

Control Number FS-65708		WO CLOSED		Signature _____ Date/Time: _____	
2. Originator LAWRENCE PETKUS /WV-48 /4402 Print Name/MS/Ext		3. Peer Review CHUCK CURTIS /WV-48 Print Name/MS		Signature/Date 5/15/02	
4. Charge No. (Labor) (M & S) WH 1210066 /WH		5. Equipment I.D. NA Eqpt/Instr/Valve # 63V-011 MFHT			
6. Performance Code A. <input type="checkbox"/> Special Preparation B. <input checked="" type="checkbox"/> Normal Preparation Other: _____		System 0 <input type="checkbox"/> May be shut down 1 <input type="checkbox"/> Must be shut down 2 <input checked="" type="checkbox"/> Must be operating 3 <input type="checkbox"/> NA		Equipment 0 <input type="checkbox"/> May be shut down 1 <input type="checkbox"/> Must be shut down 2 <input type="checkbox"/> Must be operating 3 <input checked="" type="checkbox"/> NA	
7. Estimated/Actual Hours SUPPORT GROUP VIT _____ Ops 120 EST. ACTUAL Maint _____ QA _____ RC Tech _____		<div style="border: 2px solid black; padding: 5px; display: inline-block;"> S S U E D JUN 3 2002 WORK CONTROL CENTER </div>			
8. System: 63I	9. Location: MNOA	10. Dwg/Sketch: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Attached _____	11. Docs./Dwgs Rqd. Rvs: TM# _____ ECN# _____ NA <input checked="" type="checkbox"/>	12. Profile No. N/A	13. Document Ref. No. N/A
14. Quality Level C	15. Safety Class N	16. ALARA Trigger Level(s) [WV-984, Sec. 7.8.3] Exceeded Yes _____ ALARA Checklist Attached: Yes _____ N/A _____ Detailed Lose Estimate Attached: Yes _____ N/A _____		17. Eng. Approval Rqd. Yes _____ No <input checked="" type="checkbox"/>	
18. RWP Required: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> RWP No. _____		19. Hoisting & Rigging: NA <input type="checkbox"/> Routine <input checked="" type="checkbox"/> Non-routine _____ Critical _____ (Ref. SOP 00-3W)		20. QA Insp. Rqd: Yes _____ No <input checked="" type="checkbox"/> 21. Welding or Special Process Rqd: Yes _____ No <input checked="" type="checkbox"/> If Yes, Cite _____	
22. Special Qualification Rqd.: Yes _____ No <input checked="" type="checkbox"/>		23. IWP required: Yes _____ No <input checked="" type="checkbox"/> IWP No. _____		24. Ground Disturbance Permit Required Yes _____ NA <input checked="" type="checkbox"/> Attached _____	
25. RWG Walkdown: (Print) NAME: G. STRECHWILK DATE: 5-16-02		26. Req'd. Finish Date: June 12, 2002		27. Key Event KE 560P	
28. "Is a USQ Safety Evaluation (USQD Form WV-3306, Sections V, VI, and VII) required? *Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;"> <u>Lawrence Petkus</u> (USQD Originator or Safety Analyst Signature) </div> <div style="text-align: center;"> <u>LAWRENCE PETKUS</u> (Printed) </div> <div style="text-align: center;"> <u>5/13/02</u> (Date) </div> </div> If Yes, attach the completed USQD Form WV-3306, Sections V, VI, and VII."					
29A. HLW - Does W.O. provide instr. for Maint., Ops. Support etc. for Vit Sys 63I, 63J, L, K, 63P, 68, 69A, B or 200A, B Yes <input checked="" type="checkbox"/> No _____ B. Is Maint/support/testing/R&D issue listed in WVDP-200 Part IV HLW activities list? Yes <input checked="" type="checkbox"/> No _____ C. Is the activity designated HLW? Yes _____ No <input checked="" type="checkbox"/>					
30. Type of work: <input type="checkbox"/> Fab <input type="checkbox"/> Test <input type="checkbox"/> Install <input type="checkbox"/> Calib <input type="checkbox"/> Mod/Repair <input checked="" type="checkbox"/> Other <input type="checkbox"/> Insp		31. Title: MFHT WATER FLUSH			
32. Resp. WVN Work Group: VITRIFICATION OPERATIONS		33. WGS (Print Name) KEVIN SCOMB WGS (Walkdown Sat)		34. Work Group Manager: JOSEPH CURCIO	
35. Review/Approval: (Signature/Date) CM <u>[Signature]</u> 5/22/02 MS- 48 Maint <u>N/A</u> MS- _____ RE <u>[Signature]</u> 28 May 02 MS- 224 Eng <u>N/A</u> MS- _____ FM <u>[Signature]</u> 6/5/02 MS- _____ EA <u>Donald Dock</u> 5/28/02 MS- WV-50 WMS <u>N/A</u> MS- _____ Org <u>Lawrence Petkus</u> 5/3/02 MS- 40 SAR <u>[Signature]</u> 5/28/02 MS- _____		36. Changed during review cycle Reroute to: _____ MS- _____ _____ MS- _____ _____ MS- _____ _____ MS- _____ _____ MS- _____			
37. Brief Information of Work Completion for History Record <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Check One)				38. Documentation of Work Completion <u>[Signature]</u> 7-16-02 Work Group Supervisor Date <u>Lawrence Petkus</u> 7-26-02 Originator Date	

J3 FIELD CHANGE		1. Work Order Number: <u>VFS 65708/I - WO</u>		2. Field Change Number: (Obtained from WCC) FC [1]	
3. Originator*		3A. Peer Reviewer			
<u>LAWRENCE PETKUS</u> Name/MS		<u>Lawrence Petkus 7/4/02</u> Signature/Date		<u>PAVE MS48</u> Name/MS	
<u>7/4/02</u> Signature/Date		<u>7/4/02</u> Signature/Date			
4. WO Title: MFHT WATER FLUSH		5A. RWG/Walkdown (Print) NAME: <u>Larry Kopy</u> DATE: <u>7-3-02</u>		6. ALARA Trigger Level Exceed Yes ___ No <u>X</u>	
5. WO Group: VITRIFICATION OPERATIONS		5B. WGS <u>7-2-02</u> [Walkdown Sat]			
7. Description of Field Change REPLACE PAGES 2 TO 12 WITH PAGES 2 TO 13				7a. ECN/TM # <u>N/A</u>	
Provisions are included to use either the CFMT Cleaning fixture or the MFHT Cleaning fixture. Different adaptors are used with each fixture. Instructions have been modified to allow the use of either cleaner, notes have been added to the text.					
Video inspection can be observed by the Cog. Engineer or his designee.					
<div style="border: 2px solid black; padding: 5px; display: inline-block;"> ISSUED JUL 3 2002 WORK CONTROL CENTER </div>					
8. Reason for Change: <u>To allow the use of alternate equipment.</u>					
9. "Is a USQD Safety Evaluation (USQD Form WV-3306, Sections V, VI, and VII) required? Yes ___ No <u>X</u>					
<u>Lawrence Petkus</u> (USQD Originator or Safety Analyst Signature)		<u>LAWRENCE PETKUS</u> (Printed)		<u>7/2/02</u> (Date)	
If Yes: attach the completed USQD Form WV-3306, Sections V, VI, and VII."					
10. Review/Concurrence Approval (Signature/Date)				11. Estimated Hours	
CM <u>7/4/02</u> MS- <u>48</u>	IH&S <u>N/A</u>	MS- _____	Ops _____		
Maint <u>N/A</u> MS- _____	QA <u>7/3/02</u> MS- <u>AA-3</u>		Maint _____		
RE <u>3 July 02</u> MS- <u>Z26</u>	Eng. <u>N/A</u>	MS- _____	RP _____		
FM <u>For J. Curcio 7-3-02</u> MS- <u>VH-03</u>	Orig. _____	MS- _____	QA _____		
MS- _____		MS- _____	Other _____		
12.					
A. <input checked="" type="checkbox"/> No Hazards Identified/No existing Hazards Modified (<u>No</u> new screen attached)					
B. <input type="checkbox"/> Hazard Screen (Form WV-3909) Attached. (For Review Only)					
CC: _____ MS- _____					
* If the J3 originator is not the same person as the J1 originator, advise J1 originator and include in cc:					

J3 FIELD CHANGE	1. Work Order Number: <u>VFS 65708/I - WO</u>	2. Field Change Number: (Obtained from WCC) FC [<u>2</u>]
3. Originator* <u>LAWRENCE PETKUS</u> Name/MS	<u>Lawrence Petkus 7/8/02</u> Signature/Date	3A. Peer Reviewer <u>FRANK MS 98</u> Name/MS
4. WO Title: MFHT WATER FLUSH	5A. RWG/Walkdown (Print) NAME: <u>KOMJ SLOMBA</u> DATE: <u>7-8-02</u>	6. ALARA Trigger Level Exceed Yes ___ No <u>X</u>
5. WO Group: VITRIFICATION OPERATIONS	5B. WGS <u>[Signature]</u> [Walkdown Sat]	
7. Description of Field Change <u>13 BY 7/8/02</u> REPLACE PAGES 6 TO 12 WITH NEW PAGES		7a. ECN/TM # <u>N/A</u>
The Second and Third Flushes may be done in any order and may be repeated as necessary		
The MFHT may be transferred to the CFMT with a MFHT pressure between -1 and -6 in WC. This is less restrictive than SOP 63-21 Appendix H. No Melter operations are occure during this transfer <u>By 7/8/02</u>		
8. Reason for Change: <u>ALLOW FLEXIBILITY IN FLUSH ORDER.</u>		<div style="border: 2px solid black; padding: 5px; display: inline-block;"> ISSUED JUL 8 2002 <u>13</u> </div>
9. "Is a USQ Safety Evaluation (USQD Form WV-3306, Sections V, VI, and VII) required? Yes ___ No <u>X</u>		
<u>Lawrence Petkus</u> (USQD Originator or Safety Analyst Signature)		<u>LAWRENCE PETKUS</u> (Printed)
		<u>7/8/02</u> (Date)
If Yes: attach the completed USQD Form WV-3306, Sections V, VI, and VII."		
10. Review/Concurrence Approval/ (Signature/Date)		11. Estimated Hours
CM <u>[Signature] 7/8/02 48</u> MS- <u>48</u>	IH&S <u>N/A</u> MS- _____	Ops _____
Maint <u>N/A</u> MS- _____	QA <u>[Signature] 7/8/02</u> MS- <u>HA-3</u>	Maint _____
RE <u>N/A</u> MS- _____	Eng. <u>N/A</u> MS- _____	RP _____
FM <u>[Signature] 7/8/02</u> MS- <u>UH3</u>	Orig. <u>OK TO ISSUE BY 7/8/02</u> MS- _____	QA _____
MS- _____	MS- _____	Other _____
12.		
A. <input checked="" type="checkbox"/> No Hazards Identified/No existing Hazards Modified (<u>No</u> new screen attached)		
B. <input type="checkbox"/> Hazard Screen (Form WV-3909) Attached. (For Review Only)		
CC: _____ MS- _____		
* If the J3 originator is not the same person as the J1 originator, advise J1 originator and include in cc:		

MFHT WATER FLUSH

1 INTRODUCTION

1.1 PURPOSE

The MFHT will be flushed to remove residual slurry from the tank internals. The tank head space and "egg crate" support structure is a particular target area for slurry removal.

