

Canyon Fuel Company, LLC
Dugout Canyon Mine
 P.O. Box 1029
 Wellington, Utah 84542



Refer to Expandable 01262007
 file in C0070039, 2007 Incoming
 for additional information

January 26, 2007

Ms. Pamela Grubaugh-Littig
 Utah Division of Oil, Gas and Mining
 1594 West North Temple, Suite 1210
 Salt Lake City, UT 84114-5801

Refer to Confidential 01262007
 file in C0070039, 2007
 for additional information

J. Young
 C/0070039
 #2743

RE: Permit Area Expansion – Addition of 40 Acres to Federal Lease U-07064-027821,
 NW1/4 NW1/4 of Section 21, Township 13S Range 13E, Task ID # 2729
 Dugout Canyon Mine, Canyon Fuel Company, LLC, C/007/039, Carbon County, Utah

Dear Ms. Grubaugh-Littig:

Attached please find four copies of revisions to the M&RP associated with the addition of 40 acres to the permit area for Dugout Canyon. The expansion is to accommodate a revised mine plan extension of a panel.

This information was presented in the cover letter submitted on December 29, 2006.

- No surface disturbance will be associated with the expansion of the permit area.
- Surface disturbance will be permitted as needed to facilitate mining activities.
- A modified lease document will be submitted for inclusion into the M&RP, once we receive a copy.
- An archeological study of a proposed drill site within the expanded permit area was performed and submitted to SHPO under State #U06SC1536p, by the consulting firm of Senco-Phenix report number SPUT-542. A copy is attached for incorporation into the confidential folder.
- "Senco-Phenix performed an intensive cultural resource survey on the three proposed drill hole locations.... The purpose of the survey was to identify and evaluate cultural resources that may exist within the project area.
- No cultural resources were located and the potential for undetected remains is remote. A finding of no effect is appropriate and archeological clearance without stipulations is recommended."
- Land use will be the same as the currently approved portions of the federal lease previously mentioned in the letter.
- Water monitoring at sites SC-65, 260 and 259 began prior to 1996 and will continue as described in Chapter 7 of the M&RP. Therefore, baseline data is available to allow evaluation of the effect of mining on water within the proposed lease expansion area. The 40 acres proposed for inclusion into the permit area are currently within the CHIA boundary (Plate 1, Cumulative Impact Area (CIA) Book Cliffs Area II CHIA, Revision Date 6/24/2005, DDean, DOGM).

RECEIVED
JAN 29 2007
DIV. OF OIL, GAS & MINING

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change New Permit Renewal Exploration Bond Release Transfer

Permittee: Canyon Fuel Company, LLC

Mine: Dugout Canyon Mine

Permit Number: C/007/039

Title: Permit Area Expansion, Addition of 40 Acres to Federal Lease U-07064-027821, Task ID #2729

Description, Include reason for application and timing required to implement:

The cover letter which accompanies this amendment contains information which should be read by UDOGM reclamation specialists reviewing this amendment. Due to the limitations of this form, additional information related to the urgency of this approval can be given verbally or in a written form if needed. Please contact Erwin Sass or Vicky Miller (435) 637-6360

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

- Yes No 1. Change in the size of the Permit Area? Acres: 40 Disturbed Area: _____ increase decrease.
- Yes No 2. Is the application submitted as a result of a Division Order? DO# _____
- Yes No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
- Yes No 4. Does the application include operations in hydrologic basins other than as currently approved?
- Yes No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
- Yes No 6. Does the application require or include public notice publication?
- Yes No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
- Yes No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
- Yes No 9. Is the application submitted as a result of a Violation? NOV # _____
- Yes No 10. Is the application submitted as a result of other laws or regulations or policies?
Explain: _____
- Yes No 11. Does the application affect the surface landowner or change the post mining land use?
- Yes No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
- Yes No 13. Does the application require or include collection and reporting of any baseline information?
- Yes No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
- Yes No 15. Does the application require or include soil removal, storage or placement?
- Yes No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
- Yes No 17. Does the application require or include construction, modification, or removal of surface facilities?
- Yes No 18. Does the application require or include water monitoring, sediment or drainage control measures?
- Yes No 19. Does the application require or include certified designs, maps or calculation?
- Yes No 20. Does the application require or include subsidence control or monitoring?
- Yes No 21. Have reclamation costs for bonding been provided?
- Yes No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
- Yes No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

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.

