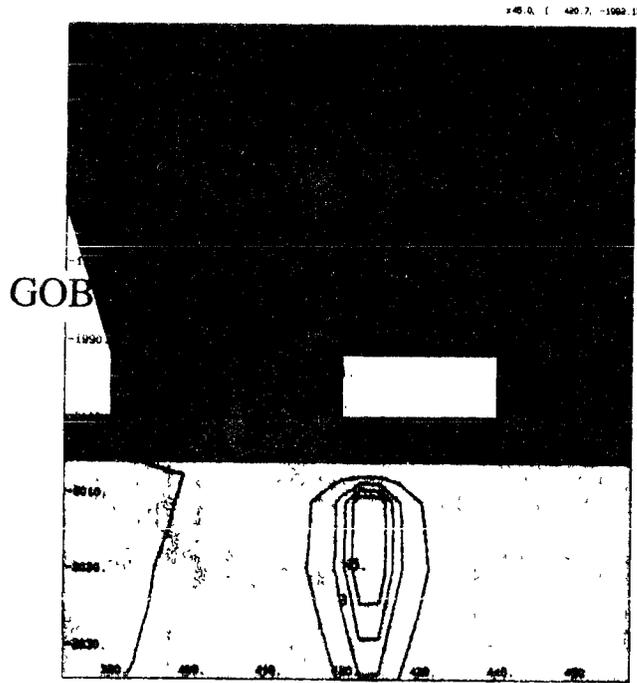
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 FILE=NED2000.FPL

N65°E Oriented Gateroads

Figure 5 Factor of Safety Contours for Development Mining Under 2000 ft of Cover

JAC ANALYSIS  
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 STEP 1, TIME .1000E+01



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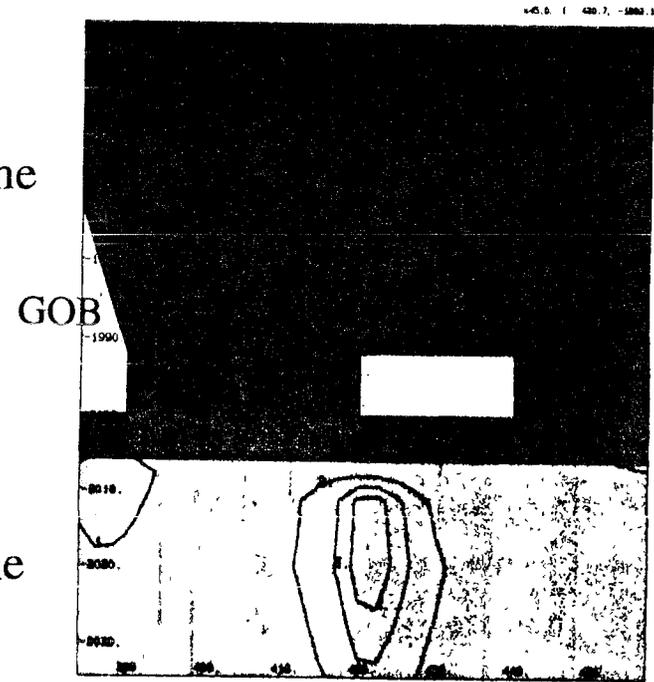
**East-West Oriented Longwalls**

JAC ANALYSIS  
 DEER CREEK MINE, HEADGATE FACE LOADING, NORTH 65 EAST ORIEN, 1800NEF.JAC  
 STEP 1, TIME .1000E+01

Sandstone

Coal  
 Coal

Mudstone



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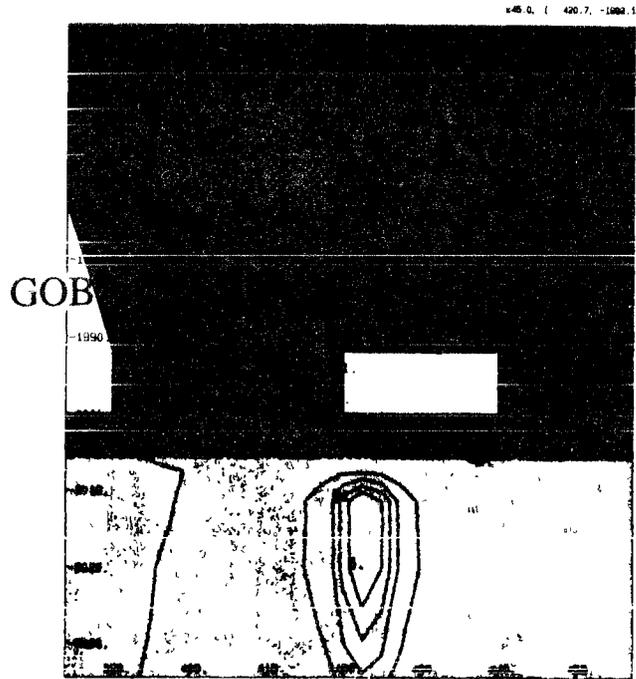
POSTJAC, V9.0, DATE PLOTTED: 9/18/94  
 FILE=1800NEF.FPL

**N65°E Oriented Longwalls**

**Figure 6 Factor of Safety Contours for Headgate Loading Under 1800 ft of Cover**

JAC ANALYSIS  
 DEER CREEK MINE, HEADGATE FACE LOADING, EAST-WEST ORIEN, 2000EWF.JAC  
 STEP 1, TIME .1000E+01

JAC ANALYSIS  
 DEER CREEK MINE, HEADGATE FACE LOADING, NORTH 65 EAST ORIEN, 2000NEF.JAC  
 STEP 1, TIME .1000E+01



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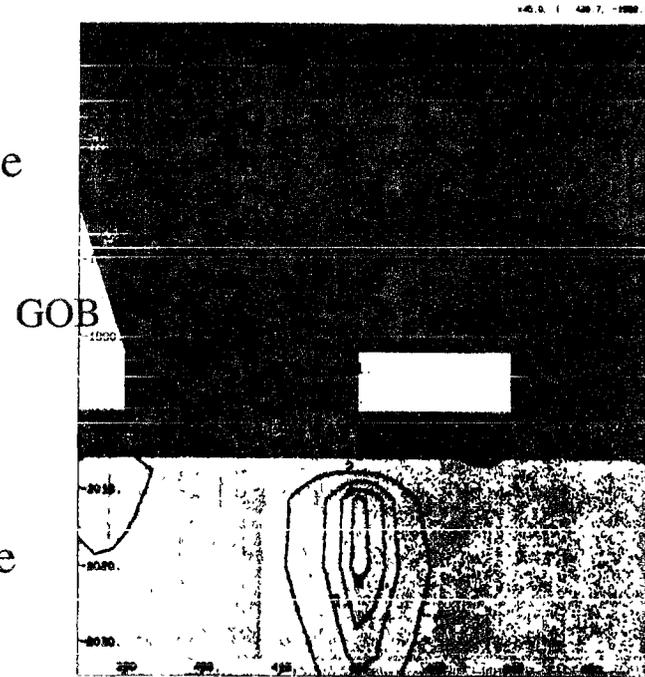
POSTJAC, V9.0, DATE PLOTTED: 9/15/94  
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**East-West Oriented Longwalls**

Sandstone

Coal  
 Coal

Mudstone



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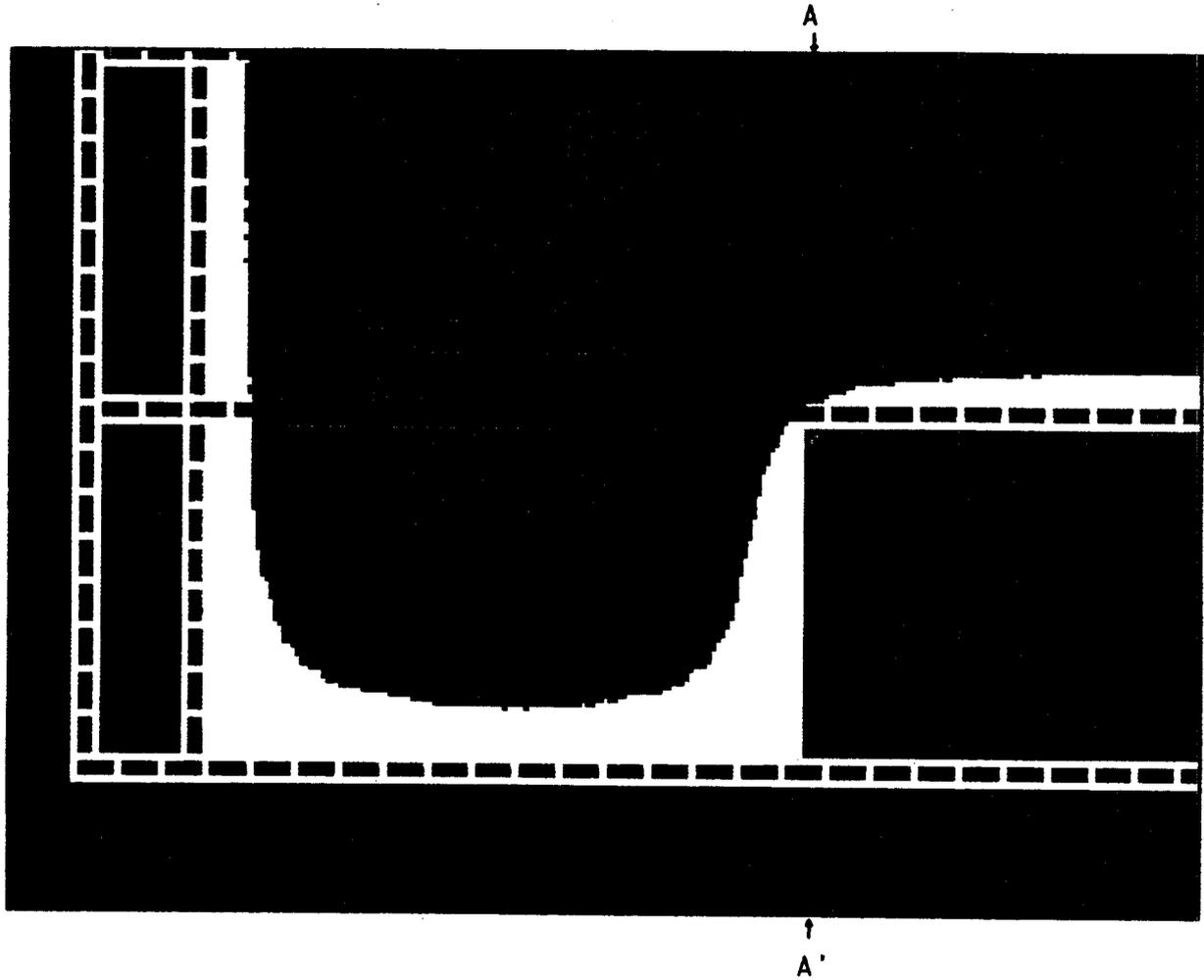
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**N65°E Oriented Longwalls**

**Figure 7 Factor of Safety Contours for Headgate Loading Under 2000 ft of Cover**

# VERTICAL STRESS LEVELS

■	8000	-	12000	PSI
■	6000	-	8000	PSI
■	4000	-	6000	PSI
■	2000	-	4000	PSI
■	1000	-	2000	PSI
■	500	-	1000	PSI
■	100	-	500	PSI

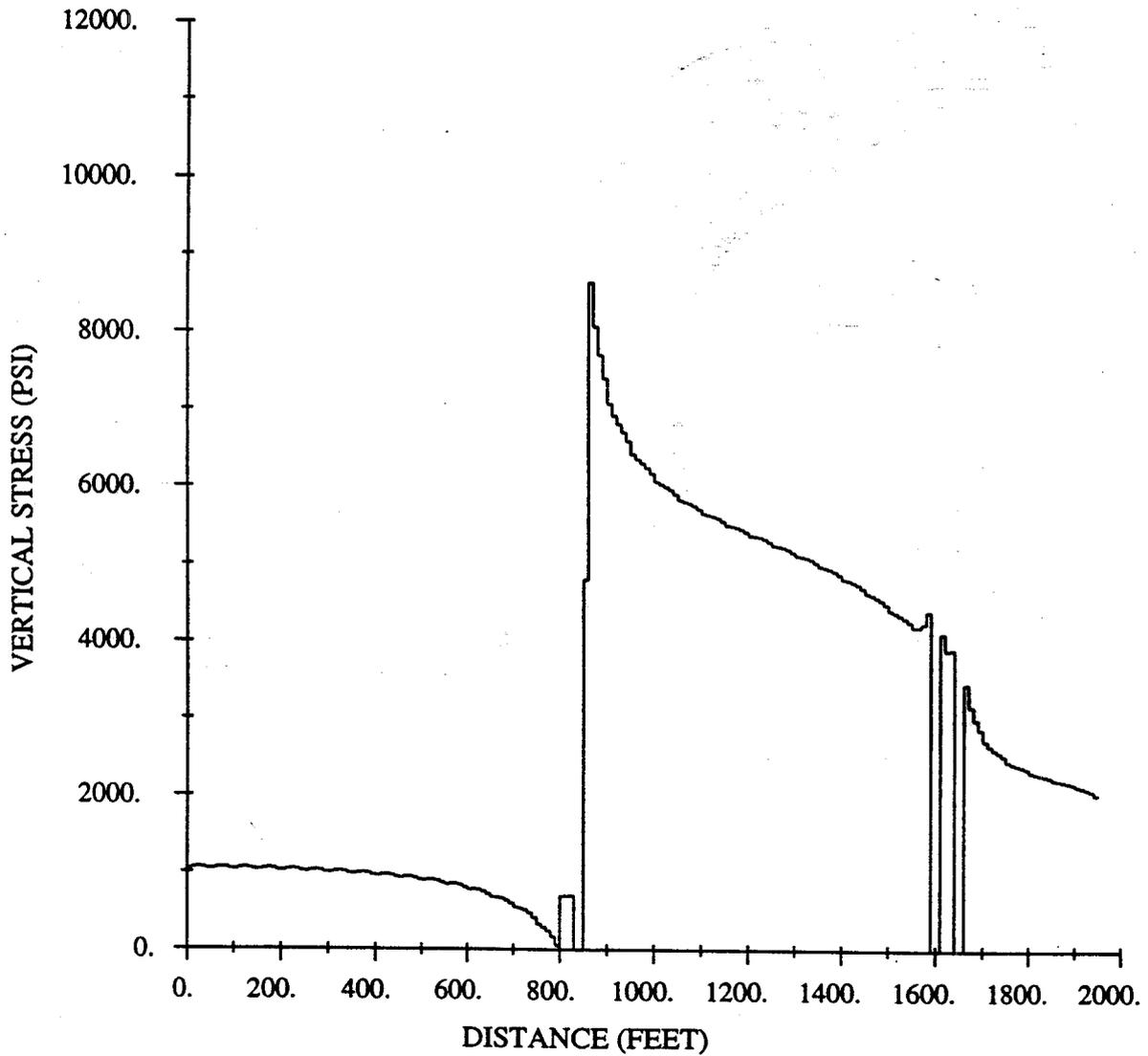


SCALE: 50.0ft

**Figure 8 Vertical Stress Contours for Longwalls Oriented East-West Under 1800 ft of Cover**

FILE = EW1800B.STR

SECTION FROM: ROW 1 1 , COLUMN 37 2  
TO: ROW 39 5 , COLUMN 37 2



**Figure 9 Vertical Stress Along Section A-A' for East-West Oriented Longwalls Under 1800 ft of Cover**

# VERTICAL STRESS LEVELS

■	8000	-	12000	PSI
■	6000	-	8000	PSI
■	4000	-	6000	PSI
■	2000	-	4000	PSI
■	1000	-	2000	PSI
■	500	-	1000	PSI
■	100	-	500	PSI

SCALE: 50.0ft

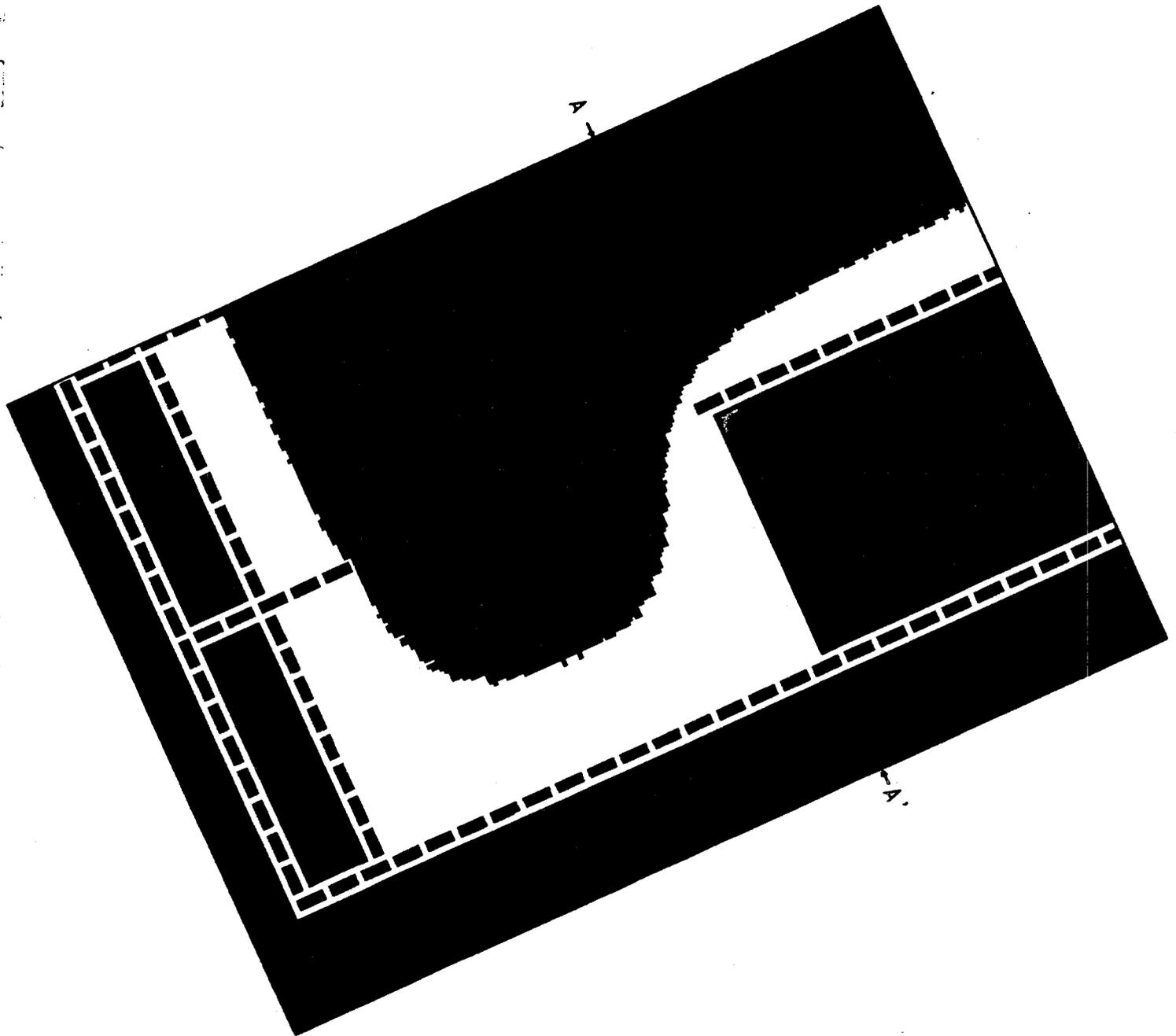


Figure 10 Vertical Stress Contours for Longwalls Oriented N65°E Under 1800 ft of Cover

