

0014



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter
Governor

Dee C. Hansen
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801-538-5340

February 22, 1993

Mr. Glen Zumwalt, Vice President
Utah Fuel Company
P. O. Box 719
Helper, Utah 84526

Dear Mr. Zumwalt:

Re: Responses to Permit Renewal Deficiencies and Division Orders, Coastal States Energy Company, Skyline Mine, ACT/007/005, Folder #3, Carbon County, Utah

This letter is a follow-up to our meeting of February 16, 1993, wherein we discussed the status of responses to the permit renewal and recent Division Orders. As discussed Division Orders 92A and 92B have been satisfactorily completed. Thank you for your help in resolving these issues.

At this time the Division is in the process of reviewing the latest responses to deficiencies in your permit renewal. We have now reached the point where much of the information provided should be incorporated into the MRP. As you know it has been very difficult to keep track of all the submittals and which ones are current and which ones have been replaced. Only 3 copies of the renewal response dated October 1, 1992 were submitted. Following is a list of the information that we have and the number of copies. We will need additional copies for distribution to other agencies. A total of 12 complete sets of materials are needed. Please submit the required copies by March 19, 1993.

NO.	ITEM
3	Renewal responses dated 10/1/92 (including text and maps).
6	PHC updates to pages 19, 29, 30, 30a, and 30b.
6	DD-12 designs for Section 6, page 14/13
6	Volume A2 updates soils, vegetation, archeology
3	Soils maps sheet 1, Volume A2
3	Soils maps sheet 2, Volume A2

3	Vegetation maps sheet 1, Volume A2
3	Vegetation maps sheet 2, Volume A2
3	Prime farmland maps
3	3.2.1-3 plates revised 9/23/92
1	Plate 3.2.3-1
2	Plate 3.2.3-1A
1	Plate 3.2.3-2A
6	Plate 3.2.3-2B
3	Plate 3.2-3.3G

With the incorporation of the revised material into your plan the permit renewal process will be essentially completed. There are still a few issues that will need to be addressed. I have enclosed technical memos which outline the concerns. You should respond to them by the March 19th date as well, with the exception of the land owner comment requirements which should be submitted by May 3, 1993. Any remaining issues after that date will be handled outside the renewal arena. Your January 1992 reformatted plan (red volumes) is considered your approved plan and is the one you will be held to. Thank you for your help during the permitting process.

Please call if you have any questions.

Sincerely



Daron R. Haddock
Permit Supervisor

cc: L. Braxton
RENECOPI.SKY



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TO: Daron Haddock, Permit Supervisor

FROM: Paul Baker, Reclamation Biologist 

DATE: February 19, 1993

RE: Second Submittal of Responses to Permit Renewal Technical Deficiency Review, Coastal States Energy and Skyline Coal Companies, Skyline Mines, ACT/007/005, Folder #2, Carbon County, Utah

SUMMARY

Skyline has submitted responses to the review of the initial response to the permit renewal technical deficiency review. Some of the remaining deficiencies dealt with comments from land owners on the postmining land use and right of entry information. They have asked for a delay until May 3, 1993, to respond to some of the deficiencies.

ANALYSIS

R645-301-322

Wildlife Information

Original Deficiency:

1. *Changes to the high interest species status of red bats and western smooth green snakes need to be made in Tables 2.9-1 and 2.9-3.*

Response and Analysis:

The appropriate changes have been made in these tables.

Deficiencies:

None.

Original Deficiency:

2. *The plan must include data from recent Wildlife Resources fisheries surveys.*

Response and Analysis:

The response letter states that recent fish surveys would reflect the results of constant blockage by an irrigation diversion and by beaver dams. Also, the tributaries of Scofield Reservoir were recently poisoned. Any recent DWR fisheries surveys would not provide meaningful data on mining-related impacts.

