

CANYON FUEL COMPANY, LLC

FILE IN Expandable 03072007
Refer to Record No. 0018
in C0070039 2007 Incoming
for additional information

DUGOUT CANYON MINE
PERMIT AREA EXPANSION
ADDITION OF 40 ACRES TO U-07064-027821
TASK ID # 2743
C/007/039

MARCH 7, 2007

● Due to the quantity of text being added to the Chapters in the Dugout M&RP.

The pagination of the text within the various Chapters will not become final until clean copies are requested and submitted.

CHAPTER 3

BIOLOGY

40 Acres - Federal Coal Lease U-07064-027821

Although, Plate 3-1 shows the area within T13SR13E, Section 21, NW1/4NW1/4 to be sagebrush the following descriptions are from examination of an aerial photograph taken November 2006. NW1/4NW1/4NW1/4 is sagebrush, with some scattered juniper throughout, SW1/4NW1/4NW1/4 is sagebrush in the center, with Douglas fir, juniper and pinion pine on the outside edges on the east and west, SE1/4NW1/4NW1/4 is sagebrush and quaking aspen with Douglas fir, juniper and pinion pine on the outside edges on the west and north. SE1/4NW1/4NW1/4 is approximately 30% disturbed and the NE1/4NW1/4NW1/4 is approximately 50% disturbed by roads and logging. In the NE1/4NW1/4NW1/4 the west half is sagebrush and the east half is quaking aspen, Douglas fir, juniper and pinion pine. A spring in the NE1/4NE1/4NW1/4NW1/4, likely has a limited riparian vegetation community associated with it, the limiting factor would be the flow which has been measured at a maximum of 1 gpm and a minimum of 0.25 gpm (Appendix 7-2). The spring is located over an area where minimal subsidence is anticipated (Appendix 5-12, see figure entitled "Potential Subsidence....."). The locations of the vegetation described are approximate.

321.200 Land Productivity Prior to Mining

The land productivity of the area to be disturbed by mining was not measured in 1925 when mining first disturbed the area. Appendix 3-1 contains additional data pertaining to vegetation.

George S. Cook of the NRCS surveyed the condition and production of the range site areas within the disturbed area boundary in 1997, his findings were as follows:

| | | | |
|----------|------------------|-------------------|-----------------------------|
| PJ Sage | Condition - Good | Production - 800 | Potential Production - 800 |
| Riparian | Condition - Fair | Production - 1500 | Potential Production - 2200 |

The production is based on air dry weight of total herbage produced per acre. Patricia Johnston accompanied Mr. Cook. See Appendix 3-1 for a copy of the December 3, 1997 letter from Mr. Cook.

Habitats of Unusually High Value. High value habitats in Dugout Canyon include the riparian area and the cliff escarpments. Major portions of established habitat will not be disturbed, but the restricted access by wildlife to the water source within the area of disturbance could displace wildlife. The cliff areas adjacent to the disturbed area could harbor mountain lion, bobcat and bear; and with increased activity and noise they may avoid the area. Elk and deer who may frequent Dugout Canyon will likely avoid the area during the heaviest of activity, but resume their normal patterns once they become accustomed to it.

In a letter dated April 22, 1996 to James W. Carter the director of UDOGM, Robert G. Valentine director of the UDWR makes the following comment "much of the area is classified as critical deer winter range and is heavily used by deer and occasionally by elk and antelope". Use classification drawings of the Dugout Canyon area for large mammals (deer, elk, antelope, etc.) were requested from the UDWR in January of 1996 by SCM. The cover letter dated January 30, 1996 from the UDWR and the drawings are included in Appendix 3-3 for interpretation by UDOGM. SCM has interpreted and transferred the information (provided by UDWR) to Plate 3-2. The use classifications were extended on Plate 3-2 with the incorporation of Federal Lease U-07064-027821.

A survey for bats was performed by Mark Perkins in September of 1997. A report of this survey is included in Appendix 3-3 with a figure showing the bat survey locations. ~~Future surveys for bats will be done concurrent with raptor surveys within the permit boundary prior to cliff disturbing planned subsidence. Pertinent data gathered in these surveys will be included in this M&RP.~~

(This statement was merely moved under the subheading "Raptor and Bat Survey" below).

No data or definition was available to determine the criteria for an area to be classified as of "unusually high value" for bats. However, since extensive rock faces, cliffs, and escarpments are present throughout the Book Cliffs Region, the land within the permit boundary is not unusual or unique to the area. The Castlegate Sandstone, Blackhawk, and Price River are the cliff forming formations present in the Dugout Canyon area. Refer to Chapter 6 for descriptions of these formations and Plate 3-3 for their locations.

In the Perkins-Dugout Mine Bat Survey the following statement was made "development plans for the proposed disturbance area contains some mitigation for resident bat species. A proposed runoff pond will likely provide accessible year round water and an associated bio-mass. Presently Dugout Creek is not classified as a perennial stream. In addition, plans include several outdoor flood lights which may act as an attractant for phototropic insects and provide a concentrated and stable food resource for local bat populations. Due to no cliff subsidence and mitigating actions noted above, it is our opinion that excepting the disturbance to and removal of 2,000 ft. of riparian zone, impact (either positive or negative) on local bat populations is minimal".

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.

Future surveys for bats will be done concurrent when possible with raptor surveys within the permit boundary prior to cliff disturbing planned subsidence. Pertinent data gathered in these surveys will be included in this M&RP.

A bat survey for Utah sensitive bat species is planned for 2005 (May thru September), this survey will cover the cliff areas adjacent to a proposed fan breakout in Pace Canyon. Baseline bat surveys of Utah sensitive bat species will be conducted between May and September in riparian habitat expected to be impacted by subsidence. In addition, Utah sensitive bat species will be monitored/surveyed the year following the first monitoring/survey if Utah sensitive bat species were observed during the survey and if mining operations result in subsidence impact to the riparian habitat.

40 Acres - Federal Coal Lease U-07064-027821

The 40 acres was included in the 2006 raptor survey performed by the DWR and will continue to be included on an annual basis until mining in the area is discontinued.

Tony Wright of DWR and Jerriann Ernstsen of UDOGM had a conversation on March 6, 2007, per a message from Ms. Ernstsen left on the phone of Vicky Miller, Dugout Canyon Mine's Environmental Engineer. According to Ms. Ernstsen, the conversation concerned bat habitat on the 40 acres described as NW1/4NW1/4 Section 21, Township 13S, Range 13 East. Mr. Wright stated in the conversation between himself and Ms. Ernstsen that he was not concerned with the loss or impact to bat habitat in the area described except for the loss of a water source, a spring in the NE1/4NE1/4NW1/4NW1/4 of Section 21, T13S, R13E. The spring (groundwater monitoring location 259A (Plate 7-1), added in 2007 in conjunction with the 40 acre permit area expansion, Task ID #2743) is located over an area where minimal subsidence is anticipated. To the best of the permittee's knowledge and understanding the 40 acre permit area expansion does not require a bat survey.

During June of 2005 the bat survey performed by JBR consultants, Pace Creek was surveyed. Site/stop #7 was in the S1/2SW1/4 of Section 21, Appendix 3-3 of M&RP, Figure 1, this stop was the closest to the proposed 40 acres. In the summary of the report it states "the nearly constant bat activity at the Stop #7 pond suggests that this water feature is an important resource for bats in terms of both water and feeding." The pond will not be effected by the mining proposed in the NW1/4NW1/4 Section 21, Township 13S, Range 13 East, (40 Acre addition to Federal Coal Lease U-07064-027821), but according to the JBR consultants is likely the water source used by the bats in the area.

Replacement

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.

As a mitigation effort SCM replanted 7,500 feet of disturbed riparian streambank above the northern disturbed area boundary with a modified version of Seed Mix No. 1 (mitigation seed mix), to assist in restoring vegetation which has been disturbed by the logging industry.

Mitigation Seed Mix (Hydroseed/Broadcast Quantities)

| <u>SPECIES</u> | <u># pls/acre</u> |
|-------------------------|-------------------|
| Bluebunch wheatgrass | 5.0 |
| Intermediate wheatgrass | 5.0 |
| Slender wheatgrass | 5.0 |
| Smooth brome | 5.0 |
| Indian ricegrass | 3.0 |
| Blueleaf aster | 1.0 |
| Blue flax | 1.5 |
| Northern sweetvetch | 1.5 |
| Mountain big sagebrush | 1.0 |
| TOTAL | 28.0 |

Willows were transplanted along the edges of the stream channel above the mine site disturbed area, with the mitigation seed mix being planted from the east edge of the stream channel to the outside edge of the logging road cut. The area between the edge of the stream channel and road cut varies from 10 to 45 feet as it travels the 7,500 feet planned for replanting. The west side of the channel was not disturbed by logging. For clarification the stream channel changes to the west side of the road upstream from the disturbed area boundary.