1.2 SCOPE:

Most tank flushing hardware has been introduced into the cell during the CFMT flush, new hardware will be brought in as needed. Slurry samples of the CFMT are taken before and after the flushes to assess how much material is dislodged. The sampling is done per SOP. The MFHT Sample pump will be removed to gain access to the tank. The tank will be flushed with demineralized water at high pressure, approximately 1000 psig, using a Gamajet® V self rotating spray nozzle. The MFHT will be inspected through the use of a remote in-cell CCTV camera (Rees). After inspection additional cleaning may be done through nozzle R, if necessary. Water used to flush the MFHT will be processed as part of the HLW stream. Set up and operation of the high pressure water pump is done under separate WO.

2 PRECAUTIONS AND LIMITATIONS:

- 2.1 The flush water is at high pressure, approximately 1200 psig, as it is delivered by the pump. Any leaks or spray can cause damage to skin or body parts.
- 2.2 The MFHT will be open to the cell atmosphere during parts of this work, neither CFMT boiling nor Melter feeding can occur during periods when any MFHT nozzle is open.
- 2.3 MFHT Agitator shall be tagged out during cleaning and inspection.
- 2.4 The Remote Camera cannot be set down on the pan tilt mechanism with out damage. The Assembly must be hung by its wall bracket, or suspended from the crane or the flange.
- 2.5 A dynamometer will be used with the Remote Camera to indicate any binding or pull on the camera assembly.
- 2.6 The tank cleaner assemblies cannot be set down on the spray nozzle . These assemblies must be hung by a wall bracket, or suspended from the crane or the flange.

- 2.7 The Remote Camera must be in the HOME position, looking straight up, when entering or leaving a tank penetration. The camera will fit in the 12 inch diameter opening at nozzle V-011-E. See Attachment A.

3 PREREQUISITES

- 3.1 VOSS / Cog Engineer: Verify that the following Hardware is ready for MFHT flush. Preparation and Inspection is done on a separate Work Request.

3.1.1 MFHT 6 inch Cleaning Fixture (900-S-8298)

3.1.2 Adaptor flange, 18-inch to 12-inch (900-S-8314)

+ Complete *Miller* Date 6-26-02

- 3.2 Perform pre job briefing.

+ Briefing Complete, *Miller* Date 6-27-02

4 MATERIAL SPECIAL TOOLS AND EQUIPMENT

- 4.1 Locate the blank flange for Nozzle F. This blank was used during CFMT flush #1..

5 PERFORMANCE

- 5.1 Sample CFMT per SOP 63-23. SAE to provide AR. Record CFMT level and density readings here. If no chemical additions have been made to the CFMT since the last sample, this step may be skipped and marked "N/A". Record level data and sample numbers if substitute samples are used, else, label sample bottles "BMF-V01-1" through "BMF-V01-x"

Level	Reading	Density	Reading
LI-0148	63.2	DI-0149	1.105
LI-0153	63.4	DI-0154	1.089
LI-0156	62.7	DI-0157	1.086
LIXX-0153	63.2	DIXX-0154	1.093
Record sample numbers <u>77-WH-1-6</u> By <u>T. Shaw</u> Date <u>6-26-02</u>			


77-WH-7-11 CME 6-27-02

+ Sampled by: C. Erlandson Date: 6-27-02

5.2 Transfer the contents of the MFHT to the CFMT using J-1105 and HIC-1105, per Section 10.2 of SOP 63-21, Rev. 10, FC1. Include copy of transfer data sheet with this Work Order.

+ **Transfer complete by:**  **Date:** 6-27-02

5.3 Verify that the MFHT agitator is OFF. Open breaker at MCC 2, 1A and CAUTION Tag per SOP 00-05

+ **Agitator OFF by:**  **Date:** 6-27-02

5.4 Remove the MFHT Sample pump, Nozzle "E".

5.4.1 Close and CAUTION tag the following valves per SOP 00-05:

6-UA-GA-995 at penetration 4229A

6-UA-GA-996 at Pene 4229B

6-UA-GA-997 at Pene 4229C

6-UA-GA-998 at Pene 4231A

6-UA-GA-750 at Pene 4231B

6-DW-GL-654 at Pene 4231C

6-UA-H-751 at Rack 3W5

6-DW-H-652 at Rack 3W5

6-DW-H-649 at Pene 1409A

5.4.2 Remove jumper H-11-7372, the piggyback jumper from pene 4229 - V011- E5.

5.4.3 Remove jumper, H-11-7382, MADS pump E2 to slurry Sample Station C.
Place on floor for later re-use.

5.4.4 Remove the MADS pump actuator. Place on floor for later re-use.

5.4.5 Remove the MADS Utility jumper ANC-540, 4231 - V011- E3. Loosen the two PUREX connectors and the Free nut at the pump flange.

5.4.6 Bring the Utility Jumper to a convenient window and remove the free nut.
Place on floor for later re-use.

<p>NOTE: MFHT will be opened to the cell. Vessel Vent pressure at PIC-1505 may be adjusted to maintain tank ventilation.</p>
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5.4.7 Remove MADS pump from MFHT nozzle E. Spray with water to limit slurry spread, if needed.

5.4.8 Remove free nuts from the flange at a convenient window and place the pump on floor for later re-use.

FC1) 5.4.9 Remove the MFHT Nozzle E adaptor flange. Place on floor for later re-use.

5.5 Install the new 18 inch to 12 inch adaptor flange on MFHT nozzle E.

REMOVE MADS PUMP AS BAIL
FOR LARRY PERKINS
PER TELECON 6-27-02
USING MADS PUMP AS BAIL
REMOVE I.P. LOCKED 6-27-02
PER TELECON
REMOVE D. CROWTHER
PER TELECON 6-27-02

FIRST FLUSH

NOTE: Tasks 5.6 and 5.7 may be done in any order.

5.6 Record CFMT and MFHT Rad Probe readings from monitor at the Sample Station Window.

+ CFMT $\frac{627}{15}$ R/hr MFHT $\frac{130}{37}$ R/hr By mes Date 6-27-02
7-3-02

5.7 Inspect MFHT interior through Nozzle E with the Remote Camera. See section 6.0.

5.8 Pick up Cleaning Fixture and attach hose from wall plug, 1C11. to Cleaning Fixture Staubli connector

5.9 Install Cleaning Fixture on MFHT, nozzle E. Bail in NW-SE orientation, with the spray nozzle pointing ~NE.

5.10 Operate High Pressure Pump per Work Order 0101602. Bring pump pressure to between 1000 psi and 1200 psi and spray for 55- 60 minutes. (35 GPM \approx 45 inches in MFHT; Spray rate is 26 minutes per cycle)

5.11 Remove CAUTION tag, start MFHT Agitator, and agitate for 30 minutes.

5.12 Transfer the contents of the MFHT to the CFMT using J-1105 and HIC-1105, per Section 10.2 of SOP 63-21, Rev. 10, FC1. Include copy of transfer data sheet with this Work Order.

5.10 Operate High Pressure Pump per Work Order 0101602. Bring pump pressure to between 1000 psi and 1200 psi and spray for 55 - 60 minutes. (35 GPM \approx 45 inches in MFHT; Spray rate is 26 minutes per cycle)

5.11 Remove CAUTION tag, start MFHT Agitator, and agitate for 30 minutes.

FC>2

NOTE: MFHT pressure PIX-1154A may be between -1 and -6 inWC during transfers to the CFMT. This is less restrictive than SOP 63-21 Appendix H

5.12 Transfer the contents of the MFHT to the CFMT using J-1105 and HIC-1105, per Section 10.2 of SOP 63-21, Rev. 10, FC1. Include copy of transfer data sheet with this Work Order.

5.13 Verify that the MFHT agitator is OFF. Open breaker at MCC 2, 1A and CAUTION Tag per SOP 00-5

+ Agitator OFF by: *[Signature]* Date: 7-8-02

FC>1

5.14 Remove the cleaning Fixture *and adaptor flange, if necessary*, from MFHT Nozzle E.

5.15 Bring cleaning fixture to the Sample Station window to disconnect hose and hang on a convenient wall bracket.

NOTE: Tasks 5.16 and 5.17 may be done in any order.

5.16 Record CFMT and MFHT Rad Probe readings from monitors at the Sample Station Window. (96 FADS)

+ CFMT 18R MFHT 37.5 R By: *[Signature]* Date: 7/9/02

5.17 Video inspection of the MFHT is to be performed per Section 6.0 of this Work Order.

FC>1 Remote camera flange fingers shall be in the extended position if the new adaptor flange is not in place.

FC>2

NOTE: The Second and Third flushes can be performed in any order, and they may be repeated, if necessary. Second flush is Tasks 5.18 to 5.26. The third flush is tasks 5.29 to 5.42. Reassembly and Sampling, tasks 5.43 to 5.47 will be completed after all Flushing. Concentration in the CFMT may be performed as needed.

SECOND FLUSH

FC>1

NOTE: The MFHT cleaning fixture is used with the sample pump adaptor, or optionally, the CFMT Cleaning fixture can be used with the new adaptor flange.

- 5.18 Retrieve the cleaning fixture, connect the pressure hose and install the cleaning fixture on E. Bail in NE - SW orientation, with spray nozzle pointing ~ NW.
- 5.19 Operate High Pressure Pump per Work Order 0101602. Bring pump pressure to between 1000 psi and 1200 psi and spray for 55 - 60 minutes. (35 GPM ~ 45 inches in MFHT; Spray rate is 26 minutes per cycle)
- 5.20 Remove CAUTION tag, start MFHT Agitator, and agitate for 30 minutes. *JMC 7/12/02*

FC>2

NOTE: MFHT pressure PIX-1154A may be *less than 0 in WC* *7/12/02* *GW* *7/12/02* between -4 and -6 InWC during transfers to the CFMT. This is less restrictive than SOP 63-21 Appendix H

- 5.21 Transfer the contents of the MFHT to the CFMT using J-1105 and HIC-1105, per Section 10.2 of SOP 63-21, Rev. 10, FC1. Include copy of transfer data sheet with this Work Order.
- 5.22 Verify that the MFHT agitator is OFF. Open breaker at MCC 2, 1A and CAUTION Tag per SOP 00-5

+ Agitator OFF by: *[Signature]* Date: 7-9-02

FC>1

- 5.23 Remove Cleaning Fixture and adaptor flange, if necessary from Nozzle E..
- 5.24 Bring Cleaning Fixture to Sample Station and disconnect the pressure hose. Locate Fixture on wall hanger.

NOTE: Tasks 5.25 and 5.26 may be done in any order.

5.25 Record CFMT and MFHT Rad Probe readings from monitors at the Sample Station Window.

+ CFMT ~~8~~ R/hr MFHT ⁷⁻¹⁵⁻⁰² 32 R/hr By Charles Moya 7/11/02
* PROBE DROOP + BRUISE, UNABLE TO OBTAIN READING
8 R/hr 22 R/hr 7-15-02

5.26 Video inspection of the MFHT is to be performed per Section 6.0 of this Work Order.

FC>1 Remote camera flange fingers shall be in the extended position if the new adaptor flange is not in place.

