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1	1	Cog. Eng. K. J. McCracken	<i>K. J. McCracken</i>	5/18/95	H5-56	J. P. Schmidt	<i>J. P. Schmidt</i>	5/18/95	X3-78	1	1
1	1	Cog. Mgr. J. B. Truitt	<i>J. B. Truitt</i>	5/30/95	H5-56	C. A. Thompson	<i>C. A. Thompson</i>	5/19/95	X3-72	1	1
1	1	QA D. W. Smith	<i>D. W. Smith</i>	5/24/95	R5-85	c. L. Bennett	<i>C. L. Bennett</i>	5/19/95	X3-77	1	1
1	1	Safety J. T. Vistica	<i>J. T. Vistica</i>	5/19/95	X3-80	J. C. Wiborg			B3-55	3	
1	1	Env. R. G. Gant	<i>R. G. Gant</i>	5/19/95	X3-79	W. L. PULSE	<i>W. L. PULSE</i>	5/18/95		1	1
3		J. J. Irwin			H0-33						
1	1	R. J. Kuhta	<i>R. J. Kuhta</i>	5-18-95	X3-76						

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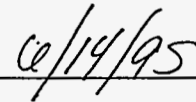
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105-KE ISOLATION BARRIER LEAK RATE
ACCEPTANCE TEST REPORT
WHC-SD-SNF-ATR-005
REV 0

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May 17, 1995

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U.S. DEPARTMENT OF ENERGY

FOREWORD

This Acceptance Test Report (ATR), WHC-SD-SNF-ATR-005, revision 0, contains the completed and signed Acceptance Test Procedure (ATP) for the 105-KE Isolation Barrier Leak Rate Test. The Test Engineer's log, the completed sections of the ATP in the Appendix for Repeat Testing (Appendix K), the approved WHC J-7s (Appendix H), the data logger files (Appendices T and U), and the post test calibration checks (Appendix V) are included. Results from these tests will be reported in the 105-KE Isolation Barriers Acceptance Test Results, WHC-SD-SNF-RPT-006.

ACCEPTANCE TEST PROCEDURE FOR THE 105-KE ISOLATION BARRIER LEAK RATE

1.0 INTRODUCTION

1.1 PURPOSE

This acceptance test procedure shall be used to: First establish a basin water loss rate prior to installation of the two isolation barriers between the main basin and the discharge chute in K-Basin East. Second, perform an acceptance test to verify an acceptable leakage rate through the barrier seals. This Acceptance Test Procedure (ATP) has been prepared in accordance with CM-6-1 EP 4.2, Standard Engineering Practices.

1.2 SCOPE

This ATP will establish a baseline Basin water loss rate prior to barrier installation by measuring basin water loss minus the effects of evaporation. After barrier installation, the same test will be repeated to determine if the isolation barriers adequately perform their leak tightness design function. Leakage is unacceptable when the leak rate exceeds the ^(1500 gph / 5000 cph; see section 2.2.3 for acceptance criteria) post seismic event limit specified in the Safety Analysis Report (SAR). The Test Specification/Test Plan for the K Basin Isolation Barriers (WHC-SD-SNF-TP-009) establishes both the leak requirements and overall plan for conducting this ATP.

Basin leakage and basin water surface evaporation accounts for the total basin water loss. Two tests will be conducted. Test 1 will be performed prior to the installation of the barriers. This test will establish a baseline reading for the existing basin water loss, characterize the baseline for the probable test evaporation rate, verify acceptable performance of the instrumentation network and the zero adjusting of the basin and discharge chute level detectors.

Test 2 will be performed after the isolation barrier installation. This test will measure the leak rate past the isolation barriers. Loss of water from the basin is through two routes: One route is loss from surface evaporation and the other route is seal leakage. An eleven inch (28 cm) level differential (initial) imposed across the Isolation Barriers will be the driving force for leakage. ~~Basin level drop and evaporation will be factored into an isolation barrier leakage equation developed from these tests.~~

By establishing this initial eleven inch (28cm) level differential across the isolation barriers, the leak tight performance will be characterized. The leakage determined at the eleven inch (28cm) differential will be used to project the leakage at the full sixteen foot (4.9m) differential requirement. Therefore, the leak rate for an emptied discharge chute as the result of a Design Basis Earthquake (DBE) post seismic event, can be projected from tests conducted with a smaller head.

2.0 APPLICABLE/REQUIRED DOCUMENTS

- WHC-SD-SNF-TP-009, 105-KE/KW Isolation Barrier Leak Test Specification/Test Plan
- HSRCM-1, Hanford Site Radiological Control Manual
- WHC-CM-4-3, Industrial Safety Manual
- WHC-CM-5-13, K Basins Policy Manual, 16-04
- K Basin Process Standards C-303 and D-403
- WHC-CM-4-2 QR 11.0 WHC Quality Assurance Program Requirements for Test Control. Testing shall be conducted in accordance with the requirements of QR 11.0.
- WHC-CM-6-1 EP 4-2. Testing Requirements.

3.0 DEFINITIONS

- **Control Copy:** The single copy of all record documentation maintained at the K Basin facility and used for all required signatures, approvals, and data recording.
- **Working Copy -** The single copy of all record documentation maintained within the radiation zone used for all required record signatures, approvals, and data recording. Signatures shall be transferred to the "Control Copy".
- **Master Work Plan -** A document to control the overall steps to complete the installation and testing of the isolation barriers.
- **Test Logbook:** A logbook for recording all data and observations by the test performer which are not included in a test procedure.
- **Verify:** This word is used to both check and to adjust, alter or operate to meet the condition required, "Verify valve is open" directs that if the valve is closed, open it, if it is already open, no further action is required.
- **Basin:** That portion of 100-KE and 100-KW used for irradiated fuel storage; is hydraulically connected to the Weasel pit, Filter/Viewing Pits, Dummy Elevator Pit, and South Loadout Pit; and is hydraulically separated from the Discharge Pit, by the isolation barriers, and the North Loadout Pit (Sand Filter) by a separate barrier.
- **Discharge Pit:** That portion of 100-KE and 100-KW that contains no irradiated fuel; is hydraulically separated from the basins by the isolation barriers, but is hydraulically connected to the Reactor Fuel Discharge Pit.

4.0 AUTHORITY AND ADMINISTRATION

4.1 AUTHORITY

4.1.1 Technical PIC

The Technical PIC is responsible for the overall ATP performance and safety. The WHC Technical PIC directs the Test Director and Test Engineer.

4.1.2 Test Director

The Test Director is responsible for the performance of the ATP and personnel safety. The Test Director is also responsible for all ATP material and personnel resource coordination. The Test Director directs the Test Engineer and reports to the Technical PIC. The Test Director can act as both the Test Director and Test Engineer.

4.1.3 Test Engineer

The Test Engineer is responsible for directing performance of the ATP and for personnel and plant safety as related to the performance of the ATP. The Test Engineer directs personnel assigned to the ATP. The Test Engineer reports to the Test Director and Technical PIC. *The Test Engineers are delineated in the Master Work Plan for Isolation Barrier Installation at KE and KW Basins, and their training records are maintained by WHC Training personnel.*

CGI
WJ
HHEIX

4.1.4 Test Performers/Operators

WHC and contractor personnel assigned ATP related tasks are directly responsible for ATP performance, plant and personnel safety. Test performers report to the Test Engineer.

4.1.5 Fluid System Engineering

This WHC organization is responsible for all analytical decisions, test instrument setup and instrument operations. As the originators of the Test Specification/Test Plan WHC-SD-SNF-009, their expertise is required to make critical technical decisions pertaining to test criteria, methodology and performance evaluations. These individuals will report to the Test Engineer.

4.1.6 K Basin Operations Shift Manager

The Shift Operations Manager (SOM) is responsible for any and all activities in the K Basin. The Technical PIC will interface directly with the SOM, or a representative, when operating any equipment that could effect the Basin; e.g., water transfer pump.

4.2 ADMINISTRATION

4.2.1 Tagouts

There are no planned tagouts required by this procedure; however, if one is required refer to WHC-CM-4-3, Section G1, Energy Control Program (Lock and Tag).

4.2.2 Changes

ATP changes required during testing may be made immediately in the field copy, provided that the changes cannot affect operating facility safety, function, or performance and will not compromise or influence test data. Any such change must be recorded in the change log as a change exception. See Appendix F for instructions on how to make such a change.

ATP changes that affect operating facility safety, function, or performance or will compromise or influence test data are made via an ECN to the ATP Supporting Document (SD). See Appendix F for instructions on how to make such a change.

4.2.3 Acceptance Criteria

For any step in the ATP that has a associated acceptance requirement, the value will be so designated in the step. For this procedure the acceptance criteria is a leak rate through the isolation barriers of 1500 gallons (5660 l) per hour (the SAR limit) at a 16 ft (4.9m) level difference. The testing will be over an 11 inch (28cm) level differential. The isolation barrier leak rate shall not exceed 358 gallons (1356 l) per hour at an 11 inch (28cm) level differential.

4.2.4 Test Failure

All steps in the ATP involving equipment operation or data verification must pass their acceptance criteria. Failures must be recorded in the exception log (Appendix I) and in the Test Log (Appendix E) and an ATP exception page (Appendix J). The Test Engineer will decide whether to continue with the ATP in the event ATP steps fail.

4.2.5 Test Log

A narrative log (Appendix E) of testing activities is to be maintained by the Test Engineer. Page numbers and date shall be entered as new pages are added. Each added page will be stamped "CONTROL COPY". Black ink shall be used for all entries.

4.2.6 Exceptions

The ATP may not be closed with open exceptions. All exceptions shall be recorded in the exception log. Prior to the close of the ATP each exception is dispositioned. When all exceptions are dispositioned then the ATP may be closed. The ATP does not have to be changed due to the existence of an exception, however a change may be warranted if the exception causes a significant impact, as determined by the Test Director, to the performance of the ATP.

4.2.7 Exception Dispositioning and Closing

Dispositioning of exceptions can be accomplished in one of two ways, clear the exception or change the requirement/procedure. Exceptions are then closed when they have been dispositioned and signed by the Test Director.

4.2.8 Not Used

4.2.9 Signatures

All personnel entering signatures or initials in the ATP must print their name and provide their signature and initials in Appendix C.

4.2.9 Signatures

All personnel entering signatures or initials in the ATP must print their name and provide their signature and initials in Appendix C.

4.2.10 Repeat Testing

If a repeat test is required, additional copies of applicable procedure sections or data sheets of this test procedure may be used. The addition of procedure sections to be used for repeat testing shall be added as Appendix K (Repeat Testing), noted in the test log, and concurred by the SOM.

4.3 PLANT INTERFACE

Refer to J-7#1, para. 8

5.0 PRECAUTIONS

5.1 PERSONNEL SAFETY

5.1.1

Safety rules and information are contained in the Industrial Safety Manual, HC-CM-4-3.

5.1.2

A water safety hazard will exist in the basin where sections of handrails and/or grating have been removed. Temporary handrails shall be installed to guard these openings whenever possible. When the temporary handrails must be removed for equipment installation or when their use is not feasible, a fall restraint/arrest system consisting of a body harness and lanyard connected to a suitable anchor point shall be used by all personnel within six feet (4.9m) of the openings.

5.1.3

All removed handrails, as a result of moving equipment and/or materials in and out of an area, will be in place and inspected at the close of business each day.

5.1.4A

Grating surfaces have a high potential for significant removable contamination levels. Use mechanical means for removing grating; i.e., bolt cutters or chisels. Grinding is not permitted. A pre-designated staging area shall be identified and set up for temporary storage of removed grating.

5.1.4B

Immediately notify the SOM if any personnel injury occurs. If the injury also arrants the need for outside assistance, summon medical aid by phoning 911.

5.1.5

All personnel performing ATP related work shall read and sign the Radiation Work Permit (RWP) for this job. The on-shift Test Engineer shall be responsible for ensuring that this requirement is met.

5.1.6

Pre-job briefings for personnel involved in testing shall be conducted and documented in Appendix D.

5.1.7

Comply with lock and tag requirements, see step 4.2.1.

5.1.8

The Ultrasonic Level Detectors (USLDs) must be handled carefully due to the instrument sensitivity. All hand lifting shall be performed in accordance with WHC-CM-6-4.

6.0 PREREQUISITES

All of the following prerequisites must be completed before any testing is performed in the ATP. Other prerequisites must be completed in each major section and are identified as "Special Prerequisites".

6.1

Verify the test instruments, items 1 through 4 in Appendix A, are within their current calibration cycle and that instruments have been calibrated within the past year. Place all current calibration records in Appendix P.

Don E Craden 13/22/95
Test Engineer Date

J. Tuttle 13-22-95
QC Verify Date

6.2

Check that the basin HVAC and the chilled water recirculating system, are operating within normal operating limits.

[Signature] 13/22/95
Test Engineer Date

6.3

Check that the basin makeup water valves are closed. Notify the Technical PIC if any water additions to the basin are necessary.

W. M. Chan 12-22-95
SOM Date

6.4

Verify communication headphones are available for equipment setup and testing as needed.

N/A W. M. Chan 12/22/95
Test Engineer Date

7.0 GENERAL INSTRUCTIONS

This section provides general requirements that apply during the entire ATP performance. All Test Engineers and Test Performers must read this section prior to performing any ATP testing.

7.1 INSTRUCTIONS

7.1.1

An exception shall be logged for any step not meeting the requirements of the ATP. An exception number must be obtained and a short description entered in the exception log in Appendix I.

7.1.2

Each section is performed sequentially. The Test Engineer has authority to perform major sections out of sequence (without an ATP change) provided:

1. The "Special Prerequisites" in that section are completed.
2. Performing the section out of sequence will not adversely impact any unfinished (previous or subsequent) sections or adversely impact the ATP performance schedule.
3. The section does not bypass basic equipment control and interlock tests (related to the section) performed in previous sections.
4. Concurrence from the Technical PIC and Test Director are obtained and entered into the Test Log.

7.1.3

The Test Engineer signoff of test steps certify that direct observation or inspection has been made or that a report was received from test personnel signifying that the step was performed.

7.1.4

Prior to the start of any work performed under this ATP, a pre-job briefing will be conducted. The meeting shall be chaired by the Technical PIC. At a minimum, the following topics will be discussed at the meeting. For each pre-job briefing, Appendix D will be filled out.

- a. Expected testing to occur on shift.
- b. Special safety concerns, including lifting precautions and water safety
- c. General plant and ATP status
- d. Review of the RWP

7.1.5

A test logbook will be maintained by the Test Engineer. The Test Engineer shall be the designated logbook custodian. All pertinent observations, off-normal events, sketches, photographs, etc., shall be logged. All logged entries shall be signed and dated in black ink. Additional notes or entries relating to a procedure data sheet entry field or information shall be adequately referenced to the appropriate section of this procedure.

8.0 TEST EQUIPMENT INSTALLATION TEST 1

This section provides installation instructions for the test equipment needed to establish the basin baseline water loss rate prior to isolation barrier installation.

8.1 SPECIAL PREREQUISITES

8.1.1

Prior to Basin area entrance, all parts per Appendix A are assembled and ready for basin entry. Cables may be placed in plastic sleeving to facilitate release from the the basin.

8.1.2

If other work packages have not previously removed the necessary grating, shown of Figure 9 for equipment installation, grating will be removed by this package.

NOTE: No special tools are required to install the thermocouples (TCs), USLDs, or Vernier Evaporation Detector (VED).

When all prerequisites are completed then sign below.

[Signature] / 3/21/95
Test Engineer Date

8.2 INSTRUCTIONS

8.2.1

With the craft, Test Engineer, Fluid System Engineer and a Health Physics Technician (HPT) supervisor determine the best location for installation of the TCs, USLDs and VED equipment and cables. Refer to Figure 2 and Figure 9 for areas of installation. Mark figures 2 and 9 with actual locations of instrument installation and grating removal locations if different from those shown. See Section 5.1 specific to grating removal and handrails.

[Signature] / 12/22/94
Test Engineer Date

8.2.2

Remove any necessary grating see Section 5.1 specific to grating removal and handrails. Install TCs in basin approximately six inches (15cm) in the water. Install TCs in the discharge chute approximately thirteen inches (33cm) in the water. Field route all TC wiring over the building inter-structure to the data logger location. Refer to Figure 4 for typical TC mounting.

Thermocouples mounted on 12/22/94. DISCHARGE CHUTE WIRES ARE 5
ARC FIELD ROUTED. FIVE REMAINING WIRES WILL BE ROUTED
TUES 12/27/94
IN THE A.M.
[Signature]
TEST DIRECTOR

[Signature] / 12-29-94
Craft Date

Grating placed in temporary storage

NA [Signature] / 12-29-94
HPT No grating removed. Date

8.2.3

The configuration of the four basin ventilation fans must not be changed during the Sections 8, 9 and 10 of this procedure. If circumstances require a change, notify the Test Engineer immediately.

W W Chan / 3-22-95
SOM Date

8.2.4

Measure the air velocity in the basin, in feet per minute, at the air/water interface, close to the water surface, and at the locations shown on the map of Figure 8. Record each velocity at the 45° points around the compass; i.e., N, NW, W, etc. in Appendix M. Record below the status of the four ventilation fans during these readings by circling the correct status.

South 6 ON / OFF North ON / OFF West 10 ON / OFF East 11 ON / OFF

Robert K. ... / 11-18-95
Ventilation and Balance Group Date
3/22/95 RV-10 is on [Signature]

8.2.5

Remove any necessary grating see Section 5.1 specific to grating removal and handrails. Mount USDL and stilling well as shown in Figure 3 approximately fourteen inches (36cm) for the basin and between two (5cm) and fourteen inches (36cm) for the discharge chute. Field route and secure USDL wire to floor to the locations specified in Figure 1.

Mark Peterson / 3/22/95
Craft Date

Grating placed in temporary storage

Sammy Ritchie / 3-22-95
HPT Date

8.2.6

Place the VED/Instrumentation stand on the grating as shown in Figure 1. Power the instrumentation by plugging the power strip into nearest H-18 115V AC outlet. Make sure the heater and cooler are plugged into two separate circuits to equalize the current load.

Mark Peterson / 3/22/95
Craft Date

8.2.7

Wire instruments to data logger as shown in Figure 5. Block diagram and schematic of instrument loops are shown on Figure 6 and 7.

Mark Peterman 3/22/95
Craft Date

8.2.8

Install data computer in a convenient location outside the basin. Contact SOM for this location.

W. J. Allen 13/22/95
Test Engineer Date

9.0 TEST EQUIPMENT SETUP TEST 1

This section provides the Fluid System Engineer the opportunity to properly setup the test equipment in preparation for Test 1. Appendix B provides a list of signals and the required sample rate.

9.1 SPECIAL PREREQUISITES

None

9.2 INSTRUCTIONS

9.2.1

Verify each sensor is being sent to the Automated Data Acquisition System (ADAS). Each sensor/instrument shall be tested back to the computer, one at a time. Verify that all readings from the ADAS to the computer are reasonable.

W. J. Cradock 13/22/95
Fluid System Eng. Date

J. T. Tiede 13-23-95
QC/Verify Date

9.2.2

Verify the data logging software is loaded and ready for start of Test 1.

RJ Craden / 13/22/95
Fluid System Eng. Date

10.0 LEAK TEST 1 "SETUP VERIFICATION"

10.1 SPECIAL PREREQUISITES

10.1.1

Verify the ADAS, VED, USLDs and computer have been operating for at least the past two hours.

10.1.2

Check that there has been no unplanned water additions to the basin within the past 4 hours prior to the start of ADAS data collection.

10.1.3

Check that the basin ventilation fans are configured the same as for step 8.2.4. If not, contact operations to set the fans to this configuration. If this is not possible re-perform the velocity measurements per step 8.2.4 and record the new configuration.

South 6 ON / OFF North 7 ON / OFF West 10 ON / OFF East 11 ON / OFF

When all prerequisites are completed then sign below.

RJ Craden / 13/22/95
Test Engineer Date

Basin Vent Fans were same as above, except Fan 10 was off during acceptance test. Baseline test was re-performed 4/18/95 - 4/19/95 w/ Fan 10 off. RJ Craden 4/19/95

10.2 INSTRUCTIONS

10.2.1

To establish basin leak rate baseline, start ADAS data collection. Run test for at least 8 hours.

Start Time 03/22/95 1906 / 3-22-95

End Time 0800 / 3-23-95

RJ Craden / 13/22/95
Test Engineer Date

10.2.2

At the computer for the duration of this test, at 60 minute intervals, check VED water temperature against the averaged water temperature from TCs, T-1 through T-5, in the basin and record in Appendix N. From this data verify that the VED temperature is held within $\pm 2^{\circ}\text{F}$ (3.6°C) of the basin's temperature. If necessary adjust the temperature of the VED water (in the basin) to match that of the basin and record all corrections in Appendix N.

[Signature] / 3/28/95
Test Engineer Date

10.2.3

Basin baseline leak rate established, data collection complete.

20 on 5 Cracks / 3/23/95
Fluid System Eng. Date

10.2.4

Remove any equipment or cables that may interfere with the barrier installation. Record in the Test Log all items affected.

[Signature] / 3/23/95
Test Engineer Date

10.2.5

Suspend testing until isolation barriers are installed.

[Signature] / 3/23/95
Test Engineer Date

11.0 TEST EQUIPMENT INSTALLATION TEST 2

This section provides instructions for the reinstallation or repositioning of test equipment that may have been moved during the barrier installation. An "N/A" will be used to indicate step that are not required as the equipment has not been affected.

11.1 SPECIAL PREREQUISITES

11.1.1

Prior to Basin area entrance, all parts per Appendix A are assembled and ready for basin entry.

11.1.2

Verify that a Process Change Authorization (PCA) has been issued which allows the Discharge Chute to be drawn down to the 14'-11" level.

11.1.3

Verify that the high and low cooling pool water level monitoring equipment is in current calibration. (This was performed by 1K-94-00494, installation of new level monitoring equipment, October 3, 1994.)

11.1.4

Verify System Surveillance Procedure, SSP-W07-016, which functionally tests the cooling pool level alarms, has been completed.

11.1.5

At the initiation of the Discharge Chute drawdown, the respective starting water levels of the Discharge Chute and the Basin should be within 1 inch of each other.

11.1.6

Remove the relays of the Discharge Chute's low level alarms.

NA [Signature] 14/17/95
WHC Electrician Date

NOTE: No special tools are required to install the TCs, USLDs, or VED.

When all prerequisites are completed then sign below.

[Signature] 14/17/95
Test Engineer Date

11.2 INSTRUCTIONS

11.2.1

Remove any necessary grating see Section 5.1 specific to grating removal and handrails. Reinstall any TC that may have been removed for barrier installation. Reinstall TCs in basin approximately six inches (15cm) in the water. Reinstall TCs in the discharge chute approximately thirteen inches (33cm) in the water. Field route all TC wiring over the building inter-structure to the data logger location. Refer to Figure 4 for typical TC mounting.

Paul Marshall 4-13-95
 Craft Date

Grating placed in temporary storage

NA HPT 4/13/95
 HPT Date

11.2.2

Remove any necessary grating see Section 5.1 specific to grating removal and handrails. Re-mount, if necessary, the USDL and stilling well as shown in Figure 3 approximately fourteen inches (36cm) for the basin and between two (5cm) and fourteen inches (36cm) for the discharge chute. Field route and secure USLD wire to floor to the locations specified in Figure 1.

Paul Marshall 4-17-95
 Craft Date

Grating placed in temporary storage

DA Browning 4-17-95
 HPT Date

11.2.3

If moved or repositioned, place the VED/Instrumentation stand on the grating as shown in Figure 1. Power the instrumentation by plugging the power strip into nearest H-18 115V AC outlet. Make sure the heater and cooler are plugged into two separate circuits to equalize the current load. Note that the VED equipment is on the grating and not in the basin water.

Paul Marshall 4-17-95
 Craft Date

11.2.4

Rewire, as necessary, the instruments to data logger as shown in Figure 5. Block diagram and schematic of instrument loops are shown on Figure 6 and 7.

[Signature] 14-17-95
Craft Date

11.2.5

If necessary, remove grating per Figure 9 and install the discharge chute water transfer pump assembly, item 20, Appendix A. Secure both inlet and discharge hose to prevent hose movement during pump operation. Inlet hoses shall be no deeper than six feet (1.8m) to assure no sludge is pumped. Discharge hose shall be at least three feet (0.9m) under the water. Suction hose will be located just to the right of the discharge chute and the discharge hose on the basin side away from the work area. The air line discharge hose shall be above the water, pointed toward the water and secured to prevent it spraying.

* Per previous install & sign-off on 03/31/95 by Larry Stubben & Kerl

Grating placed in temporary storage.

[Signature] 4/17/95
Craft Date

NA HP 4/17/95
HPT Date

11.2.6

Verify that an Alpha and Beta continuous air monitors (CAMs) are in place and in service in the immediate vicinity of the discharge chute. Verify also the pump and associated air/water hoses are configured in such a manner as to reduce the radiological consequences of a liquid spill. Verify the emergency air shutoff valve on the transfer pump is within easy access to the operator.

[Signature] 14-17-95
HPT Supervisor Date

11.2.7

Adjust air regulator valve supply to transfer pump to less than 80 psig. Perform a short test run of the discharge chute water transfer pump to the basin by slowly opening the inlet air supply valve. Monitor discharge hose to assure hose is secured properly. Stop pumping if any problem are found. Ensure that water from the discharge chute can be pumped to the basin without any difficulties. Test the emergency air isolation valve for satisfactory operation.

Pump tested sat. Cont'd pumping

[Signature] 4/17/95
Operations Date

11.2.8

Reinstall data computer (shown in Figure 6) in a convenient location outside the basin. Contact SOM for this location.

W. Hulse 14/17/95
 Test Engineer Date

12.0 TEST EQUIPMENT SETUP TEST 2

This section provides the instructions to properly setup the test equipment in preparation for Test 2, isolation barrier leak rate determination.

12.1 SPECIAL PREREQUISITES

None

12.2 INSTRUCTIONS

12.2.1

Verify each sensor is being sent to the ADAS. Each sensor/instrument shall be tested back to the computer, one at a time. Verify that all readings from the ADAS to the computer are reasonable.

P. G. Cracker 14/17/95
 Fluid System Eng. Date

J. Tuttle 14-17-95
 Verify Date

12.2.2

Verify the data logging software is loaded and ready for start of Test 2.

P. G. Cracker 14/17/95
 Fluid System Eng. Date

13.0 TEST 2 "BARRIER LEAK RATE TEST"

This section provides instructions for actual barrier leak rate after isolation barrier installation.

13.1 SPECIAL PREREQUISITES

13.1.1

Verify the ADAS, VED, USLDs and the computer have been operating for at least the past two hours.

13.1.2

Check that there has been no unplanned water additions to the basin within the past 4 hours prior to the start of ADAS data collection.

13.1.3

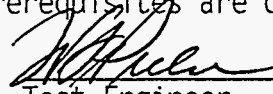
Check that the basin ventilation fans are configured the same as for step 8.2.4. If not, contact operations to set the fans to this configuration. If this is not possible re-perform the velocity measurements per step 8.2.4 and record the new configuration.

South 6 / OFF North 7 / OFF West 10 ON / OFF East 11 / OFF

13.1.4

Check with the SOM that the installation of the isolation barrier is complete and seals are ready for testing.

When all prerequisites are completed then sign below.

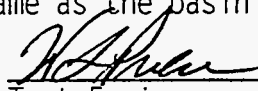


Test Engineer 4/17/95
Date

13.2 INSTRUCTIONS

13.2.1

Approximately one hour before this test is started, adjust the VED's water temperature setpoint to the same as the basin water temperature.



Test Engineer 4/17/95
Date

13.2.2

Install weighted draped plastic to cover the portion of the discharge chute wall that will be exposed to air, as completely as practical, to preclude emissions from the wall during drawdown. With K-Basins Operations and Engineering concurrence, the Test Director may specify an alternate method to cover the exposed Discharge Chute wall if it will provide equal or superior protection than the weighted plastic curtains. Operations, Engineering and other technical staff agreed on 2/21/95 that the concrete surfaces (as complete as possible) bared in the Discharge Chute would be wetted down every 4 hours during the course of the test. Concurrence with this position was obtained from the Dept. of Health, State of Washington. Date and times will be recorded in the Test Engineer's logbook (for the wetting of concrete surfaces).

P. Shedy / 4/18/95
Operations Date

13.2.3

Start ADAS data collection.

N. Pulse / 4/17/95
Test Engineer Date

13.2.4

For the duration of this test, at 60 minute intervals, check VED water temperature against the averaged water temperature from TCs, T-1 through T-5, in the basin and record in Appendix O. From this data verify that the VED temperature is held within $\pm 2^{\circ}\text{F}$ (3.6°C) of the basin's temperature. If necessary adjust the temperature of the VED water to match that of the basin and record all corrections in Appendix O.

N. Pulse / 4/18/95
Test Engineer Date

13.2.5

Recheck air inlet regulator to transfer pump is set to less than 80 psig. Pump water from the discharge chute to reach a differential water level between the discharge chute and the basin of between 11 (28cm) and 12 (30.5cm) inches by slowly opening the inlet air supply valve. Monitor discharge hose to assure hose is secured properly. Stop pumping if any problem are found. Carefully monitor both levels to keep within the OSR limits and to keep the water seal on the banana wall. Any variance outside the 11 (28cm) to 12 (30.5cm) inch range must be approved by the SOM and Fluid System Eng. for the potential impact to the OSR, water seal and the test data.

B.A. G. G. G. / 4/17/95
Operations Date

13.2.6

Once the desired differential level is reached stop pumping and vent the transfer line to prevent water siphoning from the higher basin water level to the lower discharge chute level.

Don Bouzon / 4-19-95
Operations Date

NOTE: If discharge chute water level rises, more than desired in the first portion of testing, inform the SOM. A 3/8 inch (0.95cm) per hour rise in discharge chute level indicates a failed leak test. It is permissible to continue with or repeat the data run before suspending the test. Once corrective action has been taken, outside this procedure, this procedure may be unsuspending and the test repeated. Entries into the Test Log for suspension, unsuspending and an brief account of work performed on the seals, during suspension, shall be included in the Test Log.

NOTE: Repeating of the data run can be performed at any time as long as both Sections 12.0 and 13.0 are repeated per step 4.2.10.

13.2.7

Perform Basin Isolation Barrier leakage test for at least 24 hours. Record the information below.

		Basin	Discharge Chute
Start Time	<u>1536 / 4-17-95</u>	<u>493.058*</u>	<u>198673*</u>
End Time	<u>1536 / 4-18-95</u>	<u>2.229</u>	<u>10.233</u>

H. P. Miller / 4/18/95
Test Engineer Date

J. Titte / 4-19-95
QC/Verify Date

Don Cracker / 4/18/95
Fluid Systems Eng. Date

13.2.8

ACCEPTANCE LEAK RATE

Determine the Acceptance Leak Rate(Q) at the final basin to discharge chute level differential(ΔH_f). This represents the lowest leak rate based on differential head, during the 24 hour test period. From Appendix Q, find the Acceptance Leak Rate(Q) at the final basin to discharge chute level differential(ΔH_f). Record the value of the Acceptance Leak Rate(Q) ~~35840~~ ¹⁷⁹ gph ~~Bank on safe limits of 150 gph.~~ ^{4/18/95} ~~4/21/95~~

ESTIMATED OBSERVED LEAK RATE

From the observed basin level drop determine the estimated average 24 hour leak rate. Observed Leak Rate = actual level drop in basin 0.0691 feet times 8880 ft² times 7.48 gal/ft³ divided by 24 hours. Estimated Observed Leak Rate = 191 gph. Plot this value on Appendix S graph.

EVALUATION

If the Estimated Observed Leak Rate is below the Acceptance Leak Rate(Q) by at least 7 gph, below the lower line on Appendix S, the isolation barriers passes the acceptance test. If not, perform the detailed calculation per step 13.2.9. Indicate below that the test passed or failed the rough calculation.

NOTE: The 7 gph buffer is based on instrument error. (see Appendix S).

Leak test ~~PASSED~~ / FAILED rough calculation.

[Signature] / 4/18/95
Test Engineer Date

[Signature] / 4/18/95
Fluid Systems Eng. Date

13.2.9

If step 13.2.8 did not pass the acceptance criteria immediately perform the detailed analysis of the leak rate to determine if the barriers leak rate is acceptable. If step 13.2.8 did indicate that the barriers passed the acceptance criteria, this step can be performed after Section 14.0, Test Equipment Removal. Write "skipped" in the space below to indicate that this step will be performed after Section 14.0. Record the calculated Leak Rate(L) extrapolated to the 16 foot (4.9m) level differential, the measured Evaporation Rate(E) and Observed Level Change(T) below. Note: The acceptance criteria for this test is 750gph at 16 ft.

Extrapolated Leak Rate 1125 gph
(must be less than 750 gph)

[Signature] / 4/24/95
Test Engineer Date

[Signature] / 4/24/95
Fluid Systems Eng. Date

13.2.10

Once the leak is determined to be acceptable; i.e., test is completed, restore level in the discharge chute by reversing the hoses on the transfer pump. Pump water from basin back into the discharge chute to the desired level.

[Signature] / 4-18-95
Operations Date

13.2.11

When pumping water from the Main Basin to the Discharge Chute by reversing hoses on the pump, the Discharge Chute level may be raised up to 16'-3" to allow engineering investigations. This will result in a drop of the Main Basin of up to 0.4" which is within the normal control span of the Main Basin. After completion of the drawdown, respective levels will be restored to within one inch or verification shall be made that equalization is occurring through the current hydraulic connection.

Level restored OR Equalization verified

Appropriate mechanism shall be circled and time and date indicated by Test Engineer.

N/A. [Signature] / _____ / 4/19/95
Test Engineer Time Date

13.3 KW DISCHARGE CHUTE LEAK LOCATION AND VERIFICATION

PROCEDURE

1. The video system is operating.
2. Nine weighted cords prepared, and six weighted cords placed per engineering direction (three cords are for backup).

NOTE: The cords will have 5-inch strips of surveyor's tapes in alternating colors at 6-inch intervals for a distance of 16 feet. Three additional cord shall be prepared with a 6-inch flag located 1-inch from the weighted end.
3. Individuals with the single flag string are available to make measurements at various heights or locations per engineering direction. Also fixed cords may be moved after recording their relevant flow indication.
4. RCTs will be available to establish radiological conditions for relocation or disposal of the weighted cords.
5. Establish a driving head per the "Test 2 'Barrier Leak Rate Test'" section of the 105-KW Acceptance Test Procedure [WHC-SD-SNF-ATP-004 (rev. 0), section 13].
6. Visually, and with the video camera, record the flag locations that give flow indications.
7. All recorded indications must be documented by signature including location (east or west door); east, west or bottom of door elevations; and strong, moderate or light flow indication.
8. This procedure may be repeated as many times as necessary to support leak location and verification efforts.
9. To check potential leak sites, an additional test method will consist of attaching a light plastic bag to the end of a pole, and positioning the plastic bag at suspect points on the Basin side of the isolation barriers. Water passage from the Basin side into the Discharge Chute will suck the light plastic bag toward the leak site, and more closely pinpoint the site.

14.0 TEST EQUIPMENT REMOVAL

14.1 SPECIAL PREREQUISITES

14.1.1

For the instruments and tubing that has been in the water special handling will be required. All removal of such items must to done with the HPT present.

14.1.2

Contact the SOM to verify that an area has been set up with the necessary equipment to accommodate the used plastic drapes.

14.2 INSTRUCTIONS

14.2.1

With the HPT present, remove the test instruments as listed below. Bag all items, with exception of the plastic drapes, coming from water for transport to K Basin West.

- ~~5 TCs (in water) *MP 4/19/95*~~
- 2 USLD stilling well (in water) — *contaminated → red waste*
- 2 USLD detectors (near water)
- 1 VED and instruments on table (on grating)
- Data logger and associated equipment (on grating)
- Instrument cables
- Computer and equipment (outside basin)
- Communication equipment used for test
- Associated material used for test (inside and outside basin)

All test equipment and associated material, except plastic drapes, have been removed.

*Mat'l has been released
except as noted above.*

MP

Test Engineer *4/19/95*
Date

MP 4/19/95

14.2.2

Remove plastic drapes hung along wall of discharge chute and dispose.

N/A
No drapes used, as per section 13.2.2
Operations 14/19/95
Date

NOTE: Grating and handrails will be re-installed by work package 1K-94-686W.

14.2.3

Perform a post-test calibration check on the USLDs, data logger and the VED. Document any deviation and determine significant, if any, to the reported leak rate. If a deviation is found, inform the K Basin Mechanical Design Manager for any required additional action. Document any effects in Acceptance Test Report (ATR). Note that the TCs are not being re-checked due to redundance and minimal potential impact to calculations.

14.2.4

All testing and data analysis per step 13.2.9 have been completed.

Test Director 4/24/95
Date

14.2.5

Re-install the relays of the Discharge Chute's low level alarms.

N/A
WHC Electrician 4/19/95
Date
No alarm relays were removed
W.H.F.P.S.

