

0055



Canyon Fuel  
Company, LLC.  
Skyline Mine

A Subsidiary of Arch Western Bituminous Group, LLC.

Gregg Galecki, Environ. Coordinator  
HCR 35, Box 380  
Helper, UT 84526  
(435) 448-2636 - Office  
(435) 448-2632 - Fax

September 11, 2007

*JK*  
*Incoming*  
*C/007/0005*  
*#2853*

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

RE: Macroinvertebrate Table and reports, Canyon Fuel Company, LLC, Skyline Mine,  
C/007/005,

Dear Ms. Grubaugh-Littig:

Please find enclosed with this letter modifications to the M&RP to accommodate the creation of a macroinvertebrate sampling table. In addition to the table, minor text modifications to the M&RP were necessary to refer to the table. This should make both reviewing of the macroinvertebrate information, and the understanding of the commitments much easier in the M&RP.

The submittal includes completed C1 and C2 forms, and eight (8) copies of both clean and redline versions of the text modifications. Note only two (2) copies of the macroinvertebrate reports have been submitted – those reports are intended to be incorporated into the 2006 Annual Report.

If you have any questions, please call me at (435) 448-2636.

Sincerely,

A handwritten signature in cursive script that reads "Gregg A. Galecki".

Gregg A. Galecki  
Environmental Coordinator, Skyline Mine  
Canyon Fuel Company, LLC

enclosures

**RECEIVED**

**SEP 11 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:** Skyline Mine

**Permit Number:** C/007/005

**Title:** Addendum to 2006 Annual Report

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

Macroinvertebrate Reports

**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.

Wesley K Sorensen  
Print Name

Wesley K Sorensen  
Sign Name, Position, Date

Subscribed and sworn to before me this 10<sup>th</sup> day of Sept, 2007

Kathleen Atwood  
Notary Public

My commission Expires: 12/2, 2007

Attest: State of Utah } ss:  
County of Carbon



<b>For Office Use Only:</b>	Assigned Tracking Number:	Received by Oil, Gas & Mining <div style="font-size: 1.5em; font-weight: bold; color: red;">RECEIVED</div> SEP 11 2007  DIV. OF OIL, GAS & MINING
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## James and Burnout Creeks

A fish and macroinvertebrate monitoring program for James and Burnout Creeks will be implemented prior to undermining the lower portion of James Canyon. The fish survey consists of multi-pass electro fishing to estimate fish populations in the streams for one year and then every third year thereafter. The fish surveys will be performed in the fall of each third year on or about the same date, and will continue through a minimum of two (2) years following active subsidence (20087). The fish survey was initiated on October 16, 2000.

A macroinvertebrate survey of Burnout Creek will be performed twice a year for two consecutive years and then every three years thereafter. This survey will be performed in the fall and spring of each year, with the fall macroinvertebrate survey will being performed in conjunction with the fall fish survey. The macroinvertebrate survey was initiated on October 16, 2000.

A macroinvertebrate survey of James Creek initiated on October 16, 2000 will be performed twice a year for two consecutive years and then every three years thereafter or for a period determined by Canyon Fuel Company, LLC, DOGM, USFS and the DWR, to be long enough to provide data to establish population trends . This survey will be performed in the fall and spring of each year on or about the same date. The fall macroinvertebrate survey will be performed in conjunction with the fall fish survey (See Table 2.8-1a for Sampling Schedule).

The following methods have been used previously on this creek and will continue to be used for future macroinvertebrate sampling. Slight variations to the methods may occur during the field work or based on comments from regulatory agencies.

Three benthic sites will be sampled. They will be located beginning approximately 162 meters (528 feet) above the reservoir. Refer to Plate 2.8.1-1 for all macroinvertebrate sample site locations. Note that macroinvertebrate sites sample reaches of a stream - site locations are plotted at the approximate mid-point of the reach of the sample site.

Quantitative samples will be taken with a modified box sampler. The three samples taken will be field preserved in 70% ethyl alcohol and returned to the laboratory for processing. The samples will be sorted and invertebrates identified to the lowest possible taxonomic level using the keys of Merritt and Cummins (1996). Those of questionable identity will be further examined and identified under

magnification. The mean, standard deviation, density per square meter, and standing crop will be calculated and estimated using the same methods as in previous analysis.

Calculations of the USFS Biotic Condition Index (Winget and Mangum 1979) will be completed using the abundances of the benthic taxa to generate the dominance weighted community tolerant quotient (CTQd). The predicted community tolerant quotient (CTQp) will be calculated using water chemistry data provided in Winget (1972) for the Huntington Creek drainage.

Cluster analysis will be run using the Bray-Curtis dissimilarity index with the UPGM clustering algorithm.

#### Winter Quarters Canyon and Woods Canyon Creeks

From Fall of 2002 through early Summer of 2004 fish and baseline macroinvertebrate data for the perennial reaches within Winter Quarters Canyon and Woods Canyon Creeks in the North Lease area were gathered. Copies of the reports are included in Appendix Volume A-3, Volume 2.

A macroinvertebrate survey of portions of Winter Quarters Canyon and Woods Canyon Creeks will be performed twice a year for two consecutive years and then every third year thereafter or for a period determined by Canyon Fuel Company, LLC, DOGM, USFS, and the DWR, to be long enough to provide data to establish population trends. This survey will be performed in the fall and spring of each year on or about the same date (See Table 2.8-1a for Sampling Schedule).

