FINAL REPORT

REACTOR CONTAINMENT BUILDING

INTEGRATED LEAK RATE TEST

ARKANSAS NUCLEAR ONE

UNIT NO. 1 - BECHTEL JOB 6600-001

BECHTEL CORPORATION PREOPERATIONAL TEST

FOR

ARKANSAS POWER AND LIGHT COMPANY

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Date: December 1, 1973

REACTOR CONTAINMENT BUILDING

INTEGRATED LEAK RATE TEST

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ARKANSAS NUCLEAR ONE

CONTAINMENT INTEGRATED LEAK RATE TEST

A. FINAL REPORT SUMMARY

INTRODUCTION

A successful primary containment building integrated leak rate test (ILRT) was completed at Arkansas Nuclear One Unit 1 on November 13, 1973.

The objective of the ILRT was to verify that the overall potential leakage from the containment is within acceptable values as set forth in the Arkansas Nuclear One Unit 1 Technical Specification.

The peak pressure (Pp = 59 psig) maximum allowable leak rate (La) for Unit 1 is 0.2% per day by weight of contained air at 59 psig. The reduced pressure (Pt = 30 psig) maximum allowable leak rate (Lt) is computed by multiplying La times the square root of the pressure ratios or:

$$Lt = La\ (30/59)^{\frac{1}{2}}$$

$$Lt = 0.1426\%/day$$

In accordance with Appendix J to 10 CFR Part 50, "Reactor Containment Leakage Testing for Water-Cooled Power Reactors", to provide a margin for possible deterioration of the containment leakage integrity during the service interval between ILRT's, the measured leak rates (Ltm at reduced test pressure and Lpm at peak test pressure) shall not exceed 75% of the maximum allowable values. Therefore, at peak test pressure the allowable operational leak rate is 75% La or 0.150%/day and at reduced test pressure the allowable operational leak rate is 75% Lt or 0.107%/day.

The measured leak (Lpm) at peak test pressure (Pp) is 0.0815% per day. The measured leak (Ltm) at reduced test pressure (Pt) is 0.0292% per day. These values are well below the operational limits and are summarized in the table section A.3. Report printouts are provided in Section D.

Leak rates are reported based on Total-Time Calculations as recommended by Appendix J to 10 CFR Part 50. Formulas used for calculating the leak rates are taken from ANSI N45.4-1972, "Leakage Rate Testing of Containment Structures for Nuclear Reactors".

The Structural Integrity Test (SIT) was performed in conjunction with the ILRT. All data and narrative related to the SIT are reported in a separate document.

The ILRT was conducted with exceptions to the procedure and normal plant lineup.

These exceptions will be corrected and a letter will be forwarded to the Commission when the corrections are complete.

The exceptions are as follows:

1. The equipment hatch double 'O' ring gaskets could not be local leak rate tested prior to the ILRT due to a metal-to-metal seating interference. No leakage at the equipment hatch was detected during the ILRT.

2. The emergency lock electrical penetration on the inner door leaked.

3. The emergency lock inner door equalizing valve was removed and a plug installed during the ILRT.

4. Penetration P-11. CV-4803 and CV-4804 were not installed and the pipe was capped.

5. Penetration P-25. CV-7453 and CV-7454 were not installed and the pipe was capped.

6. Penetration P-53. CV-7443 and CV-7444 were not installed and the pipe was capped.

7. Penetration P-24. CV-7445 and CV-7446 were not installed and the pipe was capped.

8. Penetration P-24. CV-7448 and CV-7449 were not installed and the pipe was capped.

9. Penetration P-24. CV-7449 and CV-7450 were not installed and the pipe was capped.

Local leak testing will be conducted on the above items to clear the exceptions when valve installation and/or repairs are complete.

The total containment air leakage will be adjusted as required to reflect any local leakage measured.

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8. Penetration P-24. CV-7448 and CV-7449 were not installed and the pipe was capped.

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The total containment air leakage will be adjusted as required to reflect any local leakage measured.

Exception Clearance

The exceptions listed on page A.1-7 have been cleared. Appendix H, Local Leak Testing, has also been updated.

The additional local leakage measured subsequent to the ILRT totaled 157.5 cc/min. Converting this to overall leakage in percent/day yields:

$$157.5 \frac{cc}{min} \times \frac{1\ ft^3}{28,300\ cc} \times \frac{1}{1,850,000\ ft^3} \times \frac{24\ hr}{day} \times \frac{60\ min}{hr} \times 100 = 0.0004\%/day$$

Therefore, it is seen that the additional local leakage is not significant.

The new total local leakage is 3289.5 cc/min. The acceptance criteria is that the total local leakage not exceed 60% La which is equal to:

$$60\% \left(\frac{0.2\%}{day}\right) (1,850,000\ ft^3) \left(\frac{1\ day}{24\ hrs}\right) \left(\frac{1\ hr}{60\ min}\right) \left(\frac{28,300\ cc}{ft^3}\right)$$

$$= \frac{(0.6)(0.002)(1,850,000)(28,300)}{(24)(60)}$$

$$= 43,600\ cc/min$$

Therefore, the total local leakage measured (3289.5 cc/min) is well within the acceptance criteria.

SYNOPSIS

The ILRT was conducted at Arkansas Nuclear One Unit 1 during the period of November 8 through November 13, 1973. The pressure-versus-time schedule is shown in Figure A which follows. The overall time from initial pressurization to final depressurization to atmospheric pressure was 144 hours.

During initial pressurization to 30 psig, it was noted that the dewpoint temperature sensors were operating erratically, indicating the probability of the containment air being saturated. The containment was then depressurized to 14 psig and a containment entry made. At the same time, the dewpoint temperature sensor vendor's calibration lab was consulted. Based on the calibration lab's directions, the dewpoint sensors were removed from the containment, cleaned, dried, recalibrated and reinstalled. (See Appendix C). Subsequent to the ILRT, the dewpoint sensors were returned to the vendor's calibration lab to confirm that the field calibration was satisfactory.

During repressurization from 14 psig to 30 psig, cooler water was supplied to the after cooler/moisture separator. This combined with dryer outside air (due to improved weather conditions) enabled dryer air to be pumped into the containment.

At the 30 psig pressure level, all instruments were functioning properly. Following containment atmosphere stabilization, a reduced pressure ILRT was conducted for 8-3/4 hours followed by a 4-1/2 hour verification test which confirmed proper overall system operation.

The containment was then pressurized to 115% of design pressure in order to conduct the Structural Integrity Test. Following the SIT, the containment was depressurized to 59 psig to conduct the peak pressure ILRT.

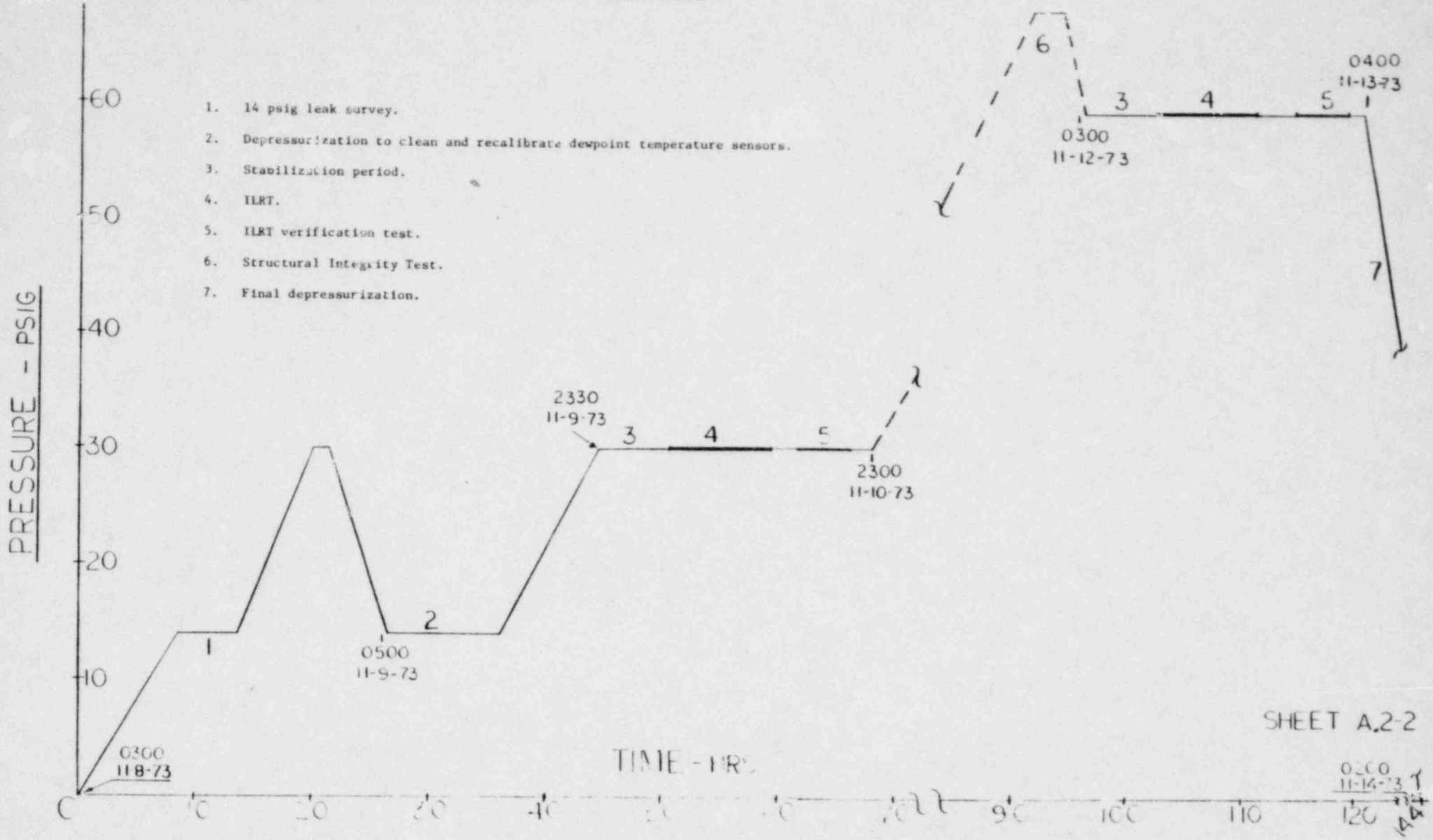
Following containment atmosphere stabilization, a peak pressure ILRT was conducted for 8-3/4 hours followed by a 4-3/4 hour verification which again confirmed proper overall system operation. For the peak pressure ILRT and verification test, two dewpoint sensors were deleted since they were approaching saturation and their volume fractions were assigned to the other four sensors.

Final depressurization commenced early the morning of November 13.

JOB No 1111

SUBJECT ILRT SCHEDULE SHEET No A.2-2

1. 14 psig leak survey.
2. Depressurization to clean and recalibrate dewpoint temperature sensors.
3. Stabilization period.
4. ILRT.
5. ILRT verification test.
6. Structural Integrity Test.
7. Final depressurization.



SHEET A.2-2

CONCLUSIONS

As shown on the computer Report Printouts (Section D), the measured leak rates for both the reduced pressure (Pt) ILRT and the peak pressure (Pp) ILRT are well within the specified limits and verify that the containment vessel meets the Arkansas Nuclear One Unit 1 Technical Specification requirements.

The results are summarized as follows:

ILRT at	Leakage (%/day)					
	La	Lt	75% La	75% Lt	Lpm	Ltm
Pp	0.200		0.150		0.0815	
Pt		0.142		0.107		0.0292

Therefore, for purposes of future tests:

$$Lpm = 0.0815\%$$

$$Ltm = 0.0292\%$$

which means that if the reduced test pressure program is used then the reduced test pressure leak rate (Lt) cannot exceed La (Ltm/Lpm) = 0.2 (0.0292/0.0815) = 0.072%/day.

Following each ILRT, a verification test was conducted to confirm proper overall system operation by imposing a known leak on the containment through a calibrated flowmeter.

A. Peak Pressure Test

1. La = 0.2%/day
2. Containment free air volume = 1,850,000 cu. ft.
3. From the data sheets the average flowmeter reading was 12.83 scfm. Converting the flowmeter reading to %/day yields:

$$12.83 \text{ scfm} \times \frac{14.7 \text{ cu. ft.}}{(14.7 + 59) \text{ Std.cu. ft.}} \times 60\frac{\text{min.}}{\text{hr.}} \times 24\frac{\text{hr}}{\text{day}} \times \frac{100\%}{1{,}850{,}000 \text{ cu. ft.}}$$

$$= 0.199\%/\text{day}$$

B. Reduced Pressure Test

1. $Lt = La\ (Pt/Pp)^{\frac{1}{2}} = 0.1426\%/day$
2. From the data sheets the average flowmeter reading was 5.65 scfm. Converting the flowmeter reading to %/day yields:

$$5.65\ scfm \times \frac{14.7\ cu.\ ft.}{48.7\ std.\ cu.\ ft.} \times 60\frac{min}{hr} \times 24\frac{hr}{day} \times \frac{100\%}{1{,}850{,}000\ cu.\ ft.} = 0.1446\%/day$$

C. Comparison

According to Appendix J to 10 CFR Part 50, the sum of the leak rate measured during the ILRT plus the imposed leak rate must agree within 25% of La (or Lt, as applicable) of the leak rate measured during the verification test.

		ILRT at	
		Pp	Pt
a.	Measured during ILRT	0.0815	0.0292
b.	Imposed leak	0.199	0.1446
	Total	0.2805	0.1738
c.	Measured during verification test	0.302	0.148

Therefore, for the peak pressure test, the satisfactory band is 0.2805 ± 25% (0.2) %/day which gives a range of 0.2305 to 0.3305 %/day. For the reduced pressure test, the band is 0.1738 ± 25% (0.1426) %/day which gives a range of 0.138 to 0.209 %/day.

In both cases, the leak rate measured during the verification tests is within its applicable satisfactory range, therefore, confirming proper overall system operation.

ARKANSAS NUCLEAR ONE

CONTAINMENT INTEGRATED LEAK RATE TEST

B. CONTAINMENT ILRT PROCEDURE

SU Std 60	Basic ILRT Procedure, Bechtel Startup Standard 60
Appendix A	Criteria for Integrated Leak Rates
Appendix B	Schedule of Containment Equipment and Valve Conditions
Appendix C	Integrated Leak Rate Measurement System
Appendix D	Pressurization System
Appendix E	Containment Ventilating and Cooling System
Appendix F	Valve Position Schedule
Appendix G	Schedule of Recorded Data
Appendix H	Local Leak Tests

December 1, 1973
Revision 3

STARTUP STANDARD NO. 60

PRIMARY REACTOR CONTAINMENT INTEGRATED LEAKAGE RATE TEST PROCEDURE TP 150.60

ARKANSAS NUCLEAR ONE

UNIT ONE

ARKANSAS POWER AND LIGHT COMPANY

RUSSELLVILLE, ARKANSAS

BECHTEL JOB NO. 6600-1

Issued by: G. V. Cranston

Approved by: R. H. Brown, Jr.

Bechtel Power Corporation
San Francisco, California

CONTENTS

I. GENERAL

The purpose of this procedure is to establish the criteria and detailed procedure for conducting tests to obtain integrated leak rate data on the primary containment.

This test is to be coordinated with and performed in conjunction with the containment structural integrity test which is defined in a separate procedure.

II. RESPONSIBILITIES

1.0 CONSTRUCTION

1.1 Complete construction of systems required for this test. These systems include:

1.1.1 Containment Boundary
1.1.2 Containment Penetrations
1.1.3 Containment Isolation Valves
1.1.4 Containment Ventilation Systems
1.1.5 Personnel Locks and Equipment Hatches

.2 Turn over required systems to test personnel and/or startup personnel. System turnover must be done with sufficient lead time to allow verification of proper system operation prior to the start of the integrated leak rate test. These systems include:

1.2.1 Containment Penetrations
1.2.2 Containment Isolation Valves
1.2.3 Containment Ventilation System
1.2.4 Access Locks and Hatches

1.3 Insure containment cleanliness.

1.4 Install containment closures (equipment hatch, etc.)

1.5 Remove all portable equipment not able to withstand test conditions.

1.6 Verify proper operation and position indication (local and remote) of all remotely operated containment isolation valves under administrative control of construction.

1.7 Clear applicable safety and test tags as required by Startup.

1.8 Procure test equipment as requested by Startup.

1.9 Fabricate and/or install permanent or temporary foundations, brackets, etc., as required for test equipment.

1.10 Install test equipment and verify proper operation.

2.0 BECHTEL STARTUP/ENGINEERING (Plant Facilities)

2.1 Prepare test procedure and data forms.

2.2 Conduct local leak testing per Appendix H.

2.3 Verify proper Containment Ventilation System operation.

2.4 Complete integrated leak rate test prerequisites.

2.5 Conduct valve lineup per Appendix B for systems under Bechtel control.

2.6 Conduct Integrated Leak Rate Test.

3.0 OWNER

3.1 Witness Local Leak Tests.

3.2 Witness Integrated Leak Rate Test.

3.3 Conduct valve lineup per Appendix B for systems under Owner's control.

3.4 Positions valves as required for local leak testing for systems under Owner's control.

III. SCOPE

1.0 The test objective is to measure leak rates for comparison with criteria set forth in Appendix A.

1.1 To measure the leak rate, Lpm, at peak test pressure (P_p).

1.2 To measure the leak rate, Ltm, at reduced test pressure (Pt).

1.3 To obtain measurement accuracy tolerance within 95% confidence limits, such that the calculated leak rate plus the accuracy tolerance is less than the permissible leak rate at the appropriate test conditions.

2.0 Each phase of the test procedure detailed in Section VI is to be performed in the sequence shown and the necessary data gathered before a new phase is initiated.

3.0 THE LEAK RATE TEST METHOD

3.1 Measurements of absolute pressure, drybulb temperature and water vapor pressure within the containment are required.

3.2 The procedure requires verification of the integrated leak rate measurement system by use of precise measurements of a flow causing a change in the weight of air in the containment that is approximately equal to the allowable leakage rate.

3.3 Formulas used in computing the integrated leak rate are based on the formulas found in ANSI N45.4-1972 (formerly ANS 7.60), "Leakage Rate Testing of Containment Structures for Nuclear Reactors".

3.4 Additional reference material includes Appendix J to 10 CFR Part 50, "Reactor Containment Leakage Testing for Water Cooled Power Reactors".

3.5 Information concerning Bechtel Corporation testing criteria is found in Bechtel Topical Report BN-TOP-1, "Testing Criteria for Integrated Leakage Rate Testing of Primary Containment Structures for Nuclear Power Plants", Revision 1, dated November 1, 1972.

IV. TEST EQUIPMENT

Additional test equipment and instrumentation is required over and above that which is a part of permanent plant equipment. The following is an abbreviated list of the additional equipment required and the permanent plant equipment utilized for the test. Detailed specifications and equipment arrangements are a part of Appendices C, D and H.

1.0 Pressurization System

- 1.1 Portable Air Compressors
- 1.2 Aftercooler and Moisture Separator
- 1.3 Oil Vapor Filter
- 1.4 Temporary Piping and Valves

2.0 Integrated Leak Rate Measurement System

- 2.1 Absolute Pressure Sensors and Indicator
- 2.2 Dewpoint Temperature Sensors and Indicator
- 2.3 Drybulb Temperature Sensors and Indicator
- 2.4 Flow Meters
- 2.5 Barometer

3.0 Local Leak Detection and Measurement Instruments and Equipment

- 3.1 Pressure and Temperature Sensors
- 3.2 Flowmeters
- 3.3 Leak Detection Fluid
- 3.4 Ultra-Sonic Leak Detectors

V. PRECAUTIONS AND NOTES

1.0 Pre-Test Safety Precautions

1.1 Personnel Medical Certification

Personnel designated to work inside the containment while it is under pressure shall be medically certified for work in pressurized air. The planned maximum allowable pressure for work inside the containment is 14 psig.

1.2 Equipment Protection

Certain pieces of equipment (hermetically sealed or closed systems) inside the containment must be either removed or otherwise protected against the external pressure or differential pressure of 115% design pressure. See Appendix B.

1.3 Compressed Gas Sources

All vessels containing construction supplies of compressed gases must be removed from the containment prior to pressurization. Any permanent vessels that must be pressurized, must be made leak tight. All sources of pressurized gas into the containment must be isolated.

2.0 Personnel Control During Testing

Access to the plant is restricted during this test. The test will include all portions of the containment boundary which would exist at the time of the postulated accident for which the containment envelope is provided. The containment boundary is shown in Appendix B.

2.1 Test Personnel

These restrictions cover persons who are authorized to be employed at the site performing work specifically required by structural integrity or integrated leak rate test procedures.

2.1.1 During Pressure Increase

Access will be controlled to areas where there are any penetrations through the primary containment or where test affected piping or pipe branches terminate. Exceptions will be systems which have been tested in their entirety at test conditions at least as severe as will result during the containment test and placed under administrative control.

2.1.2 After Stopping Pressurization At or Below Design Pressure

Access to the restricted areas shall be as short as possible consistent with the following approved test procedures. A waiting period of 20 minutes or a pressure decrease of 1/4 psi is required before access will be allowed to the restricted areas mentioned in 2.1.1.

2.1.3 After Reaching 115% of Design Pressure

Access to the restricted areas shall be as short as possible consistent with the following approved test procedures. A waiting period of one hour or a pressure decrease of 1 psi is required before access will be allowed to the restricted areas mentioned in 2.1.1.

2.1.4 After Reducing Pressure to Peak Test Pressure and at Subsequent Lower Pressures.

Unlimited access will be allowed for following approved test procedures.

2.2 Authorized Site Employees

These persons include those who are normally employed at Arkansas Nuclear One but who are not test personnel.

2.2.1 During Pressure Increases

The same restrictions apply as given in 2.1. Further, these persons will not be allowed within boundaries established at jobsite.

2.2.2 After Reducing Pressure to Peak Test Pressure

Access will be allowed to any location required by the assigned work, except no assignments may be made within the containment. Administrative controls must be established to prevent invalidation of the leak rate tests.

2.3 Test Witnesses

These persons will not be permitted access to restricted areas unless they have written permission from the Test Director (or his designated alternates) counter-signed by an authorized agent of the Owner.

2.4 Unauthorized Personnel (All others not named)

No unauthorized personnel will be allowed in restricted areas.

3.0 Pressure hold times and soak times as specified in Section 4.4 of the Technical Specifications, ANO Unit 1, are to be complied with.

VI. PROCEDURE

1.0 PHASE 1 – TEST PREPARATION

1.1 Schedule

Establish a detailed time scaled test schedule in conjunction with the structural integrity test.

1.2 Prerequisites to Test Preparation

1.2.1 Completion of all local leak test listed in Appendix H. Review test results to assure compliance with criteria.

1.2.2 Removal or venting of items listed in Appendix B.

1.2.3 Verification that all permanent systems and equipment to be utilized during the test are operational.

1.2.4 Containment temperature survey establishing any localized areas where temperature gradients may differ from the containment average. This survey is performed with the containment ventilation system operating in the integrated leak rate test lineup and with the ventilation system secured.

1.2.5 Dewater all low points and sumps which are not necessary water seals.

1.3 Integrated Leak Rate Measurement System Installation

1.3.1 All instrumentation calibrated.

1.3.2 Verify that the system installation is in accordance with Appendix C.

1.4 Pressurization System Installation and Checkout

1.4.1 Verify that the system installation is in accordance with Appendix D.

1.4.2 Identify permanently installed valves and system controls that must be operated as a part of the pressurization system in accordance with Appendix D.

1.4.3 Checkout system without pressurizing containment.

a) Blowdown pressurization system to valves which isolate the containment from the pressurization system during test. (See Valve Position Schedule, Appendix F.)

b) Verify that condition of pressurizing gas as to oil and moisture content is satisfactory at test connection downstream of filters per Appendix D.

1.5 Containment Closure

1.5.1 All closures shall be effected by normal operational modes with respect to physical closing.

1.5.2 Verify that all valves are positioned for initial pressurization to 14 psig in accordance with Appendix F and Appendix B.

1.5.3 Close and seal air lock inner and outer doors.

1.6 Containment Inspection

1.6.1 A detailed visual examination of critical areas and general inspection of the accessible interior and exterior surfaces of the containment structures and components shall be performed prior to the ILRT to uncover any evidence of structural deterioration which may affect either the containment's structural integrity or leaktightness.

1.6.2 If there is any evidence of significant deterioration, the ILRT shall not be performed until corrective action is taken in accordance with repair procedures, nondestructive examinations, and tests as specified in the construction code under which rules the containment was built.

2.0 PHASE 2 – PRESSURIZATION TO 14 PSIG

2.1 Determine Containment Conditions

Obtain the following containment conditions and record data (Appendix G). Measurements are to be made using integrated leak rate system.

2.1.1 Drybulb temperatures of the air in the containment which should be between limits defined in Appendix A.

2.1.2 Containment air pressure.

2.1.3 Dewpoint temperature of the air in the containment.

2.2 Start Pressurization

2.2.1 Position pressurization system valves in the sequence given in Appendix F for start of pressurization in Phase 2.

2.2.2 Start containment ventilation system fans.

2.3 Monitor and Correct Conditions During Pressurization

2.3.1 Monitor pressurizing gas for oil and/or moisture content (Appendix D).

2.3.2 Record data on appropriate forms (Appendix G) at least hourly.

2.3.3 Maintain moisture content as low as possible with equipment available.

2.3.4 Maintain temperature of pressurized gas in the containment nearly constant and between limits defined in Appendix A.

2.4 Stop Pressurization

2.4.1 If an emergency condition arises.

2.4.2 If large local leaks are detected.

2.4.3 If the containment air temperature exceeds limits defined in Appendix A.

2.4.4 When containment air pressure reaches 14 psig $\pm$ 0.3 psig.

2.5 Isolate Containment from the Pressurization System

2.5.1 Close containment isolation valves per Appendix F in preparation for Phase 3 local leak survey and verify that pressurization system isolation valves are properly closed.

2.5.2 Stop containment ventilation system fans.

3.0 PHASE 3 – LOCAL LEAK SURVEY AT 14 PSIG

3.1 Exterior Survey

Conduct an exterior survey checking for leakage. Using ultra-sonic leak detector or leak detection fluid, check and record condition of each suspect local leak area.

3.1.1 Where leaks are indicated, perform local leak test measurements if possible.

3.1.2 Determine if leaks that exceed the limits given in Appendix H can be repaired without reducing containment pressure.

a) If so, repair the leak and record the new leak rate measured.

b) If leak cannot be repaired with containment pressurized, attempt to stop leak by changing valve lineup, etc. Otherwise, depressurize. Any changes to valve lineups shall be noted in final report.

3.2 Containment Entry

3.2.1 Pressurize personnel lock by opening valve to admit air from the containment. Bleed slowly at first.

3.2.2 Conduct local leak survey on outer door seals of the personnel lock.

3.2.3 Isolate personnel lock from containment and vent to atmosphere.

3.2.4 Open outer door and leak check inner door seals.

3.2.5 Make any repairs to outer door found needed by survey, Para. 3.2.2.

3.2.6 Close outer door and pressurize lock by opening valve to admit air from the containment. Bleed slowly at first and verify quality of air.

3.2.7 When lock pressure is equalized with containment pressure, open inner door.

3.2.8 Make any repairs to inner door found needed by survey, Para. 3.2.4.

3.3 Internal Leak Survey

Following procedure in Para. 3.1 above.

3.4 Estimate Leakage

Estimate the leakage after all repairs and remeasurements have been made where that work is possible without reducing containment pressure using:

a) The summary of the local leak test prior to containment pressurization.

b) The results determine in 3.1 to 3.3.

3.5 Recommend continuation or abortion of the test based on the best judgment formed from Para. 3.4 results.

3.6 Air Lock Personnel Out of Containment

3.6.1 Interior leak survey crew checked into airlock.

3.6.2 Close and lock inner airlock door.

3.6.3 Isolate airlock from containment.

3.6.4 Depressurize airlock per Decompression Tables in 29 CFR Part 1926 Appendix A, Occupational Safety and Health Administration, Safety and Health Regulations for Construction.

3.7 Continuation of Test

If decision is to continue test:

3.7.1 Check inner door seals of airlock for leakage.

3.7.2 Close and lock outer door.

3.7.3 Repressurize air lock and check outer door seals for leakage.

3.7.4 Depressurize and seal air lock volume. Check air lock pressure periodically to verify that there is no pressure buildup (an indication that the inner door is leaking).

3.8 Aborting of Test

If the decision is to abort the test depressurize containment in accordance with Phase 9.

4.0 PHASE 4 – PRESSURIZATION TO REDUCED TEST PRESSURE (Pt)

4.1 Ventilation System

Start ventilation system fans (Appendix E) and operate ventilation system as required to maintain temperature in the containment nearly constant and within limitations specified in Appendix A.

4.2 Monitor Conditions

Monitor the quality of the pressurizing gas delivered by the pressurization system and record the conditions in the containment prior to and during pressurization. The recording shall be done at least hourly (or oftener if the measurements indicate the conditions are close to exceeding the criteria as stated in Appendix A).

4.2.1 Pressurization System Conditions

The following are to be recorded:

a) Dry bulb temperature of gas entering containment.

b) Moisture content of gas entering containment.

4.2.2 Containment Conditions

The following are to be recorded:

a) Drybulb temperature of air in containment.

b) Containment air pressure.

c) Dewpoint temperature of air in containment.

4.2.3 Outside Air Conditions

The following are to be recorded:

a) Dry bulb temperature.

b) Barometric pressure.

4.3 Containment Pressurization

Position pressurization system valve operators in sequence given in Appendix F for start of pressurization Phase 4.

4.4 Stop Pressurization when containment pressure reaches reduced test pressure (Pt) + 0.3 psig, – 0 psig.

4.5 Isolate pressurization system from containment and verify that pressurization system isolation valves are properly closed.

4.6 Verify that valve positions are as specified in Appendix F for end of Phase 4.

4.7 Operate ventilation system fans as required to insure temperature sensors monitor representative air volumes.

5.0 PHASE 5 – INTEGRATED LEAK RATE TEST AT REDUCED TEST PRESSURE (Pt)

5.1 Exterior Survey

Conduct an exterior survey checking for leakage. Using ultra-sonic leak detector or leak detection fluid, check and record condition of each suspect local leak area.

5.1.1 Where leaks are indicated, perform local leak test measurements if possible.

5.1.2 Determine if leaks that exceed the limits given in Appendix H can be repaired without reducing containment pressure.

a) If so, repair the leak and record the new leak rate measured.

b) If leak cannot be repaired with containment pressurized, attempt to stop leak by changing valve lineup, etc. Otherwise, measure or estimate leak rate and determine if it is necessary to depressurize.

5.2 Data Acquisition and Interpretation

Data is to be accumulated at least hourly as required by Appendix G and interpreted to obtain information required to forecast test results.

5.2.1 Position valves in accordance with Appendix F for integrated leak rate test.

5.2.2 From the information gathered, the following are key items:

a) Establishment of time when containment conditions stabilize and trends are predictable (about four hours).

b) Forecasted leak rate is significantly greater than permissible. Perform local leak survey and make repairs, if required. Make determination if it will be necessary to abort test.

5.2.3 Continue integrated leak rate measurements. If the data interpretation indicates that the leak rate criterion (per paragraph III.3.5) is met, continue data acquisition and handling as required to establish and verify leak rate.

5.3 Verification (Calibration) Test at Reduced Test Pressure

To be performed when containment conditions have stabilized and predictable trends have been established.

5.3.1 Determine the verification leak rate at reduced test pressure based on Lt. (Appendix A).

5.3.2 Establish a controlled leak from the containment at a rate equal to the allowable leak rate using the verification test portion of the integrated leak rate measurement system.

a) The change shall be made in a time period sufficient in length to verify the ability to measure the leak.

b) Accumulate and interpret data on a continual basis during verification test.

5.3.3 Comparison

Continue the acquisition and handling of the integrated leak rate data until data interpretation standards show that the effects of the verification test have stablized.

a) Compare the controlled leak rate established during the verification test with that concurrently measured by the integrated leak rate test. Results of the verification test shall be acceptable provided the correlation between the verification test data and the integrated leak rate test data demonstrate an agreement within plus or minus 25 percent of Lt.

b) If the comparison of (a) above indicates that the integrated leak rate test was not substantiated by the verification test:

(1) Recheck the verification and integrated leak data for error.

(2) Continue the integrated leak test for one half the time period of the original test.

(3) At the end of the extended test period, repeat the verification test and determine if the comparison meets the data interpretation standards. If so, continue the test. If not, determine cause and repeat (b) above or depressurize per Phase 9.

6.0 PHASE 6 – PRESSURIZATION TO 115% OF DESIGN PRESSURE

6.1 Structural Integrity Test

Most of the work in this phase is in support of the structural ntegrity test procedure. Stopping and restarting pressurization will be in response to requirements of the structural integrity test procedures.

6.2 Ventilation System

Start ventilation system fans (Appendix E). Control cooling coil water flow as required to maintain satisfactory temperature in the containment.

6.3 Monitor Conditions

Monitor the quality of the pressurizing gas delivered by the pressurization system and record the conditions in the containment during pressurization. The recording shall be done hourly or oftener if the measurements indicate the conditions are close to exceeding the criteria as stated Appendix A.

6.4 Containment Pressurization

Position pressurization system operators in sequence given in Appendix F for pressurization Phase 6.

6.5 Stop Pressurization at Maximum Pressure

Pressurization shall be stopped at 115% of design pressure + 0.3 psig, – 0 psig.

6.6 Hold Pressure

Hold the pressure level of the length of time required by the structural integrity test procedures (Test Procedure No. 150.59). Gas should be added to or bled from the containment in small increments as needed to hold the pressure at 115% of design pressure + 0.3 psig, – 0 psig.

6.7 Structural Integrity Test Procedures – (Separate Document)

Ensure that all test procedures for this phase have been completed prior to proceeding to Phase 7.

7.0 PHASE 7 – DEPRESSURIZATION TO PEAK TEST PRESSURE (Pa)

7.1 Ventilation System

Start ventilation system fans (Appendix E) and operate ventilation system as required to maintain temperature in the containment nearly constant and within limitations specified in Appendix A.

7.2 Monitor and Record

7.2.1 Containment Conditions

a) Dry bulb temperature

b) Containment air pressure

c) Dewpoint temperature

7.2.2 Outside Air Conditions

a) Dry bulb temperature

b) Barometric pressure

7.3 Containment Depressurization

Position pressurization system valves per Appendix F for start of depressurization Phase 7.

7.4 Stop Depressurization

7.4.1 When containment pressure reaches peak test pressure (Pa) + 0.3 psig, – 0 psig.

7.4.2 As directed by structural integrity test procedures.

7.5 Isolate pressurization system from containment and verify that pressurization system isolation valves are properly closed.

7.6 Verify that valve positions are as specified in Appendix F for end of Phase 7.

7.7 Operate ventilation system fans as required to insure temperature sensors monitor representative air volumes.

8.0 PHASE 8 – INTEGRATED RATE TEST AT PEAK TEST PRESSURE (P_p)

8.1 Exterior Survey

Conduct an exterior survey checking for leakage. Using ultra-sonic leak detector or leak detection fluid, check and record condition of each suspect local leak area.

8.1.1 Where leaks are indicated, perform local leak test measurements.

8.1.2 Determine if leaks that exceed the limits given in Appendix H can be repaired without reducing containment pressure.

a) If so, repair the leak and record the new leak rate measured.

b) If leak cannot be repaired with containment pressurized, attempt to stop leak by changing valve lineup, etc. Otherwise, measure or estimate leak rate and determine if it is necessary to depressurize.

8.2 Data Acquisition and Interpretation

Data is to be accumulated at least hourly as required by Appendix G and interpreted to obtain information required to forecast test results.

8.2.1 Position valves in accordance with Appendix F for integrated leak rate test.

8.2.2 From the information gathered, the following are key items.

a) Establishment of time when containment conditions stabilize and trends are predictable (about four hours).

b) Forecasted leak rate is significantly greater than permissible. Perform leak survey and make repairs if feasible. Make determination if it will be necessary to abort test.

8.2.3 Continue integrated leak rate measurements. If the data interpretation indicates that the leak rate criterion (per paragraph III.3.5,) is met, continue data acquisition and handling as required to establish and verify leak rate.

8.3 Verification (Calibration) Test at Peak Test Pressure

To be performed when containment conditions have stablized and predictable trends have been established.

8.3.1 Determine the verification leak rate at peak test pressure based on La. (Appendix A).

8.3.2 Establish a controlled leak from the containment at a rate equal to the allowable leak rate using the verification test portion of the integrated leak rate measurement system.

a) The change shall be made in a time period of sufficient length to verify the ability to measure the leak.

b) Accumulate and interpret data on a continual basis during verification test.

8.3.3 Comparison

Continue the acquistion and handling of the integrated leak rate data until data interpretation standards show that the effects of the verification test have stablized.

a) Compare the controlled leak rate established during the verification test with that concurrently measured by the integrated leak rate test. Results of the verification test shall be acceptable provided the correlation between the verification test data and the integrated leak rate rest data demonstrate an agreement within plus or minus 25 percent of La.

b) If the comparison of a) above indicates that the integrated leak rate test was not substantiated by the verification test.

(1) Recheck the verification and integrated leak data for error.

(2) Continue the integrated leak test for one half the time period of the original test.

(3) At the end of the extended test period, repeat the verification test and determine if the comparison meets the data interpretation standards. If so, continue the test. If not, determine cause and repeat b) above or depressurize per Phase 9.

9.0 PHASE 9 – DEPRESSURIZATION TO ZERO PSIG

9.1 Containment Temperature Control

Operate ventilation system, Appendix E, as required to assist in meeting containment temperature requirements during depressurization.

9.2 Monitor Containment Conditions

Monitor and record containment conditions during depressurization as follows:

9.2.1 Containment air temperature

9.2.2 Containment air pressure

9.3 Start Depressurization

Using blowdown valve, Appendix D, release gas from the containment.

9.4 Stop Depressurization

Depressurization of the containment is to be stopped for the following:

9.4.1 If directed by the Test Director.

9.4.2 As directed by structural integrity test procedures.

10.0 PHASE 10 – RESTORATION AND CLEANUP

10.1 After depressurization is complete, restore penetrations P-42, 43, 46, 48 & 49 to normal operating conditions and conduct a local leak rate test on each penetration.

10.2 Restore containment ventilation system to normal (including fan blade pitch).

10.3 Restore all permanent instrumentation to normal.

10.4 Restore all boundary valves to normal operating condition.

INITIAL INTEGRATED LEAK RATE TEST CRITERIA

Pressures

1.	Design Pressure	Pd	59 psig
2.	115% Design Pressure	Ps	68 psig
3.	Peak Test Pressure	Pp	59 psig
4.	Reduced Test Pressure	Pt	30 psig

Leak Rates

1.	Maximum allowable leakage rate (percent/24 hrs. by weight) at pressure P_a as specified for preoperational tests in the safety analysis report, and as specified for periodic tests in the operating license.	La	0.2%
2.	Maximum allowable leakage rate (percent/24 hrs.) at pressure P_t derived from the preoperational test data.	Lt	Not to exceed $L_a(P_t/P_a)^{1/2}$
3.	Total measured containment leakage rates (percent/24 hrs.) at pressure P_a and P_t, respectively, obtained from testing the containment with components and systems in the state as close as practicable to that which would exist under design basis accident conditions (e.g. vented, drained, flooded or pressurized).	Lpm/ Ltm	

Temperature

1.	Containment Temperature Limits	60-110°F

Volume

1.	Containment Free Air Volume	1,850,000 cu. ft.

Acceptance Criteria

1. For the reduced pressure test Ltm shall not exceed 0.75 Lt.
2. For the peak pressure test Lpm shall not exceed 0.75 La.
3. Appendix J to 10 CFR Part 50.
4. ANSI N45.5 - 1972.
5. Bechtel Topical Report BN-TOP-1, Revision 1.

Test Duration

In accordance with the criteria set forth in BN-TOP-1, Revision 1.

Schedule of Containment Equipment and Valve Conditions

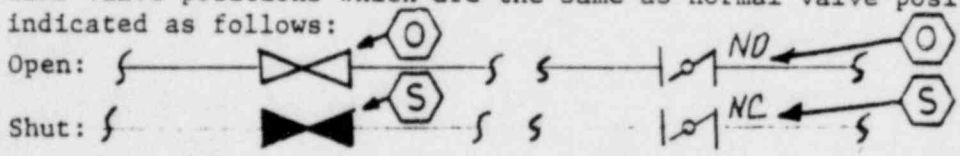
I. General Comments

A. In general, valves in piping systems associated with the primary containment are positioned such that the valve line-up corresponds to the line-up occuring subsequent to the postulated design basis accident. Closure of primary containment isolation valves for the ILRT shall be accomplished by the same method (air, motor, manual) that causes closure subsequent to the postulated accident, using the ESS signal where applicable.

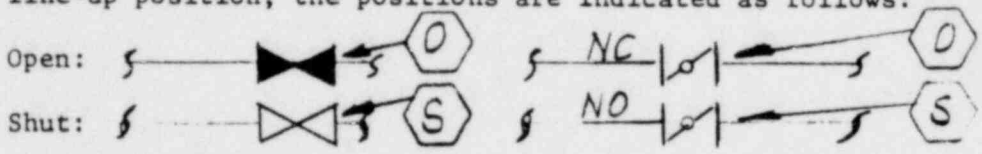
B. Any instruments, equipment, tanks, etc., which cannot withstand an external or differential pressure of 68 psig must be removed from the containment or placed in a condition to prevent damage. See Sheet B-6A.

C. Systems are lined up in accordance with the valve line-ups sketches contained in this Appendix. All valves shown on the sketches are checked to verify they are positioned properly. The normal valve positions shown on the sketches are the positions used for the integrated leak rate test (ILRT) unless otherwise noted. For example:

(1) ILRT valve positions which are the same as normal valve positions are indicated as follows:



(2) On the sketches, if the ILRT position differs from the normal valve line-up position, the positions are indicated as follows:



D. Piping system high point vents, low point drains, test connections, pipe plugs, etc. are not necessarily listed on the valve line up sheets or shown on the system sketches in this Appendix. It will be the responsibility of the personnel conducting the valve line ups to trace out that portion of the process line which forms an extention of the containment boundary to verify that all leak paths are sealed, unless noted otherwise.

II. System Line-up Synopsis

A. Main Steam and Feedwater Systems (M-206)

Penetration	Sheet	Comments	Signature
1, 2, 3, 4, 17, 58, 64, 65	B-7	Steam generator secondary system lined-up as system would be subsequent to the postulated DBA. Steam generator secondary may or may not contain water. Verify all manways, valves, etc. which communicate between the steam generator secondary side and the containment atmosphere are shut. The secondary side up to and including the main steam isolation valves must be isolated from the outside atmosphere.	

B. Service Water (M-210)

Penetration	Sheet	Comments	Signature
21, 22, 55, 63	B-8	Service water system lined up for normal operation with inlet isolation valves shut when cooling not required. System filled with water.	

C. Liquid Radioactive Waste (M-213/214)

Penetration	Sheet	Comments	Signature
68, 69	B-9	Isolation valves shut.	

D. Gaseous Radioactive Waste (M-215)

Penetration	Sheet	Comments	Signature
11	B-10	Isolation valves shut.	

E. Instrument and Service Air (M-218)

Penetration	Sheet	Comment	Signature
43 46	B-11	Valves lined up to insure no leakage of instrument or service air into containment during ILRT.	

F. Fire Water (M-219)

Penetration	Sheet	Comment	Signature
40	B-12	Isolation valves shut.	

G. Plant, Heating (M-220 Sh 1)

Penetration	Sheet	Comment	Signature
42 48	B-13	Used for pressurizing containment. Blanks installed between outside isolation valves and pressurization piping.	

H. Chilled Water (M-222)

Penetration	Sheet	Comment	Signature
51 59	B-14	Inlet isolation valve shut System filled with water and vented inside containment.	

I. Reactor Coolant System (M-230)

Penetration	Sheet	Comment	Signature
39 70	B-15	Isolation valves shut. System filled with water and vented to containment.	

J. Makeup and Purification (M-231)

Penetration	Sheet	Comments	Signature
8	B-16	Isolation valves per sheet B-16.	
9		System filled with water.	
13			
14		Injection pumps P36A, 36B and	
15		36C off with breakers racked out.	
16			
34			

K. Decay Heat Removal System (M-232)

Penetration	Sheet	Comments	Signature
26	B-17	Isolation valves lined up for	
27		post DBA conditions. System	
33		filled with water.	
36			
66		Decay heat removal pumps P34A,	
67		34B off with breakers racked	
		out.	

L. Chemical Addition (M-233)

Penetration	Sheet	Comments	Signature
41	B-12	Isolation valves shut. Valves lined up to insure no leakage of N_2 in containment.	

M. Intermediate Cooling Water (M-234/238)

Penetration	Sheet	Comments	Signature
47	B-18	Isolation valves shut. Vented	
52		inside containment.	
54			
60			
62			

N. Spent Fuel Cooling (M-235)

Penetration	Sheet	Comments	Signature
19 C-3	B-19	Isolation valves shut.	

O. Reactor Building Spray and Core Flooding (M-236)

Penetration	Sheet	Comments	Signature
5 12 23 31 32	B-20	Isolation valves shut. Systems filled with water. Valves lined up to insure no leakage of N_2 into containment.	
		Spray pumps P-35A, 35B off with breakers racked out.	

P. Sampling System (M-237)

Penetration	Sheet	Comments	Signature
7A 7B 10	B-21	Isolation valves shut.	

Q. Containment HVAC, Hydrogen Purge, and Air Particulate Monitor (M-261)

Penetration	Sheet	Comments	Signature
V-1,2 24A,B 25 53A,B	B-22	Isolation valves shut.	

R. Miscellaneous Systems

Penetration	System	Remarks	Signature
6	Spare	Capped	
18	Spare	Capped	
20	Spare	Capped	
28	Spare	Capped	
29	Spare	Capped	
30	Spare	Capped	
35	Spare	Capped	
37	Spare	Capped	
38	Spare	Capped	
44	Spare	Capped	
45	Spare	Capped	
49	Containment Test Connection	Installed	
50	Spare	Capped	
56	Spare	Capped	
57	Spare	Capped	
61	Spare	Capped	
C-1	Equipment Hatch	Shut	
C-2	Excape Lock	Shut	
C-4	Personnel Lock	Shut	
C-5,6	Dome Vent Pipe	Capped	
E1	Electrical	Installed	
E2	Electrical Spare	Capped	
E3-E14	Electrical	Installed	
E21	Electrical	Installed	
E22	Electrical Spare	Capped	
E23-E29	Electrical	Installed	
E30-E32	Electrical Spare	Capped	
E33-E36	Electrical	Installed	
E41-E45	Electrical Spare	Capped	
E50-E55	Electrical	Installed	
E56	Electrical	Installed	
E57-E63	Electrical	Installed	
E64,65	Electrical Spare	Capped	
E66,67	Electrical	Installed	
E68-E74	Electrical Spare	Capped	

S. EQUIPMENT PROTECTION LIST FOR REACTOR BUILDING INSTRUMENTS

Vent To Containment Atmosphere:

ITEM	ITEM	ITEM	ITEM	ITEM
RE-2400	PDT-1029	PI-6537	RE-8020	LT-2601
PDT-2222	PT-1023	RE-8017	PT-2401	LT-2614
PT-2402	PT-1022	PDIS-2253	PT-6512	LT-2609
PT-1041	PT-1010	PT-2403	PT-6582	PT-2415
PT-1039	PDT-1028	RE-8018	LS-6522	LT-2415
PDT-1037	PT-1021	PI-6538	FT-1273	LT-2416
PDT-1036	PT-1020	LT-2419	FT-1272	PT-2416
PT-1038	LT-2418	NE-0501	FT-1271	LT-1051
PT-1040	PT-2418	PT-2400	FT-1270	PT-1051
PDT-1035	PT-2419	PT-6511	NE-502	PDT-1280
PDIS-6210	PT-2405	PDS-2261	NE-510	PDT-1281
PDIS-6206	PT-2407	PT-6581	PDIS-2262	PDT-1282
PDT-1034	PI-6536	LS-6521	LT-Spare	PDT-1283
PT-2603	PDIS-2251	NE-0509	LT-Spare	LT-1405
PT-2602	PDIS-2250	PDS-2260	PT-6513	LT-2660
PT-1035	PI-6535	LT-Spare	LS-6523	LT-2653
PDT-1031	PDIS-2252	LT-Spare	NE-0506	LT-2651
PT-2652	LT-1000	NE-0505	NE-0512	LT-2664
PT-2653	LT-1001	NE-0511	PT-6583	LT-2659
PDT-1030	LT-1002	PT-6510	PDIS-2263	RE-8019
PDIS-6214	PT-2408	LS-6520	LT-2610	PDIS-2211
PDIS-6218	PT-2406	PT-6580	LT-2613	PDIS-2212

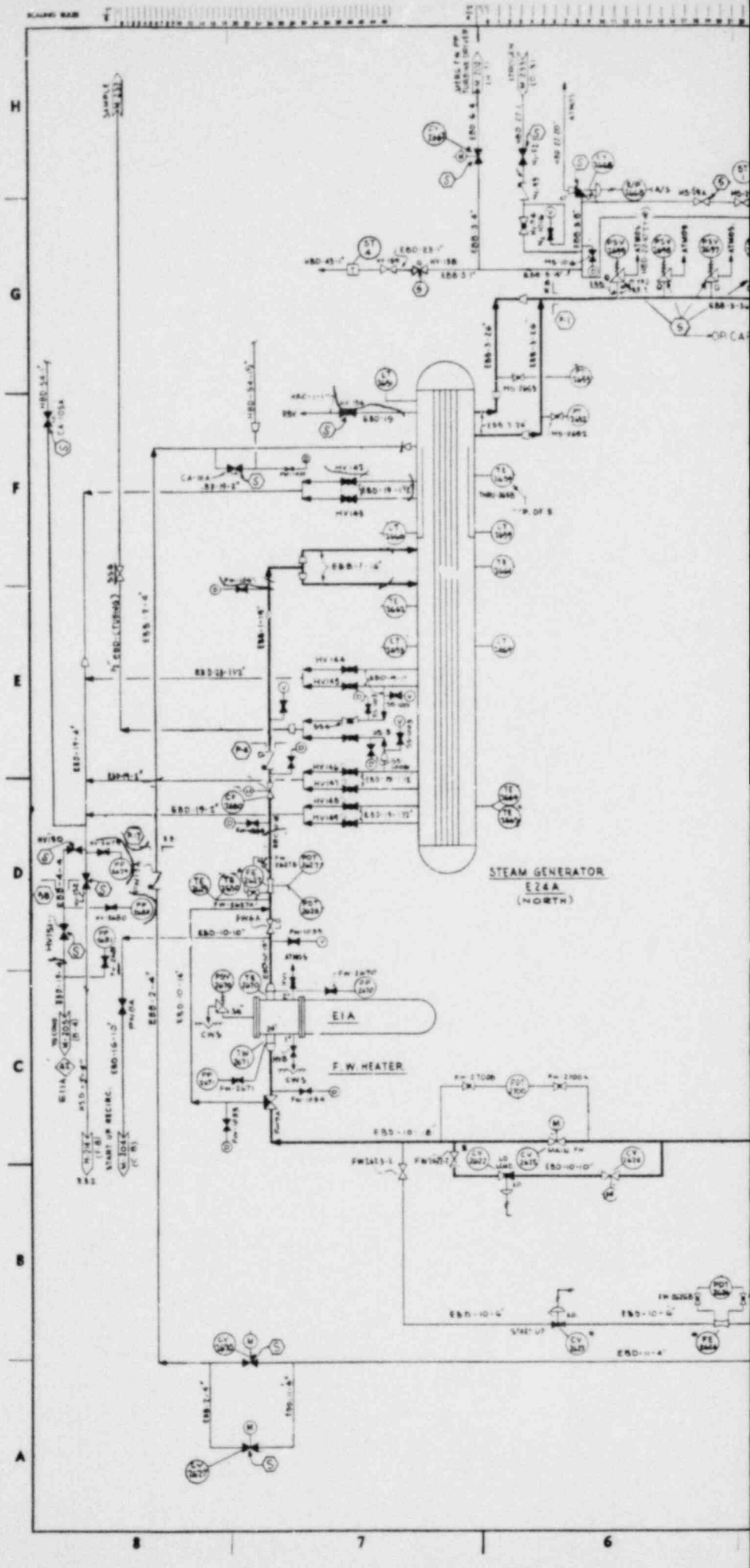
GAGES & TEMP. IND. REMOVED FROM CONTAINMENT:

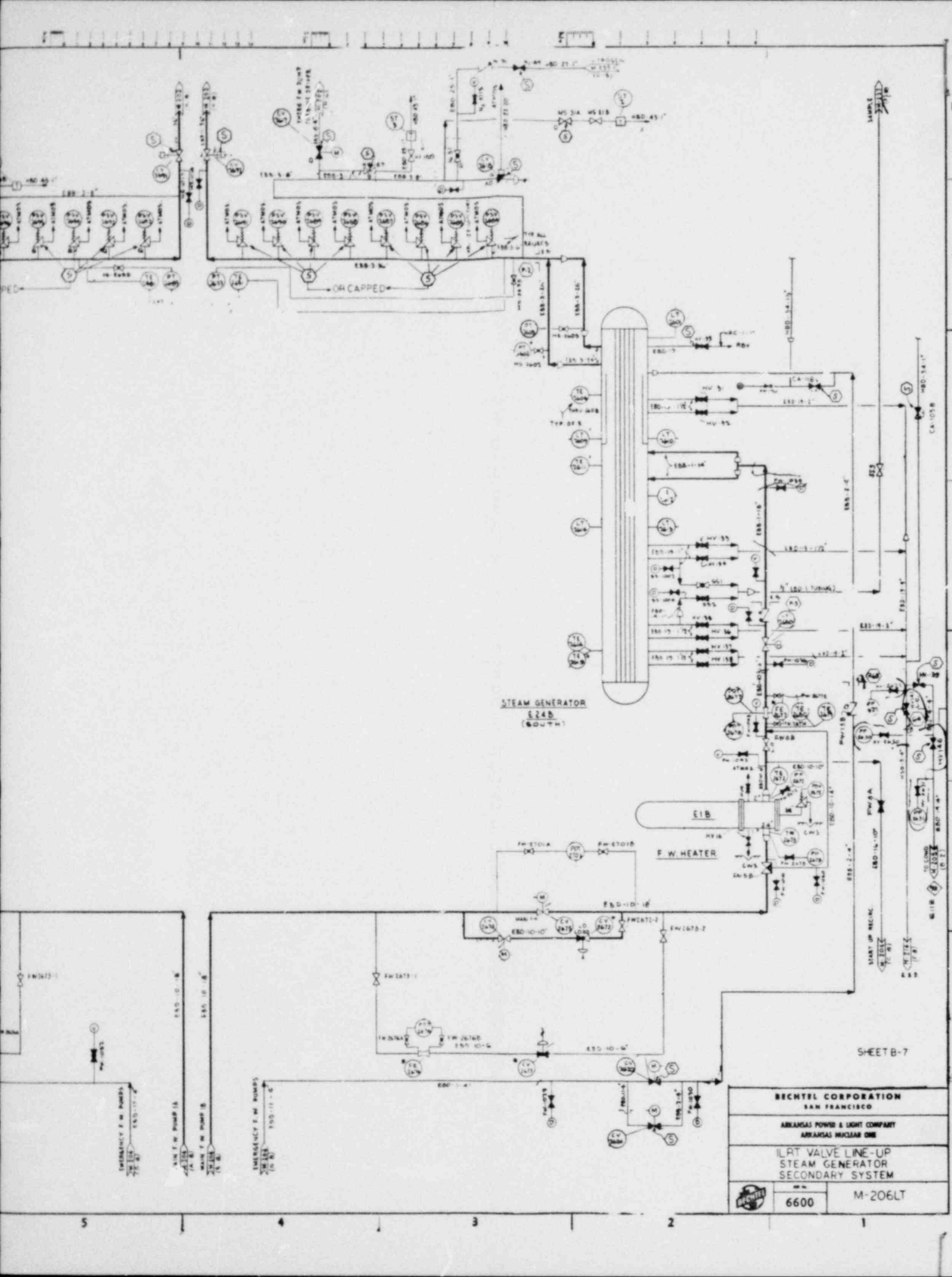
- T.G. #4 (Bechtel) 0-300, from instrument air header.
- Gage 0-200#, from wall above reactor pool.
- T.I. 760 & 760S 0-600°F temp. ind. w/10' cappillary, removed from core flood tank nitrogen fill lines.
- 4 gages, 0-400# Stedigage (4"), removed 2 from west reactor crane, 2 from east reactor crane.
- 2 gages, 0-250# (3½") brass, removed from CV-5613 (fire system) - marked No. 1 and No. 2.
- Gages on inside of reactor bldg. at personnel hatches removed.
- Oil pressure gages on each R.C.P. motor protected but not removed.
- Oil pressure gages on personnel hatch hydraulic unit removed.

