

NORTHEAST UTILITIES

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WESTERN MASSACHUSETTS ELECTRIC COMPANY
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March 23, 1993

Docket No. 50-336
B14407

Re: 10CFR50

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Gentlemen:

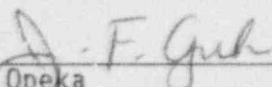
Millstone Nuclear Power Station, Unit No. 2
Integrated Leak Rate Test

On December 24, 1992, an Integrated Leak Rate Test was performed for the Millstone Unit No. 2 Containment Building in fulfillment of Technical Specification 4.6.1.2. This test is the second test in the second ten-year in-service period. Pursuant to the provisions of Section V.B.1 of Appendix J of 10CFR50, Northeast Nuclear Energy Company hereby submits a summary report of the subject test submitted as Attachment 1. The schedule for this test was discussed in our November 6, 1985,⁽¹⁾ letter.

We trust you will find the attached information satisfactory.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



J. F. Opeka
Executive Vice President

cc: T. T. Martin, Region I Administrator
G. S. Vissing, NRC Project Manager, Millstone Unit No. 2
P. D. Swetland, Senior Resident Inspector, Millstone Unit Nos. 1, 2,
and 3
D. A. Dempsey, Resident Inspector, Millstone Unit No. 2

(1) J. F. Opeka letter to E. J. Butcher, "Millstone Nuclear Power Station, Unit No. 2 Scheduling of Type "A" Integrated Leakage Rate Tests," dated November 6, 1985.

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Docket No. 50-336
B14407

Attachment 1

Millstone Nuclear Power Station, Unit No. 2
Reactor Containment Building Integrated
Leakage Rate Test Report

March 1993

NORTHEAST UTILITIES
NORTHEAST NUCLEAR ENERGY COMPANY
MILLSTONE NUCLEAR POWER STATION
UNIT 2

DOCKET NO. 50-336

REACTOR CONTAINMENT BUILDING INTEGRATED
LEAKAGE RATE TEST REPORT

DECEMBER 24, 1992

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3/8/93
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1.0 INTRODUCTION AND PURPOSE

The Reactor Containment Building Integrated Leakage Rate "Type A" Test is performed to demonstrate that leakage through the primary reactor containment systems and components penetrating primary reactor containment do not exceed the allowable leakage rates specified in the Plant Technical Specifications.

The purpose of this report is to provide information pertinent to the activities related to the preparation, test performance, and reporting of the Millstone Nuclear Power Station Unit 2 Integrated Leakage Rate Test (ILRT).

The successful periodic Type A and verification tests were performed according to the requirements of the Millstone Nuclear Power Station Unit 2 Technical Specification and 10CFR50, Appendix J. The test method used was the Absolute Method, as required by Plant Technical Specifications and as described in "ANSI N45.4-1972, "Leakage-Rate Testing of Containment Structures for Nuclear Reactors."

Leakage rates were calculated using the Total Time Analysis technique as described in BN-TOP-1, "Testing Criteria For Integrated Leakage Rate Testing Of Primary Containment Structures For Nuclear Power Plants." Mass Point leak rates as described in ANSI/ANS-56.8-1987, "Containment System Leakage Testing Requirements were run concurrently for informational purposes. The test results are reported in accordance with the requirements of 10CFR50, Appendix J, Section V.B.3.

2.0 TEST RESULTS

Type A Containment Leakage Rate Test Results

(a) Calculated Leakage Rate, L_{am}	0.1969 wt.%/day
(b) 95% Upper Confidence Limit (UCL) Leakage Rate	0.2565 wt.%/day
(c) Type B and C Leakage Penalties	0.0009 wt.%/day
(d) Volume Correction	0.0003 wt.%/day
(e) Leakage Savings	0.0232 wt.%/day
(f) As-Left ILRT [Sum of b+c+d]	0.2577 wt.%/day
(g) As-Found ILRT [Sum of e+f]	0.2809 wt.%/day

- The As-Found Total Time ILRT leakage rate of 0.2809 wt.%/day satisfied the Appendix J Acceptance Criteria of $0.75 L_a$ (0.375 wt.%/day).
- The As-Left Total Time ILRT leakage rate of 0.2577 wt.%/day satisfied the Appendix J Acceptance Criteria of $0.75 L_a$ (0.375 wt.%/day).

3.0 TEST SUMMARY

Prior to initiation of containment pressurization at 2319, on December 22, 1992, site personnel were engaged in prerequisite activities for the conduct of the ILRT. The ILRT was conducted at the end of the Steam Generator Replacement outage and the refueling outage. These activities included ILRT procedure review and finalization, ILRT computer program checkout and linkup to the Fluke Data Acquisition System, and ILRT instrumentation installation and operability checks.

The ILRT test procedure was reviewed against the requirements of the Plant Technical Specifications; 10CFR50, Appendix J; and ANSI/ANS-56.8-1987.

The ILRT instrumentation was calibrated prior to the ILRT as recommended by ANSI N45.4-1972, Sections 6.2 and 6.3. Final ILRT instrumentation operability checks and insitu checks, as specified in ANSI/ANS-56.8-1987, Section 4.2.3.1, were performed to ensure that all instrumentation was operating correctly. Calibration records for the ILRT instrumentation system components are retained at the plant.

The report printouts for the test stabilization, ILRT, and verification test calculations for the Total Time and Mass Point Analyses are provided in Appendices A, B, and C, respectively.

3.1 Test Summary Time-Line

<u>Phase</u>	<u>Time Frame</u>	<u>Duration</u>
Pressurization	From: 2319 on 12/22/92 To: 1745 on 12/23/92	18.43 hours
Stabilization	From: 1750 on 12/23/92 To: 2150 on 12/23/92	4.00 hours
Type A Test	From: 2151 on 12/23/92 To: 0551 on 12/24/92	8.00 hours
Verification Test	From: 0700 on 12/24/92 To: 1100 on 12/24/92	4.00 hours

3.2 Type A Test Results Summary

Test Method	Absolute
Test Pressure	54.0 psig

	Total Time wt. %/day	(Information Only) Mass Point wt. %/day
Calculated Leakage Rate, L_{am}	0.1969*	0.2043*
95% Upper Confidence, Limit Leakage rate	0.2565*	0.2088*

* Does not include penalties for nonstandard alignments and water level changes. (Refer to Section 7.0)

3.3 Verification Test Results Summary

	Total Time wt. %/day	(Information Only) Mass Point wt. %/day
Leakage Rate (L_{am})	0.1969	0.2043
Superimposed Leak (L_o , 30.85 SCFM)	0.4998	0.4998
Lower Limit: $L_o + L_{am} - 0.25 L_a$	0.5717	0.5791
Composite Leakage (L_c) ($L_c = L_{am} + L_o$)*	0.6857	0.6699
Upper Limit: $L_o + L_{am} + 0.25 L_a$	0.8217	0.8291

* The computer software determines a composite leakage rate (L_c) based on the sum of the current leakage (L_{am}) and the superimposed leakage rate (L_o). The composite leakage rate must be within the Appendix J Supplemental (Verification) Test Acceptance Criteria of $0.25 L_a$. The criteria is mathematically represented by the upper and lower limits listed above.

The composite leakage rate (L_c) of 0.6857 wt. %/day was within the Appendix J criteria of $0.25 L_a$.

4.0 EDITED TEST LOG

December 22, 1992

2319 Hr. Pressurization of containment started.

2355 Hr. Air dryer lost power and is out of service.

December 23, 1992

0100 Hr. Air dryer returned to service. It was powered from refuel load center which had been de-energized.

0150 Hr. Containment pressure at 9.8 psig.

0200 Hr. One compressor removed from service due to oil leak.

0230 Hr. Completed 10 psig leak inspection. No gross leakage reported.

0305 Hr. Compressor returned to service. RCS level prior to pressurization was 96 inches. Level is now at 24 inches. Containment pressure is 30 psia.

0420 Hr. Containment pressure at 17.8 psig.

0450 Hr. One compressor valved out for filter change. Containment Pressure is 20 psig.

0510 Hr. Compressor returned to service

0730 Hr. Completed 25 psig leak inspection. Minor leakage reported at SI-312, 744, 808, IA-27.1, Fire-124, and AC-112, 113, 114.

0735 Hr. Refueling of compressors completed.

0824 Hr. Pressurization rate is approx. 3.5 psi/hr. Air dryer back pressure is 45 psig. Containment pressure is 32 psig.

1225 Hr. Completed 45 psig leak inspection. Minor leakage reported at Fire-124, SI-808, SI-312, CS-055, GR-72, LRR-43.2, IA-27.1, CS-4.1A, and SSP-16.1 & 16.2.

1245 Hr.	Cooling water to CAR Fans isolated. CAR Fans and Aux. Recirc Fan stopped. Containment pressure is approximately 46 psig.
1325 Hr.	One 1500 SCFM compressor secured. Containment pressure is 50 psig.
1412 Hr.	Three compressors secured, 2 remain operating. Containment pressure is approx. 51.8 psig.
1445 Hr.	Outside barometric pressure is 14.625 psia. Containment pressure is 52.3 psig. Pressurization rate is 0.778 psi/hr.
1515 Hr.	Containment pressure is 52.769 psig.
1525 Hr.	Barometric pressure is 14.632 psia. Secured one 1200 SCFM compressor, one remaining compressor running.
1557 Hr.	Pressurization rate at 0.237 psi/hr. Containment pressure is 53 psig. Restarted one 1200 SCFM compressor.
1700 Hr.	Secured one compressor with containment pressure at 54.06 psig. One compressor still running.
1745 Hr.	Isolated pressurization line and secured last compressor. Reached (Pa), containment pressure at 68.8955 psia.
2030 Hr.	Completed 54 psig leak inspection. Minor leakage noted and recorded in log.
2150 Hr.	Temperature stabilization criteria met.
2151 Hr.	Start of Type A test.

December 24, 1992

0245 Hr.	Review of sensor plots revealed that RTD 8109 is not tracking with other sensors or with the average containment temperature.
----------	---

0305 Hr. Rejected RTD 8109 by zeroing weighting factor. Redistributed weighting factor per calculation 2-ENG-102. All calculations redone using revised weighting factors.

0551 Hr. Total time UCL L_{am} calculated to be 0.2565 wt%/day. Calculated leakage well within 0.75 L_a . End of eight hour test.

0600 Hr. Initiated verification flow and started BN-TOP-1 stabilization phase. Chemistry completed sampling.

0700 Hr. Started verification test. $L_o = 30.8$ SCFM.

1100 Hr. Completed verification test. $L_c = 0.6857$ wt%/day.

1135 Hr. Started depressurization.

December 25, 1992

0900 Hr. Depressurization of containment completed.

5.0 TEST DESCRIPTION

The MP2 ILRT (Integrated Leak Rate Test) was conducted by NNECO personnel and others, per the requirements of Test Procedure Number SP 21208, Rev. 0.

The ILRT test procedure was the administrative document used to set up the required plant system prerequisites and initial conditions necessary to conduct an ILRT.

The containment structure itself was isolated (i.e., plant systems penetrating the containment boundary were isolated, via closure of boundary isolation valves). A pressurization system was set up and connected to the containment through a temporary piping path. The pressurization system consisted of a group of oil-free air compressors, refrigerator-dryer units, after-coolers, interconnecting spool pieces, and valves.

A fully automated data acquisition system (with backup capability) was used to record and monitor ILRT containment-related test parameters, e.g., containment air pressures, temperatures, dewpoint data, etc. The data acquisition system consisted of two portable computers and floppy disk drives. The test data was processed via the General Physics ILRT software system computer program.

With test prerequisites and initial conditions satisfied, the containment was first pressurized (slowly) to 10 psig and external inspections of the containment were completed, while pressurization continued. When the pressure reached 54 psig, containment pressurization was stopped and isolated. The containment air mass system was then allowed to thermodynamically stabilize itself. Once stabilization was attained, the data acquisition system recorded the test data and computed the ILRT leakage rate.

The Type A test and the supplemental verification test were performed according to the requirements of the MP2 Technical Specification and 10CFR50, Appendix J. The test method as required by the Technical Specifications is the absolute method as described in ANSI N45.4-1972, "Leakage Rate Testing of Containment Structures for Nuclear Reactors." The leakage rate was calculated using formulas from BN-TOP-1. The durations of the Type A and verification tests were in accordance with the requirements of BN-TOP-1.

The computed leakage rate was then "adjusted," using techniques specified in IEN 85-71, to reflect LLRT rework/retest results. The adjusted as-left ILRT containment leakage rate was then compared to the procedures acceptance criteria limit and verified satisfactory.

Prior to depressurization of the containment, a verification test was completed. The verification test induced a known leakage rate and a calculation was made to verify that the test instrument/data acquisition system was operating satisfactorily and yielding accurate results.

Once this was verified, the containment was then slowly depressurized to normal atmospheric conditions and restoration was started.

5.1 DESCRIPTION OF PLANT

Plant Information

Owner	Northeast Nuclear Energy Company
Plant	Millstone Nuclear Power Station Unit No. 2
Location	Waterford, Connecticut
Containment Type	Prestressed, post tensioned concrete with a steel liner
NSS Supplier, Type	Combustion Engineering PWR
Date Test Completed	December 24, 1992

Technical Information

Containment Net Free Volume	1,920,000 cubic feet
Design Pressure	54.0 psig
Design Temperature	120° F
Calculated Peak Accident Pressure (P_a)	54.0 psig

5.2 INTEGRATED LEAKAGE RATE MEASUREMENT SYSTEM

1. Absolute Pressure

Quantity	2
Manufacturer	Paroscientific
Type	Precision pressure gauge Model 760-100A with Direct Pressure Readout and RS-232.
Range	0 - 100 psia
Accuracy	$\pm 0.010\%$ Full Scale ± 0.01 psia
Repeatability	$\pm 0.010\%$ Full Scale ± 0.01 psi
Resolution	0.0001 psi
Sensor Sensitivity Error	0.010% of reading 0.00687 psi

2. Drybulb Temperature

Quantity	13
Manufacturer	Thermocouple Technology, Inc.
Type	3-wire, 200 ohm platinum resistance temperature detectors (RTDs)
Range	0 - 200° F
Accuracy	$\pm 1.0^\circ$ F
Sensor Sensitivity Error	0.01° F

Quantity	5
Manufacturer	Thermocouple Technology, Inc.
Type	4-wire, 200 ohm platinum resistance temperature detectors (RTDs)
Range	0-350°F
Accuracy	$\pm 1.0^{\circ}\text{F}$
Sensor Sensitivity Error	0.01°F
3. Relative Humidity	
Quantity	4
Manufacturer	Foxboro
Type	Lithium Chloride Dewcell using a 3-wire 100 ohm RTD, Model 2701G
Range	0 - 120° F dewpoint
Accuracy	$\pm 1.5^{\circ}\text{ F}$
Sensor Sensitivity Error	0.01° F
4. Verification Flow	
Quantity	2 (1 primary, 1 backup)
Manufacturer	Thermal Instrument Company
Type	Thermal mass flow Model 600
Range	0 - 60 scfm
Accuracy	$\pm 1\%$ full scale

5. Readout Device

Quantity 1

Manufacturer Fluke

Type Model 2285B with 2280-162 DC Voltage Scanner and 2280-163 RTD/Resistance Scanner

Repeatability of Fluke for the (13) 3-wire RTDs and 4 Dewcells read directly by the Fluke using 2280-163 RTD/Resistance Scanner 0.013° F

Repeatability of Fluke for the (5) 4-wire RTDs processed through the plant computer loop read by the Fluke using 2280-162DC Voltage Scanner 0.018° F

Repeatability of the plant computer loop for the (5), 4-wire RTDs 1° F

Resolution

Drybulb Temp. 0.01° F

Dewpoint Temp. 0.01° F

The sensor locations and volume fractions as installed for the ILRT are shown in Appendix E.

6.0 TYPE B AND C LOCAL LEAKAGE RATE TEST RESULTS

- 6.1 This section addresses the Primary Reactor Containment Local Leak Rate Testing (LLRT) Program. The LLRT program complies with containment leak test requirements set forth in Technical Specification 3.6.1.2 and 10CFR Part 50, Appendix J.

A summary of local leakage rate tests since the LLRT in February 1988 is included in Appendix D.

6.2 Acceptance Criteria

- (1) The combined leakage rate of all penetrations and isolation valves shall not exceed $0.6 L_a$ (0.3 wt.%/day, 517.312 SLM) at P_a .
- (2) The combined leakage rate of all containment bypass penetrations shall not exceed $0.017 L_a$ (0.0085 wt.%/day, 14.657 SLM) at P_a .

- 6.3 "As-Found" Combined local leakage rates based upon maximum pathway from Appendix D1:

	<u>Leakage Rate</u>	<u>Acceptance Criteria</u>
Total Type B&C	84.947 SLM	517.312 SLM @ 54 psig
Total Bypass	1.719 SLM	14.657 SLM @ 54 psig

- 6.4 "As-Left" Combined local leakage rates based upon maximum pathway from Appendix D1:

	<u>Leakage Rate</u>	<u>Acceptance Criteria</u>
Total Type B&C	13.730 SLM	517.312 SLM @ 54 psig
Total Bypass	1.719 SLM	14.657 SLM @ 54 psig

7.0 ANALYSIS AND INTERPRETATION

The upper 95% confidence limit (UCL) Total Time and Mass Point leakage rates calculated during the ILRT were less than the test acceptance criteria of $0.75L_p$ (0.375 wt.%/day). Additions to the calculated leakage rates must be made to account for penetration paths not exposed to the ILRT pressure and for changes in the net free containment volume due to changes in containment water levels. These additions are discussed below.

7.1 Summary of Type B and C Penalties

Penetrations paths not exposed to the ILRT pressure and the corresponding minimum pathway leakage penalties from Appendix D1 are as follows:

Penetration Number	System	Penetration Test Data
		Minimum Pathway Leakage Penalty Addition (sccm)
3	Charging	24
63	ILRT Test Connection	45
64	ILRT Test Connection	10
85	ILRT Connection	45
10	Shutdown Cooling	58
24	RBCCW A Supply	436
29	RBCCW A Return	816
53	RBCCW B Supply	20
54	RBCCW B Return	82
	Sum Total (Σ)	1536

LLRT results based on the above equate to a Type B and C penalty addition of 0.0009 wt.% per day.

7.2 Summary of Leakage Savings

Penetration paths which were reworked and retested and the corresponding minimum pathway leakage savings from Appendix D1 are as follows:

Penetration Number	System	Penetration Test Data
		Minimum Pathway Leakage Savings (sccm)
2	Letdown	990
4	Containment Spray	18
10	Shutdown Cooling	822
22/65	Steam Generator Blowdown	2362
23/72	Steam Generator Blowdown	6530
24	RBCCW A Supply	533
29	RBCCW A Return	10384
40	Containment Purge	6845
51	Waste Gas Header	397
53	RBCCW B Supply	623
54	RBCCW B Return	230
82	Hydrogen Purge	1513
83	Hydrogen Purge	1320
PER	Personnel Air Lock	7887
SWXB6	Electric Pen.	3
	Sum Total (Σ)	40457

LLRT results based on the above equate to a Type B and C penalty savings addition of 0.0232 wt.% per day.

7.3 Volume Change Corrections

The following volumes were monitored for liquid level changes which would affect the containment net free volume:

VOLUME MONITORED	LEVEL CHANGE	VOLUME CHANGE (ft ³)
RCS	-0.645 inches/8 hours	+18.21/24 hours
*Containment Sump	31.78 inches	-47.40/24 hours

- * This level change was based on measurements taken prior to pressurization for the ILRT and after depressurization from the ILRT. This was approximately a 3 day period. For the volume change correction, it was conservatively assumed that this level change occurred in the 8 hour ILRT period.

Based on the volumes monitored, the containment net free volume decreased during the ILRT by 29.19 ft³. This is equivalent to a leakage rate of 0.00032 wt% per day which will be added to the ILRT results.

7.4 "As Left" ILRT Results

The "As Left" ILRT leakage rate including the required additions is as follows:

	Total Time Analysis (wt. %/day)	(Information Only) Mass Point Analysis (wt. %/day)
95 % UCL Leakage Rate	0.2565	0.2088
Type B and C Penalties	0.0009	0.0009
Volume Change	0.0003	0.0003
As Left 95 % UCL Leakage Rate	0.2577	0.2100

The "As Left" Total Time and Mass Point 95 % UCL leakage rates are less than the test acceptance criteria value of 0.75 L_a (0.375 wt. %/day).

7.5 "As Found" ILRT Results

The "As Found" ILRT leakage rate including the required leakage savings additions is as follows:

	Total Time Analysis (wt.%/day)	(Information Only) Mass Point Analysis (wt.%/day)
95 % UCL As Left Leakage Rate	0.2577	0.2100
Leakage Savings	0.0232	0.0232
As Found 95 % UCL Leakage Rate	0.2809	0.2332

The "As Found" Total Time and Mass Point 95 % UCL leakage rates are less than the test acceptance criteria value of 0.75 L_a (0.375 wt.%/day).

REFERENCES

- A. Millstone Unit 2 Surveillance Procedure, SP 21208, "Containment Leak Rate Test - Type A," Rev. 0.
- B. Millstone Nuclear Power Station Unit 2 Technical Specifications.
- C. Millstone Nuclear Power Station Unit 2 Final Safety Analysis Report.
- D. Code of Federal Regulations, Title 10, Part 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water Cooled Power Reactors."
- E. ANSI N45.4-1972, "Leakage-Rate Testing of Containment Structures for Nuclear Reactors."
- F. ANSI/ANS-56.8-1987, "Containment System Leakage Testing Requirements."
- G. BN-TOP-1, "Testing Criteria for Integrated Leakage Rate Testing of Primary Containment Structures for Nuclear Power Plants."