FILE = NS1800B.STR

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TO: ROW 18 4 , COLUMN 39 5

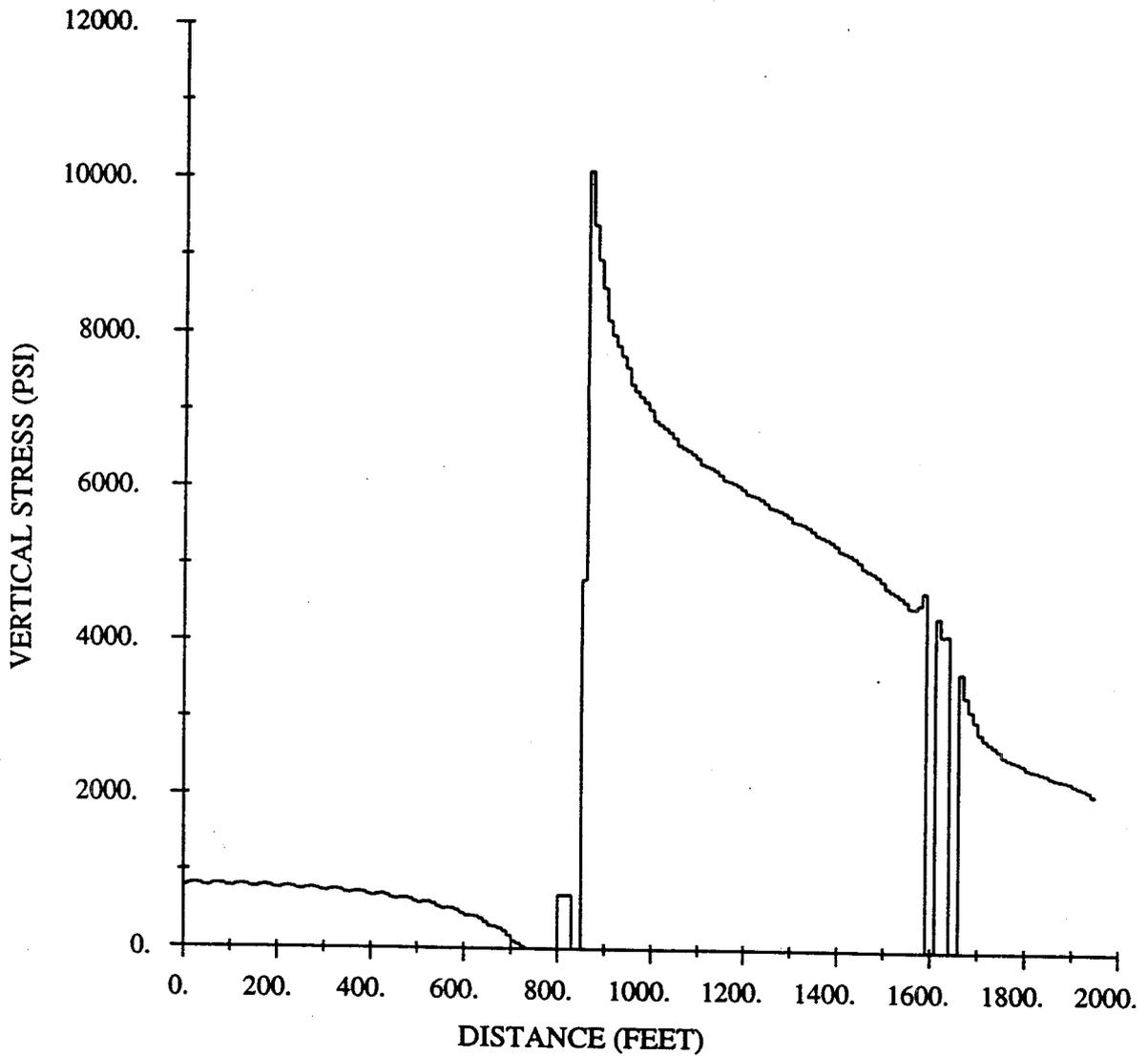
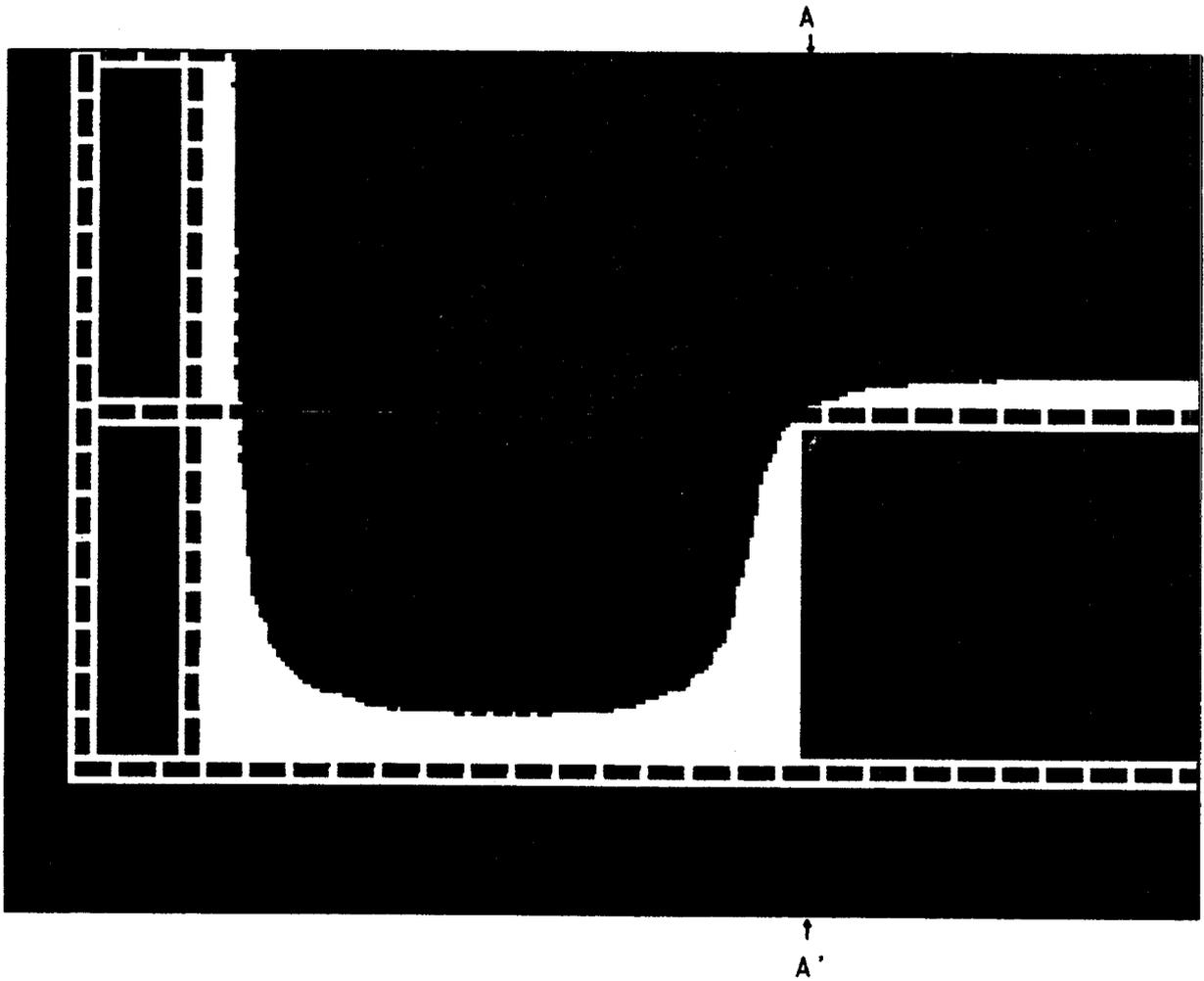


Figure 11 Vertical Stress Along Section A-A' for N65°E Oriented Longwalls Under 1800 ft of Cover

# VERTICAL STRESS LEVELS

■	8000	-	12000	PSI
■	6000	-	8000	PSI
■	4000	-	6000	PSI
■	2000	-	4000	PSI
■	1000	-	2000	PSI
■	500	-	1000	PSI
■	100	-	500	PSI

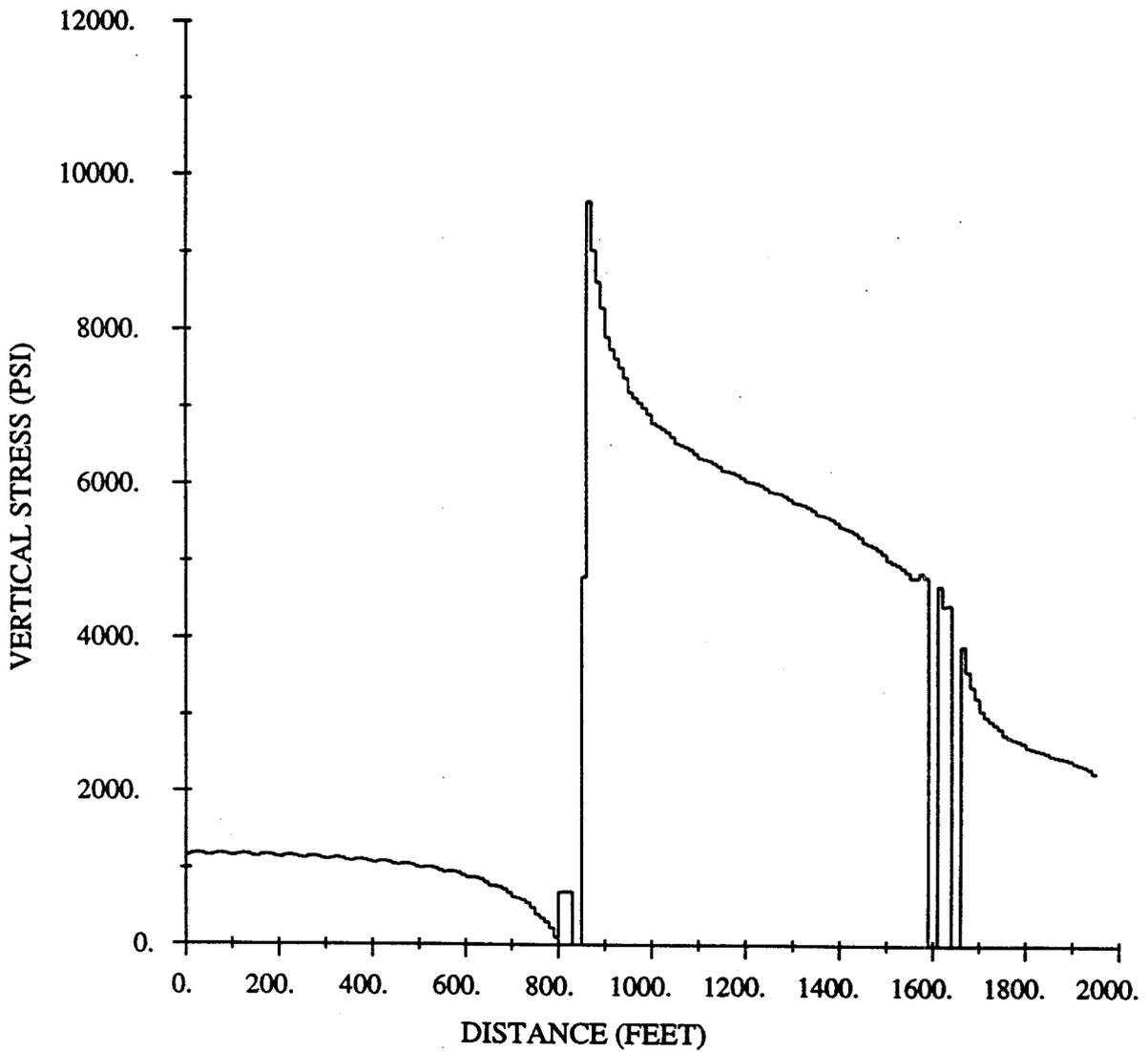


SCALE: 50.0ft

Figure 12 Vertical Stress Contours for Longwalls Oriented East-West Under 2000 ft of Cover

FILE = EW2000G.STR

SECTION FROM: ROW 1 1 , COLUMN 37 2  
TO: ROW 39 5 , COLUMN 37 2



**Figure 13 Vertical Stress Along Section A-A' for East-West Oriented Longwalls Under 2000 ft of Cover**

# VERTICAL STRESS LEVELS

■	8000	-	12000	PSI
■	6000	-	8000	PSI
■	4000	-	6000	PSI
■	2000	-	4000	PSI
■	1000	-	2000	PSI
■	500	-	1000	PSI
■	100	-	500	PSI

SCALE: 50.0ft

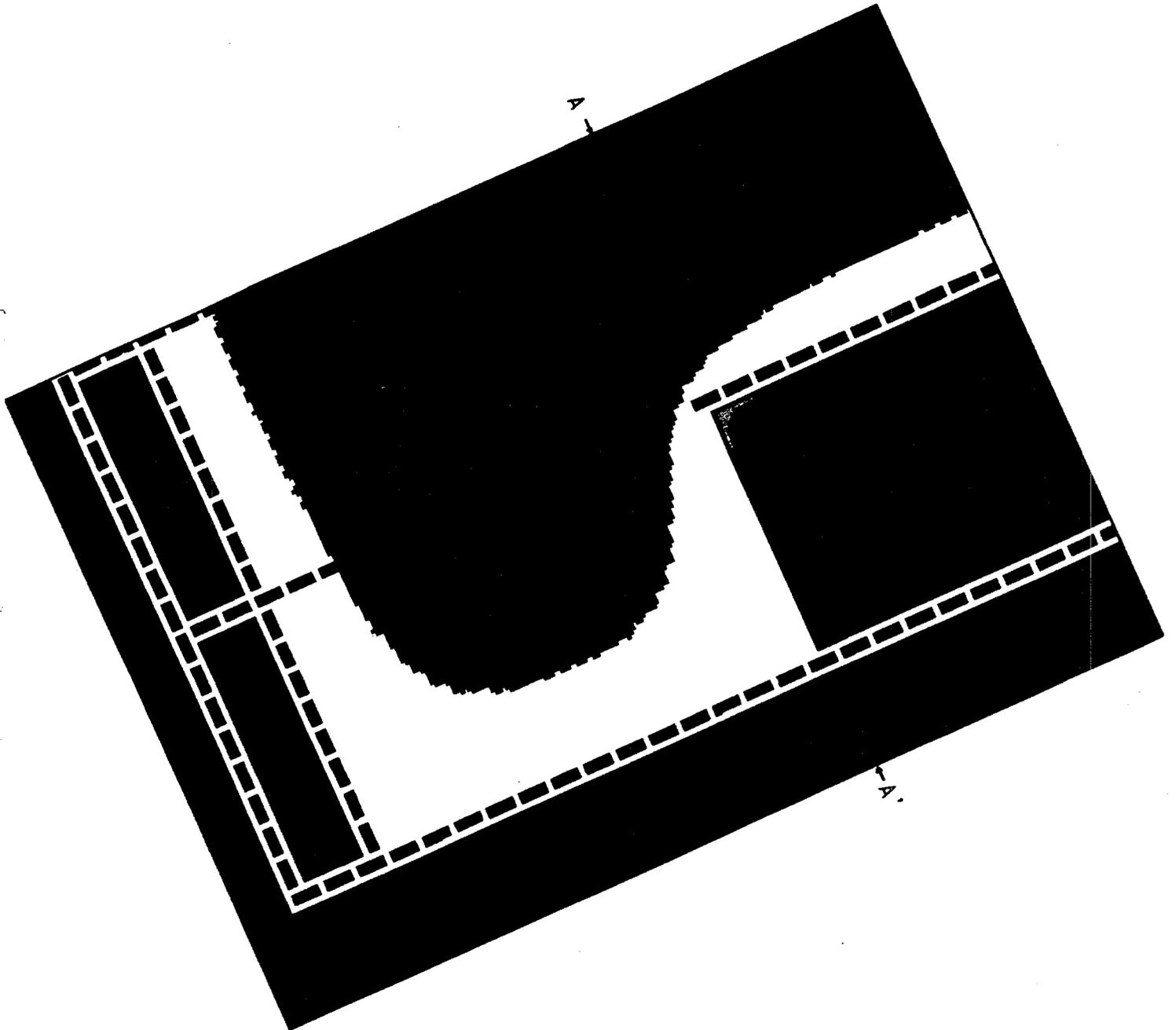


Figure 14 Vertical Stress Contours for Longwalls Oriented N65°E  
Under 2000 ft of Cover

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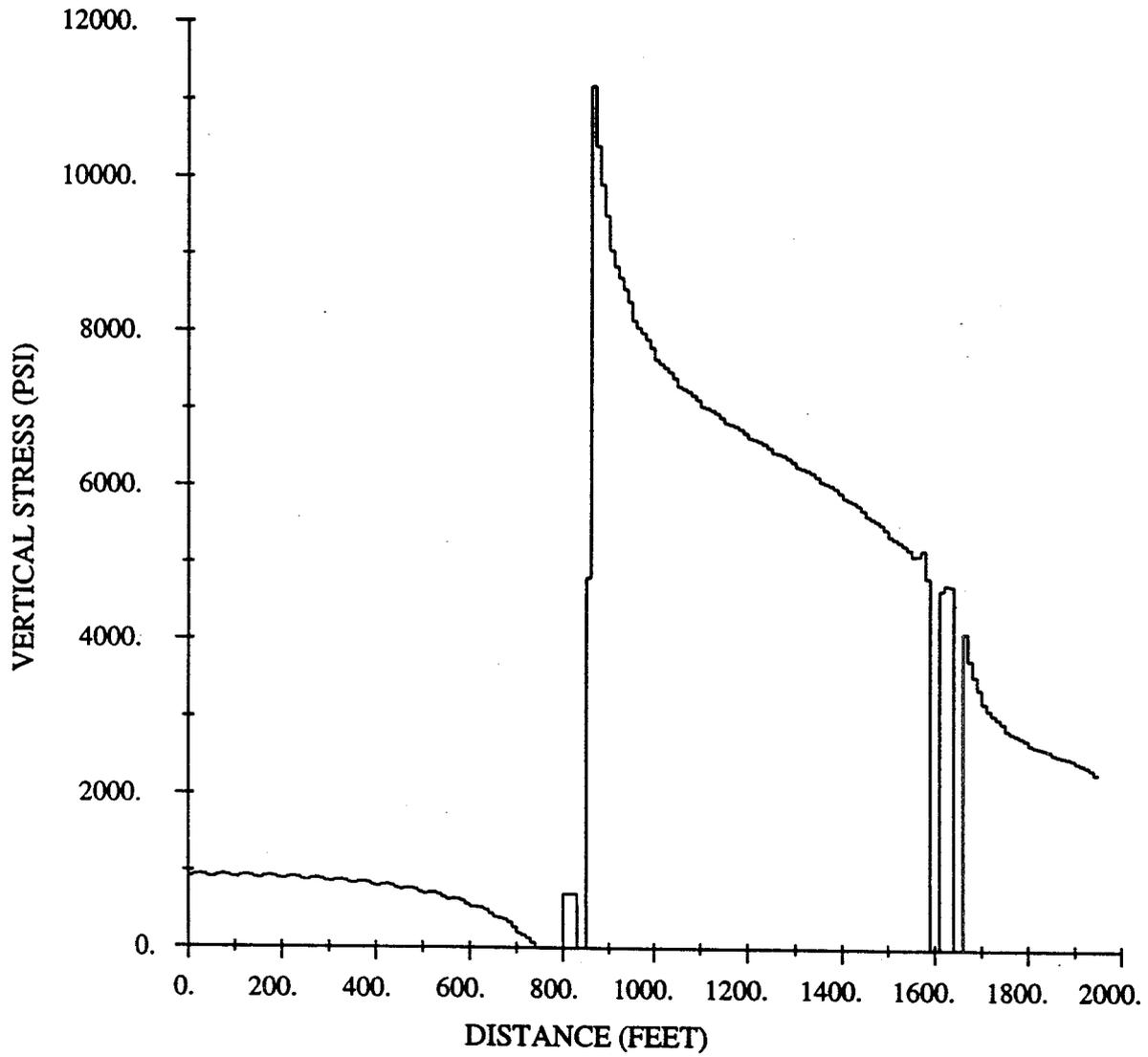


Figure 15 Vertical Stress Along Section A-A' for N65°E Oriented Longwalls Under 2000 ft of Cover

**EXHIBIT 2**



November 18,1994

To: Morgan Moon  
From: Seth McCourt  
Subject: Pillar Stability Analysis and Subsidence Evaluation of Rilda Canyon's Left Fork

---

As requested in Deer Creek's Mine planning meeting of November 14th, the effects of mining to the Left Fork of Rilda Canyon have been evaluated. Specifically the effects to the water saturated alluvium in the immediate canyon bottom. The following report is divided into two sections. The first is an analysis of the 10th West Mains pillar stability and the second investigates the subsidence of the 8th West panel.

If you have any questions or require further detailed information, please contact me.

Huntington Office:  
(801) 687-9821  
Fax (801) 687-2695  
Purchasing Fax (801) 687-9092

Deer Creek Mine:  
(801) 381-2317  
Fax (801) 381-2285

Cottonwood Mine:  
(801) 748-2319  
Fax (801) 748-2380

November 18, 1994

## *Pillar Stability Analysis and Subsidence Effects of Rilda Canyon's Left Fork*

Within the Deer Creek Mine Permit Extension is a portion of Rilda Canyon, particularly the Left Fork, that has risen as an area of concern due to its designation as an intermittent stream and the presence of riparian plant life. In order to ensure that the stream will not be affected by mining, post and pre-mining conditions have been considered to the best of our knowledge with the information that is presently available.

### 10th West Mains

As seen in Figure 1, only first mining will take place directly under the Left Fork. This mining will consist of 5-entries and eventually extend to the upper end of the Left Fork. For mining not to influence the drainage, longterm stability is essential. A stable pillar configuration has been determined with center-to-center pillar spacing of 80' x 130'. Pillar sizing was determined by the Tributary Area Analysis method. This method allows a direct determination of pillar strength versus pillar load when the actual in-mine pillar strength is known. In this case, actual in-mine pillar strength has been verified through geotechnical measurements and averaging the results.

Figure 3 shows the step-by-step calculations that are involved with the Tributary Area Analysis. Calculation of the average pillar stress is determined by a very common method that is a combination of pillar size and depth of cover. Pillar strength is not a theoretical derivation but is the actual in-mine measured pillar strength and averages approximately 4,000 psi.. The factor of safety is simply the pillar strength divided by the pillar stress. It is most commonly conceived that a safety factor less than 1 indicates failure and anything above 1 will not experience any component failure.

After going through the calculations, a factor of safety of approximately 4.2 is obtained. This not only exceeds the recommended safety factor of one, but implies an overly conservative pillar design intended for very long term stability.

### 8th West Longwall Panel Subsidence

Another mining activity that has been identified as possibly affecting the Left Fork drainage, is subsidence resulting from the extraction of the 8th West longwall panel. If the saturated alluvium in the immediate bottom of the Left Fork were to be subsided the natural drainage of the water may be influenced. This would occur as the immediate bottom may subside in a non-uniform manner and either redirect the drainage or allow the water to drain directly into the mine workings.

The possibility of such an event occurring has been considered for future mining near the Left Fork. As previously mentioned, only first mining will take place under the Left Fork drainage. Second mining has been located with respect to the alluvium ensuring

that no adverse conditions will alter the drainage. Not only has the 8th West longwall panel been offset from the Left Fork, but a 400 ft. barrier will protect the 10th West Mains and provide additional distance between the Left Fork and longwall extraction.

Appendix A contains five cross-sections that have been developed for the Left Fork to detail the proximity of the longwall subsidence and the Left Fork drainage. Each cross section contains:

- 8th West longwall panel location
- 10th West Mains location
- canyon relief
- subsidence trough<sup>1</sup>
- projected alluvium
- seam elevation
- surface elevations.

It is noticeable in all the cross-sections that subsidence does not interact with the immediate canyon bottom alluvium. There is also an acceptable margin between the alluvium and projected subsidence that should allow for any unforeseen circumstances that may occur as a result of mining.

---

<sup>1</sup>

Documented subsidence over the past years indicates an effective angle of draw to be 15°.

