C/007/039 Incoming

#4088

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

April 25, 2012

Coal Regulatory Program
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

RE: Revision to Chapter 7 of M&RP to Address Changes in Water Monitoring - Task No. 4053, Dugout Canyon Mine, Canyon Fuel Company, LLC, C/007/039, Carbon County, Utah

Dear Sirs:

Attached please find four copies of revisions to the water monitoring requirements in Chapter 7 of the M&RP. We are requesting to eliminate sampling of several springs and one surface water monitoring location. The reasons have been discussed within this letter and the text provided. In addition the "Hydrologic Monitoring" drawing has been revised.

Deficiency List Task No. 4053

R645-301-731.210 and -220
The spring and surface monitoring locations proposed from removal from the monitoring plan are located in the following sections.

Spring	Location
200	Sec 28, T13S R13E
227	Sec 19, T13S R13E
259	Sec 20, T13S R13E
322	Sec 22, T13S R13E

Surface Water Monitoring Location
323 Sec 8, T13S R13E

Per a conversation with Amanda Daniels and Steve Christensen (4/24/12) a decision was reached to eliminate five monitoring locations from the Dugout monitoring schedule and retain one of the springs previously suggested for removal (Site 321). By agreeing to retain Monitoring Site 321, it became unnecessary to put a commitment in the permit to reinstate the other sites for monitoring, since mining is either complete or will not occur in the area of the other five monitoring locations.

200 Sec 28, T13S R13E – Never mined near spring or in Section 28
227 Sec 19, T13S R13E – 2006 - 2007
259 Sec 20, T13S R13E – 2007 - 2008
322 Sec 22, T13S R13E – Never mined near spring

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File in:
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☐ Shelf
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Date Folder 04/27/12 C/ Incoming

SUFCO Mine

Dugout / Soldier Canyon Mines

Surface Water Monitoring Location
323 Sec 8, T13S R13E - Never mined near surface monitoring location

If you have any questions please call me at (435) 636-2869.

Sincerely yours,

Vicky S. Miller

Vicky S. Miller

cc: Dave Spillman

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: Revisions to Chapter 7 of the M&RP to Address Changes in Water Monitoring, Task ID #4053
Description, Include reason for application and timing required to implement:

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: _____ 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 4/25/12
Sign Name, Position, Date

Subscribed and sworn to before me this 25 day of April, 2012

Tamera Jean Ellis
Notary Public

My commission Expires: July 16, 2015

Attest: State of Utah } ss:
County of Carbon

NOTARY PUBLIC
TAMERA JEAN ELLIS
609189
COMMISSION EXPIRES
JULY 16, 2015
STATE OF UTAH

For Office Use Only:	Assigned Tracking Number:	Received by Oil, Gas & Mining
		RECEIVED APR 27 2012 DIV OF OIL, GAS, & MINING

Form DOGM- C1 (Revised March 12, 2002)

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: Revisions to Chapter 7 of the M&RP to Address Changes in Water Monitoring, Task ID # 4053

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.

Add	Replace	Remove	DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
☐ Add	☐ Replace	☐ Remove	Chapter 7
☐ Add	☒ Replace	☐ Remove	Section 724.100, Page 7-24
☐ Add	☒ Replace	☐ Remove	Section 731.200, Page 7-52, 7-53 and 7-57 (see note below)
☐ Add	☒ Replace	☐ Remove	Tables 7-4 and 7-5, first page of each
☐ Add	☒ Replace	☐ Remove	Plate 7-1, Hydrologic Monitoring Stations
☐ Add	☐ Replace	☐ Remove	
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Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.	Received by Oil, Gas & Mining
4/2012 - These revision are in Chapter 7 of the M&RP. Due to the additional text required to explain the request for removing the monitoring obligation, the pagination will drastically change. Upon final approval we will most likely submit the entire chapter.	RECEIVED APR 27 2012 DIV OF OIL, GAS, & MINING

CHAPTER 7
HYDROLOGY

determination of the most probable recharge area is possible using existing geologic, hydrogeologic, and topographic information. A discussion of the most probable recharge areas for springs in the expansion area is presented below.

The Division of Water Rights (DWRi) has identified springs located in the north and eastern portions of Section 17, T 13 S R 13 E. However, two of the springs as located by the DWRi were not found in the original seep and spring survey or subsequent surveys done by Dugout. Dugout has committed to take the water right owners (Conover's) to the DWRi mapped locations to verify whether or not these springs do indeed exist. The water right owners were contacted and they met with mine personnel in the summer of 2008, the springs they associate with their water rights are identified on Plate 7-1 as 324, 260A, 261, 262 and 262A. No other springs were located or identified by water right holders.