5.27 At any time during the MFHT flushing the CFMT contents may be concentrated for water management purposes:

5.27.1 Close up MFHT flanges with flanges or cleaning fixtures to maintain ventilation.

5.27.2 Obtain CFMT Boil Down Sheet from SAE.

5.27.3 Boil CFMT per SOP 63-21 to reduce level.

5.27.4 Cool CFMT to less than 35 °C.

Third Flush (Decision Point)

5.28 Is Third flush required? Based on the above video inspection, Select one:

A. Flushing Complete; Go to Task 5.43 for Reassembly and CFMT Sampling

B. Flush MFHT from Nozzle "R" Continue below.

+ By Cog Engineer for L. Petrus per Telecon Date 7-9-02

FC>1

5.29 Install a blank 42-inch flange on the Adaptor piece on MFHT Nozzle E, or return the Sample pump and adaptor flange.

5.30 Remove the Cold Chemical addition line to MFHT Nozzle R :

5.30.1 ^{NEW 7-9-02} ~~Remove~~ caution tag per SOP 00-05, leave valves in closed position:

~~INSTALL~~

6-CH-H-961 Pene 1211

6-DW-H-647 Pene 1409B

⁷⁻⁹⁻⁰² ~~6-DW-H-938~~ Pene 1409C

~~6-CH-H-938~~

5.30.2 Remove Slurry Sample Station jumper H-11-7383, 1409 -V-005A

5.30.3 Remove Cold Chemical Addition jumper H-11-7352, 1211 - V-011-R.

5.30.4 Lay down jumper for reuse.

5.31 The 6 inch Cleaning Fixture will be brought in-cell by other work documents, retrieve the Cleaning Fixture from the cart and attach the hose from wall plug 1C11, to the Fixture Staubli connector. Fixture may be brought in cell any time prior to this step.

5.32 Install the 6 inch Cleaning Fixture in MFHT nozzle R.

5.33 Operate High Pressure Pump per Work Order 0101602. Bring pump pressure to between 1000 psi and 1200 psi and spray for 55 - 60 minutes. (35 GPM \approx 45 inches in MFHT; Spray rate is 26 minutes per cycle)

5.34 Remove CAUTION tag, start MFHT Agitator, and agitate for 30 minutes.

FC>2

NOTE: MFHT pressure PIX-1154A may be between -1 and -6 inWC during transfers to the CFMT. This is less restrictive than SOP 63-21 Appendix H

5.35 Transfer the contents of the MFHT to the CFMT using J-1105 and HIC-1105, per Section 10.2 of SOP 63-21, Rev. 10, FC1. Include copy of transfer data sheet with this Work Order.

5.36 Verify that the MFHT agitator is OFF. Open breaker at MCC 2, 1A and CAUTION Tag per SOP 00-5

+ Agitator OFF by:  Date: 7-10-02

5.37 Remove 12 inch blank flange from the Nozzle E adaptor flange.

NOTE: Tasks 5.38 through 5.40, task 5.41, and task 5.42 may be done in any order.

5.38 Remove Cleaning Fixture from Nozzle R.

5.39 Bring Cleaning Fixture to Sample Station and disconnect the pressure hose. Hang fixture from convenient wall bracket.

5.40 Reinstall the Cold Chemical addition line:

5.40.1 Install Cold Chemical Addition jumper H-11-7352, 1211 - V-011-R

5.40.2 Install Slurry Sample Station jumper H-11-7383, 1409 - V-005A.

5.40.3 Open valves and remove Caution tags per SOP 00-05.

6-CH-H-961 Pene 1211

6-DW-H-649 Pene 1409B

6-DW-H-938 Pene 1409C

- 5.41 Record CFMT and MFHT Rad Probe readings from monitors at the Sample Station Window.

+ CFMT * MFHT 32 By: cm Date: 7-11-02
** Rad probe broke*

- 5.42 Video inspection of the MFHT internals is to be performed per Section 6.0 of this Work Order.

Reassembly and Sampling

- 5.43 Remove Adaptor flange from MFHT nozzle E.

- 5.44 Install MFHT Sample Pump in MFHT Nozzle E:

5.44.1 Install sample pump adaptor flange.

5.44.2 Install Sample Pump.

5.44.3 Install Utility jumper ANC-540, 4231 - V011- E3. *10/8-14-02* Loosen the two PUREX connectors and the Free nut at the pump flange.

5.44.4 Install Actuator

5.44.5 Install piggy back Jumper, H-11-7372, from the Utility jumper to the wall, 4229 - V011- E5.

5.44.6 Install sample jumper, H-11-7382, V-011- E2 -V-005-C.

5.44.7 Remove CAUTION tags per SOP 00-05 and leave valves in the closed position:

6-UA-GA-995 at penetration 4229A

6-UA-GA-996 at Pene 4229B

6-UA-GA-997 at Pene 4229C

6-UA-GA-998 at Pene 4231A

6-UA-GA-750 at Pene 4231B

6-DW-GL-654 at Pene 4231C

6-UA-H-751 at Rack 3W5

6-DW-H-652 at Rack 3W5

6-DW-H-649 at Pene 1409A

NOTE: CFMT Sampling may occur any time after the last MFHT transfer, Task 5.35, or 5.21 if only two flushes are done.

5.45 Agitate the CFMT for a minimum of 60 minutes before sampling.

5.46 Sample CFMT per SOP 63-23. SAE to provide AR. Record CFMT level and density readings here. Normal Feed preparation samples may be used. If needed, label sample bottles "AMF-V01-1" through "AMF-V01-x"

Level	Reading	Density	Reading
LI-0148	81.7	DI-0149	1.205
LI-0153	81.9	DI-0154	1.209
LI-0156	81.3	DI-0157	1.205
LIXX-0153	81.6 "	DIXX-0154	1.206
Record Sample numbers 77-WH-12 → 19 By <i>f. Ardu</i> 1 7-12-02			

5.47 Boil to reduce level in the CFMT as necessary

6 OPERATION OF REMOTE CAMERA

6.1 Verify / Set up camera controller at MWOA . See attachment A for picture of camera controller with "HOME" settings.

NOTE: Do not set the Remove Camera on the ground. The pan/ tilt mechanism will not support the camera. Always hang from the wall bracket.

6.2 Pick up Remote Camera from its wall bracket. USE A DYNAMOMETER WITH THE REMOTE CAMERA FIXTURE TO PROVIDE INDICATION OF BINDING. Connect cables at the Sample Station if necessary.

6.3 Turn all units ON, check lights, camera motion and picture.

FC>1

NOTE: Cog. Engineer or designee to be present for video inspections.

6.4 Set the Remote Camera in MFHT nozzle E and perform inspection of MFHT interior. Video tape all inspections.

6.5 Return camera to the HOME position.

6.6 Carefully lift camera from the MFHT and return to its wall bracket.

6.7 Turn off camera electronics.

6.8 If the picture has deteriorated because of dirt, splash, or drips on the lense, bring the camera to the sample station for cleaning. The lense may be rinsed off with low pressure water.

6.9 If camera will not go to the HOME position, or it is stuck in position because the camera pan/ tilt cannot move the camera out of the way, proceed as follows:

NOTE: This recovery procedure will likely result in an in-operable camera.

6.9.1 Set camera down on its flange.

6.9.2 With the hook, engage the auxiliary bail on the remote camera flange.

6.9.3 Lift up on the bail until the entire camera begins to lift. The camera will drop off the pan/tilt assembly and hang by a tether.

6.9.4 Disengage from the auxiliary hook, and pick up the remote camera by the lifting bail.

6.9.5 Remove from the nozzle and bring a convenient window for storage. Camera recovery will be by separate work document.

6.10 Return Remote Camera to Wall Hanger for storage

7 POST MAINTENANCE TESTING

No maintenance was done as a part of this Work Order

8 FINIAL CONDITIONS

8.1 Store Spray Flange on wall hanger.

8.2 Secure high pressure hose per the Work Order for pressure pump operation.

MFHT WATER FLUSH

1 INTRODUCTION

1.1 PURPOSE

The MFHT will be flushed to remove residual slurry from the tank internals. The tank head space and "egg crate" support structure is a particular target area for slurry removal.

1.2 SCOPE:

Most tank flushing hardware has been introduced into the cell during the CFMT flush, new hardware will be brought in as needed. Slurry samples of the CFMT are taken before and after the flushes to assess how much material is dislodged. The sampling is done per SOP. The MFHT Sample pump will be removed to gain access to the tank. The tank will be flushed with demineralized water at high pressure, approximately 1000 psig, using a Gamajet® V self rotating spray nozzle. The MFHT will be inspected through the use of a remote in-cell CCTV camera (Rees). After inspection additional cleaning may be done through nozzle R, if necessary. Water used to flush the MFHT will be processed as part of the HLW stream. Set up and operation of the high pressure water pump is done under separate WO.

2 PRECAUTIONS AND LIMITATIONS:

- 2.1 The flush water is at high pressure, approximately 1200 psig, as it is delivered by the pump. Any leaks or spray can cause damage to skin or body parts.
- 2.2 The MFHT will be open to the cell atmosphere during parts of this work, neither CFMT boiling nor Melter feeding can occur during periods when any MFHT nozzle is open.
- 2.3 MFHT Agitator shall be tagged out during cleaning and inspection.
- 2.4 The Remote Camera cannot be set down on the pan tilt mechanism without damage. The Assembly must be hung by its wall bracket, or suspended from the crane or the flange.
- 2.5 A dynamometer will be used with the Remote Camera to indicate any binding or pull on the camera assembly.
- 2.6 The tank cleaner assemblies cannot be set down on the spray nozzle. These assemblies must be hung by a wall bracket, or suspended from the crane or the flange.

- 2.7 The Remote Camera must be in the HOME position, looking straight up, when entering or leaving a tank penetration. The camera will fit in the 12 inch diameter opening at nozzle V-011-E. See Attachment A.

3 PREREQUISITES

- 3.1 VOSS / Cog Engineer: Verify that the following Hardware is ready for MFHT flush. Preparation and Inspection is done on a separate Work Request.

3.1.1 MFHT 6 inch Cleaning Fixture (900-S-8298)

3.1.2 Adaptor flange, 18-inch to 12-inch (900-S-8314)

+ Complete _____ Date _____

- 3.2 Perform pre job briefing.

+ Briefing Complete, _____ Date _____.

4 MATERIAL SPECIAL TOOLS AND EQUIPMENT

- 4.1 Locate the blank flange for Nozzle F. This blank was used during CFMT flush #1..

5 PERFORMANCE

- 5.1 Sample CFMT per SOP 63-23. SAE to provide AR. Record CFMT level and density readings here. If no chemical additions have been made to the CFMT since the last sample, this step may be skipped and marked "N/A". Record level data and sample numbers if substitute samples are used, else, label sample bottles "BMF-V01-1" through "BMF-V01-x"

Level	Reading	Density	Reading
LI-0148		DI-0149	
LI-0153		DI-0154	
LI-0156		DI-0157	
LIXX-0153		DIXX-0154	
Record sample numbers _____		By _____	Date _____

+ Sampled by: _____ Date: _____

5.2 Transfer the contents of the MFHT to the CFMT using J-1105 and HIC-1105, per Section 10.2 of SOP 63-21, Rev. 10, FC1. Include copy of transfer data sheet with this Work Order.

