MAY 06 1997
Station 34

ENGINEERING DATA TRANSMITTAL

Page 1 of 1
1. EDT 153623

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5. Proj./Prog./Dept./Div.: Interim Stabilization		6. Design Authority/ Design Agent/Cog. Engr.: J. R. Kriskovich		7. Purchase Order No.: N/A	
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				10. System/Bldg./Facility: N/A	
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1	HNF-SD-WM-ATP-198		0	ATP for the portable 500 CFM Exhauster POR-004 SKID B	SQ	4		

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

17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)											
(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN
1	/	Design Authority J.R. Kriskovich	<i>J.R. Kriskovich</i>	5-5-97	R1-56	1	/	Fab. Supr. L.A. Mercer	<i>L.A. Mercer</i>	5/5/97	T1-31
1	/	Des. Cog. Eng. O.D. Nelson	<i>O.D. Nelson</i>	5/5/97	S2-24			Central Files		A3-88	
1	/	Proj. Mgr. E.M. Veith	<i>E.M. Veith</i>	5-5-97	R1-56						
1	/	Progr. Mgr. D.W. Craswell	<i>D.W. Craswell</i>	5-5-97	H5-68						
1	/	Off. T.D. Volkman	<i>T.D. Volkman</i>	5-2-97	T4-07						
1	/	Safety L.S. Krogsrud	<i>L.S. Krogsrud</i>	5/4/97	T4-07						
1	/	TWRS HVAC System Cog. Eng. T.D. Kaiser	<i>T.D. Kaiser</i>	5-5-97	T4-07						

18. Signature of EDT Originator <i>Harry Keller</i> 5-2-97		19. Authorized Representative Date for Receiving Organization <i>[Signature]</i>		20. Design Authority/ Cognizant Manager <i>J.R. Kriskovich</i> 5-5-97		21. DOE APPROVAL (if required) Ctrl. No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments	
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ATP FOR THE PORTABLE 500 CFM EXHAUSTER POR-004 SKID B

Craig M. Keller

Fluor-Daniel Northwest, Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

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Ventilation, Flammable Gas Mitigation

Abstract: This Acceptance Test Plan is for a 500 CFM Portable Exhauster POR-004 to be used for saltwell pumping. The Portable Exhauster System will be utilized to eliminate potential flammable gases that may exist within the dome space of the tank. This Acceptance Plan will test and verify that the exhauster meets the specified design criteria, safety requirements, operations requirements, and will provide a record of the functional test results.

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Karen H. Roland *3/6/97*
Release Approval Date

Approved for Public Release

TANK FARM
ACCEPTANCE TEST PROCEDURE

SYSTEM
INTERIM STABILIZATION

ATP FOR THE PORTABLE 500 CFM EXHAUSTER, POR-004, SKID B

CONTINUOUS USE

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TANK FARM ACCEPTANCE TEST PROCEDURE

5.2 POWER SYSTEM CHECK (Continued)

- 5.2.8 **VERIFY** Seal Pot Pump Control Selector Switch VTP-HS-101 (located on door of Exhauster Control Cabinet VTP-CP-105) is in the AUTO position. ☐
- 5.2.9 **VERIFY** CAB HEAT/COOL Selector Switch VTP-SS-105 (Located on door of Control Cabinet VTP-CP-105) is in OFF position. ☐
- 5.2.10 **VERIFY** CAB HEAT/COOL Selector Switch VTP-SS-104 (Located on door of Heat Trace Cabinet VTP-ENCL-104) is in OFF position. ☐
- 5.2.11 **INSTALL** Personal Locking Device on Main 480V Disconnect Switch VTP-DS-101. ☐
- 5.2.12 **DISCONNECT** Exhauster fan motor circuit from the Variable Frequency Drive (VTP-VFD-001) terminals T1, T2 and T3. ☐

CAUTION

Do not apply Megger voltage to the Variable Frequency Drive VTP-VFD-001. Damage to the drive may result.

- 5.2.13 **USING** A 1000V Megger, megger between T1, T2 and T3 leads to ground to **ENSURE** there is NOT a short between the exhauster fan motor windings and ground. ☐
- 5.2.14 **RECONNECT** Exhauster fan motor circuit to the Variable Frequency Drive (VTP-VFD-001) terminals T1, T2 and T3. ☐
- 5.2.15 **USING** a 1000V Megger, megger test at the Heater Contactor VTP-CON-206 load side (located at Heat Trace Cabinet VTP-ENCL-104), **ENSURE** there is NOT a short between Heater circuits and the Heater housing. ☐

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TANK FARM ACCEPTANCE TEST PROCEDURE

5.2 POWER SYSTEM CHECK (Continued)

- 5.2.61 **POSITION** the Heat Trace cabinet selector switch "CAB HEAT/COOL" VTP-HS-104 to "Winter". ☐
- 5.2.62 **VERIFY** the following:
- Heat Trace Cabinet Cooling Fan VTP-F-104 is OFF. ☐
 - Intrinsic Barrier Cabinet Cooling Fan VTP-F-106 is OFF. ☐
 - Heat Trace Cabinet Heater VTP-HTR-104 is ON. ☐
 - Intrinsic Barrier Cabinet Heater VTP-HTR-106 is ON. ☐
- 5.2.63 **SET** the Heat Trace Cabinet Heater VTP-HTR-104 thermostat temperature to below the ambient temperature. ☐
- 5.2.64 **VERIFY** Heat Trace Cabinet Heater VTP-HTR-104 is OFF. ☐
- 5.2.65 **SET** the Intrinsic Barrier Cabinet Heater VTP-HTR-106 thermostat temperature to below the ambient temperature. ☐
- 5.2.66 **VERIFY** Intrinsic Barrier Cabinet Heater VTP-HTR-106 is OFF. ☐
- 5.2.67 **POSITION** the Heat Trace Cabinet Selector Switch "CAB HEAT/COOL" VTP-HS-104 to OFF. ☐

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TANK FARM ACCEPTANCE TEST PROCEDURE

5.2 POWER SYSTEM CHECK (Continued)

WARNING

Energized circuits and lead are contained inside the cabinet. Observe Appropriate electrical precautions. Comply with WHC-CM-1-10, WKS-15, ELECTRICAL WORK SAFETY.

5.2.68 **USING** a DMM, **VERIFY** 120V at the Mini Power Zone Cabinet (VTP-PNL-101) Receptacle. ☐

5.2.69 **USING** a DMM, **VERIFY** 120V at the Alarm Cabinet (VTP-ENCL-107) Receptacle. ☐

NOTE - Wilkerson indicators for DPTs should be indicating zero.

5.2.70 **VERIFY** the Wilkerson indicators are illuminated by visual inspection. Fill in the following table.

Indicators	OK (✓)	Indicators	OK (✓)
VTP-PDI-177		VTP-LI-185	
VTP-PDI-178		VTP-LI-205	
VTP-PDI-180		VTP-TI-179	
VTP-PDI-182		VTP-TI-176	
VTP-PDI-181		VTP-TI-183	
VTP-FI-184			

5.2.71 **VERIFY** the Green FAN OFF indicating light (located on the door of the Exhauster Control Cabinet VTP-CP-105) is ILLUMINATED: ☐

TANK FARM ACCEPTANCE TEST PROCEDURE

5.2 POWER SYSTEM CHECK (Continued)

5.2.72 **VERIFY** the digital readouts on the following six DPTs.

☐

Transmitter	OK (✓)	Transmitter	OK (✓)
VTP-DPT-177 (Heater)		VTP-DPT-182 (2 nd HEPA)	
VTP-DPT-178 (Pre-filter)		VTP-DPT-181 (1 st & 2 nd HEPA)	
VTP-DPT-180 (1 st HEPA)		VTP-FI-184 (Stack)	

5.2.73 **POSITION** the following 120V circuit breakers (located at MPZ Cabinet) to OFF.