Due to the steepness and roughness of the slope the area was hydroseeded. The mitigation seed mix (listed above) was sprayed using hydroseeding equipment over the mitigation area. A second pass of the hydroseeding equipment sprayed the mulch/tackifier on top of the previously sprayed

CHAPTER 4
LAND USE AND AIR QUALITY

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- 4-2 Land Uses
- 4-3 Cultural and Historical Studies - SITLA Lease and Adjacent Area
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Canyon Fuel Company, LLC
SCM/Dugout Canyon Mine

Mining and Reclamation Plan
~~March 7, 2007~~ January 29, 2007

APPENDIX 4-1

Air Quality Approval Order and Information



State of Utah

Department of
Environmental Quality

Dianne R. Nielson, Ph.D.
Executive Director

DIVISION OF AIR QUALITY
Richard W. Sprott
Director

JON M. HUNTSMAN, JR.
Governor

GARY HERBERT
Lieutenant Governor

REC'D OCT 28 2005

DAQE-AN1634005-05

October 21, 2005

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

Dear Ms. Miller:

Re: Approval Order: Modification of Approval Order DAQE# AN1634004-03 to Add Two Backup Generators and One Diesel Engine, Carbon County - CDS B; ATT; NSPS, HAPs, TITLE V Minor Project Code: N1634-005

The attached document is the Approval Order (AO) for the above-referenced project.

Future correspondence on this Approval Order should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Mr. Maung Maung. He may be reached at (801) 536-4153.

Sincerely,

Richard W. Sprott, Executive Secretary
Utah Air Quality Board

RWS:MM:re

cc: Southeastern Utah District Health Department

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

**APPROVAL ORDER: Modification of Approval Order
DAQE# AN1634004-03 by Adding Two Backup Generators and
One Diesel Engine & Extend Hours**

**Prepared By: Maung Maung, Engineer
(801) 536-4153
Email: mmaung@utah.gov**

APPROVAL ORDER NUMBER

DAQE-AN1634005-05

Date: October 21, 2005

Canyon Fuel Company LLC

**Source Contact
Vicky Miller
(435) 636-2869**

**Richard W. Sprott
Executive Secretary
Utah Air Quality Board**

Abstract

Canyon Fuel Company has proposed to add two diesel electric generators and one diesel engine to its coal mine to serve as backups. It also proposes to extend operational hours from 6120 hours to 7300 hours per rolling 12 months total. The emissions increases will result from diesel engines operations, maintenance, and tests for readiness. The annual production limit of coal will remain the same at five millions tons per year. The mine is located in Carbon County, near the city of Price, Utah.

Carbon County is an attainment area of the National Ambient Air Quality Standards (NAAQS) for all pollutants. This source is subject to New Source Performance Standards (NSPS) under 40 CFR Part 60 Subpart OOO- Standards of Performance for Nonmetallic Mineral Processing Plants. National Emission Standards for Hazardous Air Pollutants (NESHAP) and Maximum Available Control Technology (MACT) regulations do not apply to this source. Because this source is a NSPS source, it also falls under the 40 CFR Part 70 or CAA Title V regulations.

The emissions, in tons per year, will change as follows: $PM_{10} = + 0.32$, $NO_x = + 10.88$, $SO_2 = + .19$, $CO = + 2.50$, $VOC = + 0.32$, $HAPs$ (aldehydes from diesel engines) = + 0.22.

The changes in emissions will result in the following, in tons per year, potential to emit totals: $PM_{10} = 7.62$, $NO_x = 13.88$, $SO_2 = 5.15$, $CO = 5.25$, $VOC = 0.32$, $HAPs$ (aldehydes from diesel engines) = 0.22.

The project has been evaluated and found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). A public comment period was held in accordance with UAC R307-401-4 and no comments were received. This air quality Approval Order (AO) authorizes the project with the following conditions, and failure to comply with any of the conditions may constitute a violation of this order.

General Conditions:

1. This Approval Order (AO) applies to the following company:

Site Office
Canyon Fuel Company, LLC
Dugout Canyon Mine

Wellington, Utah 84542

Phone Number (435) 637-6360

Fax Number (435) 636-2897

Corporate Office Location
Canyon Fuel Company, LLC
225 North 5th Street
Suite 900
Grand Junction, CO 81501

The equipment listed in this AO shall be operated at the following location:

Directions: East of Price in Carbon County. Proceed east 3 miles from Wellington, turn left up State highway 53 for approximately 4.8 miles to the Dugout Canyon turn-off. The mine is located approximately 8.7 miles up the Dugout Canyon road.

Universal Transverse Mercator (UTM) Coordinate System: UTM Datum NAD27
4,390.665 kilometers Northing, 535.742 kilometers Easting, Zone 12

2. All definitions, terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code (UAC) Rule 307 (R307) and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules.
3. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.
4. Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved in accordance with R307-401-1.
5. All records referenced in this AO or in applicable NSPS which are required to be kept by the owner/operator shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request. Records shall be kept for the following minimum periods:
 - A. Emission inventories Five years from the due date of each emission statement or until the next inventory is due, whichever is longer.
 - B. All other records Two years
6. This AO shall replace the AO (DAQE-AN1634004-03) dated July 9, 2003.

Canyon Fuel Company, LLC
SCM/Dugout Canyon Mine

Mining and Reclamation Plan
~~January 29, 2007~~
March 7, 2007

APPENDIX 4-4
Miscellaneous Land Use

APPENDIX 4-4
Land Use Surveys

March 2, 2007

Ms. Vicky Miller
Dugout Canyon Mine
P. O. Box 1029
Wellington, Utah 84542

Dear Ms. Miller:

I grant the right to use existing roads on lands belonging to me for survey conducted by Dugout Canyon Mine.

I also authorized right-of-way entry to access water monitoring location on or through lands belonging to me. If existing roads do not allow access to water monitoring sites, foot travel is required.

Sincerely,



Gil L. Conover

CHAPTER 5
ENGINEERING

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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,
- **Non-commercial buildings or occupied (human) structures.**

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

Raptor nests and other wildlife resources which may be influenced by subsidence are presented on Plate 3-2. A discussion of protective measures associated with wildlife resources in the permit area is presented in Section 333.300 of this M&RP.

525.300 Public Notice of Proposed Mining

Each owner of property or resident within the area above an underground mining block and adjacent area that may be affected by subsidence will be notified by mail at least 6 months prior to mining or within that period if approved by the Division. The notification will contain:

- Identification of specific areas in which mining will take place;
- Approximate dates the specific areas will be undermined; and
- The location or locations where the SCM subsidence control plan may be examined.

The roads within the surface-facilities area will be maintained by SCM as necessary to permit access to the respective facilities. The remaining roads in the permit area are private roads and will be maintained by SCM as required to permit access for environmental monitoring and subsidence surveying. Roads on land not owned by Canyon Fuel Company, LLC will be maintained by SCM if a maintenance agreement is reached with the landowners. Trespass on private roads will take place only with landowners permission.

528 Handling and Disposal of Coal, Excess Spoil, and Coal Mine Waste

528.100 Coal Handling and Transportation

Coal will be removed from the underground workings using the mining methods and conveyor system described in Section 523. A material flow diagram for the surface at the mine portal is provided in Figure 5-2 (See Appendix 5-12).

Run-of-mine coal will be brought out of the mine by conveyor belt to a transfer bin. From the transfer bin, the coal will be fed to the coal storage pile, from which it will be conveyed via a reclaim tunnel to the crusher and then via the loadout conveyor to the truck loadout bin. From the bin, the coal will be loaded onto trucks and transported from the site.

528.200 Overburden

No overburden will be removed, handled, stored, or transported within the permit area.

528.300 Spoil, Coal Processing Waste, Non-Coal Waste, and Mine Development Waste

Maintenance, and Reclamation

Control of Damage to Public or Private Property. All roads used by SCM have been or will be designed in accordance with applicable county and State standards. By designing according to these standards, damage to public or private property will be minimized.

Road Surfacing. The surface of the county road which accesses the mine site will consist of asphalt. Remaining roads will be either asphalt-surface, gravel-surface, or unimproved dirt roads (see Sections 527.100 and 527.200 and ~~Figure~~ **Plate** 5-2). Road surface material will be determined at the time of facility development and will meet performance standards for their specific surface material and function. No acid- or toxic-forming materials will be used in the road surfaces.

Slope Stability. The stability of the primary haul road embankment has been evaluated where it passes adjacent to the sedimentation pond. Results of this evaluation are presented in Appendix 5-4. This analysis indicates that the road embankment has a minimum safety factor of 3.5 under static saturated conditions. This value exceeds the safety factor of 1.3 required by R645-301-534.130.

