



United States  
Department of  
Agriculture

Forest  
Service

Manti-La Sal  
National Forest

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DIVISION OF  
OIL, GAS AND MINING

Ms. Denise Boggs  
Executive Director  
Utah Environmental Congress  
1817 S. Main Street  
Suite 10  
Salt Lake City, UT 84115

Dear Ms. Boggs:

As part of the resolution of your appeal of the Flat Canyon Coal Lease Tract FEIS and ROD, the Manti-La Sal National Forest committed to providing you with specific monitoring and mitigation measures that the Forest Service will require as conditions of consent to approval of the Mine Plan Modification for the Skylime Mine.

The Manti-La Sal National Forest will require the following monitoring and mitigation measures as conditions of consent to the Mining and Reclamation Plan. The list includes conditions of approval specified in the Flat Canyon Lease Tract Record of Decision (Attachment 2) with additions agreed to at the March 15 appeal negotiation meeting in Provo, Utah. They would be in addition to the requirements of other agencies in conformance with lease stipulations, Federal Regulations for coal leasing and permitting, and the Utah Coal Rules.

#### Data Collection and Monitoring

Specific spring and stream monitoring points will be determined by the Manti-La Sal National Forest, including Katherine Foster and Rod Player, based on inventories and information provided by the lessee/operator and on-ground reviews. The selected springs will be monitored for flow and field parameters quarterly (3 times per year, excluding winter conditions when not accessible) or continuously.

##### 1. Valley and stream morphology

Cross-sections through the stream channel and canyon bottom  
19 locations on Boulger Creek and Flat Canyon Creek

Longitudinal Profile of Boulger Creek from Electric Lake to the upper reaches of the creek and Flat Canyon Creek. To be performed in the field with GPS and verified using aerial photography.

Annual IR aerial photography surveys will be used to map riparian vegetation and stream habitat (runs, riffles, pools, etc.) and morphology and will be ground-truthed.



Swens Canyon will be monitored with a longitudinal profile and IR aerial photography as well as two or three cross-sections in the lower reaches.

Little Swens and Cunningham streams will be monitored using IR aerial photography.

2. Precipitation

The SNOTEL stations located in the Huntington Creek and upper Fish Creek (Price River) drainages along with the weather station at the mine will be used to determine the general climatic conditions in the Flat Canyon area.

3. Electric Lake water quality

Establish water quality monitoring stations in Electric Lake to measure total phosphorous and Nitrates/Nitrites for the purpose of determining nutrient levels and potential for eutrophication from mine water discharge.

4. Valley groundwater levels, stream and spring discharge quantity

Stream flow monitoring stations will be established at three locations on Boulger Creek – one above Boulger Lake, one on Flat Canyon Creek where the campground access road crosses the creek, and one on Boulger Creek below the confluence of Flat and Boulger Creeks.

3 to 5 springs selected will be monitored for flow using continuous monitoring devices, i.e.; a flume and transducer with a data logger.

A unique spring-fed wet area located in the canyon bottom adjacent to Boulger Creek will be continuously monitored for flow. Also, 7 to 10 shallow piezometers will be installed in and around the wet area to monitor ground water levels.

5. Valley groundwater, stream and spring chemistry

Water chemistry samples will be obtained at the stream gauging stations discussed in item 4. Approximately 10 to 12 springs will be sampled for field parameters (pH, conductivity, temperature, flow) seasonally. Samples from four to six of the monitored springs will be collected and monitored for the chemistry suite specified in the monitoring requirements described in the M&RP.

6. Valley groundwater, stream, and spring temperature

Temperature probes with data loggers will be located at the stream gauging stations and continuous spring flow monitoring locations.

7. Wildlife Habitat

Prior to mining, complete a Level II Riparian Survey of perennial streams and wetlands that could be affected.

Riparian vegetation and fish, amphibian, and snail habitat will be mapped during the initial survey of Boulger and Flat Canyon Creeks as described in item 1. The habitat will be monitored using aerial photography on an annual basis.

8. Wildlife Populations

Prior to mining, a survey, including approximate populations will be completed for macroinvertebrates, fish, amphibians, snails, and riparian dependant mammals, including breeding birds.

Fish populations at selected locations in Boulger Creek will be counted. The counts will be performed once every three years beginning in fall of 2002.

Biannual macroinvertebrate studies will be performed at 3 to 4 locations on Burnout and Flat Canyon Creeks. One site on Swen's Canyon Creek will be chosen for biannual macroinvertebrate studies.

Representative amphibian, snail, and riparian dependant species populations will be identified and monitored every third year in the fall to determine population trends and whether or not there are effects related to subsidence.

9. Wetlands (flora)

The flora of the unique wet area discussed in items 3 and 4 will be studied with sufficient detail to determine types and densities of vegetation.