There have been impacts to the fish population of Eccles Creek besides those from Skyline just as there have been impacts to water quality besides those that Skyline has made. The requirement was made using the same basic rationale as is used for conducting water quality sampling: when there are perturbations in the fish populations, causes can be analyzed and solutions sought.

As required by R645-301-322.100, this deficiency was written after consultation with Wildlife Resources. The requirement should not be burdensome since the information is available from DWR. However, effects on the fish population of Eccles Creek are considered to be potential impacts of the mine, and baseline information needs to be contained in the plan.

Deficiencies:

1. The plan must include data from recent Wildlife Resources fisheries surveys.

R645-301-230

Mulching Techniques.

Original Deficiency:

1. *The plan needs to contain a method for anchoring straw mulch.*

Response and Analysis:

The plan states on page 4-38 that all mulch will be anchored by chemical tackifiers or crimping.

Deficiencies:

None.

**R645-301-341.300
R645-301-413**

**Revegetation Feasibility Demonstration.
Land Use Reclamation Plan.**

Original Deficiencies:

R645-301-341.300 Revegetation Feasibility Demonstration.

1. *The Operator must demonstrate that areas of the conveyor bench and associated cut slopes are reclaimable according to the plans presented in the mining and reclamation plan. As an alternative to the current plan, Skyline may consider changing the postmining land use for this area.*

R645-301-413 Land Use Reclamation Plan.

1. *The right of entry information for the land at the loadout must be updated in the plan in accordance with R645-301-114.100.*
2. *If the lease agreement between Coastal States Energy and Nick and Koula Marakis and Helen Lumbi is to constitute comments on the postmining land use, the agreement cannot be considered confidential and Skyline must indicate how this agreement is to be inserted into the plan, including reference to it in the text of the plan.*

Response and Analysis:

The response letter states that Skyline is unable to respond to these deficiencies at this time. Their plan is to negotiate a change with the land owner to allow a change in the postmining land use. The letter states that Skyline should conclude these negotiations and be able to respond to the deficiencies by May 3, 1993.

The response letter also states that many of Skyline's agreements contain confidential information as provided in R645-203-210. Certain agreements will be made available to persons who have a legal right to review them, but they are not public information and are not to be included in the MRP.

Comments on the postmining land use are an important part of the plan, especially where a change from the premining land use or land configuration is contemplated. Information that is allowed to be held confidential is archaeological data and information on the chemical and physical properties of the coal. The agreement does not fit either of these criteria, and the regulation which Skyline cited deals with exploration and not active operations. It was understood that the agreement was to constitute comments from this land owner on the postmining land use. Another form of land owner comment would be acceptable and should perhaps be sought by Skyline.

The deficiencies outlined above need to be reconciled. It may be advisable to continue these deficiencies in a separate Division Order or to somehow stipulate that they be resolved.

Deficiencies:

R645-301-341.300 Revegetation Feasibility Demonstration.

1. The Operator must demonstrate that areas of the conveyor bench and associated cut slopes are reclaimable according to the plans presented in the mining and reclamation plan. As an alternative to the current plan, Skyline may consider changing the postmining land use for this area.

R645-301-413 Land Use Reclamation Plan.

1. The right of entry information for the land at the loadout must be updated in the plan in accordance with R645-301-114.100.
2. The plan must include comments concerning the postmining land use from the land owners of the conveyor corridor.

R645-301-413 Land Use Reclamation Plan.

Original Deficiency:

3. *The cross reference must show the locations of surface owner or manager comments concerning the postmining land use for all areas.*

Response and Analysis:

The response letter says that reference to the Manti-Lasal National Forest Approved Land Use Management Plan was included on page 1-13 and that page 6 of the cross-reference has been changed. The cross-reference now includes two references for the postmining land use comments. One is to a letter from the waste rock disposal area land owner. The other reference is V1-1.6. This is one of the sections of the plan that mentions the National Forest Land Use Management Plan. The other is on page 4-79 which contains comments from the plan. When comments from the land owner of the conveyor corridor are received, the cross-reference will need to be updated again.

