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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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September 15, 2000

To: Internal File

Through: Daron R. Haddock, Permit Supervisor

From: Paul B. Baker, Sr. Reclamation Specialists
Mike J. Suflita, Sr. Reclamation Specialists

Re: Subsidence in Burnout and James Canyons, Canyon Fuel Company, Skyline Mine, ACT/007/005

Other Attendees: Chris Colt, Louis Berg, and Derris Jones (Wildlife Resources); Rob Davies (Forest Service); Chris Hansen, Doug Johnson, and Mark Bunnell (Canyon Fuel Co)

Date & Time: September 7, 2000, 9:00 AM to 3:30 PM

PURPOSE:

We wanted to look at areas in Burnout Canyon that have been subsided and the areas of James Canyon that are proposed to be subsided. In the upper part of Burnout Canyon, there are several areas with subsidence cracks that had to be repaired. Several people in the group had not seen this canyon before and weren't familiar with the topography. Both of these canyon contain streams where fish from Electric Lake spawn, and there is concern about potential effects on the spawning habitat.

OBSERVATIONS:

The subsidence cracks in the upper part of Burnout Canyon were repaired using material from adjacent areas. We found and photographed a few piping holes (see Figure 6 pg 8). Mark Bunnell said Canyon Fuel intends to wait until next year to see if there are more holes then come back and repair them with hand tools. We saw no danger to the public or to livestock or wildlife from the holes.

Revegetation has not been too successful in the repaired areas near the top of the ridge (see Figure 1 pg 6), but it has been moderately successful in the lower areas. We attribute this to two factors. First, the summer has been unusually dry, and although there were some late summer thunderstorms, the late spring and early summer, critical times for seedlings, were very

dry. Second, we saw a lot of sign of sheep grazing. We saw several places covered with tarweed, a weedy annual forb that is prone to invade overgrazed high elevation sites. Tarweed is also dominant on some of the repaired areas.

As we were walking down Burnout Canyon, we saw no water in the channel until just above the upper fork where the uppermost flumes have been installed. Just above this fork in the main channel, subsidence has altered the topography so that a small pool (about 15 by 30 feet) has formed (see Figure 3 pg 7). We consider this pool to be a habitat enhancement. Although water was previously available for terrestrial animals, We expect salamanders and other amphibians to eventually live in this pool.

Although the upper parts of Burnout Creek contained fish habitat, the first place where we found a fish was about 200 yards up from the lower fork. From this point down, we found several fish, but the largest were about four inches long, and we never saw more than one fish in a pool. Mr. Berg, a fisheries biologist, checked under several rocks and found macroinvertebrates under almost all of them. The macroinvertebrates he found were mostly caddisfly and mayfly larvae, both of which are indicative of high quality water, and he commented there is plenty of food for the fish. Mr. Berg also commented that there are good quality spawning areas in the stream.

Near the lower end of Burnout Creek, there is about a four-foot-high waterfall that clearly inhibits fish movement up Burnout Creek (see Figure 4 pg 7). It's obvious some fish are able to get up the waterfall, but we felt the creek would be used a lot more if the waterfall wasn't there. Chris Hansen said Canyon Fuel would be willing to work to eliminate the waterfall if everyone decides that would be a good idea and if the necessary permits could be secured. The job might take as little as half of a day for a few people with hand tools.

In general, Mr. Berg and Mr. Davies, also a fisheries biologist, felt subsidence has had little or no effect on the morphology of Burnout Creek and that the creek is in good condition. Their primary concern was whether mining is adversely affecting the amount of water in the stream.

Both Burnout and James Canyon Creeks receive water from springs. This is particularly evident in James Canyon. One of the springs feeding James Canyon is a significant contributor to the overall flow of the stream. Mr. Suflita estimates the spring provides about 40% of the stream flow. This spring should be included in the monitoring plan for the UP&L tract.