☐

- Circuit Breaker #2 (Future Flammable Gas Monitor) SPARE

☐

- Circuit Breaker #8 (Air Monitor Vac Pumps / Cabinet Heater & Fan)

☐

5.2.74 Test Director **SHALL VERIFY** that section 5.2 is COMPLETE by SIGNING below.

Test Director Signature

Date

TANK FARM ACCEPTANCE TEST PROCEDURE

5.6 FILTER #1 DP INTERLOCK/ALARM CHECK (Transmitter Range 0-10")

5.6.1 **ENSURE** the High, Low and Equalizing valve on VTP-DPT-180's three valve manifold are CLOSED or OPEN as indicated below:

DPT	Valve # HI	Open (✓)	Valve # LO	Open (✓)	Valve # EQUAL	Closed (✓)
VTP-PDT-180	V-179		V-144		V-145	

5.6.2 **REMOVE** back cover from VTP-PDT-180.

☐

5.6.3 **CONNECT** a BT-200 to the transmitter VTP-PDT-180.

☐

5.6.4 **ENSURE** Fan/Off/Enable Control Selector Switch VTP-HS-103 (located on door of Exhauster Control Cabinet VTP-CP-105) is in the Enable position.

☐

5.6.5 **PRESS** Fan Start Button VTP-PB-101 (located on door of Exhauster Control Cabinet VTP-CP-105).

☐

5.6.6 **WAIT** for the Exhauster fan to come up to speed.

☐

5.6.7 **SET** the BT-200 to test at 045.0%. This is equal to 4.5 IN W.C.

☐

TANK FARM ACCEPTANCE TEST PROCEDURE

5.6 FILTER #1 DP INTERLOCK/ALARM CHECK (Continued)

5.6.8 **VERIFY** the following:

- Clear Rotating Beacon VTP-XA-101 is ILLUMINATED. ☐
- Red FAN RUNNING light is ILLUMINATED. ☐
- Green FAN OFF light is NOT ILLUMINATED. ☐
- Message View Displays VTP-MV-101 and VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) DISPLAY "FILTER 1 DP HI". ☐

5.6.9 **RECORD** the pressure indicated by the Wilkerson indicator VTP-PDI-180 (located on door of Exhauster Control Cabinet VTP-CP-105).

Indicated Pressure: _____ ☐

5.6.10 **ACKNOWLEDGE** the alarm by **PRESSING** the 1 button, then pressing the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared. ☐

5.6.11 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐

5.6.12 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "FILTER 1 DP HI". Any secondary alarms that are still in alarm condition will also be indicated. ☐

5.6.13 **SET** the BT-200 to test at 054.0%. This is equivalent to 5.4 IN W.C. ☐

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TANK FARM ACCEPTANCE TEST PROCEDURE

5.6 FILTER #1 DP INTERLOCK/ALARM CHECK (Continued)

5.6.14 **VERIFY** the following:

- Exhauster Fan VTP-EF-001 has SHUTDOWN. ☐
- Red FAN RUNNING light is NOT ILLUMINATED. ☐
- Green FAN OFF light is ILLUMINATED. ☐
- Clear Rotating Beacon VTP-XA-101 (located on stack supporting framing) is ILLUMINATED. ☐
- Message View Display VTP-MV-101 (located at Alarm Cabinet Swing Out Panel) DISPLAYS "FILTER 1 DP HIHI" and "FAN SHUTDOWN". Any secondary alarms that are still in alarm condition will also be indicated. ☐

5.6.15 **RECORD** the pressure indicated by the Wilkerson indicator VTP-PDI-180 (located on door of Exhauster Control Cabinet VTP-CP-105).

Indicated Pressure: _____ ☐

5.6.16 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then pressing the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared ☐

5.6.17 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐

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CONTINUOUS USE	HNF-SD-WM-ATP-198	0	47

TANK FARM ACCEPTANCE TEST PROCEDURE

5.6 FILTER #1 DP INTERLOCK/ALARM CHECK (Continued)

- 5.6.18 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "FILTER 1 DP HIHI". Note: Any secondary alarms that are still in alarm condition will also be indicated. ☐
- 5.6.19 **CLEAR** the BT-200 test setting. ☐
- 5.6.20 **FORCE** the rate of change logic. ☐
- 5.6.21 **PRESS** Fan Start Button PB-101 (located on door of Exhauster Control Cabinet VTP-CP-105). ☐
- 5.6.22 **WAIT** for the Exhauster fan to come up to speed. ☐
- 5.6.23 **SET** the BT-200 to test at 000.1%. This is equivalent to approximately 0.1 IN W.G. ☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	48

TANK FARM ACCEPTANCE TEST PROCEDURE

5.6 FILTER #1 DP INTERLOCK/ALARM CHECK (Continued)

5.6.24 **VERIFY** the following:

- Exhauster Fan VTP-EF-001 has SHUTDOWN after 10 seconds. ☐
- Red FAN RUNNING light is NOT ILLUMINATED. ☐
- Green FAN OFF light is ILLUMINATED. ☐
- Clear Rotating Beacon VTP-XA-101 (located on stack supporting framing) is ILLUMINATED. ☐
- Message View Display VTP-MV-101 and VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) DISPLAYS "FILTER 1 DP LO" and "FAN SHUTDOWN". Any secondary alarms that are still in alarm condition will also be indicated. ☐

5.6.25 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then pressing the "↵" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared ☐

5.6.26 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐

5.6.27 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "FILTER 1 DP LO". Note: Any secondary alarms that are still in alarm condition will also be indicated. ☐

5.6.28 **CLEAR** the BT-200 test setting. ☐

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TANK FARM ACCEPTANCE TEST PROCEDURE

5.6 FILTER #1 DP INTERLOCK/ALARM CHECK (Continued)

5.6.29 REMOVE force on the rate of change logic.

☐

5.6.30 PRESS the Fan Start Button PB-101 (located on the door of Exhauster Control Cabinet VTP-CP-105).

☐

5.6.31 WAIT 2 minutes for the fan to come up to speed.

☐

5.6.32 RECORD VTP-PDT-180 reading.

Reading: _____

☐

5.6.33 SET the BT-200 to test at 0.5 IN W.C. less then the value recorded in the previous step from transmitter VTP-PDT-180.

☐

5.6.34 RECORD the BT-200 setting.

Setting: _____

☐

TANK FARM ACCEPTANCE TEST PROCEDURE

5.6 FILTER #1 DP INTERLOCK/ALARM CHECK (Continued)

5.6.35 **VERIFY** the following:

- Clear rotating beacon VTP-XA-101 is ILLUMINATED. ☐
- Red fan running light is NOT ILLUMINATED. ☐
- Green fan off light is ILLUMINATED. ☐
- Exhauster fan VTP-EF-001 has shutdown. ☐
- Message view display VTP-MV-101 (located at alarm cabinet swing out panel) DISPLAYS "Filter 1 DP ROC". Any secondary alarms that are still in alarm condition will also be indicated. ☐

5.6.36 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then pressing the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared ☐

5.6.37 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐

5.6.38 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "FILTER 1 DP HIHI". Note: Any secondary alarms that are still in alarm condition will also be indicated. ☐

5.6.39 **DISCONNECT** BT-200 from transmitter VTP-PDT-180. ☐

5.6.40 **REPLACE** back cover on transmitter VTP-PDT-180. ☐

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TANK FARM ACCEPTANCE TEST PROCEDURE

5.6 FILTER #1 DP INTERLOCK/ALARM CHECK (Continued)

5.6.41 Test Director **SHALL VERIFY** that section 5.6 is **COMPLETE** by **SIGNING** below.

Test Director Signature

Date

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	52

TANK FARM ACCEPTANCE TEST PROCEDURE

5.7 FILTER #2 DP INTERLOCK/ALARM CHECK (Transmitter Range 0-6")

5.7.1 **ENSURE** the High, Low and Equalizing valves on VTP-DPT-182 three valve manifold are CLOSED or OPEN as indicated below:

DPT	Valve # HI	OPEN (✓)	Valve # LO	OPEN (✓)	Valve # EQUAL	CLOSED (✓)
VTP-PDT-182	V-149		V-150		V-151	

5.7.2 **REMOVE** back cover from the transmitter VTP-PDT-182.