Deficiencies:

Page 5
ACT/007/005
February 19, 1993

None.

RECOMMENDATIONS

The fish population information needs to be included in the plan as baseline information. This information may prove useful if there are disturbances to Eccles Creek or the water quality in this canyon.

Right of entry information and comments on the postmining land use need to be included in the plan. Skyline stated that they will be able to respond to these deficiencies by May 3, 1993. Because some negotiation with the land owner is occurring, an extension of time to complete these deficiencies should be allowed.



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 801-538-5340

February 18, 1993

TO: File

THROUGH: Daron Haddock, Permit Supervisor

FROM: James D. Smith *J.D. Smith*

RE: Technical Deficiency Review of ACT/007/005-92-K, Operator Renewal Responses to DO #92C, received January 27, 1993. Coastal States Energy Company and Skyline Coal Company, Skyline Mine, ACT/007/005, Folder #2, Carbon County, Utah

R645-301-700. Hydrology.

- Original Deficiency #1: Shallow and deep water levels appear to be reversed in well W35-1.*
- Original Deficiency #2: Contour lines on Plate 2.3.4-2 don't correspond with water levels given for well W22-2 (and for well W35-1 if the shallow and deep values have been switched).*
- Original Deficiency #3: Well W26-1 monitors the shallow aquifer rather than the deep aquifer as shown on Plate 2.3.4-2.*

Proposal:

The water levels are reversed in well W35-1. The contour lines will be reviewed with the consultant and revisions made as appropriate. Well W26-1 is a shallow well and the notation on Plate 2.3.4-2 will be corrected. A revised Plate 2.3.4-2 will be submitted after review by the consultant. A new submittal will be made by March 1, 1993.

Analysis:

The necessary changes are to be made.

Deficiency:

None.

- Original Deficiency #4: The dates related to Plates 2.3.4-2 and 7, 11 and 12 at the top of page 2-29a are reversed.*

Proposal/Analysis:

A corrected page has been submitted.

Deficiency:

None.

- Original Deficiency #1: Cross sections and maps submitted to satisfy current deficiencies to the MRP are not certified, as required by R645-301-512, as having been prepared by or under the direction of a qualified registered professional*

engineer or land surveyor, with assistance from experts in related fields such as hydrology and geology.

Proposal:

The documents that have not been certified are not identified. Appropriate certifications will be made after DOGM identifies which specific cross sections and maps need to be certified.

Analysis:

The potentiometric surface map, Plate 2.3.4-2 and the cross sections of the waste rock disposal site (Plate 2.2.1-2), railroad loadout (Figure 2-30B), and Eccles Canyon (Figures 2-30C and 2-30D) have been submitted to satisfy deficiencies that were identified when the MRP was submitted for renewal.

Maps from previous MRP submittals, which were approved without certification, should not be required to be certified retroactively during permit review or renewal. New maps and cross sections and revisions or updates of older maps and cross sections should be certified as per R645-301-512 and R645-301-722; that is as having been prepared by or under the direction of a qualified registered professional engineer or land surveyor, with assistance from experts in related fields such as hydrology and geology.

Deficiency:

1. Plate 2.3.4-2, Plate 2.2.1-2, Figure 2-30B, Figure 2-30C, and Figure 2-30D, which were submitted to satisfy deficiencies to the MRP, are not certified as having been prepared by or under the direction of a qualified registered professional engineer or land surveyor as required by R645-301-512.140 and R645-301-722.

Original Deficiency #1:

Location and extent of ground water at the waste rock disposal site are not shown on maps or cross sections, specifically Plates 2.3.4-2, which shows the potentiometric surface of the regional system, and 2.2.1-2, which shows the cross section at the waste rock disposal site.

