DISTRIBUTION SHEET

To Distribution	From D. T. Lott	Page 1 of 1 Date 5/16/95			
Project Title/Work Order W-369, Watch List Tank Hydrogen Monitoring, Standard Hydrogen Monitoring System Acceptance Test Report For ATP 096		EDT No. 601747			
		ECN No. N/A			
Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
D. T. Lott	R3-49	X			
R. W. Reed	R1-51		X		
Central Files	L8-04	X			
O.S.T.I. (2)	L8-07	X			

DISCLAIMER

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

5
MAY 17 1995

ENGINEERING DATA TRANSMITTAL

Page 1 of 1
1. EDT 601747

2. To: (Receiving Organization) Distribution	3. From: (Originating Organization) General Support Projects	4. Related EDT No.: N/A
5. Proj./Prog./Dept./Div.: W-369, Watch List Tank Hydrogen Monitoring	6. Cog. Engr.: D. T. Lott	7. Purchase Order No.: N/A
8. Originator Remarks: The document being distributed for release is the Acceptance Test Reports(ATR) for the completed Acceptance Test Procedure 096 performed on the SHMSs.		9. Equip./Component No.: N/A
11. Receiver Remarks:		10. System/Bldg./Facility: N/A
		12. Major Assm. Dwg. No.:
		13. Permit/Permit Application No.: N/A
		14. Required Response Date: N/A

15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Approval Designator	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	WHC-SD-WM-ATR-096	ALL	0	Standard-C Hydrogen Monitoring System	Q	2		

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	1. Approved	4. Reviewed no/comment
		2. Release	5. Post-Review	2. Approved w/comment	5. Reviewed w/comment
		3. Information	6. Dist. (Receipt Acknow. Required)	3. Disapproved w/comment	6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)										(G)	(H)
Reason	Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	Reason	Disp.
2	1	Cog.Eng.D. T. Lott	<i>[Signature]</i>	5/10/95							
2	1	Cog. Mgr.J. B. Witt	<i>[Signature]</i>	5-9-95							
2	1	QA H. M. Chafin	<i>[Signature]</i>	5-16-95							
		Safety									
		Env.									

18. D. T. Lott <i>[Signature]</i> 5/10/95 Signature of EDT Originator Date	19. Authorized Representative Date for Receiving Organization	20. J. B. Witt <i>[Signature]</i> 5-9-95 Cognizant Manager Date	21. DOE APPROVAL (if required) Ctrl. No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments
---	--	--	---

RELEASE AUTHORIZATION

Document Number: WHC-SD-WM-ATR-096, REV 0

Document Title: Standard-C Hydrogen Monitoring System, Acceptance Test Report

Release Date: 5/17/95

**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

May 17, 1995

TRADEMARK DISCLAIMER. 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.

This report has been reproduced from the best available copy. Available in paper copy and microfiche. Printed in the United States of America. Available to the U.S. Department of Energy and its contractors from:

U.S. Department of Energy
Office of Scientific and Technical Information (OSTI)
P.O. Box 62
Oak Ridge, TN 37831
Telephone: (615) 576-8401

Available to the public from:

U.S. Department of Commerce
National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
Telephone: (703) 487-4650

SUPPORTING DOCUMENT		1. Total Pages 39
2. Title Standard-C Hydrogen Monitoring System, Acceptance Test Report	3. Number WHC-SD-WM-ATR-096	4. Rev No. 0
5. Key Words Standard Hydrogen Monitor System, SHMS, Acceptance Test Report, ATR,	6. Author Name: D. T. Lott Signature Organization/Charge Code 8K510/N3BA1	
7. Abstract The following is the Acceptance Test Report for the acceptance testing of the Standard Hydrogen Monitoring System.		