Analyses presented in Appendix 5-4 indicate that placing the site materials at a slope of 1.5H:1V during reclamation will result in a minimum safety factor of 2.6 for slopes up to 30 feet in height. Lesser slopes were shown to have higher safety factors. Since the same or better materials will be used for construction of the operational facility, the remaining primary roads at the site are deemed to be stable under operational conditions.

As indicated in Table 5-3, the survey monument access road (an ancillary road on the south side of the facility) has fill slopes with angles that approach 1H:1V. This road was constructed by others several years ago and shows no signs of slope failure. Results of slope-stability analyses of this road, presented in Appendix 5-4, indicate that the slopes associated with this road are stable, with a critical safety factor of 1.5 when the entire slope length is considered

Canyon Fuel Company, LLC
SCM/Dugout Canyon Mine

Mining and Reclamation Plan
~~January 29, 2007~~
March 7, 2007

APPENDIX 5-12

Miscellaneous Information - 40 Acre Permit Area Expansion

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



February 22, 2007

Milton & Ardith Thayn Trust
Sunnyside Star Route
Price, Utah 84501
C/O David Thayn

RE: Pre-subsidence Survey – Addition of 40 Acres to Federal Lease U-07064-027821
Dugout Canyon Mine, Canyon Fuel Company, LLC, C/007/039, Carbon County, Utah

Dear Mr. Thayn;

The following information is provided in accordance with requirement of Utah State Regulations R645-301-525.100, Pre-subsidence survey.

As clarification the definition of “renewable resource lands” as referenced in the following regulations has been provided per R645-100-200, Natural Resource: Oil, Gas and Mining;Coal, Administrative.

“Renewable Resource Lands” means aquifers and areas for the recharge of aquifers and other underground waters, areas for agricultural or silvicultural production of food and fiber, and grazing lands.

525.100 Pre-subsidence survey. Each application for UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES will include:

525.110 A map of the permit and adjacent areas at a scale of 1:12,000, or larger if determined necessary by the Division, showing the location and type of structures and renewable resource lands that subsidence may materially damage or for which the value or reasonably foreseeable use may be diminished by subsidence, and showing the location and type of State-appropriated water that could be contaminated, diminished, or interrupted by subsidence.

Maps currently within approved Dugout Canyon Mine, Mining and Reclamation Plan (M&RP):
Maps are available for review at the Utah Division of Oil, Gas and Mining offices in Price and Salt Lake City, Utah.

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- 1-1 Surface Ownership
- 1-2 Coal Ownership
- 1-4 Dugout Canyon Mine Permit Area
- 2-1 Native Soil Types Present in Dugout Canyon Mine Permit Area
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- 4-1 Land Uses
- 5-7 Proposed Mine Sequence and Planned Subsidence Boundary
- 7-1 Hydrologic Monitoring Stations
- 7-2 Water Rights

The following plates are located in Appendix 5-10

- PC 5-2 Pace Canyon Fan Surface Facilities and Cross-Sections
- PC 5-4 Pace Canyon Fan Existing Surface Topography

Two plates are being provided with this letter, a drawing showing the proposed mining plan for 2007 - 2011 and a drawing showing the hydrologic monitoring stations.

525.120 A narrative indicating whether subsidence, if it occurred, could cause material damage to or diminish the value or reasonably foreseeable use of such structures or renewable resource lands or could contaminate, diminish, or interrupt State-appropriated water supplies.

Information to address subsidence is provided in Sections 332, 521, 525, 531, 623, 625, 632, 642, 727 and 830 of the Dugout Canyon Mine M&RP.

To the best of the knowledge of Canyon Fuel Company, LLC – Dugout Canyon Mine and according to aerial photographs (November 2006) taken of the 40 Acres area (T. 13 S., R. 13 E., SLBM, Utah, Section 21: NW1/4NW1/4) proposed for addition to the federal lease, the only structure is a fence line on the north end of the section.

Dugout Canyon Mine personnel have been on and surveyed lands belonging to the Thayn Trust, but have not trespassed on lands belonging to Gil Conover, therefore the Conover property adjacent to the proposed 40 acres has been inventoried by using aerial photographs, except lands which may be visible from existing roads.

No material damage to or diminish to the value or reasonable foreseeable use of structures or renewable resource land is anticipated. Should material damage to or diminish to the value or reasonable foreseeable use of structures or renewable resource land occur, repair or compensation are discussed in Section 525 of the M&RP, see attached.

Section 727 (see attached) provides a description of the measures to be taken to replace adversely affected State-appropriated water supplies or to mitigate or remedy any subsidence-related material damage to the land.

525.130 A survey of the condition of all non-commercial buildings or occupied residential dwellings and structures related thereto, that may be materially damaged or for which the reasonably foreseeable use may be diminished by subsidence, within the area encompassed by the applicable angle of draw; as well as a survey of the quantity and quality of all State-appropriated water supplies within the permit area and adjacent area that could be contaminated, diminished, or interrupted by subsidence. If the applicant cannot make this survey because the owner will not allow access to the site, the applicant will notify the owner, in writing, of the effect that denial of access will have as described in R645-301-525. The applicant must pay for any technical assessment or engineering evaluation used to determine the

pre-mining condition or value of such non-commercial buildings or occupied residential dwellings and structures related thereto and the quantity and quality of State-appropriated water supplies. The applicant must provide copies of the survey and any technical assessment or engineering evaluation to the property owner and to the Division.

To the best of the knowledge of Canyon Fuel Company, LLC – Dugout Canyon Mine, there is no non-commercial buildings, occupied residential dwellings and structures related thereto, which may be diminished by subsidence, within the area encompassed by the applicable angle of draw associated with the proposed area to be added in association with a federal lease modification. The area to be added is described as T. 13 S., R. 13 E., SLBM, Utah, Section 21: NW1/4NW1/4.

A survey of the quantity and quality of all State-appropriated water supplies within the permit area and adjacent area that could be contaminated, diminished, or interrupted by subsidence is provided in Chapter 7 of the M&RP, the UDOGM water database at www.ogm.utah.gov, water rights at the Division of Water Rights office in Salt Lake City or the State Engineers office in Price.

Refer to the attached information from the SM CRA/DOGM approved M&RP concerning subsidence. If you require additional information or have information to be added to this survey, please call me at (435) 636-2869

Sincerely yours,



Vicky S. Miller

cc: Dave Spillman, with attachments
Pamela Grubaugh-Littig, w/o attachments

Exerpt from the Dugout Canyon Mine SMCRA/UDOGM approved permit.

525 Subsidence

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 Thayn 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).

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.

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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.

In addition to the ground surveys, aerial photogrammetric methods will be included in the surveys when the areas become too large to feasibly handle with ground surveys. This method may be added to enhance the ground surveys and to cover larger areas as the mine expands. Visual checks for subsidence will be made during all surface activities, especially during water monitoring activities. These visual surveys will be used to detect surface irregularities and surface cracks.

Visual ground checks for subsidence will be made of areas surrounding monitored seeps, springs and streams during hydrologic monitoring. In addition, roads used to access hydrologic monitoring stations will be visually checked for evidence of subsidence during monitoring activities. The observations made during hydrologic monitoring will be included in the Mine's Annual Report.

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.

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.