Proposal:

A water monitoring well has been installed at the waste rock disposal site. The current water level has been determined in that well and the well has been added to Skyline's ground water monitoring schedule for measurement of water quality. Ground water elevations indicate a continuous regional system connecting with ground water along Pleasant Valley Creek (p. 2-30a).

The M&RP modification relating to ground water at the waste rock disposal site has not been submitted. Data on the monitoring well, which was drilled in the fall of 1992, will be submitted as part of that modification.

Analysis:

The location and extent of ground water at the waste rock disposal site are discussed on pages 2-30 through 2-30b. Ground water elevation has been measured at well 92-91-03MW and used in characterizing the regional ground water system and the isolation of the waste rock disposal site from that system. Location and extent of ground water at the waste rock disposal site are not shown on maps or cross sections: specifically Plate 2.3.4-2, which shows the potentiometric surface of the regional system, and Plate 2.2.1-2, which is a cross section described as showing the geology and hydrology at the waste rock disposal site.

Water level was measured in August, 1992 at 92-91-03MW and in August and September, 1992 at piezometers on the west side of the permit area. Potentiometric contours on the east side of the permit area are based on data from 1980. The representation of the regional potentiometric surface on Plate 2.3.4-2 already combines data from 1980 and 1992; it could be extended to the waste rock disposal site based on the measurement at 92-91-03MW.

Additional information on ground water at the waste rock disposal site, which has not been included in this M&RP, will be submitted as part of a future permit modification.

Deficiency:

1. The ground water elevation measured in well 92-91-03MW and used in characterizing the regional ground water system should be shown on Plate 2.2.1-2, the cross section showing geology and hydrology of the waste rock disposal site.
2. The ground water elevation measured in well 92-91-03MW and used in characterizing the regional ground water system should be added to Plate 2.3.4-2, the potentiometric surface map.

Original Deficiency #1: A determination of the PHC to the cutthroat trout spawning habitat in Burnout Creek and Upper Huntington Creek, based on current knowledge, has not been made.

Proposal:

The value of the cutthroat trout spawning habitat in Burnout Creek and upper Huntington Creek is currently being evaluated by the Forest Service under the direction of personnel at the Intermountain Research Station in Logan. Releasable reports on this study are not yet available. As stated previously, the applicant does not control this study, so it is inappropriate to make it a subject of Division comment and modification of the M&RP. As reports become available, copies will be made and sent to the Division to be inserted as consultant documents in the proper M&RP appendix. This will aid in the preparation of future PHC's and CHIA's.

Analysis:

Subsidence is planned beneath Burnout Creek (PHC p. 3-7) and an ongoing study of the effects of subsidence is being done under the direction of the USFS (pp. 2-27 and 2-43). Expected subsidence impacts to springs in Burnout Canyon would be short term increases in TSS and TDS (PHC p. 2-21). The impacts on surface water is given as unknown (PHC Table 3). Remediation measures will be determined when the study is complete (PHC pp. 3-14 to 3-15).

The best current information indicates: 1) Upper Huntington Creek drainage, which includes Burnout Creek, is a spawning habitat for native cutthroat trout and the only certified disease free source of eggs for raising Yellowstone Cutthroat Trout for stocking purposes (letter from USFS to Vernal Mortensen dated June 22, 1992); and 2) the permittee has planned, and is proceeding with, full extraction mining beneath portions of the Burnout Creek drainage. Satisfaction of the deficiency involves determining the probable hydrologic consequences (PHC) of the mining (2) on the spawning habitat (1). The effects of subsidence on the streams in Burnout Canyon are being studied by the USFS, but that study is not the determination of the PHC.

Expected subsidence impacts to springs in Burnout Canyon are

on page 2-33 concerning the downstream increase in sulfate and magnesium in Pleasant Valley Creek. Either data for that point are available or other data points were used to arrive at the conclusions on page 2-33.

Original Deficiency #1: If wells W22-2-2 and W14-2B have been abandoned, proper abandonment procedures have not been followed.

