FLORIDA POWER & LIGHT COMPANY
TURKEY POINT NUCLEAR POWER PLANT
UNIT NO. 3

REACTOR CONTAINMENT BUILDING INTEGRATED LEAK RATE TEST

SUMMARY TECHNICAL REPORT

Prepared for:
FLORIDA POWER & LIGHT COMPANY

Prepared by:
William D. Roman
EBASCO SERVICES INCORPORATED
Plant Operations & Betterment Department
February 14, 1976

TABLE OF CONTENTS

I. INTRODUCTION.....1

II. SUMMARY.....2

III. TEST DISCUSSION

A. Description of Containment.....3

B. Description of Instrumentation.....5

1. Temperature Instrumentation.....6
2. Humidity Instrumentation.....6
3. Pressure Instrumentation.....6
4. Numatron (Digital Voltmeter).....6

C. Description of Computer Program.....7
D. Error Analysis.....8
E. Description of Tests.....8

IV. RESULTS AND VERIFICATION.....11

V. CONCLUSIONS.....12

VI. FIGURES.....14

VII. APPENDICES

A. Computer - Generated Report

1. Integrated Leak Rate Test (ILRT)
2. Controlled Leak Rate Test (CLRT)

B. Operating Procedure No. 13100.1
Integrated Leak Rate Test

1. Raw Data
2. Test Log

C. Periodic Type B and Type C Test Reports

I. INTRODUCTION

A periodic Type A integrated leakage rate test was performed on the containment structure of the Florida Power & Light Company, Turkey Point Nuclear Power Plant - Unit No. 3 pressurized water reactor in November and December of 1975 utilizing the "Absolute Method" of testing. This test was performed at the reduced pressure test (P_t) which is defined as not less than 50% of the calculated peak accident pressure.

This report describes and presents the results of this periodic Type A leakage rate test including the supplemental test method utilized for verification.

II. SUMMARY

All Type "B" and "C" tests were satisfactorily performed and repairs and corrections were made where necessary. At the start of the test, all valves were to be in their normal position for accident conditions. Exceptions to this valve lineup were noted during this test and are listed in Appendix B. The measured total-time simple leakage rate was 0.040%/day at 41.89 psia (total containment pressure at start of test). The measured total-time least squares statistical fit leakage rate was 0.058%/day at 41.89 psia.

III. TEST DISCUSSION

A. Description of Containment

The containment structure completely encloses the reactor coolant system and provides adequate biological shielding for both normal and hypothetical accident conditions. The structure is a post-tensioned reinforced concrete cylinder with a shallow dome and is connected to and supported by a reinforced concrete foundation slab. The inside surface of the structure is lined with ¼" thick welded steel plate to insure a high degree of leak tightness.

Principal dimensions of the containment structure are as follows:

Inside diameter	116 feet
Inside height (including dome but excluding reactor cavity)	169 feet
Inside depth of reactor cavity	29 feet 8 inches
Vertical wall thickness	3 feet 9 inches
Dome thickness	3 feet 3 inches
Foundation slab thickness	10 feet 6 inches
Internal free volume	1,550,000 cubic feet

Access to the interior of the containment structure is through a personnel lock located on the west side, at an elevation of 25'-10". An emergency escape lock is located on the east side at elevation 52'-9". A 14'-0" diameter equipment hatch is located on the north side at elevation 30'-6".

The interior of the containment consists of three levels; base floor at elevation 14'-0", mezzanine floor at elevation 30'-6", and operating floor at elevation 58'-0". Two stairways and an elevator have been provided in the containment with landings at elevations 17'-6", 25'10", 58'-10" and 73'-8".

The polar crane can be reached via a stairway to the top of the elevator shaft, and then a ladder to the platform at elevation 113'-10".

A stairway is provided from the personnel access platform to the base floor and from the emergency escape lock to the operating floor. A ladder access is also available from the base floor to the emergency escape platform at 52'-9".

The reactor vessel is located in the reactor cavity at the center of the containment. The three primary coolant loops including the steam generators and the pumps are located in separate compartments around the reactor vessel. The primary shield wall (7'-0" thick and circular in shape) and the secondary shield walls (2'-6" thick) form boundaries of the compartments and also provide radiation shielding. The mezzanine floor is a 2'-6" thick slab and the operating floor is 2'-6" thick slab. On the periphery of the operating floor there is a galvanized steel grating platform which supports the containment normal and emergency coolers and filters and permits air circulation and flow path for water from the containment sprays.

The reactor refueling canal to the east of the reactor cavity is lined with a stainless steel plate. A stainless steel ring seals the reactor cavity during refueling. The canal walls are of reinforced concrete construction and extend from elevation 18'-0" to the operating floor at 58'-0". The canal is illuminated by underwater lights and contains the reactor internals storage stands, refueling tool racks, control rod unlatching tools and fuel transfer tube and mechanism. During refueling, the canal is filled with borated water which provides shielding and cooling for the spent fuel elements. The reactor refueling crane (manipulator crane) spans across the canal and travels longitudinally over rail tracks.

The reactor vessel is supported on its six nozzels, each of which sits on three structural steel beams cantilevering from the primary shield wall into the reactor cavity. The steam generators and pumps are supported on columns and embedded plates and anchor bolts. The supports allow thermal growth but restrain the equipment during earthquakes or pipe rupture.

The polar crane supported on structural steel brackets at elevation 125'-9" with a capacity of 135T/35T services the reactor building during refueling and maintenance operations.

There are eighteen (18) dome trusses which were designed to support the dome liner during construction. These trusses were then lowered and tied to the supporting brackets. They carry the hangers for the containment spray piping.

B. Description of Instrumentation

The containment system was equipped with instrumentation to permit leakage rate determination by the "Absolute Method". Utilizing this method, the actual mass of dry air within the containment is calculated. The leakage rate becomes the time rate of change of this value. The mass of air (Q) is calculated according to the Perfect Gas Law as follows (reference Section 3.1.2 of Appendix B for additional information):

$$Q = \frac{P_a V}{RT}$$

where: P_a = air partial pressure
V = free volume
R = gas constant
T = temperature

The parameters required are temperature, humidity and pressure. The location of the instrumentation is shown in Figures 1 and 2.

1. Temperature Instrumentation

The containment was equipped with 20 precision RTD's plus 2 spares. The accuracy of these detectors is within ± 0.2F. The maximum probable temperature error is equivalent to ± 0.054F.

2. Humidity Instrumentation

The containment was equipped with 6 RHD's plus 2 spares. The accuracy of these detectors is ± 2.5% relative humidity for a 0-100% relative humidity excursion. The maximum probable humidity error is equivalent to ± 0.296%.

3. Pressure Instrumentation

The containment was equipped with 01 precision readout unit plus 01 spare with a calibration accuracy of 0.015% of reading, resolution of 0.001% of full scale and readout of 100,000 counts = full scale. The absolute pressure capsule had a range of 0-49 psi. The maximum probable pressure loop error is equivalent to ± 0.001 psia.

4. Numatron (Digital Voltmeter)

A L&N digital voltmeter (Numatron) was utilized to obtain direct readout humidity data. This instrument has an accuracy of ± 0.01 millivolt which is insignificant.

Consequently, the maximum probable total instrument loop error is equivalent to ± 0.015% per day at a confidence level of 99.87%.

Additional information concerning all the above instrumentation may be found in section 5.1 of Appendix B.

C. Description of Computer Program

Throughout the test, temperatures, humidities and pressure were monitored. These data were used to compute the leak rate from the perfect gas law using either the point-to-point or total-time method. Leak rate predictions and estimates of error were provided by first order linear regression over the test duration of 24 hours. Furthermore, the sensitivity to sensor accuracy was computed to demonstrate that the test had met the minimum allowable leakage rates within statistical error bounds.

All data were manually entered using a Texas Instrument 700 terminal at 15 minute intervals. A weighted average temperature was computed according to the fraction of the total free containment volume each RTD sensed. A weighted average partial pressure was also computed according to the fraction of the total free containment volume each RHD sensed by utilizing "built-in" computer saturation tables. Data were verified by requesting a tabular listing with actual sensor values and other computed values listed in tables or plotted as requested. At 2030 12-2-75, RTD #4 was deleted as a result of this sensor malfunctioning. When this sensor was deleted, the volumetric fraction was updated by the computer and future calculations deleted this sensor. As a result, it was no longer necessary to input a value for this deleted instrument.

Information on the progress of the test was retrieved and listed in tables or graphical form upon request. Raw sensor data and computed variables, such as simple leak rates, average temperatures, vapor pressures, point-to-point, and total-time statistical leak rates were evaluated in these forms. Appendix A contains graphs of major variables, statistical and simple leak rate results, instrument error analysis, tabular listings

of both major variables and raw input data, and certain appropriate notes which fully describe the ILRT and CLRT.

It should also be noted that this program has been verified extensively with and against previously performed ILRT's as well as concurrently, during actual test performance, by utilizing a desk calculator. All data have been in exact agreement.

D. Error Analysis

Although maximum instrument loop errors are determined prior to the ILRT to ensure the reliability of the measured data, the effect of instrument inaccuracies is computed following the ILRT and CLRT to reflect actual test conditions. Total instrument error reported is established by the likelihood that additive errors will not exceed 95% confidence limits. Contribution to the reported instrument error is an additive function of the loop errors for temperature, humidity and pressure sensors, and the initial test average variables for the first set of data recorded by either the ILRT or CLRT. In addition, a statistical measure of the goodness of fit of the first order regression is reported as a function of test duration; in particular, this provides regression errors which diminish significantly as the amount of collected data increases.

E. Description of Tests

Interpretation and final analysis of test data show results well within the specified limits for this containment as delineated in section V of this report.

The containment was made ready for the integrated leak rate test with pressurization commencing at 2150 11-28-75 following final inspection and "correction" of relative humidity detector (RHD) problems encountered.

Pressurization was accomplished by utilizing seven (7) mobile oil-free air compressors with a total capacity of 6750 scfm. These units were connected to the containment as shown in Figure 3. Additional information concerning this equipment may be found in section 5.7 of Appendix B. At 0455 11-29-75 at approximately 41.47 psia pressurization was secured with data acquisition commencing at 0515. However, due to malfunctioning RHD's and excessive leakage, the ILRT was aborted at 1845. During the test period, four (4) RHDs had to be deleted with numerous leaks detected and repaired. At 0028 11-30-75, containment blowdown to atmosphere commenced following containment air sampling. This sampling (utilizing a Tracerlab Model MD-12C beta-gamma GM tube and Eberline Model AMS-2 detectors) was continuous during this period. No detectable gaseous or particulate activity was observed. At 1030 the containment was at atmospheric pressure. An inspection team then entered following satisfactory containment atmosphere air sampling.

During the following period, minor leaks were repaired where previously observed or suspected as well as re-verification of the valve line-up. The containment inspection revealed FT-474 on the steam line from "A" steam generator was removed with all associated valves in their open position, steam line high point vent on "C" steam generator was open with an empty packing gland and the level indicator and all associated vents open to containment. These discrepancies were corrected.

Evaluation of the RHD problem indicated that the system was malfunctioning with no repeatability. As a result, a "new" RHD system was obtained from the St. Lucie Nuclear Plant who recently completed a preoperational ILRT. These sensors were then installed in the same

location as the previously discussed instruments and the system was functionally tested. Upon achieving satisfactory results, pressurization again commenced at 0923 12-1-75 following containment inspection at 0810. At 1620 at approximately 42.55 psia, pressurization was secured with data acquisition commencing at 1630. Leak survey teams were then instituted with leaks detected and repaired in the ILRT panel sensing lines and associated instrument valves. Time zero was established as 0900 12-2-75 following a 16.5 hour stabilization period. The ILRT was successfully completed at 0900 12-3-75 followed by a 4.5 hour CLRT at an average flow rate of 3.4 scfm. This discharge was also monitored with no detectable gaseous or particulate activity observed. At 1330 the CLRT was satisfactorily completed with blowdown commencing at 1449. Continuous monitoring during blowdown again revealed no detectable gaseous or particulate activities (see Appendix B - Test Log) with atmospheric pressure achieved at 0116 12-4-75. Following satisfactory containment air sampling, an internal inspection was performed from 0149 to 0228 with no discrepancies observed.

Prior to performing the ILRT, a Local Leakage Rate Test (LLRT) was performed by Florida Power & Light personnel to verify containment integrity. Type B and C local leakage rate tests were performed on containment electrical penetrations, mechanical penetrations, piping system isolation valves which become part of the containment boundary under accident conditions, the fuel transfer tube, the personnel access lock, the emergency escape lock, and the equipment hatch. The acceptance criteria for this LLRT is that the total leakage from all local leakage rate tests shall not exceed 60% of the maximum allowable leakage (L_a) at test conditions. The total leakage from these Type B and C tests was within these limits and is presented in Appendix C.

IV. RESULTS AND VERIFICATION

The reduced pressure test (P_t) was conducted for a period of 24 hours starting at 41.89 psia with a total of 97 samples or data sets taken. This test followed a stabilization period of approximately 16.5 hours. The results of a computed total-time least squares statistical fit of all data revealed a leakage rate of 0.058%/day by weight or a total-time simple leakage rate of 0.040%/day by weight. For the purposes of this test, the total-time simple leakage rate shall be utilized due to comparison to the CLRT data which are of much shorter duration. Since the least squares statistical fit of the first order regression is a function of test duration, the regression errors during the CLRT are high. Consequently, for comparison during the verification phase, the total-time simple leakage rate shall be utilized. This leakage rate corresponds to an initial containment air weight of 318,834.2 pounds and a final containment air weight of 318,704.3 pounds or a loss of 129.9 pounds. Maximum probable instrument error for this test contributes $\pm$ 0.015%/day.

Following satisfactory completion of the ILRT at P_t, a 4.5 hour verification test or CLRT was performed. This test was conducted by superimposing a known leak of 3.37 scfm at 39.696 psia which corresponds to a leakage rate of 0.123%/day by weight. Consequently, L_{tm} plus the superimposed leak equal 0.163%/day by weight. The measured total-time simple leak was 0.144%/day by weight ($0.027 \times \frac{24 \text{ hrs.}}{4.50 \text{ hrs}} = 0.144$, reference Appendix A, section 2). This corresponds to an initial containment air weight of 318,709.3 pounds and a final containment air weight of 318,624.2 pounds or a loss of 85.1 pounds. Maximum probable instrument error for this test contributes $\pm$ 0.015%/day.

V. CONCLUSIONS

The 25.0 psig integrated leakage rate test provided acceptable results as evidenced by the computer printout and graphs in Appendix A of this report. These leakage rates are well within the specified limits. These limits are as follows:

1. The maximum design leakage rate (L_a) shall not exceed 0.25%/day.
2. The maximum allowable reduced pressure leakage rate (L_t) shall be the lesser of:
   1. $L_t = L_a \left(\frac{L_{tm}}{L_{am}}\right)$ or $L_t = L_a \left(\frac{P_t}{P_a}\right)1/2$

      where, L_m = measured leakage rate

      P_t = retest pressure, 25.0 psig

      P_a = peak accident pressure, 50.0 psig
3. The maximum allowable operational leak rate (L_{to}) shall not exceed 0.75 L_t.

Preoperational test have provided the following results:

1. L_{tm}= 0.0667
2. L_{am}= 0.1020

As a result, L_t shall be equal to the lesser of:

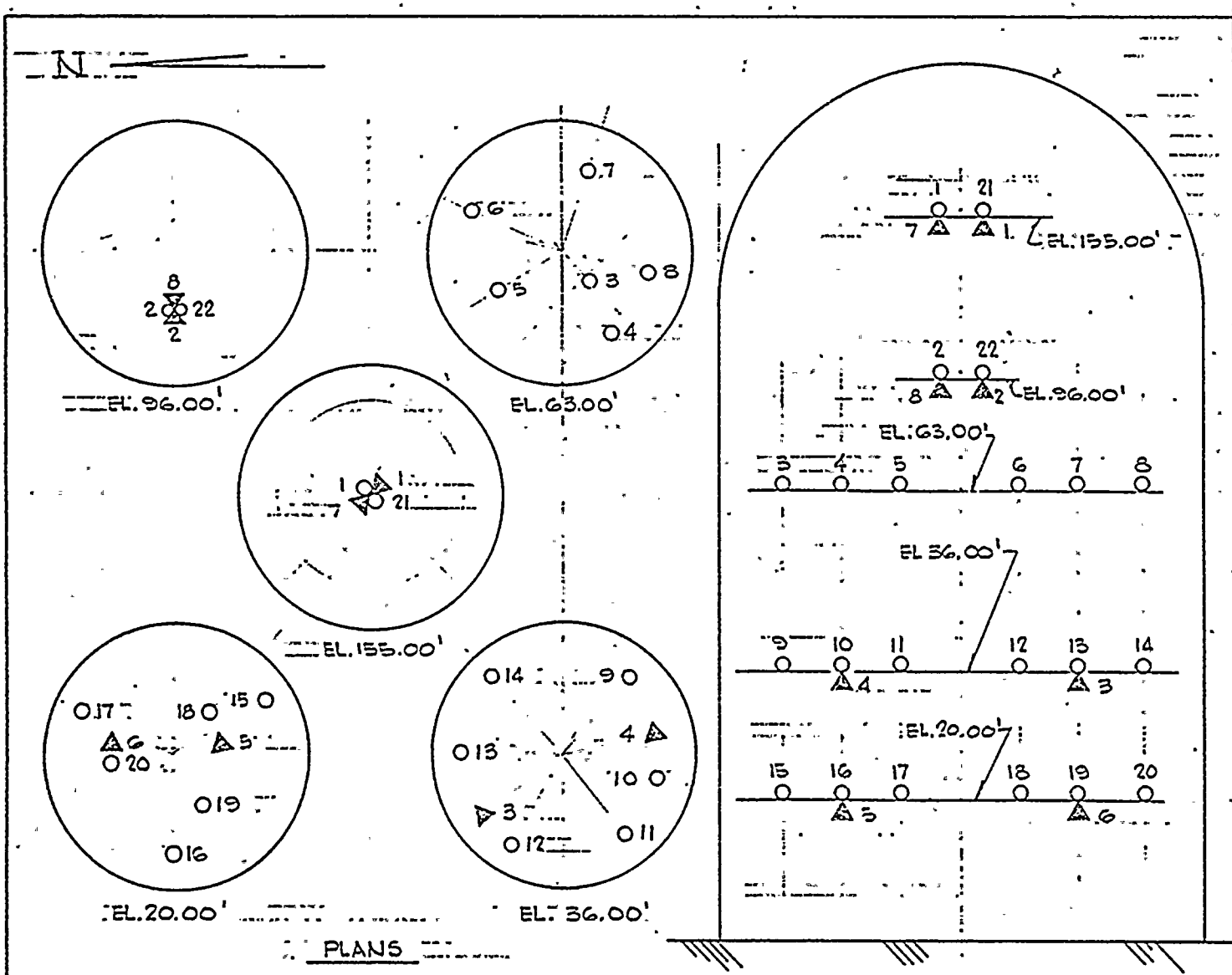
1. $L_t = L_a \left(\frac{L_{tm}}{L_{am}}\right) = 0.25 \left(\frac{0.0667}{0.1020}\right) = 0.1635$
2. $L_t = L_a \left(\frac{P_t}{P_a}\right)1/2 = 0.25 \left(\frac{25.0}{50.0}\right)\ 1/2 = 0.1768$

In this case, since $\frac{L_{tm}}{L_{am}} = 0.6539$ or < 0.70, $L_t = L_a \left(\frac{L_{tm}}{L_{am}}\right) = 0.1635$

As a result, for future periodic testing at the reduced test pressure:

$L_{tm} \leq 0.75\ L_t = 0.75\ (0.1635) = 0.123\%$/day by weight.

The verification tests discussed in section IV contain the test results and verify the accuracy of the ILRT measurement system. The close correlation between the ILRT and supplemental test provides sufficient data to validate the ILRT results. The minor differences between these tests and the ILRT results are attributed to rotameter accuracy which is $\pm$ 1.0% of full scale or less than the accuracy of the ILRT measurement system.



TEMP. INDICATOR	DEW. CELL	LOCATION
RTD-21	RHD-7	TOP OF CRANE
RTD-1	RHD-1	" " " "
RTD-2	RHD-2	TOP OF STM GEN.
RTD-22	RHD-8	" " " "
RTD-3		
RTD-4		
RTD-5		
RTD-6		
RTD-7		
RTD-8		
RTD-9		
RTD-10	RHD-4	BY "C" ACCUM.
RTD-11		
RTD-12	RHD-3	BETWEEN "A" & "B" ACCUM.
RTD-13		
RTD-14		
RTD-15	RHD-5	UNDER "C" STM GEN.
RTD-16		
RTD-17		
RTD-18		
RTD-19		
RTD-20	RHD-6	UNDER "A" R.C.P.

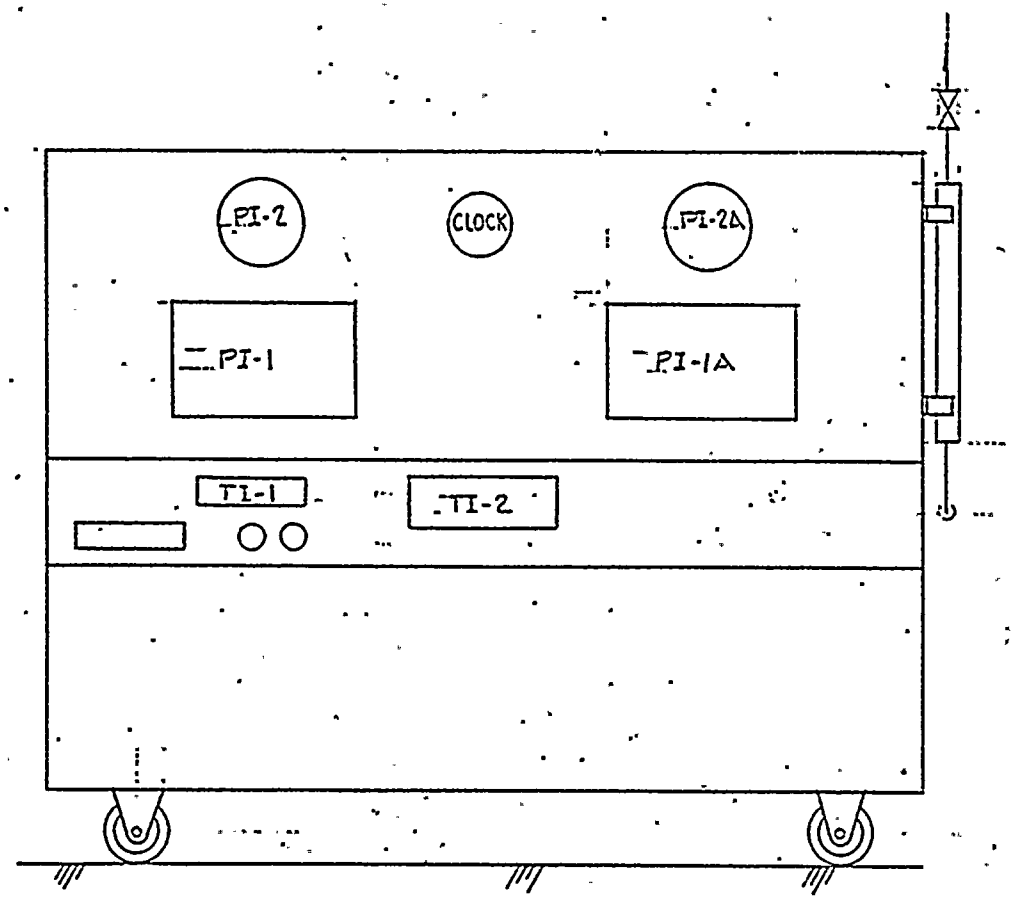
NOTE:

RHD-8 SPARE FOR RHD-2
RHD-7 SPARE FOR RHD-1
RTD-21 SPARE FOR RTD-1
RTD-22 SPARE FOR RTD-2

Figure 1

TURKEY POINT PLANT - UNIT #3

REACTOR CONTAINMENT
LOCATIONS OF RTD'S & RHD'S



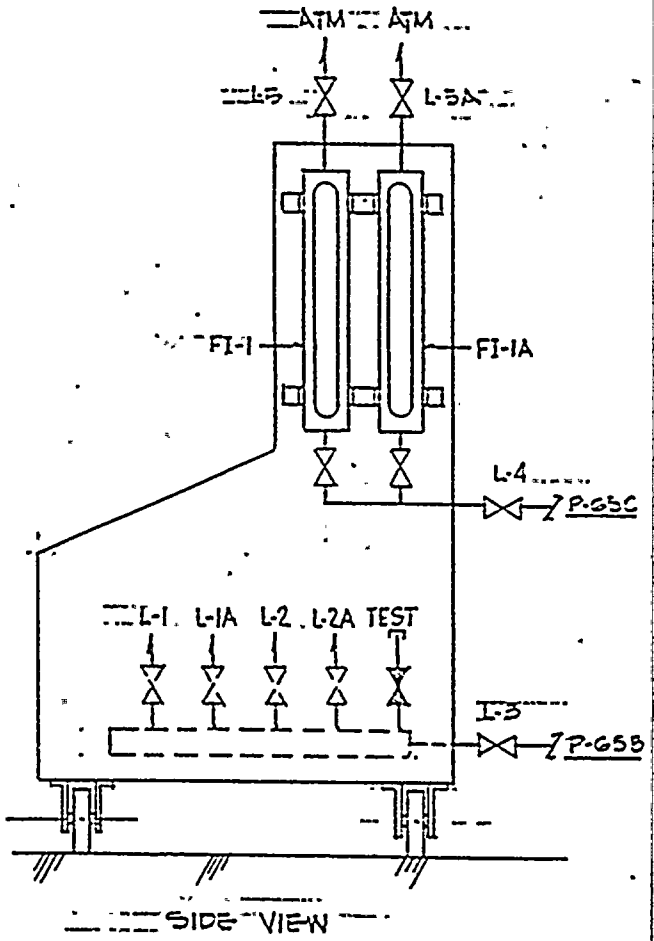


Figure 2

TURKEY POINT PLANT - UNIT #3
ILRT PRESSURE SENSING AND CONTROLLED LEAKAGE TEST PANEL

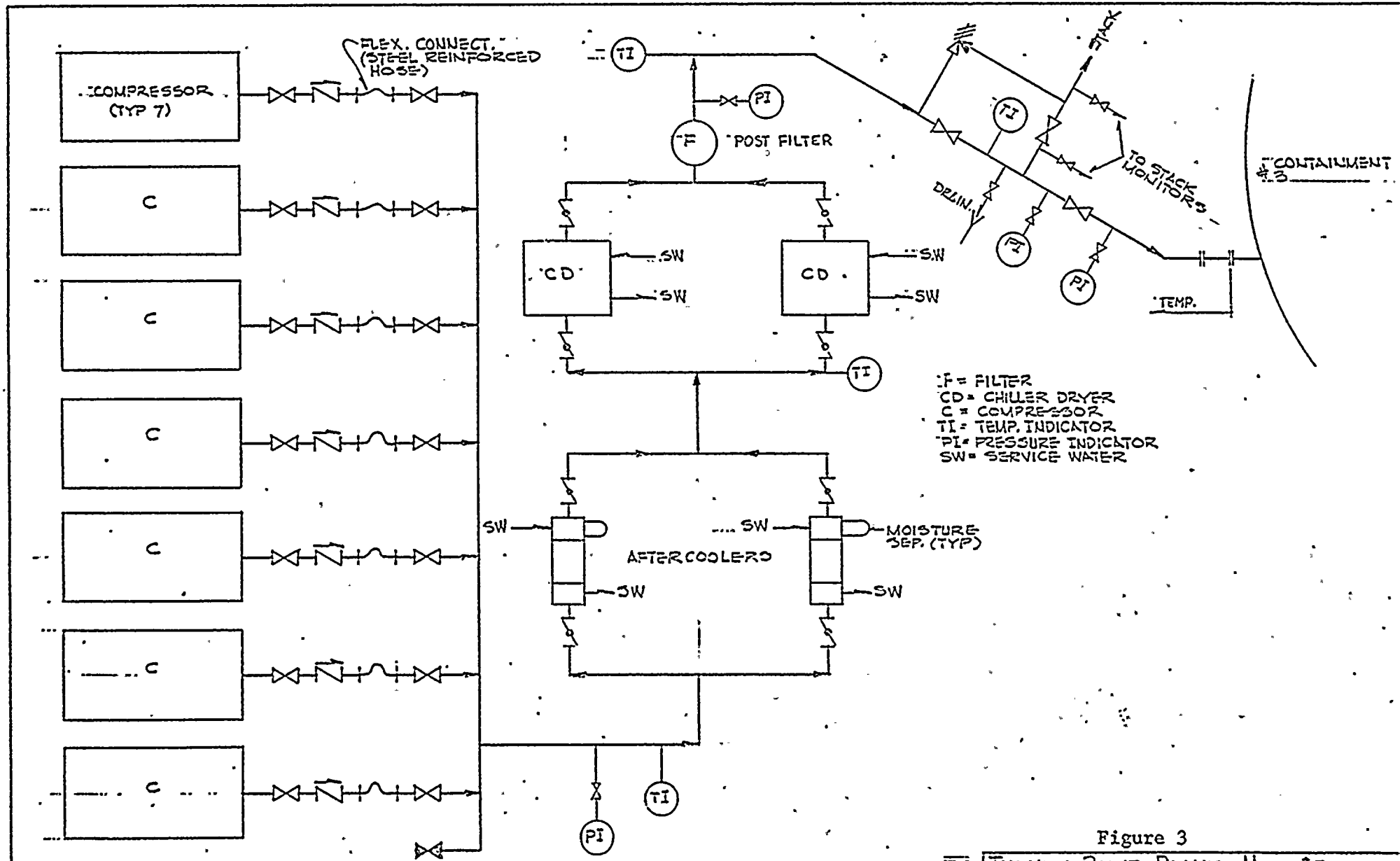


Figure 3

TURKEY POINT PLANT - UNIT #3

ILRT PRESSURIZING AND DEPRESSURIZING STATION

APPENDIX A

Computer-Generated Report

1.
INTEGRATED LEAK RATE TEST
(ILRT)

LEAK RATE COMPUTED USING TOTAL TIME METHOD
AS RECOMMENDED BY APPENDIX J FOR 10 CFR 50
(REACTOR CONTAINMENT LEAKAGE TESTING FOR WATER COOLED POWER REACTORS)

TEST PERIOD STARTED AT 0900 HOURS ON DECEMBER 2, 1975

A LEAST SQUARES FIRST ORDER FIT OF LEAK RATE TO TIME
SHOULD YIELD A SLOPE OF ZERO AND AN INTERCEPT EQUAL
TO THE LEAK RATE AS COMPUTED AT THE INITIAL START TIME
THE EQUATION HAS THE FORM – L=ST + R WHERE
L – CORRELATED LEAK RATE
S – SLOPE OF CORRELATION
T – TIME IN HOURS
R – INTERCEPT LEAK RATE

LEAK RATE	= 0.001 HOURS + 0.013 PER CENT
MEAN	= 0.036 PER CENT
ERROR COEFFICIENT	= 0.226

WHERE COEFFICIENT OF 1.0 MEANS A PERFECT FIT &
COEFFICIENT OF 0.0 MEANS NO CORRELATION.

INITIAL CONTAINMENT AIR WEIGHT	= 318834.2 LBS.
FINAL CONTAINMENT AIR WEIGHT	= 318704.3 LBS.

LEAK RATE FOR 24.00 HOUR PERIOD IS 0.040 PER CENT BY WEIGHT.

MAXIMUM NRC LEAK RATE OF 0.128 PER CENT PER DAY
GIVEN FOR LOW PRESSURE TEST AT 41.890 PSIA

MAXIMUM PROBABLE TEMPERATURE LOOP ERROR = 0.054 DEGREES F.
MAXIMUM PROBABLE PRESSURE LOOP ERROR = 0.001 PSIA.
MAXIMUM PROBABLE HUMIDITY LOOP ERROR = 0.296 PERCENT.

INSTRUMENT ERROR CONTRIBUTES 0.015 PERCENT PER DAY
TO ESTABLISH 99.87 PERCENT CONFIDENCE BOUND

*** NOTE FOR GRAPHS ***

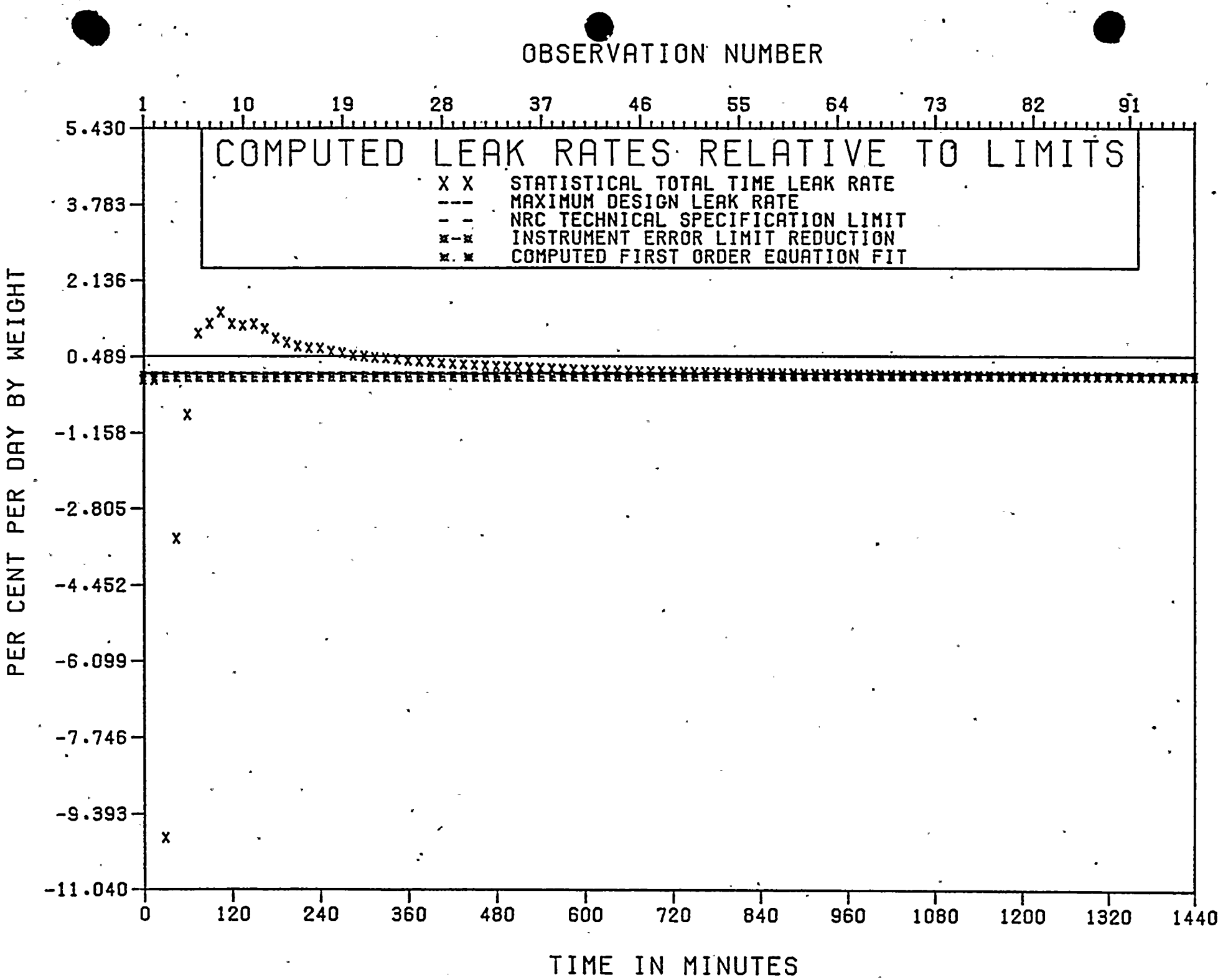
BOTH SAMPLE NUMBERS AND TIME ARE SHOWN.

