



United States Department of the Interior

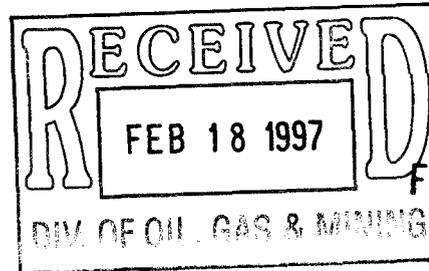
BUREAU OF LAND MANAGEMENT

Moab District
 Price River/San Rafael Resource Area
 125 South 600 West
 P. O. Box 7004
 Price, Utah 84501

3482
 U-06039
 SL-031221
 U-2810
 U-024317
 (UT-066)

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
 Certified No. Z 382 124 822

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



ACT 1015/018 # Z

Re: Deer Creek Mine Resource Recovery and Protection Plan (R2P2); Minor Modification Request, Proposed Relocation for the 4th North Mains off the 10th West Mains, North Rilda Canyon Reserve Access

Dear Mr. Key:

On November 18, 1996, the Bureau of Land Management (BLM) received PacifiCorp's **Minor Modification Request** seeking approval to relocate the 4th North Mains in the Deer Creek Mine. Also, an addendum to that request was submitted to our office on January 29, 1997. The affected reserves are located in the Blind Canyon and Hiawatha seams on Federal coal leases U-06039, SL-031221, U-2810, and U-024317.

The approved R2P2 for the Deer Creek Mine indicates the 4th North Mains are to be developed off 10th West between crosscuts 45 and 48 (approved location). The Mains would advance approximately 9600 feet in a northeast direction, parallel to the projected Mill Fork fault graben area, and terminate at the northern boundary of Federal lease U-024317 (Enclosure 1). However, development of the 4th North Mains is limited to the **current mine permit boundary**.

PacifiCorp's request relocates the 4th North Mains from between crosscuts 45 and 48 to between crosscuts 27 and 30 (proposed location) on 10th West. The initial development from the proposed location will be in a northwest direction for approximately 3000 feet, and then shift to a northeast direction and run parallel to the Mill Fork fault, as indicated in the approved R2P2. Accordingly, the proposed development is also limited to the **current mine permit boundary** (Enclosure 2).

PacifiCorp contends the relocation of the 4th North Mains was based on the following aspects:

Blind Canyon seam conditions:

As westward development of the 10th West Mains progressed, entry floor and roof conditions began to deteriorate (inby crosscut 35 through crosscut 51). At crosscut 50, the westward development turned south to connect up with the 8th and 9th West bleeders. These bleeders were developed at the western margin of the Blind Canyon coal seam where seam thickness of less than 5 feet precluded any further westward development.

The immediate floor at the approved location is comprised of a mudstone split, ranging from 1.0 to 1.5 feet in thickness and underlain by a weak/thin (less than 0.5 foot) coal rider. Floor conditions, as such, have been determined as unsuitable for the location of the mainline intersection of 10th West and 4th North.

Proximity to the Mill Fork fault:

After completion of the 10th West Mains, an attempt to locate the Mill Fork fault by in-seam drilling from crosscut 51 was conducted. The drilling was unsuccessful in delineating the fault's boundary. Consequently, additional risk for ensuring the long-term stability of the intersection at the approved location is created by the remaining uncertainties associated with the Mill Fork fault (extent of fracture zone and/or sympathetic faulting and the exact location of the fault unknown with regard to the approved location). Therefore, the decision to relocate the 4th North Mains becomes essential.

Best Access Route to the North Rilda Canyon Reserves:

The 4th North access route utilizing the proposed location is the most practical/shortest route for accessing the reserves of the Blind Canyon and Hiawatha seams. Also, it provides the best available layout from the existing Deer Creek Mine underground workings through the environmentally sensitive North Rilda Canyon Fork area.

In addition, PacifiCorp has addressed concerns regarding the potential surface impacts due to development mining (first mining and the likelihood of surface subsidence resulting from pillar and entry instability) under the shallow overburden depth in the left fork of Rilda Canyon. To assess the long-term stability of the area in question, an evaluation of the proposed pillar design to be used in the 4th North Mains was made. In brief, a pillar stability analysis reflected safety factors in the range of 1.82 to 14.93. In general, safety factors greater than 1.0 are considered stable and factors greater than 1.5 are acceptable for long-term design criteria. Nevertheless, having a significant margin of safety, such as in the proposed pillar design, does not preclude failure of the immediate roof and the potential for chimney stoping to advance to the surface.