FIGURE 1 TEST INSTRUMENT TABLE

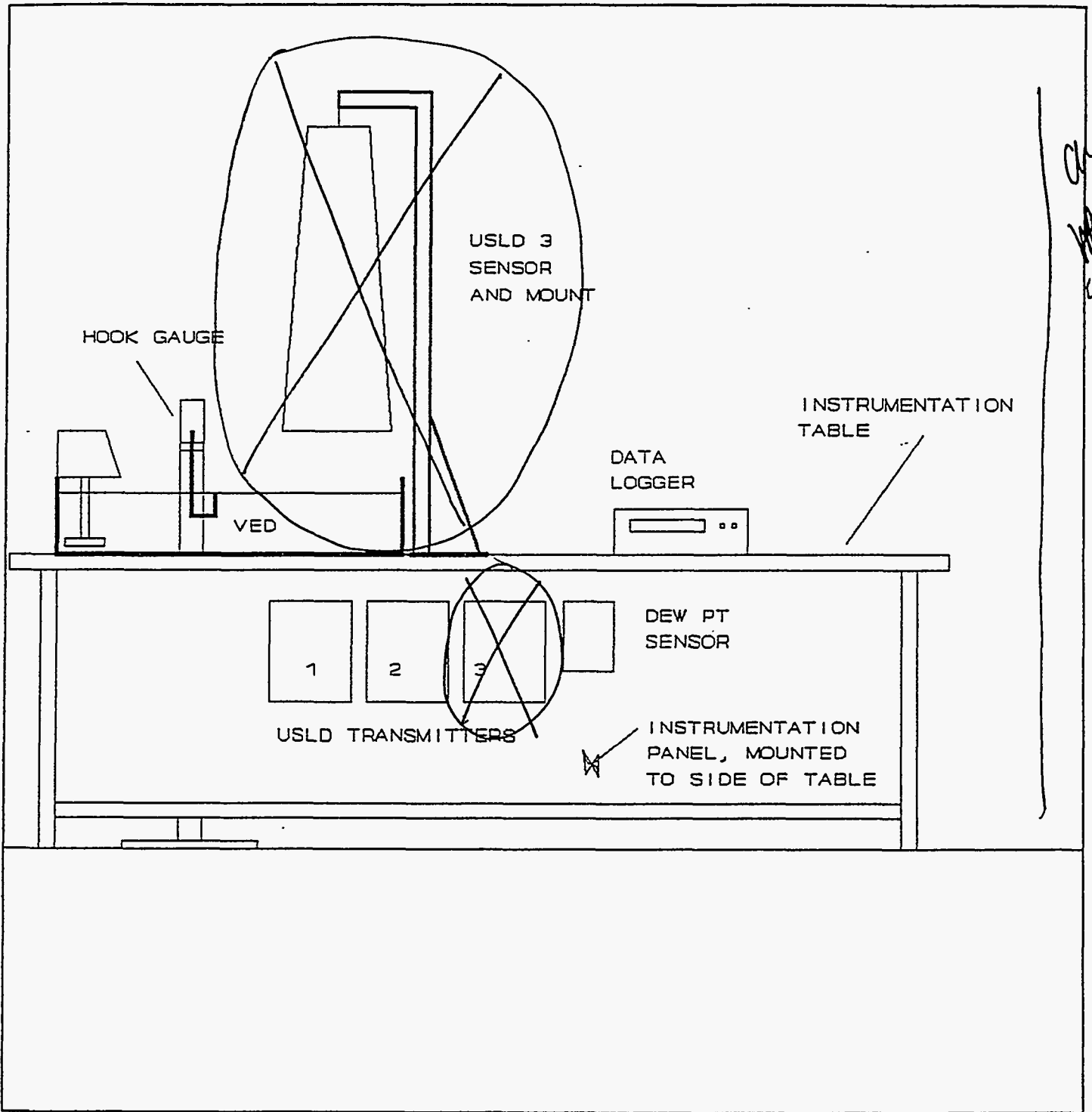


FIGURE 2 TEST INSTRUMENT LOCATION

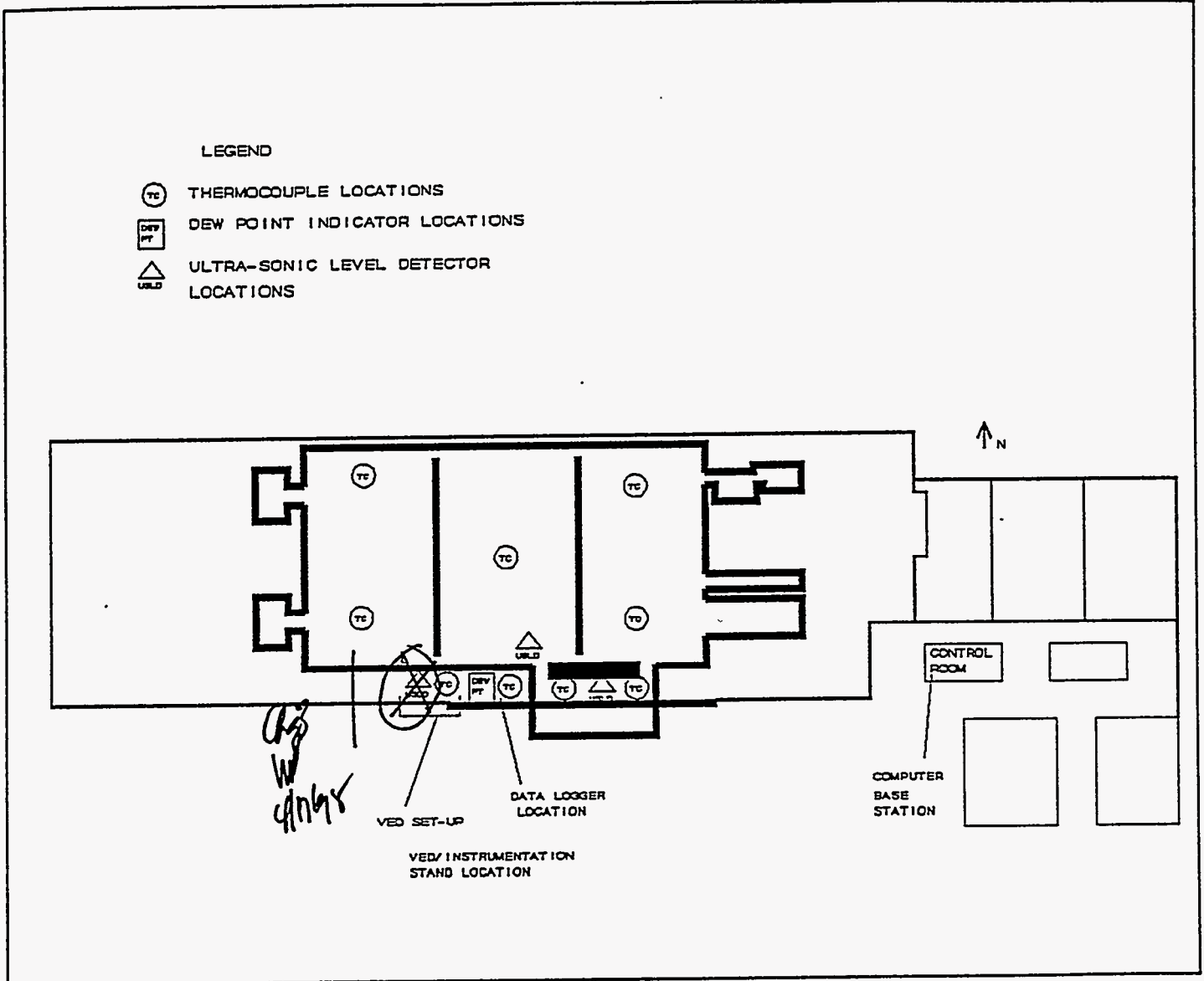


FIGURE 3 USDL AND STILLING WELL MOUNT

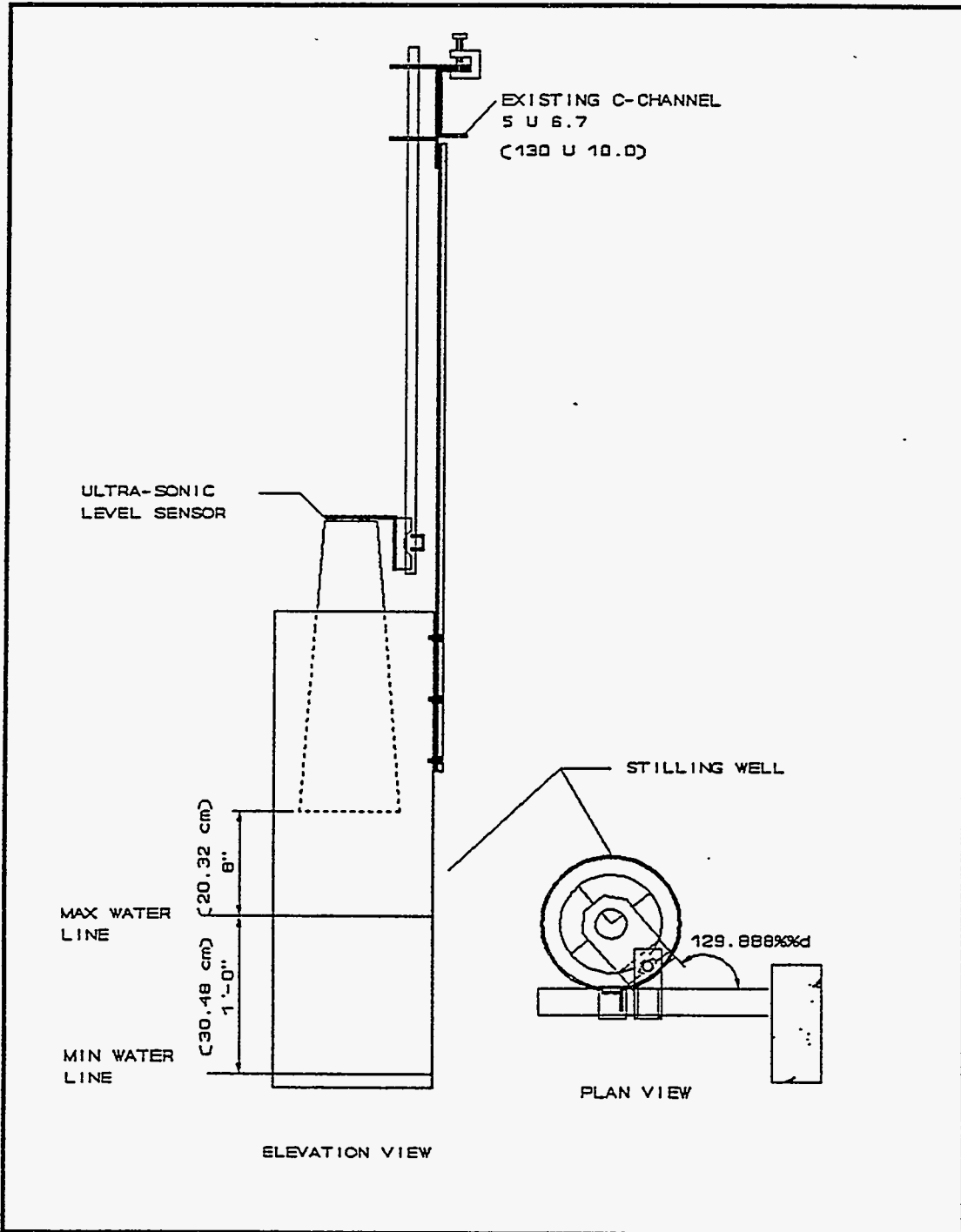


FIGURE 4 TYPICAL THERMOCOUPLE (TCs) MOUNT

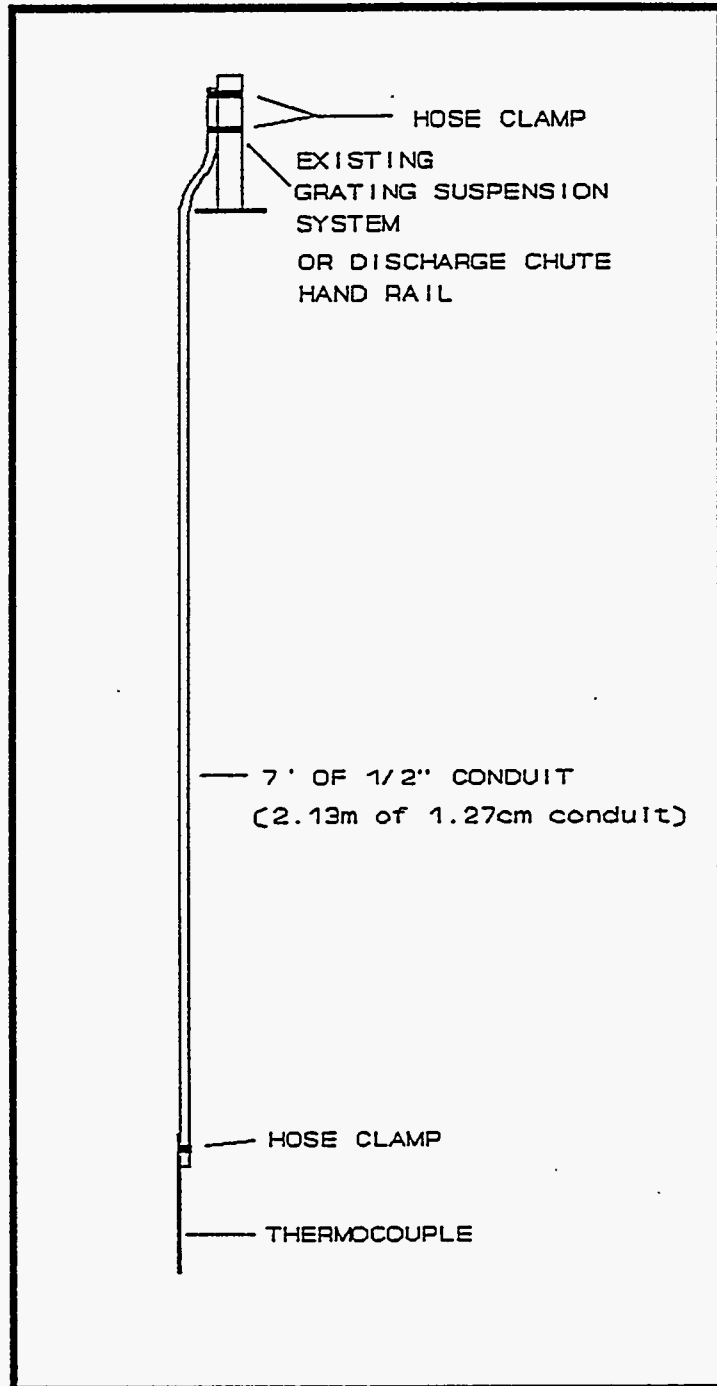


FIGURE 5 DATA LOGGER INPUT WIRING

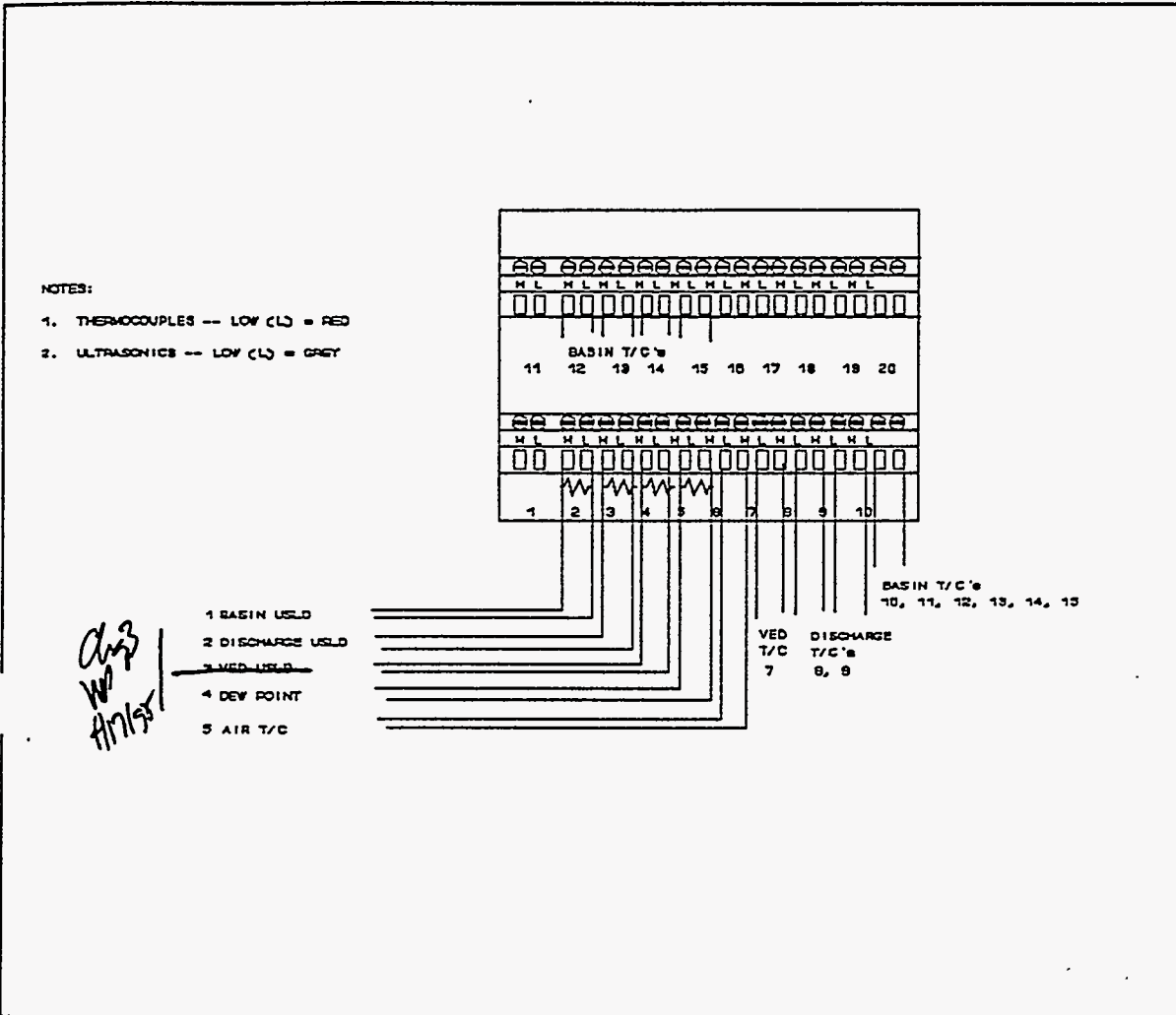


FIGURE 6 TEST INSTRUMENT BLOCK DIAGRAM

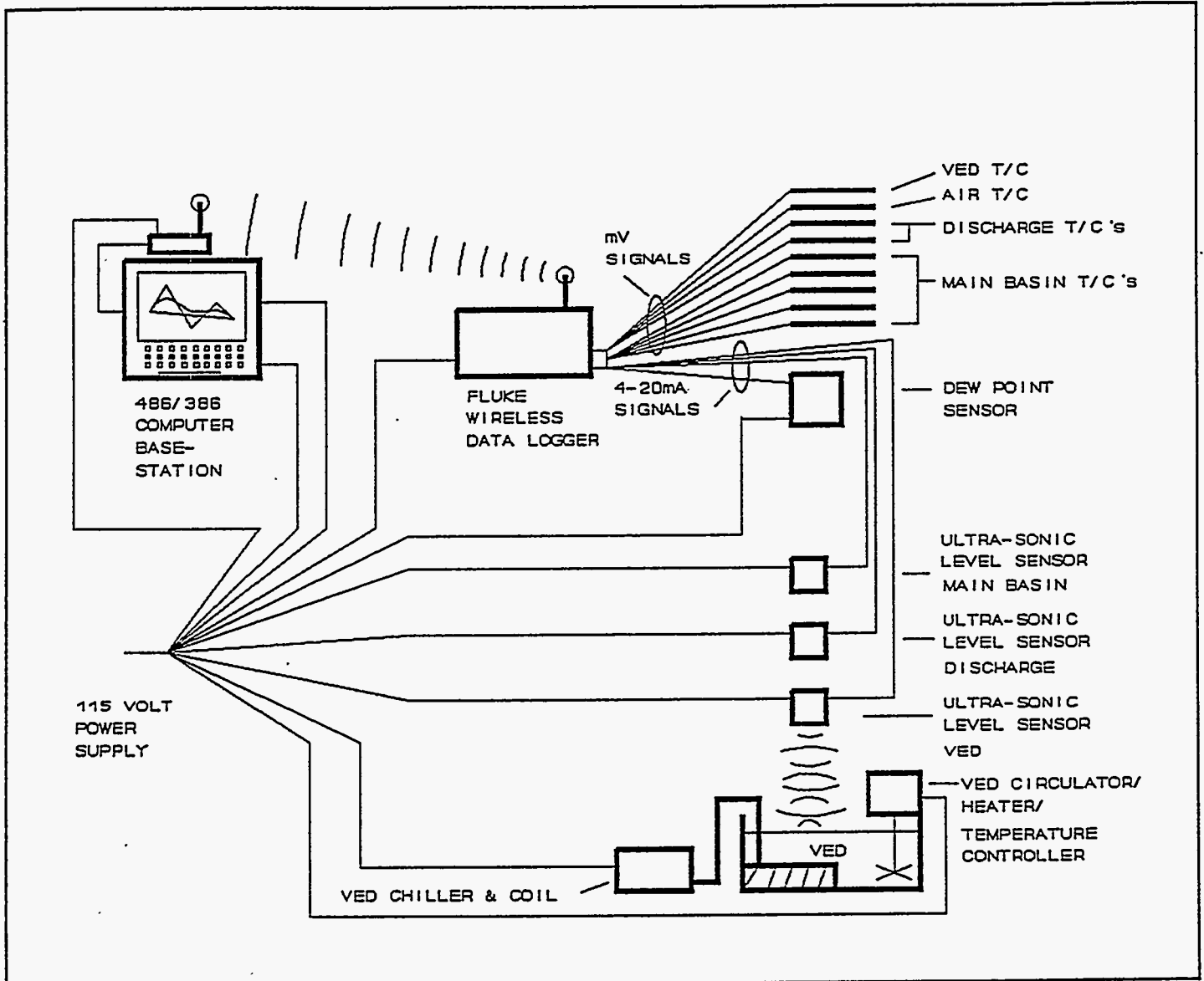


FIGURE 7 TEST INSTRUMENT SCHEMATIC

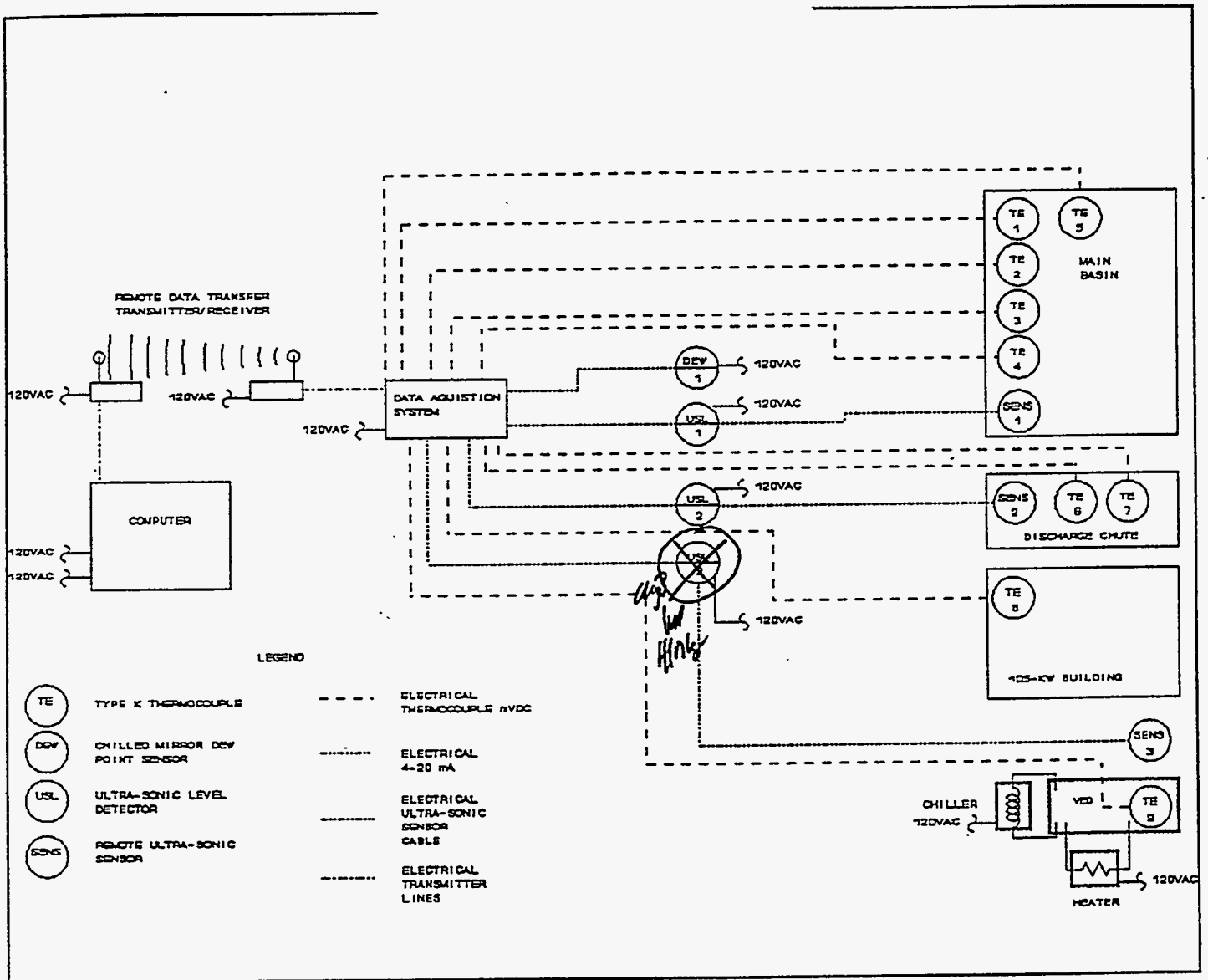


FIGURE 8 AIR VELOCITY READING MAP

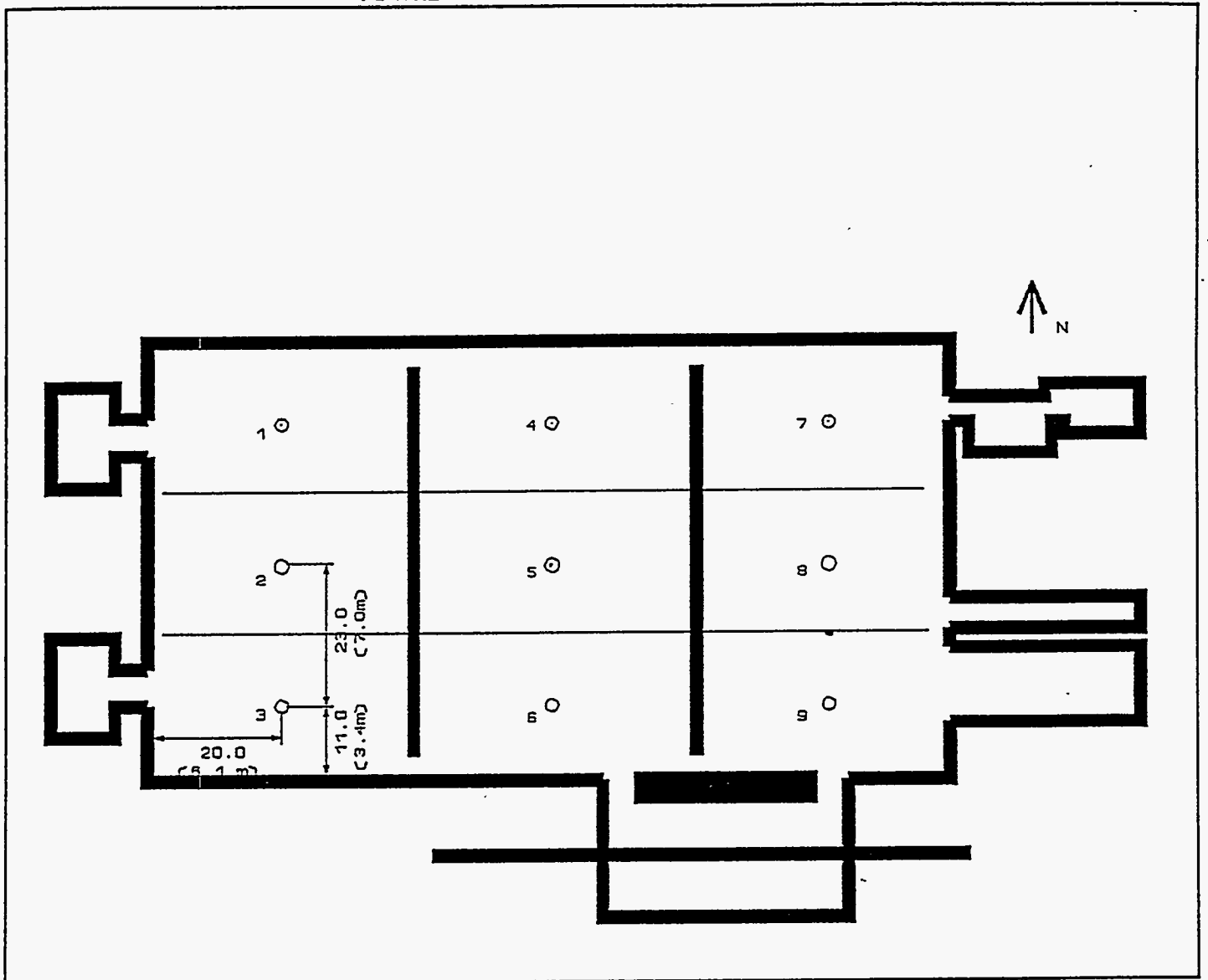
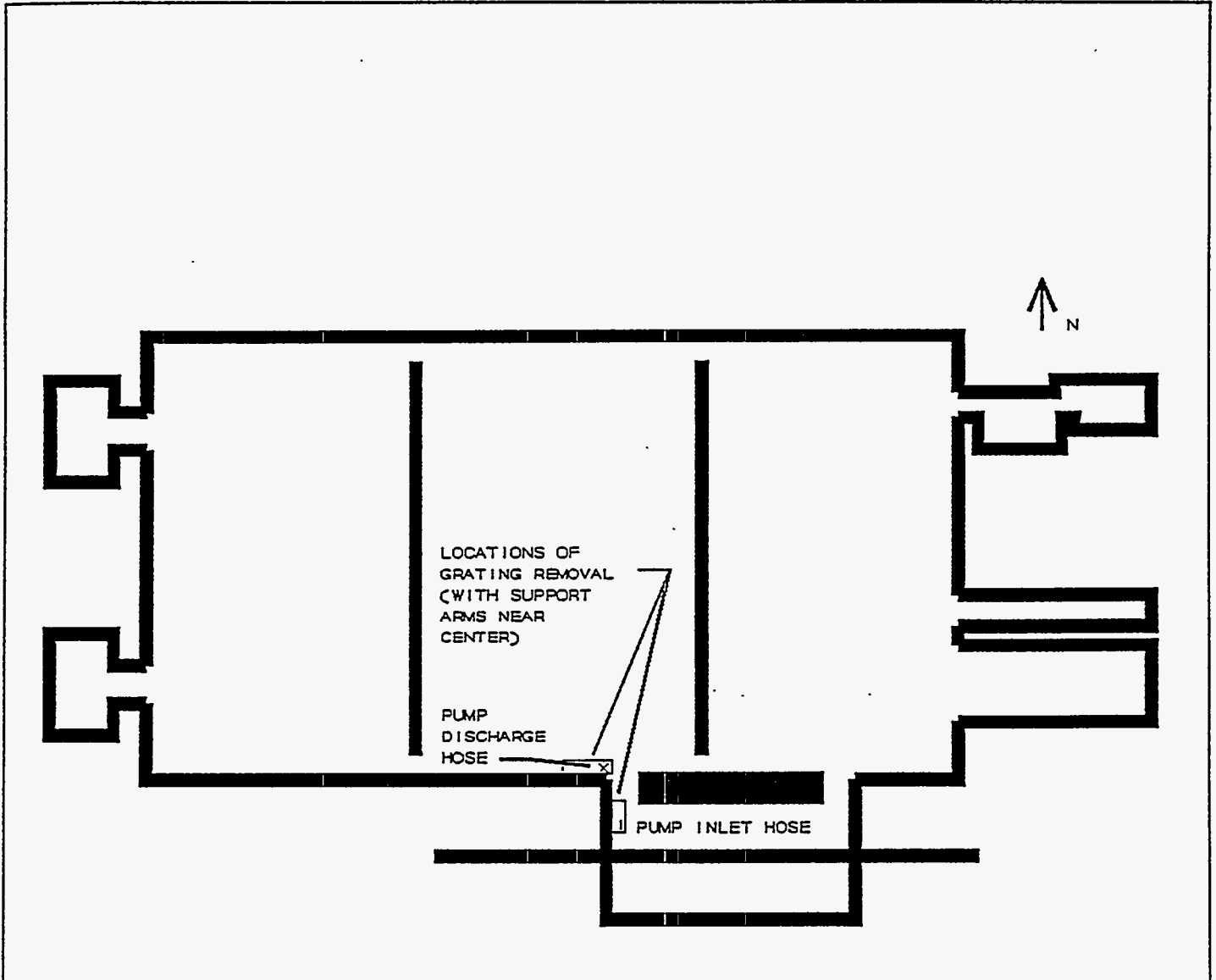


FIGURE 9 GRATING REMOVAL LOCATION



APPENDIX A TEST EQUIPMENT MATERIAL LIST

Item No.	QTY	Description	Spec	Certs Required
1	9	Thermocouple (TC) Heavy duty transition joint probe, type K (chromega-alomega), 304 stainless steel sheath, and 1/16" (1.587mm) outside diameter, grounded junction, 12" (30.5cm) long with stripped ends.	TJ36-CASS-116G-12	NIST
2	1 2	Ultra-sonic Level Detector (USLD) breaks up a 4" (10.2cm) dynamic range into 200 equal segments providing 0.02" (0.5mm) resolution, local level indication, a linear 4-20mA output, and 115V AC input power.	50US3115BBB	NIST
3	1	Dew Point Sensor (DEW) with chilled mirror technology. The dewpoint sensor shall be wall mounted with 115V AC input power and 4-20mA output for the 0 to 100°F range.	DEW-10-2-B-0	NIST
4	1	Automated Data Acquisition System (ADAS) Wireless logger transmitter has capabilities of 20 input channels which will accept TCs, RTD, any 4-20 mA and any voltage inputs.	2625A/WL	NIST
5	1	ADAS Wireless base station receiver modem.	2625A/WL-700	N/A
6	1	386 Computer	WC31297	N/A
7	1	VED bath/circulator. A 30 liter acrylic tank with a 22 3/8" x 18" (56.6cm x 45.7cm) length x width dimensions and a 7" (17.8cm) working depth. The circulator shall have a digital temperature setting, PID temperature controller, platinum 100 Ω RTD, and with a 1000 Watt heater. The operating condition which the bath must simulate is controlling water temperature between 40°F and 85°F within +/- 1°F.	G-12700-40	N/A
8	1	VED chiller. Operating range between -45°F and 104°F with a 8" x 3" (20.3cm x 7.6cm) O.D. immersion probe and environmentally safe refrigerant.	L-01283-70	N/A
9	1	VED/instrumentation table	See Figure 1	N/A
10	3	USLD/stilling well Support Channel Mount	See Figure 3	N/A

Item No.	QTY	Description	Spec	Certs Required
11	6	TC Support Mount	See Figure 4	N/A
12	4	Beam Hanger Clamp	N/A	N/A
13	6	1" (2.54cm) Hose Clamps	N/A	N/A
14	12	8" (20.3cm) Hose Clamps	N/A	N/A
15	4	10 Ω Precision Shunt Resistor \pm 1%	N/A	N/A
16	2000	Type K thermocouple (TC) extension wire	N/A	N/A
17	1	Portable Air Compressor	N/A	N/A
18	2	2" (5.1cm) Non-Collapsible flex hose 10' (3.048m) long	N/A	N/A
19	2	3" (7.6cm) Hose Clamp	N/A	N/A
20	1	Welden air operated diaphragm pump assembly. Includes discharge pressure gauge, air discharge header to direct air into basin, pump platform, 2 inch (5.1cm) suction and discharge hose and air hose as required.	N/A	N/A

APPENDIX B TEST EQUIPMENT SETUP AND DESCRIPTION

INSTRUMENT SETUP

Set the data logging system to sample at one minute intervals on the following data:

- o Date
- o Time
- o Basin Water Temperature from TCs, T-1 through T-5
- o Water Level from Ultra-Sonic Level Sensor Main Basin
USLD-1
- o Water Level from Ultra-Sonic Level Sensor Discharge Chute
USLD-2
- o Dewpoint Temperature
- o VED Water Temperature from T-6
- o ~~VED Water Level from USLD-3~~

ITEM 1 - AUTOMATED DATA ACQUISITION SYSTEM (ADAS) DESCRIPTION

The ADAS, consisting of a data logger, computer base station, data logger transmitter and receiver is the cornerstone of the test instrumentation. All data generated from the tests in this procedure passes through the ADAS. Figures 6 and 7 shows how the ADAS is tied to the test instrumentation.

The transmitter of the ADAS (Fluke Hydra wireless data logger Model 2625A/WL) is a data acquisition tool. This tool converts the millivolt signals from the type K thermocouple, and 4-20mA signals from the dew-point sensors and USLDs to voltage signals, logs them in a buffer changes the data to 8 bits of binary coded decimal information plus one stop bit, and sends the information bits to the base station receiver via a wireless modem. This modem operates the same way as a cellular phone.

The receiver of the Wireless Base Station is another part of the Fluke Hydra Data Acquisition system, model 2625A/WL-700. This receiver is connected to a 386 (or 486) computer through a COM port. At the base station information can be stored in a data file on the hard drive or the data can be viewed, in real time, on the CRT. All of this can be set-up and accomplished by software.

ITEM 2 - VERNIER EVAPORATION DETECTOR (VED) DESCRIPTION

The VED is a thermostatically controlled temperature water bath with an USLD, a refrigerated cooling coil, an electric heater, and a recirculator on the instrumentation stand. The bath/circulator is a Cole-Parmer model G-122700 and the chiller is a Cole Parmer model L-01283-70. A manually adjusted thermostat controls the VED water temperature to any set point. Temperature adjustments impose cooling or heating loads on the cooling coil and the heater.

Under a given set of air conditions and water temperatures evaporation (or condensation) rates can be calculated from the change in water levels per time period. Accordingly, current basin air and water temperatures can be simulated in the VED. With this simulation basin evaporation (or condensation) rates at the basin water surface interface is duplicated in the VED. Multiplying the VED evaporation (or condensation) by the basin/VED surface ratio to results in basin total evaporation (or condensation) rate. The output from the VED to the data logger is a level signal in milliamps generated by the USDL see description below.

ITEM 3 - ULTRA SONIC LEVEL DETECTOR (USLD) DESCRIPTION

The USLDs are located in the following:

- USLD-1 in the basin
- USLD-2 in the Discharge Chute
- ~~USLD-3 mounted on the VED~~

Fisher & Porter 50U3115BBB USLDs are used for detecting water surface levels. A USLD consists of a transducer and a transmitter that employs an ultrasonic beam to detect a level. The transducer contains a crystal, that generates the ultrasonic signal and receives the echo from the water (target) surface. The transmitter unit contains a microprocessor and electronic circuits for level measurement, and compensates for air temperature and humidity changes. The USLD measures the water level over a given span and sends a 4-20 mA dc representation of that span to the data logger.

ITEM 4 - CHILLED MIRROR DEWPOINT INDICATOR DESCRIPTION

The Chilled Mirror Dewpoint Indicator uses moisture sensing technology to measure and display the dewpoint temperature. A thermoelectric cooler chills a condensation detection mirror illuminated by a LED. A photo detector monitors the light from the mirror. A photodetector optically detects the first signs of condensation on the mirror. A separate LED/photodetector pair wired into a sample gas/electrical bridge configuration provides a reference (bias optics). A resistance thermometer detector (RTD) automatically and continuously controls the mirror surface at the temperature where the first sign of condensation temperature is detected. This condensation is the dew point temperature as represented by the 4-20 mA dc signal sent to the data logger.

ITEM 5 - HOT WIRE ANEMOMETER DESCRIPTION

This is a hand held instrument with a local velocity display. A hot wire anemometer uses a very fine heated wire as a RTD. The RTD is heated electrically at a fixed rate and when exposed to the air stream, the temperature difference between the element and the air is a measure of the air velocity.

ITEM 6 - THERMOCOUPLE

The thermocouple arrangement consists of:

- One in the VED water.
- Two in the Discharge Chute water near each of the Isolation Barriers.
- Five in the Basin water.
- One in the Basin air space approximately 8' - 0" above the grating level.

ITEM 7 - TRANSFER PUMP

The Weldon pump is an air-operated, diaphragm pump with a history of use at the K Basins. An emergency shutoff air valve is provided for rapid response to a pump problem. Since a diaphragm leak could lead to potentially radioactive water being sprayed, an air discharge hose was added to direct this water back to the basin. A discharge pressure gauge is provided to give an indication of pump performance. The pump will be mounted on a skid for placement on the grating and for ease of transport.

APPENDIX C SIGNATURE VERIFICATION DATA SHEET

Instructions: Anyone entering their signature or initials in this test procedure must complete the information below.

NAME (PRINT)	POSITION	COMPANY	SIGNATURE	INITIALS	DATE
WILLIAM L. PULSE	TEST ENG	COLUMBIA ENERGY	<i>W. Pulse</i>	WP	4/18/95
KNUTSON R.G	CHIEF V & B Group	WHC	<i>R.G. Knutson</i>	RA	1-18-95
TITTLE J.A	QA ENGR	WHC	<i>J.A. Tittle</i>	JAT	3-23-95
W.H. CHOIS	Shift mgr.	WHC	<i>W.H. Chois</i>	WAC	3-24-95
Robert F Haisitt	Test Eng	Columbia Energy	<i>R. Haisitt</i>	RH	3-30-95
Verna Klippert	Operator	WHC	<i>Verna Klippert</i>	VK	4-3-95
Craig Sperline	Operator	WHC	<i>C. Sperline</i>	C.S.	4-3-95
Tammy DRitchie	Health Physics Tech.	WHC	<i>Tammy DRitchie</i>	JDR	4/5/95
Linda Knowles	Operator	WHC	<i>L. Knowles</i>	LK	4-5-95
KJ MCCRACKEN	FLUID SYSTEMS	KEH	<i>KJ McCracken</i>	KJ	4-5-95
LR STEBBE	SUPERVISOR	KEH	<i>L.R. Stebbe</i>	LS	3/31/95
DT Southerland	RC manager	WHC	<i>D.T. Southerland</i>	TS	4-17-95
D.R. Browning	RCT	WHC	<i>D.R. Browning</i>	DRB	4-17-95
Don BENSON	Operator	WHC	<i>Don Benson</i>	DB	4-17-95
PHILIP SHEET	ASM	WHC	<i>Philip Sheet</i>	PS	4/20/95
BRUCE A. EKSTROM	OPERATOR	WHC	<i>B.A. Ekstrom</i>	BE	4/17/95

APPENDIX D

PRE-JOB BRIEFING ATTENDANCE RECORD

(NOT USED)

APPENDIX E

TEST LOG

DON'T SAY IT --- Write It!

DATE: November 16, 1994

TO: Vent and Balance Technicians

FROM: K.J. McCracken *KJM*

Telephone: 373-6653

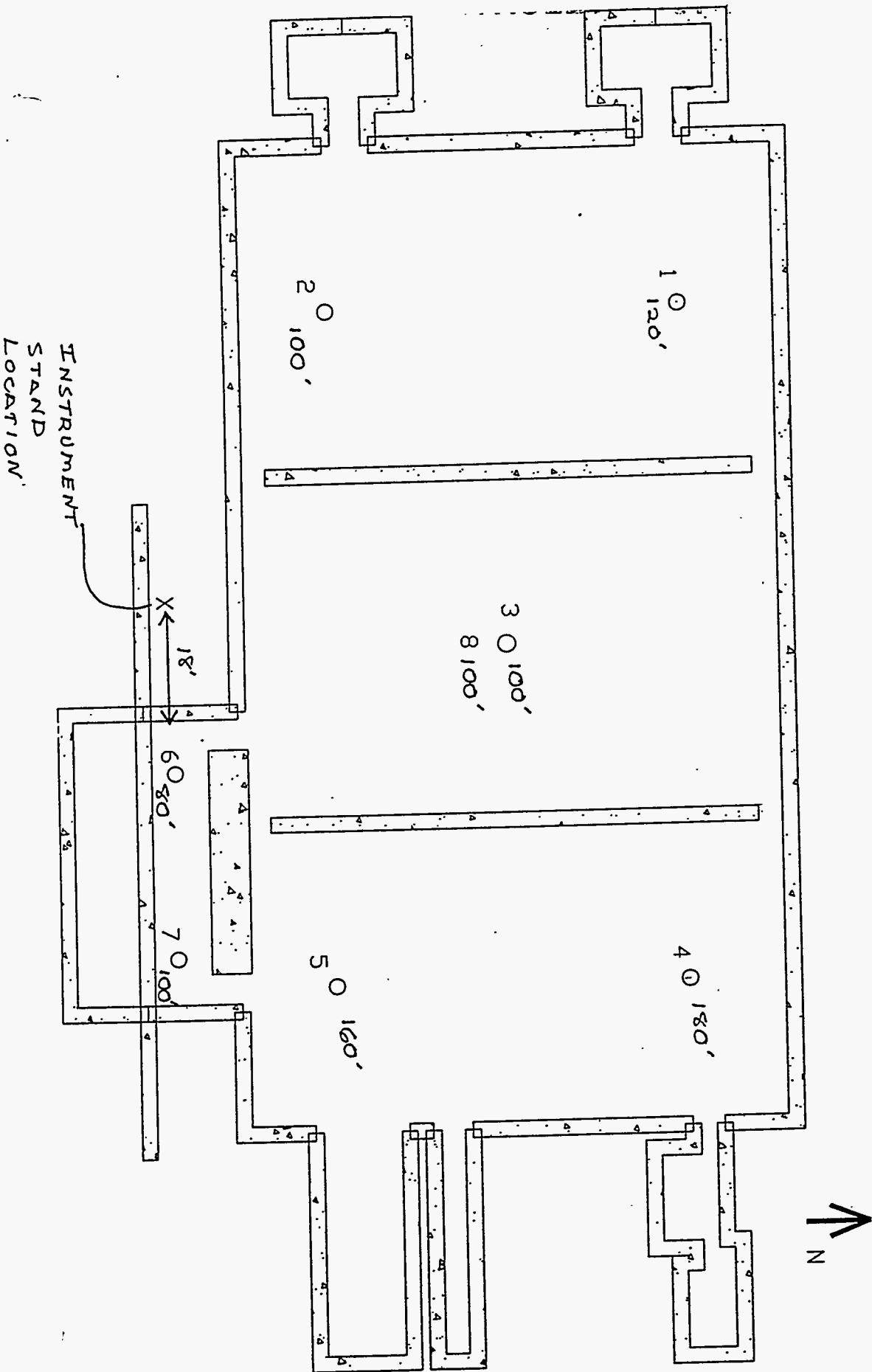
SUBJECT: 105 KW Air Flow Velocity Readings

The air flow velocities are needed throughout the 105 KW basin area. The idea for these measurements is to investigate if the air currents below the grating are different than above the grating. At each designated location in the test procedure, air velocities shall be taken at three different heights: 3' below the grating, at the grating, and 3-4' above the grating.

If there are any questions or additional requirements, please follow Fluid Systems Engineer instructions, as needed.

Thank you.

TC NUMBERS, LOCATIONS & CABLE LENGTHS


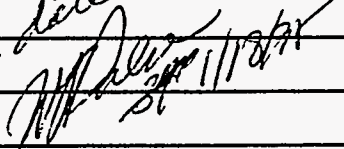


APPENDIX E TEST LOG

ATP TEST LOG PAGE

DATE: 1-18-95

Instructions: Fill in the test log describing all significant events and plant status changes.

Time	Comments
0805	Vent and Balance Team arrives with K. McCracken at KE.
KE 0755	R Warner and W. Pule arrive at KE.
0835	Completed Pre-Job Brief for air velocity measurements in the Basin.
0908	V&B team entering Basin with K. McCracken and Mike from K-Basin Ops.
KE 0810	R. Warner departs.
1005	V&B, K McCracken and Mike (Ops) leave basin. Work completed satisfactory.
1015	All testing personnel departed K Basin. SOM. informed.
	
<p>No further entries this date. </p>	

C -- APPENDIX E TEST LOG

ATP TEST LOG PAGE

DATE: 03/21/95

Instructions: Fill in the test log describing all significant events and plant status changes.

Time	Comments
1430	Entered KE Basin for walkdown of layout near Discharge Chute. Removed piece of grating near South Wall of DC on West side and inside the temporary handrails. <i>W. J. J. 3/21/95</i>
1450	Exited Basin. Test eqpt. from KW arrived. Clean eqpt. put in room 1, and unarranged eqpt. put in room 3.
1530	Personnel depart KE for the day. No further entries this date. <i>W. J. J. 03/21/95</i>
<i>No further entries this date! W. J. J. 3/21/95</i>	

APPENDIX E TEST LOG

ATP TEST LOG PAGE

DATE: 03/22/95

Instructions: Fill in the test log describing all significant events and plant status changes.

Time	Comments
0810	Pu - job completed.
1000	Completed assembly of eqpt. (re-rigging the chiller unit outside the instrument table), awaiting for another electrician (from N)
1100	Entered Basin to stage eqpt. at West end of the DC.
1135	Exited Basin.
1210	Left 105KE (for lunch).
1245	Returned to 104KE.
1300	Mark (KEE Electrician) entered to unstick eqpt.
1310	Spent in stalling well through airlock. Awaiting arrival of Kurt McCreeker for installing the computer at KE.
1430	Personnel out due to Operations/RCT Safety brief at 1500. Difficulty was experienced installing the USD card in the stalling well on the I-beam on the West corner of the Discharge Chute. Must wait until Operation/RCT support is available (~1630) to return and complete the job.
1505	Computer moved from KW to KE, and running satisfactorily.
1715	Personnel entered basin to find wiring of the instrument table.
1900	People out of Basin. Work completed.
1906	Started baseline tests. Initial Vermin reading 85.070°.
1915	Personnel left Basin. No further entries. 3/22/95

ATP TEST LOG PAGE

DATE: 03/23/95

Instructions: Fill in the test log describing all significant events and plant status changes.

Time	Comments
0800	Pre-jobs brief completed. Data collection completed satisfactory.
0825	Data setup QC setup 2/23/95 QC signoff obtained on pre-tests.
0900	Electrician (Mark Peterson) and Data Analyst (Kurt Mc (Markin)) entered Basin to remove eqpt. Fan 10 placed back on service a few weeks ago, so V ₁ b must redo the air flow measurements for all fans on service.
1015	Electrician & laborers exited Basin and then re-entered Basin dressed in rain gear. Current plan is to coordinate move of chut out of the Basin through Conidor 7 Conidor 7. Then move everything to KW.
1120	All personnel out of Basin. Eqpt. stayed at Conidor 7 for removal after lunch.
1300	Personnel enter Basin to move eqpt. to KW.
1430	Eqpt. loaded on truck and sent. to KW KW. No further entries this day. W. Chute
<p>No further entries this day.</p> <p><i>W. Chute</i></p> <p>3/28/95</p>	

APPENDIX E TEST LOG

ATP TEST LOG PAGE

DATE: 3-30-95

Instructions: Fill in the test log describing all significant events and plant status changes.

Time	Comments
16:20	Pre Job brief completed
18:00	Started Pump Installation
18:35	Pump Installation Terminated for evening
	<ol style="list-style-type: none"> 1. Pump has been secured to grating 2. Hoses Attached but not secured or placed in water. Pipe fitter not sure which was inlet and outlet Pdes to secure hoses still outside zone 3. Air line to pump was installed on Manifold

No further entries this day
 Robert [Signature]
 3-30-95

APPENDIX E TEST LOG

ATP TEST LOG PAGE

DATE: 4/3/95

Instructions: Fill in the test log describing all significant events and plant status changes.

Time	Comments
1141	Left basin for after inspecting, eqpt layout and air hose configuration. <i>WHLN 4/3/95</i>
1342	Commenced pumpdown. Install USLD level 11.94", initial electrical (basin) 16' 2 ^{5/8} " ; initial manual (basin) 16' 3 ^{1/2} ". <i>NP 4/3/95</i>
1502	Secured pumpdown. USLD level = 1.92" ; Level after venting hoses 1.97". <i>NP 4/3/95</i>
1512	USLD level = 2.04". <i>NP 4/3/95</i>
1634	Level after delay [used] 2.80". Hoses switched.
1647	Commenced pumping from Basins to DC.
1747	Pumped secured. USLD level 11.92". Reason leak rate calculated by Kurt McCracken = 5.8 gpm. Electronic Basin level = 16' 3 ^{1/8} ". Secured for the day. No further entries: <i>WHLN</i>
<p>No further entries. <i>WHLN</i> 4/3/95</p>	

APPENDIX E TEST LOG II

ATP TEST LOG PAGE

DATE: 4/5/95

Instructions: Fill in the test log describing all significant events and plant status changes.

Time	Comments
1235	Pre-job completed. WP 415/95
1307	Pumpdown started. USLD reading 12.04, foot indication 16'-3". WP 415/95.
1425	Pumpdown completed. Line vented. USLD level 2.04" WP 415/95
1445	USLD level 2.37" WP 415/95 Personnel exited basin, except operator who is spraying down DC wells. Est'd leak rate 5.7 gpm according to Kurt McCracken. WP 415/95
1800	Equilization completed. Personnel departed. No further entries this date. WP 415/95
<p>No further entries</p> <p>WP 415/95</p> <p>4/5/95</p>	

APPENDIX E TEST LOG

ATP TEST LOG PAGE

DATE: 4/11/95

Instructions: Fill in the test log describing all significant events and plant status changes.

Time	Comments
0230	Completed Draw Down and Wet Down
0600	Wet Down of DC completed
0830	Pre Job Briefing
0855	Operator in Basin to Start Draw Down Level = 5.44032
9:25	Level = 5.62186
9:45	Pumping Started level = 5.7 Reason pump not pumping earlier was insufficient closure of vacuum valve
1010	Informed Operator to Stop Pumping unable to get signal since 09:57 Level at 0950 = 3.77490 estimate level between 2-3
11:07	Level Indicators Restored. Datalogger was replaced
1122	level = 2.62506
1324	Level = 3.71200
1352	Started to increase DC level to 4" head Not using Pump
1355	Level = 5.37682
1411	Level = 5.31281 Valve to DC Closed
1450	Raising DC Level
1508	Shutting Down DC level level = 11.77
1515	Excess system stopped - Basin level 11.75 No further entries
	- This Page Redacted 4/11/95

APPENDIX E TEST LOG

ATP TEST LOG PAGE

DATE: 04/12/95.

Instructions: Fill in the test log describing all significant events and plant status changes.

Time	Comments
0830	Pre-job brief completed. Awaiting completion of HPT & Operations' morning periods to commence pumpdown. WP 4/12/95
0945	Pump started. Actual WSD (at computer) = 12.0190". Steel level in DC = 16' 2 3/4". WP 4/12/95
1100	Pumping secured. Inverted DC level = 2.17948". WP 4/12/95.
1220	DC level = 2.87970". Estimated leak rate = 5.0 gpm. Requested permission from Shift Mgr. to have the record pump secured, to see if leak by from status the isolation valves for the downcomer to the DC was a problem. WP 4/12/95
1328	RECIRC Pumps Shut down Level = 3.3902
1340	DC walls sprayed down by Operations. WP 4/12/95.
1425	Refilling DC using recirculation clarified output. WP 4/12/95
1502	Stopped Filling DC Level = 11.2525
<p>No further action J. M. Miller 4/12/95</p>	

APPENDIX E TEST LOG

ATP TEST LOG PAGE

DATE: 04/17/95.

Instructions: Fill in the test log describing all significant events and plant status changes.

Time	Comments
0730	Permission granted to install remaining eqpt., and conduct leak test. Plan is to start pumping after lunch (~ 1300). WP 4/17/95
0900	Awaiting KELL Electricians to arrive from their monthly safety meeting. WP 4/17/95.
0935	Pre-jobs brief completed. WP 4/17/95.
1040	One grating & lead shield reported in the way of installing the beam used. KELL & RCPs informed of needed support. WP 4/17/95
1140	Electricians exit beam. Ironworker arrived. East volume of grating work discussed & planned, to be completed night after lunch.
1300	Ironworkers, electricians, RCPs, HPT, laborer, and operator entered beam to complete work and start leak rate test. WP 4/17/95
1345	Shating removed. WP 4/17/95
1345	Personnel depart beam, except HPT & Operator. WP 4/17/95
1420	Pump started for drawdown. WP 4/17/95
1536	Pumping secured. Vent valve opened. WP 4/17/95.
1536	Leak test started. WP 4/17/95
1545	Initial levels before pumping: Beam used ^{measured} 3.05811", Beam level: 16'-3 1/8"; levels after pumping: ^{DC} Beam used = 1.98693"; Beam used = 3.05811". WP 4/17/95
1645	Verified VED temperature is within 2°F of average Beam temperature. WP 4/17/95.
1820	VED temp within 2°F of Avg Beam temp. WP 4/17/95

APPENDIX E TEST LOG

ATP TEST LOG PAGE

DATE: 04/17/95

Instructions: Fill in the test log describing all significant events and plant status changes.

Time	Comments
1820	DC sprayed down by Operations. WP 4/17/95.
1843	DC level from stack 15'-5 3/8". WP 4/17/95.
1900	Test Engineer turnover complete RD Wan 4/17/95
1945	Rough calc of leak rate = 4.5 gpm RD Wan 4/17/95
2220	Operators washed exposed concrete in Disch Chute ROW 4/17/95
2400	Received briefing on test activities, assumed duties as Test Engineer RD Wan 4/17/95
0215	Operators washed down DC, sub P2 4/18/95
0600	Operations washed down DC, sub P2 4/18/95
0800	Briefed on test operations and resumed duties as Test Engineer. WP 4/18/95.
1006	DC Walls sprayed down by Operations. WP 4/18/95.
1400	DC Walls sprayed down by Operations. WP 4/18/95.
1536	Test completed. DC = 10.2327"; Basin = 2.22926". WP 4/18/95
1615	Pre-job completed, to restore/level the water level between the Basin & the DC. WP 4/18/95.
1639	Commenced refilling DC, using the clarifier system. Initial level (OC) = 10.4". WP 4/18/95.
1651	Completed refilling DC. Final level = 12.0200". WP 4/18/95.
1653	Personnel emptying the Basin. WP 4/18/95.
1655	Initial vernier reading for water bath = 86.350". Final vernier reading is 86.280". WP 4/18/95.
1658	Commencing baseline test, since Fan 10 is currently down for repair. Close WP 4/18/95 and prior baseline had Fan 10 up. WP 4/18/95.
1900	No further entries this date. WP 4/18/95.

APPENDIX F ~~ATP CHANGE~~ INSTRUCTIONS

Instructions

- 1 Determine the approval designator for the change per WHC-CM-3-5 section 12.7 "Approval Of Environmental, Safety, And Quality Affecting Documents".
- 2 If the change affects function or performance or compromises or influences test data then the change must be marked as requiring an ECN. One ECN will be produced covering all changes upon conclusion of testing and prior to issuing the ATR. Prior to this ECN, the change notice form will meet the same signature requirements necessary for an ECN.
- 3 The ATP change is performed per the following instructions using the ATP Change Approval form Appendix H.
- 4 Enter the next ATP change serial number obtained from Appendix G. Make an entry in the Test Log.
- 5 Enter the approval designator.
- 6 Make a test exception entry in Appendix I. The exception must be signed by the Test Engineer. The exception description is "ATP Change XXX" where XXX is the ATP change serial number obtained from Appendix I.
- 7 Enter the test exception number on the ATP change form.
- 3 Enter a detailed description of the change including section, page etc. or the change may be attached to the form that shows the "as is" conditions and the "should be" conditions (Appendix H).
- 9 Enter the justification of the change.
- 10 Based on the impact level and change contents obtain the required ATP change approvals.
- 11 Enter the change in the ATP. New typewritten pages may be substituted for pages that do not contain data or signatures. Pages being replaced that contain data or signatures must be saved in Appendix L. The ATP change number, date and initials of the person making the change must appear on each page or in the vicinity of the change. All replace pages shall be mark "REPLACED" and retained in the Control Copy of the ATP.
- 12 Sign the ATP change form indicating the change has been made and insert the form in Appendix H.

APPENDIX H

ATP CHANGE SHEETS

J-7 WORK CHANGE NOTICE - Detail (W175)

Page: 1

8:21:36 17 APR 1995

1. Document Number 1K-94-01044/W *GENERIC WORK ITEM*
 Work Item Title K-EAST BASIN ISOLATION BARRIER LEAK TEST

2. Originator X WARNER, RD Signature
 Date 04/11/95 Telephone No. 373-3494

3. WCN Number 03 Non-ADP WCN Number

4. Change Instructions

- Page Step/Para Description
 105-KE ATP - MAKE THE FOLLOWING CHANGES:
- 1. PAGE 34, APPENDIX A: CHANGE ITEM 2 QUANTITY FROM 3 TO 2.
 - 2. PAGE 36, APPENDIX B, INSTRUMENT SETUP: DELETE "VED WATER LEVEL FROM USLD-3."
 - 3. PAGE 37, APPENDIX B, ITEM 3: DELETE "USLD-3 MOUNTED ON THE VED."
 - 4. PAGE 25, FIGURE 1: REMOVE USLD-3 SENSOR AND MOUNT, AND USLD TRANSMITTER FROM FIGURE 1.
 - 5. PAGE 26, FIGURE 2: REMOVE USLD FROM THE VED SET-UP FROM FIGURE 2.
 - 6. PAGE 29, FIGURE 5: REMOVE "CHANNEL 3, USLD-3" FROM THE WIRING DIAGRAM.
 - 7. PAGE 31, FIGURE 7: REMOVE "USLD-3" FROM THE SCHEMATIC.

5. Reason for Change

- 1. THE VED HOOK GAGE PROVIDES THE VED WATER BATH DEPTH MORE ACCURATELY THAN THE USLD-3 FOR THE AMOUNT OF EVAPORATION DETECTED IN PAST ATTEMPTS.
- 2. THE VED USLD-3 IS A SPARE, AND NOT REQUIRED FOR COMPLETING THE LEAK RATE TEST.

