

UNCLASSIFIED

OSR 14-168B
(Rev. 5-64)

APPROVED
TEST AUTHORIZATION No. 2-514

DPSOX 5954

TITLE

DRILLING TO LOCATE Cs-137 WHICH LEAKED FROM TANK 16

H

BUILDING

241

DATE

July 20, 1964

PREPARED BY

J. H. Horton

RESPONSIBLE FOR TEST

J. W. Fenimore

RECORDS ADMINISTRATION



R1174233

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PURPOSE

To obtain data needed to evaluate the effect of waste tank leakage upon Plant environs.

BASIS FOR APPROVAL

APPLICABLE STANDARDS

NONE

OUTSIDE INSIDE

TECHNICAL

MECHANICAL

APPLICABLE TECHNICAL SPEC

NONE

OUTSIDE INSIDE

APPROVAL REQUIRED

WILM

SRP

WILM APPROVAL is required for a test that:
● is outside Technical or Mechanical Standards, or ● has no applicable standard, but will result in a major process-material change, or ● is outside Technical Specifications.

IDENTITY OF STANDARDS OR TECH SPEC

DURATION

July 20, 1964, to July 5, 1965

APPROVED BY: (Cross-off indicates signature not required.)

SUPT	DEPARTMENT	WT SUPT	SECTION
XXXX		XXXX	
SUPT	DEPARTMENT	WT SUPT	SECTION
XXXX		Health Physics	
		C. M. Patterson	
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GENERAL SUPT.	PRODUCTION DEPARTMENT	GEN SUPT.	WORKS TECHNICAL DEPARTMENT
F. H. Endorf		W. P. Bebbington	
LABORATORY DIRECTOR		PROCESS MANAGER	
XXXX		XXXX	
PLANT MANAGER		DIRECTOR, TECHNICAL DIVISION	
XXXX		XXXX	

EFFECTS ON OTHER AREAS

Does test have an effect in the supplying or the receiving area . . .

On Product Characteristics? YES NO

On Product Specifications? YES NO

What Area is Affected?

Production and Works Tech Superintendents for affected area sign in "Approved By" block.

AUTHORIZED BY:

PLANT MANAGER	DIRECTOR, MANUFACTURING DIVISION
J. D. Ellett	XXXX

IF TECHNICAL SPECIFICATION REVISED, ENTER DATE

UNCLASSIFIED

During September 1960, high level waste, containing primarily Cs-137, leaked from tank 16 and it was estimated that as much as 5000 curies was lost to the surrounding soil. The actual magnitude of the release has never been determined. Extensive drilling showed that most of the radioactivity was below the concrete pad upon which the tanks were constructed. Between May 11 and December 31, 1961, 9×10^5 gallons of ground water were pumped from beneath the concrete pad. This operation recovered only 3.3 curies of the Cs-137. Monthly sampling and analysis of water from 10 monitoring wells (35 feet deep) evenly spaced around the edge of the concrete pad have detected no horizontal migration. It is possible that the high specific gravity of the waste caused it to move rapidly downward. It is proposed that 3 to 5 holes be drilled through the concrete pad and that undisturbed soil samples be removed to a depth sufficient to define the magnitude of the leakage and the extent of migration.