☐

5.7.3 **CONNECT** a BT-200 to the transmitter VTP-PDT-182.

☐

5.7.4 **ENSURE** Fan/Off/Enable Control Selector Switch VTP-HS-103 (located on door of Exhauster Control Cabinet VTP-CP-105) is in the Enable position.

☐

5.7.5 **PRESS** Fan Start Button PB-101 (located on door of Exhauster Control Cabinet VTP-CP-105).

☐

5.7.6 **WAIT** for the Exhauster fan to come up to speed.

☐

5.7.7 **SET** BT-200 to test at 053.4%. This is equivalent to 3.2 IN W.C.

☐

TANK FARM ACCEPTANCE TEST PROCEDURE

5.7 FILTER #2 DP INTERLOCK/ALARM CHECK (Continued)

5.7.8 VERIFY the following:

- Clear Rotating Beacon VTP-XA-101 is ILLUMINATED. ☐
- Red FAN RUNNING light is ILLUMINATED. ☐
- Green FAN OFF light is NOT ILLUMINATED. ☐
- Message View Displays VTP-MV-101 and VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) DISPLAY "FILTER 2 DP HI". ☐

5.7.9 RECORD value from Wilkerson indicator VTP-PDI-182 (located on door of Exhauster Control Cabinet VTP-CP-105).

READING: _____ IN W.C. ☐

5.7.10 ACKNOWLEDGE the alarm by PRESSING the "1" button, then pressing the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared. ☐

5.7.11 VERIFY Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐

5.7.12 VERIFY Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "FILTER 2 DP HI". ☐

5.7.13 SET the BT-200 to test at 061.7%. This is equivalent to 3.7 IN W.C. ☐

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CONTINUOUS USE	HNF-SD-WM-ATP-198	0	54

TANK FARM ACCEPTANCE TEST PROCEDURE

5.7 FILTER #2 DP INTERLOCK/ALARM CHECK (Continued)

5.7.14 **VERIFY** the following:

- Exhauster Fan VTP-EF-001 has SHUTDOWN. ☐
- Red FAN RUNNING light is NOT ILLUMINATED. ☐
- Green FAN OFF light is ILLUMINATED. ☐
- Clear Rotating Beacon VTP-XA-101 (located on stack supporting framing) is ILLUMINATED. ☐
- Message View Display VTP-MV-101 (located at Alarm Cabinet Swing Out Panel) DISPLAYS "FILTER 2 DP HIHI" and "FAN SHUTDOWN". Any secondary alarms that are still in alarm condition will also be indicated. ☐

5.7.15 **RECORD** value from Wilkerson indicator VTP-PDI-182 (located on door of Exhauster Control Cabinet VTP-CP-105).

READING: _____ IN W.C. ☐

5.7.16 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then pressing the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared. ☐

5.7.17 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐

5.7.18 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "FILTER 2 DP HIHI". Any secondary alarms that are still in alarm condition will also be indicated. ☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	55

TANK FARM ACCEPTANCE TEST PROCEDURE

5.7 FILTER #2 DP INTERLOCK/ALARM CHECK (Continued)

- 5.7.19 CLEAR the BT-200 test setting. ☐
- 5.7.20 FORCE the rate of change logic. ☐
- 5.7.21 PRESS Fan Start Button VTP-PB-101 (located on door of Exhauster Control Cabinet VTP-CP-105). ☐
- 5.7.22 WAIT for the Exhauster fan to come up to speed. ☐
- 5.7.23 SET the BT-200 to test at 001.6%. This is equivalent to 0.1 IN W.C. ☐
- 5.7.24 VERIFY the following: ☐
- Exhauster Fan VTP-EF-001 has SHUTDOWN after 10 seconds. ☐
 - Red FAN RUNNING light is NOT ILLUMINATED. ☐
 - Green FAN OFF light is ILLUMINATED. ☐
 - Clear Rotating Beacon VTP-XA-101 (located on stack supporting framing) is ILLUMINATED. ☐
 - Message View Display VTP-MV-101 and VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) DISPLAYS "FILTER 1 DP LO" and "FAN SHUTDOWN". Any secondary alarms that are still in alarm condition will also be indicated. ☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	56

TANK FARM ACCEPTANCE TEST PROCEDURE

5.7 FILTER #2 DP INTERLOCK/ALARM CHECK (Continued)

- 5.7.25 **ACKNOWLEDGE** the alarm by **PRESSING** the "I" button, then **PRESSING** the "-" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared. ☐
- 5.7.26 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐
- 5.7.27 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "FILTER 2 DP LO" and "FAN SHUTDOWN". Any secondary alarms that are still in alarm condition will also be indicated. ☐
- 5.7.28 **CLEAR** the BT-200 test setting. ☐
- 5.7.29 **REMOVE** force on the rate of change logic. ☐
- 5.7.30 **PRESS** the Fan Start Button PB-101 (located on the door of Exhauster Control Cabinet VTP-CP-105). ☐
- 5.7.31 **WAIT** 2 minutes for the fan to come up to speed. ☐
- 5.7.32 **RECORD** VTP-PDT-182 reading. ☐
- Reading: _____
- 5.7.33 **SET** the BT-200 to test at 0.5 IN W.C. less then the value recorded in the previous step from transmitter VTP-PDT-182. ☐
- 5.7.34 **RECORD** the BT-200 setting. ☐
- Setting: _____

TANK FARM ACCEPTANCE TEST PROCEDURE

5.7 FILTER #2 DP INTERLOCK/ALARM CHECK (Continued)

5.7.35 **VERIFY** the following:

- Clear rotating beacon VTP-XA-101 is ILLUMINATED. ☐
- Red fan running light is NOT ILLUMINATED. ☐
- Green fan off light is ILLUMINATED. ☐
- Exhauster fan VTP-EF-001 has shutdown. ☐
- Message view display VTP-MV-101 (located at alarm cabinet swing out panel) DISPLAYS "Filter 2 DP ROC". Any secondary alarms that are still in alarm condition will also be indicated. ☐

5.7.36 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then pressing the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared ☐

5.7.37 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐

5.7.38 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "FILTER 1 DP HIHI". Note: Any secondary alarms that are still in alarm condition will also be indicated. ☐

5.7.39 **RESET** BT-200. ☐

5.7.40 **DISCONNECT** BT-200 from transmitter VTP-PDT-182. ☐

TANK FARM ACCEPTANCE TEST PROCEDURE

5.7 FILTER #2 DP INTERLOCK/ALARM CHECK (Continued)

5.7.41 REPLACE back cover on transmitter VTP-PDT-182.

5.7.42 Test Director **SHALL VERIFY** that section 5.7 is COMPLETE by SIGNING below.

Test Director Signature

Date

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	59

TANK FARM ACCEPTANCE TEST PROCEDURE

5.8 FILTER #1 & #2 DP INTERLOCK/ALARM CHECK (Transmitter Range 0-6")

5.8.1 **ENSURE** the High, Low and Equalizing valves on VTP-DPT-181 three valve manifold are CLOSED or OPEN as indicated below:

DPT	Valve # HI	OPEN (✓)	Valve # LO	OPEN (✓)	Valve # EQUAL	CLOSED (✓)
VTP-PDT-181	V-146		V-147		V-148	

5.8.2 **REMOVE** back cover on the transmitter VTP-PDT-181.

☐

5.8.3 **CONNECT** a BT-200 to the transmitter VTP-PDT-181.

☐

5.8.4 **ENSURE** Fan/Off/Enable Control Selector Switch VTP-HS-103 (located on door of Exhauster Control Cabinet VTP-CP-105) is in the Enable position.

☐

5.8.5 **PRESS** Fan Start Button VTP-PB-101 (located on door of Exhauster Control Cabinet VTP-CP-105).