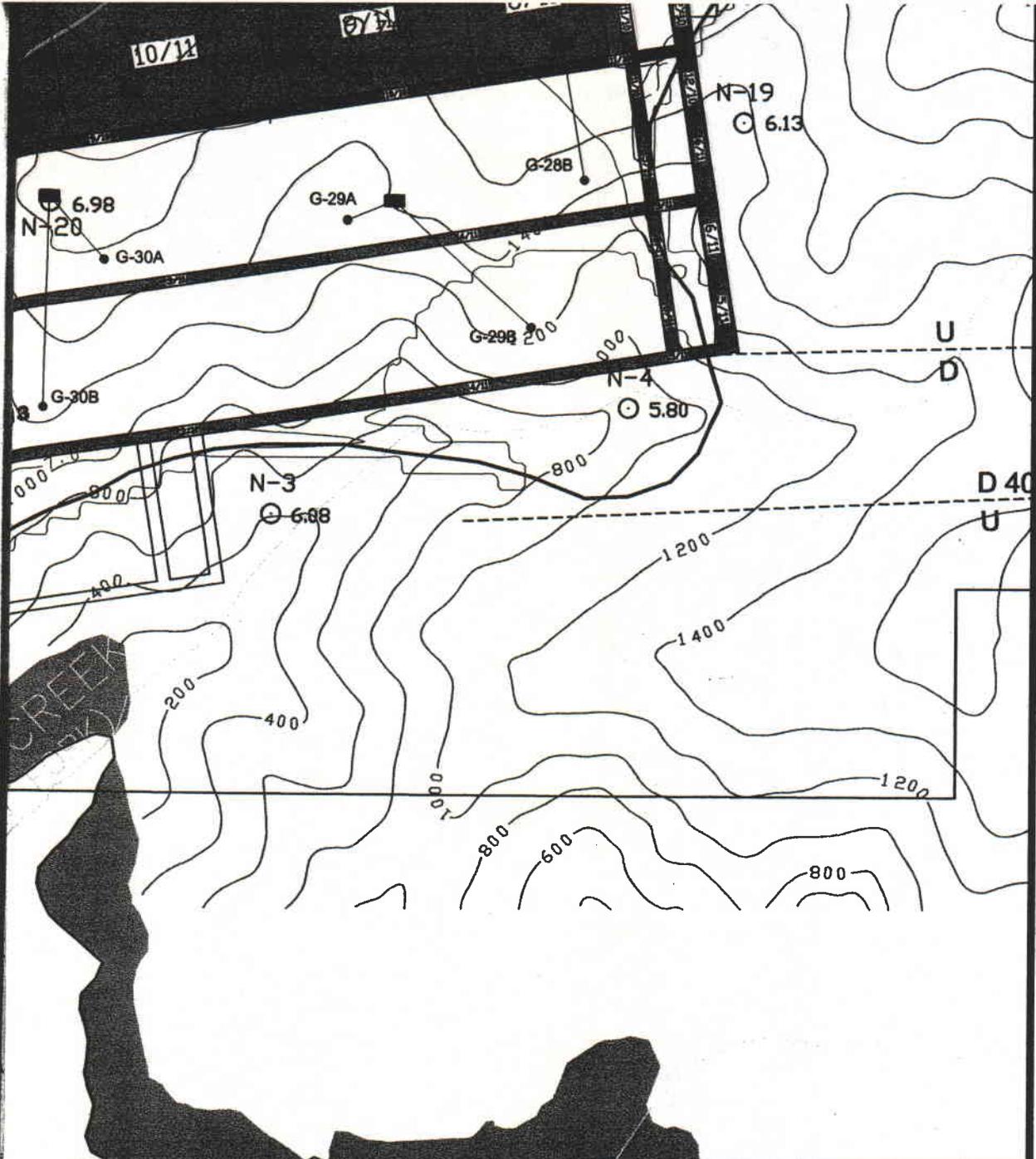
525.300 Public Notice of Proposed Mining

Each owner of property or resident within the area above an underground mining block and adjacent area that may be affected by subsidence will be notified by mail at least 6 months prior to mining or within that period if approved by the Division. The notification will contain:

- Identification of specific areas in which mining will take place;
- Approximate dates the specific areas will be undermined; and
- The location or locations where the SCM subsidence control plan may be examined.

727 Alternative Water Source Information

Water Replacement. The Permittee will replace the water supply of any land owner if such a water supply proves to be contaminated, diminished or interrupted as a result of the mining operations. First, a determination will be made by the Division in accordance with R645 - 301- 731.800 as to whether or not material damage has occurred. Then, in accordance with Regulation R645-301-525.510, Dugout Canyon Mine will correct any material damage resulting from subsidence caused to surface lands (which includes water rights), to the extent technologically and economically feasible, by restoring the land to a condition capable of maintaining the value and reasonably foreseeable uses that it was capable of supporting before subsidence damage. Negotiations will be held with the water right holders to determine the best plan of action and implementation of water replacement.



| | |
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| DATE: | 10/19/06 |
| DESIGNED BY: | |
| DRAWN BY: | JKS |
| CHECKED BY: | WB |
| REVISED BY: | |
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| FILENAME: | 2007 Base Case 10-17-06.dwg |



Canyon Fuel Company, LLC
Dugout Canyon Mine

2007 BASE CASE

(10-17-06)

P.O. BOX 1029
 WELLINGTON, UTAH 84542

DRAWING OR
 MAP NUMBER
 2007 Base Case 10-17-06.Dwg

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



February 22, 2007

Gil L. Conover
450 So. State
Ferron, UT 84523

RE: Pre-subsidence Survey – Addition of 40 Acres to Federal Lease U-07064-027821
Dugout Canyon Mine, Canyon Fuel Company, LLC, C/007/039, Carbon County, Utah

Dear Mr. Conover;

The following information is provided in accordance with requirement of Utah State Regulations R645-301-525.100, Pre-subsidence survey.

As clarification the definition of “renewable resource lands” as referenced in the following regulations has been provided per R645-100-200, Natural Resource: Oil, Gas and Mining; Coal, Administrative.

“Renewable Resource Lands” means aquifers and areas for the recharge of aquifers and other underground waters, areas for agricultural or silvicultural production of food and fiber, and grazing lands.

525.100 Pre-subsidence survey. Each application for UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES will include:

525.110 A map of the permit and adjacent areas at a scale of 1:12,000, or larger if determined necessary by the Division, showing the location and type of structures and renewable resource lands that subsidence may materially damage or for which the value or reasonably foreseeable use may be diminished by subsidence, and showing the location and type of State-appropriated water that could be contaminated, diminished, or interrupted by subsidence.

Maps currently within approved Dugout Canyon Mine, Mining and Reclamation Plan (M&RP):
Maps are available for review at the Utah Division of Oil, Gas and Mining offices in Price and Salt Lake City, Utah.

Plates

- 1-1 Surface Ownership
- 1-2 Coal Ownership
- 1-4 Dugout Canyon Mine Permit Area
- 2-1 Native Soil Types Present in Dugout Canyon Mine Permit Area
- 3-1 Vegetation
- 3-1E Pace Canyon Fan Vegetation and Reference Area

- 4-1 Land Uses
- 5-7 Proposed Mine Sequence and Planned Subsidence Boundary
- 7-1 Hydrologic Monitoring Stations
- 7-2 Water Rights

The following plates are located in Appendix 5-10

PC 5-2 Pace Canyon Fan Surface Facilities and Cross-Sections

PC 5-4 Pace Canyon Fan Existing Surface Topography

Two plates are being provided with this letter, a drawing showing the proposed mining plan for 2007 - 2011 and a drawing showing the hydrologic monitoring stations.

525.120 A narrative indicating whether subsidence, if it occurred, could cause material damage to or diminish the value or reasonably foreseeable use of such structures or renewable resource lands or could contaminate, diminish, or interrupt State-appropriated water supplies.

Information to address subsidence is provided in Sections 332, 521, 525, 531, 623, 625, 632, 642, 727 and 830 of the Dugout Canyon Mine M&RP.

To the best of the knowledge of Canyon Fuel Company, LLC – Dugout Canyon Mine and according to aerial photographs (November 2006) taken of the 40 Acres area (T. 13 S., R. 13 E., SLBM, Utah, Section 21:NW1/4NW1/4) proposed for addition to the federal lease, the only structure is a fence line on the north end of the section.

Dugout Canyon Mine personnel have been on and surveyed lands belonging to the Thayn Trust, but have not trespassed on lands belonging to Gil Conover, therefore the Conover property adjacent to the proposed 40 acres has been inventoried by using aerial photographs, except lands which may be visible from existing roads.

No material damage to or diminish to the value or reasonable foreseeable use of structures or renewable resource land is anticipated. Should material damage to or diminish to the value or reasonable foreseeable use of structures or renewable resource land occur, repair or compensation are discussed in Section 525 of the M&RP, see attached.

Section 727 (see attached) provides a description of the measures to be taken to replace adversely affected State-appropriated water supplies or to mitigate or remedy any subsidence-related material damage to the land.

525.130 A survey of the condition of all non-commercial buildings or occupied residential dwellings and structures related thereto, that may be materially damaged or for which the reasonably foreseeable use may be diminished by subsidence, within the area encompassed by the applicable angle of draw; as well as a survey of the quantity and quality of all State-appropriated water supplies within the permit area and adjacent area that could be contaminated, diminished, or interrupted by subsidence. If the applicant cannot make this survey because the owner will not allow access to the site, the applicant will notify the owner, in writing, of the effect that denial of access will have as described in R645-301-525. The applicant must pay for any technical assessment or engineering evaluation used to determine the pre-mining condition or value of such non-commercial buildings or occupied residential

dwelling and structures related thereto and the quantity and quality of State-appropriated water supplies. The applicant must provide copies of the survey and any technical assessment or engineering evaluation to the property owner and to the Division.

To the best of the knowledge of Canyon Fuel Company, LLC – Dugout Canyon Mine, there is no non-commercial buildings, occupied residential dwellings and structures related thereto, which may be diminished by subsidence, within the area encompassed by the applicable angle of draw associated with the proposed area to be added in association with a federal lease modification. The area to be added is described as T. 13 S., R. 13 E., SLBM, Utah, Section 21: NW1/4NW1/4.

A survey of the quantity and quality of all State-appropriated water supplies within the permit area and adjacent area that could be contaminated, diminished, or interrupted by subsidence is provided in Chapter 7 of the M&RP, the UDOGM water database at www.ogm.utah.gov, water rights at the Division of Water Rights office in Salt Lake City or the State Engineers office in Price.