However, the geology within the referenced area shows massive sandstone strata above the immediate roof which will most likely abate any potential for chimney stoping. This is particularly true when a massive sandstone strata has a competent support base, such as pillars having a significantly high safety factor as proposed.

Finally, to alleviate concern regarding the effects of long-term exposure to water on pillars stability, due to flooding of the mine after final abandonment, PacifiCorp cites examples of old workings in the Deer Creek Mine (developed 30 to 40 years ago) that have been flooded and rehabilitated. In these areas of the mine, the pillars were found to be intact and stable, showing little or no sign of flood-related instability. To further ensure against the occurrence of surface impact from mining in the Rilda Canyon Fork area, PacifiCorp has proposed to evaluate entry and pillar stability prior to final abandonment of this area to determine whether or not additional secondary entry support is needed.

The BLM's findings and analysis regarding coal seam geology, Mill Fork fault and the access route to the North Rilda Canyon reserves are as follows:

During general mine inspections at the Deer Creek Mine from November 1994 to March 1996, BLM personnel verified the mining and geologic conditions which were encountered (in the Blind Canyon seam)

by the westward development of the 10th West Mains. In August 1995, the 10th West development advanced under the canyon bottom (left fork of Rilda Canyon) and mined parallel to the canyon bottom for approximately 3600 feet (from crosscuts 22 to crosscut 50). In this area, coal seam thickness ranges from 11 feet near crosscut 22, with 7 to 8 feet of recoverable coal at crosscut 50 and overburden depth ranging from 200 to 800 feet, respectively. However, with the existing poor floor conditions (immediate floor 1.0 ft. mudstone split underlain by a thin (less than 0.5 ft.) coal rider) in 10th West, the termination of the 9th West gateroads due to insufficient coal seam thickness (less than 5 ft.) 500 feet south of 10th West and the projected convergence of the Mill Fork fault on the 10th West Mains, the development was halted at crosscut 51.

As development occurred, moderate amounts of water were encountered in the roof of the entries, but within a few months after development the flow of water subsided and eventually stopped. This wet condition, which follows entry advance, has been typical with development in this area of the mine (north of Roans Fault). However, two locations in 10th West have been noted as generating small amounts of water as recent as December 1996 (at crosscuts 9 and 17, estimated flow less than 10 gpm).

In general, the lithology of the roof and floor in 10th West Mains consists of interbedded mudstone/siltstone. This type of material is susceptible to air slacking and may lack sufficient inherent physical properties to maintain good roof conditions over the long term or support heavy equipment and material haulage. However, in the proposed location for the 4th North Mains, the immediate roof is a massive sandstone, with the floor having bottom coal (potentially 1 to 2 feet of bottom coal in places which will hold up better over the long term).

Upon completion of the 9th West gateroads and 10th West Mains, PacifiCorp made attempts to locate the Mill Fork fault with in-seam drilling. Two holes were drilled, one from the west end of 9th West and the other from 10th West. Both holes were drilled in a northwest direction, perpendicular to PacifiCorp's projection of the Mill Fork fault. These holes were drilled to a distance of 610 feet and 923 feet, respectively. Neither of the two holes appeared to have intersected the Mill Fork fault and to date the exact location of the fault has not been delineated.

Developing the 4th North Mains as proposed will provide for a shorter belt haulage route, approximately 3000 feet shorter. Also, the total length of the 4th North Mains which is to be developed parallel to the projected Mill Fork fault graben area (a zone of many uncertainties and unstable ground conditions), as required in the approved R2P2, will be reduced by approximately 3000 feet.

In conclusion, BLM concurs with PacifiCorp on the proposed location for the 4th North Mains. Our decision is based on the following observations: the proposed location 1) provides an area of more suitable seam conditions; 2) appears to be a more stable location with regard to the proximity of the Mill Fork fault; 3) affords a shorter belt haulage route; 4) reduces main line development along the Mill Fork fault graben area; and 5) previously approved R2P2 mine plans for the area in question (Drawing CM10857 DR, dated December 15, 1993) indicate that PacifiCorp would accessed the North Rilda reserves from approximately the same location. However, at this time, BLM requests/stipulates that:

PacifiCorp shall submit a written evaluation documenting entry and pillar stability for the Rilda Canyon Fork area. The specific areas to be addressed are the **4th North Mains in the Blind Canyon seam** and the **Access Entries to the Hiawatha seam reserve** where the entries pass under the riparian zones, as illustrated on Enclosure 2. The evaluation shall determine whether additional secondary entry support is needed to prevent the occurrence of surface impact due to mining. The evaluation shall be submitted 60 calendar

days prior to final abandonment of the North Rilda Canyon area. The evaluation shall be subject to BLM's approval based on verification of the reported documentation.