+ **Transfer complete by:** _____ **Date:** _____

5.3 Verify that the MFHT agitator is OFF. Open breaker at MCC 2, 1A and CAUTION Tag per SOP 00-05

+ **Agitator OFF by:** _____ **Date:** _____

5.4 Remove the MFHT Sample pump, Nozzle "E".

5.4.1 Close and CAUTION tag the following valves per SOP 00-05:

6-UA-GA-995 at penetration 4229A

6-UA-GA-996 at Pene 4229B

6-UA-GA-997 at Pene 4229C

6-UA-GA-998 at Pene 4231A

6-UA-GA-750 at Pene 4231B

6-DW-GL-654 at Pene 4231C

6-UA-H-751 at Rack 3W5

6-DW-H-652 at Rack 3W5

6-DW-H-649 at Pene 1409A

5.4.2 Remove jumper H-11-7372, the piggyback jumper from pene 4229 - V011- E5.

5.4.3 Remove jumper, H-11-7382, MADS pump E2 to slurry Sample Station C. Place on floor for later re-use.

5.4.4 Remove the MADS pump actuator. Place on floor for later re-use.

5.4.5 Remove the MADS Utility jumper ANC-540, 4231 - V011- E3. Loosen the two PUREX connectors and the Free nut at the pump flange.

5.4.6 Bring the Utility Jumper to a convenient window and remove the free nut. Place on floor for later re-use.

NOTE: MFHT will be opened to the cell. Vessel Vent pressure at PIC-1505 may be adjusted to maintain tank ventilation.

FC#1

FC71

- 5.4.7 Remove MADS pump from MFHT nozzle E. Spray with water to limit slurry spread, if needed. *Pump and adaptor flange may be removed together. ZP 1/4/02 per 7/3/02 plus 7-3-02 for JRC*
- 5.4.8 Remove free nuts from the flange at a convenient window and place the pump on floor for later re-use.

FC>1

NOTE: Spraying can be performed using the new adaptor flange or the sample pump adaptor. However, the video inspection must be performed with the Sample Pump adaptor flange removed. Task 5.5 will not be performed if the sample pump flange is used.

- 5.5 Install the new 18 inch to 12 inch adaptor flange on MFHT nozzle E.

FIRST FLUSH

NOTE: Tasks 5.6 and 5.7 may be done in any order.

- 5.6 Record CFMT and MFHT Rad Probe readings from monitor at the Sample Station Window.

+ CFMT 15 R/hr MFHT 37 R/hr By plus Date 7-3-02

- 5.7 Inspect MFHT interior through Nozzle E with the Remote Camera. See section 6.0.
- FC>1 *Remote camera flange fingers shall be in the extended position if the new adaptor flange is not in place.*

- 5.8 Pick up Cleaning Fixture and attach hose from wall plug, 1C11. to Cleaning Fixture Staubli connector

FC>1

NOTE: The MFHT cleaning fixture is used with the sample pump adaptor, or optionally, the CFMT Cleaning Fixture can be used with the new adaptor flange.

- 5.9 Install Cleaning Fixture, and adaptor flange, if necessary, on MFHT, nozzle E. Bail in NW-SE orientation, with the spray nozzle pointing ~NE.

FC#1

5.10 Operate High Pressure Pump per Work Order 0101602. Bring pump pressure to between 1000 psi and 1200 psi and spray for 55 - 60 minutes. (35 GPM ≈ 45 inches in MFHT; Spray rate is 26 minutes per cycle)

5.11 Remove CAUTION tag, start MFHT Agitator, and agitate for 30 minutes.

5.12 Transfer the contents of the MFHT to the CFMT using J-1105 and HIC-1105, per Section 10.2 of SOP 63-21, Rev. 10, FC1. Include copy of transfer data sheet with this Work Order.

5.13 Verify that the MFHT agitator is OFF. Open breaker at MCC 2, 1A and CAUTION Tag per SOP 00-5

+ Agitator OFF by: _____ Date: _____

FC>1

5.14 Remove the cleaning Fixture *and adaptor, if necessary* from MFHT Nozzle E.

5.15 Bring cleaning fixture to the Sample Station window to disconnect hose and hang on a convenient wall bracket.

NOTE: Tasks 5.16 and 5.17 may be done in any order.

5.16 Record CFMT and MFHT Rad Probe readings from monitors at the Sample Station Window.

+ CFMT _____ MFHT _____ By: _____ Date: _____

5.17 Video inspection of the MFHT is to be performed per Section 6.0 of this Work Order.

FC>1 *Remote camera flange fingers shall be in the extended position if the new adaptor flange is not in place.*

SECOND FLUSH

FC>1

NOTE: The MFHT cleaning fixture is used with the sample pump adaptor, or optionally, the CFMT Cleaning Fixture can be used with the new adaptor flange.

5.18 Retrieve the cleaning fixture, connect the pressure hose and install the cleaning fixture on E. Bail in NE - SW orientation, with spray nozzle pointing ~ NW.

FC#1

5.19 Operate High Pressure Pump per Work Order 0101602. Bring pump pressure to between 1000 psi and 1200 psi and spray for 55 - 60 minutes. (35 GPM ≈ 45 inches in MFHT; Spray rate is 26 minutes per cycle)

5.20 Remove CAUTION tag, start MFHT Agitator, and agitate for 30 minutes.

5.21 Transfer the contents of the MFHT to the CFMT using J-1105 and HIC-1105, per Section 10.2 of SOP 63-21, Rev. 10, FC1. Include copy of transfer data sheet with this Work Order.

5.22 Verify that the MFHT agitator is OFF. Open breaker at MCC 2, 1A and CAUTION Tag per SOP 00-5

+ **Agitator OFF by:** _____ **Date:** _____

FC>1

5.23 Remove Cleaning Fixture *and adaptor flange, if necessary*, from Nozzle E..

5.24 Bring Cleaning Fixture to Sample Station and disconnect the pressure hose. Locate Fixture on wall hanger.

NOTE: Tasks 5.25 and 5.26 may be done in any order.

5.25 Record CFMT and MFHT Rad Probe readings from monitors at the Sample Station Window.

+ CFMT _____ R/hr MFHT _____ R/hr By _____ / _____

5.26 Video inspection of the MFHT is to be performed per Section 6.0 of this Work Order.

FC>1 *Remote camera flange fingers shall be in the extended position if the new adaptor flange is not in place.*

5.27 **At any time during the MFHT flushing** the CFMT contents may be concentrated for water management purposes:

5.27.1 Close up MFHT flanges with flanges or cleaning fixtures to maintain ventilation.

5.27.2 Obtain CFMT Boil Down Sheet from SAE.

5.27.3 Boil CFMT per SOP 63-21 to reduce level.

5.27.4 Cool CFMT to less than 35 °C.

Third Flush (Decision Point)

5.28 Is Third flush required? Based on the above video inspection, Select one:

A. Flushing Complete; Go to Task 5.43 for Reassembly and CFMT Sampling

B. Flush MFHT from Nozzle "R" Continue below. _____

+ By Cog Engineer _____ Date _____

FC>1

5.29 Install a blank 42 inch flange on the ~~Adaptor piece~~ on MFHT Nozzle E, *or return the Sample pump and adaptor flange.*

5.30 Remove the Cold Chemical addition line to MFHT Nozzle R :

5.30.1 Remove caution tag per SOP 00-05, leave valves in closed position:

6-CH-H-961 Pene 1211

6-DW-H-647 Pene 1409B

6-DW-H-938 Pene 1409C

5.30.2 Remove Slurry Sample Station jumper H-11-7383, 1409 - V-005A

5.30.3 Remove Cold Chemical Addition jumper H-11-7352, 1211 - V-011-R.

5.30.4 Lay down jumper for reuse.

5.31 The 6 inch Cleaning Fixture will be brought in-cell by other work documents, retrieve the Cleaning Fixture from the cart and attach the hose from wall plug 1C11, to the Fixture Staubli connector. Fixture may be brought in cell any time prior to this step.

5.32 Install the 6 inch Cleaning Fixture in MFHT nozzle R.

5.33 Operate High Pressure Pump per Work Order 0101602. Bring pump pressure to between 1000 psi and 1200 psi and spray for 55 - 60 minutes. (35 GPM ≈ 45 inches in MFHT; Spray rate is 26 minutes per cycle)

5.34 Remove CAUTION tag, start MFHT Agitator, and agitate for 30 minutes.

5.35 Transfer the contents of the MFHT to the CFMT using J-1105 and HIC-1105, per Section 10.2 of SOP 63-21, Rev. 10, FC1. Include copy of transfer data sheet with this Work Order.

FC#1

5.36 Verify that the MFHT agitator is OFF. Open breaker at MCC 2, 1A and CAUTION Tag per SOP 00-5

+ **Agitator OFF by:** _____ **Date:** _____

5.37 Remove 12 inch blank flange from the Nozzle E adaptor flange.

NOTE: Tasks 5.38 through 5.40, task 5.41, and task 5.42 may be done in any order.

5.38 Remove Cleaning Fixture from Nozzle R.

5.39 Bring Cleaning Fixture to Sample Station and disconnect the pressure hose. Hang fixture from convenient wall bracket.

5.40 Reinstall the Cold Chemical addition line:

5.40.1 Install Cold Chemical Addition jumper H-11-7352, 1211 - V-011-R

5.40.2 Install Slurry Sample Station jumper H-11-7383, 1409 - V-005A.

5.40.3 Open valves and remove Caution tags per SOP 00-05.

6-CH-H-961 Pene 1211

6-DW-H-649 Pene 1409B

6-DW-H-938 Pene 1409C

5.41 Record CFMT and MFHT Rad Probe readings from monitors at the Sample Station Window.

+ CFMT _____ MFHT _____ By: _____ Date: _____

5.42 Video inspection of the MFHT internals is to be performed per Section 6.0 of this Work Order.

Reassembly and Sampling

5.43 Remove Adaptor flange from MFHT nozzle E.

5.44 Install MFHT Sample Pump in MFHT Nozzle E:

5.44.1 Install sample pump adaptor flange.

5.44.2 Install Sample Pump.

5.44.3 Install Utility jumper ANC-540, 4231 - V011- E3. Loosen the two PUREX connectors and the Free nut at the pump flange.

5.44.4 Install Actuator

FC#1

5.44.5 Install piggy back Jumper, H-11-7372, from the Utility jumper to the wall, 4229 - V011- E5.

5.44.6 Install sample jumper, H-11-7382, V-011- E2 -V-005-C.

5.44.7 Remove CAUTION tags per SOP 00-05 and leave valves in the closed position:

6-UA-GA-995 at penetration 4229A

6-UA-GA-996 at Pene 4229B

6-UA-GA-997 at Pene 4229C

6-UA-GA-998 at Pene 4231A

6-UA-GA-750 at Pene 4231B

6-DW-GL-654 at Pene 4231C

6-UA-H-751 at Rack 3W5

6-DW-H-652 at Rack 3W5

6-DW-H-649 at Pene 1409A

NOTE: CFMT Sampling may occur any time after the last MFHT transfer, Task 5.35, or 5.21 if only two flushes are done.

