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# West Valley Demonstration Project

## TEST PLAN

### LONG TERM TESTING OF CEMENT WASTE FORM

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RECORD OF REVISION

PROCEDURE

If there are changes to the procedure, the revision number increases by one. These changes are indicated in the left margin of the body by an arrow (>) at the beginning of the paragraph that contains a change.

Example:

> The arrow in the margin indicates a change.

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Rev. No.	Description of Changes	Revision On Page(s)	Dated
0	Original Issue	All	10/88
1	Per ECN #2777	1,2	01/89

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RECORD OF REVISION (CONTINUATION SHEET)

Rev. No.	Description of Changes	Revision on Page(s)	Dated
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WVNS LONG TERM TESTING OF  
CEMENT WASTE FORM

Rev. 1

1.0 PURPOSE

The purpose of the long term phase of the testing program is to demonstrate long term retention of concrete compressive strength and minimal degradation due to cracking and spalling caused by aging.

2.0 APPLICABILITY

This Plan applies to periodic confirmatory testing of WVNS cemented low level waste generated under actual production conditions to demonstrate long term waste form stability.

3.0 SCOPE

This testing is intended to demonstrate and verify waste form stability by coring selected production drums, performing compressive strength testing and documenting detailed visual inspections.

4.0 DESCRIPTION

Twenty (20) drums shall be selected and set aside from a given production run for future evaluation as described. This isolation will facilitate handling by minimizing stacking, unstacking and restacking.

- > After an initial cure period of six (6) months, cores shall be obtained from the first isolated production drum as follows: Two (2) from upper section, two (2) from center section, and two (2) from the lower section of the drum. Core segments shall have a minimum length over diameter of 2:1 to facilitate test sample preparation.

As test specimens are generated, they shall be bagged and uniquely identified to include date, drum number, and core location, i.e., (A-top, B-middle, C-bottom).

Each core shall be visually examined for indications of cracking or spalling and then photographed.

Upon completion of visual examination, one core specimen from each level shall be destructively evaluated for compressive strength per ASTM C-39.

The remaining three core specimens shall remain bagged and stored in the RTS Drum Cell environment for visual examination at six (6) month intervals for signs of cracking or spalling.

For nine (9) drums the above steps shall be repeated in their entirety with a six month lag time between the start of each. This test will cover a five (5) year period. The remaining ten (10) drums will be stored in the RTS Drum Cell for possible future test(s).

- > After the drum is cored it will be placed into an overpack box and placed back into storage.