6. Approval Designators -E S Q

7. Approval Signatures

	Signature	Date
Cognizant Engineer	X WARNER, RD	04/11/95
Cognizant Manager	X KUHTA, RJ	04/17/95
Environmental Assurance	X GANT, RG	04/11/95
Health/Safety Assurance	X VISTICA, JT	04/11/95
Quality Assurance	X TITTLE, JA	04/12/95
Operations	X RUANE, TJ	04/11/95
PIC	X KUHTA, RJ	04/17/95
Other	X MEIGS, JC	04/17/95

8. Incorporated By *[Signature]* Signature
4/17/95 Date *916-1111* Telephone No.

J-7 WORK CHANGE NOTICE - Detail (W175)

J-7 WORK CHANGE NOTICE - Detail (W175)

Page: 1

18:49:19 30 MAR 1995

1. Document Number 1K-94-01044/W GENERIC WORK ITEM
Work Item Title K-EAST BASIN ISOLATION BARRIER LEAK TEST

2. Originator Signature Date Telephone No.
 X WARNER, RD 03/20/95 373-3494

3. WCN Number 02 Non-ADP WCN Number

4. Change Instructions

- | Page | Step/Para | Description |
|-------------|-----------|--|
| 105-KE ATP: | | INSERT THE FOLLOWING CHANGE #2 VIA ATP CHANGE PAGES 1 AND 2 (PAGES 1 AND 2). THIS CHANGE ADDS THE FOLLOWING: |
| 1. | | REMOVE THE CURRENT SECTION 11, 12, 13, AND/OR 14 OF THE ATP PAGES 14 THROUGH 24). |
| 2. | | File these pages in Appendix K (Repeat Testing). |
| 3. | | INSERT A NEW SECTION 11, 12, 13, AND/OR 14 (PAGES 14 THROUGH 24) IN THE APPROPRIATE SPOT(S) IN THE ATP. |

5. Reason for Change

TO ALLOW THE FLEXIBILITY TO SUPPORT MULTIPLE MOVES OF THE TEST EQUIPMENT, AND TO SUPPORT ANY "POTENTIAL" LEAK LOCALIZATION EFFORTS AT 105-KE.

6. Approval Designators -E S Q

7. Approval Signatures	Signature	Date
Cognizant Engineer	X WARNER, RD	03/20/95
Cognizant Manager	X KUHTA, RJ	03/28/95
Environmental Assurance	X GANT, RG	03/27/95
Health/Safety Assurance	X VISTICA, JT	03/27/95
Quality Assurance	X DIEHL, JI	03/28/95
Operations	X RUANE, TJ	03/24/95
PIC	X COOLEY, DL	03/28/95
Other	X OMLIN, FA	03/30/95

8. Incorporated By Signature Date Telephone No.
[Signature] *[Date]* *[Phone]*

J-7 WORK CHANGE NOTICE - Detail (W175)

1. Document Number 1K-94-01044/W ~~GENERIC WORK ITEM~~
 Work Item Title K-EAST BASIN ISOLATION BARRIER LEAK TEST

2. Originator	Signature X WARNER, RD	Date 03/23/95	Telephone No. 373-3494
---------------	---------------------------	------------------	---------------------------

3. WCN Number 01 Non-ADP WCN Number

4. Change Instructions

- | Page | Step/Para | Description |
|------|-----------|-------------|
|------|-----------|-------------|
- ✓1. On page ii, change the title for section 4.0 to "4.0 AUTHORITY, ADMINISTRATION AND PLANT INTERFACE".
 - ✓2. Add "through the isolation barrier doors" at the end of the third sentence of the third paragraph of section 1.2 ending with "the other route is seal leakage."
 - ✓3. Insert the following after "the safe limit" and before "specified" of the third sentence of the first paragraph of section 1.2 of the ATP: "(1500 gph/5600 lph; see section 4.2.3 for acceptance criteria)."
 - ✓4. Delete the last sentence from the third paragraph of the ATP, section 1.2.
 - ✓5. On page 2 of the ATP, add the following definitions at the end of section 3.0 definitions: "BASIN - That portion of 100-KE and 100-KW used for irradiated fuel storage; is hydraulically connected to the Weasel Pit, Filter/Viewing Pits, Dummy Elevator Pit, and South Loadout Pit; and is hydraulically separated from the Discharge Pit, by the isolation barriers, and the North Loadout Pit (Sand Filter Backwash Pit) by a separate barrier. DISCHARGE PIT - That portion of 100-KE and 100-KW that contains no irradiated fuel; is hydraulically separated from the basin by the isolation barriers; but is hydraulically connected to the Reactor Fuel Discharge Pit."
 - ✓6. Add the following to section 4.1.3: "The Test Engineers are delineated in the Master Work Plan for Isolation Barrier Installation at KE and KW Basins, and their training records are maintained by WHC Training personnel."
 - ✓7. On page 4, in section 4.2.3, delete the last two sentences and add the following "For this procedure the acceptance criteria is a leak rate through the isolation barriers of 750 gallons (2830 l) per hour (a 2x safety factor to the SAR limit) at a 16 foot (4.9m) level differential. The testing will be over an 11 inch (28cm) level differential. The isolation barrier leak rate shall not exceed 179 gallons (678 l) per hour at an 11 inch (28cm) level differential."
 8. On page 5 of the ATP, add the following for section 4.3.

✓4.3 PLANT INTERFACE

As developed in the Appendix of the Test Specification/Test Plan [WHC-SD-SNF-TP-009, Rev. 0-A, (1/31/95)], the performance of leak rate tests for the isolation barriers is consistent with the current OSRs. For the test, the minimum level of the basin will be:

1. Document Number ~~1K-94-01044/W~~ ~~GENERIC WORK ITEM~~
 Work Item Title K-EAST BASIN ISOLATION BARRIER LEAK TEST

- * above 15' 8" (4.8m) prior to initiating the test;
- * remain above 15' 8" (4.8m) at all time during the test
- * the discharge chute level will be no less than 14' 11" (4.5m) during the test, and no less than 15' 6" (4.7m) following completion of section 13.2.10.

This is a permissive condition for the discharge chute. The actual test levels may differ from these in the test procedure, but they must remain consistent with these level restrictions. Prior to initiating the test, the ATP will verify that the Process Standards have been revised to reflect these limits and that plant logkeeping is in place."

- ✓9. Renumber the two 5.1.4 sections as 5.1.4.a and 5.1.4.b respectively.
- ✓10. Replace section 11.1.2 with the following: "Verify that a Process Change Authorization (PCA) has been issued which allows the Discharge Chute to be drawn down to the 14'-11" level." The PCA will specify that both a physical and electronic level method will be in place for the test.
- ✓11. Replace "8882 ft2 in section 13.2.8, page 21 of the ATP with "8880 ft2 (per current revision of WHC-SD-SNF-TP-009, section 6.1)."
- ✓12. Add the following on page 14 of the ATP: "11.1.5 At the initiation of the Discharge Chute drawdown, the respective starting water levels of the Discharge Chute and the Basin should be within 1 inch of each other."
- ✓13. Insert the following on page 14 of the ATP: "11.1.6 Remove the relays of the Discharge Chute's low level alarms." Add a signature and date block underneath this section for a WHC Electrician to complete.
- ✓14. Add the following at the end of section 13.2.2: "With K-Basins Operations and Engineering concurrence, the Test Director may specify an alternate method to cover the exposed Discharge Chute wall if it will provide equal or superior protection than the weighted plastic curtains. Operations, Engineering, and other technical staff agreed on 2/21/95 that the concrete surfaces bared in the discharge chute would be wetted down, as completely as practicable, every 4 hours during the course of the test. Concurrence with this position was obtained from the Department of Health, State of Washington. Date and times will be recorded in the Test Engineer's logbook (for wetting of concrete surfaces)."
- ✓15. Insert the following on page 24 of the ATP: "14.2.5 Re-install the relays of the Discharge Chute's low level alarms." Add a signature and date block underneath this section for a WHC Electrician to complete.
- 16. Sections 11, 12, 13, and 14 may be completed as many times as necessary to support leak rate testing by performing the following:

1. Document Number 1K-94-01044/W ~~GENERIC WORK ITEM~~
 Work Item Title K-EAST BASIN ISOLATION BARRIER LEAK TEST

- a. Remove, as appropriate, the current Section 11, 12, 13 and/or 14 of the ATP.
 - b. File these pages in Appendix K (Repeat Testing).
 - c. Insert a new Section 11, 12, 13, and/or 14 of the ATP, as appropriate.
17. Add the following section:
 "13.3 KE DISCHARGE CHUTE LEAK LOCATION AND VERIFICATION
1. Ensure the video system is operating.
 2. Nine weighted cords are prepared, and six weighted cords placed per engineering direction (three cords are for backup).
 NOTE: The cords will have 5-inch strips of surveyor's tapes in alternating colors at 6-inch intervals for a distance of 16 feet. Three additional cord shall be prepared with a 6-inch flag located 1-inch from the weighted end.
 3. Individuals with the single flag string are available make measurements at various heights or locations per engineering direction. Also fixed cords may be moved after recording their relevant flow indication.
 4. RCTs will be available to establish radiological conditions for relocation or disposal of the weighted cords.
 5. Establish a driving head per the "Test 2 'Barrier Leak Rate Test'" section of the 105-KE Acceptance Test Procedure [WHC-SD-SNF-ATP-005 (rev. 0), section 13].
 6. Visually, and with the video camera, record the flag locations that give flow indications.
 7. All recorded indications must be documented by signature including location (east or west door); east, west or bottom of door elevations; and strong, moderate or light flow indication.
 8. This procedure may be repeated as many times as necessary to locate and verify the leak between the Basin and the Discharge Chute."
 9. To check potential leak sites, an additional test method will consist of attaching a light plastic bag to the end of a pole, and positioning the plastic bag at suspect points on the Basin side of the isolation barriers. Water passage from the Basin side into the Discharge Chute will suck the light plastic bag toward the leak site, and more closely pinpoint the site.
18. Add the following section:
 "13.2.11

When pumping water from the Main Basin to the Discharge Chute by reversing hoses on the pump, the Discharge Chute level may be raised to 16'-3" to allow engineering investigations. This

APPENDIX H ATP CHANGE APPROVAL SHEET 1

ATP CHANGE APPROVAL		DATE:	4/11/98	Page 1 of 2
Change Title:	Deletes reference to USLD for VED			
Approval Designator:	-E, -S, -Q	ECN Required: (Yes/No)	N	
Change #:	003	NOTE: For Approval Designator see WHC-CM-3-5 section 12.7 "Approval Of Environmental, Safety, And Quality Affecting Documents!"		
Exception #:				
CHANGE DESCRIPTION				
Deletes reference to USLD-3 in ATP.				
CHANGE JUSTIFICATION				
USLD-3 is not necessary for test to be run as Vermeil provides better accuracy for evaporation observed.				

APPENDIX H 'ATP' CHANGE APPROVAL SHEET 2

ATP CHANGE APPROVAL

Change #:	003	NOTE: The Test Engineer & K-Basin Shift Operations Manager are minimum required signatures.	Page 2 of 2
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CHANGE INSTRUCTIONS

See J-7 #3 for WHC-SD-SNF-ATR-005,
Work pkg 94-1044.

See J-7 #3

CHANGE APPROVALS		NOTE: The Test Engineer & SOM are minimum required signatures.	
Safety Engineer		Test Director	
QA Engineer		Other	
Test Engineer		Other	
Technical PIC		Other	

APPENDIX H ATP CHANGE APPROVAL SHEET 1

ATP CHANGE APPROVAL		DATE:	03/20/95	Page 1 of 2
Change Title:	ADMINISTRATIVE REVISIONS TO 105-KE LEAK TEST ATP			
Approval Designator:	-E, -S, -Q	ECN Required: (Yes/No)	NO	
Change #:	002	NOTE: For Approval Designator see WHC-CM-3-5 section 12.7 "Approval Of Environmental, Safety, and Quality Affecting Documents".		
Exception #:	NA			
CHANGE DESCRIPTION				
Allows completed sections 11, 12, 13, and/or 14 to be filed in Appendix K (Repeat Testing), and new sections 11, 12, 13, and/or 14 (as appropriate) inserted into the ATP.				
CHANGE JUSTIFICATION				
To allow flexibility in moving test equipment to and from 105-KW to 105-KE, and support any "potential" leak localization efforts.				

APPENDIX H ATP CHANGE APPROVAL SHEET 2

ATP CHANGE APPROVAL			
Change #:	002	NOTE: The Test Engineer & K Basin Shift Operations Manager are minimum required signatures.	Page 2 of 2
CHANGE INSTRUCTIONS			
1. Remove the current Section 11, 12, 13, and/or 14 of the ATP (pages 14 thru 24). 2. File these pages in Appendix K (Repeat Testing). 3. Insert a new Section 11, 12, 13, and/or 14 (pages 14 through 24) in the appropriate spot(s) in the ATP.			
CHANGE APPROVALS		NOTE: The Test Engineer & SOM are minimum required signatures.	
Safety Engineer	*	Test Director	R.D. Warner 3-20-95
QA Engineer	*	Other	
Test Engineer	<i>[Signature]</i> 3/20/95	Other	
Technical PIC	*	Other	

* SEE J-7 #2, pgs 94-104. *[Signature]* 3/24/95

APPENDIX H ATP CHANGE APPROVAL SHEET 1

ATP CHANGE APPROVAL		DATE:	03/07/95	Page 1 of 5
Change Title:	ADMINISTRATIVE REVISIONS TO 105-KE LEAK TEST ATP			
Approval Designator:	-E, -S, -Q	ECN Required: (Yes/No)	NO	
Change #:	001	NOTE: For Approval Designator see WHC-CM-3-5 section 12.7 "Approval Of Environmental, Safety, and Quality Affecting Documents".		
Exception #:	NA			
CHANGE DESCRIPTION				
<p>Several changes revise portions of the 105-KE ATP to clarify unclear steps or requirements, and make administrative changes. Other changes establish a means of localizing any potential leak that may be determined during leak rate testing. These localization techniques were developed during the 105-KW isolation barriers leak rate testing.</p>				
CHANGE JUSTIFICATION				
<p>To clarify, revise, or add sections to the 105-KE ATP so as to correct administrative errors, or support any future efforts to localize leaks that impair the acceptance testing of the 105-KE isolation barriers. None of these changes invalidates any of the test assumptions or processes.</p>				

APPENDIX H ATP CHANGE APPROVAL SHEET 2

ATP CHANGE APPROVAL			
Change #:	001	NOTE: The Test Engineer & K Basin Shift Operations Manager are minimum required signatures.	Page 2 of 5
CHANGE INSTRUCTIONS			
<ol style="list-style-type: none"> 1. On page ii, change the title for section 4.0 to "4.0 AUTHORITY, ADMINISTRATION AND PLANT INTERFACE". 2. Add "through the isolation barrier doors" at the end of the third sentence of the third paragraph of section 1.2 ending with "the other route is seal leakage." 3. Insert the following after "the safe limit" and before "specified" of the third sentence of the first paragraph of section 1.2 of the ATP: "(1500 gph/5600 lph; see section 4.2.3 for acceptance criteria)." 4. Delete the last sentence from the third paragraph of the ATP, section 1.2. 5. On page 2 of the ATP, add the following definitions at the end of section 3.0 definitions: "BASIN - That portion of 100-KE and 100-KW used for irradiated fuel storage; is hydraulically connected to the Weasel Pit, Filter/Viewing Pits, Dummy Elevator Pit, and South Loadout Pit; and is hydraulically separated from the Discharge Pit, by the isolation barriers, and the North Loadout Pit (Sand Filter Backwash Pit) by a separate barrier. DISCHARGE PIT - That portion of 100-KE and 100-KW that contains no irradiated fuel; is hydraulically separated from the basin by the isolation barriers; but is hydraulically connected to the Reactor Fuel Discharge Pit." 6. Add the following to section 4.1.3: "The Test Engineers are delineated in the Master Work Plan for Isolation Barrier Installation at KE and KW Basins, and their training records are maintained by WHC Training personnel." 7. On page 4, in section 4.2.3, delete the last two sentences and add the following "For this procedure the acceptance criteria is a leak rate through the isolation barriers of 750 gallons (2830 l) per hour (a 2x safety factor to the SAR limit) at a 16 foot (4.9m) level differential. The testing will be over an 11 inch (28cm) level differential. The isolation barrier leak rate shall not exceed 179 gallons (678 l) per hour at an 11 inch (28cm) level differential." 			
CHANGE APPROVALS		NOTE: The Test Engineer & SOM are minimum required signatures.	
Safety Engineer	NA	Test Director	NA
QA Engineer	NA	Other	NA
Test Engineer	NA	Other	NA
Technical PIC	NA	Other	NA

APPENDIX H ATP CHANGE APPROVAL SHEET 2

ATP CHANGE APPROVAL			
Change #:	001	NOTE: The Test Engineer & K Basin Shift Operations Manager are minimum required signatures.	Page 3 of 5
CHANGE INSTRUCTIONS (cont)			
<p>8. On page 5 of the ATP, add the following for section 4.3.</p> <p>"4.3 PLANT INTERFACE As developed in the Appendix of the Test Specification/Test Plan [WHC-SD-SNF-TP-009, Rev. 0-A, (1/31/95)], the performance of leak rate tests for the isolation barriers is consistent with the current OSRs. For the test, the minimum level of the basin will be:</p> <ul style="list-style-type: none"> • above 15' 8" (4.8m) prior to initiating the test; • remain above 15' 8" (4.8m) at all time during the test; and • the discharge chute level will be no less than 14' 11" (4.5m) during the test, and no less than 15' 6" (4.7m) following completion of section 13.2.10. <p>This is a permissive condition for the discharge chute. The actual test levels may differ from these in the test procedure, but they must remain consistent with these level restrictions. Prior to initiating the test, the ATP will verify that the Process Standards have been revised to reflect these limits and that plant logkeeping is in place."</p> <p>9. Renumber the two 5.1.4 sections as 5.1.4.a and 5.1.4.b respectively.</p> <p>10. Replace section 11.1.2 with the following: "Verify that a Process Change Authorization (PCA) has been issued which allows the Discharge Chute to be drawn down to the 14'-11" level." The PCA will specify that both a physical and electronic level method will be in place for the test.</p> <p>11. Replace "8882 ft2 in section 13.2.8, page 21 of the ATP with "8880 ft2 (per current revision of WHC-SD-SNF-TP-009, section 6.1)."</p> <p>12. Add the following on page 14 of the ATP: "11.1.5 At the initiation of the Discharge Chute drawdown, the respective starting water levels of the Discharge Chute and the Basin should be within 1 inch of each other."</p> <p>13. Insert the following on page 14 of the ATP: "11.1.6 Remove the relays of the Discharge Chute's low level alarms." Add a signature and date block underneath this section for a WHC Electrician to complete.</p> <p>14. Add the following at the end of section 13.2.2: "With K-Basins Operations and Engineering concurrence, the Test Director may specify an alternate method to cover the exposed Discharge Chute wall if it will provide equal or superior protection than the weighted plastic curtains. Operations, Engineering, and other technical staff agreed on 2/21/95 that the concrete surfaces bared in the discharge chute would be wetted down, as completely as practicable, every 4 hours during the course of the test. Concurrence with this position was obtained from the Department of Health, State of Washington. Date and times will be recorded in the Test Engineer's logbook (for wetting of concrete surfaces)."</p>			
CHANGE APPROVALS		NOTE: The Test Engineer & SOM are minimum required signatures.	
Safety Engineer	NA	Test Director	NA
QA Engineer	NA	Other	NA
Test Engineer	NA	Other	NA
Technical PIC	NA	Other	NA

APPENDIX H ATP CHANGE APPROVAL SHEET 2

ATP CHANGE APPROVAL			
Change #:	001	NOTE: The Test Engineer & K Basin Shift Operations Manager are minimum required signatures.	Page 4 of 5
CHANGE INSTRUCTIONS (cont)			
<p>15. Insert the following on page 24 of the ATP: "14.2.5 Re-install the relays of the Discharge Chute's low level alarms." Add a signature and date block underneath this section for a WHC Electrician to complete.</p> <p>16. Sections 11, 12, 13, and 14 may be completed as many times as necessary to support leak rate testing by performing the following:</p> <ul style="list-style-type: none"> a. Remove, as appropriate, the current Section 11, 12, 13 and/or 14 of the ATP. b. File these pages in Appendix K (Repeat Testing). c. Insert a new Section 11, 12, 13, and/or 14 of the ATP, as appropriate. <p>17. Add the following section:</p> <p>"13.3 KE DISCHARGE CHUTE LEAK LOCATION AND VERIFICATION</p> <ol style="list-style-type: none"> 1. Ensure the video system is operating. 2. Nine weighted cords are prepared, and six weighted cords placed per engineering direction (three cords are for backup). NOTE: The cords will have 5-inch strips of surveyor's tapes in alternating colors at 6-inch intervals for a distance of 16 feet. Three additional cord shall be prepared with a 6-inch flag located 1-inch from the weighted end. 3. Individuals with the single flag string are available to make measurements at various heights or locations per engineering direction. Also fixed cords may be moved after recording their relevant flow indication. 4. RCTs will be available to establish radiological conditions for relocation or disposal of the weighted cords. 5. Establish a driving head per the "Test 2 'Barrier Leak Rate Test'" section of the 105-KE Acceptance Test Procedure [WHC-SD-SNF-ATR-005 (rev. 0), section 13]. 6. Visually, and with the video camera, record the flag locations that give flow indications. 7. All recorded indications must be documented by signature including location (east or west door); east, west or bottom of door elevations; and strong, moderate or light flow indication. 8. This procedure may be repeated as many times as necessary to locate and verify the leak between the Basin and the Discharge Chute." 9. To check potential leak sites, an additional test method will consist of attaching a light plastic bag to the end of a pole, and positioning the plastic bag at suspect points on the Basin side of the isolation barriers. Water passage from the Basin side into the Discharge Chute will suck the light plastic bag toward the leak site, and more closely pinpoint the site. 			
CHANGE APPROVALS		NOTE: The Test Engineer & SOM are minimum required signatures.	
Safety Engineer	NA	Test Director	NA
QA Engineer	NA	Other	NA
Test Engineer	NA	Other	NA
Technical PIC	NA	Other	NA

APPENDIX H ATP CHANGE APPROVAL SHEET 2

ATP CHANGE APPROVAL

Change #:	001	NOTE: The Test Engineer & K Basin Shift Operations Manager are minimum required signatures.	Page 5 of 5
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CHANGE INSTRUCTIONS (cont)

18. Add the following section:

"13.2.11

When pumping water from the Main Basin to the Discharge Chute by reversing hoses on the pump, the Discharge Chute level may be raised to 16'-3" to allow engineering investigations. This will result in a drop in the Main Basin of up to 0.4" which is within the normal control span of the Main Basin. After completion of the drawdown, respective levels will be restored to within one inch or verification shall be made that equalization is occurring through the current hydraulic connection.

Level restored OR Equalization verified

Appropriate mechanism shall be circled and time and date indicated by Test Engineer.

_____/_____/_____
Test Engineer Time Date"

CHANGE APPROVALS	NOTE: The Test Engineer & SOM are minimum required signatures.
------------------	--

Safety Engineer	SEE J-7 #1 FOR 94-1044 <i>[Signature]</i> 3/17/95	Test Director	<i>[Signature]</i> 3/17/95
QA Engineer	SEE J-7 #1 FOR 94-1044. <i>[Signature]</i> 3/16/95	Other	
Test Engineer	<i>[Signature]</i> 3/17/95.	Other	
Technical PIC	SEE J-7 #1 FOR 94-1044 <i>[Signature]</i> 3/16/95	Other	

CONFIDENTIAL

APPENDIX I

ATP EXCEPTION LOG

(NOT USED)

APPENDIX J

ATP EXCEPTIONS

(NOT USED)

WHC-SD-SNF-ATR-005 Rev. 0

APPENDIX K REPEAT TESTING

REPLACED

11.0 TEST EQUIPMENT INSTALLATION TEST 2

This section provides instructions for the reinstallation or repositioning of test equipment that may have been moved during the barrier installation. An "N/A" will be used to indicate step that are not required as the equipment has not been affected.

11.1 SPECIAL PREREQUISITES

11.1.1

Prior to Basin area entrance, all parts per Appendix A are assembled and ready for basin entry.

11.1.2

~~Verify the Operational Safety Requirements (OSR) interpretation for OSR 3/4.2 Cooling Pool Water Level is in place. Verify that a Process Change Authorization (PCA) has been issued which allows the Discharge Chute to be drawn down to the 11-11" level.~~

11.1.3

Verify that the high and low cooling pool water level monitoring equipment is in current calibration. (This was performed by 1K-94-00494, installation of new level monitoring equipment, October 3, 1994.)

11.1.4

Verify System Surveillance Procedure, SSP-W07-016, which functionally tests the cooling pool level alarms, has been completed.

11.1.5 *At the initiation of the Discharge Chute drawdown, the respective starting water levels of the Discharge Chute and the Basin should be within 1 inch of each other.*

NOTE: No special tools are required to install the TCs, USLDs, or VED.

When all prerequisites are completed then sign below.

J. Pulse 1/4/3/95
Test Engineer Date

11.1.6 *Remove the relays of the Discharge Chutes: low level alarms.*

W.A. Williams 1/4/3/95
Will. Electrician Date

REPLACED

CONTROLLED COPY / APPROVED

11.2 INSTRUCTIONS

11.2.1

Remove any necessary grating see Section 5.1 specific to grating removal and handrails. Reinstall any TC that may have been removed for barrier installation. Reinstall TCs in basin approximately six inches (15cm) in the water. Reinstall TCs in the discharge chute approximately thirteen inches (33cm) in the water. Field route all TC wiring over the building inter-structure to the data logger location. Refer to Figure 4 for typical TC mounting.

Craft _____ / _____ Date

Grating placed in temporary storage

HPT _____ / _____ Date

11.2.2

Remove any necessary grating see Section 5.1 specific to grating removal and handrails. Re-mount, if necessary, the USDL and stilling well as shown in Figure 3 approximately fourteen inches (36cm) for the basin and between two (5cm) and fourteen inches (36cm) for the discharge chute. Field route and secure USLD wire to floor to the locations specified in Figure 1.

Craft _____ / _____ Date

Grating placed in temporary storage

HPT _____ / _____ Date

11.2.3

If moved or repositioned, place the VED/Instrumentation stand on the grating as shown in Figure 1. Power the instrumentation by plugging the power strip into nearest H-18 115V AC outlet. Make sure the heater and cooler are plugged into two separate circuits to equalize the current load. Note that the VED equipment is on the grating and not in the basin water.

Craft _____ / _____ Date

CONTROLLED COPY / APPROVED

11.2.4

Rewire, as necessary, the instruments to data logger as shown in Figure 5. Block diagram and schematic of instrument loops are shown on Figure 6 and 7.

11.2.5

N/A for leak
Welding
4/13/95
 _____ / _____ / _____
 Date Operations Date

If necessary, remove grating per Figure 9 and install the discharge chute water transfer pump assembly, item 20, Appendix A. Secure both inlet and discharge hose to prevent hose movement during pump operation. Inlet hoses shall be no deeper than six feet (1.8m) to assure no sludge is pumped. Discharge hose shall be at least three feet (0.9m) under the water. Suction hose will be located just to the right of the discharge chute and the discharge hose on the basin side away from the work area. The air line discharge hose shall be above the water, pointed toward the water and secured to prevent it spraying.

[Signature]
 _____ / 3/31/95
 Craft Date

Grating placed in temporary storage.

None moved
 _____ / 4/4/95
 HPT Date

11.2.6

Verify that an Alpha and Beta continuous air monitors (CAMs) are in place and in service in the immediate vicinity of the discharge chute. Verify also the pump and associated air/water hoses are configured in such a manner as to reduce the radiological consequences of a liquid spill. Verify the emergency air shutoff valve on the transfer pump is within easy access to the operator.

[Signature]
 _____ / 4/3/95
 HPT Supervisor Date

11.2.7

Adjust air regulator valve supply to transfer pump to less than 80 psig. Perform a short test run of the discharge chute water transfer pump to the basin by slowly opening the inlet air supply valve. Monitor discharge hose to assure hose is secured properly. Stop pumping if any problem are found. Ensure that water from the discharge chute can be pumped to the basin without any difficulties. Test the emergency air isolation valve for satisfactory operation.

N/A
 _____ / 4/13/95
 Operations Date

Pumping conf'd IAW 13.2.5.

REMOVED

REPLACES

11.2.8

Reinstall data computer (shown in Figure 6) in a convenient location outside the basin. Contact SOM for this location.

N/A for leak localization efforts
Test Engineer _____ Date _____
J. Miller 4/3/95

12.0 TEST EQUIPMENT SETUP TEST 2

This section provides the instructions to properly setup the test equipment in preparation for Test 2, isolation barrier leak rate determination.

12.1 SPECIAL PREREQUISITES

None

2.2 INSTRUCTIONS

12.2.1

Verify each sensor is being sent to the ADAS. Each sensor/instrument shall be tested back to the computer, one at a time. Verify that all readings from the ADAS to the computer are reasonable.

_____/_____
Fluid System Eng. Date
_____/_____
QC Verify Date

12.2.2

Verify the data logging software is loaded and ready for start of Test 2.

_____/_____
Fluid System Eng. Date

N/A for leak localization efforts
J. Miller 4/3/95

REPLACES

WHD/10010010
"1"
/ (Signature)

13.0 TEST 2 "BARRIER LEAK RATE TEST"

This section provides instructions for actual barrier leak rate after isolation barrier installation.

13.1 SPECIAL PREREQUISITES

13.1.1

Verify the ADAS, VED, USLDs and the computer have been operating for at least the past two hours.

13.1.2

Check that there has been no unplanned water additions to the basin within the past 4 hours prior to the start of ADAS data collection.

13.1.3

Check that the basin ventilation fans are configured the same as for step 8.2.4. If not, contact operations to set the fans to this configuration. If this is not possible re-perform the velocity measurements per step 8.2.4 and record the new configuration.

South 6 ON / OFF North 7 ON / OFF West 10 ON / OFF East 11 ON / OFF

13.1.4

Check with the SOM that the installation of the isolation barrier is complete and seals are ready for testing.

When all prerequisites are completed then sign below.

_____/_____
Test Engineer Date

13.2 INSTRUCTIONS

13.2.1

Approximately one hour before this test is started, adjust the VED's water temperature setpoint to the same as the basin water temperature.

_____/_____
Test Engineer Date
/ (Signature)

REPLACES

13.2.2

Install weighted draped plastic to cover the portion of the discharge chute wall that will be exposed to air, as completely as practical, to preclude emissions from the wall during drawdown. With K-Basins Operations and Engineering concurrence, the Test Director may specify an alternate method to cover the exposed Discharge Chute wall if it will provide equal or superior protection than the weighted plastic curtains. Operations, Engineering and other technical staff agreed on 2/21/95 that the concrete surfaces (as complete as possible) bared in the Discharge Chute would be wetted down every 4 hours during the course of the test. Concurrence with this position was obtained from the Dept. of Health, State of Washington. Date and times will be recorded in the Test Engineer's logbook (for the wetting of concrete surfaces).

Operations / Date I. Knowles / 4-5-95
 Operations Date

13.2.3

Start ADAS data collection.

[Signature] / 4/5/95
 Test Engineer Date

13.2.4

For the duration of this test, at 60 minute intervals, check VED water temperature against the averaged water temperature from TCs, T-1 through T-5, in the basin and record in Appendix O. From this data verify that the VED temperature is held within $\pm 2^{\circ}\text{F}$ (3.6°C) of the basin's temperature. If necessary adjust the temperature of the VED water to match that of the basin and record all corrections in Appendix O.

NA [Signature] / 4/5/95
 Test Engineer Date

13.2.5

Recheck air inlet regulator to transfer pump is set to less than 80 psig. Pump water from the discharge chute to reach a differential water level between the discharge chute and the basin of between 11 (28cm) and 12 (30.5cm) inches by slowly opening the inlet air supply valve. Monitor discharge hose to assure hose is secured properly. Stop pumping if any problem are found. Carefully monitor both levels to keep within the OSR limits and to keep the water seal on the banana wall. Any variance outside the 11 (28cm) to 12 (30.5cm) inch range must be approved by the SOM and Fluid System Eng. for the potential impact to the OSR, water seal and the test data.

Operations / Date I. Knowles / 4-5-95
 Operations Date

REPLACES

REPLACES

13.2.8

ACCEPTANCE LEAK RATE

Determine the Acceptance Leak Rate(Q) at the final basin to discharge chute level differential(ΔH_f). This represents the lowest leak rate based on differential head, during the 24 hour test period. From Appendix Q, find the Acceptance Leak Rate(Q) at the final basin to discharge chute level differential(ΔH_f). Record the value of the Acceptance Leak Rate(Q) _____gph.

ESTIMATED OBSERVED LEAK RATE

From the observed basin level drop determine the estimated average 24 hour leak rate. Observed Leak Rate = actual level drop in basin _____feet times 8880 ft² times 7.48 gal/ft³ divided by 24 hours. Estimated Observed Leak Rate = _____gph. Plot this value on Appendix S graph.

EVALUATION

If the Estimated Observed Leak Rate is below the Acceptance Leak Rate(Q) by at least 7 gph, below the lower line on Appendix S, the isolation barriers passes the acceptance test. If not, perform the detailed calculation per step 13.2.9. Indicate below that the test passed or failed the rough calculation.

NOTE: The 7 gph buffer is based on instrument error (see Appendix S).

Leak test PASSED / FAILED rough calculation.

_____/_____
Test Engineer / Date

_____/_____
Fluid Systems Eng. / Date

NA

REPLACES

13.2.9

If step 13.2.8 did not pass the acceptance criteria immediately perform the detailed analysis of the leak rate to determine if the barriers leak rate is acceptable. If step 13.2.8 did indicate that the barriers passed the acceptance criteria, this step can be performed after Section 14.0, Test Equipment Removal. Write "skipped" in the space below to indicate that this step will be performed after Section 14.0. Record the calculated Leak Rate(L) extrapolated to the 16 foot (4.9m) level differential, the measured Evaporation Rate(E) and Observed Level Change(O) below. Note: The acceptance criteria for this test is 750gph at 16 ft.

Extrapolated Leak Rate _____ gph
(must be less than 750 gph)

_____/_____
Test Engineer Date

_____/_____
Fluid Systems Eng. Date

13.2.10

Once the leak is determined to be acceptable; i.e., test is completed, restore level in the discharge chute by reversing the hoses on the transfer pump. Pump water from basin back into the discharge chute to the desired level.

_____/_____
Operations Date

W. M. P. L. O. W. / 4-5-95
Operations Date

13.2.11

When pumping water from the Main Basin to the Discharge Chute by reversing hoses on the pump, the Discharge Chute level may be raised up to 16" to allow engineering investigations. This will result in a drop of the Main Basin of up to 0.4" which is within the normal control span of the Main Basin. After completion of the drawdown, respective levels will be restored to within one inch or verification shall be made that equalization is occurring through the current hydraulic connection.

Level restored OR Equalization verified

Appropriate mechanism shall be circled and time and date indicated by Test Engineer.

W. M. P. L. O. W. / 18:00 / 4/5/95
Test Engineer Time Date

REPLACED

13.3 KW DISCHARGE CHUTE LEAK LOCATION AND VERIFICATION

PROCEDURE

1. The video system is operating.
2. Nine weighted cords prepared, and six weighted cords placed per engineering direction (three cords are for backup).

NOTE: The cords will have 5-inch strips of surveyor's tapes in alternating colors at 6-inch intervals for a distance of 16 feet. Three additional cord shall be prepared with a 6-inch flag located 1-inch from the weighted end.
3. Individuals with the single flag string are available to make measurements at various heights or locations per engineering direction. Also fixed cords may be moved after recording their relevant flow indication.
4. RCTs will be available to establish radiological conditions for relocation or disposal of the weighted cords.
5. Establish a driving head per the "Test 2 'Barrier Leak Rate Test'" section of the 105-KW Acceptance Test Procedure [WHC-SD-SNF-ATP-004 (rev. 0), section 13].
6. Visually, and with the video camera, record the flag locations that give flow indications.
7. All recorded indications must be documented by signature including location (east or west door); east, west or bottom of door elevations; and strong, moderate or light flow indication.
8. This procedure may be repeated as many times as necessary to support leak location and verification efforts.
9. To check potential leak sites, an additional test method will consist of attaching a light plastic bag to the end of a pole, and positioning the plastic bag at suspect points on the Basin side of the isolation barriers. Water passage from the Basin side into the Discharge Chute will suck the light plastic bag toward the leak site, and more closely pinpoint the site.

REPLACED

REDACTED

13.0 TEST 2 "BARRIER LEAK RATE TEST"

This section provides instructions for actual barrier leak rate after isolation barrier installation.

13.1 SPECIAL PREREQUISITES

13.1.1

Verify the ADAS, VED, USLDs and the computer have been operating for at least the past two hours.

13.1.2

Check that there has been no unplanned water additions to the basin within the past 4 hours prior to the start of ADAS data collection.

13.1.3

Check that the basin ventilation fans are configured the same as for step 8.2.4. If not, contact operations to set the fans to this configuration. If this is not possible perform the velocity measurements per step 8.2.4 and record the new configuration.

South 6 ON / OFF North 7 ON / OFF West 10 ON / OFF East 11 ON / OFF

13.1.4

Check with the SOM that the installation of the isolation barrier is complete and seals are ready for testing.

When all prerequisites are completed then sign below.

_____/_____
Test Engineer Date

13.2 INSTRUCTIONS

13.2.1

Approximately one hour before this test is started, adjust the VED's water temperature setpoint to the same as the basin water temperature.

NA for leak localization efforts
_____/_____
Test Engineer Date

REDACTED

REMOVED

13.2.2

Install weighted draped plastic to cover the portion of the discharge chute wall that will be exposed to air, as completely as practical, to preclude emissions from the wall during drawdown.

See J-7 #1 for 94-1099. (para. 14)
W. J. Lane 14-3-95
Operations Date

13.2.3

Start ADAS data collection.

Test Engineer Date

N/A for leak localization efforts. W. J. Lane 4/3/95

13.2.4

For the duration of this test, at 60 minute intervals, check VED water temperature against the averaged water temperature from TCs, T-1 through T-5, in the basin and record in Appendix O. From this data verify that the VED temperature is held within $\pm 2^{\circ}\text{F}$ (3.6°C) of the basin's temperature. If necessary adjust the temperature of the VED water to match that of the basin and record all corrections in Appendix O.

Test Engineer Date

13.2.5

Recheck air inlet regulator to transfer pump is set to less than 80 psig. Pump water from the discharge chute to reach a differential water level between the discharge chute and the basin of between 11 (28cm) and 12 (30.5cm) inches by slowly opening the inlet air supply valve. Monitor discharge hose to assure hose is secured properly. Stop pumping if any problem are found. Carefully monitor both levels to keep within the OSR limits and to keep the water seal on the banana wall. Any variance outside the 11 (28cm) to 12 (30.5cm) inch range must be approved by the SOM and Fluid System Eng. for the potential impact to the OSR, water seal and the test data.

C. Sperline 14-3-95
Operations Date

REMOVED

REPLACED

13.2.6

Once the desired differential level is reached stop pumping and vent the transfer line to prevent water siphoning from the higher basin water level to the lower discharge chute level.

C. Spuline / 4-3-95
Operations Date

NOTE: If discharge chute water level rises, more than desired in the first portion of testing, inform the SOM. A 3/8 inch (0.95cm) per hour rise in discharge chute level indicates a failed leak test. It is permissible to continue with or repeat the data run before suspending the test. Once corrective action has been taken, outside this procedure, this procedure may be unsuspending and the test repeated. Entries into the Test Log for suspension, unsuspending and an brief account of work performed on the seals, during suspension, shall be included in the Test Log.

NOTE: Repeating of the data run can be performed at any time as long as both Sections 12.0 and 13.0 are repeated per step 4.2.10.

13.2.7

Perform Basin Isolation Barrier leakage test for at least 24 hours. Record the information below.

	<u>Basin</u>	<u>Discharge Chute</u>
Start Time _____	Initial Levels _____	_____
End Time _____	Final Levels _____	_____

Test Engineer / Date

QC Verify / Date

Fluid Systems Eng. / Date

NA for leak localization effort
Spuline
4/3/95

REPLACED

REPAID
NA for leak localization
efforts
4/8/95

13.2.9

If step 13.2.8 did not pass the acceptance criteria immediately perform the detailed analysis of the leak rate to determine if the barriers leak rate is acceptable. If step 13.2.8 did indicate that the barriers passed the acceptance criteria, this step can be performed after Section 14.0, Test Equipment Removal. Write "skipped" in the space below to indicate that this step will be performed after Section 14.0. Record the calculated Leak Rate(L) extrapolated to the 16 foot (4.9m) level differential, the measured Evaporation Rate(E) and Observed Level Change(T) below. Note: The acceptance criteria for this test is 750gph at 16 ft.

Extrapolated Leak Rate _____ gph
(must be less than 750 gph)

_____/_____
Test Engineer / Date

_____/_____
Fluid Systems Eng. / Date

13.2.10

Once the leak is determined to be acceptable; i.e., test is completed, restore level in the discharge chute by reversing the hoses on the transfer pump. Pump water from basin back into the discharge chute to the desired level.

Leena Klymchuk / 4-3-95
Operations / 3-3-95 or 4-3-95
Date

13.2.11. See J-7 #1, para 18.

13.3 KE Discharge Chute Leak Location & Verification

REPAID

APPENDIX L

CHANGED PAGES

(NOT USED)

APPENDIX M. BASIN AIR VELOCITIES AT AIR / WATER INTERFACE

Map Point	Direction and velocity							
	N fpm	NE fpm	E fpm	SE fpm	S fpm	SW fpm	W fpm	NW fpm
1 below	0	0	0	0	0	0	0	0
1 level	0	0	0	0	0	0	0	0
1 above	0	0	0	0	0	0	0	0
2 below	0	0	0	0	0	0	0	0
2 level	0	0	0	0	0	0	0	0
2 above	0	0	0	0	0	0	0	0
3 below	0	0	0	0	0	0	0	0
3 level	0	0	0	0	0	0	0	0
3 above	0 23	0 19	0	0	0 23	0	0	0
4 below	23	19	0	0	23	19	0	0
4 level	24	22	0	18	24	22	0	18
4 above	13	0	0	0	13	0	0	0
5 below	0	0	0	0	0	0	0	0
5 level	0	0	0	0	0	0	0	0
5 above	0	0	0	0	0	0	0	0
6 below	0	0	0	0	0	0	0	0
6 level	0	0	0	0	0	0	0	0
6 above	0	0	0	0	0	0	0	0

APPENDIX M. BASIN AIR VELOCITIES AT AIR / WATER INTERFACE

Map Point	Direction and velocity							
	N fpm	NE fpm	E fpm	SE fpm	S fpm	SW fpm	W fpm	NW fpm
7 below	0	0	0	0	0	0	0	0
7 level	0	0	0	0	0	0	0	0
7 above	0	0	0	0	0	0	0	0
8 below	0	0	0	0	0	0	0	0
8 level	0	0	0	0	0	0	0	0
8 above	0	0	0	0	0	0	0	0
9 below	0	0	0	0	0	0	0	0
9 level	0	0	0	0	0	0	0	0
9 above	0	0	0	0	0	0	0	0
VED VELOCITIES								
ved level	30	37	32	22	30	37	32	22
ved above	0	0	0	0	0	0	0	0
Data taken by: <i>KNUTSON - MERGEL SPARKS 1-18-95</i>								
Instrument info: <i>ALNOR # 799-28-01-005</i>								

CAL. DATE 11-11-94

DUE DATE 12-11-95

APPENDIX 0 DATA TABLE TEST 2

VED vs BASIN WATER
TEMPERATURE TRACKING RECORD
TEST 2

Date 04/18/95

Time	Basin Temp °F	VED Temp °F	Adjust Set Point Δ °F
0051	48.2	47.2	-0-
0100 0151	48.1	47.1	-0-
0251	48.0	47.2	-0-
0351	48.0	47.1	-0-
0451	48.0	47.1	-0-
0551	48.2	47.2	-0-
0651	48.1	47.1	-0-
0751	48.2	47.2	-0-
0851	48.1	47.0	-0-
0951	48.1	47.1	-0-
1051	48.2	47.2	-0-
1151	48.1	47.2	-0-
1251	48.3	47.2	-0-
1351	48.1	47.1	-0-
1451	48.0	47.1	-0-
1551	48.1	47.1	-0-
1651	48.1	46.7	-0-
1751	48.1	47.1	-0-
1851	48.0	47.0	-0-
1951	48.1	47.0	-0-
No further data this date. <i>[Signature]</i> 4/18/95			

WHC-SD-SNF-ATR-005 Rev. 0

APPENDIX P CALIBRATION RECORDS

WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07 TRUMENT	STANDARDS CODE NUMBER 444-80-04-002	NEW MODIFY <input checked="" type="checkbox"/>	REFERENCE NUMBER 384505
SERIAL NUMBER	PROPERTY NUMBER	ORGANIZATION CODE W8D310	WORK ORDER J803A
RECALL STATUS 1 ACTIVE		RECALL CYCLE	TOLERANCE HISTORY

WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07 TRUMENT	STANDARDS CODE NUMBER 444-80-04-001	NEW MODIFY <input checked="" type="checkbox"/>	REFERENCE NUMBER 384308
SERIAL NUMBER 94W102008	PROPERTY NUMBER N/A	ORGANIZATION CODE W8D310	WORK ORDER J803A
ULTRASONIC TRANSDUCER F&P 50US3115BBB	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 5 PM 6 NONDATA M&E	RECALL CYCLE 360	TOLERANCE HISTORY
ROOM N/A	BUILDING 3765	DATE RECEIVED 940901	TOLERANCE AS RECEIVED 1 IN 2 OUT 3 NA 4 FAILED
SENDER K MCCracken 3-6653	COMMENTS 2 PARTS	SHIPPING DAY MO	

INSTRUMENT SPECIFICATIONS ± 1% SPAN	TRAINING HOURS
STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS 4:1 RATIO Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	CALIBRATION HOURS 4.0
EXPIRATION DATE 0 02-50-02-001 6-15-95	REPAIR HOURS
4 44-67-11-001 9-7-95	OTHER HOURS 6.0
	MATERIALS
	TOTAL CHARGE = (\$120 x SUM OF HOURS) + MATERIAL

REMARKS PROCESSOR DISCREPANCY	DATE CALIBRATED 9-13-94	DATE DUE 9-13-95
PROCEDURE NUMBER WHC-6-FP-50US3000 REV 0	AMBIENT TEMPERATURE = 20.2°C	

INCHES	NAME	AS FOUND	BY 9-13-95		TOL
			RUN1	RUN2	
	RDS MV	MV	DIG. READOUT	MV	DIG. READOUT
0	40	40.45	0.00	40.46	-0.00
3	80	80.36	2.99	81.35	2.99
6	120	120.27	5.99	120.27	5.99
9	160	160.13	8.99	160.13	8.99
12	200	200.05	11.98	200.05	11.98
0	40	40.45	0.00	40.46	-0.00
1	80	80.35	00.99	80.35	00.99
2	120	120.27	02.00	120.26	02.00
3	160	160.13	02.99	160.13	02.98
4	200	200.05	04.00	200.05	04.00
0	40	40.46	00.01	40.46	-0.00
0.5	80	80.36	00.50	80.36	00.50
0	120	120.27	00.99	120.27	00.99
1.5	160	160.14	01.50	160.14	01.50
2.0	200	200.05	02.00	200.06	02.00

WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07		STANDARDS CODE NUMBER 444-32-02-002			NEW MODIFY	REFERENCE NUMBER 385101
INSTRUMENT DEW POINT TRANSMITTER OMEGA DEW-10-2B0		SERIAL NUMBER 12607G3	PROPERTY NUMBER N/A	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 1 4 DELETED 5 PM 6 NONDATA M&E	ORGANIZATION CODE W8D310	WORK ORDER J803A
SENDER K MCCracken 3-6653		ROOM N/A	BUILDING 3765	SERVICE DEPARTMENT 4	RECALL CYCLE 360	TOLERANCE HISTORY F
INSTRUMENT SPECIFICATIONS 1 Year $\pm 1^{\circ}F$ Dew Point		COMMENTS			DATE RECEIVED 940926	TOLERANCE AS RECEIVED 1 IN 2 OUT 3 NA 4 FAILED
STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS		4:1 RATIO Y <input checked="" type="checkbox"/> N <input type="checkbox"/>			TRAINING HOURS	
EXPIRATION DATE 001-32-01-004 128-96		EXPIRATION DATE			CALIBRATION HOURS 4.5	
EXPIRATION DATE 002-45-08-036 214-95		EXPIRATION DATE			REPAIR HOURS	
REMARKS					OTHER HOURS	
PROCEDURE NUMBER VM-4-DEW-10-2B0-GENERAL EASTERN (7-92)					MATERIALS	
Standard DEW-10-2B0 Indication MFG'S					TOTAL CHARGE - (\$120 x SUM OF HOURS) + MATERIALS	
of Dew Point AS FOUND FINAL SPEC'S					DATE CALIBRATED DATE DUE	
36.8 36.5 same $\pm 1^{\circ}F$					1-4-95 1-4-96	
49.9 49.4 " "					AMBIENT TEMPERATURE - 25°C	

APPROVED BY: *D. Nelson* 1-4-95 CALIBRATED BY: *WAC* STDL/SB 39 Hanford Operations and Engineering Contract for the United States Department of Energy Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 270, Richland, WA 99352 PAGE 1 OF 1

WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ		STANDARDS CODE NUMBER 444-80-04-003		NEW <input type="checkbox"/>	REFERENCE NUMBER 384506			
INSTRUMENT ULTRASONIC TRANSDUCER F&P 50US3000		SERIAL NUMBER 94W102009	PROPERTY NUMBER N/A	MODIFY <input checked="" type="checkbox"/>	WORK ORDER J803A			
SENDER K MCCracken 3-6653		ROOM N/A	BUILDING 3765	ORGANIZATION CODE W8D310	RECALL CYCLE 360			
INSTRUMENT SPECIFICATIONS X ±1% of SPAN DIGITAL READOUT NOT SPEC'D		SERVICE DEPARTMENT 6	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 5 PM 6 NONDATA M&TE	DATE RECEIVED 940908	TOLERANCE HISTORY 1 IN 2 OUT 3 NA 4 FAILED			
STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS		COMMENTS 2 PARTS X 4 to 20 mA INTO 10 Ω PRECISION		SHIPPING DAY MO				
EXPIRATION DATE 002-50-22-001 6-15-95		4:1 RATIO Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		TRAINING HOURS				
EXPIRATION DATE 777-45-08-120 2-14-95				CALIBRATION HOURS 7.5				
REMARKS MY ROLES IN DL				REPAIR HOURS				
PROCEDURE NUMBER WHC-6-FP-50US3000 REV-0				OTHER HOURS				
RUN 1				MATERIALS				
INCHES		N:m	MV	DIGITAL	MV	DIGITAL	TOL	
0	40	40.41	00.00	41.32	00.07		± 1.6mv	
3	80	80.35	02.99	80.34	02.99			
6	120	120.34	05.99	121.19	06.05			
9	160	161.09	09.05	161.09	09.05			
12	200	200.8	12.04	200.8	12.04			
0	40	40.05	00.00	40.02	00.00			
1	80	80.99	00.99	80.34	00.99			
2	120	120.00	02.00	120.35	02.00			
3	160	160.24	02.99	160.25	02.99			
4	200	200.8	04.01	200.0	04.00			
0	40	40.41	00.00	40.41	00.00			
.5	80	80.34	00.50	80.34	00.50			
1	120	120.34	00.99	120.34	00.99			
1.5	160	160.25	01.50	160.24	01.50			
2.0	200	200.8	02.01	200.8	02.01			
APPROVED BY D.P. Ralston 9-14-94		CALIBRATED BY BT		Hanford Operations and Engineering Contractor for the United States Department of Energy		Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352		PAGE 1 OF 1

WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07		STANDARDS CODE NUMBER 444-67-11-001			NEW MODIFY <input checked="" type="checkbox"/>	REFERENCE NUMBER 384439
INSTRUMENT TA LOGGER FLUKE 2625A HYDRA		SERIAL NUMBER 6102614	PROPERTY NUMBER N/A	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 1 4 DELETED 5 PH 6 NONDATA M&T	ORGANIZATION CODE WBD310	WORK ORDER J803A
SENDER K MCCracken 3-6653		ROOM N/A	BUILDING 3765	SERVICE DEPARTMENT 4	RECALL CYCLE 360	TOLERANCE HISTORY AS RECEIVED 1 IN 2 OUT / 3 NA 4 FAILED
INSTRUMENT SPECIFICATIONS See Tolerance Column		COMMENTS Customer TYPE "K" + 300mV Rng.			DATE RECEIVED 940901	SHIPPING DAY MO
STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS				4:1 RATIO Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		TRAINING HOURS
EXPIRATION DATE 002-14-01-035 10-1-94		EXPIRATION DATE				CALIBRATION HOURS 2.0
REMARKS (WP-123)		PROCEDURE NUMBER WHC-JFC-2620A REV.0		TOTAL CHARGE = (\$120 x SUM OF HOURS) + MATERIAL		REPAIR HOURS
				DATE CALIBRATED 9-7-94		OTHER HOURS
				DATE DUE 9-7-95		MATERIALS
				AMBIENT TEMPERATURE 21°C		

DATA LOGGER
4 PAGES

APPROVED BY JH Ball 9-8-94	CALIBRATED BY JFY	WHC STCLAB 39	Hanford Operations and Engineering Contract for the United States Department of Energy	Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352	PAGE 4 OF 4
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PROCEDURE NAME - 123 WHC-JFC-2620A REV.0	STANDARDS CODE NUMBER 444-67-11-001	REFERENCE NUMBER 384439
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DATA SHEET

FUNCTION & RANGE	STD SETTING		2620A INDICATION		TOLERANCES
			AS FOUND	FINAL	
DCV 300mv	0.000 MV		0.00	<i>same</i>	± .02 MV
300mv	150.00 MV		150.00		± .07 MV
300mv	290.00 MV		290.00		± .11 MV
3V	2.9000 V				± .0012 V
3V	-2.9000 V				± .0012 V
30V	29.000 V				± .01 V
150V	150.00 V				± .06 V
150V	-150.00 V				± .06 V
CHO, 1, 11 300V ONLY	290.00V				± .1 V
ACV 300MV	20.00MV	1KHz			± .29 MV
300MV	20.00MV	100KHz		± 1.5 MV	
300MV	290.00MV	1KHz		± .74 MV	
300MV	290.00MV	100KHz		± 15.0 MV	
3V	2.9000V	1KHz		± .0066 V	
30V	29.000V	1KHz		± .069 V	
150V	150.00V	1KHz		± .46 V	
300V	290.00V	1KHz		± .66 V	
Ohms 300Ω	SHORT			± .04 OHMS	
300Ω	300.00Ω			± .22 OHMS	
3KΩ	SHORT			± .0004K OHMS	

APPROVED BY <i>[Signature]</i> 9894	CALIBRATED BY <i>[Signature]</i> SDME 39	Page 2 of 4
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PROCEDURE NAME - 123 WHC-JFC-2620A REV.0	STANDARDS CODE NUMBER 444-67-11-001	REFERENCE NUMBER 384439
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DATA SHEET

PROCEDURE NAME - 123 WHC-JFC-2620A REV.0	STANDARDS CODE NUMBER 444-67-11-001	REFERENCE NUMBER 384439
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DATA SHEET

FUNCTION & RANGE	STD SETTING		2620A INDICATION		TOLERANCES
			AS FOUND	FINAL	
30KΩ	30.000KΩ				± .02 KΩ
300KΩ	300.00KΩ				± .2 KΩ
3MΩ	3.0000MΩ				± .0021 MΩ
10MΩ	10.000MΩ				± .014 MΩ
FREQ. Hz	900 KHz	2V P-P			± 616 Hz
TEMP TYPE K	TEMP °C	EQ. MV			10-27-94 ± 0.6°C
°C	-100.00	-3.553	-100.2		± .°C
	0.00	0.000	-0.2		± .44°C
	500.00	20.640	499.7		± .65°C
	1000.00	41.269	999.6		± .8°C
	1370.00	54.807	1369.8		± 1.05°C
TEMP TYPE T	-150.00	-4.648			± .84°C
°C	0.00	0.000			± .45°C
	200.00	9.286			± .45°C
	400.00	20.869			± .4°C
TEMP RTC	100Ω	0°C			± 0.24°C
4-WIRE	200Ω	266.58°C			± 0.48°C
	300Ω	558.00°C			± 0.75°C
TEMP TYPE J	-99.0°C	-4.591 mV			± .6°C
°C	0.0°C	0.0 mV			± .4°C
	200.0°C	10.777 mV			"
	400.0°C	21.846 mV			"
	600.0°C	33.096 mV			"
	760.0°C	42.922 mV			± .6°C

WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07		STANDARDS CODE NUMBER 444-08-01-001		NEW <input checked="" type="checkbox"/>	REFERENCE NUMBER 382892
INSTRUMENT BATH ETHYLN GLYCOL COLE-PARMER POLYSTAT		SERIAL NUMBER 0243	PROPERTY NUMBER N/A	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED	ORGANIZATION CODE W8D310 WORK ORDER E31285
SENDER KURT 3-6653		ROOM N/A	BUILDING 3765	SERVICE DEPARTMENT 4	RECALL CYCLE 360 DATE RECEIVED 940719
INSTRUMENT SPECIFICATIONS NOT KNOWN		COMMENTS SPEC'S NOT KNOWN			SHIPPING DAY MO TOLERANCE AS RECEIVED 1 IN 2 OUT 3 NA 4 FAILED

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS	4:1 RATIO Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	EXPIRATION DATE 002-79-06-001 9-23-94	EXPIRATION DATE Best acceptable
REMARKS		TRAINING HOURS	CALIBRATION HOURS 3.5
		REPAIR HOURS	OTHER HOURS
		MATERIALS	TOTAL CHARGE = (\$120 x SUM OF HOURS) + MATERIALS
		DATE CALIBRATED 7-22-94	DATE DUE 7-23-95
		AMBIENT TEMPERATURE = 21°C	

PROCEDURE NUMBER
WHC-79-06-THERMO REV. 1

I. Temperature Readout Calibration

Standard	AS FOUND	FINAL	Tolerance
0°C	1.1	0.0	NOT KNOWN
90.4°C	90.4	90.4	

II 50°F Set-up

Standard	Target Set
50.03	51.5°F

BATH / HEATER / CHILLER
FOR VED

←

APPROVED BY DL Bell 7-25-94	CALIBRATED BY JFH	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352	PAGE 1 OF 1
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WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

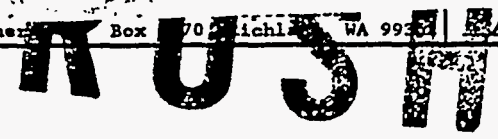
CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07		STANDARDS CODE NUMBER 444-50-03-001		NEW <input checked="" type="checkbox"/>	REFERENCE NUMBER 382869
INSTRUMENT METROMETER GAERTNER 0-102 IN		SERIAL NUMBER 962	PROPERTY NUMBER 15543100 COPY	ORGANIZATION CODE W8D310	WORK ORDER E31285
SENDER KURT 3-6653		ROOM N/A	BUILDING 3765	RECALL STATUS 1 ACTIVE 2 NO RECALL 3 SUSPENDED 4 DELETED	RECALL CYCLE 360
INSTRUMENT SPECIFICATIONS See below		COMMENTS		DATE RECEIVED 940719	TOLERANCE HISTORY AS RECEIVED 1 IN 2 OUT 3 NA 4 FAILED
				SHIPPING DAY MO	

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS		4:1 RATIO Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		TRAINING HOURS	
EXPIRATION DATE		EXPIRATION DATE		CALIBRATION HOURS 4.0	
002-50-02-002 06-28-95				REPAIR HOURS	
				OTHER HOURS	
				MATERIALS	
REMARKS				TOTAL CHARGE = (\$120 x SUM OF HOURS) + MATERIAL	
				DATE CALIBRATED 072694 DATE DUE 072695	
PROCEDURE NUMBER WHC-66-02-RULE (11-18-86)				AMBIENT TEMPERATURE = 68°F	

TEST POINTS	AS FOUND	FINAL	TOLERANCE
95.00 cm = 0.00	0.000	same	±.01/cm
95.20 " = 0.20	0.199	"	"
95.40 " = 0.40	0.398	"	"
95.60 " = 0.60	0.599	"	"
95.80 " = 0.80	0.797	"	"
96.00 " = 1.00	0.997	"	"
75.00 " = 20.00	19.994	"	"
55.00 " = 40.00	39.993	"	"
35.00 " = 60.00	59.992	"	"
15.00 " = 80.00	79.990	"	"

VERNIER SCALE FOR VED

APPROVED BY D.J. Nelson 7-26-94	CALIBRATED BY MEL	WHC STD LAB 50	Hanford O Engineer for the U Department of Energy	Box 70 Richland WA 99354	11 OF 11
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WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07		STANDARDS CODE NUMBER 444-78-02-001		NEW <input checked="" type="checkbox"/>	REFERENCE NUMBER 383590
INSTRUMENT THERMOCOUPLES TYPE EK 9 EACH		SERIAL NUMBER N/A	PROPERTY NUMBER N/A	MODIFY	WORK ORDER J803A
SENDER K MCCRACKEN 3-6653		ROOM N/A	BUILDING 3765	ORGANIZATION CODE W8D310	RECALL CYCLE 360
INSTRUMENT SPECIFICATIONS Standard K ± 2.2°C or ± 0.75% Reading (which ever is Greater)		SERVICE DEPARTMENT 4	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 1 4 DELETED 5 PM 6 NONDATA M&E	DATE RECEIVED 940804	TOLERANCE HISTORY AS RECEIVED 1 IN 2 OUT 3 NA 4 FAILED
COMMENTS Customer: 32, 50, +100°F		SHIPPING DAY MO		TOLERANCE AS RECEIVED	

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS		4:1 RATIO Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		TRAINING HOURS	
EXPIRATION DATE		EXPIRATION DATE		CALIBRATION HOURS 3.0	
002-79-06-036 3-18-95				REPAIR HOURS	
002-67-11-005 8-1-95				OTHER HOURS	
002-14-01-036 10-1-94				MATERIALS	
REMARKS				TOTAL CHARGE = (\$120 x SUM OF HOURS) + MATERIAL	
				DATE CALIBRATED 8-17-94	
				DATE DUE 8-17-95	

PROCEDURE NUMBER WHC-4-TC-CAL REV.3

AMBIENT TEMPERATURE - 20°C

SERIAL NUMBER	STANDARD °C	AS FOUND	SERIAL NUMBER	STANDARD °C	AS FOUND			
383	0°	0.2	← Same	9.9°	10.2			
384	↓	"	↓	↓	"			
385		"			"			
386		"			"			
387		0.3			"			
388		"			"			
389		"			10.3			
390		0.2			"			
391		"			"			
								END
383		37.8°			37.6			
384	↓	"						
385		"						
386		"						
387		37.5						
388		37.7						
389		"						
390		"						
391		37.6						
					END			

APPROVED BY D.J. Nelson	8-17-94	CALIBRATED BY [Signature]	WHC STDLAB 30	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company Hanford, WA 99301 Box 21970, Richland, WA 99352	PAGE 1 OF 1
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WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTOMER/ADDRESS MCCRACKEN KJ		STANDARDS CODE NUMBER 444-32-02-001		NEW	REFERENCE NUMBER 383923
INSTRUMENT 3 7		SERIAL NUMBER 12607G3		MODIFY	WORK ORDER J803A
DEW POINT TRANSMITTER OMEGA RHCM-10		PROPERTY NUMBER N/A	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 1 4 DELETED 5 PM 6 NONDATA M&T	ORGANIZATION CODE W8D310	TOLERANCE HISTORY
SENDER K MCCRACKEN 3-6653		ROOM N/A	SERVICE DEPARTMENT 4	RECALL CYCLE 360	TOLERANCE AS RECEIVED
INSTRUMENT SPECIFICATIONS 1 Year Derated To 1.2% ($\pm 2.16^{\circ}F$)		BUILDING 3765	COMMENTS A	DATE RECEIVED 940805	SHIPPING DAY MO

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS	4:1 RATIO Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	EXPIRATION DATE	EXPIRATION DATE	TRAINING HOURS
002-79-06-001		9-23-94		CALIBRATION HOURS 6.0
002-79-06-034		3-18-95		REPAIR HOURS 4.0
002-79-06-035		3-18-95		OTHER HOURS
REMARKS				MATERIALS
				TOTAL CHARGE = (\$120 x SUM OF HOURS) + MATERIAL
				DATE CALIBRATED 8-22-94
				DATE DUE 8-22-95
PROCEDURE NUMBER VM-4-DEW-10-2B0-General Eastern 7-92				AMBIENT TEMPERATURE -20°C

Standard	Current OUTPUT	EQUIVALENT
Dew Point RH	AS FOUND	FINAL
46.0°F/27%	11.387 ma	46.1 °F
0.8°F/63.4%	12.014 "	50.08°F
57.2°F/78.6%	13.032 "	56.45°F
46.2°F/34.3%	11.446 "	46.54°F
	Feb 8-	

APPROVED BY DL Ball 08-22-94	CALIBRATED BY JFJ	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352	PAGE 1 OF 1
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WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

STODIAN/ADDRESS MCCRACKEN KJ	STANDARDS CODE NUMBER 444781021002 PHOTOCOPIED COPY			NEW MODIFY <input checked="" type="checkbox"/>	REFERENCE NUMBER 385368
5-07				ORGANIZATION CODE W8D310	WORK ORDER J803A
INSTRUMENT THERMOCOUPLE	SERIAL NUMBER N/A	PROPERTY NUMBER N/A	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 5 PM 6 NONDATA M&T	RECALL CYCLE 360	TOLERANCE HISTORY
ROOM K	BUILDING 3765	SERVICE DEPARTMENT 4	DATE RECEIVED 941011	TOLERANCE AS RECEIVED 1 IN 2 OUT 3 NA 4 FAILED	
ORDER MCCRACKEN 3-6653	COMMENTS 0, 10, 37.7 + 48.9°C			SHIPPING DAY MO	

INSTRUMENT SPECIFICATIONS 1 Year ± 2.2°C	TRAINING HOURS
STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY NATIONALLY RECOGNIZED STANDARDS	CALIBRATION HOURS <u>3.5</u>
EXPIRATION DATE 002-79-03-002 4-28-95	REPAIR HOURS
002-67-11-004 6-10-95	OTHER HOURS
MARKS	MATERIALS
	TOTAL CHARGE = (\$ 79 x SUM OF HOURS) + MATERIAL
	DATE CALIBRATED 10-18-94
	DATE DUE 10-18-95

PROCEDURE NUMBER WHC-4-TC-CAL REV. 3

SERIAL NUMBER	STANDARD °C	AS FOUND	SERIAL NUMBER	STANDARD	AS FOUND
304	-0.27	-0.1	304	38.14	38.2
305		"	305		"
306		"	306		"
307		-0.2	307		"
308		"	308		"
309		"	309		"
310		"	310		"
311		"	311		"
312	↓	"	312	↓	"
304	10.16°C	10.2	304	49.48	49.5
305		"	305		"
306		"	306		"
307		"	307		"
308		"	308		49.6
309		10.3	309		"
310		"	310		"
311		"	311		49.5
312	↓	10.2	312	↓	"

APPROVED BY K.H. Chubb	CALIBRATED BY J.F.J.	WHC SDLS	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352	PAGE 1 OF 1
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WESTINGHOUSE STANDARDS CONTROLLED BODY LABORATORY PHYSICAL AND ELECTRICAL REPORT

STODIAN/ADDRESS MCCRACKEN KJ		STANDARDS CODE NUMBER 444-67-11-002		NEW <input checked="" type="checkbox"/>	REFERENCE NUMBER 385388
5-07				MODIFY <input checked="" type="checkbox"/>	
INSTRUMENT TEMP LOGGER		SERIAL NUMBER 5893600	PROPERTY NUMBER N/A	ORGANIZATION CODE W8D310	WORK ORDER J803A
J... 2620A		ROOM N/A	BUILDING 3765	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 1 4 DELETED 5 PM 6 NONDATA M&E	RECALL CYCLE 360
YDRA		SERVICE DEPARTMENT 4	DATE RECEIVED 941011	TOLERANCE HISTORY AS RECEIVED 1 IN 2 OUT / 3 NA 4 FAILED	
ORDER MCCRACKEN 3-6653		COMMENTS 4:1 Yes 2000M-CL8300			SHIPPING DAY MO

INSTRUMENT SPECIFICATIONS
1 Year See Tolerance Column
Slow Sample Rate

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
NATIONALLY RECOGNIZED STANDARDS
4:1 RATIO Y N

EXPIRATION DATE	EXPIRATION DATE
202-14-01-035 12-1-95	
202-14-01-036 3-14-95	

MARKS
WP-123) Resistors Installed Chan 1-12

PROCEDURE NUMBER
WHC-JFC-2620A REV.0

TRAINING HOURS
CALIBRATION HOURS 3.0
REPAIR HOURS
OTHER HOURS
MATERIALS
TOTAL CHARGE = (\$ 79 x SUM OF HOURS) + MATERIAL
DATE CALIBRATED 10-18-94 DATE DUE 10-18-95
AMBIENT TEMPERATURE = 21°C

Standard °C	TC TYPE	UUT Indication		MFG'S Tolerance
		AS FOUND	FINAL	
0	K	0.0	Same	±0.44°C
50	↓	49.8		
100		99.7		
200		199.7		
500		499.7		
750		749.7		
1000		999.7		
1372	↓	1371.8		"

APPROVED BY K.H. Ch... 10/19/94	CALIBRATED BY J.F.J.	WHC STDLAB 39	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352	PAGE 1 OF 5
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PROCEDURE NAME - 17	STANDARDS CODE NUMBER 444-67-11-002	REFERENCE NUMBER 385388
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DATA SHEET

CHANNEL #	STANDARD INDICATION	HYDRA INDICATION		MANUFACTURER SPECIFICATION
		AS FOUND	FINAL	
1 ↓	1 ma	10.00		10mV ± 30uV
	4 "	40.00		40mV ± 70uV
	8 "	80.01		80mV ± 110uV
	12 "	120.02		120mV ± 160uV
	16 "	160.04		160mV ± 200uV
	20 "	200.05		200mV ± 240uV
2 ↓	30 "	300.07		300mV ± 350uV
	1 "	10.00	Same	SAME
	4 "	40.00		
	8 "	80.01		
	12 "	120.03		
	16 "	160.04		
20 "	200.05			
3 ↓	30 "	300.08		
	1 "	10.00		
	4 "	40.01		
	8 "	80.02		
	12 "	120.03		
	16 "	160.05		
↓	20 "	200.06		
	30 "	300.10		

APPROVED BY KL [Signature] 10/19/94	CALIBRATED BY VHC [Signature]	Page 2 of 5
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PROCEDURE NAME - 17	STANDARDS CODE NUMBER 444-67-11-002	REFERENCE NUMBER 385388
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DATA SHEET

CHANNEL #	STANDARD INDICATION	HYDRA INDICATION		MANUFACTURER SPECIFICATION
		AS FOUND	FINAL	
4 ↓	1 ma	10.00		10mV ± 30uV
	4 "	40.01		40mV ± 70uV
	8 "	80.02		80mV ± 110uV
	12 "	120.03		120mV ± 160uV
	16 "	160.04		160mV ± 200uV
	20 "	200.04		200mV ± 240uV
↓	30 "	300.09		300mV ± 350uV
5 ↓	1 "	10.00	same	SAME
	4 "	40.00		
	8 "	80.02		
	12 "	120.03		
	16 "	160.05		
	20 "	200.04		
↓	30 "	300.10		
6 ↓	1 "	10.00	same	SAME
	4 "	40.01		
	8 "	80.02		
	12 "	120.03		
	16 "	160.04		
	20 "	200.06		
↓	30 "	300.09		

APPROVED BY K.H. [Signature] 10/19/94	CALIBRATED BY [Signature]	std LAB 39	Page 3 of 5
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PROCEDURE NAME - 17	STANDARDS CODE NUMBER 444-67-11-002	REFERENCE NUMBER 385388
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DATA SHEET

CHANNEL #	STANDARD INDICATION	HYDRA INDICATION		MANUFACTURER SPECIFICATION
		AS FOUND	FINAL	
7 ↓	1 ma	10.00		10mv ± 30uv
	4 "	40.01		40mv ± 70uv
	8 "	80.02		80mv ± 110uv
	12 "	120.04		120mv ± 160uv
	16 "	160.06		160mv ± 200uv
	20 "	200.08		200mv ± 240uv
↓	30 "	300.11		300mv ± 350uv
8 ↓	1 "	10.00	SAME	SAME
	4 "	40.01		
	8 "	80.01		
	12 "	120.01		
	16 "	160.02		
	20 "	200.02		
↓	30 "	300.03		
9 ↓	1 "	10.00	SAME	SAME
	4 "	40.00		
	8 "	80.00		
	12 "	120.01		
	16 "	160.01		
	20 "	200.02		
↓	30 "	300.02		↓

APPROVED BY KL [Signature] 10/19/94	CALIBRATED BY [Signature] 39	Page 4 of 5
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PROCEDURE NAME - 17	STANDARDS CODE NUMBER 444-67-11-002	REFERENCE NUMBER 385388
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DATA SHEET

CHANNEL #	STANDARD INDICATION	HYDRA INDICATION		MANUFACTURER SPECIFICATION
		AS FOUND	FINAL	
10 ↓	1 ma	10.00	SAME	10mV ± 30uV
	4 "	40.00		40mV ± 70uV
	8 "	80.01		80mV ± 110uV
	12 "	120.02		120mV ± 160uV
	16 "	160.03		160mV ± 200uV
	20 "	200.04		200mV ± 240uV
↓	30 "	300.07	300mV ± 350uV	
11 ↓	1 "	10.00	SAME	SAME
	4 "	40.01		
	8 "	80.01		
	12 "	120.01		
	16 "	160.02		
	20 "	200.02		
↓	30 "	300.02		
12 ↓	1 "	10.00	SAME	SAME
	4 "	40.01		
	8 "	80.01		
	12 "	120.03		
	16 "	160.03		
	20 "	200.04		
↓	30 "	300.06		

APPROVED BY	CALIBRATED BY STDLAB 39	Page 5 of 5
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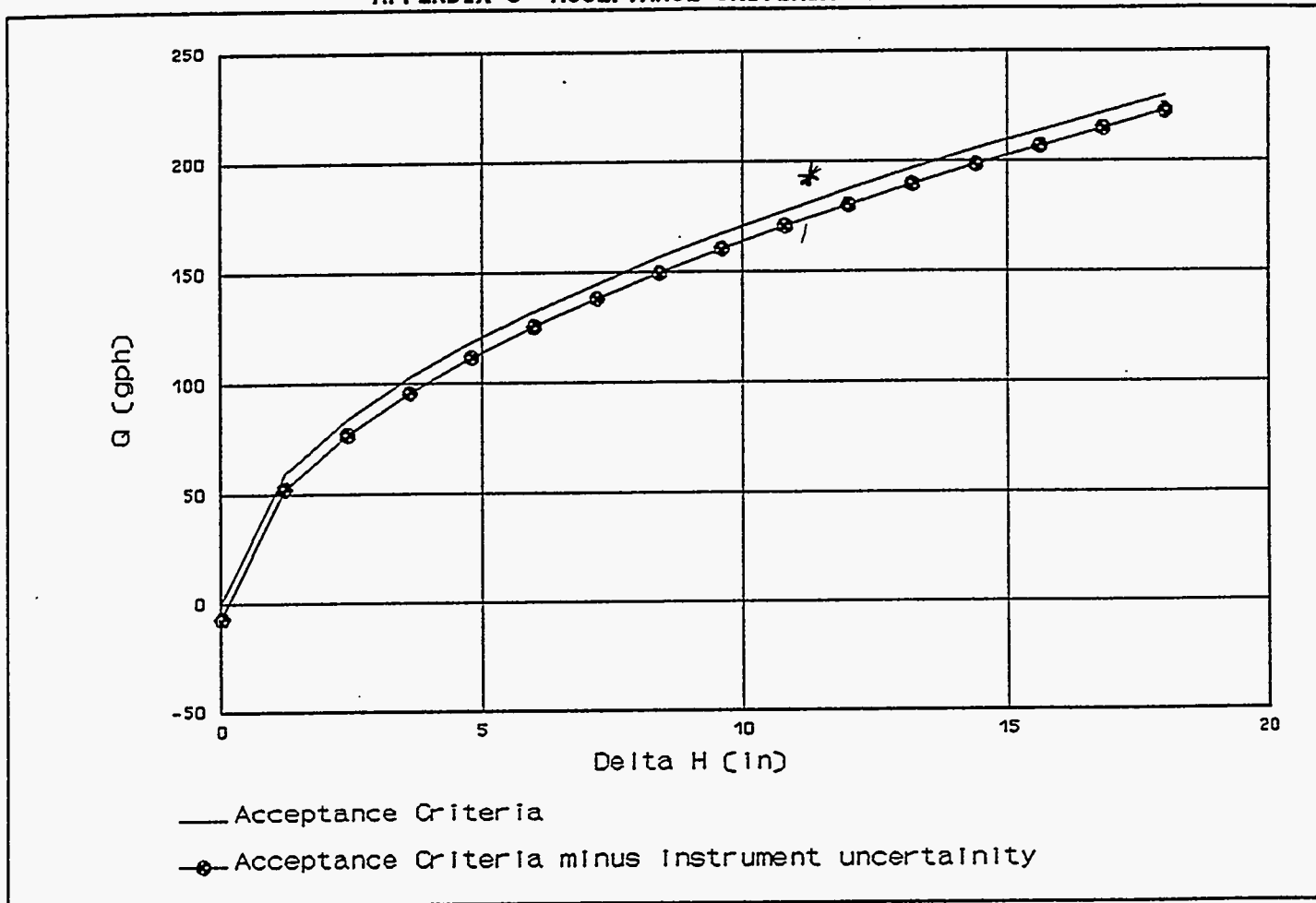
APPENDIX Q ACCEPTANCE CRITERIA TABLE

Delta H (in)	Q (gph)
0	0
1.2	59.2
2.4	83.7
3.6	102.5
4.8	118.4
6.0	132.3
7.2	144.9
8.4	156.6
9.6	167.4
10.8	177.5
12.0	187.1
13.2	196.3
14.4	205.0
15.6	213.4
16.8	221.4
18.0	229.2
multiply in by 2.54 to obtain cm and multiply gph by 3.785 to obtain l/hr.	

APPENDIX R ESTIMATED INSTRUMENT ERROR

Instrument	Basin ± gallons per 1st hour	Discharge Chute ± gallons per 1st hour	Basin per 24 hours ± gph	Discharge Chute per 24 hours ± gph
Basin Area	0.8	0.8	0.8	0.8
USLD	110.8	36.6	4.6	1.5
TC	31.5	3.5	1.3	0.2
VED	0.2	0.02	0.2	0.02
Dew Point	n/a	n/a	n/a	n/a
Total	143.3	40.9	6.9	2.5
multiply gph by 3.785 to obtain lph				

APPENDIX S ACCEPTANCE CRITERIA GRAPH



NOTE: Delta H is the difference between the basin and discharge chute water levels.

APPENDIX T

FLUKE WIRELESS DATA LOGGER FILES (TEST 1)

time dc(ln) ved(ln) dewpt(F) Air(F) AirVED(F) B2(F) B3(F) B4(F) B5 (F) DC1(F) DC2(F) VED(F)

ketest1.cs MDY2c./
03/22/95 19:08:58

TIME	OFF	OFF	dc (ln)	ved (ln)	dewpt (F)	Air(F)	AirVED(F)	OFF	BSN2 (F)	BSN3 (F)	OFF	BSN4(F)	BSN5 (F)	DC1 (F)	dc2(F)	VED(F)	OFF	OFF	OFF	OFF	TOTAL	DIO
0	0	0	2.07118	0 5.23076	41.6796	53.2749	61.6036	0	48.6947	48.5418	0	48.4271	48.3889	48.6565	48.8476	53.3131	0	0	0	0	0	4095
60	0	0	2.06962	0 5.23322	41.6491	53.259	61.5498	0	48.6023	48.4494	0	48.4111	48.4111	48.564	48.7934	52.8015	0	0	0	0	0	4095
120	0	0	2.06962	0 5.20425	41.6304	53.229	61.4819	0	48.7251	48.4957	0	48.381	48.381	48.6104	48.7251	52.1613	0	0	0	0	0	4095
180	0	0	2.06949	0 5.17799	41.6254	53.2367	61.4897	0	48.6182	48.427	0	48.3888	48.427	48.6182	48.7328	51.5968	0	0	0	0	0	4095
240	0	0	2.06955	0 5.2306	41.5491	53.2593	61.4362	0	48.6026	48.4879	0	48.4114	48.4497	48.6026	48.7554	50.9707	0	0	0	0	0	4095
300	0	0	2.06955	0 5.23136	41.5728	53.2036	61.4946	0	48.5467	48.4321	0	48.3556	48.4321	48.6232	48.7379	50.495	0	0	0	0	0	4095
360	0	0	2.06962	0 5.23068	41.5474	53.1495	61.4408	0	48.5689	48.4542	0	48.3396	48.416	48.5689	48.6071	49.868	0	0	0	0	0	4095
420	0	0	2.06949	0 5.23085	41.5186	53.2481	61.4251	0	48.5913	48.5149	0	48.3238	48.4384	48.6296	48.706	49.432	0	0	0	0	0	4095
480	0	0	2.06962	0 5.21747	41.4424	53.238	61.4909	0	48.7723	48.6194	0	48.3518	48.4665	48.6194	48.734	48.8487	0	0	0	0	0	4095
540	0	0	2.07186	0 5.24457	41.478	53.2043	61.4194	0	48.6621	48.7385	0	48.3563	48.3563	48.5856	48.6621	48.318	0	0	0	0	0	4095
600	0	0	2.06955	0 5.20425	41.4373	53.1865	61.4017	0	48.5678	48.8735	0	48.4149	48.4149	48.606	48.7971	48.2619	0	0	0	0	0	4095
660	0	0	2.06962	0 5.22407	41.4339	53.2791	61.418	0	48.6224	48.8517	0	48.4313	48.4695	48.6224	48.7753	47.896	0	0	0	0	0	4095
720	0	0	2.06962	0 5.23381	41.4695	53.2173	61.3944	0	48.7515	48.5987	0	48.4075	48.484	48.5987	48.7898	47.681	0	0	0	0	0	4095
780	0	0	2.06962	0 5.25762	41.4102	53.2339	61.4488	0	48.6917	48.6535	0	48.4242	48.4242	48.6153	48.7682	47.6594	0	0	0	0	0	4095
840	0	0	2.06962	0 5.25753	41.3662	53.2489	61.3879	0	48.5539	48.5921	0	48.401	48.4774	48.6303	48.7832	47.5597	0	0	0	0	0	4095
900	0	0	2.06955	0 5.2577	41.3746	53.1603	61.3756	0	48.5415	48.5798	0	48.3886	48.3886	48.618	48.7327	47.7004	0	0	0	0	0	4095
959	0	0	2.06969	0 5.23076	41.3797	53.2185	61.4336	0	48.6763	48.5617	0	48.4088	48.4088	48.5617	48.7528	47.5293	0	0	0	0	0	4095
1019	0	0	2.06969	0 5.25745	41.3984	53.2212	61.3223	0	48.7172	48.5643	0	48.3732	48.3732	48.6025	48.7172	47.5702	0	0	0	0	0	4095
1079	0	0	2.07077	0 5.20442	41.373	53.2069	61.3461	0	48.6264	48.5118	0	48.3971	48.3971	48.55	48.7411	47.4029	0	0	0	0	0	4095
1139	0	0	2.06962	0 5.28701	41.3374	53.13	61.2695	0	48.664	48.4347	0	48.32	48.3582	48.5493	48.664	47.9376	0	0	0	0	0	4095
1199	0	0	2.06962	0 5.28624	41.3543	53.1815	61.3588	0	48.6775	48.5628	0	48.3717	48.4481	48.6775	48.7539	47.7216	0	0	0	0	0	4095
1259	0	0	2.06955	0 5.28269	41.3543	53.2341	61.3352	0	48.7301	48.539	0	48.3861	48.4244	48.5773	48.7684	47.6979	0	0	0	0	0	4095
1319	0	0	2.06969	0 5.25762	41.3154	53.1192	61.3726	0	48.5767	48.5767	0	48.3856	48.4238	48.5767	48.7678	47.8886	0	0	0	0	0	4095
1379	0	0	2.06962	0 5.25084	41.2849	53.1501	61.3275	0	48.7606	48.6077	0	48.3401	48.4166	48.5695	48.7988	47.6901	0	0	0	0	0	4095
1439	0	0	2.06955	0 5.25753	41.2781	53.0862	61.3018	0	48.5818	48.5818	0	48.3142	48.276	48.5818	48.6965	47.7789	0	0	0	0	0	4095
1499	0	0	2.06962	0 5.22441	41.2561	53.0787	61.2944	0	48.6126	48.4979	0	48.345	48.345	48.5361	48.689	47.695	0	0	0	0	0	4095
1559	0	0	2.06955	0 5.25575	41.2645	53.139	61.3544	0	48.5583	48.4819	0	48.2908	48.329	48.5966	48.7112	47.8702	0	0	0	0	0	4095
1619	0	0	2.06983	0 5.28455	41.2578	53.1506	61.2521	0	48.57	48.4935	0	48.3406	48.3406	48.57	48.7229	47.9965	0	0	0	0	0	4095
1679	0	0	2.06969	0 5.28396	41.2578	53.1084	61.248	0	48.5659	48.5277	0	48.2983	48.4512	48.5659	48.757	47.6483	0	0	0	0	0	4095
1739	0	0	2.06969	0 5.26753	41.2357	53.2263	61.3654	0	48.7605	48.5694	0	48.3401	48.4548	48.5694	48.7988	48.1489	0	0	0	0	0	4095
1799	0	0	2.06962	0 5.28396	41.2103	53.1616	61.263	0	48.7339	48.4663	0	48.3517	48.3517	48.5046	48.7721	47.7016	0	0	0	0	0	4095
1859	0	0	2.06955	0 5.27794	41.2273	53.069	61.2468	0	48.5264	48.5264	0	48.3735	48.3353	48.5264	48.6793	48.2206	0	0	0	0	0	4095
1919	0	0	2.06962	0 5.25846	41.2307	53.105	61.3206	0	48.5625	48.5243	0	48.3332	48.4479	48.6008	48.7919	48.142	0	0	0	0	0	4095
1979	0	0	2.06955	0 5.25762	41.2273	53.0753	61.3289	0	48.5327	48.4945	0	48.2651	48.3798	48.5327	48.6856	48.1122	0	0	0	0	0	4095
2039	0	0	2.07057	0 5.24135	41.1883	52.9987	61.2907	0	48.4942	48.4942	0	48.2648	48.3413	48.4942	48.6471	48.0737	0	0	0	0	0	4095
2098	0	0	2.06962	0 5.2444	41.1764	53.1459	61.3233	0	48.6417	48.4506	0	48.2977	48.3742	48.4888	48.7182	48.0683	0	0	0	0	0	4095
2158	0	0	2.06955	0 5.28396	41.1815	53.1522	61.3296	0	48.7627	48.6098	0	48.3423	48.4187	48.5716	48.7627	48.3805	0	0	0	0	0	4095
2218	0	0	2.06962	0 5.24432	41.1812	53.1643	61.3416	0	48.6984	48.5073	0	48.3544	48.4691	48.5838	48.7749	48.3544	0	0	0	0	0	4095
2278	0	0	2.06969	0 5.23093	41.1426	53.0859	61.3774	0	48.7345	48.5051	0	48.3522	48.3905	48.6198	48.7727	48.4287	0	0	0	0	0	4095
2338	0	0	2.06969	0 5.2577	41.1426	53.1051	61.2827	0	48.6008	48.5244	0	48.295	48.4097	48.5626	48.7537	48.4097	0	0	0	0	0	4095
2398	0	0	2.06955	0 5.25897	41.1171	53.0216	61.3134	0	48.6318	48.4789	0	48.326	48.326	48.5171	48.7082	48.5171	0	0	0	0	0	4095
2458	0	0	2.06955	0 5.25762	41.1019	53.1401	61.2796	0	48.6359	48.5213	0	48.4066	48.4066	48.6359	48.7888	48.5977	0	0	0	0	0	4095
2518	0	0	2.06955	0 5.31047	41.0646	53.0469	61.2627	0	48.5425	48.5043	0	48.2749	48.3514	48.5425	48.6954	48.3896	0	0	0	0	0	4095
2578	0	0	2.07138	0 5.2577	41.0833	53.1383	61.2778	0	48.6342	48.5195	0	48.2901	48.4048	48.5195	48.7488	48.6724	0	0	0	0	0	4095
2638	0	0	2.06962	0 5.2577	41.0409	53.0356	61.2894	0	48.5694	48.4547	0	48.3018	48.34	48.5694	48.7605	48.2638	0	0	0	0	0	4095
2698	0	0	2.06962	0 5.2311	41.0612	53.0849	61.3005	0	48.6188	48.5423	0	48.313	48.3512	48.5806	48.6952	48.4277	0	0	0	0	0	4095
2758	0	0	2.06962	0 5.28396	41.0511	53.0443	61.2222	0	48.6545	48.387	0	48.2723	48.3105	48.5017	48.731	48.4252	0	0	0	0	0	4095
2818	0	0	2.06955	0 5.20442	41.0579	53.0619	61.2776	0	48.5957	48.4046	0	48.3281	48.2899	48.5193	48.7104	48.481	0	0	0	0	0	4095
2878	0	0	2.06969	0 5.20459	41.0697	53.1051	61.3586	0	48.6008	48.5244	0	48.3333	48.4097	48.6773	48.7919	48.5628	0	0	0	0	0	4095
2938	0	0	2.06955	0 5.28396	41.0358	53.0519	61.2677	0	48.5092	48.4328	0	48.2799	48.3181	48.6239	48.7003	48.5092	0	0	0	0	0	4095
2998	0	0	2.06962	0 5.2605	41.046	53.07	61.3616	0	48.6039	48.5274	0	48.3745	48.451	48.6421	48.7568	48.6039	0	0	0	0	0	4095
3058	0	0	2.06955	0 5.20468	41.0341	53.1215	61.3749	0	48.6555	48.4644	0	48.3497	48.3879	48.6173	48.7319	48.4261	0	0	0	0	0	4095
3118	0	0	2.06969	0 5.25787	41.0358	53.0065	61.2984	0	48.6166	48.4637	0	48.3108	48.3873	48.5784	48.6931	48.6931	0	0	0	0	0	4095
3178	0	0	2.06955	0 5.25982	41.0528	53.0536	61.2694	0	48.7021	48.511	0	48.3581	48.3963	48.5874	48.7403	48.6256	0	0	0	0	0	4095
3238	0	0	2.06962	0 5.2841																		

time dc(in) ved(in) dewpt(F) Alr(F) AlrVED(F) B2(F) B3(F) B4(F) B5 (F) DC1(F) DC2(F) VED(F)

3778	0	0	2.06969	0	5.24466	41.0038	53.1255	61.2651	0	48.738	48.4302	0	48.3155	48.3537	48.5066	48.7742	48.4302	0	0	0	0	0	4095
3838	0	0	2.06962	0	5.28421	40.9935	53.0916	61.3072	0	48.702	48.4726	0	48.2815	48.4344	48.5491	48.7402	48.4726	0	0	0	0	0	4095
3898	0	0	2.06969	0	5.23111	40.9867	53.0209	61.2748	0	48.7075	48.4782	0	48.2488	48.3635	48.4782	48.7075	48.287	0	0	0	0	0	4095
3958	0	0	2.0701	0	5.20595	40.9664	53.0995	61.2392	0	48.7099	48.5188	0	48.3276	48.3659	48.557	48.6717	48.213	0	0	0	0	0	4095
4018	0	0	2.06962	0	5.23119	40.963	53.0497	61.2655	0	48.66	48.4688	0	48.3542	48.3924	48.5071	48.7364	48.2777	0	0	0	0	0	4095
4078	0	0	2.06962	0	5.25787	40.9613	53.0653	61.2051	0	48.6374	48.4845	0	48.2933	48.3698	48.5609	48.6374	48.3315	0	0	0	0	0	4095
4138	0	0	2.06969	0	5.18121	40.9325	53.0785	61.2941	0	48.6506	48.5359	0	48.3065	48.4212	48.5741	48.6506	48.0389	0	0	0	0	0	4095
4198	0	0	2.06962	0	5.24483	40.9257	53.1112	61.2128	0	48.6451	48.4922	0	48.2629	48.2629	48.5305	48.6069	48.3393	0	0	0	0	0	4095
4258	0	0	2.06962	0	5.25778	40.9376	53.0538	61.2316	0	48.6258	48.4729	0	48.2818	48.32	48.5112	48.7023	48.1289	0	0	0	0	0	4095
4318	0	0	2.06955	0	5.25778	40.9122	53.1039	61.2435	0	48.5232	48.5614	0	48.4085	48.3702	48.5996	48.7143	48.4085	0	0	0	0	0	4095
4378	0	0	2.06962	0	5.2245	40.9122	53.0794	61.295	0	48.8043	48.6132	0	48.3839	48.4603	48.575	48.8426	48.3074	0	0	0	0	0	4095
4438	0	0	2.06962	0	5.25829	40.8783	53.0168	61.1948	0	48.5505	48.4741	0	48.3594	48.3976	48.5123	48.7798	48.3212	0	0	0	0	0	4095
4498	0	0	2.06969	0	5.23119	40.863	53.0542	61.1562	0	48.6263	48.4352	0	48.3587	48.3587	48.4734	48.7027	48.2822	0	0	0	0	0	4095
4558	0	0	2.06955	0	5.25821	40.8224	53.0237	61.1637	0	48.6339	48.4045	0	48.3663	48.328	48.4045	48.6721	48.2516	0	0	0	0	0	4095
4618	0	0	2.06962	0	5.23356	40.8393	53.0837	61.2235	0	48.6176	48.503	0	48.35	48.4265	48.6176	48.6941	48.3118	0	0	0	0	0	4095
4678	0	0	2.06962	0	5.28421	40.8258	53.0259	61.2418	0	48.5979	48.445	0	48.3688	48.3303	48.5979	48.6744	48.5979	0	0	0	0	0	4095
4738	0	0	2.06955	0	5.23153	40.7768	52.9912	61.0934	0	48.6395	48.3719	0	48.2572	48.3337	48.5248	48.6013	48.3337	0	0	0	0	0	4095
4797	0	0	2.06962	0	5.23127	40.7783	53.0274	61.1674	0	48.7523	48.4847	0	48.3318	48.4082	48.5611	48.6758	48.3318	0	0	0	0	0	4095
4857	0	0	2.06962	0	5.25778	40.7614	53.0831	61.1849	0	48.6934	48.4641	0	48.3876	48.4258	48.5787	48.6552	48.5787	0	0	0	0	0	4095
4917	0	0	2.07091	0	5.23127	40.7631	52.9527	61.093	0	48.6391	48.3716	0	48.2951	48.3333	48.5245	48.7156	48.3716	0	0	0	0	0	4095
4977	0	0	2.06962	0	5.2588	40.7258	53.0816	61.1075	0	48.6155	48.5008	0	48.2715	48.3861	48.5391	48.6919	48.2332	0	0	0	0	0	4095
5037	0	0	2.06955	0	5.26016	40.697	53.0585	61.1604	0	48.5924	48.5159	0	48.3248	48.4012	48.5541	48.7835	48.4012	0	0	0	0	0	4095
5097	0	0	2.06962	0	5.2843	40.653	53.0319	61.1339	0	48.6803	48.4892	0	48.3745	48.3745	48.5657	48.7185	48.5274	0	0	0	0	0	4095
5157	0	0	2.06962	0	5.28421	40.6767	53.1007	61.1265	0	48.5964	48.5582	0	48.3288	48.4053	48.52	48.7111	48.52	0	0	0	0	0	4095
5217	0	0	2.06955	0	5.25872	40.6039	53.1048	61.2064	0	48.7151	48.5623	0	48.3711	48.4476	48.6005	48.7534	48.4858	0	0	0	0	0	4095
5277	0	0	2.06955	0	5.31072	40.675	52.9949	61.1351	0	48.6815	48.4904	0	48.2992	48.3757	48.5668	48.7197	48.4904	0	0	0	0	0	4095
5337	0	0	2.06962	0	5.25795	40.6987	52.9428	61.0831	0	48.591	48.3998	0	48.2851	48.3234	48.4763	48.6292	48.3998	0	0	0	0	0	4095
5397	0	0	2.06962	0	5.23138	40.6564	52.8982	61.1148	0	48.6991	48.4698	0	48.2786	48.3551	48.5845	48.6609	48.3551	0	0	0	0	0	4095
5457	0	0	2.06983	0	5.26804	40.5632	52.9606	61.1768	0	48.6853	48.3795	0	48.303	48.3413	48.4942	48.6088	48.6853	0	0	0	0	0	4095
5517	0	0	2.06962	0	5.23102	40.614	53.0287	61.1307	0	48.83	48.4096	0	48.2949	48.4478	48.5625	48.6007	48.3331	0	0	0	0	0	4095
5577	0	0	2.06955	0	5.28421	40.5988	52.9621	61.1782	0	48.8396	48.4574	0	48.2663	48.3809	48.5721	48.6867	48.1898	0	0	0	0	0	4095
5637	0	0	2.06962	0	5.25795	40.6005	53.0481	61.188	0	48.7348	48.429	0	48.3143	48.429	48.5819	48.6966	48.4672	0	0	0	0	0	4095
5697	0	0	2.06962	0	5.26092	40.6022	52.905	61.0835	0	48.6296	48.4767	0	48.2855	48.3238	48.4767	48.6878	48.5149	0	0	0	0	0	4095
5757	0	0	2.06955	0	5.2843	40.6055	53.0031	61.0672	0	48.7661	48.4603	0	48.3074	48.3456	48.5367	48.6514	48.6514	0	0	0	0	0	4095
5817	0	0	2.06962	0	5.23102	40.6174	52.9068	61.085	0	48.7076	48.4782	0	48.2488	48.44	48.44	48.7076	48.3635	0	0	0	0	0	4095
5877	0	0	2.07188	0	5.25914	40.6089	52.9548	61.0951	0	48.7177	48.4883	0	48.259	48.3736	48.603	48.6794	48.4883	0	0	0	0	0	4095
5937	0	0	2.06969	0	5.25795	40.6428	52.9258	61.1042	0	48.6886	48.8797	0	48.2681	48.3063	48.5357	48.6504	48.4975	0	0	0	0	0	4095
5997	0	0	2.06969	0	5.26194	40.6123	52.8459	61.0626	0	48.6085	48.9143	0	48.2262	48.2645	48.4938	48.6467	48.3027	0	0	0	0	0	4095
6057	0	0	2.06962	0	5.25804	40.6327	52.9678	61.146	0	48.6161	48.9218	0	48.3485	48.3485	48.5014	48.769	48.4632	0	0	0	0	0	4095
6117	0	0	2.06962	0	5.2843	40.592	52.9221	61.1005	0	48.5703	48.7231	0	48.3027	48.3409	48.5703	48.7231	48.5703	0	0	0	0	0	4095
6177	0	0	2.06962	0	5.26109	40.6055	52.9048	60.9694	0	48.5528	48.6293	0	48.2088	48.3235	48.4764	48.6675	48.3617	0	0	0	0	0	4095
6237	0	0	2.06955	0	5.23788	40.5429	52.8991	61.0017	0	48.6236	48.5472	0	48.2031	48.2796	48.509	48.6236	48.3178	0	0	0	0	0	4095
6297	0	0	2.06962	0	5.25795	40.6072	52.849	60.9898	0	48.5734	48.6498	0	48.2676	48.2676	48.4587	48.6498	48.344	0	0	0	0	0	4095
6357	0	0	2.06969	0	5.25812	40.5954	52.9151	61.0177	0	48.6779	48.5632	0	48.2574	48.3721	48.5632	48.6397	48.2957	0	0	0	0	0	4095
6417	0	0	2.06983	0	5.20849	40.5751	52.8738	61.0145	0	48.5983	48.4836	0	48.216	48.2543	48.4836	48.5983	48.5218	0	0	0	0	0	4095
6477	0	0	2.06955	0	5.24457	40.5988	52.9323	61.0727	0	48.6951	48.5422	0	48.2747	48.3511	48.504	48.6951	48.3511	0	0	0	0	0	4095
6537	0	0	2.06962	0	5.23144	40.5649	52.8677	61.0084	0	48.5539	48.401	0	48.2481	48.2863	48.5157	48.6304	48.4392	0	0	0	0	0	4095
6597	0	0	2.06962	0	5.28099	40.5242	52.944	61.0464	0	48.554	48.4776	0	48.2482	48.3629	48.4776	48.6304	48.2482	0	0	0	0	0	4095
6657	0	0	2.06962	0	5.23127	40.5513	52.9076	61.086	0	48.5939	48.441	0	48.3263	48.3263	48.5175	48.7086	48.3645	0	0	0	0	0	4095
6717	0	0	2.06962	0	5.23136	40.5734	52.859	60.9998	0	48.507	48.4306	0	48.2394	48.3159	48.4688	48.5835	48.6217	0	0	0	0	0	4095
6777	0	0	2.06949	0	5.21188	40.5225	52.94	61.1183	0	48.6264	48.5117	0	48.3206	48.3588	48.6646	48.7411	48.2059	0	0	0	0	0	4095
6837	0	0	2.07077	0	5.23051	40.5107	52.8783	61.019	0	48.6792	48.5264	0	48.2205	48.3352	48.4881	48.641	48.0676	0	0	0	0	0	4095
6897	0	0	2.06962	0	5.25795	40.5496	52.9026	61.0432	0	48.7418	48.5125	0	48.3213	48.3596	48.5125	48.6272	48.6654	0	0	0	0	0	4095
6957	0	0	2.06962	0	5.25795	40.5683	52.921	61.0615	0	48.6456	48.4927	0	48.2634	48.3016	48.5692	48.5692	48.5692	0	0	0	0	0	4095
7017	0	0	2.06962	0	5.20713	40.5818	52.8814																