APPENDICES

APPENDIX A
STABILIZATION PHASE DATA

STABLIZATION MODE
OPTIONS

TIME : 2150
MODE SUMMARY

- 1 - MANUAL DATA ENTRY
- 2 - PARAMATER GRAPHS
- 3 - SENSOR PLOTS
- 4 - SENSOR DIFFERENTIALS
- 5 - ANSI STABILIZATION CRITERIA
- 6 - BN-TOP-1 STAB.CRITERIA
- 7 - ANSI CRITERIA PRINTOUT
- 8 - BN-TOP-1 CRITERIA PRINTOUT
- 9 - REPRINT CURRENT DATA POINT
- P - PASS WORD MENU
- 0 - FLASH OFF

OF DATA POINTS = 17
MODE DURATION (IN HRS) = 4.00
TOT TIME MEASURED LEAK = 0.1792
TOT TIME CALCULATED LEAK = 0.2056
TOT TIME 95% UCL = 0.2629
MASS PT LEAK = 0.1956
MASS PT 95% UCL = 0.2178

ANSI TEMPERATURE STABLIZATION CRITERIA MET
BN-TOP TEMPERATURE STABLIZATION CRITERIA MET

POINT SUMMARY: CURRENT VALUE/DIFFERENCE FROM PREVIOUS POINT

AVG TEMP: 71.260/ -0.045
MASS: 667307.00/ -4.625

AVG PRESS: 68.365/ -0.006
AVG DEW PRESS: 0.3036/-0.0009
TOTAL PRESS: 68.669/ -0.007

TEMPERATURE STABILIZATION UNIT 2						
		ANSI 56.8			BN-TOP-1	
TIME	TEMP	1 HR	4 HR	4 HR-1 HR	BN1	BN2
0.00	72.744	0.000	0.000	0.000	0.000	0.000
0.25	72.507	0.000	0.000	0.000	0.000	0.000
0.50	72.327	0.000	0.000	0.000	0.000	0.000
0.75	72.176	0.000	0.000	0.000	0.000	0.000
1.00	72.031	0.713	0.000	-0.713	0.000	0.000
1.25	71.912	0.595	0.000	-0.595	0.000	0.000
1.50	71.804	0.523	0.000	-0.523	0.000	0.000
1.75	71.726	0.451	0.000	-0.451	0.000	0.000
2.00	71.653	0.378	0.000	-0.378	-0.545	0.000
2.25	71.588	0.324	0.000	-0.324	-0.459	0.344
2.50	71.530	0.274	0.000	-0.274	-0.398	0.244
2.75	71.476	0.250	0.000	-0.250	-0.350	0.194
3.00	71.430	0.224	0.000	-0.224	-0.301	0.197
3.25	71.382	0.206	0.000	-0.206	-0.265	0.143
3.50	71.347	0.183	0.000	-0.183	-0.229	0.145
3.75	71.306	0.171	0.000	-0.171	-0.210	0.075
4.00	71.260	0.169	0.371	0.202	-0.196	0.055

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : STABLE
 DATE : 358
 TIME : 17:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.8668	2	+68.8796

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.870	2	+69.400	3	+67.930
4	+72.610	5	+74.790	6	+75.010
7	+69.480	8	+70.510	9	+72.050
10	+69.880	11	+76.790	12	+71.610
13	+72.170	14	+70.200	15	+76.040
16	+73.830	17	+73.120	18	+73.300

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.560	2	+141.440
3	+142.590	4	+144.100

AVERAGE TEMPERATURE = +72.7439 DEG. F
 AVERAGE PRESSURE = +68.8857 PSIA
 MASS = +667499.50 LBM
 AVG DEW POINT TEMP = +65.4117 DEG. F
 AVG VAPOR PRESSURE = +0.3099 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : STABLE
 DATE : 358
 TIME : 18:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.8364	2	+68.8484

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.770	2	+69.290	3	+67.760
4	+72.490	5	+74.420	6	+74.610
7	+69.410	8	+70.380	9	+71.720
10	+69.680	11	+76.370	12	+71.530
13	+72.070	14	+70.070	15	+75.700
16	+73.770	17	+73.050	18	+73.120

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.080	2	+141.080
3	+142.830	4	+143.000

AVERAGE TEMPERATURE = +72.5067 DEG. F
 AVERAGE PRESSURE = +68.6549 PSIA
 MASS = +667507.25 LBM
 AVG DEW POINT TEMP = +65.3129 DEG. F
 AVG VAPOR PRESSURE = +0.3088 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : STABLE
DATE : 358
TIME : 18:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.8133	2	+68.8254

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.700	2	+69.230	3	+67.630
4	+72.410	5	+74.090	6	+74.230
7	+69.360	8	+70.270	9	+71.480
10	+69.560	11	+76.110	12	+71.480
13	+71.990	14	+70.000	15	+75.410
16	+73.710	17	+73.020	18	+73.000

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.040	2	+141.060
3	+142.490	4	+143.220

AVERAGE TEMPERATURE = +72.3268 DEG. F
AVERAGE PRESSURE = +68.8318 PSIA
MASS = +667511.69 LBM
AVG DEW POINT TEMP = +65.2835 DEG. F
AVG VAPOR PRESSURE = +0.3085 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : STABLE
 DATE : 358
 TIME : 18:35

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.7918	2	+68.8028

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.630	2	+69.180	3	+67.540
4	+72.340	5	+73.770	6	+74.000
7	+69.320	8	+70.220	9	+71.230
10	+69.460	11	+75.860	12	+71.420
13	+71.970	14	+69.920	15	+75.180
16	+73.680	17	+73.000	18	+72.930

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.210	2	+140.870
3	+142.910	4	+143.140

AVERAGE TEMPERATURE = +72.1764 DEG. F
 AVERAGE PRESSURE = +68.8098 PSIA
 MASS = +667480.50 LBM
 AVG DEW POINT TEMP = +65.3308 DEG. F
 AVG VAPOR PRESSURE = +0.3090 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : STABLE
 DATE : 358
 TIME : 18:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.7728	2	+68.7843

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.570	2	+69.130	3	+67.460
4	+72.290	5	+73.530	6	+73.790
7	+69.270	8	+70.180	9	+70.570
10	+69.380	11	+75.680	12	+71.370
13	+71.910	14	+69.790	15	+74.870
16	+73.620	17	+72.920	18	+72.840

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.270	2	+140.670
3	+142.480	4	+143.270

AVERAGE TEMPERATURE = +72.0312 DEG. F
 AVERAGE PRESSURE = +68.7910 PSIA
 MASS = +667487.56 LBM
 AVG DEW POINT TEMP = +65.2592 DEG. F
 AVG VAPOR PRESSURE = +0.3082 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

• TEST MODE : STABLE
 DATE : 358
 TIME : 19:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.7568	2	+68.7674

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.510	2	+69.070	3	+67.390
4	+72.230	5	+73.350	6	+73.670
7	+69.200	8	+70.120	9	+70.730
10	+69.310	11	+75.500	12	+71.320
13	+71.880	14	+69.740	15	+74.600
16	+73.570	17	+72.870	18	+72.790

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.200	2	+140.560
3	+142.200	4	+143.400

AVERAGE TEMPERATURE = +71.9121 DEG. F
 AVERAGE PRESSURE = +68.7746 PSIA
 MASS = +667481.00 LBM
 AVG DEW POINT TEMP = +65.2178 DEG. F
 AVG VAPOR PRESSURE = +0.3078 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : STABLE
 DATE : 358
 TIME : 19:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.7409	2	+68.7530

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.460	2	+69.030	3	+67.330
4	+72.170	5	+73.230	6	+73.560
7	+69.160	8	+70.070	9	+70.510
10	+69.240	11	+75.330	12	+71.290
13	+71.940	14	+69.630	15	+74.370
16	+73.530	17	+72.820	18	+72.720

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.250	2	+140.420
3	+142.960	4	+143.170

AVERAGE TEMPERATURE = +71.8042 DEG. F
 AVERAGE PRESSURE = +68.7594 PSIA
 MASS = +667463.88 LBM
 AVG DEW POINT TEMP = +65.2651 DEG. F
 AVG VAPOR PRESSURE = +0.3083 PSIA

Millstone 2

INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : STABLE
DATE : 358
TIME : 19:35

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.7279	2	+68.7394

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.410	2	+68.970	3	+67.270
4	+72.120	5	+73.150	6	+73.490
7	+69.120	8	+70.040	9	+70.400
10	+69.180	11	+75.200	12	+71.240
13	+71.800	14	+69.520	15	+74.220
16	+73.510	17	+72.810	18	+72.670

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.250	2	+140.530
3	+142.560	4	+142.930

AVERAGE TEMPERATURE = +71.7258 DEG. F
AVERAGE PRESSURE = +68.7461 PSIA
MASS = +667440.50 LBM
AVG DEW POINT TEMP = +65.1899 DEG. F
AVG VAPOR PRESSURE = +0.3075 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : STABLE
DATE : 358
TIME : 19:50

Pressure Instruments in PSIA

<u>channel</u>	<u>pressure</u>	<u>channel</u>	<u>pressure</u>
1	+68.7167	2	+68.7290

RTDs in degrees F

<u>channel</u>	<u>temp.</u>	<u>channel</u>	<u>temp.</u>	<u>channel</u>	<u>temp.</u>
1	+72.370	2	+68.940	3	+67.230
4	+72.080	5	+73.080	6	+73.440
7	+69.090	8	+70.000	9	+70.250
10	+69.130	11	+75.080	12	+71.200
13	+71.750	14	+69.400	15	+74.100
16	+73.460	17	+72.740	18	+72.640

Dew Cell temperatures in degrees F

<u>channel</u>	<u>cell temp</u>	<u>channel</u>	<u>cell temp</u>
1	+140.190	2	+140.300
3	+142.350	4	+142.950

AVERAGE TEMPERATURE = +71.6532 DEG. F
AVERAGE PRESSURE = +68.7353 PSIA
MASS = +667434.94 LBM
AVG DEW POINT TEMP = +65.1064 DEG. F
AVG VAPOR PRESSURE = +0.3066 PSIA

Millstone 2

INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : STABLE
DATE : 358
TIME : 20:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.7067	2	+68.7198

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.320	2	+68.910	3	+67.180
4	+72.030	5	+73.010	6	+73.360
7	+69.040	8	+69.940	9	+70.180
10	+69.080	11	+74.940	12	+71.170
13	+71.680	14	+69.270	15	+74.060
16	+73.440	17	+72.740	18	+72.620

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.190	2	+140.240
3	+141.770	4	+142.940

AVERAGE TEMPERATURE = +71.5880 DEG. F
AVERAGE PRESSURE = +68.7257 PSIA
MASS = +667433.69 LBM
AVG DEW POINT TEMP = +65.0065 DEG. F
AVG VAPOR PRESSURE = +0.3055 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : STABLE
 DATE : 358
 TIME : 20:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6983	2	+68.7093

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.290	2	+68.870	3	+67.140
4	+71.980	5	+72.960	6	+73.310
7	+69.010	8	+69.910	9	+70.110
10	+69.030	11	+74.840	12	+71.140
13	+71.650	14	+69.190	15	+73.970
16	+73.380	17	+72.630	18	+72.560

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.220	2	+140.470
3	+142.300	4	+142.610

AVERAGE TEMPERATURE = +71.5298 DEG. F
 AVERAGE PRESSURE = +68.7163 PSIA
 MASS = +667406.31 LBM
 AVG DEW POINT TEMP = +65.0858 DEG. F
 AVG VAPOR PRESSURE = +0.3064 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : STABLE
DATE : 358
TIME : 20:35

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6890	2	+68.7002

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.250	2	+68.830	3	+67.110
4	+71.940	5	+72.920	6	+73.260
7	+68.990	8	+69.880	9	+70.050
10	+68.990	11	+74.720	12	+71.110
13	+71.600	14	+69.100	15	+73.900
16	+73.360	17	+72.640	18	+72.510

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.170	2	+140.160
3	+142.290	4	+142.670

AVERAGE TEMPERATURE = +71.4762 DEG. F
AVERAGE PRESSURE = +68.7071 PSIA
MASS = +667390.19 LBM
AVG DEW POINT TEMP = +65.0251 DEG. F
AVG VAPOR PRESSURE = +0.3057 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : STABLE
DATE : 358
TIME : 20:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6802	2	+68.6922

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.220	2	+68.800	3	+67.060
4	+71.900	5	+72.880	6	+73.220
7	+68.950	8	+69.850	9	+70.010
10	+68.940	11	+74.630	12	+71.090
13	+71.540	14	+69.030	15	+73.850
16	+73.310	17	+72.590	18	+72.490

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.190	2	+140.110
3	+142.160	4	+142.260

AVERAGE TEMPERATURE = +71.4296 DEG. F
AVERAGE PRESSURE = +68.6987 PSIA
MASS = +667375.75 LBM
AVG DEW POINT TEMP = +64.9384 DEG. F
AVG VAPOR PRESSURE = +0.3048 PSIA

Millstone 2

INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : STABLE
DATE : 358
TIME : 21:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6725	2	+68.6847

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.180	2	+68.760	3	+67.030
4	+71.860	5	+72.840	6	+73.190
7	+68.930	8	+69.810	9	+69.980
10	+68.910	11	+74.530	12	+71.040
13	+71.490	14	+68.940	15	+73.790
16	+73.300	17	+72.550	18	+72.440

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.110	2	+139.980
3	+142.160	4	+142.100

AVERAGE TEMPERATURE = +71.3822 DEG. F
AVERAGE PRESSURE = +68.6911 PSIA
MASS = +667367.88 LBM
AVG DEW POINT TEMP = +64.8746 DEG. F
AVG VAPOR PRESSURE = +0.3041 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : STABLE
 DATE : 358
 TIME : 21:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6645	2	+68.6760

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.160	2	+68.740	3	+67.000
4	+71.830	5	+72.810	6	+73.150
7	+68.910	8	+69.780	9	+69.920
10	+68.880	11	+74.440	12	+71.030
13	+71.460	14	+68.890	15	+73.760
16	+73.250	17	+72.540	18	+72.460

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.080	2	+140.110
3	+142.040	4	+142.500

AVERAGE TEMPERATURE = +71.3466 DEG. F
 AVERAGE PRESSURE = +68.6827 PSIA
 MASS = +667324.75 LBM
 AVG DEW POINT TEMP = +64.9355 DEG. F
 AVG VAPOR PRESSURE = +0.3048 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : STABLE
 DATE : 358
 TIME : 21:35

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6576	2	+68.6694

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.120	2	+68.710	3	+66.970
4	+71.800	5	+72.760	6	+73.110
7	+68.880	8	+69.760	9	+69.870
10	+68.840	11	+74.350	12	+71.020
13	+71.450	14	+68.850	15	+73.730
16	+73.240	17	+72.530	18	+72.400

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.190	2	+140.260
3	+141.960	4	+142.500

AVERAGE TEMPERATURE = +71.3055 DEG. F
 AVERAGE PRESSURE = +68.6760 PSIA
 MASS = +667306.69 LBM
 AVG DEW POINT TEMP = +64.9728 DEG. F
 AVG VAPOR PRESSURE = +0.3052 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : STABLE
 DATE : 358
 TIME : 21:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6503	2	+68.6622

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.100	2	+68.680	3	+66.940
4	+71.760	5	+72.710	6	+73.080
7	+68.850	8	+69.720	9	+69.870
10	+68.810	11	+74.260	12	+70.990
13	+71.380	14	+68.750	15	+73.660
16	+73.190	17	+72.480	18	+72.360

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.250	2	+140.010
3	+141.690	4	+142.120

AVERAGE TEMPERATURE = +71.2604 DEG. F
 AVERAGE PRESSURE = +68.6687 PSIA
 MASS = +667306.50 LBM
 AVG DEW POINT TEMP = +64.8392 DEG. F
 AVG VAPOR PRESSURE = +0.3037 PSIA

STABLE MODE

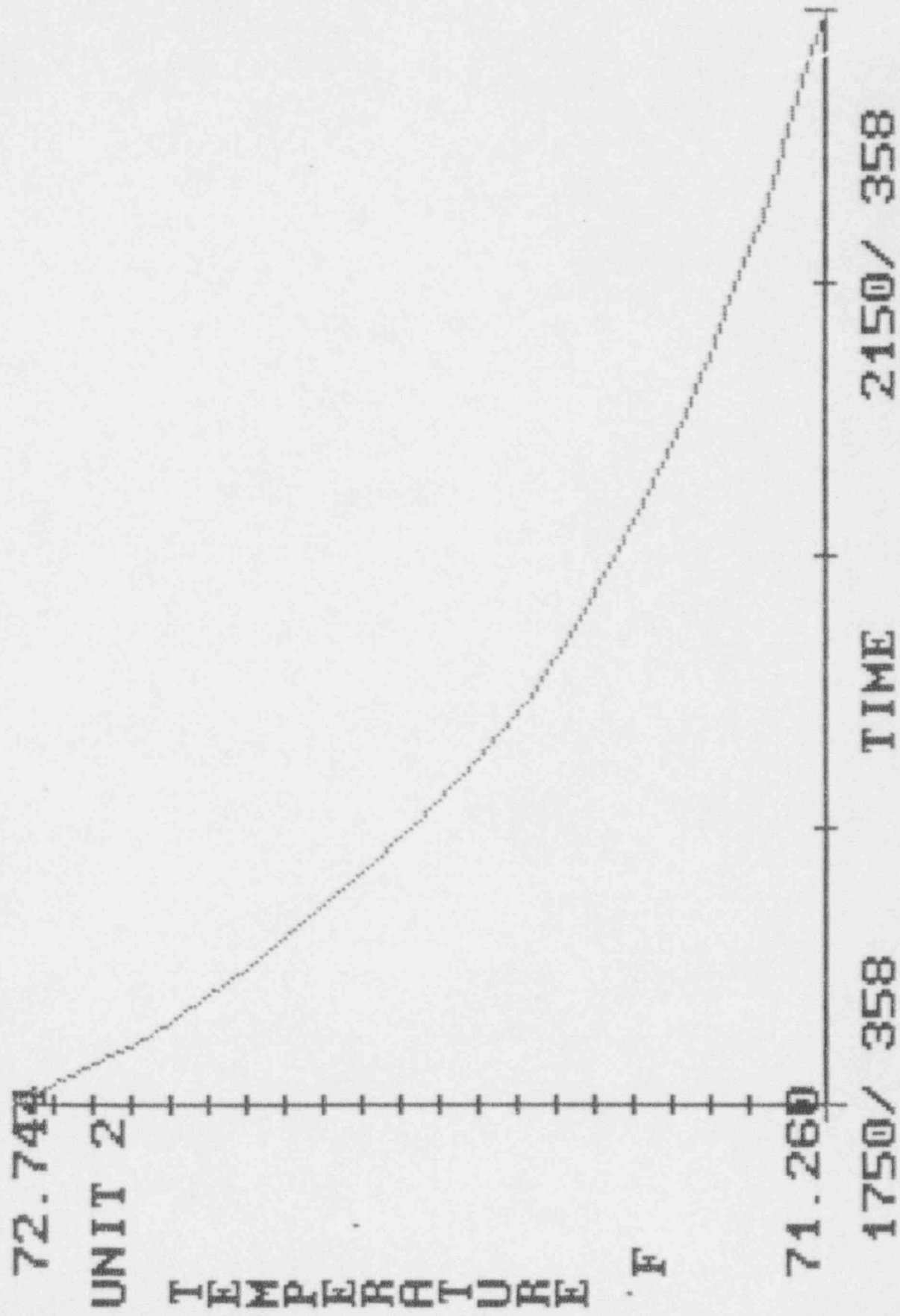
Millstone UNIT 2 Page 1

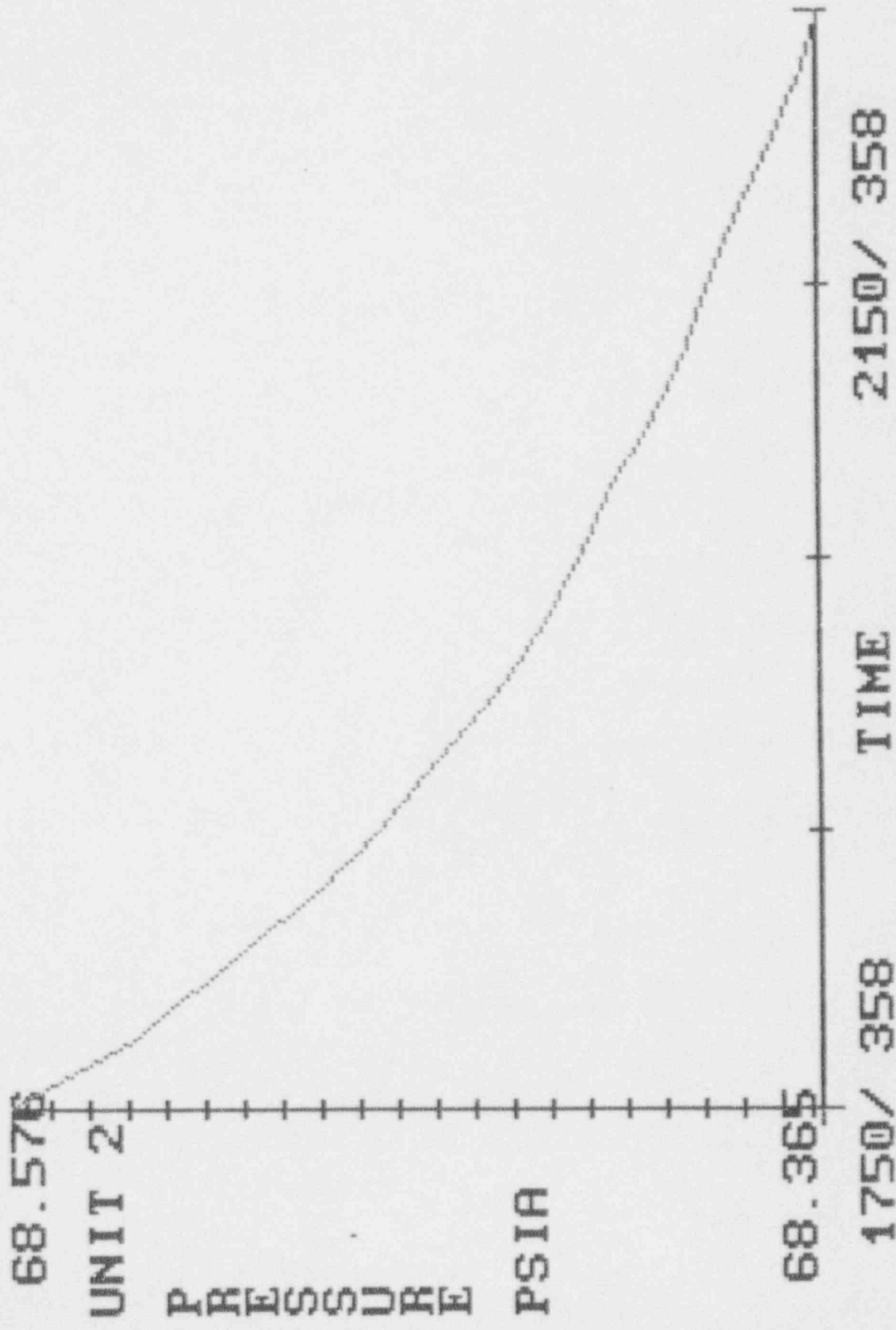
LEAKAGE RATE SUMMARY UNIT 2						
		TOTAL TIME			MASS/POINT	
DATE	TIME	TTLM	LMCALC	SL	LAM	L95
358	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
358	0.25	-0.1124	0.0000	0.0000	0.0000	0.0000
358	0.50	-0.0881	-0.0881	0.0000	-0.0875	0.0306
358	0.75	0.0906	0.0649	0.6757	0.0762	0.3541
358	1.00	0.0427	0.0798	0.4084	0.0731	0.2015
358	1.25	0.0529	0.0895	0.3335	0.0756	0.1519
358	1.50	0.0854	0.1093	0.3021	0.0951	0.1507
358	1.75	0.1210	0.1356	0.2957	0.1226	0.1735
358	2.00	0.1159	0.1484	0.2948	0.1330	0.1730
358	2.25	0.1050	0.1516	0.2949	0.1316	0.1630
358	2.50	0.1339	0.1628	0.2964	0.1430	0.1710
358	2.75	0.1428	0.1728	0.2992	0.1529	0.1781
358	3.00	0.1482	0.1811	0.3023	0.1611	0.1837
358	3.25	0.1456	0.1860	0.3047	0.1647	0.1843
358	3.50	0.1794	0.1980	0.3108	0.1784	0.2003
358	3.75	0.1849	0.2082	0.3165	0.1895	0.2116
358	4.00	0.1734	0.2133	0.3203	0.1935	0.2133