David Spillman
Print Name

David Spillman, Engineering Manager
Sign Name, Position, Date

Subscribed and sworn to before me this 28 day of JANUARY, 20 07

Vicky Sue Miller
Notary Public



My commission Expires _____ } ss:
Attest: State of UTAH
County of CARBON

For Office Use Only:

Assigned Tracking Number:

Received by Oil, Gas & Mining

APPLICATION FOR COAL PERMIT PROCESSING

Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: Canyon Fuel Company, LLC

Mine: Dugout Canyon Mine

Permit Number: C/007/039

Title: Permit Area Expansion - Addition of 40 Acres to Federal Lease U-07064-027821, Task ID # 2729

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED

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<input type="checkbox"/> Add	<input checked="" type="checkbox"/> Replace	<input type="checkbox"/> Remove	Chapter 2, Pages 2-1 thru 2-4
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<input type="checkbox"/> Add	<input checked="" type="checkbox"/> Replace	<input type="checkbox"/> Remove	Chapter 4, Page 4-1, 4-6, 4-7 and 4-12
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<input type="checkbox"/> Add	<input checked="" type="checkbox"/> Replace	<input type="checkbox"/> Remove	Chapter 7, Page 7-1
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<input type="checkbox"/> Add	<input checked="" type="checkbox"/> Replace	<input type="checkbox"/> Remove	Plates 7-1 and 7-2
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<input type="checkbox"/> Add	<input type="checkbox"/> Replace	<input type="checkbox"/> Remove	
<input type="checkbox"/> Add	<input type="checkbox"/> Replace	<input type="checkbox"/> Remove	CONFIDENTIAL Binder - Only one copy of information provided in this amendment
<input checked="" type="checkbox"/> Add	<input type="checkbox"/> Replace	<input type="checkbox"/> Remove	Appendix 4-3, add information to the back of existing information
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Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.

1/26/07 The text and plates in this amendment are part of the M&RP. They should be placed in the M&RP binders only. The cover letter provided with this amendment has extensive information pertaining to this lease expansion.

No surface disturbance will be associated with the expansion of the permit area at this time.

A modified lease document will be submitted for inclusion into the M&RP, once we receive a copy.

Received by Oil, Gas & Mining

Page 2

The following information is presented to identify the information in the currently approved M&RP, which applies to the currently proposed permit area expansion. An explanation of the various colored text in the following information is at the top of each memo.

MEMO

TO: Jerrienne Ernstsen

The information in black text is from the approved M&RP. Not all information under each section heading has been provided. Red text is information currently proposed for addition to the M&RP. Blue text is confidential or text provided for clarification but is not intended for inclusion into the M&RP.

CHAPTER 3 - BIOLOGY

The 40 acre lease modification is the addition to the permit area of the NW1/4 NW1/4 of Section 21, Township 13S Range 13E.

312 Potential Impact to Vegetative, Fish and Wildlife Resources

Potential impacts to vegetative, fish, and wildlife resources and the associated mitigation plan are presented in Sections 330 and 340.

322 Fish and Wildlife Information

Threatened and Endangered Plant and Wildlife Species.