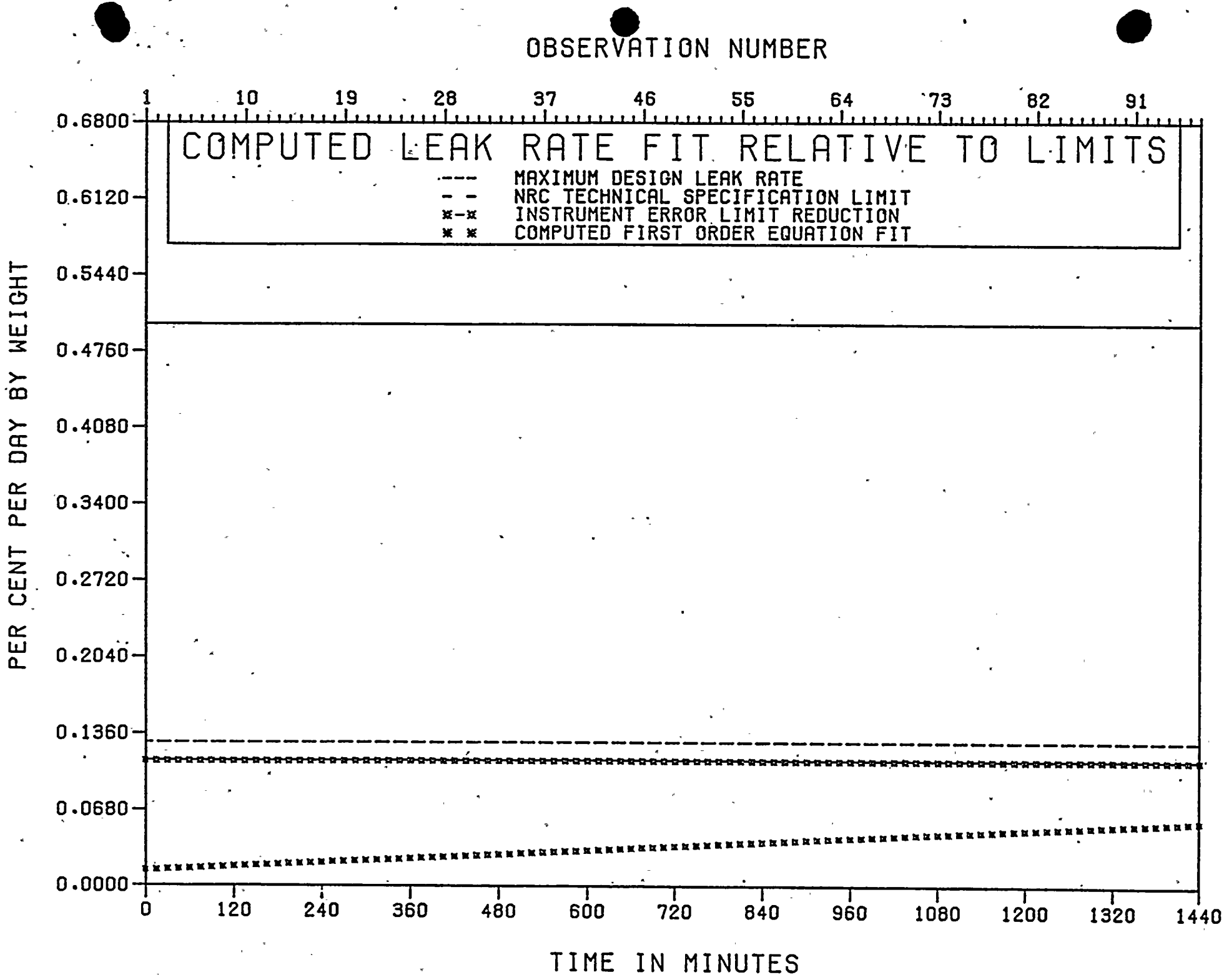
*** NOTE FOR TABULAR DATA ***

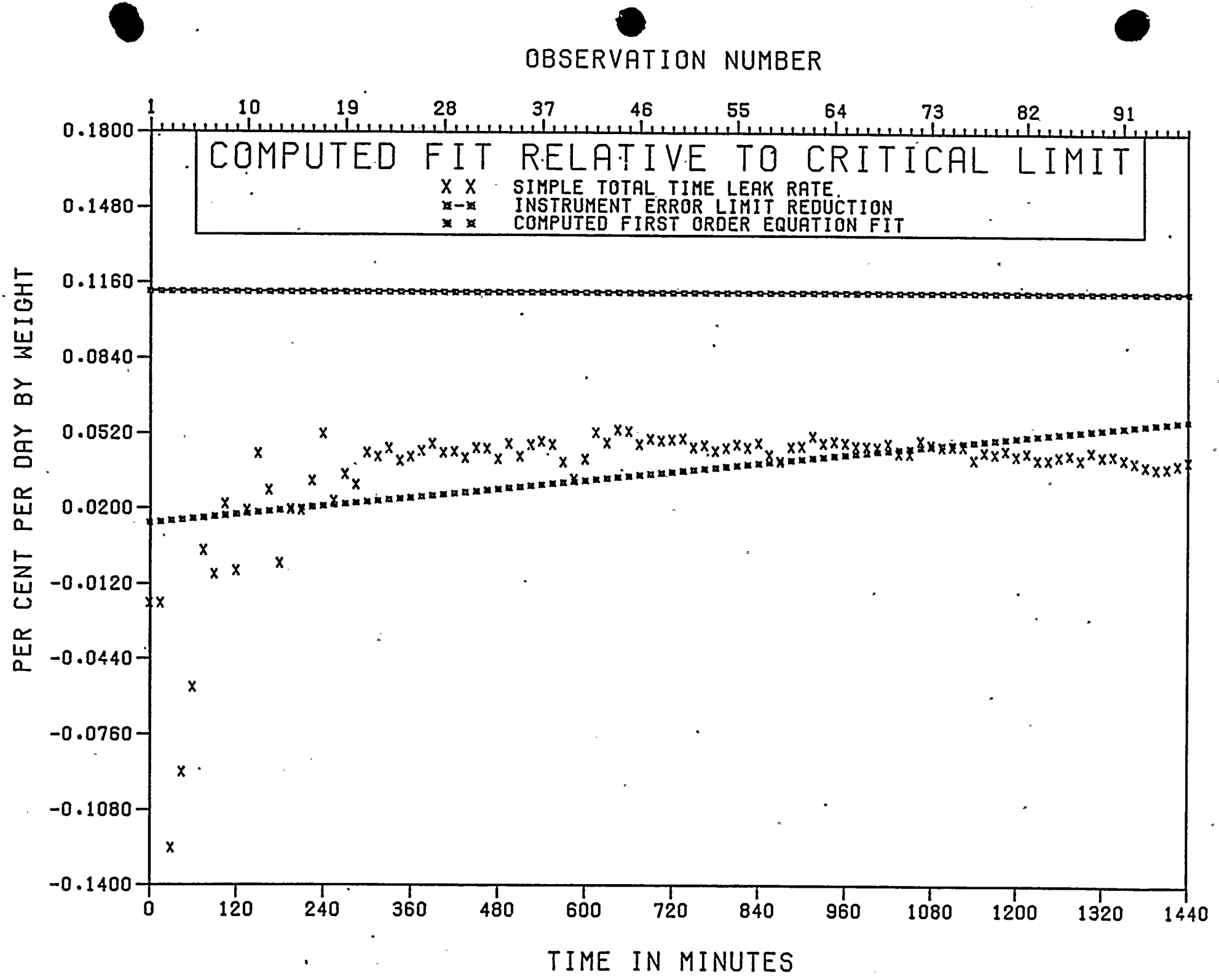
TABLE VALUES OF ZERO SIGNIFY EITHER
1. DATA IS NOT APPLICABLE TO THE CALCULATION OR
2. SENSOR HAS BEEN DELETED FROM MONITORING

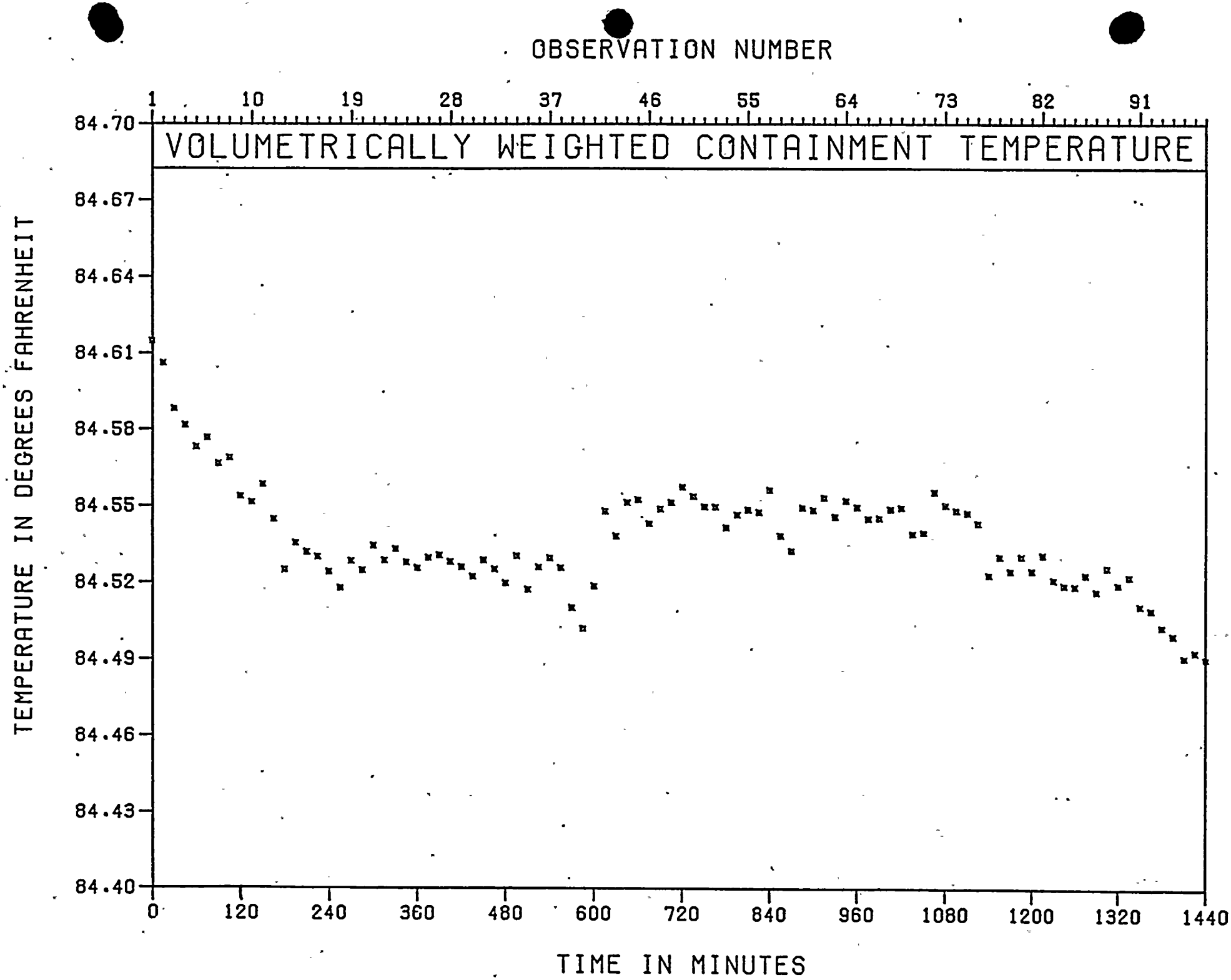
*** DESCRIPTION OF VARIABLES ***

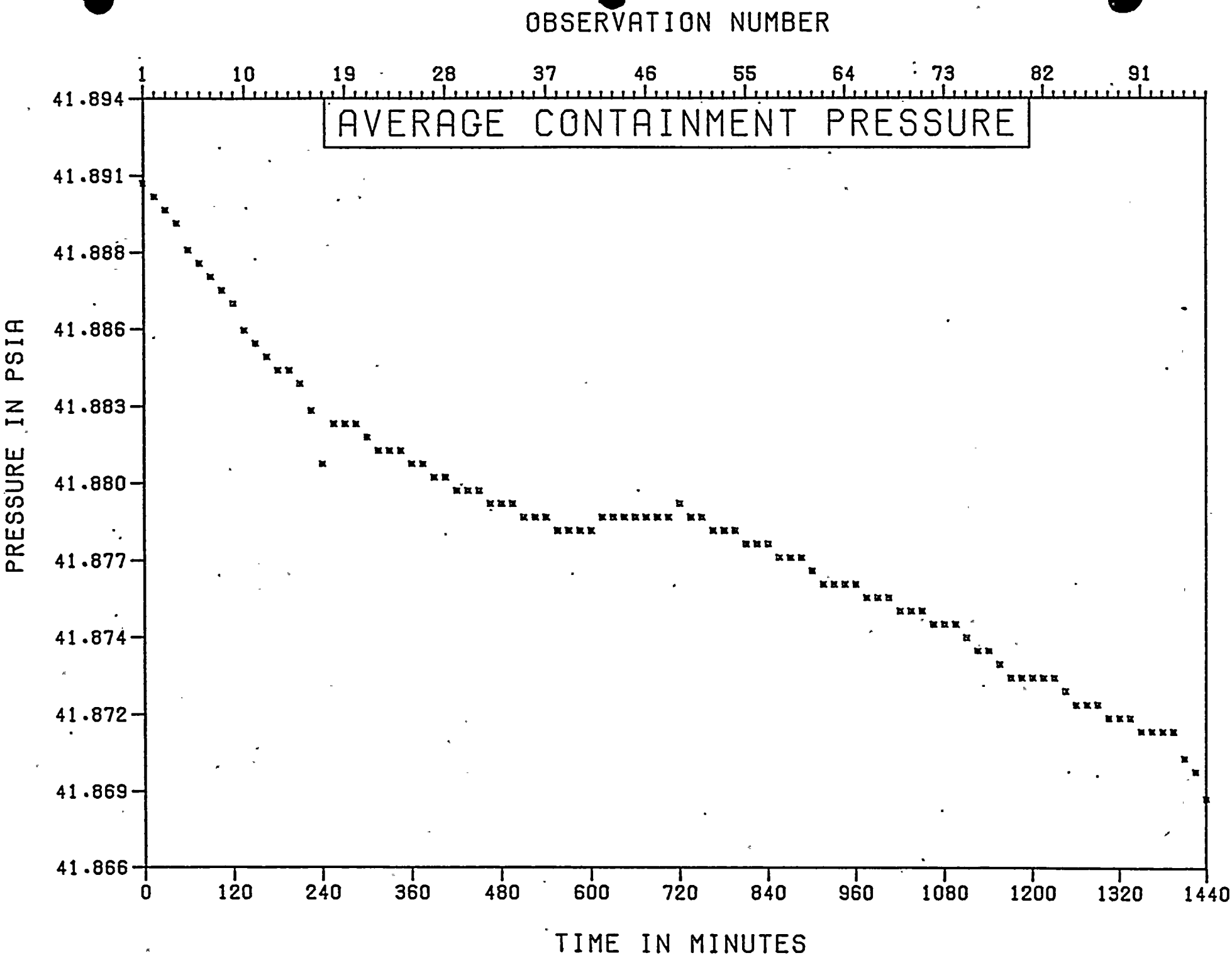
AVG TEM	VOLUMETRICALLY WEIGHTED TEMPERATURE .
AVG PRE	AVERAGE PRESSURE .
VAP PRE	VOLUMETRICALLY WEIGHTED VAPOR PRESSURE.
LEA COM	FIRST ORDER COMPUTED LEAK RATE .
LEA TRA	STATISTICAL TOTAL TIME LEAK RATE .
LEA SIM	SIMPLE TOTAL TIME LEAK RATE .
ERROR	STATISTICAL TOTAL TIME LEAK RATE ERROR .

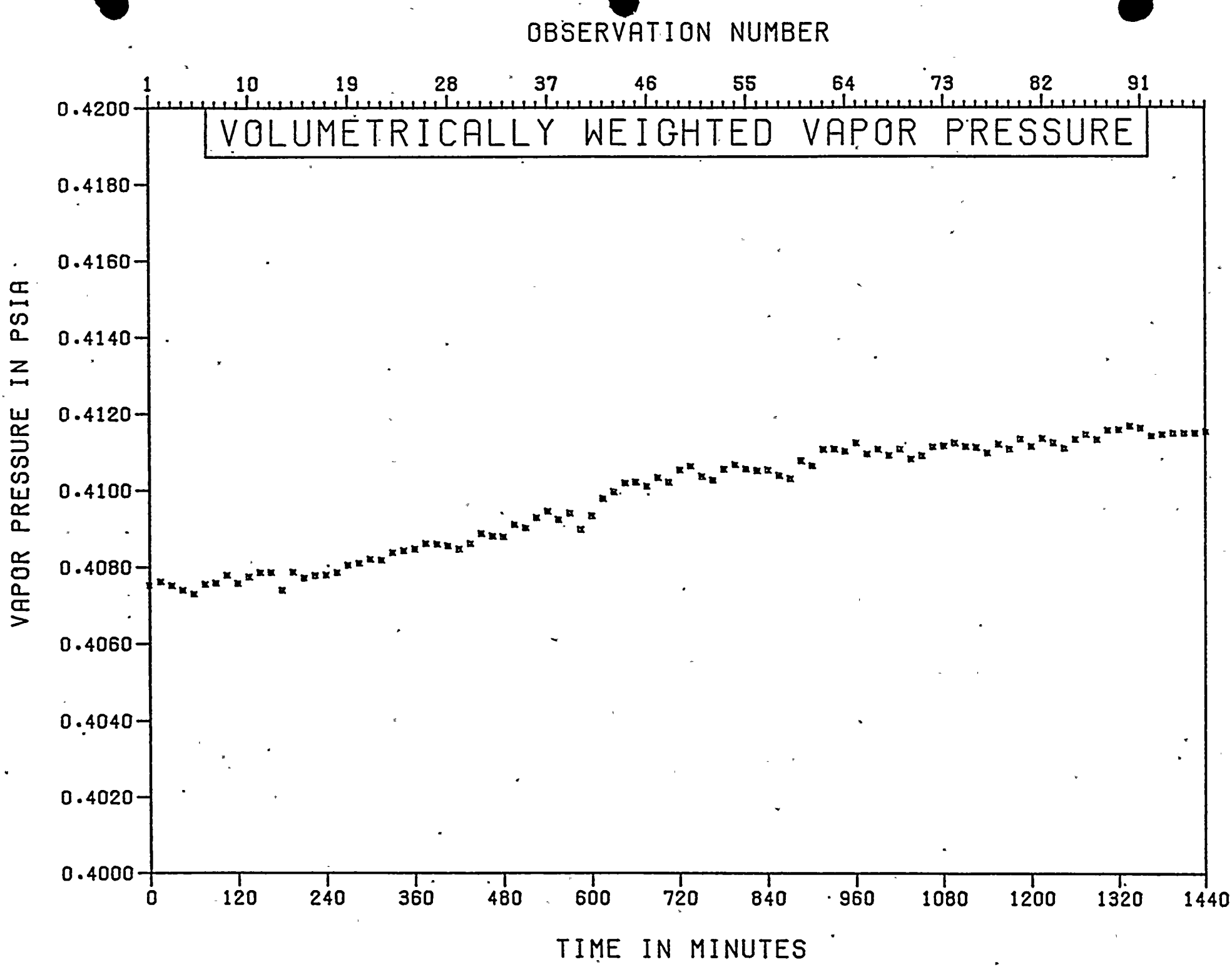

OBSERVATION NUMBER
1
10
19
28
37
46
55
64
73
82
91
COMPUTED LEAK RATES RELATIVE TO LIMITS
X X STATISTICAL TOTAL TIME LEAK RATE
--- MAXIMUM DESIGN LEAK RATE
- - NRC TECHNICAL SPECIFICATION LIMIT
x-x INSTRUMENT ERROR LIMIT REDUCTION
x.x COMPUTED FIRST ORDER EQUATION FIT
PER CENT PER DAY BY WEIGHT
5.430
3.783
2.136
0.489
-1.158
-2.805
-4.452
-6.099
-7.746
-9.393
-11.040
0
120
240
360
480
600
720
840
960
1080
1200
1320
1440
TIME IN MINUTES


OBSERVATION NUMBER
1
10
19
28
37
46
55
64
73
82
91
COMPUTED LEAK RATE FIT RELATIVE TO LIMITS
MAXIMUM DESIGN LEAK RATE
NRC TECHNICAL SPECIFICATION LIMIT
INSTRUMENT ERROR LIMIT REDUCTION
COMPUTED FIRST ORDER EQUATION FIT
PER CENT PER DAY BY WEIGHT
0.6800
0.6120
0.5440
0.4760
0.4080
0.3400
0.2720
0.2040
0.1360
0.0680
0.0000
0
120
240
360
480
600
720
840
960
1080
1200
1320
1440
TIME IN MINUTES


OBSERVATION NUMBER
1
10
19
28
37
46
55
64
73
82
91
COMPUTED FIT RELATIVE TO CRITICAL LIMIT
X X SIMPLE TOTAL TIME LEAK RATE
x-x INSTRUMENT ERROR LIMIT REDUCTION
x x COMPUTED FIRST ORDER EQUATION FIT
PER CENT PER DAY BY WEIGHT
0.1800
0.1480
0.1160
0.0840
0.0520
0.0200
-0.0120
-0.0440
-0.0760
-0.1080
-0.1400
0
120
240
360
480
600
720
840
960
1080
1200
1320
1440
TIME IN MINUTES


OBSERVATION NUMBER
1
10
19
28
37
46
55
64
73
82
91
VOLUMETRICALLY WEIGHTED CONTAINMENT TEMPERATURE
84.70
84.67
84.64
84.61
84.58
84.55
84.52
84.49
84.46
84.43
84.40
TEMPERATURE IN DEGREES FAHRENHEIT
0
120
240
360
480
600
720
840
960
1080
1200
1320
1440
TIME IN MINUTES


OBSERVATION NUMBER
1
10
19
28
37
46
55
64
73
82
91
AVERAGE CONTAINMENT PRESSURE
41.894
41.891
41.888
41.886
41.883
41.880
41.877
41.874
41.872
41.869
41.866
PRESSURE IN PSIA
0
120
240
360
480
600
720
840
960
1080
1200
1320
1440
TIME IN MINUTES


OBSERVATION NUMBER
1
10
19
28
37
46
55
64
73
82
91
VOLUMETRICALLY WEIGHTED VAPOR PRESSURE
VAPOR PRESSURE IN PSIA
0.4200
0.4180
0.4160
0.4140
0.4120
0.4100
0.4080
0.4060
0.4040
0.4020
0.4000
0
120
240
360
480
600
720
840
960
1080
1200
1320
1440
TIME IN MINUTES

VARIABLE TABLE SUMMARY

SAMPLE NUMBER	DELTA MINS	AVG. TEM DEG. F	AVG. PRE PSIA	VAP. PRE PSIA	LEAK COM PER CENT	LEAK TRA PER CENT	ERROR(T) PER CENT
1	0	84.615	41.891	0.408	0.014	0.000	0.000
2	15	84.606	41.890	0.408	0.014	-0.020	0.000
3	30	84.588	41.890	0.408	0.015	-9.914	-0.072
4	45	84.582	41.889	0.407	0.015	-3.449	-0.036
5	60	84.573	41.889	0.407	0.016	-0.773	-0.003
6	75	84.577	41.888	0.408	0.016	0.993	-0.007
7	90	84.567	41.888	0.408	0.017	1.211	-0.013
8	105	84.569	41.887	0.408	0.017	1.449	-0.017
9	120	84.554	41.887	0.408	0.018	1.204	-0.015
10	135	84.552	41.886	0.408	0.018	1.164	-0.015
11	150	84.559	41.885	0.408	0.018	1.200	-0.013
12	165	84.545	41.885	0.408	0.019	1.097	-0.011
13	180	84.525	41.884	0.407	0.019	0.886	-0.008
14	195	84.535	41.884	0.408	0.020	0.796	-0.007
15	210	84.532	41.884	0.408	0.020	0.716	-0.006
16	225	84.530	41.883	0.408	0.021	0.674	-0.004
17	240	84.524	41.881	0.408	0.021	0.670	-0.003
18	255	84.518	41.882	0.408	0.022	0.603	-0.002
19	270	84.529	41.882	0.408	0.022	0.564	-0.000
20	285	84.525	41.882	0.408	0.023	0.520	0.000
21	300	84.534	41.882	0.408	0.023	0.498	0.002
22	315	84.529	41.881	0.408	0.024	0.473	0.003
23	330	84.533	41.881	0.408	0.024	0.453	0.004
24	345	84.528	41.881	0.408	0.024	0.427	0.005
25	360	84.526	41.881	0.408	0.025	0.404	0.005
26	375	84.530	41.881	0.409	0.025	0.385	0.006
27	390	84.531	41.880	0.409	0.026	0.369	0.007
28	405	84.528	41.880	0.409	0.026	0.350	0.008
29	420	84.526	41.880	0.408	0.027	0.333	0.008
30	435	84.523	41.880	0.409	0.027	0.316	0.009
31	450	84.529	41.880	0.409	0.028	0.302	0.009
32	465	84.525	41.879	0.409	0.028	0.289	0.010
33	480	84.520	41.879	0.409	0.029	0.274	0.010
34	495	84.530	41.879	0.409	0.029	0.263	0.010
35	510	84.517	41.879	0.409	0.030	0.251	0.010
36	525	84.526	41.879	0.409	0.030	0.241	0.011
37	540	84.530	41.879	0.409	0.030	0.233	0.011
38	555	84.526	41.878	0.409	0.031	0.224	0.011
39	570	84.510	41.878	0.409	0.031	0.213	0.011
40	585	84.502	41.878	0.409	0.032	0.201	0.011
41	600	84.519	41.878	0.409	0.032	0.192	0.011
42	615	84.548	41.879	0.410	0.033	0.188	0.011
43	630	84.538	41.879	0.410	0.033	0.182	0.012
44	645	84.552	41.879	0.410	0.034	0.178	0.012
45	660	84.553	41.879	0.410	0.034	0.173	0.012
46	675	84.543	41.879	0.410	0.035	0.168	0.012
47	690	84.549	41.879	0.410	0.035	0.163	0.013
48	705	84.552	41.879	0.410	0.036	0.159	0.013
49	720	84.558	41.879	0.411	0.036	0.154	0.013
50	735	84.554	41.879	0.411	0.036	0.150	0.013

VARIABLE TABLE SUMMARY (CONTINUED)

SAMPLE NUMBER	DELTA MINS	AVG. TEM DEG. F	AVG. PRE PSIA	VAP. PRE PSIA	LEAK COM PER CENT	LEAK TRA PER CENT	ERROR(T) PER CENT
51	750	84.550	41.879	0.410	0.037	0.145	0.013
52	765	84.550	41.878	0.410	0.037	0.141	0.013
53	780	84.542	41.878	0.411	0.038	0.137	0.013
54	795	84.547	41.878	0.411	0.038	0.133	0.013
55	810	84.549	41.878	0.411	0.039	0.129	0.013
56	825	84.548	41.878	0.411	0.039	0.126	0.013
57	840	84.556	41.878	0.411	0.040	0.123	0.013
58	855	84.538	41.877	0.410	0.040	0.119	0.013
59	870	84.533	41.877	0.410	0.041	0.115	0.013
60	885	84.550	41.877	0.411	0.041	0.112	0.012
61	900	84.549	41.877	0.411	0.042	0.110	0.012
62	915	84.554	41.876	0.411	0.042	0.108	0.013
63	930	84.546	41.876	0.411	0.042	0.105	0.013
64	945	84.552	41.876	0.411	0.043	0.103	0.013
65	960	84.550	41.876	0.411	0.043	0.101	0.013
66	975	84.545	41.876	0.411	0.044	0.099	0.013
67	990	84.545	41.876	0.411	0.044	0.097	0.012
68	1005	84.549	41.876	0.411	0.045	0.095	0.012
69	1020	84.549	41.875	0.411	0.045	0.093	0.012
70	1035	84.539	41.875	0.411	0.046	0.091	0.012
71	1050	84.540	41.875	0.411	0.046	0.089	0.012
72	1065	84.556	41.875	0.411	0.047	0.088	0.012
73	1080	84.550	41.875	0.411	0.047	0.086	0.012
74	1095	84.548	41.875	0.411	0.047	0.085	0.012
75	1110	84.547	41.874	0.411	0.048	0.083	0.012
76	1125	84.543	41.874	0.411	0.048	0.082	0.012
77	1140	84.523	41.874	0.411	0.049	0.080	0.012
78	1155	84.530	41.873	0.411	0.049	0.079	0.011
79	1170	84.525	41.873	0.411	0.050	0.077	0.011
80	1185	84.530	41.873	0.411	0.050	0.076	0.011
81	1200	84.525	41.873	0.411	0.051	0.074	0.011
82	1215	84.531	41.873	0.411	0.051	0.073	0.011
83	1230	84.521	41.873	0.411	0.052	0.072	0.011
84	1245	84.519	41.872	0.411	0.052	0.071	0.010
85	1260	84.519	41.872	0.411	0.053	0.069	0.010
86	1275	84.523	41.872	0.411	0.053	0.068	0.010
87	1290	84.517	41.872	0.411	0.053	0.067	0.010
88	1305	84.526	41.871	0.412	0.054	0.066	0.010
89	1320	84.519	41.871	0.412	0.054	0.065	0.010
90	1335	84.523	41.871	0.412	0.055	0.064	0.010
91	1350	84.511	41.871	0.412	0.055	0.064	0.009
92	1365	84.509	41.871	0.411	0.056	0.063	0.009
93	1380	84.503	41.871	0.411	0.056	0.062	0.009
94	1395	84.499	41.871	0.411	0.057	0.061	0.009
95	1410	84.491	41.870	0.412	0.057	0.060	0.009
96	1425	84.493	41.870	0.412	0.058	0.059	0.008
97	1440	84.490	41.869	0.412	0.058	0.058	0.008

END OF TABLE

VARIABLE TABLE SUMMARY

SAMPLE NUMBER	DELTA MINS	TEMP 1 DEG. F	TEMP 2 DEG. F	TEMP 3 DEG. F	TEMP 4 DEG. F	TEMP 5 DEG. F	TEMP 6 DEG. F
1	0	84.360	84.740	84.880	84.850	84.540	84.840
2	15	84.350	84.730	84.870	84.830	84.540	84.860
3	30	84.300	84.730	84.870	84.850	84.520	84.840
4	45	84.280	84.730	84.870	84.850	84.530	84.850
5	60	84.290	84.700	84.870	84.840	84.530	84.840
6	75	84.300	84.710	84.870	84.820	84.520	84.810
7	90	84.290	84.690	84.860	84.840	84.510	84.810
8	105	84.290	84.700	84.860	84.820	84.490	84.780
9	120	84.260	84.690	84.850	84.820	84.500	84.800
10	135	84.250	84.690	84.840	84.810	84.500	84.860
11	150	84.290	84.680	84.830	84.830	84.490	84.780
12	165	84.240	84.690	84.830	84.790	84.480	84.800
13	180	84.200	84.670	84.820	84.820	84.490	84.810
14	195	84.220	84.680	84.820	84.810	84.490	84.800
15	210	84.240	84.660	84.820	84.800	84.480	84.740
16	225	84.250	84.650	84.810	84.810	84.460	84.780
17	240	84.270	84.630	84.800	84.790	84.450	84.720
18	255	84.210	84.650	84.800	84.810	84.460	84.810
19	270	84.220	84.670	84.810	84.790	84.470	84.790
20	285	84.230	84.650	84.800	84.790	84.470	84.780
21	300	84.250	84.660	84.800	84.780	84.460	84.780
22	315	84.230	84.660	84.790	84.810	84.470	84.800
23	330	84.230	84.670	84.790	84.810	84.480	84.810
24	345	84.240	84.650	84.800	84.820	84.470	84.780
25	360	84.220	84.660	84.800	84.810	84.470	84.770
26	375	84.230	84.660	84.780	84.850	84.480	84.780
27	390	84.250	84.650	84.780	84.800	84.470	84.760
28	405	84.230	84.660	84.790	84.790	84.460	84.760
29	420	84.230	84.650	84.790	84.810	84.470	84.790
30	435	84.220	84.650	84.790	84.810	84.460	84.770
31	450	84.240	84.650	84.780	84.800	84.460	84.780
32	465	84.230	84.650	84.780	84.800	84.460	84.780
33	480	84.220	84.640	84.800	84.840	84.480	84.760
34	495	84.260	84.640	84.780	84.810	84.450	84.760
35	510	84.210	84.640	84.780	84.870	84.470	84.790
36	525	84.230	84.650	84.780	84.810	84.470	84.840
37	540	84.240	84.650	84.770	84.830	84.480	84.750
38	555	84.230	84.650	84.760	84.820	84.440	84.740
39	570	84.220	84.630	84.770	0.000	84.450	84.750
40	585	84.210	84.610	84.780	0.000	84.470	84.780
41	600	84.230	84.630	84.770	0.000	84.460	84.740
42	615	84.280	84.660	84.780	0.000	84.480	84.790
43	630	84.240	84.660	84.780	0.000	84.480	84.840
44	645	84.270	84.670	84.790	0.000	84.480	84.780
45	660	84.260	84.680	84.790	0.000	84.480	84.780
46	675	84.250	84.660	84.790	0.000	84.470	84.780
47	690	84.230	84.690	84.790	0.000	84.490	84.810
48	705	84.250	84.680	84.780	0.000	84.460	84.820
49	720	84.260	84.680	84.790	0.000	84.510	84.840
50	735	84.270	84.670	84.780	0.000	84.480	84.780

VARIABLE TABLE SUMMARY (CONTINUED)

SAMPLE NUMBER	DELTA MINS	TEMP 1 DEG. F	TEMP 2 DEG. F	TEMP 3 DEG. F	TEMP 4 DEG. F	TEMP 5 DEG. F	TEMP 6 DEG. F
51	750	84.250	84.670	84.790	0.000	84.490	84.800
52	765	84.250	84.670	84.780	0.000	84.490	84.780
53	780	84.250	84.650	84.790	0.000	84.490	84.810
54	795	84.240	84.670	84.780	0.000	84.490	84.820
55	810	84.250	84.670	84.770	0.000	84.490	84.800
56	825	84.250	84.670	84.780	0.000	84.490	84.820
57	840	84.260	84.680	84.780	0.000	84.470	84.850
58	855	84.240	84.650	84.790	0.000	84.470	84.810
59	870	84.250	84.630	84.780	0.000	84.480	84.790
60	885	84.270	84.650	84.780	0.000	84.500	84.810
61	900	84.270	84.650	84.790	0.000	84.480	84.800
62	915	84.270	84.660	84.790	0.000	84.470	84.810
63	930	84.250	84.660	84.780	0.000	84.490	84.780
64	945	84.260	84.670	84.770	0.000	84.500	84.810
65	960	84.260	84.660	84.780	0.000	84.480	84.800
66	975	84.250	84.660	84.790	0.000	84.490	84.800
67	990	84.250	84.660	84.780	0.000	84.460	84.780
68	1005	84.260	84.660	84.780	0.000	84.490	84.800
69	1020	84.250	84.670	84.780	0.000	84.470	84.830
70	1035	84.250	84.640	84.770	0.000	84.500	84.810
71	1050	84.220	84.670	84.790	0.000	84.490	84.810
72	1065	84.270	84.670	84.780	0.000	84.490	84.790
73	1080	84.240	84.680	84.780	0.000	84.480	84.800
74	1095	84.260	84.660	84.780	0.000	84.490	84.800
75	1110	84.250	84.670	84.780	0.000	84.460	84.800
76	1125	84.230	84.670	84.770	0.000	84.470	84.820
77	1140	84.220	84.630	84.780	0.000	84.480	84.780
78	1155	84.240	84.630	84.780	0.000	84.460	84.810
79	1170	84.210	84.650	84.760	0.000	84.450	84.750
80	1185	84.230	84.650	84.760	0.000	84.440	84.770
81	1200	84.210	84.650	84.760	0.000	84.460	84.770
82	1215	84.230	84.650	84.770	0.000	84.460	84.770
83	1230	84.220	84.640	84.760	0.000	84.460	84.770
84	1245	84.210	84.640	84.750	0.000	84.470	84.790
85	1260	84.210	84.640	84.750	0.000	84.460	84.780
86	1275	84.230	84.640	84.760	0.000	84.450	84.750
87	1290	84.200	84.650	84.760	0.000	84.460	84.780
88	1305	84.240	84.640	84.760	0.000	84.460	84.770
89	1320	84.220	84.640	84.750	0.000	84.450	84.780
90	1335	84.220	84.650	84.750	0.000	84.440	84.750
91	1350	84.200	84.630	84.750	0.000	84.440	84.780
92	1365	84.200	84.630	84.750	0.000	84.450	84.780
93	1380	84.200	84.620	84.760	0.000	84.460	84.770
94	1395	84.180	84.630	84.740	0.000	84.440	84.720
95	1410	84.170	84.620	84.730	0.000	84.430	84.740
96	1425	84.190	84.610	84.730	0.000	84.430	84.780
97	1440	84.190	84.610	84.720	0.000	84.420	84.750

END OF TABLE

VARIABLE TABLE SUMMARY

SAMPLE NUMBER	DELTA MINS	TEMP 7 DEG. F	TEMP 8 DEG. F	TEMP 9 DEG. F	TEMP 10 DEG. F	TEMP 11 DEG. F	TEMP 12 DEG. F
1	0	85.010	84.840	85.330	85.050	84.710	84.330
2	15	84.950	84.830	85.330	85.030	84.690	84.330
3	30	84.950	84.800	85.320	85.020	84.710	84.330
4	45	84.920	84.820	85.320	85.010	84.690	84.340
5	60	84.920	84.800	85.340	85.020	84.690	84.320
6	75	84.930	84.800	85.330	85.030	84.690	84.310
7	90	84.910	84.780	85.320	85.030	84.690	84.310
8	105	84.910	84.790	85.310	85.010	84.700	84.320
9	120	84.870	84.780	85.300	84.990	84.690	84.310
10	135	84.890	84.780	85.300	85.010	84.680	84.310
11	150	84.890	84.750	85.310	85.010	84.670	84.300
12	165	84.900	84.760	85.300	85.000	84.690	84.290
13	180	84.890	84.760	85.300	84.990	84.670	84.280
14	195	84.890	84.750	85.310	84.990	84.690	84.290
15	210	84.910	84.760	85.300	84.990	84.670	84.300
16	225	84.880	84.740	85.300	85.010	84.660	84.280
17	240	84.880	84.740	85.260	84.980	84.670	84.270
18	255	84.920	84.740	85.300	84.960	84.660	84.270
19	270	84.870	84.740	85.300	84.980	84.680	84.310
20	285	84.910	84.740	85.320	84.960	84.660	84.290
21	300	84.880	84.740	85.320	84.970	84.660	84.300
22	315	84.910	84.740	85.300	84.970	84.660	84.280
23	330	84.880	84.750	85.290	84.980	84.670	84.290
24	345	84.860	84.740	85.300	84.990	84.650	84.270
25	360	84.900	84.730	85.310	84.970	84.670	84.290
26	375	84.870	84.740	85.310	84.980	84.660	84.290
27	390	84.880	84.740	85.300	84.960	84.670	84.280
28	405	84.860	84.750	85.300	84.970	84.690	84.300
29	420	84.880	84.750	85.300	84.990	84.670	84.290
30	435	84.920	84.740	85.310	84.980	84.660	84.310
31	450	84.860	84.740	85.310	84.990	84.670	84.310
32	465	84.890	84.750	85.320	84.970	84.670	84.300
33	480	84.880	84.740	85.310	84.980	84.660	84.290
34	495	84.870	84.750	85.320	84.970	84.660	84.280
35	510	84.870	84.740	85.310	84.980	84.670	84.300
36	525	84.860	84.740	85.300	84.970	84.660	84.290
37	540	84.890	84.750	85.320	84.970	84.670	84.280
38	555	84.890	84.760	85.320	84.980	84.670	84.300
39	570	84.860	84.740	85.300	84.970	84.670	84.300
40	585	84.860	84.740	85.310	84.970	84.670	84.310
41	600	84.890	84.750	85.330	85.010	84.700	84.360
42	615	84.890	84.750	85.320	85.040	84.720	84.340
43	630	84.910	84.760	85.320	85.040	84.740	84.370
44	645	84.910	84.760	85.340	85.060	84.730	84.380
45	660	84.880	84.770	85.330	85.070	84.730	84.370
46	675	84.920	84.760	85.330	85.070	84.740	84.390
47	690	84.870	84.760	85.340	85.080	84.770	84.400
48	705	84.870	84.770	85.350	85.070	84.750	84.400
49	720	84.930	84.780	85.340	85.070	84.760	84.370
50	735	84.890	84.770	85.330	85.080	84.730	84.390

VARIABLE TABLE SUMMARY (CONTINUED)

SAMPLE NUMBER	DELTA MINS	TEMP 7 DEG. F	TEMP 8 DEG. F	TEMP 9 DEG. F	TEMP 10 DEG. F	TEMP 11 DEG. F	TEMP 12 DEG. F
51	750	84.900	84.760	85.350	85.080	84.750	84.380
52	765	84.920	84.770	85.340	85.090	84.770	84.390
53	780	84.910	84.770	85.330	85.080	84.750	84.380
54	795	84.940	84.770	85.340	85.060	84.770	84.400
55	810	84.890	84.780	85.350	85.070	84.750	84.380
56	825	84.890	84.770	85.340	85.060	84.760	84.360
57	840	84.880	84.770	85.330	85.080	84.760	84.390
58	855	84.890	84.770	85.340	85.070	84.770	84.390
59	870	84.870	84.750	85.350	85.080	84.780	84.370
60	885	84.920	84.770	85.360	85.080	84.740	84.370
61	900	84.910	84.770	85.360	85.090	84.750	84.390
62	915	84.940	84.760	85.340	85.090	84.750	84.390
63	930	84.900	84.770	85.340	85.090	84.770	84.380
64	945	84.880	84.770	85.350	85.080	84.770	84.370
65	960	84.900	84.770	85.340	85.100	84.760	84.400
66	975	84.900	84.760	85.350	85.090	84.770	84.390
67	990	84.930	84.770	85.330	85.090	84.780	84.410
68	1005	84.940	84.760	85.350	85.090	84.770	84.380
69	1020	84.930	84.750	85.330	85.080	84.770	84.400
70	1035	84.950	84.760	85.340	85.090	84.780	84.370
71	1050	84.860	84.770	85.340	85.080	84.780	84.390
72	1065	84.880	84.750	85.340	85.100	84.770	84.390
73	1080	84.910	84.760	85.350	85.090	84.770	84.410
74	1095	84.890	84.750	85.350	85.080	84.770	84.380
75	1110	84.890	84.760	85.340	85.070	84.770	84.390
76	1125	84.930	84.770	85.320	85.090	84.780	84.400
77	1140	84.890	84.750	85.320	85.100	84.770	84.380
78	1155	84.890	84.750	85.340	85.090	84.780	84.410
79	1170	84.870	84.770	85.310	85.070	84.770	84.400
80	1185	84.860	84.750	85.330	85.070	84.760	84.390
81	1200	84.910	84.750	85.330	85.080	84.750	84.390
82	1215	84.890	84.740	85.320	85.070	84.770	84.380
83	1230	84.860	84.730	85.310	85.060	84.770	84.360
84	1245	84.900	84.720	85.330	85.070	84.760	84.350
85	1260	84.920	84.730	85.310	85.070	84.750	84.360
86	1275	84.870	84.740	85.290	85.060	84.760	84.380
87	1290	84.830	84.740	85.300	85.050	84.770	84.360
88	1305	84.870	84.720	85.320	85.050	84.760	84.370
89	1320	84.860	84.730	85.310	85.050	84.770	84.380
90	1335	84.860	84.710	85.320	85.060	84.770	84.350
91	1350	84.880	84.720	85.310	85.060	84.760	84.390
92	1365	84.870	84.720	85.300	85.060	84.770	84.350
93	1380	84.840	84.720	85.310	85.050	84.750	84.320
94	1395	84.850	84.710	85.310	85.050	84.770	84.350
95	1410	84.840	84.710	85.270	85.040	84.760	84.340
96	1425	84.820	84.710	85.260	85.040	84.740	84.330
97	1440	84.810	84.700	85.270	85.030	84.740	84.310

END OF TABLE

VARIABLE TABLE SUMMARY

SAMPLE NUMBER	DELTA MINS	TEMP 13 DEG. F	TEMP 14 DEG. F	TEMP 15 DEG. F	TEMP 16 DEG. F	TEMP 17 DEG. F	TEMP 18 DEG. F
1	0	84.590	84.500	84.910	84.160	84.190	85.110
2	15	84.590	84.500	84.900	84.170	84.210	85.110
3	30	84.550	84.490	84.890	84.160	84.220	85.120
4	45	84.560	84.500	84.890	84.150	84.220	85.120
5	60	84.580	84.500	84.890	84.150	84.200	85.110
6	75	84.580	84.480	84.800	84.140	84.190	85.110
7	90	84.580	84.480	84.890	84.140	84.210	85.110
8	105	84.570	84.490	84.880	84.140	84.190	85.100
9	120	84.570	84.490	84.880	84.140	84.180	85.100
10	135	84.550	84.480	84.880	84.140	84.180	85.100
11	150	84.550	84.480	84.870	84.140	84.200	85.100
12	165	84.540	84.480	84.870	84.140	84.170	85.090
13	180	84.560	84.470	84.870	84.150	84.180	85.090
14	195	84.550	84.460	84.870	84.140	84.200	85.090
15	210	84.540	84.480	84.860	84.140	84.170	85.080
16	225	84.530	84.460	84.870	84.130	84.180	85.070
17	240	84.510	84.430	84.860	84.100	84.160	85.080
18	255	84.540	84.470	84.860	84.130	84.170	85.080
19	270	84.550	84.480	84.860	84.120	84.170	85.080
20	285	84.540	84.480	84.870	84.120	84.200	85.080
21	300	84.540	84.480	84.870	84.120	84.180	85.090
22	315	84.550	84.480	84.870	84.120	84.160	85.090
23	330	84.540	84.490	84.870	84.120	84.180	85.090
24	345	84.550	84.490	84.870	84.140	84.170	85.090
25	360	84.550	84.490	84.860	84.120	84.190	85.090
26	375	84.550	84.500	84.870	84.140	84.200	85.090
27	390	84.550	84.500	84.870	84.130	84.180	85.090
28	405	84.550	84.490	84.870	84.130	84.180	85.090
29	420	84.540	84.490	84.870	84.130	84.190	85.100
30	435	84.540	84.490	84.870	84.130	84.170	85.090
31	450	84.540	84.500	84.870	84.120	84.200	85.100
32	465	84.550	84.480	84.870	84.130	84.180	85.100
33	480	84.560	84.510	84.870	84.140	84.180	85.090
34	495	84.540	84.490	84.870	84.140	84.190	85.100
35	510	84.540	84.500	84.870	84.130	84.210	85.100
36	525	84.560	84.490	84.870	84.130	84.180	85.100
37	540	84.580	84.490	84.870	84.140	84.180	85.090
38	555	84.550	84.500	84.870	84.150	84.190	85.110
39	570	84.530	84.520	84.870	84.150	84.190	85.100
40	585	84.570	84.500	84.880	84.140	84.190	85.110
41	600	84.540	84.510	84.890	84.150	84.220	85.110
42	615	84.580	84.510	84.890	84.140	84.220	85.120
43	630	84.590	84.520	84.880	84.150	84.230	85.120
44	645	84.570	84.500	84.900	84.150	84.240	85.130
45	660	84.580	84.530	84.900	84.170	84.250	85.130
46	675	84.580	84.540	84.910	84.150	84.240	85.130
47	690	84.580	84.520	84.910	84.160	84.240	85.140
48	705	84.580	84.550	84.910	84.170	84.250	85.140
49	720	84.590	84.540	84.910	84.180	84.250	85.140
50	735	84.580	84.530	84.910	84.180	84.260	85.140