A few other springs, 261, 262, 262A, 263, 263A, have been identified in the nearby surrounding areas outside the permit area. These springs are outside the area where subsidence would potentially occur and are separated from the underlying coal seams by more than 2,000 feet of cover. Mining impacts to the recharge area of these springs will only occur in a very small portion of the recharge area and will likely be similar to spring 260. Because of this, the impacts to the springs outside the permit and subsidence area have not been considered individually. The potential for impacting these springs is considered negligible.

Spring 260 is part of the mine's water monitoring program and thus has several years of data that can be analyzed. Spring 260A is not part of the water monitoring program. Both springs appear to discharge from the same shallow groundwater system as they are in close proximity to one another and discharge at similar elevations. Therefore, it is assumed that mining induced impacts to these two springs would be similar in nature.

Spring 260 discharges from the east side of the canyon wall near the bottom of the local surface-water drainage. The spring discharges from the Colton Formation at an elevation of about 8600 feet above sea level. Because groundwater must recharge in an area topographically higher than the spring discharge location in order to provide driving hydraulic head, the recharge area for the spring must lie at an elevation greater than 8600 feet. As shown on Plate 7-1 and Figure 2

200	North Horn
203	North Horn
227	Castlegate Sandstone
259	North Horn
260	Colton
259A	Colton
321	Colton
322	Colton - Operational quarterly flow measurements only
324	Colton - Monitoring begins 3rd Quarter 2008

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

With the addition of 240 acres associated with Federal Coal Lease U-07064-027821, groundwater monitoring location 324 associated with existing water rights identified by an authorized representative of the Conover Trust was added in the third quarter of 2008.

The purpose of monitoring the above-listed springs will be to assess potential impacts to groundwater systems overlying the Blackhawk Formation due to subsidence and mine dewatering. Springs have been selected for monitoring in the Colton, Flagstaff, North Horn, and Castlegate Sandstone Formations. These springs are reasonably accessible and, based on the historical data, are representative of conditions within their respective formations.

The monitoring of springs 322, 200, 227 and 259 was discontinued after the sampling in the 1st quarter of 2012. Springs 227 and 259 have been mined beneath and subsided and therefore will not be reinstated for monitoring.

- Spring 322 is located outside of the current permit and lease boundary and will not be mined near or beneath, thus being outside the influence of mining. Spring 322 was incorporated into the monitoring program in 2008 to provide a monitoring location **outside** the area of influence to establish a baseline. In 2010 the northernmost panel within the permit boundary was sealed and mining moved to the south approximately three miles.

- Spring 200 has been monitored since 1999. Between 1999 and 2011, the spring has had flow 6 times in 13 years, 1999 had three flows, 2000 had one flow, 2001 had one flow and 2004 had one flow. There has been no flow at Spring 200 since May 2004. No mining has or is planned to occurred near or beneath Spring 200.

- Spring 227 has been monitored since 1999. Between 1999 and 2011, the spring has had flow twice in 13 years, once in 2004 and once in the second quarter of 2011. Mining occurred beneath Spring 227 in 2006, the mined panel was sealing in 2006/2007. Subsidence information for the area is located in the annual reports for the corresponding years.

- Spring 259 has been monitored since 1999. Between 1999 and 2011, the spring has flowed 8 times in 13 years, four times in 1999, twice in 2000 and twice in 2001. Spring 259 has been dry since the samples in 2001. Mining occurred beneath Spring 259 in 2007, the mined panel was sealing in 2007/2008. Subsidence information for the area is located in the annual reports for the corresponding years.

It should be noted that reliable data have been difficult to collect from the limited number of springs issuing from the Blackhawk Formation within the permit and adjacent areas. As a result, no springs issuing from this formation have been included in the long-term monitoring program.

The ground water monitoring and sampling protocols to be implemented are described in Table 7-4. These protocols are based on the probable hydrologic consequences (PHC) of mining as presented in Section 728 and Appendix 7-3 of this M&RP and the requirements put forth in the Division's regulations. Table 7-4 is the same as that presented in Coal Regulatory Program Directive Tech-004, with the exception that total hardness and total alkalinity are not included. Total hardness, which is primarily of concern in water supplies being developed for domestic use, was not added to the list because summer-home development of the permit area is not an identified post-mining land use. Total alkalinity was not added to the list because the baseline data indicate that acid-generating materials, which may affect the alkalinity of the water, are not present within the permit and adjacent areas.

