

0029



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# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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February 5, 1990

*File no 7/10007/1007  
# Insp. 5*

TO: Pamela Grubaugh-Littig, Permit Supervisor

FROM: William J. Malencik, Reclamation Specialists *WJM*

RE: SRS/NOV 89-26-24-1

The purpose of this memo is to document the NOV abatement measures required to be completed by January 31, 1990. Item 6 remedial action on the aforementioned NOV required the operator to "provide adequate supports for the underground emulsion line". This action was necessary because of the pipe separation at one of the pipe joints located about 100 feet down the manshaft.

I was notified that the operator completed work associated with Item 6 on January 29, 1990. The operator installed new and more reliable pipe and support system. Details are as follows:

1. Pipe: . About 1202' of 1 1/4" schedule 80 black iron pipe.  
. About 30' of higher pressure hose connecting the lines at the bottom of the shaft.

2. Pipe Couplings: . About 60 stainless steel unions.
3. Pipe Support: . Each length of pipe is supported by a clamp about 2'-3' below each union,
  - . The clamp has two bolts and is chained to the airforce landing mat that lines the manshaft.
4. Other: The SRS engineer (Peterson) recommended, and I concur, that the pipe be protected at the bottom of the shaft. This was not done; however, Clyde Wayman who was in charge of installing the pipe and others stated that this would be completed. This would prevent small falling objects from damaging the pipe and hose at the bottom of the shaft.

The NOV cannot be terminated at this time because stream restoration, if needed, is still pending. This matter, to the satisfaction of the Division, shall be determined per our discussions by the Divisions senior biologist.

Attached are a memorandum and notes from the SRS engineer. It is my position that the operator followed the engineers design. Furthermore, he installed a threaded line with stainless steel unions and new supports which is more reliable than the previous setup. This abates Item 6 of the above NOV. However, I shall follow-up on the pipe protection at the bottom of the shaft as part of a routine inspection.

WM/lap

Enclosures (2)

cc: SRS

# SRS, Inc.

MEMO TO: Bill Balaz

DATE: December 20, 1989

COPIES TO:

FROM: Randy Peterson

AT: Engineering

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SUBJECT: EMULSION SPILL PREVENTION

This latest emulsion spill was the result of the two-inch down-shaft line coming apart at the coupling. In view of this, I have looked at the integrity of the line from an engineering standpoint.

The weight of the pipe together with the weight of the emulsion fluid in the line totals 5,777 pounds. The max end load for the coupling is only 4,430 pounds; therefore, the line needs to be supported.

I have contacted Hjorth Brothers in Orem to propose two possible alternative solutions to the problem:

1. To fabricate sixty hangers capable of supporting the entire weight of the pipe.
2. To supply 1,200 feet of machine-threaded pipe and to provide a pipe chuck and related equipment for installation.

Another safeguard we should look at is to install a guard around the pipe at the bottom of the shaft where it is likely that falling objects could damage the pipe or put excessive strain on it. The need for this is apparent when considering the course of the spill in March, 1989.

In the interim, since the problem still exists, while the line remains the way it is, it is imperative that an inspection at the bottom of the shaft be performed each time it is to be used. This way if a line breakage should occur, the valve at the tank can be shut off before the mine dewater system has been contaminated.

  
Randy Peterson

RP:th

MANSHAFT MILK LINE

5" VIC PIPE

MAX END LOAD = 4,430#

TOTAL WT ON LAST LENGTH  
OF PIPE

5" DIA (1172')

$$71 \left( \frac{3}{12} \right)^2 (1172) 62.4 = 1596 \#$$

WT. OF PIPE

$$1172 (2.7 \# / \text{ft}) = 3,164 \#$$

$$3,164 \# + 1596 = \underline{4760 \#}$$

Sch 40

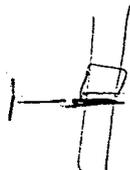
$$3.653 \# / \text{ft} = 4281$$

1596

As per Hirsch Bros

$$\boxed{5777}$$

Retainer ring welded around coupling so that



new sch 40 pipe machine spacers.

If pipe were new and supported OK VIC  
prob when Corrosion rounds of the edges of pipe.

Custom make brackets hangers. - W ca.



Vertical shaft pipe.  
tubin coupling

recommend join w/ drilling outfit

Hjorth Brothers Cal a Richard - 489-5646

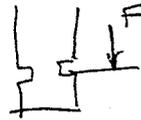
Scott Co. Mansfield refer.

2" line

will call w/ quote for hangers

Max end load on 2" coupling = 2215 #

shear strength of pipe



# Hjorth Bros

- Mountain Land 1 - 666-3434
- Republic 974-5666

## REDESIGN CALC. FOR MAIN SHAFT EMULSION LINE

PARAMETERS: 50 gpm REQUIRED FLOWRATE

USE 1 1/4" PIPE IF POSSIBLE

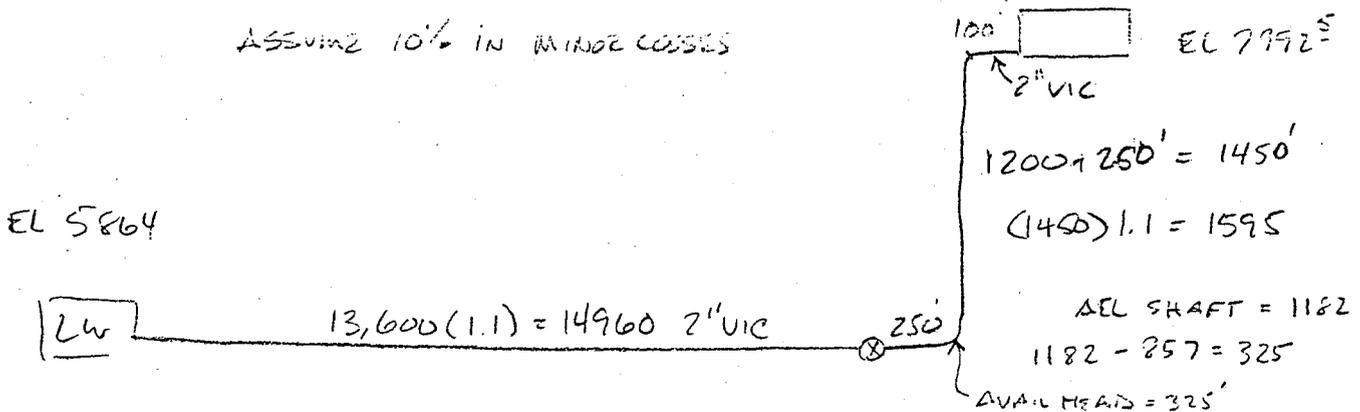
2" VICADLIC PIPE IN MINE FROM SHAFT

BOTTOM TO LONGWALL FACE. DESIGN FOR

WORST CASE - LONGEST PIPE TO 23 LW FACE

ALL THE WAY RETREATED.

ASSUME 10% IN MINE LOSSES



SCH 80 TOTAL 1 1/4" PIPE 1595 EQ LENGTH @ 50 gpm  $H_f = (53.7/100) 1595 = 957$

SCH 40 TOTAL 2" VIC PIPE 14960 EQ LENGTH @ 50 gpm  $H_f = (4.66/100) 14960 = 697$

$$\text{TOTAL } H_f = 1554$$

$$\Delta EL = 7992' - 5864' = 2129 \text{ ft.}$$

$$\text{AVAILABLE HEAD @ LWFACE} = 2129 - 1554 = \underline{575 \text{ ft.}}$$