Refer to the attached information from the SMCRA/DOGM approved M&RP concerning subsidence. If you require additional information or have information to be added to this survey, please call me at (435) 636-2869.

Sincerely yours,



Vicky S. Miller

cc: Dave Spillman, with attachments
Pamela Grubaugh-Littig, w/o attachments

Exerpt from the Dugout Canyon Mine SMCRA/UDOGM approved permit.

525 Subsidence

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 Thayn 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).

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.

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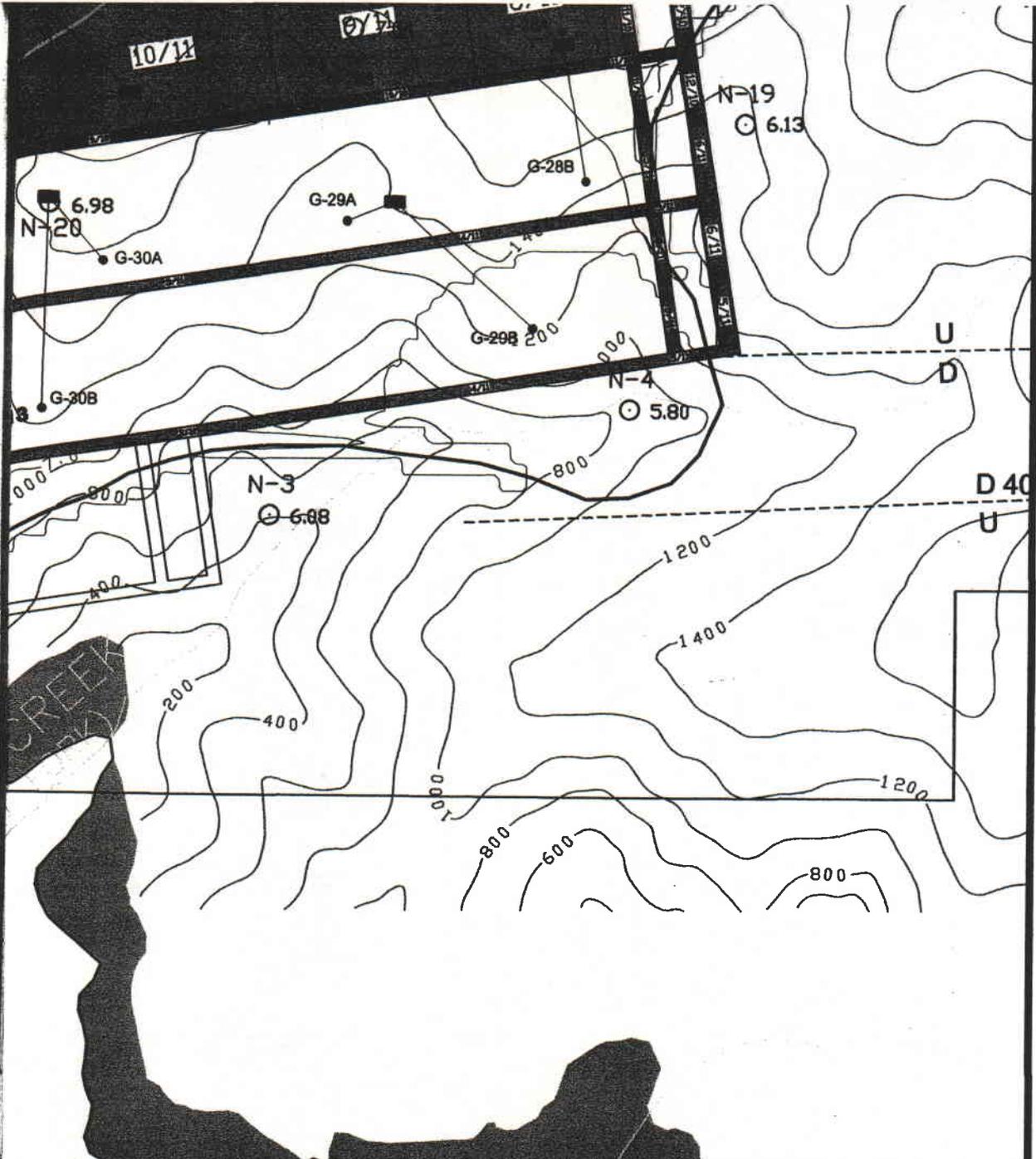
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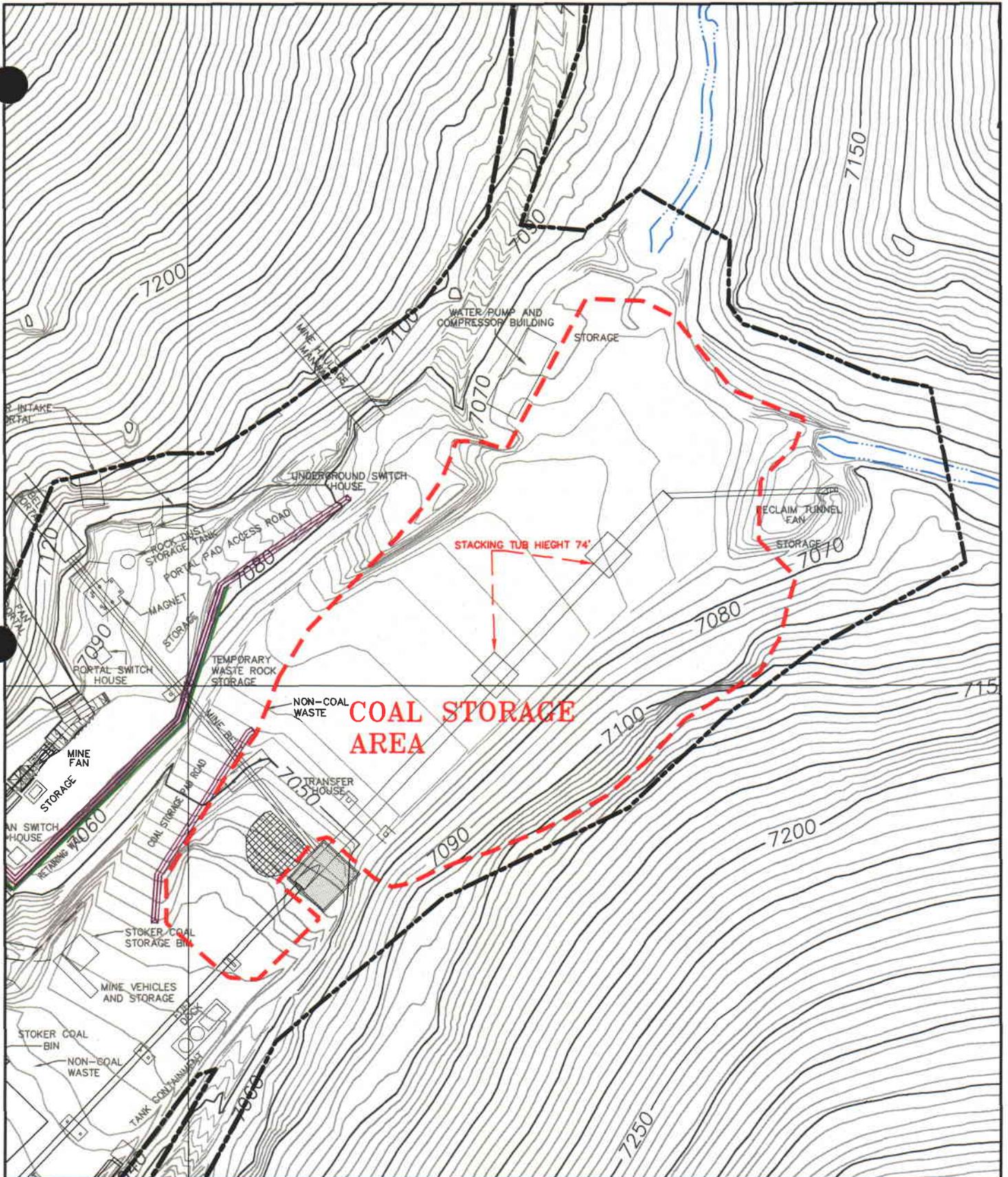
- . Identification of specific areas in which mining will take place;
- . Approximate dates the specific areas will be undermined; and
- . The location or locations where the SCM subsidence control plan may be examined.

727 Alternative Water Source Information

Water Replacement. The Permittee will replace the water supply of any land owner if such a water supply proves to be contaminated, diminished or interrupted as a result of the mining operations. First, a determination will be made by the Division in accordance with R645 - 301- 731.800 as to whether or not material damage has occurred. Then, in accordance with Regulation R645-301-525.510, Dugout Canyon Mine will correct any material damage resulting from subsidence caused to surface lands (which includes water rights), to the extent technologically and economically feasible, by restoring the land to a condition capable of maintaining the value and reasonably foreseeable uses that it was capable of supporting before subsidence damage. Negotiations will be held with the water right holders to determine the best plan of action and implementation of water replacement.