Note: Plugs put in place of all gages on this list.

Miscellaneous:

1. All Hg vapor lites removed from reactor building.
2. Polar crane de-energized.
3. All fuel transfer pool lights removed.
4. All crane lights removed.


STEAM GENERATOR
E24A
(NORTH)
E1A
F.W. HEATER
8
7
6
H
G
F
E
D
C
B
A


OR CAPPED
STEAM GENERATOR
E24B
(SOUTH)
E1B
F.W. HEATER
SHEET B-7
BECHTEL CORPORATION
SAN FRANCISCO
ARKANSAS POWER & LIGHT COMPANY
ARKANSAS NUCLEAR ONE
ILRT VALVE LINE-UP
STEAM GENERATOR
SECONDARY SYSTEM
6600
M-206LT
H
G
F
E
D
C
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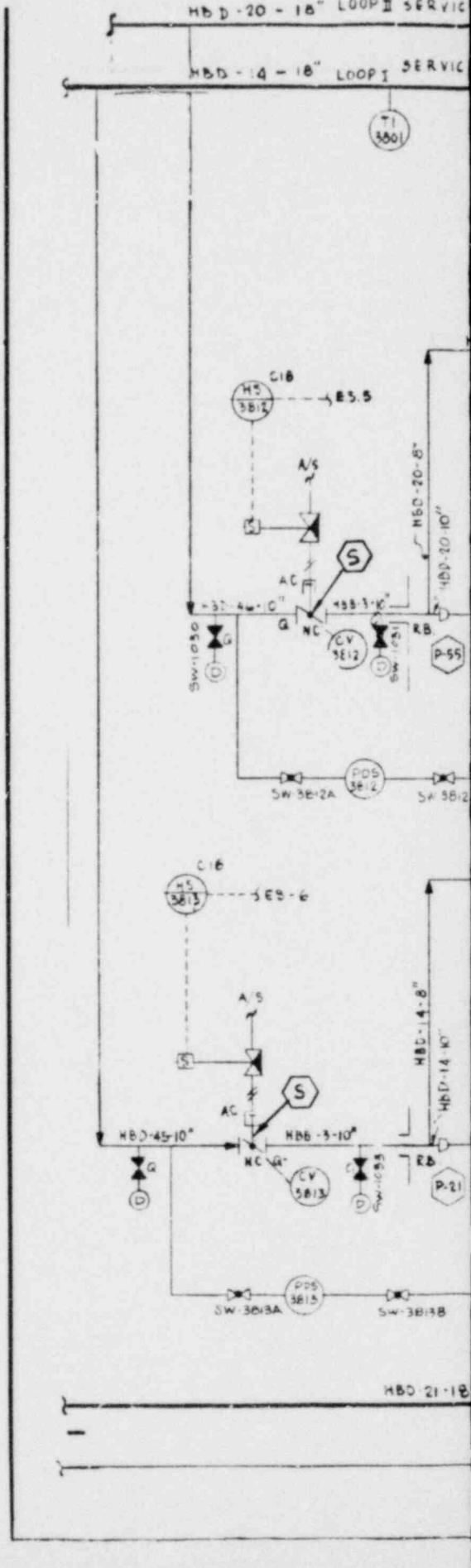
1


HBD-20-18" LOOP II SERVIC
HBD-14-18" LOOP I SERVIC
TI 3801
C1B
HS 3812
B3.5
A/S
AC
S
HBD-20-8"
HBD-20-10"
HBB-3-10"
NC
CV 3812
RB
P-55
SW-1030
SW-3812A
PDS 3812
C1B
HS 3813
SEG-6
HBD-14-8"
HBD-14-10"
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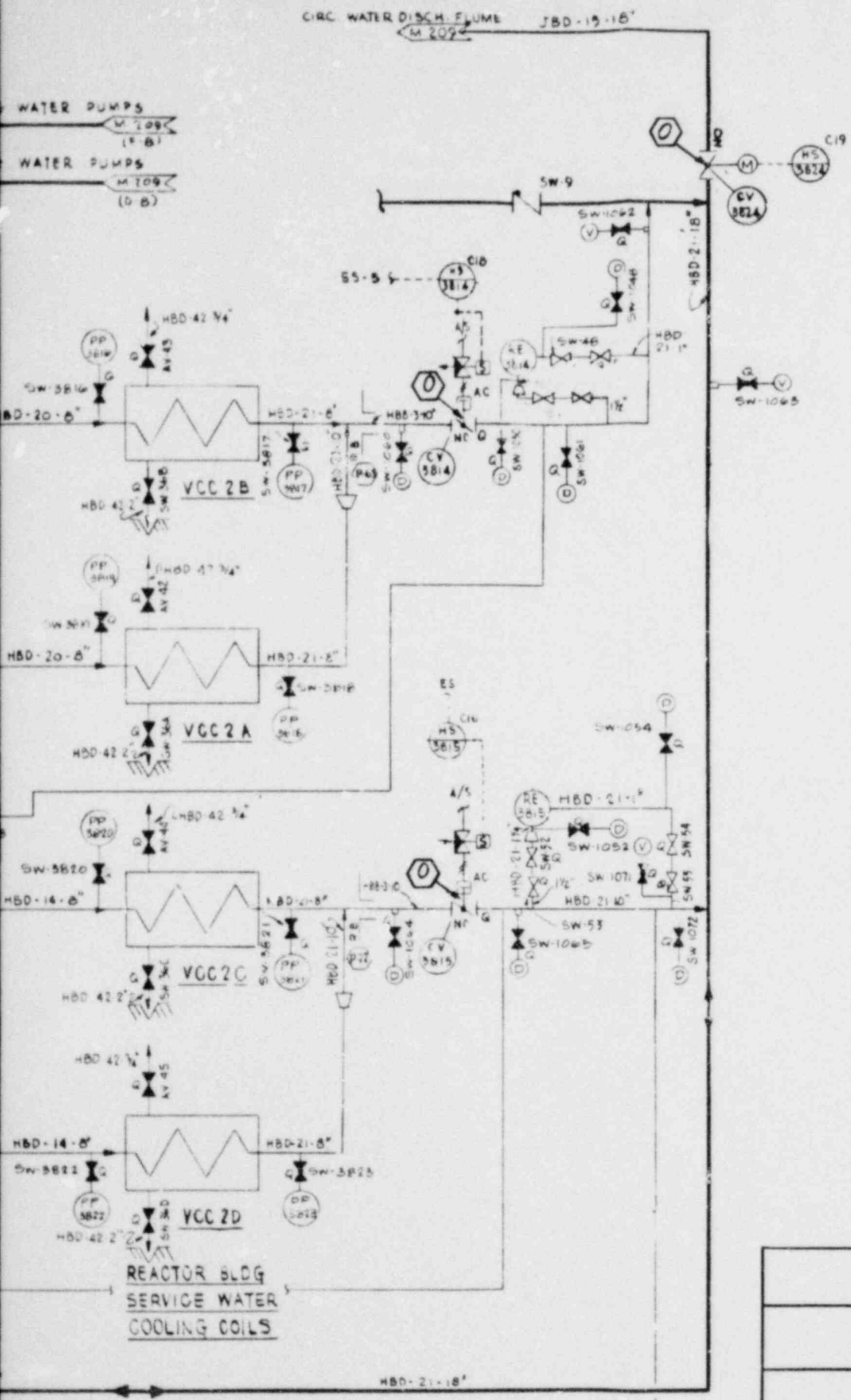
PDS 3813
SW-3813B
HBD-21-18



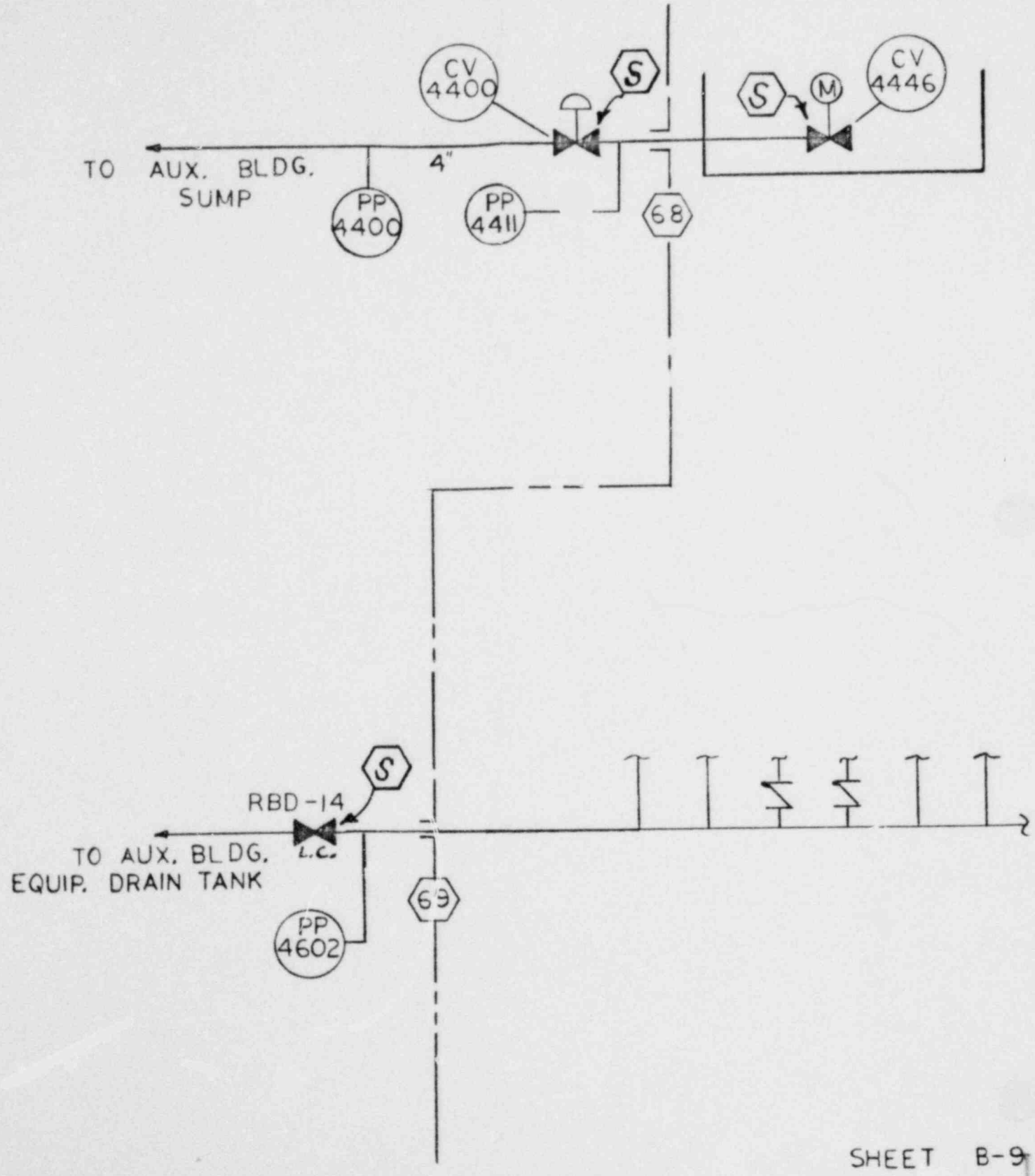
SHEET B-8

BECHTEL CORPORATION SAN FRANCISCO	
ARKANSAS POWER & LIGHT COMPANY ARKANSAS NUCLEAR ONE	
ILRT VALVE LINE-UP SERVICE WATER	
6600	M-210LT

TITLE APPENDIX B JOB No. 6

SUBJECT LIQUID RAD WASTE (M-213, 214) SHEET NO

600
B-9

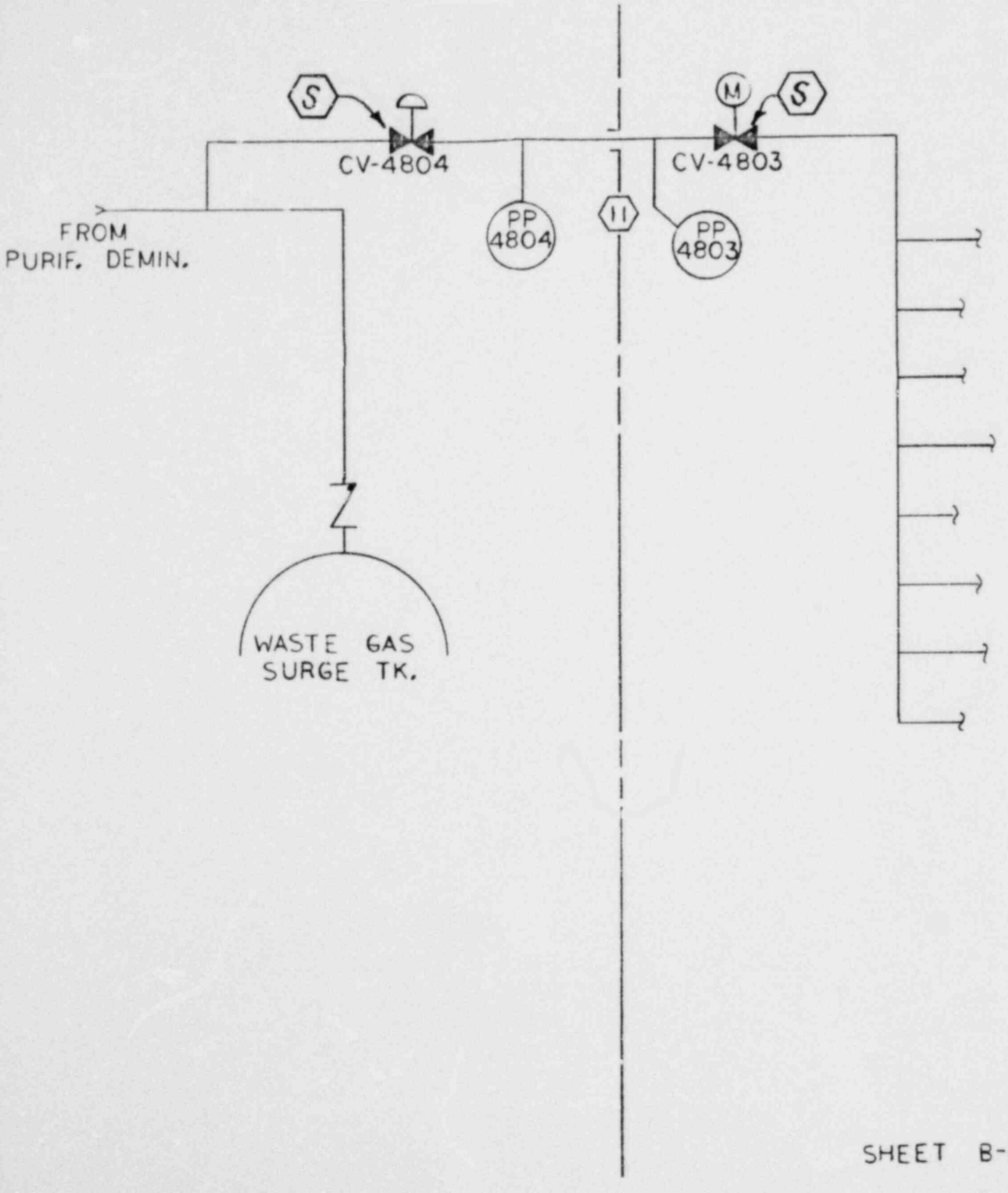


SHEET B-9

TITLE APPENDIX B

SUBJECT GASEOUS RAD WASTE (M-215)

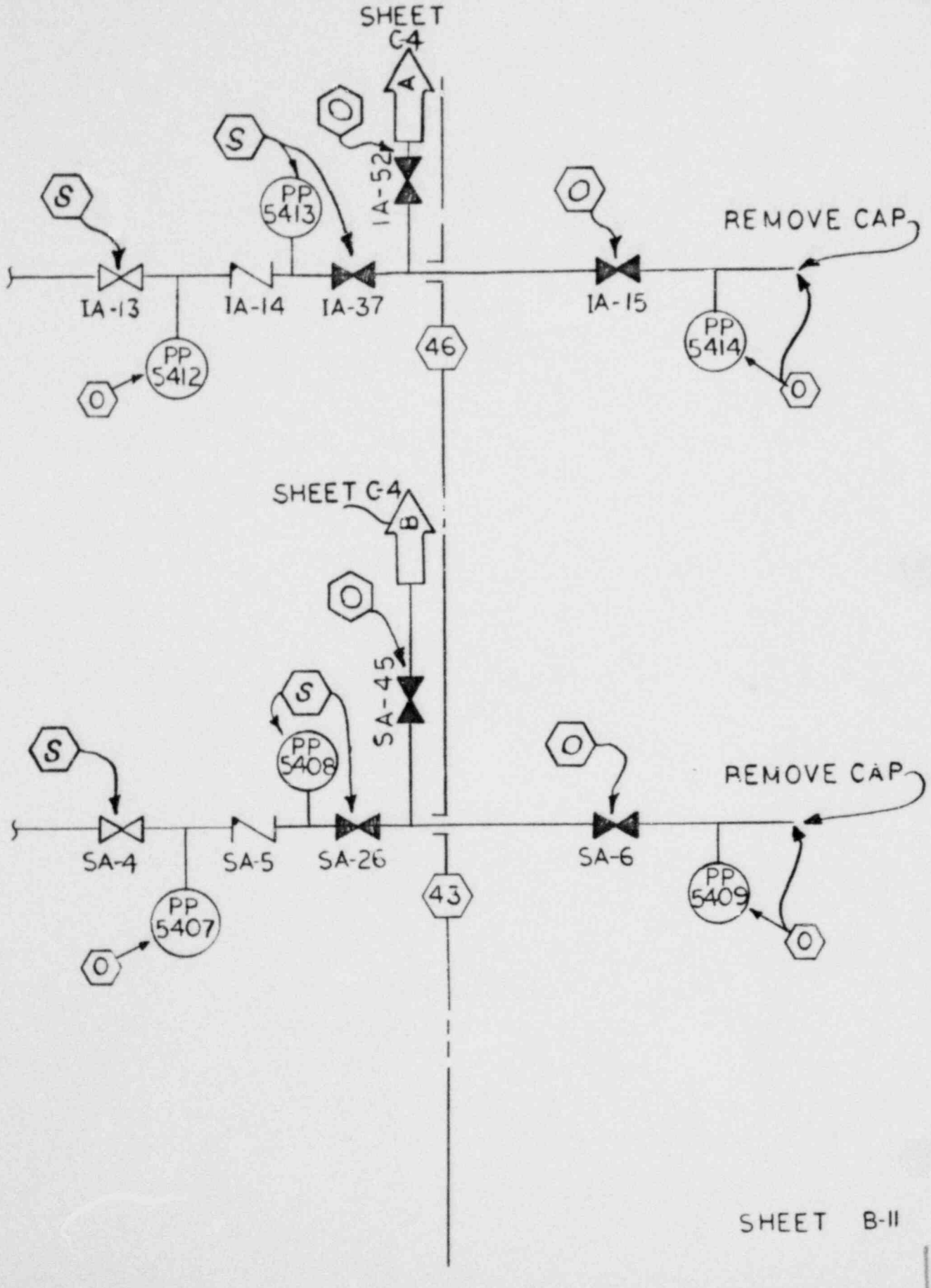
600
B-10



SHEET B-10

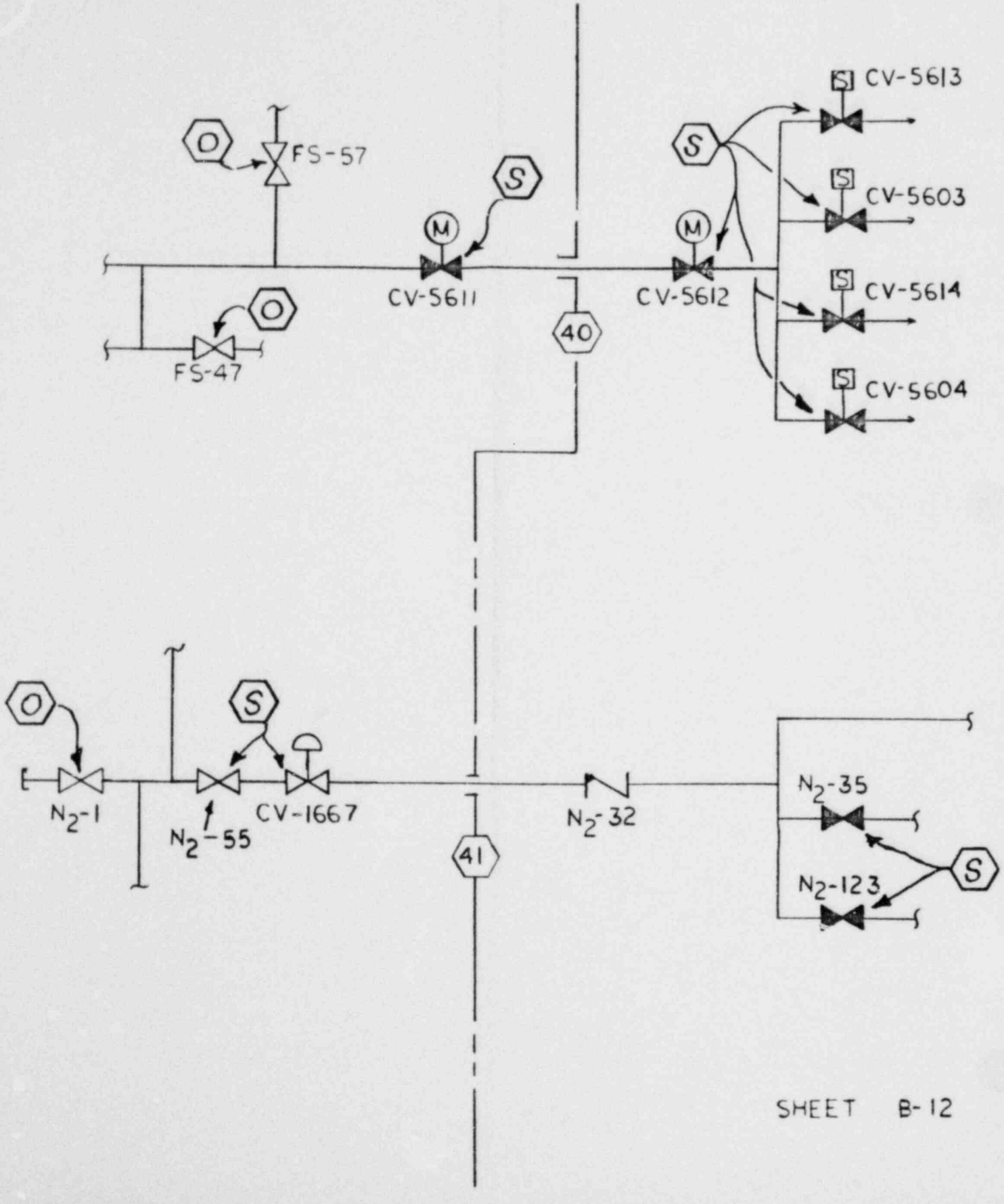
TITLE APPENDIX B JOB No. 66

SUBJECT INST + SERVICE AIR M 218 SHEET No. B


SHEET C-4
A
S
O
PP 5413
IA-52
S
IA-13
IA-14
IA-37
46
IA-15
O
REMOVE CAP
PP 5414
O
PP 5412
O
SHEET C-4
B
O
SA-45
S
PP 5408
S
SA-4
SA-5
SA-26
43
SA-6
O
REMOVE CAP
PP 5409
O
PP 5407
O

TITLE APPENDIX B JOB No. 660

SUBJECT FIRE WATER (M-219)/CHEMICAL ADDN. (M-233) SHEET No. B-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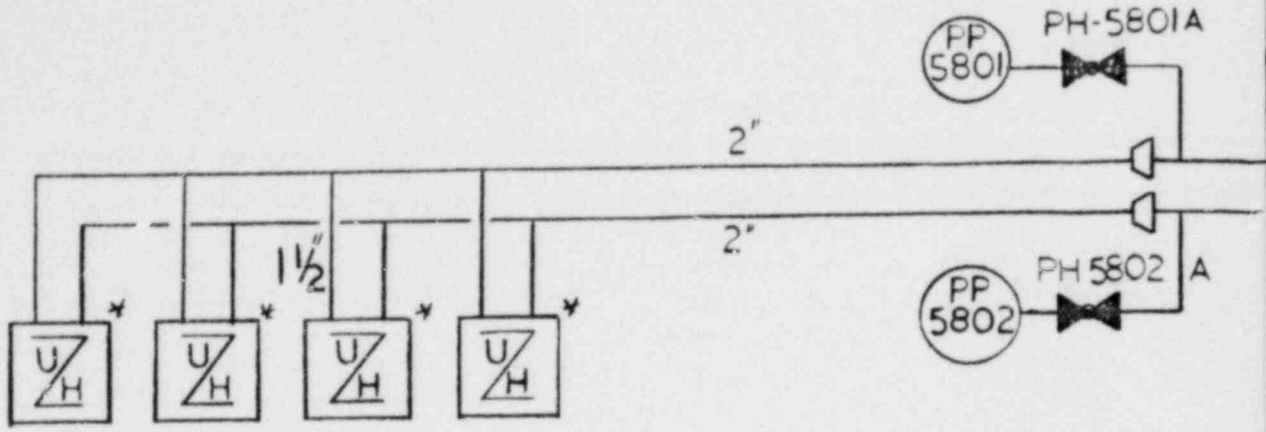
FS-57
S
M
CV-5611
S
M
CV-5612
S
CV-5613
S
CV-5603
S
CV-5614
S
CV-5604
O
FS-47
40
O
S
N2-1
N2-55
CV-1667
41
N2-32
N2-35
N2-123
S

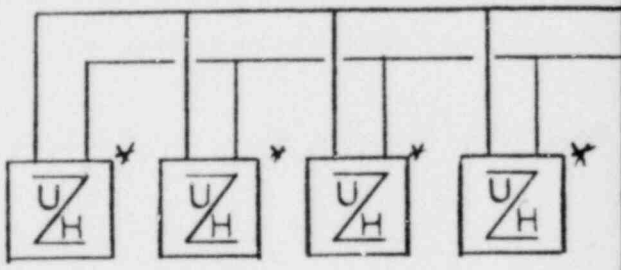
SHEET B-12

TITLE APP. B JOB No. 6

SUBJECT PLANT HEATING (M-220) SH-1 SHEET No.

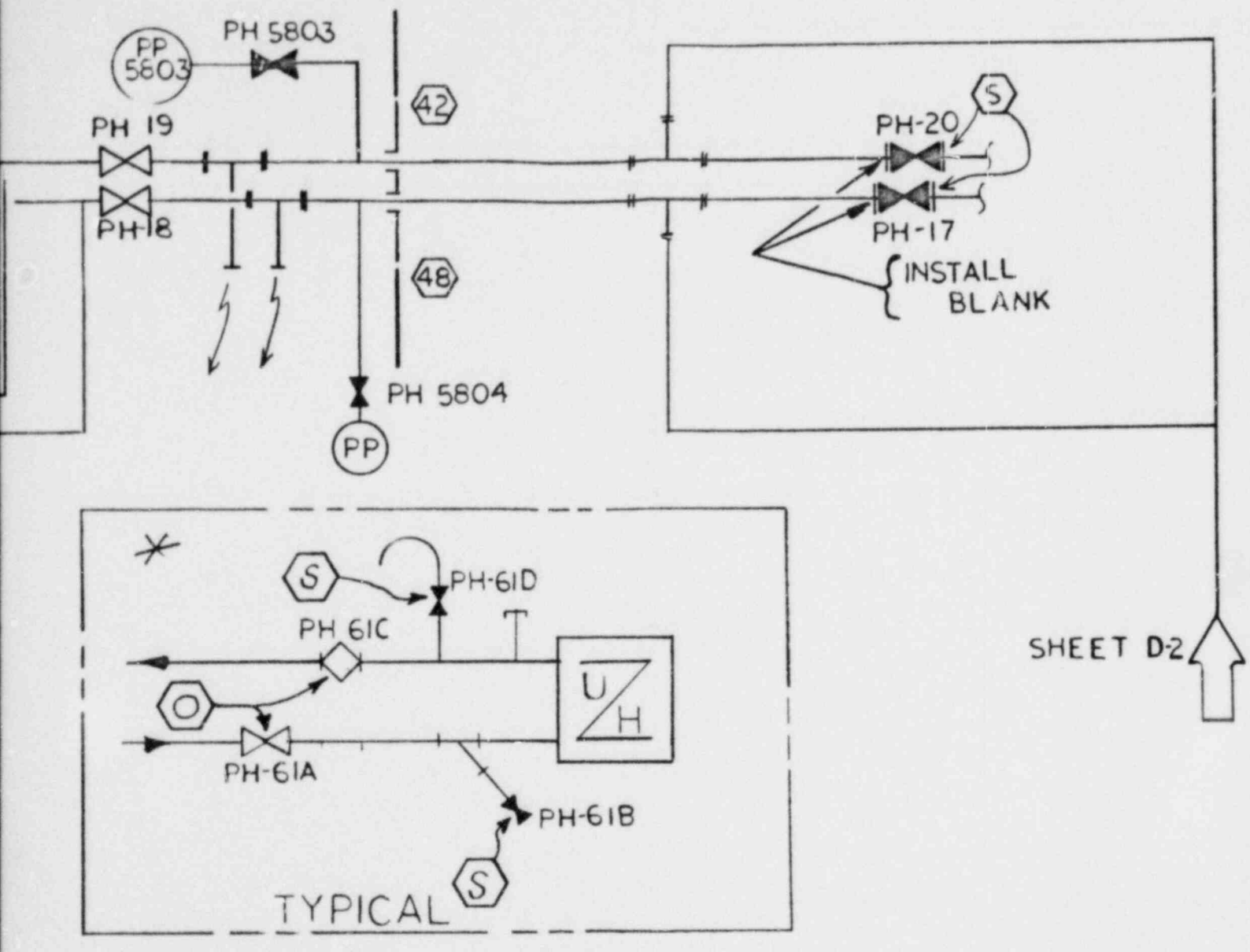


VUH 50-53

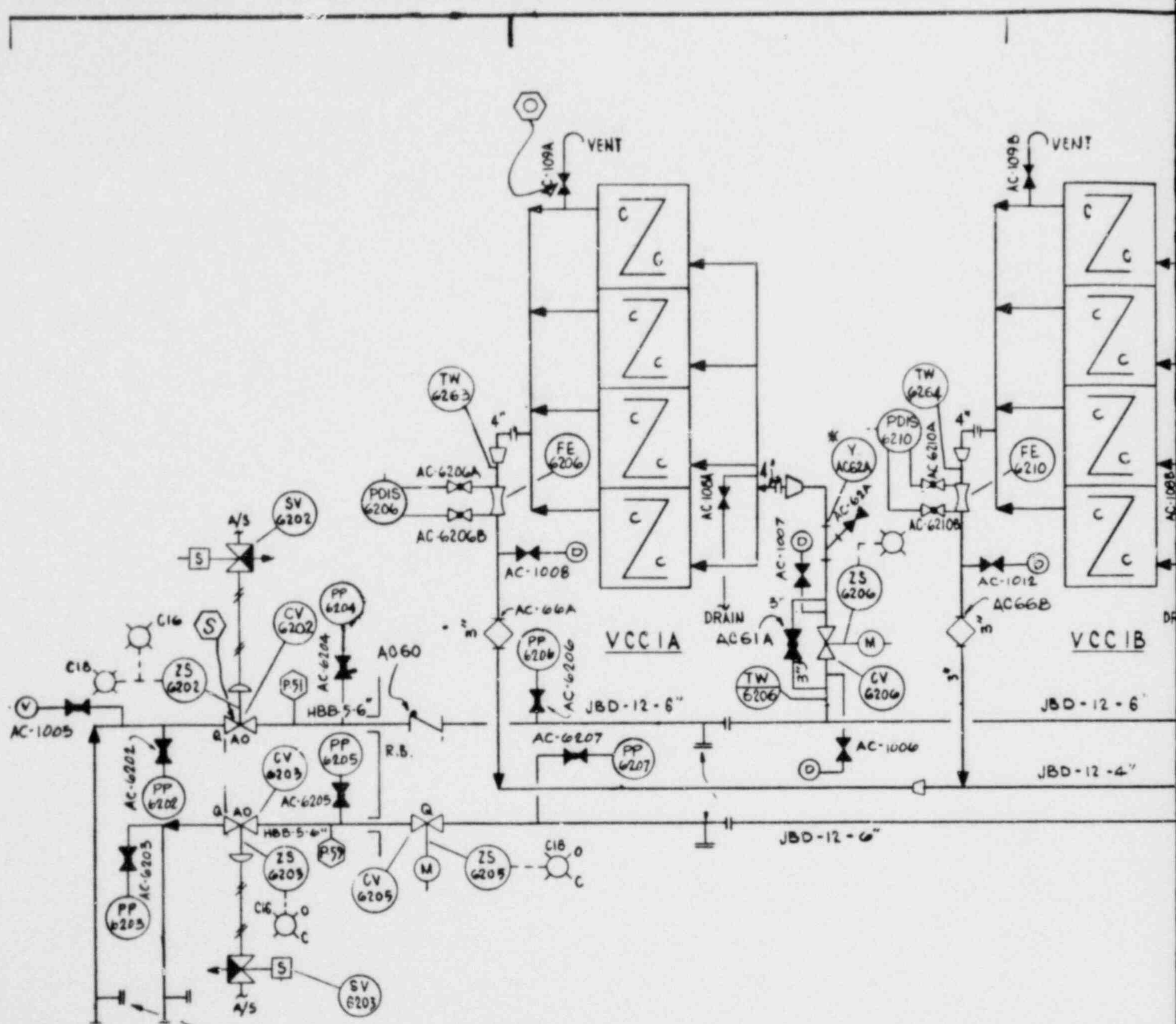


VUH 46-49

600
B-13


PP 5803
PH 5803
42
PH 19
PH-18
48
PH 5804
PP
PH-20
S
PH-17
INSTALL BLANK
SHEET D-2

*
S
PH-61D
PH 61C
O
U/H
PH-61A
PH-61B
S
TYPICAL


VENT
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AC-109B
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TW 6264
PDIS 6206
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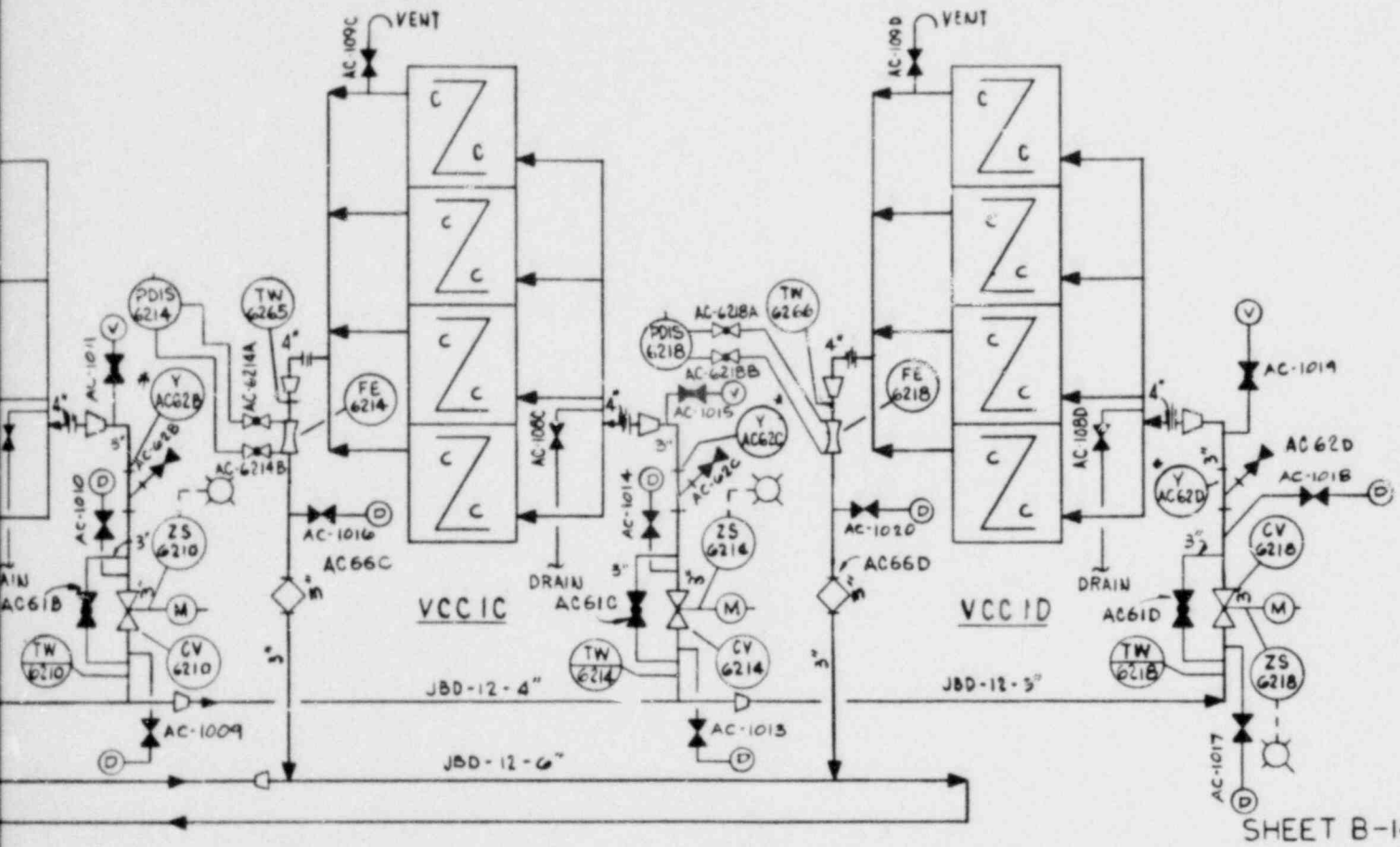
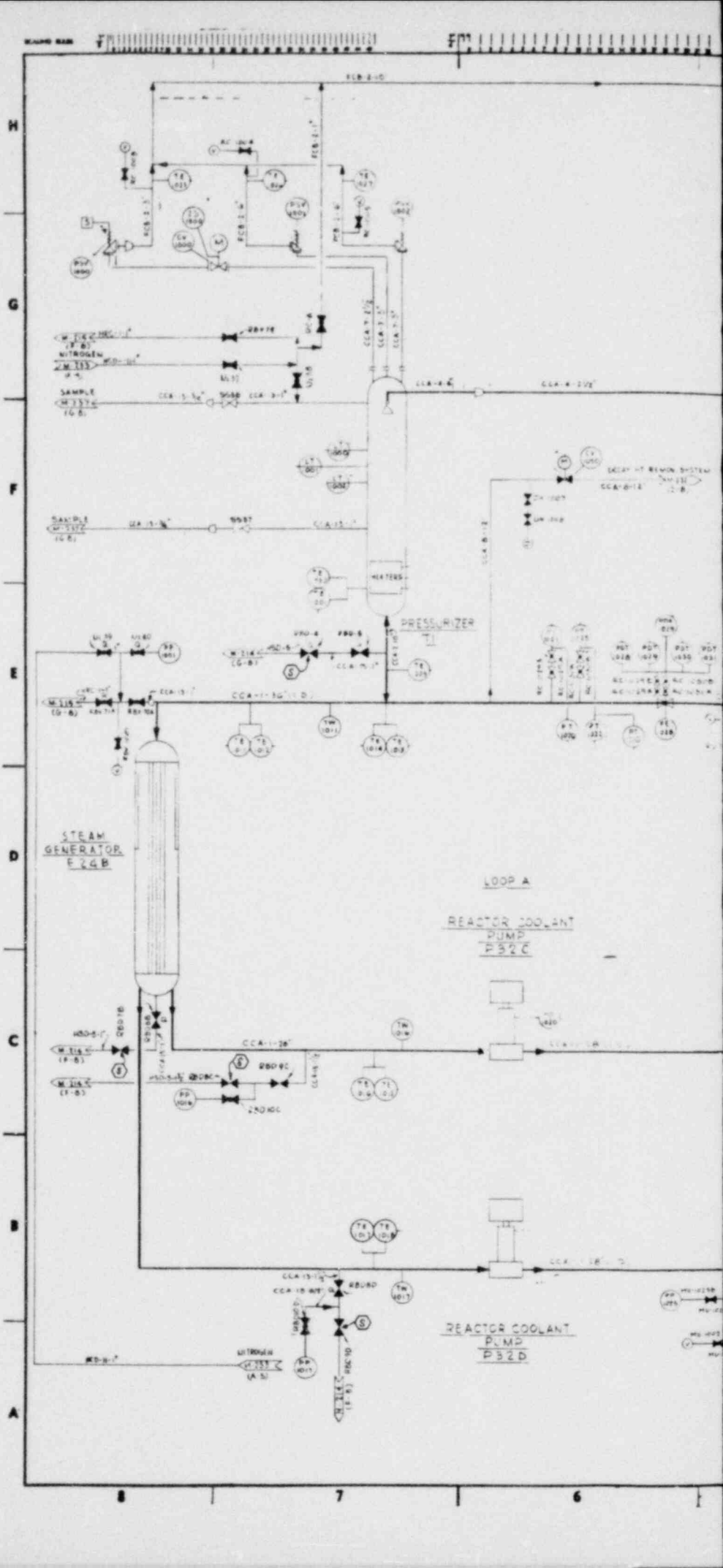
FE 6206
FE 6210
AC-1008
AC-1012
AC-66A
AC66B
VCC1A
VCC1B
DRAIN
AC61A
AC-1007
AC-1006
ZS 6206
CV 6206
TW 6206
Y AC62A
SV 6202
SV 6203
CV 6202
CV 6203
CV 6205
PP 6204
PP 6205
PP 6206
PP 6207
PP 6202
PP 6203
AC-6204
AC-6205
AC-6206
AC-6207
AC-6202
AC-6203
ZS 6202
ZS 6203
ZS 6205
A060
P51
P59
HBB-5-6"
R.B.
JBD-12-6"
JBD-12-4"
AC-1005
C16
C18
A/S
AO

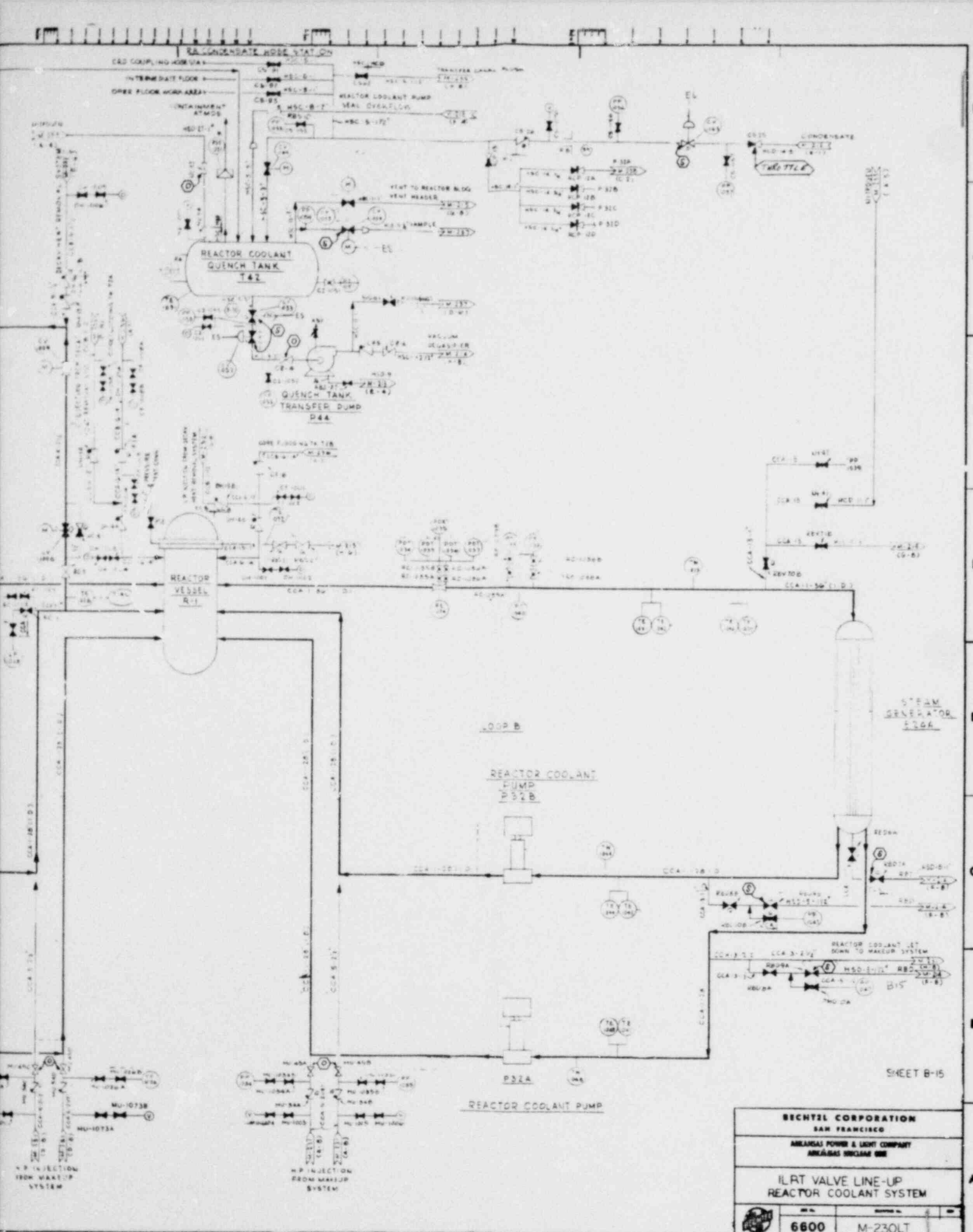


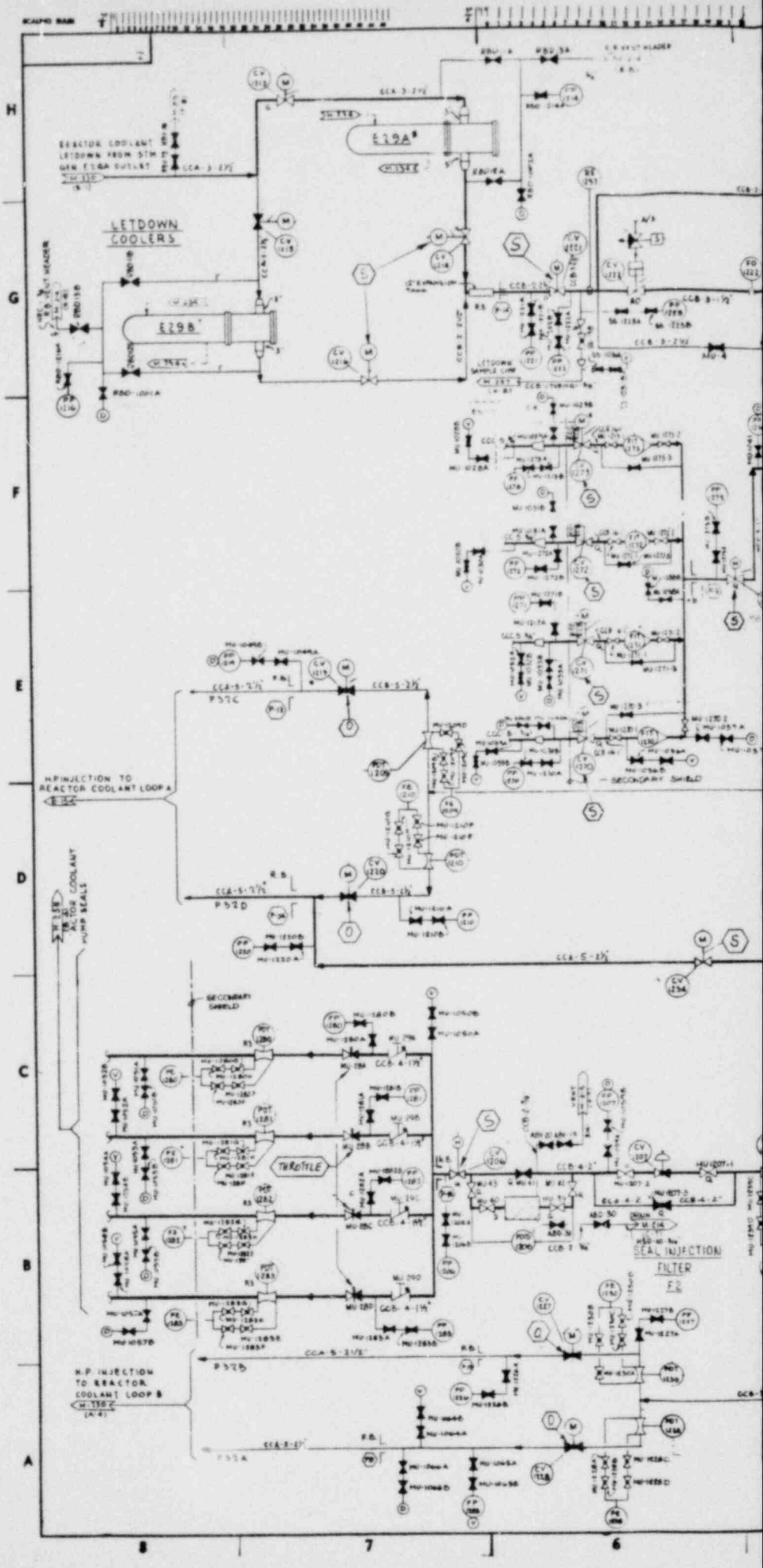
SHEET B-14

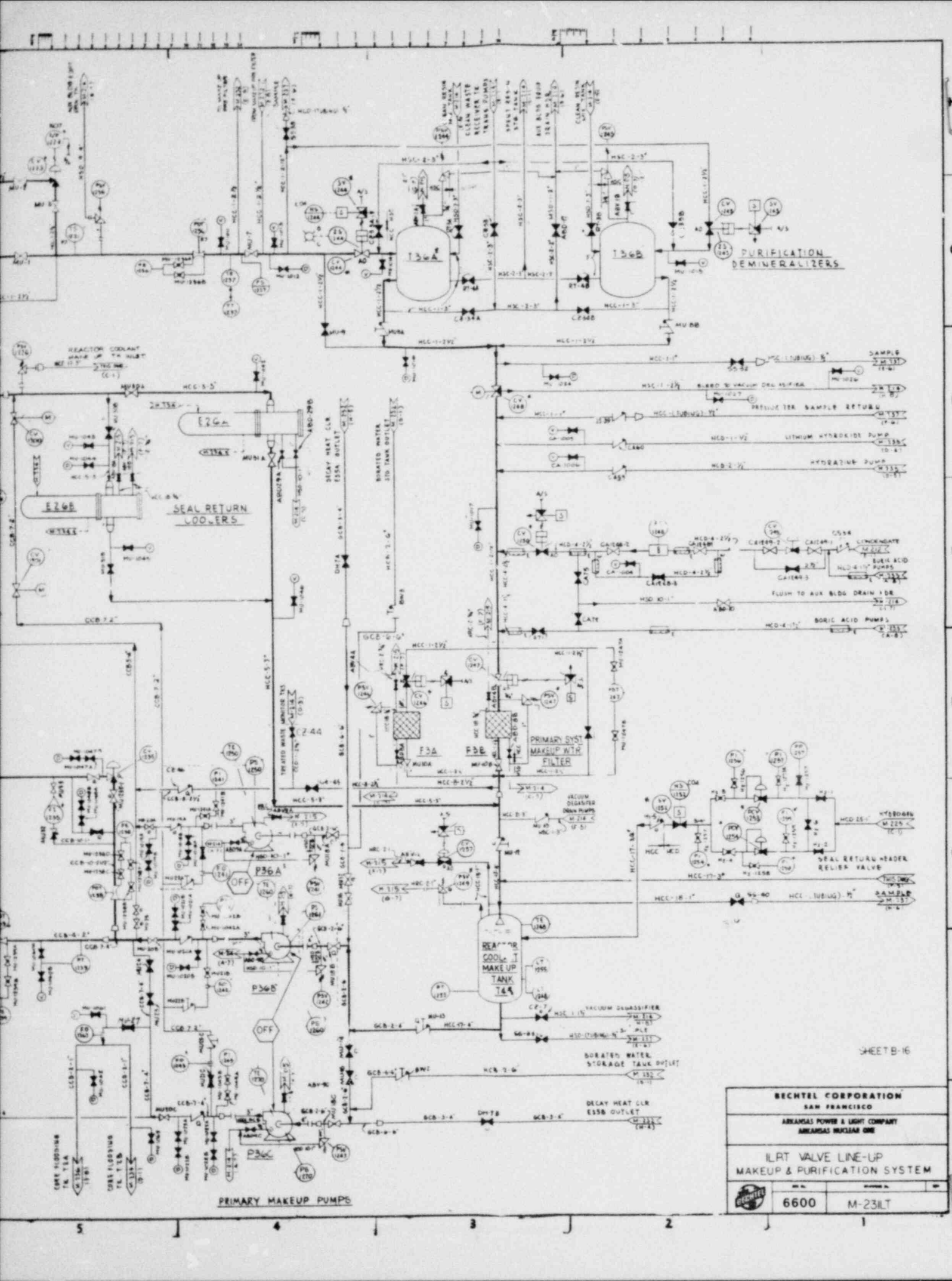
REACTOR BLDG. CHILLED WTR. COOLING COILS

