United States Department of the Interior

U-0149084

GEOLOGICAL SURVEY

0008

Office of the Area Mining Supervisor
Conservation Division
8426 Federal Building
125 South State Street
Salt Lake City, Utah 84138

#2 JWS RMP M.T.M comm

September 1, 1978

Mr. Donald A. Crane
Regional Director
Office of Surface Mining
Post Office Bldg. Rm 270
1823 Stout Street
Denver, Colorado 80202

Dear Mr. Crane:

Enclosed is copy of a plan to extend the mine yard with a dump at the Convulsion Canyon mine in Sevier County, Utah. The plan was submitted by Southern Utah Fuel Company, a Division of Coastal States Energy Company.

We talked by telephone with Murray Smith, of your office, and Earl Cox at our regional office in Denver, and were advised to send the plan to you for review and processing.

An onsite inspection was held May 19, 1978, with representatives of the company, U.S. Forest Service, and the Geological Survey. The specialists from the Forest Service said at the joint onsite meeting they did not object to the proposed dump but would not allow any garbage to be mixed with the rock and coal fill.

Jackson W. Moffitt

Enclosure

cc: State of Utah
Cleon Feight

RECEIVED
SEP 1 1978
DIV. OIL, GAS, & MINING

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

Attn: Joint Ju[illegible] DIV. OF MINING STATE OF UT. Elec Freight

Southern Utah Fuel Company
P.O. Box P
Salina, Utah 84654
(801) 529-7428

Division of
Coastal States
Energy Company

August 9, 1978

Jackson Moffitt
U.S. Dept. of the Interior
Geological Survey
Area Mining Supervisor
8426 Federal Bldg.
125 S. State Street
Salt Lake City, UT 84138

Dear Mr. Moffitt:

In regards to your visit to our mine in May, 1978, concerning the dumping of gob and rock into the canyon, we have made plans to extend our mine yard water drainage culvert as we agreed upon. Extending the culvert 230' alongside and down the edge of the canyon from the existing culvert end point would direct the water to intersect the base of the canyon at a point 76' beyond the present toe of the gob. In other words, the water would bypass the gob, reaching the bottom of the canyon beyond the gob. We have made calculations (see attached) to estimate how much gob would have to be dumped over the canyon to fill it up to the point where the gob would reach the new water discharge point. We have calculated that it would take approximately 74,600 yards to fill the canyon up to this point. If the mine life were 25 years, each year we would have to dump approximately 3,000 yards of gob into the canyon to fill it up by the end of the life of the mine.

We feel like the chances are very minimal that we will fill up the canyon to this point before the end of the life of the mine. However, the culvert is in a position where it can be extended even further down the canyon if the need should ever arise. We plan to extend the drainage point with 72" diameter culvert (same diameter as the existing culvert). It is estimated that this project will cost approximately $20,000. It is also estimated that it will take 3 weeks to complete the construction of this project, if there are no interruptions. Our plans are to begin this project during the spring or summer of 1979.

A map showing the present and proposed culvert discharge points and the present and proposed stream paths is attached. Gob yardage calculations are also attached.

We want to ensure that the mine drainage water is not contaminated, and we hope our plans to ensure this meet your approval. If you have any questions, please don't hesitate to call me at 286-2381. Thank you.

