DISTRIBUTION SHEET

To	From	Page 1 of 1
J. P. Harris	J. R. Bellomy	Date 2-09-95
Project Title/Work Order		EDT No. 606586
Project W-320 Heel Jet Secondary Catch Mechanism Lateral Load Test - Test Report		ECN No. N/A

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
D. E. Ball	G6-46		X		
J. R. Bellomy	S6-12	X			
J. P. Harris	S6-12		X		
J. J. Huston	S6-12		X		
T. C. Mackey	S2-03	X			
Central Files (2)	L8-04	X (2)			
O.S.T.I. (2)	L8-07	X (2)			

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

FEB 10 1995
Sta. # 3 58

ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT 606586

2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.:
Retrieval Engineering	Retrieval Engineering	N/A
5. Proj./Prog./Dept./Div.:	**6. Cog. Engr.:**	**7. Purchase Order No.:**
W-320 / Org. 7F820	J. R. Bellomy	N/A
8. Originator Remarks:		**9. Equip./Component No.:**
Original Issue of Supporting Document for Approval		N/A
		10. System/Bldg./Facility:
		241-C-106
11. Receiver Remarks:		**12. Major Assm. Dwg. No.:**
		H-2-83746, H-2-83747
		13. Permit/Permit Application No.:
		N/A
		14. Required Response Date:
		ASAP

15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Approval Designator	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	WHC-SD-W320-TRP-001		0	Project W320 Heel Jet Secondary Catch Mechanism Lateral Load Test - Test Report	SQ	1	1	

16. KEY

Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)	1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION
(See Approval Designator for required signatures)

(G) Reason	(H) Disp.	(J) Name (K) Signature (L) Date (M) MSIN	(J) Name (K) Signature (L) Date (M) MSIN	(G) Reason	(H) Disp.
1	1	Cog.Eng. J. R. Bellomy 1-16-95 S6-12			
1	1	Cog. Mgr. J. P. Harris 1-16-95 S6-12			
1	1	QA J. J. Huston 1-16-95 S6-12			
1	1	Safety G. E. McPherson S2-41	1/8/95		
1	1	Struct. Eng. T. C. Mackey S2-03	2/9/95		

18.	19.	20.	21. DOE APPROVAL (if required) Ctrl. No.
J. R. Bellomy 1-16-95 Signature of EDT Originator Date	Authorized Representative for Receiving Organization Date	J. P. Harris 1-16-95 Cognizant Manager Date	[] Approved [] Approved w/comments [] Disapproved w/comments

BD-7400-172-2 (04/94) GEF097

BD-7400-172-1 (07/91)

RELEASE AUTHORIZATION

Document Number:	WHC-SD-W320-TRP-001, REV 0
Document Title:	Project W320 Heel Jet Secondary Catch Mechanism Lateral Load Test - Test Report
Release Date:	2/9/95

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Kara M. Broz — February 9, 1995

SUPPORTING DOCUMENT

1. Total Pages 18

2. Title	3. Number	4. Rev No.
Project W320 Heel Jet Secondary Catch Mechanism Lateral Load Test - Test Report	WHC-SD-W320-TRP-001	0

5. Key Words	6. Author
Project W-320, Heel Jet, Secondary Catch Mechanism, Test Report	Name: J. R. Bellomy Signature 1-16-95 Organization/Charge Code 7F820/D2M49

7. Abstract

This test report summarizes testing activities and documents the results of the lateral load test performed on the Heel Jet Secondary Catch Mechanism.

8. RELEASE STAMP

WHC-SD-W320-TRP-001
REVISION 0

PROJECT W-320
HEEL JET SECONDARY CATCH MECHANISM
LATERAL LOAD TEST
TEST REPORT

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

J. R. Bellomy
December 1994

DISCLAIMER

CONTENTS

1.0 INTRODUCTION 1

2.0 DESCRIPTION OF TEST 1

3.0 TEST METHOD AND TEST EQUIPMENT 1

4.0 TEST RESULTS 2

5.0 CONCLUSIONS AND RECOMMENDATIONS 2

6.0 DISPOSITION OF TEST ITEMS 2

7.0 REFERENCES 3

APPENDICES

A ICF KH Interoffice Memorandum, R. T. Hallum to C. D. Jones, "Heel Jet Lifting Bail," dated January 20, 1994.

B Completed Test Procedure

1.0 INTRODUCTION

The Heel Jet located in tank 241-C-106, Pit B is planned to be removed as part of equipment removal activities associated with Project W-320, Tank 241-C-106 Waste Retrieval. A lifting fixture has been designed, fabricated, and tested and will be used as the primary means to connect the flexible receiver lifting hook to the heel jet lifting bail during removal.

