

UNCLASSIFIEDOSR 14-169B
(Rev 3-76)**APPROVED**
TEST CONCLUSION No. 2-850

DPSOX 9476

TITLE

TANK 16 ANNULUS CLEANING

AREA

200-H

BUILDING

241-H, Tank 16

DATE

February 23, 1982

PREPARED BY

E. B. Snell

RESPONSIBLE FOR TEST

C. Comly

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PLANT**PURPOSE**

To remove waste salt from the annulus of tank 16.

RESULTS

Tank 16 annulus cleaning began with the removal of 15 ft³ of sand by vacuuming in June 1976. About 20 ft³ of sand accumulated in the annulus in 1974 during sandblasting for inspection of cracks in the primary tank below inspection port (IP) 151.

Removal of water soluble salts from tank 16 annulus was conducted between June 1977 and March 1978. About 80% of the solids, containing 70% of the radioactivity, were removed from the annulus by water washing using steam jets for agitation. The 22,000 lbs of water insoluble residue which remains, containing 30,000 curies of activity (primarily ¹³⁷Cs), will be removed by chemical cleaning of the annulus. References 1 and 2 give a detailed description of salt removal from the annulus of tank 16.

The test provided the technical data for designing annulus cleaning equipment for the eight other type I and II tanks with waste in the annulus.

Inspections indicated that cleaning the tank 16 annulus did not damage the primary tank or secondary liner. No waste was released to the environment as a result of cleaning operations. However, 500 curies of activity were released to the soil when the transfer line from tank 16 annulus to tank 14 failed. (see DPSPU-77-272-204) The activity was contained within the tank farm area and the soil was removed to the burial ground. Groundwater monitoring did not show any increase in activity around tank 16.

RECOMMENDATIONS

- o Proceed with design of annulus cleaning facilities for the remaining eight tanks with waste salt in the annulus using D-jets for water agitation (continuing under Project S-2081).
- o Demonstrate technique of further decontaminating tank 16 annulus using oxalic acid to dissolve the residue (design in progress under Project S-1334).

REFERENCES:

1. Snell, E. B. to J. H. Hershey, DPSP-80-17-21, Second Tank 16 Annulus Cleaning Test-Process and Equipment Description, October 8, 1980.
2. Works Technical Monthly Reports, DPSP-77-1-6 through DPSP-78-1-4.

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