time	dc(in)	ved(in)	dewpt(F)	Air(F)	AI(VED(F))	B2(F)	B3(F)	B4(F)	B5 (F)	DC1(F)	DC2(F)	VED(F)
7857	0	0	0	5.25812	0	5.28438	40.47	40.4988	52.8785	60.9813	48.4502	0
7917	0	0	0	5.31072	0	5.23119	40.4192	40.5124	52.847	61.0258	48.3803	0
7977	0	0	0	5.25804	0	5.25804	40.4344	40.4344	52.9308	61.0333	48.4643	0
8037	0	0	0	5.25955	0	5.28438	40.4836	40.4836	52.8521	61.0308	48.4618	0
8096	0	0	0	5.28438	0	5.23119	40.4836	40.4836	52.8191	61.0739	48.3905	0
8156	0	0	0	5.23119	0	5.25804	40.4192	40.4192	52.793	61.01	48.4791	0
8216	0	0	0	5.25812	0	5.23119	40.4683	40.4683	52.7891	61.016	48.4652	0
8276	0	0	0	5.23136	0	5.25804	40.4836	40.4836	52.8389	61.1182	48.4486	0
8336	0	0	0	5.26955	0	5.25804	40.404	40.404	52.9191	61.0596	48.5498	0
8456	0	0	0	5.25795	0	5.25804	40.4632	40.4632	52.9287	61.1071	48.5673	0
8516	0	0	0	5.23111	0	5.23111	40.4429	40.4429	52.9281	61.0695	48.4233	0
8576	0	0	0	5.23119	0	5.23119	40.4006	40.4006	52.8335	61.0503	48.3867	0
8636	0	0	0	5.26959	0	5.25804	40.4226	40.4226	52.8526	61.0693	48.577	0
8696	0	0	0	5.25795	0	5.23119	40.4649	40.4649	52.8716	61.0503	48.4432	0
8756	0	0	0	5.23119	0	5.23119	40.4515	40.4515	52.8326	61.1253	48.4423	0
8816	0	0	0	5.20476	0	5.20476	40.509	40.509	52.8315	61.1242	48.403	0
8876	0	0	0	5.25804	0	5.25804	40.4751	40.4751	52.7697	61.0446	48.5521	0
8936	0	0	0	5.23204	0	5.23204	40.4429	40.4429	52.8561	60.9968	48.4375	0
8996	0	0	0	5.25804	0	5.25804	40.4785	40.4785	52.7957	61.1265	48.5189	0
9056	0	0	0	5.25804	0	5.24288	40.4592	40.4592	52.8913	61.0699	48.5012	0
9116	0	0	0	5.28099	0	5.28099	40.4141	40.4141	52.7773	60.9843	48.4694	0
9176	0	0	0	5.23288	0	5.23288	40.3802	40.3802	52.8734	61.2038	48.425	0
9236	0	0	0	5.25812	0	5.25812	40.404	40.404	52.7689	61.0619	48.4167	0
9296	0	0	0	5.26959	0	5.26959	40.369	40.369	52.8099	60.9825	48.5214	0
9356	0	0	0	5.31055	0	5.31055	40.3989	40.3989	52.8342	61.0889	48.4439	0
9416	0	0	0	5.28447	0	5.28447	40.4073	40.4073	52.772	61.0649	48.4197	0
9476	0	0	0	5.26959	0	5.26959	40.3769	40.3769	52.7654	60.9825	48.4197	0
9536	0	0	0	5.25804	0	5.25804	40.3057	40.3057	52.6983	60.9816	48.566	0
9596	0	0	0	5.25838	0	5.25838	40.343	40.343	52.7438	60.9887	48.553	0
9656	0	0	0	5.18519	0	5.18519	40.3811	40.3811	52.793	61.0099	48.3843	0
9716	0	0	0	5.24468	0	5.24468	40.3684	40.3684	52.733	61.0691	48.4611	0
9776	0	0	0	5.25812	0	5.25812	40.304	40.304	52.7199	61.0131	48.4058	0
9836	0	0	0	5.20493	0	5.20493	40.265	40.265	52.7232	61.0543	48.4341	0
9896	0	0	0	5.23271	0	5.23271	40.2972	40.2972	52.77	61.025	48.4371	0
9956	0	0	0	5.20485	0	5.20485	40.282	40.282	52.7675	61.1183	48.5117	0
10016	0	0	0	5.25812	0	5.25812	40.3023	40.3023	52.7664	61.0214	48.3708	0
10076	0	0	0	5.23187	0	5.23187	40.3023	40.3023	52.8137	61.1065	48.3975	0
10136	0	0	0	5.23188	0	5.23188	40.2244	40.2244	52.6929	60.9482	48.4234	0
10196	0	0	0	5.28438	0	5.28438	40.2888	40.2888	52.7934	61.0104	48.3786	0
10256	0	0	0	5.22272	0	5.22272	40.3176	40.3176	52.8076	61.1004	48.4554	0
10316	0	0	0	5.28396	0	5.28396	40.2888	40.2888	52.7168	60.9709	48.4015	0
10376	0	0	0	5.25804	0	5.25804	40.3464	40.3464	52.8068	61.0237	48.4164	0
10436	0	0	0	5.26024	0	5.26024	40.265	40.265	52.7529	61.0476	48.5934	0
10496	0	0	0	5.23127	0	5.23127	40.2176	40.2176	52.7529	60.9701	48.4389	0
10556	0	0	0	5.23144	0	5.23144	40.3209	40.3209	52.77	61.1009	48.6471	0
10616	0	0	0	5.22746	0	5.22746	40.3176	40.3176	52.7616	61.0546	48.456	0
10676	0	0	0	5.23136	0	5.23136	40.282	40.282	52.7005	61.0317	48.348	0
10736	0	0	0	5.25812	0	5.25812	40.282	40.282	52.8001	61.0117	48.4087	0
10796	0	0	0	5.25829	0	5.25829	40.3023	40.3023	52.6731	60.9685	48.3589	0
10856	0	0	0	5.25812	0	5.25812	40.1482	40.1482	52.7775	61.0325	48.6928	0
10916	0	0	0	5.20493	0	5.20493	40.2278	40.2278	52.8063	61.0891	48.4542	0
10976	0	0	0	5.28447	0	5.28447	40.1685	40.1685	52.7927	61.0476	48.4023	0
11036	0	0	0	5.20485	0	5.20485	40.3091	40.3091	52.7293	61.0224	48.6445	0
11096	0	0	0	5.2073	0	5.2073	40.3497	40.3497	52.8044	60.9833	48.414	0
11156	0	0	0	5.25795	0	5.25795	40.2955	40.2955	52.6921	60.9475	48.6454	0
11216	0	0	0	5.23127	0	5.23127	40.2667	40.2667	52.6715	60.9289	48.5483	0
11276	0	0	0	5.25948	0	5.25948	40.3328	40.3328	52.8274	61.0062	48.6282	0
11336	0	0	0	5.20493	0	5.20493	40.2989	40.2989	52.6729	60.9663	48.3704	0
11396	0	0	0	5.23119	0	5.23119	40.282	40.282	52.7384	61.0704	48.4253	0
11456	0	0	0	5.31098	0	5.31098	40.2583	40.2583	52.6416	60.9731	48.6184	0
11516	0	0	0	5.18647	0	5.18647	40.1431	40.1431	52.7606	60.9976	48.352	0
11576	0	0	0	5.28447	0	5.28447	40.2159	40.2159	52.7279	61.0211	48.6049	0
11636	0	0	0	5.20485	0	5.20485	40.2515	40.2515	52.7106	61.0038	48.5483	0
11696	0	0	0	5.23144	0	5.23144	40.2142	40.2142	52.7387	60.9939	48.6157	0
11756	0	0	0	5.20485	0	5.20485	48.2484	48.2484	48.2484	48.2484	48.2484	0
11816	0	0	0	5.20485	0	5.20485	48.2484	48.2484	48.2484	48.2484	48.2484	0
11876	0	0	0	5.20485	0	5.20485	48.2484	48.2484	48.2484	48.2484	48.2484	0

time dc(ln) ved(ln) dewpt(F) Air(F) AirVED(F) B2(F) B3(F) B4(F) B5 (F) DC1(F) DC2(F) VED(F)

11935	0	0	2.06962	0	5.23136	40.2125	52.6822	61.0515	0	48.6356	48.368	0	48.2151	48.2915	48.4445	48.712	48.368	0	0	0	0	0	4095
11995	0	0	2.0497	0	5.23136	40.2617	52.7262	61.0573	0	48.565	48.4885	0	48.2209	48.3356	48.4885	48.6796	48.2209	0	0	0	0	0	4095
12055	0	0	2.04984	0	5.25804	40.3633	52.7762	61.0312	0	48.5387	48.5004	0	48.1564	48.3475	48.424	48.6533	48.3858	0	0	0	0	0	4095
12115	0	0	2.06962	0	5.24533	40.2955	52.7102	61.0794	0	48.6636	48.6636	0	48.2049	48.3578	48.5489	48.7018	48.3196	0	0	0	0	0	4095
12175	0	0	2.06962	0	5.23136	40.282	52.79	61.0449	0	48.6671	48.9347	0	48.2849	48.3996	48.476	48.7436	48.2849	0	0	0	0	0	4095
12235	0	0	2.04963	0	5.23136	40.3142	52.7445	61.0376	0	48.6597	48.9655	0	48.201	48.3539	48.4686	48.7362	48.2392	0	0	0	0	0	4095
12295	0	0	2.0497	0	5.26219	40.3362	52.7513	61.0443	0	48.4754	48.8576	0	48.2843	48.3225	48.4754	48.6665	48.1696	0	0	0	0	0	4095
12355	0	0	2.0495	0	5.20493	40.3396	52.732	60.9872	0	48.609	48.4561	0	48.1885	48.3032	48.4561	48.6472	48.3414	0	0	0	0	0	4095
12414	0	0	2.06962	0	5.31081	40.2024	52.6844	60.9398	0	48.5613	48.3319	0	48.179	48.2937	48.4084	48.5613	48.2937	0	0	0	0	0	4095
12474	0	0	2.06962	0	5.23153	40.2854	52.6963	60.9516	0	48.7261	48.4585	0	48.2292	48.3056	48.4968	48.5732	48.2674	0	0	0	0	0	4095
12534	0	0	2.06969	0	5.2322	40.2667	52.7097	60.9649	0	48.6631	48.4337	0	48.2426	48.3573	48.4719	48.7013	48.4337	0	0	0	0	0	4095
12594	0	0	2.07206	0	5.23153	40.182	52.7049	60.8463	0	48.5436	48.3907	0	48.1613	48.276	48.4289	48.6201	48.276	0	0	0	0	0	4095
12654	0	0	2.0497	0	5.23136	40.2108	52.6955	60.8749	0	48.5724	48.3048	0	48.1901	48.3048	48.3813	48.5724	48.343	0	0	0	0	0	4095
12714	0	0	2.06996	0	5.25812	40.2362	52.7874	60.9285	0	48.7028	48.5117	0	48.2441	48.397	48.5117	48.7028	48.2441	0	0	0	0	0	4095
12774	0	0	2.06955	0	5.25965	40.1973	52.6461	60.8637	0	48.6376	48.4847	0	48.2171	48.2553	48.4464	48.5611	48.37	0	0	0	0	0	4095
12834	0	0	2.06969	0	5.23153	40.1922	52.7205	60.8618	0	48.5975	48.5975	0	48.177	48.2917	48.4446	48.521	48.4063	0	0	0	0	0	4095
12894	0	0	2.06962	0	5.25448	40.1566	52.6989	60.8404	0	48.5759	48.6523	0	48.1936	48.3083	48.4994	48.5759	48.2318	0	0	0	0	0	4095
12954	0	0	2.04977	0	5.25177	40.077	52.6646	60.9201	0	48.5414	48.6561	0	48.2356	48.3121	48.465	48.5797	48.5032	0	0	0	0	0	4095
13014	0	0	2.0497	0	5.23144	40.0414	52.6646	60.8062	0	48.5797	48.6561	0	48.1592	48.3121	48.4268	48.5032	48.3886	0	0	0	0	0	4095
13074	0	0	2.0497	0	5.23144	40.1363	52.6739	60.8154	0	48.6272	48.7036	0	48.2067	48.3596	48.4743	48.4743	47.9773	0	0	0	0	0	4095
13134	0	0	2.06962	0	5.21594	40.0194	52.6989	60.8403	0	48.4994	48.5758	0	48.2318	48.3465	48.4994	48.6523	48.27	0	0	0	0	0	4095
13194	0	0	2.06969	0	5.23136	40.138	52.6753	60.8927	0	48.5903	48.4374	0	48.2463	48.3228	48.4757	48.6286	48.0934	0	0	0	0	0	4095
13254	0	0	2.0497	0	5.23136	40.0668	52.6398	60.7815	0	48.593	48.4019	0	48.1725	48.3254	48.4401	48.5548	48.2107	0	0	0	0	0	4095
13314	0	0	2.06955	0	5.23237	40.1532	52.6696	60.8112	0	48.5082	48.3935	0	48.1641	48.3171	48.3935	48.5464	48.0877	0	0	0	0	0	4095
13374	0	0	2.04963	0	5.23136	40.1566	52.5853	60.7652	0	48.5002	48.3743	0	48.1943	48.1943	48.4619	48.5768	48.0032	0	0	0	0	0	4095
13434	0	0	2.06962	0	5.1885	40.1363	52.6578	60.7235	0	48.5346	48.3817	0	48.2288	48.1906	48.4582	48.6111	48.2288	0	0	0	0	0	4095
13494	0	0	2.0497	0	5.27168	40.138	52.6051	60.747	0	48.52	48.3289	0	48.2142	48.2524	48.4053	48.5582	48.023	0	0	0	0	0	4095
13554	0	0	2.06969	0	5.25812	40.0753	52.6212	60.763	0	48.6126	48.345	0	48.1921	48.2303	48.4215	48.5744	48.1156	0	0	0	0	0	4095
13614	0	0	2.04963	0	5.23144	40.0821	52.623	60.6889	0	48.538	48.3469	0	48.1557	48.1939	48.4233	48.6144	48.2322	0	0	0	0	0	4095
13674	0	0	2.06962	0	5.31089	40.0736	52.6609	60.7646	0	48.6142	48.3466	0	48.1937	48.3084	48.4613	48.576	48.1172	0	0	0	0	0	4095
13734	0	0	2.05214	0	5.23136	40.1007	52.6868	60.7144	0	48.6401	48.3762	0	48.2579	48.2196	48.4108	48.6019	48.0667	0	0	0	0	0	4095
13794	0	0	2.06955	0	5.25889	39.9482	52.6535	60.7193	0	48.6833	48.4157	0	48.2628	48.301	48.4921	48.7215	48.4157	0	0	0	0	0	4095
13854	0	0	2.06955	0	5.25804	39.4519	52.6805	60.784	0	48.672	48.3662	0	48.2898	48.2898	48.4809	48.6338	48.2515	0	0	0	0	0	4095
13905	0	0	2.0497	0	5.25897	40.121	52.7256	60.791	0	48.5262	48.4115	0	48.2586	48.2968	48.4497	48.6791	48.4879	0	0	0	0	0	4095
13965	0	0	2.06969	0	5.25812	40.055	52.6042	60.784	0	48.6338	48.3662	0	48.2515	48.2133	48.4044	48.6338	48.2515	0	0	0	0	0	4095
14025	0	0	2.06955	0	5.20501	40.0736	52.5922	60.7341	0	48.5835	48.3924	0	48.163	48.3159	48.3924	48.6217	48.0865	0	0	0	0	0	4095
14085	0	0	2.0701	0	5.23187	40.1244	52.6872	60.7907	0	48.6788	48.373	0	48.22	48.2965	48.4876	48.6405	48.3347	0	0	0	0	0	4095
14145	0	0	2.06962	0	5.25812	40.1803	52.6501	60.7538	0	48.7181	48.3358	0	48.1829	48.2976	48.527	48.5652	48.1447	0	0	0	0	0	4095
14205	0	0	2.06969	0	5.25804	40.1532	52.6451	60.8247	0	48.6365	48.4072	0	48.216	48.216	48.4454	48.5601	48.1396	0	0	0	0	0	4095
14265	0	0	2.06962	0	5.23136	40.1651	52.6057	60.7096	0	48.6353	48.3294	0	48.1383	48.2912	48.4441	48.5206	48.4059	0	0	0	0	0	4095
14325	0	0	2.06955	0	5.23144	40.0618	52.6349	60.7768	0	48.5499	48.4352	0	48.1294	48.2441	48.397	48.4734	48.244	0	0	0	0	0	4095
14385	0	0	2.06955	0	5.23153	40.1431	52.6159	60.7197	0	48.6455	48.3779	0	48.1867	48.3014	48.3779	48.6073	48.4161	0	0	0	0	0	4095
14445	0	0	2.06962	0	5.25812	40.189	52.5983	60.7781	0	48.5896	48.322	0	48.2456	48.2456	48.3985	48.5514	48.3603	0	0	0	0	0	4095
14505	0	0	2.06962	0	5.23144	40.1837	52.6307	60.7345	0	48.6986	48.3928	0	48.2017	48.3164	48.3928	48.584	48.7368	0	0	0	0	0	4095
14565	0	0	2.06955	0	5.20595	40.1651	52.6148	60.7187	0	48.568	48.4151	0	48.2239	48.2622	48.4151	48.4915	48.2621	0	0	0	0	0	4095
14625	0	0	2.06969	0	5.23153	40.1786	52.6756	60.7032	0	48.5907	48.3995	0	48.2084	48.2466	48.4378	48.5524	48.2466	0	0	0	0	0	4095
14685	0	0	2.06962	0	5.33741	40.2024	52.6256	60.7674	0	48.5788	48.4642	0	48.2348	48.273	48.4642	48.5788	48.3877	0	0	0	0	0	4095
14745	0	0	2.06962	0	5.2339	40.16	52.6123	60.7921	0	48.6419	48.4126	0	48.2597	48.2979	48.4508	48.6037	48.3744	0	0	0	0	0	4095
14805	0	0	2.06969	0	5.31072	40.1295	52.6778	60.6675	0	48.6312	48.3636	0	48.1724	48.2489	48.3636	48.4783	48.2871	0	0	0	0	0	4095
14865	0	0	2.06955	0	5.17867	40.2057	52.5733	60.7533	0	48.6028	48.3352	0	48.1441	48.2588	48.3352	48.5264	48.1441	0	0	0	0	0	4095
14925	0	0	2.06955	0	5.23161	40.2379	52.5867	60.7286	0	48.6162	48.3869	0	48.1575	48.1957	48.3486	48.5398	48.1575	0	0	0	0	0	4095
14985	0	0	2.06955	0	5.28447	40.2566	52.6138	60.7177	0	48.7199	48.3759	0	48.2612	48.2994	48.4523	48.6052	48.2229	0	0	0	0	0	4095
15045	0	0	2.06962	0	5.25804	40.2667	52.6585	60.6863	0	48.6883	48.3442	0	48.2295	48.2295	48.4589	48.5736	48.2678	0	0	0	0	0	4095
15105	0	0	2.06962	0	5.23136	40.2007	52.5721	60.6761	0	48.6398	48.3722	0	48.1811	48.334	48.4869	48.5251	48.3722	0	0	0	0	0	4095
15165	0	0	2.0																				

time dc(ln) vod(ln) dewpt(F) Air(F) AirVED(F) B2(F) B3(F) B4(F) B5 (F) DC1(F) DC2(F) VED(F)

16005	0	0	2.06955	0	5.28438	40.221	52.6018	60.6678	0	48.7078	48.402	0	48.2491	48.3638	48.4403	48.6696	48.2873	0	0	0	0	0	4095
16065	0	0	2.06962	0	5.28447	40.2278	52.5431	60.6473	0	48.6108	48.3432	0	48.1903	48.2668	48.4197	48.6108	48.2285	0	0	0	0	0	4094
16125	0	0	2.06989	0	5.28455	40.265	52.6548	60.7585	0	48.6463	48.4552	0	48.2604	48.3787	48.4552	48.6081	48.608	0	0	0	0	0	4094
16185	0	0	2.06955	0	5.24821	40.1651	52.6527	60.6804	0	48.6441	48.453	0	48.3001	48.3766	48.5677	48.6059	48.3383	0	0	0	0	0	4094
16245	0	0	2.06969	0	5.27227	40.1786	52.5698	60.6359	0	48.561	48.3699	0	48.1788	48.2552	48.4081	48.561	48.217	0	0	0	0	0	4094
16305	0	0	2.06962	0	5.27125	40.1956	52.5577	60.6618	0	48.549	48.4725	0	48.2432	48.3578	48.4343	48.549	48.1285	0	0	0	0	0	4094
16365	0	0	2.06962	0	5.23144	40.1566	52.6107	60.7146	0	48.6403	48.6021	0	48.2963	48.3727	48.5256	48.6403	48.4492	0	0	0	0	0	4094
16424	0	0	2.06955	0	5.23136	40.1854	52.5474	60.6136	0	48.5768	48.6533	0	48.271	48.3092	48.4239	48.6151	48.1945	0	0	0	0	0	4094
16484	0	0	2.06962	0	5.25821	40.1803	52.4904	60.6328	0	48.6344	48.5579	0	48.2139	48.3288	48.405	48.5961	48.4815	0	0	0	0	0	4094
16544	0	0	2.07213	0	5.28447	40.1719	52.5658	60.5939	0	48.5571	48.5188	0	48.213	48.2895	48.4806	48.5571	48.1365	0	0	0	0	0	4094
16604	0	0	2.06962	0	5.26117	40.1888	52.5313	60.5596	0	48.6371	48.5224	0	48.1784	48.2931	48.446	48.5224	48.0255	0	0	0	0	0	4095
16664	0	0	2.06962	0	5.28455	40.1753	52.5696	60.5977	0	48.5991	48.4079	0	48.1786	48.2168	48.4462	48.5608	48.4844	0	0	0	0	0	4095
16724	0	0	2.06962	0	5.28447	40.0855	52.5543	60.5446	0	48.4691	48.3544	0	48.1633	48.3162	48.3927	48.622	48.0103	0	0	0	0	0	4095
16784	0	0	2.06962	0	5.28591	40.099	52.5213	60.5876	0	48.5507	48.3978	0	48.2449	48.2831	48.4743	48.6272	48.2449	0	0	0	0	0	4095
16844	0	0	2.06955	0	5.25812	40.1549	52.586	60.5761	0	48.6155	48.348	0	48.2333	48.2333	48.3862	48.6155	47.9656	0	0	0	0	0	4095
16904	0	0	2.06962	0	5.24474	40.1465	52.4984	60.5269	0	48.566	48.3366	0	48.1837	48.3366	48.3748	48.6042	48.2601	0	0	0	0	0	4095
16964	0	0	2.06962	0	5.23144	40.0956	52.5447	60.497	0	48.5359	48.2684	0	48.1537	48.2301	48.4213	48.5742	48.1919	0	0	0	0	0	4095
17024	0	0	2.06962	0	5.27523	40.1092	52.5313	60.5216	0	48.5989	48.2931	0	48.1784	48.2166	48.4078	48.5989	47.9872	0	0	0	0	0	4095
17084	0	0	2.06976	0	5.25812	40.0431	52.5669	60.557	0	48.6346	48.367	0	48.2906	48.367	48.4435	48.5964	48.4052	0	0	0	0	0	4095
17144	0	0	2.06955	0	5.17859	40.0634	52.497	60.4875	0	48.5646	48.3352	0	48.1441	48.297	48.3735	48.5264	48.0294	0	0	0	0	0	4095
17204	0	0	2.06962	0	5.21484	39.9601	52.499	60.4895	0	48.6048	48.3372	0	48.146	48.2607	48.3372	48.5666	48.3372	0	0	0	0	0	4095
17264	0	0	2.06962	0	5.23136	40.0126	52.5933	60.5454	0	48.6993	48.4317	0	48.2406	48.3935	48.4317	48.6993	48.1259	0	0	0	0	0	4095
17324	0	0	2.06962	0	5.28455	40.0245	52.423	60.4138	0	48.5286	48.2993	0	48.1463	48.2993	48.3757	48.5669	48.261	0	0	0	0	0	4095
17384	0	0	2.06955	0	5.20493	39.9262	52.5348	60.4491	0	48.6406	48.3348	0	48.1819	48.2966	48.4113	48.6024	48.1819	0	0	0	0	0	4095
17444	0	0	2.06962	0	5.25821	40.0533	52.45	60.4786	0	48.5939	48.3263	0	48.1733	48.2498	48.4792	48.5556	48.1351	0	0	0	0	0	4095
17504	0	0	2.0705	0	5.2051	40.0262	52.5279	60.3664	0	48.5956	48.3662	0	48.1751	48.2897	48.4044	48.5191	48.2133	0	0	0	0	0	4095
17564	0	0	2.06955	0	5.20501	39.9161	52.4756	60.4282	0	48.5431	48.3902	0	48.1608	48.3138	48.4667	48.5049	48.3138	0	0	0	0	0	4095
17624	0	0	2.06969	0	5.23136	39.9127	52.5071	60.4975	0	48.6511	48.4217	0	48.2688	48.4217	48.4217	48.6129	48.0777	0	0	0	0	0	4095
17684	0	0	2.06955	0	5.25829	39.9296	52.3777	60.4067	0	48.4832	48.4067	0	48.1774	48.2538	48.445	48.4832	48.5214	0	0	0	0	0	4095
17744	0	0	2.06955	0	5.25812	39.9025	52.376	60.405	0	48.5962	48.4433	0	48.1757	48.2904	48.4051	48.5197	48.0227	0	0	0	0	0	4095
17804	0	0	2.06955	0	5.28675	39.9398	52.4631	60.4158	0	48.6453	48.4159	0	48.1483	48.263	48.4159	48.4924	48.2247	0	0	0	0	0	4095
17864	0	0	2.06969	0	5.33715	39.8754	52.4296	60.3824	0	48.6499	48.3441	0	48.2294	48.2676	48.4588	48.5352	48.2676	0	0	0	0	0	4095
17924	0	0	2.06969	0	5.28447	39.8263	52.3616	60.3527	0	48.5194	48.2759	0	48.1994	48.1994	48.4288	48.5435	48.3906	0	0	0	0	0	4095
17984	0	0	2.06962	0	5.23136	39.8009	52.3507	60.3418	0	48.609	48.3414	0	48.1503	48.1885	48.3797	48.4944	48.4179	0	0	0	0	0	4095
18044	0	0	2.06969	0	5.25812	39.806	52.3941	60.3851	0	48.6526	48.3468	0	48.2703	48.2321	48.4232	48.5379	48.3468	0	0	0	0	0	4095
18104	0	0	2.06962	0	5.23144	39.8161	52.4652	60.4178	0	48.6473	48.418	0	48.3415	48.2651	48.4944	48.6856	48.1886	0	0	0	0	0	4095
18164	0	0	2.06962	0	5.17878	39.7602	52.3171	60.3843	0	48.6138	48.3842	0	48.1931	48.1931	48.4989	48.5371	48.1166	0	0	0	0	0	4095
18224	0	0	2.06969	0	5.31089	39.7653	52.3231	60.3144	0	48.5432	48.3138	0	48.1609	48.1609	48.4285	48.5432	48.0844	0	0	0	0	0	4095
18284	0	0	2.06962	0	5.23144	39.789	52.4437	60.3205	0	48.6258	48.3582	0	48.167	48.2435	48.4729	48.5875	48.0523	0	0	0	0	0	4095
18344	0	0	2.06969	0	5.25838	39.8093	52.3747	60.2898	0	48.5566	48.2891	0	48.1361	48.1361	48.3655	48.5566	48.0214	0	0	0	0	0	4095
18404	0	0	2.06949	0	5.25821	39.789	52.3806	60.2577	0	48.639	48.295	0	48.1038	48.1803	48.4479	48.5243	48.5243	0	0	0	0	0	4095
18464	0	0	2.0701	0	5.23161	39.7687	52.4433	60.2822	0	48.5872	48.3579	0	48.2049	48.2049	48.3961	48.549	48.2049	0	0	0	0	0	4095
18524	0	0	2.06969	0	5.28455	39.745	52.5107	60.3113	0	48.6547	48.4254	0	48.2725	48.3489	48.5018	48.5783	48.6547	0	0	0	0	0	4095
18584	0	0	2.06962	0	5.17867	39.7263	52.4084	60.2854	0	48.514	48.3611	0	48.2464	48.2846	48.4758	48.514	48.2082	0	0	0	0	0	4095
18644	0	0	2.06962	0	5.20493	39.7687	52.4076	60.2846	0	48.6278	48.322	0	48.2456	48.2838	48.3985	48.5514	48.1691	0	0	0	0	0	4095
18704	0	0	2.06969	0	5.20518	39.7551	52.4751	60.2759	0	48.5426	48.3515	0	48.2368	48.1988	48.428	48.5809	48.2751	0	0	0	0	0	4095
18764	0	0	2.06962	0	5.23144	39.7043	52.4679	60.2307	0	48.6119	48.3443	0	48.2296	48.2296	48.459	48.5354	48.1914	0	0	0	0	0	4095
18824	0	0	2.06969	0	5.22484	39.7399	52.4096	60.2486	0	48.6299	48.3241	0	48.2476	48.2094	48.4005	48.5152	48.1711	0	0	0	0	0	4095
18884	0	0	2.06962	0	5.23237	39.706	52.4726	60.2733	0	48.5019	48.3872	0	48.1578	48.196	48.4254	48.5019	48.2725	0	0	0	0	0	4095
18944	0	0	2.06969	0	5.28455	39.8246	52.3682	60.2074	0	48.5119	48.3972	0	48.1678	48.2443	48.4354	48.4737	48.0914	0	0	0	0	0	4095
19004	0	0	2.06969	0	5.23153	39.7263	52.5702	60.2948	0	48.5997	48.3704	0	48.2175	48.3322	48.4086	48.5233	48.3322	0	0	0	0	0	4095
19064	0	0	2.06962	0	5.23161	39.7399	52.5728	60.2971	0	48.6787	48.3729	0	48.22	48.2582	48.5258	48.564	48.22	0	0	0	0	0	4095
19124	0	0	2.06962	0	5.21162	39.7162	52.5318	60.3323	0	48.6377	48.4466	0	48.2172	48.2937	48.523	48.5613	48.2554	0	0	0	0	0	4095
19184	0	0	2.06962	0	5.28455	39.6721	52.4147	60.2537	0	48.5586	48.3292	0	48.1763	48.2145	48.4057	48.4821	48.0616	0	0	0	0	0	4095
19244	0																						

time dc(ln) ved(ln) dewpt(F) Air(F) AirVED(F) B2(F) B3(F) B4(F) B5 (F) DC1(F) DC2(F) VED(F)

20083	0	0	2.06962	0	5.25821	39.645	52.4259	60.3027	0	48.6079	48.4168	0	48.2257	48.3404	48.455	48.5697	48.4168	0	0	0	0	0	4095
20143	0	0	2.06955	0	5.28447	39.5942	52.4944	60.2191	0	48.6384	48.3326	0	48.2562	48.2944	48.4091	48.6384	48.3708	0	0	0	0	0	4095
20203	0	0	2.06955	0	5.33741	39.6552	52.4756	60.2004	0	48.5431	48.3138	0	48.1891	48.1991	48.4285	48.5814	48.5049	0	0	0	0	0	4095
20263	0	0	2.06962	0	5.23136	39.579	52.4759	60.2767	0	48.6199	48.3905	0	48.2376	48.3141	48.4288	48.6199	48.1611	0	0	0	0	0	4095
20323	0	0	2.06955	0	5.28616	39.6315	52.4211	60.1841	0	48.6032	48.3356	0	48.2209	48.2209	48.4503	48.5649	48.4503	0	0	0	0	0	4095
20383	0	0	2.0703	0	5.17859	39.5823	52.5138	60.2385	0	48.5814	48.3903	0	48.1992	48.3139	48.4688	48.5814	48.1992	0	0	0	0	0	4095
20443	0	0	2.06962	0	5.25812	39.6332	52.402	60.1271	0	48.6222	48.2782	0	48.1635	48.2018	48.3547	48.4694	48.0488	0	0	0	0	0	4095
20503	0	0	2.06962	0	5.23187	39.5857	52.3526	60.1539	0	48.4963	48.3051	0	48.114	48.2287	48.3434	48.4198	48.2287	0	0	0	0	0	4095
20563	0	0	2.06962	0	5.23127	39.6891	52.4805	60.1854	0	48.4898	48.3751	0	48.1457	48.2222	48.3751	48.4898	48.2395	0	0	0	0	0	4095
20623	0	0	2.06955	0	5.25812	39.5925	52.4068	60.1698	0	48.4741	48.283	0	48.1683	48.2065	48.3977	48.4359	48.283	0	0	0	0	0	4095
20683	0	0	2.06969	0	5.25821	39.5739	52.4521	60.177	0	48.5196	48.4049	0	48.2138	48.3667	48.4049	48.5196	48.0226	0	0	0	0	0	4095
20743	0	0	2.06962	0	5.23136	39.6687	52.4778	60.1646	0	48.5453	48.3924	0	48.2013	48.316	48.4689	48.5071	48.2395	0	0	0	0	0	4095
20803	0	0	2.06962	0	5.23136	39.7246	52.4368	60.0858	0	48.5425	48.2749	0	48.1984	48.3131	48.3896	48.5807	48.1984	0	0	0	0	0	4095
20863	0	0	2.06962	0	5.28438	39.5671	52.3614	60.0867	0	48.5433	48.2757	0	48.161	48.2757	48.3522	48.5433	48.0463	0	0	0	0	0	4095
20923	0	0	2.06969	0	5.20823	39.5095	52.4588	60.1836	0	48.5645	48.3351	0	48.2587	48.3351	48.4116	48.6027	48.0293	0	0	0	0	0	4095
20983	0	0	2.06962	0	5.2588	39.584	52.4309	60.1179	0	48.6512	48.2689	0	48.2307	48.2689	48.3836	48.6512	48.3071	0	0	0	0	0	4095
21043	0	0	2.06969	0	5.20485	39.5501	52.4742	60.123	0	48.7328	48.3506	0	48.2359	48.3124	48.3888	48.6564	48.1977	0	0	0	0	0	4095
21103	0	0	2.06962	0	5.28447	39.6196	52.3803	60.1434	0	48.5622	48.3711	0	48.18	48.2947	48.4093	48.524	48.1799	0	0	0	0	0	4095
21163	0	0	2.06962	0	5.25821	39.6603	52.4143	60.1014	0	48.5964	48.3288	0	48.1759	48.2523	48.367	48.5964	48.367	0	0	0	0	0	4095
21223	0	0	2.06955	0	5.23161	39.562	52.4909	60.1776	0	48.6349	48.3673	0	48.2908	48.3873	48.4437	48.5584	48.1761	0	0	0	0	0	4095
21283	0	0	2.06955	0	5.26507	39.5671	52.4817	60.1685	0	48.6257	48.3581	0	48.2434	48.2817	48.4346	48.5875	48.0905	0	0	0	0	0	4095
21343	0	0	2.07084	0	5.23153	39.6179	52.4447	60.2076	0	48.5886	48.4357	0	48.2828	48.2828	48.4739	48.665	48.1681	0	0	0	0	0	4095
21403	0	0	2.06962	0	5.20493	39.5806	52.4708	60.1956	0	48.653	48.4237	0	48.309	48.3472	48.5001	48.653	48.309	0	0	0	0	0	4095
21463	0	0	2.06969	0	5.24483	39.5891	52.4492	60.212	0	48.5168	48.4402	0	48.249	48.2873	48.4784	48.6695	48.3637	0	0	0	0	0	4095
21523	0	0	2.06969	0	5.25829	39.6281	52.4458	60.1707	0	48.5897	48.3603	0	48.1692	48.2456	48.3221	48.5132	48.2074	0	0	0	0	0	4095
21583	0	0	2.06962	0	5.31098	39.5925	52.4996	60.1863	0	48.7201	48.4143	0	48.2232	48.3378	48.4908	48.5672	48.2614	0	0	0	0	0	4095
21643	0	0	2.06969	0	5.27032	39.5891	52.4953	60.182	0	48.6393	48.41	0	48.2188	48.3335	48.4482	48.6393	48.1423	0	0	0	0	0	4095
21703	0	0	2.06955	0	5.20493	39.5451	52.4146	60.1396	0	48.5202	48.3673	0	48.2144	48.2908	48.4437	48.5202	48.2526	0	0	0	0	0	4095
21763	0	0	2.0705	0	5.24474	39.5485	52.3975	60.1226	0	48.503	48.3501	0	48.1972	48.2737	48.3884	48.503	48.2350	0	0	0	0	0	4095
21823	0	0	2.06962	0	5.25829	39.5976	52.4355	60.0845	0	48.5793	48.3882	0	48.1971	48.4264	48.3882	48.5029	48.3117	0	0	0	0	0	4095
21883	0	0	2.06962	0	5.31089	39.6196	52.4872	60.098	0	48.5165	48.4018	0	48.1725	48.4018	48.4018	48.5165	48.44	0	0	0	0	0	4095
21943	0	0	2.06962	0	5.29031	39.6433	52.4811	60.2059	0	48.5869	48.3957	0	48.2811	48.3575	48.434	48.6251	48.3575	0	0	0	0	0	4095
22003	0	0	2.06962	0	5.23136	39.6044	52.4421	60.1291	0	48.6242	48.3566	0	48.2419	48.3949	48.4713	48.588	48.089	0	0	0	0	0	4095
22063	0	0	2.06969	0	5.24813	39.6044	52.4023	60.0895	0	48.5844	48.355	0	48.1638	48.2785	48.4697	48.5079	48.2403	0	0	0	0	0	4095
22123	0	0	2.06955	0	5.28726	39.5823	52.3774	60.1026	0	48.5593	48.4064	0	48.177	48.2917	48.4446	48.5211	48.3299	0	0	0	0	0	4095
22183	0	0	2.06962	0	5.25821	39.5197	52.3372	60.1386	0	48.6338	48.4426	0	48.175	48.2897	48.4809	48.5191	48.2515	0	0	0	0	0	4095
22243	0	0	2.06969	0	5.28455	39.4773	52.3359	60.0613	0	48.5942	48.3649	0	48.212	48.2884	48.4413	48.556	48.059	0	0	0	0	0	4095
22303	0	0	2.06983	0	5.28464	39.4942	52.3498	60.0751	0	48.6081	48.3405	0	48.1494	48.3023	48.3405	48.4934	48.3023	0	0	0	0	0	4095
22363	0	0	2.06969	0	5.25812	39.4824	52.485	60.0759	0	48.6472	48.4178	0	48.1884	48.3796	48.4178	48.5707	48.3796	0	0	0	0	0	4095
22423	0	0	2.06955	0	5.25914	39.501	52.3742	59.9855	0	48.5179	48.2885	0	48.1356	48.2885	48.3268	48.4797	48.3268	0	0	0	0	0	4095
22483	0	0	2.06962	0	5.23136	39.518	52.4345	60.0455	0	48.6166	48.349	0	48.2343	48.3108	48.4254	48.5401	48.2725	0	0	0	0	0	4095
22543	0	0	2.06955	0	5.28455	39.5112	52.3108	59.9983	0	48.6455	48.3015	0	48.1485	48.3397	48.3779	48.4544	48.3397	0	0	0	0	0	4095
22603	0	0	2.06962	0	5.23195	39.5027	52.38	60.0292	0	48.6002	48.4091	0	48.2179	48.3326	48.3708	48.562	48.2179	0	0	0	0	0	4095
22663	0	0	2.06955	0	5.28455	39.5332	52.3133	59.9628	0	48.6098	48.304	0	48.2275	48.2275	48.3422	48.5716	48.0363	0	0	0	0	0	4095
22723	0	0	2.07037	0	5.23153	39.5468	52.4053	60.0545	0	48.6256	48.358	0	48.3198	48.2816	48.5109	48.5491	48.0904	0	0	0	0	0	4095
22783	0	0	2.06955	0	5.25838	39.5874	52.3047	60.0682	0	48.5629	48.3336	0	48.2571	48.3336	48.4483	48.6012	48.2189	0	0	0	0	0	4095
22843	0	0	2.06962	0	5.23153	39.6586	52.3597	60.047	0	48.5798	48.4269	0	48.274	48.3505	48.4269	48.5798	48.1975	0	0	0	0	0	4095
22903	0	0	2.06962	0	5.20501	39.6213	52.4152	60.1023	0	48.6355	48.4444	0	48.3297	48.3297	48.559	48.5973	48.5208	0	0	0	0	0	4095
22963	0	0	2.06962	0	5.26507	39.5773	52.2663	59.954	0	48.5245	48.3334	0	48.2187	48.2187	48.3716	48.4863	48.0657	0	0	0	0	0	4095
23023	0	0	2.06962	0	5.23144	39.6332	52.376	59.9493	0	48.5579	48.3668	0	48.2139	48.3286	48.3668	48.5962	48.1374	0	0	0	0	0	4095
23083	0	0	2.06962	0	5.20493	39.6196	52.3424	59.9918	0	48.5243	48.2949	0	48.1802	48.3332	48.4478	48.5243	48.0273	0	0	0	0	0	4095
23143	0	0	2.06962	0	5.25821	39.667	52.2715	59.9592	0	48.5297	48.3003	0	48.1474	48.2239	48.3768	48.4915	48.1474	0	0	0	0	0	4095
23203	0	0	2.06955	0	5.28455	39.6349	52.266	59.9537	0	48.5624	48.3713	0	48.1036	48.2183	48.333	48.5624	48.0654	0	0	0	0	0	4095
23263	0	0	2.06962	0	5.25829	39.6315	52.3421	59.9536	0	48.6769	48.3329	0	48.18	48.3329	48.4094	48.6387	48.3329	0	0	0	0	0	4095
23323	0																						

time dc(in) ved(in) dewpt(F) Air(F) AirVED(F) B2(F) B3(F) B4(F) B5 (F) DC1(F) DC2(F) VED(F)

Table with columns: time, dc(in), ved(in), dewpt(F), Air(F), AirVED(F), B2(F), B3(F), B4(F), B5 (F), DC1(F), DC2(F), VED(F). Rows range from 24162 to 28181. Each row contains 13 data points.