Original Deficiency #2: The MRP does not contain data and arguments that support abandonment of monitoring the Star Point aquifer at wells W22-2-2 and W14-2B

Proposal:

The status of these two failed wells will need to be the subject of further discussions with the Division, particularly in the area of their validity in establishing the PHC.

An approach to the Forest Service concerning the possibility of re-establishing these wells was met with a firm negative response, because of the resulting environmental damage. A mutually agreeable response will be attempted by March 1, 1993.

Analysis:

W22-2-2 and W14-2B were drilled to the Starpoint Sandstone as exploration borings with ground water monitoring as a secondary function (adjacent wells W22-2-1 and W14-2B were installed specifically as piezometers to monitor the shallower zone of the Blackhawk-Starpoint aquifer). Water level readings can no longer be made in W22-2-2 and W14-2B because of casing failure, which probably has been caused by plastic flow or sloughing of rock into the borehole. The wells have not been usable for measuring water levels for several years and there is little probability they will ever be usable again considering their present condition. Redrilling or otherwise reestablishing these boreholes at the present locations does not appear to be an option because the Forest Service does not want the environmental damage caused by entry and operation of drilling equipment. Modification of the water monitoring plan to allow abandonment of these piezometers has not been approved by DOGM.

Replacement with new piezometers at locations acceptable to the Forest Service is subject to considerations of cost, but continued monitoring of these areas may be more important than cost.

Proper abandonment of W22-2-2 and W14-2B should be done in accordance with the requirements of the USFS, the surface and mineral owner, after it has been approved by DOGM. The operator should also confer with the State Engineer at the Division of Water Rights concerning final abandonment of these boreholes.

The operator has not demonstrated to DOGM that continued ground water monitoring of the Star Point Sandstone in the vicinity of W22-2-2 and W14-2B is not needed. This demonstration by the operator and approval of any modification of the monitoring plan by DOGM are required by R645-301-714. DOGM's approval of the M&RP as it is now written might be considered as sanctioning abandonment of W22-2-2 and W14-2B.

Monitoring of the shallower potentiometric surface may be sufficient if: a consistent relationship between the deeper and shallower potentiometric surfaces can be demonstrated; or it can be demonstrated that the deeper zone has no effect on the determination and conclusions of the PHC. Data in other sections of the M&RP indicate there is very low vertical hydraulic conductivity, so effects in the

deeper zone would possibly not affect the shallower zone within the projected life-of-mine. Hydrographs of the potentiometric surfaces in Volume 4 do not indicate the two levels track each other.

Another consideration is that data indicating a ground water gradient reversal in the vicinity of wells W22-2-1 and W22-2-2 may not be accurate. Water level data for W22-2-2 and W22-2-1 on Plate 2.3.4-2 and in Appendix 4 indicate water levels measured in 1979 and used by Vaughn Hansen Associates (VHA) to produce Plates 7, 11, and 12 in Appendix Volume A1 of the original M&RP may have been erroneous. Levels from W22-2-1 between July 1982 and Oct 1991, as shown in Appendix 4, never have been as low as the levels shown on Plates 7 and 11; water levels from well W22-2-2 between July 1982 and Sept 1985, when the casing failed and measurements stopped, never had water levels as high as that shown on Plate 12. The water levels used by VHA fall roughly midway between the water levels reported in Appendix 4, with the gradient reversed between the two data sets. Even though regular measurements of W22-2-1 have recorded a steady decline of water level since July 1982, the water level given on Plate 2.3.4-2 is still 31 feet higher than the level used by VHA for Plates 7 and 11.

Whether or not there really is or has been a gradient reversal at W22-2-1 and W22-2-22 is an important consideration in deciding whether or not new wells are needed to monitor those areas.

W22-2-2 and W14-2B should not be considered as abandoned at this time because appropriate procedures, including requesting DOGM's approval of modification of the water monitoring plan and the USFS' approval of the method of permanent closure, have not been followed. The method of permanent closure described in Section 4.9 may not be usable due to USFS' limitations on surface access.

