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ENGINEERING DATA TRANSMITTAL

Page 1 of 1
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1	HNF-3488	A11	0	Test Plan for K Basin Floor Sludge Consolidated Sampling Equipment	Q	2	1	

16. KEY					
Approval Designator (F)		Reason for Transmittal (G)		Disposition (H) & (I)	
F: S, Q, 0 or N/A (see WAC CM 3.5, Sec. 12.7)		1. Approval 2. Release 3. Information 4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)		1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed 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	(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN
		Design Authority				1.2	1	RB Baker	<i>RB Baker</i>	10/9/98	H0-40
		Design Agent				1.2	1	AE Bridges	<i>AE Bridges</i>	10/13/98	H0-40
1.2	1	Cog. Eng. JW Oliver	<i>JW Oliver</i>	10-23-98	6-13	1.2	1	PJ MacFarlan	<i>PJ MacFarlan</i>	10/13/98	H0-40
1.2	1	Cog. Mgr. MJ Schliebe	<i>MJ Schliebe</i>	10/23/98	6-13						
1.2	1	QA GM Davis	<i>AM Davis</i>	10/29/98	X3-80						
		Safety									
		Env.									

18. Signature of EDT Originator <i>JW Oliver</i> Date 10-28-98		19. Authorized Representative for Receiving Organization <i>PJ MacFarlan</i> Date 10/29/98		20. Cof. Engr. Signature <i>MJ Schliebe</i> Date 10/23/98		21. DOE APPROVAL (if required) Ctrl. No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments	
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TEST PLAN FOR K BASIN FLOOR SLUDGE CONSOLIDATED SAMPLING EQUIPMENT

J. W. Oliver

Numatec Hanford Corporation, Richland, WA 99352

U.S. Department of Energy Contract DE-AC06-96RL13200

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Abstract: The purpose of this document is to provide the test procedure for the function and acceptance testing of the K Basin Floor Sludge Consolidated Sampling Equipment. This equipment will be used to transfer K Basin floor sludge to a sludge sampling container for subsequent shipment to an analysis or testing facility. This equipment will provide sampling consistent with data quality objectives and sampling plans currently being developed.

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Release Approval

Christine Hollenhand

Date

10-30-98

Release Stamp

Approved for Public Release

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this document is to provide the test procedure for the functional and acceptance testing of the K Basin Floor Sludge Consolidated Sampling Equipment (SCE). The SCE will be used to transfer K Basin floor sludge to a sludge sampling container for subsequent shipment to an analysis or testing facility. This equipment will provide sampling consistent with data quality objectives and sampling plans currently being developed.

1.2 SCOPE

The primary objective of this test plan is to complete acceptance testing of the SCE. The equipment will be qualified to general service for the sampling equipment.

1.3 APPLICABLE/REQUIRED DOCUMENTS

The following documents are applicable for the acceptance testing of the SCE.

- HNF-3400, "Floor Sludge Consolidated Sampling System Engineering Work Plan."
- HNF-1613, "Spent Nuclear Fuel Project Engineering Practices, Rev. 0A."
- WHC-IP-1026, "Engineering Practices Guidelines."
- HNF-PRO-194, "Requisitioning Materials and Services."
- HNF-PRO-446, "Testing Requirements."
- SNFP AP 1-023, Rev. 1, Approval Designators E, S, Q, M, and D Identification.
- SNFP-1, Spent Nuclear Fuel Project Manual, Section 1.4, Attachment A, Rev. 5, Quality Assurance Program Plan, dated September 14, 1998
- Signature Verification Data Sheet
- Test Configuration Documentation List

1.4 DOCUMENT INSTRUCTIONS

The following sections of this document are to be used during the sludge sampling acceptance test.

The signature verification sheet will be signed by participating personnel who need to sign off or initial the acceptance test document.

The Test Configuration Documentation list will identify major test equipment, associated drawing numbers, sketches, etc.

All testing activities will be recorded with a Video Camera System.