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, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness 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. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

8. RELEASE STAMP

OFFICIAL RELEASE BY WHC	5
DATE	MAY 17 1995

STANDARD-C HYDROGEN MONITORING SYSTEM

ACCEPTANCE TEST REPORT

WHC-SD-WM-ATR-096

REV. 0

APPROVAL DESIGNATOR Q

Issued by
General Support Projects
May 1995

TABLE OF CONTENTS

1.0	INTRODUCTION	3
2.0	DESCRIPTION OF TEST	3
3.0	TEST METHOD AND TEST EQUIPMENT	3
4.0	TEST RESULTS AND CONCLUSIONS	3
5.0	DISPOSITION OF TEST ITEMS	3
6.0	APPENDIXES	3
	APPENDIX A (TANK 104-AN)	

1.0 INTRODUCTION

Project W-369, Watch List Tank Hydrogen Monitors, installed a Standard-C Hydrogen Monitoring System (SHMS) on Flammable Gas Watch List waste tank 104-AN. General Support Projects (8K510) was support by Test Engineering (7CH30) in the performance of the Acceptance Test Procedure (ATP) to qualify the SHMS on this waste tank. The ATP's performance was controlled by Tank Farm work package 2E-94-581. The completed ATP is transmitted by EDT-601747 as an Acceptance Test Report (ATR) in accordance with WHC-6-1, EP 4.2 and EP 1.12.

2.0 DESCRIPTION OF TEST

The performance of WHC-SD-WM-ATR-096 was used to qualify the SHMS installation on the waste tank. The ATP was used to assure that the system's wiring and components were properly installed and labeled. Electrical and pneumatic tests were also performed to assure system integrity.

3.0 TEST METHOD AND TEST EQUIPMENT

This test verified that the monitors were constructed and installed per the appropriate design assemble and installation drawings. The test checked the electrical and pneumatic connections to verify functional correctness, but did not perform formal operational testing to qualify the system for data collection. The operational calibrations were subsequently performed under approved maintenance procedures.

4.0 TEST RESULTS AND CONCLUSIONS

The tests were performed and noted without exceptions as indicated within the Test Log for the monitor.

5.0 DISPOSITION OF TEST ITEMS

The equipment inspected and tested by WHC-SD-WM-ATR-096 performed as expected, and is accepted for field operation.

6.0 APPENDIXES

The original completed WHC-SD-WM-ATR-096 is included as Appendixes A to this test report.

APPENDIX A
TANK 104-AN

This Page left intentionally blank

STANDARD-C HYDROGEN MONITORING SYSTEM

ACCEPTANCE TEST PROCEDURE

REV. 0

APPROVAL DESIGNATOR SQ

Issued by

TWRS Safety Programs Engineering Support

August 30, 1994

104. AN

TEST EXECUTION SHEET

Date: 9-19-94

Document Number: WHC-SD-WM-ATP-096
REV 0

SHMS Unit Number: JTR-PNL-1030

TEST PERSONNEL

WHC PROJECT ENGINEER:

TEST DIRECTOR: TC Schneider WHC

RECORDER: D.O. Wallace KEH WITNESSES: JA Hurley WHC

TEST EXECUTION

TC Schneider 10-25-94 D.O. Wallace 9-23-94
Installation Contractor Date Recorder Date

TC Schneider 10-5-94
Test Director Date

TEST WITNESS

JA Hurley 10/5/94 N/A
Witness Date Witness Date

TEST ACCEPTANCE

Kaiser Engineers Hanford

☒ Without Exception ☐ With Exception/Resolved ☐ With Exception/Outstanding

NA Terry R. Osterlander 10-18-94
Field Engineering Date Project Engineer Date

TEST APPROVAL AND ACCEPTANCE

Westinghouse Hanford Company

☒ Without Exception ☐ With Exception/Resolved ☐ With Exception/Outstanding

Judith Banta 3/2/95 Al Clayton 4/3/95
Plant Operations Date Quality Assurance Date

St. Bol 10/31/94 JA Hurley 10/27/94
Safety Date Project Engineer Date

STANDARD-C HYDROGEN MONITORING SYSTEM ACCEPTANCE TEST PROCEDURE

1.0 PURPOSE

The purpose of this document is to demonstrate that the standard-c hydrogen monitoring system is constructed as intended by design.