Deficiency:

1. The M&RP does not contain data and arguments to support abandonment of monitoring of the Star Point aquifer at W22-2-2 and W14-2B, and the Division of Oil, Gas, and Mining has not approved modification of the monitoring plan to omit these points. There are unresolved problems concerning the data that were used in the original determination of the PHC, and also with the idea of abandoning ground water monitoring at W22-2-2 and W14-2B. These problems may not be resolvable within the time frame or scope of this permit renewal.

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February 11, 1993

TO: Daron Haddock, Permit Supervisor

FROM:  Priscilla Burton, Senior Reclamation Soils Specialist

RE: Second response to Division Order 92C. Skyline Mine. Utah Fuel Co. ACT/007/005-92K. Carbon Co. Utah. Folder #2.

SUMMARY:

Coastal States Energy was issued a permit renewal on 5/5/92 for the Skyline Mine. The renewal included a Division Order to address deficiencies with the Skyline Plan. Responses were received on 10/5/92 and were responded to by the Division on 12/7/92. A second submittal was received 1/27/93.

The deficiency is repeated below, followed by a discussion.

TECHNICAL ANALYSIS:

R645-301-231.400. Topsoil handling and storage areas.

Deficiency #1

Skyline must edit Table 2.11-1 and Table 2.11-2 for accuracy in computations and resubmit a corrected copy of each Table.

Analysis:

Tables 2.11-1 and 2.11-2 were deleted in the 5/5/92 submittal. Information on stored topsoil quantities is provided in Vol 1, pg 2-114 and Vol 3, Sec 4.6-4. Table 4.6-4 was revised with this submittal. Reading Table 4.6-4 along with the information on page 2-114, it is apparent that:

1. There is adequate topsoil for the National Forest areas of the portal yard (76,291 yd³ stored and 74,883 yd³ anticipated to be used);
2. There is adequate topsoil for the south fork break out (2,990 yd³ stored and 2,275 yd³ anticipated to be used);
3. There is 42,985 yd³ of soil available in the rail road load out storage pile and an

additional 15,295 yd³ of soil available for non-Forest areas in the portal yard storage pile. The sum total available for the rail road load out, the wells and the waste rock site is 42,985 yd³. The sum total anticipated to be required on the above mentioned sites is 42,607 yd³. The excess is less than the accuracy of the calculations.

Compliance:

A footnote to the Table states that 34,524 yd² [sic] will be required for private lands. Whereas, the Division calculates that the sum of cover and topsoil required for private lands is 42,607 yd³. Since subsoil for cover material was not salvaged from the disturbed areas for cover of the Scofield Waste Rock (SWR) site (see page 2-114) and since no excess spoil is anticipated to be available for cover of the SWR site, the cover requirements must be achieved utilizing the available stored topsoil material.

Outstanding Deficiencies:

1. Utah Fuel Co. does not have an excess storage of topsoil for their anticipated needs. The footnote is misleading and should be corrected to indicate the need for 42,607 yd³ of topsoil and cover material on private lands (paragraph 2, page 4-38(d)).
2. Table 4.6-4 requires some editing to be meaningful: headings of columns should appear above the intended column and yardages should be reported as three dimensional volumes in the footnotes rather than areas.

CONCLUSIONS:

As noted by Utah Fuel Co. the field trials may substantiate a lesser cover requirement for this Scofield Waste Rock site in the future. Material dedicated to meet the requirements of R645-301-553.250 may be reduced following the analysis of vegetation success on field trials which will be implemented (pg 4-38a and 4-38b).

At this point in time, U.S. Fuel Co. does not have an excess of topsoil storage.

Two deficiencies with Table 4.6-4 are stated above which should be corrected by Utah Fuel Co.

indicated by the low total nitrogen content from all vegetation types.