☐

5.8.6 **WAIT** for the Exhauster fan to come up to speed.

☐

5.8.7 **SET** the BT-200 to test at 090.0%. This is equivalent to 5.4 IN W.C.

☐

TANK FARM ACCEPTANCE TEST PROCEDURE

5.8 FILTER #1 & #2 DP INTERLOCK/ALARM CHECK (Continued)

5.8.8 VERIFY the following:

- Exhauster Fan VTP-EF-001 has SHUTDOWN.

☐

- Red FAN RUNNING light is NOT ILLUMINATED.

☐

- Green FAN OFF light is ILLUMINATED.

☐

- Clear Rotating Beacon VTP-XA-101 (located on stack supporting framing) is ILLUMINATED.

☐

- Message View Display VTP-MV-101 (located at Alarm Cabinet Swing Out Panel) DISPLAYS "FILTER 1 & 2 DP HIHI" and "FAN SHUTDOWN". Any secondary alarms that are still in alarm condition will also be indicated.

☐

- Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) DISPLAYS "FILTER 1 & 2 DP HIHI" secondary alarms that are still in alarm condition will also be indicated.

☐

5.8.9 RECORD value from Wilkerson indicator VTP-PDI-182 (located on door of Exhauster Control Cabinet VTP-CP-105).

READING: _____ IN W.C.

☐

5.8.10 ACKNOWLEDGE the alarm by PRESSING the "I" button, then pressing the "↩" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared.

☐

5.8.11 VERIFY Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED.

☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	61

TANK FARM ACCEPTANCE TEST PROCEDURE

5.8 FILTER #1 & #2 DP INTERLOCK/ALARM CHECK (Continued)

- 5.8.12 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "FILTER 1&2 DP HIHI". Any secondary alarms that are still in alarm condition will also be indicated. ☐
- 5.8.13 **CLEAR** the BT-200 test setting. ☐
- 5.8.14 **FORCE** the rate of change logic. ☐
- 5.8.15 **PRESS** Fan Start Button VTP-PB-101 (located on door of Exhauster Control Cabinet VTP-CP-105). ☐
- 5.8.16 **WAIT** for the Exhauster fan to come up to speed. ☐
- 5.8.17 **SET** the BT-200 to test at 001.6%. This is equivalent to approximately 0.1 IN W.C. ☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	62

TANK FARM ACCEPTANCE TEST PROCEDURE

5.8 FILTER #1 & #2 DP INTERLOCK/ALARM CHECK (Continued)

5.8.18 **VERIFY** the following:

- Exhauster Fan VTP-EF-001 has SHUTDOWN after 10 seconds. ☐
- Red FAN RUNNING light is NOT ILLUMINATED. ☐
- Green FAN OFF light is ILLUMINATED. ☐
- Clear Rotating Beacon VTP-XA-101 (located on stack supporting framing) is ILLUMINATED. ☐
- Message View Display VTP-MV-101 (located at Alarm Cabinet Swing Out Panel) DISPLAYS "FILTER 1&2 DP LO" and "FAN SHUTDOWN". Any secondary alarms that are still in alarm condition will also be indicated. ☐
- Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) DISPLAYS "FILTER 1&2 DP LO". Any secondary alarms that are still in alarm condition will also be indicated. ☐

5.8.19 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then three times "↵" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel). For any secondary alarms repeat this step until all alarms are cleared. ☐

5.8.20 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐

5.8.21 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "FILTER 1&2 DP LO" and "FAN SHUTDOWN". Any secondary alarms that are still in alarm condition will also be indicated. ☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	63

TANK FARM ACCEPTANCE TEST PROCEDURE

5.8 FILTER #1 & #2 DP INTERLOCK/ALARM CHECK (Continued)

- 5.8.22 CLEAR the BT-200 test setting. ☐
- 5.8.23 REMOVE force on the rate of change logic. ☐
- 5.8.24 PRESS the Fan Start Button PB-101 (located on the door of Exhauster Control Cabinet VTP-CP-105). ☐
- 5.8.25 WAIT approximately 2 minutes for the fan to come up to speed. ☐
- 5.8.26 RECORD VTP-PDT-181 reading.
Reading: _____ ☐
- 5.8.27 SET the BT-200 to test at <0.5 IN W.G. of VTP-PDT-181 reading. ☐
- 5.8.28 RECORD the BT-200 setting.
Setting: _____ ☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	64

TANK FARM ACCEPTANCE TEST PROCEDURE

5.8 FILTER #1 & #2 DP INTERLOCK/ALARM CHECK (Continued)

5.8.29 **VERIFY** the following:

- Clear rotating beacon VTP-XA-101 is ILLUMINATED. ☐
- Red fan running light is NOT ILLUMINATED. ☐
- Green fan off light is ILLUMINATED. ☐
- Exhauster fan VTP-EF-001 has shutdown. ☒
- Message view display VTP-MV-101 (located at alarm cabinet swing out panel) DISPLAYS "Filter 1 & 2 DP ROC". Any secondary alarms that are still in alarm condition will also be indicated. ☐

5.8.30 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then pressing the "+" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared ☒

5.8.31 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐

5.8.32 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "FILTER 1 DP HIHI". Note: Any secondary alarms that are still in alarm condition will also be indicated. ☐

5.8.33 **DISCONNECT** BT-200 from transmitter VTP-PDT-181. ☒

5.8.34 **REPLACE** back cover on transmitter VTP-PDT-181. ☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	65

TANK FARM ACCEPTANCE TEST PROCEDURE

5.8 FILTER #1 & #2 DP INTERLOCK/ALARM CHECK (Continued)

5.8.35 Test Director **SHALL VERIFY** that section 5.8 is **COMPLETE** by **SIGNING** below.

Test Director Signature

Date

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	66

TANK FARM ACCEPTANCE TEST PROCEDURE

5.9 PREFILTER DP INTERLOCK/ALARM CHECK (Transmitter Range 0-2")

- 5.9.1 **ENSURE** the High, Low and Equalizing valve on VTP-DPT-178 three valve manifold are CLOSED or OPEN as indicated below:

DPT	Valve # HI	OPEN (✓)	Valve # LO	OPEN (✓)	Valve # EQUAL	CLOSED (✓)
VTP-PDT-178	V-140		V-141		V-142	

- 5.9.2 **REMOVE** back cover on transmitter VTP-PDT-178.

☐

- 5.9.3 **CONNECT** a BT-200 to the transmitter VTP-PDT-178.

☐

- 5.9.4 **ENSURE** Fan/Off/Enable Control Selector Switch VTP-HS-103 (located on door of Exhauster Control Cabinet VTP-CP-105) is in the Enable position.

☐

- 5.9.5 **PRESS** Fan Start Button VTP-PB-101 (located on door of Exhauster Control Cabinet VTP-CP-105).

☐

- 5.9.6 **WAIT** for the Exhauster fan to come up to speed.

☐

- 5.9.7 **SET** the BT-200 to test at 050.0%. This is equivalent to 1.0 IN W.C.

☐

TANK FARM ACCEPTANCE TEST PROCEDURE

5.9 PREFILTER DP INTERLOCK/ALARM CHECK (Continued)

5.9.8 **VERIFY** the following:

- Clear Rotating Beacon VTP-XA-101 is ILLUMINATED. ☐
- Red FAN RUNNING light is ILLUMINATED. ☐
- Green FAN OFF light is NOT ILLUMINATED. ☐
- Message View Display VTP-MV-101 (located at Alarm Cabinet Swing Out Panel) DISPLAYS "PRE-FILTER DP HI". ☐

5.9.9 **RECORD** value from Wilkerson indicator VTP-PDI-178 (located on door of Exhauster Control Cabinet VTP-CP-105).