We took a boat across Electric Lake to James Canyon and hiked up this canyon to the Forest Service boundary where Canyon Fuel has a flume. At the bottom of James Canyon is a sort of dike that was apparently once a road used to haul material for the Electric Lake dam (see Figure 5 pg 8). When the water level in the reservoir is to the high water mark, the top of this dike is about five feet under water and fish would have free access up James Creek. We assume there is a culvert under the dike, and when the water level is lower than five feet below the high water mark, fish would have to go through the culvert to make it into James Creek. We did not see the culvert, and although we assume it is there, we do not know whether it allows free passage for

the fish or if it is filled with sediment. Even if it is there and is clear, the dike presents an obstacle because fish would have to find it to get back and forth from Electric Lake to James Creek.

A concern of having the large dike at the mouth of James Creek is that fish may be trapped in the creek. When the lake is high in the spring, fish can easily get up the creek for spawning. Shortly thereafter, the lake is drawn down and the hatched fish are impeded from swimming back to the lake. It was noted at the conclusion of our field trip that the concerns about the dike are totally separate from any of the issues relative to the permitting actions proposed by Skyline Mine.

The Wildlife Resources people intend to check to see if they can find the permits and agreements from the original construction of the Electric Lake dam and see if there is any mention of this road/dike and whether it was supposed to have been removed or at least breached. They agreed they would not contact Utah Power and Light but would allow the people from Canyon Fuel to make those contacts, at least for now.

James Creek was similar to but somewhat different from Burnout Creek. We found more fish in James Creek, often in groups of 12-15. The portion of James Creek where we walked appeared to have a lower gradient and more sediment. We found fewer macroinvertebrates in James Creek compared to Burnout Creek, but this was probably more a function of the substrate and the gradient than of the water quality.

We found far more willows in James Canyon than in Burnout. The willows in James Canyon had been heavily grazed, but at least they were there. We believe they have been almost completely grazed out of Burnout Canyon. Despite the lack of willows, both canyons have a lot of sedges near the streams that are effectively controlling erosion. Both streams are generally deep and narrow.

Skyline Mine has suggested that they pump the water resulting from mining out to Electric Lake. This is in an early discussion stage and would not take place for a couple years, possibly four to five years. This water originates from the large new (yet to be finished) sump at 16L, which will pump out to Eccles Creek. The quantities are about 1,200 gpm, but could be up to 3,000gpm. When mining gets closer to Electric Lake it would be easier to pump the water out to the lake. There would be an added advantage that the water would be discharged into the Huntington Creek drainage rather than the Price River drainage as is the case now. It's believed that such a change would be positively received by the local irrigation companies and water districts. They feel they are now losing water to the Price River drainage. This suggestion came about since the gas pipeline south of the current permit boundary will be abandoned before mining occurs under the line. This pipe could be used to convey the mine-generated water to Electric Lake as it already runs there. The discharge point in the lake would need to be below the low water line to prevent erosion to Huntington Creek or other shoreline areas. Underground water quality is good and would improve water quality in the lake as well.

After the main meeting, Mike Suflita, Rob Davies and Paul Baker went to the loadout to look at a few things. There is limited vegetation on the outslope of part of the loadout pad, and Mr. Baker recommended the area be reseeded with Kentucky bluegrass, western wheatgrass, and smooth brome. The seed should be raked into the surface.

At the loadout, we also talked about setting up a small wildlife viewing area. In the spring, there are some large fish that spawn in this area, and Rob Davies had suggested it would be good to have a place where people can pull off the road and walk down a short trail to watch the fish spawning. We all agreed this would be a good idea if the logistics can be worked out. Mr. Davies pointed out that the highway next to the loadout is a scenic byway and that an interpretive trail is compatible with that designation. Also, grant monies might be available to fund such an interpretive area. Such a project would involve the U.S. Forest Service, the Division, Skyline Mine, the Department of Transportation, and the landowner (assuming they would be willing). Such cooperation is helpful in obtaining grant monies.

Photographs were taken of Burnout Canyon, James Canyon, and the suggested interpretive area on Eccles Creek. Some of these photographs are attached to this report and additional photographs can be found on file in the DOGM Public Information Center.