During design review activities, ICF KH raised a concern regarding the integrity of the welds that attach the lifting bail to the heel jet flange (Appendix A). The welds on the lifting bail are in the direct load path during lifting of the heel jet and are not accessible for testing or evaluation due to the high radiation levels located within the heel pit.

To resolve the weld concern, a safety catch or secondary catch mechanism (SCM) has been designed and fabricated. The SCM consists of two modified purex connector heads (one 2-inch connector and one 3-inch connector) which are designed to be attached to the nozzles on the heel jet flange and rigged to the flexible receiver lifting hook. This will provide for an alternate load path from the heel jet to the lifting hook, should the welds fail on the existing lifting bail during lifting of the heel jet.

As part of fabrication, the SCM's were load tested by applying 125 percent of the design load in the vertical direction (lifting bail and connector head in line with the load path). However, because the SCM lifting bails will be at an angle when rigged to the flexible receiver lifting hook, a supplemental load test applying a lateral load to the SCM was determined necessary to qualify the design.

Project W320 Heel Jet Secondary Catch Mechanism Lateral Load Test (Bellomy 1994) was prepared and issued to provide instructions for the SCM lateral load test. This test report summarizes the results of that test. The overall design analysis for the SCM's is included in WHC-SD-W320-DA-007, *Structural Analysis for the Heel Ject Secondary Catch Mechanism* (Mackey 1995).

2.0 DESCRIPTION OF TEST

The SCM lateral load test was performed on September 9, 1994, at the Cold Test Facility following the procedure included in WHC-SD-W320-TC-002 (Bellomy 1994). ICF KH construction forces performed the test under the direction of Westinghouse Hanford Company (WHC) Projects. The test was observed by both WHC Engineering Analysis and WHC Quality Assurance. There were no deviations from the approved procedure.

3.0 TEST METHOD AND TEST EQUIPMENT

Testing was performed at the east end of the Cold Test Facility, using the pit mockup framework designed for training personnel in the remote installation of jumper assemblies. The framework is a welded steel frame fabricated primarily from W-beams. Nozzles of varying diameters are welded to the W-beams at several locations and in various positions to simulate nozzle positions typical of the actual pump pits.

The 2-inch SCM was placed on a horizontal 2-inch nozzle and rotated so that the lifting bail, when in the 90-degree position, was in line with two of the three SCM fingers. The 2-inch SCM was then torqued in position to 215 foot pounds using the calibrated torque wrench. Following torquing, a calibrated dynamometer with a range of 0 - 2,000 pounds was connected by means of an 8½-ton shackle to the lifting bail on the SCM. To complete the rigging, a nylon sling was looped around a W-beam on the frame and connected to the chain hoist and the dynamometer. The slack was then taken up in the rigging using the chain hoist and the lifting bail was verified to be in the 90 degree position as required by the test procedure.

The SCM was loaded by increasing the tension on the rigging with the chain hoist. The ratchet action of the chain hoist did not allow for gradual increase in tension and resulted in applying a considerably higher load on the SCM than the 350 pounds required by the test procedure. The load momentarily reached 600 pounds, however, the load rapidly dropped off due to the elasticity of the nylon sling and eventually stabilized at 500 pounds.

Once the application of minimum load had been verified, the tension on the SCM was released. The rigging was then disassembled, and the SCM removed from the nozzle for inspection.

All equipment used in testing was as specified by the test procedure. Special test instrument identification numbers, ranges, and calibration due dates were verified and recorded in the space provided in the test procedure.

4.0 TEST RESULTS

After the load test, the SCM and the nozzle were examined visually for signs of damage. No signs of damage of any kind were observed or noted on either component.

The completed test procedure is included in this test report as Appendix B.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The SCM lateral load test was successful and validates considerations made in design. The test demonstrates that the SCM's are capable of performing as designed when subjected to lateral loading. No further testing of the SCM is considered necessary or recommended.

6.0 DISPOSITION OF TEST ITEMS

All testing was completed in accordance with the approved test procedure. The 2- and 3-inch SCMs are fully tested and will be stored until needed to support removal of the 241-C-106 heel jet.

7.0 REFERENCES

Bellomy, J. R., 1994, *Project W320 Heel Jet Secondary Catch Mechanism Lateral Load Test*, WHC-SD-W320-TC-002, Revision 0, Westinghouse Hanford Company, Richland, Washington

Mackey, T. C., 1995, *Structural Analysis for the Heel Ject Secondary Catch Mechanism*, WHC-SD-W320-DA-007, Revision 0, Westinghouse Hanford Company, Richland, Washington

DISCLAIMER

APPENDIX A:

ICF KH Interoffice Memorandum,
R. T. Hallum to C. D. Jones,
"Heel Jet Lifting Bail,"
dated January 20, 1994.