READING: _____ IN W.C. ☐

5.9.10 **ACKNOWLEDGE** the alarm by **PRESSING** the "I" button, then pressing the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared. ☐

5.9.11 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐

5.9.12 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "PRE-FILTER DP HI". ☐

5.9.13 **DISCONNECT** BT-200. ☐

5.9.14 **REPLACE** back cover on transmitter VTP-PDT-178. ☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	68

TANK FARM ACCEPTANCE TEST PROCEDURE

5.9 PREFILTER DP INTERLOCK/ALARM CHECK (Continued)

5.9.15 Test Director **SHALL VERIFY** that section 5.9 is **COMPLETE** by **SIGNING** below.

Test Director Signature

Date

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	69

TANK FARM ACCEPTANCE TEST PROCEDURE

5.10 STACK FLOW INTERLOCK/ALARM CHECK

NOTE: This test must be performed when exhaust temperature is at 100° F.

5.10.1 **PRESS** Fan Start Button VTP-PB-101 (located on door of Exhauster Control Cabinet VTP-CP-105).

☐

5.10.2 **WAIT** for the Exhauster fan to come up to speed.

☐

5.10.3 **FORCE** fan input to 500 CFM.

☐

5.10.4 **VERIFY** fan operation continues.

☐

5.10.5 **RECORD** value indicated by Wilkerson indicator VTP-FT-184 (located on door of Exhauster Control Cabinet VTP-CP-105).

READING: _____

☐

5.10.6 **VERIFY** Wilkerson indicator VTP-FT-184 (located on door of Exhauster Control Cabinet VTP-CP-105) is **READING** within a range of 495 CFM and 505 CFM.

☐

5.10.7 **FORCE** fan input to 530 CFM.

☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	70

TANK FARM ACCEPTANCE TEST PROCEDURE

5.10 STACK FLOW INTERLOCK/ALARM CHECK (Continued)

5.10.8 **PERFORM** the following:

- **VERIFY** Clear Rotating Beacon VTP-XA-101 (located on stack supporting framing) is **ILLUMINATED**. ☐

- **RECORD** value indicated on Wilkerson indicator VTP-FI-184 (located on door of Exhauster Control Cabinet VTP-CP-105), corresponding to transmitter FT-184. ☐

READING: _____ ☐

- **VERIFY** Wilkerson indicator VTP-FI-184 (located on door of Exhauster Control Cabinet VTP-CP-105), corresponding to transmitter FT-184, is **READING** a flow rate within a range of 525 CFM and 535 CFM. ☐

- **VERIFY** Message View Display MV-101 and MV-102 (located at Alarm Cabinet Swing Out Panel) **DISPLAYS** "STACK FLOW HI". ☐

5.10.9 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then pressing the "↶" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared. ☐

5.10.10 **VERIFY** Clear Rotating Beacon VTP-XA-101 is **NOT ILLUMINATED**. ☐

5.10.11 **VERIFY** Message View Display VTP-MV-101 (located at Alarm Cabinet Swing Out Panel) **CLEARs** alarm message. ☐

5.10.12 **CLEAR** force. ☐

5.10.13 **PRESS** Fan Start Button VTP-PB-101 (located on door of Exhauster Control Cabinet VTP-CP-105). ☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	71

TANK FARM ACCEPTANCE TEST PROCEDURE

5.10 STACK FLOW INTERLOCK/ALARM CHECK (Continued)

- 5.10.14 **WAIT** for the Exhauster fan to come up to speed. ☐
- 5.10.15 **FORCE** fan input to 230 CFM. ☐
- 5.10.16 **RECORD** the value indicated on the Wilkerson indicator VTP-FI-184 (located on door of Exhauster Control Cabinet VTP-CP-105), corresponding to transmitter FT-184. ☐
- READING: _____
- 5.10.17 **VERIFY** the Wilkerson indicator VTP-FI-184 (located on door of Exhauster Control Cabinet VTP-CP-105), corresponding to transmitter FT-184, is **READING** a flow rate within a range of 225 CFM and 235 CFM. ☐
- 5.10.18 **VERIFY** the Clear Rotating Beacon VTP-XA-101 (located on stack supporting framing) is **ILLUMINATED**. ☐
- 5.10.19 **VERIFY** the following:
- Clear rotating beacon VTP-XA-101 is **ILLUMINATED**. ☐
 - Red fan running light is **NOT ILLUMINATED**. ☐
 - Green fan off light is **ILLUMINATED**. ☐
 - Exhauster fan VTP-EF-001 has shutdown. ☐
 - Message View Display VTP-MV-101 and VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) **DISPLAYS "STACK FLOW LO"**. ☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	72

TANK FARM ACCEPTANCE TEST PROCEDURE

5.10 STACK FLOW INTERLOCK/ALARM CHECK (Continued)

- 5.10.20 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then **PRESSING** the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared. ☐
- 5.10.21 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐
- 5.10.22 **VERIFY** Message View Display VTP-MV-101 (located at Alarm Cabinet Swing Out Panel) **CLEARs** alarm message. ☐
- 5.10.23 **REMOVE** all fan input forces. ☐
- 5.10.24 Test Director **SHALL VERIFY** that section 5.10 is **COMPLETE** by **SIGNING** below.

Test Director Signature

Date

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	73

TANK FARM ACCEPTANCE TEST PROCEDURE

5.11 SEAL POT INTERLOCK/ALARM CHECK

- 5.11.1 **ENSURE** Seal Pot Drain Valve VTP-V-160 is in the CLOSED position. ☐

- 5.11.2 **ENSURE** Seal Pot Overflow Drain Line Outlet Valve VTP-V-161 is in the 25±10% OPEN position. ☐

- 5.11.3 **REMOVE** Seal Pot fill cap at VTP-V-159. ☐

- 5.11.4 **OPEN** Seal Pot fill inlet valve VTP-V-159. ☐

- 5.11.5 **Add** water to Seal Pot reservoir UNTIL the seal pot reservoir is 50±5% full. ☐

- 5.11.6 **RECORD** the Seal Pot Level from the Wilkerson Indicator VTP-LI-185.
 READING: _____ ☐

- 5.11.7 **ENSURE** Fan/Off/Enable Control Selector Switch VTP-HS-103 (located on door of Exhauster Control Cabinet VTP-CP-105) is in the Enable position. ☐

- 5.11.8 **PRESS** Fan Start Button VTP-PB-101 (located on door of Exhauster Control Cabinet VTP-CP-105). ☐

- 5.11.9 **WAIT** for the Exhauster fan to come up to speed. ☐

- 5.11.10 **ADD** water to the Seal Pot UNTIL the rotating beacon is ILLUMINATED, OR UNTIL a seal pot level of 90% is indicated on LI-105. ☐

- 5.11.11 **VERIFY** that the Seal Pot Level Wilkerson Indicator VTP-LI-185 is INDICATING a liquid level corresponding to 80% FULL.

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	74

TANK FARM ACCEPTANCE TEST PROCEDURE

5.11 SEAL POT INTERLOCK/ALARM CHECK (Continued)

5.11.12 **VERIFY** the following:

- Message View Display VTP-MV-101 and VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) DISPLAYS "SEAL POT HI" and "FAN SHUTDOWN".
- The exhaust Fan VTP-EF-001 has shutdown.
- Red fan running light is NOT ILLUMINATED.
- Green fan off light is ILLUMINATED.
- Clear Rotating Beacon VTP-XA-101 is ILLUMINATED.

5.11.13 **ACKNOWLEDGE** the alarm by PRESSING the "1" button, then PRESSING the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared.

5.11.14 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED.

5.11.15 **OPEN** the Seal Pot drain valve VTP-V-160.

5.11.16 **SLOWLY DRAIN** the Seal Pot until the alarm message clears.

5.11.17 **CLOSE** the Seal Pot drain valve VTP-V-160.