Lease Modification U-07064-027821

Tony Wright and Leroy Mead of the Division of Wildlife Resources (DWR) were contacted on January 19, 2007 to determine the potential for threatened or endangered wildlife species to be present within the proposed lease modification area (NW1/4NW1/4 Section 21, Township 13S, Range W13 East). Tony Wright reviewed an aerial photograph of the area on January 19th and Leroy Mead had visited the area in November 2006. Mr. Wright said there was potential for goshawks (species of concern for the DWR) to be in the general area describing their habitat as mature ponderosa pines or stands of mature firs. The 40 acre modification has a stand of mature firs which was identified by Mr. Wright as potential habitat for goshawks. Mr. Wright recommended a goshawk survey be done if surface disturbance is planned for the mature stand of firs in W1/2NW1/4NW1/4 of Section 21. Mr Wright also identified a potential mature stand of firs in N1/2NE1/4of Section 17.

No threatened or endangered wildlife species were identified as being in the area by either Mr. Wright or Mr. Mead. Mr. Wright consulted several sources before determining the lack of threatened and endangered species in the area. Mr. Wright inquired if there were any large ponds of water that would be impacted by disturbance within the lease modification area, the permittee is unaware of any large ponds within the propose lease modification area.

Please contact either individual to verify this information - Tony Wright (435) 636-0271 or Leroy Mead (435) 636-0274.

Patrick Collins of Mt. Nebo Scientific was contacted on January 19, 2007 to determine if threatened or endangered plant species were known to be present within the proposed lease modification area. Mr. Collins visited the lease modification area in November 2006, at the time no threatened or endangered plant species were located. Appropriate agencies were consulted (e.g. Utah Natural Heritage Program) and other sources were reviewed for potential plant species that are known to be rare, endemic, threatened, endangered or otherwise sensitive in the lease modification area. A description of the research performed by Mt. Nebo Scientific and the conclusions are included in Appendix 3-1

Habitats of Unusually High Value.

Raptor and Bat Survey

Raptor nest surveys will be conducted annually in the Spring prior to mining activities or potential subsidence within the permit area and in proposed expansion areas to the permit to obtain base line data. In addition, raptor nest locations will be monitored/surveyed the year following the first monitoring/survey if nests were observed during the survey and if operations result in subsidence. The permittee will contact the Division prior to any raptor nest protection efforts.

Since water and its corresponding vegetation are important throughout the state of Utah, regulatory agencies have been requiring mitigation for disturbance and eventual replacement from the coal industry. SCM will comply with the requirements of mitigation and eventual replacement of the resources which may be lost or disturbed during this mining operation, refer to Sections 331, 340, 350, and 762.100.

323.300 Facilities for Protection and Enhancement

Sections 333.300 and 358.500 contain additional discussion pertaining to protective measures to be taken by SCM in behalf of wildlife.

323.400 Vegetation Type and Plant Communities

Vegetative types and plant communities are outlined on Plate 3-1 and 3-1A of this application.

Vegetation types and plant communities on Plate 3-1 were interpreted directly from aerial photographs except for selected areas. The inclusion of small vegetation units was limited and included the exclusion of small, long or narrow units of vegetation within other units. Vegetation depicted on Plate 3-1A represents vegetation ground surveyed and identified in the field.

332 Description of Anticipated Impacts of Subsidence

Subsidence and its anticipated impacts are discussed in Sections 333 and 525 of this M&RP.

The potential effects of subsidence on nests could be one or several of the following:

- . Displacement and relocation of nesting raptor(s)/birds,
- . Injury to or death of nest inhabitants,
- . Nest destruction.

Subterranean changes caused by subsidence to wildlife habitat is not currently understood. Subsidence could disrupt burrow systems destroying the home and habitat of burrowing mammals, reptiles, and amphibians and possibly cause death to some species in the immediate area. Since subsidence occurs systematically and in small areas at a given time, only localized populations will be impacted and only for a short period of time. Reproductive potential coupled with dispersal will facilitate recovery and negate the temporary population reduction.