VARIABLE TABLE SUMMARY (CONTINUED)

SAMPLE NUMBER	DELTA MINS	TEMP 13 DEG. F	TEMP 14 DEG. F	TEMP 15 DEG. F	TEMP 16 DEG. F	TEMP 17 DEG. F	TEMP 18 DEG. F
51	750	84.600	84.520	84.920	84.190	84.250	85.140
52	765	84.590	84.540	84.910	84.180	84.250	85.140
53	780	84.580	84.520	84.920	84.170	84.240	85.150
54	795	84.570	84.530	84.910	84.170	84.230	85.140
55	810	84.590	84.530	84.920	84.170	84.260	85.140
56	825	84.580	84.520	84.910	84.170	84.250	85.130
57	840	84.580	84.530	84.920	84.180	84.260	85.150
58	855	84.580	84.530	84.920	84.180	84.250	85.140
59	870	84.570	84.510	84.910	84.170	84.250	85.140
60	885	84.600	84.520	84.920	84.190	84.260	85.140
61	900	84.590	84.510	84.920	84.190	84.230	85.140
62	915	84.580	84.520	84.920	84.210	84.250	85.150
63	930	84.590	84.530	84.920	84.190	84.240	85.140
64	945	84.610	84.520	84.930	84.170	84.220	85.150
65	960	84.600	84.530	84.920	84.180	84.240	85.140
66	975	84.580	84.520	84.920	84.170	84.250	85.140
67	990	84.580	84.520	84.930	84.170	84.230	85.150
68	1005	84.580	84.510	84.930	84.170	84.220	85.140
69	1020	84.570	84.520	84.930	84.190	84.230	85.150
70	1035	84.610	84.510	84.920	84.180	84.230	85.140
71	1050	84.610	84.510	84.930	84.190	84.220	85.140
72	1065	84.600	84.520	84.930	84.190	84.240	85.140
73	1080	84.590	84.500	84.930	84.180	84.220	85.140
74	1095	84.600	84.500	84.930	84.180	84.220	85.150
75	1110	84.570	84.500	84.930	84.180	84.230	85.150
76	1125	84.580	84.500	84.930	84.180	84.240	85.140
77	1140	84.600	84.510	84.920	84.190	84.220	85.140
78	1155	84.560	84.500	84.920	84.180	84.240	85.140
79	1170	84.570	84.500	84.920	84.180	84.230	85.140
80	1185	84.570	84.490	84.920	84.170	84.210	85.140
81	1200	84.570	84.470	84.920	84.180	84.220	85.140
82	1215	84.560	84.500	84.920	84.170	84.220	85.140
83	1230	84.550	84.470	84.910	84.170	84.230	85.130
84	1245	84.570	84.480	84.920	84.160	84.210	85.130
85	1260	84.570	84.470	84.920	84.180	84.200	85.130
86	1275	84.560	84.470	84.910	84.170	84.210	85.130
87	1290	84.560	84.460	84.910	84.170	84.190	85.120
88	1305	84.560	84.480	84.900	84.170	84.180	85.120
89	1320	84.550	84.470	84.900	84.160	84.200	85.120
90	1335	84.550	84.460	84.900	84.170	84.220	85.120
91	1350	84.540	84.480	84.910	84.170	84.210	85.130
92	1365	84.540	84.480	84.900	84.170	84.210	85.130
93	1380	84.550	84.460	84.890	84.150	84.200	85.120
94	1395	84.530	84.470	84.900	84.150	84.190	85.110
95	1410	84.520	84.450	84.890	84.150	84.210	85.110
96	1425	84.540	84.460	84.890	84.140	84.190	85.100
97	1440	84.510	84.440	84.890	84.140	84.180	85.110

END OF TABLE

VARIABLE TABLE SUMMARY

SAMPLE NUMBER	DELTA MINS	TEMP 19 DEG. F	TEMP 20 DEG. F	PRES 1 PSIA	HUM 1 FRACTION	HUM 2 FRACTION	HUM 3 FRACTION
1	0	84.700	84.460	41.891	0.721	0.672	0.669
2	15	84.690	84.470	41.890	0.722	0.672	0.669
3	30	84.710	84.440	41.890	0.722	0.672	0.669
4	45	84.700	84.450	41.889	0.721	0.672	0.669
5	60	84.700	84.450	41.889	0.722	0.672	0.669
6	75	84.700	84.450	41.888	0.722	0.673	0.670
7	90	84.660	84.460	41.888	0.722	0.673	0.670
8	105	84.690	84.470	41.887	0.723	0.673	0.670
9	120	84.690	84.450	41.887	0.723	0.673	0.670
10	135	84.700	84.440	41.886	0.723	0.674	0.670
11	150	84.690	84.450	41.885	0.723	0.674	0.670
12	165	84.690	84.440	41.885	0.723	0.674	0.671
13	180	84.690	84.430	41.884	0.723	0.674	0.671
14	195	84.700	84.450	41.884	0.724	0.674	0.671
15	210	84.680	84.430	41.884	0.724	0.674	0.671
16	225	84.670	84.430	41.883	0.724	0.674	0.671
17	240	84.670	84.420	41.881	0.724	0.674	0.671
18	255	84.670	84.450	41.882	0.724	0.674	0.671
19	270	84.690	84.430	41.882	0.725	0.674	0.671
20	285	84.680	84.450	41.882	0.724	0.675	0.671
21	300	84.700	84.450	41.882	0.725	0.675	0.671
22	315	84.710	84.440	41.881	0.725	0.675	0.672
23	330	84.700	84.460	41.881	0.725	0.675	0.672
24	345	84.710	84.440	41.881	0.725	0.675	0.672
25	360	84.700	84.450	41.881	0.725	0.675	0.672
26	375	84.680	84.450	41.881	0.725	0.676	0.672
27	390	84.700	84.460	41.880	0.725	0.676	0.672
28	405	84.710	84.450	41.880	0.725	0.676	0.672
29	420	84.710	84.450	41.880	0.726	0.675	0.673
30	435	84.690	84.460	41.880	0.725	0.676	0.673
31	450	84.710	84.460	41.880	0.726	0.676	0.673
32	465	84.690	84.450	41.879	0.726	0.676	0.673
33	480	84.700	84.460	41.879	0.726	0.676	0.673
34	495	84.700	84.450	41.879	0.726	0.676	0.673
35	510	84.710	84.450	41.879	0.726	0.676	0.674
36	525	84.710	84.450	41.879	0.727	0.677	0.674
37	540	84.700	84.480	41.879	0.727	0.677	0.674
38	555	84.710	84.460	41.878	0.726	0.677	0.674
39	570	84.710	84.450	41.878	0.727	0.677	0.674
40	585	84.720	84.450	41.878	0.727	0.677	0.674
41	600	84.720	84.460	41.878	0.727	0.677	0.674
42	615	84.710	84.460	41.879	0.727	0.677	0.674
43	630	84.700	84.470	41.879	0.728	0.678	0.675
44	645	84.710	84.470	41.879	0.728	0.678	0.675
45	660	84.720	84.460	41.879	0.728	0.678	0.675
46	675	84.720	84.470	41.879	0.728	0.678	0.675
47	690	84.720	84.480	41.879	0.728	0.678	0.675
48	705	84.710	84.470	41.879	0.728	0.678	0.675
49	720	84.730	84.470	41.879	0.728	0.678	0.675
50	735	84.730	84.470	41.879	0.729	0.679	0.675

VARIABLE TABLE SUMMARY (CONTINUED)

SAMPLE NUMBER	DELTA MINS	TEMP 19 DEG. F	TEMP 20 DEG. F	PRES 1 PSIA	HUM 1 FRACTION	HUM 2 FRACTION	HUM 3 FRACTION
51	750	84.740	84.490	41.879	0.728	0.678	0.675
52	765	84.730	84.480	41.878	0.728	0.678	0.675
53	780	84.740	84.470	41.878	0.729	0.679	0.676
54	795	84.750	84.480	41.878	0.728	0.679	0.675
55	810	84.730	84.470	41.878	0.728	0.679	0.676
56	825	84.730	84.480	41.878	0.728	0.679	0.676
57	840	84.730	84.480	41.878	0.728	0.678	0.676
58	855	84.720	84.480	41.877	0.729	0.678	0.676
59	870	84.730	84.470	41.877	0.729	0.678	0.676
60	885	84.740	84.480	41.877	0.729	0.679	0.676
61	900	84.740	84.470	41.877	0.729	0.679	0.676
62	915	84.750	84.480	41.876	0.729	0.679	0.676
63	930	84.730	84.500	41.876	0.729	0.679	0.677
64	945	84.720	84.490	41.876	0.729	0.679	0.677
65	960	84.740	84.490	41.876	0.730	0.679	0.677
66	975	84.720	84.460	41.876	0.730	0.679	0.677
67	990	84.740	84.460	41.876	0.729	0.679	0.677
68	1005	84.730	84.480	41.876	0.729	0.679	0.677
69	1020	84.730	84.470	41.875	0.730	0.679	0.677
70	1035	84.730	84.470	41.875	0.730	0.679	0.677
71	1050	84.730	84.480	41.875	0.729	0.679	0.677
72	1065	84.740	84.470	41.875	0.730	0.679	0.677
73	1080	84.740	84.510	41.875	0.730	0.679	0.677
74	1095	84.720	84.500	41.875	0.729	0.680	0.677
75	1110	84.730	84.470	41.874	0.730	0.679	0.677
76	1125	84.730	84.500	41.874	0.730	0.679	0.677
77	1140	84.720	84.460	41.874	0.730	0.680	0.678
78	1155	84.730	84.470	41.873	0.730	0.680	0.677
79	1170	84.730	84.460	41.873	0.730	0.680	0.678
80	1185	84.740	84.470	41.873	0.730	0.680	0.678
81	1200	84.730	84.460	41.873	0.730	0.680	0.678
82	1215	84.730	84.460	41.873	0.731	0.680	0.678
83	1230	84.730	84.450	41.873	0.731	0.680	0.678
84	1245	84.730	84.440	41.872	0.731	0.679	0.678
85	1260	84.720	84.440	41.872	0.731	0.680	0.678
86	1275	84.710	84.430	41.872	0.731	0.680	0.678
87	1290	84.730	84.440	41.872	0.731	0.680	0.678
88	1305	84.720	84.420	41.871	0.731	0.680	0.679
89	1320	84.710	84.430	41.871	0.731	0.681	0.679
90	1335	84.730	84.430	41.871	0.731	0.681	0.679
91	1350	84.730	84.450	41.871	0.731	0.681	0.679
92	1365	84.700	84.440	41.871	0.731	0.680	0.679
93	1380	84.700	84.410	41.871	0.732	0.680	0.679
94	1395	84.700	84.440	41.871	0.732	0.681	0.679
95	1410	84.710	84.430	41.870	0.731	0.681	0.679
96	1425	84.700	84.440	41.870	0.732	0.681	0.679
97	1440	84.710	84.430	41.869	0.732	0.681	0.679

END OF TABLE

VARIABLE TABLE SUMMARY

SAMPLE NUMBER	DELTA MINS	HUM 4 FRACTION	HUM 5 FRACTION	HUM 6 FRACTION
1	0	0.699	0.700	0.715
2	15	0.699	0.700	0.715
3	30	0.699	0.701	0.716
4	45	0.699	0.700	0.716
5	60	0.700	0.701	0.716
6	75	0.700	0.701	0.716
7	90	0.700	0.701	0.716
8	105	0.700	0.701	0.716
9	120	0.700	0.701	0.716
10	135	0.700	0.701	0.716
11	150	0.700	0.702	0.716
12	165	0.701	0.702	0.716
13	180	0.701	0.702	0.716
14	195	0.700	0.702	0.716
15	210	0.700	0.702	0.717
16	225	0.700	0.702	0.716
17	240	0.701	0.703	0.717
18	255	0.701	0.702	0.716
19	270	0.701	0.702	0.716
20	285	0.701	0.702	0.717
21	300	0.701	0.703	0.717
22	315	0.701	0.703	0.717
23	330	0.701	0.703	0.717
24	345	0.701	0.703	0.717
25	360	0.701	0.703	0.717
26	375	0.701	0.703	0.717
27	390	0.701	0.703	0.717
28	405	0.701	0.703	0.717
29	420	0.701	0.704	0.717
30	435	0.701	0.704	0.717
31	450	0.701	0.704	0.717
32	465	0.702	0.704	0.717
33	480	0.702	0.704	0.717
34	495	0.702	0.704	0.718
35	510	0.703	0.704	0.718
36	525	0.703	0.704	0.718
37	540	0.703	0.704	0.718
38	555	0.703	0.705	0.719
39	570	0.703	0.705	0.719
40	585	0.702	0.704	0.718
41	600	0.702	0.704	0.719
42	615	0.702	0.705	0.719
43	630	0.703	0.705	0.719
44	645	0.703	0.705	0.719
45	660	0.703	0.705	0.719
46	675	0.702	0.706	0.719
47	690	0.703	0.705	0.719
48	705	0.702	0.705	0.719
49	720	0.702	0.705	0.719
50	735	0.703	0.705	0.719

VARIABLE TABLE SUMMARY (CONTINUED)

SAMPLE NUMBER	DELTA MINS	HUM 4 FRACTION	HUM 5 FRACTION	HUM 6 FRACTION
51	750	0.702	0.705	0.719
52	765	0.703	0.705	0.719
53	780	0.703	0.706	0.720
54	795	0.703	0.706	0.720
55	810	0.703	0.706	0.719
56	825	0.703	0.706	0.719
57	840	0.703	0.706	0.720
58	855	0.703	0.706	0.720
59	870	0.703	0.706	0.720
60	885	0.703	0.706	0.720
61	900	0.703	0.707	0.720
62	915	0.703	0.706	0.720
63	930	0.704	0.707	0.721
64	945	0.704	0.707	0.721
65	960	0.704	0.708	0.720
66	975	0.704	0.707	0.721
67	990	0.704	0.707	0.721
68	1005	0.704	0.706	0.720
69	1020	0.703	0.707	0.720
70	1035	0.703	0.707	0.720
71	1050	0.703	0.707	0.720
72	1065	0.704	0.707	0.720
73	1080	0.703	0.707	0.720
74	1095	0.704	0.707	0.720
75	1110	0.704	0.707	0.721
76	1125	0.704	0.707	0.720
77	1140	0.704	0.707	0.721
78	1155	0.704	0.708	0.721
79	1170	0.704	0.708	0.721
80	1185	0.704	0.708	0.721
81	1200	0.704	0.707	0.721
82	1215	0.704	0.708	0.721
83	1230	0.704	0.708	0.721
84	1245	0.704	0.708	0.721
85	1260	0.704	0.708	0.721
86	1275	0.705	0.708	0.721
87	1290	0.705	0.709	0.721
88	1305	0.705	0.709	0.721
89	1320	0.705	0.708	0.721
90	1335	0.705	0.708	0.722
91	1350	0.705	0.709	0.721
92	1365	0.705	0.709	0.722
93	1380	0.705	0.709	0.722
94	1395	0.705	0.709	0.722
95	1410	0.705	0.709	0.722
96	1425	0.705	0.709	0.722
97	1440	0.706	0.709	0.722

END OF TABLE

END OF COMPUTER REPORT ON CONTAINMENT LEAK RATE TEST TO NRC

2.
CONTROLLED LEAK RATE TEST
(CLRT)

LEAK RATE COMPUTED USING TOTAL TIME METHOD
AS RECOMMENDED BY APPENDIX J FOR 10 CFR 50
(REACTOR CONTAINMENT LEAKAGE TESTING FOR WATER COOLED POWER REACTORS)

TEST PERIOD STARTED AT 0915 HOURS ON DECEMBER 3, 1975

A LEAST SQUARES FIRST ORDER FIT OF LEAK RATE TO TIME
SHOULD YIELD A SLOPE OF ZERO AND AN INTERCEPT EQUAL
TO THE LEAK RATE AS COMPUTED AT THE INITIAL START TIME
THE EQUATION HAS THE FORM – L=ST + R WHERE
L – CORRELATED LEAK RATE
S – SLOPE OF CORRELATION
T – TIME IN HOURS
R – INTERCEPT LEAK RATE

LEAK RATE = 0.002 HOURS + 0.126 PER CENT
MEAN = 0.131 PER CENT
ERROR COEFFICIENT = 0.013
WHERE COEFFICIENT OF 1.0 MEANS A PERFECT FIT &
COEFFICIENT OF 0.0 MEANS NO CORRELATION.

INITIAL CONTAINMENT AIR WEIGHT = 318709.3 LBS.
FINAL CONTAINMENT AIR WEIGHT = 318624.2 LBS.
LEAK RATE FOR 4.50 HOUR PERIOD IS 0.027 PER CENT BY WEIGHT.

MAXIMUM NRC LEAK RATE OF 0.128 PER CENT PER DAY
GIVEN FOR LOW PRESSURE TEST AT 41.868 PSIA

MAXIMUM PROBABLE TEMPERATURE LOOP ERROR = 0.054 DEGREES F.
MAXIMUM PROBABLE PRESSURE LOOP ERROR = 0.002 PSIA.
MAXIMUM PROBABLE HUMIDITY LOOP ERROR = 0.296 PERCENT.

INSTRUMENT ERROR CONTRIBUTES 0.015 PERCENT PER DAY
TO ESTABLISH 99.87 PERCENT CONFIDENCE BOUND

CONTROLLED LEAK RATE TEST (CLRT)
SUPPLEMENTAL VERIFICATION FOR ILRT
LEAKAGE OF 0.123 PERCENT AT 39.695 PSIA IS EQUIVALENT TO 3.372 SCFM.
SUPPLEMENTAL TEST (CLRT) DATA AND
PREVIOUS ILRT RESULTS PLUS INJECTED LEAKAGE
MUST BE WITHIN 25 PERCENT (0.843 SCFM) FOR VERIFICATION.

*** NOTE FOR GRAPHS ***

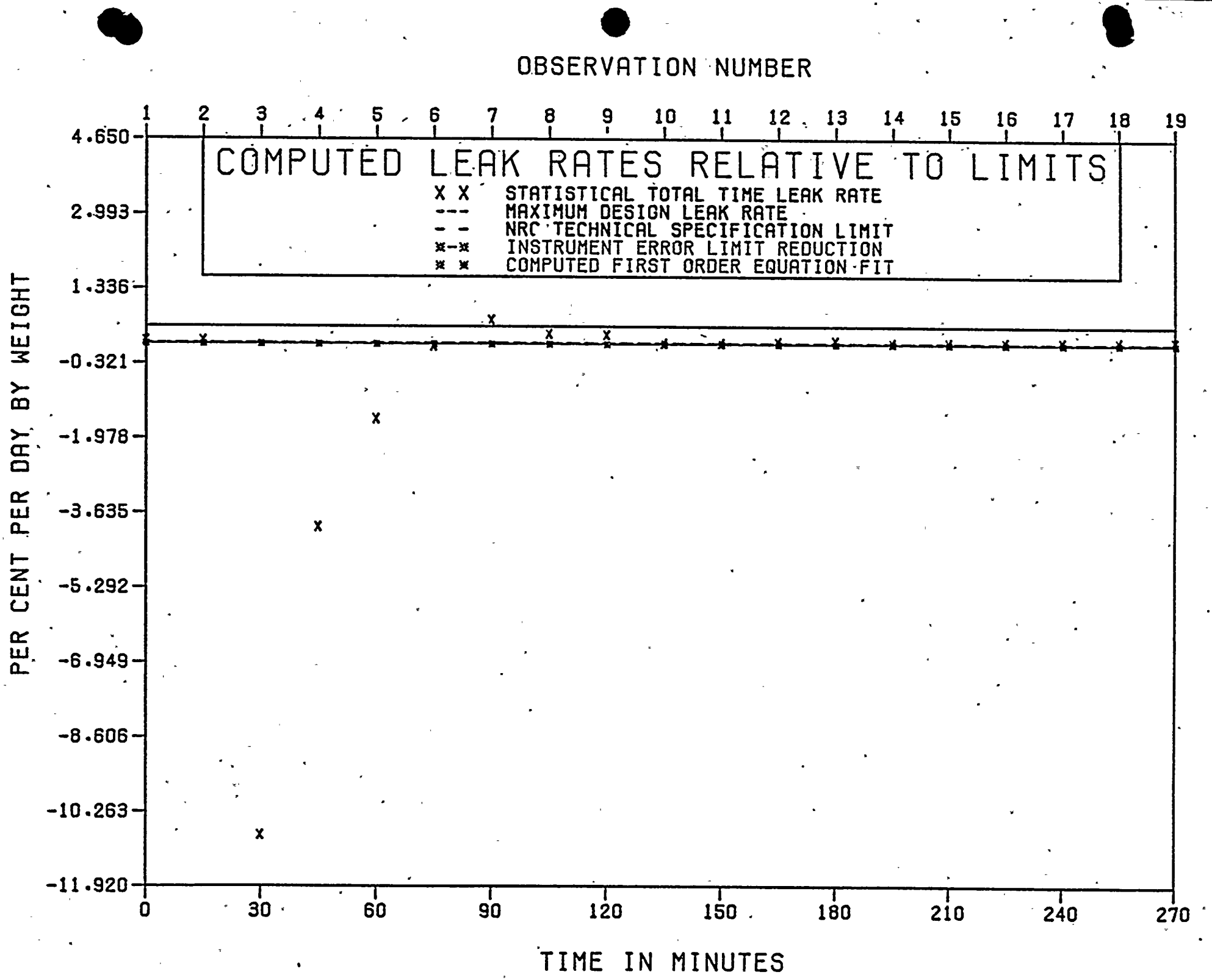
BOTH SAMPLE NUMBERS AND TIME ARE SHOWN.

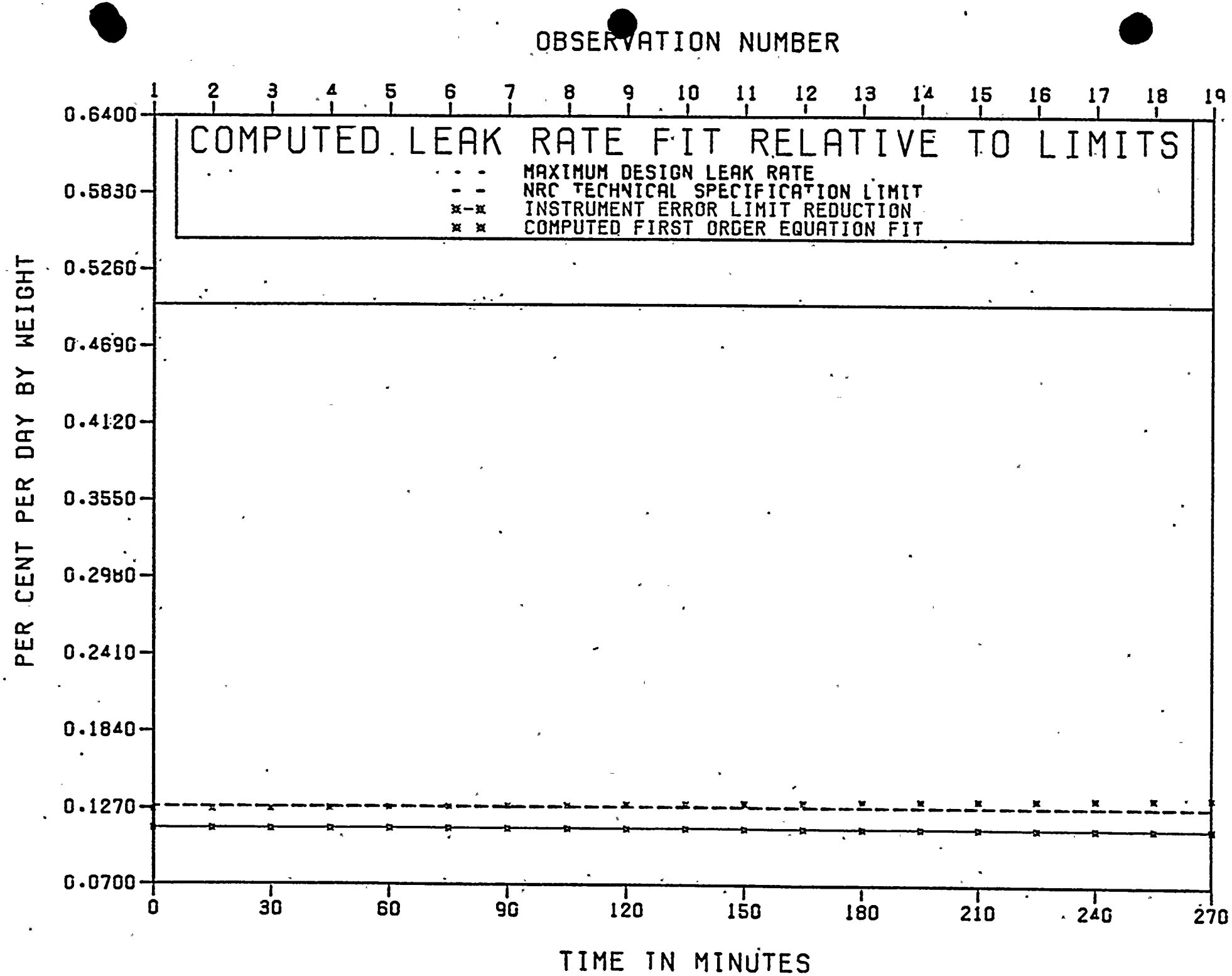
*** NOTE FOR TABULAR DATA ***

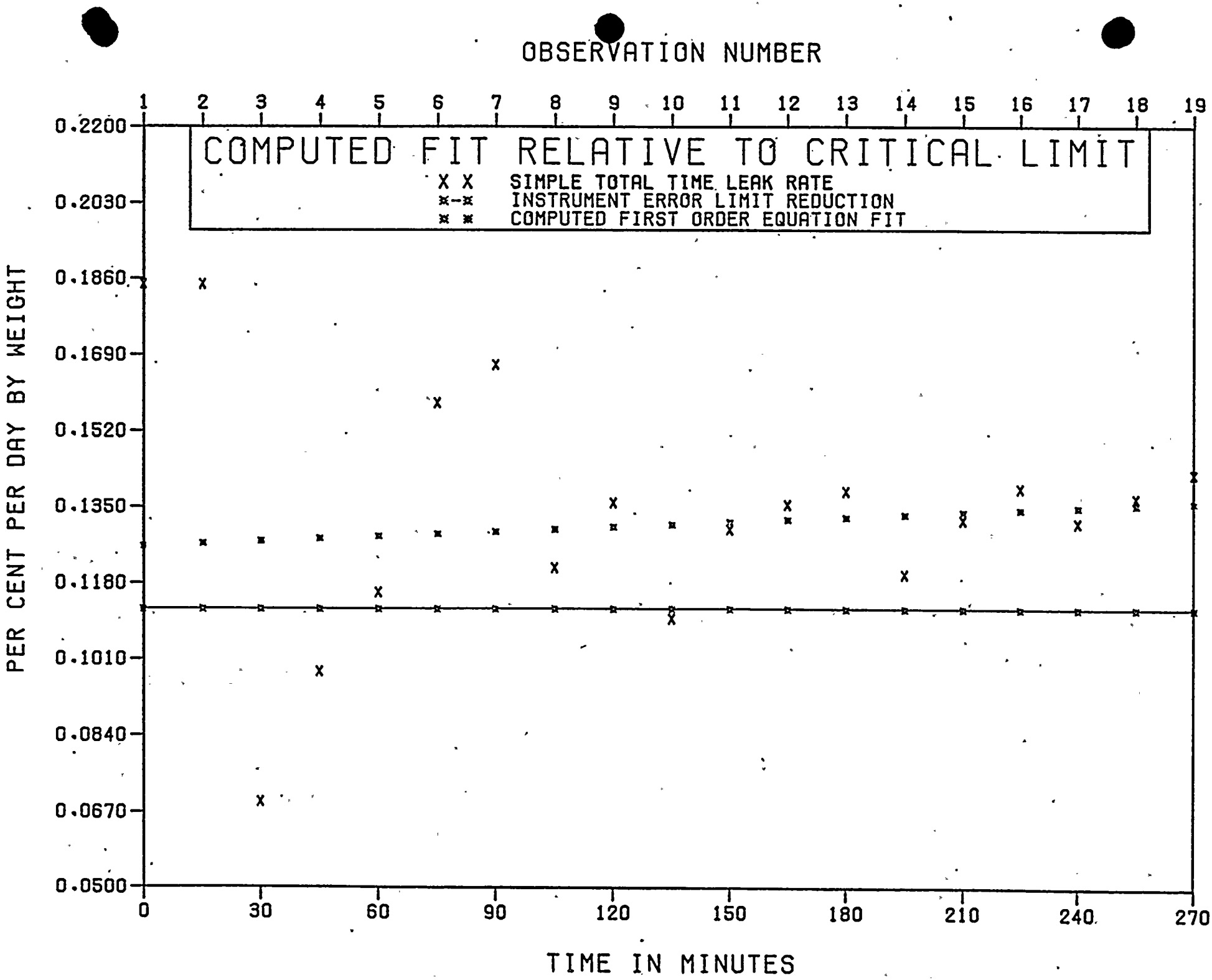
TABLE VALUES OF ZERO SIGNIFY EITHER
1. DATA IS NOT APPLICABLE TO THE CALCULATION OR
2. SENSOR HAS BEEN DELETED FROM MONITORING

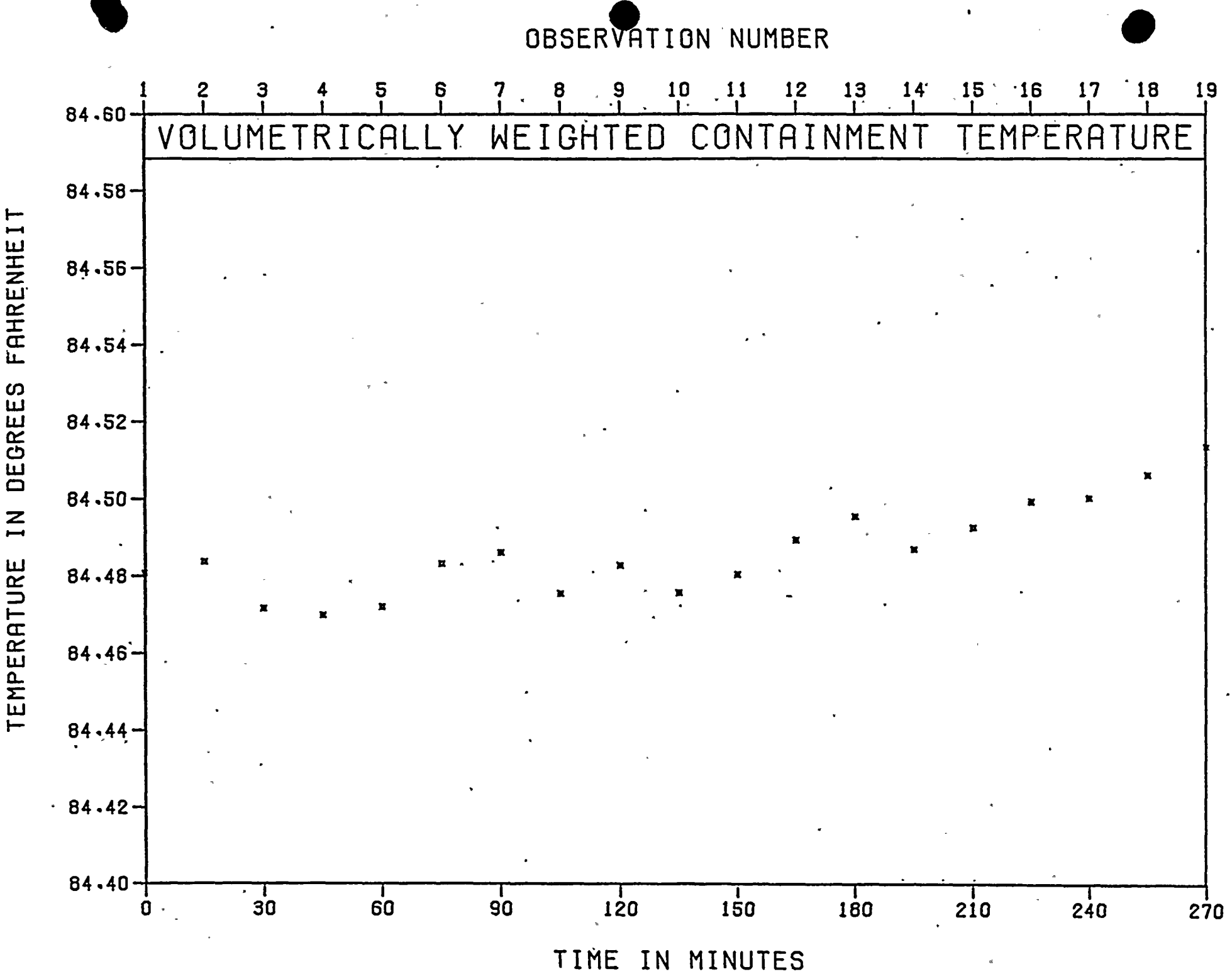
*** DESCRIPTION OF VARIABLES ***

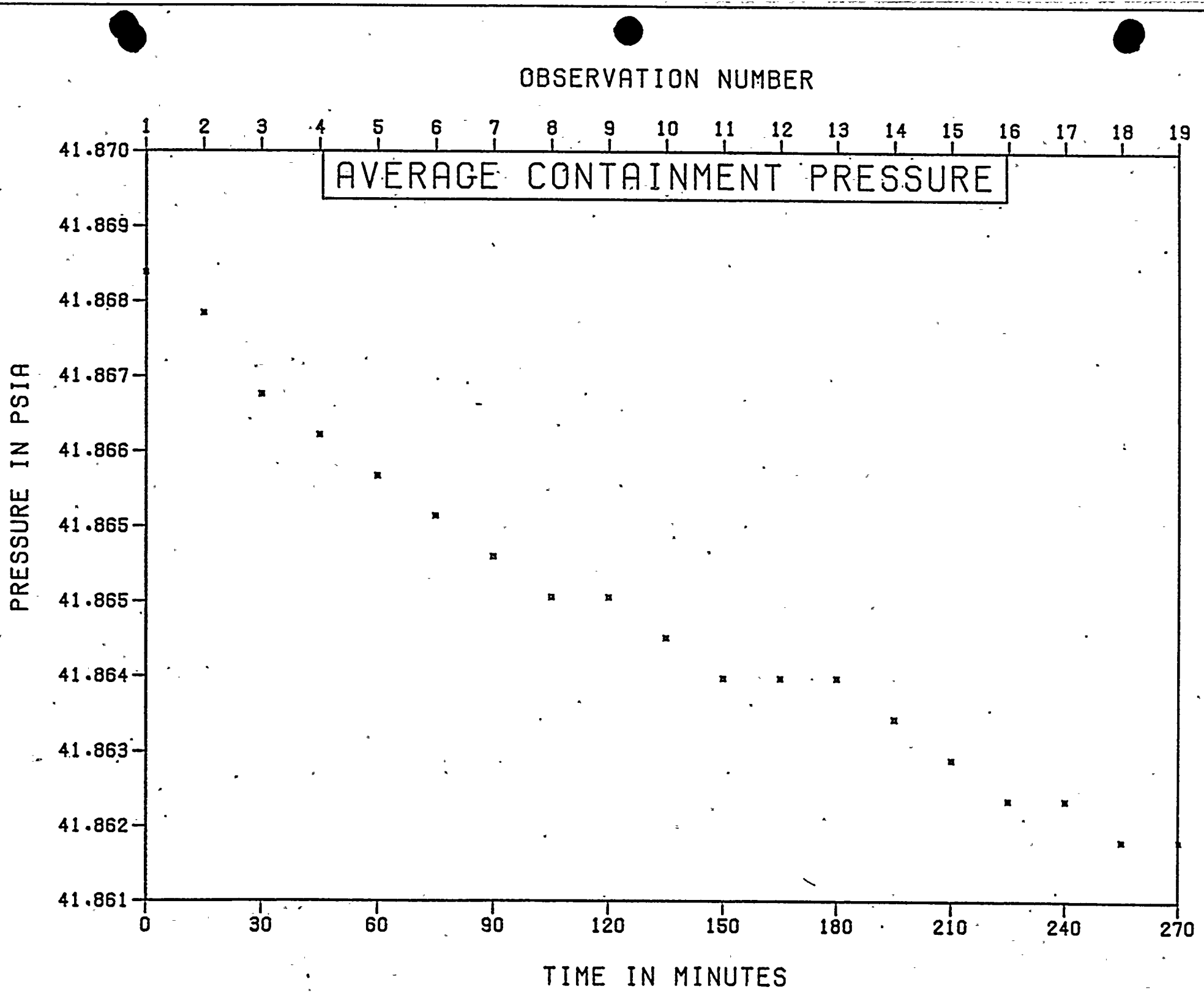
AVG TEM	VOLUMETRICALLY WEIGHTED TEMPERATURE
AVG PRE	AVERAGE PRESSURE
VAP PRE	VOLUMETRICALLY WEIGHTED VAPOR PRESSURE.
LEA COM	FIRST ORDER COMPUTED LEAK RATE
LEA TRA	STATISTICAL TOTAL TIME LEAK RATE
LEA SIM	SIMPLE TOTAL TIME LEAK RATE
ERROR	STATISTICAL TOTAL TIME LEAK RATE ERROR

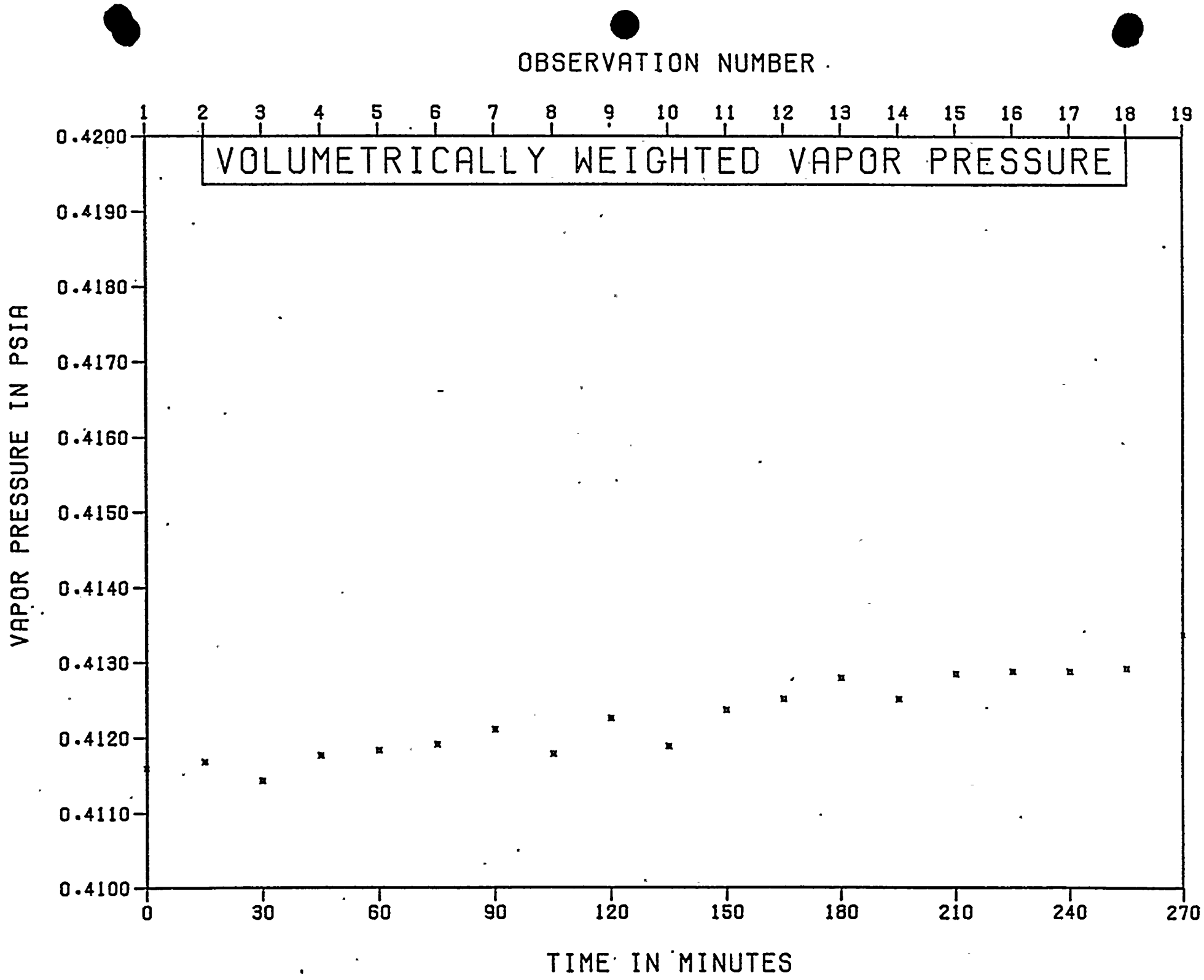

OBSERVATION NUMBER
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
COMPUTED LEAK RATES RELATIVE TO LIMITS
X X STATISTICAL TOTAL TIME LEAK RATE
--- MAXIMUM DESIGN LEAK RATE
- - NRC TECHNICAL SPECIFICATION LIMIT
- INSTRUMENT ERROR LIMIT REDUCTION
* * COMPUTED FIRST ORDER EQUATION FIT
PER CENT PER DAY BY WEIGHT
4.650
2.993
1.336
-0.321
-1.978
-3.635
-5.292
-6.949
-8.606
-10.263
-11.920
0 30 60 90 120 150 180 210 240 270
TIME IN MINUTES


OBSERVATION NUMBER
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
COMPUTED LEAK RATE FIT RELATIVE TO LIMITS
MAXIMUM DESIGN LEAK RATE
NRC TECHNICAL SPECIFICATION LIMIT
INSTRUMENT ERROR LIMIT REDUCTION
COMPUTED FIRST ORDER EQUATION FIT
0.6400
0.5830
0.5260
0.4690
0.4120
0.3550
0.2980
0.2410
0.1840
0.1270
0.0700
PER CENT PER DAY BY WEIGHT
0 30 60 90 120 150 180 210 240 270
TIME IN MINUTES