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|----------------|----------|---|
| DATE: 10/19/06 | |  Canyon Fuel Company, LLC Dugout Canyon Mine |
| DESIGNED BY: | | |
| DRAWN BY: | JKS | <h1>2007 BASE CASE</h1> <h2>(10-17-06)</h2> |
| CHECKED BY: | WB | |
| REVISED BY: | | |
| SCALE: | 1"=1000' | |
| FILENAME: | | P.O. BOX 1029 WELLINGTON, UTAH 84542 |
| | | DRAWING OR MAP NUMBER 2007 Base Case 10-17-06.Dwg |



MAXIMUM POTENTIAL STOCKPILE FOOTPRINT



DISTURBED AREA BOUNDARY



| REVISIONS OR UP-DATES | | | DATE: |
|--|------|--------------|---------|
| NO. | DATE | BY | 2-28-07 |
| | | DESIGNED BY: | |
| | | DRAWN BY: | SC |
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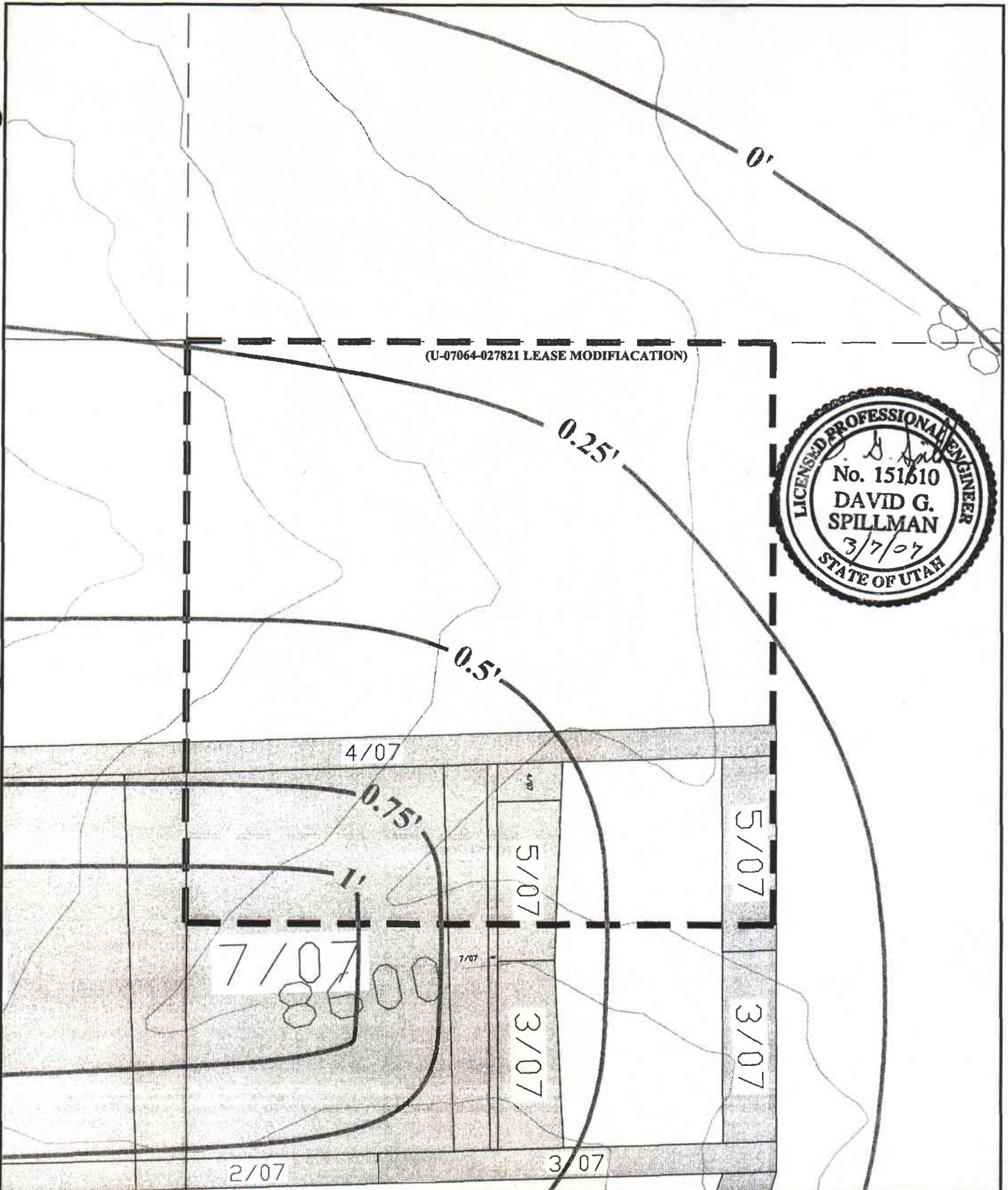


Canyon Fuel Company, LLC
Dugout Canyon Mine

APPENDIX 5-12
POTENTIAL AREA FOR COAL STORAGE

P.O BOX 1029
WELLINGTON, UTAH 84542

DRAWING OR
MAP NUMBER
APPENDIX 5-12



POTENTIAL SUBSIDENCE



| REVISIONS OR UP-DATES | | | DATE: |
|-----------------------|------|--------------|---------|
| NO. | DATE | BY | 3-7-07 |
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Canyon Fuel Company, LLC
Dugout Canyon Mine

POTENTIAL SUBSIDENCE
NW1/4 NW1/4 SECTION 21 T13S R13E

P.O BOX 1029
WELLINGTON, UTAH 84542

DRAWING OR
MAP NUMBER

FILENAME: 40 ACRE LEASE SUBSIDENCE.dwg

CHAPTER 7
HYDROLOGY

area. A description of sediment control following reclamation is presented in Sections 540 and 760 of this M&RP.

731.200 Water Monitoring

Groundwater Monitoring. Groundwater monitoring to be conducted in the permit and adjacent areas will consist of data collection from monitoring wells, springs, and mine-water discharges. Locations of wells and springs to be monitored are noted on Plate 7-1. The groundwater monitoring plans presented herein were developed based on information presented in the PHC determination, the baseline hydrologic data, and the geologic data presented in Chapter 6 of this M&RP.

Monitoring wells included in the groundwater monitoring program are GW-10-2, GW-11-2, and GW-24-1. The remaining monitoring wells in the general vicinity are either too remote from the permit area to be indicative of impacts occurring from the Dugout Canyon operations (i.e., GW-5-1, GW-6-1, GW-32-1, and G-58.5) or are completed across multiple aquifers (i.e., GW-19-1), making data interpretation difficult.

The monitoring wells are all completed in the Price River Formation or the underlying Castlegate Sandstone. Because the Castlegate Sandstone immediately overlies the Blackhawk Formation, data collected from these wells allow hydrologic impacts of mining to be evaluated in groundwater systems which overlie the mine workings but underlie the Flagstaff and North Horn groundwater systems.

Water-level measurements will be collected on a quarterly basis when the wells are accessible. Given the ages of the wells and the probable deterioration of the casing materials, no attempts will be made to collect water-quality data from the monitoring wells.

The springs to be included in the operational and post-mining groundwater monitoring program are:

| <u>Spring</u> | <u>Formation</u> |
|---------------|---------------------------------------|
| SC-65 | Colton |
| SP-20 | Flagstaff |
| SC-14 | North Horn |
| SC-100 | Flagstaff (at North Horn FM. Contact) |
| SC-116 | North Horn |
| 200 | North Horn |
| 203 | North Horn |
| 227 | Castlegate Sandstone |
| 259 | North Horn |
| 260 | Colton |
| 259A | Colton |

Locations of these springs are noted on Plate 7-1.

2. Water samples will be obtained during high- and low-flow season in conjunction with the quarterly sampling, if applicable. The samples will be analyzed in accordance with Table 7-4 with the addition of tritium analysis.

In addition to the above regular monitoring, one water sample will be collected at each spring sampling point during low flow period every fifth year, during the year preceding re-permitting, to be analyzed for baseline parameters (Table 7-4).