Possible Short-Term and Long Term Impacts to Species Dependent on Springs, Creeks and Drainages

Impact to species dependent on springs, creeks and drainages could include disturbance of shelter, food, increased evaporation, rise and/or decrease in water temperature, water flow, and bank stability. Most species of wildlife are highly adaptable, while others with limited mobility are not. The mollusk (*Physella virgata*) and tiger salamander, mentioned in the TA on Task ID #1915) are dependent on water resources and may have been impacted by the drought conditions in Utah since 1999. Studies have shown that when habitat changes amphibians have either died or have moved to locations where water and habitat are more abundant. If they have moved, then should their habitat change again, they will likely move to a more suitable area..(Joseph M. Kiesecker - Dept. Of Biology, Pennsylvania State University; Andrew R. Blaustein and Lisa K. Belden - Dept. of Zoology, Oregon State University; Global Amphibian Assessment, Amphibia WebAmphibiaWeb (<http://elib.cs.berkeley.edu>; Alex Kirby, BBC News Online "Global amphibians in deep trouble" October 14, 2004; U.S. Water News Online, "Georgia drought harming wetland species" January 2002; UPI Science News, "Wildlife suffering from record drought" 8/30/02). There have been no impacts identified to springs, creeks or drainages within the Dugout Mine permitted area. Subsidence could in the future impact mullusk and salamander individuals. In the event of subsidence-related impact, the subsidence plan details measure that should repair material damage, including habitat for the state-listed sensitive mollusk and salamander species.

It is anticipated that streams within the permit area will not be significantly impacted as discussed in Chapter 5, Section 525.100. Interruptions of flow within perennial, intermittant, and ephemeral streams is not anticipated. Therefore, flows sustaining riparian and stream bank vegetation should continue during and after subsidence. Refer to Section 731.200 for a proposed monitoring and mitigation plan.

During the 2005 and 2006 raptor surveys conducted by the Division of Wildlife Resources on behalf of the permittee, the only nest identified in Section 21, Township 13S Range 13E was a **raven** nest (1455) which was listed as inactive. The 40 acre lease modification is in the NW1/4 NW1/4 of Section 21.

333.100 Minimized Disturbance to Endangered or Threatened Species

SCM will apply all methods necessary to minimize disturbances or any adverse effects to endangered and threatened species listed on the tables in Appendix 3-3.

333.300 Protective Measures

Areas of potential mining will be surveyed for raptor nests prior to the beginning of mining and two seasons after mining has ceased.

358.100 Existence of Endangered or Threatened Species

Coal mining will not be conducted where its operation might jeopardize the existence of any endangered or threatened species. The mining of coal will not result in the planned destruction or adverse modification of these species critical habitat, unless approved by appropriate agency(ies).

358.200 Bald and Golden Eagles

Coal mining and reclamation operations will be conducted in a manner protective of bald and golden eagles. SCM will promptly report any golden or bald eagle nests found within the permit boundaries and will proceed with operations in accordance with the Division's stipulations for protection of those nests. Refer to Section 333 for a discussion of methods of nest protection during potential subsidence.

CHAPTER 4 - LAND USE AND AIR QUALITY

411.140 Cultural and Historic Resources Information

Cultural resource information and maps identifying cultural and historical study areas are located within the confidential folder of information pertaining to this permit.

Cultural and historical inventories associated with the SITLA lease tract and adjacent areas are located in Appendix 4-1 and 4-3. This information should be held confidential by the Division.

Federal Lease Modification U-07064-027821

Senco-Phenix (Archeological Consulting Services) conducted a Class 1 file search for the NW1/4NW1/4, Section 21, Township 13S, Range 13E (approximately 40 acres). The 40 acres has privately owned surface and federal owned coal.

The Class 1 file search results listed a survey in 2006 conducted by Senco-Phenix which included a walking survey of a portion of the NW1/4NW1/4, Section 21, Township13S Range 13East. The survey area and a road surveyed in 2005 are shown on a drawing attached to a letter addressed to Vicky Miller, dated January 23, 2007 from Senco-Phenix. Copies of the letter and drawing have been provided to the Division for inclusion into Appendix 4-3 of the confidential folder as has a copy of the walking survey listed in the letter. **No cultural resources** were located during either of the surveys located by the file search, listed in the aforementioned letter.

