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DEPARTMENT OF NATURAL RESOURCES
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DIVISION OF
OIL, GAS & LEASING

January 12, 1990

Mr. Don Ostler, Executive Secretary
Water Pollution Control Committee
Utah Department of Health
P.O. Box 16690
Salt Lake City, Utah 84116-0690

Subject: Water pollution and fish kill in Grassy Trail Creek from Sunnyside Reclamation and Salvage, Inc.'s 002A outfall point (UPDES Permit No. UT-0022942)

Dear Don:

As you know, Sunnyside Reclamation and Salvage, Inc. (SRS) has had three unlawful discharges during 1989, that represented pollution (Utah Code 23-15-6) to a substantial segment of Grassy Trail Creek. Their 002A outfall point (UPDES Permit No. 0022942) located at the Sunnyside Coal Mines (ACT-007-007) in Carbon County, Utah has been the pollution source in all three instances. The enclosed report details the pollution problems and associated fish kills.

The pollution event that began March 24, 1989 (2,000 gallons of 5% oil:95% water emulsion) totally killed all fish life in a 3.3 mile section of Grassy Trail Creek - 1,122 trout valued at \$1,662.74 (reference April 14, 1989 and April 17, 1989 correspondence from Timothy Provan to Don Ostler and Dianne Nielson, respectively).

The second pollution event that began April 15, 1989 coated the substrate along a 0.76 mile length of Grassy Trail Creek (between Pole and Pasture Canyons) with a layer of flocculant. The flocculant remains today and trout did not successfully spawn in that material during spring of 1989. Until the flocculant is removed from the stream's substrate, successful spawning cannot occur (reference correspondence from Larry Dalton to Bill Malencik and David Ariotti, April 21, 1989; and correspondence from Timothy H. Provan to Dianne Nielson, October 10, 1989).

The third and most recent pollution event began December 16, 1989. An emulsion oil spill (1,097 gallons of a 5% oil:95% water emulsion) again killed all fish life in a 3.3 mile section of Grassy Trail Creek. Ninety-nine trout valued at \$331.21 were lost (reference attached report).

All three spill events during 1989 reduced macroinvertebrate populations in the polluted zone of Grassy Trail Creek as compared to an immediate upstream area. The first oil spill in March reduced number of specimens for macroinvertebrates by 58% (3.3 mile downstream) to 91% (200 feet downstream). The spill in April measured at the same locations as in March reduced number of specimens by 43% and 50%. The oil spill in December reduced number of macroinvertebrated specimens by 62% (200 feet downstream) (reference correspondence from Timothy H. Provan to Don Ostler and Dianne Nielson, April 14, 1989 and April 17, 1989, respectively; and correspondence from Larry Dalton to Bill Malencik and David Ariotti, April 21, 1989; and correspondence from Timothy H. Provan to Dianne Nielson on October 10, 1989).

The following mitigation recommendations are provided for your consideration.

1. Utah Division of Wildlife Resources must be reimbursed \$1,993.95 by Sunnyside Reclamation and Salvage, Inc. for monetary value of the 1,221 fish killed by their pollution events in March and December, 1989.
2. The company must determine and demonstrate a suitable technique for removing soluble or emulsified oil from mine water. Spills in 1989 demonstrated that fish were killed while technology or existing materials failed to clean the water.
3. The company should expeditiously develop a detailed written plan that is available to all mine personnel so that inadvertent releases of soluble or emulsified oil does not occur.
 - a. Mine water contaminated with soluble or emulsified oil during routine mining practices should be diverted to underground sumps or old workings where it can be treated to remove the oil.
 - b. Automatic mechanical safeguards in the oil emulsion mixing and delivery system need to be established. Breakdowns in the current system have resulted in two unnecessary fish kills during 1989.
4. Future management of the ponds by the company should be such that frequent cleaning occurs. Also, one pond should be maintained empty while the other is in operation. If an inadvertent oil spill occurs, the mine water discharge could be directed to the empty pond. This will allow additional time to deal with contaminants before a discharge occurs. Both ponds need gated valves so that contaminants can be held and not automatically released, as is the case now.
 - a. Pond 002A now has a layer of coal fines and oil that has been precipitated to the bottom due to flocculant and other contaminants. Mine water discharge should be diverted to pond 002B. Pond 002A should be allowed to dry and be dredged. Pond sediments must be disposed of in an appropriate manner.

- b. Routine water quality monitoring and biomonitoring by the company should be increased. Physical and biological evidence in the stream demonstrates historic mine water discharges having high nutrient loads, toxic contaminants and coal fines.
5. In order to maintain the wild trout quality of the stream, restocking will be accomplished through natural downstream drift and capture/transplant of wild trout from the drainage. This will require four man-days effort (\$480) by Division biologists, and two vehicles traveling 140 miles @ \$0.32/mile (\$44.80). The company should be required to reimburse the Division \$524.80 for this procedure.
6. Because of the first fish kill, a substantial loss of angling opportunity has occurred. Experience in other drainages suggests that recovery of the fish population will take three or more years. We suggest that mitigation for this loss can be accomplished by the mine allowing public walk-in access for the life-of-the-mine along the full length of stream and at the Whitmore (Grassy Trail) Reservoir. Trespass along the stream has never been an issue, although the reservoir has been closed to trespass by the company. We would not recommend vehicle access for the public beyond the existing facilities or gate. The Division of Wildlife Resources would appropriately manage Whitmore Reservoir to accommodate the anticipated increase in angler use. No increase in use by anglers along the creek is anticipated. Please understand, this is only a suggestion that would help pacify public concern for the loss of a significant fishery. Implementation should be at the mine's discretion.
 - a. The mine should be encouraged to erect an informational sign near the mouth of the canyon indicating that the stream and reservoir are open to public walk-in access for purposes of angling.
7. Mitigation as riparian enhancement and stream substrate review should occur to compensate for damage to the aquatic habitat, reduction in macroinvertebrate populations and loss of all age classes of fish.
 - a. We recommend that the mine fence the stream such that livestock grazing is precluded between the reservoir and Sunnyside town. This will stabilize streambanks, reduce sediment loading, improve substrate conditions and allow for cooler summertime temperatures due to shade. An enhanced riparian will increase available detritus for use as forage by macroinvertebrates. An improvement in the macroinvertebrate population will enhance forage conditions for the fish. Also, greater stability in the stream's environment will result, ultimately benefiting the structure of the fish population.
 - b. The substrate in the 0.76 mile segment of Grassy Trail Creek that is now coated with flocculant should be monitored through spring runoff to see if any breakdown, scouring or movement of the flocculant

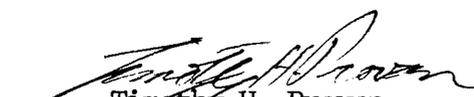
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material has resulted. After spring runoff we would like to revisit this issue and determine course of action, if any.

We would also recommend a task force review, with manufacturers, of flocculant toxicity to fish and potential alternative products that may be more environmentally positive.

Thank you for an opportunity to provide comment on this situation. If you have any further questions, please coordinate with the Resource Analyst, Larry Dalton (telephone 637-3310), in our Price regional office.

Sincerely,



Timothy H. Provan
Director

Enclosures