2.0 REFERENCES

2.1 DRAWINGS

- H-2-818214 Standard-B Hydrogen Monitoring System Gas Bottle Rack
- H-2-818220, Standard-B Hydrogen Monitoring System Sample Pump Stand Assembly.
- H-2-822773, Standard-C Hydrogen Monitoring System Piping & Instrumentation Diagram.
- H-2-822774 Standard-C Hydrogen Monitoring System One-Line, Elementary Diagrams.
- H-2-822775, Standard-C Hydrogen Monitoring System Cabinet Assembly.
- H-2-822776, Standard-C Hydrogen Monitoring System Wiring Diagram.
- H-2-822777, Standard-C Hydrogen Monitoring System Loop Diagrams.
- H-2-822778 Standard-C Hydrogen Monitoring System Interior Panels & Brackets.
- H-2-822779, Standard-C Hydrogen Monitoring System Instrument Panel Assembly.
- H-2-822780, Standard-C Hydrogen Monitoring System Cabinet Modifications.
- H-2-822781, Standard-C Hydrogen Monitoring System PLC Ladder Diagram.
- H-2-822782, Standard-C Hydrogen Monitoring System Equipment Arrangement.

2.2 PROCEDURES

- WHC-CM-4-3, Volume 1, Program E-2, Electrical Safety Practices.

3.0 RESPONSIBILITIES

Each company or organization participating in the conduct of this ATP will designate personnel to assume the responsibilities and duties as defined herein for their respective roles. The names of these designees shall be provided to the recorder for listing on the recorder's copy of the Test Execution Sheet prior to the performance of any part of this ATP.

3.1 WHC PROJECT ENGINEER

- 3.1.1 Designate a test director.
- 3.1.2 Coordinate testing with facility management.
- 3.1.3 Act as liaison between the participants in acceptance testing.
- 3.1.4 Distribute the approved testing schedule as soon as possible, but at least two days prior to testing.
- 3.1.5 Ensure field testing and inspection has been completed.
- 3.1.6 Schedule and conduct a pre-ATP meeting with test participants prior to start of testing.
- 3.1.7 Notify the persons performing and witnessing the test prior to the start of testing.
- 3.1.8 Notify all concerned parties when a change is made in the testing schedule.
- 3.1.9 Sign Test Execution Sheet when ATP is approved and accepted.
- 3.1.10 Take necessary action to clear exceptions to the ATP.
- 3.1.11 Sign Exception Sheet when exception has been resolved.
- 3.1.12 Provide a distribution list for the approved and accepted ATP.

- 3.4.3 Sign the Test Exception Sheet as the recorder.
- 3.4.4 Initial and date every test step on the recorder's copy as it is completed, next to the step number or on a table, when provided. On tables where there is not room for both the initial and date, date may be entered in space provided at bottom of column.
- 3.4.5 Record authorized field changes to the ATP.
- 3.4.6 Record exceptions and test steps that are not performed on the Test Exception Sheet. Have the information transferred in ink or typed to the Master Exception Sheet(s). Additional Exception Sheets are to be added as needed.
- 3.4.7 Orally notify the test director at time the objection is made.
- 3.4.8 Assign page number to Data Sheets and Exception Sheets after ATP is complete. Record Page numbers for these items and make corrections, as necessary, to page numbers shown for these pages in the index.
- 3.4.9 Transfer the final test results with recorder's signature and dates for each step to the master in ink or type. Submit the completed master to the Test Director for approval signatures and distribution. Retain the recorder's copy and a copy of the master in the field project files.

3.5 CONSTRUCTION CONTRACTOR

- 3.5.1 Organize and perform this acceptance test under coordination of the Test Director.
- 3.5.2 Confirm that all equipment required for performing this test (as listed in Section 8.2) will be available at start of testing.
- 3.5.3 Provide equipment required for performing this acceptance test, which has not been designated as being provided by others.
- 3.5.4 Request in writing from the project engineer those services, materials, or equipment that have been designated as being supplied by the Department of Energy (DOE) or others.

