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A E Snyder 10-11-40

J. Cleverger 10/18/90

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PNL 10-90

To: Files
From: A. A. Snyder

REMOVAL OF RUPTURED SLUG FROM TUBE 1768-D

SUMMARY

The 105-D pile was shut down on July 14, 1951 at 10:12 A.M. when the sample room monitoring instruments indicated a ruptured slug on crossheader #17 $\frac{1}{2}$. The suspected tube was discharged with normal discharge forces using the pneumatic charging machine.

Operation was resumed at 1:04 P.M. on July 15, 1951 after a loss of production time equivalent to the minimum down time of D pile of 26.8 hours.

DETECTION

The rupture was initially indicated by the effluent water monitoring system. Header sample analysis gave additional evidence of a rupture and the pile was shut down. A reading of 700 mr/hr. was obtained on the pigtail of tube 1768-D. Smears taken from inside the rear nozzle produced readings of 200 mr/hr. and 35 rep/hr.

REMOVAL

The tube was discharged applying normal discharge forces with the pneumatic charging machine. The tube was swabbed to remove loose contamination and recharged with regular metal.

PERTINENT DATA ON THE CHARGE

The regular metal charge removed from tube 1768-D was loaded February 14, 1951 and had reached a concentration of 304 MWD/T. The ruptured piece was earned December 15, 1950, of MR material on "G" Line. It was processed on truck 8 and was autoclaved.

The rupture is a circumferential failure of the can adjacent to the Al-Si bond of slug and cap. A flux comparison of the pieces from the tube indicates that the ruptured slug was approximately the 38th piece from the front face.

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LENGTH OF OUTAGE

- Pile operation was resumed at 1:04 P.M. on July 15, 1951. Lost production time amounted to 26.8 hours which is the minimum down time of the D pile under present operating conditions. Removal of the suspected metal required 2½ hours.

H.I. ASPECTS

Radiation exposures to personnel were within standard limits and contamination was held within bounds of established danger zones. No unusual hazards were encountered.

SLUG DISPOSAL

The ruptured slug has been camed preparatory to shipment to 111-B for further study.

PRODUCTION UNIT
REACTOR SECTION

FA Snyder:mbc



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