The following methods have been and will be used for macroinvertebrate sampling. Slight variations to the methods may occur during the field work or based on comments from regulatory agencies.

Three benthic sites will be sampled in each creek. Following the first survey a map with these stations will be prepared and submitted with the next sample report (included in the following year's annual report). Quantitative samples will be taken with a modified box sampler. The samples taken will be field preserved in 70% ethyl alcohol and returned to the laboratory for processing. The samples will be sorted and invertebrates identified to the lowest possible taxonomic level using the keys of Merritt and Cummins (1996). Those of questionable identity will be further examined and identified under magnification. The mean, standard deviation, density per square meter, and

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Cluster analysis will be run using the Bray-Curtis dissimilarity index with the UPGM clustering algorithm.

An electro fishing study was conducted in 2002 to examine 1) the species present in Winter Quarters Canyon; 2) determine if fish were present in Woods Canyon; and 3) determine how far upstream fish extended into either canyon. The one-time survey was conducted on request by the U.S. Forest Service (See Appendix A-3, Volume 2 for report).

The above described macroinvertebrate studies will continue for two years after active mining and subsidence stops in the applicable drainages unless statistical analysis demonstrates impacts have occurred or may occur to these streams. In the event subsidence causes quantifiable damages to fish populations, stream flows, or other negative impacts on fish or wildlife habitat, the mine will identify, research and implement measures sufficient to correct the problems. If monitoring data suggests potential adverse impacts have occurred but cannot be conclusively demonstrated by the three years of collected data, a new monitoring plan to determine the type and extent of the impact will be developed by DOGM, DWR, USFS and Skyline Mine. The additional monitoring will continue until such impacts are either demonstrated or dismissed by joint consent of DOGM, DWR, USFS, and Skyline Mine. Areas where there is potential for habitat loss from subsidence are shown on Plate 4.17.3-1a. The consumption rate of water from mining activities is provided in Section 2.5.2.

Future aquatic monitoring is planned only on an as needed basis. Need will be established in conjunction with UDWR personnel and will be required only in case of a major perturbation in fish populations or other anomalous conditions. Monitoring data will be reviewed for mining related impacts, and, if found, a mitigation plan will be developed in conjunction with UDWR and UDOGM personnel. The Permittee will cooperate with UDWR in the investigation of any such conditions. This approach to future monitoring is consistent with the requirements recommended by the UDWR, Price office.

~~Eccles Creek~~

Revised: 08-24-05 9-5-07

## Eccles Creek

To determine the impacts to Eccles Creek, if any, related to discharge of mine water, semi-annual macroinvertebrate studies will be conducted. The studies will start in the ~~spring~~ Fall of 2002~~2001~~ and will continue for three (3) consecutive years or for a period determined by Canyon Fuel Company, LLC, DOGM and the DWR, to be long enough to provide data to establish population trends.

The following methods have been used previously on this creek and will be used for future sampling. Slight variations to the methods may occur during the field work or based on comments from regulatory agencies.

Four samples will be taken at intervals separated by approximately 20 to 30 m. Samples will continue to be taken from three stations on the stream, with five replicates per station. These stations on Eccles Creek are located above South Fork (site 1), Eccles Creek at Whisky Canyon (site 2), and Lower Eccles Creek (site 3). A map with these stations has been added to the Aquatic Wildlife section of Volume A-3.

A box sampler will be used to collect the samples. Samples will be taken in areas with rubble or cobble substrates to insure that similar habitats are examined. When possible, samples will be taken from parts of the stream channel that had been submerged continuously throughout the year. The substrate will be stirred to a depth of approximately 5 cm. Rocks within the area of the sampler will be removed and washed to insure quantitative assessment of the invertebrates. The box sampler will have a net mesh of approximately 250 microns. The samples will be concentrated on a screen with a mesh of approximately 64 microns and field preserved in ethyl alcohol.

In the laboratory the samples will be sorted in a pan illuminated from below. All invertebrates will be removed and identified to the lowest possible taxonomic level using the keys of Merritt and Cummins (1996). The mean density and standard deviation per sample will be calculated for each taxon and the mean values will be used to determine the density per square meter.

The collected data will be compared to the previous data collected in 1979 through 1983 and included in Appendix A-3, Volume 2. After comparing historical data with data obtained in the three year study starting in 2002, a determination will be made if the macroinvertebrate in Eccles Creek are impacted by the mine water discharge. If impacts are found, the significance of the impacts will be determined and appropriate mitigation is necessary will be performed.

Fish studies will be conducted on Eccles Creek in 2003~~4~~. The fish study consists of multi-pass electro fishing to estimate fish populations in the stream for one year and then every third year

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## Eccles Creek

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Table 2.8-1a

Sample Site	End Date	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011		
		Spring	Fall																							
<b>Fish</b>																										
Burnout	F, 2007		C		C												X									
Eccles	ND		C		C						C						X									X
James	F, 2007		C		C						C						X									
Winter	RC						C																			
Woods	RC						C																			
<b>Macroinvertebrate</b>																										
Burnout			C		C		C		C		C						X									X
Eccles	ND				C		C		C		C						X									X
James			C		C		C		C		C						X									X
Winter	2yr ptm						C		C		C						X									X
Woods	2yr ptm						C		C		C						X									X

Key: C = completed, X = scheduled, ND = no end date, F = Fall, RC = requirements completed, ptm = post mining.

Reports located in the Annual Submitted to the Division of Oil, Gas, and Mining.