5.2 WITH EXCEPTION/RESOLVED

- 5.2.1 Check applicable space on Test Execution Sheet to show that the ATP has been performed with exceptions recorded and resolved.
- 5.2.2 Sign and date Test Execution Sheet in the spaces provided.
- 5.2.3 Distribute requisite copies and send master of ATP to the client.

5.3 WITH EXCEPTION/OUTSTANDING

- 5.3.1 Check applicable space on Test Execution Sheet to show that the ATP has been performed with exceptions recorded, part or all of which are presently outstanding, unresolved.
- 5.3.2 Sign and date Test Execution Sheet in the spaces provided.
- 5.3.3 Distribute requisite copies and send master of ATP to the client.

6.0 RECORDING AND RESOLVING EXCEPTIONS

6.1 GENERAL

Exceptions to the ATP are sequentially numbered and recorded on individual Exception Sheets. This enables case-by-case resolution, recording, approval, and distribution of each exception.

6.2 RECORDING

- 6.2.1 Number each exception sequentially as it occurs and record it on an Exception Sheet.
- 6.2.2 Enter name and organization of objecting party for each exception.
- 6.2.3 Enter planned action to resolve each exception when such determination is made.

8.0 TEST CONDITIONS AND EQUIPMENT REQUIRED

8.1 TEST CONDITIONS

The following conditions shall exist at the start of the acceptance testing.

- 00W
9-19-94 8.1.1 Systems being tested have been inspected for workmanship and for compliance with design.
- 00W
9-19-94 8.1.2 Continuity and megger tests have been performed on portions of the electrical and instrument systems being tested, as required.
- 00W
9-22-94 8.1.3 Leak tests on the pneumatic systems have been performed.
- 00W
9-19-94 8.1.4 The following circuit breakers and fuses are open
- 00W CB-1 through CB-7
00W FU-1 through FU-14
- 00W
9-19-94 8.1.5 All test instruments have a currently valid calibration stamp attached that indicates a calibration traceable to the National Institute of Standards and Technology.
- 00W
9-19-94 8.1.6 Personnel responsible for directing and witnessing the performance of the tests described in this ATP have read and understand appropriate certified vendor information (CVI) pertaining to the operation of the equipment to be tested.
- 00W
9-19-94 8.1.7 The following sample lines/valves are **CAPPED/CLOSED**.
- 00W MV-*-1-1 through MV-*-1-4
00W MV-*-2-1 through MV-*-2-2
00W MV-*-3-3
00W MV-*-4-3 through MV-*-4-4
00W MV-*-5-1 through MV-*-5-6
00W MV-*-7-3 through MV-*-7-4
00W MV-*-24-1 through MV-*-24-4
00W Sample and exhaust line ends are capped.

- OW 9.2.1.3 Switch circuit breaker CB-1 to the CLOSED position.
- OW 9.2.1.4 Verify Air Conditioner is operating and Heater is off.

Note: If ambient temperature is below Air Conditioner's minimum setting, a heat gun may be used to heat the A/C's temperature probe.

- OW 9.2.1.5 Adjust air conditioner temperature control to a value above ambient temperature.

- OW 9.2.1.6 Verify air conditioner compressor turns OFF.

Note: Air conditioner fan may still operate.

- OW 9.2.1.7 Adjust Heater temperature control to a value above ambient temperature.

- OW 9.2.1.8 Verify heater operates.

- OW 9.2.1.9 Adjust Air Conditioner temperature control to a value below ambient temperature.

- OW 9.2.1.10 Verify Air Conditioner compressor turns ON and Heater power is removed by the K1-*-01 relay.

Note: Heat may still radiate from Heater.

- OW 9.2.1.11 Adjust Heater temperature control to 70°F.

- OW 9.2.1.12 Adjust Air Conditioner temperature control to 80°F.

- OW 9.2.1.13 Switch circuit breaker CB-1 to the OPEN position.