5.45 Agitate the CFMT for a minimum of 60 minutes before sampling.

5.46 Sample CFMT per SOP 63-23. SAE to provide AR. Record CFMT level and density readings here. Normal Feed preparation samples may be used. If needed, label sample bottles "AMF-V01-1" through "AMF-V01-x"

Level	Reading	Density	Reading
LI-0148		DI-0149	
LI-0153		DI-0154	
LI-0156		DI-0157	
LIXX-0153		DIXX-0154	
Record Sample numbers _____ By _____ / _____			

5.47 Boil to reduce level in the CFMT as necessary

6 OPERATION OF REMOTE CAMERA

6.1 Verify / Set up camera controller at MWOA . See attachment A for picture of camera controller with "HOME" settings.

FC#1

NOTE: Do not set the Remote Camera on the ground. The pan/ tilt mechanism will not support the camera. Always hang from the wall bracket.

6.2 Pick up Remote Camera from its wall bracket. USE A DYNAMOMETER WITH THE REMOTE CAMERA FIXTURE TO PROVIDE INDICATION OF BINDING. Connect cables at the Sample Station if necessary.

6.3 Turn all units ON, check lights, camera motion and picture.

FC>1

NOTE: Cog. Engineer, or <i>designee</i> , to be present for video inspections.

6.4 Set the Remote Camera in MFHT nozzle E and perform inspection of MFHT interior. Video tape all inspections.

6.5 Return camera to the HOME position.

6.6 Carefully lift camera from the MFHT and return to its wall bracket.

6.7 Turn off camera electronics.

6.8 If the picture has deteriorated because of dirt, splash, or drips on the lense, bring the camera to the sample station for cleaning. The lense may be rinsed off with low pressure water.

6.9 If camera will not go to the HOME position, or it is stuck in position because the camera pan/ tilt cannot move the camera out of the way, proceed as follows:

NOTE: This recovery procedure will likely result in an in-operable camera.

6.9.1 Set camera down on its flange.

6.9.2 With the hook, engage the auxiliary bail on the remote camera flange.

6.9.3 Lift up on the bail until the entire camera begins to lift. The camera will drop off the pan/tilt assembly and hang by a tether.

6.9.4 Disengage from the auxiliary hook, and pick up the remote camera by the lifting bail.

6.9.5 Remove from the nozzle and bring a convenient window for storage. Camera

FC#1

recovery will be by separate work document.

6.10 Return Remote Camera to Wall Hanger for storage

7 POST MAINTENANCE TESTING

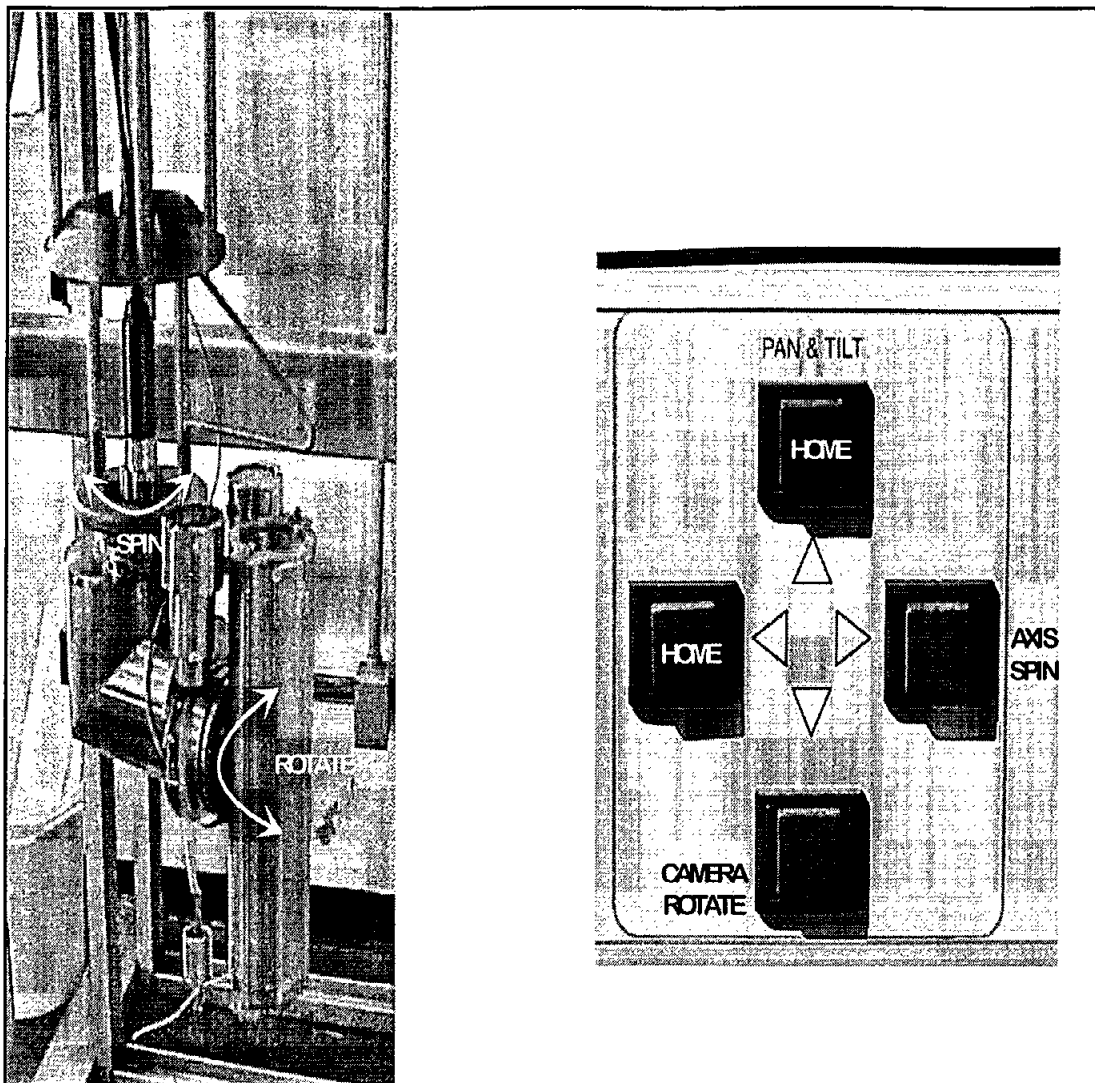
No maintenance was done as a part of this Work Order

8 FINIAL CONDITIONS

8.1 Store Spray Flange on wall hanger.

8.2 Secure high pressure hose per the Work Order for pressure pump operation.

ATTACHMENT A
REMOTE CAMERA CONTROLLER



Remote camera movement and Home position

FC#1

5.13 Verify that the MFHT agitator is OFF. Open breaker at MCC 2, 1A and CAUTION Tag per SOP 00-5

+ **Agitator OFF by:** _____ **Date:** _____

5.14 Remove the cleaning Fixture from MFHT Nozzle E.

5.15 Bring cleaning fixture to the Sample Station window to disconnect hose and hang on a convenient wall bracket.

NOTE: Tasks 5.16 and 5.17 may be done in any order.

5.16 Record CFMT and MFHT Rad Probe readings from monitors at the Sample Station Window.

+ CFMT _____ MFHT _____ By: _____ Date: _____

5.17 Video inspection of the CFMT internals is to be performed per Section 6.0 of this Work Order.

SECOND FLUSH

5.18 Retrieve the cleaning fixture, connect the pressure hose and install the cleaning fixture on E. Bail in NE - SW orientation, with spray nozzle pointing ~ NW.

5.19 Operate High Pressure Pump per Work Order 0101602. Bring pump pressure to between 1000 psi and 1200 psi and spray for 55 - 60 minutes. (35 GPM ≈ 45 inches in MFHT; Spray rate is 26 minutes per cycle)

5.20 Remove CAUTION tag, start MFHT Agitator, and agitate for 30 minutes.

5.21 Transfer the contents of the MFHT to the CFMT using J-1105 and HIC-1105, per Section 10.2 of SOP 63-21, Rev. 10, FC1. Include copy of transfer data sheet with this Work Order.

5.22 Verify that the MFHT agitator is OFF. Open breaker at MCC 2, 1A and CAUTION Tag per SOP 00-5

+ **Agitator OFF by:** _____ **Date:** _____

5.23 Remove Cleaning Fixture from Nozzle E..

5.24 Bring Cleaning Fixture to Sample Station and disconnect the pressure hose. Locate Fixture on wall hanger.

NOTE: Tasks 5.25 and 5.26 may be done in any order.

5.25 Record CFMT and MFHT Rad Probe readings from monitors at the Sample Station Window.

+ CFMT _____ R/hr MFHT _____ R/hr By _____ / _____

5.26 Video inspection of the MFHT internals is to be performed per Section 6.0 of this Work Order.

5.27 **At any time during the MFHT flushing** the CFMT contents may be concentrated for water management purposes:

5.27.1 Close up MFHT flanges with flanges or cleaning fixtures to maintain ventilation.

5.27.2 Obtain CFMT Boil Down Sheet from SAE.

5.27.3 Boil CFMT per SOP 63-21 to reduce level.

5.27.4 Cool CFMT to less than 35 °C.

Third Flush (Decision Point)

5.28 Is Third flush required? Based on the above video inspection, Select one:

A. Flushing Complete; Go to Task 5.43 for Reassembly and CFMT Sampling

_____.
B. Flush MFHT from Nozzle "R" Continue below. _____

+ By Cog Engineer _____ Date _____

5.29 Install a blank 12 inch flange on the Adaptor piece on MFHT Nozzle E.

5.30 Remove the Cold Chemical addition line to MFHT Nozzle R :

5.30.1 Remove caution tag per SOP 00-05, leave valves in closed position:

6-CH-H-961 Pene 1211

6-DW-H-647 Pene 1409B

6-DW-H-938 Pene 1409C

5.30.2 Remove Slurry Sample Station jumper H-11-7383, 1409 - V-005A

5.30.3 Remove Cold Chemical Addition jumper H-11-7352, 1211 - V-011-R.

5.30.4 Lay down jumper for reuse.

5.31 The 6 inch Cleaning Fixture will be brought in-cell by other work documents, retrieve the Cleaning Fixture from the cart and attach the hose from wall plug 1C11, to the Fixture Staubli connector. Fixture may be brought in cell any time prior to this step.

5.32 Install the 6 inch Cleaning Fixture in MFHT nozzle R.

5.33 Operate High Pressure Pump per Work Order 0101602. Bring pump pressure to between 1000 psi and 1200 psi and spray for 55 - 60 minutes. (35 GPM \approx 45 inches in MFHT; Spray rate is 26 minutes per cycle)

5.34 Remove CAUTION tag, start MFHT Agitator, and agitate for 30 minutes.

5.35 Transfer the contents of the MFHT to the CFMT using J-1105 and HIC-1105, per Section 10.2 of SOP 63-21, Rev. 10, FC1. Include copy of transfer data sheet with this Work Order.

5.36 Verify that the MFHT agitator is OFF. Open breaker at MCC 2, 1A and CAUTION Tag per SOP 00-5

+ **Agitator OFF by:** _____ **Date:** _____

5.37 Remove 12 inch blank flange from the Nozzle E adaptor flange.

NOTE: Tasks 5.38 through 5.40, task 5.41, and task 5.42 may be done in any order.