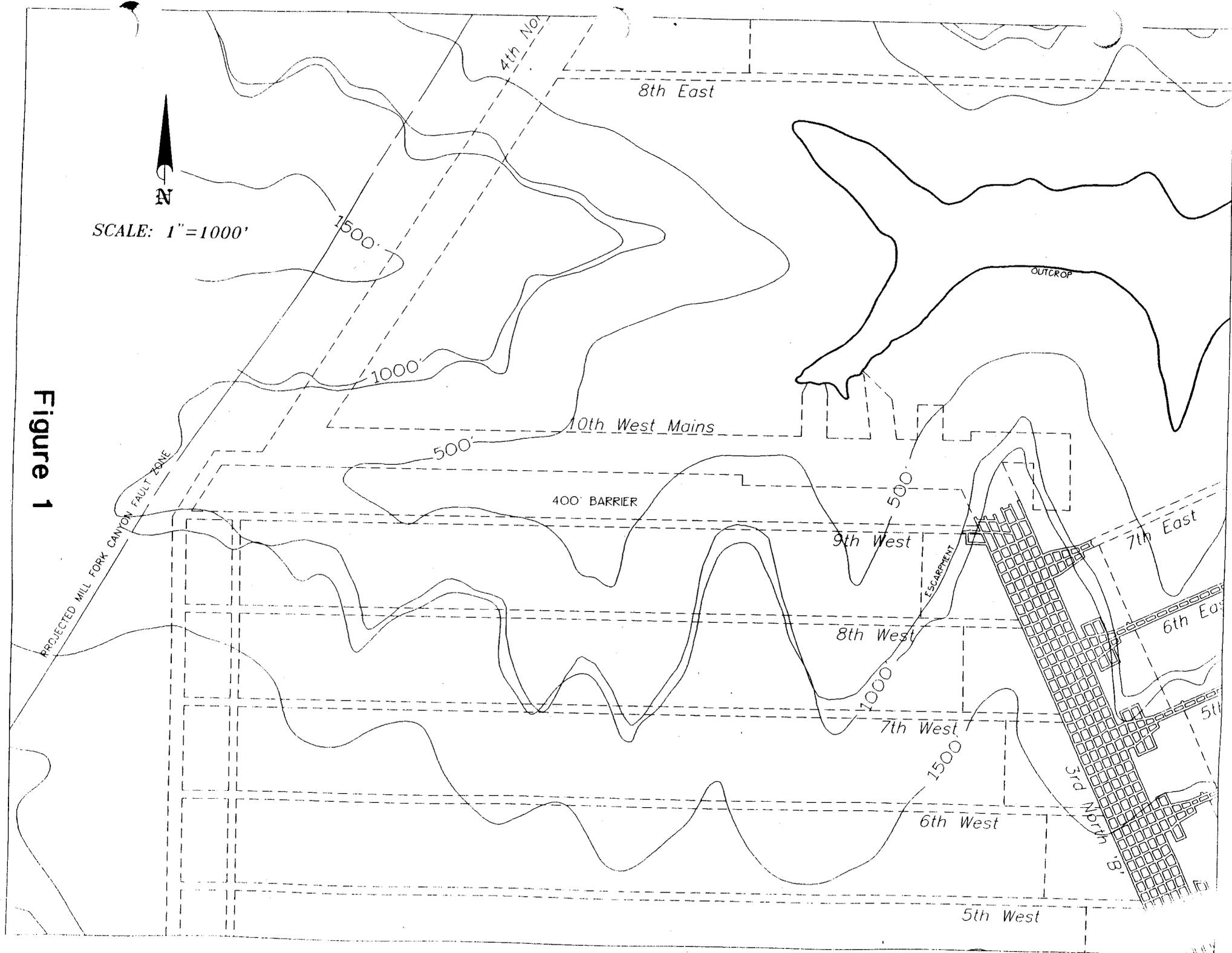
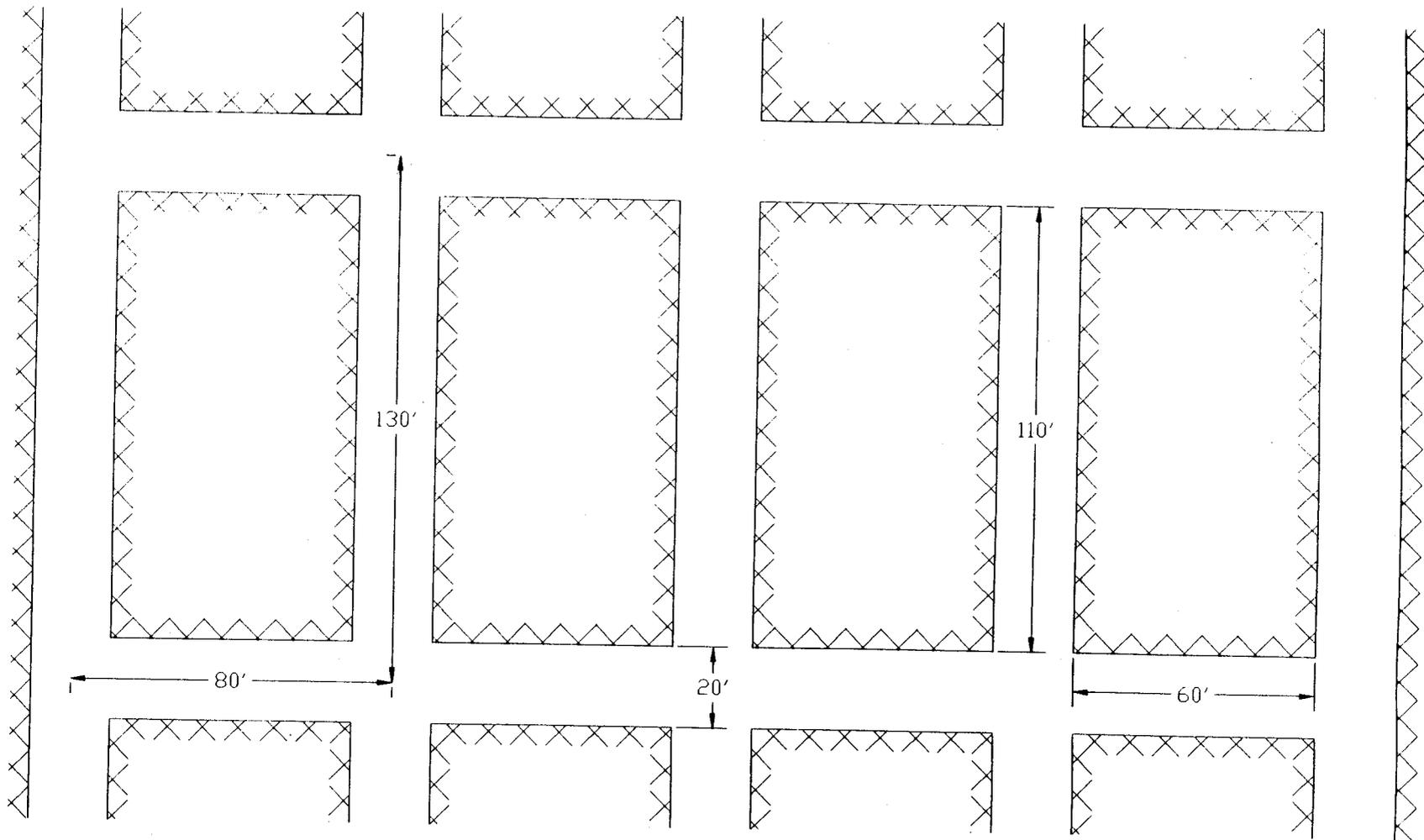


Figure 1



SCALE: 1"=40'  
TYPICAL 80' X 130' CENTER-TO-CENTER ENTRY

Figure 2

**Figure 3. Tributary Area Analysis of Pillar Support for  
Deer Creek Mine 10th West Mains**

Average Pillar Stress (Tributary Area Loading Concept):

$$\sigma_a = \frac{(W_p + W_o)(L_p + W_o)}{W_p L_p} \sigma_v$$

where:

$\sigma_a$ - avg. pillar stress (psi)	
$W_p$ - pillar width (inches)	60 ft. (720 inches)
$L_p$ - pillar length (inches)	110 ft. (1,320 inches)
$W_o$ - entry width (inches)	20 ft. (240 inches)
$\sigma_v$ - vertical stress (psi)	1.1 psi/ft depth x h
h - depth of cover (ft)	550 ft. (avg.)

$$\sigma_a = \frac{(720'' + 240'')(1320'' + 240'')}{(720'')(1320'')} 1.1(550')$$

$$\sigma_a = 953.3 \text{ psi}$$

Pillar Strength (as determined by field measurements):

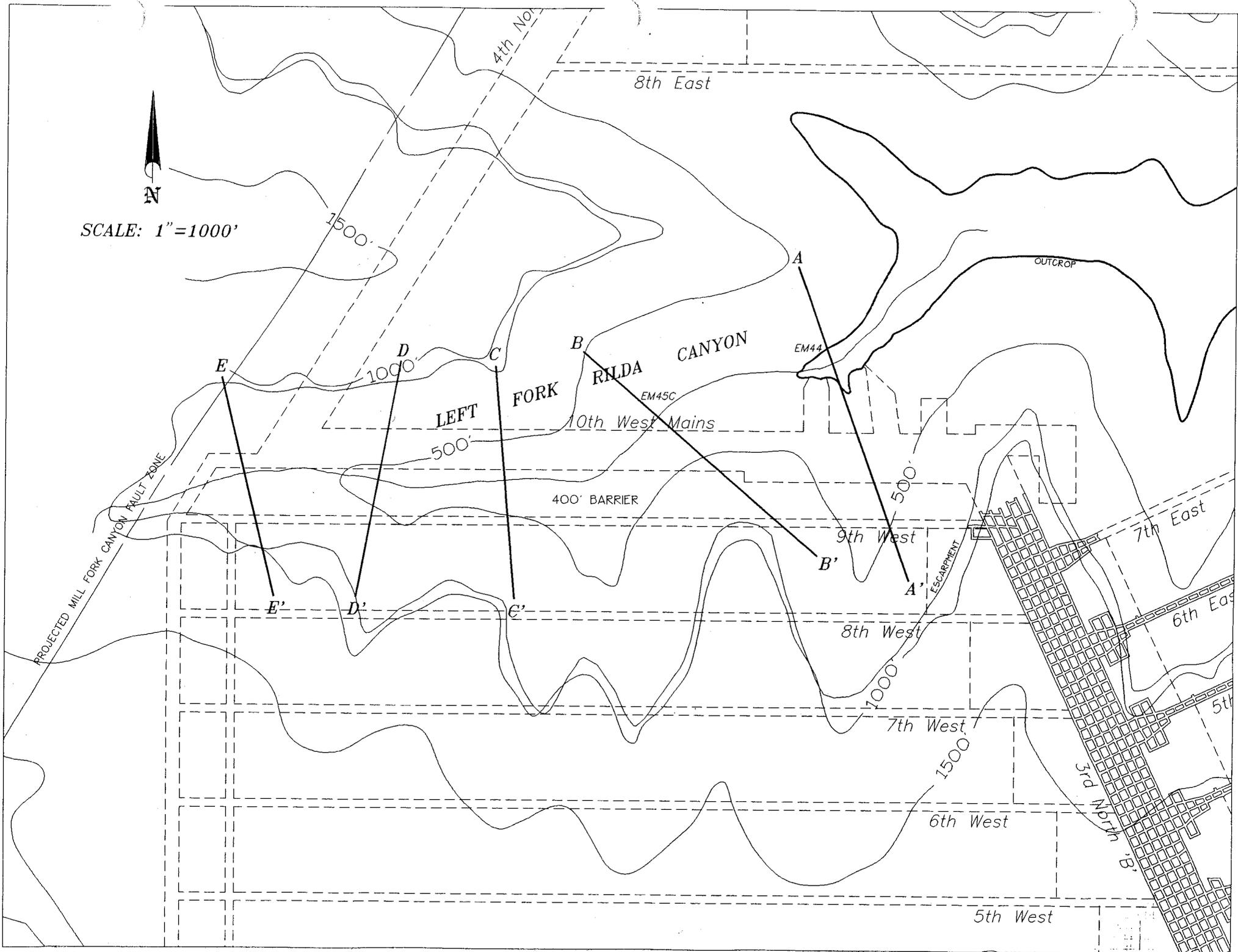
$$S_p = 4,000 \text{ psi (avg.)}$$

Factor of Safety:

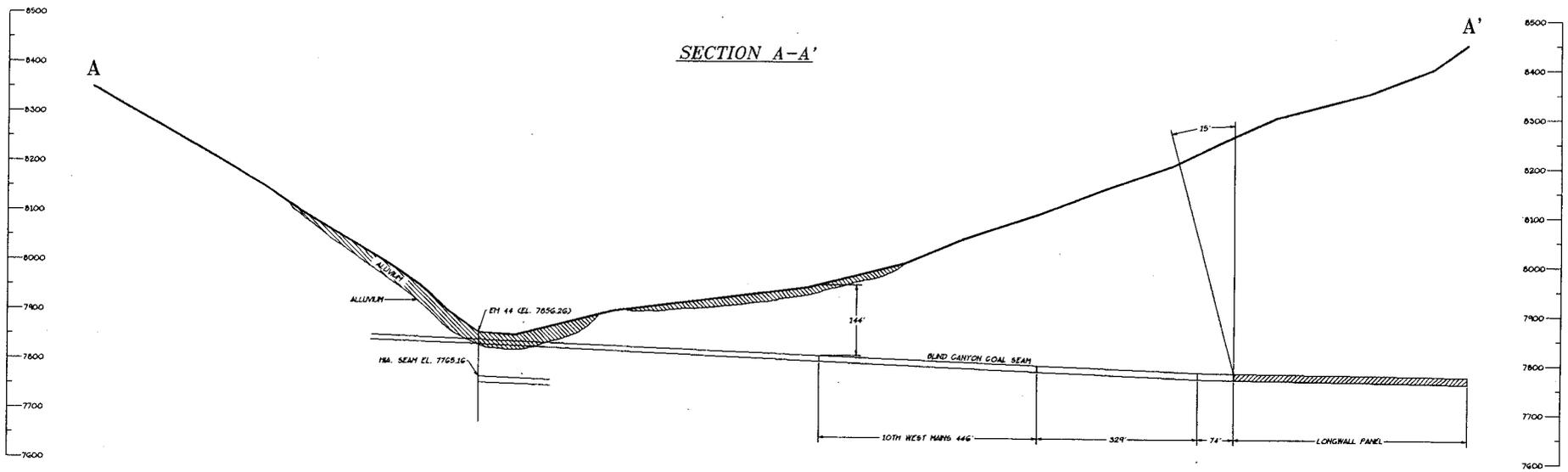
$$FS = \frac{S_p}{\sigma_a}$$

$$FS = \frac{4,000}{953.3}$$

$$FS = 4.196$$



SECTION A-A'



00 FILE NAME/DATE 10/11/11

ENERGY

MINING

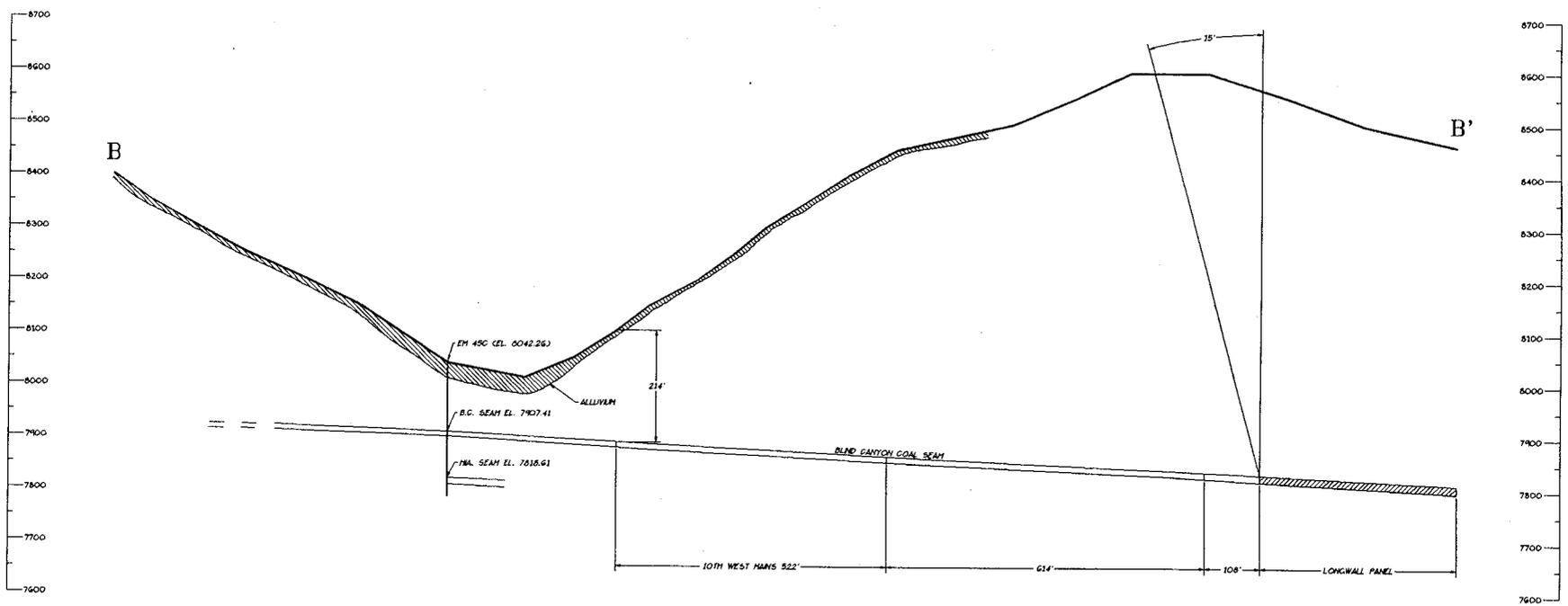
LEFT

DATE: 8

SCALE:

BY:

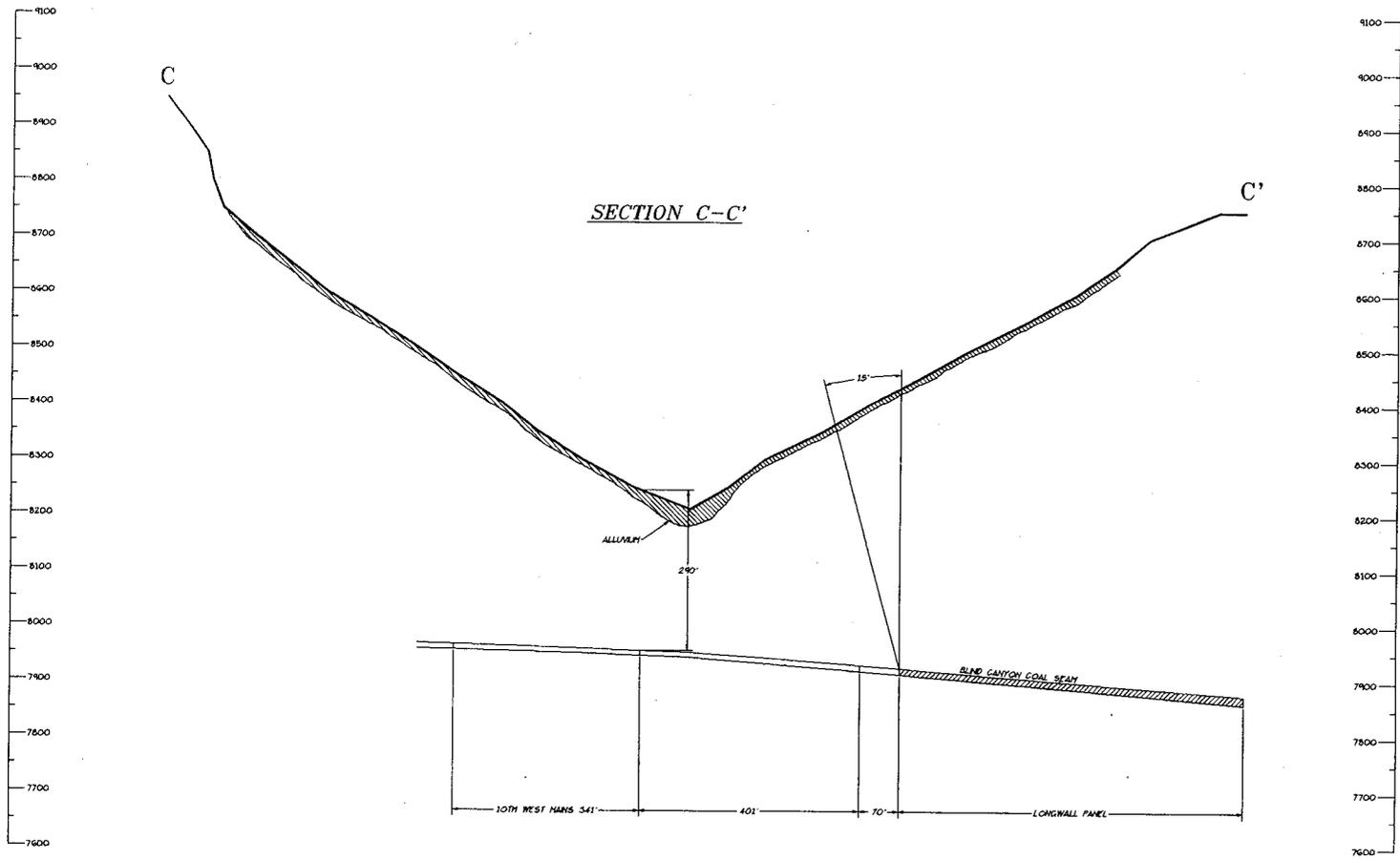
SECTION B-B'



0 100' 200'  
SCALE

DATE FILED: 11/14/2014
ENERGY
MINING
DEPT.
LEFT
CR.