9.2.2 Sample Pump

- OW 9.2.2.1 Disconnect sample line outlet from sample pump P-*-01 at the closest convenient Swagelok fitting.

- OW 9.2.2.2 Switch circuit breaker CB-3 to the CLOSED position.

- OW 9.2.2.3 Verify pump turns ON.

- OW 9.2.2.4 Switch circuit breaker CB-3 to the OPEN position.

- OW 9.2.2.5 Reconnect sample line outlet to sample pump per manufacturer's guidance.

9-19-94

OW 9.2.4.3.5 Set fused switch FU-3 to the OPEN position.

OW 9.2.4.3.6 Set fused switch FU-13 to the OPEN position.

9.2.4.4 Hydrogen Sensors

OW 9.2.4.4.1 Set fused switches FU-2, FU-4, FU-5, and FU-10 to the CLOSED position.

OW 9.2.4.4.2 Visually verify instrument displays are operating:

OW Transmitter NIT-*-6-1,
OW Transmitter NIT-*-12-1,
OW Recorder NR-*-6/12-1.

OW 9.2.4.4.3 Verify 120V present between PLC YYC-*-01 Input Number 0 and PLC 120V Common and Input Number 1 and PLC 120V Common.

OW 9.2.4.4.4 Set fused switches FU-2, FU-4, FU-5, and FU-10 to the OPEN position.

9.2.4.5 Sample Gas Heat Trace

Note: These steps must be done in an expedited manner. The Heat Trace circuit may cause the sample gas temperature to rise at a fast rate. Adjust set points accordingly in order to prolong the test.

OW 9.2.4.5.1 Set fused switch FU-6 to the CLOSED position.

OW 9.2.4.5.2 Set circuit breaker CB-5 to the CLOSED position.

OW 9.2.4.5.3 Visually verify controller TIC-*-14-1 display is operating.

OW 9.2.4.5.4 Adjust controller temperature set point number 1 to a value at least 20 degrees above ambient temperature as indicated by the controller.

OW 9.2.4.5.5 Adjust controller temperature set point number 2 to a value 5 degrees less than set point number 1.

OW 9.2.4.5.6 Verify no AC voltage present between PLC YYC-*-01 Input Number 5 and PLC 120V Common.

OW 9.2.4.5.7 Visually verify operation of heat trace HT-*-14-1 circuit. Temperature value of sample gas should begin increasing. Record initial temperature and increased temperature of nominally 10 degrees.

9-19-94

9.2.4.7 Cabinet Temperature

- DDW 9.2.4.7.1 Set fused switch FU-8 to the CLOSED position.
- DDW 9.2.4.7.2 Visually verify temperature indicator TI-*-16-1 display is operating.
- DDW 9.2.4.7.3 Adjust controller temperature set point number 1 to a value at least 20 degrees above ambient temperature as indicated by the controller.
- DDW 9.2.4.7.4 Adjust controller temperature set point number 2 to a value 20 degrees less than the indicated ambient temperature.
- DDW 9.2.4.7.5 Verify 120V AC voltage present between PLC YYC-*-01 Input Number 3 and PLC 120V Common.
- DDW 9.2.4.7.6 Adjust set point 2 to 10 degrees above indicated temperature.
- DDW 9.2.4.7.7 Verify zero voltage present between PLC YYC-*-01 Input Number 3 and PLC 120V Common.
- DDW 9.2.4.7.8 Adjust controller temperature set point number 2 to a value 20 degrees less than the indicated ambient temperature.
- DDW 9.2.4.7.9 Verify 120V AC voltage present between PLC YYC-*-01 Input Number 3 and PLC 120V Common.
- DDW 9.2.4.7.10 Adjust set point 1 to 10 degrees below indicated temperature.
- DDW 9.2.4.7.11 Verify zero voltage present at PLC YYC-*-01 Input Number 3 and PLC 120V Common.
- DDW 9.2.4.7.12 Reset controller temperature set point 1 to 85°F and set point 2 to 60°F.
- DDW 9.2.4.7.13 Set fused switch FU-8 to the OPEN position.