5.38 Remove Cleaning Fixture from Nozzle R.

5.39 Bring Cleaning Fixture to Sample Station and disconnect the pressure hose. Hang fixture from convenient wall bracket.

5.40 Reinstall the Cold Chemical addition line:

5.40.1 Install Cold Chemical Addition jumper H-11-7352, 1211 - V-011-R

5.40.2 Install Slurry Sample Station jumper H-11-7383, 1409 - V-005A.

5.40.3 Open valves and remove Caution tags per SOP 00-05.

6-CH-H-961 Pene 1211

6-DW-H-649 Pene 1409B

6-DW-H-938 Pene 1409C

5.41 Record CFMT and MFHT Rad Probe readings from monitors at the Sample Station Window.

+ CFMT _____ MFHT _____ By: _____ Date: _____

5.42 Video inspection of the MFHT internals is to be performed per Section 6.0 of this Work Order.

Reassembly and Sampling

5.43 Remove Adaptor flange from MFHT nozzle E.

5.44 Install MFHT Sample Pump in MFHT Nozzle E:

5.44.1 Install sample pump adaptor flange.

5.44.2 Install Sample Pump.

5.44.3 Install Utility jumper ANC-540, 4231 - V011- E3. Loosen the two PUREX connectors and the Free nut at the pump flange.

5.44.4 Install Actuator

5.44.5 Install piggy back Jumper, H-11-7372, from the Utility jumper to the wall, 4229 - V011- E5.

5.44.6 Install sample jumper, H-11-7382, V-011- E2 -V-005-C.

5.44.7 Remove CAUTION tags per SOP 00-05 and leave valves in the closed position:

6-UA-GA-995 at penetration 4229A

6-UA-GA-996 at Pene 4229B

6-UA-GA-997 at Pene 4229C

6-UA-GA-998 at Pene 4231A

6-UA-GA-750 at Pene 4231B

6-DW-GL-654 at Pene 4231C

6-UA-H-751 at Rack 3W5

6-DW-H-652 at Rack 3W5

NOTE: CFMT Sampling may occur any time after the last MFHT transfer, Task 5.35, or 5.21 if only two flushes are done.

5.45 Agitate the CFMT for a minimum of 60 minutes before sampling.

5.46 Sample CFMT per SOP 63-23. SAE to provide AR. Record CFMT level and density readings here. Normal Feed preparation samples may be used. If needed, label sample bottles "AMF-V01-1" through "AMF-V01-x"

Level	Reading	Density	Reading
LI-0148		DI-0149	
LI-0153		DI-0154	
LI-0156		DI-0157	
LIXX-0153		DIXX-0154	
Record Sample numbers		By	/

5.47 Boil to reduce level in the CFMT as necessary

6 OPERATION OF REMOTE CAMERA

6.1 Verify / Set up camera controller at MWOA . See attachment A for picture of camera controller with "HOME" settings.

NOTE: Do not set the Remote Camera on the ground. The pan/ tilt mechanism will not support the camera. Always hang from the wall bracket.

6.2 Pick up Remote Camera from its wall bracket. USE A DYNAMOMETER WITH THE REMOTE CAMERA FIXTURE TO PROVIDE INDICATION OF BINDING. Connect cables at the Sample Station if necessary.

6.3 Turn all units ON, check lights, camera motion and picture.

NOTE: Cog. Engineer to be present for video inspections.

6.4 Set the Remote Camera in MFHT nozzle E and perform inspection of MFHT interior. Video tape all inspections.

- 6.5 Return camera to the HOME position.
- 6.6 Carefully lift camera from the MFHT and return to its wall bracket.
- 6.7 Turn off camera electronics.
- 6.8 If the picture has deteriorated because of dirt, splash, or drips on the lense, bring the camera to the sample station for cleaning. The lense may be rinsed off with low pressure water.
- 6.9 If camera will not go to the HOME position, or it is stuck in position because the camera pan/ tilt cannot move the camera out of the way, proceed as follows:

NOTE: This recovery procedure will likely result in an in-operable camera.

- 6.9.1 Set camera down on its flange.
 - 6.9.2 With the hook, engage the auxilliary bail on the remote camera flange.
 - 6.9.3 Lift up on the bail until the entire camera begins to lift. The camera will drop off the pan/tilt assembly and hang by a tether.
 - 6.9.4 Disengage from the auxiliary hook, and pick up the remote camera by the lifting bail.
 - 6.9.5 Remove from the nozzle and bring a convenient window for storage. Camera recovery will be by separate work document.
- 6.10 Return Remote Camera to Wall Hanger for storage

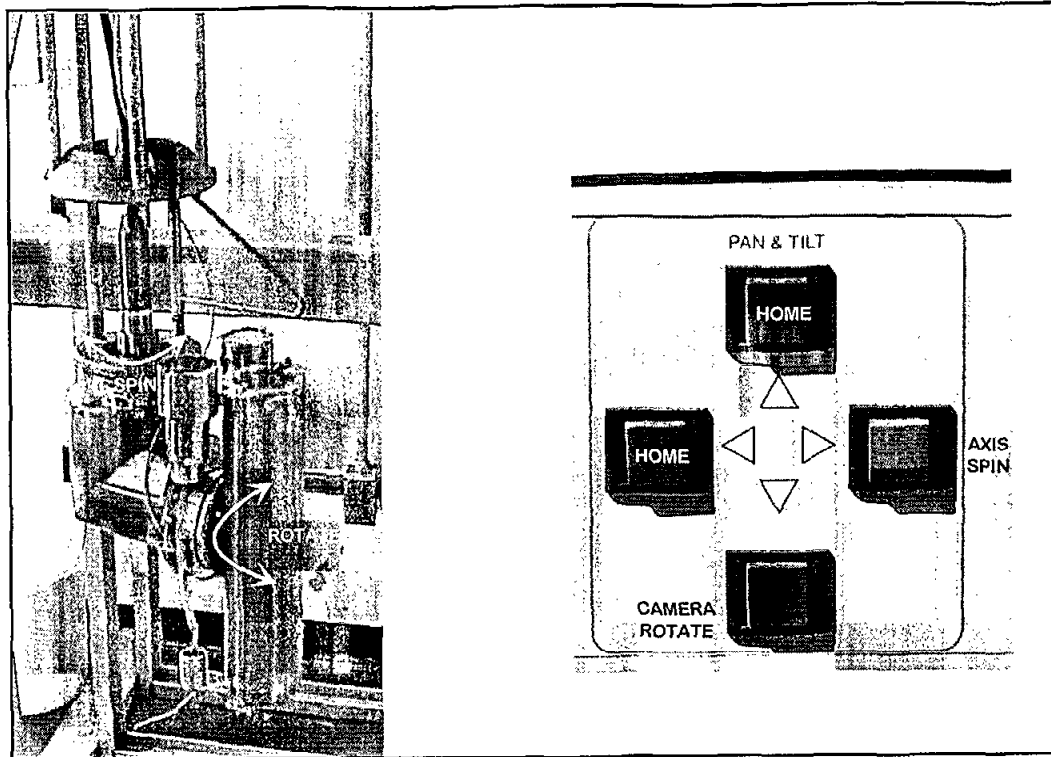
7 POST MAINTENANCE TESTING

No maintenance was done as a part of this Work Order

8 FINIAL CONDITIONS

- 8.1 Store Spray Flange on wall hanger.
- 8.2 Secure high pressure hose per the Work Order for pressure pump operation.

ATTACHMENT A
REMOTE CAMERA CONTROLLER



Remote camera movement and Home position

APPENDIX C
Transfer Data Sheet
(Page 1 of 1)

SOP 63-34
Rev. 5
Page 41 of 47

Section 1

Slurry Batch # 77

	Send Tank BEFORE	Receipt Tank BEFORE
Tank Name	MFHT	CFMT
Tank Number	63-V-011	63-V-001
Date	6-17-02	6-26-02
Time	1430	1430
LIX* (Inches) AGITATOR OFF (1, 2, or 3 readings)	29 29 30 Avg=29.3	63.2 63.4 62.9 63.2
DIX (Sp.Gr.) AGITATOR OFF (1, 2, or 3 readings)	1.39 1.39 1.35 Avg=1.38	1.105 1.089 1.086
Temp. (°C)	28.0	28.0°C
Average Volume (L)	6085.3	11416.0

* Instantaneous Readings

Section 2

Volume to be transferred entire contents of MFHT

SAE Signature [Signature] Date 6/17/02

Shift Engineer Signature [Signature] Date 6-26-02

Section 3

	Send Tank AFTER	Receipt Tank AFTER
Tank Name	MFHT	CFMT
Tank Number	63-V-011	63-V-001
Date	6-27-02	6-27-02
Time	0045	0050
LIX (Inches) AGITATOR OFF (1, 2, or 3 readings)	1 2 0	97.3 97.6 96.9 97.2
DIX (Sp.Gr.) AGITATOR OFF (1, 2, or 3 readings)	1.32 1.32 1.34	1.191 1.174 1.171 1.179
Temp. (°C)	27.7°C	35.6°C
Average Volume (L)	0.0	17691.0 L

Total Flush Water (L)

VOSS Signature [Signature] Date 6-27-02

Pre-Job Briefing Checklist

Work Instruction No.: WO- VFS-65708

Date: 6-26-02

Title: MFHT Water flush

Attendance: (Print Name/Signature)

M.V. Walker

Responsible Work Group Supervisor (WGS) or designee

Assigned Workers (Print Name/Signature):

F. Ardus / *[Signature]*

T. Shaw/ *T. Shaw*

A. Morgan /

D. Becker / *not*

T. Shoff /

J. Daniel /

☐ L. Petkus
(Work Instruction Originator)

□ N/A
(Technical Specialist)

□ N/A
(IH&S Engineer)

□ N/A
(IH&S Field Representative)

□ N/A
(Radiological Engineer)

□ N/A
(Radiological Control Technician)

☐ N/A
(facility designee)

☐ _____

□ N/A

□ _____

Section A: ALARA TRIGGER LEVELS

Check all that apply. If any ALARA Trigger levels are exceeded (any "yes" checked below), perform Section B and Section C. If no ALARA Trigger levels are exceeded (all "no" below), perform Section B only.

YES NO

[] [x] Estimated individual or collective dose greater than 100 person-mrem.

[] [x] Predicted airborne radioactivity concentrations in excess of one Derived Air Concentration (DAC) to a worker taking into account assigned respiratory protection factors.

[] [x] Work area removable contamination levels that exceed 100 times the releasable contamination levels in table 2-2 of WVDP-010.

[] [x] Entry into areas where dose rates exceed 1.0 rem/hour.

[] [x] Potential releases of radioactive material to the environment (onsite or offsite) that could produce a concentration greater than or equal to (\geq) one Derived Concentration Guide (DCG) or other limits for an individual radionuclide or \geq one for the sum of the fractional DCG for a mixture of radionuclides per DOE Order 5400.5.

[] [x] Potential for significant radiological exposures.

