0056

Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Dianne R. Nielson, Ph.D.
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

May 25, 1989

TO: Richard V. Smith, Permit Supevisor

FROM: Darin Worden, Reclamation Hydrologist TM for

RE: North Fork Right Fork Miller Creek Breakout and Channel Disturbance Inspection, Cyprus-Plateau Mining Company, Starpoint Mine, ACT/007/006, Folder #5, Carbon County, Utah

Synopsis

The Division of Oil, Gas and Mining, along with representatives from Cyprus-Plateau and the U. S. Geological Survey, completed a field reconnaissance inspection on May 19, 1989, on the North Fork of Right Fork, Miller Creek. Surface disturbance and instability due to subsidence and the Miller Canyon breakout were inspected. This memo reviews the inspection.

Analysis

Surface flow greatly diminished downstream. Much surface disturbance and instability were observed.

Following is a list describing problem areas identified on an attached map. All flows are given in gallons per minute (gpm) and were estimated, not measured.

The attached map is a combination of the Wattis and Hiawatha USGS 7.5' Quadrangles.

1. USGS, Cyprus-Plateau weir location. Flow = 12-15 gpm. This was the lowermost point inspected.

an equal opportunity employer

2. Recent surface buckling is evident in channel bedrock at a sandstone ledge. No apparent effect to the surface flow. Flow = 3-5 gpm.

3. This is the uppermost location of inspection on the Right Fork, up to a major sandstone outcrop and cliff former. Flow remains constant down to the second USGS monitoring well, 3-5 gpm (point 5). There was no more evidence of surface disturbance upstream from this point.

4. Definite channel disturbance. Upstream, flow = 20-25 gpm. Flow disappears in a 5-yard stretch. At the extreme lower end of flow, a small pool (0.50 ft^3) has developed. No surface flow exists below this point. The water appears to flow back dip.

   This is the only portion of channel where it is obvious flow is lost.

5. USGS ground-water monitoring well. Flow above this area is 3-5 gpm. All is contributed by the right uppermost tributary. Surface conditions are very unstable in this area. Buckling of channel bedrock is evident. Nearly all flow is lost in a 15 yard stretch where side slope material has been downcast into the channel bottom. Flow below this point is < 1 gpm.

6. Lowermost USGS ground-water monitoring well. Surface disturbance is quite evident. Channel side slopes are very unstable. Flow is < 1 gpm.

7. Cyprus-Plateau Mining unintentional breakout. Instability is evident and surface flow is < 1 gpm.

8. Flow surfaces, approximately 12-15 gpm and remains constant down to the weir.

<u>Recommendation</u>

Schedule a team inspection to fully assess the surface disturbance and instability.

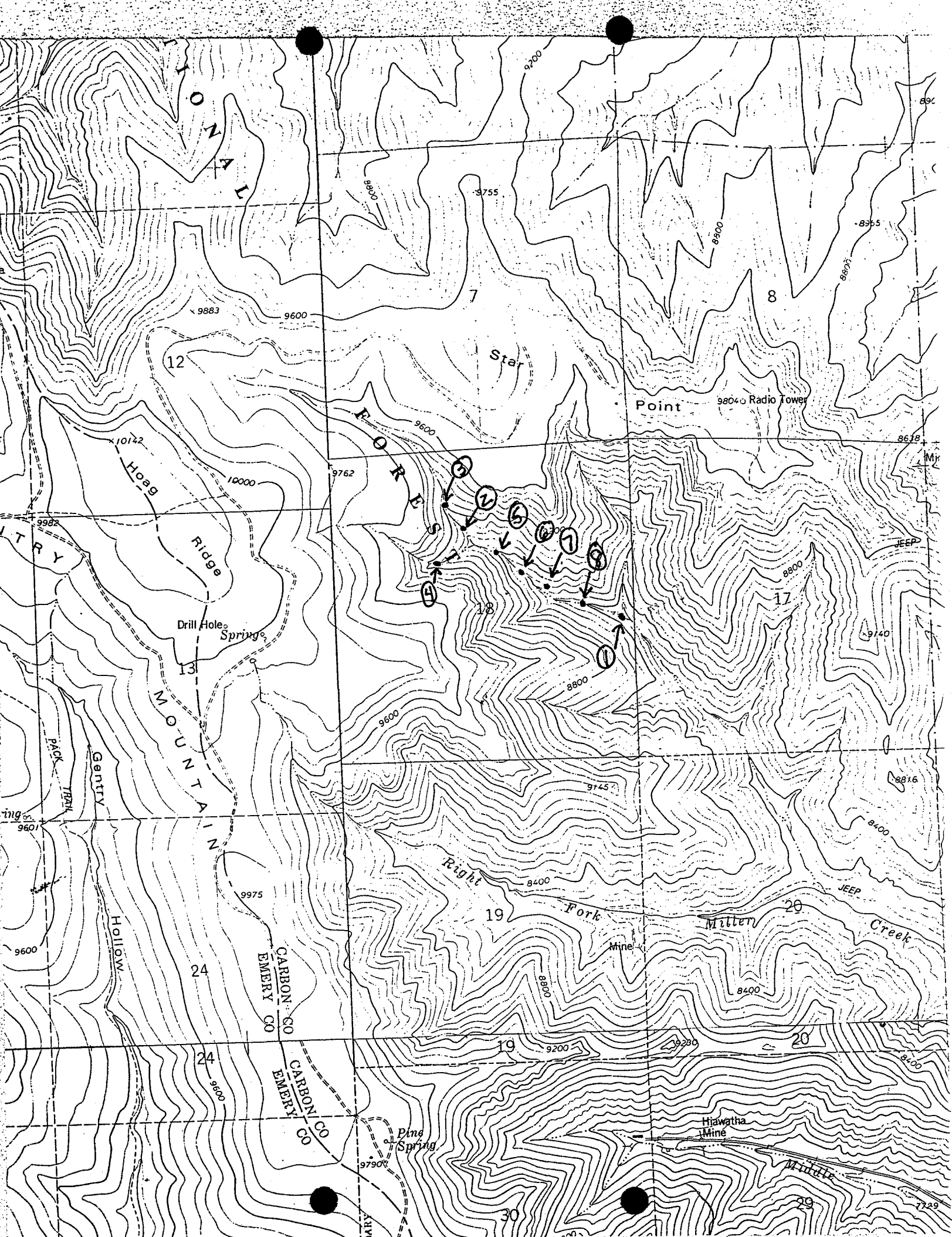
Remain in close consultation with the USGS for determining where surface flows are going; i.e., results of dye tracer tests.

If it is proven that stream water is being lost to the mine workings, instruct the operator to implement the approved mitigation plan.

Most feasible: Create a borehole from the mine to the stream to allow for gravity drainage if it is proven that stream flow is reduced by 50 percent or more for more than 30 days.

Do not allow any future longwall operations to undermine stream channels.

djh
Attachment
cc: T. Munson
AT30/31-33



Star
Point
Radio Tower
FOREST
Hoag
Ridge
Drill Hole
Spring
MOUNTAIN
Gentry
Hollow
PACK TRAIL
Right
Fork
Miller
Creek
Mine
JEEP
CARBON CO
EMERY CO
Pine Spring
Hiawatha Mine
Middle
7
8
12
13
17
18
19
20
24
29
30
9200
9755
8800
9600
9883
10142
10000
9762
9982
9601
9975
9145
8400
9140
8816
8638
9230
9790
7729