STABLE MODE

Page 1

AVERAGE DATA VALUES						
DATE	TIME	RTD	DEW PT.	VAP PRESS	DRY PRESS	MASS
358	0.00	72.744	65.412	0.310	68.576	667499.50
358	0.25	72.507	65.313	0.309	68.546	667507.31
358	0.50	72.327	65.284	0.308	68.523	667511.69
358	0.75	72.176	65.331	0.309	68.501	667480.50
358	1.00	72.031	65.259	0.308	68.483	667487.63
358	1.25	71.912	65.218	0.308	68.467	667481.00
358	1.50	71.804	65.265	0.308	68.451	667443.88
358	1.75	71.726	65.190	0.307	68.439	667440.50
358	2.00	71.653	65.106	0.307	68.429	667434.88
358	2.25	71.588	65.007	0.306	68.420	667433.69
358	2.50	71.530	65.086	0.306	68.410	667406.31
358	2.75	71.476	65.025	0.306	68.401	667390.19
358	3.00	71.430	64.938	0.305	68.394	667375.81
358	3.25	71.382	64.875	0.304	68.387	667367.88
358	3.50	71.347	64.936	0.305	68.378	667324.81
358	3.75	71.306	64.973	0.305	68.371	667306.69
358	4.00	71.260	64.839	0.304	68.365	667306.50





7.813

UNIT 2

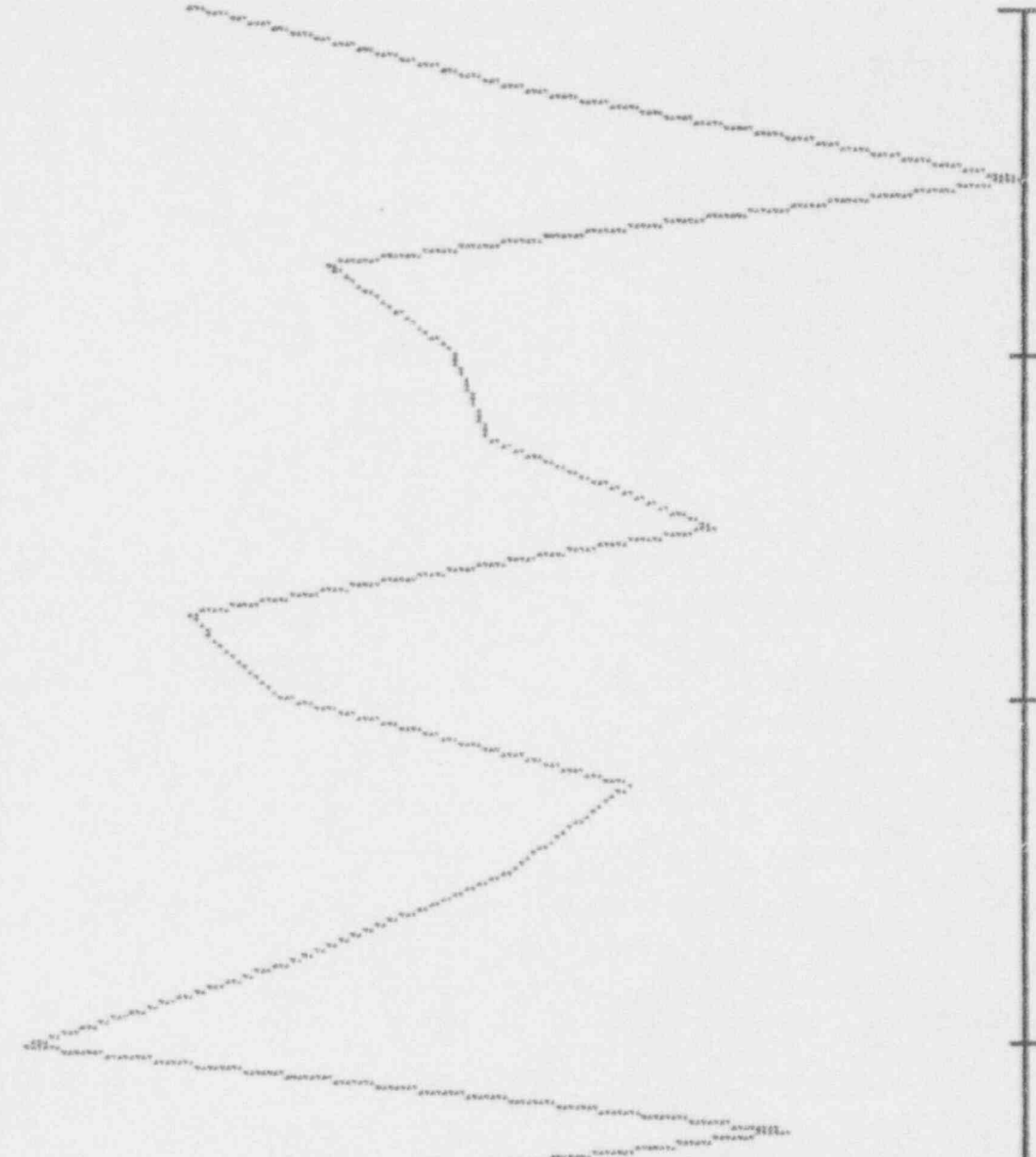
DIFF MASS
lbm

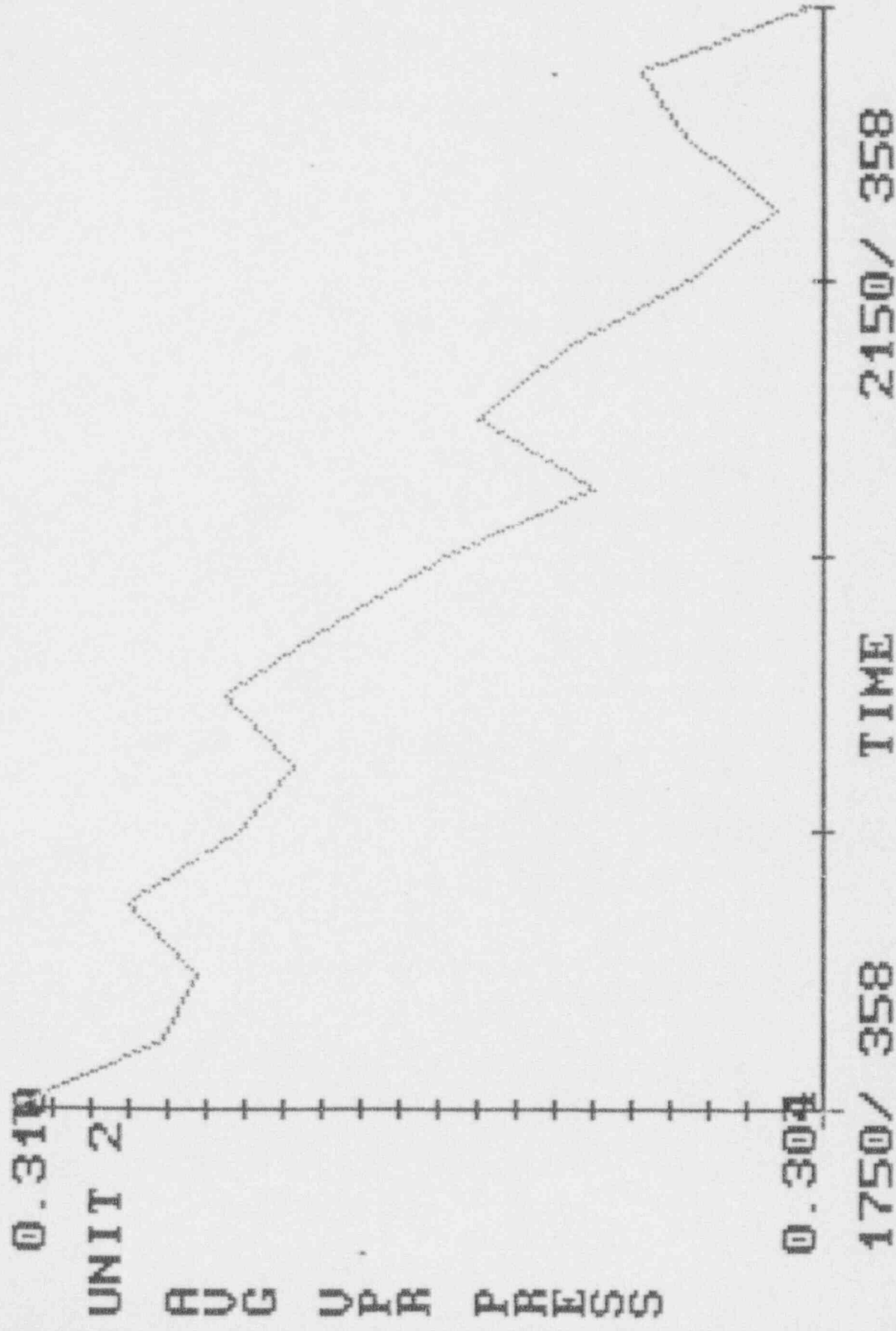
-43.063

1750/ 358

TIME

2150/ 358





APPENDIX B
ILRT TEST DATA AND PLOTS

TEST MODE

PLEASE SELECT THE OPTION
YOU WISH TO USE:

TEST DATA 0551

- 1 - MANUAL DATA ENTRY
- 2 - PARAMETER GRAPHS
- 3 - SENSOR PLOTS
- 4 - TREND ANALYSIS
- 5 - REPRINT CURRENT DATA PT
- 6 - SENSOR DIFFERENTIALS

OF DATA POINTS = 34
MODE DURATION (IN HOURS) = 8.00
TOT TIME MEASURED LEAK = 0.2051
TOT TIME CALCULATED LEAK = 0.1969
TOT TIME 95% UCL = 0.2565
MASS POINT LEAK = 0.2043
MASS POINT 35% UCL = 0.2088
75% La = .375
MASS = 666594.81

P - PASS WORD MENU

SELECTED OPTION=

POINT SUMMARY: CURRENT VALUE/DIFFERENCE FROM PREVIOUS POINT

AVG TEMP:	70.658 / -0.001	AVG PRESS:	68.215 / +0.000
MASS:	666594.81 / +3.438	AVG DEW PRESS:	0.2973 / -0.0000
		TOTAL PRESS:	68.512 / +0.000

LEAKAGE RATE SUMMARY UNIT 2						
		TOTAL TIME			MASS/POINT	
DATE	TIME	TTLM	LMCALC	SL	LAM	L95
358	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
358	0.23	0.4036	0.0000	0.0000	0.0000	0.0000
358	0.48	0.2364	0.2364	0.0000	0.2361	1.0300
358	0.73	0.2503	0.2201	0.9365	0.2330	0.3535
358	0.98	0.2824	0.2407	0.6175	0.2619	0.3294
358	1.23	0.2519	0.2334	0.4797	0.2503	0.2923
358	1.48	0.2342	0.2216	0.4096	0.2360	0.2688
358	1.73	0.2333	0.2153	0.3728	0.2287	0.2535
358	1.98	0.2216	0.2072	0.3442	0.2194	0.2406
359	2.23	0.2282	0.2050	0.3299	0.2182	0.2348
359	2.48	0.2386	0.2076	0.3260	0.2225	0.2366
359	2.73	0.2302	0.2071	0.3182	0.2223	0.2339
359	2.98	0.2285	0.2066	0.3116	0.2217	0.2315
359	3.23	0.2351	0.2083	0.3093	0.2238	0.2324
359	3.48	0.2198	0.2059	0.3016	0.2205	0.2288
359	3.73	0.2220	0.2047	0.2963	0.2187	0.2261
359	3.98	0.2266	0.2049	0.2935	0.2192	0.2257
359	4.23	0.2407	0.2083	0.2957	0.2236	0.2309
359	4.48	0.2319	0.2094	0.2945	0.2247	0.2313
359	4.73	0.2260	0.2092	0.2917	0.2240	0.2300
359	4.98	0.2295	0.2098	0.2902	0.2244	0.2298
359	5.23	0.2136	0.2075	0.2853	0.2207	0.2268
359	5.48	0.2186	0.2066	0.2822	0.2191	0.2248
359	5.73	0.2149	0.2052	0.2787	0.2168	0.2225
359	5.98	0.2226	0.2052	0.2773	0.2172	0.2225
359	6.23	0.2184	0.2047	0.2751	0.2165	0.2214
359	6.48	0.2104	0.2031	0.2719	0.2143	0.2194
359	6.73	0.2132	0.2022	0.2694	0.2131	0.2179
359	6.98	0.2090	0.2009	0.2666	0.2112	0.2161
359	7.23	0.2057	0.1993	0.2636	0.2091	0.2141
359	7.48	0.2097	0.1984	0.2616	0.2083	0.2131
359	7.73	0.2043	0.1970	0.2590	0.2066	0.2114
359	7.98	0.2070	0.1961	0.2570	0.2055	0.2101
359	8.00	0.2051	0.1969	0.2565	0.2043	0.2088

LEAKAGE RATE TREND UNIT 2						
		TOTAL TIME			MASS/POINT	
DATE	TIME	TTLM	LMCALC	CHANGE	LAM	CHANGE
358	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
358	0.23	0.4036	0.0000	0.0000	0.0000	0.0000
358	0.48	0.2364	0.2364	0.2364	0.2361	0.2361
358	0.73	0.2503	0.2201	-0.0163	0.2330	-0.0031
358	0.98	0.2824	0.2407	0.0206	0.2619	0.0290
358	1.23	0.2519	0.2334	-0.0073	0.2503	-0.0116
358	1.48	0.2342	0.2216	-0.0118	0.2360	-0.0144
358	1.73	0.2333	0.2153	-0.0063	0.2287	-0.0073
358	1.98	0.2216	0.2072	-0.0081	0.2194	-0.0093
359	2.23	0.2282	0.2050	-0.0022	0.2182	-0.0012
359	2.48	0.2386	0.2076	0.0026	0.2225	0.0043
359	2.73	0.2302	0.2071	-0.0004	0.2223	-0.0002
359	2.98	0.2285	0.2066	-0.0005	0.2217	-0.0006
359	3.23	0.2351	0.2083	0.0017	0.2238	0.0021
359	3.48	0.2198	0.2059	-0.0024	0.2205	-0.0033
359	3.73	0.2220	0.2047	-0.0012	0.2187	-0.0018
359	3.98	0.2266	0.2049	0.0002	0.2192	0.0004
359	4.23	0.2407	0.2083	0.0034	0.2236	0.0044
359	4.48	0.2319	0.2094	0.0011	0.2247	0.0011
359	4.73	0.2260	0.2092	-0.0002	0.2240	-0.0007
359	4.98	0.2295	0.2098	0.0006	0.2244	0.0004
359	5.23	0.2136	0.2075	-0.0022	0.2207	-0.0037
359	5.48	0.2186	0.2066	-0.0010	0.2191	-0.0016
359	5.73	0.2149	0.2052	-0.0014	0.2168	-0.0023
359	5.98	0.2226	0.2052	0.0001	0.2172	0.0004
359	6.23	0.2184	0.2047	-0.0005	0.2165	-0.0007
359	6.48	0.2104	0.2031	-0.0016	0.2143	-0.0022
359	6.73	0.2132	0.2022	-0.0009	0.2131	-0.0012
359	6.98	0.2090	0.2009	-0.0013	0.2112	-0.0019
359	7.23	0.2057	0.1993	-0.0016	0.2091	-0.0021
359	7.48	0.2097	0.1984	-0.0009	0.2083	-0.0008
359	7.73	0.2043	0.1970	-0.0014	0.2066	-0.0017
359	7.98	0.2070	0.1961	-0.0009	0.2055	-0.0011
359	8.00	0.2051	0.1969	0.0008	0.2043	-0.0013

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : TEST
 DATE : 358
 TIME : 21:51

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6495	2	+68.6617

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.090	2	+68.680	3	+66.930
4	+71.760	5	+72.720	6	+73.080
7	+68.850	8	+69.710	9	+69.870
10	+68.800	11	+74.260	12	+70.590
13	+71.380	14	+68.770	15	+73.660
16	+73.150	17	+72.460	18	+72.360

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.070	2	+140.020
3	+141.680	4	+142.190

AVERAGE TEMPERATURE = +71.4608 DEG. F
 AVERAGE PRESSURE = +68.6681 PSIA
 MASS = +667050.69 LBM
 AVG DEW POINT TEMP = +64.8160 DEG. F
 AVG VAPOR PRESSURE = +0.3035 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : TEST
 DATE : 358
 TIME : 22:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6433	2	+68.6550

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.080	2	+68.650	3	+66.910
4	+71.730	5	+72.700	6	+73.040
7	+68.830	8	+69.700	9	+69.830
10	+68.780	11	+74.190	12	+70.960
13	+71.360	14	+68.700	15	+73.630
16	+73.140	17	+72.420	18	+72.340

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.010	2	+140.110
3	+141.640	4	+142.220

AVERAGE TEMPERATURE = +71.4311 DEG. F
 AVERAGE PRESSURE = +68.6616 PSIA
 MASS = +667024.56 LBM
 AVG DEW POINT TEMP = +64.8202 DEG. F
 AVG VAPOR PRESSURE = +0.3035 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : TEST
 DATE : 358
 TIME : 22:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6365	2	+68.6476

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.040	2	+68.620	3	+66.880
4	+71.700	5	+72.660	6	+73.010
7	+68.800	8	+69.670	9	+69.780
10	+68.740	11	+74.110	12	+70.920
13	+71.330	14	+68.640	15	+73.570
16	+73.140	17	+72.400	18	+72.310

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.170	2	+139.960
3	+141.420	4	+141.660

AVERAGE TEMPERATURE = +71.3899 DEG. F
 AVERAGE PRESSURE = +68.6545 PSIA
 MASS = +667018.94 LBM
 AVG DEW POINT TEMP = +64.7050 DEG. F
 AVG VAPOR PRESSURE = +0.3023 PSIA

Milestone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODF : TEST
DATE : 358
TIME : 22:35

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6302	2	+68.6418

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+72.010	2	+68.600	3	+66.860
4	+71.670	5	+72.620	6	+72.970
7	+68.780	8	+69.640	9	+69.730
10	+68.710	11	+74.020	12	+70.910
13	+71.300	14	+68.590	15	+73.540
16	+73.090	17	+72.350	18	+72.280

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.110	2	+140.010
3	+141.550	4	+142.030

AVERAGE TEMPERATURE = +71.3522 DEG. F
AVERAGE PRESSURE = +68.6485 PSIA
MASS = +666999.69 LBM
AVG DEW POINT TEMP = +64.7782 DEG. F
AVG VAPOR PRESSURE = +0.3031 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 358
TIME : 22:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6228	2	+68.6344

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.990	2	+68.570	3	+66.830
4	+71.650	5	+72.590	6	+72.940
7	+68.750	8	+69.630	9	+69.700
10	+68.680	11	+73.940	12	+70.900
13	+71.290	14	+68.520	15	+73.500
16	+73.070	17	+72.410	18	+72.280

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.190	2	+139.930
3	+141.460	4	+141.420

AVERAGE TEMPERATURE = +71.3241 DEG. F
AVERAGE PRESSURE = +68.6411 PSIA
MASS = +666973.56 LBM
AVG DEW POINT TEMP = +64.6731 DEG. F
AVG VAPOR PRESSURE = +0.3020 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 358
TIME : 23:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6178	2	+68.6281

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.970	2	+68.550	3	+66.810
4	+71.620	5	+72.550	6	+72.900
7	+68.740	8	+69.590	9	+69.670
10	+68.660	11	+73.870	12	+70.860
13	+71.250	14	+68.510	15	+73.470
16	+73.010	17	+72.330	18	+72.250

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.080	2	+139.980
3	+141.110	4	+141.680

AVERAGE TEMPERATURE = +71.2896 DEG. F
AVERAGE PRESSURE = +68.6354 PSIA
MASS = +666964.38 LBM
AVG DEW POINT TEMP = +64.6483 DEG. F
AVG VAPOR PRESSURE = +0.3017 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : TEST
 DATE : 358
 TIME : 23:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6106	2	+68.6229

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.940	2	+68.520	3	+66.780
4	+71.600	5	+72.510	6	+72.860
7	+68.710	8	+69.580	9	+69.610
10	+68.620	11	+73.800	12	+70.850
13	+71.230	14	+68.400	15	+73.440
16	+72.980	17	+72.290	18	+72.220

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.030	2	+140.000
3	+141.070	4	+141.490

AVERAGE TEMPERATURE = +71.2528 DEG. F
 AVERAGE PRESSURE = +68.6292 PSIA
 MASS = +666954.19 LBM
 AVG DEW POINT TEMP = +64.6061 DEG. F
 AVG VAPOR PRESSURE = +0.3013 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : TEST
 DATE : 358
 TIME : 23:35

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.6050	2	+68.6163

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.900	2	+68.500	3	+66.750
4	+71.570	5	+72.480	6	+72.830
7	+68.690	8	+69.540	9	+69.580
10	+68.590	11	+73.730	12	+70.840
13	+71.200	14	+68.300	15	+73.410
16	+72.970	17	+72.290	18	+72.200

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.080	2	+139.920
3	+140.970	4	+141.400

AVERAGE TEMPERATURE = +71.2209 DEG. F
 AVERAGE PRESSURE = +68.6231 PSIA
 MASS = +666938.31 LBM
 AVG DEW POINT TEMP = +64.5739 DEG. F
 AVG VAPOR PRESSURE = +0.3009 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : TEST
 DATE : 358
 TIME : 23:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5995	2	+68.6105

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.890	2	+68.470	3	+66.730
4	+71.560	5	+72.440	6	+72.800
7	+68.660	8	+69.530	9	+69.550
10	+68.570	11	+73.660	12	+70.800
13	+71.190	14	+68.240	15	+73.370
16	+72.980	17	+72.250	18	+72.190

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.070	2	+139.940
3	+140.860	4	+140.860

AVERAGE TEMPERATURE = +71.1925 DEG. F
 AVERAGE PRESSURE = +68.6174 PSIA
 MASS = +666928.56 LBM
 AVG DEW POINT TEMP = +64.4782 DEG. F
 AVG VAPOR PRESSURE = +0.2999 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 00:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5940	2	+68.6050

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.860	2	+68.450	3	+66.710
4	+71.540	5	+72.420	6	+72.770
7	+68.650	8	+69.510	9	+69.530
10	+68.540	11	+73.600	12	+70.800
13	+71.170	14	+68.190	15	+73.320
16	+72.930	17	+72.180	18	+72.160

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.030	2	+139.870
3	+140.990	4	+141.070

AVERAGE TEMPERATURE = +71.1628 DEG. F
AVERAGE PRESSURE = +68.6120 PSIA
MASS = +666909.06 LBM
AVG DEW POINT TEMP = +64.5084 DEG. F
AVG VAPOR PRESSURE = +0.3003 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 00:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5882	2	+68.5993

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.840	2	+68.440	3	+66.690
4	+71.540	5	+72.390	6	+72.740
7	+68.640	8	+69.490	9	+69.490
10	+68.530	11	+73.550	12	+70.770
13	+71.150	14	+68.220	15	+73.300
16	+72.950	17	+72.200	18	+72.120

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.030	2	+139.920
3	+140.620	4	+141.270