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	75

TANK FARM ACCEPTANCE TEST PROCEDURE

5.11 SEAL POT INTERLOCK/ALARM CHECK (Continued)

- 5.11.18 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) **CLEARs** alarm message at an approximate liquid level that is **LESS THAN 75% FULL**, as indicated by the SEAL POT LEVEL Wilkerson indicator VTP-LI-185. ☐
- 5.11.19 **PRESS** Fan Start Button VTP-PB-101 (located on door of Exhauster Control Cabinet VTP-CP-105). ☐
- 5.11.20 **WAIT** for the Exhauster fan to come up to speed. ☐
- 5.11.21 **CONTINUALLY DRAIN** the Seal Pot until rotating beacon **ILLUMINATES** again, **QUICKLY CLOSE** the Seal Pot drain valve VTP-V-160. ☐
- 5.11.22 **VERIFY** the following:
- Clear rotating beacon VTP-XA-101 is **ILLUMINATED**. ☐
 - Red fan running light is **NOT ILLUMINATED**. ☐
 - Green fan off light is **ILLUMINATED**. ☐
 - Exhauster fan VTP-EF-001 has shutdown. ☐
- 5.11.23 **RECORD** the Seal Pot Level indicated by Wilkerson Indicator VTP-LI-185. ☐
- READING: _____ ☐
- 5.11.24 **VERIFY** the Seal Pot Level Wilkerson Indicator VTP-LI-185 **INDICATES** a liquid level of **30±5% FULL**. ☐

TANK FARM ACCEPTANCE TEST PROCEDURE

5.11 SEAL POT INTERLOCK/ALARM CHECK (Continued)

- 5.11.25 **VERIFY** that the Message View Display VTP-MV-101 and VTP-MV-102 DISPLAYS "SEAL POT LO". ☐
- 5.11.26 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then pressing the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared. ☐
- 5.11.27 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐
- 5.11.28 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) STILL DISPLAYS "SEAL POT LO". ☐
- 5.11.29 **ADD** water to the seal pot reservoir UNTIL the reservoir is 50±5% FULL. ☐
- 5.11.30 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) message has cleared. ☐
- 5.11.31 **CLOSE** Seal Pot fill inlet valve VTP-V-159. ☐
- 5.11.32 **REINSTALL** seal pot fill cap. ☐
- 5.11.33 Test Director **SHALL VERIFY** that section 5.11 is COMPLETE by SIGNING below.

Test Director Signature

Date

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	77

TANK FARM ACCEPTANCE TEST PROCEDURE

5.12 GLYCOL INTERLOCK/ALARM CHECK

5.12.1 **ENSURE** Glycol Reservoir Tank VTP-TK-001 drain valve VTP-V-204 is closed. ☐

5.12.2 **ENSURE** Glycol Heater Piping isolation valves are open.

Valve Number	Open (✓)	Valve Number	Open (✓)
VTP-V-135 Plenum Inlet	☐	VTP-V-202 Glycol Heater inlet	☐
VTP-V-201 Glycol Tank outlet	☐	VTP-V-203 Glycol Heater outlet	☐

5.12.3 **POSITION** Circuit Breaker #3 (located at MPZ Cabinet) to OFF. ☐

5.12.4 **DISCONNECT** probe leads from transmitter VTP-LT-205. ☐

5.12.5 **CONNECT** Drexelbrook C-Box to transmitter probe side of transmitter VTP-LT-205. ☐

5.12.6 **CONNECT** 3-terminal wire to capacitance unit. ☐

5.12.7 **SET** range switch to NORMAL. ☐

5.12.8 **CONNECT** Drexelbrook C-Box meter leads in series with VTP-LT-205 - OUTPUT. ☐

5.12.9 **CONNECT** terminal wire to meter. ☐

5.12.10 **SET** meter range to 4-20 mA. ☐

TANK FARM ACCEPTANCE TEST PROCEDURE

5.12 GLYCOL INTERLOCK/ALARM CHECK (Continued)

- 5.12.11 **PRESS** meter ONLY button ON (down). ☐
- 5.12.12 **POSITION** Circuit Breaker #3 (located at MPZ Cabinet) to ON. ☐
- 5.12.13 **SET** Vernier Dial to 14.5 Picofarads (pf). This is equivalent to 4 mA. ☐
- 5.12.14 **INCREASE** Vernier Dial to 46.5 pf. This is equal to approximately 60% volume (13.6 mA). ☐
- 5.12.15 **ENSURE** circuit breaker #6 (SLC Control Circuit, Module 8 / VFD-001) is ON (located in the MPZ cabinet VTP-DP-101). ☐
- 5.12.16 **POSITION** Glycol Circulation Pump Control Switch VTP-HS-102 to ON (located on door of Exhauster Control Cabinet VTP-CP-105). ☐
- 5.12.17 **VERIFY/RECORD** the following:
- Glycol Level Wilkerson Indicator VTP-LI-205 displays a readout corresponding to a 60% level.

READING: _____ ☐
 - Glycol Circulation Pump is OPERATING by LISTENING to and/or FEELING the pump. ☐
 - Glycol System has no leaks. ☐
- 5.12.18 **POSITION** Glycol Pump Control Switch VTP-HS-102 to OFF (located on door of Exhauster Control Cabinet VTP-CP-105). ☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	79

TANK FARM ACCEPTANCE TEST PROCEDURE

5.12 GLYCOL INTERLOCK/ALARM CHECK (Continued)

5.12.19 **ACKNOWLEDGE** the PUMP OFF alarm by **PRESSING** the "1" button, then **PRESSING** the "-" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared.

☐

5.12.20 **REMOVE** the thermostat cover on top of Glycol Heater VTP-HTR-001.

☐

5.12.21 **ENSURE** the Heater Thermostat is set to 190°F.

☐

5.12.22 **REPLACE** the thermostat cover of Glycol Heater VTP-HTR-001.

☐

5.12.23 **POSITION** the Glycol Heater Disconnect Switch VTP-DS-201 to ON.

☐

5.12.24 **POSITION** Glycol Circulation Pump Control Switch VTP-HS-102 to ON (located on door of Exhauster Control Cabinet VTP-CP-105).

☐

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	80

TANK FARM ACCEPTANCE TEST PROCEDURE

5.12 GLYCOL INTERLOCK/ALARM CHECK (Continued)

WARNING

Energized circuits and lead are contained inside the cabinet.
Observe Appropriate electrical precautions. Comply with WHC-CM-1-10, WKS-15, ELECTRICAL WORK SAFETY.

- 5.12.25 **VERIFY** the Glycol Heater has STARTED by USING the DMM at the Glycol Heater Contactor VTP-CON-206 (located at Heat Trace Cabinet VTP-ENCL-104) and PERFORMING the following:

- 5.12.25.1 **RECORD** voltage between Terminal T1 and Terminal T2.

READING: _____

☐

- 5.12.25.2 **VERIFY** there is a voltage between Terminal T1 and Terminal T2.

☐

- 5.12.25.3 **RECORD** voltage between Terminal T1 and Terminal T3.

READING: _____

☐

- 5.12.25.4 **VERIFY** there is a voltage between Terminal T1 and Terminal T3.

☐

- 5.12.25.5 **RECORD** voltage between Terminal T2 and Terminal T3.

READING: _____

☐

- 5.12.25.6 **VERIFY** there is a voltage between Terminal T2 and Terminal T3.

☐

- 5.12.26 **POSITION** the Glycol Heater Disconnect Switch VTP-DS-201 to OFF.

☐

- 5.12.27 **REDUCE** the impedance to simulate 50% Volume 38.75 pf (12 mA) on the Glycol Liquid Level Transmitter VTP-LT-205.

☐

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CONTINUOUS USE	HNF-SD-WM-ATP-198	0	81

TANK FARM ACCEPTANCE TEST PROCEDURE

5.12 GLYCOL INTERLOCK/ALARM CHECK (Continued)

5.12.28 **VERIFY** the following:

- Clear rotating beacon VTP-XA-101 is ILLUMINATED. ☐
- Glycol Heater has SHUTDOWN by OBSERVING that the Glycol Heater Contactor VTP-CON-206 (located at Control Cabinet VTP-CP-105) is OPEN. ☐
- Glycol Circulation Pump VTP-P-001 has SHUTDOWN by LISTENING to and/or FEELING the pump. ☐
- Message Display VTP-MV-101 and VTP-MV-102 DISPLAYS "GLYCOL LEVEL LO". ☐

5.12.29 **RECORD** the liquid level indication on the Wilkerson liquid level indicator VTP-LI-205.