KAISER ENGINEERS
HANFORD

WHC-SD-W320-TRP-001
REVISION 0

INTEROFFICE MEMORANDUM

TO C. D. Jones

DATE January 20, 1994

FROM R. T. Hallum RTH

COPIES TO R. C. Campbell
R. W. Davidson EJ-21
M. B. LaSota
D. J. MacIsaac
M. W. Manderbach

JOB NO. W-320

SUBJECT HEEL JET LIFTING BAIL

Reference: Calculation W320-25-014, Heel Jet Lifting Point Strength Analysis, R. C. Campbell, Dated 12-22-93.

Mike LaSota asked me to look at a lifting bail that is being analyzed for load capacity by the above calculation. The concern is over the material used to fabricate the bail (see drawing H-2-41297). The lifting bail was fabricated from ASTM A 108 grade 1115 bar. Grade 1115 is a free machining grade designed for ease of machinability rather than weldability. It is generally not recommended to be welded. Free machining steels are prone to hot cracking and porosity when welded. Additionally the mechanical properties of the base materials will experience a loss in toughness, strength, and ductility.

Information on the materials used to fabricate the lifting bail are limited. ASTM standards on the bar, the flange, and the weld rod were available only in editions from the early 1960s. These welds were probably made in the early 1950s. The welding standard referenced on the drawing required qualified welding procedures and welders. I am not sure if the welding records are available.

I would suggest an alternate method be devised to lift the heel jets out of the tanks until additional information, such as welding procedure qualification records, can be located. These records might provide information on the mechanical tests conducted on the welded A 108 grade 1115 steel bar. There is insufficient information to determine if the weld joints could produce mechanical properties equal to or greater than the base materials properties used in the above calculation or listed in the ASTMs.

WHC-SD-W320-TRP-001
REVISION 0

APPENDIX B:

Completed Test Procedure

WHC-SD-W320-TR-002
REVISION 0

ORIGINAL

OCT 4 1994
Sta. #3 58

ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT 606574

2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.:
Retrieval Engineering	Retrieval Engineering	N/A
5. Proj./Prog./Dept./Div.:	**6. Cog. Engr.:**	**7. Purchase Order No.:**
W320 / Org. 7F550	J. R. Bellomy	N/A
8. Originator Remarks:		**9. Equip./Component No.:**
Original Issue Supporting Document for Approval		N/A
		10. System/Bldg./Facility:
		241-AY-102, 241-C-106
11. Receiver Remarks:.		**12. Major Assm. Dwg. No.:**
		N/A
		13. Permit/Permit Application No.:
		N/A
		14. Required Response Date:
		ASAP

15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Impact Level	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	WHC-SD-W320-TC-002		0	PROJECT W320 HEEL JET SECONDARY CATCH MECHANISM LATERAL LOAD TEST	SQ	1		

16. KEY

Impact Level (F)	Reason for Transmittal (G)	Disposition (H) & (I)
1, 2, 3, or 4 (see MRP 5.43)	1. Approval 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)	1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION
(See Impact Level for required signatures)

(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.
1	1	Cog.Eng. J. R. Bellomy		9-29-94	S6-12						
1	1	Cog. Mgr. J. P. Harris		10-3-94	S6-12						
1	1	QA J. J. Huston		9-27-94	S6-17						
1	1	Safety G. E. McPherson			T4-10			10-3-94			
1	1	Struct. Eng T. C. Mackey			S2-03			10/3/94			

18.	19.	20.	21. DOE APPROVAL (if required)
J. R. Bellomy 9-29-94 Signature of EDT Originator Date	Authorized Representative for Receiving Organization Date	J. P. Harris 10-5-94 Cognizant/Project Engineer's Manager Date	Ltr. No. [] Approved [] Approved w/comments [] Disapproved w/comments

BD-7400-172-2 (07/91) GEF097

WHC-SD-W320-TRP-001
REVISION 0

ORIGINAL

RELEASE AUTHORIZATION

Document Number:	WHC-SD-W320-TC-002, REV 0
Document Title:	Project W-320 Heel Jet Secondary Catch Mechanism Lateral Load Test
Release Date:	October 4, 1994

* * * * * * * * * * * * * *

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

* * * * * * * * * * * * * *

WHC Information Release Administration Specialist:

Kara Broz
(Signature)

October 4, 1994
(Date)

ORIGINAL REVISION 0

SUPPORTING DOCUMENT

1. Total Pages 8

2. Title	3. Number	4. Rev No.
Project W-320 Heel Jet Secondary Catch Mechanism Lateral Load Test	WHC-SD-W320-TC-002	0

5. Key Words

Project W-320, Heel Jet, Secondary Catch Mechanism, Lateral Load Test

APPROVED FOR PUBLIC RELEASE

kmb 10/4/94

6. Author

Name: J. R. Bellomy

Signature

Organization/Charge Code 7F830/D2M49

7. Abstract

This test procedure applies a lateral load to the Heel Jet Secondary Catch Mechanism to very asumptions made in design analysis.

8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.

PATENT STATUS - This document copy, since it is transmitted in advance of patent clearance, is made available in confidence solely for use in performance of work under contracts with the U.S. Department of Energy. This document is not to be published nor its contents otherwise disseminated or used for purposes other than specified above before patent approval for such release or use has been secured, upon request, from the Patent Counsel, U.S. Department of Energy Field Office, Richland, WA.

DISCLAIMER - This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

10. RELEASE STAMP

OFFICIAL RELEASE 58
BY WHC
DATE OCT 4 1994
Sta. #3

9. Impact Level SQ

A-6400-073 (11/91) (EF) WEF124

WHC-SD-W320-TRP-001
REVISION 0

ORIGINAL

WHC-SD-W320-TC-002
REVISION 0

PROJECT W-320
HEEL JET SECONDARY CATCH MECHANISM
LATERAL LOAD TEST

J. R. Bellomy
September 1994

WHC-SD-W320-TRP-001
REVISION 0

ORIGINAL

WHC-SD-W320-TC-002
REVISION 0

PROJECT W-320
HEEL JET SECONDARY CATCH MECHANISM
LATERAL LOAD TEST

1.0 TEST IDENTIFICATION

This test procedure establishes the requirements for performing a lateral load test of the Heel Jet Secondary Catch Mechanism (SCM). Successful performance of this test will demonstrate that the SCM is capable of performing as designed when subjected to a force applied normal to the longitudinal axis of the mechanism.

This test procedure is prepared following the recommended format and content guidelines for test procedures as prescribed in WHC-IP-1026, *Engineering Practice Guidelines*, Appendix K, *Test Plans, Specifications, Procedures and Reports*.

2.0 GENERAL TEST DESCRIPTION

2.1 Test Objectives

The objective of this test is to verify that the SCM's are capable of performing as designed and will not fail when subjected to angular or lateral loading. Successful performance of the 2-inch SCM test will validate assumptions made in design analysis for both the 2-inch and the 3-inch SCM's.

2.2 Test Method

The load test will be performed by connecting the 2-inch SCM to a fixed 2-inch horizontal nozzle and torquing it in position to 215 foot pounds. The 2-inch SCM will be oriented on a horizontal nozzle such that a minimum force of 325 pounds can be applied to the SCM while the lifting bail is in the approximate 90 degree position (normal to the longitudinal axis of the mechanism). Following application of the load, the 2-inch SCM will be removed. The 2-inch SCM and the fixed nozzle will then be visually inspected to ensure that structural integrity has been maintained.

3.0 TEST CONDITION LIMITS

3.1 Environmental Conditions

There are no environmental conditions (excepting unforseen site emergencies) which have potential to impact the load test performance.

WHC-SD-W320-TRP-001
REVISION 0

ORIGINAL

3.2 Operational Conditions and Pre-Test Requirements

The following operational conditions and pre-test requirements shall exist prior to test performance:

- All fabrication inspections and tests shall have been completed on the 2-inch SCM as required by the fabrication details.
- Load testing of the 2-inch SCM as required by the DOE-RL Hanford Site Hoisting and Rigging Manual shall have been successfully completed.

4.0 TEST INSTRUMENTS AND CALIBRATION

A calibrated torque wrench and a dynamometer are required to support test performance. The torque wrench and dynamometer identification number, range, and calibration due date shall be recorded in the space provided below.

Torque Wrench

Identification Number 6751 WB04080

Range 60 - 300 FT/LBS

Calibration Due Date 12/14/94

Dynamometer

Identification Number #34 815-19-06-034

Range 0 - 2000 LBS

Calibration Due Date 9/19/95

Verified by:

Quality Assurance [signature] Date 11-1-94

B-6

5.0 FACILITIES, EQUIPMENT, AND MATERIALS

5.1 Test Facility

Testing is planned to be performed at the Cold Test Facility. If the Cold Test Facility is not available, testing may be performed at any location determined suitable by the Test Director.