BECHTEL CORPORATION SAN FRANCISCO	
ARKANSAS POWER & LIGHT COMPANY ARKANSAS NUCLEAR ONE	
ILRT VALVE LINE-UP CHILLED WATER SYSTEM REACTOR & AUX. BLDGS.	
BECHTEL	JOB No. 6600 / M-222LT-


STEAM GENERATOR P-2-B
LOOP A
REACTOR COOLANT PUMP P-32C
REACTOR COOLANT PUMP P-32D
PRESSURIZER
HEATERS
NITROGEN
SAMPLE
DECAY HT REMOV SYSTEM
8
7
6
H
G
F
E
D
C
B
A


REACTOR COOLANT QUENCH TANK T42
QUENCH TANK TRANSFER PUMP P44
REACTOR VESSEL R-1
LOOP B
REACTOR COOLANT PUMP P32B
STEAM GENERATOR E50A
P32A
REACTOR COOLANT PUMP
MU-10738
MU-10734
H.P. INJECTION FROM MAKEUP SYSTEM
H.P. INJECTION FROM MAKEUP SYSTEM
SHEET B-15
ILRT VALVE LINE-UP
REACTOR COOLANT SYSTEM
6600
M-230LT
BECHTEL CORPORATION
SAN FRANCISCO


LETDOWN COOLERS
E29A
E29B
THROTTLE
SEAL INJECTION FILTER
F3
SECONDARY SHIELD
H.P. INJECTION TO REACTOR COOLANT LOOP A
H.P. INJECTION TO REACTOR COOLANT LOOP B
P32C
P32D
P32B
P32A
8
7
6
H
G
F
E
D
C
B
A

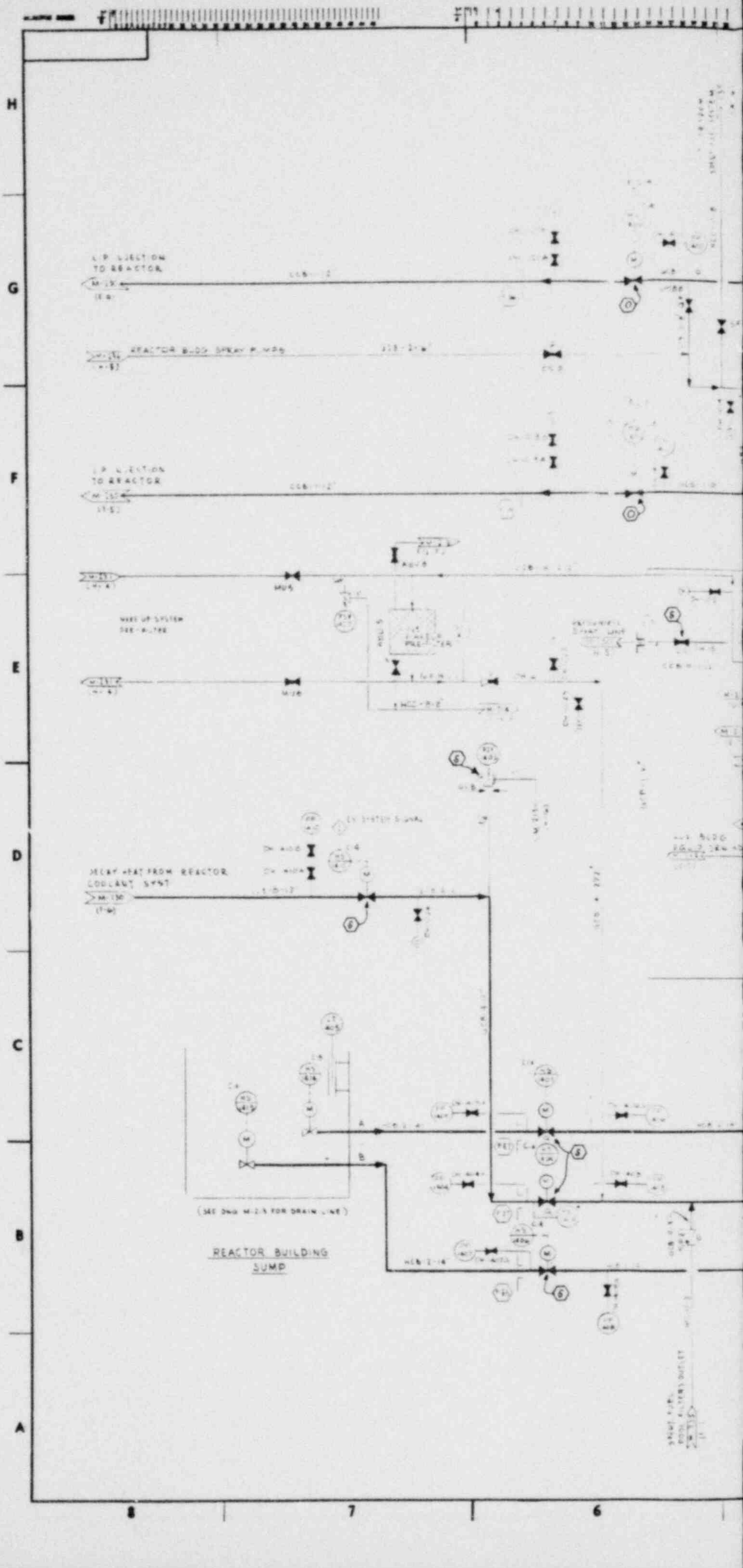


BECHTEL CORPORATION
SAN FRANCISCO

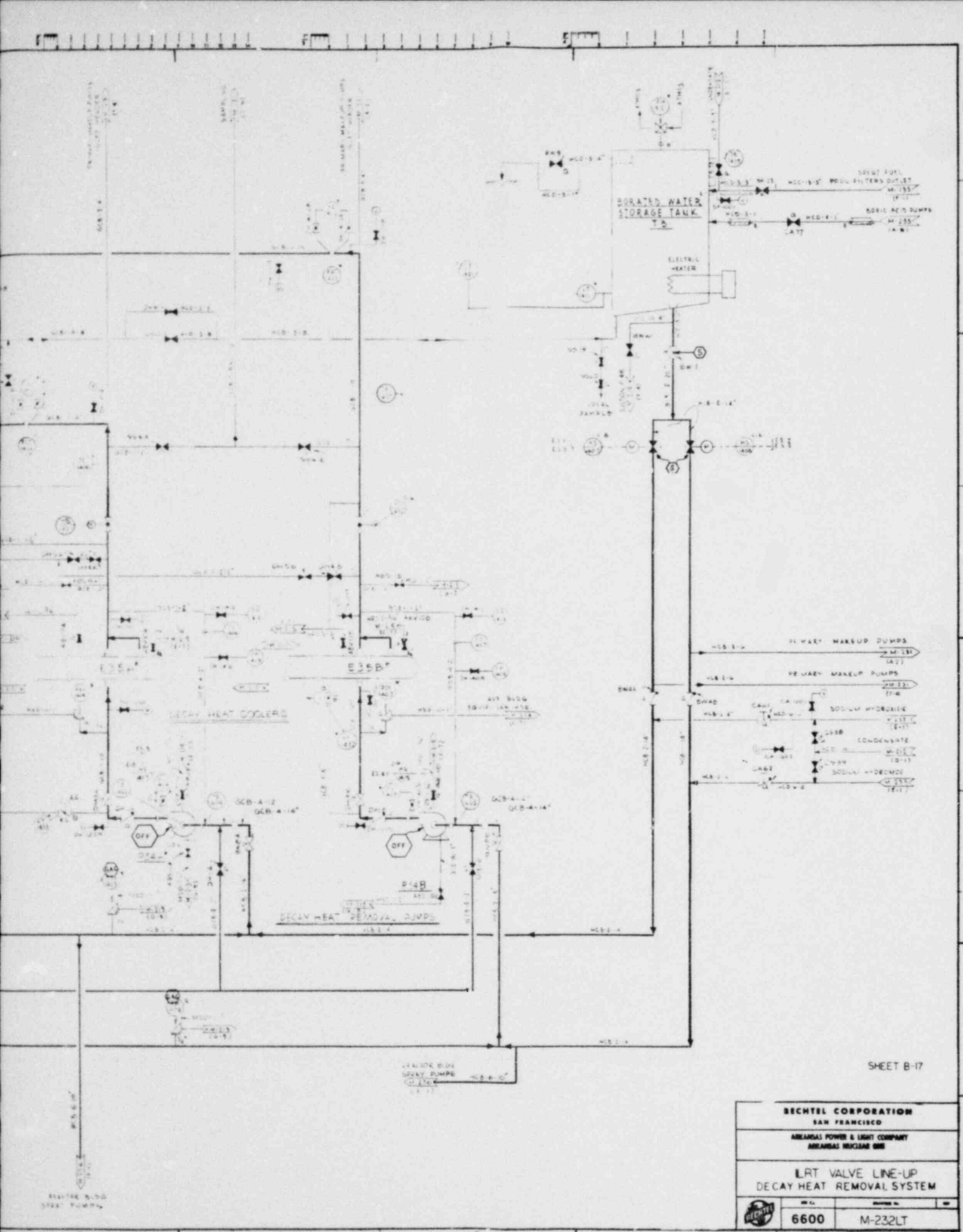
ARKANSAS POWER & LIGHT COMPANY
ARKANSAS NUCLEAR ONE

ILRT VALVE LINE-UP
MAKEUP & PURIFICATION SYSTEM

BECHTEL	6600	M-231LT



H
G
F
E
D
C
B
A
L.P. INJECTION TO REACTOR
REACTOR BLDG SPRAY PUMPS
L.P. INJECTION TO REACTOR
MAKE UP SYSTEM PRE-FILTER
DECAY HEAT FROM REACTOR COOLANT SYST
REACTOR BUILDING SUMP
8
7
6



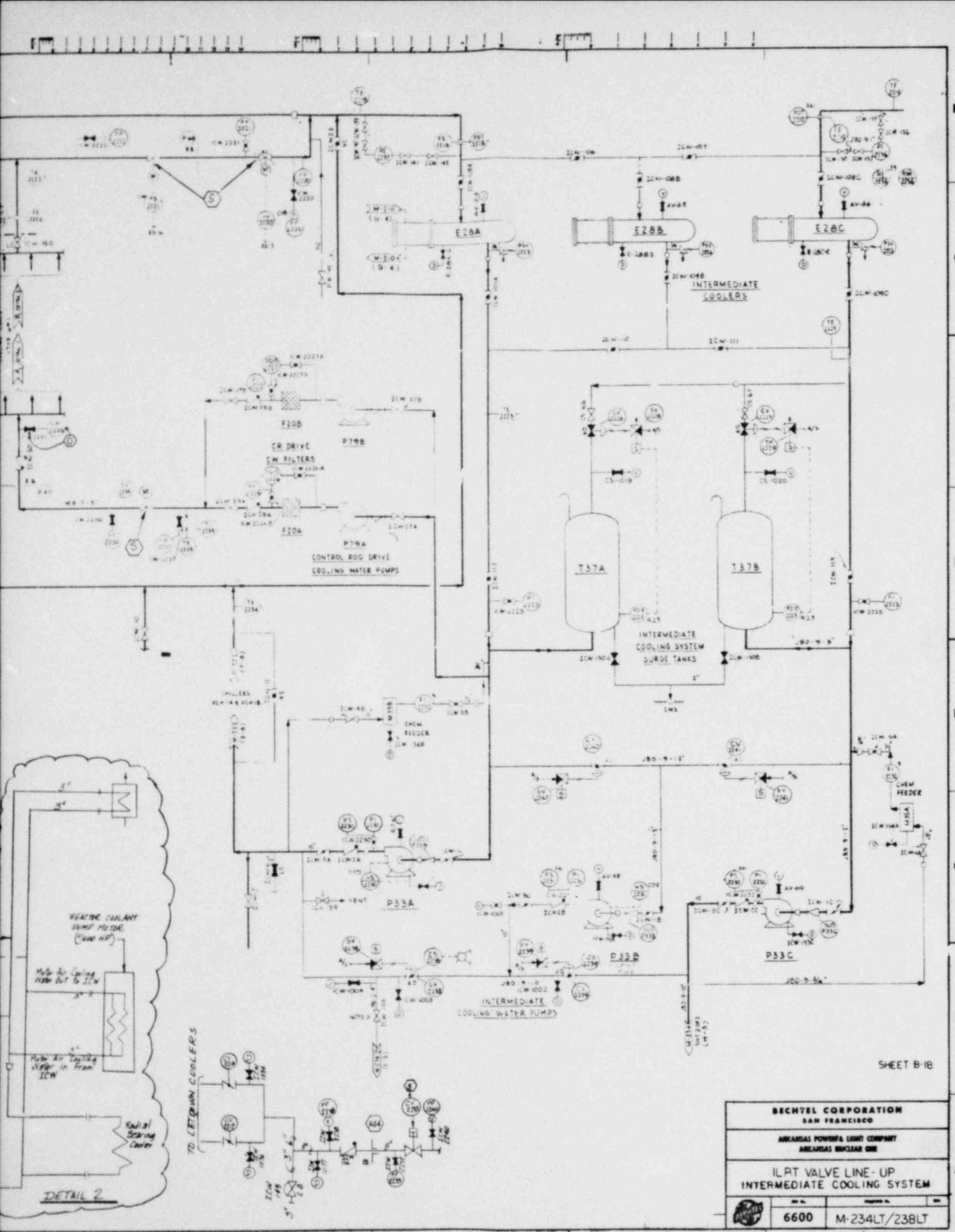
BECHTEL CORPORATION
SAN FRANCISCO

ARKANSAS POWER & LIGHT COMPANY
ARKANSAS NUCLEAR ONE

ILRT VALVE LINE-UP
DECAY HEAT REMOVAL SYSTEM

6600 | M-232LT

H
G
F
E
D
C
B
A
6
CW-2230A
JRD-8
motor cooling coil
DETAIL 1
(Control Rod Drives)
CW-1050
JRD-9
CW-2214
CW-2215
CW-2216

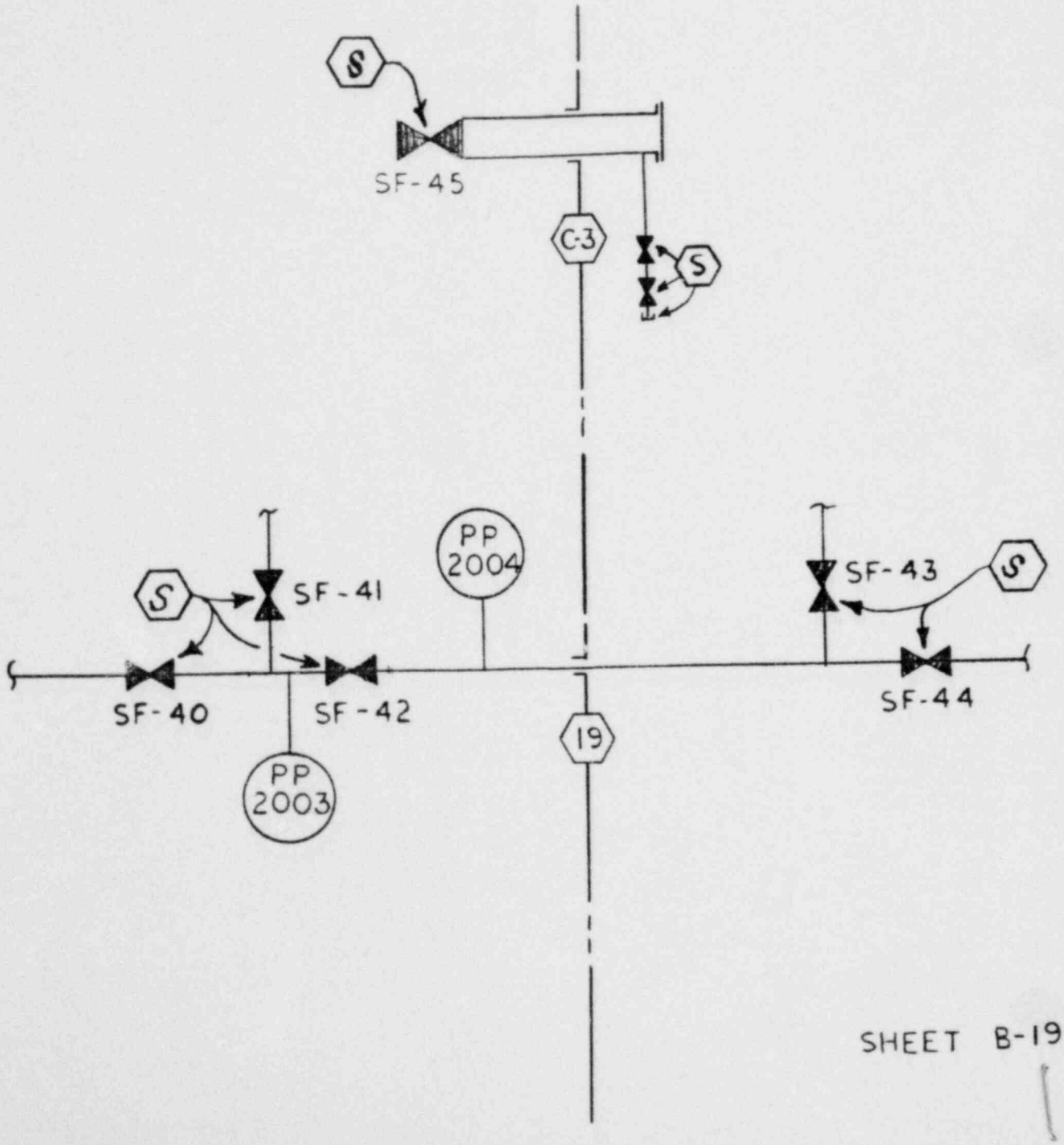

E28A
E28B
E28C
INTERMEDIATE COOLERS
F20B
P79B
CR DRIVE SW FILTERS
F20A
P79A
CONTROL ROD DRIVE COOLING WATER PUMPS
T37A
T37B
INTERMEDIATE COOLING SYSTEM SURGE TANKS
CHEM. FEEDER
P33A
P33B
P33C
INTERMEDIATE COOLING WATER PUMPS
REACTOR COOLANT PUMP MOTOR (Each RCP)
Motor Air Cooling Water Out to ICW
Motor Air Cooling Water In from ICW
Radial Sampling Cooler
DETAIL 2
TO LETDOWN COOLERS
SHEET B-18
BECHTEL CORPORATION
SAN FRANCISCO
ARKANSAS POWER & LIGHT COMPANY
ARKANSAS NUCLEAR ONE
ILRT VALVE LINE-UP
INTERMEDIATE COOLING SYSTEM
6600
M-234LT/238LT

TITLE APPENDIX B JOB

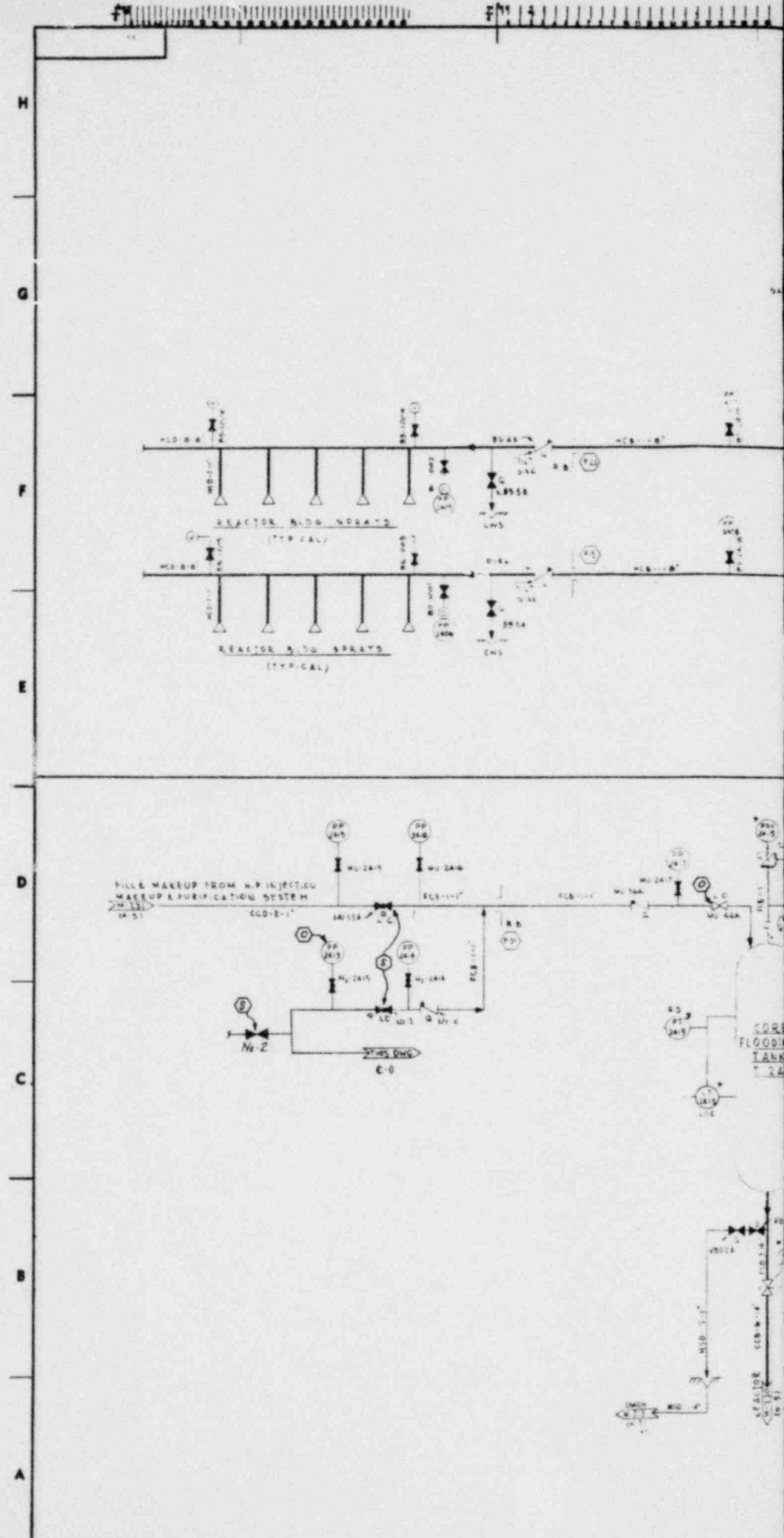
SUBJECT FUEL COOLING (M-235) SHE

No. 6600

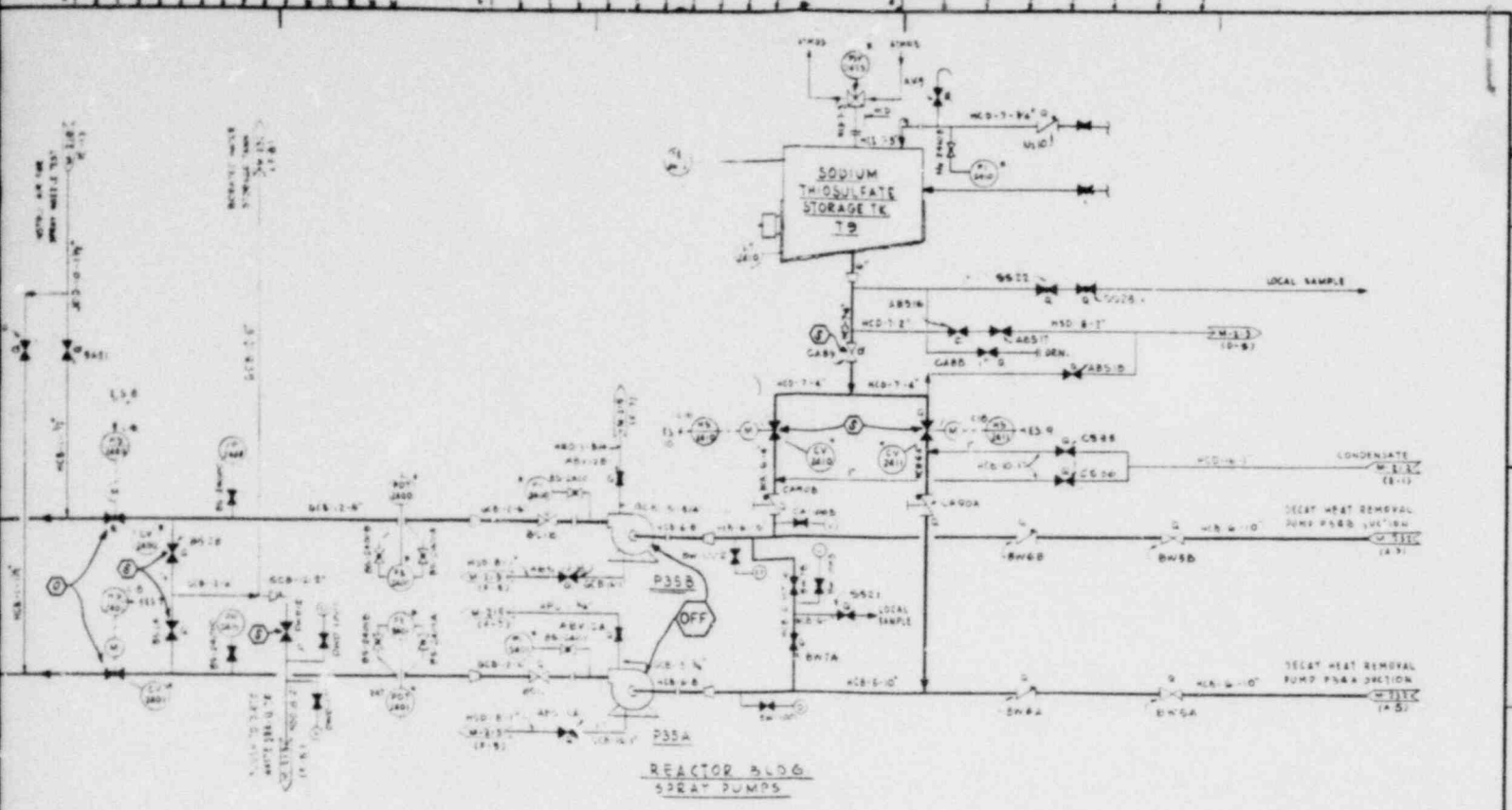
ET No. B-19



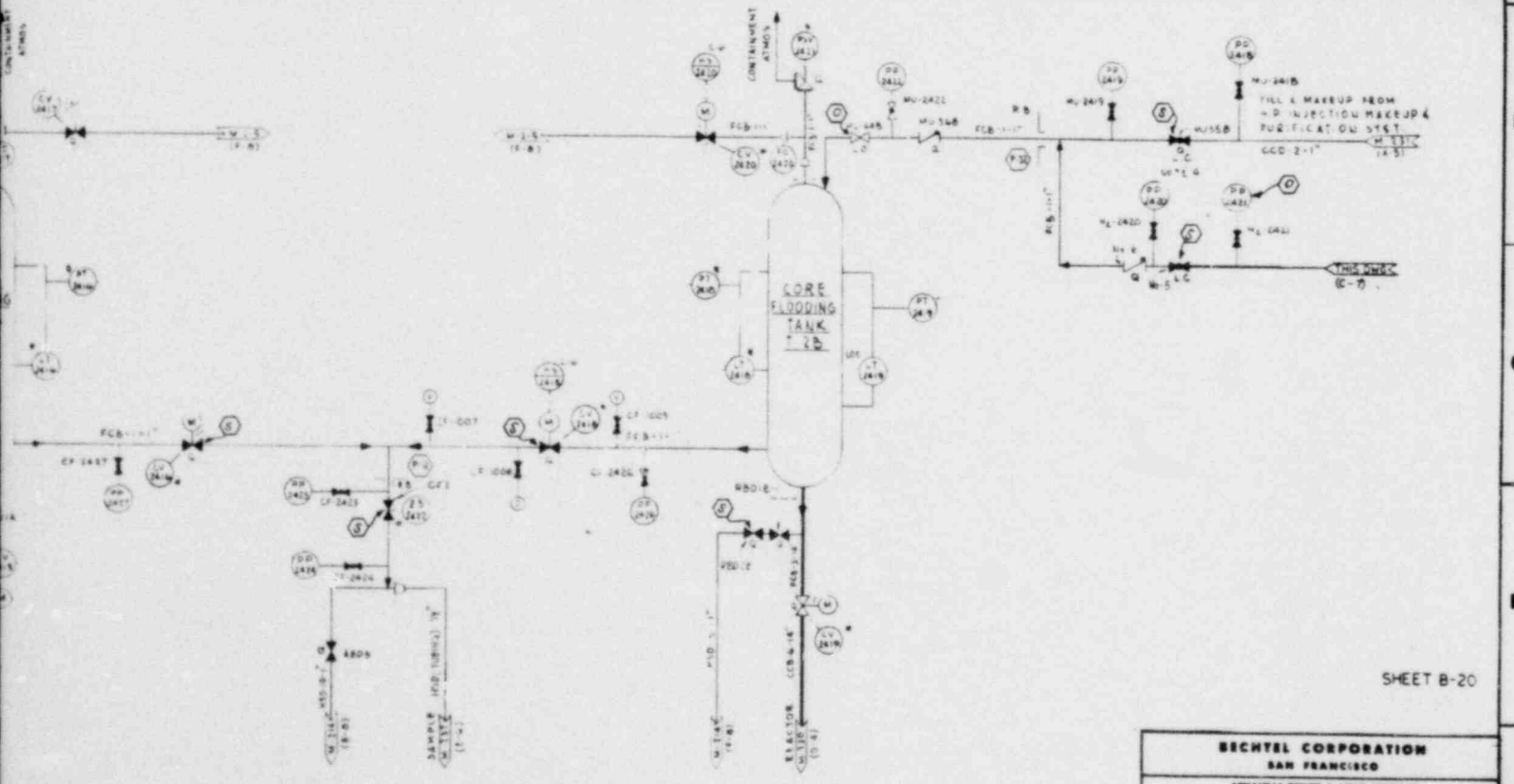
SHEET B-19



H
G
F
E
D
C
B
A
8
7
6
REACTOR BLDG SPRAYS
(TYPICAL)
REACTOR BLDG SPRAYS
(TYPICAL)
FILL & MAKEUP FROM H.P. INJECTION
MAKEUP & PURIFICATION SYSTEM
N2-2



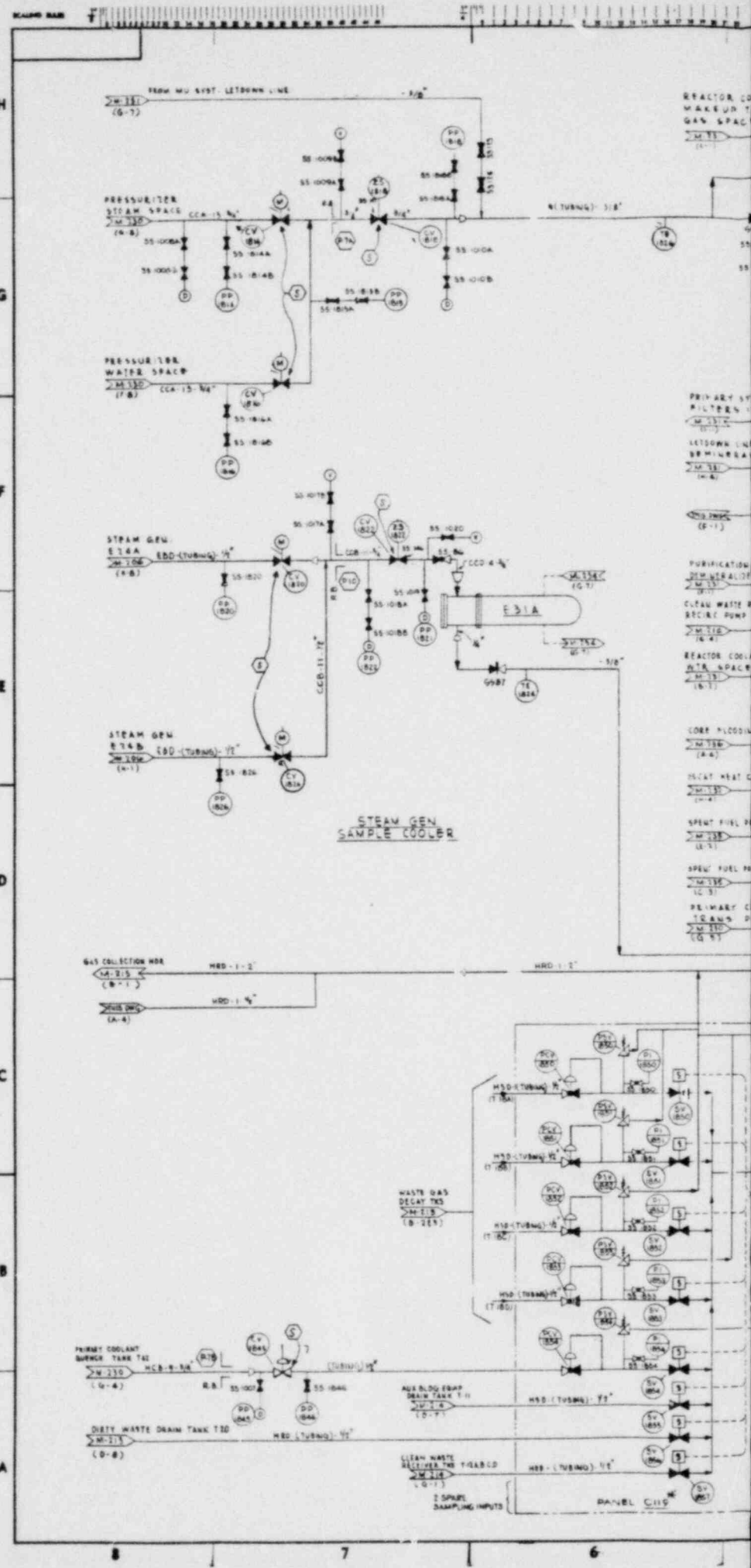
REACTOR BUILDING SPRAY SYSTEM

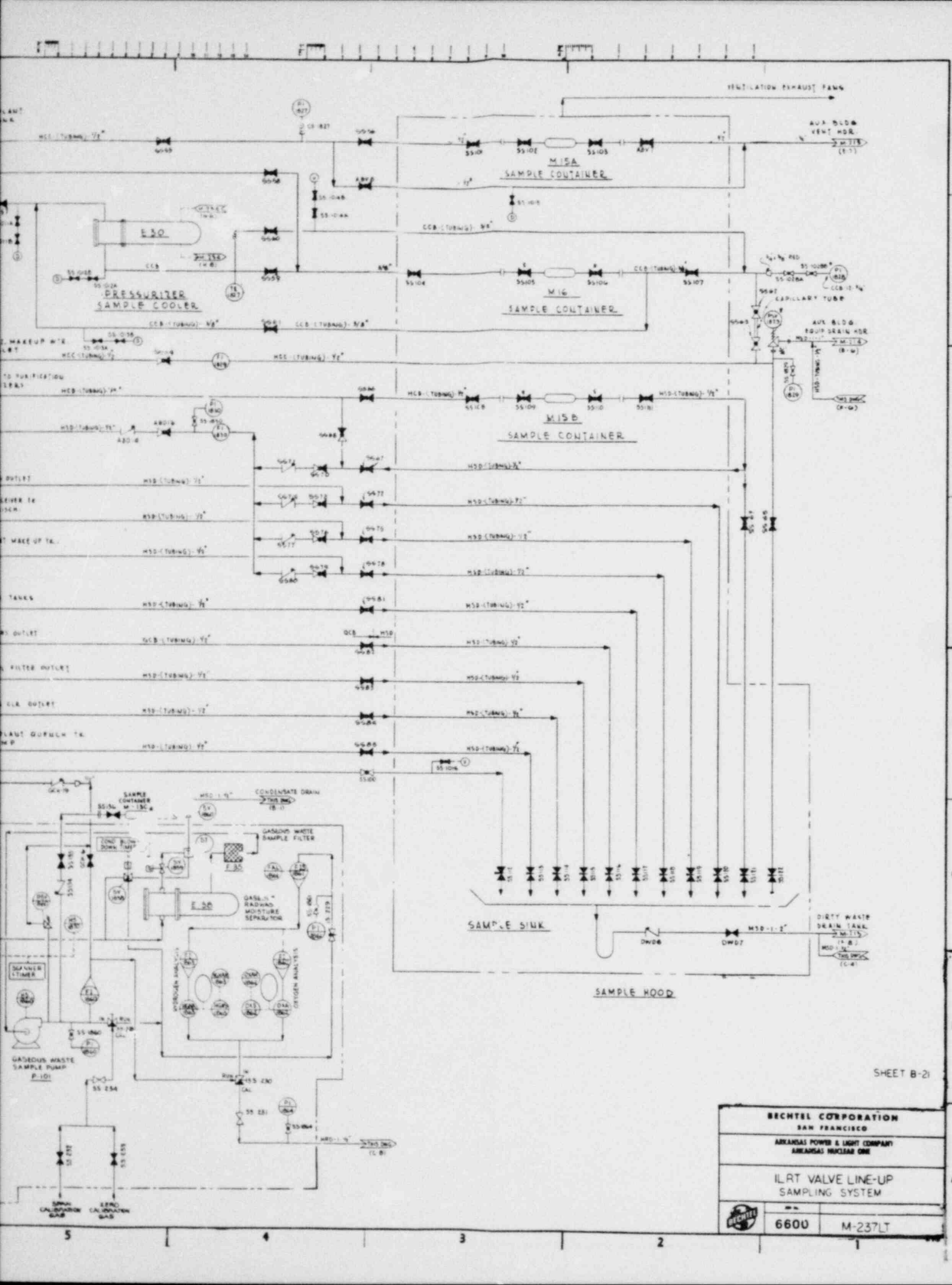


CORE FLOODING SYSTEM

SHEET B-20

BECHTEL CORPORATION SAN FRANCISCO	
ARKANSAS POWER & LIGHT COMPANY ARKANSAS NUCLEAR ONE	
ILRT VALVE LINE-UP REACTOR BUILDING SPRAY & CORE FLOODING SYSTEMS	
6600	M-236LT


FROM MU SYST. LETDOWN LINE
PRESSURIZER STEAM SPACE
PRESSURIZER WATER SPACE
STEAM GEN. E-14A
STEAM GEN. E-14B
E-31A
STEAM GEN. SAMPLE COOLER
GAS COLLECTION HDR
WASTE GAS DECAY TKS
PRIMARY COOLANT QUENCH TANK T-32
DIRTY WASTE DRAIN TANK T-33
AUX BLDG EQUIP DRAIN TANK T-11
CLEAN WASTE RECEIVER TKS T-10A&B
2 SPARE SAMPLING INPUTS
PANEL C-19
H
G
F
E
D
C
B
A
8
7
6



SHEET B-21

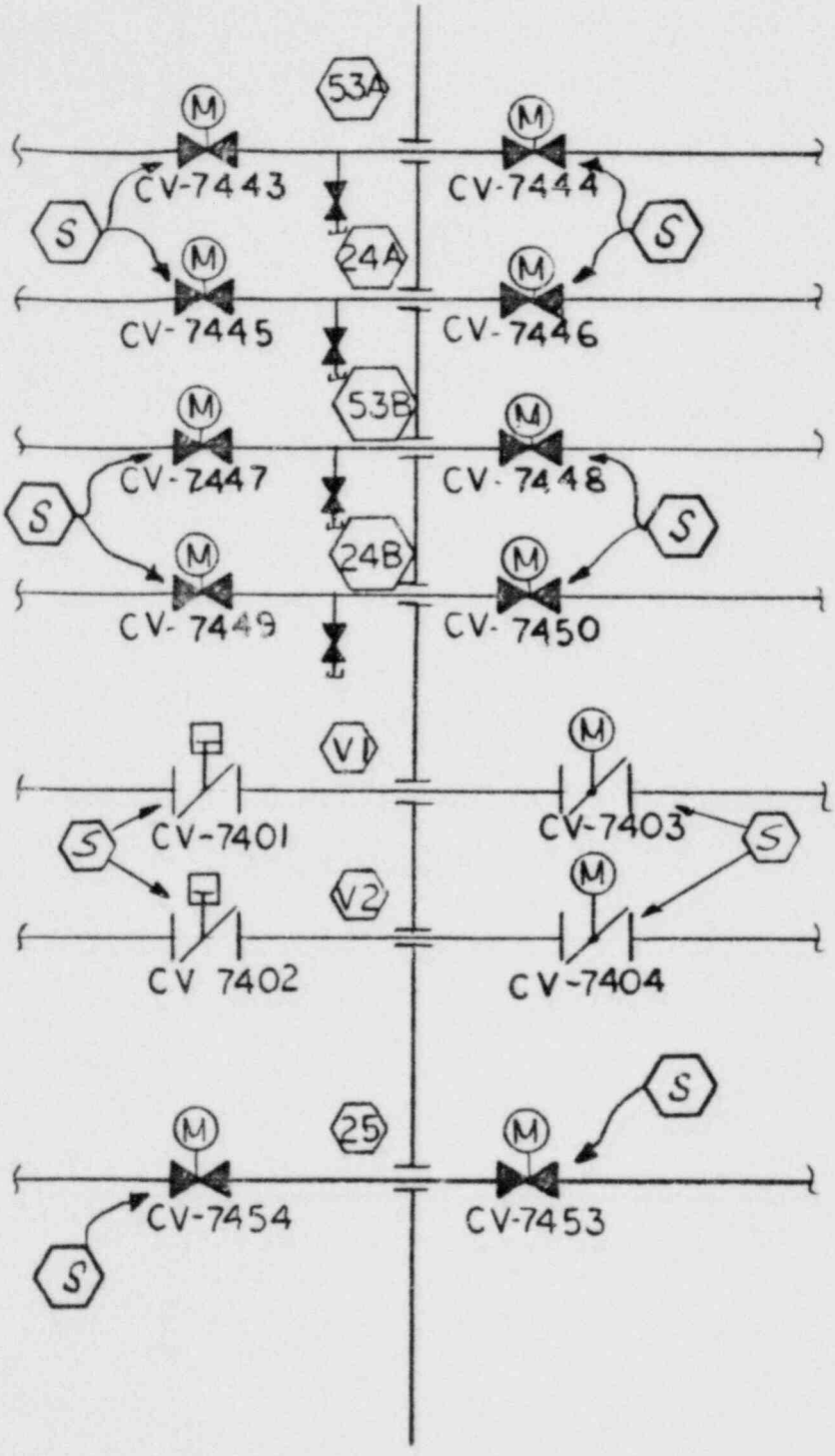
BECHTEL CORPORATION SAN FRANCISCO	
ARKANSAS POWER & LIGHT COMPANY ARKANSAS NUCLEAR ONE	
ILRT VALVE LINE-UP SAMPLING SYSTEM	
6600	M-237LT

TITLE APPENDIX B

SUBJECT HVAC, H_2 (M-261)

JOB No. 6600

SHEET No. B-22



APPEN C

APPENDIX C

INTEGRATED LEAK RATE MEASUREMENT SYSTEM

1. Instrumentation required for leak rate measurement is listed on sheet C-2.

2. The locations of the containment temperature sensors and dewpoint sensors are shown on sheet C-5.

3. Calibration curves and charts for instrumentation are shown on sheets C-6 through C-34.

4. Containment penetrations required for the test are as follows:

   a. Electrical for:

      i) Temperature sensors (72 'pins') (WR-31)

      ii) Dewpoint temperature sensors (30 'pins') (WR-31)

   b. Piping for:

      i) One 3/4" I. D. pipe for pressure sensors. (P-46)

      ii) One 3/4" I. D. pipe for verification blowdown flowmeters. (P-43)

      iii) Three 3" I.D. pipe for pressurizing containment. (P-42, 48, & 49)

No.	DATE	REVISIONS	BY	CH'K	APPR
4	4/1/74	Incorporates post ILRT calibration on dewpoint probes	GVC		
3	12/1/73	Final Report	GVC		
2	9/28/73	Proposed sensor locations and penetration #'s added	GVC		
1	9/18/72	Issued for use	GVC		
0	10/1/71	Issued for review and comment	GVC		

ORIGIN

BECHTEL

CONTAINMENT INTEGRATED LEAK RATE TEST PROCEDURE

JOB No. 6600 Unit 1

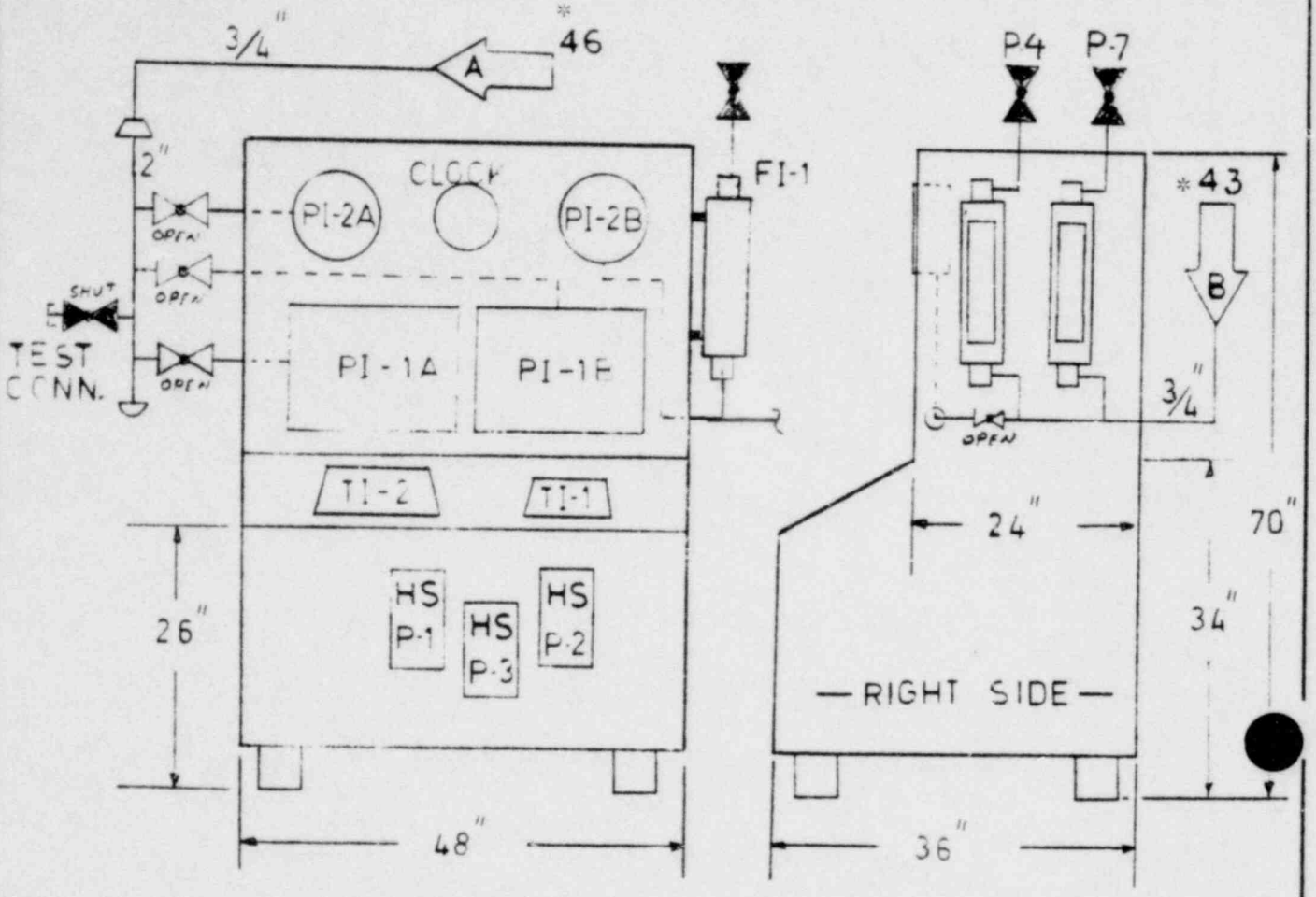
SPEC DES GUIDE No. Startup Standard No. 60

REV 4

"A 1" SIZE

LEAK RATE MEASUREMENT SYSTEM INSTRUMENTATION (Continued)

ITEM	NO. REQ'D.	DESCRIPTION
PI-2	2	Pressure Gauge Wallace & Tiernan Absolute Pressure Gauge Model 61-050, Series 1500, #61A-1A-0100 Range 0-100 psia Accuracy 0.1% full scale Sensitivity 0.01% full scale
FI-1		Flow Meters Brooks Full-View High Accuracy Flowmeter Model 1110-24
	1	Size 8 with scale calibrated to read 2.1 -21 scfm of air at 59 psig, 80°F.
	1	Size 8 with scale calibrated to read 1-10 scfm of air at 30 psig, 80°F.



1. PROPOSED CONTAINMENT INTEGRATED LEAKRATE TEST CONSOLE
   Preliminary Layout - Dimensions Approximate

2. See sheets C-2 and D-2 for instrumentation identification.

* From containment penetration.