AVERAGE TEMPERATURE = +71.1377 DEG. F
AVERAGE PRESSURE = +68.6062 PSIA
MASS = +666886.06 LBM
AVG DEW POINT TEMP = +64.4923 DEG. F
AVG VAPOR PRESSURE = +0.3001 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 00:35

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5830	2	+68.5942

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.820	2	+68.420	3	+66.670
4	+71.510	5	+72.360	6	+72.720
7	+68.620	8	+69.470	9	+69.460
10	+68.500	11	+73.490	12	+70.750
13	+71.130	14	+68.230	15	+73.260
16	+72.940	17	+72.160	18	+72.100

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.960	2	+139.860
3	+140.840	4	+140.940

AVERAGE TEMPERATURE = +71.1092 DEG. F
AVERAGE PRESSURE = +68.6011 PSIA
MASS = +666875.81 LBM
AVG DEW POINT TEMP = +64.4512 DEG. F
AVG VAPOR PRESSURE = +0.2997 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 00:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5778	2	+68.5901

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.300	2	+68.400	3	+66.650
4	+71.520	5	+72.320	6	+72.690
7	+68.600	8	+69.450	9	+69.430
10	+68.480	11	+73.430	12	+70.740
13	+71.110	14	+68.260	15	+73.240
16	+72.530	17	+72.150	18	+72.100

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.000	2	+139.870
3	+140.670	4	+140.960

AVERAGE TEMPERATURE = +71.0857 DEG. F
AVERAGE PRESSURE = +68.5964 PSIA
MASS = +666861.25 LBM
AVG DEW POINT TEMP = +64.4382 DEG. F
AVG VAPOR PRESSURE = +0.2995 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 01:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5734	2	+68.5837

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.780	2	+68.380	3	+66.630
4	+71.520	5	+72.290	6	+72.650
7	+68.570	8	+69.440	9	+69.390
10	+68.450	11	+73.370	12	+70.730
13	+71.080	14	+68.270	15	+73.220
16	+72.930	17	+72.130	18	+72.070

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+140.010	2	+139.810
3	+140.890	4	+141.150

AVERAGE TEMPERATURE = +71.0370 DEG. F
AVERAGE PRESSURE = +68.5910 PSIA
MASS = +666839.44 LPM
AVG DEW POINT TEMP = +64.4887 DEG. F
AVG VAPOR PRESSURE = +0.3000 PSIA

Millstone 2

INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 01:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5679	2	+68.5792

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.760	2	+68.360	3	+66.610
4	+71.510	5	+72.260	6	+72.630
7	+68.570	8	+69.410	9	+69.370
10	+68.440	11	+73.330	12	+70.720
13	+71.080	14	+68.310	15	+73.180
16	+72.880	17	+72.110	18	+72.030

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.910	2	+139.850
3	+140.460	4	+140.520

AVERAGE TEMPERATURE = +71.0331 DEG. F
AVERAGE PRESSURE = +68.5860 PSIA
MASS = +666837.94 LBM
AVG DEW POINT TEMP = +64.3198 DEG. F
AVG VAPOR PRESSURE = +0.2983 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 01:35

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5628	2	+68.5744

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.740	2	+68.340	3	+66.600
4	+71.500	5	+72.240	6	+72.610
7	+68.550	8	+69.410	9	+69.340
10	+68.410	11	+73.260	12	+70.700
13	+71.060	14	+68.340	15	+73.150
16	+72.860	17	+72.050	18	+72.030

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.890	2	+139.810
3	+140.420	4	+140.620

AVERAGE TEMPERATURE = +71.0087 DEG. F
AVERAGE PRESSURE = +68.5810 PSIA
MASS = +666820.38 LEM
AVG DEW POINT TEMP = +64.3174 DEG. F
AVG VAPOR PRESSURE = +0.2983 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : TEST
 DATE : 359
 TIME : 01:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5584	2	+68.5700

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.710	2	+68.320	3	+66.570
4	+71.490	5	+72.210	6	+72.580
7	+68.530	8	+69.380	9	+69.310
10	+68.390	11	+73.220	12	+70.680
13	+71.040	14	+68.400	15	+73.130
16	+72.810	17	+72.040	18	+72.030

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.940	2	+139.860
3	+140.380	4	+141.090

AVERAGE TEMPERATURE = +70.9841 DEG. F
 AVERAGE PRESSURE = +68.5766 PSIA
 MASS = +666799.81 LEM
 AVG DEW POINT TEMP = +64.4009 DEG. F
 AVG VAPOR PRESSURE = +0.2991 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 02:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5537	2	+68.5652

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.700	2	+68.310	3	+66.550
4	+71.480	5	+72.190	6	+72.560
7	+68.520	8	+69.360	9	+69.300
10	+68.370	11	+73.210	12	+70.670
13	+71.030	14	+68.500	15	+73.120
16	+72.860	17	+72.040	18	+72.010

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.940	2	+139.800
3	+140.530	4	+141.180

AVERAGE TEMPERATURE = +70.9709 DEG. F
AVERAGE PRESSURE = +68.5719 PSIA
MASS = +666767.56 LBM
AVG DEW POINT TEMP = +64.4256 DEG. F
AVG VAPOR PRESSURE = +0.2994 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 02:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5489	2	+68.5616

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.680	2	+68.300	3	+66.530
4	+71.460	5	+72.150	6	+72.520
7	+68.500	8	+69.340	9	+69.260
10	+68.350	11	+73.160	12	+70.650
13	+71.010	14	+68.560	15	+73.100
16	+72.850	17	+72.030	18	+71.960

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.970	2	+139.790
3	+140.990	4	+140.860

AVERAGE TEMPERATURE = +70.9408 DEG. F
AVERAGE PRESSURE = +68.5677 PSIA
MASS = +666761.69 LPM
AVG DEW POINT TEMP = +64.4503 DEG. F
AVG VAPOR PRESSURE = +0.2996 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 02:35

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5446	2	+68.5569

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.650	2	+68.270	3	+66.520
4	+71.440	5	+72.120	6	+72.500
7	+68.480	8	+69.340	9	+69.240
10	+68.330	11	+73.090	12	+70.620
13	+71.000	14	+68.680	15	+73.060
16	+72.820	17	+72.040	18	+71.950

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.930	2	+139.730
3	+141.060	4	+140.720

AVERAGE TEMPERATURE = +70.9149 DEG. F
AVERAGE PRESSURE = +68.5632 PSIA
MASS = +666753.44 LBM
AVG DEW POINT TEMP = +64.4209 DEG. F
AVG VAPOR PRESSURE = +0.2993 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : TEST
 DATE : 359
 TIME : 02:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5402	2	+68.5516

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.640	2	+68.260	3	+66.500
4	+71.430	5	+72.110	6	+72.480
7	+68.480	8	+69.320	9	+69.200
10	+68.320	11	+73.040	12	+70.610
13	+71.010	14	+68.800	15	+73.030
16	+72.810	17	+71.990	18	+71.940

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.860	2	+139.830
3	+140.840	4	+140.740

AVERAGE TEMPERATURE = +70.8954 DEG. F
 AVERAGE PRESSURE = +68.5583 PSIA
 MASS = +666732.94 LBM
 AVG DEW POINT TEMP = +64.3966 DEG. F
 AVG VAPOR PRESSURE = +0.2991 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 03:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5360	2	+68.5476

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.620	2	+68.250	3	+66.490
4	+71.420	5	+72.080	6	+72.450
7	+68.460	8	+69.310	9	+69.180
10	+68.300	11	+72.980	12	+70.590
13	+70.970	14	+68.980	15	+73.020
16	+72.790	17	+71.990	18	+71.930

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.970	2	+139.720
3	+139.920	4	+140.440

AVERAGE TEMPERATURE = +70.8728 DEG. F
AVERAGE PRESSURE = +68.5542 PSIA
MASS = +666740.06 LBM
AVG DEW POINT TEMP = +64.2135 DEG. F
AVG VAPOR PRESSURE = +0.2972 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : TEST
 DATE : 359
 TIME : 03:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5318	2	+68.5442

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.600	2	+68.240	3	+66.470
4	+71.400	5	+72.040	6	+72.430
7	+68.450	8	+69.310	9	+69.130
10	+68.280	11	+72.930	12	+70.590
13	+70.980	14	+68.910	15	+72.980
16	+72.780	17	+71.990	18	+71.890

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.700	2	+139.780
3	+140.480	4	+141.400

AVERAGE TEMPERATURE = +70.8458 DEG. F
 AVERAGE PRESSURE = +68.5504 PSIA
 MASS = +666717.56 LBM
 AVG DEW POINT TEMP = +64.4018 DEG. F
 AVG VAPOR PRESSURE = +0.2991 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : TEST
 DATE : 359
 TIME : 03:35

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5277	2	+68.5397

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.580	2	+68.220	3	+66.460
4	+71.390	5	+72.030	6	+72.410
7	+68.440	8	+69.270	9	+69.120
10	+68.260	11	+72.890	12	+70.570
13	+70.940	14	+69.000	15	+72.950
16	+72.760	17	+71.940	18	+71.890

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.900	2	+139.720
3	+140.070	4	+141.180

AVERAGE TEMPERATURE = +70.8253 DEG. F
 AVERAGE PRESSURE = +68.5461 PSIA
 MASS = +666708.25 LBM
 AVG DEW POINT TEMP = +64.3338 DEG. F
 AVG VAPOR PRESSURE = +0.2984 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : TEST
 DATE : 359
 TIME : 03:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5231	2	+68.5347

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.570	2	+68.210	3	+66.440
4	+71.380	5	+72.010	6	+72.390
7	+68.430	8	+69.260	9	+69.070
10	+68.250	11	+72.860	12	+70.560
13	+70.930	14	+69.070	15	+72.940
16	+72.760	17	+71.900	18	+71.870

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.830	2	+139.780
3	+140.560	4	+140.940

AVERAGE TEMPERATURE = +70.8072 DEG. F
 AVERAGE PRESSURE = +68.5413 PSIA
 MASS = +666680.56 LBM
 AVG DEW POINT TEMP = +64.3694 DEG. F
 AVG VAPOR PRESSURE = +0.2988 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 04:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5198	2	+68.5313

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.550	2	+68.190	3	+66.430
4	+71.360	5	+71.990	6	+72.370
7	+68.400	8	+69.250	9	+69.060
10	+68.230	11	+72.820	12	+70.540
13	+70.910	14	+69.110	15	+72.910
16	+72.740	17	+71.910	18	+71.860

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.820	2	+139.730
3	+140.290	4	+141.320

AVERAGE TEMPERATURE = +70.7873 DEG. F
AVERAGE PRESSURE = +68.5380 PSIA
MASS = +666672.38 LRM
AVG DEW POINT TEMP = +64.3745 DEG. F
AVG VAPOR PRESSURE = +0.2989 PSIA

Millstone 2

INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 04:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5159	2	+68.5265

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.530	2	+68.180	3	+66.420
4	+71.350	5	+71.960	6	+72.340
7	+68.400	8	+69.240	9	+69.040
10	+68.210	11	+72.780	12	+70.540
13	+70.900	14	+69.160	15	+72.890
16	+72.700	17	+71.880	18	+71.830

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.840	2	+139.690
3	+140.050	4	+140.600

AVERAGE TEMPERATURE = +70.7660 DEG. F
AVERAGE PRESSURE = +68.5336 PSIA
MASS = +666671.65 LBM
AVG DEW POINT TEMP = +64.2267 DEG. F
AVG VAPOR PRESSURE = +0.2973 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 04:35

Pressure Instruments in PSIA

<u>channel</u>	<u>pressure</u>	<u>channel</u>	<u>pressure</u>
1	+68.5114	2	+68.5233

RTDs in degrees F

<u>channel</u>	<u>temp.</u>	<u>channel</u>	<u>temp.</u>	<u>channel</u>	<u>temp.</u>
1	+71.520	2	+68.170	3	+66.400
4	+71.330	5	+71.940	6	+72.320
7	+68.380	8	+69.230	9	+69.010
10	+68.200	11	+72.740	12	+70.530
13	+70.900	14	+69.220	15	+72.860
16	+72.710	17	+71.870	18	+71.830

Dew Cell temperatures in degrees F

<u>channel</u>	<u>cell temp</u>	<u>channel</u>	<u>cell temp</u>
1	+139.760	2	+139.720
3	+140.190	4	+140.840

AVERAGE TEMPERATURE = +70.7481 DEG. F
AVERAGE PRESSURE = +68.5298 PSIA
MASS = +666651.75 LBM
AVG DEW POINT TEMP = +64.2742 DEG. F
AVG VAPOR PRESSURE = +0.2978 PSIA

Millston: 2

INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 04:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5080	2	+68.5201

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.500	2	+68.150	3	+66.390
4	+71.320	5	+71.920	6	+72.300
7	+68.370	8	+69.210	9	+68.980
10	+68.190	11	+72.700	12	+70.530
13	+70.880	14	+69.270	15	+72.840
16	+72.670	17	+71.840	18	+71.790

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.730	2	+139.750
3	+140.580	4	+140.590

AVERAGE TEMPERATURE = +70.7260 DEG. F
AVERAGE PRESSURE = +68.5265 PSIA
MASS = +666645.06 LBM
AVG DEW POINT TEMP = +64.2952 DEG. F
AVG VAPOR PRESSURE = +0.2980 PSIA

Millstone 2

INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 05:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5050	2	+68.5158

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.490	2	+68.140	3	+66.380
4	+71.310	5	+71.900	6	+72.280
7	+68.370	8	+69.200	9	+68.970
10	+68.170	11	+72.670	12	+70.500
13	+70.860	14	+69.320	15	+72.830
16	+72.650	17	+71.800	18	+71.780

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.720	2	+139.610
3	+140.260	4	+140.580

AVERAGE TEMPERATURE = +70.7102 DEG. F
AVERAGE PRESSURE = +68.5228 PSIA
MASS = +666637.13 LHM
AVG DEW POINT TEMP = +64.2173 DEG. F
AVG VAPOR PRESSURE = +0.2972 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 05:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.5007	2	+68.5125

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.470	2	+68.140	3	+66.370
4	+71.300	5	+71.880	6	+72.260
7	+68.350	8	+69.190	9	+68.950
10	+68.160	11	+72.620	12	+70.500
13	+70.860	14	+69.350	15	+72.800
16	+72.690	17	+71.780	18	+71.780

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.820	2	+139.660
3	+140.060	4	+141.020

AVERAGE TEMPERATURE = +70.6935 DEG. F
AVERAGE PRESSURE = +68.5190 PSIA
MASS = +666614.50 LBM
AVG DEW POINT TEMP = +64.2817 DEG. F
AVG VAPOR PRESSURE = +0.2979 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : TEST
 DATE : 359
 TIME : 05:35

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.4976	2	+68.5087

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.460	2	+68.120	3	+66.360
4	+71.290	5	+71.870	6	+72.250
7	+68.340	8	+69.180	9	+68.920
10	+68.140	11	+72.600	12	+70.490
13	+70.860	14	+69.350	15	+72.790
16	+72.670	17	+71.770	18	+71.770

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.620	2	+139.760
3	+139.670	4	+140.620

AVERAGE TEMPERATURE = +70.6801 DEG. F
 AVERAGE PRESSURE = +68.5156 PSIA
 MASS = +666611.63 LHM
 AVG DEW POINT TEMP = +64.1442 DEG. F
 AVG VAPOR PRESSURE = +0.2965 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 1 59
TIME : 6:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.4936	2	+68.5046

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.440	2	+68.110	3	+66.350
4	+71.280	5	+71.840	6	+72.230
7	+68.330	8	+69.170	9	+68.920
10	+68.130	11	+72.560	12	+70.460
13	+70.830	14	+69.380	15	+72.760
16	+72.620	17	+71.780	18	+71.730

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.680	2	+139.700
3	+139.740	4	+141.070

AVERAGE TEMPERATURE = +70.6584 DEG. F
AVERAGE PRESSURE = +68.5115 PSIA
MASS = +666591.38 LBM
AVG DEW POINT TEMP = +64.2223 DEG. F
AVG VAPOR PRESSURE = +0.2973 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : TEST
DATE : 359
TIME : 05:51

Pressure Instruments in PSIA

<u>channel</u>	<u>pressure</u>	<u>channel</u>	<u>pressure</u>
1	+68.4939	2	+68.5048

RTDs in degrees F

<u>channel</u>	<u>temp.</u>	<u>channel</u>	<u>temp.</u>	<u>channel</u>	<u>temp.</u>
1	+71.440	2	+68.110	3	+66.350
4	+71.280	5	+71.840	6	+72.230
7	+68.330	8	+69.180	9	+68.920
10	+68.130	11	+72.550	12	+70.460
13	+70.830	14	+69.400	15	+72.760
16	+72.620	17	+71.780	18	+71.730

Dew Cell temperatures in degrees F

<u>channel</u>	<u>cell temp</u>	<u>channel</u>	<u>cell temp</u>
1	+139.680	2	+139.700
3	+140.020	4	+140.780

AVERAGE TEMPERATURE = +70.6577 DEG. F
AVERAGE PRESSURE = +68.5118 PSIA
MASS = +666594.81 LPM
AVG DEW POINT TEMP = +64.2208 DEG. F
AVG VAPOR PRESSURE = +0.2973 PSIA

AVERAGE DATA VALUES						
DATE	TIME	RTD	DEW PT.	VAP PRESS	DRY PRESS	MASS
358	0.00	71.461	64.816	0.303	68.365	667050.69
358	0.23	71.431	64.820	0.304	68.358	667024.63
358	0.48	71.390	64.705	0.302	68.352	667018.88
358	0.73	71.352	64.778	0.303	68.345	666999.69
358	0.98	71.324	64.673	0.302	68.339	666973.63
358	1.23	71.290	64.648	0.302	68.334	666964.38
358	1.48	71.253	64.608	0.301	68.328	666954.19
358	1.73	71.221	64.574	0.301	68.322	666938.31
358	1.98	71.192	64.478	0.300	68.318	666928.63
359	2.23	71.163	64.508	0.300	68.312	666909.13
359	2.48	71.138	64.492	0.300	68.306	666886.13
359	2.73	71.109	64.451	0.300	68.301	666875.81
359	2.98	71.086	64.438	0.300	68.297	666861.31
359	3.23	71.057	64.489	0.300	68.291	666839.38
359	3.48	71.033	64.320	0.298	68.288	666837.88
359	3.73	71.009	64.317	0.298	68.283	666820.38
359	3.98	70.984	64.401	0.299	68.278	666799.81
359	4.23	70.971	64.426	0.299	68.273	666767.63
359	4.48	70.941	64.450	0.300	68.268	666761.69
359	4.73	70.915	64.421	0.299	68.264	666753.38
359	4.98	70.895	64.397	0.299	68.259	666732.88
359	5.23	70.873	64.213	0.297	68.257	666740.13
359	5.48	70.846	64.402	0.299	68.251	666717.63
359	5.73	70.825	64.334	0.298	68.248	666708.31
359	5.98	70.807	64.369	0.299	68.243	666680.63
359	6.23	70.787	64.375	0.299	68.239	666672.38
359	6.48	70.766	64.227	0.297	68.236	666671.69
359	6.73	70.748	64.274	0.298	68.232	666651.81
359	6.98	70.726	64.295	0.298	68.228	666645.13
359	7.23	70.710	64.217	0.297	68.226	666637.13
359	7.48	70.694	64.282	0.298	68.221	666614.50
359	7.73	70.680	64.144	0.296	68.219	666611.63
359	7.98	70.658	64.222	0.297	68.214	666591.38
359	8.00	70.658	64.221	0.297	68.215	666594.81

0.5000

UNIT 2

TOT
TIME
ANAL.

WT%/
DAY

LEGEND
= L

0.0000



2151/ 358

TIME

0551/ 359

0.5000

UNIT 2

MASS
ANAL.