READING: _____ ☐

5.12.30 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then **PRESSING** the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared. ☐

5.12.31 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐

5.12.32 **VERIFY** Message View Display VTP-MV-101 (located at Alarm Cabinet Swing Out Panel) CLEARS alarm message. ☐

5.12.33 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) DISPLAYS "GLYCOL LEVEL LO" alarm. ☐

5.12.34 **POSITION** Circuit Breaker #3 (located at MPZ Cabinet) to OFF. ☐

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TANK FARM ACCEPTANCE TEST PROCEDURE

5.12 GLYCOL INTERLOCK/ALARM CHECK (Continued)

5.12.35 **DISCONNECT** the DrexelBrook Calibrator from the Glycol Liquid Level Transmitter VTP-LT-205.

☐

5.12.36 **RECONNECT** probe leads to transmitter VTP-LT-205.

☐

5.12.37 Test Director **SHALL VERIFY** that section 5.12 is COMPLETE by SIGNING below.

Test Director Signature

Date

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	83

TANK FARM ACCEPTANCE TEST PROCEDURE

5.13 GLYCOL SYSTEM LEAK CHECK

This test verifies that the glycol heater, reservoir, and associated piping do not leak to the environment. A visual leak check will be performed followed by a pressure decay test. The following cautions apply to this test section:

CAUTION

- The system under test shall be pressurized by means of a manifold consisting of a pressure gauge, pressure relief valve, isolation valve, pressure source, and a pressure release valve.
- All system components shall have pressure ratings equal to or greater than the system test pressure.
- The test gauge shall have a dial graduated from zero over a range that in no case shall be less than 1-1/2 or more than four times the intended maximum pressure.
- The pressure relief valve shall be set to operate at a pressure that does not exceed 110% of the test pressure. The relief valve pressure setting shall be verified by use of a calibrated test instrument.
- The flow capacity of the pressure relief valve shall not be less than 125% of the flow capacity of the pressurizing device.
- A means for immediately shutting off and releasing the pressure shall be provided to prevent damage if the relief valve or other critical system components fail to operate in case of over-pressurization.
- All test equipment shall be maintained in good operating condition and be capable of withstanding test pressures.
- The Material Safety Data Sheet for Glycol should be reviewed prior to working with that chemical.

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	84

TANK FARM ACCEPTANCE TEST PROCEDURE

5.13 GLYCOL SYSTEM LEAK CHECK (Continued)

5.13.1 **OPEN** Glycol Heater Piping isolation valves.

Valve Number	Open (✓)	Valve Number	Open (✓)
VTP-V-135 Plenum Inlet		VTP-V-203 Glycol Heater outlet	
VTP-V-201 Glycol Tank outlet		VTP-V-204 Glycol Tank Drain	
VTP-V-202 Glycol Heater inlet			

5.13.2 **REMOVE** the fill cap from the heater reservoir.

☐

5.13.3 **CONNECT** the pressure supply manifold to the reservoir fill port.

☐

5.13.4 **SLOWLY PRESSURIZE** the heater reservoir and piping to 10 psig.

☐

5.13.5 **VISUALLY INSPECT** for leaks indicated by localized wetting. Perform this step for a minimum of 15 minutes.

☐

5.13.6 **REPAIR** any leaks per Test Director direction.

☐

5.13.7 **ENSURE** the heater reservoir and piping are pressurized to 10±2 psig.

☐

5.13.8 **ISOLATE** the pressure source by closing the manifold isolation valve.

☐

TANK FARM ACCEPTANCE TEST PROCEDURE

5.13 GLYCOL SYSTEM LEAK CHECK (Continued)

5.13.9 **RECORD** the initial pressure and time.

PRESSURE (psig)

TIME

INITIAL: _____

FINAL: _____

5.13.10 **WAIT** 10 minutes.

☐

5.13.11 **RECORD** the final pressure and time.

☐

5.13.12 **VERIFY** there was no pressure drop during the 10 minute time period.

Quality Control Signature

Date

5.13.13 **RELIEVE** pressure from the system by slowly opening the manifold release valve.

☐

5.13.14 **DISCONNECT** and **REMOVE** the pressure supply and manifold.

☐

5.13.15 Test Director **SHALL VERIFY** that section 5.13 is COMPLETE by SIGNING below.

Test Director Signature

Date

5.13.16 QC Inspector **SHALL VERIFY** that section 5.13 is COMPLETE by SIGNING below.

QC Inspector Signature

Date

Usage Type	Document No.	Rev/Mod	Page
CONTINUOUS USE	HNF-SD-WM-ATP-198	0	86

TANK FARM ACCEPTANCE TEST PROCEDURE

5.14 THERMOCOUPLE INTERLOCK/ALARM CHECK

- 5.14.1 **REMOVE** thermocouple TE-179 from the thermowell. ☐
- 5.14.2 **POSITION** the Glycol Heater Disconnect Switch VTP-DS-201 to **ON**. ☐
- 5.14.3 **ENSURE** circuit breaker #6 (SLC Control Circuit, Module 8 / VFD-001) is **ON** (located in the MPZ cabinet VTP-DP-101). ☐
- 5.14.4 **POSITION** Glycol Circulation Pump Control Switch VTP-HS-102 to **ON** (located on door of Exhauster Control Cabinet VTP-CP-105). ☐
- 5.14.5 **VERIFY** Glycol Heater has **STARTED** by **OBSERVING** that the Glycol Heater Contactor VTP-CON-206 (located at Control Cabinet VTP-CP-105) is **CLOSED**. ☐
- 5.14.6 **HEAT** thermocouple TE-179 with a Hot Air Gun **UNTIL** the Wilkerson Indicator VTP-TI-179 is indicating **>200°F**. ☐
- 5.14.7 **VERIFY** the following:
- Clear Rotating Beacon VTP-XA-101 (located on stack support framing) is **ILLUMINATED**. ☐
 - Message View Display VTP-MV-101 and VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) **DISPLAYS** "HEATER AIR TEMPERATURE HI". ☐
 - Glycol Heater has **SHUTDOWN** by **OBSERVING** that the Glycol Heater Contactor VTP-CON-206 (located at the Control Cabinet VTP-CP-105) is **OPEN**. ☐

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CONTINUOUS USE	HNF-SD-WM-ATP-198	0	87

TANK FARM ACCEPTANCE TEST PROCEDURE

5.14 THERMOCOUPLE INTERLOCK/ALARM CHECK (Continued)

- 5.14.8 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then **PRESSING** the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared. ☐
- 5.14.9 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED. ☐
- 5.14.10 **VERIFY** Message View Display VTP-MV-101 (located at Alarm Cabinet Swing Out Panel) CLEARS alarm message. ☐
- 5.14.11 **ALLOW** thermocouple TE-179 to cool to <100°F. ☐
- 5.14.12 **PLACE** thermocouple TE-179 in a cup of ice. ☐
- 5.14.13 **VERIFY** the following AFTER the thermocouple indicates <40°F on Wilkerson Indicator VTP-TI-179: ☐
- Clear Rotating Beacon VTP-XA-101 (located on stack supporting framing) is ILLUMINATED.
 - **RECORD** indication on Wilkerson indicator TI-179 (located on door of Exhauster Control Cabinet VTP-CP-105) corresponding to VTP-TE-176.
- READING: _____ ☐
- Message View Display VTP-MV-101 and VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) DISPLAYS "HEATER TEMPERATURE LO". ☐
- 5.14.14 **ACKNOWLEDGE** the alarm by **PRESSING** the "1" button, then **PRESSING** the "←" button on the Message View Display VTP-MV-101 (located at Alarm Cabinet VTP-ENCL-107 Swing Out Panel) twice. For any secondary alarms repeat this step until all alarms are cleared. ☐

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CONTINUOUS USE	HNF-SD-WM-ATP-198	0	88

TANK FARM ACCEPTANCE TEST PROCEDURE

5.14 THERMOCOUPLE INTERLOCK/ALARM CHECK (Continued)

5.14.15 **VERIFY** Clear Rotating Beacon VTP-XA-101 is NOT ILLUMINATED.