No.	DATE	REVISIONS	BY	CH'K	AP

ORIGIN

BECHTEL

CONTAINMENT INTEGRATED LEAK RATE TEST PROCEDURE

JOB No. 6600 Unit 1

SPEC/DES GUIDE No. | REV

Startup Standard No. 60

"A-1" SIZE

Drybulb and Dewpoint Temperature Sensor Locations

Sensor	Elev. (Ft)	Azimuth (Deg)	Distance from center (Ft)	Volume Fraction
RTD				
1	348	040	32	0.044
2	348	190	33	0.051
3	342	275	38	0.026
4	363	165	54	0.013
5	363	015	53	0.010
6	380	040	50	0.009
7	382	210	53	0.018
8	381	270	44	0.070
9	382	330	54	0.011
10	380	035	52	0.018
11	340	060	55	0.010
12	407	035	55	0.021
13	407	150	53	0.021
14	418	180	35	0.027
15	418	020	38	0.027
16	481	340	29	0.208
17	481	170	29	0.208
18	480	0	0	0.208
				1.000
Dewpoint	(Reduced Pressure test)			
1	348	40	32	0.072
2	348	190	33	0.072
3	381	270	44	0.137
4	407	150	53	0.043
5	481	340	29	0.338
6	481	170	29	0.338
				1.000
Dewpoint	(Peak pressure test)*			
1	348	40	32	0.144
2	407	150	53	0.180
3	481	340	29	0.338
4	481	170	29	0.338
				1.000

*Two probes (VP-2 and VP-3) were approaching saturation and were deleted. Probes VP-4 thru VP-6 were renumbered VP-2 thru VP-4

DEWPOINT SENSOR FIELD RECALIBRATION

During Phase 4 and early stabilization period of Phase 5 of the ILRT, monitoring the dewpoint temperature reading of the air in the containment indicated the possibility of the containment air being (or having been, at some earlier time) at or near saturation. The containment was then depressurized to 14 psig and a containment entry made. Simultaneously, the dewpoint temperature probe vendor's calibration laboratory was consulted.

Based on vendor recommendations, the dewpoint sensors were first removed from the containment and cleaned with benzene. Secondly, the probes were checked against the vendor's original, low relative humidity, calibration curves and found to be in conformance. The sensors were then reinstalled in the containment and sling psychometer readings of wet and dry bulb temperatures were taken at each dewpoint sensor location. Simultaneous readings were taken at each location using the dewpoint hygrometer. These three values were recorded for each sensor location. Dewpoint temperatures were then calculated for the respective locations using the following equation proposed by Dr. Carrier, solving for the partial pressure of the water vapor in air at any given wet and dry bulb temperature:

$$P_v = P_{sv} - \frac{(P_b - P_{sv})(td - tw)}{2800 - 1.3tw} \quad *$$

Where: P_v = Pressure of the water vapor at the unsaturated condition, in. Hg.

P_{sv} = Pressure of the saturated water vapor at the wet bulb temperature, in. Hg.

P_b = Barometric pressure, in. Hg.

td = Dry bulb temperature, ^{o}F

tw = Wet bulb temperature, ^{o}F

Entering steam tables at a saturation pressure of P_v yields the dewpoint temperature.

These values of dewpoint temperatures and the previously recorded hygrometer readings were then used to plot field high relative humidity calibration curves, marked A on pages C-29 through C-34 of this report. These new curves also compensated for the individual probe wiring length capacitance which was a function of the length of wiring to each probe. The calibration curves were inserted in the computer program for use in the Integrated Leak Rate Calculations.

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* This equation is a mathematically equivalent form of the Basic Psychrometric Equation as shown in ASTM E 337-62 for the units shown.

DEWPOINT SENSOR FIELD RECALIBRATION (Continued)

Sheets C-29 through C-34 show the calibration curves for the dewpoint temperature probes used during the ILRT. Curve A shows the field calibration of the probes described on sheet C-5A. Curve D is the original calibration conducted by Panametrics on October 29, 1974. Curves B and C are post ILRT calibrations conducted by Panametrics on March 13, 1974. Curves C and D were made with a drybulb-dewpoint temperature separation of 10°F. Curve B was made with a drybulb-dewpoint temperature separation of 3°F.

It is seen that the slopes of the curves are about the same but the absolute value is affected by drybulb-dewpoint temperature separation and by age of the probe. Since leak rate calculations are based on changes of containment atmosphere the slope of the curve, not the absolute value, is the primary concern. Also, for a given test the dewpoint-drybulb separation did not change appreciably. It is noted that the change in hygrometer reading was very small over the test periods. For the reduced pressure ILRT the containment average dewpoint temperature at the start of test was 70.57°F and at the end of test was 70.97°F for a change of 0.4°F over 8.75 hours. For the peak pressure ILRT the average dewpoint temperatures were 75.33°F and 75.23°F, respectively, for a change of 0.1°F over 8.75 hours. Therefore, it is seen that dewpoint temperature was relatively constant.

To further investigate the effects of dewpoint temperature, the data for both ILRT's was re-inserted into the computer program without correcting for dewpoint temperatures. The uncorrected peak pressure computed leak rate was slightly lower (by a factor of 4.3% La) and the reduced pressure computed leak rate was slightly higher (by a factor of 13% Lt).

Therefore, shifting of calibration curves due to age or dewpoint-drybulb temperature separation does not have a significant affect on the ILRT results.

TEXAS INSTRUMENTS
INCORPORATED
12203 SOUTHWEST FREEWAY • STAFFORD, TEXAS
DIGITAL SYSTEMS DIVISION

CERTIFICATE OF CALIBRATION

PRESSURE GAGE NO. 2638 MODEL NO. 145-02 BOURDON CAPSULE NO. 5496

This instrument has been calibrated to meet or exceed all published specifications. The calibration has been performed with a pressure measurement system whose accuracy is traceable to the National Bureau of Standards.

Traceability is achieved through a pressure standard which is certified by the National Bureau of Standards at planned intervals. This standard is maintained and operated in an environment controlled to the extent necessary to assure continued measurements of the required accuracy. Test data, applicable to this instrument, is maintained on file at Texas Instruments Incorporated for a period of five years from date of shipment.

STANDARD	NBS REPORT NO.	DATE
Ruska Double-Range Dead Weight Tester Model 2468-710 Serial No. 16384	221.07/199984	3/10/70
Ruska Weight Set Model 2468-702 Serial No. 16360	212.31/200235	3/10/70

TEXAS INSTRUMENTS INCORPORATED
Standards Laboratory

DATE: 10-03-73

TEXAS INSTRUMENTS INCORPORATED
DIGITAL SYSTEMS DIVISION
P.O. BOX 1444
HOUSTON, TEXAS 77001
TELEPHONE: 713-494-5115

********** PRECISION PRESSURE CALIBRATION TABLE **********

CAPSULE S/N: 5496 INSTR. S/N: 2638 CAL'N DATE: 10/03/73
CAPSULE RATED PRESSURE: 100 PSIA MAX PRESS: 150 PSIA
CAPSULE TYPE: 2 INSTRUMENT MODEL: 145-01
CAPSULE TEMPERATURE AT CALIBRATION: 49.1 DEG. C.
CALIBRATION STANDARD: P-1604-3123 CALIBRATED BY:

TRUE PRESSURE (PSIA)	COUNTER READING (COUNTS)
0.0	0.
5.000	5032.
10.000	10069.
15.000	15108.
20.000	20156.
25.000	25212.
30.000	30274.
35.000	35340.
40.000	40404.
45.000	45486.
50.000	50570.
55.000	55662.
59.000	60695.
60.000	60765.
65.000	65865.
70.000	70972.
75.000	76086.
80.000	81205.
85.000	86340.
90.000	91479.
95.000	96616.
100.000	101772.

NOTES:

1. PRESSURE CALIBRATION STANDARDS CORRECTED TO STANDARD GRAVITY, 980.665 CM/SEC/SEC. UNITS OF MERCURY CORRECTED TO 0 DEG.C. UNITS OF WATER CORRECTED TO 20 DEG.C.

2. COUNTER READING VS TRUE PRESSURE APPLIES ONLY AT ABOVE SPECIFIED CAPSULE TEMPERATURE. FOR OTHER TEMPERATURE, COUNTER READING VS PRESSURE MAY BE CORRECTED BY +0.013% OF COUNTER READING PER + DEG.C. DEVIATION FROM CALIBRATION TEMP. (TEMPERATURE SET-POINT CAN BE ADJUSTED PER INSTRUCTIONS IN MAINTENANCE SECTION OF MANUAL)

TEXAS INSTRUMENTS
INCORPORATED
12203 SOUTHWEST FREEWAY • STAFFORD, TEXAS
DIGITAL SYSTEMS DIVISION

CERTIFICATE OF CALIBRATION

PRESSURE GAGE NO. 2639 MODEL NO. 145-02 BOURDON CAPSULE NO. 5494

This instrument has been calibrated to meet or exceed all published specifications. The calibration has been performed with a pressure measurement system whose accuracy is traceable to the National Bureau of Standards.

Traceability is achieved through a pressure standard which is certified by the National Bureau of Standards at planned intervals. This standard is maintained and operated in an environment controlled to the extent necessary to assure continued measurements of the required accuracy. Test data, applicable to this instrument, is maintained on file at Texas Instruments Incorporated for a period of five years from date of shipment.

STANDARD	NBS REPORT NO.	DATE
Ruska Double-Range Dead Weight Tester Model 2468-710 Serial No. 16384	221.07/199984	3/10/70
Ruska Weight Set Model 2468-702 Serial No. 16360	212.31/200235	3/10/70

TEXAS INSTRUMENTS INCORPORATED
Standards Laboratory

DATE: 10-02-73

TEXAS INSTRUMENTS INCORPORATED
DIGITAL SYSTEMS DIVISION
P.O. BOX 1444
HOUSTON, TEXAS 77001
TELEPHONE: 713-494-5115

PRECISION PRESSURE CALIBRATION TABLE

CAPSULE S/N: 5494 INSTR. S/N: 2639 CAL'N DATE: 10/02/73
CAPSULE RATED PRESSURE: 50 PSIA MAX PRESS: 63 PSIA
CAPSULE TYPE: 2 INSTRUMENT MODEL: 145-01
CAPSULE TEMPERATURE AT CALIBRATION: 49.0 DEG. C.
CALIBRATION STANDARD: P-1604-3117 CALIBRATED BY:

TRUE PRESSURE (PSIA)	COUNTER READING (COUNTS)
0.0	0.
2.5000	5079.
5.0000	10168.
7.5000	15257.
10.0000	20358.
12.5000	25468.
15.0000	30585.
17.5000	35699.
20.0000	40824.
22.5000	45955.
25.0000	51098.
27.5000	56233.
30.0000	61384.
32.5000	66558.
35.0000	71721.
37.5000	76804.
40.0000	82074.
42.5000	87253.
45.0000	92447.
47.5000	97644.
50.0000	102839.

NOTES:

1. PRESSURE CALIBRATION STANDARDS CORRECTED TO STANDARD GRAVITY, 980.665 CM/SEC/SEC. UNITS OF MERCURY CORRECTED TO 0 DEG.C. UNITS OF WATER CORRECTED TO 20 DEG.C.

2. COUNTER READING VS TRUE PRESSURE APPLIES ONLY AT ABOVE SPECIFIED CAPSULE TEMPERATURE. FOR OTHER TEMPERATURE, COUNTER READING VS PRESSURE MAY BE CORRECTED BY +0.013% OF COUNTER READING PER + DEG.C. DEVIATION FROM CALIBRATION TEMP. (TEMPERATURE SET-POINT CAN BE ADJUSTED PER INSTRUCTIONS IN MAINTENANCE SECTION OF MANUAL)

TEXAS INSTRUMENTS
INCORPORATED
12203 SOUTHWEST FREEWAY • STAFFORD, TEXAS
DIGITAL SYSTEMS DIVISION

CERTIFICATE OF CALIBRATION

PRESSURE GAGE NO. 2639 MODEL NO. 145-02 BOURDON CAPSULE NO. 5497

This instrument has been calibrated to meet or exceed all published specifications. The calibration has been performed with a pressure measurement system whose accuracy is traceable to the National Bureau of Standards.

Traceability is achieved through a pressure standard which is certified by the National Bureau of Standards at planned intervals. This standard is maintained and operated in an environment controlled to the extent necessary to assure continued measurements of the required accuracy. Test data, applicable to this instrument, is maintained on file at Texas Instruments Incorporated for a period of five years from date of shipment.

STANDARD	NBS REPORT NO.	DATE
Ruska Double-Range Dead Weight Tester Model 2468-710 Serial No. 16384	221.07/199984	3/10/70
Ruska Weight Set Model 2468-702 Serial No. 16360	212.31/200235	3/10/70

Stephen Kraus
TEXAS INSTRUMENTS INCORPORATED
Standards Laboratory

DATE: 10-03-73

TEXAS INSTRUMENTS INCORPORATED
DIGITAL SYSTEMS DIVISION
P.O. BOX 1444
HOUSTON, TEXAS 77001
TELEPHONE: 713-494-5115

********** PRECISION PRESSURE CALIBRATION TABLE **********

CAPSULE S/N: 5497 INSTR. S/N: 2639 CAL'N DATE: 10/03/73
CAPSULE RATED PRESSURE: 100 PSIA MAX PRESS: 150 PSIA
CAPSULE TYPE: ? INSTRUMENT MODEL: 145-01
CAPSULE TEMPERATURE AT CALIBRATION: 49.0 DEG. C.
CALIBRATION STANDARD: P-1004-3123 CALIBRATED BY:

TRUE PRESSURE (PSIA)	COUNTER READING (COUNTS)
0.0	0.
5.000	4929.
10.000	9856.
15.000	14787.
20.000	19723.
25.000	24669.
30.000	29619.
35.000	34567.
40.000	39521.
45.000	44478.
50.000	49438.
55.000	54401.
59.000	59306.
60.000	59376.
65.000	64348.
70.000	69327.
75.000	74307.
80.000	79290.
85.000	84288.
90.000	89280.
95.000	94278.
100.000	99288.

NOTES:

1. PRESSURE CALIBRATION STANDARDS CORRECTED TO STANDARD GRAVITY, 980.665 CM/SEC/SEC. UNITS OF MERCURY CORRECTED TO 0 DEG.C. UNITS OF WATER CORRECTED TO 20 DEG.C.

2. COUNTER READING VS TRUE PRESSURE APPLIES ONLY AT ABOVE SPECIFIED CAPSULE TEMPERATURE. FOR OTHER TEMPERATURE, COUNTER READING VS PRESSURE MAY BE CORRECTED BY +0.013% OF COUNTER READING PER + DEG.C. DEVIATION FROM CALIBRATION TEMP. (TEMPERATURE SET-POINT CAN BE ADJUSTED PER INSTRUCTIONS IN MAINTENANCE SECTION OF MANUAL)

TEXAS INSTRUMENTS
INCORPORATED
12203 SOUTHWEST FREEWAY • STAFFORD, TEXAS
DIGITAL SYSTEMS DIVISION

CERTIFICATE OF CALIBRATION

PRESSURE GAGE NO. 2638 MODEL NO. 145-02 BOURDON CAPSULE NO. 5495

This instrument has been calibrated to meet or exceed all published specifications. The calibration has been performed with a pressure measurement system whose accuracy is traceable to the National Bureau of Standards.

Traceability is achieved through a pressure standard which is certified by the National Bureau of Standards at planned intervals. This standard is maintained and operated in an environment controlled to the extent necessary to assure continued measurements of the required accuracy. Test data, applicable to this instrument, is maintained on file at Texas Instruments Incorporated for a period of five years from date of shipment.

STANDARD	NBS REPORT NO.	DATE
Ruska Double-Range Dead Weight Tester Model 2468-710 Serial No. 16384	221.07/199984	3/10/70
Ruska Weight Set Model 2468-702 Serial No. 16360	212.31/200235	3/10/70

Stephen Kobrin
TEXAS INSTRUMENTS INCORPORATED
Standards Laboratory

DATE: 10-02-73

TEXAS INSTRUMENTS INCORPORATED
DIGITAL SYSTEMS DIVISION
P.O. BOX 1444
HOUSTON, TEXAS 77001
TELEPHONE: 713-494-5115

PRECISION PRESSURE CALIBRATION TABLE

CAPSULE S/N: 5495 INSTR. S/N: 2638 CAL'N DATE: 10/02/73
CAPSULE RATED PRESSURE: 50 PSIA MAX PRESS: 63 PSIA
CAPSULE TYPE: 2 INSTRUMENT MODEL: 145-02
CAPSULE TEMPERATURE AT CALIBRATION: 49.1 DEG. C.
CALIBRATION STANDARD: P-1604-3117 CALIBRATED BY:

TRUE PRESSURE (PSIA)	COUNTER READING (COUNTS)
0.0	0.
2.5000	5131.
5.0000	10262.
7.5000	15397.
10.0000	20543.
12.5000	25689.
15.0000	30836.
17.5000	35992.
20.0000	41154.
22.5000	46322.
25.0000	51500.
27.5000	56674.
30.0000	61859.
32.5000	67052.
35.0000	72243.
37.5000	77447.
40.0000	82658.
42.5000	87868.
45.0000	93083.
47.5000	98314.
50.0000	103552.

NOTES:

1. PRESSURE CALIBRATION STANDARDS CORRECTED TO STANDARD GRAVITY, 980.665 CM/SEC/SEC. UNITS OF MERCURY CORRECTED TO 0 DEG.C. UNITS OF WATER CORRECTED TO 20 DEG.C.

2. COUNTER READING VS TRUE PRESSURE APPLIES ONLY AT ABOVE SPECIFIED CAPSULE TEMPERATURE. FOR OTHER TEMPERATURE, COUNTER READING VS PRESSURE MAY BE CORRECTED BY +0.013% OF COUNTER READING PER + DEG.C. DEVIATION FROM CALIBRATION TEMP. (TEMPERATURE SET-POINT CAN BE ADJUSTED PER INSTRUCTIONS IN MAINTENANCE SECTION OF MANUAL)

11-1-73

TI PRESSURE GAUGE 145-01 S/N 2639

" CAPSUIE S/N 5497 48.0°C

VACCUM GAUGE HM-504-100 S/N 331

run one VAC GAUGE = 86.997 MICRONS .086 X 0.019305 = 0.00168 PSIA

run two = 67.179 MICRONS 0.067179 X 0.019305 = 0.00013 PSIA

TI GAUGE 25.1 TO 0.002 PSIA FOR BOTH RUNS

AVERAGE ERROR = 0.00055 PSIA

11-3-73

TI PRESSURE GAUGE 145 01 S/N 2658

CAPSULE S/N 5495 48.2°C

VACCUM GAUGE H.H-504-100 S/N 331

RUN ONE VAC. GAUGE = 0.12944 TORR = .0025 PSIA 716 = .001

RUN TWO VAC. GAUGE 0.071894 TORR = .0014 PSIA = .005

RUN ONE ERROR = +0.001 PSIA

RUN TWO ERROR = +0.0011 PSIA AVE = +0.00105 PSIA

1 TORR = 0.019305 PSI

LEEDS & NORTHRUP COMPANY Sumneytown Pike • North Wales, Pennsylvania 19454

CALIBRATION REPORT

FOR

TWENTY CAT. 8197-10-S

100 OHM COPPER THERMOHMS

-oOo-

Customer Order No. 15473 L&N Order No. 59352-1

The above designated thermohms were checked and found to have corrections to L&N Conversion Tables 77-21-0-4, Issue 4 as follows:

Thermohm No.	Temperature Deg. F	10/26/73 ACT	Corrections Deg. F	10/26/73 ACT. (no corrections)
1	32	32.03	Subt. 0.15	32.18
	100	100.0	Add 0.02	100.0
	150		Subt. 0.09	
2	32	32.05	Subt. 0.04	32.05
	100	100.0	Add 0.02	100.1
	150		Add 0.19	
3	32	32.2	Subt. 0.06	32.27
	100	100.1	Subt. 0.07	100.2
	150		Subt. 0.04	
4	32	32.2	Subt. 0.08	32.29
	100	100.0	Add 0.03	100.1
	150		Add 0.12	
5	32	32.3	Subt. 0.03	32.37
	100	101.0	Subt. 0.05	101.2
	150		Add 0.01	
6	32	32.2	Subt. 0.12	32.34
	100	100.0	Subt. 0.07	100.0
	150		Subt. 0.05	
7	32	32.45	Subt. 0.06	32.51
	100	99.9	Subt. 0.04	100.3
	150		Subt. 0.19	
8	32	32.2	Subt. 0.08	32.29
	100	100.0	Subt. 0.12	100.05
	150		Subt. 0.11	
9	32	32.2	Subt. 0.20	32.41
	100	100.0	Subt. 0.19	100.55
	150		Subt. 0.06	

2 Sheets
Sheet #1

TELEPHONE: 215 643-2000 • CABLE ADDRESS "LEEDSNORTH"

Thermohm No.	Temperature Deg. F		Corrections Deg. F	
10	32	32.2	Subt. 0.03	32.13
	100	100.05	Subt. 0.16	[illegible]
	150		Subt. 0.10	
11	32	[illegible]	Subt. 0.15	[illegible]
	100	[illegible]	Subt. 0.12	[illegible]
	150		Subt. 0.05	
12	32	[illegible]	Subt. 0.08	[illegible]
	100	[illegible]	Subt. 0.12	[illegible]
	150		Subt. 0.07	
13	32	32.0	Subt. 0.08	[illegible]
	100	[illegible]	Add 0.05	[illegible]
	150		Subt. 0.19	
14	32	32.05	Subt. 0.12	[illegible]
	100	[illegible]	Subt. 0.12	[illegible]
	150		Subt. 0.04	
15	32	32.1	Subt. 0.06	32.19
	100	[illegible]	Subt. 0.10	[illegible]
	150		Subt 0.03	
16	32	[illegible]	Subt. 0.12	[illegible]
	100	[illegible]	Subt. 0.06	[illegible]
	150		Subt. 0.09	
17	32	32.2	0	32.18
	100	[illegible]	Subt. 0.04	[illegible]
	150		Add 0.01	
18	32	32.15	Subt. 0.12	32.31
	100	100.0	Subt. 0.19	[illegible]
	150		Subt. 0.09	
19	32	32.2	Subt. 0.04	32.28
	100	[illegible]	Subt. 0.12	[illegible]
	150		Subt. 0.07	
20	32	32.2	Subt. 0.03	32.25
	100	[illegible]	Subt. 0.09	[illegible]
	150		Subt. 0.18	

All observations were made by comparision with reference standards calibrated at regular intervals by the National Bureau of Standards. The most recent reference standard calibration is dated August, 1972; N.B.S. Test No. 207024.

LEEDS & NORTHRUP COMPANY

R. H. Verity

R. H. Verity
Manager, Standards Laboratory

2 Sheets
Sheet 2

CALIBRATION DATA SHEET

Instrument No. DVM-ARO-3

Manufacturer: Leeds & Northrup

Item: Numatron

Model No: Series 900

Type: NA

Serial No: 1808923

System: NA

Cabinet Location: NA

Span: NA

Vendor Print No: NA

Instruction Book File No: NA

Accuracy: ± 0.01% DC Volts

Calibration Procedure No: CP 1303.07

SENSOR TYPE	100 Ω CARBON	
SENSOR RANGE	0-150°F	Tolerance (least significant digit)
Indication "0"/ 1 volt range	.0000	±1
Indication "0"/ 10-2V Range	0.000	±1
Indication "+15" mV	+15.001 mV	±2
Indication "-15" mV	-14.999	±2
Indication +150 mV	149.99 mV	±3
Indication +1.5 V	1.4999 V	±3
Indication +15.0 V	14.998 V	±3

SENSOR INPUT	NOMINAL INDICATION	ACTUAL INDICATION	
84.761	6.00°F	6.00°F	
94.238	50.00°F	50.00°F	
102.847	90.00°F	89.99	
109.301	120.00°F	119.98	
115.767	150.00°F	149.99	

Calibration performed by: TUCKER + SPENCER Date: 9-13-73

Reviewed by: [signature] Date: 9/13/73

CERTIFICATE OF CONFORMANCE

DATE February 13, 1973

Arkansas Nuclear One
P.O. Box 608
So. of Jct of Hwy 64W & 333
Russellville, Arkansas 72801

MODEL NO. 1110-08K2B1A** PURCHASE ORDER NO. 15506

QUANTITY 1 METER S/N 7212-39316

METER ACCURACY ±1% Instantaneous VENDOR ORDER NO. 7212-39316

This is to certify that the material and/or processes supplied on the referenced order have been tested and found to be in strict accordance with all applicable specifications forming a part of the subject purchase order listed above.

Test reports are on file with us or with our suppliers for examination and indicate conformance with applicable specification requirements.

**Hi-Accuracy Full-View Rotameter

EMERSON
BROOKS INSTRUMENT DIVISION
EMERSON ELECTRIC CO.
HATFIELD, PENNSYLVANIA 19440
(215) 368-2000

SIGNED M. Conville
Mike Conville
TITLE Supervisor, Quality Control

bjk

CERTIFICATE OF CONFORMANCE

DATE February 13, 1973

Arkansas Nuclear One
P.O. Box 608
So. of Jct Hwy. 64W & 333
Russellville, Arkansas 72801

MODEL NO. 1110-08K2B1A** PURCHASE ORDER NO. 15506

QUANTITY 1 METER S/N 7212-39315

METER ACCURACY ±1% Instantaneous VENDOR ORDER NO. 7212-39315

This is to certify that the material and/or processes supplied on the referenced order have been tested and found to be in strict accordance with all applicable specifications forming a part of the subject purchase order listed above.

Test reports are on file with us or with our suppliers for examination and indicate conformance with applicable specification requirements.

**Hi-Accuracy Full-View Rotameter

EMERSON

BROOKS INSTRUMENT DIVISION
EMERSON ELECTRIC CO.
HATFIELD, PENNSYLVANIA 19440
(215) 368-2000

SIGNED W. Conville

Mike Conville

TITLE Supervisor, Quality Control

bjk

CERTIFICATE OF CONFORMANCE

DATE February 13, 1973

Arkansas Nuclear One
P.O. Box 608
So. of Jct of Hwy 64W & 333
Russellville, Arkansas 72801

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Test reports are on file with us or with our suppliers for examination and indicate conformance with applicable specification requirements.

**Hi-Accuracy Full-View Rotameter

EMERSON

BROOKS INSTRUMENT DIVISION
EMERSON ELECTRIC CO
HATFIELD, PENNSYLVANIA 19440
(215) 368-2000

SIGNED Mike Conville

TITLE Supervisor, Quality Control

bjk

CORPORATION

DIVISION

MEASUREMENT AND CONTROL

25 MAIN STREET, BELLEVILLE, NEW JERSEY 07109 (201) 759-8000

REPLY TO: P.O. BOX 178
NEWARK, N.J. 07101

DATE: 9/28/73

STATEMENT OF COMPLIANCE

CUSTOMER Arkansas Power & Light Company

LOCATION Russellville, Arkansas

PURCHASE ORDER 28067

SHIPPING ORDER 21234 A

This is to certify that materials and processes involved in the manufacture and verification of the product(s) included in this shipment comply with the catalog, drawing or specification referenced in the order.

It is certified further that the calibration is traceable to the National Bureau of Standards.

WALLACE & TIERNAN DIV.

A. Gaffney

A. Gaffney, Manager
of Test and Inspection

VU 13636

CALIBRATION DATA SHEET

Instrument No. TG 34 System: TEST EQUIPT

Manufacturer WALLACE & TIERNAN Cabinet Location: LLRT TEST

Item: TEST GAGE, ABSOLUTE PRESS Span: 0-100 PSIA

Model No: SCIENCE 1500 Vendor Print No: N/A

Type: N/A Instruction Book File No: N/A

Serial No: TT 13515 Accuracy: .15% 85-100 ; .1% 0-85

Calibration Procedure No: N/A

Cal. Check Point	Indication Before Cal.		After Cal.				Movement No.
	Inc.	Dec.	Indication		% Error		Movement Condition
			Inc.	Dec.	Inc.	Dec	Good ✓ Repaired
24"Hg-2.97 PSIA			2.98	2.98	.01	.01	Bad Replaced
18"Hg-5.91 PSIA			5.86	5.87	.05	.04	REMARKS
12"Hg-8.86 PSIA			8.78	8.78	.08	.08	USE MEAN = .05
6"Hg-11.81 PSIA			11.72	11.72	.09	.09	PP & MEG TESTOR
* 14.75 PSIA			14.70	14.70	.05	.05	# 67745 (ACC .02)
24.75 "			24.66	24.66	.09	.09	
34.75 "			34.67	34.67	.08	.08	* ATMOSHERIC PRESS
44.75 "			44.71	44.71	.04	.04	
54.75 "			54.66	54.66	.09	.09	
64.75 "			64.66	64.66	.09	.09	
74.75 "			74.66	74.66	.09	.09	
84.75 "			84.85	84.85	.10	.10	
94.75 "			94.90	94.90	.15	.15	
99.75 "			99.90	99.90	.15	.15	

Calibration performed by: [illegible] Date: 11-3-73

Reviewed by: [illegible] Date: 11/7/73

FORM NO. TG-1

CALIBRATION DATA SHEET

Instrument No. TG 35 — System: TEST EQUIPT.

Manufacturer WALLACE & TIERNAN — Cabinet Location: N/A

Item: ABSOLUTE PRESS. GAGE — Span: 0-100 PSIA

Model No: SERIES 1500 — Vendor Print No: N/A

Type: BELLOWS — Instruction Book File No: N/A

Serial No: TT 13515 — Accuracy: .1 %

Calibration Procedure No: 1303.39

Cal. Check Point	Indication Before Cal.		After Cal.				Movement No.
	Inc.	Dec.	Indication		% Error		Movement Condition
			Inc.	Dec.	Inc.	Dec	Good ✓ Repaired
24"Hg-2.17 PSIA			2.98	2.99	.01	.02	Bad Replaced
18"Hg-5.91 PSIA			5.85	5.87	.06	.02	REMARKS
12"Hg-8.86 PSIA			8.82	8.78	.04	.08	USED MAN.-03, VAC
6"Hg-11.81 PSIA			11.79	11.81	.02	0	PP. AND MANSFIELD &
← 14.75 PSIA			14.71	14.75	.04	0	GREEN PNEUMATIC
24.75			24.75	24.75	0	0	TESTER # 67260 (K-750
34.75			34.71	34.72	.04	.03	ACC. .025
44.75			44.71	44.72	.04	.03	
54.75			54.70	54.72	.05	.03	* ATMOSPHERIC PRESS.
64.75			64.73	64.75	.02	0	
74.75			74.69	74.73	.06	.02	
84.75			84.69	84.71	.06	.04	
94.75			94.68	94.70	.07	.05	
99.75			99.73		.02		

Calibration performed by: MARTIN, LENDERMAN, WAXENFELTER 10-12-73 Date:

Reviewed by: DKR Date: 10/12/73

MODEL ______ / SCHEDULE ______

CALIBRATION DATA SHEET

CUSTOMER CONDITIONS

SIZE [illegible]
ID [illegible] PRESS 60 PSIG TEMP 70°F
MAX. REQ. [illegible] RANGE 10:1
ACCURACY ± 1% FSA SP. GR. 1.0
SC. ______ FLOAT MATL. Glass
QUANTITY [illegible] (2) TAPER ______

CALIBRATION CONDITIONS

GAS ______
SP. GR. ______
CAL. PRESS. ______
BARO. PRESS. [illegible]
TEMP. 70 K .9920
CALIBRATOR [illegible]
DATE 23-JAN-75

LIQUID ______
SP. GR. ______
TEMP ______ K ______
VISC. ______
FLOAT MATL. ______
FLOAT SP. GR. ______
FLOW REQ. ______

CALIB. POINTS ______ SCALE 1 2 3 4 K FACTOR ______

SCALE DATA: BEGIN ______ LOW VALUE ______
END ______ HIGH VALUE ______
INCREMENT ______ SERIAL NO. ______

HELIX MM	VOLUME (cc)	TIME (sec)	CALIB. POINT	CORR. FLOW RATE (cc/m)	FLOAT MM	
	200	54.94	13.	212.9	150.	
	150	49.05	12.	181.9	135.	
	150	58.91	11.	153	120.	
	150	70.04	10.	127.5	105.	
	100	50.51	9.	117.5	100	
	100	58.93	8.	101	90.	
	100	62.90	7.	94.6	85.	
	100	72.97	6.	81.65	75.	
	60	[illegible]	5.	62.55	60.	
	40	51.41	4.	46.32	45.	
	30	57.05	3.	31.27	30.	
	20	54.80	2.	21.721	15.	
	20	63.89	1.	18.63	10.	

MODEL ______ 1 SCHEDULED ______ 1

CALIBRATION DATA SHEET

CUSTOMER CONDITIONS

SIZE 7-2 15 AAA

D Air PRESS 60 PSIG TEMP 70° F

. REQ. [illegible] RANGE ______

CURACY ± 1% [illegible] SP. GR. 1.0

. ______ FLOAT MATL. [illegible]

ANTITY Two [illegible] TAPER ______

CALIBRATION CONDITIONS

GAS ______ LIQUID ______

SP. GR. ______ SP. GR. ______

CAL. PRESS. ______ TEMP ______ K ______

BARO. PRESS. [illegible] VISC. ______

TEMP 70 K [illegible] FLOAT MATL. ______

CALIBRATOR [illegible] FLOAT SP. GR. ______

DATE [illegible] FLOW REQ. ______

LIB. POINTS ______ SCALE 1 2 3 4 K FACTOR ______

LE DATA: BEGIN ______ LOW VALUE ______

END ______ HIGH VALUE ______

INCREMENT ______ SERIAL NO. ______

HELIX MM	/ VOLUME cc	TIME sec.	CALIB. POINT	CORR. FLOW RATE cc/m	FLOAT MM	
	1000	5766	13.	[illegible]	150	
	200	[illegible]	12.	947.5	135	
	800	55.82	11.	850.	120.	
	600	41.91	10.	762.	105	
	600	[illegible]	9.	666.5	90	60
	600	[illegible]	8.	581.	75	
	400	49.9[illegible]	7.	476	60	
	300	[illegible]	6.	353.	45	
	250	61.50	5.	242.5	30	
	200	55.31	4	215.2	25	
	200	60.83	3	195.6	15	
	200	[illegible]	2	160.	10	
	150	[illegible]	1	100.	3	

MODEL _____ / SCHEDULED _____ /

CALIBRATION DATA SHEET

CUSTOMER CONDITIONS

SIZE F-2-15-A-2
FLUID AIR PRESS 60 PSIG TEMP 70°F
FLOW REQ. _____ RANGE _____
ACCURACY ± 1% FS SP. GR. 1.0
TUBE _____ FLOAT MATL. Glass
QUANTITY Two (2) TAPER _____

CALIBRATION CONDITIONS

GAS _____ LIQUID _____
SP. GR. _____ SP. GR. _____
CAL. PRESS. _____ TEMP _____ K
BARO. PRESS. 29.5 VISC. _____
TEMP 70 K .9725 FLOAT MATL. _____
CALIBRATOR P.H. FLOAT SP. GR. _____
DATE 20-JAN-72 FLOW REQ. _____

LIB. POINTS _____ SCALE 1 2 3 4 K FACTOR _____

SCALE DATA: BEGIN _____ LOW VALUE _____
END _____ HIGH VALUE _____
INCREMENT _____ SERIAL NO. _____

HELIX MM	1/2 VOLUME (cc.)	TIME (sec.)	CALIB. POINT	CORR. FLOW RATE (cc/m)	FLOAT MM	
	200	57.24	11.	208.1	150	
	180	49.70	10.	179.9	125	
	160	39.57	9.	150	120	
	150	71.79	8.	124.5	105	
	100	59.02	7.	100.8	90	
	80	57.58	6.	82.8	75	
	70	65.49	5.	63.65	60	
	50	62.57	4.	47.6	45	
	30	53.10	3	33.63	30	
	25	66.05	2	22.52	15	
	20	61.23	1.	19.45	10	

MODEL / SCHEDULED /

CALIBRATION DATA SHEET

CUSTOMER CONDITIONS

SIZE [illegible]
D [illegible] PRESS 60-75 [illegible] TEMP 70°F
REQ. [illegible] RANGE
ACCURACY [illegible] F.S. SP. GR. 1.0
FLOAT MATL. Tantalum
QUANTITY two (2) TAPER

GAS SP. GR. CAL. PRESS. BARO. PRESS. [illegible] TEMP 70 K [illegible] CALIBRATOR [illegible] DATE [illegible]

CALIBRATION CONDITIONS

LIQUID SP. GR. TEMP K VISC. FLOAT MATL. FLOAT SP. GR. FLOW REQ.

CALIB. POINTS SCALE 1 2 3 4 K FACTOR

SCALE DATA: BEGIN END INCREMENT LOW VALUE HIGH VALUE SERIAL NO.

HELIX MM	VOLUME (cc.)	TIME (sec.)		CALIB. POINT	CORR. FLOW RATE (cc/m)	FLOAT MM	
	1000	57.77	85	13	1000.	150	
	1000	64.13	85	12	934.5	135	
	800	56.99	57.08	11	826.	120	
	600	47.81	92	10	745	105	
	600	54.64	74	9	654.	90	
	400	42.81	37	8	563.5	75	
	400	52.09	02	7	457.2	60	
	300	51.64	16	6	350.	45	
	250	60.28	41	5	246.9	30	
	150	52.42	38	4	170.5	15	
	150	57.35	46	3	140.0	10	
	150	66.85	36	2	112.	5	
				1	100.	3	

CERTIFICATION

We hereby certify that the rupture test values as shown were obtained to assure accuracy of the rupture discs within established manufacturing tolerances. Customer: ARKANSAS POWER & LIGHT Order No.: 1513 15147

Quantity: 10 Type: ½" STD Manufacturer's No.: 19600

Specified Rupture Pressure: 80 psi at 72 °F °C

TESTED

Nos					
1	85	2	85	3	84
6		7		8	
11		12		13	

4	86	5		
9		10		
14		15		

Date: 11-7-72

The tests were conducted under conditions stated herewith: Temperature: 72 °F °C Pressure medium: Air(x) Water( )

Pressure Build-up Time: 0 to 85 PSIG 30 Seconds

0 to Kp/cm² Seconds

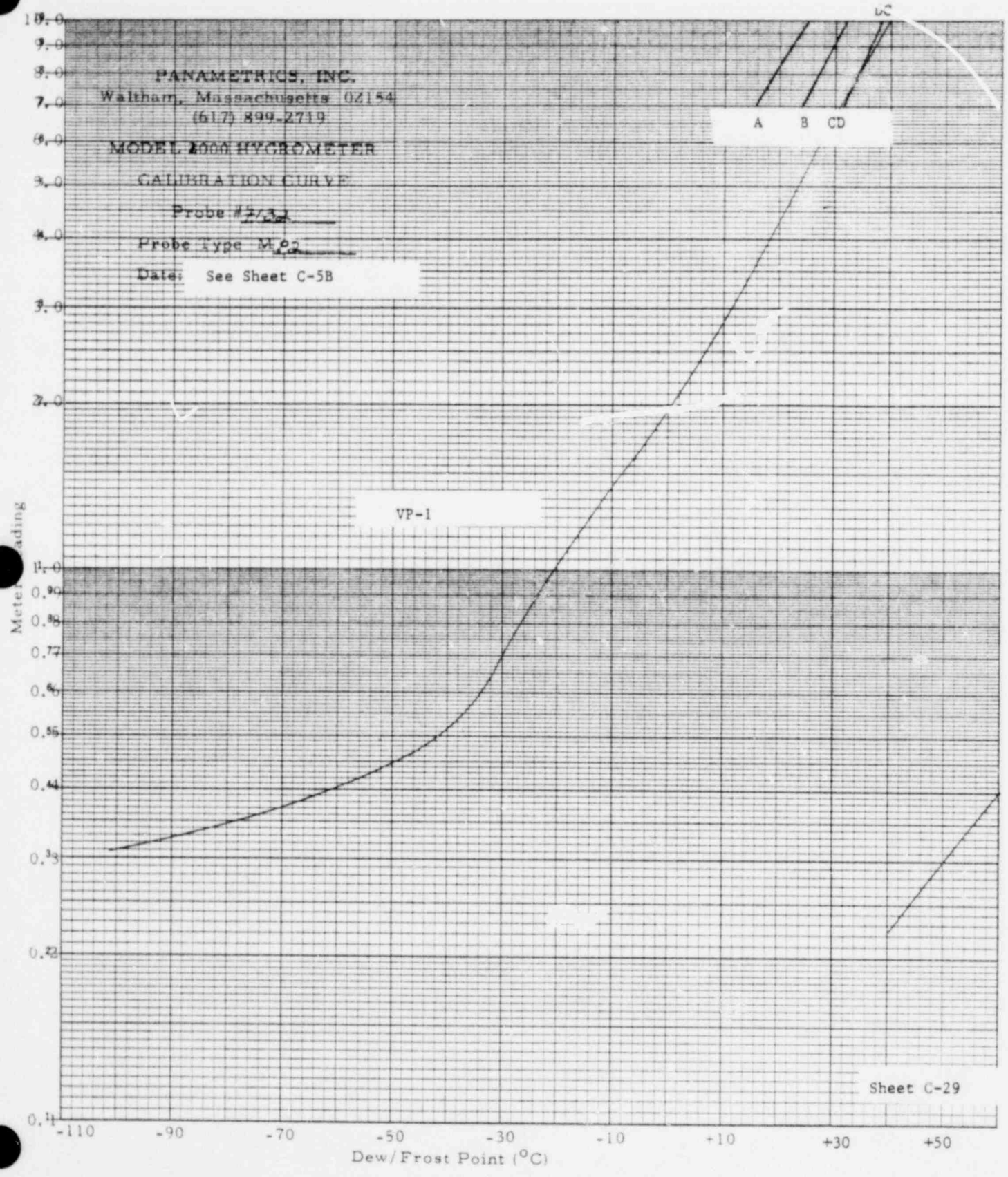
MATERIAL: Rupture Disc: AL Seal: Vac. Sup.:

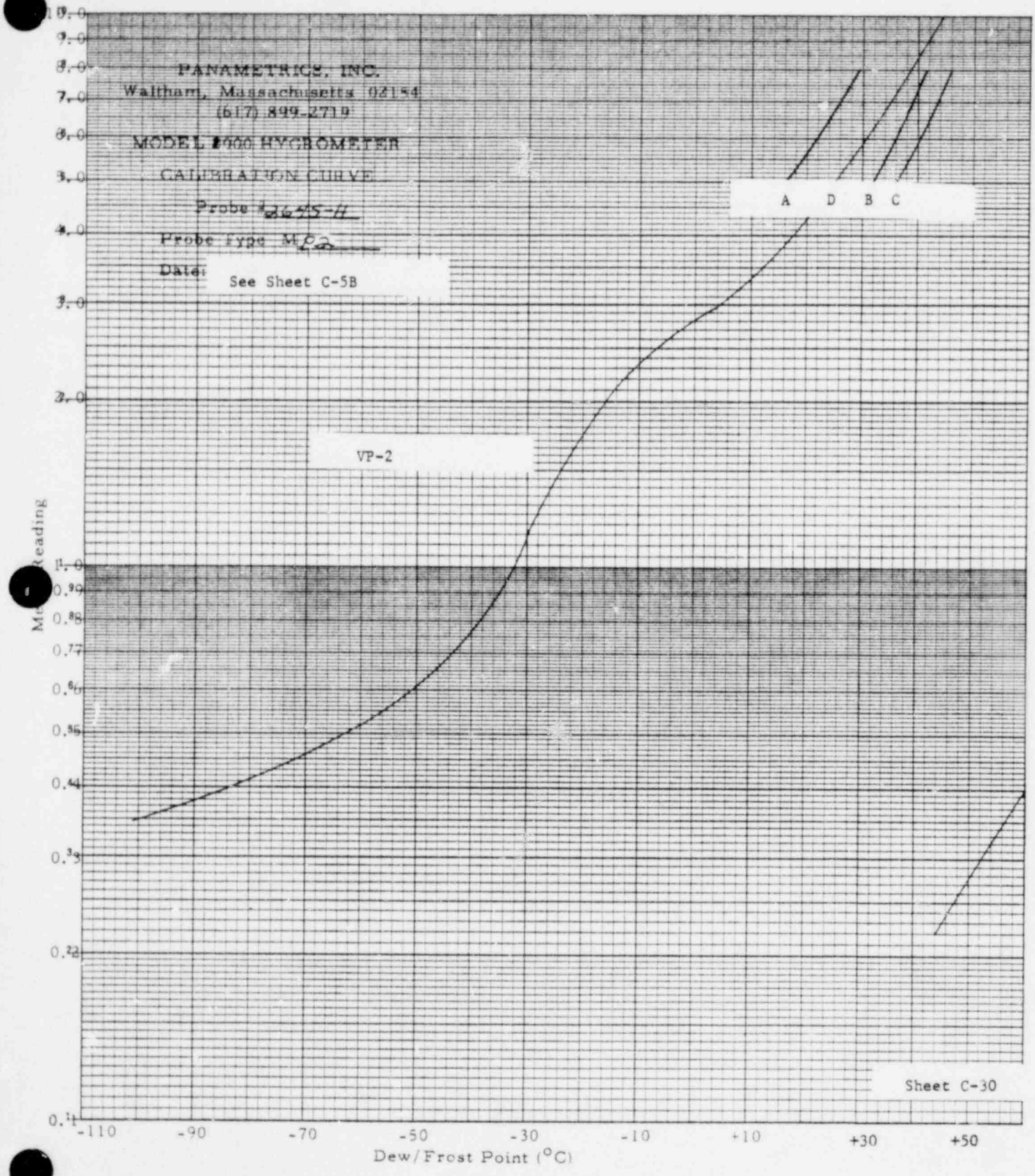
Chemical Analysis available upon request.

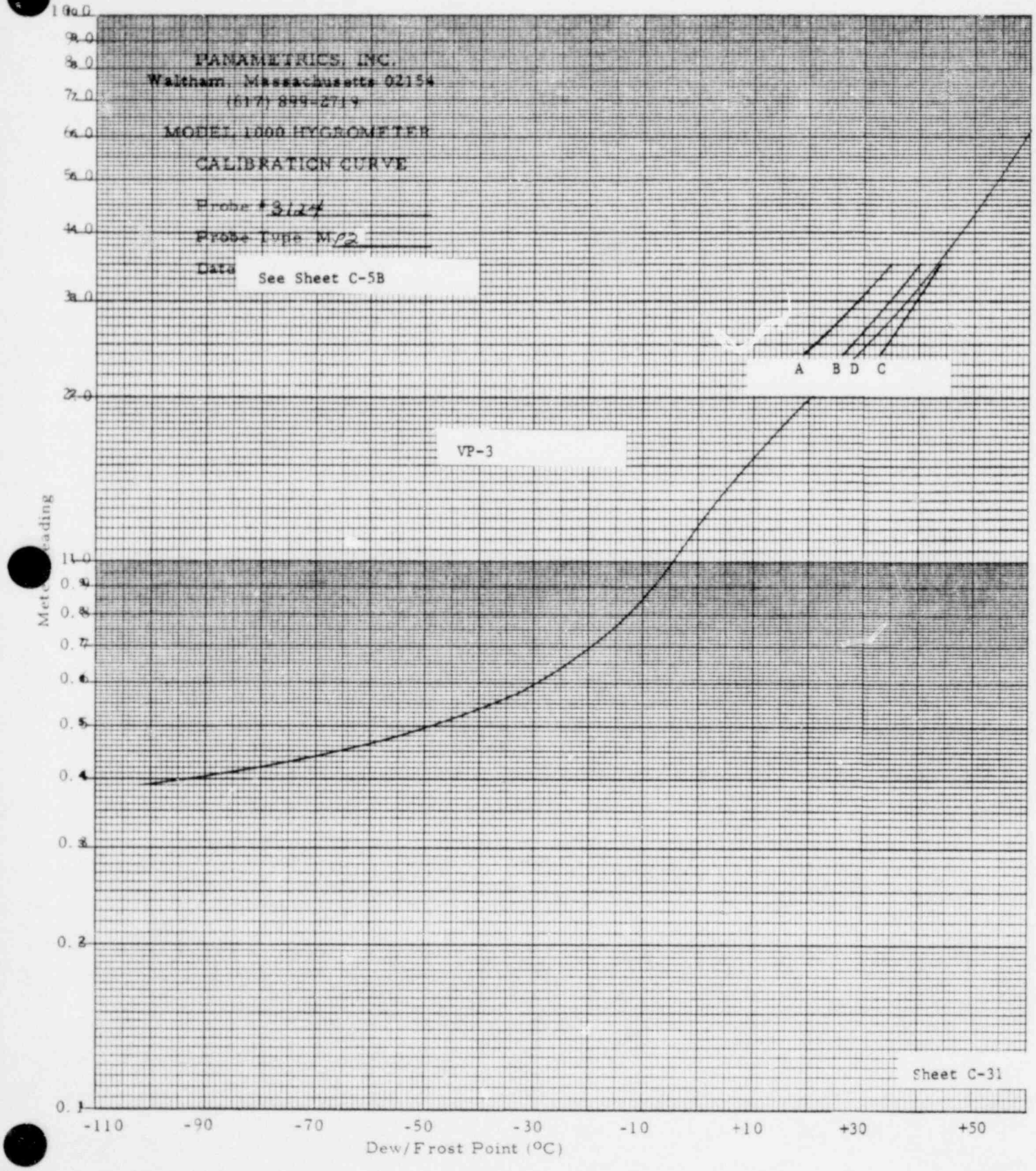
*Certified Chart No.:

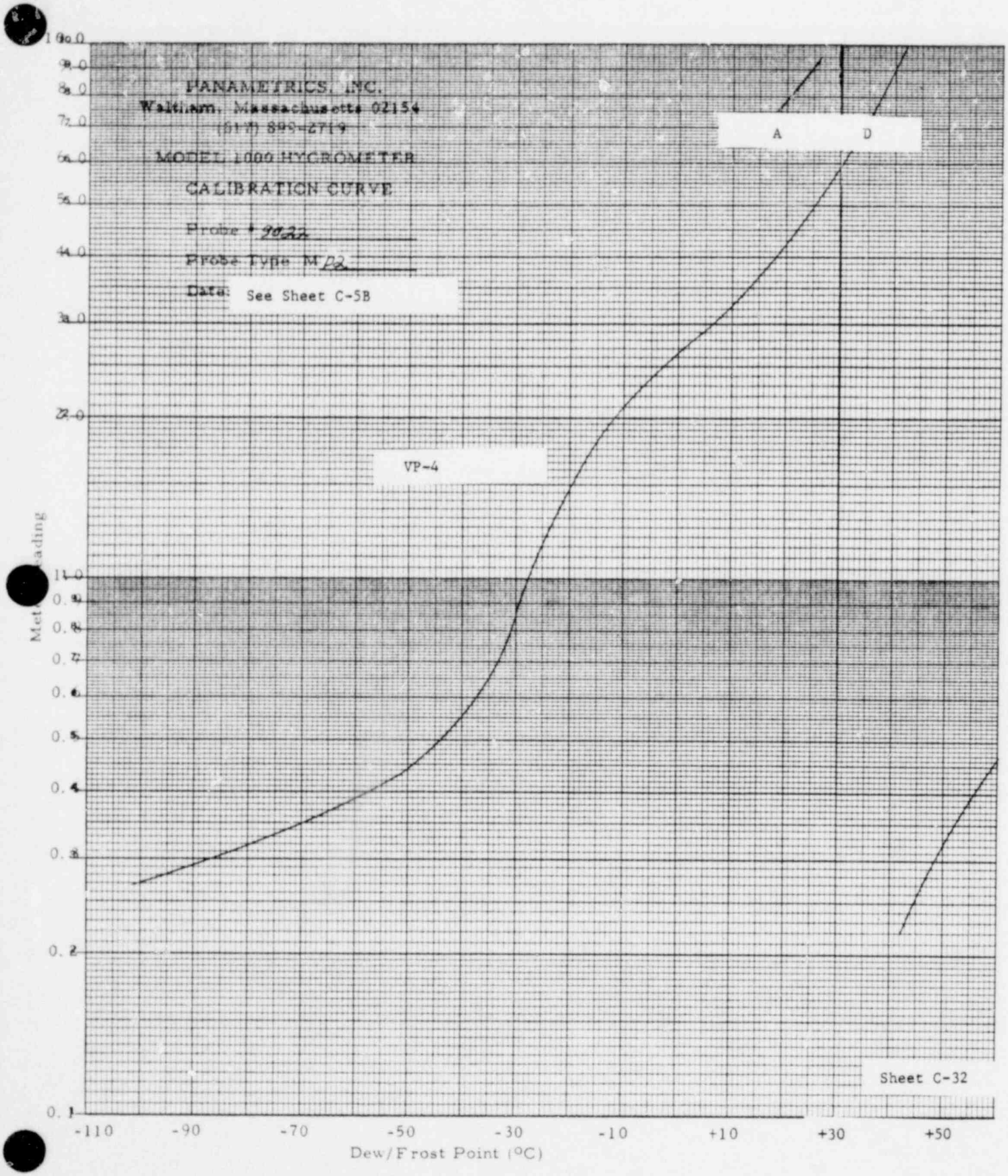
CONTINENTAL DISC CORPORATION

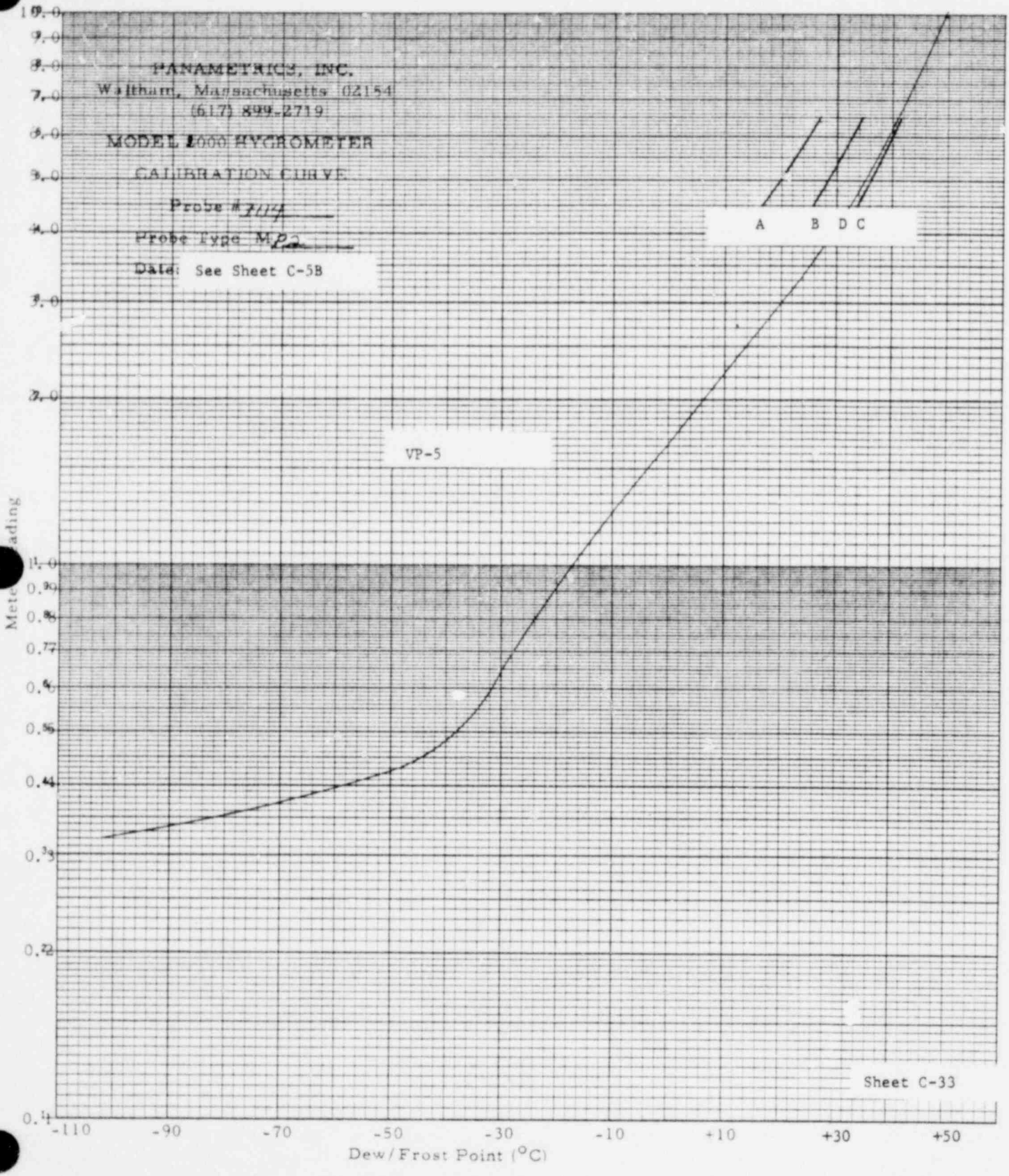
by ..... Frank Hansen

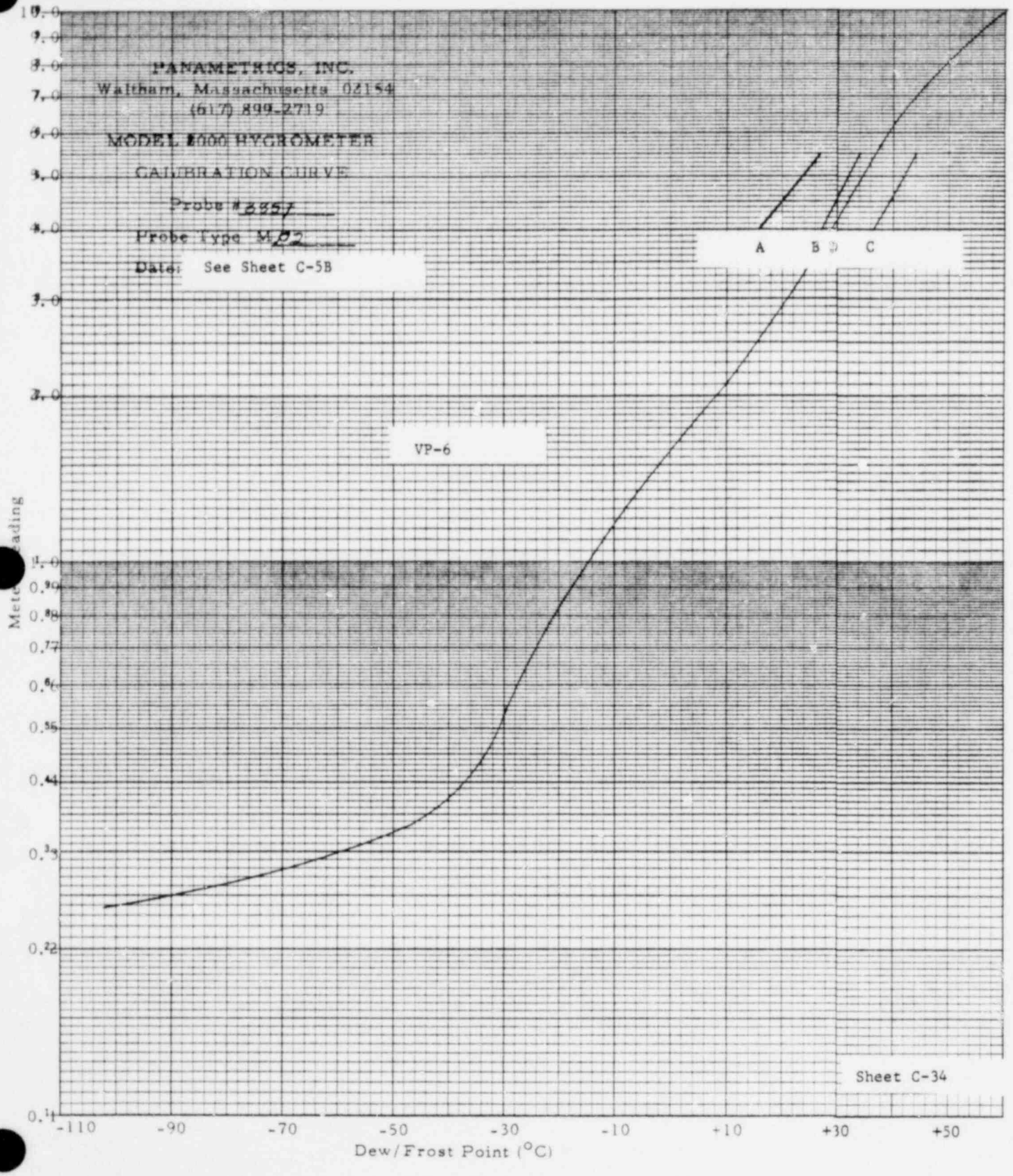

PANAMETRICS, INC.
Waltham, Massachusetts 02154
(617) 899-2719
MODEL 4000 HYGROMETER
CALIBRATION CURVE
Probe # 2732
Probe Type M-2
Date: See Sheet C-5B
A B CD
VP-1
Meter Reading
Dew/Frost Point (°C)
-110 -90 -70 -50 -30 -10 +10 +30 +50
Sheet C-29


PANAMETRICS, INC.
Waltham, Massachusetts 02154
(617) 899-2719
MODEL 2000 HYGROMETER
CALIBRATION CURVE
Probe # 2655-H
Probe Type M2
Date:
See Sheet C-5B
A D B C
VP-2
Sheet C-30
Meter Reading
Dew/Frost Point (°C)
-110
-90
-70
-50
-30
-10
+10
+30
+50


PANAMETRICS, INC.
Waltham, Massachusetts 02154
(617) 899-2719
MODEL 1000 HYGROMETER
CALIBRATION CURVE
Probe # 3124
Probe Type MP2
Date
See Sheet C-5B
A B D C
VP-3
Sheet C-31
Meter Reading
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
-110
-90
-70
-50
-30
-10
+10
+30
+50
Dew/Frost Point (°C)


PANAMETRICS, INC.
Waltham, Massachusetts 02154
(617) 899-2719
MODEL 1000 HYGROMETER
CALIBRATION CURVE
Probe # 2022
Probe Type M P2
Data: See Sheet C-5B
A
D
VP-4
Sheet C-32
Meter Reading
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
-110
-90
-70
-50
-30
-10
+10
+30
+50
Dew/Frost Point (°C)


PANAMETRICS, INC.
Waltham, Massachusetts 02154
(617) 899-2719
MODEL 2000 HYGROMETER
CALIBRATION CURVE
Probe # 3114
Probe Type MP2
Date: See Sheet C-5B
A B D C
VP-5
Sheet C-33
Meter Reading
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.90
0.80
0.70
0.60
0.50
0.44
0.33
0.22
0.11
-110
-90
-70
-50
-30
-10
+10
+30
+50
Dew/Frost Point (°C)


PANAMETRICS, INC.
Waltham, Massachusetts 02154
(617) 899-2719
MODEL 2000 HYGROMETER
CALIBRATION CURVE
Probe # 3357
Probe Type M-2
Date: See Sheet C-5B
A
B
C
VP-6
Sheet C-34
Meter Reading
Dew/Frost Point (°C)
-110
-90
-70
-50
-30
-10
+10
+30
+50

Brooklyn Thermometer Company Inc.

FARMINGDALE, N.Y. 11735

Factory Certificate

Liquid In Glass Thermometer

Marked: 37745

Range: -100 to 30°C in 1° Divisions

Immersion: 76mm

Temperature	Thermometer Reading	Correction
30°C	30.0	0.0
20°C	19.4	+0.6
10°C	9.3	+0.7
0°C	-0.8	+0.8
-10°C	-10.2	+0.2
-20°C	-19.7	-0.3
-30°C	-29.2	-0.8
-40°C	-39.2	-0.8
-50°C	-49.1	-0.9
-60°C	-59.0	-1.0

REFERENCE: NATIONAL BUREAU OF STANDARDS TEST NO. 133067

TESTED FOR: Panametrics Inc.

This thermometer has been tested by comparison with standards certified by the National Bureau of Standards. If the correction is + the true temperature is higher than the thermometer reading; if the correction is - the true temperature is lower than the thermometer reading. All temperatures are based on the IPTS-68. If the ice point is included, a subsequent change in its reading will change all other readings by the same amount.

October 2, 1973

Brooklyn Thermometer Company Inc.

per

R.E. Teichert

APPENDIX D

PRESSURIZATION SYSTEM EQUIPMENT

ITEM	NO. REQ'D.	DESCRIPTION
C-1	4	Air Compressor - Portable Engine Driven Screw Type, Capacity of 1200 scfm, oil free, @ 100 psi Ingersoll-Rand Model Spiro-Flow 1200 or equivalent.
AC-1 MS-1	1	Aftercooler/Moisture Separator - Minimum capacity of 4800 scfm @ 10° approach to cooling water. Design pressure 150 psig. American Standard Compact Model A-200 Aftercooler, Size 1203-8 with Model 8TW Moisture Separator and automatic drain or equivalent.
F-1	1	Compressed Air Filter - Minimum capacity of 4800 scfm @ 110 psig; collection efficiency of essentially 100% of all mist particles larger than 3 microns, and 99% of remaining mist particles 3 microns and smaller in size. Monsanto Chemical Brink Mist Eliminator H-E Series or equivalent.
HV- 1,2,3	3	Motor Operated Butterfly Valves - Minimum capacity of 4800 scfm @ 100 psig, leak tight, complete with remote operators and position indicators (open-shut). Henry Pratt Wafer Type Mark II-6" valve with MDT-2 position motor or equivalent.

See Sheet D-2 for equipment arrangement.

AIR QUALITY

The air quality shall be checked at the sample connection located downstream of motor operated butterfly valve P-2 (See sheet D-2) by blowing the air into a clean, dry, white cloth.

For the air to be satisfactory no visible signs of water or oil shall be detected on the cloth. Additionally the air shall feel dry and oil free to the touch.

The air shall be checked prior to opening P-1 and periodically during pressurization phases.

No.	DATE	REVISIONS	BY
3	12/1/73	Final Report	GVC
2	9/28/73	Added air quality requirements. Changed valve notation.	GVC
1	9/18/72	Issued for use.	GVC
0	10/1/71	Issued for review and comment.	GVC

ORIGIN

BECHTEL

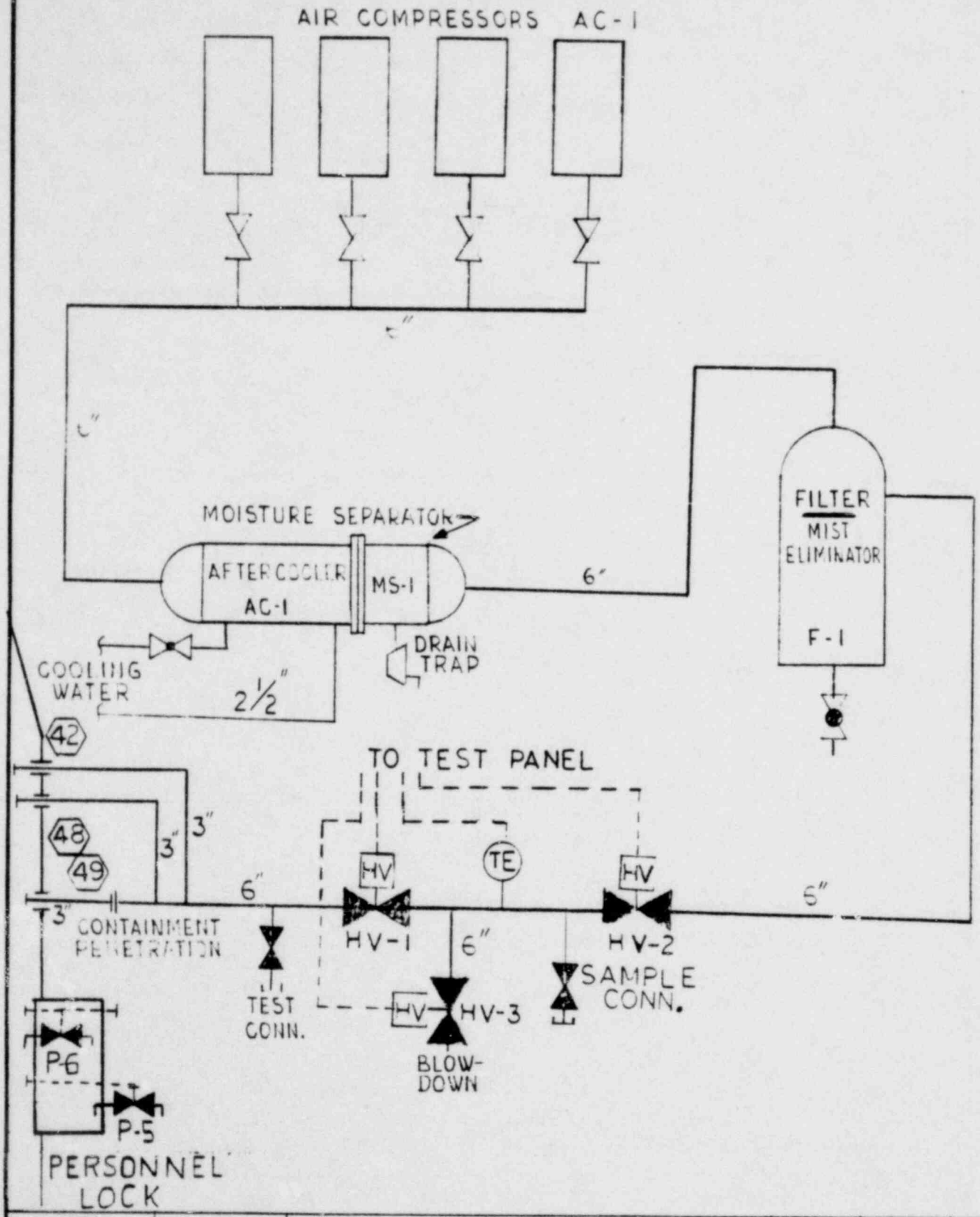
CONTAINMENT INTEGRATED LEAK RATE TEST PROCEDURE

JOB No. 6600

SPEC/DES GUIDE No. Startup Standard No. 60

REV 3

"A-1" SIZE



ORIGIN		CONTAINMENT INTEGRATED LEAK RATE TEST PROCEDURE	JOB No. 6600 Unit 1	
	BECHTEL		SPEC/DES GUIDE No.	REV.
			Startup Standard No. 60	

"A-1" SIZE

APPEN. E

CONTAINMENT VENTILATING AND COOLING SYSTEM

Portions of the containment ventilating system must be operable at containment pressures up to and including 115% of design pressure (68 psig).

With the containment at 59 (peak test pressure) psig the containment ventilation system must provide 3 to 5 air changes per hour throughout the containment to insure that drybulb and dewpoint temperature sensors monitor a representative volume of containment atmosphere. Additionally, adequate ventilation is required to minimize stratification.

In order to run the fans at pressures up to and including 68 psig the fan blade settings are changed from 5.2 (14 degrees) to 6.5 for the ILRT. Pressure and cfm should be reduced from 6.5" W.G. total pressure and 30,000 cfm to 4.0" W.G. total pressure and 23,600 cfm.

See sheet E-2 for sketch of containment ventilation system.

No.	DATE	REVISIONS	BY
3	12/1/73	Final Report	GVC
2	7/20/73	Revised Fan Blade Settings	GVC
1	9/18/72	Issued for Use	GVC
0	10/1/71	Issued for Review and Comment	GVC

ORIGIN

BECHTEL

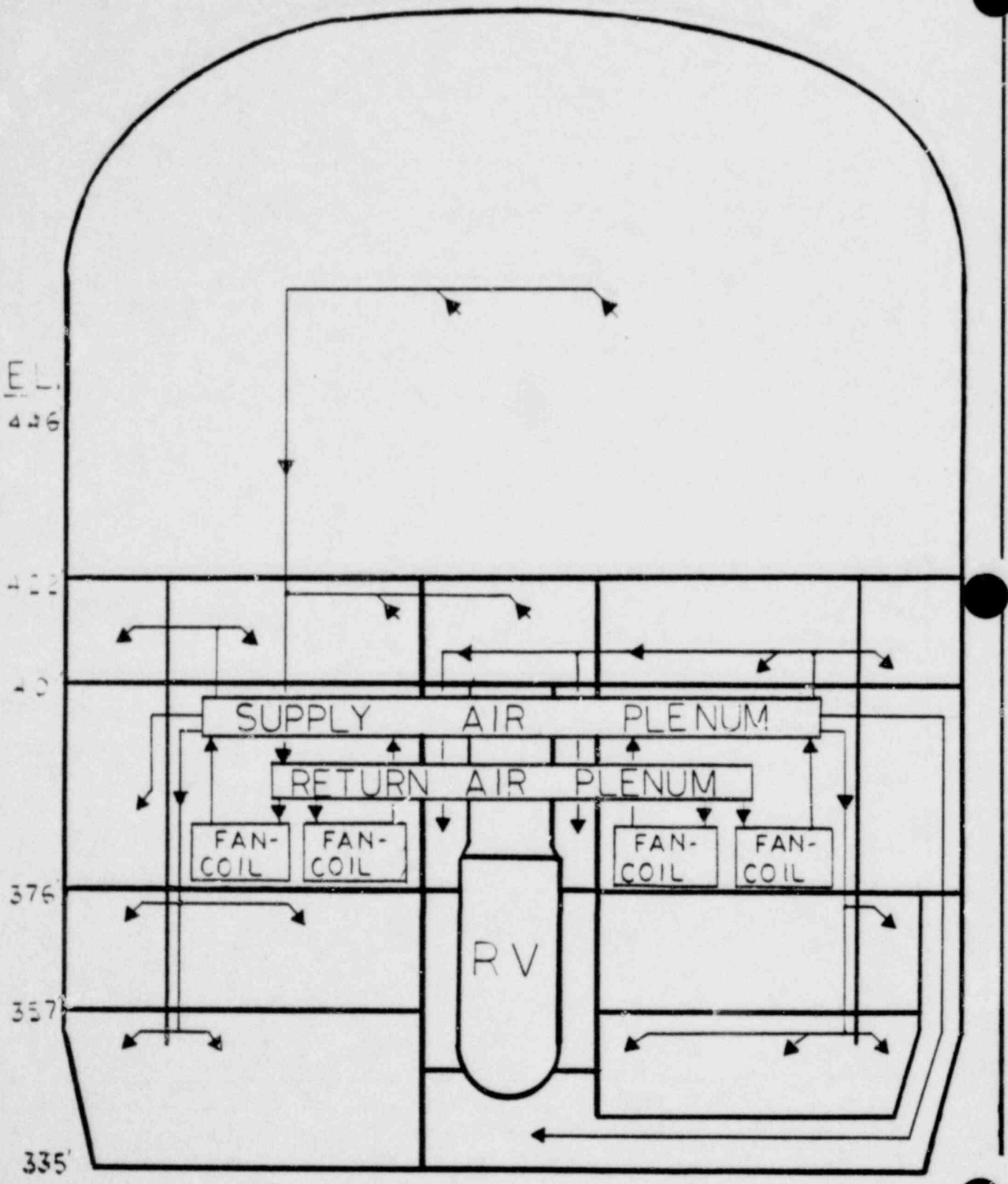
CONTAINMENT INTEGRATED LEAK RATE TEST PROCEDURE

JOB No. 6600

SPEC/DES GUIDE No.	REV
Startup Standard No. 60	3

"A-1" SIZE

CONTAINMENT VENTILATION AND COOLING SYSTEM



ORIGIN	BECHTEL	CONTAINMENT INTEGRATED LEAK RATE TEST PROCEDURE	JOB No. 6600	
			SPEC/DES GUIDE No.	REV
			Startup Standard No. 60	

"A-1" SIZE

APPENDIX F

VALVE POSITION SCHEDULE

PHASE		VALVE * HV -1	HV -2	HV -3	P-4	P-5	P-6	P-7
PHASE 1	Pressurization System Blow-down & Preparation for Phase 2	S	O	O	S	S	S	S
PHASE 2	Initial Pressurization to 14 psig	O	O	S	S	S	S	S
	Isolate Containment from Pressurization System	S	S	O	S	S	S	S
PHASE 3	Leak Check Personnel Lock Outer Door	S	S	O	S	S	O	S
	Leak Check Personnel Lock Inner Door	S	S	O	S	O	S	S
PHASE 4	Pressurize to Reduced Test Pressure - 30 psig	O	O	S	S	S	S	S
	Isolate Containment from Pressurization System	S	S	O	S	S	S	S
PHASE 5	Integrated Leak Rate Test at 30 psig	S	S	O	S	S	S	S
	Initial Verification Test	S	S	O	O	S	S	S
PHASE 6	Pressurize to 115% Design Pressure - 68 psig	O	O	S	S	S	S	S
	Stop Pressurization	S	S	O	S	S	S	S
PHASE 7	Depressurize to Peak Test Pressure - 59 psig	O	S	O	S	S	S	S
	Isolate Containment from Pressurization System	S	S	O	S	S	S	S
PHASE 8	Integrated Leak Rate Test at 59 psig	S	S	O	S	S	S	S
	Final Verification Test	S	S	O	S	S	S	O
PHASE 9	Depressurization	O	S	O	S	O	O	S

O = Open

S = Shut

* Valves listed are shown on Sheets D-2 & C-4 in Appendix D and Appendix C.

No.	DATE	REVISIONS	BY		
3	12/1/73	Final Report	GVC		
2	9/28/73	Changed valve notation and schedule	GVC		
1	9/18/72	Issued for use	GVC		
0	10/1/71	Issued for review and comment	GVC		

ORIGIN

BECHTEL

CONTAINMENT INTEGRATED LEAK RATE TEST PROCEDURE

JOB No. 6600 Unit 1

SPEC DES GUIDE No. Startup Standard No. 60

REV 3

"A 1" SIZE

APPENDIX G

SCHEDULE OF RECORDED DATA

Containment atmosphere conditions required to compute the integrated primary containment leak rate are recorded on Sheets G-2 and G-3 which follow.

Containment atmosphere dry bulb temperature is sensed using eighteen (18) resistance thermometers. Dry bulb temperature is recorded in ^{o}F and entered into the computer.

Containment atmosphere absolute pressure is sensed using a precision pressure gage. Pressure is recorded in PSIA. The recorded value must be corrected for a tube constant. This correction is made by the computer program.

Containment atmosphere dewpoint temperature is sensed using six (6) dew cells. The dewpoint reading is converted to water vapor pressure in PSIA by the computer program utilizing conversion table values previously inserted into the program. Water vapor pressure is then used to correct the containment atmosphere absolute pressure.

DATE _____

TITLE ILRT RECORDED DATA

JOB NO. _____

SHEET NO. _____

APPENDIX G

TIME	CONTAINMENT ATMOSPHERE DRYBULB TEMPERATURE – °F																	INITIALS
	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18	

TITLE **I L R T RECORDED DATA (continued)**

DATE _____

JOB NO. _____

SHEET NO. _____

APPENDIX G

TIME	CONTAINMENT PRESSURE – PSIA		CONTAINMENT ATMOSPHERE DEWPOINT READING						PRESSURE PSI		VERIF** FLOW SCFM	INLET AIR		OUTSIDE AIR				INIT.
	P1A	P1B	VP1	VP2	VP3	VP4	VP5	VP6	P2A *	P2B**		TEMP °F	QUALITY	TEMP	REL. HUMID.	BARO-METER	WEATHER	

*Recorded only during pressurization phases,

**Recorded only during verification flow phases.

LOCAL LEAK TESTING

I. GENERAL CRITERIA

The major prerequisite to the containment integrated leak rate test is the satisfactory completion of a series of local leak tests. This involves subjecting potential leak paths through the containment boundary, i.e. containment penetrations, to the same test conditions occuring during the integrated leak rate test. Conducting local leak tests (Type B and C tests) as defined in Appendix J to 10 CFR Part 50 allows discovery and elimination of leak paths through the containment without pressurizing the entire containment structure (Type A test).

II. ACCEPTANCE CRITERIA

The acceptance criteria for local leak tests is that the total leakage from all local leak tests (LL), shall not exceed 60% of La.

III. PENETRATIONS TESTED

A. Type B Tests – Tests intended to detect local leaks and to measure leakage across each pressure-containing or leakage-limiting boundary for the following primary reactor containment penetrations:

1. Containment penetrations whose design incorporates resilient seals, gaskets, or sealant compounds, piping penetrations fitted with expansion bellows, and electrical penetrations fitted with flexible metal seal assemblies.

2. Air lock door seals, including door operating mechanism penetrations which are part of the containment pressure boundary.

B. Type C Tests – Tests intended to measure, containment isolation valve leakage rates. The containment isolation valves included are those that:

1. Provide a direct connection between the inside and outside atmospheres of the primary containment under normal operation;

2. Are required to close automatically upon receipt of a containment isolation signal in response to controls intended to effect containment isolation;

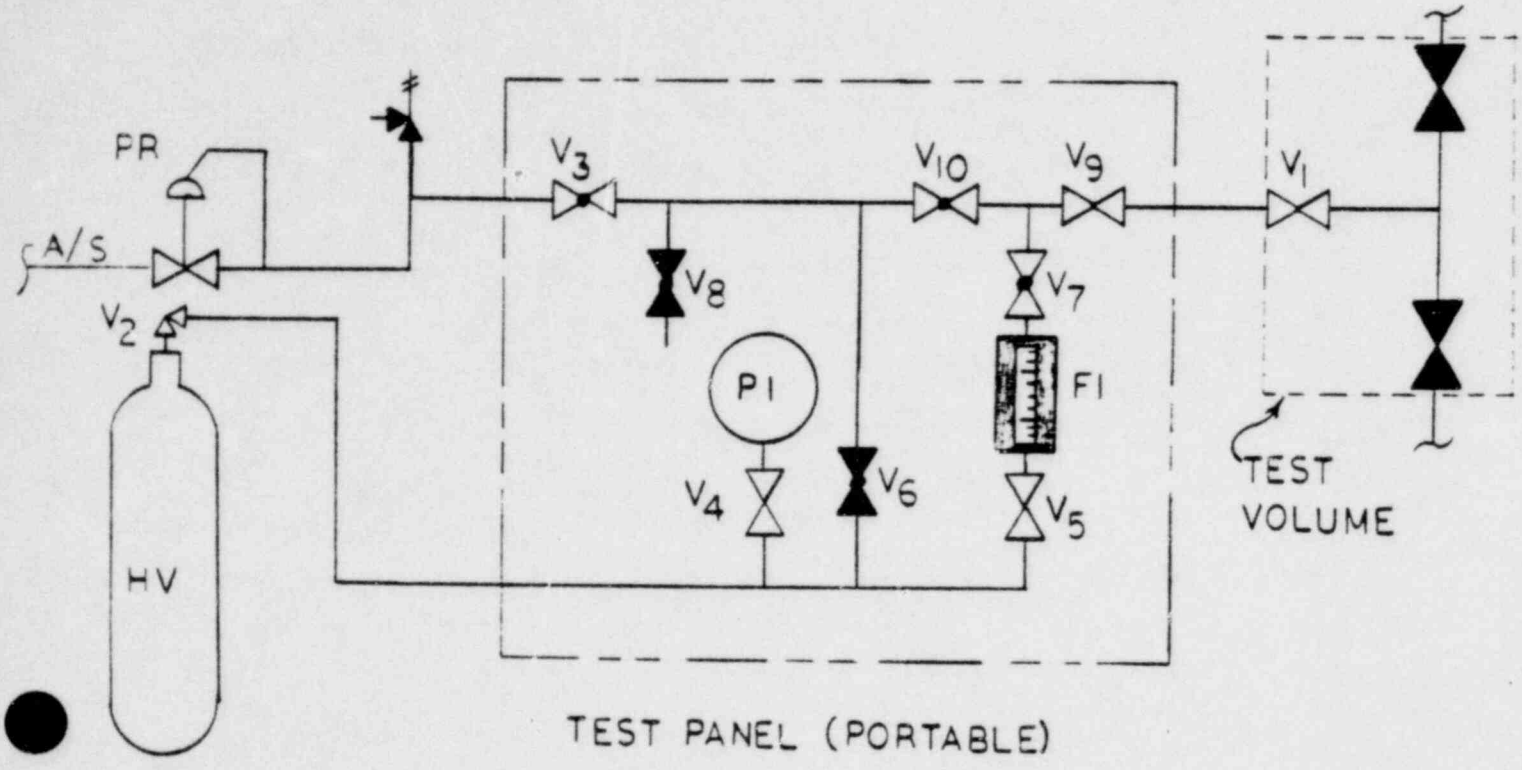
3. Are required to operate intermittently under post-accident conditions

V. LOCAL LEAK TESTING PROCEDURE AND EQUIPMENT

See Sheets H-3 through H-5.

I. LOCAL LEAK RATE TESTING PROCEDURE

A. TEST EQUIPMENT



TEST PANEL (PORTABLE)

Ident.	Description
A/S	Controlled Air (or nitrogen) supply - used to pressurize test volume and holding vessel.
PR	Pressure Regulator
HV	Holding Vessel (Empty N_2 bottle). Note: For test volumes equal or larger than the holding vessel the pressure decay method will yield more accurate results.
PI	Absolute Pressure Gauge See Sheet C-3 (PI-2) for description.
FI	Flow Indicator Brooks Full-View Rotameter, Model 1110, or equivalent. Overall scale range: 20-2000 cc/min.

Note: All instruments will be calibrated prior to use.

LOCAL LEAK RATE TESTING PROCEDURE

B. TEST PROCEDURE - AIR FLOW METHOD

1. Close valves as required to establish test volume (TV).
2. Connect leak rate measurement system to test connection V1.
3. Attach air or nitrogen supply to valve V3. Make sure pressure is regulated (by PR) to ensure test volume is not overpressurized. Install pressure relief valve if source of gas used for presurization could overpressurize the test volume.
4. Open V2, V3, V4, V5, V6, V9 and V10. Close V1 and V7.
5. Pressurize to test pressure and check for leaks in the test panel by observing any pressure decay and using leak detection fluid.
6. Open V1 and pressurize test volume.
7. Close V3 and monitor PI. If a significant pressure decay is observed and not tending to stabilize, check test volume boundry valves for leakage.
8. When the source of leakage has been located and eliminated, open V3 as required to repressurize to test pressure.
9. Shut V3 and V10. Disconnect the supply hose at V3.
10. Open V7. Then close V6.
11. Read PI, and FI at 15 minute intervals and record on data form. If ambient temperature is changing record temperature periodically also.
12. Stop readings after last one called for on the data form.
13. Close V2, V5 and V7. Open V6, V10 and V8 to depressurize the test volume. Open V2 to depressurize the holding vessel. Slowly open V7 to depressurize FI.
14. Disconnect from test volume and close V1.

LOCAL LEAK RATE TESTING PROCEDURE (Continued)

C. TEST PROCEDURE - PRESSURE DECAY METHOD

1. For test volumes that are significantly larger than the holding vessel volume (such as the test volume between the containment purge supply isolation valves), the test procedure described in paragraph I becomes inaccurate, particularly at high leakage rates.

   Therefore, the following alternate method, called the Pressure Decay Method, is recommended. Leak rate is computed as follows:

$$LL = \frac{TV}{P-\Delta P/2} \cdot \frac{\Delta P}{\Delta t}$$

   where

   LL = local leak rate (actual cubic feet/min)

   TV = test volume (cu. ft.)

   P = initial test pressure (psia)

   ΔP = change in pressure during test interval (psi)

   Δt = test duration (min.)

   The temperature is assumed to remain constant during the test. The test duration should be at least one hour.

2. Follow test procedure for the Air Flow Method with the exception that valve V6 will be left open and only pressure will be measured. Close V7. Open V10.

II. SAMPLE PROBLEM

Given:

Valves tested - containment purge supply isolation valves

TV = 100 cu. ft.
P = 50 psig = 64.7 psia
ΔP = 0.7 psi
$P-\Delta P/2$ = Average test pressure = 64.35 psia
Δt = 60 min.

$$LL = \frac{TV}{P-\Delta P/2} \cdot \frac{\Delta P}{\Delta t}$$

$$= \frac{100 \text{ cu. ft.}}{64.35 \text{ psia}} \cdot \frac{0.7 \text{ psi}}{60 \text{ min}} = .0181 \text{ cfm}$$

$$= .0181 \frac{\text{cu. ft.}}{\text{min}} \cdot 28.32 \times 10^3 \frac{\text{cc}}{\text{cu. ft.}} = 513 \frac{\text{cc}}{\text{min}}$$

Local Leak Rate Measurement Recorded Data

Penetration Number: _____ Date: _____

Test Boundaries: _____

Test Method: Flow Meter: _____ Press Decay: _____

TIME (min)	PRESS (psia)	FLOW cc/min	TEMP °F
00			
00+15			
00+30			
00+45			
01+00			
01+15			
01+30			
01+45			
02+00			

1. Min Test Duration 1 Hour
2. Record Temp. if Changing

Bechtel Test Supervisor _____

LOCAL LEAK RATE MEASUREMENT DATA SUMMARY SHEET

The local leakage measured for each testable penetration is summarized below.

For containment isolation valves in series, tested individually, the local leakage reported for that penetration is equal to the measured local leakage of the isolation valve with the highest leak rate.

For containment isolation valves tested simultaneously (pressurizing between valves), the local leakage reported for that penetration is equal to the total local leakage measured.

For containment isolation valves tested individually that are in parallel, the local leakage reported for that penetration is the sum of the individually measured local leakage.

Penet.	Leak Rate cc/min
1	N/A
2	N/A
3	N/A
4	N/A
5	36
6	N/a
7A	7
7B	0
8	12
9	8
10	10
11	62
12	0

Penet.	Leak Rate cc/min
13	8
14	78.5
15	8
16	24
17	N/A
18	N/A
19	159
20	N/A
21	N/A
22	N/A
23	168
24A	0
24B	10.5

Penet.	Leak Rate cc/min
25	0.5
26	N/A
27	460
28	N/A
29	N/A
30	N/A
31	4.5
32	13
33	0
34	14
35	N/A
36	N/A
37	N/A

LOCAL LEAK RATE MEASUREMENT DATA SUMMARY SHEET (Con't)

Penet.	Leak Rate cc/min
38	N/A
39	32
40	28
41	21
42	0
43	1
44	N/A
45	N/A
46	5
47	2
48	8
49	0
50	N/A
51	57
52	85
53A	6.5

Penet.	Leak Rate cc/min
53B	0
54	182
55	N/A
56	N/A
57	N/A
58	N/A
59	38
60	5
61	N/A
62	0
63	N/A
64	N/A
65	N/A
66	940
67	618
68	13

Penet.	Leak Rate cc/min
69	56
70	5
V-1	0
V-2	0
C-1	24.5
C-2	32.5
C-3	10
C-4	37

N/A - These valves are not required to be tested locally.

- - Electrical penetrations were tested per Appendix H and were found to be leak tight.

PENETRATION INDEX

PEN. No.	SYSTEM	SHEET B-
1.2	Main Steam	7
3,4	Feedwater	7
5	Rx Bldg Spray	20
6	Spare	
7A,B	Sampling	21
8	H.P. Injection	16
9	Seal Water Return	16
10	Sampling	21
11	Rad. Waste	10
12	Core Flooding	20
13	Primary Makeup	16
14	Rx Coolant Letdown	1
15	H.P. Injection	16
16	Seal Water Injection	16
17	Emerg. Feedwater	7
18	Spare	
19	Spent Fuel Cooling	19
20	Spare	
21,22	Service Water	8
23	Rx. Bldg Spray	20
24A,B	H_2 Purge Air System "A"	22
25	Air Particulate Monitoring System	22
26	Low Pressure Injection	17
27	Decay Heat Removal	17
28	Spare	
29	Spare	
30	Spare	
31,32	Core Flooding	20
33	Pressurizer Spray Line	17
34	H.P. Injection	16
35	Spare	
36	Low Pressure Injection	17
37	Spare	
38	Spare	
39	Quench Tk. Fill	15
40	Fire Water	12
41	Nitrogen Supply	12.
42	Heating	13
43	Service Air/ILRT Test Connection	11
44	Spare	
45	Spare	
46	Inst. Air/ILRT Test Connection	11
47	CRD Cooling (ICW)	18
48	Heating	13
49	ILRT Pressurization	
50	Spare	
51	Chilled Water	14
52	RCP Cooling (ICW)	18
53A,B	H_2 Purge Air System "B"	22
54	Intermed. Cooling	18

Penetration Index (Continued)

PEN. NO.	SYSTEM	SHEET B-
55	Service Water	8
56	Spare	
57	Spare	
58	SG Blowdown	
59	Chilled Water	14
60	Intermed. Cooling	18
61	Spare	
62	Intermed. Cooling	18
63	Service Water	8
64	SG Blowdown	7
65	Emerg. Feedwater	7
66,67	RB Sump Recirc.	17
68	RB Sump Drain	9
69	RCS Drain	9
70	Quench Tk Drain	15
V-1	Purge Line Inlet	22
V-2	Purge Line Outlet	22
C-1	Equipment Hatch	
C-2	Escape Lock	
C-3	Fuel Tansfer Tube	19
C-4	Personnel Lock	
C-5,6	Dome Vent Pipe	

Electrical Pen.

E1
E3-E14
E21
E23-E29
E33-E36
E50-E55
E57-E63
E66, E67

Electrical Spares (Capped)

E2

E22
E30-E32
E41-E45
E56
E64, E65
E68-E74

TYPE A TESTS

Pen. No.		
1	38	
2	44	Electrical Spares (Capped)
3	45	
4	50	E2
6		
10	55	E22
17	56	E30-E32
18	57	E41-E45
20	58	E56
21	61	E64, E65
22	63	E68-E74
	64	Dome Vents (Capped)
26	65	C-5,6
28		
29		
30		
33		
35		
36		
37		

TYPE B TESTS

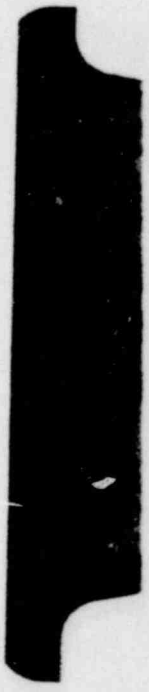
Pen. No.	System	Remarks
C-1	Equipment Hatch	Test between double O-Ring
C-2	Escape Lock	Test between double O-Ring on each door
C-3	Fuel Transfer Tube	Test between double O-Ring on blank
C-4	Personnel Lock	Same as for C-2
E1	Electrical Cannisters	Pressurize Cannisters
E3-E14	Electrical Cannisters	Pressurize Cannisters
E21	Electrical Cannisters	Pressurize Cannisters
E23-E29	Electrical Cannisters	Pressurize Cannisters
E33-E36	Electrical Cannisters	Pressurize Cannisters
E50-E55	Electrical Cannisters	Pressurize Cannisters
E57-E63	Electrical Cannisters	Pressurize Cannisters
E66, E67	Electrical Cannisters	Pressurize Cannisters

TYPE C TESTS

PEN NO.	SYSTEM	BOUNDARY VALVES
5	Rx Bldg Spray	CV-2401 and BS-1A, 2A
7A	Sampling	CV-1814, 1816, and CV-1818
7B	Sampling	CV-1054 and CV-1845, SS-1007
8	H.P. Injection	MU-45A and MU-34A
8	H.P. Injection	MU-45A and CV-1228
9	Seal Water Return	CV-1270, 1271, 1272, 1273 and CV-1274
11	Rad. Waste	CV-4803 and CV-4804
12	Core Flooding	CV-2416, 2418 and CV-2422
13	Primary Makeup	MU-45C and MU-34C
13	Primary Makeup	MU-34C and CV-1219
14	Rx. Coolant Letdown	CV-1214, 1216 and CV-1221
15	H.P. Injection	MU-45B and MU-34B
15	H.P. Injection	MU-45B and CV-1227
16	Seal Water Injection	MU-28A, 28B, 28C, 28D and CV-1206
16	Seal Water Injection	MU-28A and MU-29A
16	Seal Water Injection	MU-28B and MU-29B
16	Seal Water Injection	MU-28C and MU-29C
16	Seal WAter Injection	MU-28D and MU-29D
19	Spent Fuel Cooling	SF-43, 44 and SF-42
23	Rx. Bldg Spray	CV-2400 and BS-1B, 2B
27	Decay Heat Removal	CV-1404 and CV-1410, PSV-1403
31	Core Flooding	MU-44A and MU-36A
31	Core Flooding	MU-44A and MU-35A, N_2-4
32	Core Flooding	MU-44B and MU-36B
32	Core Flooding	MU-44B and MU-35B, N_2-6
34	H.P. Injection	MU-45D and MU-34D
34	H.P. Injection	MU-34D and CV-1220, CV-1234
39	Quench Tk. Fill	CS-62, 27 and CS-26
39	Quench Tk. Fill	CS-62, 27 and CV-1065
40	Fire Water	CV-5611 and CV-5612
41	Nitrogen Supply	N_2-43, 35, PCV-1051 and N_2-32
41	Nitrogen Supply	N_2-43, 35, PCV-1051 and CV-1667
42	Heating	PH-19 and PH-20
43	Service Air	Cap and, SA-6, SA-26, SA-45
46	Inst. Air	Cap and IA-15, IA-37, IA-52
48	Heating	PH-17 and PH-18
49	Containment Test Conn.	
51	Chilled Water	CV-6202 and CV-6205
		AC-60 and CV-6205
59	Chilled Water	CV-6203 and CV-6205
68	RB Sump Drain	CV-4446 and CV-4400
69	RC Drain	RBD-14 & RBD 9A, 9B, 8C, 9D, 7A; HV-152, HV-141; RBD 7B, 4, 2B
70	Quench Tk Drain	CV-1052 and CV-1053

Type C Tests (Continued)

PEN NO.	SYSTEM	BOUNDARY VALVES
24A	Hydrogen Purge	CV-7445 and CV-7446
24B	Hydrogen Purge	CV-7449 and CV-7450
25	Air Part. Monitor	CV-7453 and CV-7454
53A	Hydrogen Purge	CV-7443 and CV-7444
53B	Hydrogen Purge	CV-7447 and CV-7448
47	Intermed. Cooling Water	ICW-160 and ICW-30
47	Intermed. Cooling Water	ICW-160 and CV-2235
52	Intermed. Cooling Water	ICW-160, HS-221 and ICW-26
52	Intermed. Cooling Water	ICW-160, HS-2221 and CV-2234
54	Intermed. Cooling Water	CV-2216, CV-2217, ICW-143 & ICW-114
54	Intermed. Cooling Water	CV-2216, CV-2217, ICW-143 & CV-2233
60	Intermed. Cooling Water	HS-2220 and HS-2221
62	Intermed. Cooling Water	CV-2214 and CV-2215
66	Rx Building Sump	HS-1415 and HS-1406
67	Rx Building Sump	HS-1414 and HS-1405
V-1	Purge Inlet	CV-7402 and CV-7404
V-2	Purge Outlet	CV-7401 and CV-7403



ARKANSAS NUCLEAR ONE

CONTAINMENT INTEGRATED LEAK RATE TEST

C. COMPUTER PROGRAM

Section C contains explanation of the computer program used.

Section C.1	Introduction
Section C.2	Explanation of Program
Section C.3	Program Utilization

C. COMPUTER PROGRAM

C.1 INTRODUCTION

The Containment Integrated Leak Rate Program calculates the leak rate for a nuclear reactor containment vessel. The program computes the leak rate at a given time from input values of pressure, temperature, and dewpoint temperature (water vapor pressure).

The Containment Integrated Leak Rate Program is designed to allow the user to evaluate containment leak rate test results at the job-site during containment leak rate testing. Interim leak rate test reports may be obtained at any time during the testing period. Each interim report can provide three printouts. The first printout, called the Total-Time Method, uses the initial and latest input data to compute leak rate. Each computed leak rate is statistically averaged using a linear least-squares fit. Early in the test this method of computation gives the best indication as to whether or not the leak rate test is proceeding satisfactorily.

A second printout, called the Point-to-Point Method, is also provided. The Point-to-Point Method uses the data at a given hour and the data from the previous reading to compute leak rate. Each individually computed leak rate is then statistically averaged using a linear least-squares fit. The Point-to-Point Method of computation is provided since it gives rapid indication of deviations in the calculated leak rate late in the testing period.

The test results provided by the two methods indicate that either method is satisfactory for computing containment integrated leak rates. Both methods of computing the containment leak rate are presented in ANSI N45.4-1972, "Leakage-Rate Testing of Containment Structures for Nuclear Reactors." However, the Total-Time Method provides the best results for short duration tests and is recommended by Appendix J to 10 CFR 50.54 (o), "Reactor Containment Leakage Testing for Water Cooled Power Reactors," and is used, therefore, to report the containment leak rate.

The third printout is the Trend Report. This report is based on total-time calculations and gives a more concise and timely description of test results. In this printout the leak rate is reported as a function of test duration.

C.2 EXPLANATION OF PROGRAM

The Containment Integrated Leak Rate Test Computer Program computes containment leak rate using the Absolute Method given in ANSI N45.4-1972 "Leakage-Rate Testing of Containment Structures for Nuclear Reactors."

At the start of the program the basic data is entered which consists of:

1. Test title.
2. Number of containment temperature points, vapor pressure points, and absolute pressure points to be entered.
3. Absolute pressure sensor tube constant.
4. Volume fractions assigned to each temperature and vapor pressure sensor.

The recorded data, which is used to compute the leak rate, is then entered. Recorded data consists of:

1. Containment atmosphere dry bulb temperature.
2. Containment atmosphere absolute pressure.
3. Containment atmosphere dewpoint temperature.

Temperature, pressure, and vapor pressure values are entered as read at the test panel. If a temperature or vapor pressure sensor becomes inoperable during the course of the test, the sensor is eliminated and volume fractions recomputed. The new volume fractions are then entered in the computer program for the leak rate computations. After all data for a given time step is entered, a print-out summary of the measured data is provided. In the Summary of Measured Data, each temperature entry is printed out in ^{o}F and each pressure and vapor pressure* entry is printed out in PSIA. At this point the user is given an opportunity to check the data and correct any errors.

---

* The dewpoint temperature is converted to water vapor pressure and is printed out in PSIA.

Following any corrections, if required, a Corrected Data Summary is printed out. This summary consists of the date, time, one average containment temperature (corrected for volume fractions) and one average containment air pressure (corrected for vapor pressure and volume fractions). These corrected values of temperature and pressure are the values used in the containment leak rate computations. Basically the leak rate is computed as follows:

$$P_1V = W_1RT_1 \qquad (1)$$

$$P_2V = W_2RT_2 \qquad (2)$$

$$\frac{\text{\% leakage}}{\text{24 hours}} = L = \frac{24\ (W_1 - W_2)}{t\ \ W_1} \times 100 \qquad (3)$$

Solving for W_1 and W_2 and substituting equations (1) and (2) into (3) yields:

$$L = \frac{2400}{t}\ \ (1 - \frac{T_1P_2}{T_2P_1}) \qquad (4)$$

where:

W_1, W_2 = weight of contained air at time t_1 and t_2 respectively.

T_1, T_2 = absolute temperature of containment volume at time t_1 and t_2 respectively.

P_1, P_2 = absolute containment air pressure (corrected for water vapor pressure) at time t_1 and t_2 respectively.

t = $t_2 - t_1$ in hours.

L = leak rate (%/day)

V = containment internal free air volume (assumed constant).

R = gas constant (assumed constant).

Linear least-square fittings is used to establish the value of leak rate at 24 hours. The leak rate as a linear function of time is:

$$L = a + bt$$

where:

$$a = \frac{\sum_i L_i \sum_i t_i^2 - \sum_i t_i \sum_i t_i L_i}{N \sum_i t_i^2 - (\sum t_i)^2}$$

$$b = \frac{N \sum_i L_i t_i - \sum_i L_i \sum_i t_i}{N \sum_i t_i^2 - (\sum_i t_i)^2}$$

L_i = calculated leak rate from equation (4) above at time t_i.

N = number of leak rate calculations.

C.3 DEMONSTRATION OF PROGRAM

To enter the Bechtel (Pacific International Computing Corporation) time share system, dial the current telephone number and place the telephone receiver in the acoustical coupler on the data terminal. Enter the user ID and password as requested and continue sign on procedure as illustrated on page 3-9. The return key on the terminal is hit after data entry and can be used as a "NO" answer. When entering the time use military time, i.e., 1345 for 1:45 p.m. The date is entered in four digits; the first two are the month, the last two the day. For example, 0704 is July 4th. For additional information, such as error corrections, consult the users manual for the system being used.

The general flow of user's decisions is shown in the flow chart in Figure 1, page 3-8.

Initially, the basic data is supplied to the system. This basic data includes title information, number of temperature points, number of pressure points, pressure constant, number of vapor pressure points and volume fractions associated with each temperature and vapor pressure point. (See page 3-9).

After entering the basic data, new values of drybulb temperature, absolute pressure and dewpoint temperature for each data set are entered. The Temperature and Pressure Corrected Data Summary is then computed for each data set (page 3-11) and this information is stored on a file. Therefore, when restarting the program it is possible to enter averaged values of temperature and pressure from previous runs from a stored file. (See page 3-10). After entry of data the user may select one of seven options:

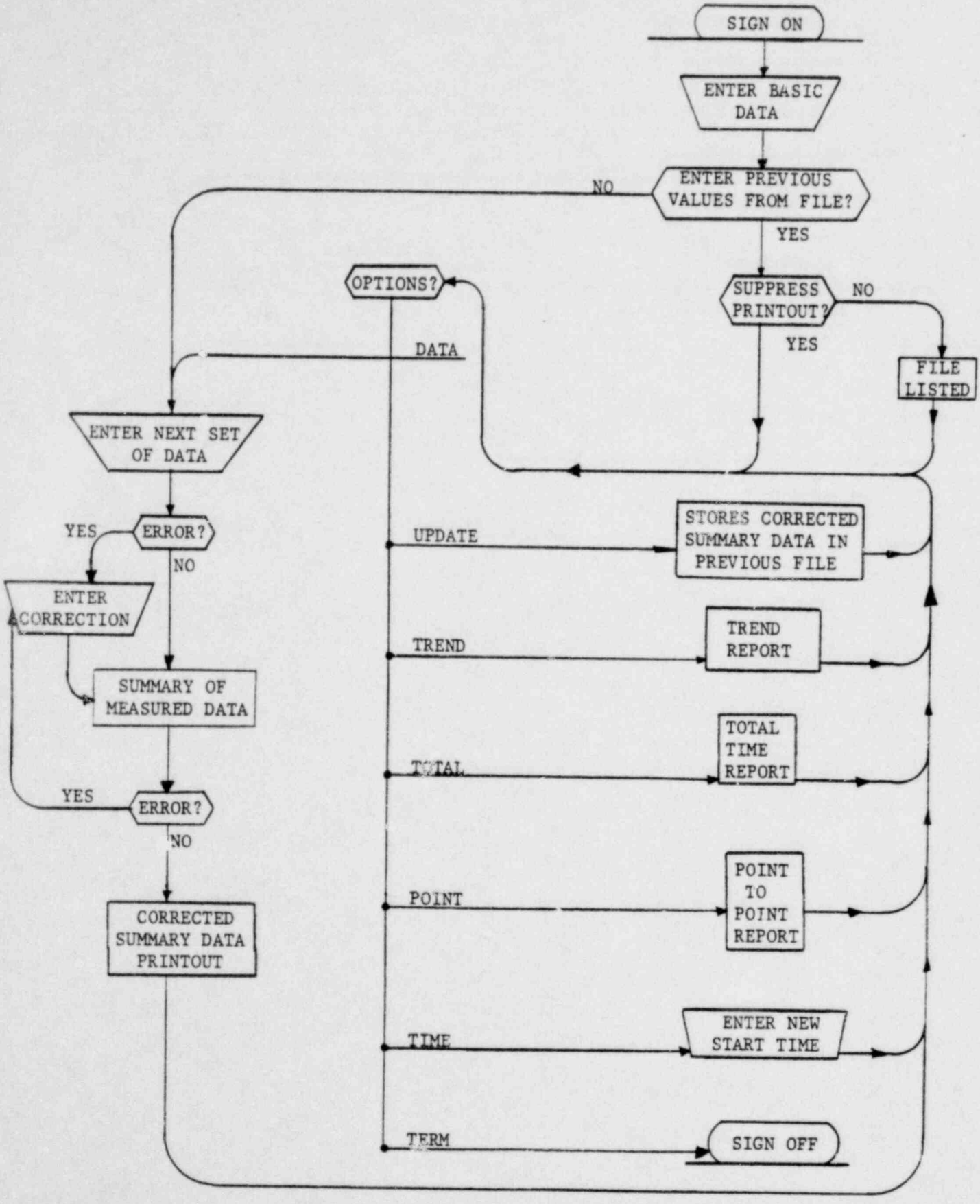
Option Command	Function
DATA	Enables operator to enter additional uncorrected data for new times not previously entered. When the system requests values of time, temperature, pressure, and vapor pressure, the user enters data as directed by the program. After completing the data entry, a summary in printed out for the user's verification of data correctness. If there are errors detected by the user, the user will be given the opportunity to correct the errors. After the user certifies that the data as entered is correct, a corrected summary report of time, average temperature, and average pressure is printed. This is the data to be used in subsequent runs if the option to enter previous data is selected. (See pages 3-10 and 3-11).