WT%/
DAY

LEGEND
= L

0.0000

2151/ 358

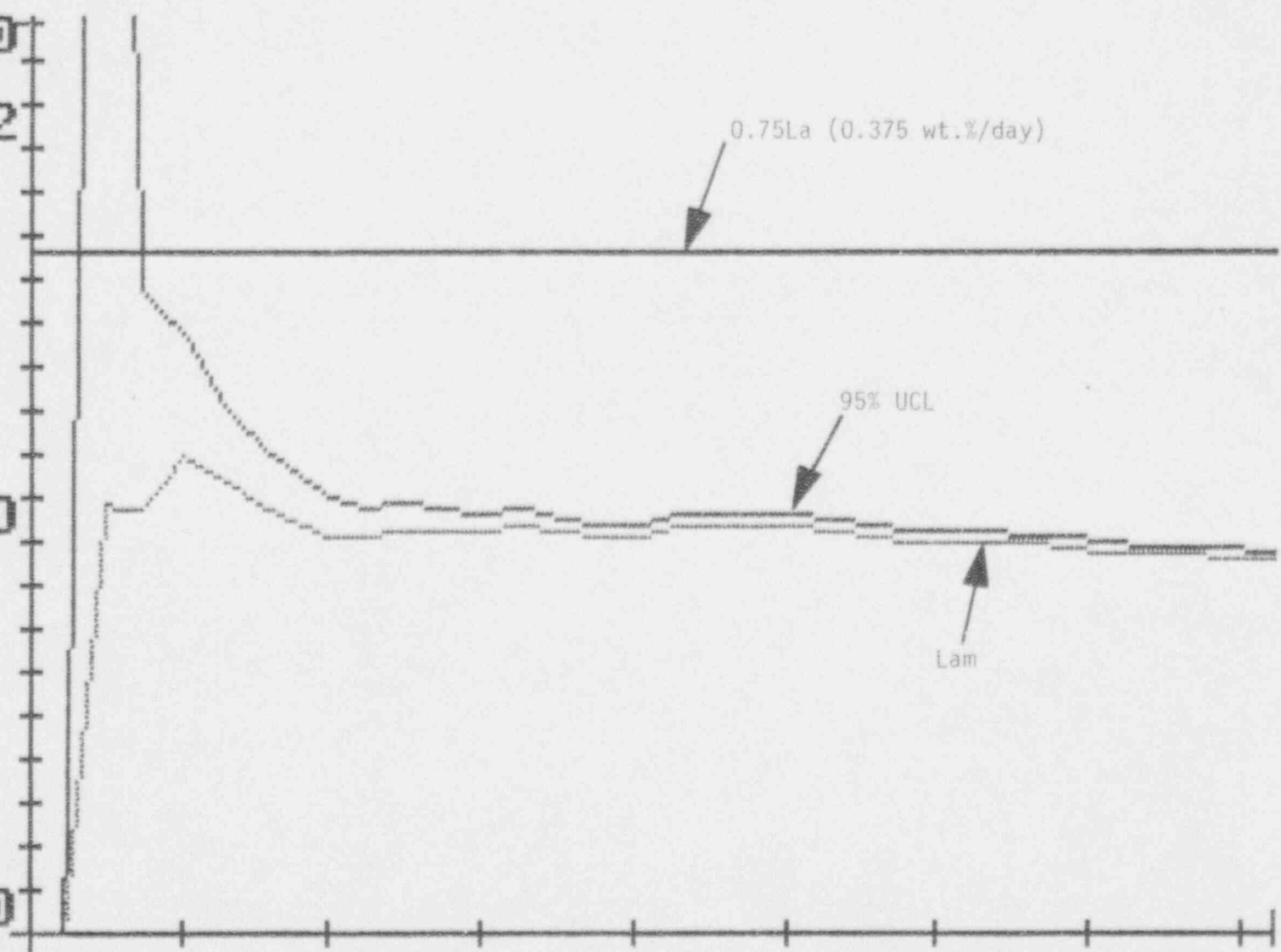
TIME

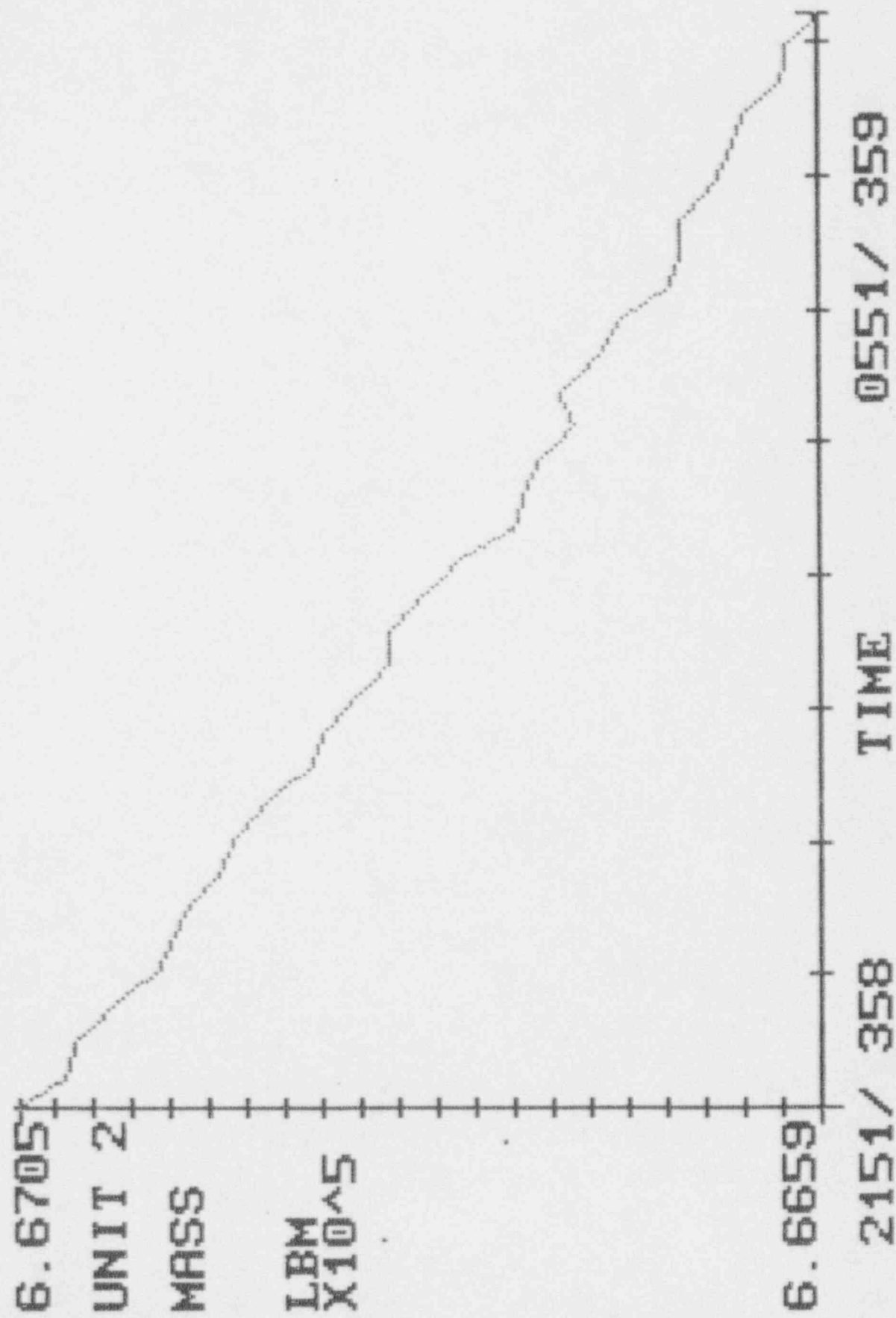
0551/ 359

0.75La (0.375 wt.%/day)

95% UCL

Lam





0.304

2112

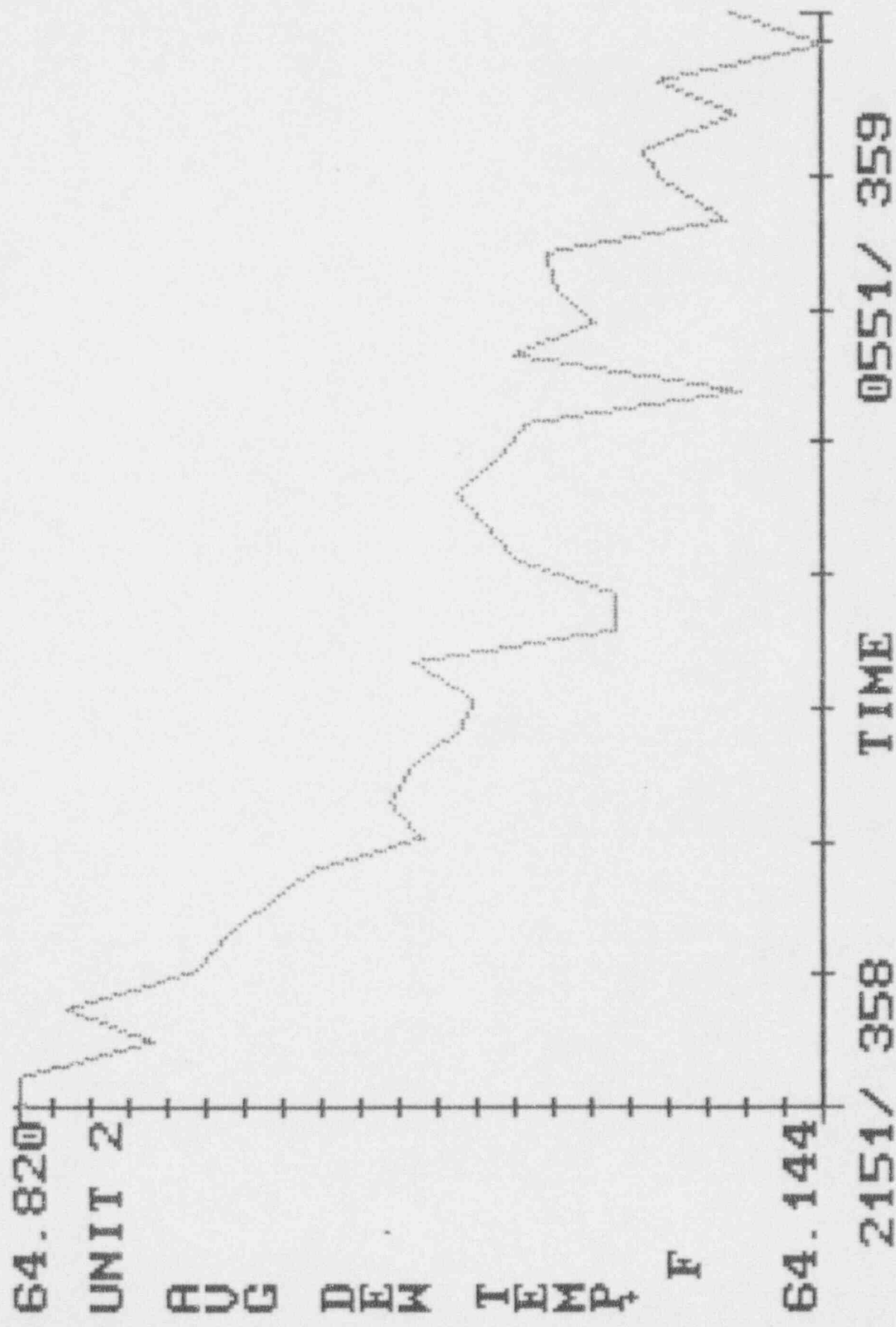
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962.0

2151/ 358

THE

0551 / 359



71.461

UNIT 2

TEMPERATURE

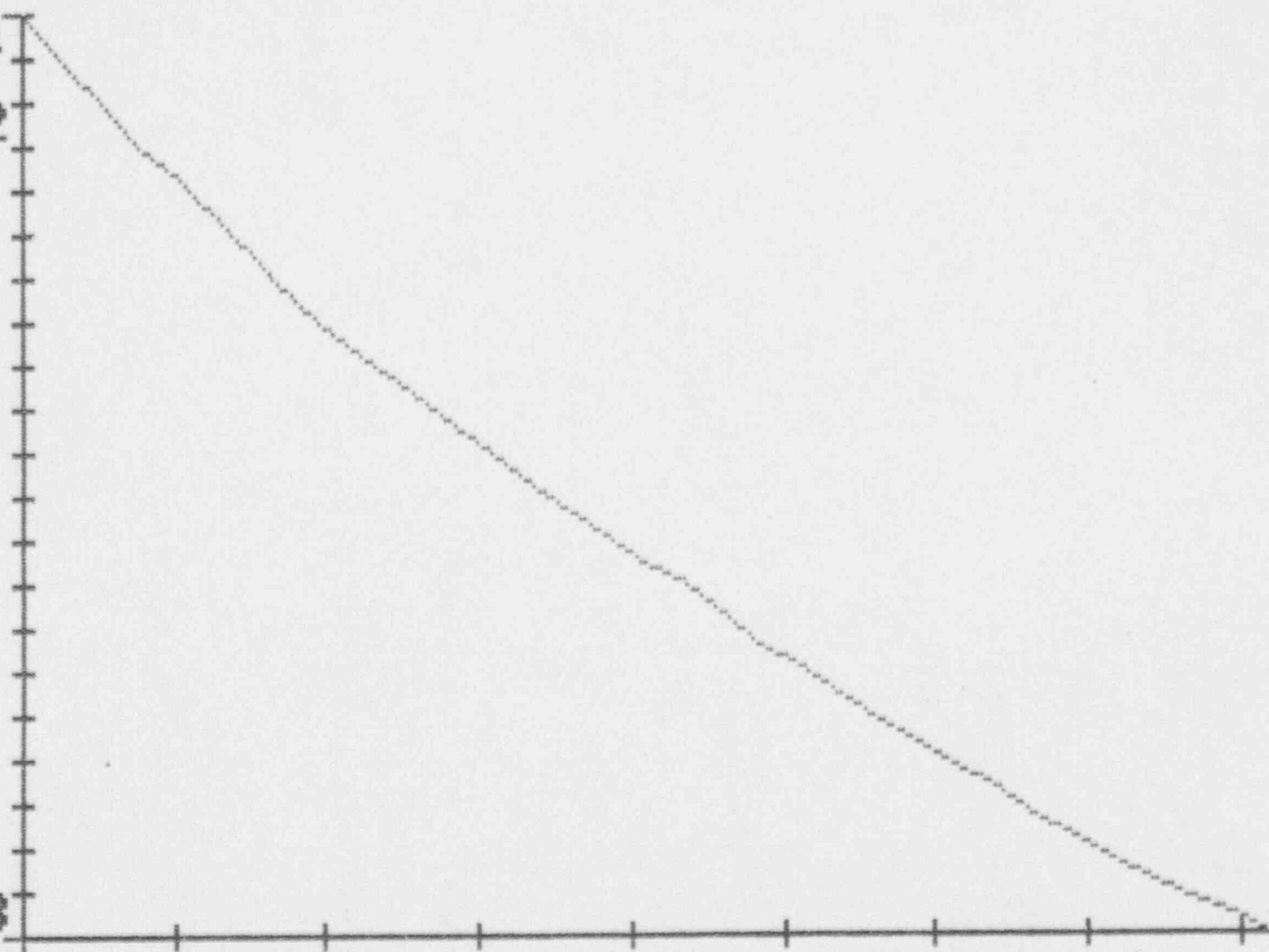
F

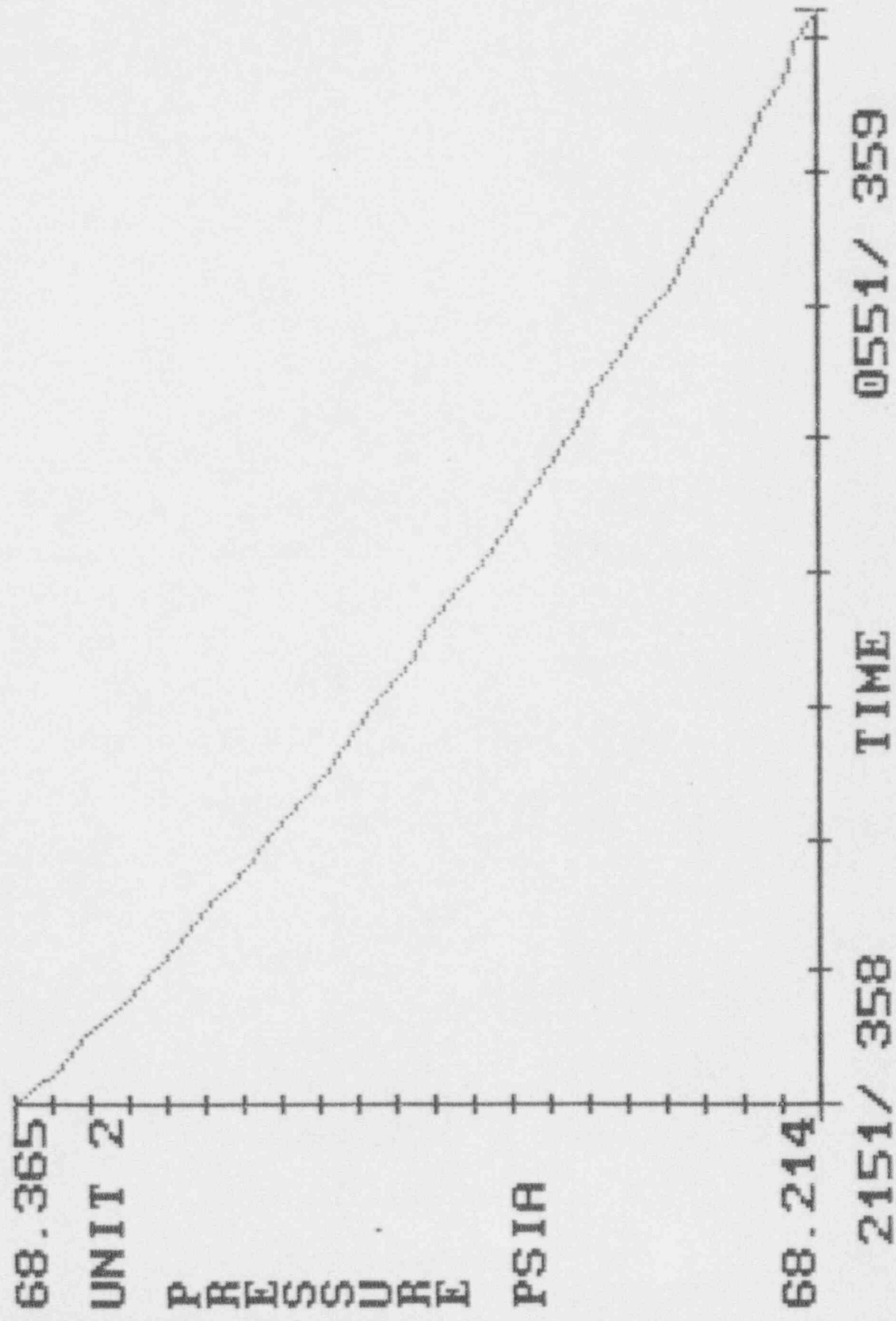
70.658

2151/ 358

TIME

0551/ 359





APPENDIX C
VERIFICATION TEST DATA AND PLOTS

VERIFICATION MODE
OPTIONS:

TIME= 1100
TEST SUMMARY

- 1 - MANUAL DATA ENTRY
- 2 - PARAMETER GRAPHS
- 3 - SENSOR PLOTS
- 4 - TREND ANALYSIS
- 5 - REPRINT CURRENT DATA PT
- 6 - SENSOR DIFFERENTIALS

- P - PASS WORD MENU

OF DATA POINTS = 18
MODE DURATION (IN HOURS) = 4.00
TOT TIME MEASURED LEAK = 0.6537
TOT TIME CALCULATED LEAK = 0.6857
MASS PT LEAK = 0.6699
IMPOSED LEAK = 0.4998
TOT TIME UPPER LIMIT = 0.8217
TOT TIME LOWER LIMIT = 0.5717
MASS PT UPPER LIMIT = 0.8291
MASS PT LOWER LIMIT = 0.5791

SELECTED OPTION =

TOT TIME VERIFICATION CRITERIA HAS BEEN MET

MASS PT VERIFICATION CRITERIA HAS BEEN MET

POINT SUMMARY: CURRENT VALUE/DIFFERENCE FROM PREVIOUS POINT

AVG TEMP: 70.330/ -0.019

AVG PRESS: 68.077 / -0.005

MASS: 665664.44/ -20.750

AVG DEW PRESS: 0.2934/ -0.0024

TOTAL PRESS: 68.371 / -0.007

LEAKAGE RATE SUMMARY UNIT 2						
		TOTAL TIME			MASS/POINT	
DATE	TIME	TTLM	LMCALC	SL	LAM	L95
359	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
359	0.08	0.6894	0.0000	0.0000	0.0000	0.0000
359	0.25	0.6235	0.6235	0.0000	0.6205	0.8353
359	0.33	0.5314	0.5483	0.8448	0.5429	0.6949
359	0.58	0.6411	0.5958	0.9969	0.6223	0.7184
359	0.83	0.6733	0.6430	0.9257	0.6669	0.7303
359	1.00	0.6349	0.6407	0.8488	0.6525	0.6957
359	1.25	0.6779	0.6617	0.8365	0.6716	0.7064
359	1.50	0.7188	0.6928	0.8488	0.7031	0.7420
359	1.75	0.6863	0.6985	0.8372	0.7010	0.7303
359	2.00	0.7085	0.7101	0.8350	0.7104	0.7348
359	2.25	0.6938	0.7125	0.8286	0.7084	0.7280
359	2.50	0.6964	0.7148	0.8237	0.7075	0.7236
359	2.75	0.6643	0.7068	0.8153	0.6944	0.7126
359	3.00	0.6819	0.7053	0.8092	0.6921	0.7078
359	3.25	0.6776	0.7029	0.8032	0.6886	0.7025
359	3.50	0.6528	0.6950	0.7952	0.6785	0.6940
359	3.75	0.6774	0.6941	0.7905	0.6782	0.6918
359	4.00	0.6537	0.6883	0.7834	0.6713	0.6850

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : VERF
 DATE : 359
 TIME : 07:00

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.4612	2	+68.4732

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.360	2	+68.060	3	+66.280
4	+71.220	5	+71.740	6	+72.120
7	+68.280	8	+69.110	9	+68.830
10	+68.060	11	+72.420	12	+70.410
13	+70.770	14	+69.460	15	+72.650
16	+72.550	17	+71.770	18	+71.680

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.470	2	+139.590
3	+140.240	4	+140.530

AVERAGE TEMPERATURE = +70.5754 DEG. F
 AVERAGE PRESSURE = +68.4796 PSIA
 MASS = +666390.50 LHM
 AVG DEW POINT TEMP = +64.1556 DEG. F
 AVG VAPOR PRESSURE = +0.2966 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : VERF
DATE : 359
TIME : 07:05

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.4587	2	+68.4707

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.360	2	+68.050	3	+66.280
4	+71.220	5	+71.730	6	+72.120
7	+68.280	8	+69.120	9	+68.810
10	+68.050	11	+72.410	12	+70.430
13	+70.770	14	+69.470	15	+72.640
16	+72.540	17	+71.720	18	+71.640

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.630	2	+139.610
3	+139.910	4	+140.800

AVERAGE TEMPERATURE = +70.5668 DEG. F
AVERAGE PRESSURE = +68.4771 PSIA
MASS = +666374.50 LBM
AVG DEW POINT TEMP = +64.1807 DEG. F
AVG VAPOR PRESSURE = +0.2968 PSIA

Millstone 2

INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST NODE : VERF
DATE : 359
TIME : 07:15

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.4533	2	+68.4646

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.350	2	+68.050	3	+66.270
4	+71.210	5	+71.710	6	+72.100
7	+68.270	8	+69.100	9	+68.800
10	+68.050	11	+72.380	12	+70.420
13	+70.760	14	+69.490	15	+72.630
16	+72.520	17	+71.690	18	+71.650

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.580	2	+139.630
3	+139.830	4	+139.980

AVERAGE TEMPERATURE = +70.5551 DEG. F
AVERAGE PRESSURE = +68.4714 PSIA
MASS = +666347.19 LBM
AVG DEW POINT TEMP = +64.0400 DEG. F
AVG VAPOR PRESSURE = +0.2954 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : VERF
 DATE : 359
 TIME : 07:20

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.4517	2	+68.4622

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.350	2	+68.040	3	+66.270
4	+71.210	5	+71.710	6	+72.100
7	+68.270	8	+69.110	9	+68.790
10	+68.040	11	+72.370	12	+70.420
13	+70.770	14	+69.500	15	+72.620
16	+72.540	17	+71.650	18	+71.640

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.600	2	+139.690
3	+138.900	4	+140.240

AVERAGE TEMPERATURE = +70.5511 DEG. F
 AVERAGE PRESSURE = +68.4694 PSIA
 MASS = +666341.31 LBS
 AVG DEW POINT TEMP = +63.9546 DEG. F
 AVG VAPOR PRESSURE = +0.2945 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : VERF
DATE : 359
TIME : 07:35

Pressure Instruments in PSIA

<u>channel</u>	<u>pressure</u>	<u>channel</u>	<u>pressure</u>
1	+68.4446	2	+68.4561

RTDs in degrees F

<u>channel</u>	<u>temp.</u>	<u>channel</u>	<u>temp.</u>	<u>channel</u>	<u>temp.</u>
1	+71.320	2	+68.040	3	+66.260
4	+71.190	5	+71.680	6	+72.080
7	+68.260	8	+69.090	9	+68.780
10	+68.030	11	+72.320	12	+70.400
13	+70.750	14	+69.500	15	+72.590
16	+72.510	17	+71.710	18	+71.640

Dew Cell temperatures in degrees F

<u>channel</u>	<u>cell temp</u>	<u>channel</u>	<u>cell temp</u>
1	+139.640	2	+139.570
3	+139.910	4	+140.300

AVERAGE TEMPERATURE = +70.5316 DEG. F
AVERAGE PRESSURE = +68.4628 PSIA
MASS = +666286.63 LBM
AVG DEW POINT TEMP = +64.1000 DEG. F
AVG VAPOR PRESSURE = +0.2960 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : VERF
DATE : 359
TIME : 07:50

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.4367	2	+68.4488

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.310	2	+68.030	3	+66.250
4	+71.180	5	+71.660	6	+72.070
7	+68.250	8	+69.080	9	+68.750
10	+68.010	11	+72.310	12	+70.390
13	+70.760	14	+69.510	15	+72.580
16	+72.520	17	+71.630	18	+71.600