TABLE 7-4
Groundwater Monitoring Program
Field and Laboratory Measurement Protocol

| <u>Monitoring Wells</u> | <u>Protocol</u> | <u>Comments</u> |
|-------------------------|-----------------|---------------------------------------|
| GW-10-2 | A, 1 | Screened in Castlegate Sandstone |
| GW-11-2 | A, 1 | Screened in Price River Formation |
| GW-24-1 | A, 1 | Screened in Castlegate Sandstone |
| <u>Springs</u> | | |
| SP-20 (S-30) | B, 2, 5 | Flagstaff |
| SC-14 | B, 2, 5 | North Horn |
| SC-65 | B, 2, 5 | Colton |
| SC-100 | B, 2, 5 | Flagstaff (at North Horn FM. Contact) |
| SC-116 | B, 3, 5 | North Horn |
| 200 | B, 3, 5 | North Horn |
| 203 | B, 3, 5 | North Horn |
| 227 | B, 3, 5 | Castlegate Sandstone |
| 259 | B, 3, 5 | North Horn |
| 259A | B | Colton |
| 260 | B, 3, 5 | Colton |
| MD-1 | C, 4 | Gilson Seam Workings Discharge |

Protocols

- A Monitoring well: quarterly water level measurement only
- B Spring: quarterly flow measurements
- C Mine Water Discharge, abandoned Gilson Seam workings: quarterly flow measurements

Water quality

- 1 Monitoring well: No quality measurements.
- 2 Spring: quarterly operational groundwater quality parameters for two years beginning 3rd quarter 1999 after which quarterly field measurements only.
- 3 Spring: quarterly baseline parameters for three years beginning 1st quarter 1999 after which quarterly field measurements only.
- 4 Mine water discharge: quarterly operational water quality parameters.
- 5 During wet or dry years (as described in the PHC, Appendix 7-3), flows will be taken weekly between April 1 and August 31 as conditions permit. Also during the first wet or dry year, one operational laboratory sample and one Tritium sample will be obtained at these sites during high and low flow season.

Groundwater Quality Parameters

Groundwater was discovered discharging from old Gilson coal seam workings located on the east side of Dugout Canyon during construction of the Dugout Canyon Mine in September 1998. Prior to construction, this water seeped unnoticed through unconsolidated fill and into Dugout Creek. The water discharging from these old workings will be monitored on a quarterly basis for the parameters listed in Table 7-4 beginning in the fourth quarter of 1998. The monitoring point is labeled MD-1 on Plate 7-1.

Data will be collected from the Dugout Canyon Mine and Pace Canyon Fan Portal mine-water discharge point in accordance with the UPDES permits. No water will be discharged prior to obtaining the necessary UPDES permits. The monitoring requirements proposed herein, including the analytical parameters and the sampling frequency, may be modified in the future in consultation with the Division if the data demonstrate that such a modification is justified.

Data will be collected under the groundwater monitoring program every year following the completion of surface reclamation activities. During the post-mining period, water levels will be collected from the monitoring wells and data/samples will be collected from the identified springs once each year during September or October (i.e., the low-flow season while the sites are still accessible). Groundwater monitoring during the post-mining period will continue until bond release.

All groundwater monitoring data will be submitted to the Division by the end of the quarter following sampling. If analyses of any groundwater sample indicates noncompliance with the permit conditions, the permittee will promptly notify the Division and take immediate appropriate actions. UPDES reporting requirements will be met for the mine-water discharge points. The Snotel data used to determine "wet" or "dry" years, as described previously in this section, will be submitted with the first quarter water monitoring data beginning in the year 2001 **or in the annual report.**

Equipment, structures and other devices used in conjunction with monitoring the quality and quantity of groundwater in the permit and adjacent areas have been or will be installed, maintained, and operated in accordance with accepted procedures. Where feasible, this equipment will be removed or properly abandoned by the permittee when no longer needed.

Surface Water Monitoring. Surface water monitoring to be conducted in the permit and adjacent areas will consist of data collection from streams and sedimentation pond discharges. Locations

APPENDIX 7-2

Groundwater Monitoring Data

● SPRING 259A

●

●

"259A" Monitoring Data 2006

| Date | Time | pH | Cond. | Temp. | Flow (gpm) | Comments |
|----------|------|------|-------|-------|------------|----------|
| 3/24/06 | 1015 | | | | NOA | Snow/Ice |
| 6/18/06 | 1055 | 7.04 | 533 | 5 | 1 | |
| 7/18/06 | 1055 | 7.04 | 884 | 7 | 0.5 | |
| 10/19/06 | 1650 | 7.27 | 543 | 10 | 0.25 | |
| | | | | | | |
| | | | | | | |

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487(800) 334-5493

Inorganic Analytical Results

Soldier Creek Coal Company

Project ID:

Sample ID: 259A

ACZ Sample ID: **L57222-02**

Date Sampled: 06/18/06 10:55

Date Received: 06/20/06

Sample Matrix: Ground Water

Inorganic Prep

| Parameter | EPA Method | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---------------------------|------------|--------|------|----|-------|-----|-----|----------------|---------|
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | 06/23/06 14:36 | erf |

Metals Analysis

| Parameter | EPA Method | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|----------------------|------------|--------|------|----|-------|-------|------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 77.8 | | | mg/L | 0.2 | 1 | 06/29/06 22:21 | wfg |
| Iron, dissolved | M200.7 ICP | | U | | mg/L | 0.02 | 0.05 | 06/29/06 22:21 | wfg |
| Iron, total | M200.7 ICP | | U | | mg/L | 0.02 | 0.05 | 06/26/06 22:30 | jjc |
| Magnesium, dissolved | M200.7 ICP | 25.9 | | | mg/L | 0.2 | 1 | 06/29/06 22:21 | wfg |
| Manganese, dissolved | M200.7 ICP | | U | | mg/L | 0.005 | 0.03 | 06/29/06 22:21 | wfg |
| Manganese, total | M200.7 ICP | | U | | mg/L | 0.005 | 0.03 | 06/26/06 22:30 | jjc |
| Potassium, dissolved | M200.7 ICP | 0.9 | B | | mg/L | 0.3 | 1 | 06/29/06 22:21 | wfg |
| Sodium, dissolved | M200.7 ICP | 11.4 | | | mg/L | 0.3 | 1 | 06/29/06 22:21 | wfg |

Wet Chemistry

| Parameter | EPA Method | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|-----------------------|--------|------|----|-------|-----|-----|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | |
| Bicarbonate as CaCO3 | | 322 | | | mg/L | 2 | 20 | 06/23/06 0:00 | ct |
| Carbonate as CaCO3 | | | U | | mg/L | 2 | 20 | 06/23/06 0:00 | ct |
| Hydroxide as CaCO3 | | | U | | mg/L | 2 | 20 | 06/23/06 0:00 | ct |
| Total Alkalinity | | 322 | | | mg/L | 2 | 20 | 06/23/06 0:00 | ct |
| Cation-Anion Balance | Calculation | | | | | | | | |
| Cation-Anion Balance | | -1.5 | | | % | | | 06/30/06 15:01 | calc |
| Sum of Anions | | 6.7 | | | meq/L | 0.1 | 0.5 | 06/30/06 15:01 | calc |
| Sum of Cations | | 6.5 | | | meq/L | 0.1 | 0.5 | 06/30/06 15:01 | calc |
| Chloride | M325.2 - Colorimetric | 3 | B | | mg/L | 1 | 5 | 06/27/06 14:20 | kmc |
| Residue, Filterable (TDS) @180C | M160.1 - Gravimetric | 230 | | | mg/L | 10 | 20 | 06/23/06 12:16 | jif |
| Sulfate | SM4500 SO4-D | 10 | B | | mg/L | 10 | 50 | 06/26/06 15:50 | kmc |
| TDS (calculated) | Calculation | 322 | | | mg/L | 10 | 50 | 06/30/06 15:01 | calc |
| TDS (ratio - measured/calculated) | Calculation | 0.71 | | | | | | 06/30/06 15:01 | calc |

PH. 7.04
 COND 533
 TEMP 5
 FLOW 1

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487(800) 334-5493

Inorganic Analytical Results

Soldier Creek Coal Company

Project ID:

Sample ID: 259A

ACZ Sample ID: L57767-01

Date Sampled: 07/18/06 10:55

Date Received: 07/20/06

Sample Matrix: Ground Water

Inorganic Prep

| Parameter | EPA Method | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---------------------------|------------|--------|------|----|-------|-----|-----|----------------|---------|
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | 08/01/06 22:48 | erf |

Metals Analysis

| Parameter | EPA Method | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|----------------------|------------|--------|------|----|-------|-------|------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 81.1 | | | mg/L | 0.2 | 1 | 08/01/06 6:46 | jjc |
| Iron, dissolved | M200.7 ICP | | U | | mg/L | 0.02 | 0.05 | 08/01/06 6:46 | jjc |
| Iron, total | M200.7 ICP | 0.07 | | * | mg/L | 0.02 | 0.05 | 08/01/06 13:42 | jjc |
| Magnesium, dissolved | M200.7 ICP | 27.7 | | | mg/L | 0.2 | 1 | 08/01/06 6:46 | jjc |
| Manganese, dissolved | M200.7 ICP | | U | | mg/L | 0.005 | 0.03 | 08/03/06 21:04 | msh |
| Manganese, total | M200.7 ICP | | U | * | mg/L | 0.005 | 0.03 | 08/02/06 16:58 | jjc |
| Potassium, dissolved | M200.7 ICP | 1.1 | | | mg/L | 0.3 | 1 | 08/01/06 6:46 | jjc |
| Sodium, dissolved | M200.7 ICP | 12.3 | | | mg/L | 0.3 | 1 | 08/01/06 6:46 | jjc |