OBSERVATION NUMBER
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
COMPUTED FIT RELATIVE TO CRITICAL LIMIT
X X SIMPLE TOTAL TIME LEAK RATE
INSTRUMENT ERROR LIMIT REDUCTION
COMPUTED FIRST ORDER EQUATION FIT
PER CENT PER DAY BY WEIGHT
0.2200
0.2030
0.1860
0.1690
0.1520
0.1350
0.1180
0.1010
0.0840
0.0670
0.0500
0 30 60 90 120 150 180 210 240 270
TIME IN MINUTES


OBSERVATION NUMBER
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
VOLUMETRICALLY WEIGHTED CONTAINMENT TEMPERATURE
84.60
84.58
84.56
84.54
84.52
84.50
84.48
84.46
84.44
84.42
84.40
TEMPERATURE IN DEGREES FAHRENHEIT
0 30 60 90 120 150 180 210 240 270
TIME IN MINUTES


OBSERVATION NUMBER
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
AVERAGE CONTAINMENT PRESSURE
41.870
41.869
41.868
41.867
41.866
41.865
41.865
41.864
41.863
41.862
41.861
PRESSURE IN PSIA
0 30 60 90 120 150 180 210 240 270
TIME IN MINUTES


OBSERVATION NUMBER
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
VOLUMETRICALLY WEIGHTED VAPOR PRESSURE
VAPOR PRESSURE IN PSIA
0.4200
0.4190
0.4180
0.4170
0.4160
0.4150
0.4140
0.4130
0.4120
0.4110
0.4100
0 30 60 90 120 150 180 210 240 270
TIME IN MINUTES

VARIABLE TABLE SUMMARY

SAMPLE NUMBER	DELTA MINS	AVG. TEM DEG. F	AVG. PRE PSIA	VAP. PRE PSIA	LEAK COM PER CENT	LEAK TRA PER CENT	ERROR(T) PER CENT
1	0	84.481	41.869	0.412	0.126	0.000	0.000
2	15	84.484	41.868	0.412	0.127	0.185	0.000
3	30	84.472	41.867	0.411	0.127	-10.782	0.127
4	45	84.470	41.867	0.412	0.128	-3.951	0.061
5	60	84.472	41.866	0.412	0.128	-1.543	0.026
6	75	84.483	41.866	0.412	0.129	0.065	0.000
7	90	84.486	41.865	0.412	0.130	0.646	0.007
8	105	84.476	41.865	0.412	0.130	0.344	0.002
9	120	84.483	41.865	0.412	0.131	0.313	0.002
10	135	84.476	41.864	0.412	0.131	0.127	0.000
11	150	84.481	41.864	0.412	0.132	0.133	0.000
12	165	84.490	41.864	0.413	0.132	0.159	0.000
13	180	84.496	41.864	0.413	0.133	0.183	0.001
14	195	84.487	41.863	0.413	0.133	0.140	0.000
15	210	84.493	41.863	0.413	0.134	0.145	0.000
16	225	84.500	41.862	0.413	0.134	0.163	0.000
17	240	84.500	41.862	0.413	0.135	0.159	0.000
18	255	84.506	41.862	0.413	0.136	0.166	0.001
19	270	84.514	41.862	0.413	0.136	0.179	0.002

END OF TABLE

VARIABLE TABLE SUMMARY

SAMPLE NUMBER	DELTA MINS	TEMP 1 DEG. F	TEMP 2 DEG. F	TEMP 3 DEG. F	TEMP 4 DEG. F	TEMP 5 DEG. F	TEMP 6 DEG. F
1	0	84.150	84.620	84.720	0.000	84.390	84.710
2	15	84.180	84.600	84.720	0.000	84.420	84.730
3	30	84.160	84.590	84.720	0.000	84.420	84.710
4	45	84.160	84.580	84.710	0.000	84.420	84.750
5	60	84.160	84.590	84.710	0.000	84.410	84.740
6	75	84.180	84.600	84.710	0.000	84.410	84.720
7	90	84.170	84.610	84.720	0.000	84.410	84.810
8	105	84.170	84.590	84.720	0.000	84.400	84.710
9	120	84.180	84.590	84.720	0.000	84.410	84.780
10	135	84.170	84.580	84.720	0.000	84.420	84.740
11	150	84.170	84.590	84.720	0.000	84.420	84.750
12	165	84.170	84.610	84.720	0.000	84.430	84.790
13	180	84.180	84.620	84.710	0.000	84.430	84.790
14	195	84.170	84.600	84.720	0.000	84.440	84.760
15	210	84.180	84.610	84.720	0.000	84.420	84.700
16	225	84.200	84.600	84.730	0.000	84.430	84.800
17	240	84.180	84.620	84.720	0.000	84.450	84.740
18	255	84.210	84.610	84.740	0.000	84.440	84.770
19	270	84.200	84.630	84.730	0.000	84.460	84.830

END OF TABLE

VARIABLE TABLE SUMMARY

SAMPLE NUMBER	DELTA MINS	TEMP 7 DEG. F	TEMP 8 DEG. F	TEMP 9 DEG. F	TEMP 10 DEG. F	TEMP 11 DEG. F	TEMP 12 DEG. F
1	0	84.800	84.710	85.270	85.030	84.750	84.340
2	15	84.810	84.700	85.270	85.030	84.750	84.320
3	30	84.790	84.710	85.260	85.020	84.760	84.300
4	45	84.790	84.720	85.250	85.020	84.770	84.320
5	60	84.820	84.710	85.260	85.020	84.750	84.320
6	75	84.790	84.690	85.280	85.010	84.760	84.330
7	90	84.800	84.690	85.260	85.010	84.780	84.340
8	105	84.800	84.700	85.280	85.030	84.770	84.340
9	120	84.820	84.700	85.280	85.020	84.770	84.340
10	135	84.780	84.690	85.280	85.030	84.780	84.340
11	150	84.800	84.710	85.260	85.040	84.780	84.350
12	165	84.800	84.690	85.260	85.060	84.770	84.360
13	180	84.800	84.720	85.270	85.050	84.760	84.340
14	195	84.800	84.710	85.290	85.040	84.780	84.330
15	210	84.820	84.720	85.250	85.040	84.780	84.330
16	225	84.810	84.710	85.290	85.050	84.780	84.360
17	240	84.830	84.720	85.290	85.050	84.790	84.360
18	255	84.800	84.720	85.270	85.060	84.800	84.350
19	270	84.810	84.720	85.290	85.050	84.790	84.360

END OF TABLE

VARIABLE TABLE SUMMARY

SAMPLE NUMBER	DELTA MINS	TEMP 13 DEG. F	TEMP 14 DEG. F	TEMP 15 DEG. F	TEMP 16 DEG. F	TEMP 17 DEG. F	TEMP 18 DEG. F
1	0	84.520	84.430	84.890	84.150	84.180	85.110
2	15	84.530	84.440	84.890	84.140	84.190	85.100
3	30	84.520	84.430	84.880	84.150	84.170	85.110
4	45	84.530	84.460	84.880	84.140	84.180	85.090
5	60	84.520	84.430	84.870	84.140	84.160	85.100
6	75	84.520	84.460	84.880	84.130	84.190	85.100
7	90	84.500	84.460	84.880	84.140	84.190	85.110
8	105	84.510	84.460	84.880	84.140	84.140	85.100
9	120	84.510	84.460	84.880	84.140	84.190	85.110
10	135	84.530	84.460	84.880	84.150	84.190	85.100
11	150	84.540	84.480	84.890	84.150	84.190	85.110
12	165	84.530	84.470	84.880	84.150	84.210	85.110
13	180	84.520	84.470	84.880	84.150	84.210	85.100
14	195	84.550	84.480	84.890	84.160	84.210	85.110
15	210	84.550	84.490	84.890	84.160	84.200	85.120
16	225	84.540	84.500	84.890	84.170	84.220	85.130
17	240	84.540	84.500	84.890	84.170	84.210	85.130
18	255	84.570	84.490	84.890	84.160	84.220	85.110
19	270	84.570	84.510	84.900	84.190	84.230	85.130

END OF TABLE

VARIABLE TABLE SUMMARY

SAMPLE NUMBER	DELTA MINS	TEMP 19 DEG. F	TEMP 20 DEG. F	PRES 1 PSIA	HUM 1 FRACTION	HUM 2 FRACTION	HUM 3 FRACTION
1	0	84.720	84.430	41.869	0.732	0.681	0.679
2	15	84.710	84.430	41.868	0.732	0.682	0.679
3	30	84.700	84.420	41.867	0.733	0.681	0.680
4	45	84.700	84.430	41.867	0.733	0.682	0.680
5	60	84.690	84.440	41.866	0.733	0.682	0.680
6	75	84.700	84.470	41.866	0.733	0.682	0.680
7	90	84.720	84.460	41.865	0.733	0.682	0.680
8	105	84.680	84.440	41.865	0.733	0.681	0.680
9	120	84.700	84.490	41.865	0.733	0.683	0.680
10	135	84.730	84.490	41.864	0.733	0.682	0.681
11	150	84.700	84.480	41.864	0.734	0.683	0.681
12	165	84.710	84.520	41.864	0.734	0.683	0.681
13	180	84.710	84.510	41.864	0.734	0.683	0.681
14	195	84.720	84.530	41.863	0.734	0.683	0.681
15	210	84.700	84.570	41.863	0.734	0.684	0.681
16	225	84.730	84.530	41.862	0.734	0.683	0.681
17	240	84.740	84.540	41.862	0.734	0.683	0.681
18	255	84.720	84.560	41.862	0.734	0.683	0.681
19	270	84.730	84.550	41.862	0.735	0.684	0.681

END OF TABLE

VARIABLE TABLE SUMMARY

SAMPLE NUMBER	DELTA MINS	HUM 4 FRACTION	HUM 5 FRACTION	HUM 6 FRACTION
1	0	0.706	0.710	0.722
2	15	0.706	0.709	0.722
3	30	0.706	0.710	0.723
4	45	0.706	0.710	0.722
5	60	0.706	0.710	0.723
6	75	0.706	0.710	0.723
7	90	0.706	0.710	0.723
8	105	0.707	0.710	0.723
9	120	0.706	0.711	0.723
10	135	0.707	0.710	0.723
11	150	0.707	0.711	0.723
12	165	0.707	0.711	0.723
13	180	0.707	0.711	0.723
14	195	0.707	0.711	0.723
15	210	0.707	0.711	0.723
16	225	0.707	0.711	0.724
17	240	0.707	0.711	0.723
18	255	0.707	0.711	0.724
19	270	0.707	0.712	0.724

END OF TABLE

END OF COMPUTER REPORT ON CONTAINMENT LEAK RATE TEST TO NRC

APPENDIX B

Operating Procedure No. 13100.1
Integrated Leak Rate Test

FLORIDA POWER & LIGHT COMPANY

TURKEY POINT NUCLEAR POWER STATION

UNIT NO. 3

OPERATING PROCEDURE NO. 13100.1

INTEGRATED LEAK RATE TEST

Prepared for:

FLORIDA POWER & LIGHT COMPANY

Prepared by:

William D. Roman
EBASCO SERVICES INCORPORATED
Plant Operations & Betterment Department

November 1, 1975

FLORIDA POWER & LIGHT COMPANY
TURKEY POINT UNIT NO. 3
OPERATING PROCEDURE 13100.1
NOVEMBER 1, 1975

1.0 Title:

INTEGRATED LEAK RATE TEST

2.0 Approval and List of Effective Pages:

2.1 Approval:

Reviewed by Plant Nuclear Safety Committee November 19, 1975
Approved by J.K. Hayes Plant Supt., November 20, 1975
Change Dated _____ Reviewed by PNSC _____ 19___
Approved by _____ Plant Supt., _____ 19___

2.2 List of Effective Pages:

Page	Date/Rev.	Page	Date/Rev.	Page	Date/Rev.
1	11/1/75	8	11/1/75	App. C	11/1/75
2	11/1/75	9	11/1/75	App. D	11/1/75
3	11/1/75	10	11/1/75	App. E	11/1/75
4	11/1/75	11	11/1/75	App. F	11/1/75
5	11/1/75			App. G	11/1/75
6	11/1/75	App. A	11/1/75		
7	11/1/75	App. B	11/1/75		

3.0 Purpose:

The purpose of this test is to assure that leakage through the primary reactor containment, and systems and components penetrating the primary containment does not exceed the allowable leakage rate values as specified in Technical Specification, section 4.4.1 and 10CFR50, Appendix J.

3.1 Method and Discussion of Test Techniques

The Integrated Leak Rate Test shall be performed by the absolute method by which the actual mass of contained air is calculated as a function of time.

3.1.1 Corroboration of Measurement

Provisions shall be made within this test whereby the leak rate measurements shall be validated independently by the use of a Controlled Leakage Rate Test (CLRT). This validation shall be performed for a sufficient duration to accurately establish validation following the measurements at P_t. At the end of the overall test, a statistical analysis of the total-time leak rate shall be performed.

3.1.2 Test Computations

The equations used in this test procedure may be found in ORNL - NSIC - 28, "Testing of Containment Systems used with Light-Water-Ccoled Power Reactors" (Frank C. Zapp) as well as in the "Proposed Standard for Leakage Rate Testing of Containment Structures," ANS Standards Committee, October 1970. Basically the leak rate of a volume may be computed by watching the test pressure decay, while at the same time, compensating for any changes in temperature and humidity. Thus the leak-rate (L) becomes:

$$L\% = \frac{24}{\Delta t}\left(1 - \frac{T_1 (P_2 - W_2)}{T_2 (P_1 - W_1)}\right)(100), \text{ where}$$

T_1 = Temperature (Rankine) at t_0, weighted average,

T_2 = Temperature (Rankine) at t, weighted average,

P_1 = Pressure, psia, at t_0,

P_2 = Pressure, psia, at t_1,

W_1 = Water vapor partial pressure at t_0, psia

W_2 = Water vapor partial pressure at t_1, psia and

$\Delta t = (t_1 - t_0)$ hours of test duration

L(%) = Percent mass leak rate computed over the duration of the test

A sample sheet marked FOR INFORMATION ONLY may be used for manual calculations and is attached to this procedure. Refer to Appendix E.

Discrete temperature and humidity elements shall be placed throughout the containment, each placed spatially within a calculated fractional volume. The temperature, $\bar{T}_i$, therefore, will be the weighted average:

$$\bar{T}_i = \sum_{i=1}^{n} \frac{V_i \; T_i}{V_{total}}, \text{ where}$$

V_i = Incremental volume at T_i, and

V_{tot} = Total containment volume

In practice it is usual to represent V_i as a fraction, so that $\sum V_i = 1.000$, though V_{tot} in net cubic feet = 1,550,000. Water vapor pressures shall be handled similarly.

The tabulated volume fractions for these sensors shall be as follows:

T_1	= 0.3200	where, $\frac{VT_1}{VT}$	= $\frac{495,800}{1,550,000}$	= 0.320
T_2	= 0.3620	where, $\frac{VT_2}{VT}$	= $\frac{559,786}{1,550,000}$	= 0.362
T_3 thru T_8	= 0.0200 *	where, $\frac{VT_{3-T_8}}{VT}$	= $\frac{187,553}{1,550,000}$	= 0.120
T_9 thru T_{20}	= 0.0165 *	where, $\frac{VT_{9-T_{20}}}{VT}$	= $\frac{306,861}{1,550,000}$	= 0.198
			V_{Total}	= 1.0000
VP_1	= 0.3200	where, $\frac{V_{vp1}}{VT}$	= $\frac{495,800}{1,550,000}$	= 0.3200
VP_2	= 0.4820	where, $\frac{V_{vp2}}{VT}$	= $\frac{747,339}{1,550,000}$	= 0.4820
VP_3 thru VP_6	= 0.0495 *	where, $\frac{V_{vp2-VP_6}}{VT}$	= $\frac{306,861}{1,550,000}$	= 0.1980
			V_{Total}	= 1.0000

3.1.3 Statistical Handling of Test Data

Least squares analysis of the leak rate calculations will provide the best linear regression fit to the data for the duration of the test period. The effect of instrument error on total-time leak rate and statistical leak rate shall be computed such that the resultant leak rate including this possible error shall have a confidence level of 95%.

4.0 Precautions and Limits:

4.1 The primary containment must be pressurized with air of such quality (oil and humidity) that it can be done safely with the least negative influence on the progress of the test. The air should be oil-free and should be cooled with an aftercooler to approximately 80F to 85F.

4.2 The air in the containment should be circulated such that the presence of absolutely stagnant air can be prevented. Here it is important that the energy given to the circulating air is minimal. A few horsepower are all that are required, no more than three horsepower shall suffice. The reason for this is to maintain a nearly adiabatic condition of the containment environment once the test is started. The less energy introduced, therefore, the smaller the uncertainty in the resulting measurements. An uncontrolled increase in temperature (such as could be produced by large fans) masks the leak rate.

NOTE: Any fan placed in the containment must pump air of density up to approximately three times greater than standard conditions; modifications, either in supply voltage or blade size/pitch may be required.

4.3 Once 25 psig (P_t) is achieved, approximately four (4) hours should be allotted for stabilization of temperature. Conditions would normally be considered stable when the average temperature does not vary by more than 1.0F per hour for the last two (2) hours.

4.4 Access around the periphery of the containment should be limited to approximately 100 feet during periods of pressurization. These areas should be posted during these periods and limited to authorized personnel only as determined by the Lead Test Engineer. These areas do not include the Fuel Handling Building, Reactor Auxiliary Building (except electrical and mechanical penetration rooms), and any elevation above ground level.

4.5 If a containment entry is required prior to 14.3 psig, competent medical personnel shall be available. No personnel shall be allowed to enter the containment above 14.3 psig without conforming to U.S. Navy Diving Manual, NAVSHIPS 250-538, January 1959, stipulations.

4.6 All systems associated with the containment must be aligned as required by the Containment Isolation Signal (CIS). All boundary valves shall be closed. Any block valve which could prevent a containment isolation valve from being subjected to containment air pressure shall be left open. The position of the valves shall be per Appendix A. Closure of containment isolation valves shall be accomplished by normal operation and without any preliminary exercising or adjustments (e.g., no tightening of valves after closure by valve motor).

4.7 All pressure-damageable equipment should be removed from the containment or vented. NOT included is any instrumentation associated with containment isolation or monitoring of accident conditions. Removed equipment shall be properly stored. Included would be the following:

Equipment	Protection
Reactor	Vent to Containment
Pressurizer	Vent to Containment
Pressurizer Relief Tank	Vent to Containment
Reactor Coolant Drain Tank	Vent to Containment
Steam Generator Snubber Oil Reservoir	Vent to Containment (if required)
Polar Crane Hydraulic Reservoir and Gear Boxes	Vent to Containment (if required)

Equipment	Protection
Manipulator Crane Gear Boxes	Vent to Containment (if required)
Nitrogen, Argon, Oxygen/ Acetylene, (etc.) Bottles	Remove from Containment
Fire Extinguishers	Remove from Containment
Wooden Scaffolding	Remove from Containment
Refueling Machine Equipment	
TV Monitor	Remove from Containment (if required)
Position Readout Units	Remove from Containment (if required)
Dillon Load Meters and Power Supply	Remove from Containment (if required)

4.7.1 All instruments located inside the containment should be checked and properly vented, if necessary, inorder to prevent damage. Refer to Appendix F.

4.8 All wood platforms and wood scaffolding should be removed. The porous nature of wood will complicate the test and may abort it.

4.9 Any water standing on floors, in low spots, in open piping and in tankage should be removed as required and the areas left dry. The success of the test depends also on the changes in humidity during the test. These efforts will tend to stabilize the relative humidity.

4.10 Open vents or drains as shown in Appendix B to simulate those conditions that would be expected during a LOCA. All vented systems shall be drained of water to assure exposure of the containment isolation valves to containment air pressure.

4.11 Check proper installation of pressurizing system and blowdown piping without opening inlet valve at penetration.

4.12 Check that the oil and moisture content of the air downstream of the filters and temperature are satisfactory. Air quality may be checked by discharging a quantity of air on a piece of white cloth or paper at a convenient vent or drain connection.

4.13 Check that installation and calibration of instrumentation for the ILRT is completed and properly documented.

4.14 Inspect, close, and seal personnel and emergency air lock inner and outer doors.

4.15 All electrical equipment should be de-energized within the containment except for those services required and power requirements for circulating fans. Refer to Appendix G.

4.16 A general inspection of the accessible interior and exterior surfaces of the containment structures and components has been satisfactorily performed with no evidence of structural deterioration that may affect containment structural integrity or leak-tightness.

4.17 A desk calculator or equivalent instrument shall be available in the unlikely event that the computers, phone connections or terminals are inoperable. Use the data sheet in Appendix E.

4.18 The Local Leak Rate Tests should be completed.

5.0 Related System Status:

5.1 The following instrumentation or equivalent are required for the Integrated Leak Rate Test and are recently calibrated and properly documented:

ITEM	NUMBER	DESCRIPTION
TI-1	1	Temperature Monitoring & Indicating System-consisting of 20 (3 spares) sensors, selector switches, constant current supply and digital indicator system accuracy of 0.2°F. Leeds & Northrup instrumentation utilizing 100 ohm copper thermohms, Catalog 8197-10-S. Catalog No. 900-9999-9999-1-S numatron numeric display.
FI-1A	1	Flow Meter - Brooks Hi-accuracy full view rotometer, Model 1110 Range 0-10 scfm @ 25 psig, 70°F.

ITEM	NUMBER	DESCRIPTION
TI-2	1	Dewpoint Temperature Indicator - 6 (2 spares) dewpoint reading, Range -10°C to +40°C, accuracy of ± 1% full scale, sensitivity of 0.1%. Panametrics Model 1101
PI-1	2	Precision Pressure Gauge - (1) Readout unit, calibration accuracy of 0.015% of reading, resolution 0.001% full scale, readout 100,000 counts=full scale. (2) Absolute pressure capsule- a) Range 0-49 psi b) Range 0-100 psi Texas Instrument Model 145
PI-2	2	Pressure Gauge - Range 0-100 psia, graduation -0.1 psia, accuracy 0.1% full scale, sensitivity 0.01% full scale. Wallace & Tiernan Model #61A-1A-0100.

5.2 The data for this test shall be manually acquired from the ILRT cabinet containing the instrumentation listed above. These data shall be entered into the ILRT computer program utilizing a Texas Instrument 700 terminal or equivalent. The computer generated report and assiciated data shall be appended to and form a part of this procedure.

5.3 Throughout the test, temperatures, pressure and vapor pressure are monitored. These data are used to compute the leak rate from the perfect gas law, PV=nRT, using either the point-to-point method or the total-time method. Leak rate predictions and estimates of error are provided by first order linear regression over the test duration nominally of 24 hours. Further, the sensitivity to sensor inaccuracy is computed and the final NRC report should demonstrate that the test has met the minimum allowable NRC leakage rates within statistical error bounds.

5.4 Containment HVAC system should be available to maintain a temperature of not higher than 90°F or lower than 80°F within the containment. This temperature range should be maintained, if possible, for a matter of days before the beginning of the ILRT. A purge period may be performed whereby the initial volume of "moist" containment air is replaced with "drier" air prior to actual ILRT pressurization.

5.5 Shortly before the ILRT, the Containment HVAC system is to be shutdown and isolated from its electrical and cooling water supply.

5.6 The reactor shall be in a cold shut-down condition.

5.7 The following pressurization and support equipment or equivalent are required for the Integrated Leak Rate Test:

Equipment	Quantity	Capacity	Model No.
Aftercooler (American Std.)	2	5000 SCFM/ea.	GT A200
Centrifugal Moisture Separator (American Std.)	2	5000 SCFM/ea.	GT
Mechanical Separator (Coalescent Oil Separator, for oil type compressors only)	2	6500 SCFM/ea.	S10 A30
Air Drier - Chiller	1	3800 SCFM	WC-3800
(Application Engr.)	1	4800 SCFM	
Air Compressors (Atlas-Copco)	7	900 SCFM/ea.	PT-900
Blowers (Coppus)	6	1500 SCFM/ea.	HIT-3050-18

5.8 Valve line-up, as delineated in Appendix A, shall be completed.

6.0 References:

The principal guides for the preparation of this test procedure were the 10 CFR part 50 and the American National Standard document outlining the methods for leak-rate testing. Others were consulted, in addition:

6.1 "Leakage Rate Testing of Containment Structures for Nuclear Reactors" American National Standard ANSI N45.4 - 1972.

6.2 "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors" Appendix J. Title 10, CFR Part 50.

6.3 "Testing Containment Systems used with Light-Water-Cooled Power Reactors" Frank Zapp, et al, ORNL - NSIC - 26 UC - 80 Reactor Technology.

6.4 Turkey Point Plant Unit No. 3 Technical Specifications.

Test #1

11-1-75

6.5 Bechtel Corporation preoperational test procedure and final report for Initial Integrated Leak Rate Test of the Reactor Containment Building.

7.0 Records Required:

7.1 Current I & C calibration sheets for all instrumentation listed in section 5.1.

7.2 A dated log of events and pertinent observations shall be maintained during the test.

7.3 Completed ILRT procedure, test log and data sheets constitute quality assurance records and, therefore, shall be routed to the Technical Supervisor for review and routing to the Quality Control Surveillance Technician in accordance with Administrative Procedure 0190.16, Scheduling and Surveillance of Periodic Tests and Checks Required by Technical Specifications, and shall be retained in accordance with Administrative Procedure 0190.14, Document Control and Quality Assurance Records.

8.0 Instructions:

8.1 Precautions and Limits and Related System Status (sections 4.0 and 5.0, respectively) have been satisfactorily completed.

Verified by George Zegzdy Date 11-28-75

8.2 Start pressurization and continue to pressurize until containment air pressure reaches 25.0 psig + 3 psig, -0 psig. Monitor every half hour physical parameters as outlined in "ILRT Data Sheet". Maximum pressurization rate should be 4 to 6 psi/hr. During pressurization:

8.2.1 Maintain moisture and oil content as low as possible.

8.2.2 Maintain containment temperature above 60F and below 120F.

8.2.3 Check for leaks.

In any case, the pressure should not fall below 25.0 psig for the duration of this test.

Verified by George Zegzdy Date 11-29-75

TEST #1

11-1-75

8.3 The following shall be monitored during the pressurization phase of the test.

8.3.1 Containment inlet air temperature.

Verified by George Zoguly Date 11-28-75

8.4 When desired pressure is achieved, isolate containment pressurizing system and leak check the pressurizing system valves.

Verified by George Zoguly Date 11-28-75

8.5 Using ultrasonic leak detectors and/or soap solution, check the condition of each suspect local exterior leak area. Perform local leak test measurement for suspect leaks if required and record.

Verified by George Zoguly Date 11-28-75

8.6 Record data as outlined below in Appendix D a minimum of once every one (1) hour. No repairs are allowed once the ILRT commences without returning to this point.

8.6.1 Sample number

8.6.2 Date and time

8.6.3 Data Logger's name

8.6.4 Containment temperature - 20

8.6.5 Containment vapor pressure - 6

8.6.6 Containment pressure - 1

8.6.7 Outside atmospheric temperature - 1

8.6.8 Outside atmospheric pressure and/or relative humidity- 1

Note: The test was aborted at this point. Refer To Page 9, Test #2.

GPZ
11-28-75

8.7 From the data gathered on an hourly basis, determine that:

8.7.1 The containment conditions are stabilized and trends are predictable.

Verified by NA Date NA

8.7.2 Forecasted leak rate is significantly better than allowable limits. Perform local leak survey. Stabilization should take approximately four (4) hours.

Verified by NA Date NA

Test # 2

11-1-75

6.5 Bechtel Corporation preoperational test procedure and final report for Initial Integrated Leak Rate Test of the Reactor Containment Building.

7.0 Records Required:

7.1 Current I & C calibration sheets for all instrumentation listed in section 5.1.

7.2 A dated log of events and pertinent observations shall be maintained during the test.

7.3 Completed ILRT procedure, test log and data sheets constitute quality assurance records and, therefore, shall be routed to the Technical Supervisor for review and routing to the Quality Control Surveillance Technician in accordance with Administrative Procedure 0190.16, Scheduling and Surveillance of Periodic Tests and Checks Required by Technical Specifications, and shall be retained in accordance with Administrative Procedure 0190.14, Document Control and Quality Assurance Records.

8.0 Instructions:

8.1 Precautions and Limits and Related System Status (sections 4.0 and 5.0, respectively) have been satisfactorily completed.

Verified by George Zgonena Date Dec 1, 1975

8.2 Start pressurization and continue to pressurize until containment air pressure reaches 25.0 psig + 3 psig, -0 psig. Monitor every half hour physical parameters as outlined in "ILRT Data Sheet". Maximum pressurization rate should be 4 to 6 psi/hr. During pressurization:

8.2.1 Maintain moisture and oil content as low as possible.

8.2.2 Maintain containment temperature above 60F and below 120F.

8.2.3 Check for leaks.

In any case, the pressure should not fall below 25.0 psig for the duration of this test.

Verified by George Zgonena Date Dec 1, 1975

Test #2

11-1-75

OPERATING PROCEDURE 13100.1, PAGE 10
INTEGRATED LEAK RATE TEST

8.3 The following shall be monitored during the pressurization phase of the test.

8.3.1 Containment inlet air temperature.

Verified by George Zygmuntowicz Date Dec. 1, 1975

8.4 When desired pressure is achieved, isolate containment pressurizing system and leak check the pressurizing system valves.

Verified by George Zygmuntowicz Date Dec. 1, 1975

8.5 Using ultrasonic leak detectors and/or soap solution, check the condition of each suspect local exterior leak area. Perform local leak test measurement for suspect leaks if required and record.

Verified by George Zygmuntowicz Date Dec. 1, 1975

8.6 Record data as outlined below in Appendix D a minimum of once every one (1) hour. No repairs are allowed once the ILRT commences without returning to this point.

8.6.1 Sample number

8.6.2 Date and time

8.6.3 Data Logger's name

8.6.4 Containment temperature - 20

8.6.5 Containment vapor pressure - 6

8.6.6 Containment pressure - 1

8.6.7 Outside atmospheric temperature - 1

8.6.8 Outside atmospheric pressure and/or relative humidity - 1

8.7 From the data gathered on an hourly basis, determine that:

8.7.1 The containment conditions are stabilized and trends are predictable.

Verified by George Zygmuntowicz Date Dec. 1, 1975

8.7.2 Forecasted leak rate is significantly better than allowable limits. Perform local leak survey. Stabilization should take approximately four (4) hours.

Verified by George Zygmuntowicz Date Dec. 1, 1975

8.8 Continue ILRT measurements until interpreted data indicates that the ILRT criterion is met for a minimum period of twenty-four (24) hours in accordance with Appendix C.

Verified by George Zoguzby Date Dec. 3, 1975

8.9 Once predictable and allowable trends have been established, verify the test results by superimposing a leakage approximately equivalent to L_t. Test duration shall be approximately four (4) hours in length to verify the ability to measure the leak.

Verified by George Zoguzby Date Dec. 3, 1975

The following shall be recorded during this phase of the test.

8.9.1 Containment air flow (rotameter).

8.10 Compare the ILRT leak rate and verification leak rates. If the comparison above indicated that the ILRT leak rate is not substantiated by the verification test (difference within 0.25 L_t), continue the ILRT leak rate and recheck. At the end of the extended test period, repeat the verification test, if required.

Verified by George Zoguzby Date Dec. 3, 1975

8.11 Sample containment atmosphere prior to blowdown. Upon permission from Lead Test Engineer, open blowdown valve and release air from containment utilizing a maximum depressurization rate of approximately 4 to 6 psi/hr.

Verified by George Zoguzby Date Dec. 3, 1975

8.12 When atmospheric pressure is achieved, containment atmosphere shall be sampled followed by containment entry and inspection.

Verified by George Zoguzby Date Dec. 4, 1975

8.13 Inform Nuclear Plant Supervisor that ILRT is complete and affected systems and equipment are turned-over to Operations Department.

Verified by George Zoguzby Date Dec. 9, 1975

8.14 The completed copy of this procedure with the data sheet(s) should be forwarded to the Technical Department for review and handling. Following review by the Technical Department, the data sheets shall be sent to the Quality Control Department.

Verified by George Zoguzby Date Dec. 9, 1975

APPENDIX A

Valve Line-up

OPERATING PROCEDURE 13100.1

INTEGRATED LEAK RATE TEST

APPENDIX A

PEN. #	FUNCTION	VALVE #	POSITION	REMARKS	VERIFIED BY/DATE
1	To RHR	MOV-750 MOV-751 TC-1 TC-100	Open Open Closed Closed	System in service during ILRT	11-27-75 11-27-75 11-27-75 11-27-75
2	From RHR	MOV-744A MOV-744B FCV-605 HVC-758 761F	Open Open Open/Closed → as needed per OTSC #60 Open Closed	System in service during ILRT	11-27-75 11-27-75 11-27-75 11-27-75 11-27-75
3	CCW to RCP's	717 716E MOV-716A MOV-716B 716D 716C	NA Open Closed Closed Closed Open	Check Valve	11-28-75 11-27-75 11-27-75 11-27-75 11-27-75
4	CCW from RCP's	MOV-730 732 TC-65 730B 730C 730E	Closed Closed Open Closed Closed Open		11-27-75 11-27-75 11-27-75 11-27-75 11-27-75 11-27-75
5	PRT to GA	CV-516 552 517B TC-2 TC-80	Closed Closed Open Closed Open		11-27-75 11-27-75 11-27-75 11-27-75 11-27-75
6	N_2 to PRT	518 TC-3 TC-81	NA Open Open	Check Valve	NA 11-27 11-27-75

OPERATING PROCEDURE 13100.1

INTEGRATED LEAK RATE TEST

APPENDIX A

PEN. #	FUNCTION	VALVE #	POSITION	REMARKS	VERIFIED BY/DATE
7	PW to Standpipes	CV-519A CV-519B CV-522A CV-522B CV-522C TC-4 TC-82	Closed Closed Closed Closed Closed Closed Open		DE 11-27 DE 11-27 DE 11-27 DE 11-27 DE 11-27 DE 11-27 TC 11-27
8	Prz. Stm. Sample	CV-951 CV-956A 989A 950 TC-5 TC-83 TC-85	Closed Closed Closed Open Closed Closed Open		DE 11-27 DE 11-27 DE 11-27 JLH 11-27 TC - 11-27 ERK 11-27 TC - 11-27
9	Prz. Liquid Sample	CV-953 CV-956B 989B 952 TC-6 TC-86 TC-84	Closed Closed Closed Open Closed Closed Open		DE 11-27 DE 11-27 DE 11-27 JLH 11-27 TC - 11-27 ERK 11-27 TC - 11-27
10	RCDT & PRT Vent; N_2 to RCDT	CV-4658A CV-4658B TC-7 TC-8 4653 ~~CV-549~~ 4656 TC-87	Closed Closed Closed Open Open Closed ~~Open~~ Closed	CV-549 Fails closed. Same results with 9653 cannot open, will depressurize VH. DLJ OTSC 6.0	DE 11-27 DE 11-27 TC 11-27 TC 11-27 DLJ 11-27 TC 11-27 DLJ 11-27-75
11	ALT. Lohead SIS	MOV-872 TC-64 TC-9	Closed Closed ~~Open~~ CLOSED	857 leaks DLJ OTSC 11.60	DE 11-27 DE 11-27 DE 11-27
	CCW to Excess LTDN. HX.	738 737A TC-10 TC-66 TC-88	NA Closed Closed Open Open	Check Valve	DE 11-27 DE 11-27 EP 11/27 DE 11-27

INTEGRATED LEAK RATE TEST

APPENDIX A

PEN. #	FUNCTION	VALVE #	POSITION	REMARKS	VERIFIED BY/DATE
13	CCW from Excess LTDN. HX.	CV-739 737B TC-11 TC-89	Closed Closed Closed Open		DE 11-27 DE 11-27 DE 11-27 DE 11-27
14	Letdown to Regen HX	CV-200A CV-200B CV-200C CV-204 TC-12 TC-67 TC-13 TC-90	Closed Closed Closed Closed Open Closed Closed Open		DE 11-27 DE 11-27 DE 11-27 DE 11-27 HEF-11-27 HEF-11-27 DE 11-27 DE 11-27
15	CVCS to Regen. HX	312C HCV-121 333 TC-14 202A TC-91	NA Closed Closed ~~Open~~ closed Open Open	Check Valve CV-310A fails open ∴ 312C also until pressure fills line. This allows boron path to core	--- DE 11-27 DE 11-27 ~~HEF~~-11-27 DE 11-27 DE 11-27
16	PACVS	HV-3-1 HV-3-2 HV-3-6 ~~HV-1~~ HV-2 HV-7 HV-9	Closed Closed Closed ~~Open~~ Open Open Open	unit #4 only.	DE 11-27 DE 11-27 DE 11-27 DFJ 11-27-75 DE 11-27 DE 11-27 DFJ 11-27
17	SIS Test Line	895V TC-68 TC-16 TC-92	Closed Open Closed Open		DE 11-27 RP 11/27 DE 11-27 DE 11-27
18	SIS	MOV-866A MOV-866B CV-869 TC-17 TC-93	Closed Closed Closed Closed ~~Open~~ closed	can not ngtf out SIS pumps	DE 11-27 DE 11-27 DE 11-27 DE 11-27 DFJ 11-27-75

OPERATING PROCEDURE 13100.1

INTEGRATED LEAK RATE TEST

APPENDIX A

PEN. #	FUNCTION	VALVE #	POSITION	REMARKS	VERIFIED BY/DATE
19A	Cont't. Spray A	890A	NA	Check Valve	JE 11-27
		MOV-880A	Closed		JE 11-27
		TC-18	Closed		JE 11-27
		896C	Closed		JE 11-27 BPJ 11-27
		891A	~~Open~~ ~~Closed~~		JE 11-27
		TC-94	Open		
19B	Cont't. Spray B	890B	NA	Check Valve	JE 11-27
		MOV-880B	Closed		JE 11-27
		TC-19	Closed		JE 11-27
		896D	Closed		JE 11-27 BPJ 11-27
		891B	~~Open~~ ~~Closed~~		JE 11-27
		TC-95	Open		
	A&B Hot Leg Sample	CV-955A	Closed		ERC 11-27
		CV-955B	Closed		ERC 11-27
		CV-956C	Closed		ERC 11-27
		989C	Closed		ERC 11-27
		954A	Open		[illegible] 11-27
		954B	Open		[illegible] 11-27
		TC-20	Closed		JC 11-27
		TC-96	Closed		JC 11-27
		TC-97	Open		RC 11-27
21	CCW to Coolers	MOV-1417	Closed		JE 11-27
		TC-21	Closed		JE 11-27
		TC-98	Open		JE 11-27
22	CCW from Coolers	MOV-1418	Closed		JE 11-27
		TC-99	Closed		JE 11-27
		TC-101	Open		JE 11-27
23	Cont't. Sump	CV-2821	Closed		[illegible] 11/27/75
		CV-2822	Closed		[illegible] 11/27/75
		TC-22	Closed		JC 11-27
		TC-102	Open		JE 11-27
		Valve M	Open		BPJ 11-27
		Valve N	Open		BPJ 11-27

OPERATING PROCEDURE 13100.1

INTEGRATED LEAK RATE TEST

APPENDIX A

PEN. #	FUNCTION	VALVE #	POSITION	REMARKS	VERIFIED BY/DATE
24A	Seal Water to RCP-A	298A TC-23 TC-103	NA Open Open	Check Valve	[illegible] 11-27 [illegible] 11-27
24B	Seal Water to RCP-B	298B TC-24 TC-104	NA Open Open	Check Valve	[illegible] 11-28 [illegible] 11-27
24C	Seal Water to RCP-C	298C TC-25 TC-105	NA Open Open	Check Valve	[illegible] 11-28 [illegible] 11-27
25	RCP S.W. Return	MOV-381 TC-26 TC-106 306C	Closed Closed Open Open		[illegible] 11-27 [illegible] 11-27 [illegible] 11-27 [illegible] 11/27
28A 28B 28C	Steam Generator Blowdown	MOV-1410 127 Valve A MOV-1411 227 Valve B MOV-1412 327 Valve C TC-27 TC-28 TC-29	Closed Closed Open Closed Closed Open Closed Closed Open Open Open Open		[illegible] 11-27 [illegible] 11-27 [illegible] 11-27 [illegible] 11-27 [illegible] 11-27 [illegible] 11-27 [illegible] 11-27 [illegible] 11-27 [illegible] 11-27 [illegible] 11-27 [illegible] 11-27
29	Inst. Air Supply	336 CV-2803 TC-58 TC-59 TC-107 337A	NA Closed Open Closed Open Closed	Check Valve	[illegible] 11/27/75 [illegible] 11-27 [illegible] 11-22-75 [illegible] 11-22-75 [illegible] 11-22-75
[illegible]	RCDT to GA	CV-4659A CV-4659B 4654 TC-60 TC-108	Closed Closed Open Closed Open		[illegible] 11-27 [illegible] 11-27 [illegible] 11-27 [illegible] 11-27 [illegible] 11-27