SECTION C-C'



0 100' 200'  
SCALE

200 FILE 1000/2000 1000/2000  
**ENERGY**  
MINNEAPOLIS  
DEPT. OF  
LEFT  
SCALE  
DATE



D

SECTION D-D'

D'

ALLUVIUM

425'

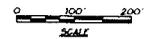
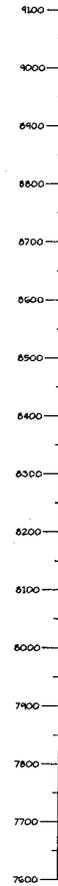
BLIND CANYON COAL SEAM

10TH WEST MAINS 346'

407'

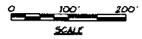
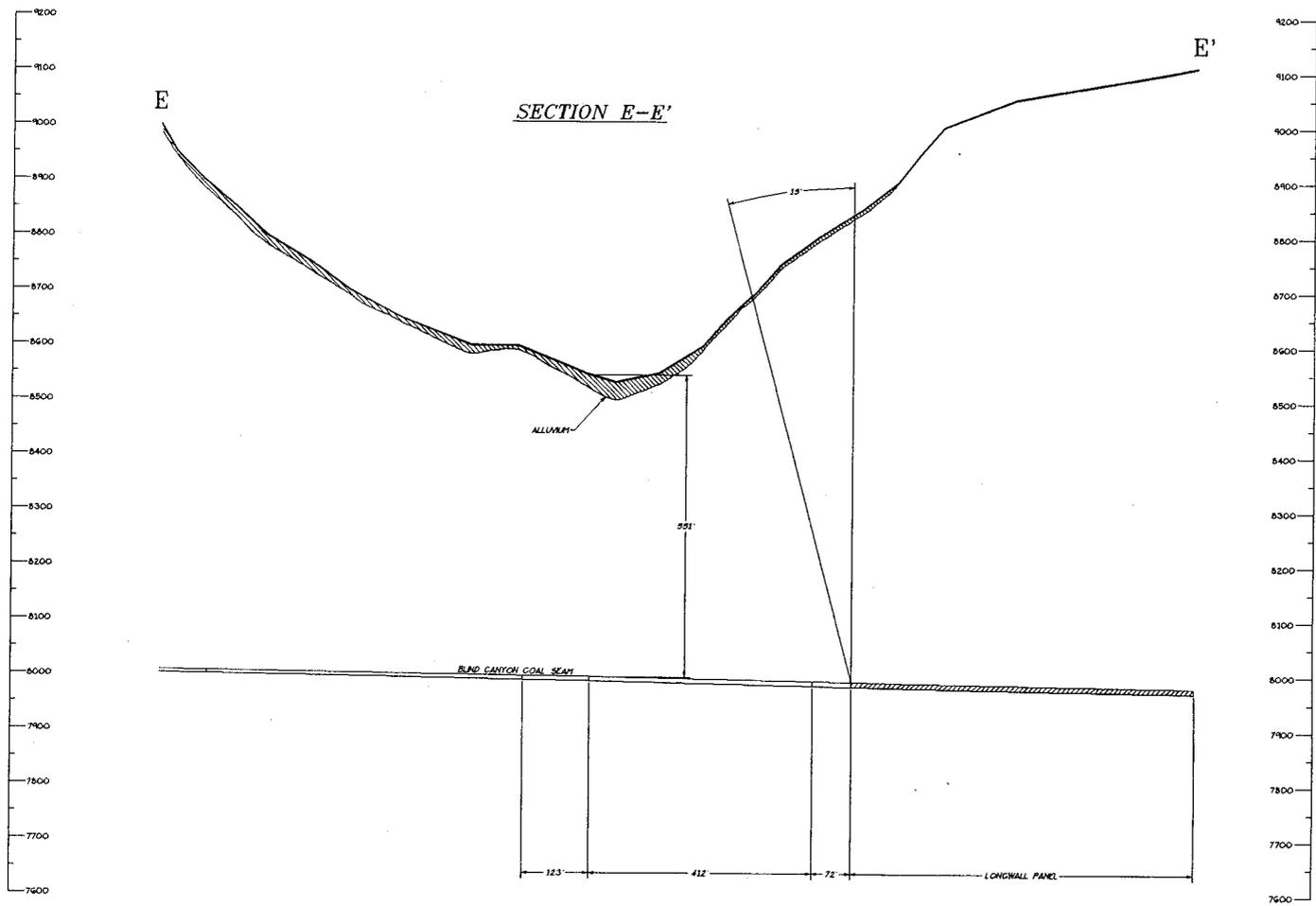
71'

LONGWALL PANEL



ENERGY  
 MINING  
 DEER  
 LEFT FOR  
 CROSS

SCALE  
 DATE



D&D FILE NAME/NUMBER, TOWNSHIP  
**ENERGY**  
**MINING**  
**DEPT.**  
**LEFT**  
**CH**  
 DRAWN BY  
 CHECKED BY  
 DATE

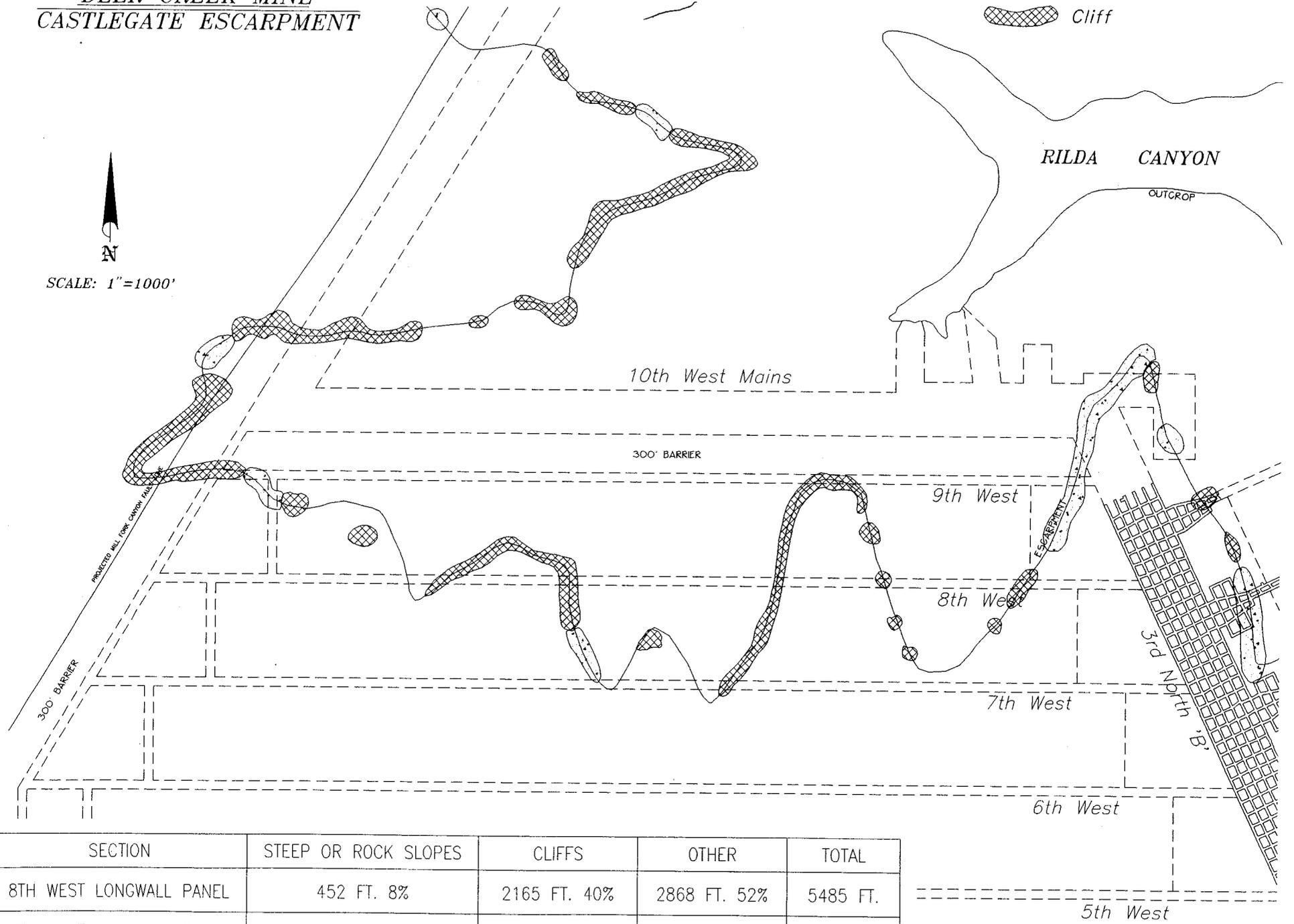
**EXHIBIT 3**

**DEER CREEK MINE  
CASTLEGATE ESCARPMENT**

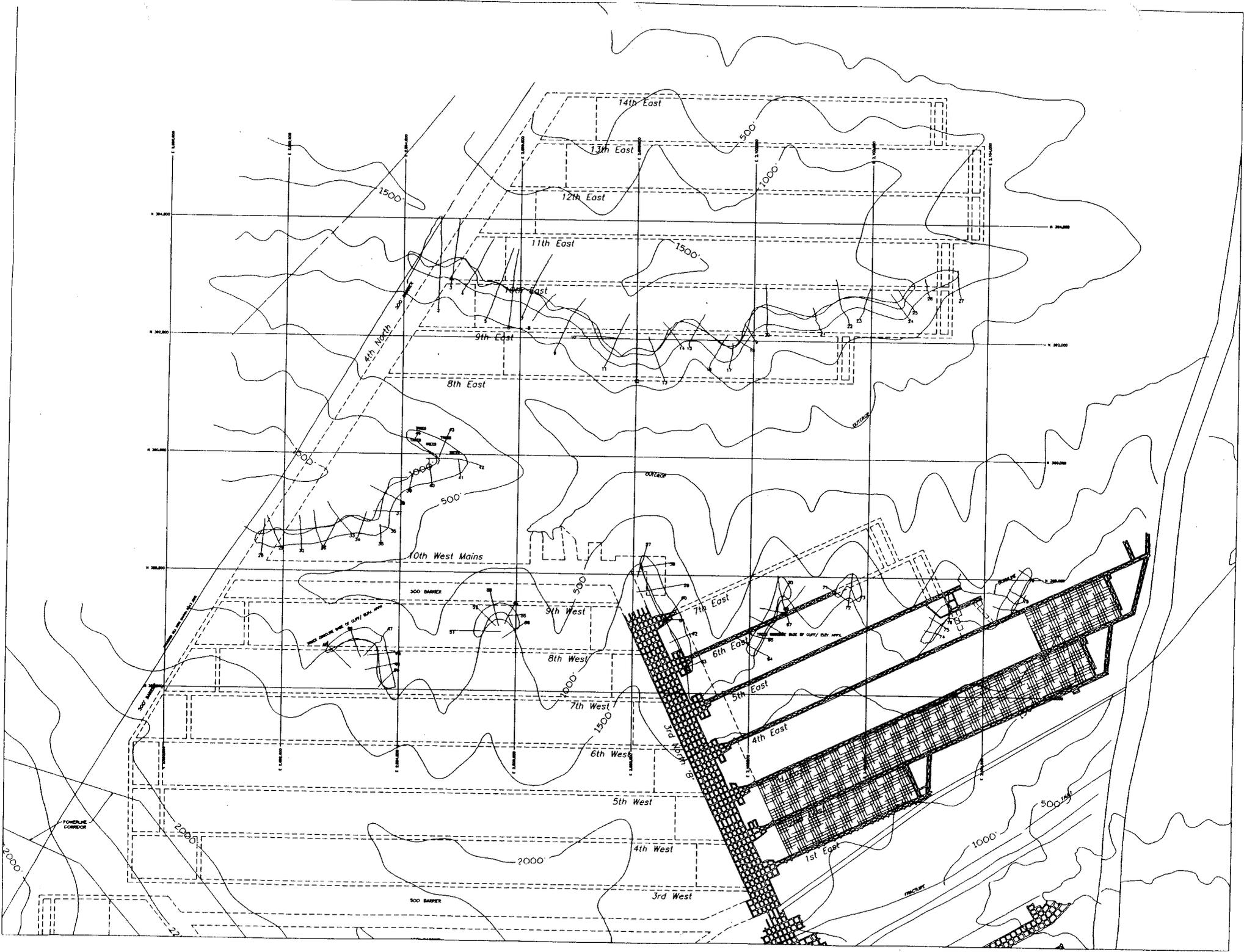
Steep or Rocky Slope  
Cliff



SCALE: 1" = 1000'



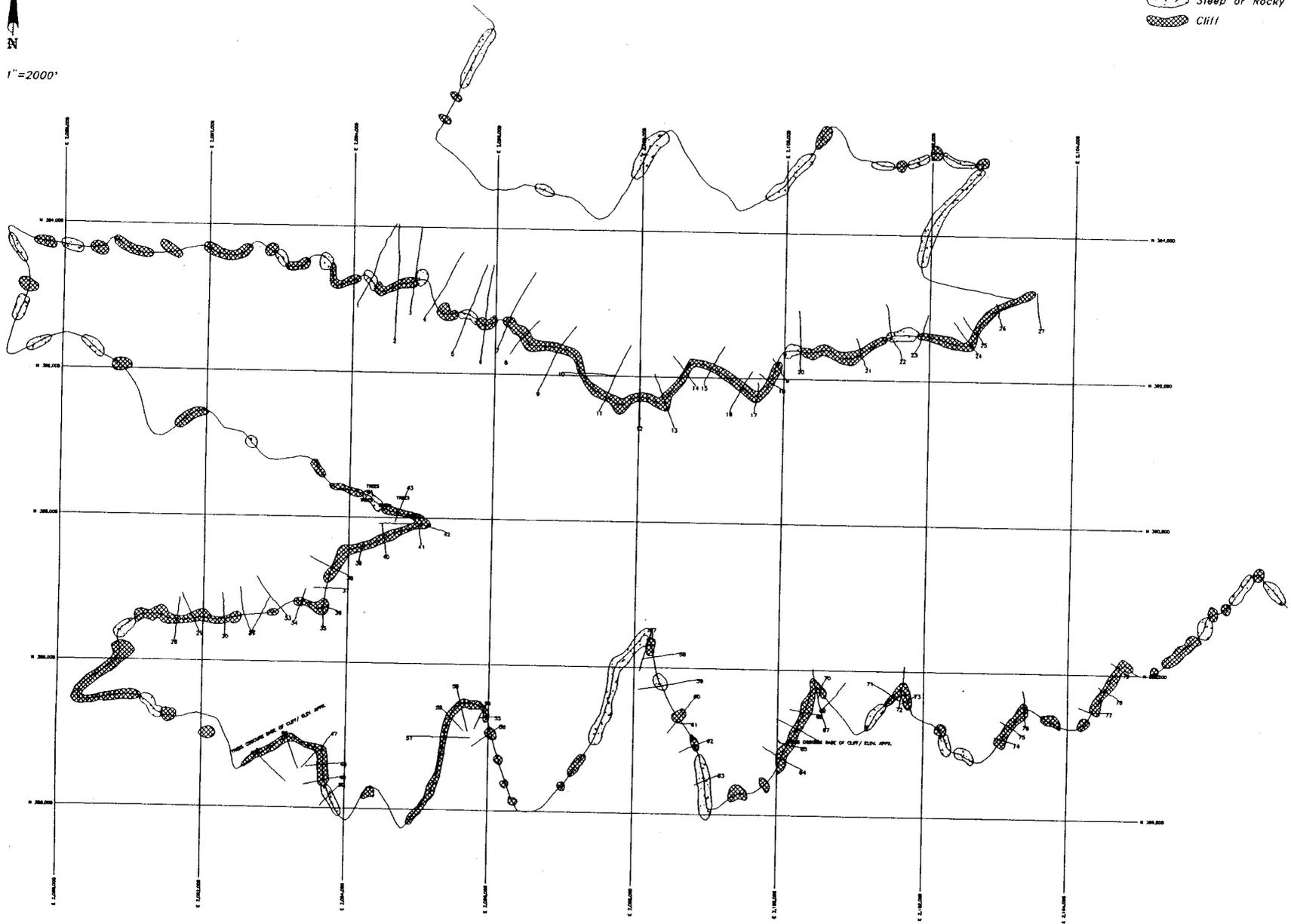
SECTION	STEEP OR ROCK SLOPES	CLIFFS	OTHER	TOTAL
8TH WEST LONGWALL PANEL	452 FT. 8%	2165 FT. 40%	2868 FT. 52%	5485 FT.
9TH WEST LONGWALL PANEL	36 FT. 1%	2889 FT. 66%	1445 FT. 33%	4370 FT.

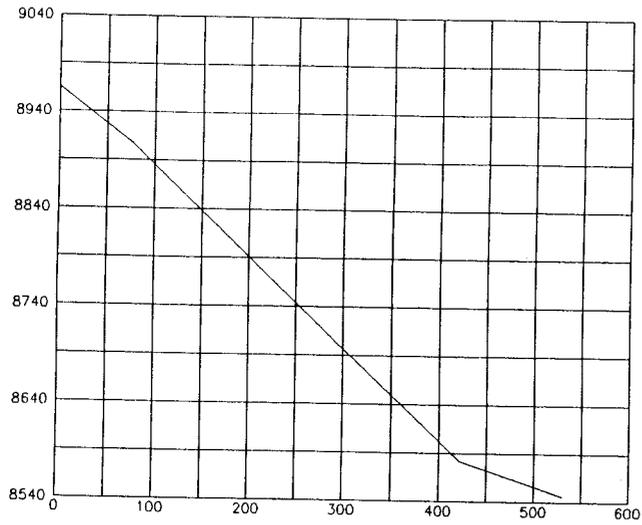




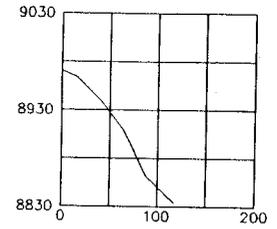
Scale: 1" = 2000'

