



Canyon Fuel Company, LLC
Skyline Mines
 HC 35 Box 380
 Helper, Utah 84526
 (435) 448-6463 Fax: (435) 448-2632

OK
Incoming
C/007/005
AM01K-1

July 8, 2002

Pam Grubaugh-Littig
 Permit Supervisor
 Utah Division of Oil, Gas and Mining
 1594 West North Temple, Suite 1210
 Salt Lake City, Utah 84114-5801

RE: Response to the Division's TA of the James Canyon Road and Wells Amendment,
 C/007/005 – AM01K

Dear Ms Grubaugh-Littig:

Please find enclosed with this letter seven copies of a permit modification application to address the deficiencies to the above reference amendment. The submittal is bound in two notebooks. One notebook contains the modification to the M&RP text while the second contains the Addendum to the PHC. Four of the notebooks containing the M&RP text contain redline/strike through text. The remainder contain clean text. Since the Addendum to the PHC was nearly entirely rewritten, no redline strikethrough text is provided. It is anticipated the current PHC addendum submittal will replace the previous addendum in with the exception of Drawing PHC A-1. This drawing was not modified and new copies have not been provided. However, an empty map sleeve has been provided for this drawing.

Also attached to this letter is a list of deficiencies the Division's noted during the review of our previous James Canyon Well and Road submittal. Responses to the deficiencies are included. A separate envelope containing copies logs of four drill holes is attached to this letter. Please place these logs with in mine's confidential file folder.

We appreciate your patience and help in considering this submittal. If you have any questions, please call me at (435) 448-2669.

Sincerely,

Chris D. Hansen
 Environmental Coordinator
 Canyon Fuel Company, LLC

enclosures

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JUL 08 2002

DIVISION OF
 OIL, GAS AND MINING

APPLICATION FOR PERMIT PROCESSING

<input checked="" type="checkbox"/> Permit Change X	<input type="checkbox"/> New Permit	<input type="checkbox"/> Renewal	<input type="checkbox"/> Transfer	<input type="checkbox"/> Exploration	<input type="checkbox"/> Bond Release	Permit Number: C/007/005
Title of Proposal: Response to the Division TA of the James Canyon Road and Wells Amendment, C/007/005-AM01K						Mine: Skyline Mines
						Permittee: CANYON FUEL CO., LLC

Description, include reason for application and timing required to implement: This permit modification is submitted in order that the existing PHC be updated to more accurately reflect the changes to the hydrologic balance due to increased mine inflows and discharge.

Instructions: If you answer yes to any of the first 8 questions (gray), submit the application to the Salt Lake Office. Otherwise, you may submit it to your reclamation specialist.

<input checked="" type="checkbox"/> X Yes	<input type="checkbox"/> No	1. Change in the size of the Permit Area? <u>0.02</u> acres Disturbed Area? _____ acres <input checked="" type="checkbox"/> increase <input type="checkbox"/> decrease.
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	2. Is the application submitted as a result of a Division Order? DO # _____
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	3. Does application include operations outside a previously identified Cumulative Hydrologic Impact Area?
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	4. Does application include operations in hydrologic basins other than as currently approved?
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	5. Does application result from cancellation, reduction or increase of insurance or reclamation bond?
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	6. Does the application require or include public notice/publication?
<input checked="" type="checkbox"/> X Yes	<input type="checkbox"/> No	7. Does the application require or include ownership, control, right-of-entry, or compliance information?
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	9. Is the application submitted as a result of a Violation? NOV # _____
<input checked="" type="checkbox"/> X Yes	<input type="checkbox"/> No	10. Is the application submitted as a result of other laws or regulations or policies? Explain: 5-Year Permit Renewal Conditions
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	11. Does the application affect the surface landowner or change the post mining land use?
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2?)
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	13. Does the application require or include collection and reporting of any baseline information?
<input checked="" type="checkbox"/> X Yes	<input type="checkbox"/> No	14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
<input checked="" type="checkbox"/> X Yes	<input type="checkbox"/> No	15. Does application require or include soil removal, storage or placement?
<input checked="" type="checkbox"/> X Yes	<input type="checkbox"/> No	16. Does the application require or include vegetation monitoring, removal or revegetation activities?
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	17. Does the application require or include construction, modification, or removal of surface facilities?
<input checked="" type="checkbox"/> X Yes	<input type="checkbox"/> No	18. Does the application require or include water monitoring, sediment or drainage control measures?
<input checked="" type="checkbox"/> X Yes	<input type="checkbox"/> No	19. Does the application require or include certified designs, maps, or calculations?
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	20. Does the application require or include subsidence control or monitoring?
<input checked="" type="checkbox"/> X Yes	<input type="checkbox"/> No	21. Have reclamation costs for bonding been provided for?
<input checked="" type="checkbox"/> X Yes	<input type="checkbox"/> No	22. Does application involve a perennial stream, a stream buffer zone or discharges to a stream?
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	23. Does the application affect permits issued by other agencies or permits issued to other entities?