Sincerely,

Robert J. Wise

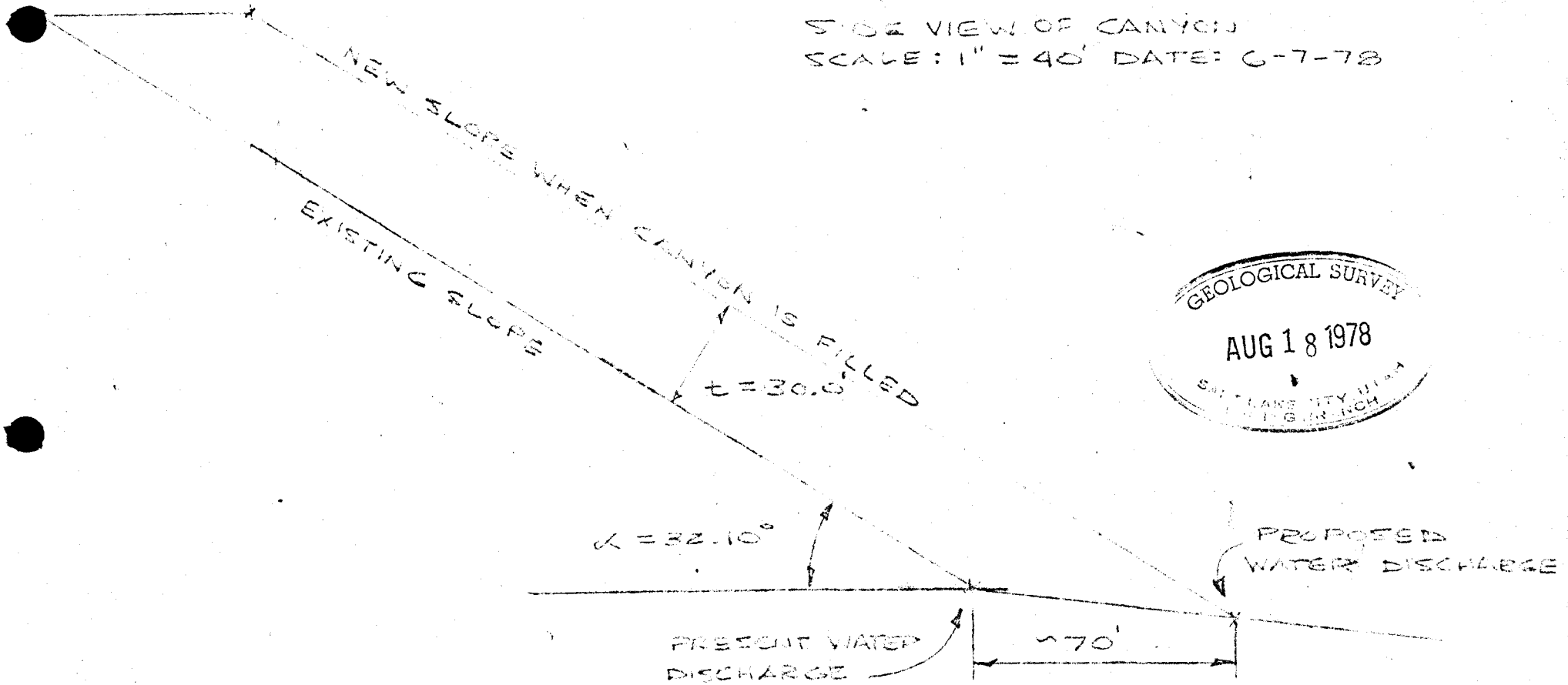
Robert J. Wise
Mining Engineer

RJW/jr
xc: R. Heath

SUFCD

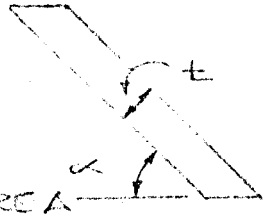
SIDE VIEW OF CANYON

SCALE: 1" = 40' DATE: 6-7-78

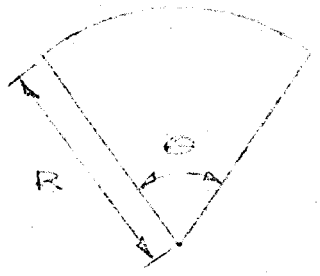


CALCULATION OF AMOUNT OF GOB TO FILL CANYON TO NEW WATER DISCHARGE POINT

SD = SLOPE DISTANCE
α = SLOPE ANGLE
$\bar{X}$ = (AVERAGE)
A = $\bar{X}$ CANYON FACE AREA



SIDE VIEW



FRONT VIEW

EQUATION FOR CUBIC YARDS OF GOB:

t = DEPTH

SURFACE AREA = AND $A = \frac{1}{2}\theta R^2$

VOLUME = t X A

AND $A = \frac{1}{2}\theta R^2$ $\quad \theta = 89°$

$\bar{X}_{SD} = 294'$ AND SD = R

$\Rightarrow \bar{X}_R = 294'$ AND $t = 30'$

$$\therefore A = \left(\frac{1}{2}\right)(89.00^\circ)\left(\frac{\pi \text{ RAD}}{180^\circ}\right)(294)^2 = 67,132 \text{ FT}^2$$

$$\therefore V = \frac{(30 \text{ FT})(67,132 \text{ FT}^2)}{(27 \text{ FT}^3/\text{YD}^3)} = 74,590 \text{ YD}^3$$

FOR 25 YEAR LIFE, YARDS PER YEAR = $\frac{74,590 \text{ YD}^3}{25 \text{ YRS}} = \frac{2984 \text{ YD}^3}{\text{YR}}$

(SEE ENLARGE SIDE AND FRONT VIEW SKETCHS ATTACHED)

SUFCO

DATE: 6-7-78