 Sleep or Rocky Slope  
 Cliff

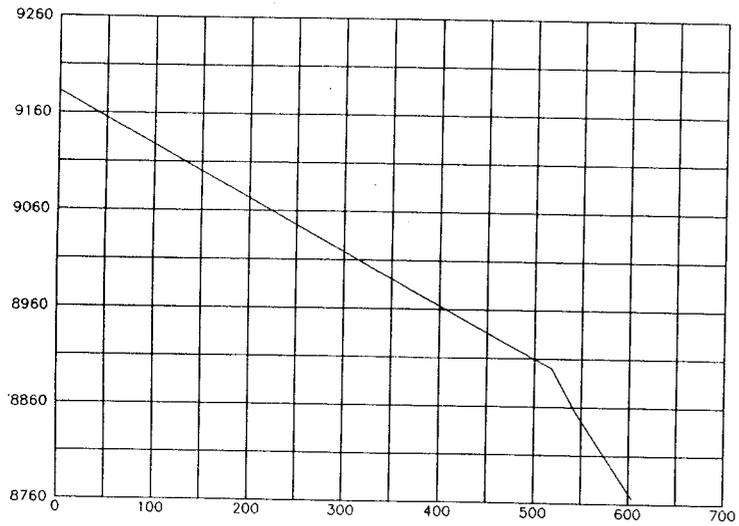




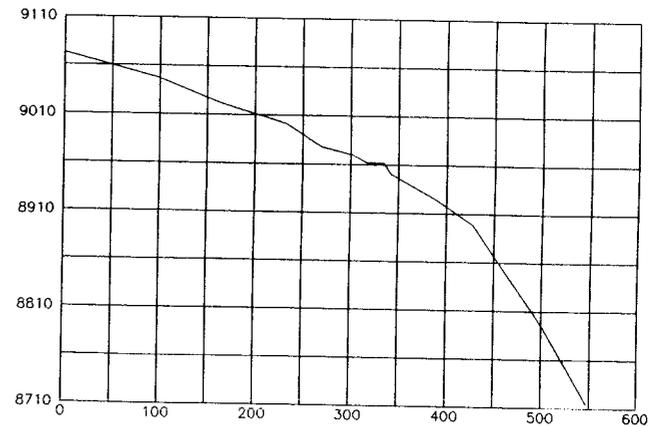
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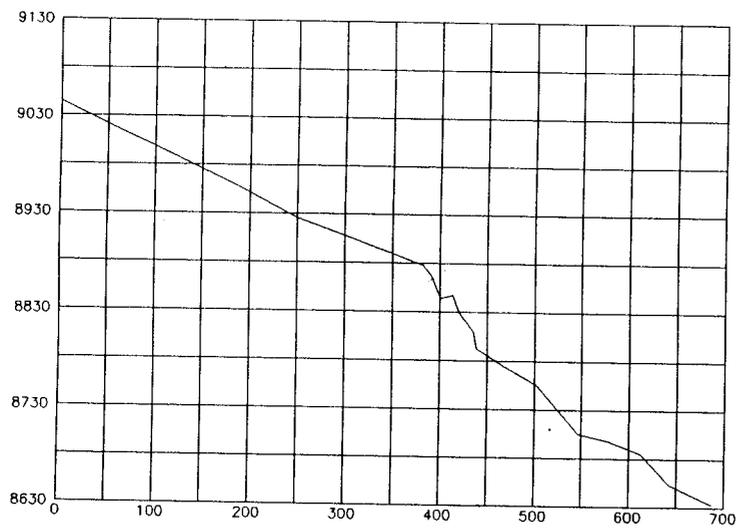
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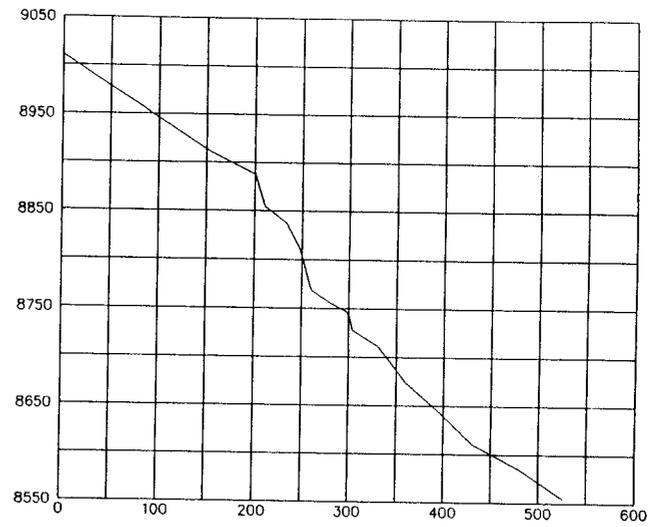
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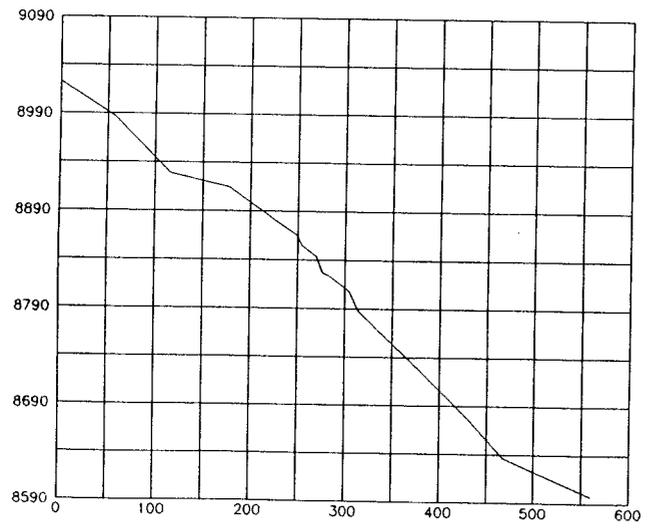
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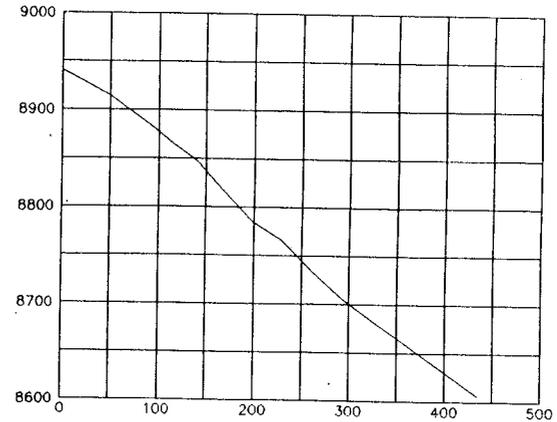
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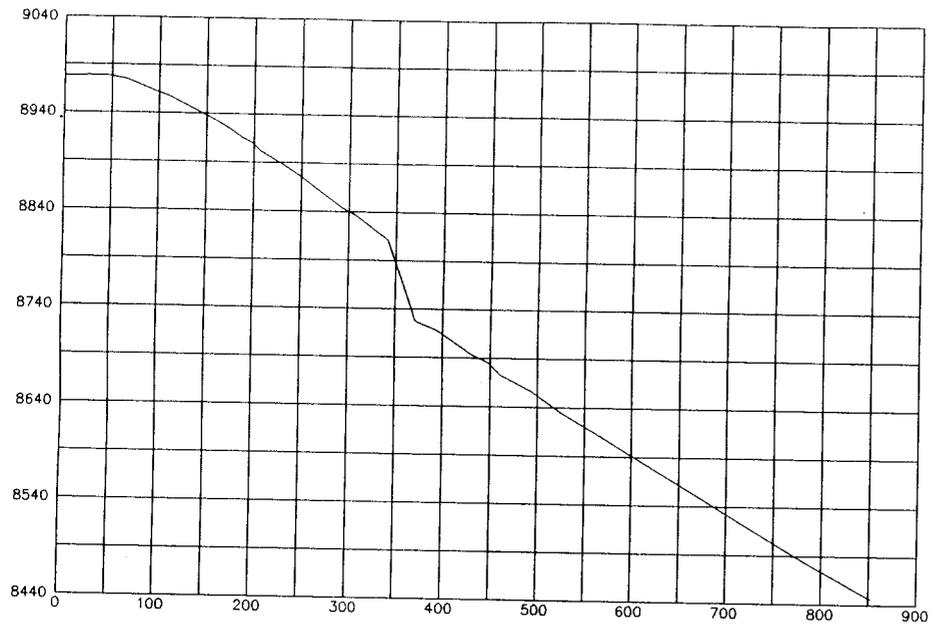
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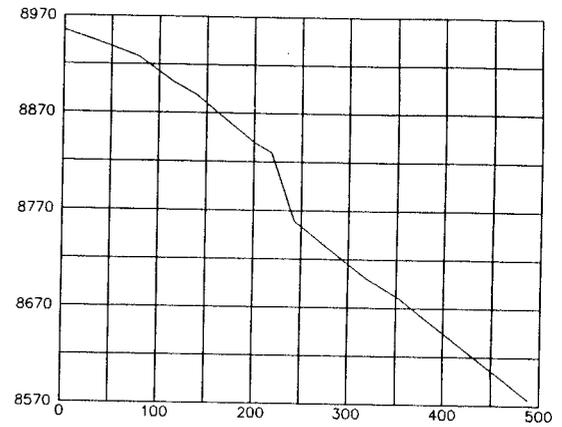
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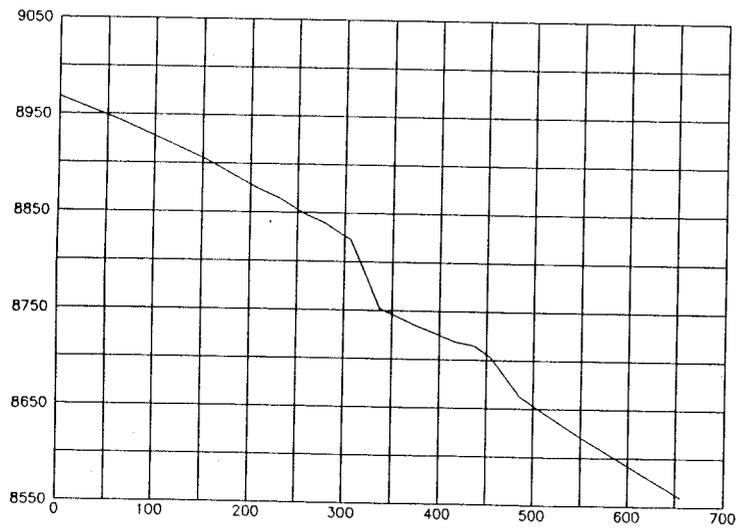
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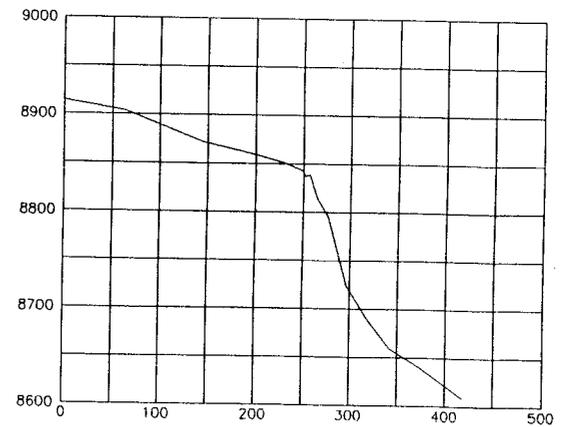
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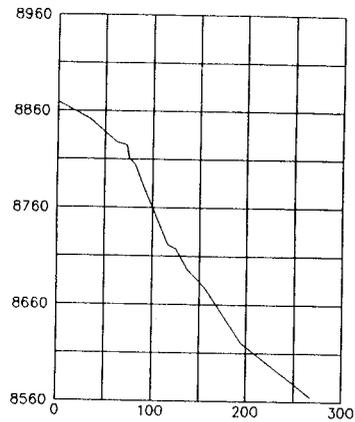
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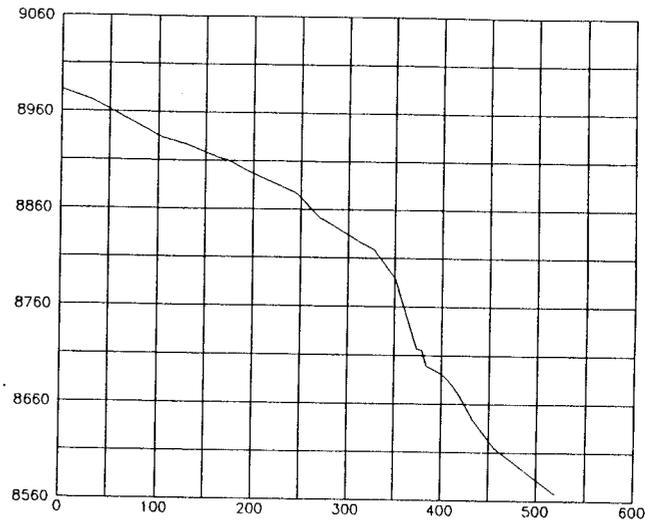
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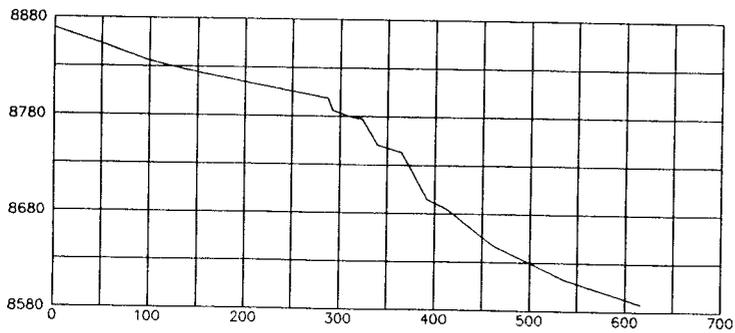
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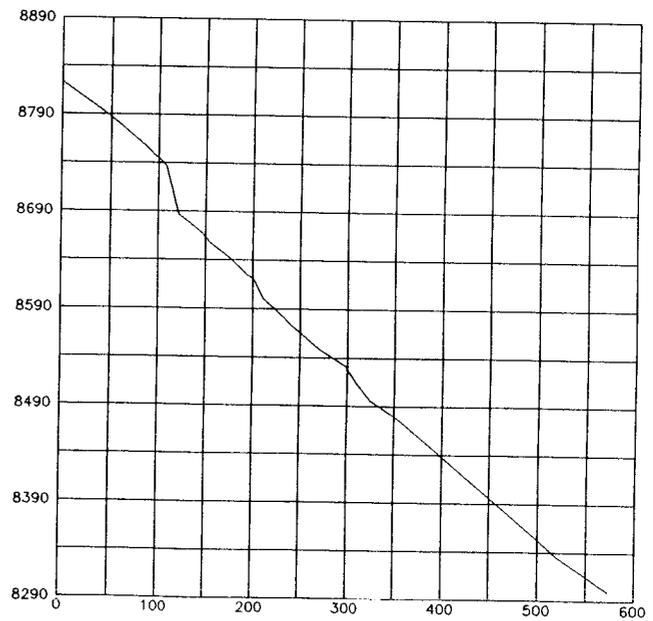
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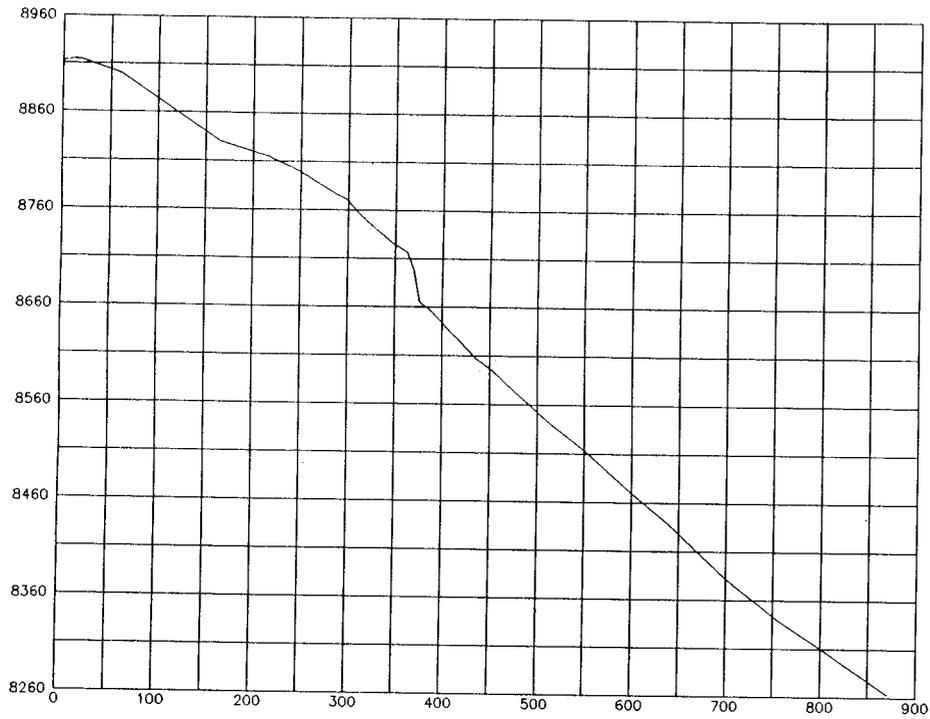
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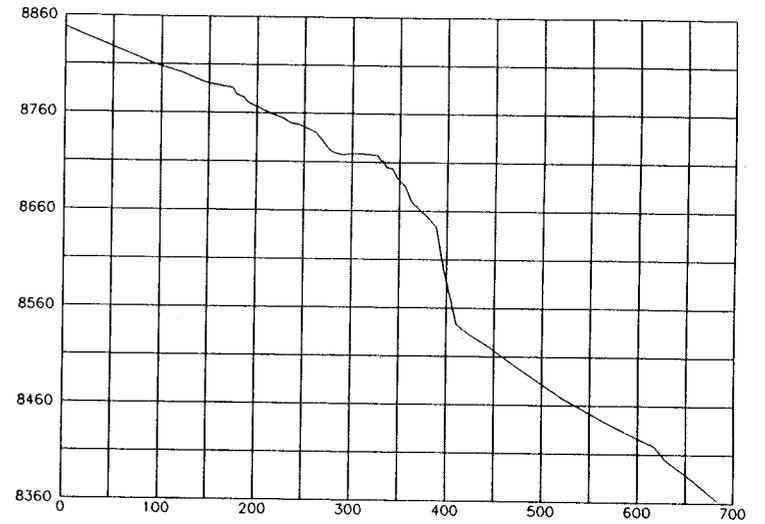
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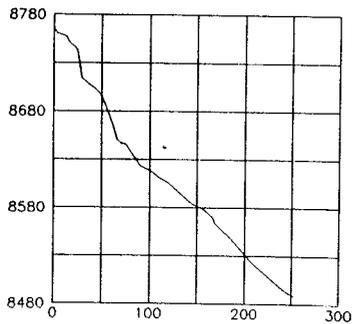
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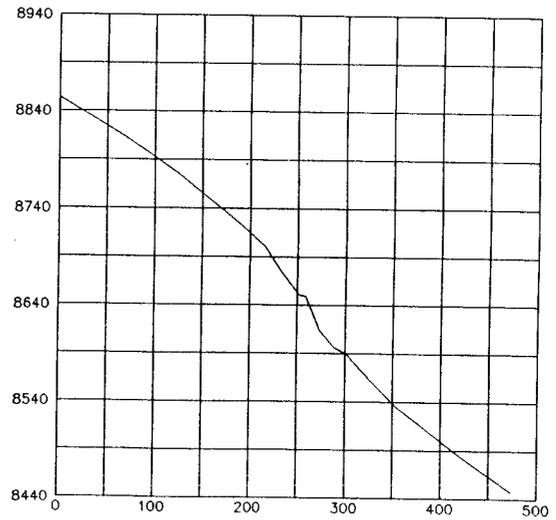
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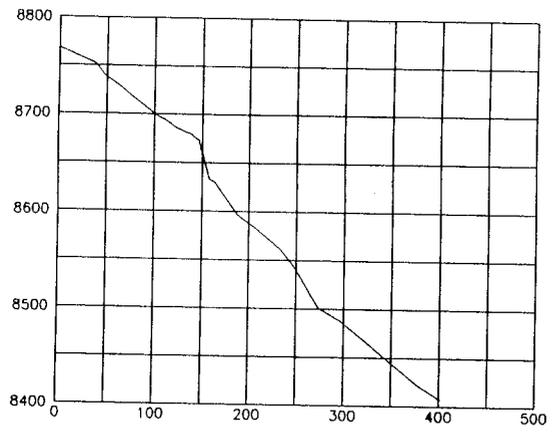
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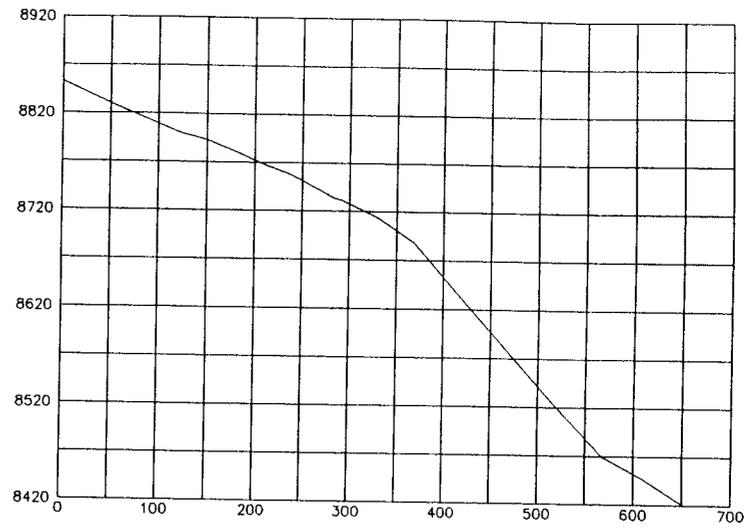
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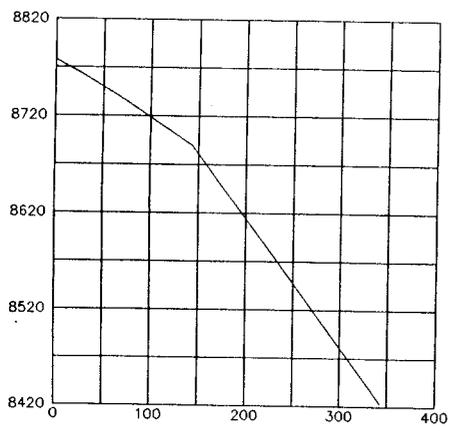
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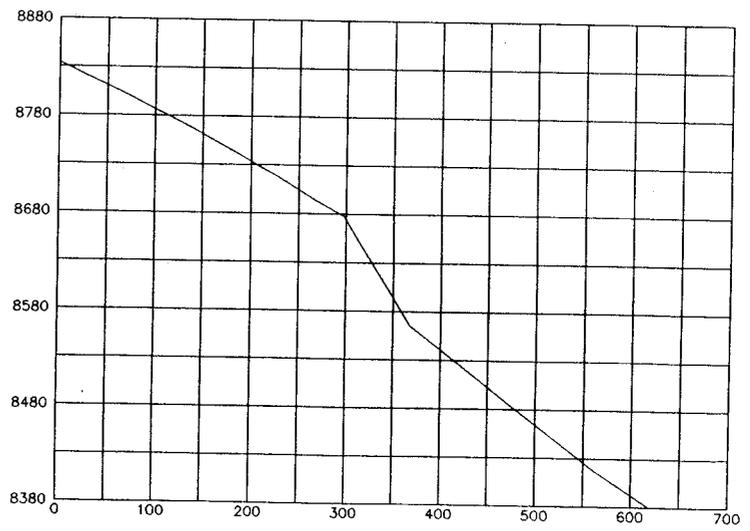
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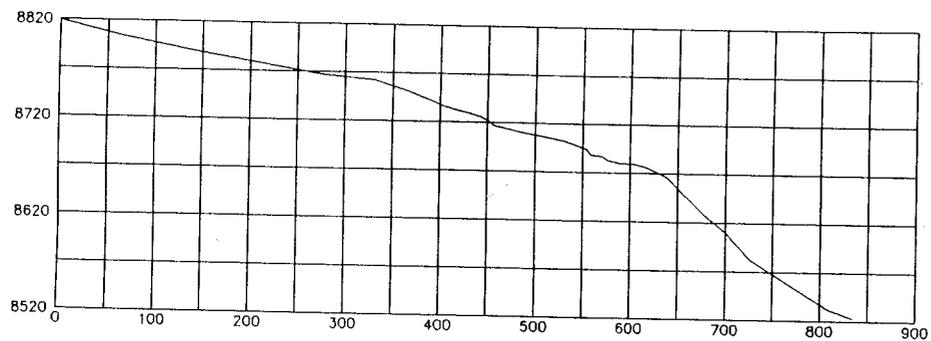
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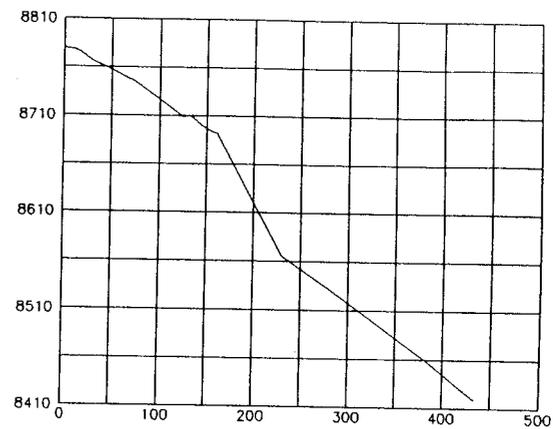
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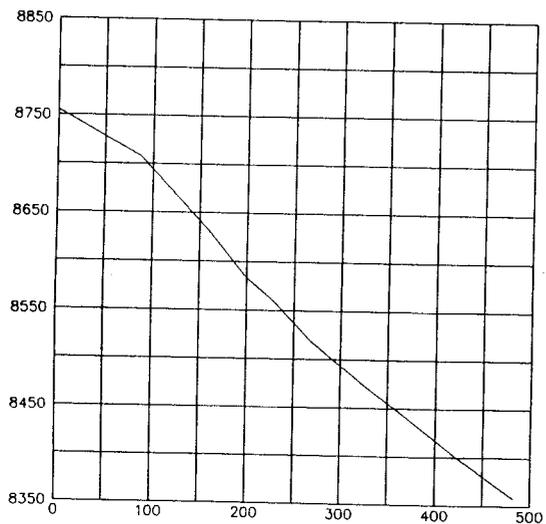
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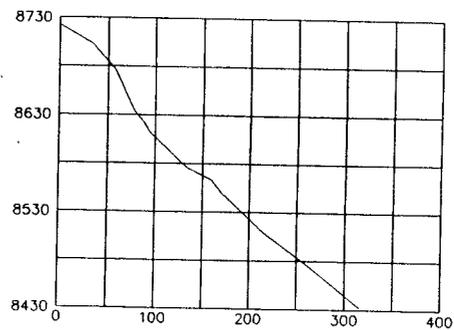
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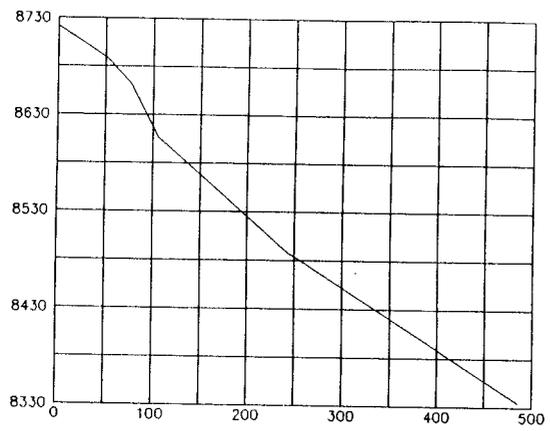
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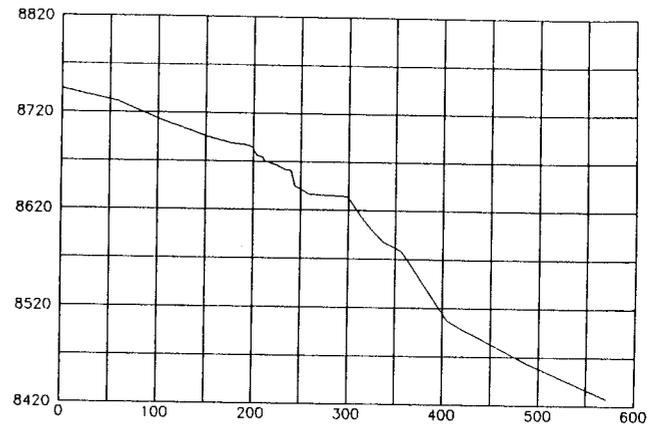
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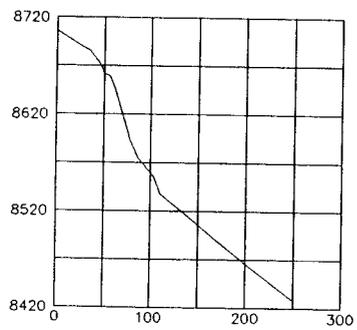
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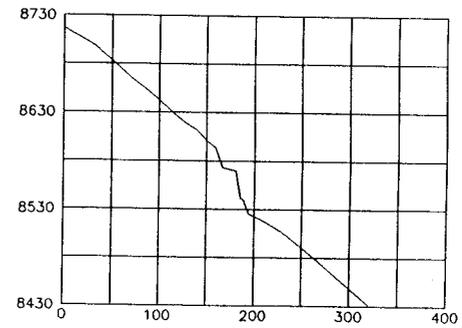
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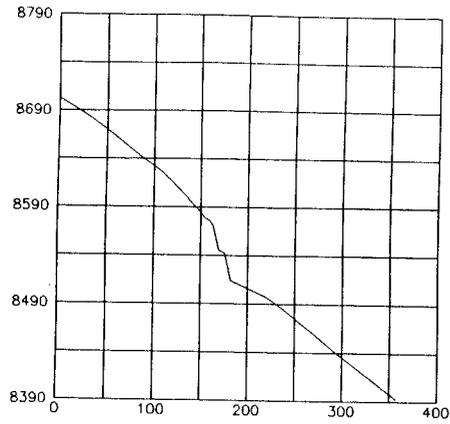
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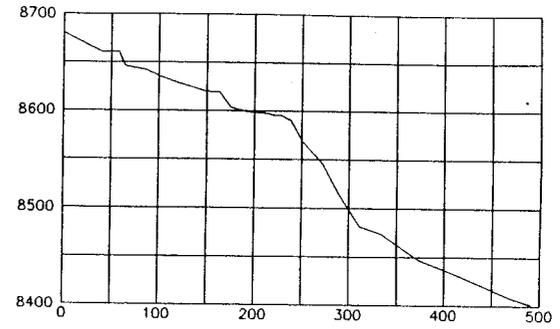
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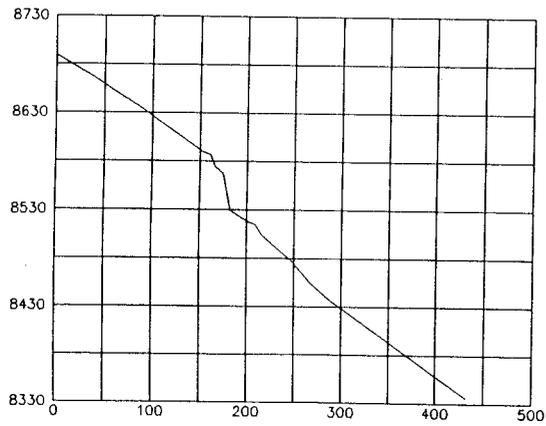
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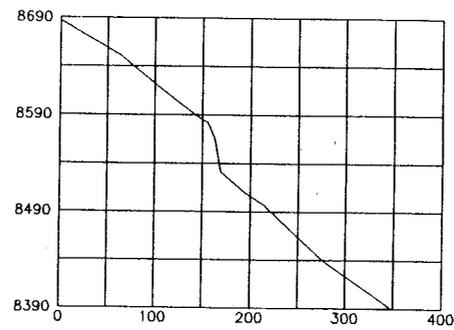
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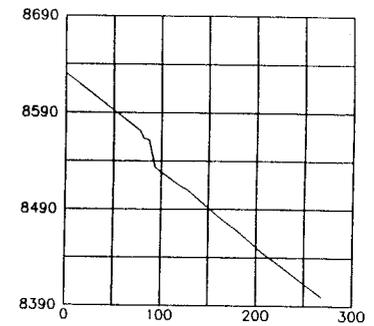
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77



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79



# United States Department of the Interior



BUREAU OF LAND MANAGEMENT  
Moab District

Price River Resource Area  
900 North 700 East  
Price, Utah 84501

IN REPLY REFER TO:

3482  
U-06039  
U-7653  
U-047977  
(UT-066)

CERTIFIED MAIL - RETURN RECEIPT REQUESTED  
Certified No. P 118 951 433

JAN 24 1995

Mr. J. R. Key  
Managing Director, Technical Services  
PacifiCorp  
One Utah Center  
201 South Main, Suite 2000  
Salt Lake City, Utah 84140-0020

Re: Deer Creek Mine Resource Recovery and Protection Plan (R2P2), 8th West, 9th West and 10th West Mains

Dear Mr. Key:

On December 5, 1994, the Bureau of Land Management (BLM) received PacifiCorp's written request to modify the approved R2P2 for the Deer Creek Mine. BLM's preliminary response to PacifiCorp's request is to site some major deficiencies affecting reserves located in the Blind Canyon Seam on Federal coal leases U-06039, U-7653, U-47977, U-084924 and U-084923. The BLM requires these deficiencies, but not limited to, be addressed by PacifiCorp before any approval can be granted to the newly proposed R2P2 modification request. In addition, verbal approval was given to PacifiCorp on December 9, 1994, concerning the development of 8th and 9th West and the 10th West Mains.