☐

5.14.16 **VERIFY** Message View Display VTP-MV-102 (located at Alarm Cabinet Swing Out Panel) DISPLAYS alarm message.

☐

5.14.17 **POSITION** Circuit Breaker #3 (located at MPZ Cabinet) to OFF.

☐

5.14.18 **REPLACE** Thermocouple TE-179 into the thermowell.

☐

5.14.19 Test Director **SHALL VERIFY** that section 5.14 is COMPLETE by SIGNING below.

Test Director Signature

Date

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CONTINUOUS USE	HNF-SD-WM-ATP-198	0	89

TANK FARM ACCEPTANCE TEST PROCEDURE

5.15 GLYCOL HEATER TEST

5.15.1 **VERIFY** Glycol Reservoir Tank VTP-TK-001 is approximately 60±5% full by observing level sight glass VTP-LG-201. ☐

5.15.2 **ENSURE** the Glycol Heater Piping isolation valves are OPEN or CLOSED as indicated below: ☐

Valve Number	Open (✓)	Valve Number	Open (✓)
VTP-V-135 Plenum Inlet		VTP-V-202 Glycol Heater inlet	
VTP-V-201 Glycol Tank outlet		VTP-V-203 Glycol Heater outlet	
	CLOSED (✓)		
VTP-V-204 Drain Valve			

5.15.3 **POSITION** circuit breaker #6 (located in the MPZ cabinet VTP-DP-101) to OFF. ☐

5.15.4 **REMOVE** the thermostat cover on top of Glycol Heater VTP-HTR-001. ☐

5.15.5 **ENSURE** the heater thermostat is set to 190°F. ☐

5.15.6 **REPLACE** the thermostat cover on top of Glycol Heater VTP-HTR-001. ☐

5.15.7 **POSITION** circuit breaker #6 (located in the MPZ cabinet VTP-DP-101) to ON. ☐

5.15.8 **POSITION** the EXHAUSTER FAN MOTOR DISCONNECT SWITCH VTP-DS-102 to ON. ☐

TANK FARM ACCEPTANCE TEST PROCEDURE

5.15 GLYCOL HEATER TEST (Continued)

5.15.9 **PRESS** Fan Start Button VTP-PB-101 (Located on door of Exhauster Control Cabinet VTP-CP-105) to turn ON Exhauster Fan VTP-EF-001.

☐

5.15.10 **POSITION** the Glycol Heater Disconnect Switch VTP-DS-201 to ON.

☐

5.15.11 **POSITION** Glycol Circulation Pump Control Switch VTP-HS-102 to ON (located on door of Exhauster Control Cabinet VTP-CP-105) and record initial values for time, inlet temperature, and outlet temperature below.

☐

	INITIAL	FINAL
Time and Date		
Inlet temperature (°F), VTP-TI-176		
Outlet temperature (°F), VTP-TI-179		

5.15.12 **CONTINUE** exhauster operation until the airflow temperature indicated by thermocouple VTP-TI-179 has stabilized to vary $\pm 2^{\circ}\text{F}$ or less.

☐

5.15.13 **RECORD** final values for time, inlet temperature, and outlet temperature.

☐

5.15.14 **VERIFY** the final outlet temperature is AT LEAST 20°F greater than the final inlet temperature.

☐

5.15.15 **POSITION** the Glycol Heater Disconnect Switch VTP-DS-201 to OFF.

☐

5.15.16 **POSITION** Glycol Circulation Pump Control Switch VTP-HS-102 to Off (located on door of Exhauster Control Cabinet VTP-CM-105).

☐

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CONTINUOUS USE	HNF-SD-WM-ATP-198	0	91

TANK FARM ACCEPTANCE TEST PROCEDURE

5.15 GLYCOL HEATER TEST (Continued)

5.15.17 **POSITION** the EXHAUSTER FAN MOTOR DISCONNECT SWITCH VTP-DS-102 to OFF.

5.15.18 Test Director **SHALL VERIFY** that section 5.15 is COMPLETE by SIGNING below.

Test Director Signature

Date

Usage Type

CONTINUOUS USE

Document No.

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TANK FARM ACCEPTANCE TEST PROCEDURE

DATA SHEET 1 - LEAKAGE RATE CALCULATION (This page may be reproduced as necessary)

DATE:

TEST #:

	INITIAL	FINAL
Time	ti =	tf =
Pressure (psig)	Pi = _____ IN W.C. / 27.7 =	Pf = _____ IN W.C. / 27.7 =
Barometric pr (IN Hg)	BPi= _____ IN Hg x 0.491 =	BPf= _____ IN Hg x 0.491 =
Duct pr (psfa)	DPi=(Pi + Bpi)(144) =	DPi=(Pi + Bpi)(144) =
Temperature (°R)	Ti = _____ °F + 460 =	Tf = _____ °F + 460 =

Test Volume: V = _____ cubic feet

Gas constant: R = 53.35 ft lb/(lb*degR)

Test Duration: $\Delta t = (tf - ti) =$ _____ minutes

$Q = (DPi/Ti - DPf/Tf)V / (R \times \Delta t \times 0.075) =$ _____ SCFM

Q is the Average total leak rate per ASME N510-1989, Section 6.5.3.9, in standard ft³/min (SCFM).

$L_s =$ Allowable Leak Rate = 0.3 SCFM

Test Director Signature _____

Date _____

QC Signature _____

Date _____

Checker Signature _____

Date _____

TANK FARM ACCEPTANCE TEST PROCEDURE

DATA SHEET 2 - LEAKAGE RATE CALCULATION (This page may be reproduced as necessary)

DATE:

TEST #:

	INITIAL	FINAL
Time	$t_i =$	$t_f =$
Pressure (psig)	$P_i =$ _____ IN W.C. / 27.7 =	$P_f =$ _____ IN W.C. / 27.7 =
Barometric pr (IN Hg)	$B_{Pi} =$ _____ IN Hg x 0.491 =	$B_{Pf} =$ _____ IN Hg x 0.491 =
Duct pr (psfa)	$D_{Pi} = (P_i + B_{Pi})(144)$ =	$D_{Pi} = (P_i + B_{Pi})(144)$ =
Temperature ($^{\circ}R$)	$T_i =$ _____ $^{\circ}F + 460$ =	$T_f =$ _____ $^{\circ}F + 460$ =

Test Volume: $V =$ _____ cubic feet

Gas constant: $R = 53.35 \text{ ft lb}/(\text{lb} \cdot \text{degR})$

Test Duration: $\Delta t = (t_f - t_i) =$ _____ minutes

$Q = (D_{Pi}/T_i - D_{Pf}/T_f)V / (R \times \Delta t \times 0.075) =$ _____ SCFM

Q is the Average total leak rate per ASME N510-1989, Section 6.5.3.9, in standard ft^3/min (SCFM).

$L_s = \text{Allowable Leak Rate} = 0.3 \text{ SCFM}$

Test Director Signature _____

Date _____

QC Signature _____

Date _____

Checker Signature _____

Date _____

Usage Type	Document No.	Rev/Mod	Page
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TANK FARM ACCEPTANCE TEST PROCEDURE

ATP EXCEPTION LOG

This page may be reproduced as necessary PAGE _____ of _____

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TANK FARM ACCEPTANCE TEST PROCEDURE

ATP EXCEPTION RECORD

This page may be reproduced as necessary.

ATP step number:	ATP Exception Log Number:
Description of Exception:	
Resolution of Exception:	
Date of Resolution:	
Test Director signature:	
Cognizant Engineer signature:	
Quality Control signature:	