The 2005 survey listed in the January 23, 2007 letter was provided to the Division previously in conjunction with the permitting of Degas Well G-14, the 2006 survey is provided with this amendment. Only one copy of the cultural information has been provided for incorporation into Appendix 4-3 of the confidential binder.

Cultural and Historic Resource Maps. Maps and photographs for the evaluated cultural and historical sites are contained in the confidential folder.

There are no cemeteries, public parks, or units of the National System of Trails or the Wild and Scenic Rivers System located within the Dugout Canyon Mine permit boundary.

SCM agrees to notify the Division and SHPO of previously unidentified cultural resources discovered in the course of mining operations. Arch Coal Company has a registered professional geologist on staff assigned to Dugout Canyon Mine available to confirm vertebrate fossil material discovered during earth moving activities during construction of the Pace Canyon Fan Portal site. SCM also agrees to have any such cultural resources evaluated in terms of NRHP eligibility criteria. Protection of eligible cultural resources will be in accordance with Division and SHPO requirements. SCM will also instruct its employees that it is a violation of federal and state laws to collect individual artifacts or to otherwise disturb cultural resources.

412.100 Postmining Land Use Plan

All uses of the land prior to mining and the capability of the land to support prior alternate uses will remain available throughout the life of the mine except within the disturbed-area boundary.

413.300 Criteria for Alternative Postmining Land Uses

No alternative postmining land uses have been planned.

423 Monitoring Program

An NOI ~~will be~~ **was** submitted to DAQ requesting approval for a production rate of ~~2~~ **7** million tons per year. This rate exceeds immediate production plans, but approval at this level will preclude the necessity of reapplying if future production plans should increase. This approach is appropriate since an AO is subject to specific operating conditions rather than to a time period and thus does not expire at the end of a 5-year period as does the approval of the mining permit. If operating conditions change sufficiently to invalidate the AO, a new NOI will be prepared.

MEMO

TO: Wayne Western

The information in black text is from the approved M&RP. Not all information under each section heading has been provided. Red text is information currently proposed for addition to the M&RP. Blue text is information or text provided for clarification but is not intended for inclusion into the M&RP.

CHAPTER 5 - ENGINEERING

Excerpts from the subsidence information and plans which are within the currently approved M&RP are provided below. The permittee intends to comply with the subsidence control plan and measures as outlined in the approved M&RP. The subsidence portion of the permit was updated during the Dugout Canyon Mine Midterm Review, Task ID# 2348, approved for incorporation on September 6, 2006. Further understanding of the subsidence information provided during the Midterm Review is likely available within the Technical Analysis maintained by the Division.

In 2007, 40 acres was added to Federal Coal Lease U-07064-027821 to accommodate a revised mine plan. Refer to Plate 5-7 for the location of the acreage (NW1/4NW1/4, Section 21, Township13S, Range 13E) incorporated into the permit boundary.

521.100 Cross Sections and Maps

Mining Sequence and Planned Subsidence. The mine plan for the Dugout Canyon Mine is presented on Plate 5-7. This map shows the boundaries of all areas proposed to be affected over the estimated total life of the coal mining and reclamation operations, including the size, sequence, and timing of mining of subareas to be affected beyond the present permit term. No surface disturbances are currently anticipated within the permit area beyond that presented in this M&RP (i.e., within the disturbed-area boundary noted on Plates 5-2 and 7-5). Planned-subsidence mining methods will be used in all of the underground mine workings shown on Plate 5-7. Detailed mine progress maps will be submitted to the Division within the annual report.