On January 19, 1995, the BLM received PacifiCorp's request for additional relief regarding the 8th West, 9th West and 10th West Mains. PacifiCorp states in their request that their formal response to the BLM deficiency list is scheduled for submittal on or before February 1, 1995.

PacifiCorp is authorized to continue development of the 8th and 9th West entries 3000 feet from the 3rd North ribline. The 10th West Mains may be extended an additional 500 feet of western development from the current location and development of the proposed Rilda Canyon breakout entries, to the point of burn coal or alluvial contact.

If you have any questions, please contact George Tetreault in the Price River Resource Area Office at 637-4584.

Sincerely,

MARK E. BAILEY

Area Manager

cc: Morgan Moon

Manager, Technical Services  
Energy West Mining Company  
15 North Main  
Huntington, Utah 84528

Steve E. Kochevar, PE  
Mining Planning Administrator  
PacifiCorp  
One Utah Center  
201 South Main, Suite 2000  
Salt Lake City, Utah 84140-0020

**Application for Modification  
of  
Federal Coal Lease U-06039**

**By**

**PacifiCorp, an Oregon Corporation**

**c/o Interwest Mining Company**

**One Utah Center, Suite 2000**

**201 South Main Street**

**Salt Lake City, Utah 84140-0020**

**February 15, 1995**

# Application for Modification of Federal Coal Lease U-06039

## Deer Creek Coal Mine, Emery County, Utah

### 1.0 Introduction

This lease modification application for unleased federal coal is submitted to the authorized officer of the Bureau of Land Management (BLM), Utah State Office, in accordance with the applicable rules and regulations set forth within title 43 CFR Subpart 3432 (1993).

The lease modification applicant is: **PacifiCorp**  
**c/o Interwest Mining Company**  
One Utah Center, Suite 2000  
201 South Main Street  
Salt Lake City, Utah 84140-0020

### 2.0 Application § 3432.1

(a) The applicant is the current lessee of record for federal coal lease U-06039 and hereby seeks to modify said lease to include contiguous coal lands or coal deposits consisting of 42.97 acres. Federal coal lease U-06039 was originally issued on May 1, 1953 consisting of 1360.00. To the best knowledge of the applicant, this lease has not been previously modified.

(b) The area of lease modification is described as follows and as shown on Figure 1:

<u>T. 16 S., R. 6 E. SLM</u>		
Section 25	E $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$	20.00 acres
<u>T. 16 S., R. 7 E. SLM</u>		
Section 30	Lot 4	22.97 acres
Total lease modification acreage		42.97 acres

Subsurface ownership:  
(All Minerals)

U.S. Department of the Interior  
Bureau of Land Management  
Utah State Office  
324 South State Street  
Salt Lake City, Utah 84111-2303

Surface ownership:  
(All)

U.S. Forest Service  
Manti-LaSal National Forest  
Price District  
599 West Price River Drive  
Price, Utah 84501

This modification is necessitated to maximize coal recovery between existing lease boundaries and the Mill Fork Canyon Fault which would otherwise be bypassed. It is planned to develop the 9th West longwall panel entries and 10th West main entries westward until they contact the fault zone. The location and geologic characteristics of the Mill Fork Canyon Fault are not totally known and will not be known until the fault is intersected by mine advancement in 9th and 10th West. Upon reaching this point, mine planning suggests (1) developing the bleeder entries parallel to the fault, (2) repositioning the longwall set up entries into the modified lease area, thus extending the recovery length of the longwall panel, and (3) allowing greater recovery of the coal from the applicants adjacent federal coal leases U-06039 and U-7653 and Utah State coal lease ML-22509, netting approximately an additional 100,000 tons of recoverable reserves. See Figure 1. Otherwise, without the lease modification, (1) development of the bleeder entries would have to be developed adjacent to the current western lease boundaries, (2) thus shortening the longwall panels and leaving approximately 213,000 tons of recoverable reserves. See Figure 2.

This modification would be to the advantage and serves the interest of the United States simply because:

1. The coal could not logically be accessed and recovered by any other operations or means.
2. Maximize utilization of the coal resource, through prudent mine planning the avoidance and by pass of coal reserves is eliminated.
3. Encourages the greatest ultimate recovery of the coal within and adjacent to the modification area.
4. Provides additional revenues to the United States in the form of annual rentals and production royalties.

**3.0 Availability § 3432.2**

(a)(1) The applicant feels that the lease should be modified based upon its own merits and taking into consideration the items listed above. Furthermore, the criteria set forth under this subsection has been met and serves the best interests of the United States.

(a)(2) There is no logical competitive interest in the lands or deposits because:

1. The applicant is the lessee of record holding the federal leases adjacent to south and east sides of the modification area.
2. The coal is known to thin towards the west and north.
3. The Mill Fork Canyon Fault zone presents a physical adverse geologic and engineering condition which challenges future recovery.
4. There is no other nearby operation which could economically mine this area.
5. The only logical access is from the applicant's Deer Creek Mine and adjacent leases.

(a)(3) Due to the isolation on the east side of the Mill Fork Canyon Fault and the thin unleased federal coal to the north and west, the likelihood of leasing this parcel through competitive solicitation is highly remote and unlikely. This parcel cannot logically be mined or developed as part of another operation or any potential operation. There is no other operation in the area that could economically access this area.

(b) Coal deposits underlying this parcel can only be mined by underground mining techniques due to the depth of the overburden. Any other method would be precluded.

(c) Applicant request the lands applied for lease modification be added to applicant's existing federal lease U-06039 without competitive bidding. Applicant commits compensation to the United States of the fair market value either by cash or through an adjustment of the production royalty. Applicant feels the production royalty of 8%, plus the additional annual rentals of \$3.00 per acre per year (as required in federal lease U-06039) would be just compensation for said lands and coal reserves, which would otherwise be lost or bypassed.

#### **4.0 Terms and Conditions § 3432.3**

(a) The terms and conditions of federal lease U-06039, of which the applicant proposes to modify, were readjusted effective May 1, 1993.

(b) Upon applicant's review and acceptance of the lease terms and conditions of the modified lease, Lessee/Applicant will file written notice of acceptance with the BLM. At such time, it is the intent of the Lessee upon final modification of said lease, to include this modified area into the East Mountain Logical Mining Unit (LMU) and adjust the LMU performance bond accordingly to include the additional lands.

(c) To assist the BLM in addressing compliance with the procedures and standards set

out in 43 CFR § 3425.3, applicant is prepared to provide any and all applicable data from its files to address the environmental assessments in the area including mining suitability, cliff escarpment, surface impact and hydrologic studies. Attached are copies of various environmental and decision documents associated with recent Deer Creek Mine permitting actions involving adjacent federal coal leases U-06039 and U-7653.

### **List of Attachments**

1. USFS Decision Notice / FONSI / Consent to Readjustment of Federal Coal Lease U-06039, Dated 5-21-92.
2. Readjustment of Federal Coal Lease U-06039, Effective 5-1-93.
3. USFS Decision Notice / FONSI / Environmental Assessment for Deer Creek Mine Rilda Canyon Lease Extension, Dated 9-27-94.
4. DOGM Permit # ACT/015/018 Deer Creek Mine to Include Rilda Canyon Lease Extension, Dated 10-27-94.
5. DOI / OSM Deer Creek Mining Plan Approval for Federal Coal Leases U-7653, U-06039, U-47977 and SL-050862, Dated 12-22-94.





# NOTICES

## NOTICE TO CREDITORS Probate 953700012

ESTATE OF LENA M. GILBERT aka LENA MORRIS GILBERT  
E NO. 953700012, SEVENTH DISTRICT COURT, CARBON  
COUNTY, UTAH.

Persons having claims against the above estate are required to present them to the undersigned, Kenneth L. Gilbert, who has been appointed as the personal representative of the above named decedent, to the undersigned's attorney of record, Michael R. Jensen, or to the Clerk of the Court within three (3) months from the date of first publication of this notice or be forever barred.

-s-Kenneth L. Gilbert  
4110 Dixie  
Idaho Falls, ID 83401  
Telephone 208-523-7321  
-s-Michael R. Jensen  
Attorneys for Personal Representative  
90 West 100 North  
Price, Utah 84501  
Telephone (801) 637-1245

Published in the Sun Advocate March 14, 21 and 28, 1995.

## NOTICE TO CREDITORS AND ANNOUNCEMENT OF APPOINTMENT Probate No. 953700015 ES

District Court of Carbon County, State of Utah.  
Matter of the Estate of: Ena Jane Gerrard, Deceased.  
Persons having claims against the above estate are to take notice of the appointment of Ena Jane Gerrard and Mary J. Gerrard-Lee, whose addresses are as follows, as being appointed joint personal representatives of the above named decedent and that they are required to present their claims to the personal representative or to the Clerk of the Court within three months after the date of the first publication of this notice or be forever

barred by the date of the first publication of this notice or be forever barred.  
First publication: March 21, March 28 and April 4, 1995.  
This 14th day of March, 1995.

-s-NICK SAMPINOS, Attorney  
for Personal Representatives  
80 West Main, Suite 201  
Price, Utah 84501  
Tel: (801) 637-8100

Ena J. Gerrard  
1810 South Green Street  
Salt Lake City, UT 84105  
487-7142

-s-Mary J. Gerrard-Lee  
1810 South 1100 East  
Salt Lake City, UT 84105  
Tel: (801) 466-2946

Published in the Sun Advocate March 21, 28 and April 4, 1995.

## SUMMONS

CIVIL NO. 95-0700157

Judge Bruce K. Halliday

SEVENTH JUDICIAL DISTRICT COURT WITHIN AND  
CARBON COUNTY, STATE OF UTAH.

ANDREW L. JACKSON and BARBARA JACKSON, Plaintiffs, vs.  
ROBERT COBSEN, Defendant.

STATE OF UTAH TO THE ABOVE-NAMED DEFENDANT:  
YOU ARE HEREBY SUMMONED and required to file an answer in  
response to the Complaint for Quieting Title to real property in which you  
have an interest, and which is located in Carbon County, Utah, with the  
Court of the above-entitled Court and to serve upon or mail to George M.  
Harmond, Jr., Attorney for plaintiffs, 190 North Carbon Avenue, Price,  
Utah, a copy of said Answer within thirty (30) days after service of  
this summons on you.

If you fail to do, judgment by default will be taken against you for  
the relief demanded in said Complaint which has been filed with the  
Court.

This 22 day of March, 1995.

George M. Harmond, Jr.  
Attorney for Plaintiffs

Address  
Florian  
Zona 85208



## LEGAL NOTICE MANTI-LA SAL NATIONAL FOREST FERRON-PRICE RANGER DISTRICT

The Manti-La Sal National Forest is currently reviewing a proposal from PacifiCorp (Deer Creek Mine) to modify the existing Federal Coal Lease U-06039 to include an additional 42.97 acres. The BLM has requested consent from the Forest Service. The proposed modification would permit Deer Creek Mine to maximize coal recovery between existing lease boundaries and the Mill Fork Canyon Fault. This coal would otherwise be bypassed. The proposed addition lies within the upper portion of Rilda Canyon, in T.16 S., R.6 E., section 25, and T.16 S., R.7 E., section 30. The proposal and maps are available for review at the Price Work Center at 599 W. Price River Dr, Price, Utah 84501. For further information contact Jeff DeFreest, District Geologist, at the above address or call 801-637-2817. Comments must be received by March 4th, 1995.

Published in the Sun Advocate March 28, 1995.

## ANNOUNCEMENT OF APPOINTMENT AND NOTICE TO CREDITORS

Estate of Marvin S. Barker, Deceased.  
Probate No. 953700013

EDITH BARKER, whose address is Box 158, Rt. #1, Price, Utah 84501, has been appointed Personal Representative of the above-entitled estate. Creditors of the estate are hereby notified to: (1) deliver or mail their written claims to the Personal Representative at the address above; (2) deliver or mail their written claims to the Personal Representative's attorney of record, Paul J. Barton, at the following address: 345 East 400 South #201, Salt Lake City, Utah 84111; or (3) file their written claims with the Clerk of the District Court in Carbon County, or otherwise present their claims as required by Utah law within three months after the date of the first publication of this notice or be forever barred.

Paul J. Barton  
Attorney for the Personal Representative  
345 East Fourth South  
Salt Lake City, Utah 84111  
Telephone No. (801) 322-2300

Published in the Sun Advocate March 21, 28 and April 4, 1995.

## ORDINANCE NO. 1995 - 2 AN ORDINANCE RELATING TO WATER RIGHTS

The need or reason for this Ordinance is to establish by Ordinance the method by which water and water rights are required for all connections to the water system of the Price River Water Improvement District.

BE IT ORDAINED by the Chairman and Board of Trustees of the Price River Water Improvement District, Carbon County, Utah:

That Ordinance No. 1985-1, adopted on May 21, 1985, and Ordinance 1987-5, adopted on July 7, 1987, be and are repealed in their entirety, and that the following Ordinance be and is hereby substituted, enacted and adopted:

### TITLE 2 WATER

#### CHAPTER 1: WATER RIGHTS

##### 2-1-1 Authority.

The Price River Water Improvement District may own property, appropriate and otherwise acquire water and water rights within and without its boundaries and may sell water or other services to consumers residing inside and outside its boundaries.

##### 2-1-2 Individual Water Connections.

Each application for a water connection for an individual residence will require, prior to issuance of a building permit:

(1) The transfer of one share of Price River Water Users Association water stock per connection; or,

(2) Payment of Price River Water Users Association share acquisition fee in such amount as the District by resolution, may fix from time to time provided that said shares are available for purchase.



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
324 South State, Suite 301  
Salt Lake City, Utah 84111-2303

IN REPLY REFER TO:

3432  
U-06039  
(UT-923)

MAY 10 1995

CERTIFIED MAIL—Return Receipt Requested

### DECISION

PacifiCorp	:	
c/o Interwest Mining Company	:	Coal Lease
One Utah Center, Suite 2000	:	U-06039
201 South Main Street	:	
Salt Lake City, Utah 84140-0020	:	



### Evidence Required

An application for a modification of coal lease U-06039 was filed in this office on February 16, 1995. The proposed lease modification includes the following described lands in Emery County, Utah:

T. 16 S., R. 6 E., SLM, Utah  
Sec. 25, E2SESE  
T. 16 S., R. 7 E., SLM, Utah  
Sec. 30, Lot 4.

Containing 42.97 acres

It has been determined that the proposed modification meets the requirements of the regulations under 43 CFR 3432.3 and that it would serve the interests of the United States to modify this lease under Sec. 3 of the Mineral Leasing Act of February 25, 1920, as amended. Accordingly, prior to the execution of the modified lease, the enclosed lease forms and stipulations must be accepted, signed, dated and returned to this office accompanied by a consent of surety that the bond will cover the additional acreage. A payment of \$64.50 is to be submitted. This covers the estimated additional rental for the rental year beginning December 23, 1994. Please note that rental in the amount of \$3.00 per acre, or a total of \$4,209 is due on December 23, 1995. The method of payment of the fair market value for the area of the lease modification is listed in No. 24 of the special lease stipulations.

A Logical Mining Unit surety bond in the amount of \$3,253,000 is on file and has been determined to be adequate coverage to include the modification of coal lease U-06039.

A period of thirty days from receipt of this decision is allowed in which to accept the modified lease forms and to submit the evidence required. If no action is taken within the time allowed, the modification will be denied.

During the compliance period, there is no right of appeal to the Interior Board of Land Appeals and an appeal filed within the compliance period is subject to dismissal as being premature. The 30-day appeal period commences upon expiration of the 30-day compliance period.

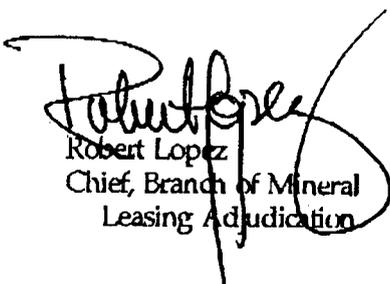
This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and the enclosed Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (at the above address) within 30 days from expiration of the compliance period. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition (request) (pursuant to regulation 43 CFR 4.21) (58 FR 4939, January 19, 1993) for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed in this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

#### Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

- (1) The relative harm to the parties if the stay is granted or denied,
- (2) The likelihood of the appellant's success on the merits,
- (3) The likelihood of immediate and irreparable harm if the stay is not granted, and
- (4) Whether the public interest favors granting the stay.

  
Robert Lopez  
Chief, Branch of Mineral  
Leasing Adjudication

2 Enclosures

1. Form 1842-1 (1p)
2. 4 Lease Forms and Stipulations (8pp each)

**INFORMATION ON TAKING APPEALS TO THE BOARD OF LAND APPEALS**

**DO NOT APPEAL UNLESS**

1. This decision is adverse to you,  
AND
2. You believe it is incorrect

**IF YOU APPEAL, THE FOLLOWING PROCEDURES MUST BE FOLLOWED**

1. NOTICE OF APPEAL . . . . Within 30 days file a *Notice of Appeal* in the office which issued this decision (see 43 CFR Secs. 4.411 and 4.413). You may state your reasons for appealing, if you desire.
  
2. WHERE TO FILE  
NOTICE OF APPEAL . . . . State Director, Utah  
Bureau of Land Management  
Utah State Office  
P. O. Box 45155  
Salt Lake City, Utah 84145-0155  
  
SOLICITOR  
ALSO COPY TO . . . . Regional Solicitor  
Department of the Interior  
Federal Building, Room 6201  
Salt Lake City, Utah 84138
  
3. STATEMENT OF REASONS . . . . Within 30 days after filing the *Notice of Appeal*, file a complete statement of the reasons why you are appealing. This must be filed with the United States Department of the Interior, Office of the Secretary, Board of Land Appeals, 4015 Wilson Blvd., Arlington, Virginia 22203 (see 43 CFR Sec. 4.412 and 4.413). If you fully stated your reasons for appealing when filing the *Notice of Appeal*, no additional statement is necessary.  
  
SOLICITOR  
ALSO COPY TO . . . . Regional Solicitor  
Department of the Interior  
Federal Building, Room 6201  
Salt Lake City, Utah 84138
  
4. ADVERSE PARTIES . . . . Within 15 days after each document is filed, each adverse party named in the decision and the Regional Solicitor or Field Solicitor having jurisdiction over the State in which the appeal arose must be served with a copy of: (a) the *Notice of Appeal*, (b) the Statement of Reasons, and (c) any other documents filed (see 43 CFR Sec. 4.413). Service will be made upon the Associate Solicitor, Division of Energy and Resources, Washington, D.C. 20240, instead of the Field or Regional Solicitor when appeals are taken from decisions of the Director (WO-100).
  
5. PROOF OF SERVICE . . . . Within 15 days after any document is served on an adverse party, file proof of that service with the United States Department of the Interior, Office of the Secretary Board of Land Appeals, 4015 Wilson Blvd., Arlington, Virginia 22203. This may consist of a certified or registered mail "Return Receipt Card" signed by the adverse party (see 43 CFR Sec. 4.401(c)(2)).

*Unless these procedures are followed your appeal will be subject to dismissal (see 43 CFR Sec. 4.402). Be certain that all communications are identified by serial number of the case being appealed.*

**NOTE:** A document is not filed until it is actually received in the proper office (see 43 CFR Sec. 4.401(a))

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

MODIFIED COAL LEASE

Serial No. U-06039

Date of Lease: May 1, 1953

PART I.

THIS MODIFIED COAL LEASE is entered into on **MAY 1 6 1995**, by and between the UNITED STATES OF AMERICA, hereinafter called the Lessor, through the Bureau of Land Management, and

PacifiCorp  
One Utah Center, Suite 2000  
201 South Main Street  
Salt Lake City, Utah 84140-0020

hereinafter called Lessee.

This modified lease shall retain the effective date of May 1, 1953, of the original COAL LEASE U-06039, and is effective for a period of 20 years therefrom, and for so long thereafter as coal is produced in commercial quantities from the leased lands, subject to readjustment of lease terms at the end of the 20th lease year (May 1, 1973), and each 10-year period thereafter.

Sec. 1. This lease is issued pursuant and subject to the terms and provisions of the: (NOTE: Check the appropriate Act or Acts.)