5.2 Equipment and Materials

The following equipment and materials shall be available to support testing:

- 2-inch Secondary Catch Mechanism (H-2-83746)
- Fixed horizontal 2-inch nozzle
- Calibrated torque wrench
- Digital or analog dynamometer (0 to 5,000 pound range maximum)
- Cable or chain come-a-long (2-ton minimum rating)
- 8 1/2 ton shackle
- Rigging hardware

6.0 SAFETY

The following represents mandatory safety requirements to be followed at all times during testing:

6.1 WHC and/or KEH safety practices and standards of conduct shall be adhered to at all times.

6.2 Hard hats and safety glasses shall be worn by all personnel during equipment assembly operations and during test performance.

6.3 Equipment which is damaged or excessively worn shall not be used.

7.0 MAINTENANCE AND FAILURES

7.1 Maintenance

In the event any test equipment is not functioning or performing properly, the test shall be suspended. Testing may be resumed only after the defective component is replaced or required adjustments/maintenance has been performed.

7.2 Failures

Any observable evidence of failure of any component within the load path shall immediately be brought to the attention of the Test Director. The Test Director shall evaluate the condition and determine necessary corrective actions. If an unsafe condition is determined to exist, testing shall be discontinued and the load released in a safe manner as soon as possible. Testing may be resumed only after any required corrective actions have been performed.

8.0 TEST DATA

Test data shall be recorded in the space provided in Section 11, Test Procedure. Copies of all supplemental inspection sheets generated as a result of testing shall be attached to the test procedure.

9.0 PERSONAL REQUIREMENTS

Special training requirements for test personnel shall be as noted in the following. The are no special training requirements for other test support personnel.

9.1 Test Director - The Westinghouse Hanford (WHC) W-320 Project Cognizant Engineer or his designee shall act as the Test Director. The Test Director shall have overall authority for test performance and shall be responsible for ensuring that testing is performed in accordance with the requirements of this procedure.

9.2 Quality Assurance Representative - The WHC W-320 Project Quality Assurance Engineer or his designee shall be responsible for performing all quality assurance verifications required by this test procedure.

10.0 TEST WITNESSES

The WHC Quality Assurance Representative shall witness the test performance. The designated Quality Assurance representative shall be notified 24 hours prior to test performance.

ORIGINAL

11.0 TEST PERFORMANCE

Load test prerequisites and the procedure for testing the 2-inch SCM are included in this section. Testing shall be performed specifically as sequenced in this section.

11.1 Test Prerequisites

11.1.1 Position the SCM on the fixed 2-inch horizontal nozzle. Orient the SCM such that when lifting bail is in the approximate 90 degree position it is in line with the load path and two of the three SCM connector fingers.

11.1.2 Torque the SCM to the fixed 2-inch horizontal nozzle to 215 foot pounds.

11.1.3 Install the 8 1/2 ton shackle on the SCM lifting bail.

11.1.4 Connect the dynamometer and the come-a-long to the 8 1/2 ton shackle on the SCM lifting bail and to a weight exceeding 350 pounds or a point on a fixed structure using the rigging hardware.

11.2 Load Test Performance

11.2.1 Verify that all prerequisites have been completed and rigging is properly assembled.

Test Director JR Ballou Date 11-1-94

11.2.2 Using the come-a-long increase tension on the SCM until the dynamometer measures a minimum of 325 pounds.

11.2.3 Record and verify the lateral load applied to the SCM as measured on the dynamometer.

Force Applied: 500 #

Test Director JR Ballou Date 11-1-94

Quality Assurance DW Sudbury Date 11-1-94

11.2.4 Using the come-a-long, release the tension applied to the SCM.

11.2.5 Break down the rigging and remove the SCM from the horizontal nozzle.

WHC-SD-W320-TRP-001
REVISION 0

ORIGINAL

11.2.6 Inspect the SCM and the horizontal nozzle and verify by signing below that structural integrity has been maintained and no visual signs of damage on either component is apparent.

Test Director _____ Date 11-1-94

Quality Assurance _____ Date 11-1-94

12.0 DISPOSITION OF TEST ITEMS

At the conclusion of testing, all test items shall be relocated and/or stored as specified by the Test Director or the KEH Construction Manager.

13.0 DATA SHEETS

The Test Director shall review the test procedure (Section 11.0) and ensure all verifications have been obtained where required. Copies of Surveillance Reports generated as part of test performance shall be obtained and attached to the test procedure.