X Attach 7 complete copies of the application.

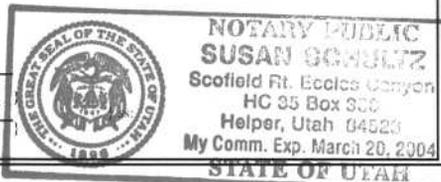
I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein. (R645-301-123)

Douglas E. Johnson - TECH SERV MGR - 7/8/02
Signed - Name - Position - Date

Subscribed and sworn to before me this 8 day of July 2002

Susan Schultz
Notary Public

My Commission Expires: 3-20-04
Attest: STATE OF Utah COUNTY OF Carbon



Received by Oil, Gas & Mining

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DIVISION OF
OIL, GAS AND MINING

ASSIGNED TRACKING NUMBER

Application for Permit Processing Detailed Schedule of Changes to the MRP

Title of Application: Response to the Division TA of the James Canyon Road and
Wells Amendment, C/007/005-AM01K

Permit Number: ACT/007/005

Mine: Skyline Mines

Permittee: CANYON FUEL CO., LLC

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit application. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. **Include page, section and drawing numbers as part of the description.**

DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Section 1, Pages 1-37, 1-41 and 1-42
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	DWG. No. 1.6-1 Land Ownership
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	DWG. No. 1.6-3 Skyline Mines Permit Area
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Section 2.3, Pages 2-35, 2-35a, 2-36, 2-37, and 2-38
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	DWG. No. 2.3.6-1 Location of Hydrologic Monitoring Stations
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Section 2.4 Pages 2-40 through 2-47 pages 2-42a, 2-43a, 2-45a, 2-45b, and 2-45c
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Section 2.4, Pages 2-42a, 2-43a, 2-45a, 2-45b, and 2-45c
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Section 2.7, Pages 2-63 a through d
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Section 2.7, Page 2-6e
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	DWG. No 2.7.1-1a Vegetation Types
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Section 2.11 Page 2-120 (f)
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	Section 2.12 Page 2-129
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Section 3.2, Pages 3-64 and 3-72 (c)
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 3.4-1
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Section 4.7 Page 4-50
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Section 4.12 Page 4-75
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Section 4.18 Pages 4-102, 4-103, and 4-103A
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Section 4.20 Pages 4-30 a and 4-30 b
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Volume 5 Section 22
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Volume 5 Section 23
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Addendum to the PHC

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

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DIVISION OF
OIL, GAS AND MINING

Response Technical Analysis Deficiencies

R645-301-542.300 and R645-301-521.190 - The Permittee must include a scale on Plate 3.4-1 so that the Division can verify that the plate was printed at the correct scale.

A scale has been added to Plate 3.4-1. A notation was already present in the title block indicating the scale was 1"=300'.

R645-301-542.300 and R645-301-521.190 - The Permittee must show the permitted and disturbed acreages for the James Canyon area including listing the permitted acreages for the James Canyon buried water line, the James Canyon buried power line, and all other areas associated with the James Canyon project. The Permittee must also include the disturbed acreages for the James Canyon project. Those acreages must correlate with the permitted and disturbed acreages listed on Drawing No. 1.6-3.

Pages 1-37, 1-41, and 1-42 have been corrected to coincide with the disturbed acreages shown on Drawing No. 1.6-3.

R645-301-121 - Correctly locate the James Canyon pipeline and well in Section 25, T13S, R6E on page 2-63(a), 2-120(f), and in Appendix A2 of the Soil Resource Evaluation Report; and 1) Correct Plate 3.4-1 to accurately show the permit area boundary; and 2) Clarify the statement made on page 2-63(b) wherein it is noted "the pipeline and power line from the Questar property to head James Canyon were reclaimed immediately after construction."

James Canyon drill pad and pipeline are in Section 35, T13S, R6E and Sections 2 and 3, T14S, R6E. The power line is in Sections 25 and 36, T13S, R6E. Pages 2-63 (a), 2-120 (f), and Appendix A2 Soils Resource Evaluation Report are written correctly.

Page 2-63 (b) the sentence was rewritten. For additional detail concerning the pipeline and power line construction refer to Sections 2-11 and 4-20.

R645-301-121.300 - Page 3-72(c) describes Alternate Sediment Control Area 35 & 36 in a confusing manner. The reclaimed buried pipeline area that is located below the James Canyon wells is quite unlike the active road above the wells. They should each have a separate designation and a separate description. The description should include a design for the ditch carrying the water along the active road.