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.520	2	+139.590
3	+139.900	4	+140.270

AVERAGE TEMPERATURE = +70.5158 DEG. F
AVERAGE PRESSURE = +68.4552 PSIA
MASS = +666234.69 LBM
AVG DEW POINT TEMP = +64.0751 DEG. F
AVG VAPOR PRESSURE = +0.2957 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : VERF
 DATE : 359
 TIME : 08:00

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.4337	2	+68.4442

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.300	2	+68.030	3	+66.240
4	+71.180	5	+71.650	6	+72.050
7	+68.240	8	+69.070	9	+68.740
10	+68.010	11	+72.290	12	+70.380
13	+70.730	14	+69.500	15	+72.550
16	+72.510	17	+71.630	18	+71.590

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.500	2	+139.520
3	+139.850	4	+140.400

AVERAGE TEMPERATURE = +70.5030 DEG. F
 AVERAGE PRESSURE = +68.4514 PSIA
 MASS = +666214.19 LBM
 AVG DEW POINT TEMP = +64.0700 DEG. F
 AVG VAPOR PRESSURE = +0.2957 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 • DATA POINT SUMMARY SHEET

TEST MODE : VERF
 DATE : 359
 TIME : 08:15

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.4266	2	+68.4374

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.290	2	+68.030	3	+66.230
4	+71.170	5	+71.640	6	+72.040
7	+68.240	8	+69.070	9	+68.730
10	+68.000	11	+72.260	12	+70.380
13	+70.730	14	+69.540	15	+72.520
16	+72.510	17	+71.630	18	+71.570

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.440	2	+139.560
3	+140.110	4	+140.600

AVERAGE TEMPERATURE = +70.4906 DEG. F
 AVERAGE PRESSURE = +68.4444 PSIA
 MASS = +666155.13 LBM
 AVG DEW POINT TEMP = +64.1353 DEG. F
 AVG VAPOR PRESSURE = +0.2964 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : VERF
DATE : 359
TIME : 08:30

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.4191	2	+68.4305

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.280	2	+68.010	3	+66.230
4	+71.160	5	+71.630	6	+72.020
7	+68.230	8	+69.060	9	+68.710
10	+67.990	11	+72.230	12	+70.390
13	+70.730	14	+69.540	15	+72.530
16	+72.470	17	+71.610	18	+71.560

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.400	2	+139.550
3	+140.640	4	+140.620

AVERAGE TEMPERATURE = +70.4796 DEG. F
AVERAGE PRESSURE = +68.4372 PSIA
MASS = +666091.13 LBM
AVG DEW POINT TEMP = +64.2083 DEG. F
AVG VAPOR PRESSURE = +0.2971 PSIA

Millstone 2

INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : VERF
DATE : 359
TIME : 00:45

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.4128	2	+68.4243

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.280	2	+68.010	3	+66.230
4	+71.150	5	+71.620	6	+72.010
7	+68.210	8	+69.060	9	+68.710
10	+67.980	11	+72.210	12	+70.360
13	+70.740	14	+69.540	15	+72.500
16	+72.440	17	+71.620	18	+71.560

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.480	2	+139.530
3	+139.740	4	+140.420

AVERAGE TEMPERATURE = +70.4706 DEG. F
AVERAGE PRESSURE = +68.4310 PSIA
MASS = +666057.00 LHM
AVG DEW POINT TEMP = +64.0546 DEG. F
AVG VAPOR PRESSURE = +0.2955 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : VERF
DATE : 359
TIME : 09:00

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.4057	2	+68.4172

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.260	2	+68.000	3	+66.220
4	+71.150	5	+71.590	6	+71.990
7	+68.230	8	+69.050	9	+68.680
10	+67.970	11	+72.180	12	+70.350
13	+70.720	14	+69.590	15	+72.500
16	+72.480	17	+71.600	18	+71.560

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.440	2	+139.580
3	+139.900	4	+140.760

AVERAGE TEMPERATURE = +70.4568 DEG. F
AVERAGE PRESSURE = +68.4239 PSIA
MASS = +665997.00 LBM
AVG DEW POINT TEMP = +64.1316 DEG. F
AVG VAPOR PRESSURE = +0.2963 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : VERF
DATE : 359
TIME : 09:15

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.3988	2	+68.4103

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.250	2	+68.000	3	+66.210
4	+71.130	5	+71.580	6	+71.970
7	+68.210	8	+69.050	9	+68.680
10	+67.970	11	+72.150	12	+70.360
13	+70.720	14	+69.570	15	+72.450
16	+72.450	17	+71.620	18	+71.530

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.470	2	+139.590
3	+139.890	4	+140.160

AVERAGE TEMPERATURE = +70.4417 DEG. F
AVERAGE PRESSURE = +68.4170 PSIA
MASS = +665957.06 LBM
AVG DEW POINT TEMP = +64.0476 DEG. F
AVG VAPOR PRESSURE = +0.2955 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : VERF
 DATE : 359
 TIME : 09:45

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.3854	2	+68.3967

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.220	2	+67.970	3	+66.190
4	+71.120	5	+71.540	6	+71.940
7	+68.200	8	+69.030	9	+68.620
10	+67.940	11	+72.100	12	+70.340
13	+70.690	14	+69.580	15	+72.420
16	+72.420	17	+71.560	18	+71.500

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.480	2	+139.450
3	+139.090	4	+140.020

AVERAGE TEMPERATURE = +70.4087 DEG. F
 AVERAGE PRESSURE = +68.4035 PSIA
 MASS = +665883.25 LBM
 AVG DEW POINT TEMP = +63.8819 DEG. F
 AVG VAPOR PRESSURE = +0.2937 PSIA

Millstone 2
 INTEGRATED LEAK RATE TEST
 DATA POINT SUMMARY SHEET

TEST MODE : VERF
 DATE : 359
 TIME : 10:00

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.3789	2	+68.3899

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.210	2	+67.970	3	+66.180
4	+71.110	5	+71.530	6	+71.950
7	+68.190	8	+69.030	9	+68.610
10	+67.930	11	+72.060	12	+70.330
13	+70.670	14	+69.590	15	+72.380
16	+72.420	17	+71.550	18	+71.490

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.460	2	+139.850
3	+139.550	4	+140.280

AVERAGE TEMPERATURE = +70.3955 DEG. F
 AVERAGE PRESSURE = +68.3968 PSIA
 MASS = +665822.44 LBM
 AVG DEW POINT TEMP = +64.0051 DEG. F
 AVG VAPOR PRESSURE = +0.2930 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : VERF
DATE : 359
TIME : 10:15

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.3727	2	+68.3834

RTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.190	2	+67.960	3	+66.170
4	+71.100	5	+71.530	6	+71.910
7	+68.190	8	+69.010	9	+68.600
10	+67.920	11	+72.030	12	+70.320
13	+70.660	14	+69.610	15	+72.360
16	+72.430	17	+71.570	18	+71.490

D - Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.370	2	+139.530
3	+139.580	4	+140.300

AVERAGE TEMPERATURE = +70.3817 DEG. F
AVERAGE PRESSURE = +68.3905 PSIA
MASS = +665779.06 LBM
AVG DEW POINT TEMP = +63.9918 DEG. F
AVG VAPOR PRESSURE = +0.2949 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : VERF
DATE : 359
TIME : 10:30

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.3659	2	+68.3778

KTDs in degrees F

channel	temp.	channel	temp.	channel	temp.
1	+71.180	2	+67.960	3	+66.160
4	+71.090	5	+71.500	6	+71.900
7	+68.170	8	+69.010	9	+68.590
10	+67.910	11	+71.970	12	+70.320
13	+70.670	14	+69.610	15	+72.360
16	+72.400	17	+71.510	18	+71.480

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.370	2	+139.500
3	+138.920	4	+139.760

AVERAGE TEMPERATURE = +70.3666 DEG. F
AVERAGE PRESSURE = +68.3843 PSIA
MASS = +665756.06 LBM
AVG DEW POINT TEMP = +63.8060 DEG. F
AVG VAPOR PRESSURE = +0.2930 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : VERF
DATE : 359
TIME : 10:45

Pressure Instruments in PSIA

<u>channel</u>	<u>pressure</u>	<u>channel</u>	<u>pressure</u>
1	+68.3598	2	+68.3705

RTDs in degrees F

<u>channel</u>	<u>temp.</u>	<u>channel</u>	<u>temp.</u>	<u>channel</u>	<u>temp.</u>
1	+71.170	2	+67.940	3	+66.160
4	+71.080	5	+71.490	6	+71.890
7	+68.170	8	+68.990	9	+68.570
10	+67.900	11	+71.940	12	+70.300
13	+70.650	14	+69.630	15	+72.300
16	+72.370	17	+71.570	18	+71.460

Dew Cell temperatures in degrees F

<u>channel</u>	<u>cell temp</u>	<u>channel</u>	<u>cell temp</u>
1	+139.260	2	+139.480
3	+140.320	4	+140.350

AVERAGE TEMPERATURE = +70.3489 DEG. F
AVERAGE PRESSURE = +68.3776 PSIA
MASS = +665685.19 LBM
AVG DEW POINT TEMP = +64.0800 DEG. F
AVG VAPOR PRESSURE = +0.2958 PSIA

Millstone 2
INTEGRATED LEAK RATE TEST
DATA POINT SUMMARY SHEET

TEST MODE : VERF
DATE : 359
TIME : 11:00

Pressure Instruments in PSIA

channel	pressure	channel	pressure
1	+68.3533	2	+68.3632

RTDs in degrees F

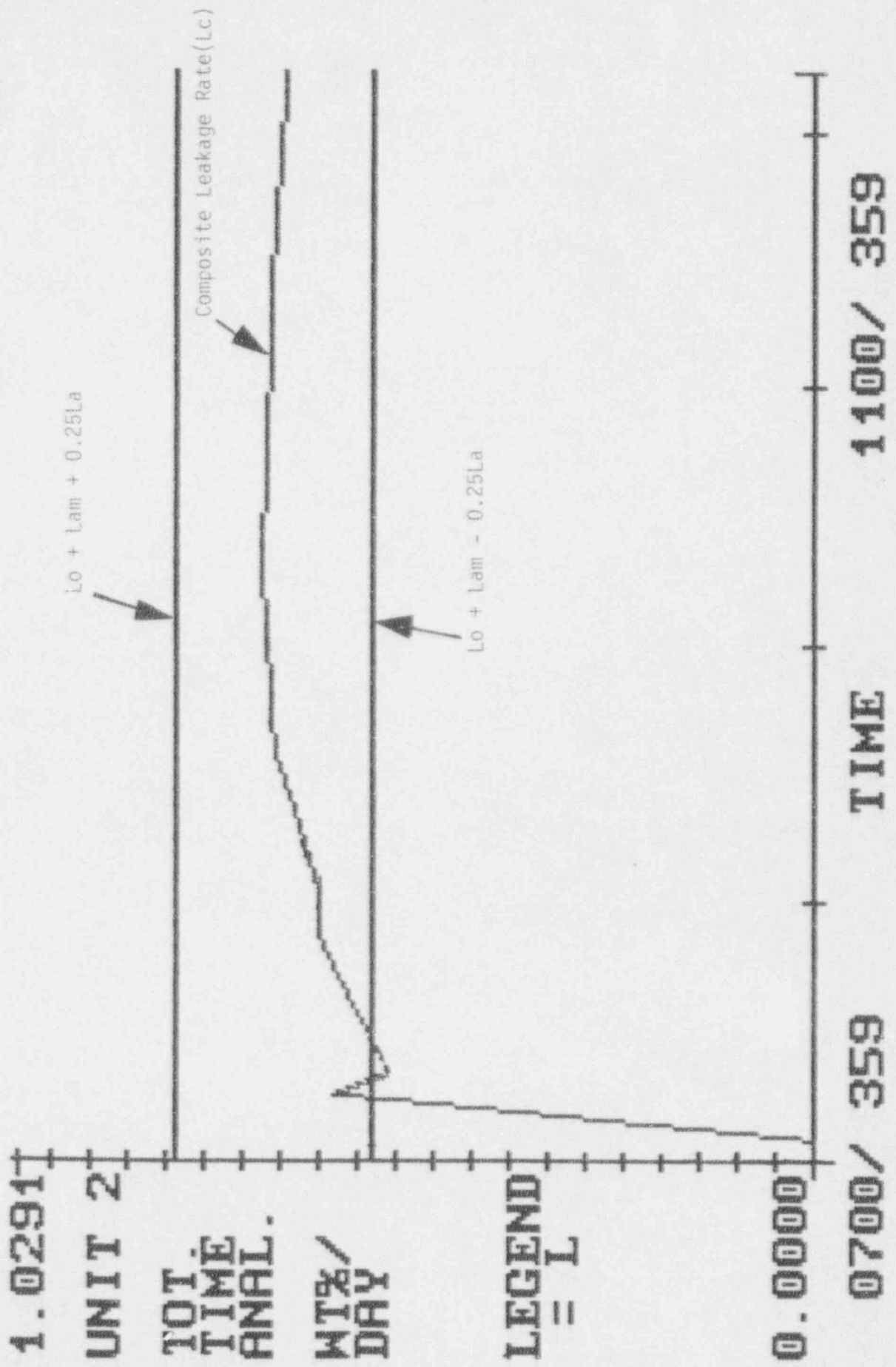
channel	temp.	channel	temp.	channel	temp.
1	+71.160	2	+67.930	3	+66.150
4	+71.060	5	+71.480	6	+71.860
7	+68.160	8	+68.990	9	+68.540
10	+67.890	11	+71.900	12	+70.290
13	+70.630	14	+69.620	15	+72.290
16	+72.370	17	+71.530	18	+71.430

Dew Cell temperatures in degrees F

channel	cell temp	channel	cell temp
1	+139.330	2	+139.470
3	+138.750	4	+140.310

AVERAGE TEMPERATURE = +70.3301 DEG. F
AVERAGE PRESSURE = +68.3707 PSIA
MASS = +665664.44 LBM
AVG DEW POINT TEMP = +63.8497 DEG. F
AVG VAPOR PRESSURE = +0.2934 PSIA

AVERAGE DATA VALUES						
DATE	TIME	RTD	DEW PT.	VAP PRESS	DRY PRESS	MASS
359	0.00	70.575	64.156	0.297	68.183	666390.50
359	0.08	70.567	64.181	0.297	68.180	666374.50
359	0.25	70.555	64.040	0.295	68.176	666347.19
359	0.33	70.551	63.955	0.294	68.175	666341.31
359	0.58	70.532	64.100	0.296	68.167	666286.63
359	0.83	70.516	64.075	0.296	68.159	666234.69
359	1.00	70.503	64.070	0.296	68.156	666214.19
359	1.25	70.491	64.135	0.296	68.148	666155.13
359	1.50	70.480	64.208	0.297	68.140	666091.13
359	1.75	70.471	64.055	0.296	68.135	666057.00
359	2.00	70.457	64.132	0.296	68.128	665997.00
359	2.25	70.442	64.048	0.295	68.122	665957.13
359	2.50	70.422	64.057	0.296	68.114	665907.13
359	2.75	70.409	63.882	0.294	68.110	665883.31
359	3.00	70.396	64.005	0.295	68.102	665822.38
359	3.25	70.382	63.932	0.295	68.096	665779.13
359	3.50	70.367	63.806	0.293	68.091	665756.13
359	3.75	70.349	64.080	0.296	68.082	665685.19
359	4.00	70.330	63.850	0.293	68.077	665664.38



1.0291

UNIT 2

MASS
ANAL.

WT%/
DAY

LEGEND
= L

0.0000

$L_o + L_{am} + 0.25L_a$

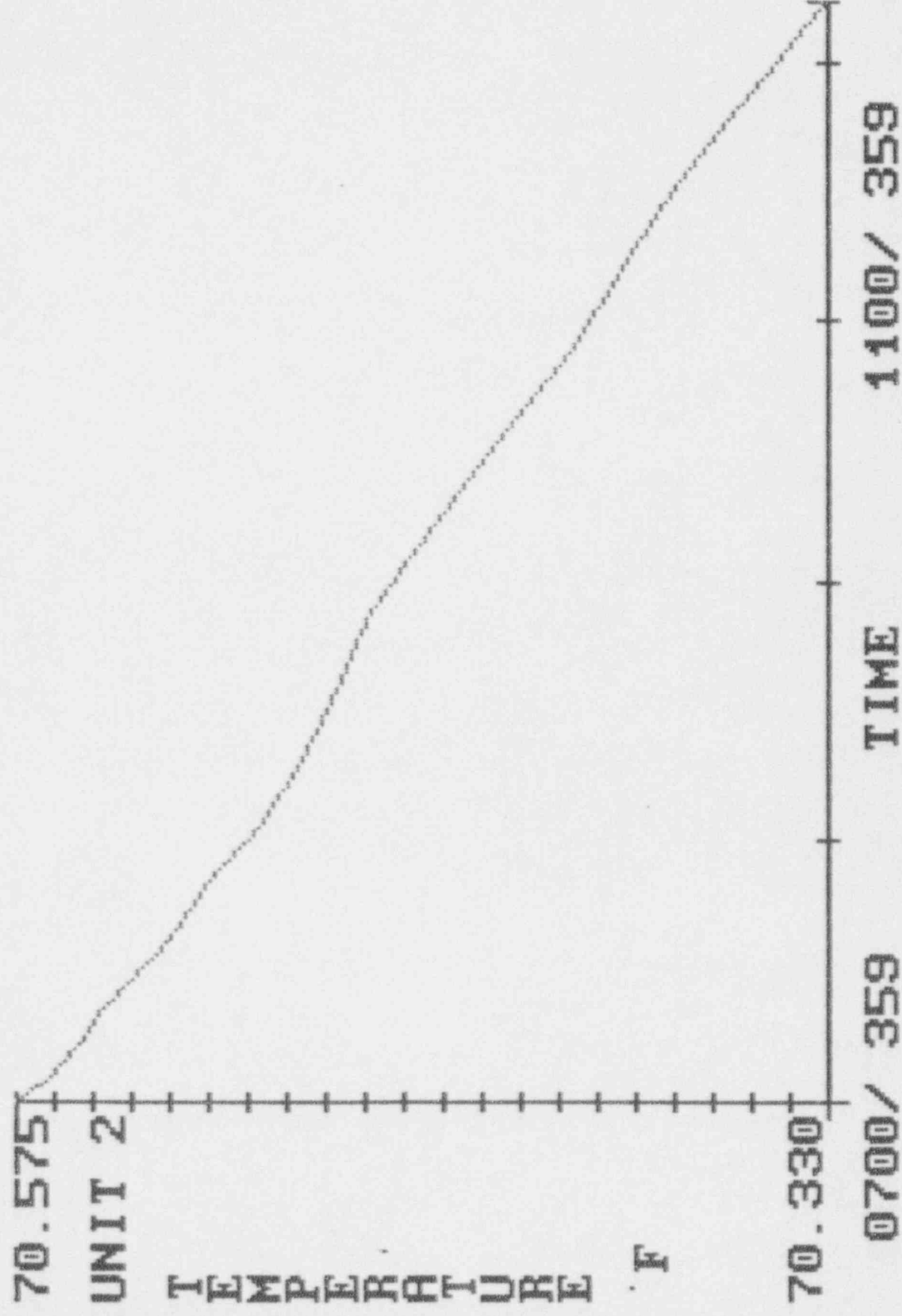
$L_o + L_{am} - 0.25L_a$

Composite Leakage Rate(L_c)