The BLM has determined the proposed **Minor Modification Request**, "The Proposed Location For The 4th North Mains," as stipulated, does comply with the Mineral Leasing Act of 1920, as amended, the regulations at 43 CFR 3480, the lease terms and conditions, stipulations, and will achieve MER of the Federal coal. Therefore, approval is granted for the proposed location of the 4th North Mains. This approval confirms verbal approvals given on January 6, 1997, regarding this matter.

If you have any questions, please contact Barry Grosely in the Price River Resource Area at (801) 636-3606.

Sincerely,

Orig. Signed by ~~Richard L. Mante~~

Area Manager

2 Enclosures

- 1-Approved Mine Plan
- 2-Proposed Location for the 4th North Mains

cc: DM, Moab (UT-065) (w/encl.)
SD, Utah (UT-921) (w/encl.)
Carl Polastro (wo/encl.)
Manager, Technical Services
Energy West Mining Company
15 North Main
Huntington, Utah 84528
Steve E. Kochevar, PE (wo/encl.)
Mining Planning Administrator
PacifiCorp
One Utah Center
201 South Main, Suite 2000
Salt Lake City, Utah 84140-0020
Peter Hess
Reclamation Specialist (w/encl.)
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801

ENCLOSURE 1

APPROVED R2P2

PROJECTED MILL FORK CANYON FAULT ZONE

EM-47

U-06039
HIGH ASH RESERVES COMMITTED TO COAL
PERMIT BOUNDARIES
MINNER AND PREPARATION FACILITIES

SECOND MINING IN THE LEFT FORK AND
RIGHT FORK AREA OF THE RILDA CANYON IS
DEPENDENT ON THE OUTCOME OF FURTHER
ENVIRONMENTAL STUDY WITH REGARD TO THE
POSSIBLE IMPACT MINING MAY HAVE ON THE
SUB-SURFACE GROUND-WATER SYSTEM IN THE
THIS AREA

U-06039

SL-050862

10TH WEST MAINS

1996

1998

U-47977

1998

WORKINGS (E: 4TH NORTH MAINS; 10TH WEST MAINS;
8TH WEST, 7TH WEST AND 6TH WEST LONGWALL PANEL
BLEEDER DEVELOPMENTS, ETC.) RELATIVE TO THE
MILL FORK FAULT ZONE, WILL BE DEPENDANT ON THE
ACTUAL LOCATION OF THE FAULT ZONE AS ESTABLISHED
BY UNDERGROUND HORIZONTAL DRILLING, SECTION
DEVELOPMENT AND/OR UPDATED GEOLOGIC
PROJECTION.

ACTUAL GATEPOND LOCATIONS AND LONGWALL
FACE POSITIONS MAY VARY WITH FINAL NECKHOFF
CONFIGURATION AND PANEL BELT ALIGNMENT
DESIGN (BY
WEST-2ND WEST)

U-7653
31

1997

1997

1998

EM-133

1999

ENERGY WEST MINING COMPANY <small>HUNTINGTON, UTAH 84526</small>		
DEER CREEK MINE		
R2P2 REVISED: LAYOUT AND SEQUENCE CHANGE		
DRAWN BY:	K. LARSEN	DU1514E
SCALE:		
DATE:	AUGUST 25, 1995	SHEET <u>1</u> OF <u>1</u>
		REV. _____