Page 3-72 (c) areas 35 and 36 were separated and they read as follows:

"Area 35 - This area is the James Canyon road from the Forest Service Monument Peak road to the drill pad. The James Canyon road is graveled with

water bars approximately every 150 feet. Road runoff water flows into a ditch and then to a water bar and is directed to a silt fence for sediment control."

"Area 36 - This area is the buried pipeline from the drill pad to Electric Lake. The buried pipeline disturbed area has been regarded and deep gouged. The area has been reseeded. Water bars have been constructed approximately 150 feet. The runoff water flows to the water bar and is directed to a silt fence used as sediment control."

Ditch calculations are included as part of the design of ASCA Area 35 and can be found in Volume 5, Section 22.

R645-301-130 - The names of the persons or organizations that collect and analyzed the PHC data and their qualifications must be provided.

The names and qualifications of the persons preparing the Addendum to the PHC are provided at the beginning of the document.

R645-301-230 - 1) Include in the submittal typical details for powder line cable burial and information on topsoil berm protection along James Canyon road from the Monument Peak road to the drill site, as per U. S. Forest Service letter to Mary Ann Wright of the Division, dated October 15, 2001, signed by Elaine Zieroth, Forest Supervisor, 2) Clearly indicate the depth of topsoil removal and replacement along the length of the polypipe installation. 3) Provide an explanation for the limited amount of topsoil salvaged and stored for reclamation of the site.

1) The sentence on page 2-120 (f) was changed as follows: "The available soils in the road were removed from the road surface and stored as a windrow on outslope side of the road and was protected from erosion by reseeding with the approved seed mix"

The details are located on Pages 3-28(b) through 3-28(e) of the approved M&RP.

2) Sentences were added to page 4-30 (b) as follows: "The topsoil was replaced for a depth of 6 inches along the entire length of the pipeline. The amount of topsoil spread was approximately 1,220 cubic yards"

3) Sentences were added to pages 2-120 (f) and (g) as follows: "The drill pad was constructed in an area already disturbed by previous road construction with high bank road cuts. The growth media in the A1 horizon varied from 0 to 13 inches for an average of 6.5 inches. This soil was recovered".

R645-301-240 - Please provide the average replacement depth for topsoil and subsoil for all locations of the disturbance: staging area, road, well site, and sediment pond.

See pages 4-30(a) and 4-30(b) of Section 4.20.

R645-301-244 - Please indicate in the plan the date of seeding of the James Canyon road from the drill site down to Electric Lake.

A sentence was added to page 4-30 (b) as follows: "The reclamation work was started around 4 September 2001 and completed by 14 September 2001".

R645-301-321.200 - Pre-coal mining disturbance vegetation cover, diversity, and productivity adequate to predict the potential for reestablishing vegetation must be provided.

R645-301-321.200. The productivity of the land before mining within the proposed permit area for SURFACE COAL MINING AND RECLAMATION ACTIVITIES and areas affected by surface operations incident to an underground mine for UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES, expressed as average yield of food, fiber, forage, or wood products from such lands obtained under high levels of management. The productivity will be determined by yield data or estimates for similar sites based on current data from the U. S. Department of Agriculture, state agricultural universities, or appropriate state natural resource or agricultural agencies.

The NRCS was contacted concerning a determination of productivity for the disturbance associated with the James Canyon Project. However, they informed the permittee that the US Forest Service had jurisdiction over forest lands not the NRCS. Rod Player of the US Forest Service was contacted and agreed to determine the productivity of the area, in conjunction with the productivity of the reference area. When the productivity determination is received it will be incorporated into Appendix A-2

Through research the permittee was unable to find information for identical areas in either their existing permit, the EIS associated with the Questar pipeline disturbance or the surface mining operation at Lodestar's White Oak facility. Since the area of disturbance related to the James Canyon project was previously disturbed, the vegetation on the redisturbed area was not representative of the native/natural vegetation. We must therefore use the "estimates for similar sites" mentioned in R645-301-321.200, and use the data collected for the reference area, since there is not available data for the site prior to disturbance. Refer to Section 2.7.

Response to Technical Analysis Deficiencies
Page 4

R645-302-322.360 - A map showing farm fields in Pleasant Valley that could be affected by the high flows in Mud Creek, including information on ownership, size of the operation, the crop grown, the historical yield of the crop and the value of the crop, relationship of the acreage in Pleasant Valley to the total farm acreage as defined by R645-302-323.400.

A map showing farm fields in Pleasant Valley that could be affected by the high flows in Mud Creek,

At the conclusion of the EarthFax Engineering study, farms/farm lands present within the AVF will be delineated.