525.100 Subsidence Control Plan

Structures and Renewable Resource Lands. As noted in Section 521.100, no major electric transmission lines, pipeline, or agricultural drainage tile fields exist within the area of potential subsidence. As described in Section 527.100, the roads within the area of potential subsidence consist of private roads that are owned and maintained by the parent company of SCM and private citizens, including the Thayne family. These are unimproved dirt roads that may be used for access to the lease area. Localized damage that occurs to roads not owned by the parent company of SCM will be repaired to a condition acceptable to

both the private landowner and SCM. No other structures are known to exist within the area of potential subsidence.

Renewable resource lands within the permit and adjacent areas are shown on Plate 4-1 and discussed in Section 411 of this M&RP. The area of potential subsidence is currently used for livestock grazing and wildlife habitat, with limited timber production on adjacent lands to the east of Dugout Canyon (see Section 411.120). Hydrologic resources in the area are discussed in Chapter 7 of this M&RP. Information regarding baseline groundwater conditions is provided in Section 724.100.

Mining Methods. As noted in Section 523, continuous miner and longwall mining methods will be used in the Dugout Canyon Mine. The size, sequence, and timing for the development of the underground workings are shown on Plate 5-7 and in Annual Reports.

Physical Conditions Affecting Subsidence. A detailed description of the physical conditions in the permit area that may influence subsidence (i.e., overburden lithology and thickness, coal seam thickness, etc.) is provided in Chapter 6. In particular, Plate 6-1 provides a surficial geologic map of the permit and adjacent areas, Plate 6-2 shows the locations of the coal-seam outcrops in the vicinity of the proposed surface facilities, and Figure 6-1, Plate 6-3, 6-3A and 6-3B provide geologic cross sections based on data collected from drill holes in the area. Furthermore, information related to the physical conditions which may affect mining is presented in Sections 622 (a discussion of the cross sections), 624.100 (a discussion of stratigraphic and structural conditions), and 624.300 (a discussion of rock clay content), as well as Appendix 6-1 (drill-hole logs).

Subsidence Control Measures. Most of the land within the permit area will eventually be affected by subsidence. Anticipated areas of subsidence are shown on Plate 5-7. This subsidence boundary was projected to the surface based on an angle of draw of 30 degrees as measured from the vertical as required in R645-301-525.542. It is presumed that the actual angle of draw will be less, based upon results of mining and subsidence in the general area. Plate 5-7 illustrates the projected extent of subsidence based on a 30 degree angle of draw. The primary areas where future subsidence is not anticipated are the areas overlying the previous workings shown on Plate 5-1 (since these areas will not be re-mined). Plate 5-7 also illustrates a subsidence buffer zone that extends beyond the limits of Federal Lease U7064-027821 and State Lease ML-48435. This buffer zone does not suggest that CFC will mine outside of the lease boundaries, however, it does indicate the limit of projected subsidence. Appendix 5-11 contains a report "Prediction of Surface Deformation Resulting from Longwall Mining" which discusses subsidence. The specific sections within the report discuss, subsidence mechanism; mining, geologic conditions and subsidence characteristics; predicted ground movements and the monitoring program. This information is provided per deficiencies in the 2005 mid-term review of the M&RP.

Subsidence Monitoring. Numerous control points have been established within the permit and nearby areas to assist in subsidence surveys (see Plate 5-7). Coordinates and elevations of these control points (as established in January 1984) are provided in Table 5-2. Coordinates and elevations of control points are also provided in the Mine's Annual Reports. The control points consist of traverse monuments, benchmark monuments, and survey stations which have been constructed generally as follows:

Future monuments and stations that are required for proper control will be installed to provide one monitoring point per panel. Since geologic and mining uncertainties often force a change in planned mining sequences, future control points may be installed only after the mine panels are in their development phase.

Re-surveys will concentrate on areas which have been mined in the past or are anticipated to be mined within the upcoming year. Hence, the area of detailed survey may be expanded each progressive year.

Annual re-surveys of the mine permit area will produce vertical control at the same sites as the previous year. Information on each site will be produced annually while the area underlying the site is being actively mined or is still potentially subsiding. The subsiding areas which show no change for two consecutive years will be considered stable and will be omitted from further annual surveys. If additional mining is anticipated within the stable areas, these areas will again be added to the annual surveys.