Wet Chemistry

| Parameter | EPA Method | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|-----------------------|--------|------|----|-------|-----|-----|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | |
| Bicarbonate as CaCO3 | | 303 | | | mg/L | 2 | 20 | 07/29/06 0:00 | ct |
| Carbonate as CaCO3 | | | U | | mg/L | 2 | 20 | 07/29/06 0:00 | ct |
| Hydroxide as CaCO3 | | | U | | mg/L | 2 | 20 | 07/29/06 0:00 | ct |
| Total Alkalinity | | 303 | | | mg/L | 2 | 20 | 07/29/06 0:00 | ct |
| Cation-Anion Balance | Calculation | | | | | | | | |
| Cation-Anion Balance | | 1.5 | | | % | | | 08/09/06 10:50 | calc |
| Sum of Anions | | 6.7 | | | meq/L | 0.1 | 0.5 | 08/09/06 10:50 | calc |
| Sum of Cations | | 6.9 | | | meq/L | 0.1 | 0.5 | 08/09/06 10:50 | calc |
| Chloride | M325.2 - Colorimetric | 3 | B | * | mg/L | 1 | 5 | 07/27/06 11:48 | jff |
| Residue, Filterable (TDS) @180C | M160.1 - Gravimetric | 350 | | | mg/L | 10 | 20 | 07/24/06 11:20 | kmc |
| Sulfate | SM4500 SO4-D | 30 | B | | mg/L | 10 | 50 | 08/04/06 12:28 | kmc |
| TDS (calculated) | Calculation | 337 | | | mg/L | 10 | 50 | 08/09/06 10:50 | calc |
| TDS (ratio - measured/calculated) | Calculation | 1.04 | | | | | | 08/09/06 10:50 | calc |

PH 7.04
 COND 884
 TEMP 7
 FLOW 0.5 gpm

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487(800) 334-5493

Inorganic Analytical Results

Soldier Creek Coal Company

Project ID:

Sample ID: 259A

ACZ Sample ID: **L59555-01**

Date Sampled: 10/19/06 16:50

Date Received: 10/23/06

Sample Matrix: Ground Water

Inorganic Prep

| Parameter | EPA Method | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---------------------------|------------|--------|------|----|-------|-----|-----|----------------|---------|
| Total Hot Plate Digestion | M200.2 ICP | | | | | | | 10/25/06 19:48 | erf |

Metals Analysis

| Parameter | EPA Method | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|----------------------|------------|--------|------|----|-------|-------|------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 77.6 | | | mg/L | 0.2 | 1 | 10/25/06 19:47 | msh |
| Iron, dissolved | M200.7 ICP | | U | | mg/L | 0.02 | 0.05 | 10/26/06 18:26 | msh |
| Iron, total | M200.7 ICP | | U | | mg/L | 0.02 | 0.05 | 10/30/06 23:44 | msh |
| Magnesium, dissolved | M200.7 ICP | 25.9 | | | mg/L | 0.2 | 1 | 10/25/06 19:47 | msh |
| Manganese, dissolved | M200.7 ICP | | U | * | mg/L | 0.005 | 0.03 | 10/25/06 19:47 | msh |
| Manganese, total | M200.7 ICP | | U | | mg/L | 0.005 | 0.03 | 10/27/06 20:40 | msh |
| Potassium, dissolved | M200.7 ICP | 1.1 | | | mg/L | 0.3 | 1 | 10/25/06 19:47 | msh |
| Sodium, dissolved | M200.7 ICP | 11.9 | | | mg/L | 0.3 | 1 | 10/25/06 19:47 | msh |

Wet Chemistry

| Parameter | EPA Method | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|-----------------------|--------|------|----|-------|-----|-----|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | |
| Bicarbonate as CaCO3 | | 309 | | | mg/L | 2 | 20 | 11/01/06 0:00 | ct |
| Carbonate as CaCO3 | | | U | | mg/L | 2 | 20 | 11/01/06 0:00 | ct |
| Hydroxide as CaCO3 | | | U | | mg/L | 2 | 20 | 11/01/06 0:00 | ct |
| Total Alkalinity | | 309 | | | mg/L | 2 | 20 | 11/01/06 0:00 | ct |
| Cation-Anion Balance Calculation | | | | | | | | | |
| Cation-Anion Balance | | -0.8 | | | % | | | 11/15/06 0:00 | calc |
| Sum of Anions | | 6.6 | | | meq/L | 0.1 | 0.5 | 11/15/06 0:00 | calc |
| Sum of Cations | | 6.5 | | | meq/L | 0.1 | 0.5 | 11/15/06 0:00 | calc |
| Chloride | M325.2 - Colorimetric | | U | | mg/L | 1 | 5 | 10/31/06 12:25 | jlf |
| Residue, Filterable (TDS) @180C | M160.1 - Gravimetric | 360 | | | mg/L | 10 | 20 | 10/26/06 15:50 | cas |
| Sulfate | SM4500 SO4-D | 20 | B | * | mg/L | 10 | 50 | 11/09/06 14:42 | mhm/ct |
| TDS (calculated) | Calculation | 322 | | | mg/L | 10 | 50 | 11/15/06 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | 1.12 | | | | | | 11/15/06 0:00 | calc |

PH 7.27
 COND 543
 TEMP 10
 FLOW 0.25 gpm

☒

Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

RUN DATE: 03/01/2007

WATER RIGHT: **91-3033**

APPLICATION/CLAIM NO.:

CERT. NO.:

OWNERSHIP*****

NAME: George M. Thayn
ADDR: Wellington UT 84542

DATES,

ETC.*****

LAND OWNED BY APPLICANT? Yes

FILED: PRIORITY: 00/00/1869 | PUB BEGAN: | PUB ENDED: | NEWSPAPER:
| PROTESTED: [No] | HEARNG HLD: | SE ACTION: [] | ActionDate:
EXTENSION: | ELEC/PROOF: [] | ELEC/PROOF: | CERT/WUC: 05/05/1967 | LAP, ETC:
| PROV LETTER:
RENOVATE: | RECON REQ: | TYPE: []
PD Book No. 5 Map: 46
Type of Right: Diligence Claim Source of Info: Proposed Determination Status:

LOCATION OF WATER RIGHT*** (Points of Diversion: Click on Location to access PLAT Program.) *****

FLOW: 0.011 cfs
COUNTY: Carbon

COMMON DESCRIPTION:

SOURCE: Unnamed Spring

POINT OF DIVERSION:

(1) Stockwatering directly on spring located in NW4NW4 Sec 21, T13S, R13E, S1B.M.
COMMENT: Administratively updated by State Engineer.

USES OF WATER

RIGHT*****

SUPPLEMENTAL GROUP NO. 614128. Water Rights Appurtenant to the following use(s):
91-168,340,545,761,770
1474,1728,1729,1730,1731
1732,1733,1734,1735,1736
1737,1738,1739,1740,1741
1742,1743,1744,1745,1746
2175,3033

###STOCKWATER:

PERIOD OF USE: 04/15 TO 10/31

Sole Supply for Stockwatering for 91-3033 in this Group has NOT YET been evaluated

Group Total: 350 Stock Units Diversion Limit: 9.8 acft.

SUPPLEMENTAL GROUP NO. 614141. Water Rights Appurtenant to the following use(s):
91-168,340,545,761,770
1474,1728,1729,1730,1731
1732,1733,1734,1735,1736
1737,1738,1739,1740,1741
1742,1743,1744,1745,1746
1747,2175,3033

###STOCKWATER:

PERIOD OF USE: 04/15 TO 10/31

Sole Supply for Stockwatering for 91-3033 in this Group has NOT YET been evaluated

Group Total: 350 Stock Units Diversion Limit: 9.8 acft.

SUPPLEMENTAL GROUP NO. 615849. Water Rights Appurtenant to the following use(s):
91-168,340,545,761,770
1474,1728,1729,1730,1731
1732,1733,1734,1735,1736

1737,1738,1739,1740,1741
1742,1743,1744,1745,1746
2175,3033,4970

.....

Group Total: 350 Stock Units Diversion Limit:
###STOCKWATER:
PERIOD OF USE: 04/15 TO 10/31
Sole Supply for Stockwatering for 91-3033 in this Group has NOT YET been evaluated

PLACE OF USE for

STOCKWATERING*****

NORTH-WEST¼ NORTH-EAST¼ SOUTH-WEST¼ SOUTH-EAST¼
NW NE SW SE NW NE SW SE NW NE SW SE NW NE SW SE
* X: : : * * : : * * : : * * : : *

Sec 21 T 13S R 13E S1B4

*****E N D O F D A T*****

A*****