INTEGRATED LEAK RATE TEST

APPENDIX A

PEN. #	FUNCTION	VALVE #	POSITION	REMARKS	VERIFIED BY/DATE
32	Cont't. Air Sample Return	TC-30	Open		[illegible] 11-27
		Check Valve B	NA	Check valve	------
		Valve J	Open		JC 11-27
		TC-31	Closed		JC 11-27
		SV-2912	Closed		JG 11-27
		TC-109	Open		JC 11-27
33	Cont't. Air Sample	Valve K	Open		JC 11-27
		SV-2913	Closed		JG 11-27
		SV-2911	Closed		JG 11-27
		TC-32	Closed		JC 11-27
		TC-33	Closed		JC 11-27
		TC-110	Open		JC 11-27
4	Service Air	205	Closed		JC 11-27
		203	Closed		JC 11-27
		TC-69	Closed		JC 11-27
		TC-34	Closed		JC 11-27
		TC-111	Open		JC 11-27
35	Cont't. Purge Inlet	PV-2601	Closed		JG 11-28
		PV-2600	Closed		JG 11-28
		TC-35	Closed		JG 11-28
36	Cont't. Purge Outlet	PV-2603	Closed		JG 11-28
		PV-2602	Closed		JG 11-28
		TC-36	~~Closed~~ Open	Bypassed POV-2603, using POV-2602 as boundary. [illegible] OTSC 1160	[illegible] 11-28
42	N_2 to Accum.	HCV-936	Closed		JG 11-27
		CV-853A	Closed		JG 11-27
		CV-853B	Closed		JG 11-27
		CV-853C	Closed		JG 11-27
		CV-855	Closed		JG 11-27
		TC-38	Closed		JG 11-27
		TC-50	Open		JC 11-27
3	CCW from RCP Thermal Barriers	MOV-626	Closed		JG 11-27
		736	Closed		JC 11-27
		TC-70	Closed		JC 11-27
		TC-39	Closed		JC 11-27
		TC-112	Open		JC 11-27

INTEGRATED LEAK RATE TEST

APPENDIX A

PEN. #	FUNCTION	VALVE #	POSITION	REMARKS	VERIFIED BY/DATE
47	Primary Water to Wash Header	Valve L TC-40 Check Valve A TC-113	Closed Closed NA Open	Check Valve	HST 11-27 J.C. 11-27 JC - 11-27
52	From RCDT Pumps	CV-4668A CV-4668B 4663A 4663B TC-41 TC-114	Closed Closed Open Open Closed Open		JC - 11-27 JC - 11-27 HST 11-27 HST 11-27 JC - 11-27 JC - 11-27
53	PACVS	HV-3-3 HV-3-4 HV-3-5	Closed Closed Closed	Refer to Pen.# 16	DE 11-27 DE 11-27 DE 11-27
54A 54B	Recirc. Sump	MOV-860A MOV-861A TC-42 MOV-860B MOV-861B TC-43 TC-115 TC-116	Closed Closed Closed Closed Closed Closed ~~Open~~ closed ~~Open~~ closed	RHR pumps in service. 6/3 OTSC #60	DE 11-27 DE 11-27 DE 11-27 DE 11-27 DE 11-27 DE 11-27 DE 11-27 DE 11-27
55	Accumulator Sample	954C 954D 954E CV-955C CV-955D CV-955E CV-956D TC-44 989E TC-117	Open Open Open Closed Closed Closed Closed Closed Open Open		HST 11-27 HST 11-27 HST 11-27 DE 11-27 DE 11-27 DE 11-27 DE 11-27 DE 11-27 JC - 11-27 JC - 11-27

OPERATING PROCEDURE 13100.1

INTEGRATED LEAK RATE TEST

APPENDIX A

PEN. #	FUNCTION	VALVE #	POSITION	REMARKS	VERIFIED BY/DATE
58	Hi Head SIS	873A TC-45	NA Open	Check Valve	— LBA 11-27
59	Hi Head SIS	873B TC-46	NA Open	Check Valve	— LBA 11-27
60	Hi Head SIS	873C TC-47	NA Open	Check Valve	— LBA 11-27
58/59/60	SIS	MOV-843A MOV-843B TC-48 TC-49 TC-118 TC-119	Closed Closed Closed Closed ~~Open~~ closed Closed	Cannot open, containment isolation B17. DISC #60	RE 11-27 RE 11-27 TC - 11-27 RE 11-27 DPJ 11-27 RE 11-27
61B	Deadweight Tester	Valve C Valve P TC-51 TC-120	Closed Open Closed Open		TC-11-27 ~~LBA~~ 11-27 TC 11-27 TC 11-27
64A	Steam Generator Sample C	20-307 TC-52 MOV-1425 TC-121	Open Closed Closed ~~Open~~ closed DPJ		RE 11-27 RE 11-27 RE 11-27 TC - 11-27
64B	Steam Generator Sample B	20-306 TC-53 MOV-1426 TC-122	Open Closed Closed Open		RE 11-27 RE 11-27 RE 11-27 RE 11-27
64C	Steam Generator Sample A	20-305 TC-54 MOV-1427 TC-123	Open Closed Closed ~~Open~~ closed DPJ		RE 11-27 RE 11-27 RE 11-27 TC 11-27

OPERATING PROCEDURE 13100.1

INTEGRATED LEAK RATE TEST

APPENDIX A

PEN. #	FUNCTION	VALVE #	POSITION	REMARKS	VERIFIED BY/DATE
65A	From ILRT Compressor	Valve E TC-55	Closed	As Required	GPZ 11-27
B	ILRT Press. Sensor Line	~~Range ILRT-A~~ GPZ Valve F TC-56	Open Open Closed	In service during ILRT & CLRT	GPZ 11-27 GPZ 11-27 GPZ 11-27
65C	CLRT Flow Line	~~Range ILRT-B~~ GPZ TC-57 Valve G	Open Closed Open	In service during CLRT	GPZ 11-27 GPZ 11-27 GPZ 11-27
63	Instrument Air Bleed	CV-2819 TC-37 CV-2826	Closed Closed Closed		Ic - 11-27 Ie - 11-27 Ie - 11-27

GPZ - George P. Zogursky

Jim - Jim Walker

BCH - B. C. Hanson

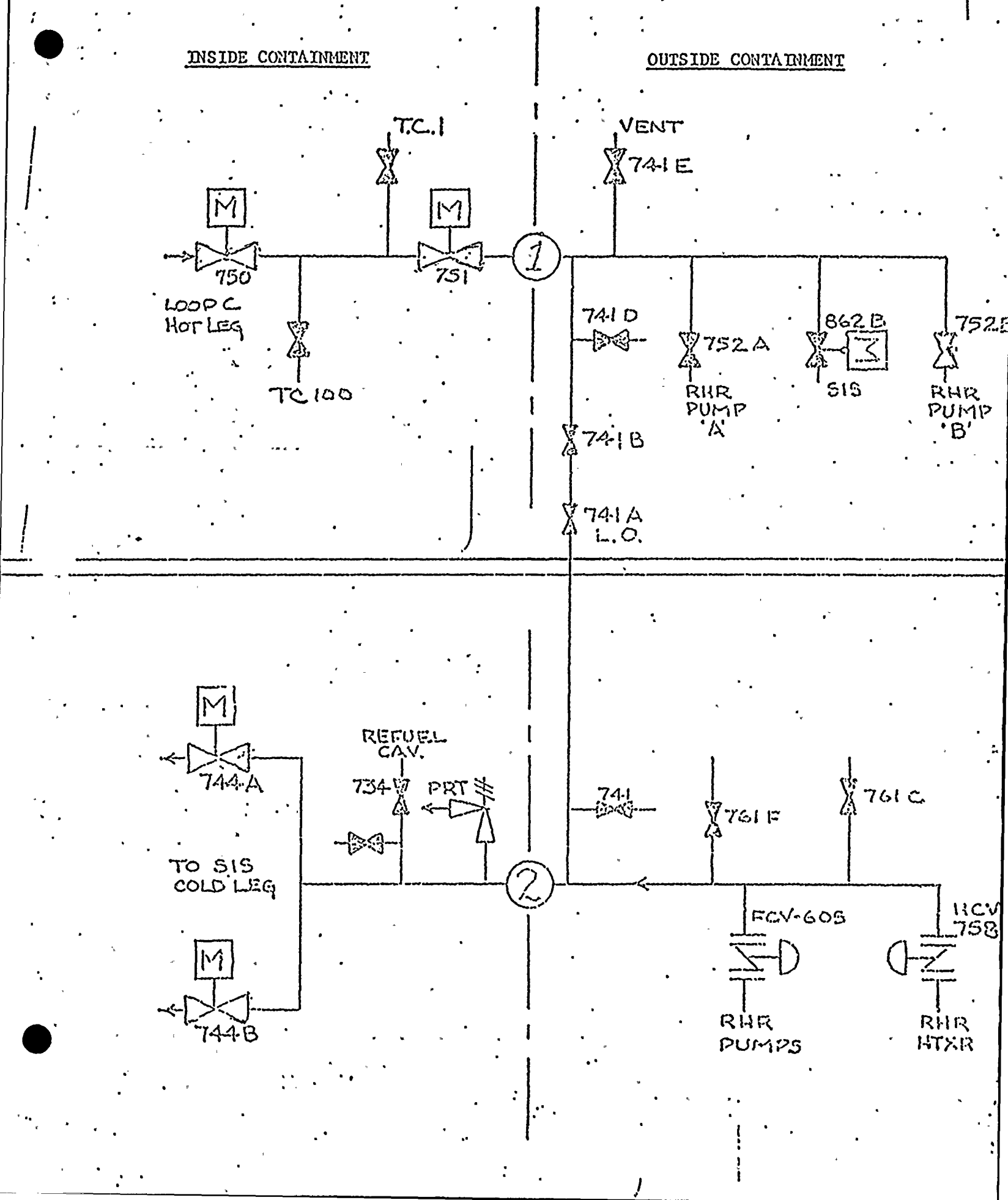
JC - Frank Cook

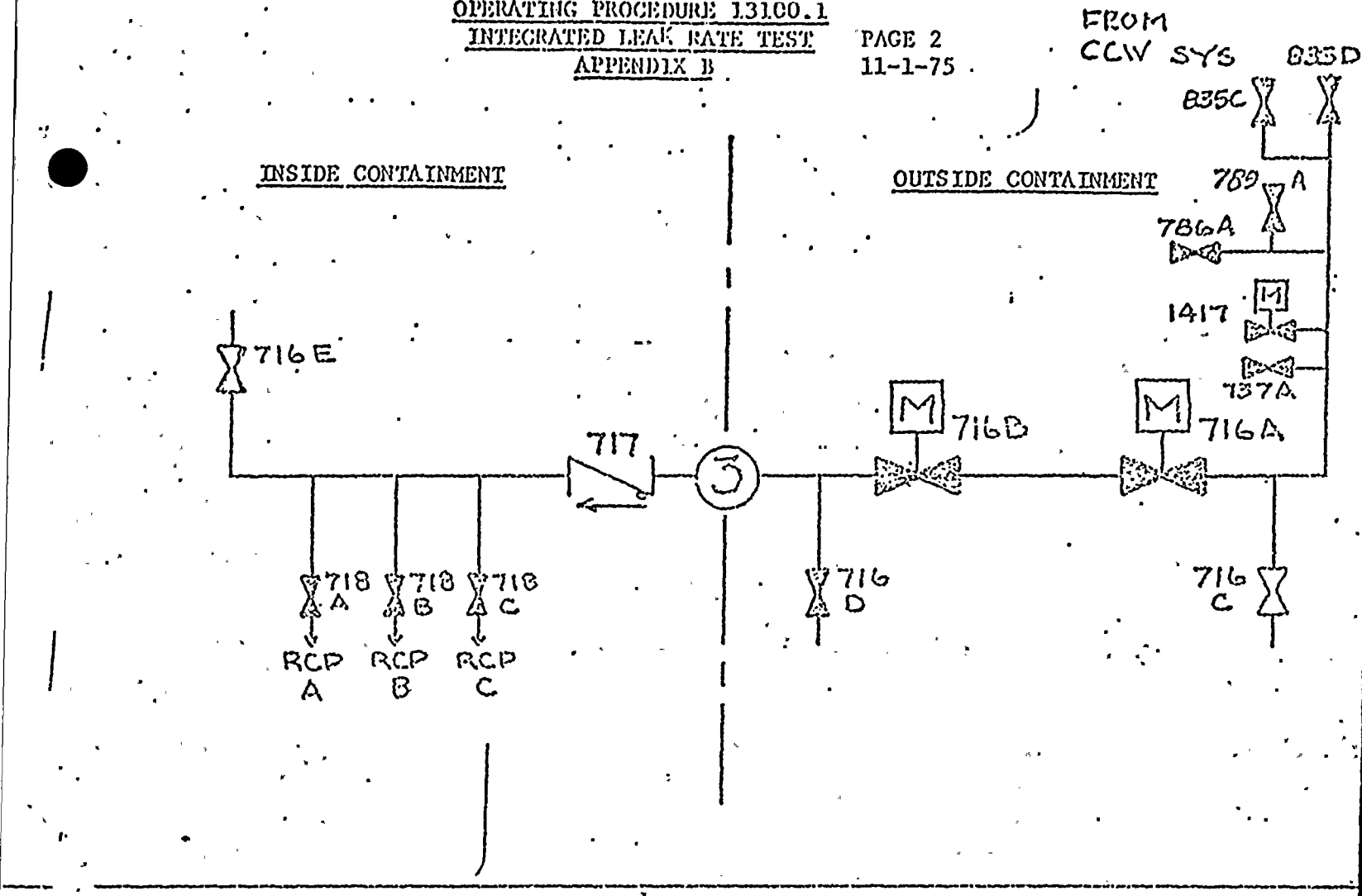
ERK - E. R. Knuckles

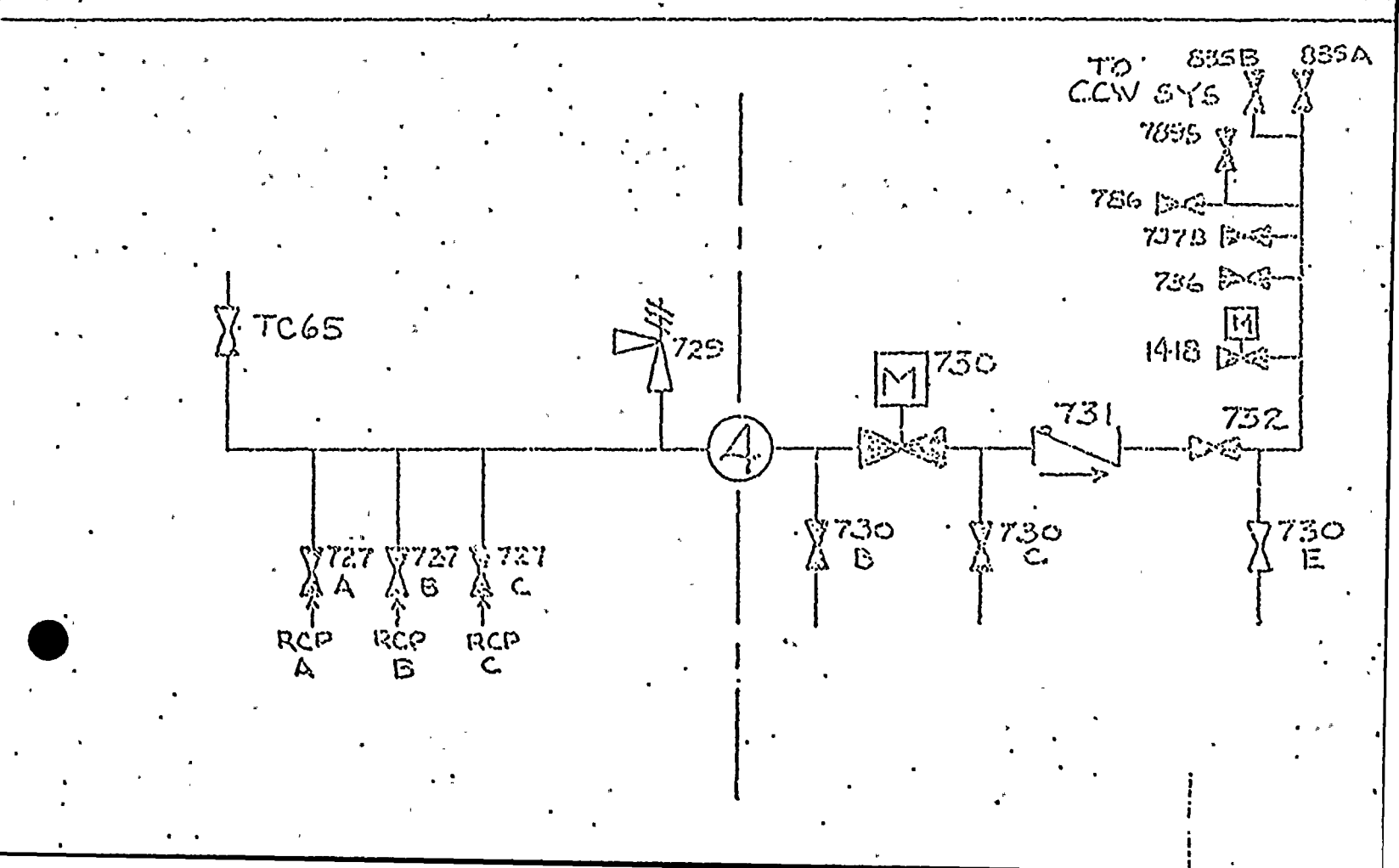
GC - George Cambon

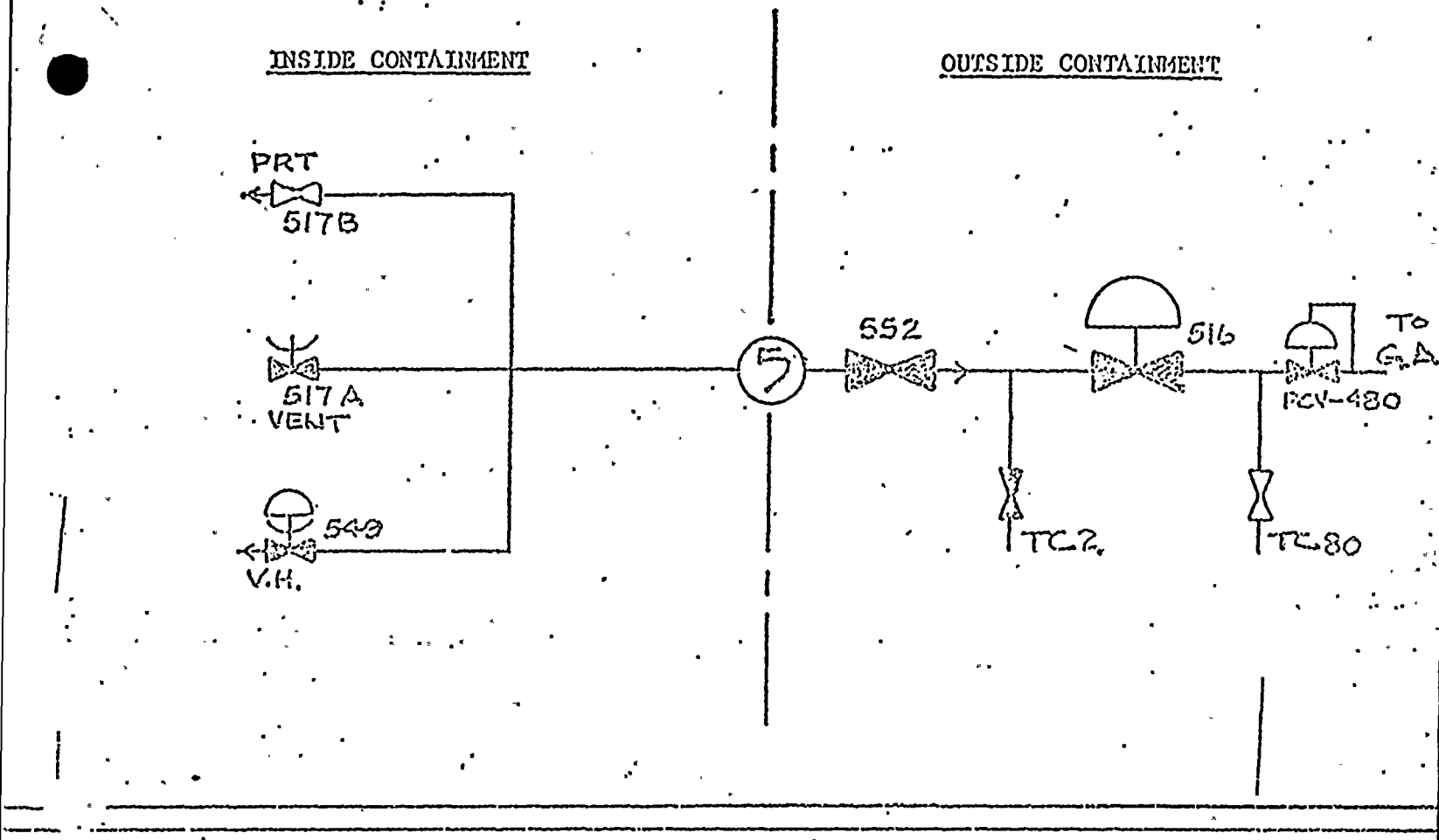
APPENDIX B

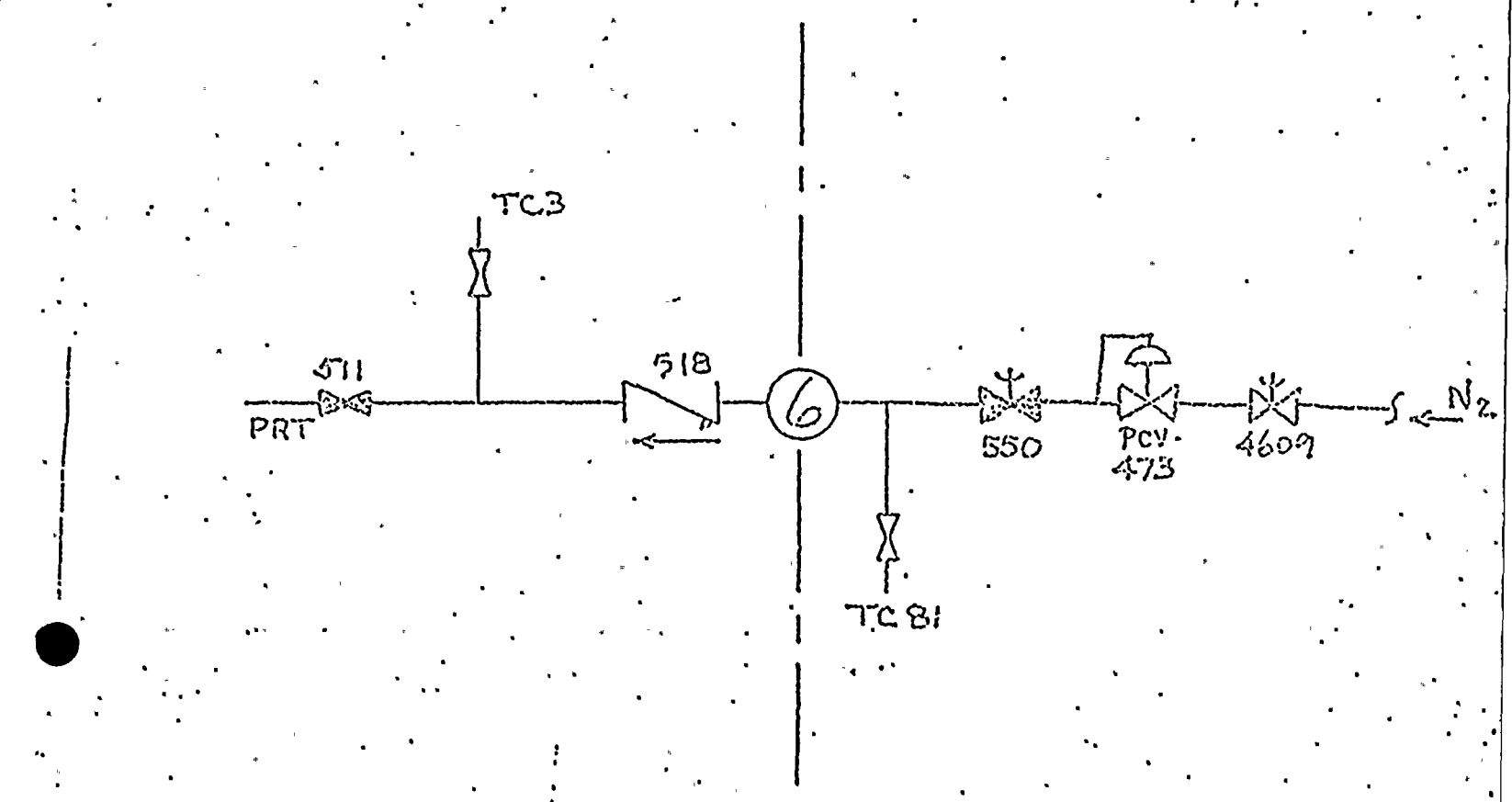
Valve Drawings

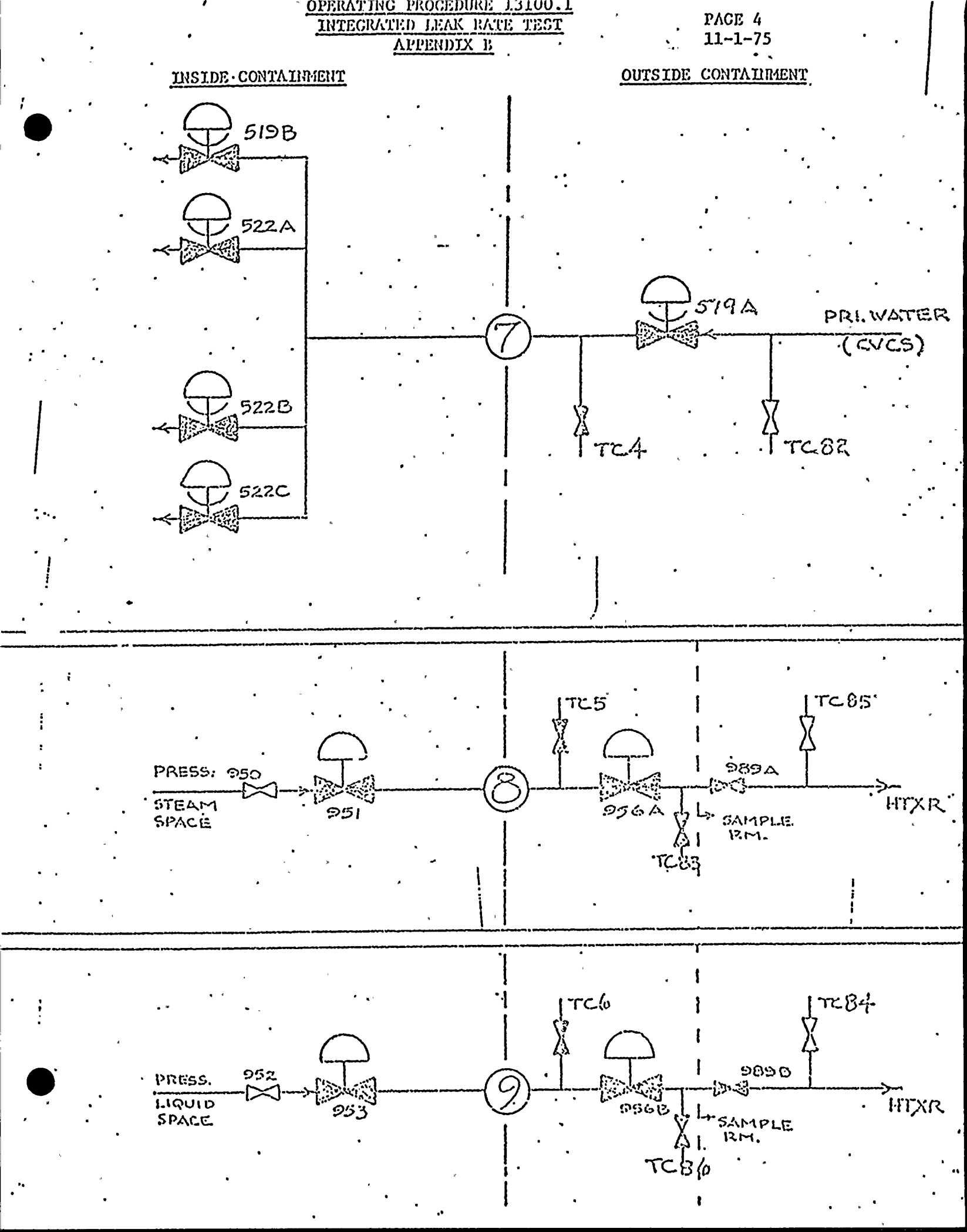

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
T.C.1
VENT
741E
M
M
750
751
1
LOOP C
HOT LEG
TC100
741D
752A
862B
752B
RHR
PUMP
'A'
SIS
RHR
PUMP
'B'
741B
741A
L.O.
M
744A
REFUEL
CAV.
734
PRT
741
761E
761C
TO SIS
COLD LEG
2
FCV-605
HCV
758
M
744B
RHR
PUMPS
RHR
HTXR

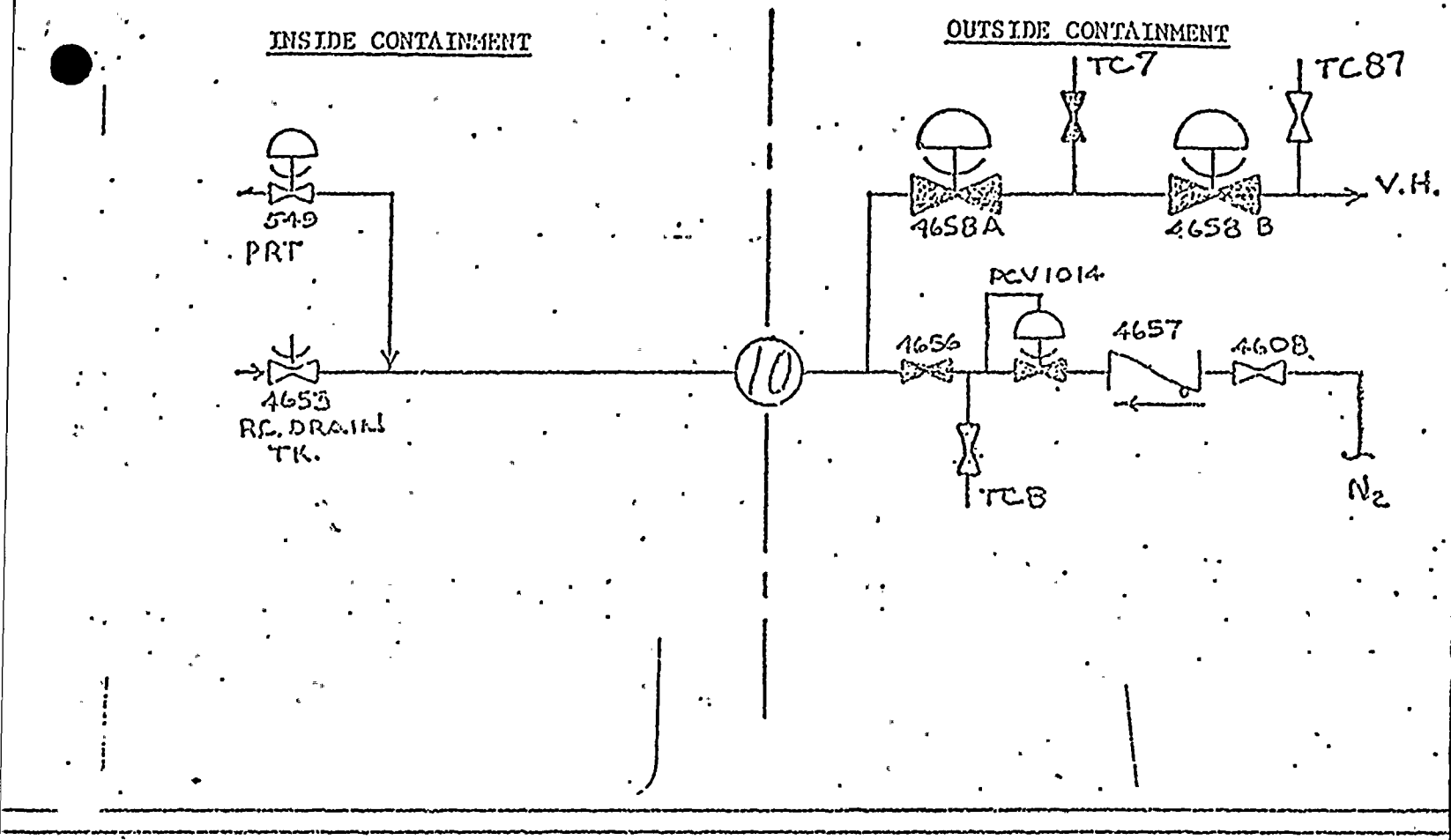

FROM CCW SYS
835D
835C
INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
789 A
786A
1417
737A
716E
717
716B
716A
718 A
718 B
718 C
716 D
716 C
RCP A
RCP B
RCP C

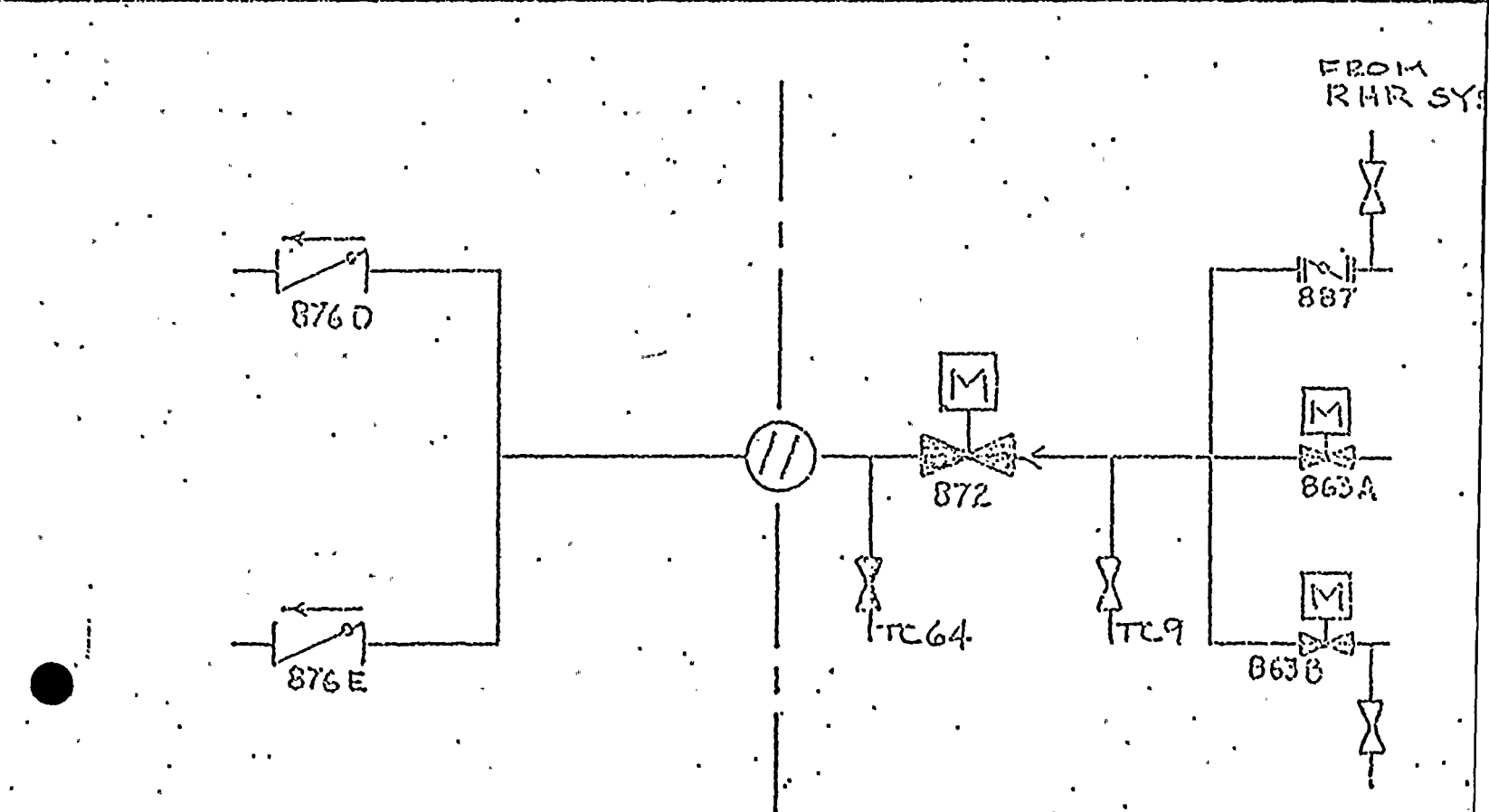

TO CCW SYS
835B
835A
789B A
786
737B
736
1418
TC65
729
730
731
732
727 A
727 B
727 C
730 B
730 C
730 E
RCP A
RCP B
RCP C

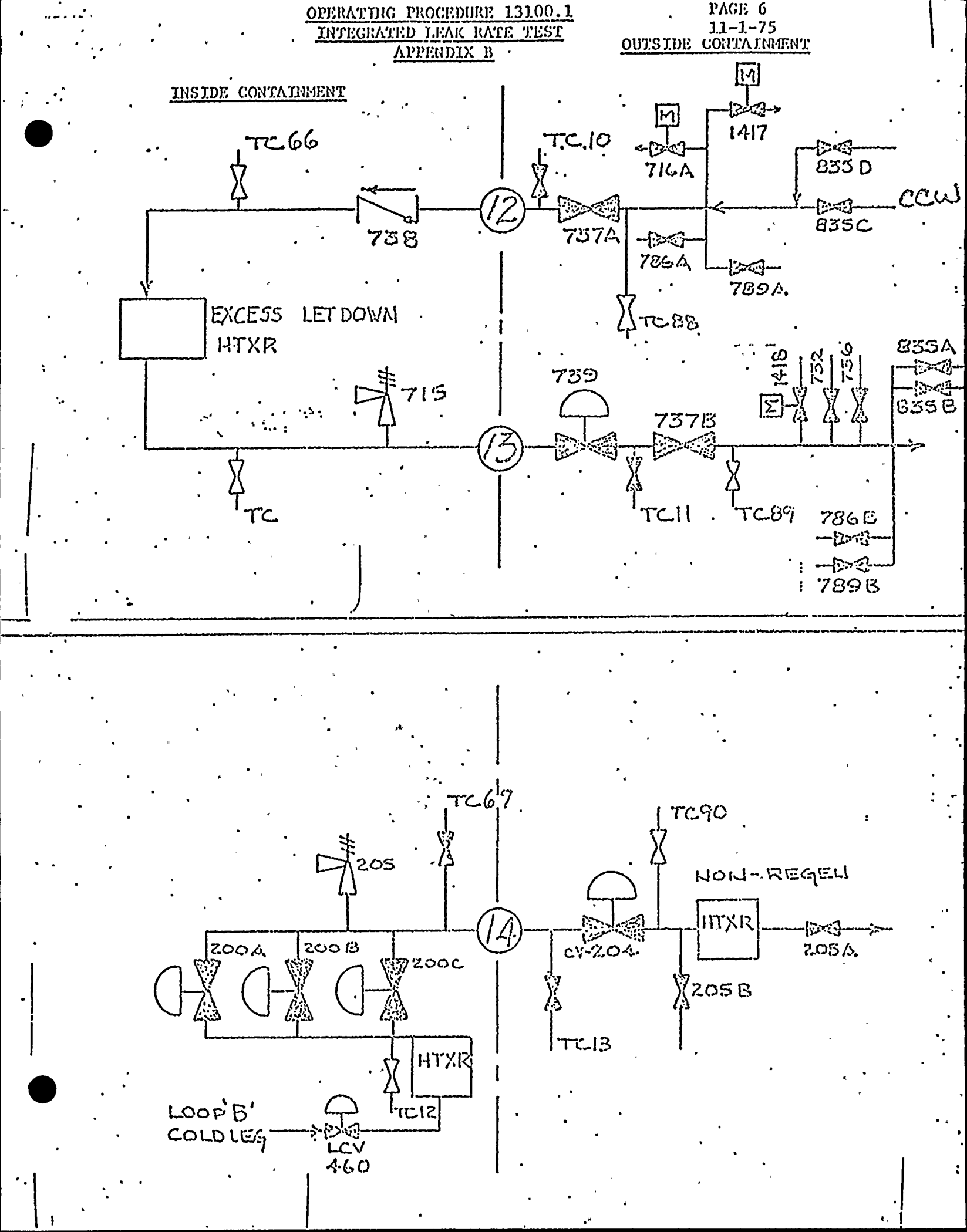

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
PRT
517B
517A
VENT
549
V.H.
5
552
516
TO
G.A
PCV-480
TC2
TC80