13c

WHC-SD-SNF-ATR-005, Rev. 0

time dc(in) ved(in) dewpt(F) Alr(F) AlrVED(F) B2(F) B3(F) B4(F) B5 (F) DC1(F) DC2(F) VED(F)

32320	0	0	2.06962	0	5.20688	39.5501	52.0081	59.393	0	48.6479	48.3803	0	48.2274	48.2274	48.4568	48.495	48.1892	0	0	0	0	0	409
32380	0	0	2.06969	0	5.23127	39.5857	51.9964	59.4193	0	48.5598	48.3687	0	48.254	48.254	48.4451	48.4451	48.1775	0	0	0	0	0	409
32439	0	0	2.06955	0	5.25812	39.6077	52.0713	59.418	0	48.5584	48.4055	0	48.2526	48.3673	48.4055	48.482	48.1379	0	0	0	0	0	409
32499	0	0	2.06962	0	5.2317	39.5942	51.9925	59.4914	0	48.4029	48.3647	0	48.2118	48.2118	48.4412	48.4412	48.1353	0	0	0	0	0	409
32559	0	0	2.06962	0	5.27794	39.5349	52.0635	59.5242	0	48.5888	48.4359	0	48.283	48.3213	48.3977	48.5506	48.0536	0	0	0	0	0	409
32619	0	0	2.07172	0	5.21484	39.5823	51.9299	59.4291	0	48.455	48.2638	0	48.2256	48.2256	48.3403	48.5314	48.455	0	0	0	0	0	409
32679	0	0	2.06955	0	5.2079	39.5857	51.9372	59.4364	0	48.4623	48.3476	0	48.1947	48.2329	48.3858	48.4623	48.1182	0	0	0	0	0	409
32739	0	0	2.06955	0	5.25812	39.5468	52.0122	59.4351	0	48.6903	48.3462	0	48.2315	48.308	48.4227	48.5756	48.3845	0	0	0	0	0	409
32799	0	0	2.06955	0	5.25812	39.5688	51.915	59.4143	0	48.5547	48.2871	0	48.0959	48.2106	48.3636	48.5165	48.3636	0	0	0	0	0	409
32859	0	0	2.06962	0	5.20485	39.5603	51.9573	59.4564	0	48.5206	48.3295	0	48.2148	48.2148	48.406	48.5206	48.1383	0	0	0	0	0	409
32919	0	0	2.06962	0	5.20501	39.5293	51.959	59.4201	0	48.5605	48.2929	0	48.1017	48.2547	48.3311	48.4458	48.3311	0	0	0	0	0	409
32979	0	0	2.06962	0	5.28447	39.523	51.9193	59.3805	0	48.6736	48.3678	0	48.1766	48.2531	48.406	48.4825	48.2531	0	0	0	0	0	409
33039	0	0	2.06962	0	5.24499	39.4333	51.9247	59.3859	0	48.6026	48.335	0	48.1821	48.2586	48.4115	48.488	47.9909	0	0	0	0	0	409
33099	0	0	2.06962	0	5.1785	39.4773	51.9053	59.3666	0	48.5449	48.392	0	48.1244	48.2009	48.392	48.5449	48.0479	0	0	0	0	0	409
33159	0	0	2.06976	0	5.23475	39.4688	51.9539	59.339	0	48.4025	48.3261	0	48.1349	48.1732	48.3643	48.5172	48.0967	0	0	0	0	0	409
33219	0	0	2.06962	0	5.21357	39.4231	51.849	59.3865	0	48.412	48.2591	0	48.1444	48.1827	48.3356	48.5267	47.8385	0	0	0	0	0	409
33279	0	0	2.06955	0	5.25787	39.4112	51.893	59.3544	0	48.4944	48.3033	0	48.1886	48.2268	48.418	48.5709	48.0739	0	0	0	0	0	409
33339	0	0	2.06955	0	5.23136	39.3824	51.8863	59.3477	0	48.5259	48.2966	0	48.2201	48.2201	48.4113	48.4877	48.1436	0	0	0	0	0	409
33399	0	0	2.06962	0	5.25897	39.3757	51.8843	59.3456	0	48.4856	48.2945	0	48.1416	48.1798	48.371	48.4474	48.1033	0	0	0	0	0	409
33459	0	0	2.06962	0	5.25795	39.3486	51.828	59.2896	0	48.4675	48.2361	0	48.1234	48.1617	48.3146	48.4675	48.1999	0	0	0	0	0	409
33519	0	0	2.06969	0	5.20493	39.3401	51.8388	59.3383	0	48.4783	48.2871	0	48.1725	48.1725	48.3254	48.5165	48.1724	0	0	0	0	0	409
33579	0	0	2.07125	0	5.20078	39.3096	51.9201	59.3053	0	48.598	48.3304	0	48.1392	48.2539	48.4451	48.4833	48.0628	0	0	0	0	0	409
33639	0	0	2.06962	0	5.28447	39.3248	51.9586	59.3817	0	48.6748	48.369	0	48.2926	48.3308	48.5219	48.4837	48.0632	0	0	0	0	0	409
33699	0	0	2.06955	0	5.20485	39.3367	51.8096	59.3093	0	48.5255	48.2579	0	48.1432	48.2579	48.3726	48.4108	48.1814	0	0	0	0	0	409
33759	0	0	2.06955	0	5.2455	39.3384	51.9145	59.3378	0	48.5542	48.3249	0	48.2102	48.2484	48.4395	48.4395	48.1337	0	0	0	0	0	409
33819	0	0	2.06962	0	5.22458	39.2943	51.9342	59.3194	0	48.4974	48.3445	0	48.2298	48.2681	48.4592	48.4592	48.0387	0	0	0	0	0	409
33879	0	0	2.06962	0	5.26829	39.2605	51.8207	59.2824	0	48.6131	48.2691	0	48.1544	48.1926	48.3837	48.422	48.0014	0	0	0	0	0	409
33939	0	0	2.06955	0	5.25821	39.2334	51.925	59.3102	0	48.6029	48.3353	0	48.2971	48.2971	48.5646	48.4882	48.2206	0	0	0	0	0	409
33999	0	0	2.06955	0	5.23127	39.2876	51.8825	59.3059	0	48.4456	48.3309	0	48.2163	48.3309	48.4074	48.5221	48.0251	0	0	0	0	0	409
34059	0	0	2.06955	0	5.23136	39.2655	51.8633	59.2868	0	48.5028	48.3499	0	48.197	48.2735	48.4264	48.5028	47.9676	0	0	0	0	0	409
34119	0	0	2.06976	0	5.28438	39.2588	51.879	59.3025	0	48.7097	48.2893	0	48.1746	48.251	48.4804	48.5186	48.2128	0	0	0	0	0	409
34179	0	0	2.06962	0	5.23127	39.2825	51.7683	59.3061	0	48.5988	48.2547	0	48.1018	48.2547	48.3694	48.4841	48.1783	0	0	0	0	0	409
34239	0	0	2.06962	0	5.2123	39.2673	51.7955	59.3332	0	48.5878	48.2438	0	48.1673	48.2055	48.3585	48.5114	48.0144	0	0	0	0	0	409
34299	0	0	2.06955	0	5.28133	39.2605	51.9199	59.3432	0	48.6743	48.4067	0	48.2156	48.3685	48.4449	48.5596	48.5214	0	0	0	0	0	409
34359	0	0	2.06955	0	5.25804	39.2588	51.8397	59.3393	0	48.7088	48.3263	0	48.1734	48.2881	48.5174	48.5174	48.1734	0	0	0	0	0	409
34419	0	0	2.06962	0	5.28701	39.3011	51.8581	59.2816	0	48.6887	48.4212	0	48.1918	48.2683	48.4976	48.5741	48.3447	0	0	0	0	0	409
34479	0	0	2.06955	0	5.25795	39.2605	51.741	59.203	0	48.6097	48.2657	0	48.151	48.1892	48.3804	48.5333	48.151	0	0	0	0	0	409
34539	0	0	2.07037	0	5.23127	39.2808	51.7807	59.2805	0	48.573	48.3819	0	48.1907	48.229	48.4201	48.573	48.229	0	0	0	0	0	409
34599	0	0	2.06955	0	5.23212	39.2859	51.8407	59.3023	0	48.5949	48.3655	0	48.2508	48.3273	48.4802	48.5184	48.3273	0	0	0	0	0	409
34659	0	0	2.06969	0	5.28438	39.2977	51.7879	59.3257	0	48.6185	48.3127	0	48.198	48.2362	48.3509	48.5038	48.198	0	0	0	0	0	409
34719	0	0	2.06962	0	5.23136	39.2893	51.8247	59.3623	0	48.6171	48.3495	0	48.273	48.2348	48.4259	48.5024	48.3877	0	0	0	0	0	409
34779	0	0	2.06969	0	5.20501	39.3045	51.8236	59.3233	0	48.5778	48.2337	0	48.2337	48.1955	48.4249	48.4631	48.3868	0	0	0	0	0	409
34839	0	0	2.06962	0	5.23136	39.3198	51.7648	59.2646	0	48.4806	48.2512	0	48.1747	48.1747	48.4041	48.5188	47.9071	0	0	0	0	0	409
34899	0	0	2.06955	0	5.25812	39.4028	51.8715	59.371	0	48.6258	48.32	0	48.2818	48.2818	48.4347	48.5493	48.2435	0	0	0	0	0	409
34959	0	0	2.07159	0	5.28438	39.3435	51.8306	59.3302	0	48.623	48.3172	0	48.2407	48.2407	48.4701	48.5848	48.126	0	0	0	0	0	409
35019	0	0	2.06962	0	5.25804	39.2791	51.7325	59.2705	0	48.5247	48.2571	0	48.1806	48.2188	48.41	48.4864	47.76	0	0	0	0	0	409
35079	0	0	2.06969	0	5.31081	39.3435	51.7729	59.2728	0	48.4888	48.3359	0	48.1065	48.2594	48.3741	48.527	47.8476	0	0	0	0	0	409
35139	0	0	2.06962	0	5.25812	39.352	51.7365	59.2365	0	48.5288	48.3376	0	48.1465	48.2229	48.4141	48.4523	47.9935	0	0	0	0	0	409
35199	0	0	2.06955	0	5.23314	39.3435	51.7634	59.3012	0	48.5556	48.3645	0	48.2116	48.2498	48.441	48.5174	48.0204	0	0	0	0	0	409
35259	0	0	2.06955	0	5.25795	39.3841	51.7572	59.3331	0	48.5877	48.3965	0	48.1672	48.2819	48.4348	48.5494	47.823	0	0	0	0	0	409
35319	0	0	2.06955	0	5.31064	39.3282	51.7742	59.198	0	48.6047	48.3371	0	48.2224	48.2607	48.3753	48.5282	47.9165	0	0	0	0	0	409
35379	0	0	2.06962	0	5.2843	39.3316	51.731	59.193	0	48.5996	48.2938	0	48.1409	48.1791	48.3703	48.4085	47.9497	0	0	0	0	0	409
35439	0	0	2.06962	0	5.23136	39.2655	51.8003	59.2621	0	48.5927	48.3633	0	48.1722	48.2486	48.4398	48.5162	47.675	0	0	0	0	0	409
35499	0	0	2.07003	0	5.20493	39.2825	51.7677	59.1916	0	48.5217	48.3306	0	48.1012	48.1777	48.4453	48.4835	47.6041	0	0	0	0	0	409
35559	0	0	2.06955	0	5.25804	39.2622	51.86																

time	dc(in)	ved(in)	dewpt(F)	Air(F)	AirVED(F)	B2(F)	B3(F)	B4(F)	B5(F)	DC1(F)	DC2(F)	VED(F)											
36398	0	0	2.06969	0	5.25812	39.1554	51.68	59.1802	0	48.5103	48.2809	0	48.0898	48.2045	48.3574	48.4338	47.6309	0	0	0	0	0	4095
36458	0	0	2.06983	0	5.25804	39.1707	51.7848	59.2466	0	48.5006	48.3477	0	48.1566	48.233	48.4242	48.4624	47.6977	0	0	0	0	0	4095
36518	0	0	2.06962	0	5.23348	39.1554	51.7968	59.2205	0	48.6273	48.3597	0	48.2068	48.398	48.398	48.5509	47.9009	0	0	0	0	0	4095
36578	0	0	2.06955	0	5.23136	39.1893	51.6592	59.1975	0	48.566	48.3366	0	48.1072	48.2984	48.3368	48.4513	47.7248	0	0	0	0	0	4095
36638	0	0	2.06969	0	5.25812	39.1453	51.7108	59.1349	0	48.503	48.3501	0	48.1207	48.2354	48.4265	48.4265	47.4323	0	0	0	0	0	4095
36698	0	0	2.06962	0	5.20485	39.147	51.7937	59.2555	0	48.586	48.3567	0	48.2037	48.2802	48.4713	48.5096	47.4772	0	0	0	0	0	4095
36758	0	0	2.06969	0	5.22136	39.0877	51.8126	59.2363	0	48.4903	48.4138	0	48.1462	48.2991	48.4521	48.5285	47.6873	0	0	0	0	0	4095
36818	0	0	2.06962	0	5.25999	39.108	51.731	59.1171	0	48.4468	48.3321	0	48.141	48.3321	48.3703	48.5615	47.6821	0	0	0	0	0	4095
36878	0	0	2.06996	0	5.24796	39.0386	51.6596	59.1599	0	48.4516	48.337	0	48.0311	48.2987	48.337	48.4899	47.9548	0	0	0	0	0	4095
36938	0	0	2.06962	0	5.28438	39.0402	51.6581	59.1204	0	48.6031	48.259	0	48.0679	48.3355	48.3355	48.4884	47.8767	0	0	0	0	0	4095
36998	0	0	2.06969	0	5.28438	39.0189	51.6909	59.0771	0	48.5212	48.2919	0	48.0625	48.2536	48.4066	48.4448	47.9478	0	0	0	0	0	4095
37058	0	0	2.06962	0	5.28447	39.0352	51.7275	59.1136	0	48.5197	48.2904	0	48.0992	48.2521	48.4051	48.4815	48.2139	0	0	0	0	0	4095
37118	0	0	2.06955	0	5.27134	39.1063	51.8329	59.1425	0	48.6253	48.3577	0	48.1686	48.3195	48.4342	48.5489	48.396	0	0	0	0	0	4095
37178	0	0	2.06962	0	5.25804	39.0182	51.7182	59.1043	0	48.6251	48.281	0	48.0899	48.2428	48.3957	48.4722	48.0516	0	0	0	0	0	4095
37238	0	0	2.06962	0	5.24084	39.0438	51.7212	59.1453	0	48.6281	48.3805	0	48.2076	48.3987	48.4369	48.5516	48.1693	0	0	0	0	0	4095
37298	0	0	2.06962	0	5.25804	38.9793	51.7027	59.1269	0	48.6096	48.2655	0	48.1126	48.1891	48.342	48.4949	47.7684	0	0	0	0	0	4095
37358	0	0	2.06962	0	5.20485	39.003	51.7727	59.1586	0	48.6414	48.3356	0	48.1445	48.3356	48.4121	48.4885	48.068	0	0	0	0	0	4095
37418	0	0	2.06976	0	5.31106	38.9911	51.6695	59.0938	0	48.5763	48.2705	0	48.1175	48.2322	48.3852	48.4616	48.2705	0	0	0	0	0	4095
37478	0	0	2.06962	0	5.25804	39.0233	51.7295	59.1915	0	48.5599	48.3305	0	48.2158	48.3305	48.4834	48.4452	48.1776	0	0	0	0	0	4095
37538	0	0	2.06962	0	5.23127	39.0216	51.6215	59.046	0	48.5282	48.2606	0	48.1459	48.2606	48.3753	48.49	48.0695	0	0	0	0	0	4095
37598	0	0	2.06962	0	5.25812	39.0419	51.6452	59.0696	0	48.5519	48.2843	0	48.1314	48.2461	48.399	48.4372	48.246	0	0	0	0	0	4095
37658	0	0	2.06962	0	5.23136	38.9776	51.7195	59.0676	0	48.6284	48.3206	0	48.2059	48.2824	48.3588	48.4735	48.2441	0	0	0	0	0	4095
37718	0	0	2.06962	0	5.25804	39.0148	51.6856	59.0338	0	48.5541	48.2865	0	48.1718	48.2865	48.4012	48.4777	48.363	0	0	0	0	0	4095
37778	0	0	2.06955	0	5.1785	39.0114	51.6963	59.0445	0	48.5649	48.3355	0	48.2209	48.2973	48.412	48.4502	48.2973	0	0	0	0	0	4095
37838	0	0	2.07118	0	5.23119	38.9962	51.6261	58.9746	0	48.571	48.227	0	48.1505	48.227	48.3035	48.4181	48.1505	0	0	0	0	0	4095
37898	0	0	2.06962	0	5.20476	39.0419	51.6285	59.015	0	48.5352	48.2676	0	48.1529	48.2294	48.3441	48.4588	48	0	0	0	0	0	4095
37958	0	0	2.06969	0	5.20485	39.0301	51.6777	59.1019	0	48.5844	48.3551	0	48.2022	48.2786	48.3933	48.4698	48.2022	0	0	0	0	0	4095
38018	0	0	2.06949	0	5.25795	39.0369	51.6339	59.0584	0	48.426	48.273	0	48.1966	48.2348	48.3877	48.4642	48.1966	0	0	0	0	0	4095
38078	0	0	2.06962	0	5.28438	39.0572	51.6284	59.0528	0	48.5351	48.3057	0	48.1528	48.2675	48.3439	48.4968	48.1145	0	0	0	0	0	4095
38138	0	0	2.06962	0	5.17842	39.0487	51.6383	59.0627	0	48.4303	48.3156	0	48.2391	48.2009	48.3538	48.4685	47.9715	0	0	0	0	0	4095
38198	0	0	2.06955	0	5.1785	39.0352	51.597	59.0976	0	48.4654	48.3125	0	48.1978	48.236	48.4272	48.4654	48.1595	0	0	0	0	0	4095
38258	0	0	2.06962	0	5.19824	39.0131	51.6022	59.0648	0	48.4324	48.2795	0	48.1648	48.203	48.3559	48.5088	48.0883	0	0	0	0	0	4095
38318	0	0	2.06962	0	5.20501	39.0352	51.6884	59.0547	0	48.537	48.3458	0	48.1929	48.2694	48.4223	48.4987	48.2311	0	0	0	0	0	4095
38378	0	0	2.06976	0	5.24474	39.0267	51.7313	59.0034	0	48.6	48.3324	0	48.1795	48.2559	48.4088	48.5235	48.3706	0	0	0	0	0	4095
38438	0	0	2.06962	0	5.33732	39.0131	51.6061	59.0306	0	48.5509	48.3598	0	48.2069	48.2451	48.398	48.4745	48.0922	0	0	0	0	0	4095
38498	0	0	2.06969	0	5.23136	39.0267	51.6374	59.0238	0	48.4294	48.2765	0	48.2	48.2383	48.3912	48.5059	48.0471	0	0	0	0	0	4095
38558	0	0	2.06962	0	5.23771	39.0233	51.6283	58.9767	0	48.4967	48.3056	0	48.1527	48.2291	48.382	48.535	48.0762	0	0	0	0	0	4095
38618	0	0	2.06962	0	5.23415	39.0199	51.7038	59.0139	0	48.6106	48.3812	0	48.2665	48.4195	48.4195	48.6106	48.343	0	0	0	0	0	4095
38678	0	0	2.06962	0	5.25795	39.0386	51.6661	59.0524	0	48.4984	48.2671	0	48.1906	48.1524	48.3818	48.4964	48.2288	0	0	0	0	0	4095
38738	0	0	2.06969	0	5.26803	39.0487	51.7354	59.0455	0	48.5276	48.3747	0	48.2601	48.2601	48.4512	48.6041	48.4894	0	0	0	0	0	4095
38798	0	0	2.07091	0	5.26524	39.0606	51.5912	59.0538	0	48.5743	48.2685	0	48.1538	48.2685	48.3832	48.4978	48.1538	0	0	0	0	0	4095
38858	0	0	2.06962	0	5.23144	39.0419	51.6232	59.0097	0	48.5681	48.3005	0	48.1476	48.2623	48.377	48.4152	48.1476	0	0	0	0	0	4095
38918	0	0	2.06969	0	5.27125	38.942	51.6184	59.0049	0	48.6015	48.2574	0	48.1427	48.181	48.3721	48.4488	48.2957	0	0	0	0	0	4095
38978	0	0	2.06955	0	5.25812	39.0453	51.6252	59.0497	0	48.4937	48.3026	0	48.1496	48.2643	48.379	48.4937	48.3026	0	0	0	0	0	4095
39038	0	0	2.06969	0	5.20476	39.1199	51.7037	59.1278	0	48.4194	48.3429	0	48.19	48.2664	48.4576	48.534	48.2664	0	0	0	0	0	4095
39098	0	0	2.06969	0	5.2843	39.025	51.6694	59.0557	0	48.6526	48.3088	0	48.1939	48.2321	48.4232	48.5379	48.2703	0	0	0	0	0	4095
39158	0	0	2.06969	0	5.26786	39.0623	51.6768	59.063	0	48.5835	48.3159	0	48.2395	48.2777	48.4306	48.5453	48.2012	0	0	0	0	0	4095
39218	0	0	2.07105	0	5.23144	39.0098	51.6182	58.9667	0	48.6396	48.2573	0	48.1808	48.2191	48.372	48.5249	47.8749	0	0	0	0	0	4095
39278	0	0	2.06962	0	5.22094	39.069	51.6847	59.033	0	48.668	48.324	0	48.2093	48.2857	48.4769	48.5151	48.1328	0	0	0	0	0	4095
39338	0	0	2.06962	0	5.23127	39.0453	51.6172	59.0037	0	48.5621	48.2945	0	48.1416	48.2181	48.3328	48.4857	48.1798	0	0	0	0	0	4095
39398	0	0	2.06969	0	5.20485	39.0284	51.7756	59.0095	0	48.5297	48.3768	0	48.2621	48.3385	48.415	48.5297	47.8032	0	0	0	0	0	4095
39458	0	0	2.06962	0	5.28167	39.0945	51.7014	59.0115	0	48.6082	48.3406	0	48.1494	48.2641	48.4171	48.4553	48.2259	0	0	0	0	0	4095
39518	0	0	2.06969	0	5.25804	39.069	51.6456	58.994	0	48.5523	48.2848	0	48.1701	48.2465	48.3994	48.4759	48.1318	0	0	0	0	0	4095
39578	0	0	2.06962	0	5.20485	39.0911	51.6604	58.9327	0	48.5289	48.2613	0	48.1083	48.223	48.3377								

time	dc(In)	ved(In)	dewpt(F)	Alr(F)	AlrVED(F)	B2(F)	B3(F)	B4(F)	B5 (F)	DC1(F)	DC2(F)	VED(F)											
44555	0	0	2.06969	0	5.23144	39.5468	51.5449	58.8177	0	48.4132	48.3368	0	48.2603	48.2603	48.3368	48.4897	48.0691	0	0	0	0	0	4095
44615	0	0	2.06969	0	5.25804	39.579	51.5717	58.7684	0	48.4783	48.2489	0	48.1342	48.2107	48.3254	48.3636	48.2107	0	0	0	0	0	4095
44675	0	0	2.06962	0	5.31072	39.5925	51.5713	58.844	0	48.4015	48.325	0	48.1339	48.1721	48.325	48.4397	48.2488	0	0	0	0	0	4095
44735	0	0	2.06969	0	5.23138	39.6196	51.5711	58.8818	0	48.4012	48.2865	0	48.1338	48.2101	48.4012	48.4012	48.0571	0	0	0	0	0	4095
44795	0	0	2.06969	0	5.22738	39.6484	51.613	58.8475	0	48.5196	48.3667	0	48.2138	48.2903	48.3667	48.4432	48.2903	0	0	0	0	0	4095
44855	0	0	2.06969	0	5.25795	39.6806	51.6751	58.9094	0	48.3908	48.3528	0	48.1614	48.2379	48.429	48.429	48.1996	0	0	0	0	0	4095
44915	0	0	2.06969	0	5.23127	39.7009	51.5255	58.7984	0	48.432	48.2408	0	48.0879	48.2028	48.3555	48.3937	48.1261	0	0	0	0	0	4095
44975	0	0	2.07091	0	5.25829	39.6908	51.5731	58.8458	0	48.365	48.2885	0	48.1358	48.2121	48.365	48.365	48.4797	0	0	0	0	0	4095
45035	0	0	2.06969	0	5.25804	39.7467	51.6293	58.8637	0	48.5742	48.2668	0	48.1919	48.2684	48.3631	48.4595	48.3068	0	0	0	0	0	4095
45095	0	0	2.06969	0	5.23136	39.7534	51.6397	58.8741	0	48.5848	48.317	0	48.0878	48.2788	48.3552	48.4317	48.4317	0	0	0	0	0	4095
45155	0	0	2.06969	0	5.1791	39.7755	51.5205	58.8314	0	48.5417	48.2358	0	48.1211	48.1976	48.3505	48.3888	48.2358	0	0	0	0	0	4095
45215	0	0	2.06962	0	5.23678	39.7992	51.6058	58.8403	0	48.5124	48.2448	0	48.0919	48.2068	48.3977	48.438	48.3213	0	0	0	0	0	4095
45275	0	0	2.06969	0	5.20493	39.8043	51.6654	58.9757	0	48.6104	48.3428	0	48.1899	48.381	48.4575	48.5722	48.3048	0	0	0	0	0	4095
45335	0	0	2.06969	0	5.27684	39.8449	51.6291	58.9015	0	48.4975	48.3064	0	48.1535	48.1917	48.3448	48.574	48.2299	0	0	0	0	0	4095
45395	0	0	2.06969	0	5.21137	39.8144	51.6671	58.9394	0	48.5738	48.3827	0	48.1916	48.3445	48.4209	48.5738	48.2298	0	0	0	0	0	4095
45455	0	0	2.06962	0	5.23119	39.8636	51.8188	58.8533	0	48.5638	48.2578	0	48.1431	48.2578	48.3725	48.4872	48.1049	0	0	0	0	0	4095
45515	0	0	2.06962	0	5.20535	39.9161	51.5841	58.8567	0	48.4907	48.2995	0	48.1466	48.2231	48.3378	48.4524	48.2231	0	0	0	0	0	4095
45575	0	0	2.06969	0	5.328	39.9144	51.6179	58.8524	0	48.4481	48.2569	0	48.1422	48.2187	48.3334	48.4481	48.0658	0	0	0	0	0	4095
45635	0	0	2.06969	0	5.28438	39.9398	51.5817	58.8543	0	48.45	48.2589	0	48.1442	48.2207	48.3353	48.4118	48.108	0	0	0	0	0	4095
45695	0	0	2.06976	0	5.33724	39.9127	51.5831	58.8558	0	48.4515	48.2988	0	48.1839	48.2221	48.2988	48.375	48.2221	0	0	0	0	0	4095
45755	0	0	2.06969	0	5.25804	39.9872	51.6605	58.8569	0	48.6055	48.3379	0	48.2615	48.2997	48.3761	48.4528	48.0703	0	0	0	0	0	4095
45815	0	0	2.06976	0	5.22467	40.0059	51.6386	58.987	0	48.4688	48.3541	0	48.3159	48.3541	48.4306	48.5835	48.1247	0	0	0	0	0	4095
45875	0	0	2.06962	0	5.25804	40.0296	51.5785	58.8512	0	48.4851	48.294	0	48.1793	48.2175	48.3704	48.4469	48.0648	0	0	0	0	0	4095
45935	0	0	2.07003	0	5.26058	40.0109	51.5808	58.8534	0	48.4109	48.258	0	48.1815	48.2198	48.3344	48.4491	48.2962	0	0	0	0	0	4095
45995	0	0	2.06969	0	5.24618	40.033	51.6206	58.8931	0	48.4508	48.2979	0	48.1832	48.2214	48.3744	48.4508	48.0685	0	0	0	0	0	4095
46055	0	0	2.06962	0	5.31064	40.0651	51.5837	58.8944	0	48.4903	48.3374	0	48.1462	48.2227	48.3758	48.4139	48.3758	0	0	0	0	0	4095
46115	0	0	2.06962	0	5.28447	40.0634	51.6228	58.8953	0	48.4913	48.3384	0	48.1472	48.1854	48.4148	48.4148	48.2237	0	0	0	0	0	4095
46175	0	0	2.06962	0	5.25795	40.121	51.6235	58.896	0	48.5302	48.3391	0	48.1479	48.1861	48.3773	48.4538	48.1479	0	0	0	0	0	4095
46235	0	0	2.06969	0	5.25804	40.1397	51.7323	59.0423	0	48.6009	48.448	0	48.2569	48.3716	48.5245	48.5245	48.2188	0	0	0	0	0	4095
46295	0	0	2.06976	0	5.23144	40.1837	51.8448	58.9262	0	48.6753	48.4077	0	48.293	48.3312	48.4459	48.5224	48.3312	0	0	0	0	0	4095
46355	0	0	2.07213	0	5.25812	40.199	51.6602	58.9705	0	48.4905	48.2993	0	48.1464	48.2229	48.414	48.4523	48.1082	0	0	0	0	0	4095
46415	0	0	2.06962	0	5.23441	40.2193	51.6977	58.9319	0	48.5281	48.2605	0	48.1841	48.2605	48.3752	48.4517	48.1458	0	0	0	0	0	4095
46475	0	0	2.06969	0	5.2843	40.2108	51.7243	58.9964	0	48.5165	48.3253	0	48.2489	48.3253	48.4018	48.5165	48.3253	0	0	0	0	0	4095
46535	0	0	2.06962	0	5.25804	40.2413	51.8895	58.9617	0	48.6345	48.3287	0	48.214	48.3287	48.3669	48.5198	48.2522	0	0	0	0	0	4095
46595	0	0	2.06969	0	5.25821	40.2921	51.7508	58.9848	0	48.6195	48.3137	0	48.199	48.2372	48.4284	48.5048	48.2372	0	0	0	0	0	4095
46655	0	0	2.06969	0	5.25812	40.2938	51.7137	58.9478	0	48.5823	48.3147	0	48.1618	48.3147	48.4294	48.5058	48.3912	0	0	0	0	0	4095
46715	0	0	2.06962	0	5.28438	40.326	51.7423	58.9763	0	48.5727	48.3434	0	48.2287	48.3434	48.4198	48.5345	48.3434	0	0	0	0	0	4095
46775	0	0	2.06962	0	5.28438	40.3599	51.6947	59.0049	0	48.4103	48.3339	0	48.2192	48.2957	48.3721	48.4868	48.2192	0	0	0	0	0	4095
46835	0	0	2.06962	0	5.2311	40.3904	51.8718	58.9818	0	48.4636	48.2725	0	48.196	48.2725	48.4254	48.4254	48.1198	0	0	0	0	0	4095
46895	0	0	2.06976	0	5.23161	40.4006	51.6828	59.0111	0	48.3784	48.3402	0	48.1873	48.2255	48.3784	48.4167	48.3784	0	0	0	0	0	4095
46955	0	0	2.06962	0	5.20476	40.4344	51.6969	58.9691	0	48.4891	48.3362	0	48.2215	48.2597	48.3362	48.4128	48.0685	0	0	0	0	0	4095
47015	0	0	2.06962	0	5.26134	40.4328	51.6399	58.9123	0	48.4702	48.2408	0	48.1843	48.2408	48.3173	48.432	48.2028	0	0	0	0	0	4095
47075	0	0	2.06962	0	5.28438	40.5022	51.6276	58.9381	0	48.4961	48.2667	0	48.152	48.1902	48.3431	48.3814	48.2285	0	0	0	0	0	4095
47135	0	0	2.06955	0	5.25812	40.4954	51.6193	58.9678	0	48.4495	48.2202	0	48.1437	48.1437	48.2968	48.3349	48.1819	0	0	0	0	0	4095
47195	0	0	2.06962	0	5.28591	40.5039	51.6984	58.9326	0	48.567	48.3377	0	48.1465	48.2612	48.3759	48.4141	48.0318	0	0	0	0	0	4095
47255	0	0	2.06969	0	5.25812	40.5547	51.7723	58.9682	0	48.3735	48.3352	0	48.1823	48.297	48.297	48.4499	48.3734	0	0	0	0	0	4095
47315	0	0	2.07132	0	5.23466	40.5668	51.7475	59.0574	0	48.5779	48.3868	0	48.1956	48.2339	48.3868	48.5397	48.3486	0	0	0	0	0	4095
47375	0	0	2.06969	0	5.23805	40.5751	51.7239	58.9959	0	48.5925	48.3249	0	48.1338	48.2867	48.4014	48.516	48.2484	0	0	0	0	0	4095
47435	0	0	2.06969	0	5.23144	40.6174	51.6878	58.998	0	48.5181	48.2887	0	48.1741	48.2505	48.3652	48.4417	48.2505	0	0	0	0	0	4095
47495	0	0	2.06962	0	5.20485	40.6242	51.7361	59.0081	0	48.4901	48.3372	0	48.1843	48.2607	48.4138	48.4901	48.299	0	0	0	0	0	4095
47555	0	0	2.06969	0	5.23153	40.6699	51.6663	59.0526	0	48.573	48.3819	0	48.1908	48.2672	48.3819	48.4584	48.0378	0	0	0	0	0	4095
47615	0	0	2.06962	0	5.24135	40.6784	51.8394	59.0351	0	48.6318	48.3643	0	48.2878	48.326	48.4789	48.4789	48.2878	0	0	0	0	0	4095
47675	0	0	2.06969	0	5.25812	40.7004	51.7278	58.9999	0	48.52	48.2906	0	48.176	48.2906	48.3671	48.52	48.1377	0	0	0	0	0	4095
47735	0	0	2.06983	0	5.23136	40.7224	51.7276	59.0376	0	48.558	48.3286	0	48.2522	48									

APPENDIX U

FLUKE WIRELESS DATA LOGGER FILES (TEST 2)

time dc(ln) bsn(ln) dewpt(F) Air(F) AirVED(F) B1(F) B2(F) B3(F) B4(F) B5 (F) DC1(F) DC2(F) VED(F)

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TIME	OFF	OFF	dc (ln)	bsn (ln)	OFF	dewpt (F)	AirTp (F)	alrved	B1Deg (F)	B2Deg (F)	B3Deg (F)	OFF	B4Deg (F)	B5Deg (F)	DC1Dg (F)	DC2Dg (F)	Ved(F)	OFF	OFF	OFF	OFF	TOTAL	DIO
0	0	0	8.05837	2.29276	0	41.5113	54.1479	64.5103	48.1897	48.2761	48.0851	0	47.8941	47.9705	51.8245	53.0437	47.0916	0	0	0	0	0	4095
60	0	0	7.99811	2.35884	0	41.4775	54	64.136	48.1658	48.1658	47.9366	0	47.822	47.8602	51.8669	52.9338	47.0577	0	0	0	0	0	4095
120	0	0	7.80373	2.37075	0	41.4014	54.0962	64.0802	48.1477	48.1477	48.0713	0	47.8421	47.8039	51.8489	52.9158	47.0396	0	0	0	0	0	4095
180	0	0	7.61138	2.35648	0	41.4167	54.2058	65.022	48.296	48.1814	48.1432	0	48.0288	48.105	51.9206	53.1017	47.2643	0	0	0	0	0	4095
240	0	0	7.52129	2.35648	0	41.3878	54.0658	64.0499	48.079	48.1554	48.0408	0	47.8498	47.9644	51.7422	52.6186	46.9326	0	0	0	0	0	4095
300	0	0	7.42085	2.37751	0	41.3761	53.8954	64.0698	48.0608	48.1372	48.0226	0	47.7552	47.7552	51.8384	52.5243	47.0873	0	0	0	0	0	4095
360	0	0	7.29404	2.3882	0	41.3879	53.9783	64.0008	48.1822	48.1058	47.9912	0	47.8384	47.8384	51.7308	52.1119	48.9594	0	0	0	0	0	4095
420	0	0	7.09905	2.43229	0	41.4725	54.0394	63.8723	48.1672	48.0908	48.0526	0	47.9762	47.9762	51.9445	52.4399	47.2883	0	0	0	0	0	4095
480	0	0	7.00389	2.44278	0	41.4623	54.0492	64.6392	48.1388	48.1388	47.7949	0	47.9096	47.9478	52.0305	52.4116	46.9542	0	0	0	0	0	4095
540	0	0	6.84421	2.50838	0	41.3947	54.0139	65.134	48.1416	48.027	47.8359	0	47.7977	47.9123	52.0714	52.4905	47.0716	0	0	0	0	0	4095
600	0	0	6.7176	2.48478	0	41.3879	54.0107	64.2981	48.0238	47.9855	47.7945	0	47.7181	47.7945	52.0301	52.4111	47.1066	0	0	0	0	0	4095
660	0	0	6.58875	2.51697	0	41.3541	53.9509	64.8064	48.0401	47.7345	47.8109	0	47.658	47.7727	52.0484	52.0845	48.9319	0	0	0	0	0	4095
720	0	0	6.52626	2.50642	0	41.4505	54.092	64.606	48.2199	48.1435	48.1435	0	47.8761	47.9525	52.0733	52.302	47.15	0	0	0	0	0	4095
780	0	0	6.30286	2.54862	0	41.4741	54.1262	64.6779	48.1778	48.1014	48.407	0	47.8722	47.9486	51.6883	52.2991	47.1843	0	0	0	0	0	4095
840	0	0	6.2073	2.55383	0	41.3879	54.1146	65.4611	48.2426	48.1662	48.0134	0	47.937	48.0898	51.5623	51.9816	47.2874	0	0	0	0	0	4095
900	0	0	6.07825	2.53801	0	41.3642	54.0137	64.1875	48.256	48.1414	48.1032	0	47.9122	47.874	51.1945	51.8425	47.0714	0	0	0	0	0	4095
960	0	0	5.95123	2.54849	0	41.3592	54.0824	64.2936	48.2485	48.1339	48.0575	0	47.9047	48.0193	51.492	51.8351	47.1404	0	0	0	0	0	4095
1020	0	0	5.82361	2.54883	0	41.327	53.9778	65.2116	48.0289	48.0289	48.1817	0	47.7233	47.8379	51.006	51.8828	47.0736	0	0	0	0	0	4095
1080	0	0	5.69659	2.59421	0	41.3592	54.2138	64.8785	48.1893	48.0365	48.2275	0	47.8073	48.0365	51.2805	51.7379	47.0812	0	0	0	0	0	4095
1140	0	0	5.56815	2.61227	0	41.3761	54.0019	65.0088	48.1296	48.1678	48.0532	0	47.8621	47.9386	51.4114	51.7926	47.0978	0	0	0	0	0	4095
1200	0	0	5.44134	2.61227	0	41.3913	54.1727	64.5349	48.2627	48.3773	48.2245	0	47.9953	48.0717	52.1161	52.3447	47.0782	0	0	0	0	0	4095
1260	0	0	5.31351	2.6866	0	41.3811	53.9892	64.3145	48.1167	48.2313	47.9257	0	47.8493	47.8493	51.9704	52.0468	47.1614	0	0	0	0	0	4095
1320	0	0	5.1869	2.69701	0	41.3947	54.1104	64.5865	48.2002	48.2002	48.0092	0	47.8564	47.9328	52.2442	52.168	47.1303	0	0	0	0	0	4095
1380	0	0	5.05116	2.67605	0	41.3659	54.0454	64.9004	48.0588	48.0588	47.7912	0	47.8676	48.0204	52.6745	52.2935	47.0268	0	0	0	0	0	4095
1440	0	0	4.86104	2.69708	0	41.3997	54.0973	64.4599	48.0724	48.1488	47.8432	0	47.805	47.9578	52.7264	52.3835	47.0789	0	0	0	0	0	4095
1500	0	0	4.79631	2.71805	0	41.3947	53.9905	64.5808	48.0417	48.1563	47.8889	0	47.9271	47.9271	52.8481	52.1623	47.0864	0	0	0	0	0	4095
1560	0	0	4.66909	2.71798	0	41.4167	53.9883	64.8057	48.0394	48.0012	47.8866	0	47.8102	47.8484	52.8078	51.9695	47.0458	0	0	0	0	0	4095
1620	0	0	4.54086	2.74158	0	41.4995	54.0987	64.802	48.1885	48.1503	48.1121	0	47.8829	47.9211	52.9183	52.042	47.0422	0	0	0	0	0	4095
1680	0	0	4.41364	2.78174	0	41.5181	54.0388	64.8558	48.1684	48.0136	48.0518	0	47.8607	47.9754	52.9343	52.0199	46.9818	0	0	0	0	0	4095
1740	0	0	4.22372	2.73922	0	41.4708	54.1354	64.3086	48.1489	48.1107	48.0343	0	47.8433	48.1107	52.9931	52.0406	47.0026	0	0	0	0	0	4095
1800	0	0	4.09772	2.79468	0	41.4403	54.2252	64.36	48.3154	48.2008	48.048	0	47.9334	48.0098	53.083	51.94	47.2456	0	0	0	0	0	4095
1859	0	0	3.96766	2.78284	0	41.4741	54.0663	64.0128	48.1941	48.0795	47.8885	0	47.8503	47.8503	52.8477	51.7046	47.086	0	0	0	0	0	4095
1920	0	0	3.84531	2.78359	0	41.4978	53.9774	65.4004	48.0667	47.9521	47.7229	0	47.7229	47.7229	52.7207	51.6537	46.882	0	0	0	0	0	4095
1979	0	0	3.71282	2.82491	0	41.4995	53.9694	64.7113	48.0205	48.0587	47.9059	0	47.7531	47.8295	52.7889	51.6457	46.8741	0	0	0	0	0	4095
2039	0	0	3.52026	2.84648	0	41.5096	53.952	64.8075	48.0794	48.0794	47.8502	0	47.8884	47.8502	52.9238	51.8188	46.9713	0	0	0	0	0	4095
2099	0	0	3.45757	2.86752	0	41.5181	54.1789	64.8817	48.269	48.3071	48.078	0	47.9634	48.078	53.1509	51.9698	47.1609	0	0	0	0	0	4095
2159	0	0	3.32994	2.84642	0	41.5435	54.0567	65.6684	48.0699	48.1463	48.0317	0	47.8789	47.9171	52.9525	51.9999	47.1528	0	0	0	0	0	4095
2219	0	0	3.20272	2.90952	0	41.4843	54.2264	64.5126	48.1256	48.0492	47.9346	0	47.8582	47.9346	52.9699	52.0174	47.0939	0	0	0	0	0	4095
2279	0	0	3.07246	2.88849	0	41.5384	54.0947	65.3278	47.9935	48.0699	48.0699	0	47.8025	47.8407	52.9524	51.9618	46.9235	0	0	0	0	0	4095
2339	0	0	2.94483	2.9313	0	41.5147	54.048	64.5245	48.1376	48.2522	47.9848	0	47.7938	47.9084	52.9818	52.0675	47.1441	0	0	0	0	0	4095
2399	0	0	2.81761	2.95226	0	41.557	54.0101	64.8653	48.0231	48.0613	47.9085	0	47.8321	47.8321	53.0582	52.1057	47.1442	0	0	0	0	0	4095
2459	0	0	2.69019	2.95226	0	41.6094	54.0825	65.1643	48.0576	48.0958	48.0576	0	47.8666	47.943	53.0163	52.1782	47.0258	0	0	0	0	0	4095
2519	0	0	2.56236	2.95226	0	41.6196	54.1744	65.4071	48.2644	48.2262	47.997	0	47.9206	47.997	53.1845	52.2321	47.1946	0	0	0	0	0	4095
2579	0	0	2.37042	2.9733	0	41.6415	54.1455	65.3026	48.1208	48.2354	47.968	0	47.8534	48.0062	52.9651	52.165	47.0126	0	0	0	0	0	4095
2639	0	0	2.30752	2.9733	0	41.7227	54.0082	64.6363	48.0976	48.0212	47.6392	0	47.8302	47.8302	52.942	52.2181	46.9894	0	0	0	0	0	4095
2699	0	0	2.1803	2.98392	0	41.7159	54.1799	64.9584	48.2317	48.1935	47.6587	0	47.8497	47.9643	52.9995	52.2376	47.0472	0	0	0	0	0	4095
2759	0	0	1.98693	3.03701	0	41.7362	54.004	64.7079	48.0553	47.9789	47.7114	0	47.7114	47.7114	52.8617	52.0234	46.9088	0	0	0	0	0	4095
2819	0	0	1.98693	3.05811	0	41.7514	54.1086	64.5847	48.1602	48.1602	47.8546	0	47.8546	47.8928	52.9282	52.09	46.9756	0	0	0	0	0	4095
2879	0	0	1.98693	3.03701	0	41.7582	54.2383	65.0165	48.0993	48.0611	47.8319	0	47.7937	47.8319	52.9056	51.9149	46.9147	0	0	0	0	0	4095
2939	0	0	1.98652	3.09382	0	41.7295	54.3711	64.6944	48.118	48.2326	47.8506	0	47.736	47.8888	52.7338	51.9336	46.9716	0	0	0	0	0	4095
2999	0	0	1.98673	3.07942	0	41.7261	54.4847	64.5802	48.0792	48.1556	47.85	0	47.8118	47.8882	52.9617	51.8186	46.971	0	0	0	0	0	4095
3059	0	0	1.98673	3.07928	0	41.7514	54.6733	64.4271	48.154	48.2304	48.0776	0	48.0012	48.0394	53.0363	52.1219							

time	dc(ln)	bsn(ln)	dewpt(F)	Alr(F)	Alr/VED(F)	B1(F)	B2(F)	B3(F)	B4(F)	B5 (F)	DC1(F)	DC2(F)	VED(F)								
7857	0	0	2.62587	3.01598	0	41.6787	55.8335	66.111	48.1349	48.2494	47.9438	0	47.9056	47.982	53.0553	53.4742	47.0267	0	0	0	4095
7917	0	0	2.69019	2.99454	0	41.6686	55.9666	65.6759	48.2685	48.3067	48.1157	0	48.0393	48.0775	53.2266	53.5693	47.2369	0	0	0	4095
7977	0	0	2.69019	2.99447	0	41.6432	55.9159	65.7012	48.2558	48.2558	47.8738	0	47.9502	47.9502	53.1377	53.5186	47.033	0	0	0	4095
8037	0	0	2.69059	3.01834	0	41.6449	55.8546	65.6023	48.2324	48.1178	47.9268	0	47.8504	47.8886	53.0002	53.343	47.0096	0	0	0	4095
8097	0	0	2.69039	2.97343	0	41.6382	55.772	65.6715	48.2259	47.9585	47.7292	0	47.7292	47.7674	52.9937	53.2983	46.9648	0	0	0	4095
8157	0	0	2.69039	3.01598	0	41.601	55.8008	66.4189	48.1402	47.9874	47.7582	0	47.7582	47.8728	53.0225	53.3272	46.9174	0	0	0	4095
8217	0	0	2.69059	3.01611	0	41.5722	55.9697	65.7926	48.2717	48.1189	48.0043	0	47.8897	48.0043	53.0394	53.4202	47.049	0	0	0	4095
8277	0	0	2.69039	3.00806	0	41.601	55.8944	65.6041	48.1578	48.1196	47.9668	0	47.7758	47.814	53.0401	53.3067	46.9732	0	0	0	4095
8336	0	0	2.69039	2.99562	0	41.5688	55.9629	65.9371	48.2266	48.1502	47.9974	0	47.8446	47.9592	53.1087	53.4134	47.0803	0	0	0	4095
8396	0	0	2.75309	3.01604	0	41.5232	55.7048	65.4155	48.0819	48.0055	47.7763	0	47.6617	47.7381	52.8502	53.2691	46.8591	0	0	0	4095
8456	0	0	2.75674	3.01604	0	41.5266	55.892	65.6018	48.1554	48.2318	48.0026	0	47.8116	47.888	53.1139	53.4947	47.0855	0	0	0	4095
8516	0	0	2.75329	3.02396	0	41.5299	55.9578	68.6504	48.2213	48.1067	48.0303	0	47.8393	47.8393	53.1034	53.4842	46.8985	0	0	0	4095
8576	0	0	2.75309	3.00522	0	41.4877	55.8933	65.7544	48.1587	47.9275	47.9275	0	47.8129	47.9275	53.1152	53.3817	47.0103	0	0	0	4095
8636	0	0	2.75289	3.03424	0	41.4877	55.9068	65.9191	48.2467	48.1703	48.0557	0	47.9411	48.0175	53.2429	53.5095	47.1385	0	0	0	4095
8696	0	0	2.75309	3.03444	0	41.4505	55.8137	65.6373	48.0767	48.0767	47.9621	0	47.7711	47.8857	53.1116	53.4543	46.9685	0	0	0	4095
8756	0	0	2.75309	3.02125	0	41.4048	55.9435	66.1447	48.2453	48.0925	48.0161	0	47.8251	48.0161	53.2035	53.5081	47.1372	0	0	0	4095
8816	0	0	2.81781	2.9946	0	41.3845	55.9038	65.1973	48.2818	48.0527	47.9381	0	47.8234	47.8234	53.1257	53.3923	47.0974	0	0	0	4095
8876	0	0	2.81781	3.01611	0	41.3676	55.849	65.3698	48.2268	48.074	47.9976	0	47.8212	47.8448	53.0708	53.4136	46.8893	0	0	0	4095
8936	0	0	2.81761	2.97337	0	41.3862	55.7674	65.4021	48.0303	47.9157	47.8393	0	47.7246	47.8393	53.0272	53.37	47.075	0	0	0	4095
8996	0	0	2.81761	3.00258	0	41.3321	55.8758	65.4342	48.1391	48.0245	47.7953	0	47.7953	47.9099	53.1357	53.3642	47.1838	0	0	0	4095
9056	0	0	2.81761	2.97343	0	41.2729	56.1354	65.6926	48.3235	48.2471	48.0561	0	48.0179	48.0561	53.2434	53.51	47.2537	0	0	0	4095
9116	0	0	2.81741	2.9731	0	41.2814	55.9314	65.6409	48.2332	48.195	47.8894	0	47.8894	48.004	53.1152	53.496	47.0869	0	0	0	4095
9176	0	0	2.81781	2.9946	0	41.234	55.86	65.8348	48.0851	48.0469	47.8941	0	47.703	47.7795	53.0437	53.3484	47.0533	0	0	0	4095
9236	0	0	2.81802	3.00691	0	41.1884	55.7735	66.0135	48.0746	48.0364	47.8072	0	47.8072	47.8072	52.9571	53.2999	46.9282	0	0	0	4095
9296	0	0	2.88051	3.02862	0	41.2273	55.8643	65.9147	48.1658	48.0894	47.9368	0	47.8602	47.8984	53.1242	53.4669	47.1723	0	0	0	4095
9356	0	0	2.88051	2.99454	0	41.1749	55.9419	65.6135	48.2055	48.2055	47.9381	0	47.8617	47.8617	53.1638	53.4685	47.0209	0	0	0	4095
9416	0	0	2.88051	3.01314	0	41.1461	56.036	65.6693	48.2618	48.1472	47.918	0	47.8798	47.8798	53.1819	53.5246	47.192	0	0	0	4095
9476	0	0	2.88051	3.01604	0	41.158	55.9766	65.6859	48.2785	48.3167	48.0494	0	47.9348	47.9348	53.2747	53.5794	47.1705	0	0	0	4095
9536	0	0	2.88051	2.9896	0	41.1258	55.8996	65.6232	48.2534	48.4062	48.1006	0	47.986	48.0624	53.2116	53.5924	47.2217	0	0	0	4095
9596	0	0	2.88051	3.00529	0	41.0903	56.1259	65.7588	48.3139	48.1993	48.1612	0	47.8937	48.0084	53.1577	53.5385	47.3206	0	0	0	4095
9656	0	0	2.88031	3.01672	0	41.07	55.93	65.8287	48.079	47.9262	47.8116	0	47.6205	47.8498	52.9996	53.3423	46.9708	0	0	0	4095
9716	0	0	2.88071	3.01604	0	41.0633	56.0224	65.7315	48.2482	48.1336	48.0954	0	47.9044	47.9426	53.1302	53.511	47.2166	0	0	0	4095
9776	0	0	2.94503	2.99454	0	41.0683	55.9864	66.2252	48.3266	48.1356	48.0592	0	47.8682	47.9446	53.2084	53.513	47.1039	0	0	0	4095
9836	0	0	2.94463	2.99454	0	41.0514	56.0342	65.9324	48.2218	48.1454	48.1072	0	47.8398	47.9544	53.2943	53.5609	47.1902	0	0	0	4095
9896	0	0	2.94463	2.9946	0	41.0954	55.9634	65.8998	48.3035	48.1126	47.998	0	47.9216	47.8834	53.1092	53.452	47.1955	0	0	0	4095
9956	0	0	2.94483	3.01631	0	41.0751	56.062	66.187	48.2116	48.3261	48.097	0	47.7913	47.9442	53.2079	53.5126	47.1035	0	0	0	4095
10016	0	0	2.94747	2.99988	0	41.0835	55.912	66.5294	48.1373	48.0609	47.908	0	47.7552	47.7934	52.9815	53.3243	46.9528	0	0	0	4095
10076	0	0	2.94503	2.99325	0	41.0734	55.8509	66.62	48.0377	48.0377	47.8085	0	47.7321	47.8849	52.9665	53.4155	47.006	0	0	0	4095
10136	0	0	2.94483	2.9758	0	41.0768	55.9502	66.2649	48.2521	48.0611	47.9465	0	47.7937	47.8701	53.1341	53.4388	46.9529	0	0	0	4095
10196	0	0	2.94483	2.97343	0	41.0835	56.0425	66.2432	48.192	48.0392	47.9628	0	47.81	47.9246	53.1884	53.4931	47.1221	0	0	0	4095
10256	0	0	3.00753	2.97343	0	41.0853	55.9635	66.089	48.1508	48.0744	47.9598	0	47.8834	47.8834	53.1093	53.452	47.1958	0	0	0	4095
10316	0	0	3.00753	2.95247	0	41.0971	56.0448	65.6025	48.2707	48.2325	47.9651	0	47.8123	47.9651	53.1527	53.4954	47.1627	0	0	0	4095
10376	0	0	3.00732	2.97458	0	41.0768	56.0913	65.9136	48.2793	48.2793	48.0501	0	47.9355	48.0501	53.3135	53.6562	47.4005	0	0	0	4095
10436	0	0	3.00732	2.9735	0	41.0328	56.0632	65.8099	48.1364	48.251	47.8307	0	47.7543	47.8307	53.1329	53.4376	47.1811	0	0	0	4095
10496	0	0	3.00753	2.99447	0	41.0024	56.0558	65.7647	48.2435	48.1671	47.8233	0	47.8233	47.8997	53.2017	53.5063	47.059	0	0	0	4095
10556	0	0	3.01301	2.97465	0	40.9821	56.0651	66.0765	48.2146	48.1383	47.9472	0	47.8326	47.9472	53.2872	53.5537	47.1448	0	0	0	4095
10616	0	0	3.00753	2.99454	0	40.9872	55.907	65.6923	48.0558	47.9794	47.8266	0	47.7884	47.8268	53.0908	53.3954	47.024	0	0	0	4095
10676	0	0	3.07246	2.9735	0	40.9635	55.9718	65.9081	48.2355	48.1591	47.9299	0	47.7771	47.8535	53.1176	53.4222	47.1274	0	0	0	4095
10736	0	0	3.07286	2.99684	0	40.9855	56.1434	65.8897	48.2934	48.2934	47.9878	0	47.9496	47.9114	53.2514	53.4418	47.2235	0	0	0	4095
10796	0	0	3.07246	2.99454	0	40.999	56.1583	65.6776	48.232	48.0792	47.9646	0	47.9264	48.0028	53.3044	53.571	47.1238	0	0	0	4095
10856	0	0	3.07246	2.99447	0	40.999	56.1145	65.5961	48.2261	47.8441	0	0	47.8059	47.8823	53.1844	53.489	47.0798	0	0	0	4095
10916	0	0	3.07266	2.99528	0	41.0125	56.1896	66.1626	48.2634	48.2252	48.0342	0	47.9578	47.996	53.3562	53.5642	47.1935	0	0	0	4095
10976	0	0	3.07246	2.97222	0	40.9889	56.01	65.5678	48.1593	48.0447	48.0065	0	47.8537	47.9301	53.1559	53.4986	47.1276	0	0	0	4095
11036	0	0	3.07225	2.97343	0	41.0227	56.0667	65.6621	48.2163	48.0635	47.9871	0	47.8343	47.9489	53.1746	53.4792	47.1464	0	0	0	4095
11096	0	0	3.07408	2.9524	0	41.07	56.0671	66.2677	48.2167	48.0257	48.0257	0	47.9111	47.9875	53.3273	53.5558	47.1086	0	0	0	4095
11156	0	0	3.07246	2.97364	0	41.0413	55.9543	66.6													