XX Mineral Lands Leasing Act of 1920, as amended, 41 Stat. 437, 30 U.S.C. 181-287, hereinafter referred to as the Act;

    Mineral Leasing Act for Acquired Lands of 1947, 61 Stat. 913, 30 U.S.C. 351-359;

and to the regulations and formal orders of the Secretary of the Interior which are now or hereafter in force, when not inconsistent with the express and specific provisions herein.

Sec. 2. Lessee as the holder of Coal Lease U-06039, issued effective May 1, 1953, was granted the exclusive right and privilege to drill for, mine, extract, remove or otherwise process and dispose of the coal deposits in, upon, or under the lands described below as Tract 1.

The Lessor in consideration of fair market value, rents and royalties to be paid, and the conditions and covenants to be observed as herein set forth, hereby grants and leases to Lessee the exclusive right and privilege to drill for, mine, extract, remove, or otherwise process and dispose of the coal deposits in, upon, or under the lands described below as Tract 2.

Tract 1:            T. 16 S., R. 7 E., SLM, Utah  
                      Sec. 19, SE;  
                      Sec. 20, S2;  
                      Sec. 29, N2, SW, W2SE;  
                      Sec. 30, E2.  
                      1,360.00 acres, Emery County, Utah

Tract 2:            T. 16 S., R. 6 E., SLM, Utah  
                      Sec. 25, E2SESE.  
                      T. 16 S., R. 7 E., SLM, Utah  
                      Sec. 30, lot 4.  
                      42.97 acres, Emery County, Utah

containing 1,402.97 acres, more or less, together with the right to construct such works, buildings, plants, structures, equipment and appliances and the right to use such on-lease rights-of-way which may be necessary and convenient in the exercise of the rights and privileges granted, subject to the conditions herein provided.

## Part II. TERMS AND CONDITIONS

**Sec. 1.(a) RENTAL RATE** - Lessee shall pay Lessor rental annually and in advance for each acre or fraction thereof during the continuance of the lease at the rate of \$3.00 per acre for each lease year.

**(b) RENTAL CREDITS** - Rental shall not be credited against either production or advance royalties for any year.

**Sec. 2.(a) PRODUCTION ROYALTIES** - The royalty shall be 8 percent of the value of the coal as set forth in the regulations. Royalties are due to Lessor the final day of the month succeeding the calendar month in which the royalty obligation accrues.

**(b) ADVANCE ROYALTIES** - Upon request by the Lessee, the authorized officer may accept, for a total of not more than 10 years, the payment of advance royalties in lieu of continued operation, consistent with the regulations. The advance royalty shall be based on a percent of the value of a minimum number of tons determined in the manner established by the advance royalty regulations in effect at the time the Lessee requests approval to pay advance royalties in lieu of continued operation.

**Sec. 3. BONDS** - Lessee shall maintain in the proper office a LMU bond in the amount of \$3,253,000. The authorized officer may require an increase in this amount when additional coverage is determined appropriate.

**Sec. 4. DILIGENCE** - This lease achieved diligent development on December 23, 1986, and is subject to the conditions of continued operation. Continued operation may be excused when operations under the lease are interrupted by strikes, the elements, or casualties not attributable to the Lessee. The Lessor, in the public interest, may suspend the condition of continued operation upon payment of advance royalties in accordance with the regulations in existence at the time of the suspension.

The Lessor reserves the power to assent to or order the suspension of the terms and conditions of this lease in accordance with, inter alia, Section 39 of the Mineral Leasing Act, 30 U.S.C. 209.

**Sec. 5. LOGICAL MINING UNIT (LMU)** - The lands contained in the original lease are included in the LMU East Mountain UTU-73336, effective December 23, 1986. Within 30 days after the effective date of this lease modification, the Lessee shall amend

its East Mountain Logical Mining Unit to include the 42.97 acres added to Coal Lease U-06039 by this modification. The modified land shall be segregated into another Federal coal lease should the Lessee fail to file such amendment.

The stipulations established in an LMU approval in effect at the time of LMU approval or modification will supersede the relevant inconsistent terms of this lease so long as the lease remains committed to the LMU. If the LMU of which this lease is a part is dissolved, the lease shall then be subject to the lease terms which would have been applied if the lease had not been included in the LMU.

**Sec. 6. DOCUMENTS, EVIDENCE AND INSPECTION** - At such times and in such form as Lessor may prescribe, Lessee shall furnish detailed statements showing the amounts and quality of all products removed and sold from the lease, the proceeds therefrom, and the amount used for production purposes or unavoidably lost.

Lessee shall keep open at all reasonable times for the inspection of any duly authorized officer of Lessor, the leased premises and all surface and underground improvements, works, machinery, ore stockpiles, equipment, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or under the leased lands.

Lessee shall allow Lessor access to and copying of documents reasonably necessary to verify Lessee compliance with terms and conditions of the lease.

While this lease remains in effect, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Action (5 U.S.C. 552).

**Sec. 7. DAMAGES TO PROPERTY AND CONDUCT OF OPERATIONS** - Lessee shall comply at its own expense with all reasonable orders of the Secretary, respecting diligent operations, prevention of waste, and protection of other resources.

Lessee shall not conduct exploration operations, other than casual use, without an approved exploration plan. All exploration plans prior to the commencement of mining operations within an approved mining permit area shall be submitted to the authorized officer.

Lessee shall carry on all operations in accordance with approved methods and practices as provided in the operating regulations, having due regard for the

prevention of injury to life, health, or property, and prevention of waste, damage or degradation any land, air, water, cultural, biological, visual, and other resources, including mineral deposits and formations of mineral deposits not leased hereunder, and to other land uses or users. Lessee shall take measures deemed necessary by Lessor to accomplish the intent of this lease term. Such measures may include, but not limited to, modification to proposed siting or design of facilities, timing of operations, and specifications of interim and final reclamation procedures. Lessor reserves to itself the right to lease, sell, or otherwise dispose of the surface or other mineral deposits in the lands and the right to continue existing uses and to authorize future uses upon or in the leased lands, including issuing leases for mineral deposits not covered hereunder and approving easements or rights-of-way. Lessor shall condition such uses to prevent unnecessary or unreasonable interference with rights of Lessee as may be consistent with concepts of multiple use and multiple mineral development.

**Sec. 8 PROTECTION OF DIVERSE INTERESTS, AND EQUAL OPPORTUNITY** - Lessee shall: pay when due all taxes legally assessed and levied under the laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance with standard industry practices; restrict the workday to not more than 8 hours in any one day for underground workers, except in emergencies; and take measures necessary to protect the health and safety of the public. No person under the age of 16 years shall be employed in any mine below the surface. To the extent that laws of the State in which the lands are situated are more restrictive than the provisions in this paragraph, then the State laws apply.

Lessee will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor. Neither Lessee nor Lessee's subcontractors shall maintain segregated facilities.

**Sec. 9.(a) TRANSFERS**

X This lease may be transferred in whole or in part to any person, association or corporation qualified to hold such lease interest.

\_\_\_\_\_ This lease may be transferred in whole or in part to another public body, or to a person who will mine the coal on behalf of, and for the

use of, the public body or to a person who for the limited purpose of creating a security interest in favor of a lender agrees to be obligated to mine the coal on behalf of the public body.

\_\_\_\_\_ This lease may only be transferred in whole or in part to another small business qualified under 13 CFR 121.

Transfers of record title, working or royalty interest must be approved in accordance with the regulations.

(b) **RELINQUISHMENTS** - The Lessee may relinquish in writing at any time all rights under this lease or any portion thereof as provided in the regulations. Upon Lessor's acceptance of the relinquishment, Lessee shall be relieved of all future obligations under the lease or the relinquished portion thereof, whichever is applicable.

**Sec. 10. DELIVERY OF PREMISES, REMOVAL OF MACHINERY, EQUIPMENT, ETC.** - At such times as all portions of this lease are returned to Lessor, Lessee shall deliver up to Lessor the land leased, underground timbering, and such other supports and structures necessary for the preservation of the mine workings on the leased premises or deposits and place all workings in condition for suspension or abandonment. Within 180 days thereof, Lessee shall remove from the premises all other structures, machinery, equipment, tools, and materials that it elects to or as required by the authorized officer. Any such structures, machinery, equipment, tools, and materials remaining on the leased lands beyond 180 days, or approved extension thereof, shall become the property of the Lessor, but Lessee shall either remove any or all such property or shall continue to be liable for the cost of removal and disposal in the amount actually incurred by the Lessor. If the surface is owned by third parties, Lessor shall waive the requirement for removal, provided the third parties do not object to such waiver. Lessee shall, prior to the termination of bond liability or at any other time when required and in accordance with all applicable laws and regulations, reclaim all lands the surface of which has been disturbed, dispose of all debris or solid waste, repair the offsite and onsite damage caused by Lessee's activity or activities incidental thereto, and reclaim access roads or trails.

**Sec. 11. PROCEEDINGS IN CASE OF DEFAULT** -

If Lessee fails to comply with applicable laws, existing regulations, or the terms,

conditions and stipulations of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation by the Lessor only by judicial proceedings. This provision shall not be construed to prevent the exercise by Lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time.

**Sec. 12. HEIRS AND SUCCESSORS - INTEREST** - Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

**Sec. 13. INDEMNIFICATION** - Lessee shall indemnify and hold harmless the United States from any and all claims arising out of the Lessee's activities and operations under this lease.

**Sec. 14. SPECIAL STATUTES** - This lease is subject to the Federal Water Pollution Control Act (33 U.S.C. 1151 - 1175); the Clean Air Act (42 U.S.C. 1857 et seq.), and to all other applicable laws pertaining to exploration activities, mining operations and reclamation, including the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201 et seq.)

**Sec. 15. SPECIAL STIPULATIONS** -

The following stipulations made part of this lease may be waived or amended with the mutual consent of the lessor and lessee.

1. The Regulatory Authority shall mean the State Regulatory Authority pursuant to a cooperative agreement approved under 30 CFR Part 745 or in the absence of a cooperative agreement, Office of Surface Mining. The authorized officer shall mean the State Director, Bureau of Land Management. The authorized officer of the Surface Management Agency shall mean the Forest Supervisor, Forest Service. Surface Management Agency for private surface is the Bureau of Land Management. For adjoining private lands with Federal minerals and which primarily involve National Forest Service issues, the Forest Service will have the lead for environmental analysis and, when necessary, documentation in an environmental assessment or environmental impact statement.

2. The authorized officers, of the Bureau of Land Management, Office of Surface Mining (Regulatory Authority), and the Surface Management Agency (Forest Service) respectively, shall coordinate, as practical, regulation of mining operations and associated activities on the lease area.

3. In accordance with Sec. 523(b) of the "Surface Mining Control and Reclamation Act of 1977," surface mining and reclamation operations conducted on this lease are to conform with the requirements of this Act and are subject to compliance with Office of Surface Mining Regulations, or as applicable, a Utah program equivalent approved under cooperative agreement in accordance with Sec. 523(c). The United States Government does not warrant that the entire tract will be susceptible to mining.

4. Federal Regulations 43 CFR 3400 pertaining to Coal Management make provisions for the Surface Management Agency, the surface of which is under the jurisdiction of any Federal agency other than the Department of Interior, to consent to leasing and to prescribe conditions to insure the use and protection of the lands. All or part of this lease contain lands the surface of which are managed by the United States Department of Agriculture, Forest Service Manti-LaSal National Forest.

The following stipulations pertain to the lessee responsibility for mining operations on the lease area and on adjacent areas as may be specifically designated on National Forest System lands.

5. Before undertaking activities that may disturb the surface of previously undisturbed leased lands, the lessee may be required to conduct a cultural resource inventory and a paleontological appraisal of the areas to be disturbed. These studies shall be conducted by qualified professional cultural resource specialists or qualified paleontologists, as appropriate, and a report prepared itemizing the findings. A plan will then be submitted making recommendations for the protection of, or measures to be taken to mitigate impacts for identified cultural or paleontological resources.

If cultural resources or paleontological remains (fossils) of significant scientific interest are discovered during operations under this lease, the lessee prior to disturbance shall, immediately bring them to the attention of the appropriate authorities. Paleontological remains of significant scientific interest do not include leaves, ferns, or dinosaur tracks commonly encountered during underground mining operations.

The cost of conducting the inventory, preparing reports, and carrying out mitigating measures shall be borne by the lessee.

6. If there is reason to believe that threatened or endangered (T&E) species of plants or animals, or migratory bird species of high Federal interest occur in the area the lessee shall be required to conduct an intensive field inventory of the area to be disturbed and/or impacted. The inventory shall be conducted by a qualified specialist and a report of findings will be prepared. A plan will be prepared making recommendations for the protection of these species or action necessary to mitigate the disturbance.

The cost of conducting the inventory, preparing reports, and carrying out mitigating measures shall be borne by the lessee.

7. The lessee shall be required to perform a study to secure adequate baseline data to quantify the existing surface resources on and adjacent to the lease area. Existing data may be used if such data is adequate for the intended purposes. The study shall be adequate to locate, quantify, and demonstrate the inter-relationship of the geology, topography, surface hydrology, vegetation, and wildlife. Baseline data will be established so that future programs of observation can be incorporated at regular intervals for comparison.

8. Powerlines used in conjunction with the mining of coal from this lease shall be constructed so as to provide adequate protection for raptors and other large birds. When feasible, powerlines will be located at least 100 yards from public roads.

9. The limited area available for mine facilities at the coal outcrop, steep topography, adverse winter weather, and physical limitations on the size and design of the access road, are factors which will determine the ultimate size of the surface area utilized for the mine. A site specific environmental analysis will be prepared for each new mine site development and for major modifications to existing developments to examine alternatives and mitigate conflicts.

10. Consideration will be given to site selection to reduce adverse visual impacts. Where alternative sites are available, and each alternative is technically feasible, the alternative involving the least damage to the scenery and other resources shall be selected. Permanent structures and facilities will be designed, and screening techniques employed, to reduce visual impacts, and where possible achieve a final landscape compatible with the natural surroundings. The creation of unusual, objectionable, or unnatural land forms and vegetative landscape features will be avoided.

11. The lessee shall be required to establish a monitoring system to locate, measure, and quantify the progressive and final effects of underground mining activities on the topographic surface, underground and surface hydrology and vegetation. The monitoring system shall utilize techniques which will provide a continuing record of change over time and an analytical method for location and measurement of a number of points over the lease area. The monitoring shall incorporate and be an extension of the baseline data.
12. The lessee shall provide for the suppression and control of fugitive dust on haul roads and at coal handling and storage facilities. On Forest Development Roads (FDR), lessees may perform their share of road maintenance by a commensurate share agreement if a significant degree of traffic is generated that is not related to their activities.
13. Except at specifically approved locations, underground mining operations shall be conducted in such a manner so as to prevent surface subsidence that would: (1) cause the creation of hazardous conditions such as potential escarpment failure and landslides, (2) cause damage to existing surface structures, or (3) damage or alter the flow of perennial streams. The lessee shall provide specific measures for the protection of escarpments, and determine corrective measures to assure that hazardous conditions are not created.
14. In order to avoid surface disturbance on steep canyon slopes and to preclude the need for surface access, all surface breakouts for ventilation tunnels shall be constructed from inside the mine, except at specifically approved locations.
15. If removal of timber is required for clearing of construction sites, etc., such timber shall be removed in accordance with the regulations of the surface management agency.
16. The coal contained within, and authorized for mining under this lease, shall be extracted only by underground mining methods.
17. Existing Forest Service owned or permitted surface improvements will need to be protected, restored, or replaced to provide for the continuance of current land uses.
18. In order to protect big game wintering areas, elk calving and deer fawning areas, sagegrouse strutting areas, and other critical wildlife habitat and/or activities, specific surface uses outside the mine development area may be curtailed during specific periods of the year.
19. Support facilities, structures, equipment, and similar developments will be removed from the lease area within 2 years after the final termination of use of such facilities. This provision shall apply unless the requirement of Section 10 of the lease form is applicable. Disturbed areas and those areas previously occupied by such facilities will be stabilized and rehabilitated, drainages reestablished, and the areas returned to a premining land use.
20. The lessee at the conclusion of the mining operations, or at other times as surface disturbance related to mining may occur, will replace all damaged, disturbed, or displaced corner monuments (section corners, quarter corners, etc.) their accessories and appendages (witness trees, bearing trees, etc.), or restore them to their original condition and location, or at other locations that meet the requirements of the rectangular surveying system. This work shall be conducted at the expense of the lessee, by a professional land surveyor registered in the State of Utah and to the standards and guidelines found in the manual of surveying instruction, U.S. Department of Interior.
21. The lessee at his expense will be responsible to replace any surface water identified for protection, that may be lost or adversely affected by mining operations, with water from an alternate source in sufficient quantity and quality to maintain existing riparian habitat, fishery habitat, livestock and wildlife use, or other land uses.
22. The lessee must comply with all the rules and regulations of the Secretary of Agriculture set forth at Title 36, Chapter II, of the Code of Federal Regulations governing the use and management of the National Forest System (NFS) when not inconsistent with the rights granted by the Secretary of the Interior in the lease. The Secretary of Agriculture's rules and regulations must be complied with for (1) all use and occupancy of the NFS prior to approval of a permit/operation plan by the Secretary of Interior, (2) uses of all existing improvements, such as Forest Development Roads, within and outside the area licensed, permitted or leased by the Secretary of Interior, and (3) use and occupancy of the NFS not authorized by a permit/operation plan approved by the Secretary of the Interior.

All matters related to this stipulation are to be addressed to:

Forest Supervisor  
Manti-LaSal National Forest  
599 West Price River Drive  
Price, Utah 84501

Telephone No.: 801-637-2817

who is the authorized representative of the Secretary of Agriculture.

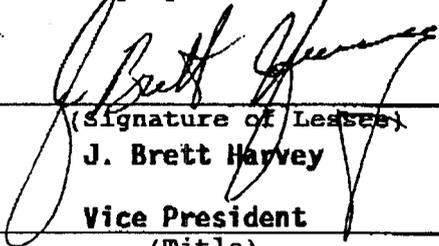
23. The lessee shall be required to pay the value of the royalty on coal left unmined without the authorized officer (AO) approval, which should have been recovered under the approval of a mine plan (Resource Recovery and Protection Plan, [R2P2] and which would otherwise be lost or left economically inaccessible.

24. Due to the uncertainty of the amount of recoverable coal tons in this modification, the lessee will pay the fair market value (FMV) for the coal resources mined in the area of federal coal lease modification (U-06039) at the rate of \$0.25 pr ton for the actual tonnage mined. Payment of FMV at the specified rate and tonnage mined will be on the schedule required for payment of production royalties to the Minerals Management Service (MMS). The lessee will clearly indicate which portion of the payment is for royalty and what is for lease bonus payment.

The United States of America

**PacifiCorp**

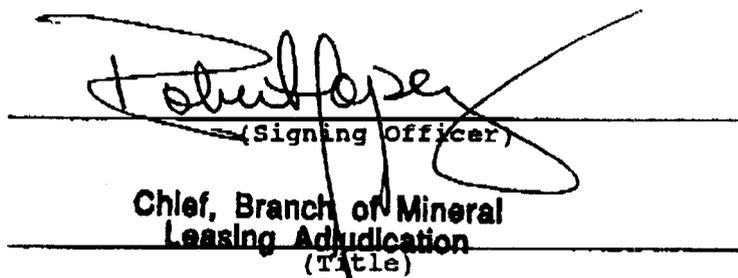
Company or Lessee Name

  
(Signature of Lessee)  
**J. Brett Harvey**  
**Vice President**  
(Title)

**May 15, 1995**

(Date)

By

  
(Signing Officer)  
**Chief, Branch of Mineral**  
**Leasing Adjudication**  
(Title)

**MAY 15 1995**

(Date)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

V. Payne



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
324 South State, Suite 301  
Salt Lake City, Utah 84111-2303

IN REPLY REFER TO:

3432  
U-06039  
(UT-923)

MAY 19 1995

### DECISION

PacifiCorp	:	
c/o Interwest Mining Company	:	
One Utah Center, Suite 2000	:	Coal Lease
201 South Main Street	:	U-06039
Salt Lake City, Utah 84140-0020	:	

### Bond Rider Accepted Coal Lease U-06039 Modified

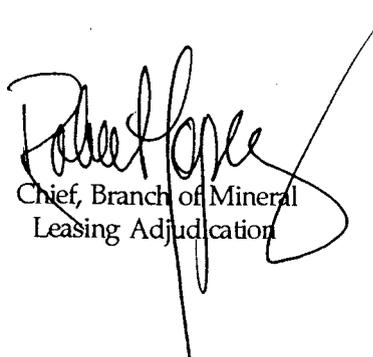
Coal lease U-06039 was modified effective May 16, 1995. All terms and conditions of the original lease were made consistent with the laws, regulations, and lease terms applicable at the time of this modification.

A rider to coal lease bond 400 JV 3713 (BLM Bond No. UT0988) accepting coverage for the additional acreage was filed in this office on May 16, 1995. The rider was examined, found to be satisfactory, and accepted as of the date of filing.

Scott Child, of your office, personally picked up his required copy of the modification and bond rider after they were signed by the authorized officer on May 16, 1995. Therefore, they are not enclosed with the PacifiCorp copy of this decision.

Additional rental of \$64.50 to cover the estimated additional rental for the current rental year was submitted May 16, 1995. Rental in the amount of \$3.00 per acre, or a total of \$4,209 is due on December 23, 1995.

Within 30 days after the effective date of this lease modification, the lessee shall amend its East Mountain Logical Mining Unit to include the 42.97 acres added to coal lease U-06039 by this modification. The modified land shall be segregated into another Federal coal lease should the lessee fail to file such amendment.



Chief, Branch of Mineral  
Leasing Adjudication

Enclosures  
Copy of Lease Modification  
Copy of Rider



ARCHEOLOGICAL STUDIES ON EAST MOUNTAIN:  
A PREHISTORIC HIGHLAND-LOWLAND OCCUPATION HYPOTHESIS

Report Prepared for  
UTAH POWER & LIGHT COMPANY  
Federal Coal Lease - Deer Creek M&RP Modification

Utah State Project No. Ut-90-AF-363f  
USDA-Forest Service Special Use Permit 8/15/90

AERC Project 1242 (UPL-90-2)

V. Garth Norman



PAPER NO. 46  
of the  
ARCHEOLOGICAL-ENVIRONMENTAL RESEARCH  
CORPORATION (AERC)

181 North 200 West, Suite 5  
Bountiful, Utah 84010

October 1990

2-132.2  
Added 12|28|93

## ABSTRACT

The East Mountain cultural resources survey project was commissioned by Utah Power and Light Company in July 1990, in conjunction with their Federal Coal lease, Deer Creek M&RP modification program. The project area covers a 2372 acre tract in the east mountain locality between Rilda Canyon and Mill Canyon, Emery County, Utah, on Manti-La Sal National Forest land.