.....including information on ownership, size of the operation, the crop grown, the historical yield of the crop and the value of the crop,

<i>Land Owner⁽¹⁾</i>	<i>No. of Livestock⁽²⁾</i>	<i>Area Adjacent to Mud Creek⁽³⁾</i>	<i>Vegetation Type⁽⁴⁾</i>
<i>Robert Rodakovich, Trust</i>	<i>Varies</i>	<i>78 Acres</i>	<i>Grass/Sagebrush/Willow/Pine</i>
<i>U.S.A.</i>	<i>Varies</i>	<i>21 Acres</i>	<i>Willow/Sagebrush/Grasses</i>
<i>Utahna Pace Jones Trust</i>	<i>Varies</i>	<i>75 Acres</i>	<i>Grasses/Willow</i>
<i>Fred & Shiela Jensen</i>	<i>Varies</i>	<i>45 Acres</i>	<i>Grasses/Sagebrush</i>

⁽¹⁾ Surface Ownership is shown on Dwg. No. 1.6-1.

⁽²⁾ Private landowners are not obligated to provide information or retain records concerning the number of livestock grazed on their property or the length of time they are grazed. Observation of grazed property adjacent to Mud Creek in July showed approximately 20 cattle, 4 horses on Rodakovich property, approximately 65 head of cattle and 2 horses on Jensen property, and approximately 25 head of cattle on the Utahna Pace Jones property.

⁽³⁾ Acreage available for grazing for the United States of America and Utahna Pace Jones varies with the quantity of water in Scofield Reservoir. Most years the United States has no grazing land available. The acreage listed reference an area immediately adjacent to Mud Creek. Neither ditches or the channel of Mud Creek have been deducted from the acreage.

⁽⁴⁾ The vegetation types have been listed with the first being most abundant on the acreage listed in the table (observation). Mt. Nebo Scientific is doing a vegetation study along Mud Creek, when the study is completed a copy will be incorporated into the permit.

Yield information was available from the BLM who manages land at the top edge of Scofield Reservoir. Personal conversation with Ray Jensen, Range Specialist for the BLM on June 28, 2002, provided the following information. The area is classified as sub-

Response to Technical Analysis Deficiencies
Page 5

irrigated grazed land, historical yield of the vegetation is 2 - 3 tons per acre, the yield decreases if the acreage includes shrubs and brush. Yield varies from year to year and site to site depending on precipitation and usage. A cow requires 8 to 10 acres of vegetation per month to survive. Mr. Jensen said that the cost for renting or leasing of grazing land varied from \$10 - \$20 per acre per month

.....relationship of the acreage in Pleasant Valley to the total farm acreage as defined by R645-302-323.400.

Ranchers often own lands in a variety of areas to enable them to move their stock from one area to another when an area is grazed out for a season, or when the weather changes. Unlike a crop, cattle are mobile and can be moved to another location to feed. Because of the mobility of cattle the relationship of the land adjacent to Mud Creek to the "farm size" requires inquiries not welcomed by the landowners. Should the temporary replacement of grazing land become necessary the US Forest Service and BLM have grazing available for lease in the vicinity of Pleasant Valley.

Refer to Volume 5, Section 23 for additional information.

On page 17 of the Divisions Technical Analysis, C/007/005-AM01K it states "Also, in 1984, it was noted that the pastures below the Utah No. 2 Mine (White Oak Loadout) are flood irrigated and the grasses on the valley bottom may be subirrigated. Map R645-301-411.100 Premining Land Use Map shows the land use down stream of the Belina Mine Complex. Shown on this map, are two pastures along Mud Creek in Pleasant Valley below the Utah No. 2 Mine (White Oak Load Out)". And, according to page 21 of the "Mining Plan Decision Document, Belina Mines Complex, Valley Camp of Utah, Inc., March 1984", Eccles Creek within Eccles Canyon has been determined to not be an alluvial valley floor (AVF). This issue was addressed in the OSM technical analysis for the Skyline Mine. In addition Whiskey Canyon and Pleasant Valley above the Utah No. 2 facilities were observed by OSM (August 1983) to be too narrow for flood irrigation or subirrigation agricultural activities."

"On the basis of the information presented in Volume V of the PAP and information gained during the field investigation, it is concluded that the surface topography, soils, water quality and water quantity of lower Pleasant Valley (i.e., below the Utah no. 2 mine) are all suitable for flood irrigation agricultural activities. It is also likely that portion of Pleasant Valley are subirrigated for agriculturally useful species of plants. It is concluded, therefore, that lower Pleasant Valley is an AVF with the essential hydrologic functions of flood irrigation and possible subirrigation. Conversely, it is concluded that the narrow valleys of Whiskey Canyon, Eccles Canyon, and Pleasant Valley above the Utah No. 2 mine facilities are not AVF's."