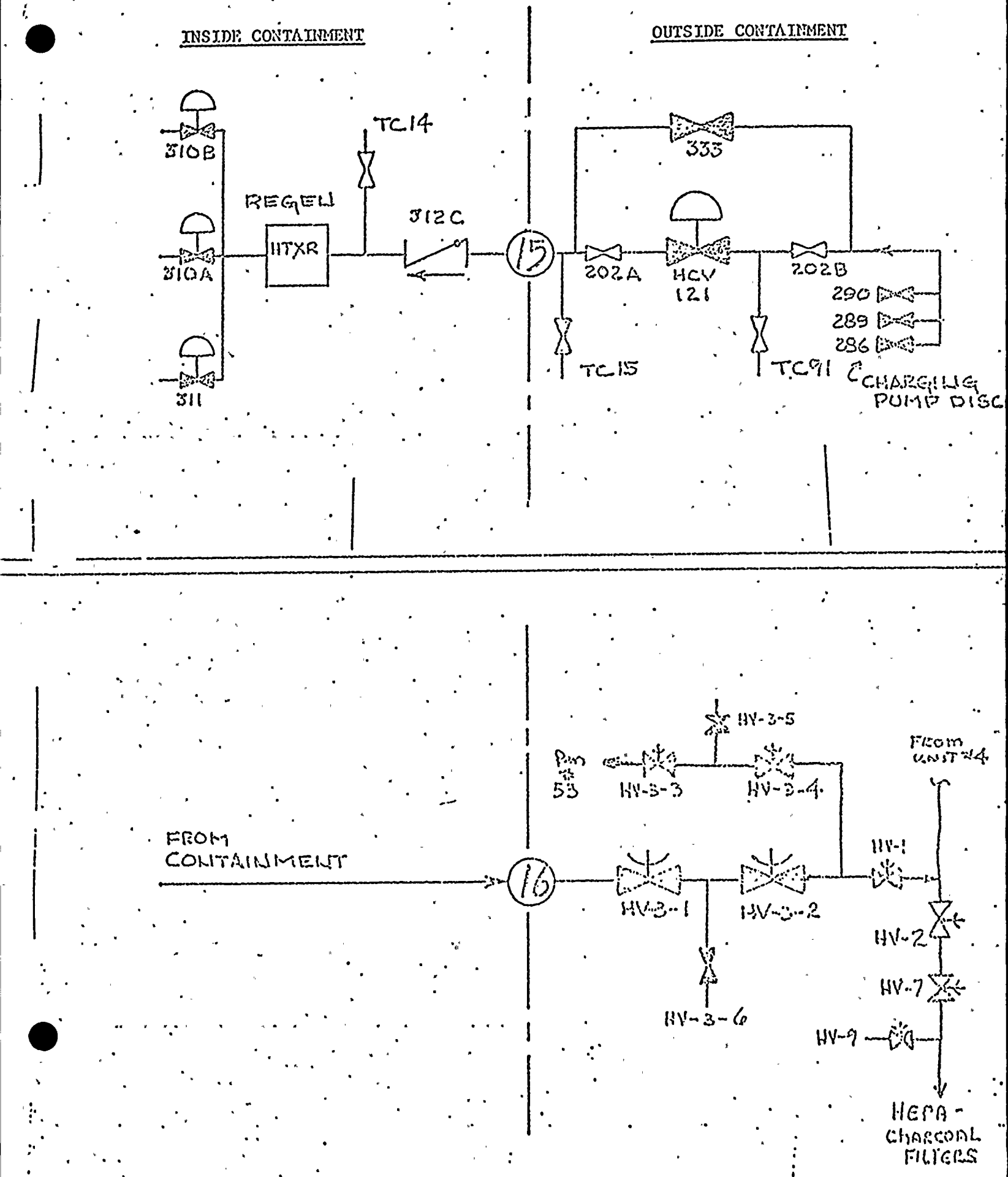

TC3
511
PRT
518
6
550
PCV-
473
4609
N2
TC81

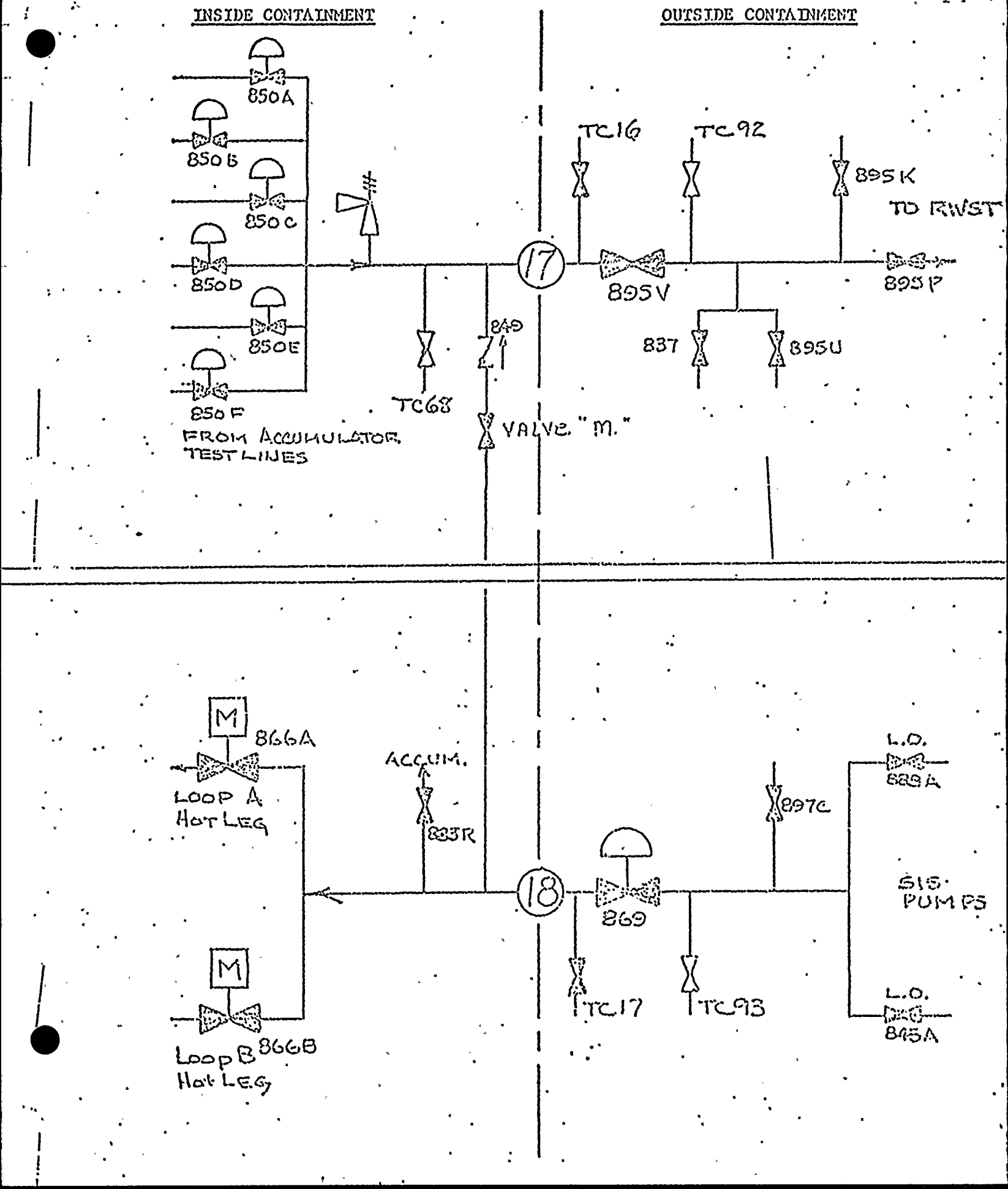

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
519B
522A
522B
522C
7
519A
PRI. WATER
(CVCS)
TC4
TC82
PRESS. 950
STEAM
SPACE
951
8
TC5
TC85
956A
989A
HTXR
SAMPLE
RM.
TC83
PRESS.
LIQUID
SPACE
952
953
9
TC6
TC84
956B
989D
HTXR
SAMPLE
RM.
TC86

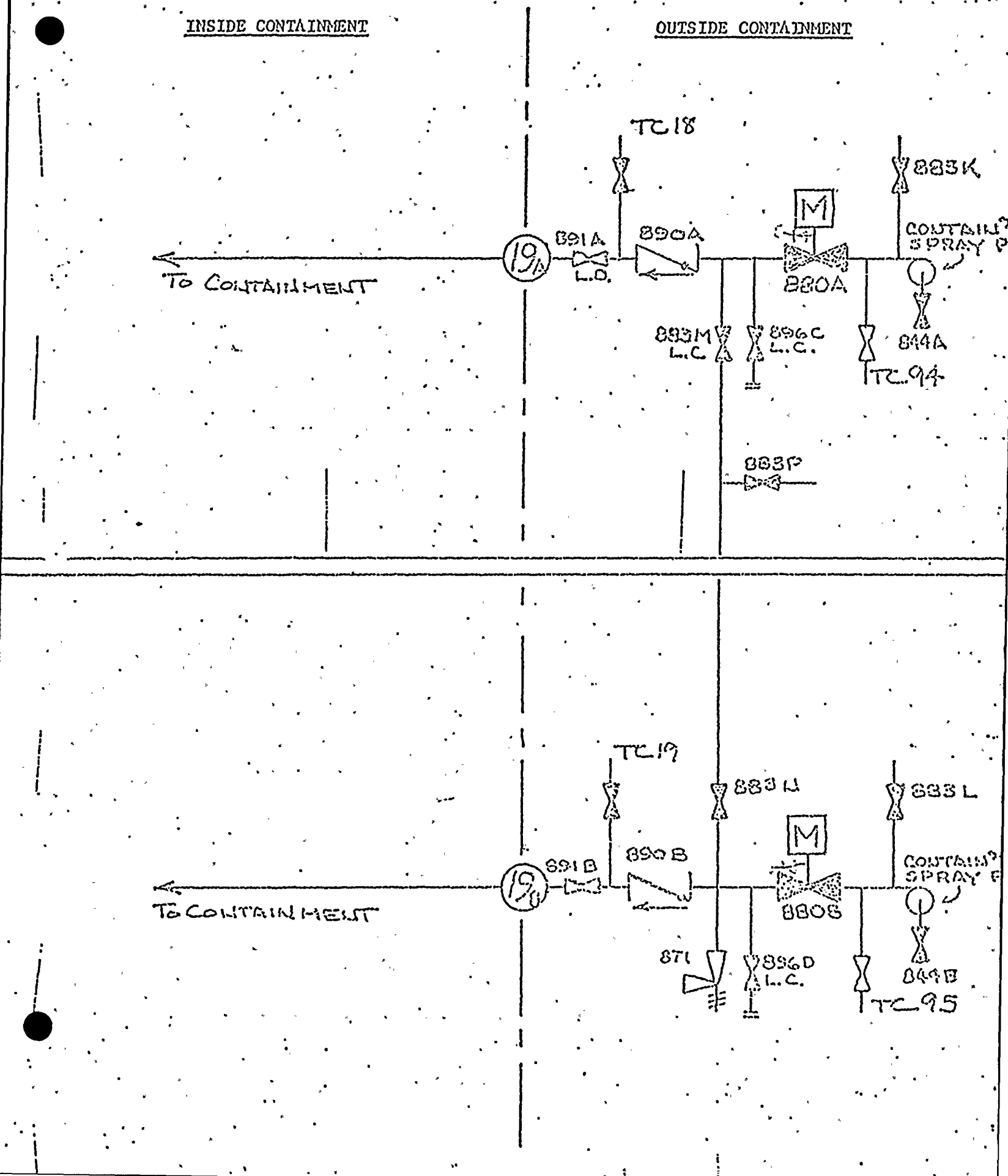

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
TC7
TC87
549
PRT
4658A
4658 B
V.H.
PCV1014
1656
4657
4608
10
4653
RC. DRAIN TK.
TC8
N2

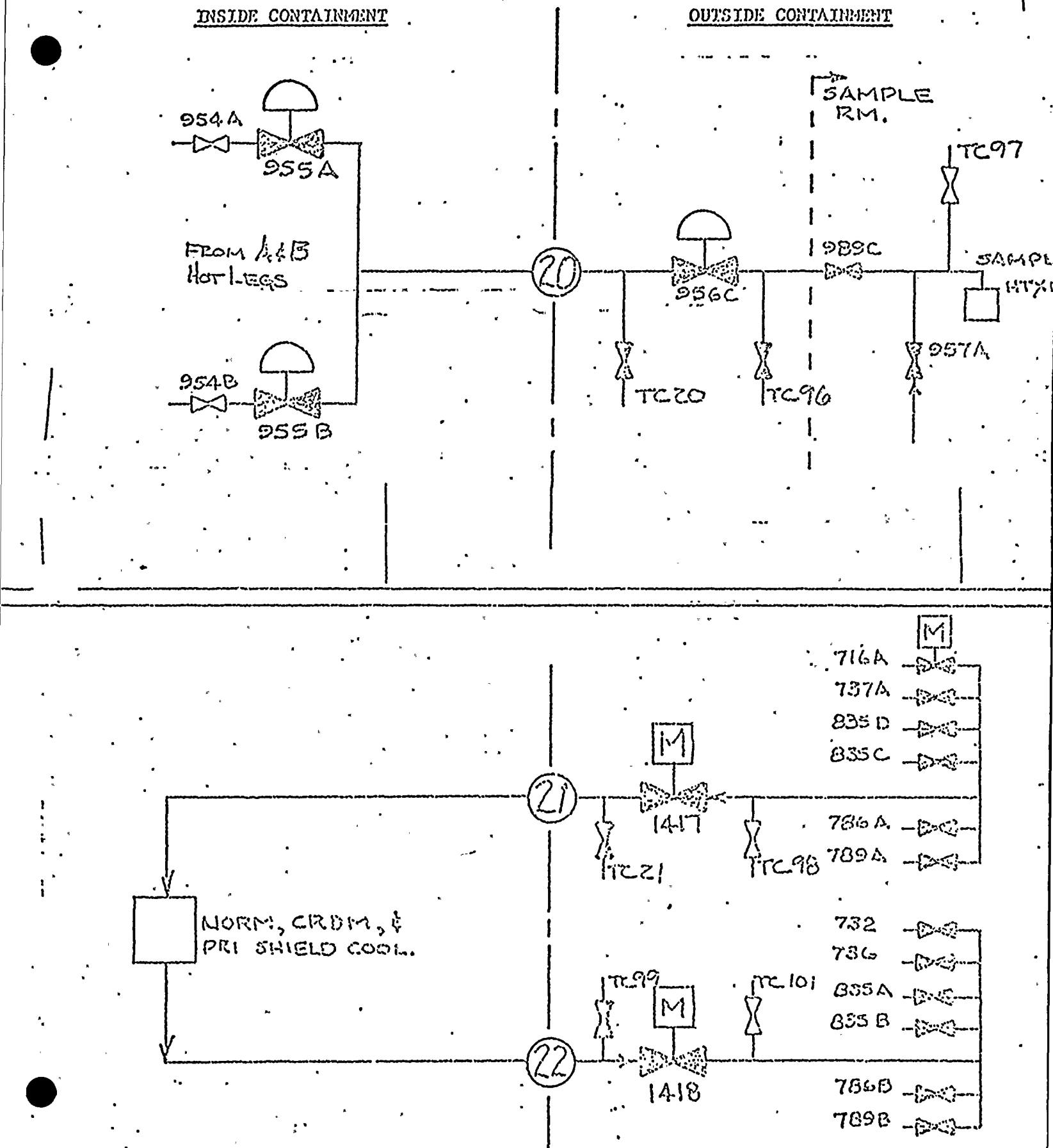

FROM RHR SYS
887
876 D
M
872
863A
11
TC64
TC9
863B
876 E

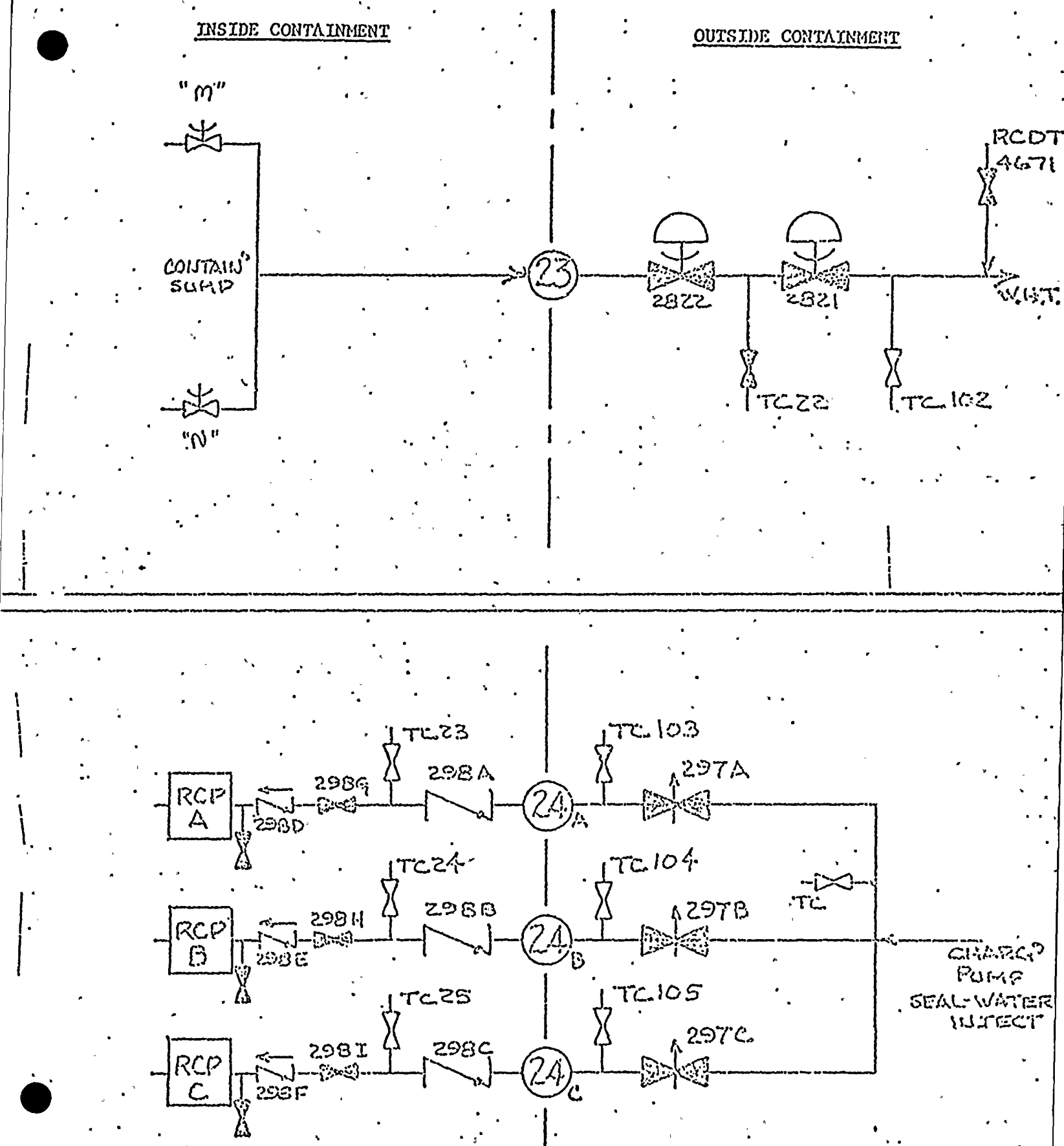

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
TC66
T.C.10
M
1417
716A
835 D
CCW
758
12
737A
835C
786A
789A.
EXCESS LET DOWN
HTXR
TC88
715
739
737B
1418
752
756
835A
835 B
13
TC
TC11
TC89
786B
789B
TC67
TC90
205
NON-REGEN
200A
200 B
200C
14
CV-204.
HTXR
205A
205 B
TC13
HTXR
TC12
LOOP 'B'
COLD LEG
LCV
460

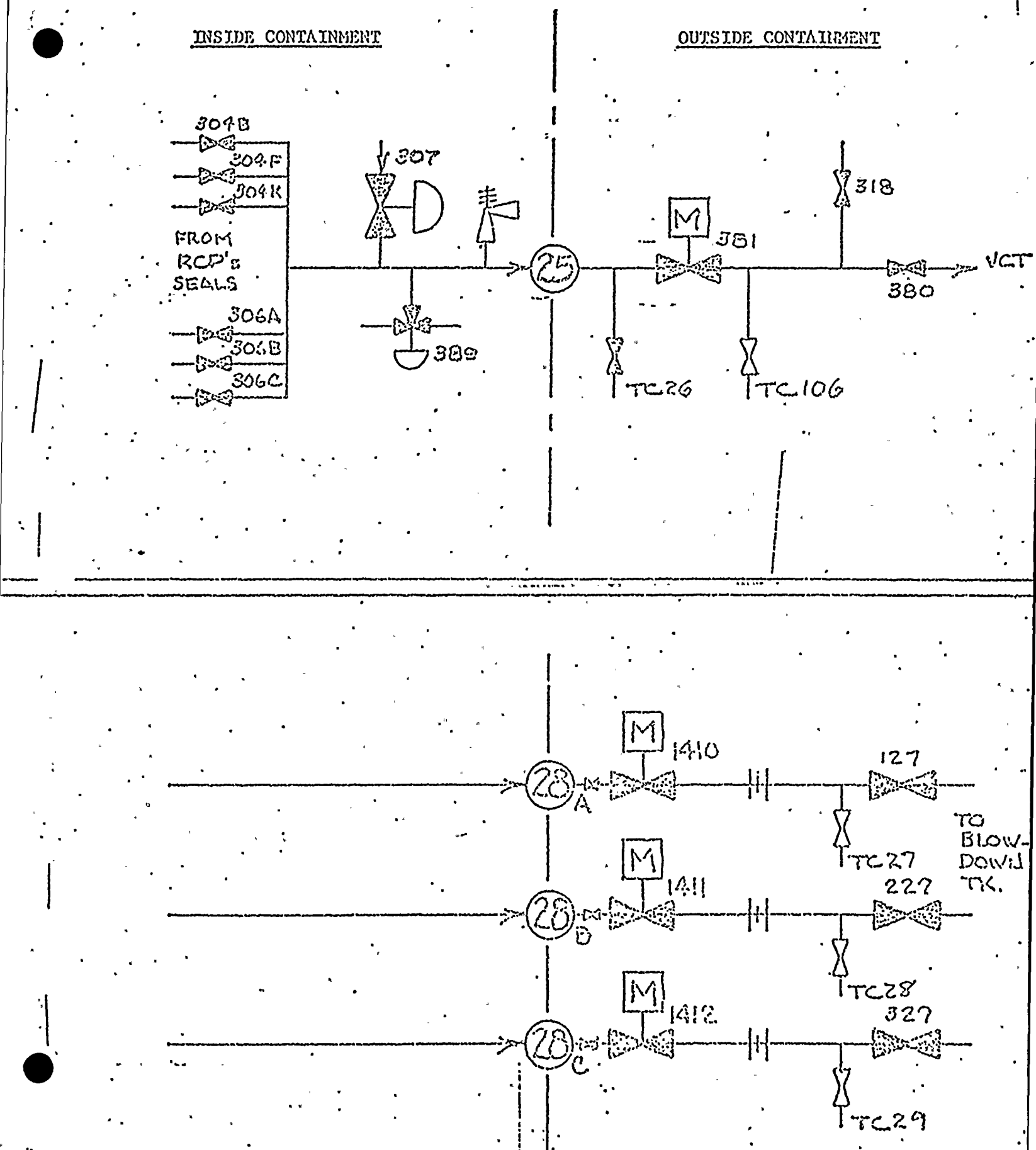

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
310B
310A
311
REGEN
HTXR
TC14
312C
15
333
202A
HCV
121
202B
290
289
286
TC15
TC91
CHARGING
PUMP DISC
HV-3-5
Pen
55
HV-3-3
HV-3-4
From
UNIT #4
FROM
CONTAINMENT
16
HV-3-1
HV-3-2
HV-1
HV-2
HV-7
HV-9
HV-3-6
HEPA -
CHARCOAL
FILTERS

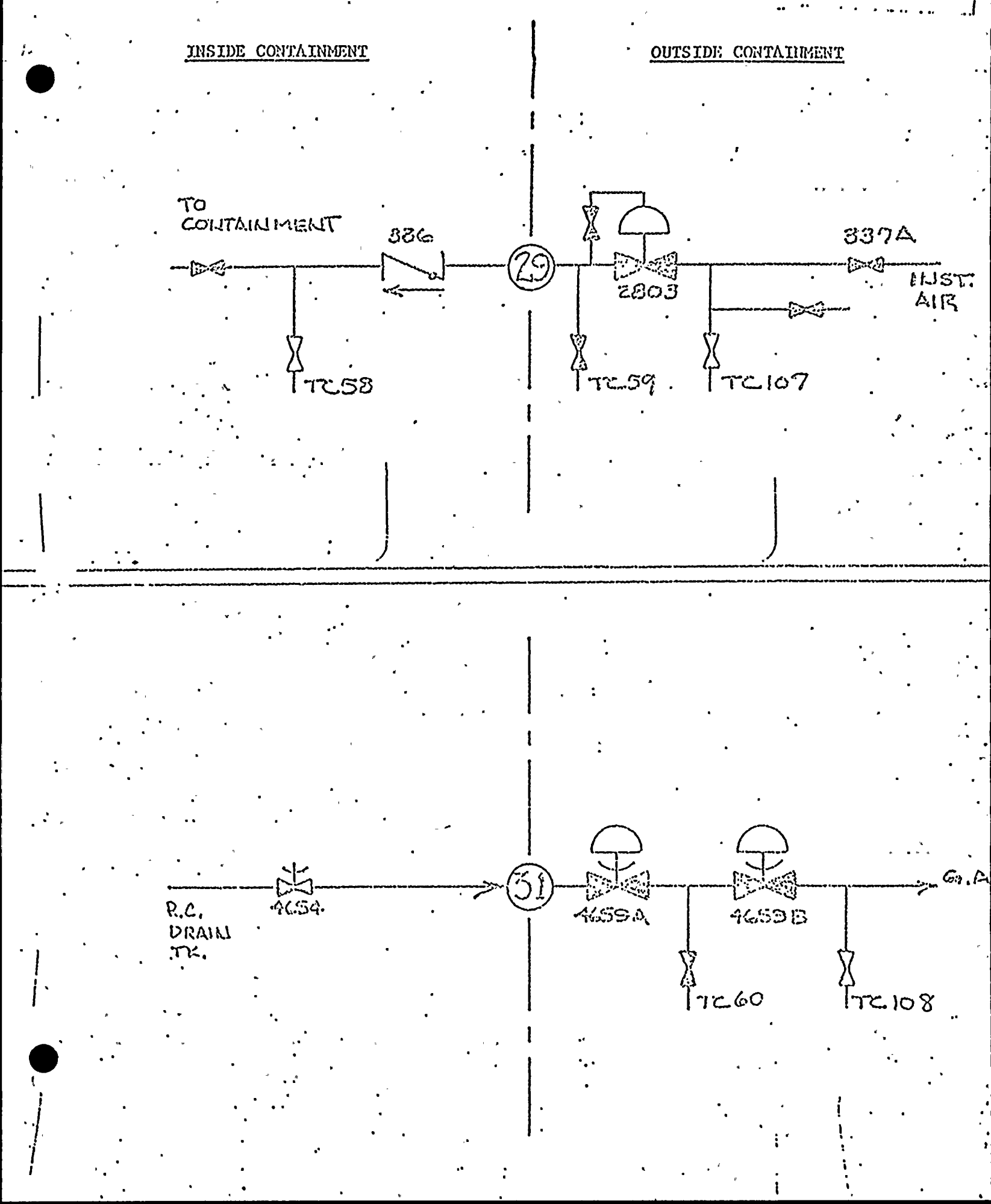

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
850A
850B
850C
850D
850E
850F
FROM ACCUMULATOR TEST LINES
TC16
TC92
895K
TO RWST
17
895V
895P
837
895U
849
TC68
VALVE "M"
M
866A
LOOP A HOT LEG
ACCUM.
835R
L.O.
826A
897C
18
869
515 PUMPS
TC17
TC93
M
LOOP B 866B HOT LEG
L.O.
845A

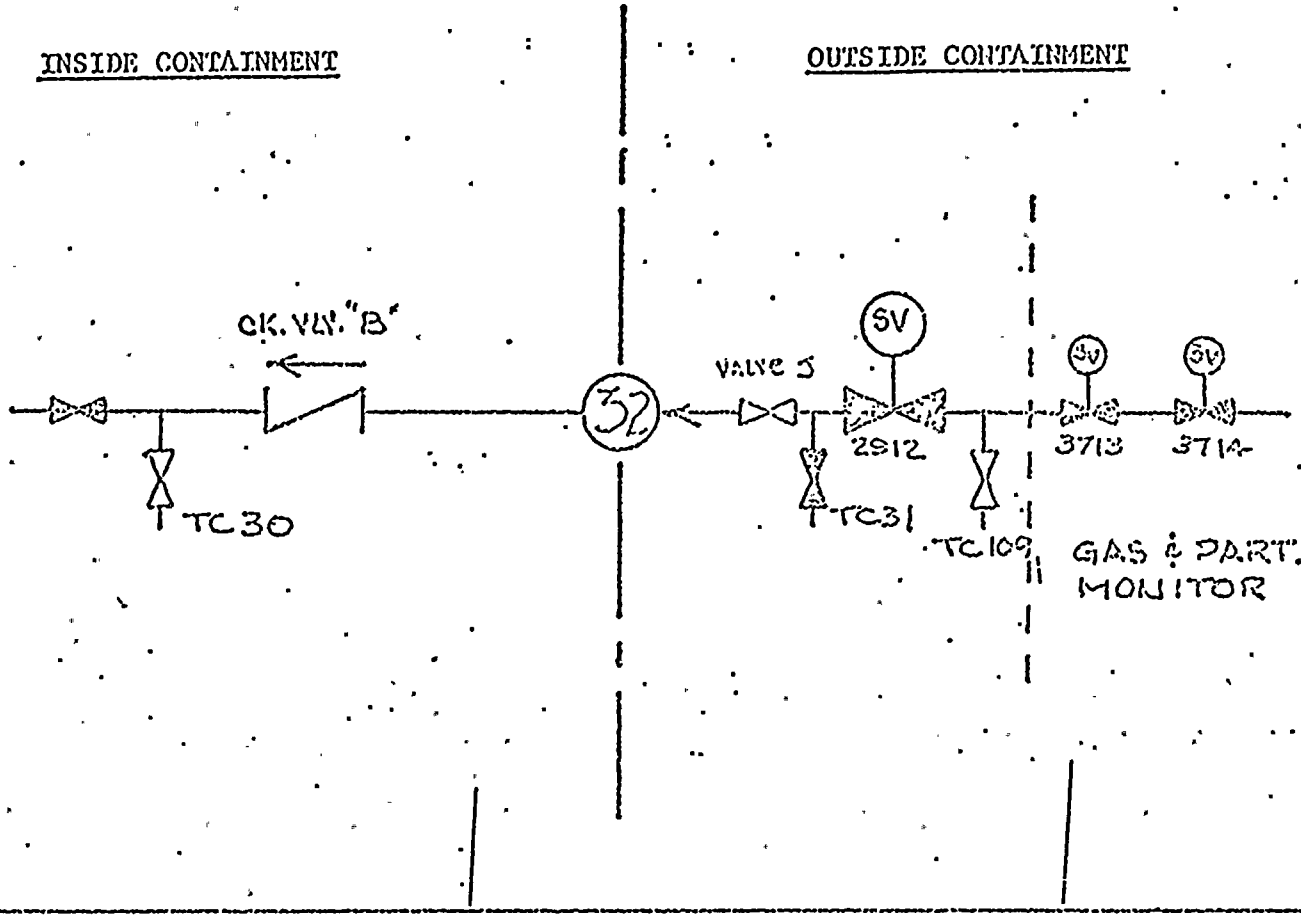

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
TC 18
883K
M
891A
L.O.
890A
19A
TO CONTAINMENT
880A
CONTAIN SPRAY P
883M
L.C.
896C
L.C.
844A
TC-94
883P
TC 19
883 N
883 L
M
891 B
890 B
19B
TO CONTAINMENT
880B
CONTAIN SPRAY P
871
896D
L.C.
844B
TC-95

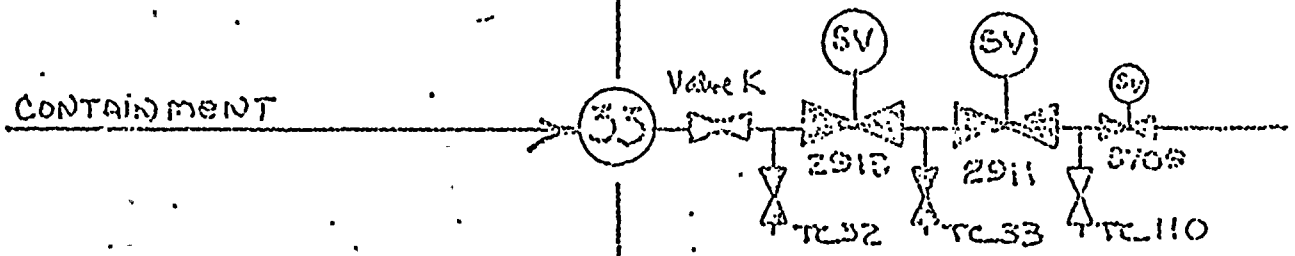

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
954A
955A
FROM A&B HOT LEGS
954B
955B
20
956C
SAMPLE RM.
TC97
989C
SAMPL
HTX
957A
TC20
TC96
M
716A
737A
835D
835C
21
1417
786A
789A
TC21
TC98
NORM, CRDM, & PRI SHIELD COOL.
732
736
TC99
TC101
835A
835B
22
1418
786B
789B

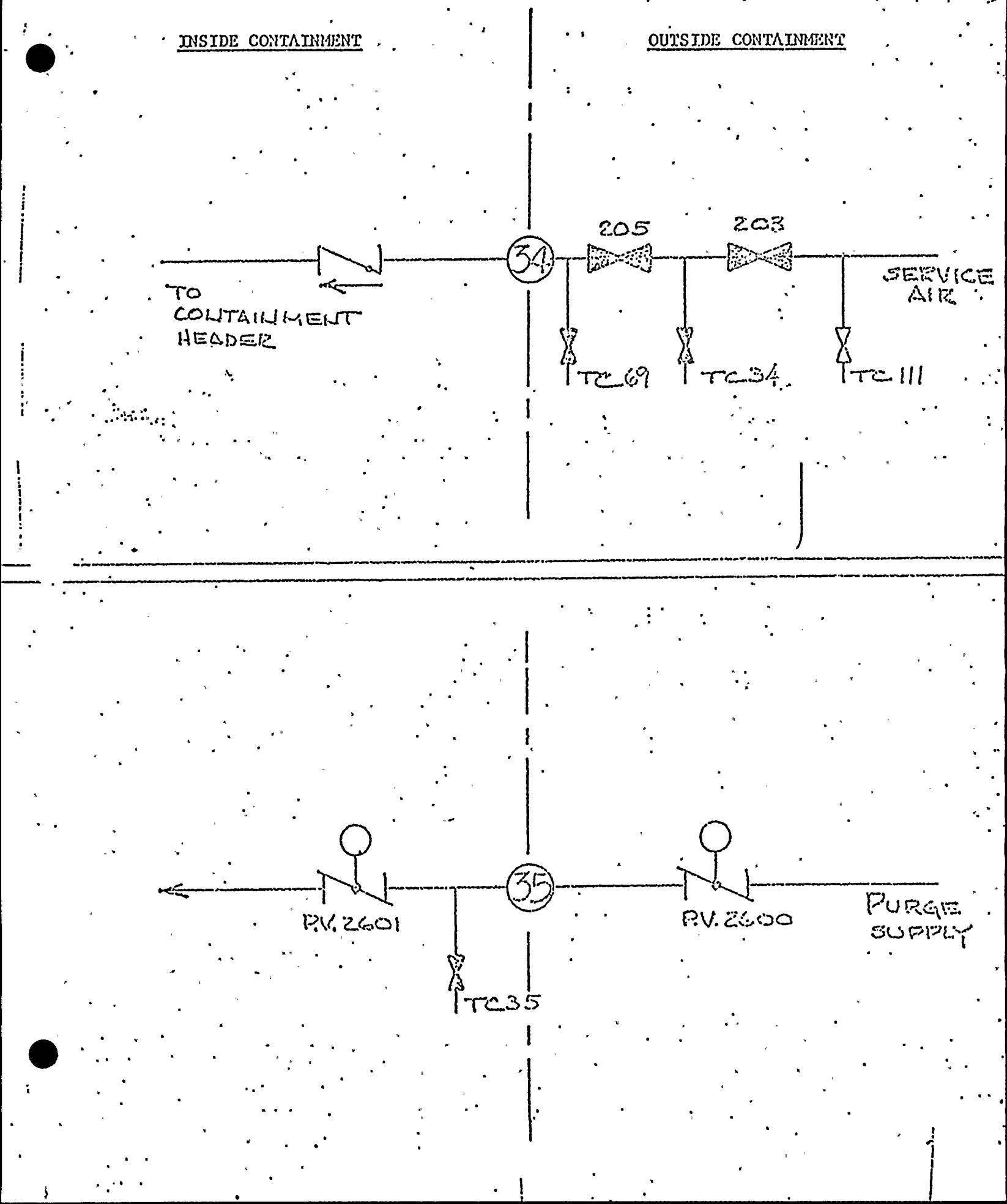

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
"M"
"N"
CONTAIN' SUMP
23
2822
2821
RCDT 4671
W.H.T.
TC22
TC102
TC23
TC103
RCP A
298G
298A
298D
24 A
297A
TC24
TC104
RCP B
298H
298B
298E
24 B
297B
TC
CHARG? PUMP SEAL-WATER INJECT
TC25
TC105
RCP C
298I
298C
298F
24 C
297C

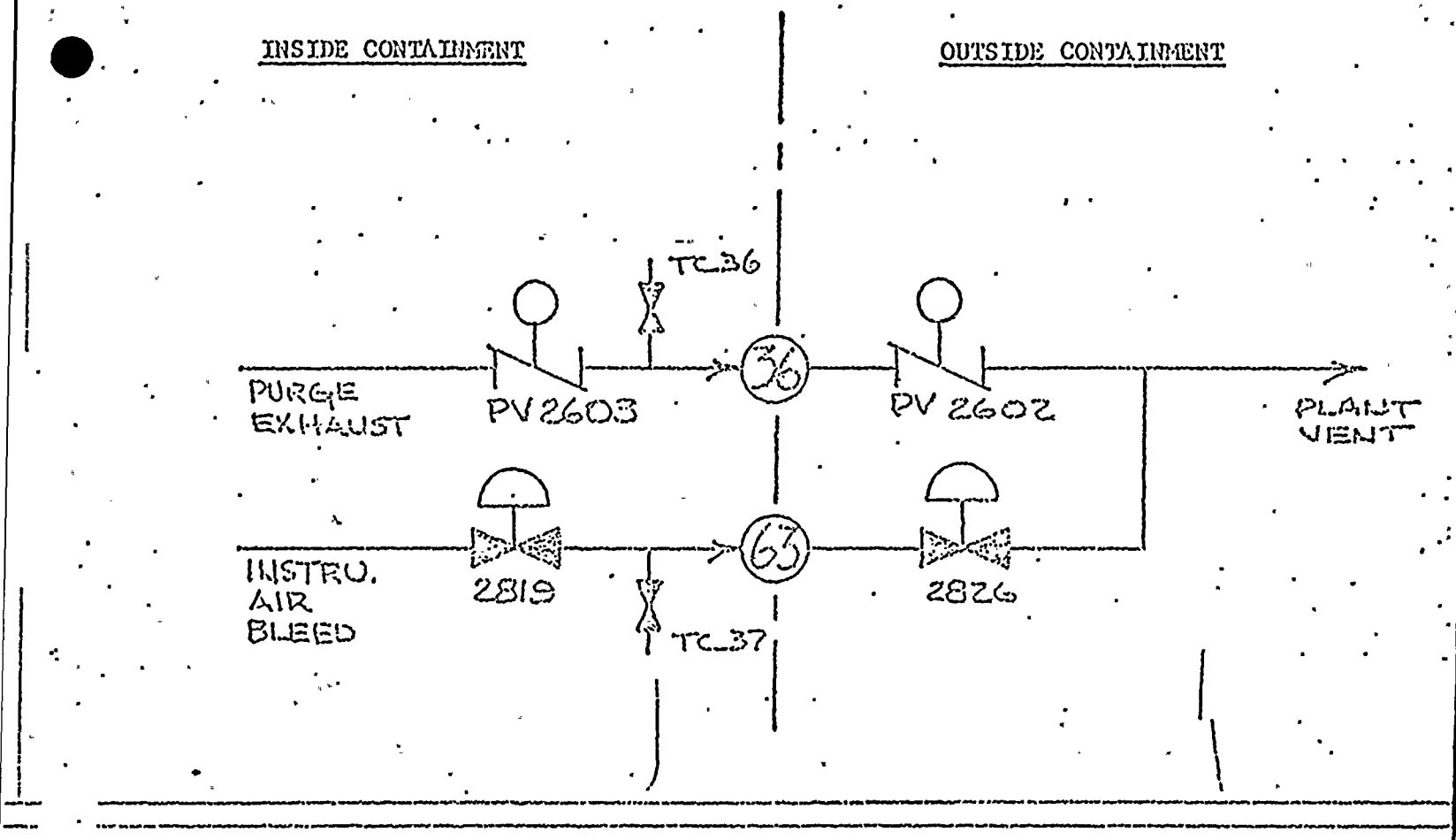

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
304B
304F
304K
FROM RCP's SEALS
306A
306B
306C
307
309
25
M
361
318
380
VCT
TC26
TC106
28
A
M
1410
127
TC27
TO BLOW-DOWN TK.
28
B
M
1411
227
TC28
28
C
M
1412
327
TC29