10. Wetlands (fauna)

The fauna of the unique wet area discussed in items 4 and 5 will be studied with enough detail to determine the types of animals living within the wet area (See item 8 above).

**Mitigations**

1. Boulger Dam (Mitigations for loss of Fishing Opportunity)

Boulger Dam, if undermined or affected by mining-induced seismicity, will be replaced with a new earthfill dam. The reservoir will be drained and the basin dredged.

Reconstruct the dam to current Dam Safety standards after determining that subsidence is

complete. Dredge the reservoir to increase the reservoir life and enhance fishing quality. Water-right adjustment(s) associated with draining and filling will be at the expense of the lessee/operator. Any water rights needed as a result of pool enlargement will be obtained by the lessee/operator.

Provide a channel through any dry portions of the reservoir as needed to prevent erosion, and provide for fish/macroinvertebrate passage.

Starting at least one full recreation use season prior to taking the reservoir out of service, provide signs informing the public that the reservoir will be taken out of service for a specified time due to mining. The signs must also inform the public of improvements to other fisheries provided to replace the temporary loss.

Repair/replace the fish ladder structure, sidewalks, foot bridge, and vault toilet as needed to return them to near new/serviceable condition.

Replace fishing opportunities by improving other fisheries (duration and use) as follows, depending on actual changes determined through monitoring:

- a. Oxygenated water will be diverted from Brooks Creek, Japanese Creek, or Gooseberry Creek above Gooseberry Reservoir and piped to a point near the deepest portion of the reservoir. This will improve winter oxygen levels in the lake and increase the number of trout that survive the winter. If determined not necessary, an appropriate contribution to the mitigation fund (item c) will be made.
- b. Arrange for a conservation pool to be maintained in another reservoir (within 10 air miles of Boulger Reservoir) during the period of decreased/lost use associated with Boulger Reservoir to provide fishing opportunities.
- c. Pay an appropriate amount to a mitigation fund (managed by the Utah Division of Wildlife Resources) to be used for improvement of other facilities for the period of decreased/lost reservoir use that exceeds 3 years.

## 2. Flat Canyon Campground

Construct gravel-surface roads and graveled dispersed camping spurs, with fire rings and tables in the heavily used dispersed recreation area south and west of Boulger Reservoir. Improvement would include vault toilets and post and pole fencing to delineate the improved area. This will mitigate the lost use of the Flat Canyon campground by providing improved dispersed camping facilities in the immediate area.

At least one full recreation use season prior to subsiding the campground, install signs informing the public that the campground will be closed (including estimated duration) during the following season(s).

### 3. Surface Water

If enrichment of Electric Lake (change in trophic state) results from mine water discharge as determined through Monitoring Item 3, install and operate aerators at one or more locations to offset eutrophication effects.

Thinning of ice on Electric Lake around mine discharge point – Installation of warning signs. The effectiveness of warning signs for this situation is unknown.

### 4. Vegetation

Loss of streamside riparian vegetation due to stream channel adjustments – See Wildlife section (Mitigation Item 5 below).

### 5. Wildlife

Subsidence-caused pooling and subsequent breaching, lateral migration of stream channel, stream channel entrenchment, and sediment accumulation – These and associated secondary effects, such as loss of streamside vegetation and aquatic habitat features, are usually mitigated with an integrated package of treatments. Put another way, individual areas may be temporarily stabilized, but long-term restoration will be more effective if combined with other treatments in a stream reach. Treatments, in varying combinations, may include the following:

- Construction and revegetation of realigned stream channel segments;
- Construction of one or more sediment basins at the breached Boulger Reservoir site;
- Temporary breaching of subsidence-caused pools;
- Construction of in-channel grade controls;
- Structures to recreate specific habitat features, such as wetted secondary channels or pool with effective flow-through velocities;
- Riparian plantings to stabilize stream banks; or
- Placement of riprap or brush-layered riprap, or fascine construction to stabilize stream banks.

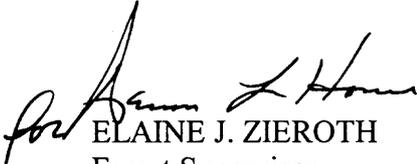
If it is determined that any populations of snails or amphibians are effected to the extent that a population could be lost, the remaining population will be translocated to other suitable habitat.

Ms. Denise Boggs

Page 6

Thank you for your cooperation in resolving the appeal. If you have any questions or comments please contact Aaron Howe or Carter Reed.

Sincerely,

  
ELAINE J. ZIEROTH  
Forest Supervisor

cc:

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Sally Wisely, BLM Utah State Office

Mary Ann Wright, UDOGM

Chris Hansen, Canyon Fuel Company, LLC

Louis Berg, UDWR