9.2.4.8 Alarm Systems

- DDW 9.2.4.8.1 Set fused switch FU-9 and FU-10 to the CLOSED position.
- DDW 9.2.4.8.2 Depress Alarm Reset HS-*-20-1 followed by the Horn Acknowledge push button HS-*-19-1. (Due to lack of operating inputs the PLC may interpret alarm conditions exist.)
- 9-19-94

ODW 9.2.4.9.5 Depress the Grab Sample push button HS-*-22-1 and verify that the Grab Sample push button light remains out.

ODW 9.2.4.9.6 Depress the Reset Sample push button HS-*-23-1 and verify that both the Reset Sample light YAL-*-23-1 and the Reset Sample push button light HSL-*-23-1 go out.

ODW 9.2.4.9.7 Set fused switch FU-10 to the OPEN position.

9.2.4.10 Differential Pressure Transmitter

ODW 9.2.4.10.1 Set fused switches FU-3 and FU-14 to the CLOSED position.

ODW 9.2.4.10.2 Visually verify that the pressure transmitter PDIT-*-24-1 is operating.

ODW 9.2.4.10.3 Set the fused switches FU-3 and FU-14 to the OPEN position.

9.2.4.11 Gas Chromatograph System

ODW 9.2.4.11.1 Set the fused switch FU-11 to the CLOSED position.

ODW 9.2.4.11.2 Remove the power cord between PWR-*-02 and NE/NT-*-2-1 from the rear of NE/NT-*-2-1. Measure and record the DC voltage present between pins one and five of the connector. Pins one and five are located directly across from one another. (16 $\pm$ 2 VDC)

ODW 9.2.4.11.3 Set the fused switch FU-11 to the OPEN position and verify that the voltage at the PWR-*-02 connector is removed.

ODW 9.2.4.11.4 Reconnect the power cord to the rear of NE/NT-*-2-1.

9.2.4.12 Personnal Computer System

ODW 9.2.4.12.1 Set the fused switch FU-12 to the CLOSED position.

ODW 9.2.4.12.2 Remove the power cord between PWR-*-03 and PC-*-25-1 from the rear of PC-*-25-1. Measure and record the DC voltage present at the connector. (18 $\pm$ 2 VDC)

ODW 9.2.4.12.3 Set the fused switch FU-12 to the OPEN position and verify that the voltage at the PWR-*-03 connector is removed.

ODW 9.2.4.12.4 Reconnect the power cord to the rear of PC-*-25-1.

9-19-94

10.1.3 Verify the following sample lines/valves are **CAPPED/CLOSED**.

~~ODW~~ MV-*-1-1 through MV-*-1-4
~~ODW~~ MV-*-2-1 through MV-*-2-2
~~ODW~~ MV-*-3-3
~~ODW~~ MV-*-4-3 through MV-*-4-4
~~ODW~~ MV-*-5-1 through MV-*-5-6
~~ODW~~ MV-*-7-3 through MV-*-7-4
~~ODW~~ MV-*-24-1 through MV-*-24-4
~~ODW~~ Sample and exhaust line ends are capped.

10.1.4 Verify the following sample line valves are **OPEN**

~~ODW~~ FCV-*-1-1
~~ODW~~ FI-*-3-1
~~ODW~~ MV-*-4-1 through MV-*-4-2
~~ODW~~ FI-*-5-1
~~ODW~~ MV-*-7-1 through MV-*-7-2
~~ODW~~ MV-*-8-1.

10.2 SAMPLE MAIN FLOW LOOP

~~ODW~~ 10.2.1 Set fused switch FU-13 to the **CLOSED** position.

~~ODW~~ 10.2.2 Remove end caps from sample inlet and outlet lines. Take care in not allowing foreign objects to enter lines.

10.2.3 OPEN valves:

~~ODW~~ MV-*-1-1
~~ODW~~ MV-*-1-2
~~ODW~~ MV-*-1-3
~~ODW~~ MV-*-1-4

~~ODW~~ 10.2.4 Switch circuit breaker CB-3 to the **CLOSED** position.