2.1 SIGNATURE VERIFICATION DATA SHEET

[illegible]

2.2 TEST CONFIGURATION DOCUMENTATION LIST

Item: This may be major equipment, tooling, instrumentation, facility, etc. Use equipment name (and number if assigned).

Document Title: Title of drawing, sketch, figure, publication, vendor information, etc. More than one document may be applicable to a given item. List each document separately.

Document Number: Drawing, sketch, figure, vendor publication numbers, etc.
Include revision if released.

Released: Enter YES, NO, or N/A (Not Applicable).

Included: Enter YES or NO. Copies of all documents not released will be included in the current document.

[illegible]

2.3 TEST READINESS REVIEW CHECKLIST

Date: _____

REVIEWERS

Name (Print)	Position	Signature	Date

CHECKLIST

1. Is this test procedure released?

Yes _____ No _____

Comments: _____

2. Are there any open items which need to be addressed prior to start of testing?

Yes _____ No _____

Comments: _____

3. Is the test procedure package complete, and are all pages, attachments, etc., marked **TEST CONTROL COPY?**

Yes _____ No _____

Comments: _____

4. Are all JHAs and MSDSs required by the procedure posted or located in the test area?

Yes _____ No _____

Comments: _____

5. Is all equipment installed or available at the test area for installation?

Yes _____ No _____

Comments: _____

6. Are all test materials available at the test area?

Yes _____ No _____

Comments: _____

7. Are the facility support systems available in the test area?

Yes _____ No _____

Comments: _____

8. Is the pre-job briefing complete?

Yes _____ No _____

Comments: _____

TEST TRAVELER (Continuation Sheet)		Page 2 of 4		Number:	
Operation Number	Test Instruction	Ref., Dwg., Pro., Spec.	Completion Sign/Stamps	Date	Notes
2.0	Issue and verify the equipment list (Attachment 2).		Q N/A T O N/A E		
3.0	Set up the test equipment per the test layout/schematic.		Q N/A T O N/A E		
3.1	Prepare sludge simulant container. Note composition, quantity (volume) and depth of sludge simulant in the container.		Q T O N/A E		Composition: Quantity: (Volume) Depth in container:

Q = QA Inspector, T = Technician, O = Operations, E = Engineer

TEST TRAVELER (Continuation Sheet)			Page 3 of 4		Number:	
Operation Number	Test Instruction	Ref., Dwg., Pro., Spec.	Completion Sign/Stamp	Date	Notes	
4.0	Attach equipment as shown in layout schematic for floor sludge consolidation equipment. Ensure proper assembly and valve alignment.		Q <u>N/A</u> T _____ O _____ E _____			
4.1	Stage the extraction nozzle near the sludge sampling location. Activate the pump. Insert the extraction nozzle into the simulated sludge material.		Q _____ T _____ O _____ E _____		Sludge Depth 1 _____ 2 _____ 3 _____ 4 _____	
4.2	When sludge suction activity has ended, deactivate the pump. Remove the extraction nozzle from the sludge sampling location.		Q _____ T _____ O _____ E _____			
4.3	Align valves to perform backflush operation. Activate the pump. Verify backflush operation was successful.		Q _____ T _____ O _____ E _____			
4.4	Detach the sludge control assembly from the receiving container.		Q _____ T _____ O _____ E _____			

Q = QA Inspector, T = Technician, O = Operations, E = Engineer

TEST TRAVELER (Continuation Sheet)		Page 4 of 4		Number:	
Operation Number	Test Instruction	Ref., Dwg., Pro., Spec.	Completion Sign/Stamps	Date	Notes
4.5	Inspect the sludge simulant delivered to the receiving container (record volume). Note results. 1/4" chunks or smaller retrieved. Approximately 300 ML retrieved from each section of the container (approximate total 900 ML). Inspect sampling location for total volume remaining (record volume).		Q T O E		Volume of simulant in receptacle _____ Volume remaining at sampling location: 1. _____ 2. _____ 3. _____
4.6	Steps 2.0 through 4.5 can be repeated for additional test/training purposes.		Q T O E		
5.0	After completion of test, retrieve and archive a representative sample of the simulant		Q T O E		
6.0	Verify that all steps in this traveler have been completed.		Q T O E		
List of Required Attachments: 1. Performance Criteria 2. Equipment List 3. Test Layout/Schematic					

Q = QA Inspector, T = Technician, O = Operations, E = Engineer

2.6 RETEST PROCEDURE AND DATA SHEET

Should an exception or discrepancy in test criteria be identified during acceptance testing, the nature of the exception or discrepancy shall be recorded on the Discrepancy/Exception Data Sheet. The resolution and retest requirements will be noted in the applicable section.