An intensive field survey conducted in August-September 1990, resulted, in identifying and recording three prehistoric sites (42Em2222, 42Em2223, 42Em2224) and nine isolated artifacts. Of the three sites 42Em2223 has National Register quality significance. None of the three sites is considered susceptible to extensive damage through subsidence because of their low profile, lack of architecture, and lack of rock art. AERC accordingly recommends that a cultural resource clearance be granted to Utah Power and Light Company for this project.

Due to the extent of this earlier surveys, this report assesses the significance of the sites in an East Mountain regional context that results in a highland-lowland connection hypothesis through drainages. Also, a regional site location predictive model has emerged demonstrating a high correlation between site locations and drainage heads in the upper elevations.

## INTRODUCTION

During August and September, 1990, the Archeological-Environmental Research Corporation (AERC) of Bountiful, Utah, conducted an intensive cultural resource evaluation for Utah Power and Light Company (UPL) on East Mountain in Emery County, Utah (see Map 1). The survey was conducted under State authorization U90-AF-363f, and US Forest Service special use permit dated 8/15/90, issued by the Price District Office of the Manti-La Sal National Forest.

UPL requested that an intensive cultural resource evaluation be conducted of a 2372 acre coal lease tract which is a potential subsidence zone. This project was initiated to comply with pertinent government legislation, i.e., Executive Order 11593 "Protection and Enhancement of Cultural Environment" (Federal Register, Vol. 35, No. 95, May 15, 1971), and "The Archeological and Historical Data Conservation Act of 1960: (74 Stat. 220). Additional information on UPL's development may be obtained from their mine plan application. The East Mountain cultural resources survey project was commissioned in July 1990, in conjunction with the UPL Federal Coal lease, Deer Creek M&RP modification program.

The project is on Manti-La Sal National Forest land in the East Mountain locality of Emery County, Utah (Figure 1). The project survey tract extends from Rilda Canyon on the north, across the top of East Mountain to the heads of Meetinghouse Canyon and Mill Canyon on the south. The survey tract extends three miles east-west and one-and-a-half miles north-south. The legal description of the survey area is as follows:

Township 16 South, Range 6 East, Section 36;  
Township 16 South, Range 7 East, Section 31 & 32  
Township 16 South, Range 7 East, Section 28, west half of SW1/4;  
Township 16 South, Range 7 East, Section 29, south half;  
Township 16 South, Range 7 East, Section 30, most of south half;  
Township 16 South, Range 7 East, Section 33, west half of NW1/4,  
NW1/4 of SW1/4



T. 15-19 S.

R. 5-9 East

Meridian: Salt Lake B. & M.

Quad:

Project: UPL-90-2

Series: Central Ut.

Date: 10-29-90

Figure 1

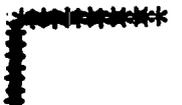
East Mountain Region and  
Survey Project Locality

Price, Utah



Legend:

Project  
Locality



2-132.5

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1:250,000

Scale

## CONCLUSION AND RECOMMENDATIONS

None of the three sites recorded during this survey is considered susceptible to extensive damage through subsidence because of their low profile, lack of architecture, and lack of rock art. AERC accordingly recommends that a cultural resource clearance be granted to Utah Power and Light relative to the development of this coal lease project based upon adherence to the following stipulations:

1. All personnel should refrain from collecting artifacts or from disturbing any cultural resources in the area;
2. the principal authority should be consulted should cultural remains from subsurface deposits be exposed during exploratory and developmental work;
3. any future drilling or construction on the plateau in the vicinity of archeological site 42Em2224 should be monitored by an archeologist; and
4. any future drilling or construction on the plateau at the heads of drainages may need to be monitored by an archeologist due to the potential of finding significant buried cultural sites in these highland localities.

V. Garth Norman (by hand)  
V. Garth Norman, M.A.

F. Richard Hauck  
F. Richard Hauck Ph. D.  
Principal Investigator

**CULTURAL RESOURCE EVALUATION  
OF A POTENTIAL SUBSIDENCE ZONE  
IN THE RILDA CANYON LOCALITY  
OF EMERY COUNTY, UTAH**

Report Prepared for Energy West / Utah Power / PacifiCorp

AERC Project 1444 (UPL-94-4)

Utah State Project No.: UT-94-AF-383f

Principal Investigator  
F. Richard Hauck, Ph.D.

Authors of the Report  
F. Richard Hauck and Glade Hadden



**ARCHEOLOGICAL-ENVIRONMENTAL RESEARCH  
CORPORATION (AERC)**

181 North 200 West, Suite 5  
P.O. Box 853  
Bountiful, Utah 84011-0853

August 5, 1994

## **ABSTRACT**

An intensive cultural resource evaluation has been conducted for Energy West of a potential mining surface subsidence zone situated on federal lands in the Rilda Canyon locality of Emery County, Utah. This evaluation involved ca. 121.21 acres that are defined by an escarpment encompassing the north and south walls of Rilda Canyon at approximately the 8800 foot elevation level. The survey was conducted by Glade Hadden and Walter Lenington of AERC on August 3 and 4, 1993.

No previously recorded significant or National Register eligible cultural resources will be adversely affected by the proposed development.

No newly identified paleontological loci were discovered during the examination.

No diagnostic isolated artifacts were observed and collected during the evaluation.

No prehistoric resource loci were identified and recorded during the evaluations.

AERC recommends project clearance based on adherence to the stipulations noted in the final section of this report.

## TABLE OF CONTENTS

	page
Abstract . . . . .	ii
Table of Contents . . . . .	iii
List of Maps of the Project Area . . . . .	iv
General Information . . . . .	1
Project Location . . . . .	1
Environmental Description . . . . .	1
Previous Research in the Locality . . . . .	4
File Search . . . . .	4
Prehistory and History of the Project Area . . . . .	6
Site Potential in the Project Development Zone . . . . .	7
Field Evaluations . . . . .	7
Methodology . . . . .	7
Site Significance Criteria . . . . .	8
Results of Inventory . . . . .	9
Conclusion and Recommendations . . . . .	9
References . . . . .	10

**LIST OF MAPS OF THE PROJECT AREA**

	<b>page</b>
<b>MAP 1: Cultural Resource Survey of a Potential Subsidence Zone in the Rilda Canyon Locality of Emery County, Utah . . . . .</b>	<b>2</b>
<b>MAP 2: Cultural Resource Survey of a Potential Subsidence Zone in the Rilda Canyon Locality of Emery County, Utah . . . . .</b>	<b>3</b>

## GENERAL INFORMATION

On August 3 and 4, 1994, AERC archaeologists Glade Hadden and Walter Lenington conducted an intensive cultural resource evaluation for Energy West involving ca. 121.21 acres within a potential subsidence zone situated on federal lands in Rilda Canyon in Emery County, Utah.

The purpose of the field study and this report is to identify and document cultural site presence and assess National Register potential significance relative to established criteria (cf., Title 36 CFR 60.6). The development of this subsurface mine and the corresponding potential surface disturbance area requires an archaeological evaluation in compliance with U.C.A. 9-8-404, the Federal Antiquities Act of 1906, the Reservoir Salvage Act of 1960-as amended by P.L. 93-291, Section 106 of the National Historic Preservation Act of 1966-as amended, the National Environmental Policy Act of 1969, the Federal Land Policy and Management Act of 1979, the Archaeological Resources Protection Act of 1979, the Native American Religious Freedom Act of 1978, the Historic Preservation Act of 1980, and Executive Order 11593.

In addition to documenting cultural identity and significance, mitigation recommendations relative to the preservation of cultural data and materials can be directed to the Utah State Historical Preservation Office, Antiquities Section.

### Project Location

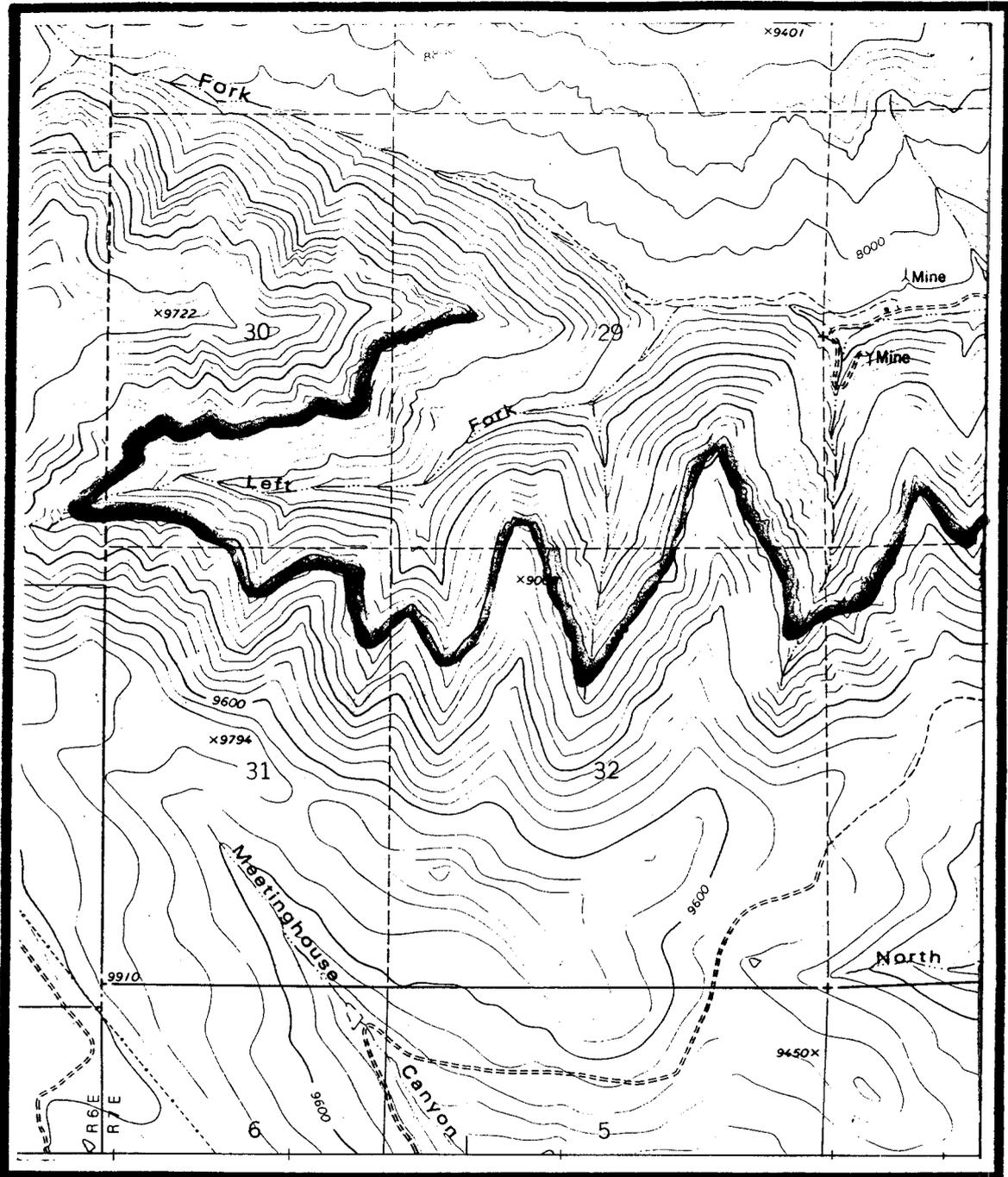
The potential subsidence zone is situated along a ledge outcrop or escarpment at about the 8800 foot elevation level on the north and south walls of the Left Fork of Rilda Canyon, and on the south wall of the main Rilda Canyon. The roughly 6.5 mile-long escarpment is located in Township 16 South, Range 7 East in the following sections (see Maps 1 and 2): Beginning in the southwest quarter of the northwest quarter of Section 29 and running southwest through the south half of Section 30, then making a bend in the southeast quarter of the southeast quarter of Section 25 Township 16 South, Range 6 East as shown on Map 1. From there the escarpment proceeds in an easterly direction back across the southwest corner of Section 30, the northeast corner of Section 31, the north half of Section 32, the south half of Section 29, the north half of Section 33, the south half of Section 28, ending in the northeast quarter of the southwest quarter of Section 27, Township 16 south, Range 7 East. Altogether, the surveyed portion of the escarpment comprises some 6.5 miles, of which ca 5 miles were inventoried at 100% and the remaining 1.5 miles were observed from a distance for potential cultural activity zones.

The project location is located on the Rilda Canyon, Utah 7.5 minute topographic quad.

### Environmental Description

The project area is situated at the 8800 to 9000 foot elevation zone above sea level. Vegetation zones are determined by slope and aspect. South facing slopes are dominated by dense growths of mountain mahogany, with scattered areas of heavier growth of Spruce (*Picea*),

AERC



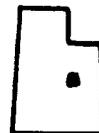
T. 16 South  
 R. 6 and 7 East  
 Meridian: SL  
 Quad: Rilda  
 Canyon, Utah

**MAP 1**  
 Cultural Resource Survey of  
 a Potential Subsidence Zone  
 in the Rilda Canyon Locality  
 of Emery County, Utah

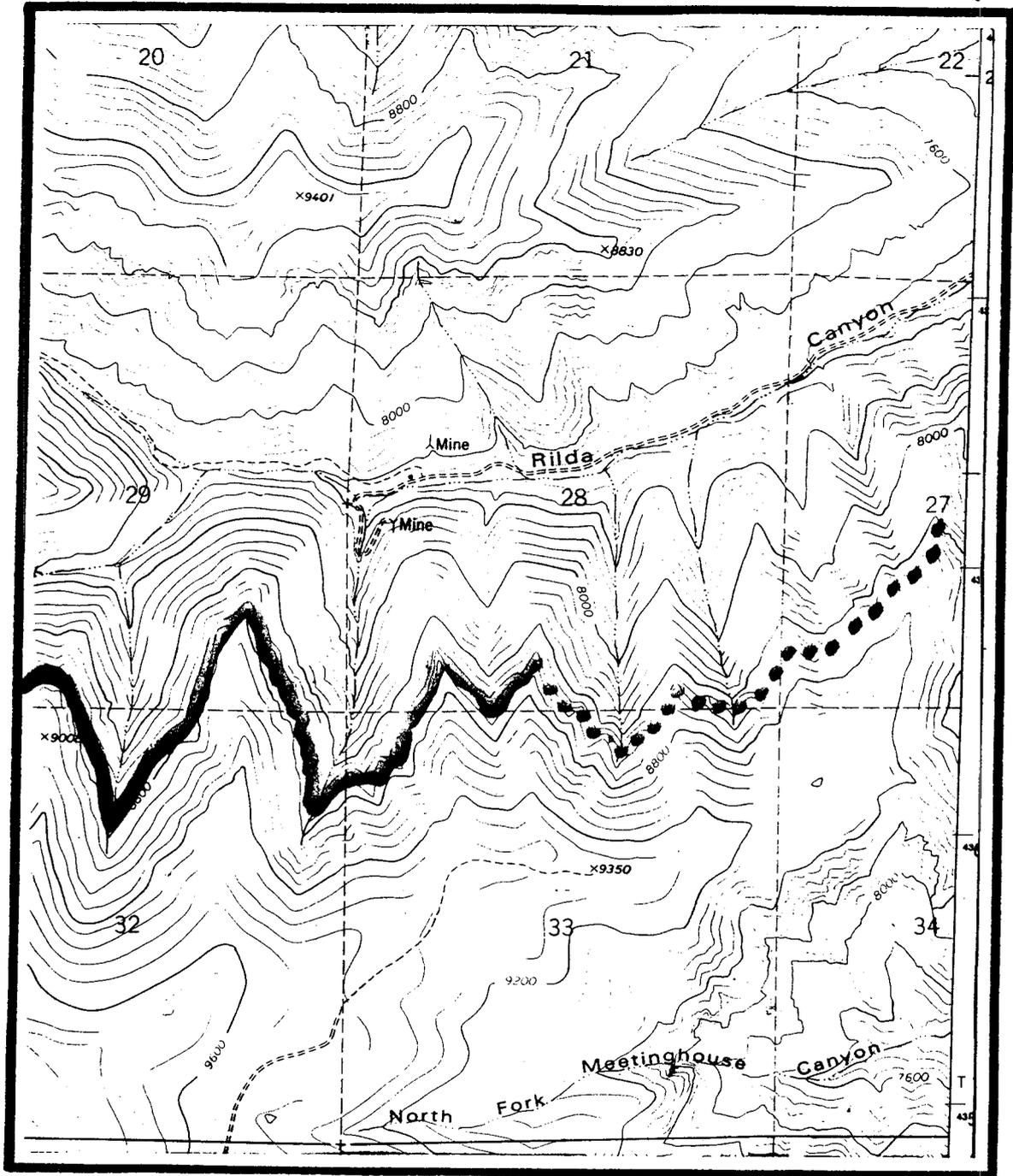
**Legend:**  
 Corridor  
 Surveyed

4  
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 N

**Project:** UPL-94-4  
**Series:** Central Utah  
**Date:** 8/5/94  
**Scale:** 1:24,000



AERL



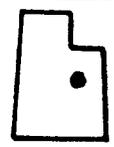
T. 16 South  
 R. 7 East  
 Meridian: SL  
 Quad: Rilda  
 Canyon, Utah

**MAP 2**  
 Cultural Resource Survey of  
 a Potential Subsidence Zone  
 in the Rilda Canyon Locality  
 of Emery County, Utah

**Legend:**  
 Corridor  
 Surveyed  
 at 100%   
 Corridor  
 under Remote  
 Recon 



**Project:** UPL-94-4  
**Series:** Central Utah  
**Date:** 8/5/94  
**Scale:** 1:24,000



## Site Potential in the Project Development Zone

Previous archaeological evaluations in the general project area have resulted in the identification and recording of a variety of cultural resource sites having eligibility for potential nomination to the National Register of Historic Places (NRHP). The majority of these sites are lithic scatters containing biface thinning and reduction materials generally procured in this highland mountain/plateau complex. Occupations are also frequently identified in this locality. Sites associated with the rock shelters on the main canyon floors and open occupations on the mountain ridges and upper slopes generally appear to have been occupied during the Middle and Late Archaic Stages with occasional indications of Formative Stage activity based on radiometric dates and the recovery of associated artifacts. The major canyons appear to have been more actively occupied during the Formative Stage by the Fremont peoples based on the Huntington Canyon and Cottonwood Canyon excavations. To-date, very sparse evidence of Late Prehistoric (Numa) activity has been documented in the general area.

Site density appears to range from zero to five sites per section based on topographic factors. Sections which feature slopes and narrow canyons appear to have little potential for containing significant prehistoric or historic activity loci. Sections which feature ridge tops and knolls associated with springs and seeps and sections which contain the broader canyons and valleys with flowing streams have the greatest potential for containing significant sites.

The 1991 and 1992 archaeological evaluations in the East Mountain and Trail Mountain sample units have resulted in the identification of a significantly higher site density in the upland areas than was previously recognized within this locality. The 1980 AERC sample survey of 2705 acres on the southern portion of East Mountain resulted in the discovery of three prehistoric sites for a Site/Acre Ratio of 1:760 (cf., Hauck and Weder 1980). In 1990, AERC returned to East Mountain and completed a 2280 acre intensive survey on the central portion of the mountain spine. That study resulted in the documentation of four sites for a Site/Acre Ratio of 1:676 (cf., Norman 1990). The 715 acres associated with the 1991 Trail Mountain highland sample unit study contained a total of 11 prehistoric sites resulting in a Site/Acre Ratio of 1:65. This statistic suggests that in comparison with East Mountain, Trail Mountain has 10 times the site density (Hauck 1991c:27). (For additional information on Site/Acre Densities in other regions see Hauck 1991b).

Topographic features, including slope, vegetation, accessibility and distance from water indicate that the present study area is within the low potential zone for cultural resources.

## FIELD EVALUATIONS

### Methodology

The intensive evaluation of the possible subsidence zone addressed in this report consisted of the archaeologists walking a pair of transects along the top and bottom of the exposed escarpment. The exposed escarpment ranges from between 50 and 200 feet wide, between 50 and 100 vertical feet high, and varies up-slope from the canyon floor some 500 to 1500 vertical feet within the locality shown on the map. The resulting evaluated corridor averaged some 200

feet wide. Physical constraints dealing with accessibility and safety precluded an intensive evaluation of the final 1.5 miles of the escarpment. In all, roughly five miles of the escarpment was evaluated at 100% for a total of some 121.21 acres, while the remainder (ca. 1.5 miles) of the study area was examined from the opposite canyon walls using binoculars to locate potential rockshelter zones.

Observation of cultural materials results in intensive examinations to determine the nature of the resource (isolate or activity locus). The analysis of each specific cultural site results in its subsequently being sketched, photographed, and appropriately recorded on standard Intermountain Antiquities Computer System (IMACS) forms. Cultural sites are then evaluated for significance utilizing the standards described below and mitigation recommendations are considered as a means of preserving significant resources which may be situated within the development zone.

### Site Significance Criteria

Prehistoric and historic cultural sites which can be considered as eligible for nomination to the National Register of Historic Places have been outlined as follows in the National Register's Criteria for Evaluation as established in Title 36 CFR 60.6:

The quality of significance in American ... archaeology ... and culture is present in ... sites ... that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- a. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- b. that are associated with the lives of persons significant in our past; or
- c. that embody the distinctive characteristics of a type, period, or method of construction ... ; or
- d. that have yielded, or may be likely to yield, information important in prehistory or history.

In addition to satisfying one or more of these general conditions, a significant cultural resource site in Utah will generally be considered as being eligible for inclusion in the National Register if it should advance our current state of knowledge relating to chronology, cultural relationships, origins, and cultural life ways of prehistoric or historic groups in the area.

In a final review of any site's cultural significance, the site must possess integrity and at least one of the above criteria to be considered eligible for nomination to the National Record of Historic Places.

## Results of the Inventory

No previously recorded cultural sites will be adversely affected by the proposed subsurface mining activities or potential surface subsidence zones.

No isolated artifacts were observed or collected from the project area.

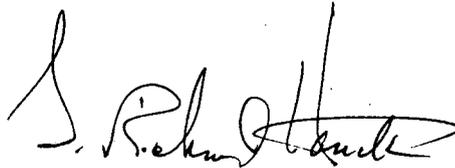
No paleontological loci were observed or recorded during the evaluation.

During the evaluation of the potential subsidence zone, no prehistoric cultural loci were observed or identified.

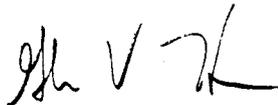
## CONCLUSION AND RECOMMENDATIONS

AERC recommends that a cultural resource clearance be granted to Energy West/Utah Power/PacifiCorp relative to the development of this proposed project based upon adherence to the following stipulations:

1. vehicular traffic, personnel movement, construction and restoration operations should be confined to existing roads and transportation routes;
2. all personnel should refrain from collecting artifacts and from disturbing any significant cultural resources in the area; and
3. the authorized official should be consulted should cultural remains from subsurface deposits be exposed during construction work or if the need arises to relocate or otherwise alter the location of the development area.



F. Richard Hauck, Ph.D.  
President and Principal  
Investigator



Glade V Hadden  
Field Supervisor