~~ODW~~ 10.2.5 Adjust flow control valve FCV-*-1-1 to nominally 5" H₂O as indicated on FIT-*-7-1.

~~ODW~~ 10.2.6 Verify air is being extracted from the sample inlet line and air is being exhausted through the sample outlet line.

~~ODW~~ 10.2.7 Verify the pressure differential indicator PDI-*-4-1 indicates an upscale reading of less than 40" H₂O.

9-19-94

- ODW 10.4.7 CLOSE valves MV-*-5-4 and MV-*-5-6. Verify that FI-*-5-1 indicates zero flow.

10.5 GAS CHROMATOGRAPH SAMPLE LOOP

- ODW 10.5.1 OPEN valves:

ODW MV-*-2-1 and MV-*-2-2
ODW MV-*-24-1 and MV-*-24-2

- ODW 10.5.2 Set CB-7, FU-1 and FU-14 to the CLOSED position.

- ODW 10.5.3 Adjust FCV-*-2-1 for an indication of 25% flow on FI-*-2-1.

- ODW 10.5.4 Verify that the differential pressure through the GC as indicated on PDIT-*-24-1 is less than 250 "H₂O for the adjusted GC flow.

- ODW 10.5.5 Set FU-14, FU-1 and CB-7 to the OPEN position.

- ODW 10.5.6 CLOSE valves:

ODW MV-*-2-1 and MV-*-2-2
ODW MV-*-24-1 and MV-*-24-2

- ODW 10.5.7 Switch circuit breaker CB-3 to the OPEN position.

- 10.5.8 CLOSE the following sample line valves.

ODW MV-*-1-1 through MV-*-1-4
ODW MV-*-3-3
ODW MV-*-4-1 through MV-*-4-4
ODW MV-*-5-1 through MV-*-5-6
ODW MV-*-7-1 through MV-*-7-4
ODW MV-*-8-1

- ODW 10.5.9 Replace end caps on sample inlet and outlet lines. Replace plug upstream of F-*-5-1.

- ODW 10.5.10 Open the following circuit breakers and fuses:

ODW CB-1 through CB-7
ODW FU-1 through FU-13

- ODW 10.5.11 Deenergize power source to the Standard-C Hydrogen Monitoring System. Refer to H-2-822774, Standard-C Hydrogen Monitoring System One Line & Elementary Diagrams.

9-19-94

11.2 TEST EXCEPTION SHEET

Exception Data Sheets are used to document exceptions to the test procedure. Actions taken regarding disposition are noted on the exception sheet. Typical dispositions are:

1. Test approved with exception (i.e. rerun of the acceptance test unnecessary).
2. Entire acceptance test to be repeated after the discrepancy has been corrected.
3. Acceptance Test Procedure step(s) affected to be repeated after the discrepancy has been corrected.

Test Exception Sheets are included in Appendix B.

11.3 TEST LOG SHEET

Test Log Sheets are used to document test start and stop times and to document any other notes concerning the execution of the Acceptance Test Procedure.

Test Log Sheets are included in Appendix C.

TEST DATA SHEET

Date: 9-28-94			SHMS Unit Number: VTP-PNL-1050		
Title of Test: Electrical Systems			Equipment Serial Number(s): Fluke 23 0053 01-05-95		
Test Performed By: CE Jeffs					
Procedure Number	Item	Value	Range	(A/R)	Comment
9.1.1	Resistance	.1 Ω	< 1 Ohm	A	
9.1.3	Line Voltages: L1 L2 N	122.0 V 122.1 V 0.02 V	L1, L2: 120V $\pm$ 5% N: 0V	A	
9.2.1.4	ACU-*-01 & HTR-*-01	on off	A/C Compressor ON, Heater OFF	A	
9.2.1.6	ACU-*-01	off	A/C Compressor OFF	A	
9.2.1.8	HTR-*-01	on	Heater ON	A	
9.2.1.10	ACU-*-01 & HTR-*-01	on off	A/C Compressor ON, Heater OFF	A	
9.2.2.3	P-*-01	on	Pump ON	A	
9.2.3.3	LT1	on	Light ON	A	
9.2.3.4	RCPT: H N	121.5 V 0.03 V	H: 120V $\pm$ 5% N: 0V	A	
9.2.3.5	RCPT: H N	.1 V 0.06 V	H: 0V N: 0V	A	
9.2.4.1.2	XFMR1: Primary Secondary	121.7 V 124.8 V	Primary, Secondary: 120V $\pm$ 5%	A	