Option Command	Function
TREND	Terminal will print out a Trend Report. (Page 3-12).
TOTAL	Terminal will print out a Total-Time Report. (Page 3-13).
POINT	Terminal will print out a Point-to-Point Report. (Page 3-14).
TERM	Enables operator to sign off temporarily or permanently. (Page 3-14).
UPDATE	Enables operator to store the Temperature and Pressure Corrected Data Summary on the Previous file thereby updating the Previous file automatically.
TIME	Enables operator to eliminate old data from the program by selecting a later start time.

EXAMPLE

Page 3-9 through 3-14 are examples of program utilization for computing containment leak rate. The sign-on, sign-off, and various command options are indicated. It is not feasible to demonstrate all possible combinations of the user's input requests. Additionally, the initial sign-on procedure changes periodically. Consult Bechtel personnel for any information required.

To facilitate program restarts, previous summary data can be put on tape or stored on a separate file. When previous data is called for in the program, data can be entered either from a tape or from the file thereby saving considerable time.



CONTAINMENT INTEGRATED LEAK RATE TEST PROCEDURE
COMPUTER PROGRAM LOGIC DIAGRAM

Figure 1

```
USER ID-
PASSWORD--
■■■■■■■■■■■■■

SYSTEM?
OLD OR NEW-
READY
•RUN

 ENTER TITLE OF LESS THAN 40 CHARACTERS
=ARKANSAS NUCLEAR ONE PROGRAM SAMPLE
 ENTER MAX ALLOWABLE LEAK RATE
=.206
 ENTER PRESSURE CONSTANT
=1
 ENTER NO. OF TEMPERATURE POINTS
=17
 ENTER NO. OF PRESSURE POINTS
=1
 ENTER NO. OF VAPOR PRESSURE POINTS
=5
 ENTER VOL. DECIMAL ASSOCIATED WITH EACH TEMPERATURE
 VOL. FRAC. TEMP 1
=.04
       ETC.
 VOL. FRAC. TEMP 17
=.08
 ENTER VOL. DECIMAL ASSOCIATED WITH VAPOR PRESSURES
 VOL. FRAC. VAPOR PRES 1
=.2
         ETC.
 VOL. FRAC. VAPOR PRES 5
=.15
```

```
 ENTER PREVIOUS VALUES FROM FILE ?
= YES
 SUPPRESS PRINTOUT ?
= NO
 1645 1110  74.573020  44.467530
 1700 1110  74.468699  44.467121
 1715 1110  74.442359  44.467253
 1730 1110  74.431519  44.466654
 1745 1110  74.461349  44.466055
 1800 1110  74.461709  44.465140
 1815 1110  74.478750  44.464793
 1830 1110  74.463749  44.465122
 1845 1110  74.467818  44.463327
 1900 1110  74.444159  44.464583
 1915 1110  74.481149  44.463244
 1930 1110  74.466770  44.462660
 1945 1110  74.487859  44.462437
 2000 1110  74.480320  44.461334
 2015 1110  74.480599  44.460624
 2030 1110  74.515280  44.460420
 2045 1110  74.467669  44.459937
 2100 1110  74.503560  44.459325

OPTIONS
= DATA
 ENTER TIME.DATE
= 2115.1110
 ENTER 17 TEMP. READ. IN DEGREES F.
ENTER 1-8
= 74.49 74.49 74.49 74.50 74.50 74.49 74.49 74.50
ENTER 9-17
= 74.50 74.49 74.49 74.49 74.49 74.49 74.49 74.49 74.49

 ENTER  1 PRESS. IN PSIA
= 44.845

 ENTER  5 VAPOR PRESSURE(S)
= 6.1 6.29 4.92 6.4 6.4

 CHANGE ANY DATA?
= NO
```

```
SUMMARY OF MEASURED DATA AT TIME  2115  1110


TEMP    1 =  74.490
TEMP    2 =  74.490
TEMP    3 =  74.490
TEMP    4 =  74.500
TEMP    5 =  74.500
TEMP    6 =  74.490
TEMP    7 =  74.490
TEMP    8 =  74.500
TEMP    9 =  74.500
TEMP   10 =  74.490
TEMP   11 =  74.490
TEMP   12 =  74.490
TEMP   13 =  74.490
TEMP   14 =  74.490
TEMP   15 =  74.490
TEMP   16 =  74.490
TEMP   17 =  74.490
PRES    1 =  44.845    44.845

                PSIA      TEMP      INPUT
VPRS    1 =   0.380    71.375     6.100
VPRS    2 =   0.389    72.006     6.290
VPRS    3 =   0.390    72.114     4.920
VPRS    4 =   0.392    72.283     6.400
VPRS    5 =   0.383    71.554     6.400

CHANGE ANY DATA ?
```

= NO

```
TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME =  2115

DATE =  1110

TEMP =  74.492056

PRES =  44.458437
```

OPTION?
= TREND

ARKANSAS NUCLEAR ONE PROGRAM SAMPLE

TIME, DATE START OF TEST 1645 1110

TIME AFTER START OF TEST = 4.50 HR

TREND? BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF MEAS LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
0.75	4	0.549E+00	0.464E+00	
1.00	5	0.511E+00	0.431E+00	-0.328E-01
1.25	6	0.477E+00	0.399E+00	-0.437E-01
1.50	7	0.453E+00	0.364E+00	-0.233E-01
1.75	8	0.419E+00	0.303E+00	-0.613E-01
2.00	9	0.404E+00	0.270E+00	-0.336E-01
2.25	10	0.475E+00	0.249E+00	-0.202E-01
2.50	11	0.457E+00	0.228E+00	-0.215E-01
2.75	12	0.443E+00	0.217E+00	-0.114E-01
3.00	13	0.433E+00	0.201E+00	-0.160E-01
3.25	14	0.415E+00	0.186E+00	-0.144E-01
3.50	15	0.403E+00	0.173E+00	-0.130E-01
3.75	16	0.395E+00	0.172E+00	-0.144E-02
4.00	17	0.385E+00	0.162E+00	-0.987E-02
4.25	18	0.377E+00	0.155E+00	-0.633E-02
4.50	19	0.369E+00	0.149E+00	-0.621E-02

THE CALCULATED LEAK RATE IS 0.149E+00
THE MAXIMUM ALLOWABLE LEAK RATE IS 0.206E+00
THE LAST 13 DATA POINTS ESTABLISH A NEGATIVE SLOPE

OPTIONS ?
= TOTAL

ARKANSAS NUCLEAR ONE PROGRAM SAMPLE

TIME, DATE START OF TEST 1645 1110

TIME AFTER START OF TEST = 4.50 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
1700	74.41	44.467	0.813E+00	0.588E+00	0.38E+00	0.79E+00
1715	74.44	44.467	0.694E+00	0.562E+00	0.36E+00	0.77E+00
1730	74.43	44.467	0.441E+00	0.536E+00	0.34E+00	0.74E+00
1745	74.46	44.466	0.497E+00	0.511E+00	0.31E+00	0.71E+00
1800	74.46	44.465	0.439E+00	0.485E+00	0.29E+00	0.68E+00
1815	74.46	44.465	0.429E+00	0.459E+00	0.26E+00	0.65E+00
1830	74.46	44.465	0.319E+00	0.433E+00	0.24E+00	0.63E+00
1845	74.47	44.464	0.383E+00	0.407E+00	0.21E+00	0.60E+00
1900	74.49	44.465	0.382E+00	0.382E+00	0.19E+00	0.57E+00
1915	74.48	44.463	0.294E+00	0.356E+00	0.16E+00	0.55E+00
1930	74.50	44.463	0.301E+00	0.330E+00	0.14E+00	0.52E+00
1945	74.49	44.463	0.271E+00	0.304E+00	0.11E+00	0.50E+00
2000	74.48	44.461	0.257E+00	0.279E+00	0.83E-01	0.47E+00
2015	74.48	44.461	0.246E+00	0.253E+00	0.56E-01	0.45E+00
2030	74.52	44.460	0.273E+00	0.227E+00	0.28E-01	0.42E+00
2045	74.49	44.459	0.236E+00	0.201E+00	0.43E-03	0.40E+00
2100	74.50	44.460	0.241E+00	0.175E+00	-0.28E-01	0.39E+00
2115	74.49	44.458	0.233E+00	0.149E+00	-0.57E-01	0.35E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.389E+00
THE STANDARD DEVIATION IS 0.162E+00

THE CALCULATED LEAK RATE AFTER 4.50 HOURS OF TEST IS 0.143E+00

OPTIONS ?
= POINT

ARKANSAS NUCLEAR ONE PROGRAM SAMPLE

TIME, DATE START OF TEST 1645 1110

TIME AFTER START OF TEST = 4.50 HR

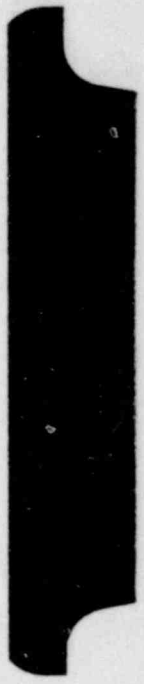
LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
1700	74.41	44.467	0.513E+00	0.423E+00	-0.34E+00	0.13E+01
1715	74.44	44.467	0.576E+00	0.399E+00	-0.35E+00	0.11E+01
1730	74.43	44.467	-0.553E-01	0.377E+00	-0.36E+00	0.11E+01
1745	74.46	44.466	0.665E+00	0.359E+00	-0.36E+00	0.11E+01
1800	74.46	44.465	0.604E+00	0.343E+00	-0.37E+00	0.11E+01
1815	74.48	44.465	0.362E+00	0.330E+00	-0.41E+00	0.10E+01
1830	74.46	44.463	-0.342E+00	0.288E+00	-0.43E+00	0.10E+01
1845	74.47	44.464	0.353E+00	0.266E+00	-0.45E+00	0.99E+00
1900	74.49	44.465	0.312E+00	0.244E+00	-0.47E+00	0.96E+00
1915	74.49	44.463	0.425E-01	0.220E+00	-0.49E+00	0.93E+00
1930	74.50	44.463	0.375E+00	0.199E+00	-0.51E+00	0.91E+00
1945	74.49	44.462	-0.682E-01	0.177E+00	-0.54E+00	0.89E+00
2000	74.49	44.461	0.100E+00	0.159E+00	-0.57E+00	0.88E+00
2015	74.49	44.461	0.955E-01	0.138E+00	-0.59E+00	0.86E+00
2030	74.53	44.460	0.732E+00	0.110E+00	-0.62E+00	0.84E+00
2045	74.49	44.459	-0.691E+00	0.692E-01	-0.65E+00	0.83E+00
2100	74.50	44.460	0.310E+00	0.520E-01	-0.63E+00	0.82E+00
2115	74.49	44.459	0.931E-01	0.439E-01	-0.73E+00	0.81E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.233E+00
THE STANDARD DEVIATION IS 0.333E+00

THE CALCULATED LEAK RATE AFTER 4.50 HOURS OF TEST IS 0.438E-01



ARKANSAS NUCLEAR ONE

CONTAINMENT INTEGRATED LEAK RATE TEST

D. FINAL TEST REPORTS, SUMMARY DATA AND CURVES

Section D contains the computer print-outs of the ILRT and Verification Test Summary Data and Reports.

Section D.1	30 psig ILRT, Final Test Report and Curves
Figure D.1	Trend of Calculated Leak Rate versus Time for 30 psig ILRT
Section D.2	30 psig ILRT Summary Data
Section D.3	30 psig ILRT Verification Report and Summary Data
Section D.4	59 psig ILRT Final Test Report and Curves
Figure D.4	Trend of Calculated Leak Rate versus Time for 59 psig ILRT
Section D.5	59 psig ILRT Summary Data
Section D.6	59 psig ILRT Verification Report and Summary Data

ARKANSAS UNIT 1 30 PSIG ILRT

TIME, DATE START OF TEST 530 1110

TIME AFTER START OF TEST = 8.75 HR

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF MEAS LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
0.75	4	0.552E-01	0.152E+00	
1.00	5	0.925E-01	0.217E+00	0.657E-01
1.25	6	0.109E+00	0.226E+00	0.855E-02
1.50	7	0.133E+00	0.266E+00	0.399E-01
1.75	8	0.146E+00	0.276E+00	0.988E-02
2.00	9	0.148E+00	0.256E+00	-0.202E-01
2.25	10	0.150E+00	0.241E+00	-0.149E-01
2.50	11	0.151E+00	0.228E+00	-0.126E-01
2.75	12	0.149E+00	0.208E+00	-0.201E-01
3.00	13	0.147E+00	0.191E+00	-0.166E-01
3.25	14	0.145E+00	0.176E+00	-0.149E-01
3.50	15	0.141E+00	0.160E+00	-0.167E-01
3.75	16	0.138E+00	0.145E+00	-0.142E-01
4.00	17	0.136E+00	0.136E+00	-0.937E-02
4.25	18	0.133E+00	0.126E+00	-0.104E-01
4.50	19	0.131E+00	0.119E+00	-0.625E-02
4.75	20	0.129E+00	0.113E+00	-0.689E-02
5.00	21	0.127E+00	0.108E+00	-0.494E-02
5.25	22	0.125E+00	0.103E+00	-0.476E-02
5.50	23	0.122E+00	0.941E-01	-0.869E-02
5.75	24	0.120E+00	0.875E-01	-0.660E-02
6.00	25	0.118E+00	0.818E-01	-0.574E-02
6.25	26	0.116E+00	0.770E-01	-0.474E-02
6.50	27	0.113E+00	0.682E-01	-0.885E-02
6.75	28	0.110E+00	0.609E-01	-0.729E-02
7.00	29	0.107E+00	0.550E-01	-0.590E-02
7.25	30	0.106E+00	0.513E-01	-0.368E-02
7.50	31	0.103E+00	0.457E-01	-0.561E-02
7.75	32	0.102E+00	0.428E-01	-0.292E-02
8.00	33	0.994E-01	0.383E-01	-0.451E-02
8.25	34	0.978E-01	0.357E-01	-0.261E-02
8.50	35	0.959E-01	0.320E-01	-0.368E-02
8.75	36	0.942E-01	0.292E-01	-0.273E-02

THE CALCULATED LEAK RATE IS 0.292E-01
THE MAXIMUM ALLOWABLE LEAK RATE IS 0.142E+00
THE LAST 28 DATA POINTS ESTABLISH A NEGATIVE SLOPE

ARKANSAS UNIT 1 30 PSIG ILRT

TIME, DATE START OF TEST 530 1110

TIME AFTER START OF TEST = 8.75 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
545	74.40	44.484	-0.813E-01	0.159E+00	0.47E-01	0.27E+00
600	74.42	44.484	0.135E+00	0.155E+00	0.43E-01	0.27E+00
615	74.41	44.483	0.112E+00	0.152E+00	0.40E-01	0.26E+00
630	74.43	44.483	0.204E+00	0.148E+00	0.37E-01	0.26E+00
645	74.42	44.481	0.176E+00	0.144E+00	0.33E-01	0.25E+00
700	74.44	44.480	0.249E+00	0.140E+00	0.30E-01	0.25E+00
715	74.44	44.479	0.226E+00	0.136E+00	0.26E-01	0.25E+00
730	74.43	44.480	0.167E+00	0.132E+00	0.23E-01	0.24E+00
745	74.43	44.479	0.166E+00	0.129E+00	0.19E-01	0.24E+00
800	74.43	44.478	0.161E+00	0.125E+00	0.16E-01	0.23E+00
815	74.42	44.478	0.138E+00	0.121E+00	0.12E-01	0.23E+00
830	74.41	44.477	0.123E+00	0.117E+00	0.84E-02	0.23E+00
845	74.41	44.477	0.116E+00	0.113E+00	0.48E-02	0.22E+00
900	74.40	44.477	0.962E-01	0.110E+00	0.11E-02	0.22E+00
915	74.40	44.477	0.921E-01	0.106E+00	-0.26E-02	0.21E+00
930	74.40	44.476	0.101E+00	0.102E+00	-0.64E-02	0.21E+00
945	74.40	44.476	0.876E-01	0.981E-01	-0.10E-01	0.21E+00
1000	74.39	44.474	0.986E-01	0.942E-01	-0.14E-01	0.20E+00
1015	74.39	44.475	0.896E-01	0.904E-01	-0.18E-01	0.20E+00
1030	74.41	44.475	0.933E-01	0.866E-01	-0.22E-01	0.19E+00
1045	74.40	44.474	0.902E-01	0.828E-01	-0.26E-01	0.19E+00
1100	74.38	44.475	0.626E-01	0.789E-01	-0.29E-01	0.19E+00
1115	74.37	44.474	0.675E-01	0.751E-01	-0.33E-01	0.18E+00
1130	74.37	44.473	0.668E-01	0.713E-01	-0.37E-01	0.18E+00
1145	74.38	44.474	0.680E-01	0.675E-01	-0.41E-01	0.18E+00
1200	74.37	44.476	0.352E-01	0.637E-01	-0.45E-01	0.17E+00
1215	74.35	44.474	0.380E-01	0.598E-01	-0.50E-01	0.17E+00
1230	74.35	44.474	0.414E-01	0.560E-01	-0.54E-01	0.17E+00
1245	74.33	44.471	0.527E-01	0.522E-01	-0.58E-01	0.16E+00
1300	74.35	44.474	0.338E-01	0.484E-01	-0.62E-01	0.16E+00
1315	74.35	44.472	0.502E-01	0.445E-01	-0.66E-01	0.16E+00
1330	74.34	44.473	0.339E-01	0.407E-01	-0.70E-01	0.15E+00
1345	74.34	44.471	0.458E-01	0.369E-01	-0.75E-01	0.15E+00
1400	74.33	44.472	0.335E-01	0.331E-01	-0.79E-01	0.14E+00
1415	74.32	44.470	0.385E-01	0.292E-01	-0.83E-01	0.14E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.942E-01
THE STANDARD DEVIATION IS 0.649E-01

THE CALCULATED LEAK RATE AFTER 8.75 HOURS OF TEST IS 0.292E-01

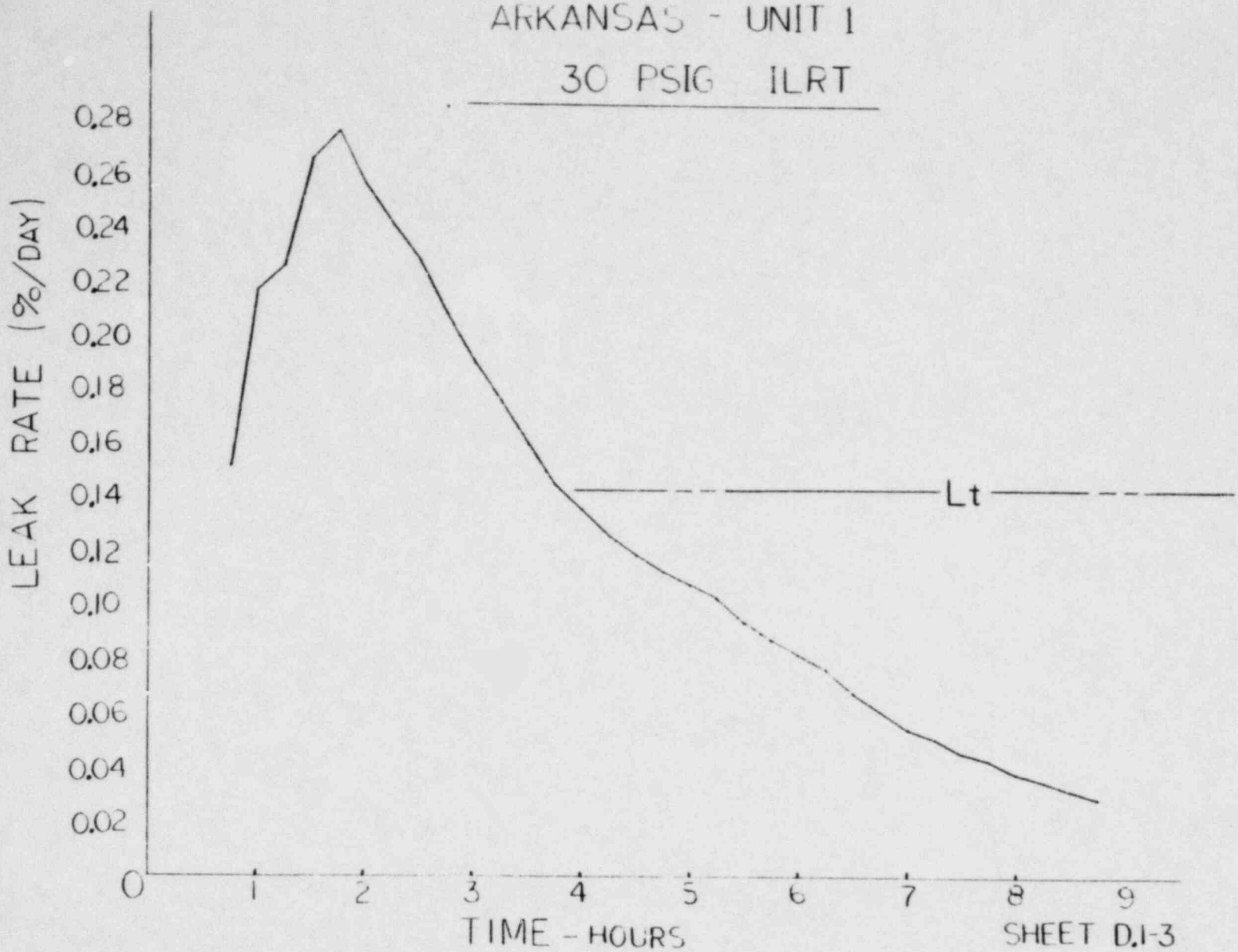

ARKANSAS - UNIT 1
30 PSIG ILRT
LEAK RATE (%/DAY)
0.28
0.26
0.24
0.22
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0
Lt
1
2
3
4
5
6
7
8
9
TIME - HOURS
SHEET D.1-3

FIG. D.1

SUMMARY OF MEASURED DATA AT TIME 530 1110

TEMP	1	=	74.810	
TEMP	2	=	74.460	
TEMP	3	=	73.680	
TEMP	4	=	74.620	
TEMP	5	=	73.830	
TEMP	6	=	74.330	
TEMP	7	=	74.410	
TEMP	8	=	74.510	
TEMP	9	=	74.960	
TEMP	10	=	74.700	
TEMP	11	=	75.140	
TEMP	12	=	74.030	
TEMP	13	=	74.770	
TEMP	14	=	74.960	
TEMP	15	=	74.490	
TEMP	16	=	74.410	
TEMP	17	=	74.240	
TEMP	18	=	74.420	
PRES	1	=	44.868	98.817

			PSIA	TEMP	INPUT
VPRS	1	=	0.353	69.165	3.720
VPRS	2	=	0.393	72.320	5.980
VPRS	3	=	0.372	70.700	2.510
VPRS	4	=	0.402	72.988	8.630
VPRS	5	=	0.372	70.743	5.320
VPRS	6	=	0.401	72.909	4.300

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 530

DATE = 1110

TEMP = 74.416759

PRES = 44.484525

=

SUMMARY OF MEASURED DATA AT TIME 545 1110

TEMP	1	=	74.800	
TEMP	2	=	74.450	
TEMP	3	=	73.660	
TEMP	4	=	74.610	
TEMP	5	=	73.870	
TEMP	6	=	74.300	
TEMP	7	=	74.400	
TEMP	8	=	74.540	
TEMP	9	=	74.950	
TEMP	10	=	74.630	
TEMP	11	=	75.160	
TEMP	12	=	74.000	
TEMP	13	=	74.790	
TEMP	14	=	74.940	
TEMP	15	=	74.510	
TEMP	16	=	74.360	
TEMP	17	=	74.260	
TEMP	18	=	74.390	
PRES	1	=	44.867	92.815

			PSIA	TEMP	INPUT
VPRS	1	=	0.354	69.271	8.540
VPRS	2	=	0.389	72.050	5.950
VPRS	3	=	0.372	70.700	2.510
VPRS	4	=	0.401	73.950	8.620
VPRS	5	=	0.372	70.743	5.320
VPRS	6	=	0.401	72.909	4.300

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 545

DATE = 1110

TEMP = 74.402849

PRES = 44.483744

=

SUMMARY OF MEASURED DATA AT TIME 600 1110

TEMP	1	=	74.820	
TEMP	2	=	74.490	
TEMP	3	=	73.660	
TEMP	4	=	74.610	
TEMP	5	=	73.880	
TEMP	6	=	74.300	
TEMP	7	=	74.410	
TEMP	8	=	74.540	
TEMP	9	=	74.970	
TEMP	10	=	74.700	
TEMP	11	=	75.190	
TEMP	12	=	74.010	
TEMP	13	=	74.800	
TEMP	14	=	74.940	
TEMP	15	=	74.510	
TEMP	16	=	74.400	
TEMP	17	=	74.280	
TEMP	18	=	74.400	
PRES	1	=	44.865	92.813

			PSIA	TEMP	INPUT
VPRI	1	=	0.353	69.165	8.520
VPRI	2	=	0.389	72.050	5.950
VPRI	3	=	0.368	70.400	2.500
VPRI	4	=	0.401	72.912	8.610
VPRI	5	=	0.372	70.743	5.320
VPRI	6	=	0.400	72.327	4.890

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 600

DATE = 1110

TEMP = 74.482810

PRES = 44.463774

=

SUMMARY OF MEASURED DATA AT TIME 615 1110

TEMP	1 =	74.810		
TEMP	2 =	74.550		
TEMP	3 =	73.690		
TEMP	4 =	74.620		
TEMP	5 =	73.870		
TEMP	6 =	74.320		
TEMP	7 =	74.440		
TEMP	8 =	74.590		
TEMP	9 =	74.990		
TEMP	10 =	74.690		
TEMP	11 =	75.160		
TEMP	12 =	74.070		
TEMP	13 =	74.800		
TEMP	14 =	74.970		
TEMP	15 =	74.480		
TEMP	16 =	74.340		
TEMP	17 =	74.250		
TEMP	18 =	74.370		
PRES	1 =	44.965	92.811	
		PSIA	TEMP	INPUT
VPRS	1 =	0.352	69.112	8.510
VPRS	2 =	0.394	72.410	5.980
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.401	72.950	8.620
VPRS	5 =	0.372	70.743	5.320
VPRS	6 =	0.401	72.909	4.900

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 615

DATE = 1110

TEMP = 74.406500

PRES = 44.482120

SUMMARY OF MEASURED DATA AT TIME = 630 1110

TEMP	1	=	74.880	
TEMP	2	=	74.520	
TEMP	3	=	73.670	
TEMP	4	=	74.650	
TEMP	5	=	73.870	
TEMP	6	=	74.300	
TEMP	7	=	74.430	
TEMP	8	=	74.610	
TEMP	9	=	74.970	
TEMP	10	=	74.680	
TEMP	11	=	75.150	
TEMP	12	=	74.010	
TEMP	13	=	74.800	
TEMP	14	=	74.950	
TEMP	15	=	74.520	
TEMP	16	=	74.330	
TEMP	17	=	74.300	
TEMP	18	=	74.390	
PRES	1	=	44.864	93.810

			PSIA	TEMP	INPUT
VPRS	1	=	0.353	69.165	8.520
VPRS	2	=	0.393	72.330	5.930
VPRS	3	=	0.368	70.400	2.500
VPRS	4	=	0.401	72.950	8.620
VPRS	5	=	0.372	70.743	5.320
VPRS	6	=	0.401	72.909	4.900

CHANGE ANY DATA ?

= NO

TEMP. AND PRES. CORRECTED DATA SUMMARY

TIME = 630

DATE = 1110

TEMP = 74.487979

PRES = 44.481678

=

SUMMARY OF MEASURED DATA AT TIME 645 1110

TEMP	1	=	74.810	
TEMP	2	=	74.520	
TEMP	3	=	73.690	
TEMP	4	=	74.630	
TEMP	5	=	73.900	
TEMP	6	=	74.340	
TEMP	7	=	74.430	
TEMP	8	=	74.640	
TEMP	9	=	74.990	
TEMP	10	=	74.720	
TEMP	11	=	75.170	
TEMP	12	=	74.020	
TEMP	13	=	74.800	
TEMP	14	=	75.000	
TEMP	15	=	74.520	
TEMP	16	=	74.350	
TEMP	17	=	74.310	
TEMP	18	=	74.370	
PRES	1	=	44.864	93.809

			PSIA	TEMP	INPUT
VPRS	1	=	0.353	69.165	8.520
VPRS	2	=	0.394	72.410	5.990
VPRS	3	=	0.368	70.400	2.500
VPRS	4	=	0.401	72.912	8.610
VPRS	5	=	0.372	70.743	5.320
VPRS	6	=	0.401	72.909	4.900

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 645

DATE = 1110

TEMP = 74.434940

PRES = 44.481127

SUMMARY OF MEASURED DATA AT TIME 700 1110

TEMP	1 =	74.840	
TEMP	2 =	74.540	
TEMP	3 =	73.740	
TEMP	4 =	74.650	
TEMP	5 =	73.910	
TEMP	6 =	74.340	
TEMP	7 =	74.460	
TEMP	8 =	74.640	
TEMP	9 =	74.990	
TEMP	10 =	74.720	
TEMP	11 =	75.170	
TEMP	12 =	74.020	
TEMP	13 =	74.810	
TEMP	14 =	74.980	
TEMP	15 =	74.570	
TEMP	16 =	74.490	
TEMP	17 =	74.290	
TEMP	18 =	74.400	
PRES	1 =	44.863	98.808

		PSIA	TEMP	INPUT
VPRS	1 =	0.354	69.218	8.530
VPRS	2 =	0.393	72.320	5.980
VPRS	3 =	0.372	70.700	8.510
VPRS	4 =	0.401	72.950	8.620
VPRS	5 =	0.373	70.839	5.330
VPRS	6 =	0.401	72.909	4.900

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 700

DATE = 1110

TEMP = 74.443980

PRES = 44.479788

=

SUMMARY OF MEASURED DATA AT TIME 715 1110

TEMP	1	=	74.840	
TEMP	2	=	74.540	
TEMP	3	=	73.710	
TEMP	4	=	74.670	
TEMP	5	=	73.940	
TEMP	6	=	74.330	
TEMP	7	=	74.410	
TEMP	8	=	74.600	
TEMP	9	=	74.990	
TEMP	10	=	74.700	
TEMP	11	=	75.170	
TEMP	12	=	74.030	
TEMP	13	=	74.810	
TEMP	14	=	74.990	
TEMP	15	=	74.540	
TEMP	16	=	74.390	
TEMP	17	=	74.300	
TEMP	18	=	74.420	
PRES	1	=	44.862	92.806

			PSIA	TEMP	INPUT
VPRS	1	=	0.352	69.059	8.500
VPRS	2	=	0.393	72.320	5.980
VPRS	3	=	0.372	70.700	2.510
VPRS	4	=	0.401	72.912	8.610
VPRS	5	=	0.373	70.829	5.330
VPRS	6	=	0.400	72.827	4.890

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 715

DATE = 1110

TEMP = 74.442439

PRES = 44.479348

SUMMARY OF MEASURED DATA AT TIME 730 1110

TEMP	1	=	74.250	
TEMP	2	=	74.540	
TEMP	3	=	73.680	
TEMP	4	=	74.640	
TEMP	5	=	73.920	
TEMP	6	=	74.330	
TEMP	7	=	74.340	
TEMP	8	=	74.650	
TEMP	9	=	74.930	
TEMP	10	=	74.700	
TEMP	11	=	75.200	
TEMP	12	=	74.020	
TEMP	13	=	74.800	
TEMP	14	=	74.980	
TEMP	15	=	74.530	
TEMP	16	=	74.350	
TEMP	17	=	74.310	
TEMP	18	=	74.390	
PRES	1	=	44.852	92.809

			PSIA	TEMP	INPUT
VPRS	1	=	0.353	69.165	3.520
VPRS	2	=	0.393	72.320	5.980
VPRS	3	=	0.368	70.400	3.500
VPRS	4	=	0.401	72.950	3.620
VPRS	5	=	0.372	70.743	5.320
VPRS	6	=	0.400	72.827	4.890

CHANGE ANY DATA ?

= NO

TEMP. AND PRES. CORRECTED DATA SUMMARY

TIME = 730

DATE = 1110

TEMP = 74.432099

PRES = 44.479526

SUMMARY OF MEASURED DATA AT TIME 745 1110

TEMP	1	=	74.840	
TEMP	2	=	74.540	
TEMP	3	=	73.730	
TEMP	4	=	74.680	
TEMP	5	=	73.930	
TEMP	6	=	74.320	
TEMP	7	=	74.390	
TEMP	8	=	74.600	
TEMP	9	=	74.980	
TEMP	10	=	74.700	
TEMP	11	=	75.200	
TEMP	12	=	74.020	
TEMP	13	=	74.790	
TEMP	14	=	74.980	
TEMP	15	=	74.570	
TEMP	16	=	74.390	
TEMP	17	=	74.270	
TEMP	18	=	74.380	
PRES	1	=	44.861	92.804

			PSIA	TEMP	INPUT
VPRS	1	=	0.353	69.165	8.520
VPRS	2	=	0.394	72.410	5.390
VPRS	3	=	0.372	70.700	2.510
VPRS	4	=	0.401	72.912	8.610
VPRS	5	=	0.372	70.743	5.320
VPRS	6	=	0.400	72.827	4.890

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 745

DATE = 1110

TEMP = 74.428080

PRES = 44.478564

SUMMARY OF MEASURED DATA AT TIME 800 1110

TEMP	1	=	74.350	
TEMP	2	=	74.540	
TEMP	3	=	73.740	
TEMP	4	=	74.650	
TEMP	5	=	73.930	
TEMP	6	=	74.330	
TEMP	7	=	74.410	
TEMP	8	=	74.600	
TEMP	9	=	74.950	
TEMP	10	=	74.710	
TEMP	11	=	75.190	
TEMP	12	=	74.040	
TEMP	13	=	74.300	
TEMP	14	=	74.990	
TEMP	15	=	74.530	
TEMP	16	=	74.390	
TEMP	17	=	74.290	
TEMP	18	=	74.380	
PRES	1	=	44.861	93.804

			PSIA	TEMP	INPUT
VPRS	1	=	0.353	69.165	8.520
VPRS	2	=	0.392	72.230	5.970
VPRS	3	=	0.372	70.700	2.510
VPRS	4	=	0.401	72.913	3.610
VPRS	5	=	0.373	70.829	5.330
VPRS	6	=	0.400	72.327	4.330

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 800

DATE = 1110

TEMP = 74.432579

PRES = 44.478374

SUMMARY OF MEASURED DATA AT TIME 815 1110

TEMP	1 =	74.840	
TEMP	2 =	74.550	
TEMP	3 =	73.710	
TEMP	4 =	74.640	
TEMP	5 =	73.930	
TEMP	6 =	74.320	
TEMP	7 =	74.420	
TEMP	8 =	74.610	
TEMP	9 =	74.950	
TEMP	10 =	74.690	
TEMP	11 =	75.160	
TEMP	12 =	74.030	
TEMP	13 =	74.780	
TEMP	14 =	74.970	
TEMP	15 =	74.510	
TEMP	16 =	74.360	
TEMP	17 =	74.270	
TEMP	18 =	74.370	
PRES	1 =	44.861	98.803

		PSIA	TEMP	INPUT
VPRS	1 =	0.353	69.165	8.520
VPRS	2 =	0.392	72.230	5.970
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.400	72.875	8.600
VPRS	5 =	0.375	70.914	5.340
VPRS	6 =	0.400	72.827	4.890

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 815

DATE = 1110

TEMP = 74.417669

PRES = 44.478065

SUMMARY OF MEASURED DATA AT TIME 830 1110

TEMP	1	=	74.810	
TEMP	2	=	74.500	
TEMP	3	=	73.720	
TEMP	4	=	74.670	
TEMP	5	=	73.930	
TEMP	6	=	74.330	
TEMP	7	=	74.410	
TEMP	8	=	74.590	
TEMP	9	=	74.930	
TEMP	10	=	74.670	
TEMP	11	=	75.150	
TEMP	12	=	74.010	
TEMP	13	=	74.770	
TEMP	14	=	74.970	
TEMP	15	=	74.530	
TEMP	16	=	74.350	
TEMP	17	=	74.240	
TEMP	18	=	74.380	
PRES	1	=	44.860	98.808

			PSIA	TEMP	INPUT
VPRS	1	=	0.358	69.112	8.510
VPRS	2	=	0.398	72.230	5.970
VPRS	3	=	0.372	70.700	8.510
VPRS	4	=	0.400	72.875	8.600
VPRS	5	=	0.376	71.000	5.350
VPRS	6	=	0.400	72.327	4.390

CHANGE ANY DATA ?

= NO

TEMP. AND PRES. CORRECTED DATA SUMMARY

TIME = 830

DATE = 1110

TEMP = 74.405349

PRES = 44.476758

SUMMARY OF MEASURED DATA AT TIME 845 1110

TEMP	1	=	74.800	
TEMP	2	=	74.570	
TEMP	3	=	73.710	
TEMP	4	=	74.650	
TEMP	5	=	73.880	
TEMP	6	=	74.310	
TEMP	7	=	74.400	
TEMP	8	=	74.590	
TEMP	9	=	74.930	
TEMP	10	=	74.710	
TEMP	11	=	75.180	
TEMP	12	=	74.010	
TEMP	13	=	74.810	
TEMP	14	=	74.960	
TEMP	15	=	74.500	
TEMP	16	=	74.310	
TEMP	17	=	74.290	
TEMP	18	=	74.380	
PRES	1	=	44.860	92.802

			PSIA	TEMP	INPUT
VPRS	1	=	0.353	69.165	3.520
VPRS	2	=	0.395	72.500	6.000
VPRS	3	=	0.376	71.000	2.520
VPRS	4	=	0.400	72.875	8.600
VPRS	5	=	0.375	70.314	5.340
VPRS	6	=	0.397	72.664	4.870

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 845

DATE = 1110

TEMP = 74.410560

PRES = 44.477031

SUMMARY OF MEASURED DATA AT TIME 900 1110

TEMP	1	=	74.790	
TEMP	2	=	74.550	
TEMP	3	=	73.730	
TEMP	4	=	74.630	
TEMP	5	=	73.910	
TEMP	6	=	74.300	
TEMP	7	=	74.390	
TEMP	8	=	74.620	
TEMP	9	=	74.950	
TEMP	10	=	74.690	
TEMP	11	=	75.140	
TEMP	12	=	74.030	
TEMP	13	=	74.830	
TEMP	14	=	74.990	
TEMP	15	=	74.510	
TEMP	16	=	74.300	
TEMP	17	=	74.280	
TEMP	18	=	74.360	
PRES	1	=	44.860	92.800

			PSIA	TEMP	INPUT
VPRI	1	=	0.351	69.006	8.430
VPRI	2	=	0.393	72.320	5.930
VPRI	3	=	0.372	70.700	2.510
VPRI	4	=	0.400	72.337	8.590
VPRI	5	=	0.372	70.743	5.320
VPRI	6	=	0.399	72.745	4.890

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 900

DATE = 1110

TEMP = 74.404549

PRES = 44.477267

SUMMARY OF MEASURED DATA AT TIME 915 1110

TEMP	1	=	74.780	
TEMP	2	=	74.550	
TEMP	3	=	73.720	
TEMP	4	=	74.630	
TEMP	5	=	73.890	
TEMP	6	=	74.310	
TEMP	7	=	74.380	
TEMP	8	=	74.610	
TEMP	9	=	74.920	
TEMP	10	=	74.690	
TEMP	11	=	75.160	
TEMP	12	=	74.020	
TEMP	13	=	74.610	
TEMP	14	=	75.010	
TEMP	15	=	74.510	
TEMP	16	=	74.300	
TEMP	17	=	74.240	
TEMP	18	=	74.380	
PRES	1	=	44.860	92.800

			PSIA	TEMP	INPUT
VPRS	1	=	0.352	69.112	8.510
VPRS	2	=	0.394	72.410	5.990
VPRS	3	=	0.376	71.000	2.520
VPRS	4	=	0.399	72.300	8.580
VPRS	5	=	0.373	70.829	5.330
VPRS	6	=	0.397	72.664	4.870

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 915

DATE = 1110

TEMP = 74.398479

PRES = 44.476601

SUMMARY OF MEASURED DATA AT TIME 930 1110

TEMP	1	=	74.780	
TEMP	2	=	74.540	
TEMP	3	=	73.710	
TEMP	4	=	74.670	
TEMP	5	=	73.890	
TEMP	6	=	74.330	
TEMP	7	=	74.370	
TEMP	8	=	74.600	
TEMP	9	=	74.970	
TEMP	10	=	74.660	
TEMP	11	=	75.150	
TEMP	12	=	74.040	
TEMP	13	=	74.830	
TEMP	14	=	75.010	
TEMP	15	=	74.500	
TEMP	16	=	74.300	
TEMP	17	=	74.240	
TEMP	18	=	74.390	
PRES	1	=	44.859	98.799

			PSIA	TEMP	INPUT
VPRS	1	=	0.351	69.006	8.490
VPRS	2	=	0.392	72.230	5.970
VPRS	3	=	0.376	71.000	2.920
VPRS	4	=	0.399	72.762	8.570
VPRS	5	=	0.373	70.889	5.330
VPRS	6	=	0.400	72.827	4.890

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 930

DATE = 1110

TEMP = 74.400099

PRES = 44.475e89

SUMMARY OF MEASURED DATA AT TIME 945 1110

TEMP	1 =	74.790	
TEMP	2 =	74.540	
TEMP	3 =	73.690	
TEMP	4 =	74.680	
TEMP	5 =	73.880	
TEMP	6 =	74.300	
TEMP	7 =	74.380	
TEMP	8 =	74.590	
TEMP	9 =	74.950	
TEMP	10 =	74.690	
TEMP	11 =	75.180	
TEMP	12 =	74.020	
TEMP	13 =	74.800	
TEMP	14 =	75.000	
TEMP	15 =	74.480	
TEMP	16 =	74.310	
TEMP	17 =	74.250	
TEMP	18 =	74.370	
PRES	1 =	44.859	92.799

		PSIA	TEMP	INPUT
VPRS	1 =	0.358	69.059	8.500
VPRS	2 =	0.393	72.320	5.980
VPRS	3 =	0.372	70.700	2.510
VPRS	4 =	0.399	72.762	8.570
VPRS	5 =	0.376	71.000	5.350
VPRS	6 =	0.397	72.664	4.870

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 945

DATE = 1110

TEMP = 74.398009

PRES = 44.476061

SUMMARY OF MEASURED DATA AT TIME 1000 1110

TEMP	1	=	74.800	
TEMP	2	=	74.530	
TEMP	3	=	73.730	
TEMP	4	=	74.660	
TEMP	5	=	73.390	
TEMP	6	=	74.320	
TEMP	7	=	74.400	
TEMP	8	=	74.570	
TEMP	9	=	74.950	
TEMP	10	=	74.690	
TEMP	11	=	75.130	
TEMP	12	=	74.010	
TEMP	13	=	74.790	
TEMP	14	=	74.960	
TEMP	15	=	74.510	
TEMP	16	=	74.370	
TEMP	17	=	74.240	
TEMP	18	=	74.360	
PREI	1	=	44.859	93.798

			PSIA	TEMP	INPUT
VPRI	1	=	0.351	69.006	8.490
VPRI	2	=	0.389	72.050	5.950
VPRI	3	=	0.387	71.900	2.550
VPRI	4	=	0.389	72.300	8.530
VPRI	5	=	0.376	71.000	5.350
VPRI	6	=	0.397	72.664	4.870

CHANGE ANY DATA ?

= NO

TEMP. AND PREIS. CORRECTED DATA SUMMARY

TIME = 1000

DATE = 1110

TEMP = 74.3860<illegible>

PREI = 44.473745

SUMMARY OF MEASURED DATA AT TIME 1015 1110

TEMP	1	=	74.910	
TEMP	2	=	74.570	
TEMP	3	=	73.720	
TEMP	4	=	74.690	
TEMP	5	=	73.910	
TEMP	6	=	74.330	
TEMP	7	=	74.410	
TEMP	8	=	74.600	
TEMP	9	=	74.910	
TEMP	10	=	74.680	
TEMP	11	=	75.160	
TEMP	12	=	74.000	
TEMP	13	=	74.810	
TEMP	14	=	74.950	
TEMP	15	=	74.520	
TEMP	16	=	74.300	
TEMP	17	=	74.240	
TEMP	18	=	74.340	
PRES	1	=	44.959	92.798

			PSIA	TEMP	INPUT
VPRS	1	=	0.352	69.059	8.500
VPRS	2	=	0.395	72.500	6.000
VPRS	3	=	0.376	71.000	2.520
VPRS	4	=	0.399	72.762	8.570
VPRS	5	=	0.376	71.000	5.350
VPRS	6	=	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1015

DATE = 1110

TEMP = 74.391439

PRES = 44.474524

SUMMARY OF MEASURED DATA AT TIME 1030 1110

TEMP	1	=	74.300	
TEMP	2	=	74.540	
TEMP	3	=	73.710	
TEMP	4	=	74.640	
TEMP	5	=	73.920	
TEMP	6	=	74.310	
TEMP	7	=	74.410	
TEMP	8	=	74.620	
TEMP	9	=	74.920	
TEMP	10	=	74.570	
TEMP	11	=	75.160	
TEMP	12	=	74.000	
TEMP	13	=	74.790	
TEMP	14	=	75.010	
TEMP	15	=	74.490	
TEMP	16	=	74.320	
TEMP	17	=	74.280	
TEMP	18	=	74.360	
PRES	1	=	44.358	93.797

			PSIA	TEMP	INPUT
VPRS	1	=	0.352	69.053	8.500
VPRS	2	=	0.337	71.370	9.930
VPRS	3	=	0.375	71.000	8.520
VPRS	4	=	0.399	72.752	8.570
VPRS	5	=	0.375	70.914	5.340
VPRS	6	=	0.399	73.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRES. CORRECTED DATA SUMMARY

TIME = 1030

DATE = 1110

TEMP = 74.405829

PRES = 44.475004

SUMMARY OF MEASURED DATA AT TIME 1045 1110

TEMP	1	=	74.780	
TEMP	2	=	74.550	
TEMP	3	=	73.770	
TEMP	4	=	74.650	
TEMP	5	=	73.910	
TEMP	6	=	74.280	
TEMP	7	=	74.380	
TEMP	8	=	74.630	
TEMP	9	=	74.920	
TEMP	10	=	74.650	
TEMP	11	=	75.170	
TEMP	12	=	74.030	
TEMP	13	=	74.820	
TEMP	14	=	75.010	
TEMP	15	=	74.500	
TEMP	16	=	74.300	
TEMP	17	=	74.260	
TEMP	18	=	74.360	
PRES	1	=	44.858	92.797

			PSIA	TEMP	INPUT
VPRS	1	=	0.352	69.059	8.500
VPRS	2	=	0.398	72.680	6.020
VPRS	3	=	0.372	70.700	2.510
VPRS	4	=	0.398	72.687	8.550
VPRS	5	=	0.376	71.000	5.350
VPRS	6	=	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1045

DATE = 1110

TEMP = 74.400899

PRES = 44.474425

SUMMARY OF MEASURED DATA AT TIME 1100 1110

TEMP	1	=	74.790	
TEMP	2	=	74.540	
TEMP	3	=	73.750	
TEMP	4	=	74.620	
TEMP	5	=	73.890	
TEMP	6	=	74.310	
TEMP	7	=	74.390	
TEMP	8	=	74.610	
TEMP	9	=	74.900	
TEMP	10	=	74.640	
TEMP	11	=	75.160	
TEMP	12	=	73.990	
TEMP	13	=	74.800	
TEMP	14	=	75.030	
TEMP	15	=	74.490	
TEMP	16	=	74.270	
TEMP	17	=	74.210	
TEMP	18	=	74.340	
PRES	1	=	44.859	98.797

			PSIA	TEMP	INPUT
VPRS	1	=	0.352	69.059	8.500
VPRS	2	=	0.393	72.320	5.980
VPRS	3	=	0.372	70.700	8.510
VPRS	4	=	0.398	72.687	8.550
VPRS	5	=	0.376	71.000	5.350
VPRS	6	=	0.399	72.745	4.880

CHANGE ANY DATA ?

=

NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1100

DATE = 1110

TEMP = 74.376289

PRES = 44.474770

SUMMARY OF MEASURED DATA AT TIME 1115 1110

TEMP	1	=	74.780	
TEMP	2	=	74.530	
TEMP	3	=	73.750	
TEMP	4	=	74.660	
TEMP	5	=	73.890	
TEMP	6	=	74.300	
TEMP	7	=	74.380	
TEMP	8	=	74.620	
TEMP	9	=	74.920	
TEMP	10	=	74.640	
TEMP	11	=	75.150	
TEMP	12	=	74.000	
TEMP	13	=	74.800	
TEMP	14	=	75.000	
TEMP	15	=	74.460	
TEMP	16	=	74.260	
TEMP	17	=	74.200	
TEMP	18	=	74.340	
PRES	1	=	44.858	92.796

			PSIA	TEMP	INPUT
VPRS	1	=	0.353	69.165	8.520
VPRS	2	=	0.392	72.230	5.970
VPRS	3	=	0.372	70.700	2.510
VPRS	4	=	0.397	72.650	8.540
VPRS	5	=	0.378	71.171	5.370
VPRS	6	=	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1115

DATE = 1110

TEMP = 74.371289

PRES = 44.473548

SUMMARY OF MEASURED DATA AT TIME 1130 1110

TEMP	1	=	74.800	
TEMP	2	=	74.560	
TEMP	3	=	73.720	
TEMP	4	=	74.650	
TEMP	5	=	73.980	
TEMP	6	=	74.280	
TEMP	7	=	74.360	
TEMP	8	=	74.500	
TEMP	9	=	74.900	
TEMP	10	=	74.650	
TEMP	11	=	75.140	
TEMP	12	=	73.980	
TEMP	13	=	74.790	
TEMP	14	=	75.020	
TEMP	15	=	74.500	
TEMP	16	=	74.270	
TEMP	17	=	74.210	
TEMP	18	=	74.300	
PRES	1	=	44.958	93.796

			PSIA	TEMP	INPUT
VPRI	1	=	0.352	69.059	8.500
VPRI	2	=	0.392	72.230	5.370
VPRI	3	=	0.379	71.300	2.530
VPRI	4	=	0.397	72.650	8.540
VPRI	5	=	0.377	71.086	5.360
VPRI	6	=	0.394	72.745	4.330

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1130

DATE = 1110

TEMP = 74.367179

PRES = 44.472970

SUMMARY OF MEASURED DATA AT TIME 1145 1110

TEMP	1 =	74.790	
TEMP	2 =	74.550	
TEMP	3 =	73.750	
TEMP	4 =	74.640	
TEMP	5 =	73.890	
TEMP	6 =	74.280	
TEMP	7 =	74.370	
TEMP	8 =	74.610	
TEMP	9 =	74.910	
TEMP	10 =	74.640	
TEMP	11 =	75.110	
TEMP	12 =	73.980	
TEMP	13 =	74.760	
TEMP	14 =	74.890	
TEMP	15 =	74.480	
TEMP	16 =	74.290	
TEMP	17 =	74.230	
TEMP	18 =	74.330	
PRES	1 =	44.857	98.795

		PSIA	TEMP	INPUT
VPRS	1 =	0.354	69.218	8.530
VPRS	2 =	0.390	72.140	5.960
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.398	72.687	8.550
VPRS	5 =	0.378	71.171	5.370
VPRS	6 =	0.399	72.745	4.880

CHANGE ANY DATA ?