time	dc(ln)	bsn(ln)	dewpt(F)	Air(F)	AirVED(F)	B1(F)	B2(F)	B3(F)	B4(F)	B5 (F)	DC1(F)	DC2(F)	VED(F)									
16012	0	0	3.71302	2.88862	0	41.5824	56.1013	65.9613	48.1747	48.0601	48.0601	0	47.869	47.8308	53.5139	52.9045	47.0283	0	0	0	0	4095
16072	0	0	3.77572	2.90965	0	41.6466	56.3253	66.1086	48.247	48.2088	48.247	0	48.0178	48.0942	53.5479	52.9766	47.2917	0	0	0	0	4095
16132	0	0	3.77572	2.88869	0	41.6094	56.0948	66.0305	48.0918	47.9772	47.9772	0	47.8626	47.8626	53.3551	52.8219	46.8454	0	0	0	0	4095
16192	0	0	3.77551	2.86752	0	41.6246	56.272	66.2825	48.117	48.2316	48.117	0	47.8878	48.0788	53.4564	52.8851	47.1617	0	0	0	0	4095
16252	0	0	3.77551	2.86759	0	41.5824	56.0757	66.0871	48.2253	48.1489	48.0725	0	47.9197	47.9197	53.374	52.8789	47.079	0	0	0	0	4095
16312	0	0	3.77551	2.86752	0	41.5553	56.2629	66.0086	48.1842	48.146	48.0696	0	47.8788	47.9168	53.6376	52.9521	47.1525	0	0	0	0	4095
16372	0	0	3.77551	2.90925	0	41.5891	56.185	65.8932	48.2205	48.1823	47.9531	0	47.9149	47.9149	53.4073	52.836	47.1888	0	0	0	0	4095
16432	0	0	3.77572	2.90986	0	41.6551	56.1161	66.0895	48.1131	48.0367	47.9603	0	47.8075	47.8457	53.4145	52.8051	47.0049	0	0	0	0	4095
16492	0	0	3.77572	2.88869	0	41.6669	56.042	66.2049	48.115	48.0387	47.9622	0	47.733	47.8476	53.3783	52.807	47.0069	0	0	0	0	4095
16552	0	0	3.77551	2.90979	0	41.6888	56.0703	65.7413	48.1818	48.1054	48.0672	0	47.9143	47.8761	53.4448	52.7592	47.1119	0	0	0	0	4095
16612	0	0	3.84044	2.90986	0	41.6889	56.0866	65.5683	48.1599	48.0071	48.0071	0	47.7396	47.8543	53.4611	52.7755	46.9753	0	0	0	0	4095
16672	0	0	3.84024	2.90979	0	41.6398	56.1467	65.5903	48.1439	48.1057	48.0675	0	47.8001	47.8383	53.5213	52.7215	47.074	0	0	0	0	4095
16732	0	0	3.84004	2.93143	0	41.6906	56.0414	65.9774	48.2291	47.9617	47.8853	0	47.7325	47.7707	53.4158	52.6921	46.9681	0	0	0	0	4095
16792	0	0	3.84004	2.90979	0	41.7227	56.2567	65.8511	48.3307	48.3307	48.2543	0	48.0252	48.0634	53.7456	52.9459	47.1845	0	0	0	0	4095
16852	0	0	3.84024	2.90993	0	41.7531	56.1938	65.5994	48.3058	48.2676	47.962	0	47.8474	47.8474	53.4542	52.7306	47.1213	0	0	0	0	4095
16912	0	0	3.84004	2.91013	0	41.7988	56.2449	65.688	48.4335	48.2425	48.1279	0	48.0515	47.9751	53.5815	52.896	47.1726	0	0	0	0	4095
16972	0	0	3.90294	2.89505	0	41.7819	55.9336	65.6053	48.0825	48.0061	47.8915	0	47.6623	47.7769	53.3459	52.6984	46.9361	0	0	0	0	4095
17032	0	0	3.90294	2.86238	0	41.7819	56.1078	65.8543	48.1812	48.143	47.952	0	47.7992	47.8374	53.4443	52.7587	47.1113	0	0	0	0	4095
17092	0	0	3.90314	2.90249	0	41.7717	56.0988	65.9966	48.0958	48.134	47.9812	0	47.8283	47.8283	53.4352	52.7116	47.1022	0	0	0	0	4095
17152	0	0	3.90294	2.86759	0	41.77	56.1231	65.4912	48.2348	48.1202	48.1584	0	47.8528	47.9674	53.5357	52.8121	47.1649	0	0	0	0	4095
17212	0	0	3.90314	2.86231	0	41.7667	56.1399	66.151	48.2898	48.2135	48.0225	0	47.8314	47.9461	53.5145	52.6385	46.9525	0	0	0	0	4095
17272	0	0	3.90314	2.86765	0	41.8106	56.154	65.6355	48.2658	48.0366	48.113	0	47.8838	47.9602	53.5286	52.7288	47.1195	0	0	0	0	4095
17332	0	0	3.90334	2.88078	0	41.8715	56.1663	65.799	48.3545	48.2399	48.1253	0	47.9343	47.9343	53.4647	52.6268	47.1318	0	0	0	0	4095
17392	0	0	3.90314	2.8682	0	41.8715	56.278	66.1749	48.4285	48.2758	48.1894	0	47.932	47.9702	53.5004	52.5863	47.053	0	0	0	0	4095
17452	0	0	3.90314	2.88862	0	41.885	55.9111	65.7343	48.251	48.0218	47.9836	0	47.7544	47.869	53.4377	52.5235	46.9518	0	0	0	0	4095
17512	0	0	3.96746	2.84662	0	41.929	56.2868	65.7298	48.552	48.2846	48.2464	0	47.9409	48.1701	53.7377	52.6333	47.1766	0	0	0	0	4095
17572	0	0	3.96766	2.88869	0	41.9121	56.1861	66.0078	48.4508	48.298	48.1071	0	47.9925	47.916	53.5988	52.6466	47.2664	0	0	0	0	4095
17632	0	0	3.96746	2.88869	0	41.9138	56.0869	65.4551	48.313	48.1602	48.0838	0	47.8546	47.931	53.4994	52.6996	47.0902	0	0	0	0	4095
17692	0	0	3.96766	2.88876	0	41.8918	55.9969	65.8196	48.3754	48.1462	47.9934	0	47.7642	47.8406	53.4855	52.7619	46.9898	0	0	0	0	4095
17752	0	0	3.96726	2.90979	0	41.8867	56.0968	65.9568	48.2465	48.0937	48.0555	0	47.8645	47.8645	53.5094	52.8619	47.1384	0	0	0	0	4095
17812	0	0	3.96766	2.90837	0	41.9087	56.3041	65.5956	48.4166	48.2638	48.1492	0	47.8818	48.0346	53.717	52.9553	47.194	0	0	0	0	4095
17872	0	0	3.96746	2.86759	0	41.9138	56.148	66.4239	48.298	48.1452	48.107	0	47.8778	47.916	53.5226	52.9513	47.1135	0	0	0	0	4095
17932	0	0	3.96746	2.86759	0	41.9205	56.0635	65.8481	48.1749	48.1367	48.0221	0	47.9457	47.9075	53.4761	52.981	47.0668	0	0	0	0	4095
17992	0	0	3.9705	2.90986	0	41.9222	56.0258	66.3777	48.2514	48.2514	48.0222	0	47.8312	47.9078	53.4	53.0953	47.1434	0	0	0	0	4095
18052	0	0	4.03016	2.90993	0	41.9273	55.9581	66.1951	48.1815	48.067	47.9141	0	47.7613	47.8759	53.4827	53.178	47.0352	0	0	0	0	4095
18112	0	0	4.03036	2.89099	0	41.929	56.2144	66.3388	48.3265	48.2883	48.2119	0	47.8445	48.0209	53.7414	53.4748	47.1802	0	0	0	0	4095
18172	0	0	4.03016	2.86759	0	41.9882	56.0208	66.2216	48.2465	48.2465	48.0556	0	47.9792	47.941	53.5475	53.4713	47.2149	0	0	0	0	4095
18232	0	0	4.03016	2.87347	0	42.0389	56.1433	66.3435	48.2551	48.1405	48.1405	0	47.9495	47.9877	53.4798	53.6702	47.1852	0	0	0	0	4095
18292	0	0	4.03016	2.86765	0	42.0372	56.0236	66.9051	48.2494	48.2876	48.0584	0	47.982	47.9438	53.5503	53.7787	47.1413	0	0	0	0	4095
18352	0	0	4.03016	2.84662	0	42.0457	55.9373	66.6681	48.1628	48.201	48.0864	0	47.8571	47.8571	53.502	53.7305	47.0546	0	0	0	0	4095
18412	0	0	4.03016	2.86765	0	42.1065	55.9372	66.4789	48.1626	48.0098	48.2008	0	47.7424	47.8188	53.5019	53.8065	47.0545	0	0	0	0	4095
18472	0	0	4.09468	2.84655	0	42.1031	56.0818	66.2065	48.3459	48.0785	48.1549	0	48.0021	48.0403	53.6084	54.0272	47.1614	0	0	0	0	4095
18532	0	0	4.09488	2.84662	0	42.2113	55.9443	66.4481	48.2461	48.1697	48.0551	0	47.8641	47.9023	53.5089	53.8516	46.9851	0	0	0	0	4095
18592	0	0	4.09488	2.84662	0	42.1708	56.0799	66.8477	48.2678	48.2678	48.0386	0	47.8858	48.0004	53.6067	53.9493	47.1597	0	0	0	0	4095
18652	0	0	4.09488	2.84662	0	42.2333	56.2444	66.5953	48.3184	48.2802	48.2802	0	48.0128	48.1274	53.8094	54.152	47.2485	0	0	0	0	4095
18712	0	0	4.09529	2.86765	0	42.2824	55.9835	66.6762	48.2474	48.2474	48.0946	0	47.8653	47.9418	53.5483	53.929	47.1775	0	0	0	0	4095
18772	0	0	4.09529	2.89108	0	42.3196	55.9376	66.2145	48.0866	48.0484	48.0484	0	47.8574	47.8574	53.6165	53.9591	47.1313	0	0	0	0	4095
18832	0	0	4.09488	2.90965	0	42.3365	56.031	65.9292	48.1422	47.913	48.0658	0	47.8748	47.8748	53.5577	53.8623	47.1105	0	0	0	0	4095
18892	0	0	4.0959	2.86759	0	42.3534	55.9635	65.7863	48.0744	48.0362	48.0362	0	47.7306	47.807	53.3758	53.7947	47.0427	0	0	0	0	4095
18952	0	0	4.09508	2.88869	0	42.399	56.0672	66.1543	48.1786	48.1404	48.1022	0	47.873	47.9112	53.5559	54.0127	47.1469	0	0	0	0	4095
19012	0	0	4.159	2.90972	0	42.3957	56.067	66.1542	48.2166	48.1402	48.0256	0	47.8728	47.911	53.5176	53.9364	47.1085	0	0	0	0	4095
19072	0	0	4.159	2.88869	0	42.3669	56.1597	66.0572	48.1187	48.1951	48.1187	0	47.9277	48.0041	53.6104	53.9911	47.087	0	0	0	0	4095
19132	0	0	4.1588	2.88862	0	42.421	56.0997	65.9219	48.173	48.173	48.1348	0	47.9438	47.9438	53.5884	53.893	47.1031	0	0	0	0	4095
19192	0	0	4.15859	2.88869	0	42.4227	56.1934	66.2421	48.1144	48.229	48.1144	0	47.9616	47.9234	53.53	53.						

time	dc(ln)	bsn(ln)	dewpt(F)	Air(F)	AirVED(F)	B1(F)	B2(F)	B3(F)	B4(F)	B5(F)	DC1(F)	DC2(F)	VED(F)									
24168	0	0	4.73382	2.80401	0	43.3983	56.8313	65.8555	48.4879	48.2206	48.1824	0	47.9532	48.0296	53.7881	53.9404	47.1507	0	0	0	0	4095
24228	0	0	4.73382	2.78298	0	43.3121	56.8188	65.5404	48.399	48.1698	48.2462	0	47.9406	48.017	53.6233	53.8898	47.2528	0	0	0	0	4095
24288	0	0	4.79611	2.80516	0	43.3544	56.6578	65.9855	48.2373	48.0081	48.0845	0	47.7788	47.8935	53.6905	53.8428	46.9763	0	0	0	0	4095
24348	0	0	4.79611	2.82504	0	43.3459	56.6592	65.6842	48.315	48.124	48.0478	0	47.742	47.8948	53.5396	53.8061	47.0923	0	0	0	0	4095
24408	0	0	4.79591	2.80394	0	43.3239	56.7182	65.743	48.2216	48.2216	48.0688	0	47.8014	48.0306	53.5987	53.8272	46.8842	0	0	0	0	4095
24468	0	0	4.79631	2.82504	0	43.3391	56.6928	65.6041	48.3488	48.196	48.1196	0	47.8904	47.8522	53.4971	53.8017	47.1261	0	0	0	0	4095
24528	0	0	4.79611	2.82504	0	43.378	56.8948	66.1834	48.399	48.3226	48.1698	0	47.8842	48.017	53.6613	54.042	47.1763	0	0	0	0	4095
24588	0	0	4.79631	2.84682	0	43.378	56.7763	65.7629	48.3181	48.1653	48.0507	0	47.8979	47.9743	53.6569	53.8092	47.1336	0	0	0	0	4095
24648	0	0	4.79631	2.84655	0	43.3814	56.5193	65.5828	48.1362	47.907	47.9452	0	47.716	47.716	53.4756	53.666	47.0281	0	0	0	0	4095
24707	0	0	4.78895	2.82504	0	43.3493	56.5795	65.34	48.1968	47.9678	47.9678	0	47.7766	47.853	53.6121	53.7644	46.9357	0	0	0	0	4095
24767	0	0	4.79611	2.82525	0	43.2935	56.7409	65.8925	48.1679	48.0151	47.9387	0	47.8241	47.8241	53.5072	53.8118	47.0216	0	0	0	0	4095
24827	0	0	4.86104	2.80394	0	43.3544	56.8883	65.6375	48.1533	48.1151	47.9623	0	47.7331	47.8477	53.5687	53.9114	47.1216	0	0	0	0	4095
24887	0	0	4.86104	2.82504	0	43.3038	56.77	65.7188	48.2738	48.0826	48.1972	0	47.8916	47.8533	53.5744	53.917	47.0508	0	0	0	0	4095
24947	0	0	4.86084	2.82653	0	43.2935	56.8071	65.3774	48.2727	48.0817	48.1581	0	48.0053	47.8907	53.6116	53.8781	47.1648	0	0	0	0	4095
25007	0	0	4.86104	2.78291	0	43.2884	56.7803	65.3507	48.2839	48.1311	48.1693	0	48.0165	48.0547	53.6228	53.9654	47.1758	0	0	0	0	4095
25067	0	0	4.86104	2.7798	0	43.3527	56.6928	65.7933	48.2342	48.005	48.0814	0	47.814	47.8522	53.5351	53.8397	47.0114	0	0	0	0	4095
25127	0	0	4.86084	2.78291	0	43.2732	56.7458	65.8838	48.2492	48.0964	48.211	0	47.9438	47.9438	53.5501	53.8167	47.1412	0	0	0	0	4095
25187	0	0	4.86104	2.78473	0	43.2343	56.7224	68.1254	48.1494	48.1494	48.264	0	47.9584	47.9202	53.641	53.7933	47.2324	0	0	0	0	4095
25247	0	0	4.86084	2.79616	0	43.2191	56.7019	65.9159	48.167	48.0142	48.0142	0	47.978	47.8614	53.5824	53.8108	47.0588	0	0	0	0	4095
25307	0	0	4.86104	2.78298	0	43.2343	56.8401	65.4003	48.1812	48.0284	48.0284	0	47.8374	47.7992	53.5585	53.7108	47.0731	0	0	0	0	4095
25367	0	0	4.86124	2.7988	0	43.1582	56.7598	65.633	48.2633	48.2251	48.1105	0	47.9195	47.8813	53.6403	53.8688	47.0788	0	0	0	0	4095
25427	0	0	4.92374	2.8013	0	43.1616	56.6572	65.6444	48.1985	47.9693	47.9311	0	47.7782	47.8929	53.5757	53.7661	46.9756	0	0	0	0	4095
25487	0	0	4.92374	2.78298	0	43.1687	56.7748	65.6101	48.2784	48.3168	48.0874	0	48.011	48.011	53.8077	53.9219	47.285	0	0	0	0	4095
25547	0	0	4.92495	2.80401	0	43.1599	56.8189	65.9567	48.2082	48.2846	48.117	0	47.9408	48.0554	53.7377	53.9661	47.2912	0	0	0	0	4095
25607	0	0	4.92353	2.79055	0	43.2123	56.5605	65.9643	48.1395	48.1013	48.1013	0	47.8338	47.8338	53.5549	53.7453	47.0313	0	0	0	0	4095
25667	0	0	4.92374	2.78298	0	43.2428	56.624	65.4978	48.0505	48.0123	48.0123	0	47.8977	47.8977	53.6186	53.7709	46.9423	0	0	0	0	4095
25727	0	0	4.92374	2.82504	0	43.1447	56.7773	65.6883	48.09	48.09	48.09	0	47.8608	47.9372	53.5437	53.7721	47.1348	0	0	0	0	4095
25787	0	0	4.92353	2.82498	0	43.2022	56.5735	65.4097	48.0761	48.0379	48.099	0	47.8087	47.8469	53.4918	53.7964	47.0061	0	0	0	0	4095
25847	0	0	4.92881	2.78291	0	43.2174	56.4932	65.2542	47.9573	48.0337	47.8809	0	47.8898	47.7662	53.1067	53.6399	47.0401	0	0	0	0	4095
25907	0	0	4.98806	2.81449	0	43.1143	56.675	65.0948	48.1782	48.14	48.0638	0	47.9872	47.9108	53.0985	53.2127	47.1083	0	0	0	0	4095
25967	0	0	4.98806	2.78311	0	43.1954	56.4691	65.4572	47.9713	47.8948	47.8184	0	47.7038	47.7038	52.9302	53.0826	46.9395	0	0	0	0	4095
26027	0	0	4.98806	2.78298	0	43.2614	56.5916	65.2007	48.2471	48.0943	48.0179	0	47.8651	47.8651	53.053	53.2815	48.8333	0	0	0	0	4095
26087	0	0	4.98826	2.78304	0	43.1633	56.7601	65.3306	48.3019	48.2637	48.1873	0	47.9963	48.0345	53.298	53.2599	47.1556	0	0	0	0	4095
26147	0	0	4.98826	2.78291	0	43.2005	56.8409	65.439	48.1821	48.1057	47.9911	0	47.9911	47.8383	53.2928	52.9119	46.9975	0	0	0	0	4095
26207	0	0	4.98826	2.77594	0	43.2478	56.8279	68.4474	48.169	48.2072	48.0926	0	47.8634	47.9398	53.3559	53.0132	46.9844	0	0	0	0	4095
26267	0	0	4.98826	2.80394	0	43.1838	56.6762	66.0794	48.2175	48.2939	48.1793	0	47.9501	48.1029	53.252	53.0615	47.1476	0	0	0	0	4095
26327	0	0	4.98867	2.76201	0	43.2039	56.7057	65.7683	48.209	48.2472	48.209	0	47.9416	48.0562	53.4339	52.9769	47.1391	0	0	0	0	4095
26387	0	0	4.98826	2.78298	0	43.2546	56.4754	65.3878	47.9778	47.9394	47.9778	0	47.7483	47.8247	53.0508	52.6318	46.9075	0	0	0	0	4095
26447	0	0	5.05075	2.78304	0	43.2529	56.6656	65.8419	48.2069	48.2451	48.1305	0	47.9777	47.9777	53.3556	52.7081	47.137	0	0	0	0	4095
26506	0	0	5.05096	2.78304	0	43.3019	56.7065	65.8069	48.1716	48.0952	48.0952	0	47.8277	47.9042	53.13	52.6348	47.1399	0	0	0	0	4095
26567	0	0	5.05096	2.78304	0	43.2715	56.5954	65.6964	48.2127	48.0981	47.9453	0	47.9071	47.8689	53.2472	52.5615	46.9135	0	0	0	0	4095
26627	0	0	5.05075	2.78304	0	43.2343	56.7464	65.7332	48.2881	48.1735	48.1735	0	47.8443	47.9825	53.4366	52.5605	47.0272	0	0	0	0	4095
26687	0	0	5.05075	2.82504	0	43.2833	56.5621	65.701	48.2556	48.1029	48.141	0	47.8354	47.9118	53.29	52.49	46.9947	0	0	0	0	4095
26746	0	0	5.05096	2.80401	0	43.2715	56.8124	65.5619	48.2298	48.2298	48.268	0	47.8096	47.886	53.188	52.4643	47.0835	0	0	0	0	4095
26807	0	0	5.05096	2.80394	0	43.2563	56.4962	65.3328	48.1895	48.0367	48.0367	0	47.8075	47.8075	53.1097	52.3097	47.0049	0	0	0	0	4095
26866	0	0	5.05096	2.80401	0	43.2783	56.5367	65.6379	48.2301	48.1919	48.1155	0	47.7717	48.0009	53.3028	52.3884	47.0456	0	0	0	0	4095
26926	0	0	5.05096	2.80388	0	43.0991	56.6121	65.8265	48.3059	48.115	48.2296	0	47.8093	47.924	53.1878	52.3497	47.0068	0	0	0	0	4095
26986	0	0	5.05096	2.78304	0	43.1718	56.7699	65.4538	48.3498	48.2353	48.2353	0	47.9297	47.9679	53.2316	52.3173	47.3182	0	0	0	0	4095
27046	0	0	5.05096	2.80388	0	43.1599	56.728	65.675	48.2675	48.3439	48.2675	0	47.9237	48.0765	53.3399	52.3876	47.1877	0	0	0	0	4095
27106	0	0	5.11568	2.76194	0	43.0771	56.5606	65.3212	48.3305	48.2541	48.2923	0	47.9485	47.9103	53.3646	52.3361	47.2225	0	0	0	0	4095
27166	0	0	5.11609	2.76187	0	43.1312	56.6153	66.0188	48.3474	48.271	48.2328	0	47.9272	48.1182	53.4195	52.4672	47.2393	0	0	0	0	4095
27226	0	0	5.11588	2.76215	0	43.0689	56.623	65.1941	48.2404	48.1259	48.2404	0	47.9348	47.8966	53.351	52.4388	46.9794	0	0	0	0	4095
27286	0	0	5.11609	2.76194	0	43.0416	56.6418	64.9101	48.2212	48.183	48.2212	0	47.9156	47.9538	53.2556	52.4556	47.0366	0	0	0	0	4095
27346	0	0	5.11609	2.76194	0	43.0449	56.6402	65.1355	48.2577	48.2577	48.1813	0	47.9521	47.9903	53.254	52.						

time dc(in) bsn(in) dewpt(F) Air(F) AirVED(F) B1(F) B2(F) B3(F) B4(F) B5 (F) DC1(F) DC2(F) VED(F)

28246	0	0	5.25122	2.76343	0	42.9012	56.426	64.9602	48.1571	47.9661	47.9279	0	47.8897	47.8515	53.0394	52.7346	47.0107	0	0	0	0	0	0	4095
28306	0	0	5.25061	2.76194	0	42.8573	56.5327	64.9907	48.3025	48.1115	48.0351	0	47.9969	48.0351	53.1463	52.8416	47.0798	0	0	0	0	0	0	4095
28366	0	0	5.25102	2.73935	0	42.7592	56.4914	64.836	48.2228	48.0318	47.9554	0	47.8408	47.879	53.143	52.7621	46.9236	0	0	0	0	0	0	4095
28426	0	0	5.25061	2.76221	0	42.7474	56.4343	64.7792	48.2036	48.2036	48.0126	0	47.898	47.898	53.3524	52.9334	47.0955	0	0	0	0	0	0	4095
28485	0	0	5.25548	2.73942	0	42.886	56.5491	65.0449	48.2426	48.1662	48.0898	0	47.7842	47.8988	53.3912	52.9342	46.9816	0	0	0	0	0	0	4095
28545	0	0	5.25102	2.71832	0	42.7609	56.4488	64.7936	48.1418	47.989	48.0654	0	47.8362	47.8362	53.2526	52.9098	46.9572	0	0	0	0	0	0	4095
28605	0	0	5.25082	2.70758	0	42.7541	56.6479	65.5595	48.3419	48.2655	48.3037	0	47.9599	48.0364	53.6045	53.2237	47.0046	0	0	0	0	0	0	4095
28666	0	0	5.25102	2.69722	0	42.744	56.5829	64.9271	48.2384	48.2002	48.2384	0	47.8946	48.0092	53.5393	53.1966	46.9774	0	0	0	0	0	0	4095
28726	0	0	5.31514	2.73935	0	42.7321	56.552	64.8206	48.2455	48.0927	48.2455	0	47.9781	48.0163	53.6225	53.2798	47.0609	0	0	0	0	0	0	4095
28785	0	0	5.31371	2.73935	0	42.6882	56.4509	64.8714	48.1821	48.1439	48.1821	0	47.8765	47.8765	53.6356	53.2167	47.074	0	0	0	0	0	0	4095
28846	0	0	5.31351	2.76194	0	42.7118	56.669	65.2778	48.2867	48.2867	48.2485	0	47.9811	48.0957	53.854	53.3971	47.1404	0	0	0	0	0	0	4095
28906	0	0	5.31432	2.76194	0	42.6459	56.442	65.1653	48.0968	47.9822	47.9822	0	47.753	47.8294	53.5505	53.1697	46.874	0	0	0	0	0	0	4095
28965	0	0	5.31351	2.76194	0	42.6442	56.443	65.5826	48.2506	48.0596	47.9832	0	47.9068	47.945	53.5896	53.3611	47.0661	0	0	0	0	0	0	4095
29025	0	0	5.31371	2.76201	0	42.6121	56.4931	64.9134	48.3009	48.1863	47.9953	0	47.9189	47.9571	53.792	53.2589	47.1164	0	0	0	0	0	0	4095
29085	0	0	5.31351	2.73935	0	42.6713	56.5543	64.823	48.4388	48.3242	48.095	0	47.904	48.0186	53.7772	53.3583	47.2544	0	0	0	0	0	0	4095
29145	0	0	5.31351	2.76201	0	42.5512	56.4187	64.7258	48.1879	48.0351	47.8823	0	47.7677	47.8059	53.6033	53.1463	46.8505	0	0	0	0	0	0	4095
29205	0	0	5.31371	2.76194	0	42.5901	56.5833	64.3976	48.277	48.3534	48.1242	0	47.9714	48.086	53.9205	53.4255	47.2454	0	0	0	0	0	0	4095
29265	0	0	5.31371	2.74111	0	42.5478	56.4088	64.3374	48.1398	48.1016	47.9488	0	47.8342	47.9106	53.8218	53.2507	46.917	0	0	0	0	0	0	4095
29325	0	0	5.31351	2.77506	0	42.5056	56.3993	64.7443	48.1303	48.1685	48.0157	0	47.8247	48.0157	53.8123	53.3554	47.0986	0	0	0	0	0	0	4095
29385	0	0	5.37763	2.73935	0	42.5935	56.3608	64.4789	48.0152	48.0152	47.8624	0	47.786	47.786	53.7357	53.3169	46.9453	0	0	0	0	0	0	4095
29445	0	0	5.37763	2.76438	0	42.6205	56.4736	64.8183	48.2049	48.2431	48.0139	0	47.8611	47.9375	53.8486	53.544	47.135	0	0	0	0	0	0	4095
29505	0	0	5.37783	2.76201	0	42.5614	56.4457	64.3741	48.1769	48.2533	47.9477	0	47.7949	47.9095	53.7826	53.4019	47.0305	0	0	0	0	0	0	4095
29565	0	0	5.37783	2.73942	0	42.6408	56.433	64.3615	48.1259	48.1641	47.9349	0	47.9349	47.9731	53.7318	53.6176	47.056	0	0	0	0	0	0	4095
29625	0	0	5.37783	2.73942	0	42.6324	56.4577	64.8025	48.1889	48.2271	48.1126	0	47.8451	47.9597	53.7568	53.5662	47.0808	0	0	0	0	0	0	4095
29685	0	0	5.37783	2.73935	0	42.5783	56.3851	64.2381	48.2306	48.2688	48.1542	0	47.8868	47.8868	53.722	53.5316	47.199	0	0	0	0	0	0	4095
29745	0	0	5.37803	2.71825	0	42.5056	56.4473	64.7164	48.1785	48.1403	48.0257	0	47.8728	47.9493	53.7461	53.5938	47.1468	0	0	0	0	0	0	4095
29805	0	0	5.37783	2.71818	0	42.5428	56.3778	64.6472	47.9941	47.9941	47.8794	0	47.7648	47.7648	53.6385	53.3338	46.924	0	0	0	0	0	0	4095
29865	0	0	5.37864	2.71818	0	42.5428	56.4588	64.8792	48.1138	48.2684	48.1136	0	47.999	48.0372	53.6815	53.5673	47.1201	0	0	0	0	0	0	4095
29925	0	0	5.37783	2.72042	0	42.4599	56.4852	64.4892	48.2929	48.1784	48.102	0	47.9492	48.102	53.6699	53.6318	47.1849	0	0	0	0	0	0	4095
29985	0	0	5.44114	2.73928	0	42.5715	56.4118	64.2269	48.1811	47.9901	47.9901	0	47.7991	47.8755	53.5203	53.4822	46.92	0	0	0	0	0	0	4095
30045	0	0	5.44114	2.71812	0	42.4633	56.469	64.6245	48.2003	48.1239	48.0857	0	48.0093	48.0475	53.7679	53.6917	47.1688	0	0	0	0	0	0	4095
30105	0	0	5.44114	2.73922	0	42.5478	56.6271	64.4034	48.2064	48.321	48.13	0	47.9772	48.0536	53.6978	53.6217	47.213	0	0	0	0	0	0	4095
30165	0	0	5.44134	2.76228	0	42.5783	56.4683	64.6995	48.2378	48.1996	48.085	0	47.9704	48.0088	53.653	53.653	47.1679	0	0	0	0	0	0	4095
30225	0	0	5.44134	2.73942	0	42.6916	56.4303	65.078	48.276	48.1996	47.9704	0	47.9704	47.894	53.6149	53.5769	47.0915	0	0	0	0	0	0	4095
30285	0	0	5.44134	2.73928	0	42.5986	56.371	64.4512	48.14	48.0636	48.0254	0	47.7962	47.9108	53.5555	53.5555	47.0319	0	0	0	0	0	0	4095
30345	0	0	5.44094	2.73983	0	42.6628	58.3212	64.4394	48.1684	48.0136	48.0136	0	47.8607	47.7461	53.5437	53.4675	46.8671	0	0	0	0	0	0	4095
30405	0	0	5.44094	2.74402	0	42.5884	56.2753	64.6209	48.1203	48.1203	48.0057	0	47.7383	47.8529	53.4978	53.5359	46.8975	0	0	0	0	0	0	4095
30465	0	0	5.50546	2.73935	0	42.6273	56.3391	64.4573	48.108	48.2608	48.108	0	47.8024	47.8406	53.5998	53.6759	47.1145	0	0	0	0	0	0	4095
30525	0	0	5.50546	2.73935	0	42.5225	56.3767	64.7218	48.184	48.1076	48.1076	0	47.8784	47.9168	53.5613	53.7897	47.0377	0	0	0	0	0	0	4095
30585	0	0	5.50546	2.71818	0	42.5548	56.1539	64.4622	48.0365	47.9219	47.9601	0	47.8455	47.8455	53.5285	53.6427	47.043	0	0	0	0	0	0	4095
30645	0	0	5.50525	2.71825	0	42.5969	56.431	65.1922	48.1621	48.0475	48.0475	0	47.8565	47.8947	53.5775	53.6537	47.1688	0	0	0	0	0	0	4095
30705	0	0	5.50586	2.69722	0	42.6222	56.5274	64.9854	48.45	48.2972	48.2972	0	48.068	48.068	53.7122	53.9025	47.3038	0	0	0	0	0	0	4095
30765	0	0	5.50566	2.71825	0	42.5394	56.4018	64.4061	48.2855	48.2473	48.0181	0	47.9035	47.9035	53.5863	53.7006	47.0628	0	0	0	0	0	0	4095
30825	0	0	5.50546	2.7102	0	42.6527	56.3662	64.7114	48.3262	48.097	48.0206	0	47.906	47.906	53.5888	53.7411	47.1035	0	0	0	0	0	0	4095
30885	0	0	5.50566	2.67841	0	42.6273	56.2999	64.6454	48.1832	47.9922	47.954	0	47.763	47.8012	53.5988	53.6747	46.9987	0	0	0	0	0	0	4095
30945	0	0	5.50546	2.71818	0	42.6845	56.4967	64.3871	48.3046	48.19	48.1136	0	47.8844	48.0372	53.6053	53.7957	47.1965	0	0	0	0	0	0	4095
31005	0	0	5.56815	2.71818	0	42.6628	56.1305	64.3252	48.0512	48.0512	47.9366	0	47.7073	47.7837	53.505	53.6192	46.79	0	0	0	0	0	0	4095
31065	0	0	5.56876	2.71812	0	42.7338	56.3387	64.4948	48.184	48.184	48.1076	0	47.8784	47.993	53.7136	53.7517	47.1523	0	0	0	0	0	0	4095
31125	0	0	5.56815	2.70432	0	42.6848	56.333	65.019	48.1019	48.1401	48.1783	0	47.9491	48.0255	53.6317	53.784	46.9554	0	0	0	0	0	0	4095
31184	0	0	5.56815	2.73962	0	42.7288	56.4223	65.4106	48.3062	48.3444	48.1152	0	48.0006	47.9624	53.7212	53.8354	47.1217	0	0	0	0	0	0	4095
31244	0	0	5.57343	2.71818	0	42.7254	56.2072	64.7045	48.1664	48.09	47.899	0	47.7844	47.8608	53.5438	53.6961	46.9436	0	0	0	0	0	0	4095
31305	0	0	5.56795	2.73928	0	42.7288	56.4538	65.0633	48.1848															

time dc(in) bsn(in) dewpt(F) Air(F) AirVED(F) B1(F) B2(F) B3(F) B4(F) B5 (F) DC1(F) DC2(F) VED(F)

36402	0	0	6.07805	2.66901	0	41.8072	55.7048	65.2263	48.2347	48.0819	47.9291	0	47.8527	47.8909	53.4595	53.5737	46.9738	0	0	0	0	0	4095
36462	0	0	6.14298	2.67571	0	41.7396	55.938	64.0579	48.3926	48.1634	48.1252	0	48.0106	48.0106	53.693	53.6169	47.2845	0	0	0	0	0	4095
36522	0	0	6.14298	2.67852	0	41.8986	55.8367	64.9791	48.2145	48.0617	48.0235	0	47.9089	47.9853	53.5916	53.5916	47.4121	0	0	0	0	0	4095
36581	0	0	6.1444	2.66624	0	41.6906	55.7018	63.747	48.3081	47.9644	48.0026	0	47.8497	47.9262	53.5708	53.6469	47.0854	0	0	0	0	0	4095
36641	0	0	6.14298	2.67855	0	41.7971	55.7861	63.9067	48.3164	48.24	48.0872	0	47.8962	47.9726	53.7314	53.6933	47.0173	0	0	0	0	0	4095
36702	0	0	6.14845	2.69728	0	41.6737	55.9297	64.0118	48.4225	48.3461	48.1551	0	48.0405	48.1169	53.7228	53.799	47.238	0	0	0	0	0	4095
36761	0	0	6.14277	2.69722	0	41.5688	55.7137	64.1374	48.2437	48.1673	47.9763	0	47.9381	47.9381	53.5446	53.6588	47.0209	0	0	0	0	0	4095
36821	0	0	6.14277	2.69674	0	41.393	55.6757	63.3422	48.1673	48.0527	47.8999	0	47.7853	47.7853	53.4685	53.5066	47.0209	0	0	0	0	0	4095
36881	0	0	6.14277	2.69715	0	41.3051	55.6321	62.7684	48.2381	48.0089	47.8943	0	47.7797	47.8561	53.6152	53.6152	46.9771	0	0	0	0	0	4095
36941	0	0	6.14277	2.65447	0	41.1749	55.6849	62.5937	48.1766	48.253	47.9474	0	47.9474	47.871	53.5539	53.5539	47.0302	0	0	0	0	0	4095
37001	0	0	6.2073	2.64128	0	41.2391	55.8769	62.3303	48.2168	48.3312	48.1784	0	47.9492	48.0638	53.6699	53.7461	47.1085	0	0	0	0	0	4095
37061	0	0	6.2073	2.65474	0	41.1089	55.635	61.8997	48.241	47.9737	47.8972	0	47.7062	47.8208	53.4658	53.5039	46.9418	0	0	0	0	0	4095
37121	0	0	6.2073	2.65549	0	41.0159	55.6875	61.6109	48.2938	47.9882	47.95	0	47.7972	47.95	53.5946	53.5946	46.9182	0	0	0	0	0	4095
37181	0	0	6.2073	2.65454	0	41.1157	55.7142	61.827	48.2823	48.015	47.9768	0	47.8621	47.9003	53.6593	53.6212	47.0596	0	0	0	0	0	4095
37241	0	0	6.2075	2.65454	0	40.8773	55.6411	62.5122	48.209	48.0562	48.0562	0	47.9034	47.9416	53.5861	53.5481	47.0626	0	0	0	0	0	4095
37301	0	0	6.2073	2.64778	0	40.7978	55.7121	63.4921	48.2803	47.9747	48.0893	0	47.9365	48.0129	53.6572	53.6572	47.134	0	0	0	0	0	4095
37361	0	0	6.2075	2.61247	0	40.8333	55.7182	63.8011	48.2864	48.2864	48.0954	0	48.019	47.9426	53.6633	53.7395	47.1019	0	0	0	0	0	4095
37421	0	0	6.2073	2.63188	0	40.7031	55.5734	63.1267	48.2556	47.9118	47.9882	0	47.8354	47.8736	53.5565	53.5565	47.0328	0	0	0	0	0	4095
37481	0	0	6.2075	2.63351	0	40.6186	55.8205	63.1455	48.3509	48.3127	48.2364	0	47.969	48.0454	53.6135	53.7277	47.1665	0	0	0	0	0	4095
37541	0	0	6.2075	2.65454	0	40.627	55.7548	63.4968	48.2468	48.094	48.2468	0	47.903	47.903	53.6238	53.7	46.9858	0	0	0	0	0	4095
37601	0	0	6.27324	2.69722	0	40.8976	55.7066	63.1457	48.4657	48.1983	48.3129	0	47.9691	48.0455	53.7659	53.6517	47.2049	0	0	0	0	0	4095
37661	0	0	6.27162	2.67611	0	40.7792	55.507	62.6439	48.1507	48.0361	48.1889	0	47.7305	47.8451	53.6043	53.5281	46.9279	0	0	0	0	0	4095
37721	0	0	6.27162	2.65461	0	40.7388	55.5628	63.7222	48.245	48.0922	48.1686	0	47.8248	47.9776	53.6601	53.584	46.984	0	0	0	0	0	4095
37781	0	0	6.27709	2.67625	0	40.5425	55.6623	63.0637	48.3066	48.2302	48.1921	0	47.9629	48.0393	53.7216	53.6454	47.0839	0	0	0	0	0	4095
37841	0	0	6.27162	2.67625	0	40.6152	55.719	64.0292	48.3636	48.1726	48.1344	0	47.9052	48.0198	53.588	53.6261	47.0645	0	0	0	0	0	4095
37901	0	0	6.27162	2.67618	0	40.5391	55.5333	63.3898	48.1389	47.9861	47.9479	0	47.7951	47.7951	53.5544	53.5163	47.0308	0	0	0	0	0	4095
37961	0	0	6.27162	2.65454	0	40.4579	55.4142	62.5514	48.0193	47.9429	47.9811	0	47.7137	47.8665	53.4352	53.4733	46.7964	0	0	0	0	0	4095
38021	0	0	6.27162	2.65454	0	40.4343	55.5317	62.4411	48.2901	48.0991	47.9845	0	47.9463	47.9463	53.5908	53.5528	47.1056	0	0	0	0	0	4095
38081	0	0	6.27162	2.65454	0	40.4681	55.5684	62.2503	48.4034	48.327	48.0214	0	47.8688	47.9068	53.7038	53.5896	47.1043	0	0	0	0	0	4095
38141	0	0	6.27162	2.65454	0	40.3362	55.5209	61.9377	48.3175	48.2411	48.0119	0	47.9355	47.8591	53.6182	53.7324	47.0948	0	0	0	0	0	4095
38201	0	0	6.27162	2.63344	0	40.2905	55.4109	62.5481	48.207	48.0924	47.9014	0	47.825	47.825	53.5842	53.508	47.0224	0	0	0	0	0	4095
38260	0	0	6.33431	2.63405	0	40.2212	55.5647	61.5264	48.3615	48.2469	48.1323	0	47.9031	47.9795	53.6239	53.7382	47.2152	0	0	0	0	0	4095
38321	0	0	6.33411	2.63351	0	40.2347	55.6256	62.0799	48.2698	48.1934	48.117	0	48.0024	47.9642	53.5707	53.6849	47.2	0	0	0	0	0	4095
38381	0	0	6.33431	2.63344	0	40.3311	55.4912	62.2113	48.173	48.1348	47.9438	0	47.9058	47.9438	53.5884	53.6846	47.1414	0	0	0	0	0	4095
38440	0	0	6.33431	2.63344	0	40.3734	55.4409	62.2369	48.1607	48.0843	48.0079	0	47.7787	47.8169	53.4238	53.6142	47.0143	0	0	0	0	0	4095
38501	0	0	6.33431	2.65447	0	40.255	55.3806	62.3664	48.1384	48.1002	47.9474	0	47.7564	47.871	53.5158	53.5919	46.9538	0	0	0	0	0	4095
38560	0	0	6.33431	2.67287	0	40.1318	55.4938	62.5168	48.1754	48.099	48.0608	0	47.8698	47.9462	53.4765	53.6288	46.9144	0	0	0	0	0	4095
38620	0	0	6.33452	2.63351	0	40.1808	55.5713	63.1625	48.3681	48.1389	48.1007	0	47.8715	47.9097	53.5544	53.6686	47.069	0	0	0	0	0	4095
38680	0	0	6.33431	2.65454	0	40.0944	55.2944	62.8489	48.281	48.0136	47.9372	0	47.7462	47.899	53.4295	53.5438	46.9436	0	0	0	0	0	4095
38740	0	0	6.33452	2.66523	0	40.0454	55.3554	62.2654	48.3804	48.0366	48.113	0	47.8838	47.922	53.4905	53.6428	47.1196	0	0	0	0	0	4095
38800	0	0	6.33431	2.67605	0	40.1654	55.3656	62.503	48.5053	48.1997	48.1233	0	47.8177	47.8559	53.5008	53.5769	47.0916	0	0	0	0	0	4095
38860	0	0	6.33452	2.65454	0	40.255	55.5132	61.93	48.5389	48.1187	48.2333	0	47.9277	47.9659	53.6485	53.6485	47.1635	0	0	0	0	0	4095
38920	0	0	6.39863	2.67611	0	40.1671	55.3251	62.0458	48.2737	47.8916	48.0827	0	47.7006	47.7006	53.6887	53.5745	46.9745	0	0	0	0	0	4095
38980	0	0	6.39884	2.65481	0	40.0368	55.4183	62.0249	48.4436	48.2908	48.3672	0	47.947	47.947	53.7439	53.6677	47.1827	0	0	0	0	0	4095
39040	0	0	6.40026	2.6567	0	39.9693	55.3195	62.4571	48.3828	48.1534	48.2298	0	47.888	47.888	53.5689	53.6069	47.0835	0	0	0	0	0	4095
39100	0	0	6.39884	2.65447	0	39.9152	55.4909	62.9688	48.4783	48.2491	48.3637	0	47.9817	48.0199	53.7023	53.7785	47.2557	0	0	0	0	0	4095
39160	0	0	6.39884	2.61389	0	39.8222	55.3614	62.082	48.3483	48.1191	48.2719	0	47.9663	47.9663	53.725	53.5727	47.0491	0	0	0	0	0	4095
39220	0	0	6.39863	2.61254	0	39.7647	55.3826	61.9514	48.2167	48.1021	48.2931	0	47.8493	47.9875	53.7842	53.7842	47.0704	0	0	0	0	0	4095
39280	0	0	6.39884	2.62803	0	39.67	55.3433	61.609	48.2155	48.1009	48.1391	0	47.8335	47.8717	53.5927	53.5927	47.0692	0	0	0	0	0	4095
39340	0	0	6.39884	2.62823	0	39.6041	55.3581	61.4701	48.2665	48.1519	47.9991	0	47.8463	47.8845	53.6435	53.7197	46.9291	0	0	0	0	0	4095
39400	0	0	6.40026	2.63344	0	39.5787	55.4057	61.1025	48.2782	48.049	48.1636	0	47.9344	48.0108	53.7313	53.6551	47.0937	0	0	0	0	0	4095
39460	0	0	6.39884	2.60456	0	39.5905	55.43	61.5437	48.2643	48.1497	48.0733	0	47.9205	48.1115	53.7556	53.6794	47.0798	0	0	0	0	0	4095
39520	0	0	6.39884	2.6124	0	39.555	55.3869	62.2968	48.1447	48.2211	47.9919	0	47.8009	47.9155	53.5602	53.522							

time dc(in) bsn(in) dewpt(F) Air(F) AirVed(F) B1(F) B2(F) B3(F) B4(F) B5 (F) DC1(F) DC2(F) VED(F)