TEST DATA SHEET

Date: 9-19-94			SHMS Unit Number: VTP-PVOL-105D		
Title of Test: Electrical Systems			Equipment Serial Number(s): Fluke 23 0053 01-05-95		
Test Performed By: Ed Jeffs					
Procedure Number	Item	Value	Range	(A/R)	Comment
9.2.4.6.2	TIC-*-15-1	on	Display powered ON.	A	
9.2.4.6.5	YYC-*-01 In #4 Voltage:	.035	0V	A	
9.2.4.6.6	HT-*-15-1: Initial Temp. Final Temp.	73° 83°	Final Temp. = Initial Temp + 10°F	A	
9.2.4.6.8	YYC-*-01 In #4 Voltage:	124.7	120V ± 5%	A	
9.2.4.7.2	TI-*-16-1	on	Display powered ON.	A	
9.2.4.7.5	YYC-*-01 In #3 Voltage:	124.7	120V ± 5%	A	
9.2.4.7.7	YYC-*-01 In #3 Voltage:	.046	0V	A	
9.2.4.7.9	YYC-*-01 In #3 Voltage:	124.7	120V ± 5%	A	
9.2.4.7.11	YYC-*-01 In #3 Voltage:	.046	0V	A	

TEST DATA SHEET

Date: 9-19-94			SHMS Unit Number: VTP-PNL-105D		
Title of Test: Electrical Systems			Equipment Serial Number(s): Fluke 23 0053 01-05-95		
Test Performed By: Ed Jeffs KEH					
Procedure Number	Item	Value	Range	(A/R)	Comment
9.2.4.11.2	PWR-*-02 NE/NT-*-2-1	17.7	16 ±2 VDC	A	
9.2.4.11.3	PWR-*-02	.6	0 VDC	A	
9.2.4.12.2	PWR-*-03 PC-*-25-1	18.4	18 ±2 VDC	A	
9.2.4.12.3	PWR-*-03	.6	0 VDC	A	
9.2.4.9.5	HSL-*-22-1	OFF	OFF	A	
9.3.2	Wiring	OK	Proper Labeling.	A	
9.3.3	Resistance	<1	< 1 Ohm	A	

Test Witnesses:

J. Schieder
Test Director

10-8-94
Date

D.O. Wallace
Recorder

9-19-94
Date

Alleyton
Quality Assurance

4/3/95
Date

501
F-2099

TEST DATA SHEET

Date: 9-19-94			SHMS Unit Number: VTP-PNL-1050		
Title of Test: Pneumatic Systems			Equipment Serial Number(s): N/A		
Test Performed By: RJ Fleming KEH					
Procedure Number	Item	Value	Range	(A/R)	Comment
10.5.4	PDIT-*-24-1	129.9"	< 250 "H ₂ O	A	

Test Witnesses:

J. C. Schneider
Test Director

10-5-88
Date

D.O. Wanner
Recorder

9-19-94
Date

RL Layton
Quality Assurance

4/3/95
Date

TEST EXCEPTION SHEET

SHMS Unit Number:			Title of Test:		
EXCEPTIONS			CORRECTION APPROVAL		
Procedure Number	Date	Description	Initials/Date		
			Project Engineer	Test Director	Witnesses

TEST APPROVED WITH EXCEPTIONS

WHC Project Engineer

Date

Recorder

Date

Witness

Date

[illegible]