Anticipated Effects of Subsidence. Based on experience in the region and the results of investigations performed by Dunrud (1976), future subsidence in the permit area is anticipated to result in the formation of tension cracks, with these cracks healing to some degree following formation. It is further anticipated that no substantial damage will occur to rangeland conditions as a result of subsidence within the permit area. The only potential effects in that respect will be the exposure of plant roots where tension cracks form.

It is not anticipated that material damage will occur to streams as a result of subsidence. Gentry and Abel (1978) demonstrated that topographic lows (e.g., stream channels) tend to be protected by upwarping of adjacent slopes during subsidence. Therefore, mining-induced surface fracturing should be very limited (or nonexistent) within stream channel areas. Any fracturing that does occur in stream channels is likely to fill rapidly as a result of sedimentation.

It is also not anticipated that subsidence will significantly affect springs within the permit and adjacent areas. Von Schonfeldt et al. (1980) found that uniform subsidence "rarely causes problems to renewable resources such as aquifers, streams, and ranch lands." Since second mining will occur uniformly across the permit area, the resulting subsidence should also be uniform, minimizing the potential impacts to overlying springs.

525.200 Subsidence Control

Adopted Control Measures. SCM has adopted a mining technology which provides for planned subsidence in a predictable and controlled manner. As planned, this subsidence will be uniform, thus minimizing impacts to surface resources.

Compliance With Control Plan. SCM will comply with all provisions of the approved subsidence control plan.

Correction of Material Damage. No material damage of surface resources is anticipated as a result of subsidence in the permit area. However, should material damage occur, SCM will correct any material damage resulting from subsidence caused to surface lands to the extent technologically and economically feasible by restoring the land to a condition capable of maintaining the value and reasonably foreseeable uses which it was capable of supporting before the subsidence. In addition, SCM will notify the Division of any slide, rock fall, or other disturbance known to be caused by subsidence that will have an adverse effect on the environment.

Protection of Significant Surface Resources. None of the following exist within the area of potential subsidence associated with the Dugout Canyon Mine:

- . Public buildings or facilities,
- . Churches, schools, and hospitals,
- . Impoundments with a storage capacity of 20 acre-feet or more or bodies of water with a volume of 20 acre-feet or more,
- . Aquifers or bodies of water that serve as a significant water source for any public water supply system, or
- . Urbanized areas, cities, towns, or communities.

Hence, no special control measures are required to preclude subsidence impacts to these resources. Refer to Appendix 5-11 for additional discussion of subsidence.

Within Appendix 5-11 of the currently approved M&RP is a report prepared by Maleki Technologies, Inc., Consulting Mining & Geotechnical Engineers. The report is entitled "Prediction of Surface Deformation Resulting from Longwall Mining Over the Gilson North-East Block". The report was prepared to evaluate surface subsidence mechanics and to determine typical deformation expected. The study was initiated in response to a deficiency list prepared by resource specialists of the Utah Division of Oil, Gas and Mining. The specific objectives of the study were :

- The description of subsidence mechanisms and angle of draw;
- Description of pillar designs developed by Canyon Fuel Company for the Gilson longwall, Block 2 directly to the east of existing panels in the Rock Canyon and Gilson seams,
- Calculation of subsidence profiles over longwall Block 2 in the Gilson Seam using site specific and regions subsidence measurement results, and
- General recommendations for surface subsidence monitoring.

A copy of the report may be reviewed within Appendix 5-11 of the approved M&RP or if you would like an additional copy to read, please contact Vicky Miller at (435) 636-2869

We appreciate your efforts in completing this review in a timely manner. A copy of this submittal has been delivered to the DOGM Price field office.

Thank you for your assistance and if you have any questions please call me at (435) 636-2869.

Sincerely yours,



Vicky S. Miller

cc: Dave Spillman
Price Field Office