Section B: ALARA AND NON-ALARA JOBS

1. ☐ Yes Ensured scope of work is understood?
Sat- covered with work order review

2. ☐ Yes Ensured identified worker Health & Safety training requirements have been
verified by reviewing the workers' Health & Safety Training Tracking Badges?
Sat

3. ☐ Yes Ensured hazards and hazard controls, including LO/TO are understood?
☐ N/A Lo/to per work order

4. ☐ Yes Discussed applicable permits (e.g., Ground Disturbance Permit, etc.)?
☐ N/A _____

5. ☐ Yes Discussed facility/area conditions including impact of other work in the area?
☐ N/A facility in idle

6. ☐ Yes Discussed coordination with support groups including individual assignments?
☐ N/A _____

7. ☐ Yes Discussed all steps including "skill of craft", completion criteria, and
☐ N/A cleanup?
Crane ops per 63-47

8. ☐ Yes Identified safe stopping conditions and hold points for necessary breaks in
☐ N/A work?
If any problems notify Voss

9. ☐ Yes Reviewed Emergency Response actions?
☐ N/A _____

10. ☐ Yes Identified and verified availability of required waste containers?

☐ N/A

- ☐
- N/A

- ☐
- N/A

- ☐ N/A

- ☐
- N/A

15. Additional comments: (Use additional sheets as necessary)

Responsible WGS: M.V. Walker

Signature

6-26-02

Date _____

APPENDIX C
Transfer Data Sheet
(Page 1 of 1)

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Section 1

Slurry Batch # 77
3rd MFHT TRANSFER

	Send Tank BEFORE	Receipt Tank BEFORE
Tank Name	MFHT	CFMT
Tank Number	63-V-011	63-V-001
Date	7/11/02	7/11/02
Time		
LIX* (Inches) AGITATOR OFF (1, 2, or 3 readings)	46 46 47 46.2	35.9 35.9 35.6 35.8
DIX (Sp.Gr.) AGITATOR OFF (1, 2, or 3 readings)	1.02 0.90 1.00 0.98	1.454 1.457 1.458 1.456
Temp. (°C)	29°C	37
Average Volume (L)	9151.0	6367.1

* Instantaneous Readings

Section 2

Volume to be transferred ENTIRE CONTENTS OF MFHT NOT TO EXCEED
CFMT LEVEL
SAE Signature H.S. Dwyer Date 7/11/02 OF
112"
Shift Engineer Signature [Signature] Date 7-12-02

Section 3

	Send Tank AFTER	Receipt Tank AFTER
Tank Name	MFHT	CFMT
Tank Number	63-V-011	63-V-001
Date	7-12-02	7-12-02
Time	1512	1519
LIX (Inches) AGITATOR OFF (1, 2, or 3 readings)	1 0.2 0 0.3	81.7 81.9 81.3 81.6
DIX (Sp.Gr.) AGITATOR OFF (1, 2, or 3 readings)	1.02 0.90 1.00 0.97	1.205 1.209 1.205 1.206
Temp. (°C)	27	37
Average Volume (L)	770.2	14806.5

Total Flush Water (L) N/A

VOSS Signature [Signature] Date 7-12-02

APPENDIX C
Transfer Data Sheet
(Page 1 of 1)

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Section 1

Slurry Batch # 77

	Send Tank BEFORE	Receipt Tank BEFORE
Tank Name	MFHT	CFMT
Tank Number	63-V-011	63-V-001
Date	7/8/02	7/8/02
Time	1745	15:51
LIX* (Inches) AGITATOR OFF (1, 2, or 3 readings)	<u>33</u> <u>33</u> <u>34 AVE</u> 33.4	<u>58.2</u> <u>58.4</u> <u>57.9</u> 58.2 ^{AV.}
DIX (Sp.Gr.) AGITATOR OFF (1, 2, or 3 readings)	<u>1.05</u> <u>1.06</u> <u>1.02 AVE</u> 1.04	<u>1.299</u> <u>1.283</u> <u>1.281</u> 1.288 ^{AV.}
Temp. (°C)	27°C	28°C
Average Volume (L)	6829.0	10494.6 L

* Instantaneous Readings

Section 2

Volume to be transferred Entire contents of MFHT; not to exceed CFMT level of 112"

SAE Signature [Signature] Date 7-8-02
Shift Engineer Signature [Signature] Date 7-8-02

Section 3

	Send Tank AFTER	Receipt Tank AFTER
Tank Name	MFHT	CFMT
Tank Number	63-V-011	63-V-001
Date	7-8-02	7-8-02
Time	1850	1850
LIX (Inches) AGITATOR OFF (1, 2, or 3 readings)	<u>1</u> <u>2</u> <u>0</u> -0.4	<u>94.3</u> <u>94.6</u> <u>94.0</u> 94.3
DIX (Sp.Gr.) AGITATOR OFF (1, 2, or 3 readings)	<u>1.04</u> <u>1.06</u> <u>1.02</u>	<u>1.202</u> <u>1.185</u> <u>1.181</u> 1.190
Temp. (°C)	27°C	33°C
Average Volume (L)	770.2 L	17146.7

Total Flush Water (L) N/A

VOSS Signature [Signature] Date 7-8-02

APPENDIX C
Transfer Data Sheet
(Page 1 of 1)

SOP 63-34
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Page 40 of 46

Section 1

Slurry Batch # 77

	Send Tank BEFORE	Receipt Tank BEFORE
Tank Name	MFT	CFMT
Tank Number	63-U-011	63-U-001
Date	7-10-02	7-10-02
Time	2230	2230
LIX* (Inches) AGITATOR OFF (1, 2, or 3 readings)	44 43 44	44.6 44.7 44.4
DIX (Sp.Gr.) AGITATOR OFF (1, 2, or 3 readings)	1.04 1.06 1.02	1.393 1.369 1.371
Temp. (°C)	29°C	43.6°C
Average Volume (L)	8661.2	8007.0

* Instantaneous Readings

Section 2

Volume to be transferred All of MFT, not to exceed 112" in CFMT

SAE Signature [Signature] Date 7-10-02

Shift Engineer Signature [Signature] Date 7-10-02

Section 3

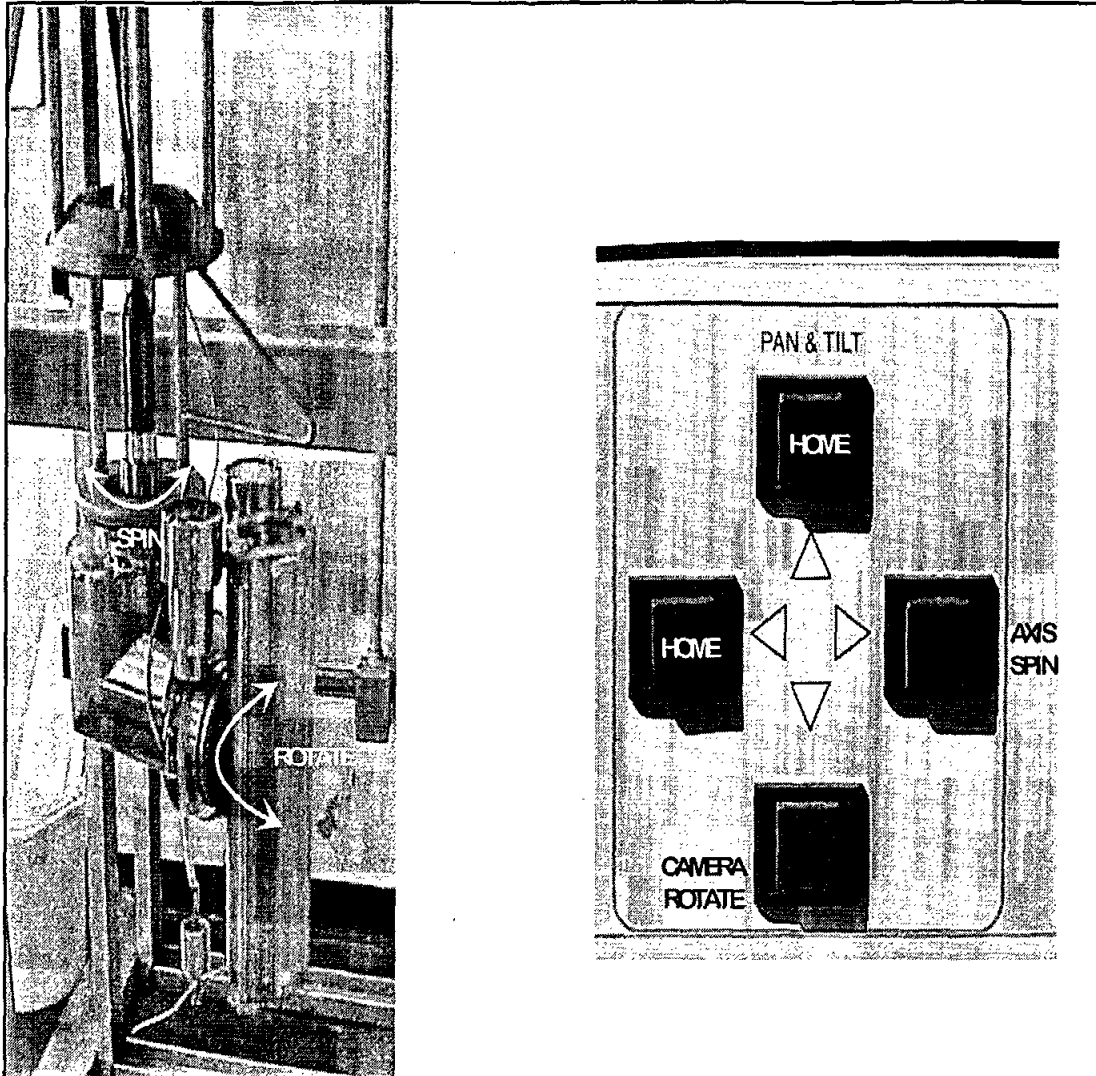
	Send Tank AFTER	Receipt Tank AFTER
Tank Name	MFT	CFMT
Tank Number	63-U-011	63-U-001
Date	7-10-02	7-10-02
Time	2250	2250
LIX (Inches) AGITATOR OFF (1, 2, or 3 readings)	1 -2 0	90.6 90.9 90.3
DIX (Sp.Gr.) AGITATOR OFF (1, 2, or 3 readings)	1.03 1.01 .99	1.210 1.188 1.185
Temp. (°C)	28°C	38.7°C
Average Volume (L)	0	16501.7

90.6
1.19

Total Flush Water (L) N/A

VOSS Signature [Signature] Date 7-10-02

ATTACHMENT A
REMOTE CAMERA CONTROLLER



Remote camera movement and Home position

Project/Document ID: MFHT WATER FLUSH	Rev. 0	FC# 0
Hazards Analyst: Lawrence Petkus	Date: May 28, 2002	

If the answer to any of the following questions in "Yes," consult the Department(s) indicated in the right-hand column for assignment of a Hazards Controls Specialist. Screening of a field change needs to address only the impact of the field change on the original Hazards Screen Checklist.