DISCREPANCY/EXCEPTION DATA SHEET

EXCEPTIONS			CORRECTION APPROVAL			
Paragraph No.	Date	Description	Description of Correction	Org	Initials	Date

Test Approved with Exceptions

Cognizant Engineer _____ Date _____

Quality Assurance _____ Date _____

User _____ Date _____

DISCREPANCY/EXCEPTIONS DATA SHEET (CONTINUED)

EXCEPTIONS			CORRECTION APPROVAL			
Paragraph No.	Date	Description	Description of Correction	Org	Initials	Date

Test Approved with Exceptions

Cognizant Engineer

Date

Quality Assurance

Date

User

Date

ATTACHMENT 1 - ACCEPTANCE/PERFORMANCE CRITERIA**THE PERFORMANCE CRITERIA FOR THE FLOOR SLUDGE CONSOLIDATED SAMPLING EQUIPMENT TESTING INCLUDES THE FOLLOWING:**

Recover at least 300 ML of sludge simulant from each section of the simulant sampling container; a minimum of 900 ML combined from all sampling locations. Sample shall include, as a minimum, 25 grams of tungsten chips and 10 stainless steel balls.

Particles equal to or larger than ¼" will not be picked up by the sampling system.

ATTACHMENT 2 - EQUIPMENT LIST

- K-Basin Floor Sludge Consolidated Sampling System
- 100 PSI Air, Facility Air Supply
- In-Pool Simulant Container
- In-Pool Under Water Video Camera System
- Facility Crane and Required Rigging Hardware
- One 1,000 ML batch of Sludge Simulant
 - Make-up of sludge simulant by weight %**
 - 8% 10-Micron Tungsten Powder
 - 17% Flyash
 - 75% Hanford Sand
 - Include in simulant:**
 - 50 Grams of Tungsten Chips smaller than 1/4"
 - 20 Stainless Steel Balls less than 1/4" in diameter
 - 10 Stainless Steel pieces larger than 1/4"

LAYOUT/SCHEMATIC CONSOLIDATED SAMPLER

DISTRIBUTION SHEET

To Distribution	From Engineering Laboratories	Page 1 of 2 Date 9/29/98			
Project Title/Work Order HNF-3488		EDT No. 619516 ECN No.			
Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
Duke Engineering & Services Hanford, Inc.:					
R. B. Baker	H0-40	X			
D. W. Bergmann	H0-40	X			
A. E. Bridges	H0-40	X			
L. D. Bruggeman	H0-40	X			
G. M. Davis	X3-80	X			
R. G. Gant	X3-79	X			
J. R. Gregory	X3-72	X			
S. L. Hecht	H0-40	X			
P. M. Hickey	X3-80	X			
M. A. Jensen	X3-79	X			
J. E. Kurtz	X3-67	X			
M. J. Langevin	X3-74	X			
D. P. Maassen	H0-40	X			
P. J. MacFarlan	H0-40	X			
A. L. Pitner	H0-40	X			
T. J. Ruane	X3-61	X			
D. J. Watson	X3-79	X			
SNF Project File	R3-11	X			
Informatics:					
J. A. Series	H0-40	X			
Lockheed Martin Services, Inc.:					
Central Files	A3-88	X			
DPC	A3-89	X			
Numatec Hanford Corporation:					
T. A. Flament	H5-25	X			
K. L. Pearce	H7-20	X			
M. J. Schliebe	L6-13	X			
W. W. Rutherford	H7-20	X			

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