RECOMMENDATIONS/CONCLUSIONS:

Recommendations and conclusions are included in the text of the previous section of this report.

sm
cc: Chris Hansen, Canyon Fuel Co.
~~Chris~~ Colt, DWR
Rob Davies, USFS
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(PHOTOGRAPHS)

Please note for all of these pictures, the correct date is September 7, 2000.



Figure 1

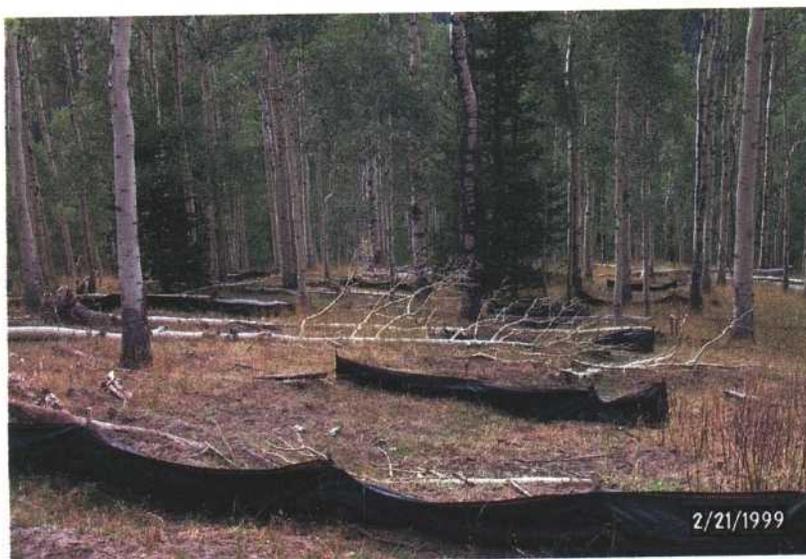


Figure 2

Figures 1 and 2 show subsidence repairs on the slopes above Burnout Canyon. Notice the long series of silt fences in the lower picture.

(PHOTOGRAPHS)



Figure 3

Figure 3 is a small pond in Burnout Canyon that has formed as a result of subsidence. There are some springs right in this area, and there is often no water in the stream above this point.

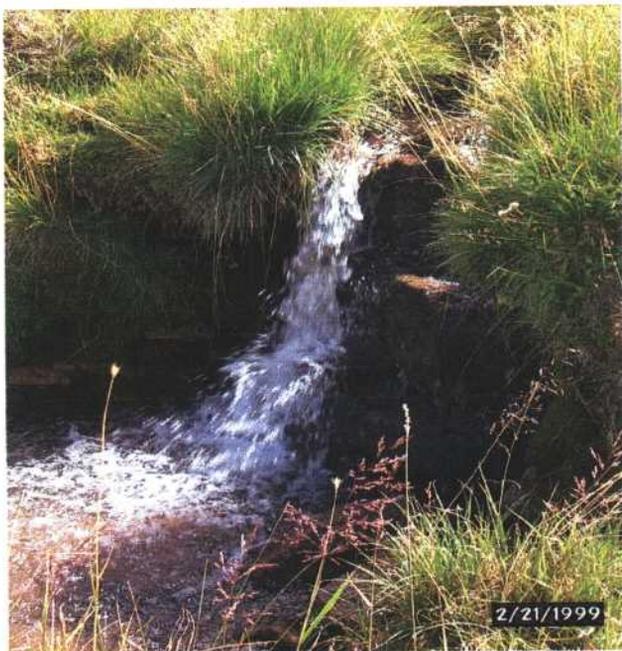


Figure 4 is a waterfall in Burnout Creek about 100 yards up from the Electric Lake high water mark. We suspect fish may have trouble getting above this waterfall.

Figure 4

(PHOTOGRAPHS)



Figure 5

Figure 5 shows James Creek and the dike/road at the bottom.



Figure 6

Figure 6 shows piping in the subsidence repair area.