

MEMO #2

0005



**Southern Utah
Fuel Company**

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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
Mining Engineer

RJW/jr
xc: R. Heath ✓

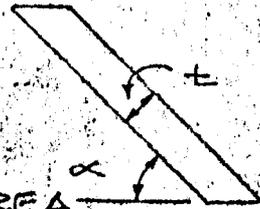
CALCULATION OF AMOUNT OF GOB
TO FILL CANYON TO NEW WATER
DISCHARGE POINT

SD = SLOPE DISTANCE

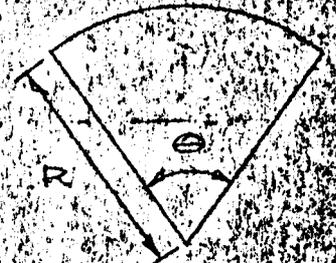
α = SLOPE-ANGLE

\bar{x} = (AVERAGE)

θ = Δ CANYON FACE AREA



SIDE VIEW



FRONT VIEW

EQUATION FOR CUBIC
 YARDS OF GOB:

VOLUME = $t \times A$

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

$\theta = 89^\circ$

$\bar{x}_{SD} = 294'$ 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 = $\frac{74,590 \text{ YD}^3}{25 \text{ YRS}} = \frac{2984 \text{ YD}^3}{\text{YEAR}}$

(SEE ENLARGE SIDE AND FRONT VIEW SKETCHES ATTACHED)

SUFCO

DATE: 6-7-78

SUFCD
SIDE VIEW OF CANYON
SCALE: 1" = 40' DATE: 6-7-78