0700/ 359

TIME

1100/ 359



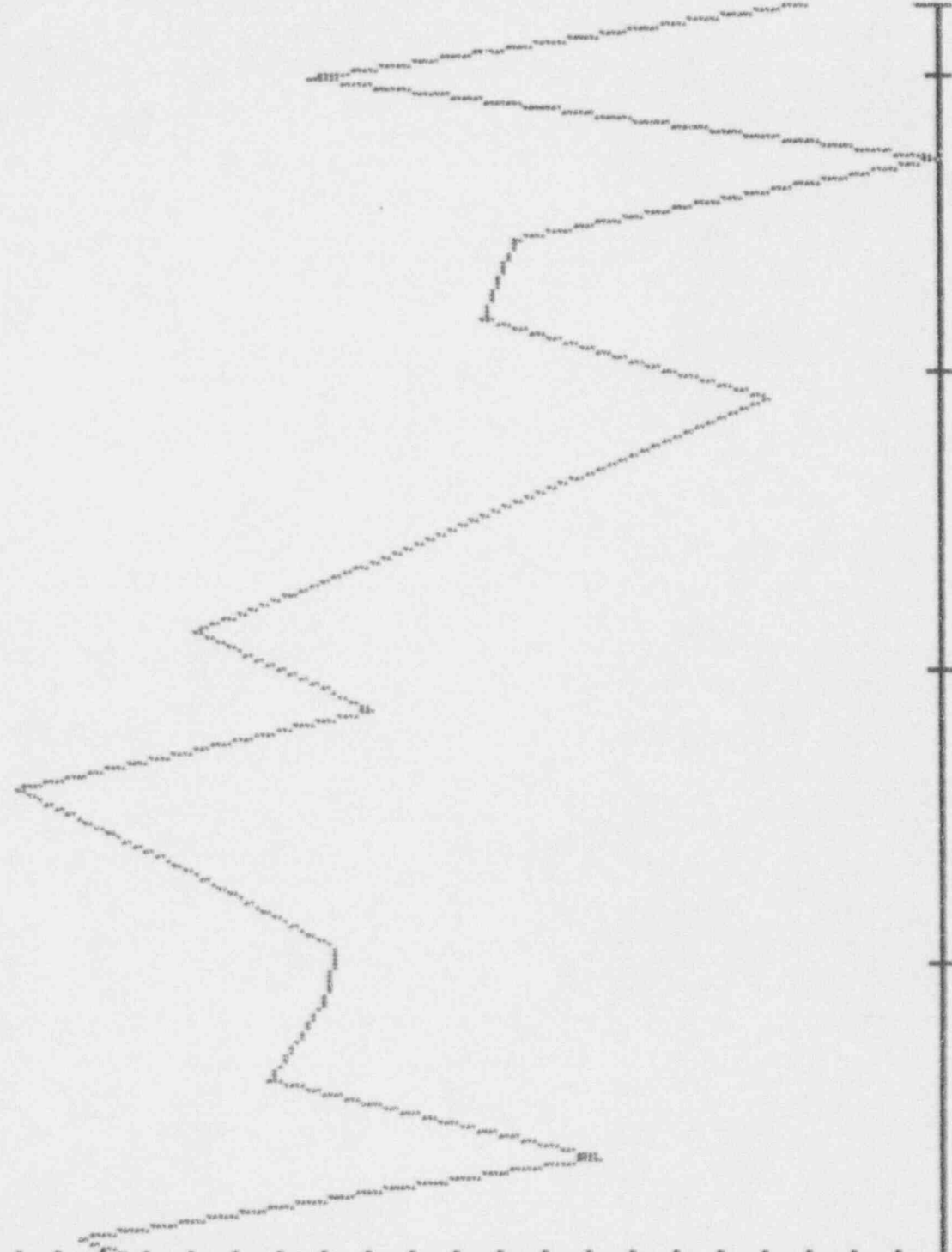
64.208

UNIT 2

AUG DEW TEMP

F

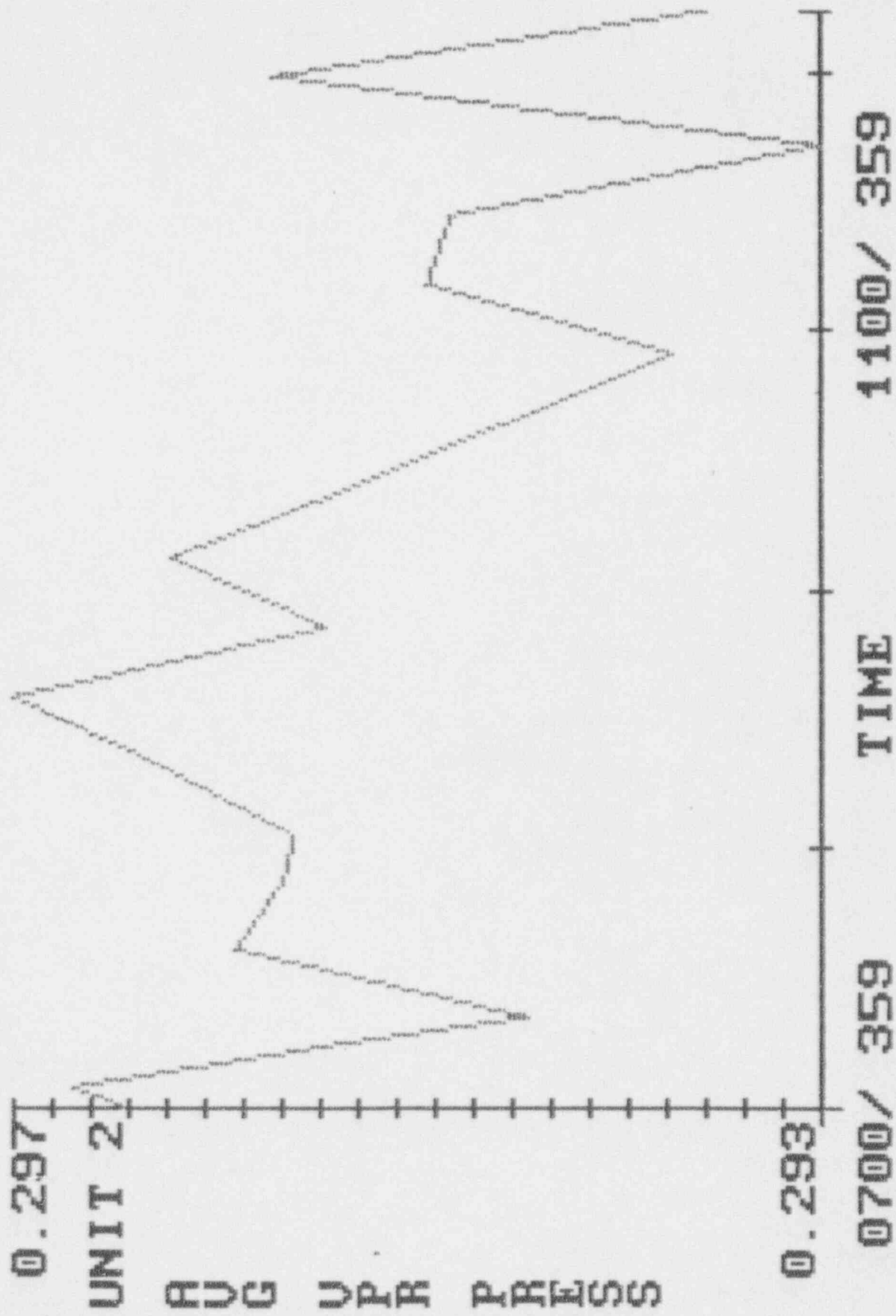
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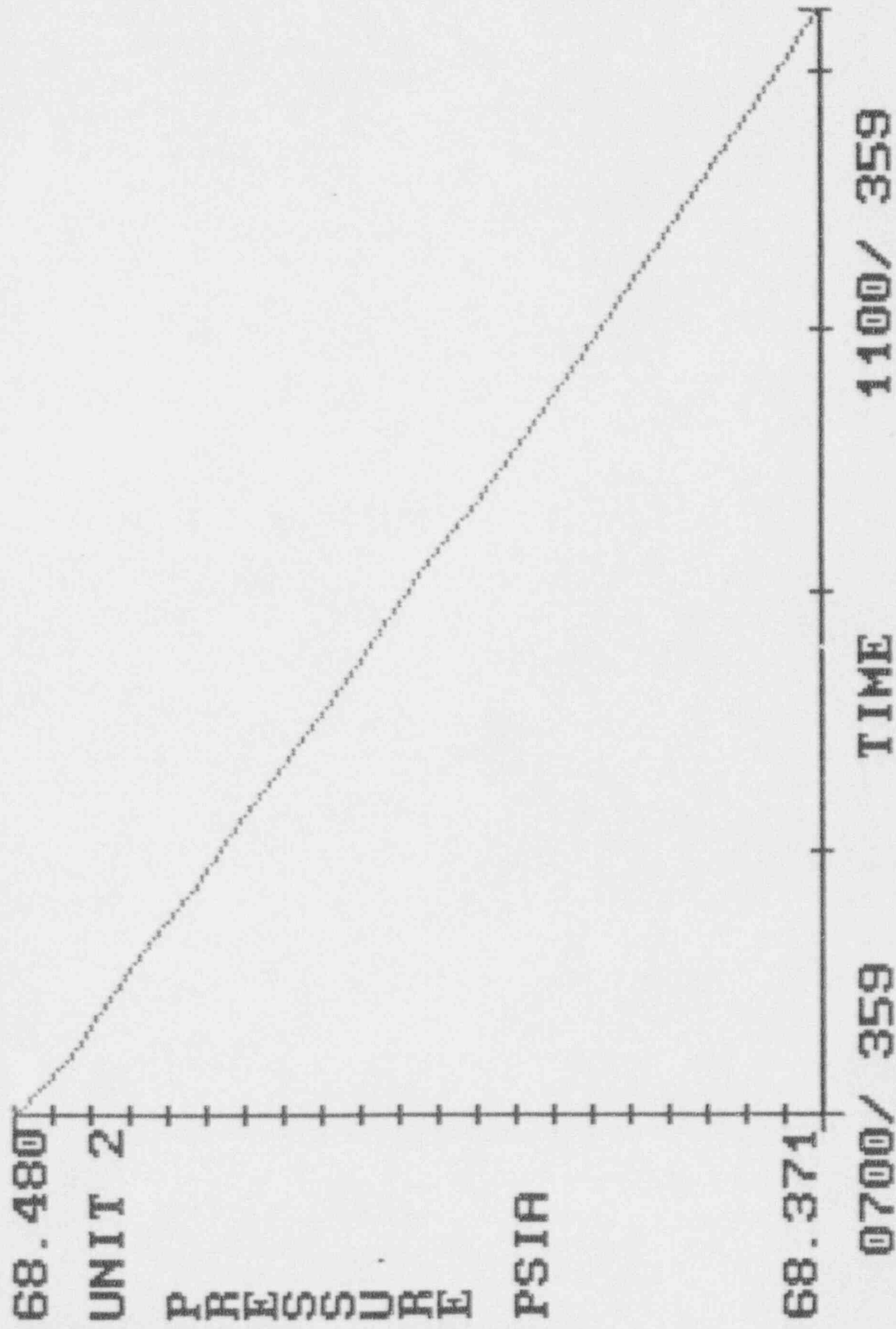


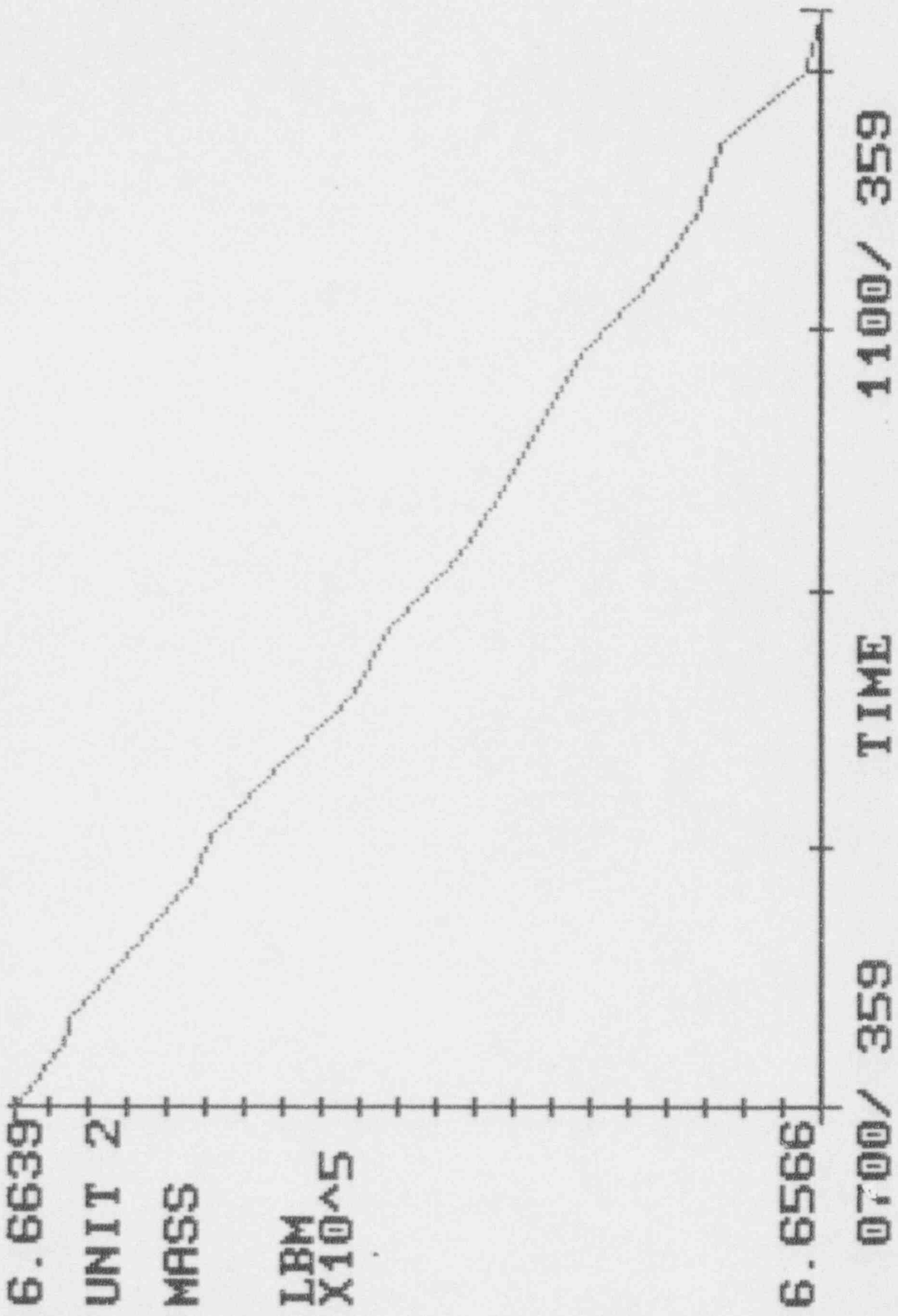
1100/ 359

TIME

0700/ 359







APPENDIX D
LOCAL LEAKAGE RATE TEST SUMMARIES

APPENDIX D1
1992 LOCAL LEAKAGE RATE TEST SUMMARY
(UNITS IN SLM)

Penetration No. / Description	Type Test	Barrier Leakage		Summation by Max. Pathway		Add'n to ILRT Min. Pathway		Leakage Savings	Comments
		As Found	As Left	As Found	As Left	As Found	As Left		
SEXA4 :Elect TUBE 1 DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXA8 :Elect TUBE 1 DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXA2 :Elect TUBE 1 DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXA8 :Elect TUBE 1 DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXA4 :Elect TUBE 2 DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXA8 :Elect TUBE 2 DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXA2 :Elect TUBE 2 DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXA8 :Elect TUBE 2 DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXA4 :Elect TUBE 3 DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXA8 :Elect TUBE 3 DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXA2 :Elect TUBE 3 DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXA8 :Elect TUBE 3 DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
EQUIPMENT HATCH DBL SEAL	B	0.020	0.068	0.020	0.068	0.000	0.000	0.000	
PERSONNEL AIRLOCK DBL DOOR	B	15.800	0.026	15.800	0.026	7.887	0.000	7.887	
TRANSFER TUBE DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	

APPENDIX D1

1992 LOCAL LEAKAGE RATE TEST SUMMARY (UNITS IN SLM)

Penetration No. / Description	Type Test	Barrier Leakage		Summation by Max. Pathway		Add'n to ILRT Min. Pathway		Leakage Savings	Comments
		As Found	As Left	As Found	As Left	As Found	As Left		
SWXB1 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXB2 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXB3 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXB4 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXB5 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXB6 :Elect DBL SEAL	B	0.030	0.025	0.030	0.025	0.003	0.000	0.003	
SWXB7 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXB8 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXB9 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXC3 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXC5 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXD1 :Elect DBL SEAL	B	0.031	0.103	0.091	0.103	0.000	0.000	0.000	
SWXD3 :ELECT DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXD5 :ELECT DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXD8 :ELECT DBL SEAL	B	0.080	0.080	0.080	0.080	0.000	0.000	0.000	

APPENDIX D1

1992 LOCAL LEAKAGE RATE TEST SUMMARY (UNITS IN SLM)

Penetration No./ Description	Type Test	Barrier Leakage		Summation by Max. Pathway		Add'n to ILRT Min. Pathway		Leakage Savings	Comments
		As Found	As Left	As Found	As Left	As Found	As Left		
SWXD9 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXE5 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SWXE9 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXA5 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXA6 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXB2 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXB4 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXB5 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXB6 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXB7 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXB8 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXB9 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXC1 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXC3 :ELECT DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEXD1 :ELECT DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	

APPENDIX D1

1992 LOCAL LEAKAGE RATE TEST SUMMARY (UNITS IN SLM)

Penetration No./ Description	Type Test	Barrier Leakage		Summation by Max. Pathway		Add'n to ILRT Min. Pathway		Leakage Savings	Comments
		As Found	As Left	As Found	As Left	As Found	As Left		
Barrier Tested									
SEX03 :Elect DBL SEAL	B	0.030	0.030	0.030	0.030	0.000	0.000	0.000	
SEX06 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEX08 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEX09 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEX06 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
SEX09 :Elect DBL SEAL	B	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
1 :PMW TO QUENCH TANK 2 :PMW-43C	C	0.029	0.029	0.029	0.029	0.000	0.000	0.000	
2 :LETDOWN 2-CH-515 + 2-CH-516 2-CH-89	C	1.119 2.880	0.568 0.129	2.880	0.568	0.990	0.000	0.990	PIR #2-92-085 FOR 2-CH-89 2-CH-515 and 2-CH-516 are tested individually in series
3 :CHARGING 2-CH-517, 518, 519, 429	C	0.020	0.048	0.020	0.048	0.010	0.024	0.000	Tested simultaneously. Isolated for Type A test; penalty taken.
4 :CTMT SPRAY 2-CS-5A 2-CS-4.1A	C	1.260 0.447	0.429 0.464	1.260	0.464	0.018	0.000	0.018	
5 :CTMT SPRAY 2-CS-5B 2-CS-4.1B	C	0.792 0.193	0.741 0.237	0.792	0.741	0.000	0.000	0.000	
10 :SHUTDOWN COOLING 2-SI-709, 2-SI-651	C	1.760	0.116	1.760	0.116	0.880	0.058	0.822	Tested simultaneously. In operation during Type A test; penalty taken.
11 :SI TEST LINE 2-SI-463	C	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
21 :RCS QUENCH TANK SMP 2RC001+2RC002+2RC003+2LRR61.1 2-RC-45	C	0.431 0.118	0.431 0.118	0.431	0.431	0.000	0.000	0.000	2RC001,002,003 and 2LRR61.1 are tested in parallel (individually)

APPENDIX D1

1992 LOCAL LEAKAGE RATE TEST SUMMARY (UNITS IN SLM)

Penetration No./ Description	Type Test	Barrier Leakage		Summation by Max. Pathway		Add'n to ILRT Min. Pathway		Leakage Savings	Comments
		As Found	As Left	As Found	As Left	As found	As Left		
22/65 :S/G BLOWDOWN 2-MS-191A, 2-MS-220A	C	5.070	0.346	5.070	0.346	2.362	0.000	2.362	Tested Simultaneously
23/72 :S/G BLOWDOWN 2-MS-220B, 2-MS-191B	C	13.090	0.030	13.090	0.030	6.530	0.000	6.530	PIR #2-92-049 Tested Simultaneously
24 :RBCCW A IN 2-RB-30.1A	C	0.969	0.436	0.969	0.436	0.969	0.436	0.533	Isolated for Type A test; penalty taken
29 :RBCCW A OUT 2-RB-37.2A	C	11.200	0.816	11.200	0.816	11.200	0.816	10.384	Isolated for Type A test; penalty taken
34 :NITROGEN TO SIT 2-SI-312	C	0.118	0.118	0.118	0.118	0.000	0.000	0.000	
35 :PRIMARY DRAIN TANK 2-LRR-43.1, 2-LRR-43.2	C	0.134	0.134	0.134	0.134	0.000	0.000	0.000	Tested Simultaneously
36 :INST AIR 2-IA-569 2-IA-566	C	1.129 0.020	0.103 0.020	1.129	0.103	0.000	0.000	0.000	
37 :INST AIR 2-IA-27.1	C	0.045	0.045	0.045	0.045	0.000	0.000	0.000	
38 :STA AIR 2-SA-19	C	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
39 :CTMT PURGE 2-AC-4, 2-AC-5	C	1.586	1.586	1.586	1.586	0.000	0.000	0.000	Tested Simultaneously
40 :CTMT PURGE 2-AC-6, 2-AC-7	C	16.910	3.220	16.910	3.220	6.845	0.000	6.845	Tested Simultaneously
43 :RCP SEAL LEAKOFF 2-CH-506 2-CH-198, 2-CH-505	C	0.020 0.020	0.020 0.020	0.020	0.020	0.000	0.000	0.000	2-CH-198 and 505 tested simultaneously
49 :FIRE 2-FIRE-109, 2-FIRE-120 2-FIRE-108	C	0.020 0.020	0.020 0.020	0.020	0.020	0.000	0.000	0.000	2-FIRE-109 and 120 tested simultaneously.
51 :WASTE GAS HDR 2-GR-11.1, 2-GR-11.2	C	1.339	0.545	1.339	0.545	0.397	0.000	0.397	Tested simultaneously.

APPENDIX D1

1992 LOCAL LEAKAGE RATE TEST SUMMARY (UNITS IN SLM)

Penetration No./ Description	Type Test	Barrier Leakage		Summation by Max. Pathway		Add'n to ILRT Min. Pathway		Leakage Savings	Comments
		As Found	As Left	As Found	As Left	As found	As Left		
Barrier Tested									
53 :RBCCW B IN 2-RB-30.1B	C	0.643	0.020	0.643	0.020	0.643	0.020	0.623	Isolated for Type A test; penalty taken.
54 :RBCCW B OUT 2-RB-37.2B	C	0.312	0.082	0.312	0.082	0.312	0.082	0.230	Isolated for Type A test; penalty taken.
61 :CTMT AIR SMPL. 2-EB-88 2-AC-12	C	0.070 0.020	0.070 0.020	0.070	0.070	0.000	0.000	0.000	
62 :CTMT AIR SMPL. 2-AC-54 2-AC-15	C	0.020 0.020	0.020 0.020	0.020	0.020	0.000	0.000	0.000	
63 :ILRT TEST CONN 2-AC-114, 2-AC-117	C	0.089	0.089	0.089	0.089	0.045	0.045	0.000	In-use during Type A test; penalty taken. Tested simultaneously.
64 :ILRT PRESS CONN 2-AC-116, 2-AC-112	C	0.020	0.020	0.020	0.020	0.010	0.010	0.000	In-use during Type A test; penalty taken. Tested simultaneously.
82 :HYDROGEN PURGE 2-EB-91, 2-EB-92	C	3.050	0.023	3.050	0.023	1.513	0.000	1.513	Tested simultaneously.
83 :HYDROGEN PURGE 2-EB-100, 2-EB-99	C	2.790	0.150	2.790	0.150	1.320	0.000	1.320	Tested simultaneously. PIR #2-92-052 LER #92-011-01
85 :ILRT CONNECTION BLANK FLANGE, SF01	C	0.089	0.089	0.089	0.089	0.045	0.045	0.000	In-use during Type A test; penalty taken.
86 :CTMT AIR SAMPLE 2-EB-89 2-AC-47	C	0.020 0.020	0.020 0.020	0.020	0.020	0.000	0.000	0.000	
87 :CTMT AIR SAMPLE 2-AC-55 2-AC-20	C	0.154 0.020	0.154 0.020	0.154	0.154	0.000	0.000	0.000	
88 :HYDROGEN SAMPLE 2-AC-51	C	0.167	0.167	0.167	0.167	0.000	0.000	0.000	
89 :HYDROGEN SAMPLE 2-AC-46	C	0.020	0.020	0.020	0.020	0.000	0.000	0.000	
14 :NORMAL SUMP (BYPASS) 2-SSP-16.1 2-SSP-16.2	C	1.367 1.463	1.367 1.463	1.463	1.463	0.000	0.000	0.000	

APPENDIX D1

1992 LOCAL LEAKAGE RATE TEST SUMMARY (UNITS IN SLM)

Penetration No./ Description	Type Test	Barrier Leakage		Summation by Max. Pathway		Add'n to ILRT Min. Pathway		Leakage Savings	Comments
		As Found	As Left	As Found	As Left	As found	As Left		
Barrier Tested									
67 :REFUEL WATER (BYPASS) 2-RW-232, 2-RW-21	C	0.228	0.228	0.228	0.228	0.000	0.000	0.000	Tested simultaneously.
68 :REFUEL WATER (BYPASS) 2-RW-154, 2-RW-63	C	0.028	0.028	0.028	0.028	0.000	0.000	0.000	Tested simultaneously
SUBTOTALS FOR BYPASS LEAKAGE				1.719	1.719	0.000	0.000	0.000	
TOTALS FOR ALL LEAKAGE				84.956	13.731	41.979	1.536	40.457	