Since the methods of irrigation were observed by OSM personnel and the determination of AVF were made by OSM personnel we would appreciate a copy of their field investigation

report and the credentials of the person or persons making these determination in order to comply with the requirements of R645-301-130.

The permittee has attempted to find a copy of the above requested information at the Division's library in Salt Lake, but with the assistance of both the coal librarian and Daron Haddock were unsuccessful.

R645-301-333 - The application must describe: 1) How the Operator will avoid or minimize disturbance and adverse impacts to fish and related environmental values during coal mining in Eccles and Mud Creek. 2) How enhancement and restoration of Eccles and Mud Creek will be achieved. 3) Protective measures to Eccles and Mud Creek during mining.

Macro invertebrate studies were initiated in 2002 on Eccles Creek.

According to the data collected to date no adverse impacts have been noted. Unless adverse impacts are noted no enhancement, restoration or protective measures will be necessary. Please reference the EarthFax Report in PHC Addendum, Appendix D.

R645-301-342.100 - Fish and wildlife enhancement measures used during reclamation must be described.

Refer to the Reclamation Plan and Fish and Wildlife Plan in Volume 3, Sections 4.1 and 4.18.

R645-301-355 - The Permittee must commit to using a surface mulch during reclamation in James Canyon.

A sentence was added to Page 4-30(a) as follows: "Areas along the road where the recovery of the out slope material will cause greater disturbance than bringing the road back to AOC. The road will be reclaimed and water barred to prevent use of the road. Silt fences will be placed at each water bar for sediment control. See attached letter from the U. S. Forest Service."

R645-301-355 - The Permittee must provide a commitment to remove the waterbars at Phase II bond release or remove the waterbars at reclamation.

Page 4-30 (b)

Response to Technical Analysis Deficiencies
Page 7

R645-301-356 - The Permittee must provide productivity information, a range rating for the proposed reference area, and diversity standard. The reference to this site being previously mined must be removed.

356. Revegetation: Standards for Success.

356.100. Success of revegetation will be judged on the effectiveness of the vegetation for the approved postmining land use, the extent of cover compared to the extent of cover of the reference area or other approved success standard, and the general requirements of R645-301-353.

356.200. Standards for success will be applied in accordance with the approved postmining land use and, at a minimum, the following conditions:

356.210. For areas developed for use as grazing land or pasture land, the ground cover and production of living plants on the revegetated area will be at least equal to that of a reference area or such other success standards approved by the Division.

356.230. For areas to be developed for fish and wildlife habitat, recreation, shelter belts, or forest products, success of vegetation will be determined on the basis of tree and shrub stocking and vegetative ground cover. Such parameters are described as follows:

356.232. Trees and shrubs that will be used in determining the success of stocking and the adequacy of plant arrangement will have utility for the approved postmining land use. At the time of bond release, such trees and shrubs will be healthy, and at least 80 percent will have been in place for at least 60 percent of the applicable minimum period of responsibility. No trees and shrubs in place for less than two growing seasons will be counted in determining stocking adequacy.

The NRCS was contacted concerning a determination of productivity for the disturbance associated with the James Canyon Projects. However, they informed the permittee that the US Forest Service had jurisdiction over their lands not the NRCS. Rod Player of the US Forest Service was contacted and agreed to determine the productivity of the area, in conjunction with the productivity of the reference area. Mr. Player will also provide a range rating for the site.

Since no vegetation information was gather prior to the original disturbance of the James Canyon Project area, the permittee is unable to demonstrate that the reference area is equal to or exceeds the vegetation cover, diversity and/or productivity of the original site. Whether the reference area is representative of the James Canyon Project area prior to disturbance will have

Response to Technical Analysis Deficiencies
Page 8

to be determined by the review of the reference area vegetation report prepared by Mt. Nebo Scientific and the information provided by the US Forest Service. The vegetation report was provided in the November 14, 2001 submittal as an addition to Appendix A-2. The US Forest Service information will be provided for inclusion into Appendix A-2 once it is received.

R645-301-553.300 - Provide a soil sample of the sediments in the pond prior to reclamation of the site.

Page 4-30 (b)

R645-301-728 and -731 - The information provided in the submittal is not adequate for the Division to make the Findings required by regulations. Therefore, additional information needs to be submitted. The Operator is free to, and is strongly encouraged to investigate in any manner they deem appropriate to understand the flooding and Probable Hydrologic Consequences situation and come up with any needed mitigation plans should they be indicated. In addition to information requested below, the Operator may wish to provide other equivalent data and analysis.