=

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1145

DATE = 1110

TEMP = 74.380069

PRES = 44.473597

SUMMARY OF MEASURED DATA AT TIME 1200 1110

TEMP	1	=	74.730	
TEMP	2	=	74.590	
TEMP	3	=	73.730	
TEMP	4	=	74.640	
TEMP	5	=	73.830	
TEMP	6	=	74.230	
TEMP	7	=	74.360	
TEMP	8	=	74.590	
TEMP	9	=	74.900	
TEMP	10	=	74.630	
TEMP	11	=	75.030	
TEMP	12	=	72.970	
TEMP	13	=	74.750	
TEMP	14	=	74.980	
TEMP	15	=	74.450	
TEMP	16	=	74.290	
TEMP	17	=	74.210	
TEMP	18	=	74.320	
PRES	1	=	44.857	93.795

			PSIA	TEMP	INPUT
VPRS	1	=	0.352	69.059	3.500
VPRS	2	=	0.389	72.050	5.950
VPRS	3	=	0.361	69.300	3.480
VPRS	4	=	0.398	72.697	3.550
VPRS	5	=	0.375	70.914	5.340
VPRS	6	=	0.397	72.664	4.370

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1200

DATE = 1110

TEMP = 74.389159

PRES = 44.476329

SUMMARY OF MEASURED DATA AT TIME 1215 1110

TEMP	1 =	74.750	
TEMP	2 =	74.520	
TEMP	3 =	73.750	
TEMP	4 =	74.620	
TEMP	5 =	73.840	
TEMP	6 =	74.220	
TEMP	7 =	74.330	
TEMP	8 =	74.560	
TEMP	9 =	74.900	
TEMP	10 =	74.630	
TEMP	11 =	75.090	
TEMP	12 =	73.950	
TEMP	13 =	74.750	
TEMP	14 =	74.960	
TEMP	15 =	74.440	
TEMP	16 =	74.260	
TEMP	17 =	74.220	
TEMP	18 =	74.300	
PRES	1 =	44.857	98.795

		PSIA	TEMP	INPUT
VPRS	1 =	0.353	69.165	8.520
VPRS	2 =	0.392	72.230	5.970
VPRS	3 =	0.364	70.100	2.490
VPRS	4 =	0.397	72.612	8.530
VPRS	5 =	0.377	71.086	5.360
VPRS	6 =	0.399	72.745	4.860

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1215

DATE = 1110

TEMP = 74.353379

PRES = 44.474490

SUMMARY OF MEASURED DATA AT TIME 1230 1110

TEMP	1 =	74.750	
TEMP	2 =	74.520	
TEMP	3 =	73.730	
TEMP	4 =	74.600	
TEMP	5 =	73.860	
TEMP	6 =	74.240	
TEMP	7 =	74.350	
TEMP	8 =	74.560	
TEMP	9 =	74.900	
TEMP	10 =	74.640	
TEMP	11 =	75.070	
TEMP	12 =	73.950	
TEMP	13 =	74.770	
TEMP	14 =	74.970	
TEMP	15 =	74.430	
TEMP	16 =	74.270	
TEMP	17 =	74.200	
TEMP	18 =	74.310	
PRES	1 =	44.857	92.795

		PSIA	TEMP	INPUT
VPRS	1 =	0.359	68.694	8.620
VPRS	2 =	0.392	72.230	5.970
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.396	72.575	8.520
VPRS	5 =	0.376	71.000	5.350
VPRS	6 =	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1230

DATE = 1110

TEMP = 74.353840

PRES = 44.473910

SUMMARY OF MEASURED DATA AT TIME 1245 1110

TEMP	1 =	74.760	
TEMP	2 =	74.560	
TEMP	3 =	73.770	
TEMP	4 =	74.630	
TEMP	5 =	73.870	
TEMP	6 =	74.250	
TEMP	7 =	74.340	
TEMP	8 =	74.560	
TEMP	9 =	74.860	
TEMP	10 =	74.630	
TEMP	11 =	75.060	
TEMP	12 =	73.960	
TEMP	13 =	74.750	
TEMP	14 =	74.940	
TEMP	15 =	74.410	
TEMP	16 =	74.210	
TEMP	17 =	74.190	
TEMP	18 =	74.280	
PRES	1 =	44.857	92.794

		PSIA	TEMP	INPUT
VPRS	1 =	0.395	69.324	8.550
VPRS	2 =	0.393	72.320	5.980
VPRS	3 =	0.379	71.300	2.530
VPRS	4 =	0.396	72.575	8.520
VPRS	5 =	0.379	71.257	5.380
VPRS	6 =	0.400	72.827	4.890

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1245

DATE = 1110

TEMP = 74.334679

PRES = 44.470605

SUMMARY OF MEASURED DATA AT TIME 1300 1110

TEMP	1	=	74.780	
TEMP	2	=	74.590	
TEMP	3	=	73.800	
TEMP	4	=	74.650	
TEMP	5	=	73.870	
TEMP	6	=	74.240	
TEMP	7	=	74.320	
TEMP	8	=	74.610	
TEMP	9	=	74.820	
TEMP	10	=	74.610	
TEMP	11	=	75.060	
TEMP	12	=	73.990	
TEMP	13	=	74.760	
TEMP	14	=	74.960	
TEMP	15	=	74.470	
TEMP	16	=	74.250	
TEMP	17	=	74.170	
TEMP	18	=	74.270	
PRES	1	=	44.857	32.794

			PSIA	TEMP	INPUT
VPRS	1	=	0.352	69.059	8.500
VPRS	2	=	0.389	72.050	5.350
VPRS	3	=	0.376	71.000	2.520
VPRS	4	=	0.394	72.575	8.520
VPRS	5	=	0.375	70.914	5.340
VPRS	6	=	0.397	72.664	4.370

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1300

DATE = 1110

TEMP = 74.345059

PRES = 44.473858

SUMMARY OF MEASURED DATA AT TIME 1315 1110

TEMP	1	=	74.750	
TEMP	2	=	74.530	
TEMP	3	=	73.730	
TEMP	4	=	74.620	
TEMP	5	=	73.890	
TEMP	6	=	74.250	
TEMP	7	=	74.350	
TEMP	8	=	74.600	
TEMP	9	=	74.860	
TEMP	10	=	74.650	
TEMP	11	=	75.090	
TEMP	12	=	73.970	
TEMP	13	=	74.740	
TEMP	14	=	75.010	
TEMP	15	=	74.450	
TEMP	16	=	74.220	
TEMP	17	=	74.210	
TEMP	18	=	74.300	
PRES	1	=	44.857	92.794

			PSIA	TEMP	INPUT
VPRS	1	=	0.353	69.165	8.520
VPRS	2	=	0.393	72.320	5.980
VPRS	3	=	0.376	71.000	2.520
VPRS	4	=	0.396	72.575	8.520
VPRS	5	=	0.379	71.257	5.380
VPRS	6	=	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1315

DATE = 1110

TEMP = 74.348749

PRES = 44.471647

SUMMARY OF MEASURED DATA AT TIME 1330 1110

TEMP	1 =	74.720	
TEMP	2 =	74.560	
TEMP	3 =	73.800	
TEMP	4 =	74.620	
TEMP	5 =	73.840	
TEMP	6 =	74.220	
TEMP	7 =	74.320	
TEMP	8 =	74.530	
TEMP	9 =	74.850	
TEMP	10 =	74.600	
TEMP	11 =	75.080	
TEMP	12 =	73.640	
TEMP	13 =	74.760	
TEMP	14 =	74.970	
TEMP	15 =	74.480	
TEMP	16 =	74.240	
TEMP	17 =	74.210	
TEMP	18 =	74.280	
PRES	1 =	44.856	92.793

		PSIA	TEMP	INPUT
VPRS	1 =	0.352	69.059	8.500
VPRS	2 =	0.392	72.230	5.970
VPRS	3 =	0.376	71.000	6.520
VPRS	4 =	0.396	72.537	8.510
VPRS	5 =	0.375	70.914	5.340
VPRS	6 =	0.397	72.664	4.870

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1330

DATE = 1110

TEMP = 74.341359

PRES = 44.473225

SUMMARY OF MEASURED DATA AT TIME 1345 1110

TEMP	1	=	74.700	
TEMP	2	=	74.540	
TEMP	3	=	73.760	
TEMP	4	=	74.610	
TEMP	5	=	73.830	
TEMP	6	=	74.220	
TEMP	7	=	74.360	
TEMP	8	=	74. 0	
TEMP	9	=	74.870	
TEMP	10	=	74.600	
TEMP	11	=	75.050	
TEMP	12	=	73.900	
TEMP	13	=	74.760	
TEMP	14	=	75.000	
TEMP	15	=	74.450	
TEMP	16	=	74.230	
TEMP	17	=	74.220	
TEMP	18	=	74.260	
PRES	1	=	44.856	98.793

			PSIA	TEMP	INPUT
VPRS	1	=	0.353	69.165	8.520
VPRS	2	=	0.394	72.410	5.390
VPRS	3	=	0.376	71.000	2.520
VPRS	4	=	0.396	72.537	8.510
VPRS	5	=	0.379	71.257	5.380
VPRS	6	=	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1345

DATE = 1110

TEMP = 74.339649

PRES = 44.471099

SUMMARY OF MEASURED DATA AT TIME 1400 1110

TEMP	1	=	74.700	
TEMP	2	=	74.530	
TEMP	3	=	73.740	
TEMP	4	=	74.500	
TEMP	5	=	73.820	
TEMP	6	=	74.210	
TEMP	7	=	74.330	
TEMP	8	=	74.520	
TEMP	9	=	74.940	
TEMP	10	=	74.580	
TEMP	11	=	75.030	
TEMP	12	=	73.940	
TEMP	13	=	74.760	
TEMP	14	=	75.020	
TEMP	15	=	74.410	
TEMP	16	=	74.200	
TEMP	17	=	74.810	
TEMP	18	=	74.290	
PRES	1	=	44.856	98.793

			PSIA	TEMP	INPUT
VPRS	1	=	0.352	69.059	8.500
VPRS	2	=	0.393	72.320	5.980
VPRS	3	=	0.376	71.000	2.520
VPRS	4	=	0.396	72.537	8.510
VPRS	5	=	0.377	71.086	5.360
VPRS	6	=	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1400

DATE = 1110

TEMP = 74.330189

PRES = 44.472038

SUMMARY OF MEASURED DATA AT TIME 1415 1110

TEMP	1	=	74.730	
TEMP	2	=	74.540	
TEMP	3	=	73.790	
TEMP	4	=	74.630	
TEMP	5	=	73.950	
TEMP	6	=	74.220	
TEMP	7	=	74.330	
TEMP	8	=	74.560	
TEMP	9	=	74.360	
TEMP	10	=	74.590	
TEMP	11	=	75.090	
TEMP	12	=	73.970	
TEMP	13	=	74.750	
TEMP	14	=	74.990	
TEMP	15	=	74.430	
TEMP	16	=	74.210	
TEMP	17	=	74.170	
TEMP	18	=	74.240	
PRES	1	=	44.856	92.793

			PSIA	TEMP	INPUT
VPRS	1	=	0.352	69.112	8.510
VPRS	2	=	0.393	72.320	5.960
VPRS	3	=	0.379	71.300	2.530
VPRS	4	=	0.395	72.500	8.500
VPRS	5	=	0.380	71.343	5.390
VPRS	6	=	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1415

DATE = 1110

TEMP = 74.321499

PRES = 44.470243

ARKANSAS UNIT 1 VERIF 30 PSIG ILRT

TIME, DATE START OF TEST 1645 1110

TIME AFTER START OF TEST = 4.50 HR

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF MEAS LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
0.75	4	0.649E+00	0.464E+00	
1.00	5	0.611E+00	0.431E+00	-0.323E-01
1.25	6	0.577E+00	0.388E+00	-0.437E-01
1.50	7	0.552E+00	0.364E+00	-0.233E-01
1.75	8	0.519E+00	0.303E+00	-0.613E-01
2.00	9	0.494E+00	0.270E+00	-0.336E-01
2.25	10	0.475E+00	0.249E+00	-0.202E-01
2.50	11	0.457E+00	0.228E+00	-0.215E-01
2.75	12	0.443E+00	0.217E+00	-0.114E-01
3.00	13	0.428E+00	0.201E+00	-0.160E-01
3.25	14	0.415E+00	0.186E+00	-0.144E-01
3.50	15	0.403E+00	0.173E+00	-0.130E-01
3.75	16	0.393E+00	0.172E+00	-0.144E-02
4.00	17	0.383E+00	0.162E+00	-0.987E-02
4.25	18	0.377E+00	0.155E+00	-0.633E-02
4.50	19	0.368E+00	0.148E+00	-0.748E-02

THE CALCULATED LEAK RATE IS 0.148E+00
THE MAXIMUM ALLOWABLE LEAK RATE IS 0.206E+00
THE LAST 15 DATA POINTS ESTABLISH A NEGATIVE SLOPE

ARKANSAS UNIT 1 VERIF 30 PSIG ILRT

TIME, DATE START OF TEST 1645 1110

TIME AFTER START OF TEST = 4.50 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATION:

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
1700	74.41	44.467	0.513E+00	0.539E+00	0.38E+00	0.79E+00
1715	74.44	44.467	0.494E+00	0.563E+00	0.36E+00	0.76E+00
1730	74.43	44.467	0.441E+00	0.537E+00	0.34E+00	0.74E+00
1745	74.46	44.466	0.447E+00	0.511E+00	0.31E+00	0.71E+00
1800	74.46	44.465	0.439E+00	0.485E+00	0.29E+00	0.68E+00
1815	74.48	44.465	0.429E+00	0.459E+00	0.26E+00	0.65E+00
1830	74.46	44.465	0.319E+00	0.433E+00	0.24E+00	0.63E+00
1845	74.47	44.464	0.323E+00	0.407E+00	0.21E+00	0.60E+00
1900	74.49	44.465	0.333E+00	0.381E+00	0.19E+00	0.57E+00
1915	74.48	44.463	0.294E+00	0.355E+00	0.16E+00	0.55E+00
1930	74.50	44.463	0.301E+00	0.329E+00	0.14E+00	0.52E+00
1945	74.49	44.462	0.271E+00	0.303E+00	0.11E+00	0.50E+00
2000	74.48	44.461	0.257E+00	0.278E+00	0.83E-01	0.47E+00
2015	74.48	44.461	0.246E+00	0.252E+00	0.56E-01	0.45E+00
2030	74.52	44.460	0.278E+00	0.226E+00	0.28E-01	0.42E+00
2045	74.49	44.460	0.236E+00	0.200E+00	0.18E-03	0.40E+00
2100	74.50	44.460	0.241E+00	0.174E+00	-0.28E-01	0.38E+00
2115	74.49	44.459	0.226E+00	0.149E+00	-0.57E-01	0.35E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.368E+00
THE STANDARD DEVIATION IS 0.163E+00

THE CALCULATED LEAK RATE AFTER 4.50 HOURS OF TEST IS 0.148E+00

SUMMARY OF MEASURED DATA AT TIME 1645 1110

TEMP	1 =	74.800	
TEMP	2 =	74.690	
TEMP	3 =	74.080	
TEMP	4 =	74.720	
TEMP	5 =	73.940	
TEMP	6 =	74.260	
TEMP	7 =	74.420	
TEMP	8 =	74.520	
TEMP	9 =	74.880	
TEMP	10 =	74.670	
TEMP	11 =	75.130	
TEMP	12 =	73.990	
TEMP	13 =	74.830	
TEMP	14 =	75.070	
TEMP	15 =	74.500	
TEMP	16 =	74.220	
TEMP	17 =	74.250	
TEMP	18 =	74.260	
PRES	1 =	44.852	92.785

		PSIA	TEMP	INPUT
VPRS	1 =	0.355	69.324	8.550
VPRS	2 =	0.393	72.320	5.980
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.396	72.537	8.510
VPRS	5 =	0.380	71.343	5.390
VPRS	6 =	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1645

DATE = 1110

TEMP = 74.372020

PRES = 44.467830

SUMMARY OF MEASURED DATA AT TIME 1700 1110

TEMP	1	=	74.800	
TEMP	2	=	74.640	
TEMP	3	=	74.060	
TEMP	4	=	74.790	
TEMP	5	=	73.930	
TEMP	6	=	74.320	
TEMP	7	=	74.470	
TEMP	8	=	74.650	
TEMP	9	=	74.910	
TEMP	10	=	74.690	
TEMP	11	=	75.180	
TEMP	12	=	74.010	
TEMP	13	=	74.840	
TEMP	14	=	75.120	
TEMP	15	=	74.510	
TEMP	16	=	74.280	
TEMP	17	=	74.280	
TEMP	18	=	74.290	
PRES	1	=	44.852	92.784

			PSIA	TEMP	INPUT
VPRS	1	=	0.357	69.482	8.580
VPRS	2	=	0.394	72.410	5.990
VPRS	3	=	0.368	70.400	8.500
VPRS	4	=	0.396	72.537	8.510
VPRS	5	=	0.380	71.343	5.390
VPRS	6	=	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1700

DATE = 1110

TEMP = 74.408699

PRES = 44.467121

SUMMARY OF MEASURED DATA AT TIME 1715 1110

TEMP	1 =	74.840	
TEMP	2 =	74.730	
TEMP	3 =	74.120	
TEMP	4 =	74.810	
TEMP	5 =	73.940	
TEMP	6 =	74.300	
TEMP	7 =	74.480	
TEMP	8 =	74.580	
TEMP	9 =	74.320	
TEMP	10 =	74.750	
TEMP	11 =	75.200	
TEMP	12 =	74.020	
TEMP	13 =	74.880	
TEMP	14 =	75.130	
TEMP	15 =	74.530	
TEMP	16 =	74.300	
TEMP	17 =	74.330	
TEMP	18 =	74.350	
PRES	1 =	44.852	92.734

		PSIA	TEMP	INPUT
VPRS	1 =	0.356	69.429	8.570
VPRS	2 =	0.393	72.320	5.980
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.396	72.537	8.510
VPRS	5 =	0.380	71.343	5.390
VPRS	6 =	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1715

DATE = 1110

TEMP = 74.448359

PRES = 44.467253

SUMMARY OF MEASURED DATA AT TIME 1730 1110

TEMP	1	=	74.880	
TEMP	2	=	74.730	
TEMP	3	=	74.110	
TEMP	4	=	74.820	
TEMP	5	=	73.990	
TEMP	6	=	74.370	
TEMP	7	=	74.480	
TEMP	8	=	74.600	
TEMP	9	=	74.990	
TEMP	10	=	74.680	
TEMP	11	=	75.200	
TEMP	12	=	74.060	
TEMP	13	=	74.890	
TEMP	14	=	75.170	
TEMP	15	=	74.530	
TEMP	16	=	74.320	
TEMP	17	=	74.270	
TEMP	18	=	74.310	
PRES	1	=	44.851	92.782

			PSIA	TEMP	INPUT
VPRS	1	=	0.356	69.429	8.570
VPRS	2	=	0.393	72.320	5.980
VPRS	3	=	0.368	70.400	2.500
VPRS	4	=	0.396	72.537	8.510
VPRS	5	=	0.380	71.343	5.390
VPRS	6	=	0.397	72.664	4.870

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1730

DATE = 1110

TEMP = 74.431519

PRES = 44.466654

SUMMARY OF MEASURED DATA AT TIME 1745 1110

TEMP	1	=	74.880	
TEMP	2	=	74.720	
TEMP	3	=	74.140	
TEMP	4	=	74.810	
TEMP	5	=	74.020	
TEMP	6	=	74.390	
TEMP	7	=	74.510	
TEMP	8	=	74.650	
TEMP	9	=	74.980	
TEMP	10	=	74.770	
TEMP	11	=	75.240	
TEMP	12	=	74.110	
TEMP	13	=	74.880	
TEMP	14	=	75.210	
TEMP	15	=	74.550	
TEMP	16	=	74.340	
TEMP	17	=	74.340	
TEMP	18	=	74.320	
PRES	1	=	44.850	92.780

			PSIA	TEMP	INPUT
VPRS	1	=	0.356	69.429	3.570
VPRS	2	=	0.393	72.320	5.980
VPRS	3	=	0.368	70.400	2.500
VPRS	4	=	0.396	72.537	8.510
VPRS	5	=	0.380	71.343	5.390
VPRS	6	=	0.396	72.582	4.860

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1745

DATE = 1110

TEMP = 74.461349

PRES = 44.466055

SUMMARY OF MEASURED DATA AT TIME 1800 1110

TEMP	1 =	74.920	
TEMP	2 =	74.710	
TEMP	3 =	74.140	
TEMP	4 =	74.830	
TEMP	5 =	74.050	
TEMP	6 =	74.380	
TEMP	7 =	74.460	
TEMP	8 =	74.610	
TEMP	9 =	74.990	
TEMP	10 =	74.770	
TEMP	11 =	75.240	
TEMP	12 =	74.080	
TEMP	13 =	74.930	
TEMP	14 =	75.210	
TEMP	15 =	74.540	
TEMP	16 =	74.310	
TEMP	17 =	74.320	
TEMP	18 =	74.380	
PRES	1 =	44.850	92.780

		PSIA	TEMP	INPUT
VPRS	1 =	0.357	69.535	8.590
VPRS	2 =	0.394	72.410	5.990
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.396	72.537	8.510
VPRS	5 =	0.380	71.343	5.390
VPRS	6 =	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1800

DATE = 1110

TEMP = 74.461709

PRES = 44.465140

SUMMARY OF MEASURED DATA AT TIME 1815 1110

TEMP	1 =	74.900	
TEMP	2 =	74.720	
TEMP	3 =	74.120	
TEMP	4 =	74.850	
TEMP	5 =	74.020	
TEMP	6 =	74.360	
TEMP	7 =	74.470	
TEMP	8 =	74.670	
TEMP	9 =	74.980	
TEMP	10 =	74.760	
TEMP	11 =	75.260	
TEMP	12 =	74.050	
TEMP	13 =	74.890	
TEMP	14 =	75.220	
TEMP	15 =	74.560	
TEMP	16 =	74.340	
TEMP	17 =	74.350	
TEMP	18 =	74.390	
PRES	1 =	44.850	92.780

		PSIA	TEMP	INPUT
VPRS	1 =	0.356	69.429	8.570
VPRS	2 =	0.395	72.500	6.000
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.395	72.500	8.500
VPRS	5 =	0.381	71.429	5.400
VPRS	6 =	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1815

DATE = 1110

TEMP = 74.478790

PRES = 44.464792

SUMMARY OF MEASURED DATA AT TIME 1830 1110

TEMP	1	=	74.940	
TEMP	2	=	74.900	
TEMP	3	=	74.120	
TEMP	4	=	74.830	
TEMP	5	=	74.030	
TEMP	6	=	74.410	
TEMP	7	=	74.490	
TEMP	8	=	74.710	
TEMP	9	=	75.010	
TEMP	10	=	74.740	
TEMP	11	=	75.230	
TEMP	12	=	74.080	
TEMP	13	=	74.880	
TEMP	14	=	75.180	
TEMP	15	=	74.620	
TEMP	16	=	74.360	
TEMP	17	=	74.280	
TEMP	18	=	74.320	
PRES	1	=	44.850	92.780

			PSIA	TEMP	INPUT
VPRS	1	=	0.357	69.482	8.580
VPRS	2	=	0.395	72.500	6.000
VPRS	3	=	0.368	70.400	2.500
VPRS	4	=	0.395	72.500	8.500
VPRS	5	=	0.380	71.343	5.390
VPRS	6	=	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1830

DATE = 1110

TEMP = 74.463749

PRES = 44.465122

SUMMARY OF MEASURED DATA AT TIME 1845 1110

TEMP	1 =	74.960	
TEMP	2 =	74.730	
TEMP	3 =	74.130	
TEMP	4 =	74.830	
TEMP	5 =	74.070	
TEMP	6 =	74.400	
TEMP	7 =	74.500	
TEMP	8 =	74.700	
TEMP	9 =	75.000	
TEMP	10 =	74.740	
TEMP	11 =	75.300	
TEMP	12 =	74.060	
TEMP	13 =	74.920	
TEMP	14 =	75.210	
TEMP	15 =	74.570	
TEMP	16 =	74.330	
TEMP	17 =	74.300	
TEMP	18 =	74.360	
PRES	1 =	44.849	92.779

		PSIA	TEMP	INPUT
VPRS	1 =	0.357	69.535	3.590
VPRS	2 =	0.395	72.500	6.000
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.396	72.537	8.510
VPRS	5 =	0.381	71.429	5.400
VPRS	6 =	0.400	72.827	4.890

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1845

DATE = 1110

TEMP = 74.467819

PRES = 44.463827

SUMMARY OF MEASURED DATA AT TIME 1900 1110

TEMP	1 =	74.960	
TEMP	2 =	74.800	
TEMP	3 =	74.100	
TEMP	4 =	74.840	
TEMP	5 =	74.040	
TEMP	6 =	74.400	
TEMP	7 =	74.490	
TEMP	8 =	74.680	
TEMP	9 =	74.980	
TEMP	10 =	74.810	
TEMP	11 =	75.230	
TEMP	12 =	74.100	
TEMP	13 =	74.950	
TEMP	14 =	75.200	
TEMP	15 =	74.610	
TEMP	16 =	74.320	
TEMP	17 =	74.380	
TEMP	18 =	74.400	
PRES	1 =	44.849	92.779

		PSIA	TEMP	INPUT
VPRS	1 =	0.357	69.535	8.590
VPRS	2 =	0.395	72.500	6.000
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.395	72.500	8.500
VPRS	5 =	0.380	71.343	5.390
VPRS	6 =	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1900

DATE = 1110

TEMP = 74.494359

PRES = 44.464592

SUMMARY OF MEASURED DATA AT TIME 1915 1110

TEMP	1 =	74.980	
TEMP	2 =	74.780	
TEMP	3 =	74.080	
TEMP	4 =	74.830	
TEMP	5 =	74.050	
TEMP	6 =	74.410	
TEMP	7 =	74.500	
TEMP	8 =	74.720	
TEMP	9 =	75.010	
TEMP	10 =	74.780	
TEMP	11 =	75.280	
TEMP	12 =	74.090	
TEMP	13 =	74.940	
TEMP	14 =	75.230	
TEMP	15 =	74.620	
TEMP	16 =	74.330	
TEMP	17 =	74.320	
TEMP	18 =	74.370	
PRES	1 =	44.849	92.778

		PSIA	TEMP	INPUT
VPRS	1 =	0.358	69.588	8.600
VPRS	2 =	0.395	72.500	6.000
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.398	72.537	8.510
VPRS	5 =	0.381	71.429	5.400
VPRS	6 =	0.400	72.827	4.890

CHANGE ANY DATA ?

= NO

TEMP. AND PRES. CORRECTED DATA SUMMARY

TIME = 1915

DATE = 1110

TEMP = 74.481149

PRES = 44.463296

SUMMARY OF MEASURED DATA AT TIME 1930 1110

TEMP	1	=	74.950	
TEMP	2	=	74.820	
TEMP	3	=	74.140	
TEMP	4	=	74.880	
TEMP	5	=	74.080	
TEMP	6	=	74.460	
TEMP	7	=	74.510	
TEMP	8	=	74.720	
TEMP	9	=	74.980	
TEMP	10	=	74.800	
TEMP	11	=	75.260	
TEMP	12	=	74.130	
TEMP	13	=	74.930	
TEMP	14	=	75.210	
TEMP	15	=	74.600	
TEMP	16	=	74.340	
TEMP	17	=	74.360	
TEMP	18	=	74.280	
PRES	1	=	44.848	92.777

			PSIA	TEMP	INPUT
VPRS	1	=	0.357	69.535	8.590
VPRS	2	=	0.395	72.500	6.000
VPRS	3	=	0.368	70.400	2.500
VPRS	4	=	0.396	72.537	8.510
VPRS	5	=	0.381	71.429	5.400
VPRS	6	=	0.400	72.637	4.830

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1930

DATE = 1110

TEMP = 74.496770

PRES = 44.462860

SUMMARY OF MEASURED DATA AT TIME 1945 1110

TEMP	1	=	74.970	
TEMP	2	=	74.720	
TEMP	3	=	74.040	
TEMP	4	=	74.860	
TEMP	5	=	74.070	
TEMP	6	=	74.400	
TEMP	7	=	74.500	
TEMP	8	=	74.720	
TEMP	9	=	74.980	
TEMP	10	=	74.770	
TEMP	11	=	75.240	
TEMP	12	=	74.090	
TEMP	13	=	74.920	
TEMP	14	=	75.320	
TEMP	15	=	74.620	
TEMP	16	=	74.360	
TEMP	17	=	74.320	
TEMP	18	=	74.400	
PRES	1	=	44.848	92.776

			PSIA	TEMP	INPUT
VPRS	1	=	0.358	69.588	8.600
VPRS	2	=	0.394	72.410	5.390
VPRS	3	=	0.368	70.400	2.500
VPRS	4	=	0.395	72.500	8.500
VPRS	5	=	0.381	71.429	5.400
VPRS	6	=	0.400	73.827	4.890

CHANGE ANY DATA ?

= NO

TEMP. AND PRES. CORRECTED DATA SUMMARY

TIME = 1945

DATE = 1110

TEMP = 74.487889

PRES = 44.462437

SUMMARY OF MEASURED DATA AT TIME 2000 1110

TEMP	1 =	74.980	
TEMP	2 =	74.730	
TEMP	3 =	74.050	
TEMP	4 =	74.890	
TEMP	5 =	74.110	
TEMP	6 =	74.420	
TEMP	7 =	74.490	
TEMP	8 =	74.710	
TEMP	9 =	74.980	
TEMP	10 =	74.760	
TEMP	11 =	75.220	
TEMP	12 =	74.090	
TEMP	13 =	74.920	
TEMP	14 =	75.240	
TEMP	15 =	74.590	
TEMP	16 =	74.350	
TEMP	17 =	74.310	
TEMP	18 =	74.380	
PRES	1 =	44.847	92.775

		PSIA	TEMP	INPUT
VPRS	1 =	0.368	70.382	8.750
VPRS	2 =	0.393	72.320	5.980
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.395	72.500	8.500
VPRS	5 =	0.381	71.429	5.400
VPRS	6 =	0.400	72.327	4.890

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2000

DATE = 1110

TEMP = 74.480220

PRES = 44.461334

SUMMARY OF MEASURED DATA AT TIME 2015 1110

TEMP	1	=	74.950	
TEMP	2	=	74.810	
TEMP	3	=	74.100	
TEMP	4	=	74.880	
TEMP	5	=	74.090	
TEMP	6	=	74.440	
TEMP	7	=	74.530	
TEMP	8	=	74.710	
TEMP	9	=	75.050	
TEMP	10	=	74.800	
TEMP	11	=	75.390	
TEMP	12	=	74.080	
TEMP	13	=	74.960	
TEMP	14	=	75.250	
TEMP	15	=	74.630	
TEMP	16	=	74.310	
TEMP	17	=	74.300	
TEMP	18	=	74.390	
PRES	1	=	44.847	92.775

			PSIA	TEMP	INPUT
VPRS	1	=	0.371	70.647	8.800
VPRS	2	=	0.395	72.500	6.000
VPRS	3	=	0.368	70.400	8.500
VPRS	4	=	0.395	72.500	8.500
VPRS	5	=	0.381	71.429	5.400
VPRS	6	=	0.400	72.827	4.630

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2015

DATE = 1110

TEMP = 74.480599

PRES = 44.460924

SUMMARY OF MEASURED DATA AT TIME 2030 1110

TEMP	1 =	74.940	
TEMP	2 =	74.770	
TEMP	3 =	74.130	
TEMP	4 =	74.870	
TEMP	5 =	74.080	
TEMP	6 =	74.470	
TEMP	7 =	74.540	
TEMP	8 =	74.770	
TEMP	9 =	74.980	
TEMP	10 =	74.770	
TEMP	11 =	75.270	
TEMP	12 =	74.100	
TEMP	13 =	74.970	
TEMP	14 =	75.230	
TEMP	15 =	74.630	
TEMP	16 =	74.370	
TEMP	17 =	74.420	
TEMP	18 =	74.370	
PRES	1 =	44.846	92.773

		PSIA	TEMP	INPUT
VPRS	1 =	0.370	70.541	8.780
VPRS	2 =	0.395	72.500	6.000
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.395	72.500	8.500
VPRS	5 =	0.381	71.429	5.400
VPRS	6 =	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2030

DATE = 1110

TEMP = 74.515280

PRES = 44.460420

SUMMARY OF MEASURED DATA AT TIME 2045 1110

TEMP	1	=	74.980	
TEMP	2	=	74.840	
TEMP	3	=	74.080	
TEMP	4	=	74.860	
TEMP	5	=	74.040	
TEMP	6	=	74.410	
TEMP	7	=	74.500	
TEMP	8	=	74.730	
TEMP	9	=	74.990	
TEMP	10	=	74.760	
TEMP	11	=	75.290	
TEMP	12	=	74.130	
TEMP	13	=	74.960	
TEMP	14	=	75.220	
TEMP	15	=	74.620	
TEMP	16	=	74.300	
TEMP	17	=	74.340	
TEMP	18	=	74.290	
PRES	1	=	44.846	92.772

			PSIA	TEMP	INPUT
VPRS	1	=	0.370	70.541	8.780
VPRS	2	=	0.395	72.500	6.000
VPRS	3	=	0.368	70.400	2.500
VPRS	4	=	0.395	72.500	8.500
VPRS	5	=	0.381	71.429	5.400
VPRS	6	=	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2045

DATE = 1110

TEMP = 74.487689

PRES = 44.459937

SUMMARY OF MEASURED DATA AT TIME 2100 1110

TEMP	1	=	74.960	
TEMP	2	=	74.790	
TEMP	3	=	74.060	
TEMP	4	=	74.870	
TEMP	5	=	74.080	
TEMP	6	=	74.430	
TEMP	7	=	74.560	
TEMP	8	=	74.770	
TEMP	9	=	75.020	
TEMP	10	=	74.790	
TEMP	11	=	75.270	
TEMP	12	=	74.160	
TEMP	13	=	74.930	
TEMP	14	=	75.240	
TEMP	15	=	74.600	
TEMP	16	=	74.370	
TEMP	17	=	74.340	
TEMP	18	=	74.390	
PRES	1	=	44.846	92.771

			PSIA	TEMP	INPUT
VPRS	1	=	0.366	70.224	8.720
VPRS	2	=	0.394	72.410	5.990
VPRS	3	=	0.368	70.400	2.500
VPRS	4	=	0.395	72.500	8.500
VPRS	5	=	0.381	71.429	5.400
VPRS	6	=	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2100

DATE = 1110

TEMP = 74.503560

PRES = 44.459825

SUMMARY OF MEASURED DATA AT TIME 2115 1110

TEMP	1 =	74.950	
TEMP	2 =	74.770	
TEMP	3 =	74.110	
TEMP	4 =	74.870	
TEMP	5 =	74.080	
TEMP	6 =	74.460	
TEMP	7 =	74.490	
TEMP	8 =	74.750	
TEMP	9 =	75.020	
TEMP	10 =	74.740	
TEMP	11 =	75.330	
TEMP	12 =	74.100	
TEMP	13 =	74.910	
TEMP	14 =	75.220	
TEMP	15 =	74.600	
TEMP	16 =	74.340	
TEMP	17 =	74.340	
TEMP	18 =	74.390	
PRES	1 =	44.845	92.770

		PSIA	TEMP	INPUT
VPRS	1 =	0.370	70.541	8.780
VPRS	2 =	0.395	72.500	6.000
VPRS	3 =	0.368	70.400	2.500
VPRS	4 =	0.395	72.500	8.500
VPRS	5 =	0.381	71.429	5.400
VPRS	6 =	0.399	72.745	4.880

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2115

DATE = 1110

TEMP = 74.492249

PRES = 44.458970

ARKANSAS UNIT 1 59 PSIG ILRT

TIME, DATE START OF TEST 845 1112

TIME AFTER START OF TEST = 8.75 HR

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF MEAS LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
0.75	4	0.915E-01	0.663E-01	
1.00	5	0.571E-01	-0.197E-01	-0.860E-01
1.25	6	0.404E-01	-0.444E-01	-0.247E-01
1.50	7	0.424E-01	-0.137E-01	0.307E-01
1.75	8	0.375E-01	-0.156E-01	-0.187E-02
2.00	9	0.328E-01	-0.194E-01	-0.387E-02
2.25	10	0.262E-01	-0.316E-01	-0.122E-01
2.50	11	0.238E-01	-0.293E-01	0.232E-02
2.75	12	0.236E-01	-0.213E-01	0.807E-02
3.00	13	0.249E-01	-0.987E-02	0.114E-01
3.25	14	0.266E-01	0.130E-02	0.112E-01
3.50	15	0.263E-01	0.353E-02	0.223E-02
3.75	16	0.287E-01	0.150E-01	0.115E-01
4.00	17	0.301E-01	0.218E-01	0.681E-02
4.25	18	0.319E-01	0.295E-01	0.772E-02
4.50	19	0.346E-01	0.395E-01	0.993E-02
4.75	20	0.371E-01	0.483E-01	0.883E-02
5.00	21	0.389E-01	0.538E-01	0.553E-02
5.25	22	0.411E-01	0.609E-01	0.709E-02
5.50	23	0.436E-01	0.684E-01	0.749E-02
5.75	24	0.457E-01	0.741E-01	0.574E-02
6.00	25	0.470E-01	0.768E-01	0.266E-02
6.25	26	0.483E-01	0.796E-01	0.277E-02
6.50	27	0.498E-01	0.828E-01	0.325E-02
6.75	28	0.509E-01	0.847E-01	0.190E-02
7.00	29	0.515E-01	0.845E-01	-0.206E-03
7.25	30	0.525E-01	0.863E-01	0.178E-02
7.50	31	0.532E-01	0.866E-01	0.309E-03
7.75	32	0.536E-01	0.860E-01	-0.584E-03
8.00	33	0.541E-01	0.859E-01	-0.156E-03
8.25	34	0.544E-01	0.853E-01	-0.690E-03
8.50	35	0.544E-01	0.837E-01	-0.144E-02
8.75	36	0.543E-01	0.815E-01	-0.224E-02

THE CALCULATED LEAK RATE IS 0.815E-01
THE MAXIMUM ALLOWABLE LEAK RATE IS 0.200E+00
THE LAST 5 DATA POINTS ESTABLISH A NEGATIVE SLOPE

ARKANSAS UNIT 1 59 PSIG ILRT

TIME, DATE START OF TEST 945 1112

TIME AFTER START OF TEST = 8.75 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
1000	75.73	73.223	0.120E+00	0.271E-01	-0.48E-01	0.10E+00
1015	75.63	73.208	0.847E-01	0.287E-01	-0.46E-01	0.10E+00
1030	75.53	73.195	0.697E-01	0.303E-01	-0.44E-01	0.10E+00
1045	75.41	73.182	-0.458E-01	0.319E-01	-0.42E-01	0.11E+00
1100	75.34	73.171	-0.267E-01	0.335E-01	-0.40E-01	0.11E+00
1115	75.28	73.161	0.528E-01	0.351E-01	-0.38E-01	0.11E+00
1130	75.21	73.152	0.819E-02	0.367E-01	-0.37E-01	0.11E+00
1145	75.13	73.142	-0.598E-04	0.383E-01	-0.35E-01	0.11E+00
1200	75.07	73.136	-0.272E-01	0.399E-01	-0.33E-01	0.11E+00
1215	75.02	73.126	0.245E-02	0.415E-01	-0.31E-01	0.11E+00
1230	74.97	73.119	0.213E-01	0.431E-01	-0.30E-01	0.12E+00
1245	74.93	73.111	0.388E-01	0.447E-01	-0.28E-01	0.12E+00
1300	74.90	73.105	0.475E-01	0.463E-01	-0.26E-01	0.12E+00
1315	74.84	73.100	0.282E-01	0.479E-01	-0.24E-01	0.12E+00
1330	74.83	73.094	0.620E-01	0.495E-01	-0.23E-01	0.12E+00
1345	74.78	73.089	0.515E-01	0.511E-01	-0.21E-01	0.12E+00
1400	74.76	73.083	0.616E-01	0.527E-01	-0.19E-01	0.12E+00
1415	74.75	73.078	0.792E-01	0.543E-01	-0.18E-01	0.13E+00
1430	74.72	73.074	0.624E-01	0.559E-01	-0.16E-01	0.13E+00
1445	74.69	73.071	0.726E-01	0.575E-01	-0.15E-01	0.13E+00
1500	74.66	73.064	0.864E-01	0.591E-01	-0.13E-01	0.13E+00
1515	74.64	73.059	0.953E-01	0.607E-01	-0.12E-01	0.13E+00
1530	74.62	73.056	0.915E-01	0.623E-01	-0.10E-01	0.13E+00
1545	74.59	73.054	0.772E-01	0.639E-01	-0.86E-02	0.14E+00
1600	74.57	73.050	0.805E-01	0.655E-01	-0.71E-02	0.14E+00
1615	74.55	73.045	0.866E-01	0.671E-01	-0.57E-02	0.14E+00
1630	74.54	73.044	0.802E-01	0.687E-01	-0.42E-02	0.14E+00
1645	74.49	73.040	0.666E-01	0.703E-01	-0.28E-02	0.14E+00
1700	74.49	73.036	0.819E-01	0.719E-01	-0.14E-02	0.15E+00
1715	74.45	73.033	0.721E-01	0.735E-01	-0.29E-04	0.15E+00
1730	74.43	73.030	0.654E-01	0.751E-01	.0.13E-02	0.15E+00
1745	74.40	73.026	0.687E-01	0.767E-01	0.27E-02	0.15E+00
1800	74.38	73.023	0.642E-01	0.783E-01	0.40E-02	0.15E+00
1815	74.35	73.020	0.572E-01	0.799E-01	0.53E-02	0.15E+00
1830	74.32	73.018	0.489E-01	0.815E-01	0.66E-02	0.16E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.543E-01
THE STANDARD DEVIATION IS 0.381E-01

THE CALCULATED LEAK RATE AFTER 8.75 HOURS OF TEST IS 0.815E-01

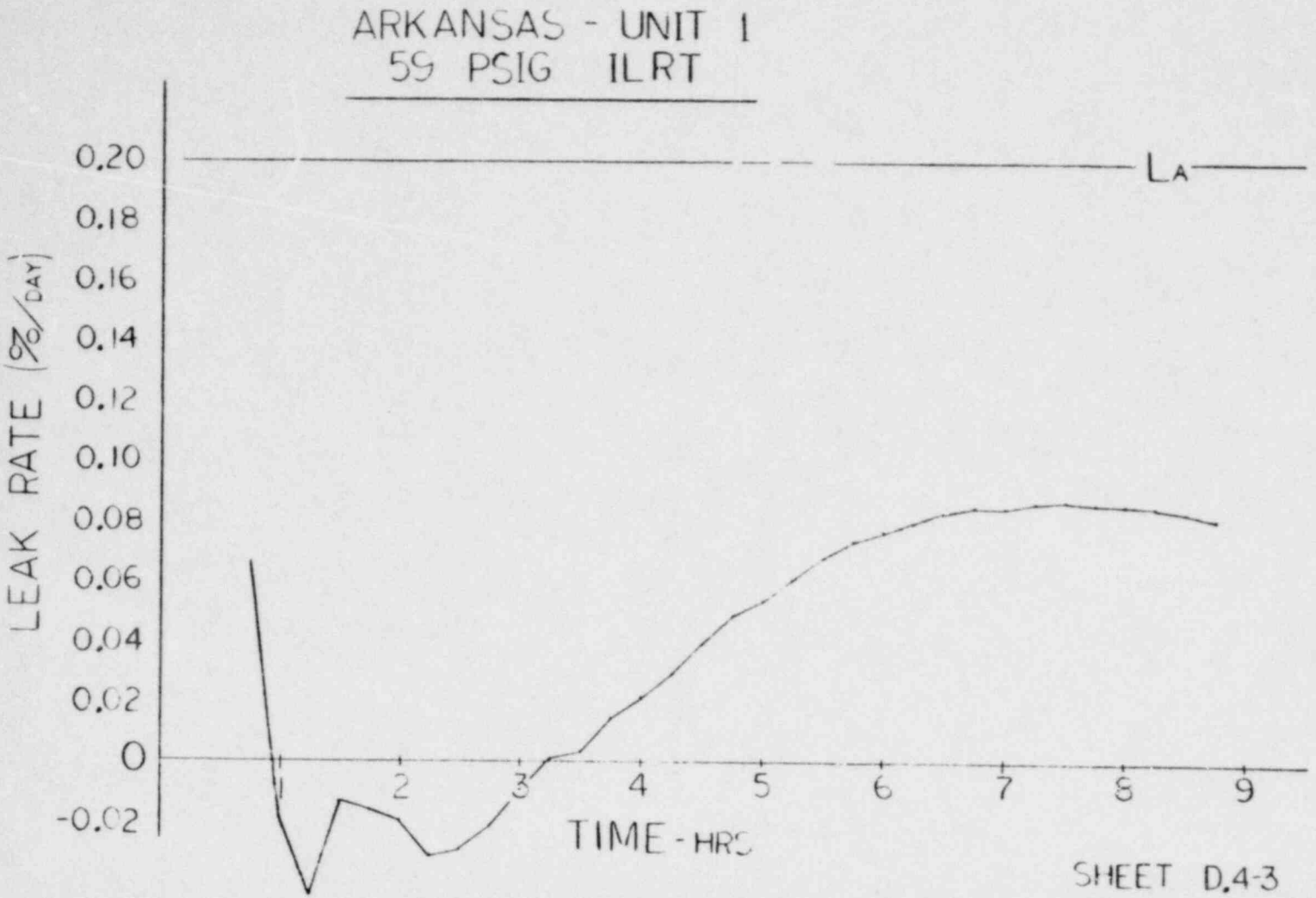

ARKANSAS - UNIT 1
59 PSIG ILRT
LA
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0
-0.02
LEAK RATE (%/DAY)
1
2
3
4
5
6
7
8
9
TIME - HRS
SHEET D.4-3

FIG. - D.4

SUMMARY OF MEASURED DATA AT TIME 945 1112

TEMP	1 =	75.750	
TEMP	2 =	75.490	
TEMP	3 =	75.700	
TEMP	4 =	76.090	
TEMP	5 =	75.990	
TEMP	6 =	76.020	
TEMP	7 =	76.170	
TEMP	8 =	76.230	
TEMP	9 =	76.590	
TEMP	10 =	76.160	
TEMP	11 =	75.730	
TEMP	12 =	75.940	
TEMP	13 =	76.300	
TEMP	14 =	76.310	
TEMP	15 =	76.130	
TEMP	16 =	75.800	
TEMP	17 =	75.750	
TEMP	18 =	75.860	
PRES	1 =	73.853	72.967

		PSIA	TEMP	INPUT
VPRS	1 =	0.379	71.282	8.920
VPRS	2 =	0.415	73.925	5.380
VPRS	3 =	0.413	73.329	5.680
VPRS	4 =	0.415	73.873	5.030

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 945

DATE = 1112

TEMP = 75.873730

PRES = 73.843626

SUMMARY OF MEASURED DATA AT TIME 1000 1112

TEMP	1 =	75.630	
TEMP	2 =	75.390	
TEMP	3 =	75.600	
TEMP	4 =	75.950	
TEMP	5 =	75.820	
TEMP	6 =	75.870	
TEMP	7 =	76.050	
TEMP	8 =	76.030	
TEMP	9 =	76.460	
TEMP	10 =	76.040	
TEMP	11 =	75.600	
TEMP	12 =	75.700	
TEMP	13 =	76.190	
TEMP	14 =	76.180	
TEMP	15 =	76.020	
TEMP	16 =	75.670	
TEMP	17 =	75.590	
TEMP	18 =	75.710	
PRES	1 =	73.634	72.948

		PSIA	TEMP	INPUT
VPRS	1 =	0.381	71.441	8.950
VPRS	2 =	0.415	73.925	8.680
VPRS	3 =	0.416	74.000	5.700
VPRS	4 =	0.415	73.973	5.030

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1000

DATE = 1112

TEMP = 75.732220

PRES = 73.223354

SUMMARY OF MEASURED DATA AT TIME 1015 1112

TEMP	1 =	75.530	
TEMP	2 =	75.320	
TEMP	3 =	75.520	
TEMP	4 =	75.330	
TEMP	5 =	75.790	
TEMP	6 =	75.760	
TEMP	7 =	75.930	
TEMP	8 =	75.870	
TEMP	9 =	76.250	
TEMP	10 =	75.930	
TEMP	11 =	75.520	
TEMP	12 =	75.620	
TEMP	13 =	76.060	
TEMP	14 =	76.070	
TEMP	15 =	75.940	
TEMP	16 =	75.550	
TEMP	17 =	75.500	
TEMP	18 =	75.600	
PRES	1 =	73.619	72.933

		PSIA	TEMP	INPUT
VPRS	1 =	0.381	71.441	8.950
VPRS	2 =	0.416	74.000	8.900
VPRS	3 =	0.416	74.000	5.700
VPRS	4 =	0.414	73.891	5.020

CHANGE ANY DATA ?