In summary, the most important fertilizer to be applied in reclamation attempts is nitrogen. The addition of nitrogen should be timed with suitable moisture content in the soils (fall and spring). A soils map of the portal-yard area has been prepared and is available at the Skyline Mine office. The soils are classified by the vegetation type with which they are correlated, as recommended by the Soil Conservation Service. Information from other areas to be disturbed can be extrapolated from the vegetative map and from the soil nomenclature assigned on the portal-yard area map.

Only soil from the "A and B" horizons were collected and put into the topsoil stockpile and considered as "useable" for reclamation purposes. The soil from the "C" horizon was considered unsuitable and therefore not removed and not put into the topsoil stockpiles. The portal area topsoil stockpile contains 91,586 cubic yards of top soil. Included in the portal area stockpile is 15,295 cubic yards of topsoil removed from the conveyor bench. The topsoil removed from the conveyor bench is non-National Forest Service Topsoil, and can be used on non-National Forest Service disturbed areas. The remaining 76,291 cubic yards is soil removed from National Forest lands, and must be used within the National Forest boundaries. The loadout area topsoil pile contains 27,690 cubic yards. The South Fork topsoil stockpiles contain 2,990 cubic yards, and was derived from National Forest Service lands, and will all be used on National Forest lands in the South Fork area.

Portal

!	CHANGES TO	!!	TEXT	!	
!	Section 2.11	Page 2-114	!! Section 2.11	Page 2-114	Date 09/25/92!

TABLE 4.6-4
TOPSOIL REDISTRIBUTION

	<u>Acreage</u>	<u>Planned Depth Inches</u>	<u>Cubic Yds</u>
<u>Loadout Area</u>			
South Slopes		10.52	18 25,458
North Slopes		<u>3.30</u>	12 <u>5,324</u>
Sub-Total	13.82		30,782
<u>Portal Yard Area</u>			
South Slopes		20.03	18 48,473
North Slopes		<u>16.37</u>	12 <u>26,410</u>
Sub-Total	36.40		74,291 set aside 74,883*
<u>Water Tank and</u>			
Well Pads		.26	12 <u>419</u>
<u>Waste Rock Disposal</u>			
Site	1.67	48***	<u>10,777***</u>
<u>South Fork Breakout Area</u>			
South Slope		.30	30 1,210
North Slope		<u>.66</u>	12 <u>1,065</u>
Sub-Total	.96		2,990 returned 2,275*

available in storage is
27,690 at RLO
+ 15,295 from portal
42,985 to be used
on load out
wells + waste
rock - total
needed is
30,782
+ 12,777
+ 419
42,607

CHANGE TO	TEXT
Table 4.6-4 Page 4-38(c)	Table 4.6-4 Page 4-38(c) Date 01/21/93

TABLE 4.6-4 (Continued)
TOPSOIL REDISTRIBUTION

	<u>Acreage</u>	<u>Planned Depth Inches</u>	<u>Cubic Yds</u>
<u>Overland Conveyor</u>			
<u>Route</u>	<u>.39</u>	<u>12</u>	<u>629</u>
GRAND TOTAL	53.50		111,682**

*Both of these areas are located on National Forest lands and 78,281 square yards of National Forest topsoil was removed and stored from these area. The topsoil over and above that planned for redistribution that came from National Forest lands will be redistributed on National Forest lands, as directed by the Manti-LaSalt National.

**77,158 square yards are need for revegetation on National Forest lands and 34,524 square yards are needed for revegetation on private lands. As indicated in Section 2.11, there is 79,281 square yards of topsoil available for revegetation on National Forest Lands and 42,985 square yards of topsoil available for revegetation on private lands.

***Field tests will be conducted to determine actual depth of topsoil needed for the waste rock site. Therefore, this planned topsoil depth may change in the future.

ADDITION TO	TEXT
Table 4.6-4 Page 4-38(d)	Table 4.6-4 Page 4-38(d) Date 01/21/93