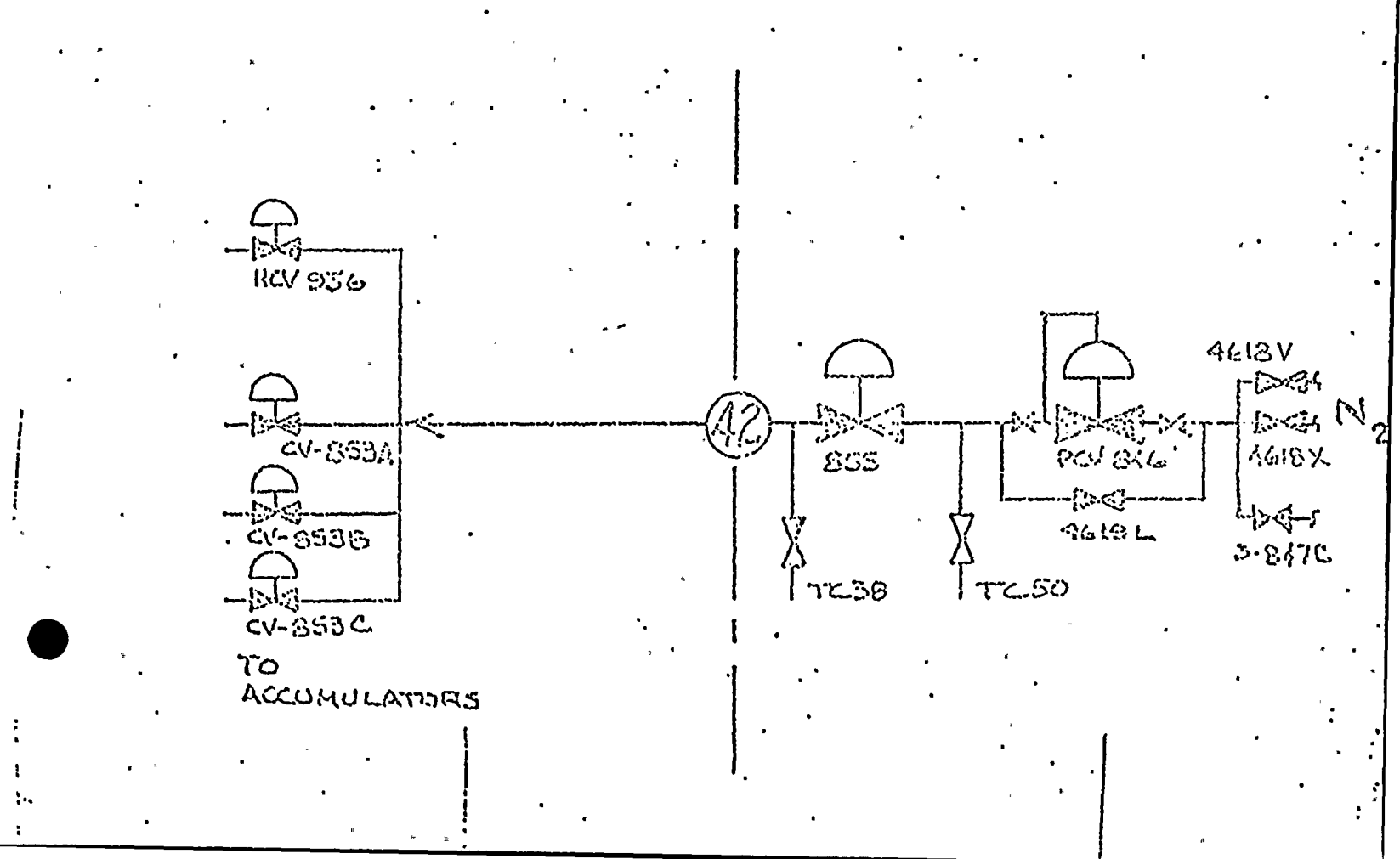

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
TO CONTAINMENT
886
29
2803
837A
INST. AIR
TC58
TC59
TC107
R.C. DRAIN TK.
4654
31
4659A
4659B
TC60
TC108

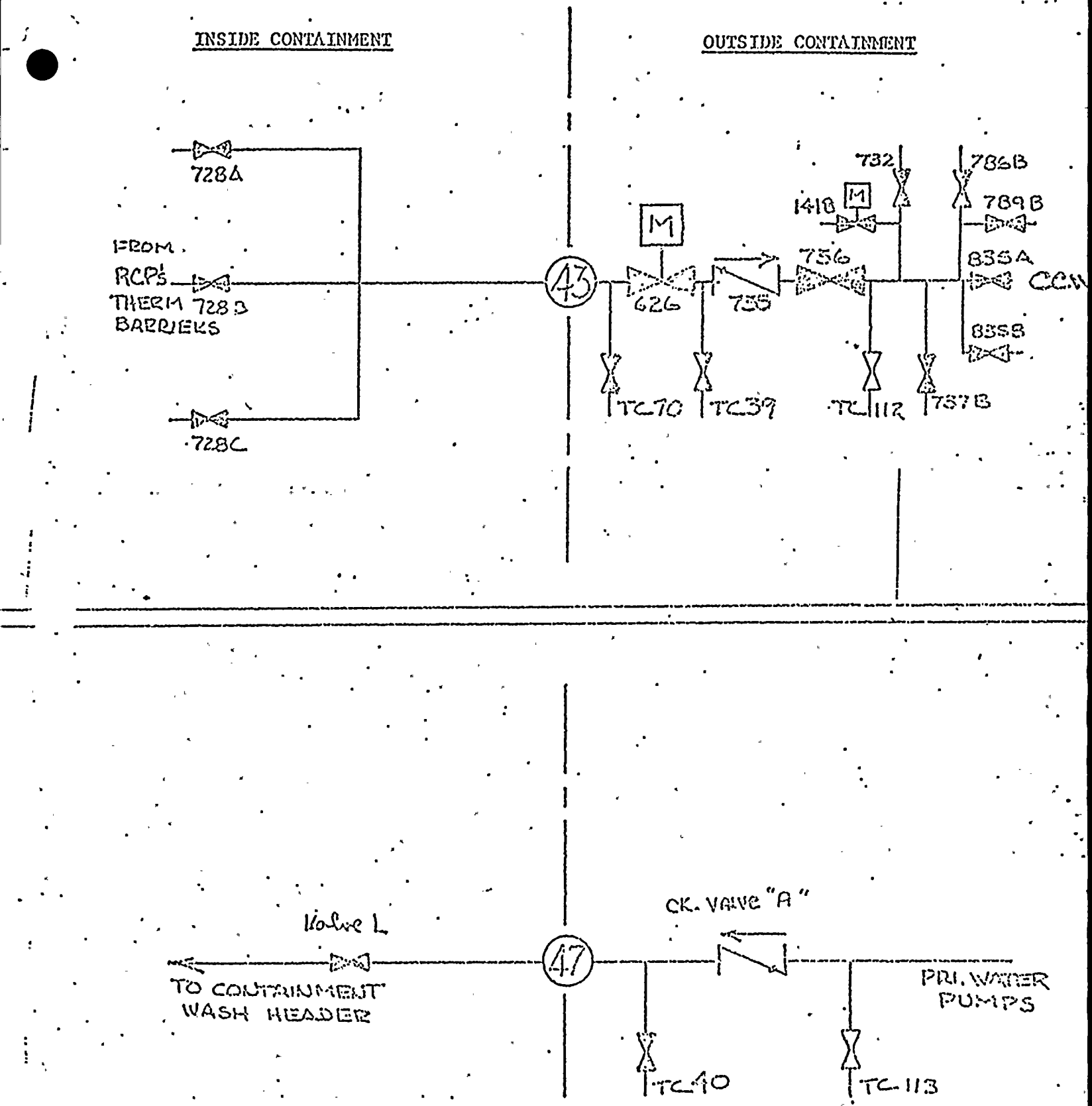

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
CK. VLV. "B"
32
VALVE J
SV
SV
SV
2912
3713
3714
TC30
TC31
TC109
GAS & PART. MONITOR

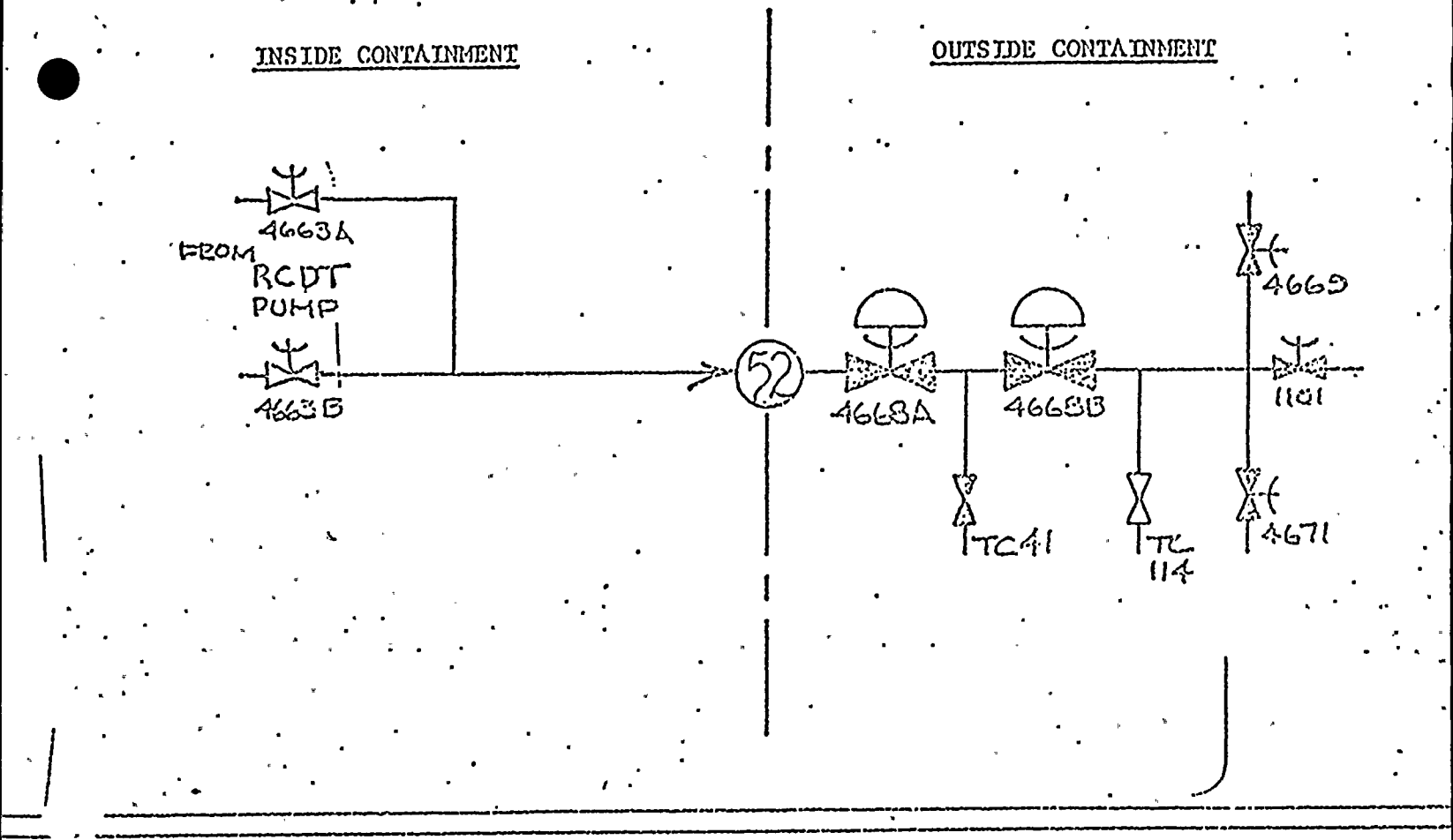

CONTAINMENT
33
Valve K
SV
SV
SV
2913
2911
3705
TC32
TC33
TC110

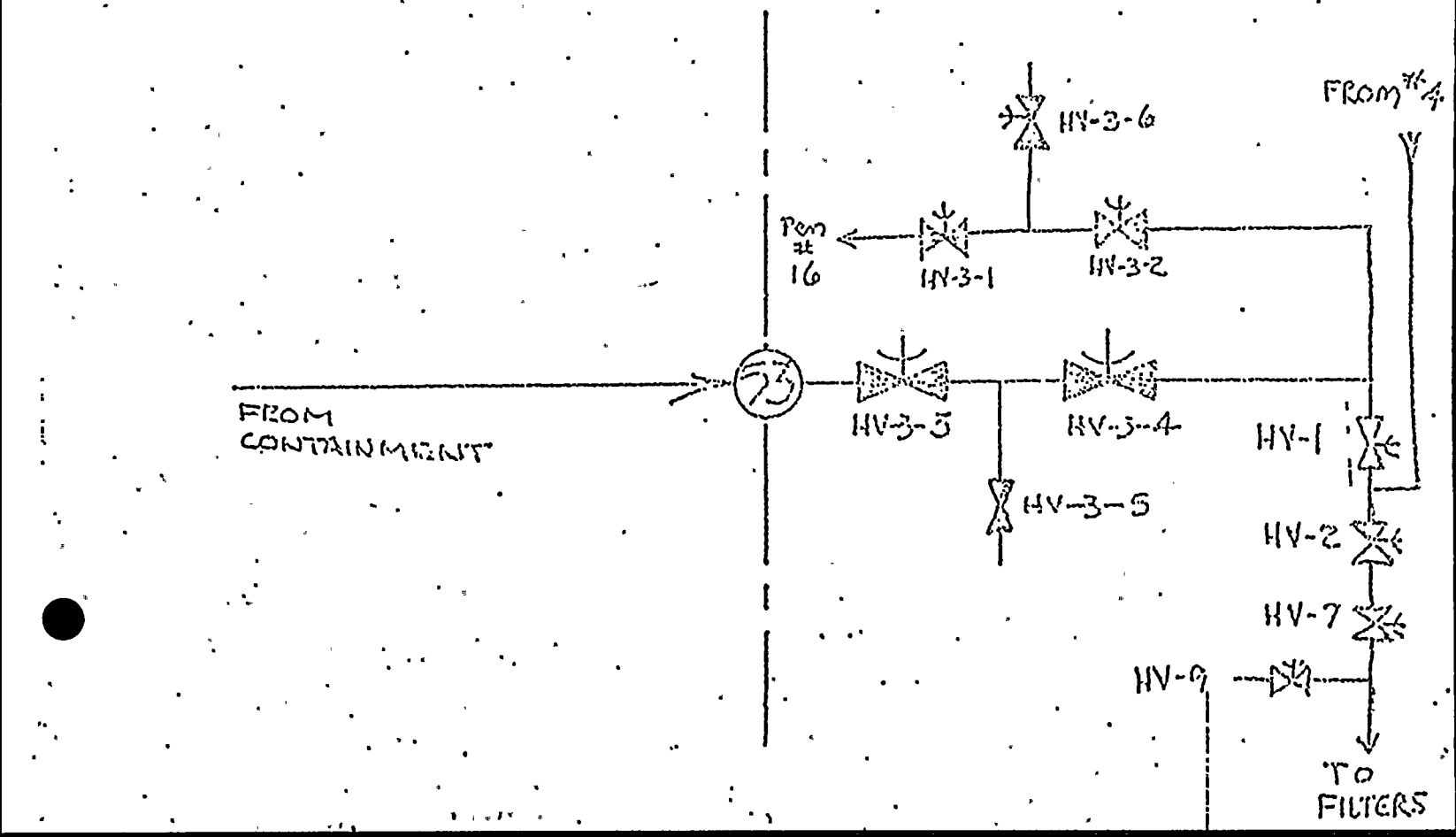

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
205
203
34
TO CONTAINMENT HEADER
SERVICE AIR
TC 69
TC 34
TC 111
35
P.V. 2601
P.V. 2600
PURGE SUPPLY
TC 35


INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
TC36
PURGE EXHAUST
PV2603
36
PV 2602
PLANT VENT
INSTRU. AIR BLEED
2819
63
2826
TC37


RCV 956
CV-853A
CV-853B
CV-853C
TO ACCUMULATORS
42
855
PCV 846
4618V
4618X
4618L
3-847C
N2
TC38
TC50

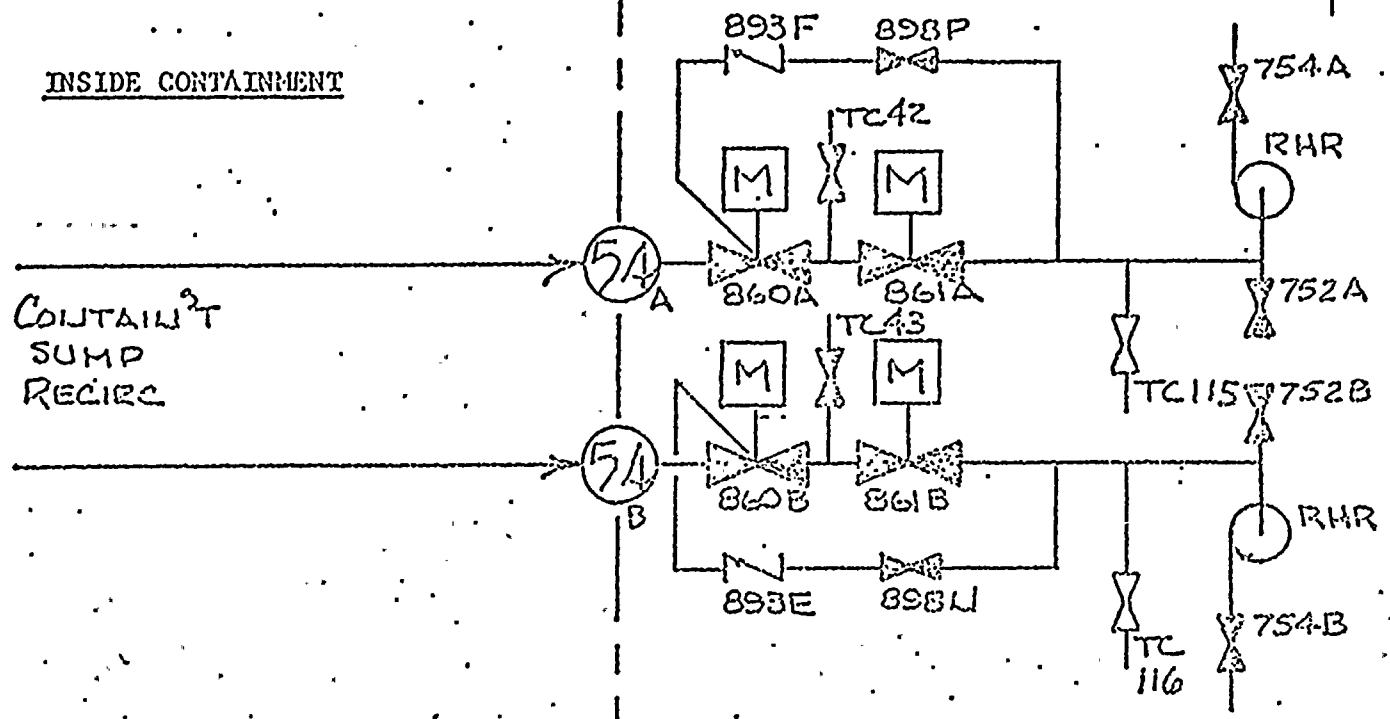

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
728A
FROM RCP's THERM BARRIERS
728C
43
M
626
755
732
M
1418
756
786B
789B
835A
CCW
835B
TC70
TC39
TC112
787B
Valve L
TO CONTAINMENT WASH HEADER
47
CK. VALVE "A"
PRI. WATER PUMPS
TC-10
TC-113

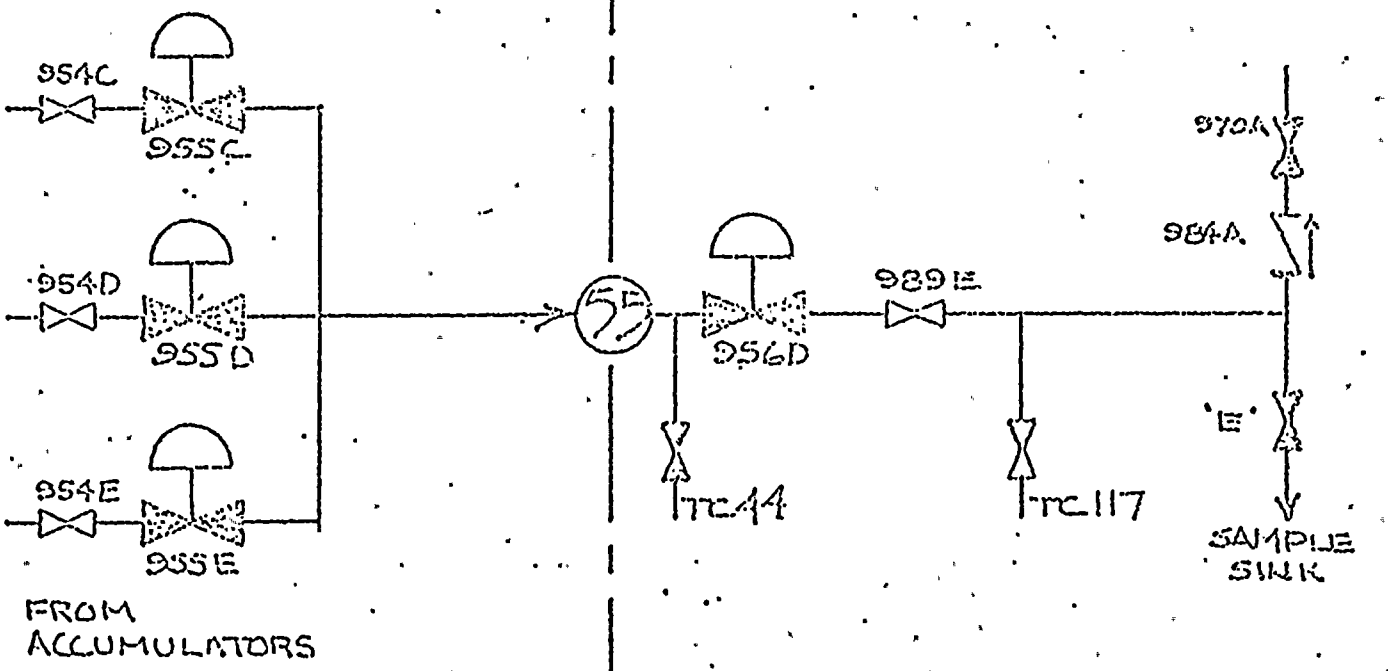

INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
4663A
FROM RCDT PUMP
4663B
52
4668A
4668B
4669
1101
TC41
TC 114
4671

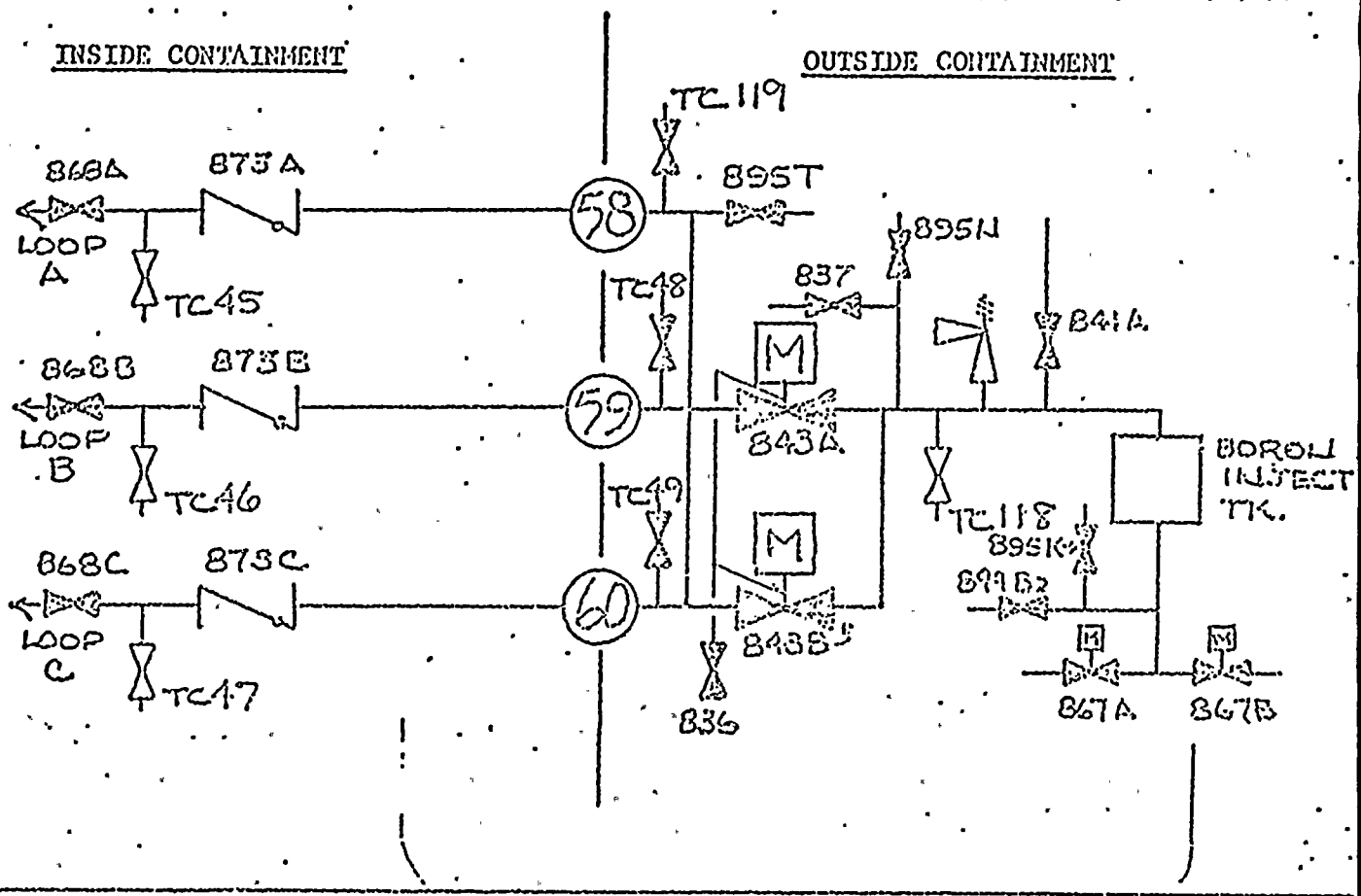

FROM #4
HV-3-6
Pen # 16
HV-3-1
HV-3-2
53
FROM CONTAINMENT
HV-3-3
HV-3-4
HV-3-5
HV-1
HV-2
HV-7
HV-9
TO FILTERS

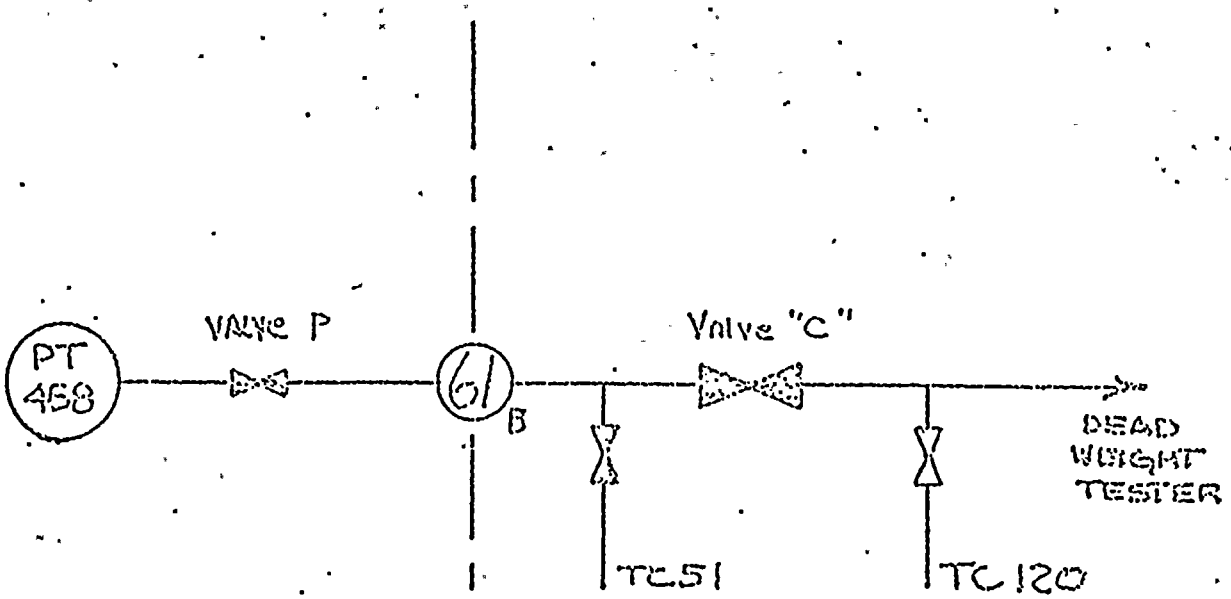
INSIDE CONTAINMENT

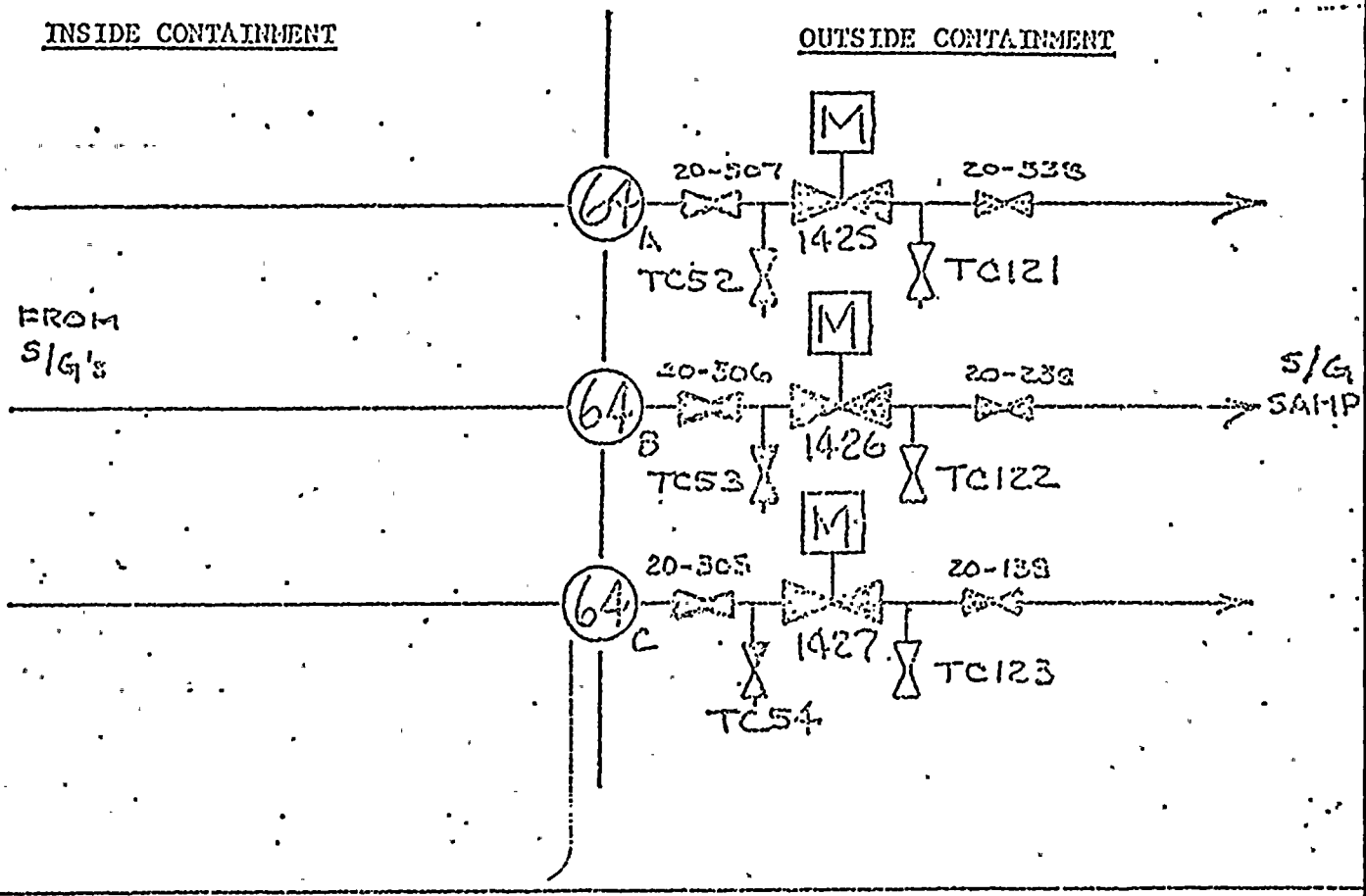
OUTSIDE CONTAINMENT

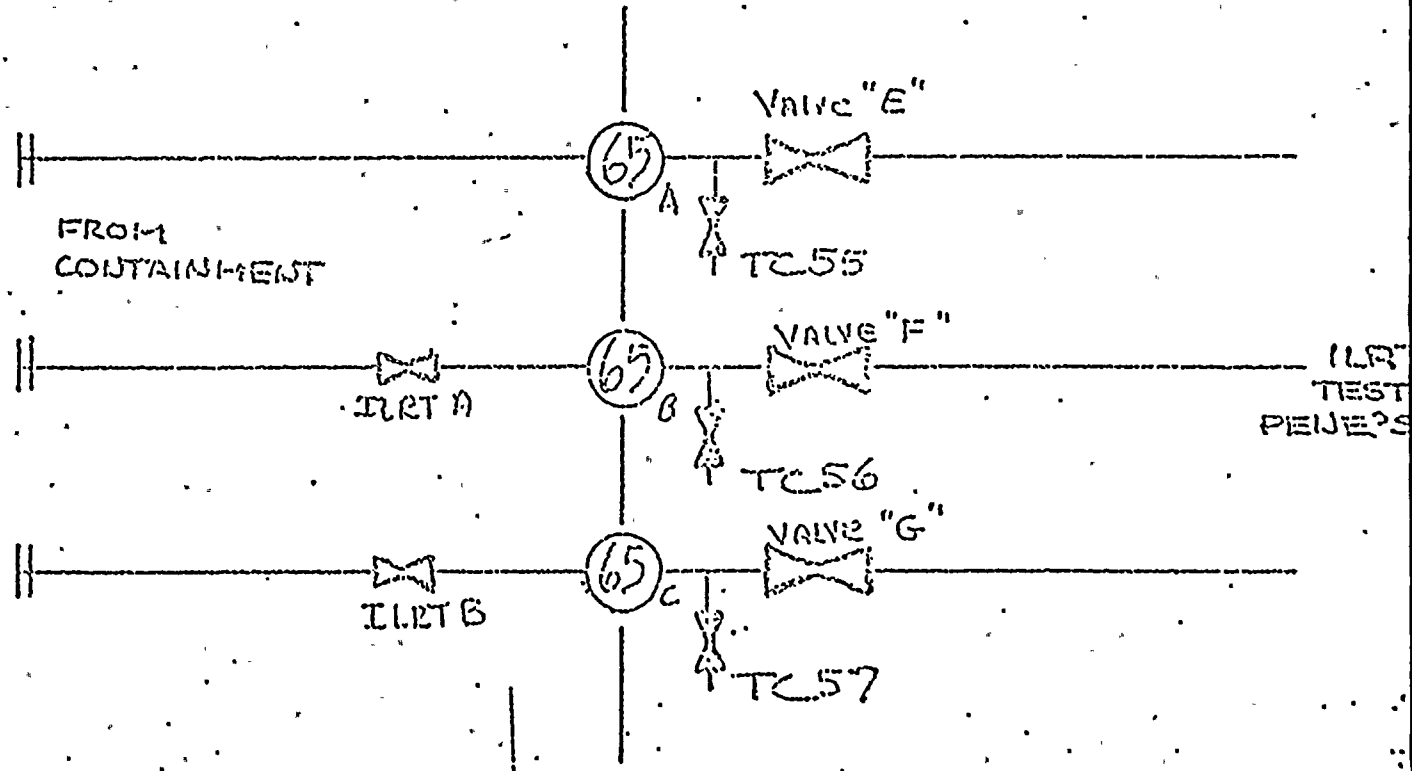





INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
TC 119
868A
873A
LOOP A
TC45
58
895T
895N
837
TC48
841A
868B
873B
LOOP B
TC46
59
843A
BORON INJECT TK.
TC49
TC118
895K
868C
873C
LOOP C
TC47
60
843B
899B
836
867A
867B

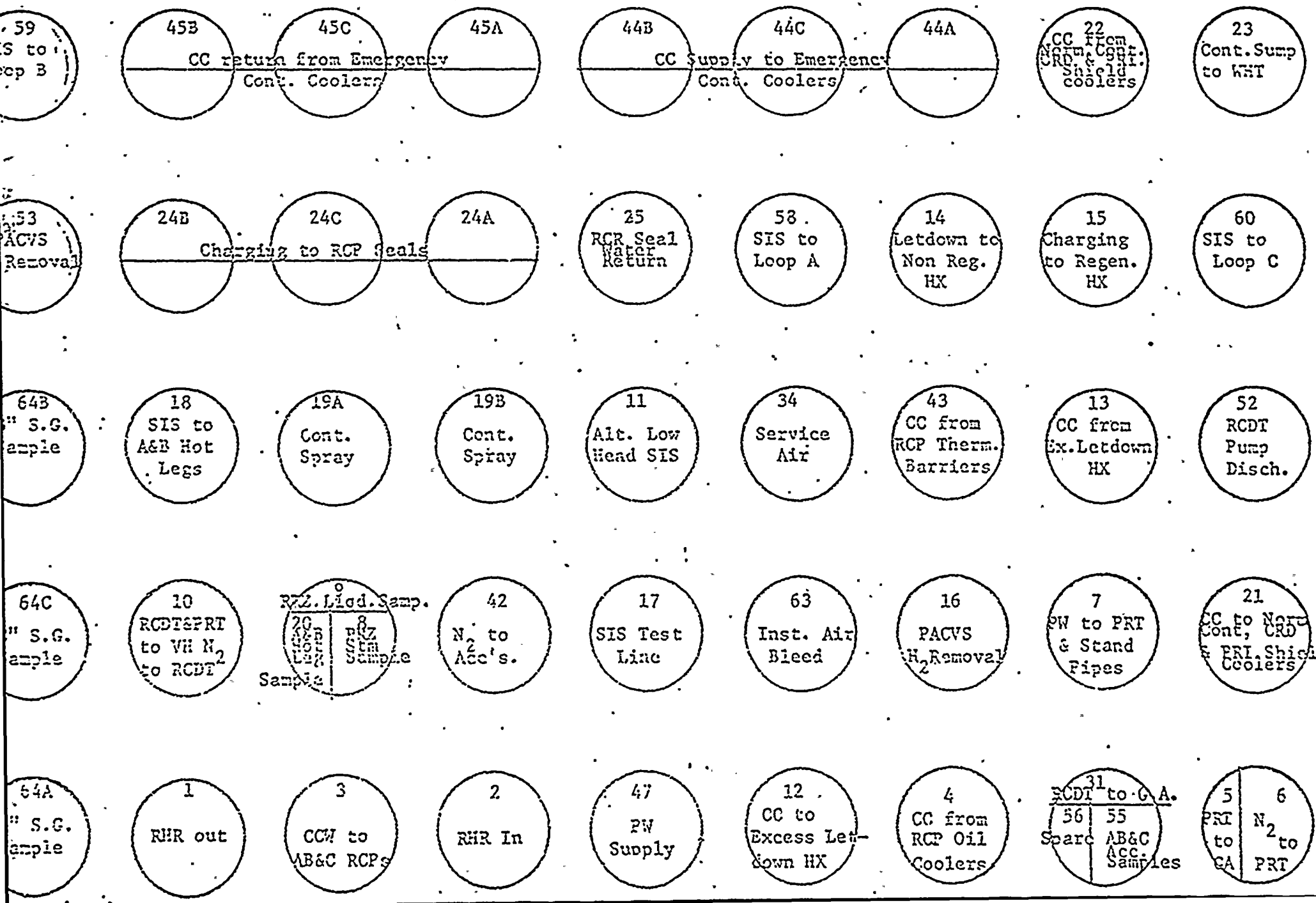

PT 458
Valve P
61
B
Valve "C"
DEAD WEIGHT TESTER
TC51
TC120


INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
FROM S/G's
64
A
20-307
M
1425
20-338
TC52
TC121
64
B
20-306
M
1426
20-238
S/G SAMP
TC53
TC122
64
C
20-305
M
1427
20-139
TC54
TC123

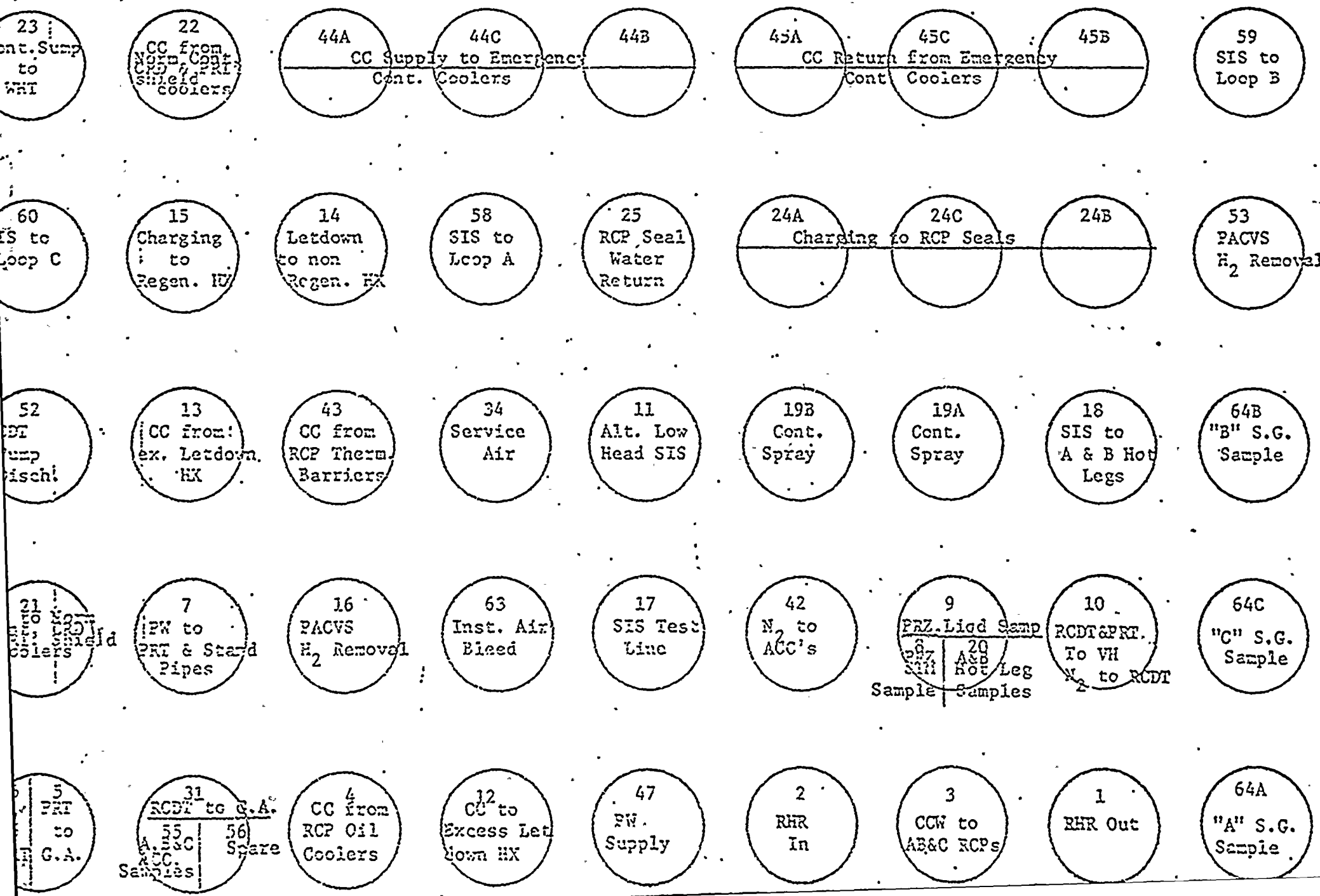

FROM CONTAINMENT
65
A
VALVE "E"
TC55
ILRT A
65
B
VALVE "F"
TC56
ILRT TEST PENETRATIONS
ILRT B
65
C
VALVE "G"
TC57

PENETRATIONS IN PIPE & VALVE ROOM

OUTSIDE CONTAINMENT VIEW



PENETRATIONS IN PIPE & VALVE ROOM
INSIDE CONTAINMENT VIEW



APPENDIX C

Definitions and Acceptance Criteria

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX C

Definitions and Acceptance Criteria:

P_a (50 psig) - The calculated peak containment internal pressure related to the design basis accident and specified in the Technical Specification.