R645-301-742 - There is no indication of riprap or other erosion control methods at the culvert outlet on the east side of the James Canyon well pad and this must be provided to prevent sediment from being added to James Canyon.

Riprap erosion control for the culvert outlets on the east side can be found on Page 7 of Section 22, Volume 5.

R645-302-322.421 - A description of the characteristics of Mud Creek including roughness slope and vegetation of the channel, and the physical and chemical properties of the subsoil that will endure sustained high water flows.

The data necessary to answer this deficiency will be collected by EarthFax Engineering and Mt. Nebo Scientific as part of the Mud Creek/Eccles Creek investigation. Portions of the needed information to address this deficiency have been gathered but the data are incomplete.

R645-302-322.431 - The geometry and physical character of Pleasant Valley, expressed in terms of the longitudinal profile and slope of the Valley and the channel, the sinuosity of the channel, the cross-section, slopes and proportions of the channels, flood plains and low terraces, the nature and stability of the stream banks and the vegetation established in the channels and along the stream banks and flood plains.

The data necessary to answer this deficiency will be collected by EarthFax Engineering

Response to Technical Analysis Deficiencies
Page 9

and Mt. Nebo Scientific as part of the Mud Creek/Eccles Creek investigation. Portions of the needed information to address this deficiency have been gathered but the data are incomplete.

R645-302-322.432 - The historical nature of surface flows of Mud Creek as shown by the frequency and duration of flows of representative magnitude including low flows and floods.

This information is provided in the Norwest Report found in Appendix C of the Addendum. However, how this relates to the stream channel and erosion of the channel will be addressed by the EarthFax study of Eccles and Mud Creeks. The first Earthfax report addressed the erodibility and stability of Eccles and Mud Creek stream banks as well as the change in bank full condition frequency.

R645-302-324.300 - 1) A monitoring plan for stream bank erosion control in Mud Creek and 2) Monitoring of the flows in Mud Creek for quantity and quality and at adequate frequency to determine seasonal trends that could affect farming in Pleasant Valley.

A monitoring plan for Mud Creek is presented in Section 2-4.

R645-302-433 - Contributions to base flows in Mud Creek from the subsurface.

This item will be addressed as part of the EarthFax study. Ground water levels adjacent to the stream will be determined to aid in determining if subirrigation conditions do exist in the valley adjacent to the stream.

R645-728.335, -731, and -731.760 - 1) The Operator must provide a table listing **A)** the approximate date each mine inflow and pumping began, **B)** each inflow and pumping rate in gpm, **C)** source of the water (in-mine location such as 10L, or surface location such as James Canyon wells), **D)** destination of the pumped water (such as Mine 1 & 3 abandoned workings, Eccles Creek, or Electric Lake), and **E)** cumulative pumping rate for the whole mine over time. 2) Using data in the above table the Operator, must provide a graph showing the cumulative pumping rate for the whole mine (vertical axis) and dates for those pumping rates (horizontal axis). The text narrative in the history section will need to be consistent with, and clearly explain the table contents and the graph. 3) The Operator must provide on graph showing the drought index and S35-8 spring flow at the same time scale and using a line graph for both parameters. The time period would be from 6/1982 to the present. Then provide a text discussion accurately analyzing what the comparison shows.

Each of the above items is addressed in the revised Addendum to the PHC.

R645-728.335, -731, and -731.760 , 4) The Operator must provide one graph for each of the following springs showing the drought index and spring flow at the same time scale and using a line graph for both parameters. The time period would be from June 1982 to the present. Then provide a text discussion accurately analyzing what the comparison shows. The springs are: S22-11, S26-13, S34-12, 2-413, S15-3, S36-12, and S24-12.

The requested graphs have been added to the Addendum to the PHC.

R645-728.335, -731, and -731.760 4) The Operator must provide one graph for each of the following wells showing the drought index and water level elevation at the same time scale and using a line graph for both parameters. The time period would be from 6/1982 to the present. Some of the wells do not have records that far back. In those cases, just provide all the available data. The provide a text discussion accurately analyzing what the comparison shows. The wells are: W22-2 (W79-22-1 & 2), W26-1 (W79-26-1), W35-1 (W79-35-1A & 1B), W2-1 (W98-2-1), W10-1 (W79-10-1A & 1B), W14-2 (S79-14-2A & 2B). 99-21-1, 99-28-1, and 20-4-2.

The requested information has been provided in Appendix A of the addendum. However, data were not available for W79-22-1 & 2, W79-10-1B, W79-14-2B. These wells have not been accessible for several years.