Cognizant Department Acronyms

EA - Environmental Affairs

RP - Radiation Protection

FM - Facility Manager

SA&I - Safety Analysis & Integration

FS - Field Services

USQD Orig - USQD Originator

IS&EM - Industrial Safety & Emergency Management

WCS - Waste Characterization Services

MPOSS - Main Plant Operations Shift Supervisor

YOU SHALL CONSIDER BOTH NORMAL OPERATIONS AND PROCESS UPSET CONDITIONS. Sheet 1 of 4

#	Yes	No	Potentially Hazardous Situations	Cog. Dept
Radiological and Utilities				
1a	✓		Will the work be performed in a radiologically posted area, i.e., radiological buffer area, radiation area, high radiation area, contamination area, etc.?	RP
1b		✓	Will the work involve high-activity sealed radioactive sources?	RP
1c		✓	Will the work involve any type of excavation or ground intrusion (e.g., driving posts, installing Hilti bolts)? (See WV-370; use Form WV-3521.)	RP, IS&EM
1d		✓	Will the work involve any type of construction, remodeling, or demolition?	RP, IS&EM, FS
1e		✓	Will the work be conducted on equipment containing radiation detectors?	RP
1f	✓		Will the work involve systems or vessels containing High-Level Radioactive Waste?	RP
Chemical Note: Obtain and review Material Safety Data Sheets for all chemicals involved.				
2a		✓	Will toxic, carcinogenic, flammable, or reactive chemicals be involved (either used, e.g., lead paint, PCBs, or generated, e.g., wastes)?	IS&EM
2b		✓	Will corrosive or oxidizing chemicals other than water be used or generated?	IS&EM
2c		✓	Will compressed or uncompressed gases in cylinders or bottles or cryogenics be involved, e.g., halon in cylinders?	IS&EM
2d		✓	Will the work involve piped-in chemicals, chemical sensors, or equipment or piping containing chemicals?	IS&EM
2e		✓	Will the work involve Trade/Brand name chemicals that do not list all the ingredients on the MSDS?	IS&EM
Fire and Explosion				
3a		✓	A. Will an open flame be used or produced?	IS&EM
3b		✓	B. Will a heat source greater than 100°C be used, produced, or located in close proximity to the work?	IS&EM
3c		✓	C. Will the work involve or require disabling a fire alarm or protection system?	IS&EM, MPOSS

YOU SHALL CONSIDER BOTH NORMAL OPERATIONS AND PROCESS UPSET CONDITIONS.

Sheet 2 of 4

#	Yes	No	Potentially Hazardous Situations	Cog. Dept
Safety Basis <p align="center">Note: This question is intended to trigger the early involvement of a USQD Originator and does <u>not</u> replace the USQP required by WV-914.</p>				
4a		✓	Will the work involve any changes to facilities or procedures as described in a safety analysis or involve tests or experiments?	USQD Orig
Emergency Preparedness				
5a		✓	Will the work disable the 812-all-page system, the 222-plant-page system, or the sheltering alarm? (See SOP 00-04; use Form WV-2164.)	IS&EM, MPOSS
5b		✓	Will the work disable the meteorological tower or instrumentation?	IS&EM, MPOSS
5c		✓	Will the work block or render inaccessible any emergency access or emergency relocation routes or assembly areas?	IS&EM, MPOSS
5d		✓	Will the work affect the ability to respond to an emergency at an adjacent facility?	IS&EM, MPOSS
5e		✓	Will the work involve maintenance on or temporary or permanent relocation or disablement of emergency response equipment?	IS&EM, MPOSS
5f		✓	Will the work require the development of new or a change to existing emergency management postings, signs, or instructions (e.g., relocation route postings, assembly area maps, or ventilation or sheltering instructions)?	IS&EM
5g		✓	Will the work directly or indirectly affect the operability of the Emergency Operations Center's (EOC's) or the Technical Support Center's (TSC's) facility or equipment?	IS&EM, MPOSS
Environmental, Waste Minimization, Pollution Prevention, and Regulatory				
6a		✓	Will the work potentially result in any airborne releases (e.g., smoke, fumes, gases, exhaust, asbestos, dust, mercury, radioactive material)?	EA
6b		✓	Will the work potentially result in any liquid releases (e.g., water, petroleum products, mercury, chemicals) into the environment?	EA
6c		✓	Will the work produce any waste products (e.g., industrial waste, hazardous waste, mixed waste, radioactive waste) or involve the on-site or off-site transportation of any waste products?	WCS, EA
6d		✓	Will the work result in changes to the site storm water drainage system (e.g., changes to drainage pathways/patterns) or result in removal of established vegetative ground cover or exposure of soil to rain/snowfall?	EA
6e		✓	Will the work result in the siting of new structures, the relocation, demolition, or removal of existing structures, or modifications to existing structures (e.g., removing a tank or adding floor space to a building)?	EA
6f		✓	Will the work disable or be performed in close proximity to any environmental monitoring equipment (i.e., air monitors, groundwater wells, etc.)?	EA
6g		✓	Will the work require the disturbance of migratory bird nests or involve animal control?	EA
6h		✓	Will the work involve PCB items in use (e.g., transformers, capacitors, voltage regulators), PCB wastes, or the removal or abandonment of pipes that distribute natural gas?	EA
6i		✓	Will the work potentially affect wetlands, the flow of creeks or streams, or lake discharges?	EA

APPENDIX A
PRE-ISSUANCE WALKDOWN CHECKLIST
(Page 1 of 1)

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Rev. 1
Page 11 of 17

Page 1 of 1

Pre-Issuance Walkdown Checklist

Work Instruction Number: _____

Title: MEHT WATER FLUSH

WGS: K. SIOMBA

(Print)

Walkdown Assigned To: G. STRECCZYWILK

(Print)

STEPS	YES	NO	NA
Adequate controls (IWP, RWP, LO/TO, Equip. Release Form, etc.) in place?	✓		
Sequence of steps correct & exceptions clearly understood?	✓		
The level of detail is appropriate for the intended work group?	✓		
Steps clearly identify the action to be taken?	✓		
All equipment/components affected by work document are labeled by either temporary or permanent labels?	✓		
Equipment/Component identification matches field labeling?	✓		
Chemicals used are identified and MSDS's included?			✓
Required special tools and materials identified?	✓		
Isolation points identified and understood?	✓		
Limitations are expressed quantitatively?	✓		
Sign-offs identified, & space for signature & data recording provided?	✓		
References to other documents necessary, clear, & available?	✓		
Required drawings/sketches are included and adequate?	✓		
Attachment section & step numbers match the work instruction?			✓
Units of measure & ranges used in attachments, match the work instruction & instrumentation?	✓		
Warnings, Cautions, & Notes do NOT contain action steps?	✓		
Warnings, Cautions, & Notes are clearly identifiable & precede the steps to which they apply?	✓		
Interface with system status, & steps by operating personnel understood?	✓		
Interface with support groups including hold-points & responsibilities understood?			✓
Post maintenance testing identified & acceptable results indicated?	✓		
Do any operator aids need to be updated to reflect the procedure change?			✓

Comments: (Steps marked "No" require comment. Use additional sheets as necessary.)

YOU SHALL CONSIDER BOTH NORMAL OPERATIONS AND PROCESS UPSET CONDITIONS.

Sheet 3 of 4

#	Yes	No	Potentially Hazardous Situations	Cog. Dept
Equipment Status * Facility Manager shall decide whether the Radiation and Safety Committee must review the proposed activity pursuant to WV-906.				
7a		✓	Will the work involve removing Process Safety Requirement (PSR) controlled equipment from service? (See WVDP-218.)	FM *
7b		✓	Will the work be performed on equipment identified in any Process Safety Requirement? (See WVDP-218.)	FM *
7c		✓	Will the work be performed on or disable Safety Class A, B, or C equipment? (See WVDP-204.)	FM *
7d		✓	Will the work be performed on ventilation systems or air effluent monitoring systems?	FM *
7e		✓	Will the work impair the operability of or have the potential to inadvertently actuate any alarm (e.g., fire detection, fire suppression, carbon monoxide, NOx, ammonia) system?	FM *, IS&EM, MPOSS
7f		✓	Will the work be performed on any standby or backup power supply? (See SOP 00-04, Appendix E.)	FM *
7g		✓	Will the work impair any breathing air supply or fresh air intake?	FM *
Industrial Safety & Emergency Management and Construction Safety				
8a		✓	Will the work be performed on open-sided platforms or roofs more than 4 feet above ground level or more than 6 feet up on a ladder?	IS&EM or FS
8b		✓	Will the work require designing and/or building a permanent fall-protection system for other than field or construction use?	IS&EM
8c	✓		Will the work require burning, welding, or grinding or involve forms of high energy (e.g., electrical, steam, high-pressure air, or water)?	IS&EM
8d		✓	Will the work require entry into a confined space?	IS&EM
8e		✓	Will the work produce a breathing hazard (dust, fumes, solvent vapors, etc.) requiring use of respiratory protection for non-radiological purposes?	IS&EM
8f		✓	Will the work require handling asbestos or insulation-containing materials?	IS&EM
8g		✓	Will the work be conducted on or near live electrical components with more than 50 volts alternating current (VAC)?	IS&EM
8h		✓	Could the work or job location result in "heat" or "cold" injuries such as heat exhaustion, frost bite, or hypothermia?	IS&EM
8i		✓	Will the work produce noise greater than 85 dBA at the job site or at other locations?	IS&EM
8j		✓	Will the work produce paint or chemical fumes at the job site or at other locations?	IS&EM
8k		✓	Will the activity involve manual lifting of materials, power tools, vibrating equipment, or repetitive motions that could cause musculoskeletal injury?	IS&EM
8l		✓	Will the work involve hoisting and/or rigging activities?	IS&EM or FS
8m		✓	Will the work result in the temporary or permanent routing of utilities (e.g., electricity, air, gas, steam, water, gasoline, fuel oil) that may become damaged as a result of exposure to personnel or vehicular traffic?	IS&EM

YOU SHALL CONSIDER BOTH NORMAL OPERATIONS AND PROCESS UPSET CONDITIONS.

Sheet 4 of 4

#	Yes	No	Potentially Hazardous Situations	Cog. Dept
8n		✓	Will the work result in the temporary or permanent routing of utilities (e.g., electricity, air, gas, steam, water, gasoline, fuel oil) that may unintentionally become covered in some manner by material (e.g., snow, water, sand, dirt, gravel, mud, boxes, containers)?	IS&EM
8o		✓	Will the work breach a system known or suspected to contain hazardous materials (e.g., mercury) or energy sources (e.g., steam, electricity)?	IS&EM
8p		✓	Will the work be performed in an area where previous spills of hazardous materials (e.g., mercury) are known or suspected to have occurred?	IS&EM
8q		✓	Will the work involve conditions where the unexpected energization or startup of machines or equipment or the release of stored energy could cause injury or death to personnel? (See SOP 00-04.)	FM

Nuclear Criticality

9a		✓	Will the work involve or potentially involve greater than 1 gram of fissionable material (e.g., U-233, U-235, Pu-239, Pu-241)?	SA&I
9b		✓	Will the work be conducted in or impact the FRS's Fuel Storage Pool (FSP) or Cask Unloading Pool (CUP) while fuel is in transport to, in storage in, or being handled in the CUP?	SA&I
9c		✓	Will the work involve or potentially involve a structural or dimensional change to a TRU or a suspect-TRU waste container?	SA&I
9d		✓	Will the work impact any fissionable material contained in the GPC, PMC, XC-1, or XC-2?	SA&I