- DC-1, FAN, PC-3 - Quarterly data collection in accordance with Table 7-5 (operational parameters). This table is the same as that presented in Coal Regulatory Program Directive Tech-004, with the exception that total hardness and total alkalinity are not included. As explained above, total hardness, which is primarily of concern in water supplies being developed for domestic use, was not added to the list because summer-home development of the permit area is not an identified post-mining land use. Total alkalinity was not added to the list because the baseline data indicate that acid-generating materials, which may affect the alkalinity of the water, are not present within the permit and adjacent areas.

- DC-2, DC-3, PC-1a, PC-2, and RC-1 - Quarterly data collection in accordance with Table 7-5. Collection of gain-loss hydrograph data during the first wet year and the first dry year following permit issuance. Wet and dry years will be defined as noted in the previous groundwater monitoring discussion. The hydrograph will be generated by collecting flow measurements during the first wet year and the first dry year on a weekly basis between April 1 and August 31 as conditions permit. Refer to Appendix 7-13 for hydrographs.

- DC-4 and DC-5 - Collection of gain-loss hydrograph data during the first wet year and the first dry year following permit issuance, as described above. Collect flow measurements during the first wet year and the first dry year on a weekly basis between April 1 and August 31 as conditions permit. Samples will also be collected for laboratory analyses during the first wet year and the first dry year following permit issuance. Wet and dry years will be defined as noted above. These samples will be collected during the high-flow and low-flow seasons. The samples will be analyzed for tritium and the operational parameters contained in Table 7-5. Refer to Appendix 7-13 for hydrographs.

- 323 - Quarterly data collection in accordance with Table 7-5. Monitoring site 323 was incorporated into the monitoring program in 2008 to provide a monitoring location **outside** the area of influence to establish a baseline. Mining never occurred near or beneath the site. In 2010 the northernmost panel within the permit boundary was sealed and mining moved to the south approximately three miles. Sampling of site 323 was discontinued following the 1st quarter of 2012 sampling.

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

Monitoring Wells	Protocol	Comments
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
Springs		
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, D	North Horn
203	B, 3, 5	North Horn
227	B, 3, 5, D	Castlegate Sandstone
259	B, 3, 5,D	North Horn
259A	B	Colton
260	B, 3, 5	Colton
MD-1	C, 4	Gilson Seam Workings Discharge
321	B,6	Colton
322	B, D	Colton
324	B,6 *	Colton

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
D	Discontinued Monitoring after 1st Quarter 2012

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 (requirement completed in 2011).
6	Spring: quarterly operational groundwater quality parameters for two years beginning 3rd quarter 2007 after which field measurements only. * At site 324 quarterly operation ground water quality parameters for two years beginning 3rd quarter of 2008, after which field measurements only.

Groundwater Quality Parameters

FIELD MEASUREMENTS	REPORTED AS
Water Level or Flow	Feet or gpm or cfs
pH	pH units
Specific Conductivity	μs/cm @ 25°C
Temperature	°C

TABLE 7-5

Surface Water Monitoring Program

Field and Laboratory Measurement Protocol

Streams	Protocol	Comments
DC-1	1	Located on Dugout Creek downstream of mine
DC-2	2	Located on Dugout Creek immediately upstream of mine on left-hand fork
DC-3	2	Located on Dugout Creek immediately upstream of mine on right-hand fork
DC-4	3	Located on Dugout Creek upstream of mine on west fork of left-hand fork
DC-5	3	Located on Dugout Creek upstream of mine on east fork of left-hand fork
PC-1a	2	Located on Pace Creek on the eastern edge of State Coal Lease ML 48435-OBA
PC-2	2	Located on Pace Creek on the western edge of State Coal Lease ML 48435-OBA
PC-3	1	Located on Pace Creek in Section 20, T13S R13E
RC-1	2	Located on Rock Creek on the southern edge of State Coal Lease ML 48435-OBA
FAN	1	Located on Pace Creek above fan facilities
323	1, 4	Located in SE1/4,SW1/4,SE1/4 of Section 8, Township T13S, R13E

Protocols

1 Stream: quarterly operational surface water quality measurements analyzed as per parameters listed below.

2 Stream: quarterly operational surface water quality measurements analyzed as per parameters listed below except during first wet or dry years when weekly flow will be obtained from April 1 through August 31, as conditions permit (requirement completed in 2011) , in addition to quarterly samples.

3 Stream: weekly flow measurements during first wet or dry year will be obtained from April 1 through 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 (requirement completed in 2011).

4 Discontinued Monitoring after 1st Quarter 2012

Surface Water Quality Parameters

FIELD MEASUREMENTS	REPORTED AS
Flow	gpm or cfs
pH	pH units
Specific Conductivity	μs/cm @ 25°C
Dissolved Oxygen	mg/l
Temperature	°C