= NO

TEMP. AND PRES. CORRECTED DATA SUMMARY

TIME = 1015

DATE = 1112

TEMP = 75.625690

PRES = 73.208408

SUMMARY OF MEASURED DATA AT TIME 1030 1112

TEMP	1	=	75.440	
TEMP	2	=	75.230	
TEMP	3	=	75.420	
TEMP	4	=	75.720	
TEMP	5	=	75.730	
TEMP	6	=	75.670	
TEMP	7	=	75.830	
TEMP	8	=	75.750	
TEMP	9	=	76.250	
TEMP	10	=	75.830	
TEMP	11	=	75.420	
TEMP	12	=	75.520	
TEMP	13	=	75.970	
TEMP	14	=	75.950	
TEMP	15	=	75.820	
TEMP	16	=	75.450	
TEMP	17	=	75.420	
TEMP	18	=	75.510	
PRES	1	=	73.604	72.919

			PSIA	TEMP	INPUT
VPRS	1	=	0.380	71.335	8.930
VPRS	2	=	0.416	74.000	8.900
VPRS	3	=	0.413	73.829	5.680
VPRS	4	=	0.414	73.891	5.020

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1030

DATE = 1112

TEMP = 75.531849

PRES = 73.195269

SUMMARY OF MEASURED DATA AT TIME 1045 1112

TEMP	1 =	75.340	
TEMP	2 =	75.120	
TEMP	3 =	75.310	
TEMP	4 =	75.620	
TEMP	5 =	75.600	
TEMP	6 =	75.550	
TEMP	7 =	75.710	
TEMP	8 =	75.650	
TEMP	9 =	76.130	
TEMP	10 =	75.700	
TEMP	11 =	75.340	
TEMP	12 =	75.410	
TEMP	13 =	75.880	
TEMP	14 =	75.840	
TEMP	15 =	75.670	
TEMP	16 =	75.310	
TEMP	17 =	75.300	
TEMP	18 =	75.390	
PRES	1 =	73.192	73.907

		PSIA	TEMP	INPUT
VPRS	1 =	0.381	71.388	8.940
VPRS	2 =	0.417	74.075	8.930
VPRS	3 =	0.416	74.000	5.700
VPRS	4 =	0.415	73.973	5.030

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1045

DATE = 1112

TEMP = 75.410720

PRES = 73.181691

SUMMARY OF MEASURED DATA AT TIME 1100 1112

TEMP	1 =	75.270	
TEMP	2 =	75.070	
TEMP	3 =	75.250	
TEMP	4 =	75.530	
TEMP	5 =	75.560	
TEMP	6 =	75.480	
TEMP	7 =	75.620	
TEMP	8 =	75.540	
TEMP	9 =	76.070	
TEMP	10 =	75.640	
TEMP	11 =	75.270	
TEMP	12 =	75.760	
TEMP	13 =	75.800	
TEMP	14 =	75.750	
TEMP	15 =	75.640	
TEMP	16 =	75.250	
TEMP	17 =	75.220	
TEMP	18 =	75.310	
PRES	1 =	73.580	72.895

		PSIA	TEMP	INPUT
VPRS	1 =	0.377	71.184	8.890
VPRS	2 =	0.416	74.037	8.910
VPRS	3 =	0.413	73.829	5.680
VPRS	4 =	0.414	73.891	5.020

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1100

DATE = 1112

TEMP = 75.337839

PRES = 73.171344

SUMMARY OF MEASURED DATA AT TIME 1115 1112

TEMP	1	=	75.210	
TEMP	2	=	75.040	
TEMP	3	=	75.210	
TEMP	4	=	75.470	
TEMP	5	=	75.520	
TEMP	6	=	75.440	
TEMP	7	=	75.580	
TEMP	8	=	75.410	
TEMP	9	=	76.010	
TEMP	10	=	75.590	
TEMP	11	=	75.220	
TEMP	12	=	75.300	
TEMP	13	=	75.750	
TEMP	14	=	75.710	
TEMP	15	=	75.620	
TEMP	16	=	75.190	
TEMP	17	=	75.160	
TEMP	18	=	75.280	
PRES	1	=	73.570	72.885

			PSIA	TEMP	INPUT
VPRS	1	=	0.376	71.018	8.670
VPRS	2	=	0.417	74.075	8.920
VPRS	3	=	0.416	74.000	5.700
VPRS	4	=	0.414	73.891	5.020

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1115

DATE = 1112

TEMP = 75.284080

PRES = 73.160553

SUMMARY OF MEASURED DATA AT TIME 1130 1112

TEMP	1 =	75.130	
TEMP	2 =	74.950	
TEMP	3 =	75.120	
TEMP	4 =	75.370	
TEMP	5 =	75.470	
TEMP	6 =	75.380	
TEMP	7 =	75.490	
TEMP	8 =	75.370	
TEMP	9 =	75.380	
TEMP	10 =	75.510	
TEMP	11 =	75.140	
TEMP	12 =	75.200	
TEMP	13 =	75.680	
TEMP	14 =	75.620	
TEMP	15 =	75.540	
TEMP	16 =	75.110	
TEMP	17 =	75.100	
TEMP	18 =	75.180	
PRES	1 =	73.560	72.875

		PSIA	TEMP	INPUT
VPRS	1 =	0.373	70.753	9.820
VPRS	2 =	0.417	74.075	8.920
VPRS	3 =	0.413	73.829	5.680
VPRS	4 =	0.414	73.891	5.020

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1130

DATE = 1112

TEMP = 75.205119

PRES = 73.151735

SUMMARY OF MEASURED DATA AT TIME 1145 1112

TEMP	1	=	75.070	
TEMP	2	=	74.880	
TEMP	3	=	75.070	
TEMP	4	=	75.310	
TEMP	5	=	75.380	
TEMP	6	=	75.310	
TEMP	7	=	75.410	
TEMP	8	=	75.250	
TEMP	9	=	75.920	
TEMP	10	=	75.450	
TEMP	11	=	75.090	
TEMP	12	=	75.140	
TEMP	13	=	75.660	
TEMP	14	=	75.530	
TEMP	15	=	75.400	
TEMP	16	=	75.060	
TEMP	17	=	75.000	
TEMP	18	=	75.110	
PRES	1	=	73.551	72.866

			PSIA	TEMP	INPUT
VPRS	1	=	0.373	70.753	8.820
VPRS	2	=	0.416	74.037	8.910
VPRS	3	=	0.416	74.000	5.700
VPRS	4	=	0.414	73.891	5.020

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1145

DATE = 1112

TEMP = 75.130379

PRES = 73.141953

SUMMARY OF MEASURED DATA AT TIME 1200 1112

TEMP	1 =	75.030	
TEMP	2 =	74.840	
TEMP	3 =	75.040	
TEMP	4 =	75.270	
TEMP	5 =	75.340	
TEMP	6 =	75.270	
TEMP	7 =	75.380	
TEMP	8 =	75.230	
TEMP	9 =	75.800	
TEMP	10 =	75.370	
TEMP	11 =	75.070	
TEMP	12 =	75.080	
TEMP	13 =	75.550	
TEMP	14 =	75.490	
TEMP	15 =	75.350	
TEMP	16 =	74.990	
TEMP	17 =	74.930	
TEMP	18 =	75.040	
PRES	1 =	73.544	72.859

		PSIA	TEMP	INPUT
VPRS	1 =	0.373	70.753	8.820
VPRS	2 =	0.417	74.075	8.920
VPRS	3 =	0.413	73.829	5.680
VPRS	4 =	0.414	73.891	5.020

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1200

DATE = 1112

TEMP = 75.070230

PRES = 73.135585

SUMMARY OF MEASURED DATA AT TIME 1215 1112

```
TEMP   1 =  74.960
TEMP   2 =  74.790
TEMP   3 =  74.980
TEMP   4 =  75.190
TEMP   5 =  75.250
TEMP   6 =  75.220
TEMP   7 =  75.290
TEMP   8 =  75.180
TEMP   9 =  75.720
TEMP  10 =  75.310
TEMP  11 =  74.990
TEMP  12 =  75.030
TEMP  13 =  75.540
TEMP  14 =  75.430
TEMP  15 =  75.300
TEMP  16 =  74.930
TEMP  17 =  74.870
TEMP  18 =  75.000
PRES   1 =  73.536   72.851

                PSIA      TEMP      INPUT
VPRS   1 =   0.373    70.753     8.820
VPRS   2 =   0.418    74.188     8.950
VPRS   3 =   0.417    74.086     5.710
VPRS   4 =   0.414    73.891     5.020
```

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1215

DATE = 1112

TEMP = 75.015259

PRES = 73.126017

SUMMARY OF MEASURED DATA AT TIME 1230 1112

TEMP	1	=	74.930	
TEMP	2	=	74.760	
TEMP	3	=	74.930	
TEMP	4	=	75.140	
TEMP	5	=	75.250	
TEMP	6	=	75.170	
TEMP	7	=	75.250	
TEMP	8	=	75.100	
TEMP	9	=	75.660	
TEMP	10	=	75.250	
TEMP	11	=	74.940	
TEMP	12	=	74.950	
TEMP	13	=	75.510	
TEMP	14	=	75.410	
TEMP	15	=	75.180	
TEMP	16	=	74.880	
TEMP	17	=	74.840	
TEMP	18	=	74.960	
PRES	1	=	73.529	72.844

			PSIA	TEMP	INPUT
VPRS	1	=	0.372	70.700	9.810
VPRS	2	=	0.418	74.186	8.950
VPRS	3	=	0.417	74.086	5.710
VPRS	4	=	0.416	74.055	5.040

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1230

DATE = 1112

TEMP = 74.970399

PRES = 73.118279

SUMMARY OF MEASURED DATA AT TIME 1245 1112

TEMP	1	=	74.910	
TEMP	2	=	74.740	
TEMP	3	=	74.910	
TEMP	4	=	75.120	
TEMP	5	=	75.200	
TEMP	6	=	75.140	
TEMP	7	=	75.210	
TEMP	8	=	75.060	
TEMP	9	=	75.620	
TEMP	10	=	75.210	
TEMP	11	=	74.910	
TEMP	12	=	74.920	
TEMP	13	=	75.470	
TEMP	14	=	75.350	
TEMP	15	=	75.120	
TEMP	16	=	74.840	
TEMP	17	=	74.820	
TEMP	18	=	74.900	
PRES	1	=	73.522	72.837

			PSIA	TEMP	INPUT
VPRS	1	=	0.371	70.647	8.800
VPRS	2	=	0.418	74.188	8.950
VPRS	3	=	0.417	74.086	5.710
VPRS	4	=	0.416	74.055	5.040

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1245

DATE = 1112

TEMP = 74.932300

PRES = 73.111309

SUMMARY OF MEASURED DATA AT TIME 1300 1112

TEMP	1	=	74.880	
TEMP	2	=	74.720	
TEMP	3	=	74.890	
TEMP	4	=	75.080	
TEMP	5	=	75.160	
TEMP	6	=	75.110	
TEMP	7	=	75.170	
TEMP	8	=	75.070	
TEMP	9	=	75.610	
TEMP	10	=	75.170	
TEMP	11	=	74.870	
TEMP	12	=	74.890	
TEMP	13	=	75.460	
TEMP	14	=	75.310	
TEMP	15	=	75.190	
TEMP	16	=	74.800	
TEMP	17	=	74.760	
TEMP	18	=	74.860	
PRES	1	=	73.516	72.831

			PSIA	TEMP	INPUT
VPRS	1	=	0.371	70.647	8.800
VPRS	2	=	0.417	74.112	8.930
VPRS	3	=	0.417	74.086	5.710
VPRS	4	=	0.416	74.055	5.040

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1300

DATE = 1112

TEMP = 74.897849

PRES = 73.105445

SUMMARY OF MEASURED DATA AT TIME 1315 1112

TEMP	1	=	74.840	
TEMP	2	=	74.650	
TEMP	3	=	74.850	
TEMP	4	=	75.010	
TEMP	5	=	75.130	
TEMP	6	=	75.040	
TEMP	7	=	75.120	
TEMP	8	=	74.990	
TEMP	9	=	75.530	
TEMP	10	=	75.120	
TEMP	11	=	74.840	
TEMP	12	=	74.280	
TEMP	13	=	75.420	
TEMP	14	=	75.240	
TEMP	15	=	75.070	
TEMP	16	=	74.740	
TEMP	17	=	74.710	
TEMP	18	=	74.320	
PRES	1	=	73.510	72.825

			PSIA	TEMP	INPUT
VPRS	1	=	0.368	70.382	8.750
VPRS	2	=	0.417	74.075	8.920
VPRS	3	=	0.416	74.000	5.700
VPRS	4	=	0.416	74.055	5.040

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1315

DATE = 1112

TEMP = 74.843679

PRES = 73.100371

SUMMARY OF MEASURED DATA AT TIME 1330 1112

TEMP	1	=	74.810	
TEMP	2	=	74.640	
TEMP	3	=	74.850	
TEMP	4	=	75.020	
TEMP	5	=	75.110	
TEMP	6	=	75.040	
TEMP	7	=	75.110	
TEMP	8	=	74.970	
TEMP	9	=	75.520	
TEMP	10	=	75.110	
TEMP	11	=	74.830	
TEMP	12	=	74.860	
TEMP	13	=	75.420	
TEMP	14	=	75.240	
TEMP	15	=	75.070	
TEMP	16	=	74.730	
TEMP	17	=	74.710	
TEMP	18	=	74.800	
PRES	1	=	73.505	72.830

			PSIA	TEMP	INPUT
VPRS	1	=	0.371	70.594	8.790
VPRS	2	=	0.416	74.037	8.910
VPRS	3	=	0.418	74.171	5.720
VPRS	4	=	0.416	74.055	5.040

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1330

DATE = 1112

TEMP = 74.833149

PRES = 73.094816

SUMMARY OF MEASURED DATA AT TIME 1345 1112

TEMP	1 =	74.770	
TEMP	2 =	74.620	
TEMP	3 =	74.830	
TEMP	4 =	74.990	
TEMP	5 =	75.070	
TEMP	6 =	75.000	
TEMP	7 =	75.060	
TEMP	8 =	74.960	
TEMP	9 =	75.450	
TEMP	10 =	75.070	
TEMP	11 =	74.800	
TEMP	12 =	74.780	
TEMP	13 =	75.340	
TEMP	14 =	75.200	
TEMP	15 =	75.080	
TEMP	16 =	74.670	
TEMP	17 =	74.650	
TEMP	18 =	74.740	
PRES	1 =	73.499	72.814

		PSIA	TEMP	INPUT
VPRS	1 =	0.370	70.541	8.780
VPRS	2 =	0.416	74.037	8.810
VPRS	3 =	0.418	74.171	5.720
VPRS	4 =	0.416	74.055	5.040

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1345

DATE = 1112

TEMP = 74.783699

PRES = 73.088256

SUMMARY OF MEASURED DATA AT TIME 1400 1112

TEMP	1 =	74.760	
TEMP	2 =	74.600	
TEMP	3 =	74.820	
TEMP	4 =	74.960	
TEMP	5 =	75.060	
TEMP	6 =	74.980	
TEMP	7 =	75.040	
TEMP	8 =	74.980	
TEMP	9 =	75.440	
TEMP	10 =	75.040	
TEMP	11 =	74.780	
TEMP	12 =	74.760	
TEMP	13 =	75.310	
TEMP	14 =	75.170	
TEMP	15 =	75.030	
TEMP	16 =	74.640	
TEMP	17 =	74.600	
TEMP	18 =	74.710	
PRES	1 =	73.492	72.808

		PSIA	TEMP	INPUT
VPRS	1 =	0.370	70.541	8.780
VPRS	2 =	0.416	74.000	8.900
VPRS	3 =	0.418	74.171	5.720
VPRS	4 =	0.415	73.973	5.030

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1400

DATE = 1112

TEMP = 74.755409

PRES = 73.082684

SUMMARY OF MEASURED DATA AT TIME 1415 1112

TEMP	1	=	74.750	
TEMP	2	=	74.580	
TEMP	3	=	74.830	
TEMP	4	=	74.960	
TEMP	5	=	75.070	
TEMP	6	=	74.980	
TEMP	7	=	75.020	
TEMP	8	=	74.990	
TEMP	9	=	75.420	
TEMP	10	=	75.040	
TEMP	11	=	74.770	
TEMP	12	=	74.750	
TEMP	13	=	75.300	
TEMP	14	=	75.150	
TEMP	15	=	75.050	
TEMP	16	=	74.630	
TEMP	17	=	74.580	
TEMP	18	=	74.700	
PRES	1	=	73.487	72.803

			PSIA	TEMP	INPUT
VPRS	1	=	0.369	70.405	8.760
VPRS	2	=	0.417	74.075	8.980
VPRS	3	=	0.416	74.000	5.700
VPRS	4	=	0.415	73.973	5.030

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1415

DATE = 1112

TEMP = 74.745589

PRES = 73.078458

SUMMARY OF MEASURED DATA AT TIME 1430 1112

TEMP	1 =	74.720	
TEMP	2 =	74.570	
TEMP	3 =	74.800	
TEMP	4 =	74.920	
TEMP	5 =	75.030	
TEMP	6 =	74.940	
TEMP	7 =	75.010	
TEMP	8 =	75.030	
TEMP	9 =	75.370	
TEMP	10 =	75.000	
TEMP	11 =	74.740	
TEMP	12 =	74.710	
TEMP	13 =	75.270	
TEMP	14 =	75.120	
TEMP	15 =	74.990	
TEMP	16 =	74.600	
TEMP	17 =	74.560	
TEMP	18 =	74.680	
PRES	1 =	73.483	72.799

		PSIA	TEMP	INPUT
VPRS	1 =	0.371	70.594	8.790
VPRS	2 =	0.417	74.075	8.920
VPRS	3 =	0.417	74.086	5.710
VPRS	4 =	0.413	73.809	5.010

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1430

DATE = 1112

TEMP = 74.724289

PRES = 73.074481

SUMMARY OF MEASURED DATA AT TIME 1445 1112

TEMP	1	=	74.680	
TEMP	2	=	74.540	
TEMP	3	=	74.780	
TEMP	4	=	74.890	
TEMP	5	=	74.980	
TEMP	6	=	74.910	
TEMP	7	=	74.970	
TEMP	8	=	75.050	
TEMP	9	=	75.320	
TEMP	10	=	74.980	
TEMP	11	=	74.700	
TEMP	12	=	74.670	
TEMP	13	=	75.220	
TEMP	14	=	75.090	
TEMP	15	=	74.920	
TEMP	16	=	74.570	
TEMP	17	=	74.520	
TEMP	18	=	74.630	
PRES	1	=	73.479	72.795

			PSIA	TEMP	INPUT
VPRS	1	=	0.368	70.382	8.750
VPRS	2	=	0.416	74.037	8.910
VPRS	3	=	0.417	74.086	5.710
VPRS	4	=	0.414	73.891	5.020

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1445

DATE = 1112

TEMP = 74.689139

PRES = 73.070541

SUMMARY OF MEASURED DATA AT TIME 1500 1112

TEMP	1	=	74.540	
TEMP	2	=	74.510	
TEMP	3	=	74.740	
TEMP	4	=	74.850	
TEMP	5	=	74.920	
TEMP	6	=	74.880	
TEMP	7	=	74.930	
TEMP	8	=	74.950	
TEMP	9	=	75.310	
TEMP	10	=	74.920	
TEMP	11	=	74.670	
TEMP	12	=	74.640	
TEMP	13	=	75.180	
TEMP	14	=	75.060	
TEMP	15	=	74.980	
TEMP	16	=	74.550	
TEMP	17	=	74.510	
TEMP	18	=	74.610	
PRES	1	=	73.474	72.790

			PSIA	TEMP	INPUT
VPRS	1	=	0.369	70.488	8.770
VPRS	2	=	0.416	74.000	8.900
VPRS	3	=	0.418	74.171	5.720
VPRS	4	=	0.416	74.055	5.040

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1500

DATE = 1112

TEMP = 74.663149

PRES = 73.064221

SUMMARY OF MEASURED DATA AT TIME 1515 1112

TEMP	1 =	74.640	
TEMP	2 =	74.510	
TEMP	3 =	74.720	
TEMP	4 =	74.840	
TEMP	5 =	74.920	
TEMP	6 =	74.860	
TEMP	7 =	74.920	
TEMP	8 =	74.960	
TEMP	9 =	75.060	
TEMP	10 =	74.900	
TEMP	11 =	74.660	
TEMP	12 =	74.620	
TEMP	13 =	75.190	
TEMP	14 =	75.040	
TEMP	15 =	74.920	
TEMP	16 =	74.510	
TEMP	17 =	74.470	
TEMP	18 =	74.580	
PRES	1 =	73.468	72.784

		PSIA	TEMP	INPUT
VPRS	1 =	0.368	70.382	8.750
VPRS	2 =	0.415	73.962	8.890
VPRS	3 =	0.418	74.171	5.720
VPRS	4 =	0.416	74.055	5.040

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1515

DATE = 1112

TEMP = 74.636580

PRES = 73.058449

SUMMARY OF MEASURED DATA AT TIME 1530 1112

TEMP	1	=	74.630	
TEMP	2	=	74.490	
TEMP	3	=	74.700	
TEMP	4	=	74.820	
TEMP	5	=	74.920	
TEMP	6	=	74.850	
TEMP	7	=	74.890	
TEMP	8	=	74.920	
TEMP	9	=	75.260	
TEMP	10	=	74.880	
TEMP	11	=	74.650	
TEMP	12	=	74.620	
TEMP	13	=	75.140	
TEMP	14	=	75.040	
TEMP	15	=	74.880	
TEMP	16	=	74.500	
TEMP	17	=	74.460	
TEMP	18	=	74.560	
PRES	1	=	73.466	72.782

			PSIA	TEMP	INPUT
VPRS	1	=	0.369	70.488	8.770
VPRS	2	=	0.416	74.000	8.900
VPRS	3	=	0.419	74.257	5.730
VPRS	4	=	0.415	73.973	5.030

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1530

DATE = 1112

TEMP = 74.619999

PRES = 73.056122

SUMMARY OF MEASURED DATA AT TIME 1545 1112

TEMP	1	=	74.610	
TEMP	2	=	74.470	
TEMP	3	=	74.660	
TEMP	4	=	74.780	
TEMP	5	=	74.880	
TEMP	6	=	74.830	
TEMP	7	=	74.870	
TEMP	8	=	74.890	
TEMP	9	=	75.210	
TEMP	10	=	74.870	
TEMP	11	=	74.610	
TEMP	12	=	74.560	
TEMP	13	=	75.140	
TEMP	14	=	74.990	
TEMP	15	=	74.880	
TEMP	16	=	74.460	
TEMP	17	=	74.420	
TEMP	18	=	74.530	
PRES	1	=	73.462	72.776

			PSIA	TEMP	INPUT
VPRS	1	=	0.369	70.488	8.770
VPRS	2	=	0.417	74.075	8.920
VPRS	3	=	0.416	74.000	5.700
VPRS	4	=	0.414	73.891	5.020

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1545

DATE = 1112

TEMP = 74.586880

PRES = 73.053507

SUMMARY OF MEASURED DATA AT TIME 1600 1112

TEMP	1 =	74.550	
TEMP	2 =	74.450	
TEMP	3 =	74.640	
TEMP	4 =	74.770	
TEMP	5 =	74.830	
TEMP	6 =	74.790	
TEMP	7 =	74.850	
TEMP	8 =	74.890	
TEMP	9 =	75.220	
TEMP	10 =	74.820	
TEMP	11 =	74.600	
TEMP	12 =	74.530	
TEMP	13 =	75.100	
TEMP	14 =	75.000	
TEMP	15 =	74.870	
TEMP	16 =	74.440	
TEMP	17 =	74.400	
TEMP	18 =	74.520	
PRES	1 =	73.459	72.775

		PSIA	TEMP	INPUT
VPRS	1 =	0.371	70.647	8.800
VPRS	2 =	0.417	74.075	8.920
VPRS	3 =	0.417	74.086	5.710
VPRS	4 =	0.414	73.891	5.020

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1600

DATE = 1112

TEMP = 74.568589

PRES = 73.049781

SUMMARY OF MEASURED DATA AT TIME 1615 1112

TEMP	1	=	74.560	
TEMP	2	=	74.440	
TEMP	3	=	74.630	
TEMP	4	=	74.750	
TEMP	5	=	74.830	
TEMP	6	=	74.760	
TEMP	7	=	74.820	
TEMP	8	=	74.800	
TEMP	9	=	75.150	
TEMP	10	=	74.810	
TEMP	11	=	74.570	
TEMP	12	=	74.510	
TEMP	13	=	75.080	
TEMP	14	=	74.960	
TEMP	15	=	74.790	
TEMP	16	=	74.420	
TEMP	17	=	74.390	
TEMP	18	=	74.520	
PRES	1	=	73.455	72.771

			PSIA	TEMP	INPUT
VPRS	1	=	0.371	70.647	8.800
VPRS	2	=	0.417	74.075	8.920
VPRS	3	=	0.418	74.171	5.720
VPRS	4	=	0.414	73.891	5.020

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1615

DATE = 1112

TEMP = 74.549319

PRES = 73.045332

SUMMARY OF MEASURED DATA AT TIME 1630 1112

TEMP	1	=	74.520	
TEMP	2	=	74.410	
TEMP	3	=	74.610	
TEMP	4	=	74.730	
TEMP	5	=	74.800	
TEMP	6	=	74.760	
TEMP	7	=	74.790	
TEMP	8	=	74.830	
TEMP	9	=	75.130	
TEMP	10	=	74.780	
TEMP	11	=	74.570	
TEMP	12	=	74.500	
TEMP	13	=	75.010	
TEMP	14	=	74.940	
TEMP	15	=	74.870	
TEMP	16	=	74.420	
TEMP	17	=	74.380	
TEMP	18	=	74.480	
PRES	1	=	73.452	73.768

			PSIA	TEMP	INPUT
VPRS	1	=	0.371	70.647	8.800
VPRS	2	=	0.416	74.000	8.900
VPRS	3	=	0.416	74.000	5.700
VPRS	4	=	0.412	73.727	5.000

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1630

DATE = 1112

TEMP = 74.535889

PRES = 73.044076

SUMMARY OF MEASURED DATA AT TIME 1645 1112

TEMP	1 =	74.490	
TEMP	2 =	74.380	
TEMP	3 =	74.600	
TEMP	4 =	74.710	
TEMP	5 =	74.780	
TEMP	6 =	74.720	
TEMP	7 =	74.790	
TEMP	8 =	74.780	
TEMP	9 =	75.120	
TEMP	10 =	74.770	
TEMP	11 =	74.520	
TEMP	12 =	74.470	
TEMP	13 =	75.060	
TEMP	14 =	74.900	
TEMP	15 =	74.780	
TEMP	16 =	74.350	
TEMP	17 =	74.330	
TEMP	18 =	74.440	
PRES	1 =	73.449	72.765

		PSIA	TEMP	INPUT
VPRS	1 =	0.371	70.647	8.800
VPRS	2 =	0.416	74.000	8.900
VPRS	3 =	0.417	74.086	5.710
VPRS	4 =	0.413	73.809	5.010

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1645

DATE = 1112

TEMP = 74.490699

PRES = 73.040858

SUMMARY OF MEASURED DATA AT TIME 1700 1112

TEMP	1 =	74.500	
TEMP	2 =	74.390	
TEMP	3 =	74.580	
TEMP	4 =	74.690	
TEMP	5 =	74.760	
TEMP	6 =	74.710	
TEMP	7 =	74.750	
TEMP	8 =	74.770	
TEMP	9 =	75.110	
TEMP	10 =	74.770	
TEMP	11 =	74.520	
TEMP	12 =	74.450	
TEMP	13 =	75.030	
TEMP	14 =	74.890	
TEMP	15 =	74.770	
TEMP	16 =	74.370	
TEMP	17 =	74.330	
TEMP	18 =	74.430	
PRES	1 =	73.445	72.761

		PSIA	TEMP	INPUT
VPRS	1 =	0.371	70.647	8.800
VPRS	2 =	0.416	74.000	8.900
VPRS	3 =	0.417	74.086	5.710
VPRS	4 =	0.413	73.809	5.010

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1700

DATE = 1112

TEMP = 74.489539

PRES = 73.036220

SUMMARY OF MEASURED DATA AT TIME 1715 1112

TEMP	1 =	74.450	
TEMP	2 =	74.350	
TEMP	3 =	74.560	
TEMP	4 =	74.650	
TEMP	5 =	74.740	
TEMP	6 =	74.690	
TEMP	7 =	74.740	
TEMP	8 =	74.770	
TEMP	9 =	75.060	
TEMP	10 =	74.740	
TEMP	11 =	74.490	
TEMP	12 =	74.420	
TEMP		74.990	
TEM		74.830	
TEM	15 =	74.710	
TEMP	16 =	74.330	
TEMP	17 =	74.280	
TEMP	18 =	74.400	
PRES	1 =	73.442	72.758

		PSIA	TEMP	INPUT
VPRS	1 =	0.371	70.647	8.800
VPRS	2 =	0.416	74.000	8.900
VPRS	3 =	0.418	74.171	5.720
VPRS	4 =	0.413	73.809	5.010

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1715

DATE = 1112

TEMP = 74.458640

PRES = 73.032781

SUMMARY OF MEASURED DATA AT TIME 1730 1112

TEMP	1 =	74.440	
TEMP	2 =	74.320	
TEMP	3 =	74.530	
TEMP	4 =	74.620	
TEMP	5 =	74.690	
TEMP	6 =	74.650	
TEMP	7 =	74.700	
TEMP	8 =	74.830	
TEMP	9 =	75.060	
TEMP	10 =	74.700	
TEMP	11 =	74.460	
TEMP	12 =	74.400	
TEMP	13 =	74.960	
TEMP	14 =	74.820	
TEMP	15 =	74.700	
TEMP	16 =	74.280	
TEMP	17 =	74.250	
TEMP	18 =	74.370	
PRES	1 =	73.4[illegible]	72.755

		PSIA	TEMP	INPUT
VPRS	1 =	0.370	70.541	8.78(
VPRS	2 =	0.416	74.037	8.91(
VPRS	3 =	0.417	74.086	5.71(
VPRS	4 =	0.413	73.809	5.01(

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1730

DATE = 1112

TEMP = 74.426630

PRES = 73.030258

SUMMARY OF MEASURED DATA AT TIME 1745 1112

TEMP	1	=	74.400	
TEMP	2	=	74.310	
TEMP	3	=	74.510	
TEMP	4	=	74.600	
TEMP	5	=	74.680	
TEMP	6	=	74.630	
TEMP	7	=	74.650	
TEMP	8	=	74.860	
TEMP	9	=	75.030	
TEMP	10	=	74.650	
TEMP	11	=	74.440	
TEMP	12	=	74.350	
TEMP	13	=	74.980	
TEMP	14	=	74.790	
TEMP	15	=	74.600	
TEMP	16	=	74.380	
TEMP	17	=	74.220	
TEMP	18	=	74.340	
PRES	1	=	73.435	73.751

		PSIA	TEMP	INPUT
VPRS	1 =	0.371	70.647	8.800
VPRS	2 =	0.416	74.037	8.910
VPRS	3 =	0.418	74.171	5.730
VPRS	4 =	0.413	73.809	5.010

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1745

DATE = 1112

TEMP = 74.402289

PRES = 73.025620

SUMMARY OF MEASURED DATA AT TIME 1800 1112

TEMP	1 =	74.370	
TEMP	2 =	74.260	
TEMP	3 =	74.480	
TEMP	4 =	74.560	
TEMP	5 =	74.650	
TEMP	6 =	74.590	
TEMP	7 =	74.640	
TEMP	8 =	74.840	
TEMP	9 =	74.980	
TEMP	10 =	74.610	
TEMP	11 =	74.390	
TEMP	12 =	74.330	
TEMP	13 =	74.890	
TEMP	14 =	74.780	
TEMP	15 =	74.590	
TEMP	16 =	74.260	
TEMP	17 =	74.190	
TEMP	18 =	74.300	
PRES	1 =	73.432	72.748

		PSIA	TEMP	INPUT
VPRS	1 =	0.371	70.647	8.300
VPRS	2 =	0.416	74.037	8.910
VPRS	3 =	0.418	74.171	5.720
VPRS	4 =	0.413	73.809	5.010

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1800

DATE = 1112

TEMP = 74.375699

PRES = 73.022591

SUMMARY OF MEASURED DATA AT TIME 1815 1112

TEMP	1 =	74.330	
TEMP	2 =	74.220	
TEMP	3 =	74.450	
TEMP	4 =	74.550	
TEMP	5 =	74.610	
TEMP	6 =	74.570	
TEMP	7 =	74.600	
TEMP	8 =	74.810	
TEMP	9 =	74.950	
TEMP	10 =	74.610	
TEMP	11 =	74.380	
TEMP	12 =	74.280	
TEMP	13 =	74.880	
TEMP	14 =	74.750	
TEMP	15 =	74.600	
TEMP	16 =	74.210	
TEMP	17 =	74.170	
TEMP	18 =	74.290	
PRES	1 =	73.429	72.745

		PSIA	TEMP	INPUT
VPRS	1 =	0.370	70.541	8.780
VPRS	2 =	0.416	74.000	8.900
VPRS	3 =	0.418	74.171	5.720
VPRS	4 =	0.412	73.727	5.000

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1815

DATE = 1112

TEMP = 74.348719

PRES = 73.020228

SUMMARY OF MEASURED DATA AT TIME 1830 1112

TEMP	1 =	74.310	
TEMP	2 =	74.190	
TEMP	3 =	74.410	
TEMP	4 =	74.510	
TEMP	5 =	74.610	
TEMP	6 =	74.550	
TEMP	7 =	74.590	
TEMP	8 =	74.820	
TEMP	9 =	74.960	
TEMP	10 =	74.610	
TEMP	11 =	74.370	
TEMP	12 =	74.290	
TEMP	13 =	74.850	
TEMP	14 =	74.730	
TEMP	15 =	74.510	
TEMP	16 =	74.190	
TEMP	17 =	74.140	
TEMP	18 =	74.240	
PRES	1 =	73.427	72.743

		PSIA	TEMP	INPUT
VPRS	1 =	0.370	70.541	8.780
VPRS	2 =	0.416	74.000	8.900
VPRS	3 =	0.418	74.171	5.720
VPRS	4 =	0.412	73.727	5.000

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1830

DATE = 1112

TEMP = 74.320909

PRES = 73.018209

[illegible] UNIT 1 VERIFY PASS TEST

TIME, DATE START OF TEST 2145 1113

TIME AFTER START OF TEST = 4.75 HR

TREND BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF MEAS LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
0.75	4	-0.[illegible]E+01	0.211E+00	
1.00	5	-0.170E+00	0.273E+00	0.622E-01
1.25	6	-0.116E+00	0.290E+00	0.167E-01
1.50	7	-0.[illegible]E-01	0.[illegible]E+00	0.[illegible]E-01
1.75	8	-0.268E-01	0.347E+00	-0.770E-02
2.00	9	-0.[illegible]E-02	0.351E+00	0.[illegible]E-02
2.25	10	0.163E-01	0.291E+00	0.[illegible]E-03
2.50	11	0.311E-01	0.[illegible]E+00	-0.166E-01
2.75	12	0.470E-01	0.340E+00	0.519E-02
3.00	13	0.613E-01	0.345E+00	0.513E-02
3.25	14	0.751E-01	0.[illegible]E+00	0.[illegible]E-02
3.50	15	0.[illegible]E-01	0.[illegible]E+00	-0.[illegible]E-02
3.75	16	0.[illegible]E-01	0.[illegible]E+00	-0.[illegible]E-01
4.00	17	0.[illegible]E-01	0.[illegible]E+00	-0.[illegible]E-02
4.25	18	0.[illegible]E-01	0.[illegible]E+00	-0.[illegible]E-02
4.50	19	0.[illegible]E+00	0.[illegible]E+00	-0.[illegible]E-02
4.75	20	0.[illegible]E+00	0.[illegible]E+00	-0.[illegible]E-02

THE CALCULATED LEAK RATE IS 0.[illegible]E+00
THE MAXIMUM ALLOWABLE LEAK RATE IS 0.
THE LAST [illegible] DATA POINTS EXHIBIT A NEGATIVE SLOPE

ARKANSAS UNIT 1 VERIFY 50 PSIG ILRT

TIME, DATE START OF TEST 2145 1113

TIME AFTER START OF TEST = 4.75 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
2300	76.25	73.279	-0.814E+00	-1.316E-01	-0.56E+00	0.29E+00
2315	76.32	73.275	-0.438E-01	-0.55[illegible]E-01	-0.54E+00	0.41E+00
2330	76.39	73.279	0.183E+00	-0.49[illegible]E-01	-0.51E+00	0.43E+00
2345	76.41	73.284	0.981E-01	-0.226E-01	-0.48E+00	0.44E+00
2300	76.46	73.289	0.104E+00	-0.[illegible]3E-03	-0.46E+00	0.45E+00
2315	76.51	73.290	0.22[illegible]E+00	0.20[illegible]E-01	-0.43E+00	0.47E+00
2330	76.51	73.2[illegible]	0.147E+00	0.48[illegible]E-01	-0.41E+00	0.49E+00
2345	76.56	73.295	0.181E+00	0.841E-01	-0.38E+00	0.51E+00
2400	76.60	73.299	0.185E+00	0.[illegible]56E-01	-0.36E+00	0.53E+00
15	76.59	73.300	0.149E+00	0.107E+00	-0.34E+00	0.55E+00
30	76.67	73.304	0.[illegible]0[illegible]E+00	0.12[illegible]E+00	-0.3[illegible]E+00	0.56E+00
45	76.70	73.306	0.217E+00	0.151E+00	-0.30E+00	0.60E+00
100	76.74	73.308	0.[illegible]43E+00	0.172E+00	-0.28E+00	0.62E+00
115	76.74	73.310	0.[illegible]68E+00	0.194E+00	-0.26E+00	0.65E+00
130	76.74	73.312	0.168E+00	0.215E+00	-0.24E+00	0.67E+00
145	76.76	73.313	0.175E+00	0.23[illegible]E+00	-0.22E+00	0.70E+00
200	76.78	73.315	0.172E+00	0.25[illegible]E+00	-0.21E+00	0.72E+00
215	76.81	73.317	0.172E+00	0.27[illegible]E+00	-0.19E+00	0.75E+00
230	76.83	73.319	0.167E+00	0.[illegible]0E+00	-0.17E+00	0.79E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.107E+00
THE STANDARD DEVIATION IS 0.[illegible]4E+00

THE CALCULATED LEAK RATE AFTER 4.75 HOURS OF TEST IS 0.30[illegible]E+00

SUMMARY OF MEASURED DATA AT TIME 2145 1112

TEMP	1 =	76.940	
TEMP	2 =	76.050	
TEMP	3 =	76.060	
TEMP	4 =	76.850	
TEMP	5 =	76.470	
TEMP	6 =	76.210	
TEMP	7 =	76.600	
TEMP	8 =	76.640	
TEMP	9 =	76.540	
TEMP	10 =	76.870	
TEMP	11 =	76.200	
TEMP	12 =	75.950	
TEMP	13 =	76.730	
TEMP	14 =	76.920	
TEMP	15 =	76.510	
TEMP	16 =	76.130	
TEMP	17 =	76.030	
TEMP	18 =	76.150	
PRES	1 =	73.686	73.000

		PSIA	TEMP	INPUT
VPRS	1 =	0.399	72.765	9.200
VPRS	2 =	0.415	73.962	8.890
VPRS	3 =	0.429	74.943	5.810
VPRS	4 =	0.423	74.545	5.100

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2145

DATE = 1112

TEMP = 76.259679

PRES = 73.265971

SUMMARY OF MEASURED DATA AT TIME 2200 1112

TEMP	1 =	76.900	
TEMP	2 =	76.020	
TEMP	3 =	76.060	
TEMP	4 =	76.830	
TEMP	5 =	76.420	
TEMP	6 =	76.220	
TEMP	7 =	76.570	
TEMP	8 =	76.650	
TEMP	9 =	76.520	
TEMP	10 =	76.850	
TEMP	11 =	76.150	
TEMP	12 =	75.920	
TEMP	13 =	76.780	
TEMP	14 =	76.910	
TEMP	15 =	76.550	
TEMP	16 =	76.010	
TEMP	17 =	76.120	
TEMP	18 =	76.130	
PRES	1 =	73.692	73.006

		PSIA	TEMP	INPUT
VPRS	1 =	0.402	73.029	9.250
VPRS	2 =	0.415	73.962	8.890
VPRS	3 =	0.433	75.200	5.840
VPRS	4 =	0.423	74.545	5.100

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2200

DATE = 1112

TEMP = 76.245629

PRES = 73.270264

SUMMARY OF MEASURED DATA AT TIME 2215 1112

TEMP	1	=	76.990	
TEMP	2	=	76.120	
TEMP	3	=	76.110	
TEMP	4	=	76.920	
TEMP	5	=	76.410	
TEMP	6	=	76.330	
TEMP	7	=	76.650	
TEMP	8	=	76.710	
TEMP	9	=	76.680	
TEMP	10	=	76.920	
TEMP	11	=	76.180	
TEMP	12	=	76.020	
TEMP	13	=	76.800	
TEMP	14	=	76.910	
TEMP	15	=	76.530	
TEMP	16	=	76.100	
TEMP	17	=	76.170	
TEMP	18	=	76.220	
PRES	1	=	73.697	73.011

			PSIA	TEMP	INPUT
VPRS	1	=	0.402	73.029	9.250
VPRS	2	=	0.416	74.000	8.900
VPRS	3	=	0.433	75.200	5.840
VPRS	4	=	0.423	74.545	5.100

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2215

DATE = 1112

TEMP = 76.316829

PRES = 73.275218

SUMMARY OF MEASURED DATA AT TIME 2230 1112

TEMP	1 =	77.010	
TEMP	2 =	76.140	
TEMP	3 =	76.220	
TEMP	4 =	76.970	
TEMP	5 =	76.600	
TEMP	6 =	76.350	
TEMP	7 =	76.730	
TEMP	8 =	76.770	
TEMP	9 =	76.710	
TEMP	10 =	76.980	
TEMP	11 =	76.230	
TEMP	12 =	76.120	
TEMP	13 =	76.870	
TEMP	14 =	77.040	
TEMP	15 =	76.600	
TEMP	16 =	76.140	
TEMP	17 =	76.250	
TEMP	18 =	76.280	
PRES	1 =	73.701	73.015

		PSIA	TEMP	INPUT
VPRS	1 =	0.402	73.029	9.250
VPRS	2 =	0.416	74.000	8.900
VPRS	3 =	0.433	75.200	5.840
VPRS	4 =	0.423	74.545	5.100

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2230

DATE = 1112

TEMP = 76.378279

PRES = 73.279257

SUMMARY OF MEASURED DATA AT TIME 2245 1112

TEMP	1	=	77.120	
TEMP	2	=	76.160	
TEMP	3	=	76.210	
TEMP	4	=	77.000	
TEMP	5	=	76.480	
TEMP	6	=	76.420	
TEMP	7	=	76.730	
TEMP	8	=	76.850	
TEMP	9	=	76.800	
TEMP	10	=	77.050	
TEMP	11	=	76.330	
TEMP	12	=	76.050	
TEMP	13	=	76.970	
TEMP	14	=	77.010	
TEMP	15	=	76.710	
TEMP	16	=	76.170	
TEMP	17	=	76.290	
TEMP	18	=	76.300	
PRES	1	=	73.706	73.020

			PSIA	TEMP	INPUT
VPRS	1	=	0.404	73.188	9.280
VPRS	2	=	0.415	73.962	8.890
VPRS	3	=	0.433	75.200	5.840
VPRS	4	=	0.423	74.545	5.100

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2245

DATE = 1112

TEMP = 76.414060

PRES = 73.284083

SUMMARY OF MEASURED DATA AT TIME 2300 1112

TEMP	1	=	77.160	
TEMP	2	=	76.220	
TEMP	3	=	76.280	
TEMP	4	=	77.050	
TEMP	5	=	76.570	
TEMP	6	=	76.440	
TEMP	7	=	76.770	
TEMP	8	=	76.840	
TEMP	9	=	76.800	
TEMP	10	=	77.080	
TEMP	11	=	76.330	
TEMP	12	=	76.110	
TEMP	13	=	76.970	
TEMP	14	=	77.150	
TEMP	15	=	76.750	
TEMP	16	=	76.230	
TEMP	17	=	76.320	
TEMP	18	=	76.340	
PRES	1	=	73.710	73.024

			PSIA	TEMP	INPUT
VPRS	1	=	0.404	73.188	9.280
VPRS	2	=	0.416	74.000	8.900
VPRS	3	=	0.430	75.029	5.820
VPRS	4	=	0.423	74.545	5.100

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2300

DATE = 1112

TEMP = 76.456149

PRES = 73.288869

SUMMARY OF MEASURED DATA AT TIME 2315 1112

TEMP	1	=	77.180	
TEMP	2	=	76.250	
TEMP	3	=	76.310	
TEMP	4	=	77.050	
TEMP	5	=	76.600	
TEMP	6	=	76.500	
TEMP	7	=	76.850	
TEMP	8	=	76.910	
TEMP	9	=	76.860	
TEMP	10	=	77.180	
TEMP	11	=	76.400	
TEMP	12	=	76.210	
TEMP	13	=	77.040	
TEMP	14	=	77.070	
TEMP	15	=	76.840	
TEMP	16	=	76.280	
TEMP	17	=	76.390	
TEMP	18	=	76.410	
PRES	1	=	73.713	73.027

			PSIA	TEMP	INPUT
VPRS	1	=	0.406	73.294	9.300
VPRS	2	=	0.415	73.962	8.890
VPRS	3	=	0.434	75.286	5.850
VPRS	4	=	0.425	74.627	5.110

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2315

DATE = 1112

TEMP = 76.513040

PRES = 73.290128

SUMMARY OF MEASURED DATA AT TIME 2330 1112

TEMP	1 =	77.230	
TEMP	2 =	76.320	
TEMP	3 =	76.380	
TEMP	4 =	77.130	
TEMP	5 =	76.650	
TEMP	6 =	76.500	
TEMP	7 =	76.850	
TEMP	8 =	76.940	
TEMP	9 =	76.880	
TEMP	10 =	77.160	
TEMP	11 =	76.330	
TEMP	12 =	76.240	
TEMP	13 =	77.020	
TEMP	14 =	77.190	
TEMP	15 =	77.030	
TEMP	16 =	76.310	
TEMP	17 =	76.380	
TEMP	18 =	76.400	
PRES	1 =	73.716	73.030

		PSIA	TEMP	INPUT
VPRS	1 =	0.402	73.029	9.250
VPRS	2 =	0.414	73.850	8.860
VPRS	3 =	0.430	75.029	5.820
VPRS	4 =	0.423	74.545	5.100

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2330

DATE = 1112

TEMP = 76.534089

PRES = 73.295608

SUMMARY OF MEASURED DATA AT TIME 2345 1112

TEMP	1 =	77.260	
TEMP	2 =	76.340	
TEMP	3 =	76.330	
TEMP	4 =	77.170	
TEMP	5 =	76.670	
TEMP	6 =	76.590	
TEMP	7 =	76.900	
TEMP	8 =	76.960	
TEMP	9 =	76.950	
TEMP	10 =	77.180	
TEMP	11 =	76.420	
TEMP	12 =	76.240	
TEMP	13 =	77.090	
TEMP	14 =	77.240	
TEMP	15 =	77.070	
TEMP	16 =	76.360	
TEMP	17 =	76.420	
TEMP	18 =	76.400	
PRES	1 =	73.720	73.033

		PSIA	TEMP	INPUT
VPRS	1 =	0.405	73.241	9.290
VPRS	2 =	0.414	73.887	8.870
VPRS	3 =	0.434	75.286	5.850
VPRS	4 =	0.425	74.627	5.110

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2345

DATE = 1112

TEMP = 76.563609

PRES = 73.296473

SUMMARY OF MEASURED DATA AT TIME 2400 1112

TEMP	1 =	77.280	
TEMP	2 =	76.330	
TEMP	3 =	76.380	
TEMP	4 =	77.160	
TEMP	5 =	76.680	
TEMP	6 =	76.620	
TEMP	7 =	76.930	
TEMP	8 =	77.000	
TEMP	9 =	76.900	
TEMP	10 =	77.320	
TEMP	11 =	76.350	
TEMP	12 =	76.320	
TEMP	13 =	77.060	
TEMP	14 =	77.240	
TEMP	15 =	77.030	
TEMP	16 =	76.360	
TEMP	17 =	76.480	
TEMP	18 =	76.460	
PRES	1 =	73.723	73.036

		PSIA	TEMP	INPUT
VPRS	1 =	0.405	73.241	9.290
VPRS	2 =	0.414	73.887	8.870
VPRS	3 =	0.435	75.371	5.860
VPRS	4 =	0.425	74.627	5.110

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 2400

DATE = 1112

TEMP = 76.595059

PRES = 73.299082

SUMMARY OF MEASURED DATA AT TIME 45 1113

TEMP	1 =	77.400	
TEMP	2 =	76.420	
TEMP	3 =	76.450	
TEMP	4 =	77.240	
TEMP	5 =	76.850	
TEMP	6 =	76.660	
TEMP	7 =	77.070	
TEMP	8 =	77.070	
TEMP	9 =	77.040	
TEMP	10 =	77.290	
TEMP	11 =	76.500	
TEMP	12 =	76.400	
TEMP	13 =	77.190	
TEMP	14 =	77.370	
TEMP	15 =	77.180	
TEMP	16 =	76.470	
TEMP	17 =	76.580	
TEMP	18 =	76.570	
PRES	1 =	73.731	73.044

		PSIA	TEMP	INPUT
VPRS	1 =	0.407	73.347	9.310
VPRS	2 =	0.415	73.925	9.880
VPRS	3 =	0.436	75.457	5.870
VPRS	4 =	0.426	74.709	2.120

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 45

DATE = 1113

TEMP = 76.698398

PRES = 73.306042

SUMMARY OF MEASURED DATA AT TIME 100 1113

TEMP	1	=	77.410	
TEMP	2	=	76.870	
TEMP	3	=	76.530	
TEMP	4	=	77.310	
TEMP	5	=	76.860	
TEMP	6	=	76.720	
TEMP	7	=	77.100	
TEMP	8	=	77.130	
TEMP	9	=	77.060	
TEMP	10	=	77.350	
TEMP	11	=	76.620	
TEMP	12	=	76.450	
TEMP	13	=	77.220	
TEMP	14	=	77.380	
TEMP	15	=	77.250	
TEMP	16	=	76.490	
TEMP	17	=	76.570	
TEMP	18	=	76.560	
PRES	1	=	73.733	73.046

			PSIA	TEMP	INPUT
VPRS	1	=	0.407	73.400	9.320
VPRS	2	=	0.413	73.812	8.850
VPRS	3	=	0.438	75.543	5.880
VPRS	4	=	0.426	74.709	5.120

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 100

DATE = 1113

TEMP = 76.741679

PRES = 73.307813

SUMMARY OF MEASURED DATA AT TIME 115 1113

TEMP	1 =	77.400	
TEMP	2 =	76.430	
TEMP	3 =	76.540	
TEMP	4 =	77.320	
TEMP	5 =	76.950	
TEMP	6 =	76.670	
TEMP	7 =	77.100	
TEMP	8 =	77.120	
TEMP	9 =	77.070	
TEMP	10 =	77.360	
TEMP	11 =	76.550	
TEMP	12 =	76.470	
TEMP	13 =	77.200	
TEMP	14 =	77.380	
TEMP	15 =	77.200	
TEMP	16 =	76.530	
TEMP	17 =	76.640	
TEMP	18 =	76.600	
PRES	1 =	73.795	73.045

		PSIA	TEMP	INPUT
VPRS	1 =	0.407	73.400	9.320
VPRS	2 =	0.413	73.813	8.850
VPRS	3 =	0.438	75.543	5.880
VPRS	4 =	0.426	74.709	5.120

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 115

DATE = 1113

TEMP = 76.743099

PRES = 73.309933

SUMMARY OF MEASURED DATA AT TIME 130 1113

TEMP	1	=	77.410	
TEMP	2	=	76.470	
TEMP	3	=	76.530	
TEMP	4	=	77.270	
TEMP	5	=	76.800	
TEMP	6	=	76.810	
TEMP	7	=	77.120	
TEMP	8	=	77.170	
TEMP	9	=	77.150	
TEMP	10	=	77.410	
TEMP	11	=	76.540	
TEMP	12	=	76.450	
TEMP	13	=	77.360	
TEMP	14	=	77.330	
TEMP	15	=	77.060	
TEMP	16	=	76.540	
TEMP	17	=	76.560	
TEMP	18	=	76.620	
PRES	1	=	73.737	73.050

			PSIA	TEMP	INPUT
VPRS	1	=	0.408	73.453	9.330
VPRS	2	=	0.414	73.850	8.860
VPRS	3	=	0.439	75.543	5.980
VPRS	4	=	0.425	74.627	5.110

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 130

DATE = 1113

TEMP = 76.737120

PRES = 73.312047

SUMMARY OF MEASURED DATA AT TIME 145 1113

TEMP	1	=	77.430	
TEMP	2	=	76.910	
TEMP	3	=	76.570	
TEMP	4	=	77.340	
TEMP	5	=	76.880	
TEMP	6	=	76.730	
TEMP	7	=	77.130	
TEMP	8	=	77.200	
TEMP	9	=	77.100	
TEMP	10	=	77.430	
TEMP	11	=	76.900	
TEMP	12	=	76.490	
TEMP	13	=	77.290	
TEMP	14	=	77.440	
TEMP	15	=	77.290	
TEMP	16	=	76.530	
TEMP	17	=	76.620	
TEMP	18	=	76.620	
PRES	1	=	73.739	73.053

			PSIA	TEMP	INPUT
VPRS	1	=	0.410	73.554	9.350
VPRS	2	=	0.415	73.925	8.860
VPRS	3	=	0.439	75.543	5.880
VPRS	4	=	0.425	74.709	5.120

CHANGE ANY DATA ?

= NO

TEMP. AND PRES. CORRECTED DATA SUMMARY

TIME = 145

DATE = 1113

TEMP = 76.761709

PRES = 73.510280

SUMMARY OF MEASURED DATA AT TIME 200 1113

TEMP	1	=	77.460	
TEMP	2	=	76.440	
TEMP	3	=	76.590	
TEMP	4	=	77.310	
TEMP	5	=	76.960	
TEMP	6	=	76.740	
TEMP	7	=	77.120	
TEMP	8	=	77.190	
TEMP	9	=	77.160	
TEMP	10	=	77.410	
TEMP	11	=	76.570	
TEMP	12	=	76.480	
TEMP	13	=	77.290	
TEMP	14	=	77.470	
TEMP	15	=	77.260	
TEMP	16	=	76.530	
TEMP	17	=	76.650	
TEMP	18	=	76.680	
PRES	1	=	73.741	73.054

		PSIA	TEMP	INPUT
VPRS	1 =	0.410	73.559	9.350
VPRS	2 =	0.414	73.650	8.860
VPRS	3 =	0.438	75.549	5.880
VPRS	4 =	0.427	74.791	5.130

CHANGE ANY DATA ?

= NO

TEMP. AND PRES. CORRECTED DATA SUMMARY

TIME = 200

DATE = 1113

TEMP = 76.782449

PRES = 73.315090

SUMMARY OF MEASURED DATA AT TIME 215 1113

TEMP	1	=	77.510	
TEMP	2	=	76.530	
TEMP	3	=	76.600	
TEMP	4	=	77.340	
TEMP	5	=	76.990	
TEMP	6	=	76.790	
TEMP	7	=	77.190	
TEMP	8	=	77.240	
TEMP	9	=	77.190	
TEMP	10	=	77.490	
TEMP	11	=	76.620	
TEMP	12	=	76.500	
TEMP	13	=	77.350	
TEMP	14	=	77.470	
TEMP	15	=	77.200	
TEMP	16	=	76.580	
TEMP	17	=	76.690	
TEMP	18	=	76.650	
PRES	1	=	73.743	73.056

			PSIA	TEMP	INPUT
VPRS	1	=	0.407	73.400	9.320
VPRS	2	=	0.414	73.850	8.860
VPRS	3	=	0.439	75.543	5.880
VPRS	4	=	0.427	74.791	5.130

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 215

DATE = 1113

TEMP = 76.8028509

PRES = 73.317432

SUMMARY OF MEASURED DATA AT TIME 230 1113

TEMP	1 =	77.510	
TEMP	2 =	76.550	
TEMP	3 =	76.610	
TEMP	4 =	77.390	
TEMP	5 =	76.950	
TEMP	6 =	76.790	
TEMP	7 =	77.180	
TEMP	8 =	77.190	
TEMP	9 =	77.150	
TEMP	10 =	77.450	
TEMP	11 =	76.700	
TEMP	12 =	76.600	
TEMP	13 =	77.270	
TEMP	14 =	77.470	
TEMP	15 =	77.320	
TEMP	16 =	76.610	
TEMP	17 =	76.690	
TEMP	18 =	76.710	
PRES	1 =	73.749	73.058

		PSIA	TEMP	INPUT
VPRS	1 =	0.497	73.400	9.320
VPRS	2 =	0.414	73.850	8.860
VPRS	3 =	0.439	75.629	5.890
VPRS	4 =	0.436	74.709	5.120

CHANGE ANY DATA ?

= NO

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 230

DATE = 1113

TEMP = 76.828279

PRES = 73.319414