APPENDIX D2

1989/1990/1991 LOCAL LEAKAGE RATE TEST SUMMARY

<u>PENETRATION NO./</u> <u>DESCRIPTION</u>	<u>BARRIER</u> <u>TESTED</u>	<u>TYPE</u> <u>TEST</u>	<u>AS FOUND LEAKAGE</u> <u>(SLM)/DATE</u>	<u>AS LEFT LEAKAGE</u> <u>(SLM)/DATE</u>	<u>COMMENTS</u>
SEXA4 :ELECT	TUBE 1 DBL SEAL	B	0.020/01-25-89 0.020/09-12-90	0.020/01-25-89 0.020/09-12-90	
SEXA8 :ELECT	TUBE 1 DBL SEAL	B	0.020/01-25-89 0.020/09-11-90	0.020/01-25-89 0.020/09-11-90	
SEXA2 :ELECT	TUBE 1 DBL SEAL	B	0.020/01-27-89 0.020/09-08-90	0.020/01-27-89 0.020/09-08-90	
SEXA8 :ELECT	TUBE 1 DBL SEAL	B	0.020/01-27-89 0.020/09-06-90	0.020/01-27-89 0.020/09-06-90	
SEXA4 :ELECT	TUBE 2 DBL SEAL	B	0.020/01-25-89 0.020/09-12-90	0.020/01-25-89 0.020/09-12-90	
SEXA8 :ELECT	TUBE 2 DBL SEAL	B	0.020/01-25-89 0.020/09-12-90	0.020/01-25-89 0.020/09-12-90	
SWXA2 :ELECT	TUBE 2 DBL SEAL	B	0.020/01-27-89 0.020/09-08-90	0.020/01-27-89 0.020/09-08-90	
SWXA8 :ELECT	TUBE 2 DBL SEAL	B	0.020/01-27-89 0.020/09-06-90	0.020/01-27-89 0.020/09-06-90	
SEXA4 :ELECT	TUBE 3 DBL SEAL	B	7.730/01-27-89 0.020/09-12-90	0.020/03-14-89 0.020/09-12-90	
SEXA8 :ELECT	TUBE 3 DBL SEAL	B	0.020/01-25-89 0.020/09-11-90	0.020/01-25-89 0.020/09-11-90	

APPENDIX D2

1989/1990/1991 LOCAL LEAKAGE RATE TEST SUMMARY

<u>PENETRATION NO.</u> <u>DESCRIPTION</u>	<u>BARRIER</u> <u>TESTED</u>	<u>TYPE</u> <u>TEST</u>	<u>AS FOUND LEAKAGE</u> <u>(SLM)/DATE</u>	<u>AS LEFT LEAKAGE</u> <u>(SLM)/DATE</u>	<u>COMMENT</u>
SWXA2 :ELECT	TUBE 3 DBL SEAL	B	0.024/01-27-89 0.020/09-08-90	0.024/01-27-89 0.020/09-08-90	
SWXA8 :ELECT	TUBE 3 DBL SEAL	B	0.020/01-27-89 0.020/09-07-90	0.020/01-27-89 0.020/09-07-90	
EQUIPMENT HATCH	DBL SEAL	B	0.088/02-02-89 0.080/10-20-89 0.129/05-11-90 0.085/09-14-90	0.419/04-15-89 0.440/11-20-90 0.235/06-10-90 0.085/09-14-90	
PERSONNEL HATCH	DBL DOOR	B	10.890/02-03-89 30.000/09-12-89 40.000/09-13-90 17.030/03-07-91	5.610/04-08-89 17.150/11-17-89 11.230/10-30-90 0.020/09-10-91	
TRANSFER TUBE	DBL DOOR	B	0.020/02-06-89 0.020/10-27-90	0.056/03-07-89 0.020/10-27-90	
SWXB1 :ELECT	DBL SEAL	B	0.020/01-27-89 0.020/09-08-90	0.020/01-27-89 0.020/09-08-90	
SWXB2 :ELECT	DBL SEAL	B	0.020/01-27-89 0.020/09-10-90	0.020/01-27-89 0.020/09-10-90	
SWXB3 :ELECT	DBL SEAL	B	0.047/01-29-89 0.020/09-08-90	0.020/01-29-89 0.020/09-08-90	
SWXB4 :ELECT	DBL SEAL	B	0.020/01-29-89 0.020/09-08-90	0.020/01-29-89 0.020/09-08-90	

APPENDIX D2

1989/1990/1991 LOCAL LEAKAGE RATE TEST SUMMARY

<u>PENETRATION NO./</u> <u>DESCRIPTION</u>	<u>BARRIER</u> <u>TESTED</u>	<u>TYPE</u> <u>TEST</u>	<u>AS FOUND LEAKAGE</u> <u>(SLM)/DATE</u>	<u>AS LEFT LEAKAGE</u> <u>(SLM)/DATE</u>	<u>COMMENTS</u>
SWXB5 :ELECT	DBL SEAL	B	0.020/01-29-89 0.020/09-07-90	0.020/01-29-89 0.020/09-07-90	
SWXB6 :ELECT	DBL SEAL	B	0.020/01-29-89 0.020/09-07-90	0.056/01-29-89 0.020/09-07-90	
SWXB7 :ELECT	DBL SEAL	B	0.020/01-27-89 0.020/09-07-90	0.020/01-27-89 0.020/09-07-90	
SWXB8 :ELECT	DBL SEAL	B	0.020/01-27-89 0.020/09-06-90	0.020/01-27-89 0.020/09-06-90	
SWXB9 :ELECT	DBL SEAL	B	0.020/01-27-89 0.196/09-06-90	0.020/01-27-89 0.196/09-06-90	
SWXC3 :ELECT	DBL SEAL	B	0.082/01-25-89 0.020/09-08-90	0.082/01-25-89 0.020/09-08-90	
SWXC5 :ELECT	DBL SEAL	B	0.020/01-27-89 0.020/09-07-90	0.020/01-27-89 0.020/09-07-90	
SWXD1 :ELECT	DBL SEAL	B	0.144/01-27-89 0.109/10-30-90	0.144/01-27-89 0.109/10-30-90	
SWXD3 :ELECT	DBL SEAL	B	0.020/01-31-89 0.020/09-08-90	0.020/01-31-89 0.020/09-08-90	
SWXD5 :ELECT	DBL SEAL	B	0.020/01-31-89 0.020/09-08-90	0.020/01-31-89 0.020/09-08-90	

APPENDIX D2

1989/1990/1991 LOCAL LEAKAGE RATE TEST SUMMARY

<u>PENETRATION NO./</u> <u>DESCRIPTION</u>	<u>BARRIER</u> <u>TESTED</u>	<u>TYPE</u> <u>TEST</u>	<u>AS FOUND LEAKAGE</u> <u>(SLM)/DATE</u>	<u>AS LEFT LEAKAGE</u> <u>(SLM)/DATE</u>	<u>COMMENTS</u>
SWXD8 :ELECT	DBL SEAL	B	0.030/01-30-89 0.020/09-06-90	0.030/01-30-89 0.020/09-06-90	
SWXD9 :ELECT	DBL SEAL	B	0.020/01-30-89 0.209/09-06-90	0.020/01-30-89 0.209/09-06-90	
SWXE5 :ELECT	DBL SEAL	B	0.020/01-30-89 0.020/09-08-90	0.020/01-30-89 0.020/09-08-90	
SWXE9 :ELECT	DBL SEAL	B	0.020/01-30-89 0.224/09-06-90	0.020/01-30-89 0.224/09-06-90	
SEXA5 :ELECT	DBL SEAL	B	0.020/01-31-89 0.020/09-12-90	0.020/01-31-89 0.020/09-12-90	
SEXA6 :ELECT	DBL SEAL	B	0.020/01-31-89 0.020/09-12-90	0.020/01-31-89 0.020/09-12-90	
SEXB2 :ELECT	DBL SEAL	B	0.020/01-31-89 0.020/10-08-90	0.020/01-31-89 0.020/10-08-90	
SEXB4 :ELECT	DBL SEAL	B	0.020/01-31-89 0.020/10-08-90	0.020/01-31-89 0.020/10-08-90	
SEXB5 :ELECT	DBL SEAL	B	0.020/01-31-89 0.020/09-12-90	0.020/01-31-89 0.020/09-12-90	
SEXB6 :ELECT	DBL SEAL	B	0.020/01-31-89 0.020/09-12-90	0.020/01-31-89 0.020/09-12-90	

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1989/1990/1991 LOCAL LEAKAGE RATE TEST SUMMARY

<u>PENETRATION NO./</u> <u>DESCRIPTION</u>	<u>BARRIER</u> <u>TESTED</u>	<u>TYPE</u> <u>TEST</u>	<u>AS FOUND LEAKAGE</u> <u>(SLM)/DATE</u>	<u>AS LEFT LEAKAGE</u> <u>(SLM)/DATE</u>	<u>COMMENTS</u>
SEXB7 :ELECT	DBL SEAL	B	0.020/01-25-89 0.020/09-11-90	0.020/01-25-89 0.020/09-11-90	
SEXB8 :ELECT	DBL SEAL	B	0.020/01-25-89 0.020/09-11-90	0.020/01-25-89 0.020/09-11-90	
SEXB9 :ELECT	DBL SEAL	B	0.020/01-25-89 0.020/09-11-90	0.020/01-25-89 0.020/09-11-90	
SEXC1 :ELECT	DBL SEAL	B	0.020/02-01-89 0.020/10-08-90	0.020/02-01-89 0.020/10-08-90	
SEXC3 :ELECT	DBL SEAL	B	0.020/02-01-89 0.020/10-09-90	0.020/02-01-89 0.020/10-09-90	
SEXD1 :ELECT	DBL SEAL	B	0.020/02-01-89 0.020/10-09-90	0.020/02-01-89 0.020/10-09-90	
SEXD3 :ELECT	DBL SEAL	B	0.020/02-01-89 0.020/10-09-90	0.020/02-01-89 0.020/10-09-90	
SEXD6 :ELECT	DBL SEAL	B	0.020/02-01-89 0.020/09-12-90	0.020/02-01-89 0.020/09-12-90	
SEXD8 :ELECT	DBL SEAL	B	0.024/01-25-89 0.020/09-11-90	0.024/01-25-89 0.020/09-11-90	
SEXD9 :ELECT	DBL SEAL	B	0.020/02-02-89 0.020/09-10-90	0.020/02-02-89 0.020/09-10-90	

APPENDIX D2

1989/1990/1991 LOCAL LEAKAGE RATE TEST SUMMARY

<u>PENETRATION NO./ DESCRIPTION</u>	<u>BARRIER TESTED</u>	<u>TYPE TEST</u>	<u>AS FOUND LEAKAGE (SLM)/DATE</u>	<u>AS LEFT LEAKAGE (SLM)/DATE</u>	<u>COMMENTS</u>
SEXE6 :ELECT	DBL SEAL	B	0.020/02-01-89 0.020/09-12-90	0.020/02-01-89 0.020/09-12-90	
SEXE9 :ELECT	DBL SEAL	B	0.020/02-02-89 0.020/09-10-90	0.020/02-02-89 0.020/09-10-90	
1 :PMW TO QUENCH TANK	2-PMW-43C	C	0.020/02-23-89 0.020/09-22-90	0.020/02-23-89 0.020/09-22-90	
2 :LETDOWN	2-CH-516	C	0.069/02-08-89 0.020/09-24-90	0.680/04-30-89 0.020/10-27-90	
	2-CH-89	C	0.022/02-08-89 0.155/09-24-90	0.022/02-08-89 0.155/09-24-90	
3 :CHARGING	2-CH-517,518,519,429	C	UD/02-08-89 0.024/09-22-90	0.020/04-11-89 0.024/09-24-90	"UD" means "undetermined," leakage exceeded flow equipment. Barriers tested simultaneously.
4 :CTMT SPRAY	2-CS-5A	C	0.020/02-06-89 0.398/09-18-90	0.769/02-24-89 0.020/09-18-90	
	2-CS-4.1A	C	0.652/02-06-89 0.073/09-18-90	0.652/02-06-89 0.073/09-18-90	
5 :CTMT SPRAY	2-CS-5B	C	0.950/02-07-89	0.617/02-24-89	
	2-CS-4.1B	C	0.305/02-07-89 0.072/09-18-90	0.305/02-07-89 0.270/10-28-90	

APPENDIX D2

1989/1990/1991 LOCAL LEAKAGE RATE TEST SUMMARY

<u>PENETRATION NO./</u> <u>DESCRIPTION</u>	<u>BARRIER</u> <u>TESTED</u>	<u>TYPE</u> <u>TEST</u>	<u>AS FOUND LEAKAGE</u> <u>(SLM)/DATE</u>	<u>AS LEFT LEAKAGE</u> <u>(SLM)/DATE</u>	<u>COMMENTS</u>
10 :SHUTDOWN COOLING	2-SI-709,2-SI-651	C	0.850/04-17-89 2.970/11-01-90	0.850/04-17-89 2.970/11-01-90	Tested simultaneously
11 :SI TEST LINE	2-SI-463	C	0.020/02-10-89 0.020/10-14-90	0.020/02-10-89 0.020/10-14-90	
21 :RCS QUENCH TANK SMPL	2-RC-001	C	0.093/02-07-89 0.301/10-02-90 1.734/06-20-91	0.093/02-07-89 0.301/10-02-90 0.514/06-24-91	2CR001, 002, 003, and 2LRR61.1 are tested in parallel (individually).
	2-RC-002	C	0.033/02-07-89 0.320/10-02-90	0.033/02-07-89 0.320/10-02-90	
	2-RC-003	C	0.020/02-07-89 0.383/10-02-90	0.020/02-07-89 0.383/10-02-90	
	2-LRR-61.1	C	0.061/02-07-89 0.020/10-02-90	0.061/02-07-89 0.020/10-02-90	
	2-RC-45	C	0.111/02-07-89 0.960/10-02-90	0.111/02-07-89 0.960/10-02-90	
22/65 :S/G BLOWDOWN	2-MS-191A,2-MS-220A	C	0.534/02-10-89 6.797/10-01-90	0.161/04-25-89 0.020/10-29-90	Tested simultaneously
23/72 :S/G BLOWDOWN	2-MS-220B,2-MS-191B	C	2.110/02-10-89 UD/10-05-90 74.600/08-25-91 3.250/11-15-91	0.811/03-09-89 3.820/10-25-90 0.020/08-28-91 6.030/11-27-91	"UD" means "undetermined;" leakage exceeded flow equipment. Tested simultaneously
24 :RBCCW A IN	2-RB-30.1A	C	1.514/02-21-89 0.465/10-01-90	1.514/02-21-89 0.465/10-01-90	

APPENDIX D2

1989/1990/1991 LOCAL LEAKAGE RATE TEST SUMMARY

<u>PENETRATION NO./</u> <u>DESCRIPTION</u>	<u>BARRIER</u> <u>TESTED</u>	<u>TYPE</u> <u>TEST</u>	<u>AS FOUND LEAKAGE</u> <u>(SLM)/DATE</u>	<u>AS LEFT LEAKAGE</u> <u>(SLM)/DATE</u>	<u>COMMENTS</u>
29 :RBCCW A OUT	2-RB-37.2A	C	3.170/02-20-89 0.745/09-30-90	3.170/02-20-89 0.745/09-30-90	
34 :NITROGEN TO SIT	2-SI-312	C	0.020/02-10-89 0.032/10-14-90	0.020/02-28-89 0.032/10-14-90	
35 :PRIMARY DRAIN TANK	2-LRR-43.1, 2-LLR-43.2	C	0.098/02-11-89 0.020/09-23-90	0.098/02-11-89 0.020/09-23-90	Tested simultaneously
36 :INST AIR	2-IA-569	C	65.400/02-05-89 1.635/10-07-90	0.020/02-21-89 1.635/10-07-90	
	2-IA-566	C	0.032/02-06-89 0.020/10-07-90	0.032/02-06-89 0.020/10-07-90	
37 :INST AIR	2-IA-27.	C	0.057/02-05-89 0.033/09-16-90	0.057/02-05-89 0.033/09-16-90	
38 :STA AIR	2-SA-19	C	0.047/02-05-89 0.208/09-17-90	0.047/02-05-89 0.208/09-17-90	
39 :CTMT PURGE	2-AC-4, 2AC-5	C	1.543/02-06-89 0.020/09-19-90	0.020/02-20-89 0.579/10-15-90	Tested simultaneously
40 :CTMT PURGE	2-AC-6, 2-AC-7	C	132.600/02-06-89 80.000/09-24-90	1.402/03-10-89 0.020/10-15-90	Tested simultaneously

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1989/1990/1991 LOCAL LEAKAGE RATE TEST SUMMARY

<u>PENETRATION NO./</u> <u>DESCRIPTION</u>	<u>BARRIER</u> <u>TESTED</u>	<u>TYPE</u> <u>TEST</u>	<u>AS FOUND LEAKAGE</u> <u>(SLM)/DATE</u>	<u>AS LEFT LEAKAGE</u> <u>(SLM)/DATE</u>	<u>COMMENTS</u>
43 :RCP SEAL LEAKOFF	2-CH-506	C	0.020/02-15-89 0.020/09-30-90	0.020/02-15-89 0.020/09-30-90	
	2-CH-198, 2-CH-505	C	0.027/02-15-89 0.020/09-30-90	0.027/02-15-89 0.020/09-30-90	Tested simultaneously
49 :FIRE	2-FIRE-109, 2-FIRE-120	C	0.020/02-05-89 0.057/09-17-90	0.020/02-05-89 0.057/09-17-90	Tested simultaneously
	2-FIRE-108	C	0.027/02-05-89 0.039/09-16-90	0.027/02-05-89 0.039/09-16-90	
51 :WASTE GAS HDR SMPL	2-GR-11.1, 2-GR-11.2	C	5.220/02-11-89 1.800/09-24-90	5.220/02-11-89 1.800/09-24-90	Tested simultaneously
53 :RBCCW B IN	2-RB-30.1B	C	0.088/02-14-89 2.370/10-13-90	0.088/02-14-89 2.370/10-13-90	
54 :RBCCW B OUT	2-RB-37.2B	C	0.070/02-14-89 2.690/10-13-90	0.070/02-14-89 2.690/10-13-90	
61 :CTMT AIR SMPL.	2-EB-88	C	0.104/02-10-89 0.045/10-17-90	0.104/02-10-89 0.045/10-17-90	
	2-AC-12	C	0.020/02-10-89 0.020/10-17-90	0.020/02-10-89 0.020/10-17-90	
62 :CTMT AIR SMPL.	2-AC-54	C	4.500/02-10-89 0.020/10-17-90	0.020/02-22-89 0.020/10-17-90	
	2-AC-15	C	0.020/02-10-89 0.020/10-17-90	0.020/02-10-89 0.020/10-17-90	

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1989/1990/1991 LOCAL LEAKAGE RATE TEST SUMMARY

<u>PENETRATION NO./</u> <u>DESCRIPTION</u>	<u>BARRIER</u> <u>TESTED</u>	<u>TYPE</u> <u>TEST</u>	<u>AS FOUND LEAKAGE</u> <u>(SLM)/DATE</u>	<u>AS LEFT LEAKAGE</u> <u>(SLM)/DATE</u>	<u>COMMENTS</u>
63 :ILRT TEST CONN	2-AC-114, 2-AC-117	C	0.288/02-07-89 0.175/10-03-90	0.288/02-07-89 0.175/10-03-90	Tested simultaneously
64 :ILRT PRESS CONN	2-AC-116, 2-AC-112	C	0.020/02-07-89 0.020/10-03-90	0.020/02-07-89 0.020/10-03-90	Tested simultaneously
82 :HYDROGEN PURGE	2-EB-91, 2-EB-92	C	0.870/02-07-89 0.310/09-21-90	0.025/02-15-89 0.380/10-24-90	Tested simultaneously
83 :HYDROGEN PURGE	2-EB-100, 2-EB-99	C	0.020/02-06-89 3.960/09-19-90	3.220/02-15-89 0.362/10-24-90	Tested simultaneously
85 :ILRT CONNECTION	BLANK FLANGE, SF01	C	0.089/02-09-89 0.078/09-20-90	0.089/02-09-89 0.078/09-20-90	
86 :CTMT AIR SAMPLE	2-EB-89	C	0.020/02-11-89 0.046/10-15-90	0.020/02-11-89 0.046/10-15-90	
	2-AC-47	C	0.020/02-11-89 0.020/10-15-90	0.020/02-11-89 0.020/10-15-90	
87 :CTMT AIR SAMPLE	2-AC-55	C	1.040/02-11-89 0.235/10-15-90	0.020/02-17-89 0.235/10-06-90	
	2-AC-20	C	0.020/02-11-89 0.020/10-15-90	0.020/02-11-89 0.020/10-15-90	
88 :HYDROGEN SAMPLE	2-AC-51	C	0.067/02-11-89 0.020/10-06-90	0.067/02-11-89 0.020/10-06-90	
89 :HYDROGEN SAMPLE	2-AC-46	C	0.076/02-11-89 0.020/10-06-90	0.076/02-11-89 0.020/10-06-90	

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1989/1990/1991 LOCAL LEAKAGE RATE TEST SUMMARY

<u>PENETRATION NO./</u> <u>DESCRIPTION</u>	<u>BARRIER</u> <u>TESTED</u>	<u>TYPE</u> <u>TEST</u>	<u>AS FOUND LEAKAGE</u> <u>(SLM)/DATE</u>	<u>AS LEFT LEAKAGE</u> <u>(SLM)/DATE</u>	<u>COMMENTS</u>
14 :NORMAL SUMP (BYPASS)					
	2-SSP-16.1	C	3.490/02-19-89 0.020/09-17-90	0.142/02-22-89 0.020/09-17-90	
	2-SSP-16.2	C	0.307/02-19-89 1.087/09-17-90	0.307/02-19-89 1.087/09-17-90	
67 :REFUEL WATER (BYPASS)					
	2-RW-232, 2-RW-21	C	0.034/02-07-89 0.185/09-20-90	0.034/02-07-89 0.185/09-20-90	Tested Simultaneously
68 :REFUEL WATER (BYPASS)					
	2-RW-154, 2-RW-63	C	0.020/02-07-89 0.027/09-20-90	0.020/02-07-89 0.027/09-20-90	Tested Simultaneously

APPENDIX E

SENSOR LOCATIONS AND VOLUME FRACTIONS

APPENDIX E

SENSOR LOCATIONS AND VOLUME FRACTIONS

SENSOR NUMBER	ELEV. (FEET)	AZIMUTH (DEGREES)	RADIUS (FEET)	ORIGINAL VOLUME WEIGHTING FACTOR	REVISED VOLUME WEIGHTING FACTOR
TE-9769	150	90	12	0.096	0.096
TE-8110	105	220	40	0.086	0.086
TE-9767	105	40	45	0.087	0.087
TE-8111	90	320	60	0.086	0.086
TE-8112	90	105	60	0.087	0.087
TE-8084	44	5	45	0.058	0.087
TE-8108	44	103	65	0.058	0.087
TE-8109	44	235	65	0.058	0
TE-8097	30	125	20	0.016	0.016
TE-8098	30	235	20	0.014	0.014
TE-8094	20	350	45	0.040	0.040
TE-9770	18	220	55	0.040	0.040
TE-9771	18	90	50	0.040	0.040
TE-8087	3	5	32	0.032	0.032
TE-9765	3	240	65	0.032	0.032
TE-9766	3	125	65	0.032	0.032
TE-8091	-15	330	35	0.069	0.069
TE-9768	-18	135	50	0.069	0.069
ME-9772	90	320	60	0.279	0.279
ME-8064	90	105	60	0.279	0.279
ME-9773	3	40	45	0.221	0.221
ME-9774	-20	220	45	0.221	0.221

The trend of temperature sensor TE-8109 during the ILRT did not reflect the trend of the other temperature sensors or the trend of the average containment sensor. Sensor TE-8109 was declared faulty and its weighting factor was re-distributed in accordance with engineering calculation 2-ENG-102. All ILRT calculations were redone using the revised sensor weighting factors.