ENCLOSURE 2

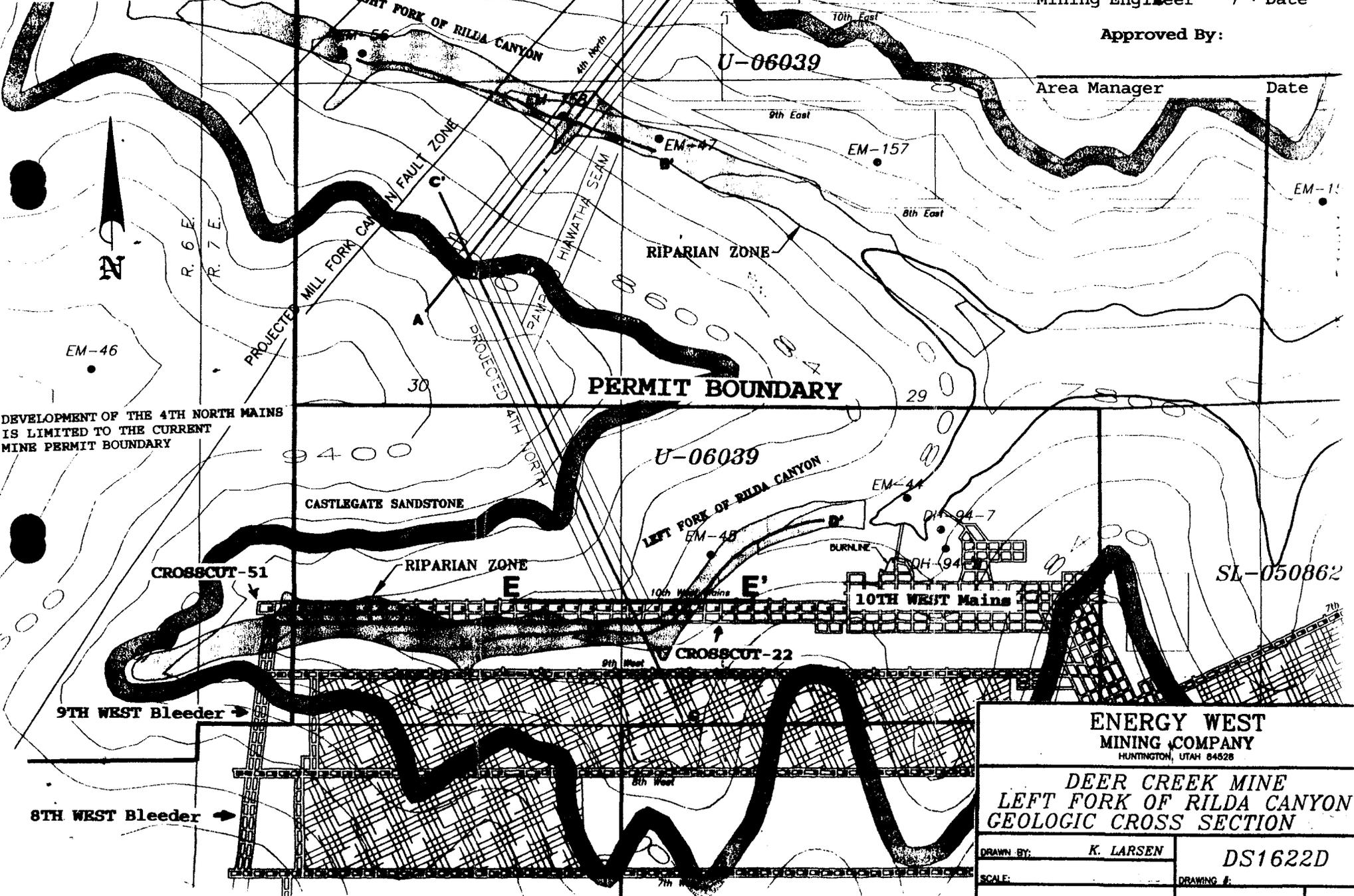
Minor Modification:
Proposed Location For
The 4th North Mains

MINOR MODIFICATION TO
MINING PLAN APPROVED BY
BUREAU OF LAND MANAGEMENT

Recommended by:
B. Gouley 1/6/97
Mining Engineer Date

Approved By:

Area Manager Date



DEVELOPMENT OF THE 4TH NORTH MAINS
IS LIMITED TO THE CURRENT
MINE PERMIT BOUNDARY

ENERGY WEST MINING COMPANY <small>HUNTINGTON, UTAH 84528</small>	
DEER CREEK MINE LEFT FORK OF RILDA CANYON GEOLOGIC CROSS SECTION	
DRAWN BY: K. LARSEN	DS1622D
SCALE: _____	DRAWING #: _____
DATE: NOVEMBER 13, 1996	SHEET 1 OF 1 REV. _____