R645-728.335, -731, and -731.760 - 6) The Operator must provide weekly monitoring of the water level in the following wells, starting immediately. For all wells that have already been monitored more often than quarterly, provide all monitoring data collected. Plot the water level versus time on a graph for such wells. Also provide a one-time water chemistry analysis of these well waters as defined by Laboratory Measurements on Table 2.3.7-2 Abbreviated Water Quality Analytical Schedule in the MRP. Sample the well water after purging at least three times the well casing volume and not more than five times the well casing volume. Provide Still Diagrams based on these chemical analysis. Also provide a text discussion accurately analyzing what the chemical analysis and monitoring shows. The wells are: W22-2 (W79-22-1 & 2), W26-1 (W79-26-1), W35-1 (W79-35-1A & 1B), W2-1 W98-2-1), and JC-1 & JC-2, both James Canyon wells.

*Compliance with this deficiency is difficult at best and very expensive. W79-22-1 and 2 are not accessible - the casings have collapsed, and W79-26-1 has shown a steady increase in water level as Mine 3 has flooded. More frequent monitoring of this well will not lead to a better understanding of the current conditions of the aquifer in the Mine 2 area. Additionally, purging and sampling of wells that are non-stainless steel, approximately 2" in ID, and not constructed to water quality monitoring specification rarely yield useable data. It has been our experience that samples obtained from wells completed in coal exploration holes generally raise more questions about completions than answers about water quality. Has the drilling mud been completely removed from the borehole is frequently a question that arises when considering the water quality data. The wells labeled with a W79 - ** are exploration holes that were drilled prior to Coastal acquiring the property and concise*

completion logs are rare. Transducers have been placed in W79-35-1A, W2-1, and W20-4-1. These data loggers attached to the transducers are periodically down loaded. Graphs of the transducer data for these wells have been provided in Appendix A. While measuring the water levels in the James Canyon Wells would useful information, all attempts to probe the wells have failed. There is very little room between the casing and well column in JC-1 and the well probe cannot get past a tight spot in JC-1 at about 600 feet. We believe the data obtained from monitoring W2-1 and W79-35-1A provides us with some understanding of the drawdown of the aquifer related to mining and pumping.

R645-728.335, -731, and -731.760 - 7) The Operator must provide weekly monitoring of springs flow rates for the following springs, starting immediately. For all springs that have already been monitored more often than quarterly, provide all monitoring data collected. Plot the spring flow versus time on a graph for such springs. Also provide one-time water chemistry analysis of these springs waters as defined by Laboratory Measurements on Table 2.3.7-2 Abbreviated Water Quality Analytical Schedule in the MRP. Provide Still Diagrams based on these chemical analysis. Also provide a text discussion accurately analyzing what the chemical analysis and monitoring shows. The springs are: S22-11, S26-13, S35-8, S34-12 and 2-413

Stiff diagrams have been provided for the above mentioned springs as well as three in-mine samples and a James Canyon well sample. Skyline is not inclined to monitor springs on a weekly basis as there is no proof that the shallow aquifers are tied in any way to the aquifer beneath the coal seams. In fact, ample evidence exists that no connection exists. Monitoring these springs is costly and will provide very little additional useful data.

R645-728/335, -731, and -731.760 - 8) The Operator must provide one graph showing both the drought index and Burnout Creek flows at the same time scale and using a line graph for both parameters. Then provide a text discussion of accurately analyzing what the comparison shows. **9)** The title of Figure PHC A-5 probably should not contain the letter "M" as there is no such reference in the text. **10)** The Operator needs to provide an additional graph showing the water levels of W2-1 (98-2-1) from October 1998 to the present time. **11)** The Operator needs to provide a graph showing the water levels in all three monitoring wells, W79-35-1A & W79-35-1B, & 98-2-1, from 7/15/1982 to the present. **12)** The discrepancy between the text slope of 0.3 feet per day and the Figure PHC A-5 slope of 0.53 feet per day needs to be resolved. **13)** The Operator must use a consistent naming convention in the text and on all figures and maps to designate all monitoring wells. Preferably, this would include all designations for a well being used each time.

The above issues have been addressed in the PHC. A drawdown for W79-350-1A was calculated. This well was used since it appeared to have the least amount of head above the coal seam. It is located in an area of the mine where drawdown of the potentiometric surface may one day be observed in the mine. The drawdown rate of W2-1 was not presented in the body of the text. However, HCI has used some of the

drawdown information from these two wells in constructing their ground water model. Once this model is complete and delivered to Canyon Fuel, this PHC can be updated.