52711	0	0	7.67651	2.54856	0	34.0158	53.937	58.9931	48.4082	48.1408	48.1408	0	48.0262	47.8352	52.4898	53.7086	47.0327	0	0	0	0	0	4095
52771	0	0	7.6757	2.52745	0	33.9127	54.0265	59.1203	48.307	48.1542	48.2306	0	47.925	47.8486	52.5413	53.6839	47.0079	0	0	0	0	0	4095
52831	0	0	7.6757	2.56648	0	33.8585	54.1973	59.1387	48.3256	48.1346	48.211	0	48.0582	48.02	52.5979	53.8166	47.2557	0	0	0	0	0	4095
52891	0	0	7.6755	2.50689	0	33.8822	53.9892	59.0072	48.1932	48.0786	48.0404	0	47.8494	47.8494	52.4278	53.6847	47.1615	0	0	0	0	0	4095
52951	0	0	7.73961	2.52752	0	33.8366	53.9328	59.3684	48.213	48.0602	48.1748	0	47.9456	47.9456	52.5237	53.7044	47.0284	0	0	0	0	0	4095
53011	0	0	7.74002	2.52671	0	33.8197	54.1367	59.0783	48.3411	48.3411	48.1502	0	47.9592	47.8828	52.6134	53.6798	47.1949	0	0	0	0	0	4095
53071	0	0	7.73961	2.48491	0	33.8129	54.1067	59.3141	48.1965	48.1583	48.0819	0	47.8527	47.8527	52.4691	53.6499	47.0884	0	0	0	0	0	4095
53131	0	0	7.73961	2.49898	0	33.7858	53.9949	60.1893	48.1989	48.0843	48.1989	0	47.8551	47.8551	52.5858	53.4999	47.0908	0	0	0	0	0	4095
53191	0	0	7.73961	2.49438	0	33.8619	54.1141	59.3594	48.3185	48.1657	48.3185	0	48.0893	47.9365	52.6289	53.6953	47.2487	0	0	0	0	0	4095
53251	0	0	7.73961	2.48491	0	33.9718	54.1542	60.5757	48.2442	48.2442	48.206	0	48.0532	48.015	52.5167	53.7355	47.0978	0	0	0	0	0	4095
53310	0	0	7.73961	2.45319	0	34.1375	54.0678	62.0063	48.3102	48.1192	48.1574	0	47.9684	48.0046	52.5064	53.649	47.2021	0	0	0	0	0	4095
53370	0	0	7.73961	2.50656	0	34.2593	54.0702	62.236	48.3126	48.1216	48.198	0	47.8542	47.8924	52.5088	53.6514	47.1281	0	0	0	0	0	4095
53430	0	0	7.73961	2.49837	0	34.2728	54.0916	61.9163	48.2577	47.9903	48.1431	0	47.8375	47.7993	52.454	53.6347	47.1497	0	0	0	0	0	4095
53490	0	0	7.73961	2.48485	0	34.3675	54.2218	60.8706	48.2738	48.121	48.2356	0	47.93	47.93	52.5081	53.6888	47.1657	0	0	0	0	0	4095
53550	0	0	7.73961	2.48491	0	34.381	54.1731	60.5565	48.3777	48.2249	48.2631	0	47.8429	48.0339	52.5737	53.7543	47.1168	0	0	0	0	0	4095
53610	0	0	7.73961	2.50656	0	34.3861	54.1634	60.0537	48.1769	48.1769	48.1769	0	47.9477	47.9859	52.4496	53.6685	47.107	0	0	0	0	0	4095
53670	0	0	7.80353	2.48478	0	34.4064	54.1342	60.7454	48.2623	48.0713	48.0331	0	47.8421	47.9185	52.4586	53.487	47.0396	0	0	0	0	0	4095
53730	0	0	7.80373	2.50656	0	34.4267	54.0767	60.5743	48.281	48.09	48.0138	0	47.7844	47.9754	52.4772	53.5056	47.0582	0	0	0	0	0	4095
53790	0	0	7.80393	2.48491	0	34.4689	54.0396	60.4994	48.1291	47.9763	47.9763	0	47.8235	47.8235	52.4019	53.3923	47.0209	0	0	0	0	0	4095
53850	0	0	7.80353	2.46381	0	34.5028	54.3512	60.2409	48.48	48.3654	48.4418	0	48.098	48.1744	52.5995	53.7421	47.2956	0	0	0	0	0	4095
53910	0	0	7.80353	2.48735	0	34.5095	54.1423	60.6017	48.194	48.0412	48.1176	0	47.9648	47.9648	52.3524	52.238	47.0859	0	0	0	0	0	4095
53970	0	0	7.80393	2.48485	0	34.7615	54.1431	60.7163	48.2712	48.042	48.0802	0	47.9274	47.8128	52.3913	52.5056	46.9338	0	0	0	0	0	4095
54030	0	0	7.86156	2.48478	0	34.7429	54.2337	61.0721	48.2475	48.4003	48.0947	0	48.0183	48.0947	52.5581	52.901	47.2541	0	0	0	0	0	4095
54090	0	0	7.80393	2.48491	0	34.8088	54.1769	59.9534	48.1906	48.267	48.1142	0	47.8849	47.8849	52.4632	52.9204	47.1207	0	0	0	0	0	4095
54150	0	0	7.83498	2.48485	0	35.0607	54.167	59.7538	48.1424	48.1424	48.068	0	47.8368	47.7888	52.3771	52.9866	47.0725	0	0	0	0	0	4095
54210	0	0	7.86643	2.48491	0	35.1419	54.0477	61.3797	48.2137	48.0227	47.9845	0	47.717	47.7934	52.372	53.1339	46.9528	0	0	0	0	0	4095
54269	0	0	7.86643	2.48485	0	34.9931	54.2157	60.2956	48.4586	48.2295	48.1149	0	47.9239	47.9621	52.5401	53.4924	47.0831	0	0	0	0	0	4095
54329	0	0	7.86663	2.46388	0	35.0726	54.3374	59.7339	48.428	48.1606	48.2752	0	48.0078	48.0078	52.6239	53.576	47.1671	0	0	0	0	0	4095
54389	0	0	7.86622	2.48491	0	35.1808	54.3073	61.0696	48.3978	48.0923	48.1304	0	47.9012	47.9394	52.4795	53.5079	47.137	0	0	0	0	0	4095
54449	0	0	7.87109	2.46388	0	35.0878	54.0048	60.6921	48.3232	48.0178	47.9794	0	47.8848	47.7884	52.2526	53.4334	46.9094	0	0	0	0	0	4095
54509	0	0	7.86643	2.50656	0	35.0895	54.1278	60.208	48.4086	48.1795	48.0649	0	47.9121	47.9121	52.4903	53.5567	46.9949	0	0	0	0	0	4095
54569	0	0	7.86643	2.48485	0	35.2062	54.2008	60.7359	48.2909	48.0618	48.0618	0	47.9853	47.9853	52.5252	53.5917	47.03	0	0	0	0	0	4095
54629	0	0	7.86643	2.50027	0	35.1825	54.2765	60.3562	48.5197	48.2523	48.2905	0	48.0613	48.0231	52.6772	53.7055	47.2589	0	0	0	0	0	4095
54689	0	0	7.86663	2.52759	0	35.2687	54.2166	61.3963	48.5359	48.154	48.1922	0	47.963	47.963	52.5791	53.6837	47.1605	0	0	0	0	0	4095
54749	0	0	7.86663	2.54856	0	35.3078	54.1605	61.7195	48.3651	48.0595	48.0213	0	47.8303	47.8303	52.3706	53.5133	47.0659	0	0	0	0	0	4095
54809	0	0	7.86643	2.50689	0	35.4006	54.2537	60.6369	48.3822	48.1148	48.1148	0	47.962	47.9238	52.4639	53.5304	47.1213	0	0	0	0	0	4095
54869	0	0	7.86967	2.52752	0	35.2552	54.2878	60.8743	48.4164	48.3401	48.2255	0	48.0727	48.0345	52.6123	53.5645	47.1938	0	0	0	0	0	4095
54929	0	0	7.92365	2.52752	0	35.245	54.2273	59.8898	48.2793	48.0883	48.0501	0	47.9355	47.9355	52.4755	53.542	47.0948	0	0	0	0	0	4095
54989	0	0	7.93075	2.48769	0	35.3897	54.0367	60.231	48.3936	48.2409	48.0499	0	47.9735	47.8971	52.4372	53.5418	47.2474	0	0	0	0	0	4095
55049	0	0	7.93095	2.50649	0	35.3583	54.0294	60.2616	48.3099	48.1189	48.0807	0	47.8897	47.8133	52.3918	53.4964	47.1636	0	0	0	0	0	4095
55109	0	0	7.93075	2.50656	0	35.4141	53.9309	60.4669	48.2493	48.0201	48.0201	0	47.8291	47.8291	52.3313	53.4359	47.0265	0	0	0	0	0	4095
55169	0	0	7.93095	2.48491	0	35.3668	54.1745	59.6094	48.4937	48.2263	48.2263	0	48.0735	47.9589	52.537	53.7177	47.2329	0	0	0	0	0	4095
55229	0	0	7.93075	2.47429	0	35.3499	54.1316	60.022	48.4124	48.2596	48.2978	0	48.0304	48.0304	52.6083	53.5986	47.1898	0	0	0	0	0	4095
55289	0	0	7.93075	2.50257	0	35.4902	54.0887	61.1172	48.4458	48.2166	48.2166	0	47.9492	48.0256	52.5273	53.5938	47.3378	0	0	0	0	0	4095
55349	0	0	7.93115	2.50879	0	35.3363	54.2292	59.626	48.3958	48.052	48.1666	0	47.8992	47.8992	52.4774	53.6582	47.0203	0	0	0	0	0	4095
55409	0	0	7.93075	2.46902	0	35.3668	54.2295	59.7781	48.396	48.0905	48.1287	0	47.9759	47.9759	52.4396	53.5823	47.0205	0	0	0	0	0	4095
55469	0	0	7.93075	2.50656	0	35.428	54.2431	59.9434	48.3715	48.2951	48.3333	0	48.1423	47.8895	52.4913	53.5959	47.1489	0	0	0	0	0	4095
55529	0	0	7.93095	2.46388	0	35.3955	54.3088	59.9331	48.4757	48.3611	48.3229	0	48.0173	48.0555	52.6334	53.6236	47.2149	0	0	0	0	0	4095
55589	0	0	7.93095	2.48485	0	35.4429	54.1964	61.6415	48.4011	48.3247	48.3247	0	48.0955	48.1337	52.4827	53.5873	47.1402	0	0	0	0	0	4095
55649	0	0	7.93075	2.48424	0	35.5122	54.0993	60.9761	48.38	48.189	48.3036	0	47.9598	47.9598	52.5379	53.5282	47.0809	0	0	0	0	0	4095
55709	0	0	7.93075	2.48491	0	35.404	54.1206	60.7318	48.325	48.1722	48.2868	0	47.943	47.9812	52.3687	53.5495	47.1788	0	0	0	0	0	4095
55769	0	0	7.99426	2.50656	0	35.3549	54.1985	60.4302	48.5178	48.2888	48.2504	0	48.0212	47.983	52.4468	53.6856	47.3716	0	0	0	0	0	4095
55829	0	0	7.99385	2.528	0	35.4446	53.8343	60.0292	48.1523	47.8849	47.9231	0	47.7703	47.7703	5								

time	dc(In)	bsn(In)	dewpt(F)	Air(F)	AirVED(F)	B1(F)	B2(F)	B3(F)	B4(F)	B5 (F)	DC1(F)	DC2(F)	VED(F)									
56788	0	0	8.05817	2.46395	0	35.4953	53.93	59.7452	48.363	48.172	47.981	0	47.8664	47.9428	52.2923	53.3208	47.0256	0	0	0	0	4095
56848	0	0	8.05837	2.48485	0	35.5122	54.0644	59.3858	48.4977	48.3068	48.154	0	48.1158	48.2304	52.541	53.6456	47.1605	0	0	0	0	4095
56908	0	0	8.05837	2.46388	0	35.5629	53.7961	59.6117	48.2668	48.0376	47.9994	0	47.923	47.9612	52.3869	53.4153	47.0823	0	0	0	0	4095
56968	0	0	8.05797	2.48491	0	35.5731	54.0086	59.7855	48.2508	48.1744	48.0598	0	47.907	48.098	52.4471	53.4375	47.1045	0	0	0	0	4095
57028	0	0	8.05817	2.50601	0	35.5173	53.8798	59.0736	48.2983	48.2219	48.1455	0	47.9927	48.0691	52.4945	53.5229	47.152	0	0	0	0	4095
57088	0	0	8.05837	2.48491	0	35.453	53.92	59.09	48.3529	48.4293	48.0855	0	47.9327	48.1237	52.4347	53.4631	47.1685	0	0	0	0	4095
57148	0	0	8.06385	2.50656	0	35.4158	53.9363	59.2201	48.2928	48.2547	48.2165	0	47.9491	47.9873	52.451	53.4794	47.223	0	0	0	0	4095
57208	0	0	8.12107	2.50656	0	35.5071	53.7027	59.8981	48.2877	48.2113	48.0203	0	47.8293	47.9439	52.3315	53.3219	47.1031	0	0	0	0	4095
57268	0	0	8.12087	2.50649	0	35.5443	53.5735	59.1621	48.0053	47.8907	47.7761	0	47.6233	47.6997	52.126	53.1166	48.8206	0	0	0	0	4095
57328	0	0	8.12127	2.50656	0	35.431	53.9827	59.2284	48.454	48.3012	48.2248	0	48.072	47.9956	52.5355	53.5258	47.2314	0	0	0	0	4095
57388	0	0	8.12127	2.48545	0	35.3972	53.709	59.2212	48.2176	48.2176	48.1412	0	47.9502	47.8738	52.2235	53.252	46.9948	0	0	0	0	4095
57448	0	0	8.12208	2.52488	0	35.4124	53.6989	58.9075	48.2075	48.1693	48.0547	0	47.9019	47.8255	52.2896	53.3181	47.0229	0	0	0	0	4095
57508	0	0	8.12087	2.50656	0	35.3465	53.7178	59.4957	48.341	48.15	48.15	0	47.9208	47.9208	52.2704	53.3751	47.1183	0	0	0	0	4095
57568	0	0	8.12107	2.50791	0	35.3008	53.8092	59.1693	48.3563	48.2799	48.089	0	47.9361	47.9743	52.2857	53.3904	47.1337	0	0	0	0	4095
57628	0	0	8.12107	2.47544	0	35.4209	53.7354	58.6401	48.2823	48.0913	47.9767	0	47.9003	47.8621	52.2118	53.2785	47.0978	0	0	0	0	4095
57688	0	0	8.12107	2.48485	0	35.3313	53.8951	59.1031	48.3279	48.2515	48.2133	0	48.0223	48.1369	52.5621	53.4382	47.2581	0	0	0	0	4095
57748	0	0	8.12168	2.48485	0	35.289	53.9294	59.2512	48.3623	48.1331	48.0949	0	47.9039	48.0185	52.406	53.3963	47.2543	0	0	0	0	4095
57808	0	0	8.12107	2.48498	0	35.2704	53.7213	59.0437	48.2681	48.0771	48.1153	0	47.9625	47.9625	52.4263	53.4167	47.1983	0	0	0	0	4095
57868	0	0	8.12107	2.46388	0	35.3482	53.8565	59.4821	48.3274	48.3274	48.251	0	47.9836	47.9454	52.4473	53.3615	47.2576	0	0	0	0	4095
57928	0	0	8.12107	2.44284	0	35.2806	53.8166	59.0628	48.2109	48.3255	48.2109	0	47.9817	47.9817	52.4455	53.2454	47.1793	0	0	0	0	4095
57988	0	0	8.18924	2.46381	0	35.2806	53.7654	59.7709	48.1596	48.1978	48.1214	0	47.9688	47.9688	52.3943	53.3466	47.1661	0	0	0	0	4095
58048	0	0	8.18559	2.44284	0	35.2518	53.8428	59.3546	48.3136	48.2372	48.199	0	47.9698	48.0845	52.5098	53.424	47.282	0	0	0	0	4095
58108	0	0	8.18579	2.46381	0	35.3347	53.7926	59.1148	48.2633	48.1105	48.1869	0	47.8431	47.9959	52.3453	53.2976	47.1553	0	0	0	0	4095
58167	0	0	8.18559	2.44291	0	35.2721	53.8963	59.1043	48.2909	48.1381	48.1381	0	47.9089	47.9853	52.4109	53.3632	47.0682	0	0	0	0	4095
58227	0	0	8.18579	2.48491	0	35.2738	53.793	59.1911	48.3401	48.2255	48.3401	0	47.9581	48.0345	52.4218	53.298	47.2321	0	0	0	0	4095
58288	0	0	8.18559	2.48498	0	35.2941	53.8796	59.3913	48.3506	48.2742	48.1596	0	47.8922	47.9304	52.5085	53.3085	47.1681	0	0	0	0	4095
58348	0	0	8.18579	2.47267	0	35.2434	53.8614	59.0695	48.4087	48.2941	48.3323	0	48.0267	47.9885	52.4903	53.3664	47.1096	0	0	0	0	4095
58407	0	0	8.1862	2.46388	0	35.1943	53.8884	58.8487	48.3394	48.2248	48.1866	0	47.881	47.9192	52.3831	53.2592	47.346	0	0	0	0	4095
58467	0	0	8.18539	2.48485	0	35.1808	53.8045	58.709	48.2752	48.237	48.1988	0	47.9696	48.0842	52.3952	53.3475	47.2054	0	0	0	0	4095
58528	0	0	8.18559	2.50656	0	35.2349	53.606	60.4467	48.0379	48.0379	47.8851	0	47.6176	47.7705	52.2348	53.0729	47.0061	0	0	0	0	4095
58587	0	0	8.18924	2.48478	0	35.2653	53.7357	59.5894	48.168	48.1298	48.0534	0	47.8624	47.977	52.4407	53.393	47.1745	0	0	0	0	4095
58647	0	0	8.18559	2.50656	0	35.2772	53.8335	59.0417	48.4189	48.2279	48.1133	0	47.9223	48.0369	52.3481	53.3004	47.158	0	0	0	0	4095
58708	0	0	8.18559	2.50656	0	35.1892	53.684	58.8167	48.1543	48.1161	48.0397	0	47.8487	47.8487	52.2368	53.1128	47.0462	0	0	0	0	4095
58767	0	0	8.24991	2.5073	0	35.1876	53.606	58.8908	48.1525	47.9997	48.0379	0	47.8851	47.9233	52.3872	53.2252	47.0826	0	0	0	0	4095
58827	0	0	8.25012	2.49621	0	35.2095	53.7827	58.8771	48.2533	48.1005	48.1005	0	47.9477	47.9095	52.3734	53.2877	47.1835	0	0	0	0	4095
58887	0	0	8.25012	2.50649	0	35.2315	53.7963	58.9286	48.3434	48.1524	48.1906	0	47.9614	47.9996	52.4251	53.3013	47.2736	0	0	0	0	4095
58947	0	0	8.25032	2.46388	0	35.3177	53.6031	59.2296	48.3024	48.1114	48.1878	0	47.9968	47.9968	52.2319	53.2223	47.1179	0	0	0	0	4095
59007	0	0	8.24991	2.44339	0	35.3194	53.6211	59.0577	48.3586	48.0912	48.244	0	47.9766	48.053	52.2879	53.2403	47.1359	0	0	0	0	4095
59067	0	0	8.24991	2.46381	0	35.2992	53.8281	59.0343	48.3351	48.2205	48.1441	0	47.9531	48.0295	52.3026	53.2549	47.1888	0	0	0	0	4095
59127	0	0	8.24991	2.44284	0	35.3634	53.6464	59.4245	48.3076	48.0402	48.0784	0	47.9256	47.9256	52.3513	53.2656	46.9319	0	0	0	0	4095
59187	0	0	8.25012	2.46381	0	35.3059	53.7247	58.9712	48.3098	48.157	48.2334	0	47.968	47.8896	52.3155	53.2678	47.1635	0	0	0	0	4095
59247	0	0	8.25235	2.44278	0	35.333	53.6835	59.0819	48.3448	48.2302	48.3066	0	48.0392	48.001	52.3885	53.3408	47.1221	0	0	0	0	4095
59307	0	0	8.24991	2.42181	0	35.2586	53.702	58.9106	48.1724	48.0196	48.0578	0	47.8286	47.905	52.2165	53.1689	46.9114	0	0	0	0	4095
59367	0	0	8.25012	2.44284	0	35.267	53.6765	59.9858	48.376	48.2996	48.2996	0	47.8794	47.9558	52.3434	53.1434	47.0387	0	0	0	0	4095
59427	0	0	8.25012	2.44278	0	35.245	53.7181	59.494	48.3393	48.1866	48.1866	0	47.9956	47.9192	52.3449	53.183	47.002	0	0	0	0	4095
59487	0	0	8.31423	2.44284	0	35.1859	53.6427	58.8514	48.2657	48.0747	48.1129	0	47.9601	47.9893	52.3477	53.1857	47.0812	0	0	0	0	4095
59547	0	0	8.31484	2.42188	0	35.1842	53.709	58.8036	48.3322	48.1794	48.103	0	47.9502	47.9884	52.3378	53.1378	47.1477	0	0	0	0	4095
59607	0	0	8.31444	2.46381	0	35.1588	53.7424	59.0648	48.2893	48.1748	48.1748	0	48.0602	48.022	52.3713	53.3236	47.3342	0	0	0	0	4095
59667	0	0	8.31545	2.42188	0	35.174	53.7489	59.0712	48.1813	48.1431	47.9903	0	47.9139	47.9903	52.3778	53.1397	47.1114	0	0	0	0	4095
59727	0	0	8.31444	2.44284	0	35.2129	53.6867	59.199	48.1952	48.1188	48.1188	0	48.0042	48.0042	52.3536	53.2297	47.2018	0	0	0	0	4095
59787	0	0	8.31687	2.46381	0	35.2112	53.7919	60.0629	48.3008	48.1862	48.1862	0	48.0716	48.0334	52.4208	53.335	47.231	0	0	0	0	4095
59847	0	0	8.31423	2.48579	0	35.1436	53.7621	59.1223	48.3855	48.1181	48.1563	0	48.0035	48.0035	52.3147	53.229	47.1246	0	0	0	0	4095
59907	0	0	8.31565	2.46381	0	35.1487	53.6681	58.7609	48.3274	48.06	48.0982	0	47.9836	47.9454	52.2949	53.133	47.1429	0	0	0	0	4095
59967	0	0	8.31444	2.48485	0	35.1132	53.7068	59.1431	48.2536	48.0244	47.948	0	47.7952	47.948	52.2213							

time dc(In) bsn(In) dewpt(F) Alr(F) AlrVED(F) B1(F) B2(F) B3(F) B4(F) B5 (F) DC1(F) DC2(F) VED(F)

60867	0	0	8.37673	2.42181	0	34.8849	53.613	58.67	48.1977	48.0067	48.1213	0	47.7775	47.8921	52.1655	53.0799	47.1278	0	0	0	0	0	0	4095
60926	0	0	8.37754	2.42709	0	34.8815	53.6837	58.7405	48.2698	48.1922	48.1922	0	47.8868	47.9631	52.1601	53.0744	47.1224	0	0	0	0	0	0	4095
60986	0	0	8.37693	2.42851	0	35.0202	53.6087	60.0321	48.1934	48.1934	48.2316	0	47.9642	47.926	52.2374	53.0375	47.0853	0	0	0	0	0	0	4095
61046	0	0	8.37713	2.42188	0	34.9931	53.6959	59.7775	48.2427	48.1663	48.2045	0	47.8989	47.9371	52.3247	53.0485	47.0964	0	0	0	0	0	0	4095
61106	0	0	8.44166	2.44109	0	34.9424	53.6616	59.7812	48.2464	48.1319	48.0555	0	47.8262	47.9026	52.2523	53.1285	47.1384	0	0	0	0	0	0	4095
61166	0	0	8.44166	2.435	0	34.9272	53.8207	59.5603	48.4442	48.3297	48.1769	0	47.9859	48.0241	52.4115	53.1353	47.1452	0	0	0	0	0	0	4095
61226	0	0	8.44145	2.44284	0	34.9441	53.8151	59.0613	48.4005	48.3241	48.2477	0	47.9039	48.0949	52.3297	53.0916	47.2161	0	0	0	0	0	0	4095
61286	0	0	8.44125	2.46388	0	34.8392	53.7301	59.3941	48.3152	48.3916	48.086	0	47.9714	48.0096	52.3589	53.0828	47.1307	0	0	0	0	0	0	4095
61346	0	0	8.44125	2.46388	0	34.8578	53.7387	58.9851	48.4383	48.2092	48.1328	0	48.0182	47.98	52.3294	53.0532	47.1011	0	0	0	0	0	0	4095
61406	0	0	8.44145	2.46401	0	34.8612	53.5721	59.2366	48.2712	48.0802	47.851	0	47.8892	47.851	52.1627	52.8485	46.9338	0	0	0	0	0	0	4095
61466	0	0	8.44166	2.46395	0	34.9508	53.9775	59.2232	48.4488	48.3342	48.105	0	48.0286	48.0668	52.3017	53.0636	47.2262	0	0	0	0	0	0	4095
61526	0	0	8.44145	2.46388	0	34.8409	53.7824	58.8768	48.3676	48.0238	48.1002	0	47.871	47.9474	52.2969	53.0969	47.2979	0	0	0	0	0	0	4095
61586	0	0	8.44125	2.46381	0	34.8868	53.7454	60.0165	48.3687	48.2541	48.1777	0	47.9485	48.1013	52.3361	53.0219	47.2607	0	0	0	0	0	0	4095
61646	0	0	8.44145	2.46388	0	34.9119	53.6882	59.0107	48.3495	48.1203	48.1203	0	47.8147	47.8911	52.2027	52.9265	47.1268	0	0	0	0	0	0	4095
61706	0	0	8.44145	2.48485	0	34.8562	53.6181	58.2953	48.3556	48.1264	48.0882	0	47.8208	47.7826	52.1706	52.7421	47.0182	0	0	0	0	0	0	4095
61766	0	0	8.44145	2.48478	0	34.7953	53.7384	58.6431	48.2853	48.2089	48.2089	0	47.9797	47.9797	52.1767	52.7863	47.0626	0	0	0	0	0	0	4095
61826	0	0	8.44145	2.44339	0	34.7665	53.8063	58.7488	48.3916	48.2006	48.277	0	47.8568	47.9332	52.2827	52.7399	47.1307	0	0	0	0	0	0	4095
61886	0	0	8.44145	2.44284	0	34.7074	53.8562	59.1023	48.5181	48.1743	48.1743	0	47.8687	47.9833	52.2946	52.7518	47.1426	0	0	0	0	0	0	4095
61946	0	0	8.50455	2.44291	0	34.6752	53.811	58.6776	48.3582	48.129	48.0908	0	47.8616	48.0526	52.2875	52.7066	47.0973	0	0	0	0	0	0	4095
62006	0	0	8.50476	2.46388	0	34.6718	53.7648	58.6695	48.3882	48.1972	48.1208	0	47.8916	48.0062	52.2413	52.7366	47.1273	0	0	0	0	0	0	4095
62066	0	0	8.50455	2.42188	0	34.704	53.7212	58.8538	48.3062	48.2299	48.1153	0	47.9243	48.0389	52.2357	52.8453	47.1982	0	0	0	0	0	0	4095
62126	0	0	8.50902	2.44284	0	34.7074	53.8562	59.1023	48.4417	48.2507	48.3653	0	48.0215	48.0979	52.3708	52.7518	47.2191	0	0	0	0	0	0	4095
62186	0	0	8.50435	2.39875	0	34.6516	53.7816	58.7622	48.2523	48.1377	48.1759	0	47.9467	47.8703	52.1438	52.6772	47.106	0	0	0	0	0	0	4095
62246	0	0	8.50435	2.39875	0	34.6702	53.7971	59.1573	48.2296	48.1151	48.2296	0	48.0387	48.1151	52.3879	52.7689	47.1215	0	0	0	0	0	0	4095
62306	0	0	8.50455	2.42188	0	34.6871	53.8989	59.828	48.3317	48.2553	48.1407	0	47.8979	48.1025	52.3373	52.7564	47.109	0	0	0	0	0	0	4095
62366	0	0	8.50943	2.42181	0	34.704	53.8081	61.5582	48.2407	48.2025	48.2407	0	48.0497	48.0115	52.2465	52.7799	47.209	0	0	0	0	0	0	4095
62426	0	0	8.50455	2.42195	0	34.6549	53.7395	59.745	48.2482	48.2884	48.2482	0	48.019	47.9808	52.254	52.7874	47.2166	0	0	0	0	0	0	4095
62486	0	0	8.50455	2.37765	0	34.6516	53.8966	59.4083	48.4058	48.2912	48.3294	0	48.0238	48.0621	52.2969	52.7922	47.2979	0	0	0	0	0	0	4095
62546	0	0	8.50435	2.42418	0	34.6127	53.7565	60.1794	48.2653	48.1125	48.1889	0	47.9597	48.0361	52.233	52.8045	47.1572	0	0	0	0	0	0	4095
62606	0	0	8.50516	2.37758	0	34.5148	53.8358	58.8542	48.2302	47.9248	48.1921	0	47.8864	47.9248	52.1128	52.6552	47.0839	0	0	0	0	0	0	4095
62666	0	0	8.50455	2.38975	0	34.5284	53.716	59.2282	48.2628	47.9954	47.9954	0	47.8808	47.8044	52.1161	52.5734	46.9636	0	0	0	0	0	0	4095
62726	0	0	8.56908	2.44284	0	34.5805	53.8483	59.7776	48.3192	48.3192	48.281	0	48.0136	48.0518	52.2867	52.782	47.1347	0	0	0	0	0	0	4095
62786	0	0	8.56908	2.42195	0	34.496	53.6913	58.862	48.1999	48.0853	48.0471	0	47.8943	47.8943	52.1296	52.663	47.0535	0	0	0	0	0	0	4095
62846	0	0	8.56928	2.44278	0	34.4859	53.8378	58.7803	48.2323	48.2323	48.0795	0	47.9267	47.9267	52.2381	52.8096	47.0477	0	0	0	0	0	0	4095
62906	0	0	8.56887	2.44284	0	34.4774	53.7674	58.672	48.1234	48.1234	48.047	0	47.8178	48.0088	52.2819	52.701	47.0535	0	0	0	0	0	0	4095
62966	0	0	8.56888	2.44284	0	34.5247	53.9521	59.1599	48.2705	48.2323	48.1177	0	48.0413	48.0031	52.3144	52.7716	47.2007	0	0	0	0	0	0	4095
63026	0	0	8.56888	2.44278	0	34.4994	53.8912	59.1751	48.2476	48.133	48.1712	0	47.942	48.0184	52.2153	52.7868	47.1013	0	0	0	0	0	0	4095
63086	0	0	8.56867	2.46388	0	34.5197	53.9242	59.5876	48.2425	48.1279	47.9751	0	47.8605	47.9369	52.134	52.7055	47.058	0	0	0	0	0	0	4095
63146	0	0	8.56888	2.44305	0	34.518	53.9553	59.4668	48.3119	48.1209	48.0445	0	48.0445	48.0445	52.2413	52.7747	47.051	0	0	0	0	0	0	4095
63206	0	0	8.56908	2.44284	0	34.5721	53.6716	58.6525	48.0273	47.9509	47.7981	0	47.7217	47.7599	51.9955	52.529	46.8809	0	0	0	0	0	0	4095
63266	0	0	8.56888	2.45461	0	34.447	53.8238	58.5762	48.2562	48.1798	48.0652	0	47.9124	47.9124	52.1096	52.643	47.0334	0	0	0	0	0	0	4095
63326	0	0	8.56888	2.45739	0	34.4892	53.938	58.6903	48.2181	48.1036	48.2181	0	47.9125	48.0272	52.2621	52.7574	47.1865	0	0	0	0	0	0	4095
63386	0	0	8.56888	2.44278	0	34.4317	54.0274	58.9693	48.4606	48.2315	48.3461	0	48.1169	48.0405	52.2373	52.9231	47.1998	0	0	0	0	0	0	4095
63446	0	0	8.56867	2.44284	0	34.447	53.8451	58.4838	48.1632	47.934	48.0488	0	47.8578	47.8194	52.1692	52.7407	47.0933	0	0	0	0	0	0	4095
63506	0	0	8.63157	2.44278	0	34.4839	53.9401	58.8822	48.2585	48.1057	48.2203	0	47.9911	47.9911	52.2261	52.7596	47.1122	0	0	0	0	0	0	4095
63566	0	0	8.63177	2.42188	0	34.447	53.9427	58.8469	48.3757	48.1847	48.2611	0	47.9173	47.9937	52.1907	52.8384	47.2295	0	0	0	0	0	0	4095
63626	0	0	8.63543	2.42181	0	34.4284	54.133	59.1126	48.452	48.4138	48.4902	0	48.0319	47.9555	52.3811	52.9528	47.2294	0	0	0	0	0	0	4095
63686	0	0	8.63238	2.39881	0	34.4706	53.9583	58.7865	48.2767	48.1622	48.3149	0	47.9329	47.9329	52.2444	52.892	47.1687	0	0	0	0	0	0	4095
63746	0	0	8.63177	2.39881	0	34.5298	53.891	59.099	48.0946	48.171	48.1328	0	47.8272	47.8272	52.177	52.6723	47.1393	0	0	0	0	0	0	4095
63806	0	0	8.63177	2.42188	0	34.6786	53.9079	58.926	48.1498	48.188	48.1498	0	47.9588	47.9206	52.232	52.8416	47.0416	0	0	0	0	0	0	4095
63866	0	0	8.63157	2.41457	0	34.4706	54.0208	59.0387	48.3777	48.2631	48.3395	0	48.0339	48.0339	52.307	52.9165	47.155	0	0	0	0	0	0	4095
63926	0	0	8.63177	2.39881	0	34.4706	53.9735																	

APPENDIX V

POST-TEST CALIBRATIONS

WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07		STANDARDS CODE NUMBER 444-80-04-003		NEW	REFERENCE NUMBER 390726
INSTRUMENT ULTRASONIC TRANSDUCER F&P 50US3000		SERIAL NUMBER 94W102009	PROPERTY NUMBER N/A	MODIFY <input checked="" type="checkbox"/>	ORGANIZATION CODE W57400
SENDER K MCCRACKEN 3-6653		ROOM N/A	BUILDING 3765	WORK ORDER E27527	RECALL CYCLE 360
INSTRUMENT SPECIFICATIONS ±.7% OF SPAN FOR 12" RANGE ± 1% OF SPAN " 8" RANGE 4" RANGE NOT SPEC'D		SERVICE DEPARTMENT 3 5 42095		RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 5 PM 6 NONDATA M&E	TOLERANCE HISTORY I
STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS		COMMENTS 2 PARTS, 4TO20MA INTO 10 PRECISION		DATE RECEIVED 950420	TOLERANCE AS RECEIVED 1 IN 2 OUT 3 NA 4 FAILED
EXPIRATION DATE		EXPIRATION DATE		SHIPPING DATE MO	
002-50-02-001 6-15-95					
777-45-08-120 2-9-96					
REMARKS		TRAINING HOURS		CALIBRATION HOURS 6.0	
PROCEDURE NUMBER WHC-6-FP-50US3000 REV.0		REPAIR HOURS		OTHER HOURS	
		MATERIALS		TOTAL CHARGE = (S BA x SUM OF HOURS) + MATERIAL	
		DATE CALIBRATED		DATE DUE	
		4-25-95		4-25-96	
		AMBIENT TEMPERATURE = 20.0 °C			

INCHES	RUN 1		RUN 2		DIGITAL	TOL
	NOM	MV DC	MV DC	MV DC		
0	40	40.44	40.44	40.44	-0.00	± 1.2mV
3	80	80.37	80.37	80.37	02.99	
6	120	120.38	120.39	120.39	05.99	
9	160	160.28	160.28	160.28	08.99	
12	200	200.0	200.00	200.00	11.98	↓
0	40	39.60	39.60	39.60	-0.00	± 1.6mV
1	80	80.31	79.53	79.53	00.98	
2	120	119.54	119.54	119.54	01.97	
3	160	160.27	160.27	160.27	02.99	
4	200	200.0	200.0	200.0	04.00	↓
0	40	40.44	40.44	40.44	-0.00	N/A
.5	80	79.53	80.37	80.37	00.50	
1	120	119.54	120.38	120.38	00.99	
1.5	160	157.74	159.42	159.42	01.48	
2.0	200	198.50	199.34	199.34	01.98	↓

APPROVED BY 4-26-95 D.J. Nelson	CALIBRATED BY BT	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352	PAGE 1 OF 1
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WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

WHC-SD-SNF-ATR-005 Rev. 0

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07		STANDARDS CODE NUMBER 444-80-04-002		NEW <input type="checkbox"/>	REFERENCE NUMBER 390725
INSTRUMENT ULTRASONIC TRANSDUCER F&P 50US3000		SERIAL NUMBER 94W102010	PROPERTY NUMBER N/A	MODIFY <input checked="" type="checkbox"/>	WORK ORDER E27527
SENDER K MCCRACKEN 3-6653		ROOM N/A	BUILDING 3765	ORGANIZATION CODE W57400	RECALL CYCLE 360
INSTRUMENT SPECIFICATIONS ±.7% FUR 12" RANGE ; ±1% FOR 4" RANGE 2" RANGE NOT SPEC'D		SERVICE DEPARTMENT 3 25 8 420 95	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 5 PH 6 NONDATA MATE	DATE RECEIVED 950420	TOLERANCE HISTORY I
COMMENTS 2 PARTS, 4 TO 20 MA THROUGH 10 PRECISION		TOLERANCE AS RECEIVED 1 IN		SHIPPING DAY MO	2-OUT 3 NA 4 FAILED

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS 4:1 RATIO Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		TRAINING HOURS
EXPIRATION DATE		CALIBRATION HOURS 6.0
002-50-20-001 6-15-95	EXPIRATION DATE	REPAIR HOURS
777-45-08-120 2-09-96		OTHER HOURS
REMARKS		MATERIALS
		TOTAL CHARGE = ($\$ 84 \times \text{SUM OF HOURS}$) + MATERIAL
		DATE CALIBRATED 4-21-95
		DATE DUE 4-21-96
PROCEDURE NUMBER WHC-6-FP-50US3000 REV.0		AMBIENT TEMPERATURE = 19.6°C

INCHES	RUN 1		RUN 2		TOL
	NOM	MV	DIGITAL	MV	
0	40	39.89	-0.00	39.92	± 1.12mv
3	80	79.89	02.99	79.90	
6	120	119.91	05.99	119.91	
9	160	159.82	08.99	159.83	
12	200	199.83	11.99	199.83	
0	40	39.91	-0.00	39.92	± 1.6mv
1	80	79.90	00.99	79.90	
2	120	119.92	02.00	119.91	
3	160	159.83	02.99	159.83	
4	200	199.84	04.00	199.84	
0	400	39.92	-0.00	39.92	NOT SPEC'D
.5	80	79.90	00.50	79.90	
1	120	119.91	00.99	119.90	
1.5	160	159.82	01.50	159.83	
2	200	199.84	02.00	199.84	

APPROVED BY D. J. Nelson	DATE 4-24-95	CALIBRATED BY Et	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company, Subsidiary of Westinghouse Electric Corporation, Box 1970, Richland, WA 99352	PAGE 1
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WHC-SD-SNF-ATR-005 Rev. 0
WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07		STANDARDS CODE NUMBER 444-80-04-001		NEW	REFERENCE NUMBER 390554
INSTRUMENT ULTRASONIC TRANSDUCER F&P 50US3115BBB		SERIAL NUMBER 94W102008	PROPERTY NUMBER N/A	MODIFY	WORK ORDER 11175
SENDER K MCCRACKEN 3-6653		ROOM N/A	BUILDING 3765	SERVICE DEPARTMENT 4	ORGANIZATION CODE W57400
INSTRUMENT SPECIFICATIONS ±.7% OF SPAN FOR 12" RANGE		COMMENTS 2 PARTS. 4 to 20 mA through 10Ω resistor		RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 5 PM 6 NONDATA M&E	RECALL CYCLE 360
				DATE RECEIVED 950418	TOLERANCE HISTORY I
				SHIPPING	TOLERANCE AS RECEIVED 1 IN 2 OUT 3 NA 4 FAILED

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS DIGITAL READOUT NOT SPEC'D; 2" RANGE NOT SPEC'D		TRAINING HOURS	
EXPIRATION DATE 777-1/5 - 08-122 2-9-96		CALIBRATION HOURS 8.0	
REMARKS # OUT OF RANGE SPEC 6/4-19-95		REPAIR HOURS	
PROCEDURE NUMBER PROCEDURE DEVELOPMENT WHC-6-FP-50US3000		OTHER HOURS	
		MATERIALS	
		TOTAL CHARGE - ($\$ 84 \times$ SUM OF HOURS) + MATERIAL	
		DATE CALIBRATED 4-19-95	DATE DUE 4-19-96
		AMBIENT TEMPERATURE = 20°C	

INCHES	NOM		RUN 1		RUN 2		TOL
	mv	mv	DIGITAL	mv	DIGITAL		
0	40	40.43	-0.00	40.43	-0.00		± .7% OR
3	80	79.48	2.94	79.48	2.94		1.12 mV
6	120	120.23	5.99	120.24	5.99		
9	160	160.10	8.99	160.10	8.99		
12	200	199.9	11.98	199.9	11.98		
0	40	40.43	00.00	40.44	-0.00		± 10% OR
1	80	80.33	00.99	80.33	00.99		1.6 mV
2	120	120.23	02.00	120.24	02.00		
3	160	160.11	02.99	160.11	2.99		
4	200	200.7	04.01	200.7	04.01		
0	40	40.44	00.00	39.57	-0.00		NOT SPEC'D
.5	80	80.33	00.50	77.80*	00.46		
1.0	120	117.68*	00.97	119.37	00.99		
1.5	160	159.29	01.49	157.57*	01.47		
2.0	200	197.46*	01.97	197.46*	01.97		

RUSH


APPROVED BY O.R. Nelson	4-20-95	CALIBRATED BY BZ	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352	PAGE 1 OF 1
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WESTINGHOUSE STANDARD INSTRUMENTS FOR HYDRA AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07		STANDARDS CODE NUMBER 444-67-11-001		NEW	REFERENCE NUMBER 390555
INSTRUMENT DATA LOGGER FLUKE 2625A HYDRA		SERIAL NUM 6102614	PROPERTY NUMBER N/A	ORGANIZATION CODE W57400	WORK ORDER L1175
SENDER K MCCRACKEN 3-6653		ROOM N/A	BUILDING 3765	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 1 4 DELETED 5 PM 6 NONDATA M&T	RECALL CYCLE 360
INSTRUMENT SPECIFICATIONS <i>1 Year See Tolerance Column</i>		COMMENTS CUSTOMER TYPE "K" & 300 MV RNG		DATE RECEIVED 950418	TOLERANCE HISTORY I
STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS		4:1 RATIO Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		SHIPPING DAY MO	TOLERANCE AS RECEIVED 1 IN 2 OUT / 3 NA 4 FAILED

TRAINING HOURS	
CALIBRATION HOURS	<u>1.5</u>
REPAIR HOURS	
OTHER HOURS	
MATERIALS	
TOTAL CHARGE = (S 84 x SUM OF HOURS) + MATERIALS	

EXPIRATION DATE	EXPIRATION DATE
<u>002-14-01-026 1-7-95</u>	
<u>002-14-01-038 1-12-96</u>	
<u>002-79-06-040 3-13-96</u>	
REMARKS (WP-123)	DATE CALIBRATED <u>4-19-95</u>
PROCEDURE NUMBER WHC-JFC-2620A REV.0	DATE DUE <u>4-19-96</u>
	AMBIENT TEMPERATURE <u>-21°C</u>

APPROVED BY <u>D.J. Nelson</u> 4-19-95	CALIBRATED BY 	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company subsidiary of Westinghouse Electric Corporation x 1974 Richland, WA-99352	PAGE <u>1</u> OF <u>4</u>
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PROCEDURE NAME - 123 WHC-JFC-2620A REV.0	STANDARDS CODE NUMBER 444-67-11-001	REFERENCE NUMBER 390555
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DATA SHEET

FUNCTION & RANGE	STD SETTING		2620A INDICATION		TOLERANCES
			AS FOUND	FINAL	
30KΩ	30.000KΩ				± .02 KΩ
300KΩ	300.00KΩ				± .2 KΩ
3MΩ	3.0000MΩ				± .0021 MΩ
10MΩ	10.000MΩ				± .014 MΩ
FREQ. Hz	900 KHz	2V P-P			± 616 Hz
TEMP TYPE K	TEMP °C	EQ. MV			
°C	-100.00	-3.553	-99.9		± .6°C
	0.00	0.000	0.0		± .44°C
	500.00	20.640	500.1		± .65°C
	1000.00	41.269	1000.1		± .8°C
	1370.00	54.807	1370.3		± 1.05°C
TEMP TYPE T	-150.00	-4.648			± .84°C
°C	0.00	0.000			± .45°C
	200.00	9.286			± .45°C
	400.00	20.869			± .4°C
TEMP RTC	100Ω	0°C			± 0.24°C
4-WIRE	200Ω	266.58°C			± 0.48°C
	300Ω	558.00°C			± 0.75°C
TEMP TYPE J	-99.0°C	-4.591 mv			± .6°C
°C	0.0°C	0.0 mv			± .4°C
	200.0°C	10.777 mv			"
	400.0°C	21.846 mv			"
	600.0°C	33.096 mv			"
	760.0°C	42.922 mv			± .6°C

APPROVED BY <i>D. J. Nelson</i>	4-19-95	CALIBRATED BY WHC STDLAB 39	Page 3 of 4
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WESTINGHOUSE STANDARD INSTRUMENTS AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07		STANDARDS CODE NUMBER 444-67-11-002		NEW	REFERENCE NUMBER 390723
INSTRUMENT DATA LOGGER DUKE 2620A HYDRA		SERIAL NUMBER 5893600	PROPERTY N/A	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 5 PM 6 NONDATA M&E	ORGANIZATION CODE W57400
SENDER K MCCRACKEN 3-6653		ROOM N/A	BUILDING 3765	SERVICE DEPARTMENT 4	WORK ORDER E27527
INSTRUMENT SPECIFICATIONS <i>1 Year See Tolerance Column</i>		COMMENTS 4:1 (YES) 2000M-CL8300		RECALL CYCLE 360	TOLERANCE HISTORY I
STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS		4:1 RATIO Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		DATE RECEIVED 950420	TOLERANCE AS RECEIVED 1 IN 2 OUT / 3 NA 4 FAILED
REMARKS (WP-123)		EXPIRATION DATE		TRAINING HOURS	
PROCEDURE NUMBER WHC-JFC-2620A REV.0		EXPIRATION DATE		CALIBRATION HOURS <i>2.0</i>	
				REPAIR HOURS	
				OTHER HOURS	
				MATERIALS	
				TOTAL CHARGE = (\$ 84 x SUM OF HOURS) + MATERIALS	
				DATE CALIBRATED 4-24-95	DATE DUE 4-24-96
				AMBIENT TEMPERATURE = <i>21°C</i>	

APPROVED BY <i>D.J. Nelson</i> 4-24-95	CALIBRATED BY <i>SIDU</i>	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company, a subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352	PAGE 3
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Physical and Electrical Standards Laboratory
NOTICE OF DISCREPANCY MEASURING AND TEST EQUIPMENT

To: McCraack in
L5-07

Instrument Name Omega RHCM-10
 Standards Code No. 444-32-02-001
 Property No. N/A
 Date 4-24-95

While performing "as found" calibration on the above M&TE, out-of-tolerance readings were noted as seen on the attached report. The disposition of the item is as follows:

- Repaired and calibrated to original manufacturer specifications
- * Conditionally accept item "as is".
- * Repaired to acceptable conditions within the following limits:

REJECT:

- Beyond economical repair at Standards Laboratory
- No parts available at Standards Laboratory
- No manual, prints, etc., available at Standards Laboratory

*Attach Limited Calibration Label

If your investigations into situations where material inspected or data collected by the discrepant item since last calibrated may have been erroneously accepted; notify Quality Assurance of actions initiated to control such material or data.

Stds Lab: *[Signature]*
Q. J. Nelson
4-24-95

Distribution: Custodian
 Quality Assurance
 File

Hanford Operations and
 Engineering Contractor
 for the U.S. Department of Energy

Westinghouse Hanford Co.
 Subsidiary of Westinghouse
 Electrical Corporation
 Box 1970
 Richland, WA 99352

WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07		STANDARDS CODE NUMBER 444-32-02-001		NEW	REFERENCE NUMBER 390728
INSTRUMENT DEW POINT TRANSMITTER MEGA RHCM-10		SERIAL NUMBER 12607G3	PROPERTY NUMBER N/A	ORGANIZATION CODE W57400	WORK ORDER E27527
SENDER K MCCRACKEN 3-6653		ROOM N/A	BUILDING 3765	RECALL CYCLE 360	TOLERANCE HISTORY FF
INSTRUMENT SPECIFICATIONS / Year See Tolerance Column		SERVICE DEPARTMENT 4	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 5 PM 6 NONDATA M&E	DATE RECEIVED 950420	TOLERANCE AS RECEIVED 1 IN 2 OUT 3 NA 4 FAILED
COMMENTS 1YR DERATED TO 1.2C (+/-2.16F)		SHIPPING DAY MO			

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS	4:1 RATIO Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	TRAINING HOURS
001-32-01-004 12-8-96	EXPIRATION DATE	CALIBRATION HOURS 3.0
002-79-06-040 3-13-96	EXPIRATION DATE	REPAIR HOURS
		OTHER HOURS
		MATERIALS
		TOTAL CHARGE = (\$ 84 x SUM OF HOURS) + MATERIALS

REMARKS	DATE CALIBRATED	DATE DUE
	4-24-95	4-24-96

PROCEDURE NUMBER VM-4-DEW-10-2BO-GENERAL EASTERN (7-92) AMBIENT TEMPERATURE -69.3°F

Standard	As Found	FINAL	Assigned Tolerance
43.4	11.340 ma *	N/A	10.969 ma ± 347 ua
66.1	14.816 ma	14.621 ma	14.615 ma "
44.8	11.206 ma ✓	11.206 ma	11.194 ma "

4-24-95

APPROVED BY D.R. Nelson	4-24-95	CALIBRATED BY STU	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company, Subsidiary of Westinghouse Electric Corporation, Box 1970, Richland, WA 99352	PAGE 3 OF 1
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WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS MCCRACKEN KJ L5-07		STANDARDS CODE NUMBER 444-79-04-003		NEW MODIFY	REFERENCE NUMBER 390724
INSTRUMENT DIAL THERMOMETER OMEGA -25 TO 125 F		SERIAL NUMBER N/A	PROPERTY NUMBER N/A	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 5 PH 6 NONDATA M&TE	ORGANIZATION CODE W57400 WORK ORDER E27527
SENDER K MCCracken 3-6653		ROOM N/A	BUILDING 3765	SERVICE DEPARTMENT 4	RECALL CYCLE 360 DATE RECEIVED 950420
INSTRUMENT SPECIFICATIONS		COMMENTS SPECS NOT KNOWN		SHIPPING DAY MO	TOLERANCE HISTORY N AS RECEIVED 1 IN 2 OUT 3 NA 4 FAILED

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS	EXPIRATION DATE	EXPIRATION DATE	TRAINING HOURS
002-79-06-040	4-21-96		
			CALIBRATION HOURS 1.0
			REPAIR HOURS
			OTHER HOURS
			MATERIALS
			TOTAL CHARGE = (\$ 84 x SUM OF HOURS) + MATERIALS

REMARKS	DATE CALIBRATED	DATE DUE
	4-21-95	4-21-96

PROCEDURE NUMBER WHC-79-06-THERMO REV.1

STANDARD RANGE °F	AS FOUND	FINAL	TOLERANCE
32	31	<i>same</i>	NOT KNOWN
80	79		
120	119.5		↓

APPROVED BY <i>[Signature]</i>	CALIBRATED BY WLE 4/21/95	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352	PAGE 1
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PROCEDURE NAME - 123	STANDARDS CODE NUMBER	REFERENCE NUMBER
WHC-JFC-2620A REV.0	444-67-11-002	390723

DATA SHEET

FUNCTION & RANGE	STD SETTING	Channel #	2620A INDICATION		TOLERANCES	
			AS FOUND	FINAL		
Dc 300mv	30ma	2	300.09		300mv ±350uv	
		3	"		"	
		4	300.10		"	
		5	300.09		"	
TYPE "K"	0°C	N/A	0.1		±0.5°C	
	50°C		50.1	TYPE AS FOUND		
	100°C		100.0			
	200°C		200.0			
	500°C		500.0			
	800°C		799.9			
	1000°C		1000.0			
	1372°C	↓	1372.2			

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PROCEDURE NAME - 123	STANDARDS CODE NUMBER	REFERENCE NUMBER
WHC-JFC-2620A REV.0	444-67-11-002	390723

DATA SHEET

FUNCTION & RANGE	STD SETTING	Channel #	2620A INDICATION		TOLERANCES
			AS FOUND	FINAL	
DC 300mv	1 ma	2	10.00	Same as Found	10mv ± 30uV
		3	"		"
		4	"		"
		5	"		"
		2	40.01		40mv ± 70uV
	4 ma	3	"	"	"
		4	"	"	
		5	"	"	
		2	80.02	80mv ± 110uV	
		3	"	"	
	8 ma	4	"	"	"
		5	80.03	"	
		2	120.03	120mv ± 160uV	
		3	"	"	
		4	120.02	"	
	12 ma	5	"	"	"
		2	160.04	160mv ± 200uV	
		3	"	"	
		4	"	"	
		5	160.03	"	
	16 ma	2	200.05	200mv ± 240uV	
		3	"	"	
		4	"	"	
		5	200.04	"	

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