R645-728.335, -731, and -731.760 - 14) The Operator must provide a cross section drawing along the monitoring wells and the James Canyon wells. The drawing should be at least the size of Dwg. No. PHC A-1 and show the elements listed below. Then provide a text discussion accurately analyzing what the cross section shows in terms of groundwater, springs, and streams due to water inflows to the mine and pumping in James Canyon. **A)** Include wells W22-2(W79-22-1&2W35-1 (W79-35-1A&1B), JC-1, JC-2, and W2-1 (W98-2-1); **B)** Exaggerated vertical scale with elevations and distance shown on both scales; **C)** The topographic ground surface shape; **D)** All geologic formations, including thickness, name, and other relevant information. Show strike and dip for each formation as it is along the cross section; **E)** All known faults and all inferred/suspected faults; **F)** Coal seams, showing their thickness and name. Number the mines in each seam; **G)** All mine water inflow locations with an approximate horizontal distance from the cross section east and west to actual mine inflow location; **H)** Springs S35-8, S22-1, S26-13, & S34-12, locations with an approximate horizontal distance from the cross section east or west to actual mine inflow location; **I)** All monitoring wells including surface elevation and completion elevation; **J)** Both James Canyon wells including surface elevation and completion elevation; **K)** Approximate potentiometric surface elevation before elevated mine inflows occurred. That is , before January 1999. See the MRP, Dwg. No. 2.3.4-2 and Dwg. No. 2.3.4-1 Fence Diagram: Water Monitoring Wells Skyline Mine, which has water elevations of the well as 12/13/91. Include the approximate dates along the surface; **L)** Approximate potentiometric surface, as it exists at the latest well elevation readings. Include the approximate dates along the surface; and **M)** Other elements, features, and information that would help define past and present groundwater conditions as they relate to the in-mine flooding situation.

The majority of the requested data has been provided in updated addendum to the PHC. However, since only two of the drill holes requested as part of the cross-section provided water level information, drawing a potentiometric surface through the length of the section did not seem to be prudent and would represent a crude guess at best. However, water levels measured at different times have been provided for W79-35-1A and W2-1. A recent potentiometric surface map using data from all available wells has been provided in the HCl report in Appendix C. It is anticipated this map will be updated as part of the ground water model report. As soon as this is complete, the report will be used to update the PHC.

R645-728.335, -731, and -731.760 - 15) The Operator must provide all information from holes 74-35-1, 75-34-2, 75-27-1, and 83-22-1, that could aid in determining the geology and groundwater conditions. **16)** The operator must determine “whatever adverse impacts may occur to the Hydrologic Balance” and the effect on “Ground-water and surface -water availability. This should include an estimate of if and when mine flows will decrease and to what levels. **17)**

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The Operator needs to provide water quality data from James, Huntington, Swen's and Little Swen's Creeks and James Canyon wells to compare the water from these sources. **18)** The Operator must implement a method of monitoring the water flow volumes discharged by in-mine pumping into Eccles Creek. The monitoring and tracking should be the same as that done for the James Canyon wells. **19)** The Operator must provide age date testing of the mine inflow waters. This should include all inflows points in the mine (16L, 14L, 9L, & 10L) and the water being pumped from both James Canyon wells (JC-1 & JC-2). **20)** The Operator must provide the Division with all information developed for the James Canyon wells which provide insight to the draw down of the well, transmissivity of the water-bearing strata and fault system, and other information related to groundwater flow at the wells location. **21)** Report all weekly monitoring data on a monthly basis, submitting the data in the first week of the following month. **22)** For all data submittals outlined in this Technical Analysis, provide paper copies of the graphs, charts, and tables AND also provide an electronic copy (magnetic disk or CD) of those data submittals.

Because the requested drill holes were not drilled by CFC or Coastal, very little drill hole data is available. CFC currently has moderately poor copies of geophysical logs of all of the wells and a lithologic log of drill hole 83-22-1. Copies of these logs are included with this submittal and the Division is asked to place them in the Skyline Mine Confidential File Folder.

Water quality data for the above referenced points have been provided in Appendix A. Skyline has implemented a monitoring program of both the James Canyon well discharge and the total mine discharge. This data is reported to the Division monthly. Age dating information has been provided in a table presented in Appendix A of the addendum. Most of the requested locations have been sampled over time with the exception of 10 left. However, water samples have been obtained from horizontal boreholes that intersect the fracture system feeding 10 Left.

Unfortunately, no reliable drawdown information exists for either of the two James Canyon wells. The wells were not subjected to adequate testing procedures to produce clear cut transmissivity numbers. Also, since JC-1 was completed in a fracture, drawdown and recovery data would only provide information on the transmissivity of the fracture unless the well were shut down for an extended period of time. Currently, the mine is unwilling to stop pumping the well while attempting to keep the 9 Left and 10 Left area open. Perhaps data can be generated if the mine is willing to shut down the well when access to 9 and 10 left are no longer needed.

The electronic copy of the PHC addendum will be forthcoming. It is not included in this submittal package at this time.