P_t ($\geq$ 25 psig) - The containment vessel reduced test pressure selected to measure the integrated leakage rate during periodic Type A tests.

L_{am}/L_{tm} (%/24 hrs.) - The total measured containment leakage rates by weight at P_a and P_t, respectively, obtained from testing the containment with components and systems in the state as close as practical to that which would exist under design basis accident conditions (e.g., vented, drained, flooded or pressurized).

L_a (0.25%/day) - The maximum allowable leakage rate by weight at 50 psig as specified for preoperational tests in the Technical Specification and as specified for periodic tests in the operating license.

L_t (%/24 hrs.) - Maximum allowable leakage rate by weight at P_t derived from the preoperational test data as follows:

$$L_t = L_a \left(\frac{L_{tm}}{L_{am}}\right)$$

where, $L_a = 0.2500$

$L_{tm} = 0.0667$

$L_{am} = 0.1020$

therefore, $L_t = 0.2500 \left(\frac{0.0667}{0.1020}\right)$

$= 0.2500 \quad (0.6539)$

$\doteq 0.1635$

For periodic Type A tests at P_t,
$L_t = 0.75\ (0.1635)$
$L_t = \underline{0.123\ \%/\text{day by weight}}$ @ 25 psia

APPENDIX D

Data Sheets

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE_____ HOUR NO._____

BAROMETRIC PRESSURE_____ DATE_____

ROTAMETER FLOW_____ VERIFIED BY_____

ILRT DATA SHEET				
TIME/SAMPLE NO.	/	/	/	/
RTD # 1				
RTD # 2				
RTD # 3				
RTD # 4				
RTD # 5				
RTD # 6				
RTD # 7				
RTD # 8				
RTD # 9				
RTD # 10				
RTD # 11				
RTD # 12				
RTD # 13				
RTD # 14				
RTD # 15				
RTD # 16				
RTD # 17				
RTD # 18				
RTD # 19				
RTD # 20				
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1				
RHD # 2				
RHD # 3				
RHD # 4				
RHD # 5				
RHD # 6				
RHD # 7				
RHD # 8				
Pressure # 1				
Pressure # 2				

RTD - Resistance Temperature Detector,_____
RHD - Relative Humidity Detector,_____
Pressure,_____

Terminal Operator

APPENDIX E

Data Sheet
for
Manual Calculations

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

FOR INFORMATION ONLY
INTEGRATED LEAK RATE TEST DATA SHEET

I. CALCULATIONS

$$L = \left(\frac{100 \times 24}{\Delta t}\right)\left[\frac{\left(\frac{P_i - W_i}{T_i}\right) - \left(\frac{P_f - W_f}{T_f}\right)}{\left(\frac{P_i - W_i}{T_i}\right)}\right]$$

or

$$L = \left(\frac{100 \times 24}{\Delta t}\right)\left[1 - \frac{(P_f - W_f)\ T_i}{(P_i - W_i)\ T_f}\right] \quad \% \text{ per day}$$

A. Δt = Duration of test = _____ hours

B. $P_i - W_i$ = _____ psia

C. T_i = _____ F + 459.69 = _____ R

D. $P_f - W_f$ = _____ psia = _____

E. T_f = _____ F + 459.69 = _____ R

In the unlikely event that the computer is lost, a desk calculator or similar unit may be utilized and shall be available for this purpose.

II. RESULTS

$$L = \frac{2400}{(24)}\left[1 - \frac{(\quad - \quad)(\quad)}{(\quad - \quad)(\quad)}\right] = \quad \% \text{ per day}$$

All parameters to be recorded for all test phases except pressurization and depressurization. All readings taken at one (1) hour intervals, maximum.

Verified by: _____

Date: _____

APPENDIX F

I&C Instrument List

CONTAINMENT EQUIPMENT CHECK LIST

1. Fischer Porter/Hagan Transmitters - On all below listed transmitters, insure cover o-rings are installed and in good repair. Tighten cover hand-tight.

Transmitter #	Function	Performed By	Restored Q.C.
✓PT-3-138	Excess Ltdn Line Press		
✓FT-3-436	RC Flow Loop C		
✓FT-3-435	RC Flow Loop C		
✓FT-3-933	Safety Inj. Line Flow Loop B		
✓FT-3-434	RC Flow Loop C		
✓FT-3-424	RC Flow Loop B		
✓FT-3-425	RC Flow Loop B		
✓FT-3-426	RC Flow Loop B		
✓PT-3-402	RCS Wide Range Press.		
✓PT-3-403	RCS N.R. Press.		
✓PT-3-416	RC Flow Loop A		
✓FT-3-415	RC Flow Loop A		
✓FT-3-414	RC Flow Loop A		
✓PT-3-1004	RCS Drain Tank Press.	HAB 11-27-75	Ed Preast 12/8/78
✓PT-3-155	RCP "B" Seal ΔP		
✓PT-3-128	RCP "B" Thermal Barrier ΔP		
✓LT-3-484	Stm Gen "B" N.R. Level Ch. 1		
✓LT-3-485	Stm Gen "B" N.R. Level Ch. 2		
✓LT-3-486	Stm Gen "B" N.R. Level Ch. 3		
✓LT-3-487	Stm Gen "B" W.R. Level		
✓PT-3-455	Przr Press. Prot. Ch. I		
✓PT-3-456	Przr Press. Prot. Ch. II		
✓PT-3-457	Przr Press. Prot. Ch. III		
✓PT-3-445	Przr Press. Control		
✓LT-3-462	Przr Level Control		
✓PT-3-444	Przr Press. Control		
✓PT-3-4583	Przr Press. Cal.		
✓PT-3-923	Acc. Tank A Press.		
✓PT-3-131	RCP C Thermal Barrier		
✓PT-3-156	RCP A Seal ΔP		

Transmitter #	Function	Performed By	Restored Q.C.
LT-3-474	Stm Gen A N.R. Lvl Ch. 1		
LT-3-476	Stm Gen A N.R. Lvl Ch. 3		
LT-3-475	Stm Gen A N.R. Lvl Ch. 2		
LT-3-477	Stm Gen A W.R. Lvl		
PT-3-921	Acc A Press.		
PT-3-925	Acc B Press.		
PT-3-927	Acc B Press.		
PT-3-929	Acc C Press.		
39 LT-3-494	Stm Gen C N.R. Lvl Ch. I		
LT-3-495	Stm Gen C N.R. Lvl Ch. II		
LT-3-496	Stm Gen C N.R. Lvl	JAB 11-27-75	Ed Preast 12/8/75
LT-3-497	Stm Gen C W.R. Lvl		
PT-3-931	Acc C Press		
PT-3-154	RCP 3C Seal Water ΔP		
PT-3-125	RCP Loop C Shaft Seal ΔP		
FT-3-494	Stm Gen C Stm Flow Ch. I		
FT-3-495	Stm Gen C Stm Flow Ch. II		
FT-3-485	Stm Gen B Stm Flow Ch. II		
FT-3-484	Stm Gen B Stm Flow Ch. I		
FT-3-474	Stm Gen A Stm Flow Ch. I		
FT-3-475	Stm Gen A Stm Flow Ch. II		

2. Barton Level Transmitters - On all below listed transmitters, insure cover o-rings are installed and in good repair. Tighten covers.

LT-3-459	Press. Level Prot. Ch. I	JAB 11-27-75	Ed Preast 12/8/75
LT-3-460	Press. Level Prot. Ch. II		
LT-3-461	Press. Level Prot. Ch. III		

3. Barton Flow Indicating Switches - Loosen the covers on all of the below listed equipment.

Instrument	Function	Performed By	Restored Q.C.
FIC-3-492	RTD Bypass Flow C	JAB 11-27-75	Ed Preast 12/8/75
FIC-3-491	RTD Bypass Flow B		
FIC-3-490	RTD Bypass Flow A		

4. Brooks Flow Indicator/Transmitters - Loosen the covers on all of the below listed equipment.

Instrument	Function	Performed By	Restored Q.C.
FT-3-156A	RCP A Seal Leak Off (Hi)	JAB 11-27-75	Sid Priest 12/8/75
FT-3-156B	RCP A Seal Leak Off (Lo)		
FT-3-154A	RCP C Seal Leak Off (Hi)		
FT-3-154B	RCP C Seal Leak Off (Lo)		
FIC-3-154	Low Flow RCP C Seal Water		
FIC-3-635	RCP C Low Flow CCW		
FIC-3-629	RCP A Low Flow CCW		
FIC-3-832	(Unknown)		
FIC-3-155	Low Flow RCP B Seal Water		
FIC-3-156	Low Flow RCP A Seal Water		

5. Pressurizer Instrument Cabinet Heaters - De energize heaters by performing the following.

Instrument	Required Action	Performed By	Restored Q.C.
TC-3-440A	B/S switch to test (Rack 2)	N/A	N/A
TC-3-441A	B/S switch to test (Rack 12)		
TC-3-442A	B/S switch to test (Rack 15)		
TC-3-443A	Remove output fuse (Rack 7)		

6. Remove the following equipment from the Containment.

Equipment	Performed By	Restored Q.C.
Flux mapper Gas Bottles	N/A	N/A
Containment Sump Floats	JAB 11-27-75	Sid Priest left out of Containment 12/8/75
ARMS G.M. Tubes		
Dillion Load meters (manipulator & polar crane)		

7. Install the following jumpers, with Temporary jumper tags.

Rack	Terminals	Performed By	Restored Q.C.
3Q R 51	P1 to 5	N/A all switches all isolated at header Valves	released Clearance Ehrest 12/8/75
3Q R 51	33 to 35		
3Q R 51	23 to 25		
3Q R 50	9 to 11		
3Q R 50	39 to 41		
3Q R 50	373 to 377		

8. Conduct Inspection of all levels in Containment and ensure

	Performed By	Restored Q.C.
All Local Gauges (Pressure and Temp) faces are Removed All Local flowrators have al least one glass face Removed	JAB 11-27-75	Ehrest 12/8/75

AIR OPERATED CONTAINMENT VALVE FAILURE MODE

Valve	Failure Mode	Valve	Failure Mode
CV-3-200 A	closed	CV-3-850 E	closed
CV-3-200 B	closed	CV-3-850 F	closed
CV-3-200 C	closed	CV-3-852 C	closed
CV-3-307	closed	CV-3-853 C	closed
CV-3-310 A	open	CV-3-851 C	closed
CV-3-310 B	open	CV-3-936	closed
CV-3-311	closed	CV-3-951	closed
CV-3-387	closed	CV-3-953	closed
CV-3-460	open	CV-3-955 B	closed
CV-3-455 A	closed	CV-3-955 C	closed
CV-3-456	closed	CV-3-955 D	closed
CV-3-456 A	closed	CV-3-955 E	closed
CV-3-455 A	closed	LCV-3-1003 A	closed
CV-3-455 C	closed	LCV-3-1003 B	closed
CV-3-455 D	closed		
CV-3-519 A	closed		
CV-3-522	closed		
CV-3-519 B	closed		
CV-3-522 A	closed		
CV-3-522 B	closed		
CV-3-522 C	closed		
CV-3-523	closed		
CV-3-549	closed		
CV-3-544	open		
CV-3-389	divert		
CV-3-853 A	closed		
CV-3-851 A	closed		
CV-3-852 A	closed		
CV-3-850 A	closed		
CV-3-850 B	closed		
CV-3-853 B	closed		
CV-3-851 B	closed		
CV-3-852 B	closed		
CV-3-850 C	closed		
CV-3-850 D	closed		

APPENDIX G

Breaker List

ELECTRICAL EQUIPMENT INSIDE UNIT #3 CONTAINMENT

Canister No. T3C21

Containment Cooling Fan A	3B0518
MOV-3-865A Accumulator A Discharge to a Cold Leg	3B0532
RCP #3A Oil Lift Pump	3B0554
Containment Sump Pump 3A	3B0667

Canister No. T3C22

Containment Cooling Fan B	3B0642
Control Rod Drive Mechanisms Cooler 3A	3B0629
MOV-3-750 Loop C Hot Leg to RHR	3B0615
MOV-3-744B RHR Return to Cold Legs	3B0613
MOV-3-866B Delayed HHI SI to Loop B Hot Leg	3B0621
MOV-3-865B Accumulator B Discharge to B Cold Leg	3B0631
MOV-3-535 Pressurizer Power Relief Isolation	3B0606
Reactor Coolant Pump 3B Oil Lift Pump	3B0679
Reactor Coolant Drain Tank Pump 3A Thermal Cut-Out	3B0662

Canister No. T3C13

Containment Cooling Fan 3D	B0829

Canister No. T3C23

Containment Cooling Fan 3C	3B0742
Control Rod Drive Mechanism Cooler Fan #3B	3B0727
Reactor Coolant Pump 3C Oil Lift Pump	3B0762
MOV-3-865C Accumulator 3C Discharge to Loop C Cold Leg	3B0733
MOV-3-536 Pressurizer Power Relief Valve Isolation	3B0713
MOV-3-751 Loop C Hot Leg to RHR Pump Suction	3B0731

Canister No. T3C23 (Continued)

MOV-3-744A RHR Return to Cold Legs	3B0722
MOV-3-866A Delayed High Head SI to Loop A Hot Leg	3B0732
Reactor Coolant Drain Tank Pump 3B Thermal Cut-Out	3B0787

Canister No. T3P11

Emergency Containment Filter Fan 3A	3B0611
Normal Containment Cooler Fan 3B	3B0642
Control Rod Drive Mechanisms Cooling Fan 3A	3B0629
Lighting Transformer 36	3B0658
Containment Elevator #3	3B0619

Canister No. T3P21

Reactor Crane 3	3B0104
Normal Containment Cooler Fan 3A	3B0518
Lighting Panel D.C. Feed	3Y0605

Canister No. T3P32

480 Volt Receptacle #17 and #17A	3B0653
Reactor Coolant Drain Tank Pump 3A	3B0662

Canister No. T3P33

480 Volt Misc Containment Distribution Panel (3P11)	3B0673

Canister No. T3P12

Emergency Containment Filter Fan 3C	3B0719
Normal Containment Cooler Fan 3C	3B0742
Control Rod Drive Mechanism Cooler Fan 3B	3B0727
Lighting Transformer #37 3X07 Containment Entrance	3B0768

Canister No. T3P22

Emergency Containment Filter Fan 3B	B0806
Normal Containment Cooler Fan 3D	B0829

Canister No. T3P35

480 Volt Misc Containment Distribution Panel #1 (3P10)	3B0771
Reactor Coolant Drain Tank Pump 3B	3B0787

Canister No. T3P41

Pressurizer Heaters 2, 23 and 50	3B1101
Pressurizer Heaters 26, 53, and 54	3B1103
Pressurizer Heaters 7, 29 and 57	3B1105
Pressurizer Heaters 10, 32 and 60	3B1107
Pressurizer Heaters 12, 35, and 64	3B1102
Pressurizer Heaters 38, 67, and 68	3B1104
Pressurizer Heaters 17, 41 and 71	3B1106
Pressurizer Heaters 19, 44 and 75	3B1108
Emergency Containment Cooler Fan 3A	3B0650

Canister No. T3P51

Misc AC Instruments	3P0610
Space Heaters	3Y0439
Space Heaters	3Y0521
MOV-3-865B Accumulator B Discharge to B Cold Leg	3B0631
Reactor Coolant Pump 3B Oil Lift Pump	3B0679
MOV-3-866B Delayed HH SI to Loop B Hot Leg	3B0621
MOV-3-535 Pressurizer Power Relief Isolation	3B0606
Containment Sump Pump 3A	3B0667
MOV-3-744B RHR Return to Cold Legs	3B0613
MOV-3-750 Loop C Hot Leg to RHR (1MB)	3B0615

Canister No. T3P42

Pressurizer Heaters 21, 47 and 48	3B1201
Pressurizer Heaters 3, 24 and 51	3B1203
Pressurizer Heaters 5, 27 and 55	3B1205
Pressurizer Heaters 8, 30 and 58	3B1207
Pressurizer Heaters 33, 61 and 62	3B1209
Pressurizer Heaters 13, 36 and 65	3B1202
Pressurizer Heaters 15, 39 and 69	3B1204
Pressurizer Heaters 18, 42 and 72	3B1206
Pressurizer Heaters 20, 45 and 76	3B1208
Emergency Containment Cooler Fan 3B	B0820

Canister No. T3P53

Space Heaters	3Y0467
Space Heaters	3Y0501
Space Heaters	3Y0502
Space Heaters	3Y0504
Space Heaters	3Y0503
Space Heaters	3Y0505
Space Heaters	3Y0506
Space Heaters	3Y0507
Space Heaters	3Y0508
Misc AC Instruments	3P0814
MOV-3-865C Accumulator 3C Discharge to Loop C Cold Leg	3B0733
Reactor Coolant Pump 3C Oil Lift Pump	3B0762
MOV-3-866A Delayed High Head SI to Loop A Hot Leg	3B0732
MOV-3-536 Pressurizer Power Relief Valve Isolation	3B0713
MOV-3-744A RHR Return to Cold Legs	3B0722

Canister No. T3P53 (Continued)

MOV-3-751 Loop C Hot Leg to RHR Pump Suction	3B0731
Containment Sump Pump #3B	3B077B
Fuel Tilting Winch Panel 3B (IC)	3B0763

Canister No. T3P43

Pressurizer Heaters 1, 22 and 49	3B1301
Pressurizer Heaters 4, 25 and 52	3B1303
Pressurizer Heaters 6, 28 and 56	3B1305
Pressurizer Heaters 9, 31 and 59	3B1307
Pressurizer Heaters 11, 34 and 63	3B1309
Pressurizer Heaters 14, 37 and 66	3B1302
Pressurizer Heaters 16, 40 and 70	3B1304
Pressurizer Heaters 43, 73 and 74	3B1306
Pressurizer Heaters 46, 77 and 78	3B1308
Emergency Containment Cooler Fan 3C	3B0729

Canister No. T3P52

Misc AC Instruments	3P0917
Space Heaters	3Y0439
Space Heaters	3Y0521
Misc A.C. Instruments	3P0714
MOV-3-865A Accumulator A Discharge to a Cold Leg	3B0532
RCP #3A Oil Lift Pump	3B0554
Space Heaters	3Y0403
Space Heaters	3Y0404
Space Heaters	3Y0410

Canister No. 5KV 'A' RCP

Reactor Coolant Pump A	152-3AA01

Canister No. 5KV 'B' RCP

Reactor Coolant Pump B	152-3AB01

Canister No. 5KV 'C' RCP

Reactor Coolant Pump C	152-3AB06

MISC.

RCP 3A Heater Breaker	3AA01
RCP 3B Heater Breaker	3AB01
RCP 3C Heater Breaker	3AB06

Canister No. T3C12

Fuel Tilting Wench	3FTS/3C08-T3C12/1
Fuel Tilting Wench	3FTS/3C08-T3C12/2
Code Call & Fire Alarm W6	Canister Wire ref. 26
spare	Canister Wire ref. 6&8

Canister No. T3C31

spare	Canister Wire ref. 7&12
Public Address Communication System	Canister Wire ref. 11
PAX Telephone W3	Canister Wire ref. 9

Canister No. T3C41

spare	Canister Wire ref. 12
Telephone Circuit for Maintenance W7	Canister Wire ref. 11
Public Address Communication System	Canister Wire ref. 7

Canister No. T3C11

spare	Canister Wire ref. 5,6,8, 18 & 22
Remote Control LP 37	Canister Wire ref. 2

Canister No. T3P31

spare	Canister Wire ref. 25&26

Canister No. T3P34

spare	Canister Wire ref. 25&26

Canister No. T3P36

spare	Canister Wire ref. 25&26

Canister No. T3P61

spare	Canister Wire ref. 1,4&23

REQUEST FOR PROCEDURE CHANGE

OTSC # 60

1.0 Request:

The following change to Procedure No. OP 3100.1 Dated 11/27/75 Is requested:

PROCEDURE TITLE: Containment ILRT

PAGE, PARAGRAPH & LINES TO BE CHANGED: See Procedure and The enclosed sheets.

CHANGE REQUESTED: Please refer to The enclosed valve list.

REASON FOR CHANGE: To provide deviations for valve line ups that do not comply with the Procedure.

REQUESTED BY: G. ZAGURSKY DATE: 11/27/75

2.0 Approval:

Change Recommended By:

(1) J.E. Moore Date 11/27/75

(1) [signature] Date 11/27/75

Change Reviewed by PNSC December 2, 1975

Change Approved by _____ Plant Supt. _____ 19____

3.0 Minimum Distribution: (Change Distributed to:)

1. OTSC Log (In Nuclear Plant Supervisor's Office) by P H Bennett Date 11/27/75
2. Quality Control Supervisor by P H Bennett Date 11/27/75
3. On the job procedure(s) affected (list): (For refueling: Control Room, Containment and SFP refueling manuals)

ILRT master procedure by P H Bennett Date 11/27/75

_____ by _____ Date _____

_____ by _____ Date _____

Penetration Number	System	Valve Number	Original Position	New Position	Reason
2	RHR	FCV-605	Open	Open/Closed	This system is in service during the ILRT. The valve position is changed as needed.
10	RCDT and PRT Vent; N_2 to RCDT	Change CV-549 to 4653	Open	Open	Upon loss of instrument air, CV-549 fails closed. The desired results may be obtained by opening 4653 and leaving CV-549 closed.
	RCDT and PRT Vent; N_2 to RCDT	TC-87	Open	Closed	If this valve is opened, the vent header will vent and depressurize into the Auxiliary Building.
11	Alt lo head SIS	TC-9	Open	Closed	Valve 887 (upstream of TC-9) leaks through the seat. If TC-9 were left open, the RWST would empty into the pipe and valve room.
15	CVCS	TC-14	Open	Closed	Since CV-310A fails open upon loss of instrument, TC-14 does not need to be open for 312C to be pressurized. This arrangement also allows a boron path to the core.
16	PACVS	HV-1	Open	Delete	This valve is only on Unit #4.
18	SIS	TC-93	Open	Closed	In order for this valve to be open, the SIS pumps must be racked-out. This is not possible considering the long duration of the test.

Penetration Number	System	Valve Number	Original Position	New Position	Reason
36	Purge Outlet	TC-36	Closed	Open	Since POV-2063 was a known leaker, TC-36 was opened and the boundary was extended to POV-2602.
54A/B	Recirc Sump	TC-115	Open	Closed	Since the RHR pumps are in service during the ILRT, these valves should be closed in order to prevent the loss of RHR fluid.
		TC-116	Open	Closed	
58/59/60	SIS	TC-118	Open	Closed	In order to prevent a spill this valve must be closed when the BIT is periodicall recirculated.

1.
Raw Data

11-1-75

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 80.0 HOUR NO. 1

BAROMETRIC PRESSURE 30.11 DATE Dec 1 1975

ROTAMETER FLOW N/A VERIFIED BY Paul H. Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1630 / 1	1645 / 2	1700 / 3	175 / 4
RTD # 1	92.58	90.59	89.29	88.51
RTD # 2	90.63	89.27	87.85	87.68
RTD # 3	88.74	88.00	87.58	87.35
RTD # 4	89.02	88.28	87.91	87.74
RTD # 5	88.37	87.58	87.18	86.97
RTD # 6	88.17	87.56	87.25	87.08
RTD # 7	88.18	87.56	87.25	87.07
RTD # 8	88.10	87.57	87.33	87.14
RTD # 9	87.15	86.86	86.67 SHB	86.54
RTD # 10	86.96	86.62	86.47	86.40
RTD # 11	86.89	86.55	86.40	86.27
RTD # 12	86.43	86.09	8593	8583
RTD # 13	86.46	86.07	8581	85.84
RTD # 14	86.17	85.96	85.84	85.79
RTD # 15	86.33	86.07	85.96	85.89
RTD # 16	86.04	85.66	85.44	85.34
RTD # 17	85.85	85.61	85.46	85.40
RTD # 18	86.65	86.34	86.20	86.13
RTD # 19	86.00	85.70	85.60	85.53
RTD # 20	85.96	85.59	85.45	85.41
RTD # 21	/	/	/	/
RTD # 22	/	/	/	/
RTD # 23	/	/	/	/
RHD # 1	60.31	61.95	63.64	64.62
RHD # 2	59.37	59.79	60.08	61.15
RHD # 3	59.88	61.08	62.15	62.96
RHD # 4	61.41	63.98	65.73	66.65
RHD # 5	61.81	63.56	64.60	65.53
RHD # 6	64.00	66.40	67.65	68.34
RHD # 7	/	/	/	/
RHD # 8	/	/	/	/
Pressure # 1	86.255	86065	85.955	85863
Pressure # 2				

RTD - Resistance Temperature Detector,

RHD - Relative Humidity Detector,

Pressure,

Terminal Operator Paul Bennett

11-1-75

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 80.0 HOUR NO. 2

BAROMETRIC PRESSURE 30.09 DATE Dec 1, 1975

ROTAMETER FLOW N/A VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1730 / 5	1745 / 6	1800 / 7	1815 / 8
RTD # 1	87.87	87.48	87.17	86.92
RTD # 2	87.35	87.12	86.96	86.83
RTD # 3	87.17	87.03	86.91	86.80
RTD # 4	87.52	87.41	~~87.29~~ 87.29	87.17
RTD # 5	86.79	86.62	86.49	86.41
RTD # 6	86.91	86.75	86.66	86.56
RTD # 7	86.87	86.74	86.62	86.58
RTD # 8	86.96	86.90	86.84	86.77
RTD # 9	86.45	86.40	86.37	86.32
RTD # 10	86.30	86.20	86.14	86.08
RTD # 11	86.17	86.09	86.02	85.98
RTD # 12	85.73	85.65	85.59	85.51
RTD # 13	~~87.85~~ 74	85.72	85.73	85.64
RTD # 14	85.75	85.73	85.64	85.64
RTD # 15	85.82	85.78	85.73	85.71
RTD # 16	85.25	85.18	85.11	85.06
RTD # 17	85.35	85.31	85.30	85.25
RTD # 18	86.06	86.00	85.95	85.91
RTD # 19	85.47	85.44	85.39	85.37
RTD # 20	85.30	85.32	85.27	85.23
RTD # 21	/	/	/	/
RTD # 22	/	/	/	/
RTD # 23	/	/	/	/
RHD # 1	65.51	66.13	66.68	67.21
RHD # 2	62.02	62.62	63.06	63.41
RHD # 3	63.45	63.82	64.07	64.29
RHD # 4	67.31	67.72	67.97	68.11
RHD # 5	66.35	66.75	67.05	67.23
RHD # 6	68.84	69.19	69.55	69.72
RHD # 7	/	/	/	/
RHD # 8	/	/	/	/
Pressure # 1	85.815	85.771	85.733	85.700
Pressure # 2				

RTD - Resistance Temperature Detector,_____

RHD - Relative Humidity Detector,_____

Pressure,_____

Terminal Operator [signature]

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 78 HOUR NO. 3

BAROMETRIC PRESSURE 30.10 DATE Dec 1 1975

ROTAMETER FLOW NA VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1830 / 9	1845 / 10	1900 / 11	1915 / 12
RTD # 1	86.72	86.52	86.36	86.22
RTD # 2	86.70	86.57	86.45	86.36
RTD # 3	86.69	86.58	86.54	86.45
RTD # 4	87.08	87.00	86.92	86.86
RTD # 5	86.33	86.32	86.25	86.20
RTD # 6	86.48	86.43	86.31	86.28
RTD # 7	86.52	86.46	86.42	86.32
RTD # 8	86.66	86.60	86.48	86.42
RTD # 9	86.29	86.25	86.18	86.16
RTD # 10	86.03	85.99	85.45	85.91
RTD # 11	85.94	85.91	85.89	85.82
RTD # 12	85.45	85.39	85.36	85.31
RTD # 13	85.60	85.58	85.63	85.51
RTD # 14	85.60	85.55	85.52	85.47
RTD # 15	85.67	85.65	85.62	85.61
RTD # 16	85.02	84.99	84.96	84.92
RTD # 17	85.22	85.18	85.16	85.11
RTD # 18	85.88	85.84	85.82	85.79
RTD # 19	85.34	85.32	85.29	85.27
RTD # 20	85.18	85.16	85.14	85.12
RTD # 21	/	/	/	/
RTD # 22	/	/	/	/
RTD # 23	/	/	/	/
RHD # 1	67.59	67.97	68.27	68.52
RHD # 2	63.68	63.90	64.07	64.24
RHD # 3	64.40	64.51	64.64	64.73
RHD # 4	68.21	68.28	68.34	68.37
RHD # 5	67.36	67.48	67.53	67.55
RHD # 6	69.91	70.02	70.08	70.09
RHD # 7	/	/		
RHD # 8	/	/		
Pressure # 1	85673	85650	85626	85605
Pressure # 2				

RTD - Resistance Temperature Detector,_____
RHD - Relative Humidity Detector,_____
Pressure,_____

Terminal Operator [signature]

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 78 HOUR NO. 4

BAROMETRIC PRESSURE 30.10 DATE December 1 1975

ROTAMETER FLOW _____ VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1930/13	1945/14	2000/15	2015/16
RTD # 1	86.12	86.05	85.95	85.82
RTD # 2	86.28	86.20	86.13	86.07
RTD # 3	86.36	86.32	86.27	86.23
RTD # 4	86.77	86.67	86.63	86.57
RTD # 5	86.14	86.06	85.99	85.92
RTD # 6	86.22	86.12	86.08	86.03
RTD # 7	86.30	86.24	86.17	86.18
RTD # 8	86.33	86.25	86.18	86.13
RTD # 9	86.13	86.08	86.07	86.07
RTD # 10	85.89	85.85	85.83	85.79
RTD # 11	85.78	85.74	85.69	85.67
RTD # 12	85.26	85.23	85.21	85.15
RTD # 13	85.56	85.53	85.49	85.44
RTD # 14	85.44	85.41	85.38	85.34
RTD # 15	85.59	85.57	85.56	85.53
RTD # 16	84.89	84.86	84.84	84.81
RTD # 17	85.09	85.08	85.06	85.01
RTD # 18	85.78	85.75	85.73	85.71
RTD # 19	85.25	85.25	85.22	85.21
RTD # 20	85.09	85.07	85.05	85.04
RTD # 21	/	/	/	/
RTD # 22	/	/	/	/
RTD # 23	/	/	/	/
RHD # 1	68.73	68.94	69.09	69.31
RHD # 2	64.30	64.47	64.62	64.81
RHD # 3	64.79	64.92	64.97	65.02
RHD # 4	68.41	68.46	68.46	68.54
RHD # 5	67.65	67.77	67.77	67.87
RHD # 6	70.19	70.16	70.20	70.25
RHD # 7	/	/	/	
RHD # 8	/	/	/	
Pressure # 1	85585	85568	85553	85538
Pressure # 2	/	/	/	/

RTD - Resistance Temperature Detector, _____
RHD - Relative Humidity Detector, _____
Pressure, _____

Terminal Operator _____

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 75 HOUR NO. 5

BAROMETRIC PRESSURE 30.11 DATE December 1, 1975

ROTAMETER FLOW — VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	2030/17 [1]	2045/18 [2]	2100/19 [3]	2115/20 [4]
RTD # 1	85.71	85.66	85.56	85.47
RTD # 2	86.00	85.94	85.87	85.80
RTD # 3	86.18	86.14	86.08	86.02
RTD # 4	86.47	86.44	86.39	86.32
RTD # 5	85.86	85.80	85.74	85.70
RTD # 6	85.97	85.93	85.87	85.85
RTD # 7	86.13	86.08	86.00	85.97
RTD # 8	86.12	86.07	85.99	85.94
RTD # 9	86.00	85.97	85.96	85.95
RTD # 10	85.79	85.76	85.74	85.72
RTD # 11	85.60	85.57	85.55	85.50
RTD # 12	85.12	85.09	85.07	85.02
RTD # 13	85.41	85.40	85.37	85.35
RTD # 14	85.32	85.28	85.28	85.24
RTD # 15	85.51	85.50	85.49	85.47
RTD # 16	84.80	84.77	84.75	84.73
RTD # 17	85.00	84.97	84.96	84.94
RTD # 18	85.69	85.68	85.66	85.64
RTD # 19	85.20	85.20	85.17	85.15
RTD # 20	85.03	85.02	84.99	84.96
RTD # 21	/	/	/	/
RTD # 22	/	/	/	/
RTD # 23	/	/	/	/
RHD # 1	69.47	69.61	69.76	69.94
RHD # 2	64.92	65.06	65.15	65.18
RHD # 3	65.08	65.12	65.18	65.18
RHD # 4	68.57	68.60	68.65	68.73
RHD # 5	67.92	68.01	68.08	68.09
RHD # 6	70.26	70.29	70.32	70.32
RHD # 7	/	/	/	/
RHD # 8	/	/	/	/
Pressure # 1	85524	85511	85498	85486
Pressure # 2	/	/	/	/

RTD - Resistance Temperature Detector,_____
RHD - Relative Humidity Detector,_____
Pressure,_____

Terminal Operator D. J. Hall

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 75 HOUR NO. 6

BAROMETRIC PRESSURE 30.11 DATE December 1, 1975

ROTAMETER FLOW — VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	2130 /21 (5)	2145 /22 (6)	2200 /23 (7)	2215 /24 (8)
RTD # 1	85.48	85.40	85.35	85.33
RTD # 2	85.76	85.72	85.66	85.59
RTD # 3	85.97	85.92	85.86	85.84
RTD # 4	86.30	86.27	86.21	86.17
RTD # 5	85.65	85.60	85.54	85.48
RTD # 6	85.81	85.74	85.68	85.63
RTD # 7	85.92	85.90	85.81	85.72
RTD # 8	85.89	85.88	85.82	85.79
RTD # 9	85.94	85.92	85.81	85.78
RTD # 10	85.70	85.68	85.65	85.62
RTD # 11	85.49	85.43	85.38	85.33
RTD # 12	85.01	85.01	85.02	84.97
RTD # 13	85.32	85.31	85.29	85.27
RTD # 14	85.22	85.20	85.20	85.13
RTD # 15	85.46	85.45	85.43	85.42
RTD # 16	84.72	84.70	84.68	84.66
RTD # 17	84.89	84.88	84.87	84.85
RTD # 18	85.63	85.62	85.61	85.59
RTD # 19	85.15	85.15	85.13	85.14
RTD # 20	84.96	84.95	84.93	84.91
RTD # 21	/	/	/	/
RTD # 22	/	/	/	/
RTD # 23	/	/	/	/
RHD # 1	70.00	70.11	70.19	70.32
RHD # 2	65.16	65.27	65.38	65.50
RHD # 3	65.23	65.33	65.44	65.46
RHD # 4	68.78	68.96	69.03	68.99
RHD # 5	68.18	68.28	68.42	68.50
RHD # 6	70.32	70.35	70.41	70.34
RHD # 7	/	/	/	/
RHD # 8	/	/	/	/
Pressure # 1	85474	85464	85451	85439
Pressure # 2	/	/	/	/

RTD - Resistance Temperature Detector,_____
RHD - Relative Humidity Detector,_____
Pressure,_____

Terminal Operator [signature]

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 75 HOUR NO. 7

BAROMETRIC PRESSURE 30.13 DATE December 1, 1975

ROTAMETER FLOW _____ VERIFIED BY P. Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	2230 /25 [9]	2245 /26 [10]	2300 /27 [11]	2315 /28 [12]
RTD # 1	85.26	85.18	85.17	85.12
RTD # 2	85.54	85.48	85.43	85.39
RTD # 3	85.76	85.72	85.67	85.64
RTD # 4	86.09	86.04	85.99	85.96
RTD # 5	85.42	85.36	85.33	85.27
RTD # 6	85.56	85.49	85.46	85.44
RTD # 7	85.66	85.61	85.59	85.53
RTD # 8	85.73	85.68	85.65	85.59
RTD # 9	85.74	85.70	85.69	85.66
RTD # 10	85.60	85.56	85.53	85.50
RTD # 11	85.31	85.25	85.21	85.21
RTD # 12	84.92	84.91	84.91	84.86
RTD # 13	85.20	85.20	85.15	85.14
RTD # 14	85.11	85.07	85.03	85.00
RTD # 15	85.40	85.38	85.36	85.33
RTD # 16	84.64	84.62	84.61	84.61
RTD # 17	84.81	84.79	84.73	84.72
RTD # 18	85.57	85.54	85.52	85.50
RTD # 19	85.10	85.10	85.07	85.07
RTD # 20	84.89	84.87	84.86	84.83
RTD # 21	/	/	/	/
RTD # 22	/	/	/	/
RTD # 23	/	/	/	/
RHD # 1	70.43	70.54	70.55	70.64
RHD # 2	65.59	65.68	65.71	65.74
RHD # 3	65.55	65.59	65.65	65.71
RHD # 4	69.02	69.03	69.08	69.10
RHD # 5	68.64	68.70	68.78	68.87
RHD # 6	70.41	70.36	70.41	70.41
RHD # 7	/	/	/	/
RHD # 8	/	/	/	/
Pressure # 1	85426	85416	85406	85396
Pressure # 2	/	/	/	/

RTD - Resistance Temperature Detector, _____

RHD - Relative Humidity Detector, _____

Pressure, _____

Terminal Operator [signature]

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 75 HOUR NO. 8

BAROMETRIC PRESSURE 30.13 DATE December 1-2, 1975

ROTAMETER FLOW N/A VERIFIED BY E.R. Kimball

ILRT DATA SHEET				
TIME/SAMPLE NO.	2330/13	2345/14	12/2 0000/15	0015/16
RTD # 1	85.07	84.99	85.00	84.94
RTD # 2	85.35	85.32	85.27	85.24
RTD # 3	85.59	85.53	85.50	85.47
RTD # 4	85.94	85.85	85.84	85.82
RTD # 5	85.23	85.18	85.16	85.12
RTD # 6	85.40	85.32	85.35	85.29
RTD # 7	85.50	85.46	85.45	85.41
RTD # 8	85.59	85.48	85.46	85.42
RTD # 9	85.64	85.60	85.59	85.58
RTD # 10	85.49	85.46	85.44	85.45
RTD # 11	85.15	85.14	85.09	85.07
RTD # 12	84.83	84.83	84.79	84.78
RTD # 13	85.10	85.06	85.05	85.03
RTD # 14	84.97	84.95	84.93	84.91
RTD # 15	85.31	85.29	85.27	85.26
RTD # 16	84.58	84.55	84.55	84.54
RTD # 17	84.70	84.66	84.64	84.63
RTD # 18	85.49	85.46	85.44	85.43
RTD # 19	85.04	85.03	85.01	84.98
RTD # 20	84.82	84.80	84.79	84.77
RTD # 21	/	/	/	
RTD # 22	/	/	/	
RTD # 23	/	/	/	
RHD # 1	70.73	70.84	70.88	70.94
RHD # 2	65.77	65.88	65.90	65.98
RHD # 3	65.72	65.77	65.80	65.84
RHD # 4	69.12	69.18	69.19	69.20
RHD # 5	68.89	68.95	68.99	69.03
RHD # 6	70.55	70.57	70.63	70.61
RHD # 7	/	/	/	
RHD # 8	/	/	/	
Pressure # 1	85387	85378	85370	85361
Pressure # 2	/	/	/	/

RTD - Resistance Temperature Detector,

RHD - Relative Humidity Detector,

Pressure,

Terminal Operator R L. Merrell

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 70°F HOUR NO. 9

BAROMETRIC PRESSURE 30.12 DATE 12-2-75

ROTAMETER FLOW _____ VERIFIED BY E. R. Kinnell

ILRT DATA SHEET				
TIME/SAMPLE NO.	0030/17	0045/18	0100/19	0115/20
RTD # 1	84.92	84.88	84.87	84.84
RTD # 2	85.22	85.19	85.16	85.13
RTD # 3	85.43	85.4	85.37	85.35
RTD # 4	85.77	85.73	85.7	85.69
RTD # 5	85.07	85.05	85.03	85
RTD # 6	85.25	85.25	85.21	85.18
RTD # 7	85.39	85.34	85.29	85.33
RTD # 8	85.41	85.37	85.38	85.31
RTD # 9	85.56	85.54	85.54	85.52
RTD # 10	85.41	85.41	85.39	85.39
RTD # 11	85.06	85.04	84.99	84.98
RTD # 12	84.79	84.75	84.73	84.75
RTD # 13	84.98	84.96	84.94	84.94
RTD # 14	84.88	84.87	84.85	84.84
RTD # 15	85.24	85.22	85.21	85.19
RTD # 16	84.51	84.48	84.47	84.47
RTD # 17	84.63	84.62	84.6	84.59
RTD # 18	85.41	85.4	85.39	85.37
RTD # 19	84.98	84.96	84.95	84.93
RTD # 20	84.76	84.77	84.75	84.72
RTD # 21	/	/	/	/
RTD # 22	/	/	/	/
RTD # 23	/	/	/	/
RHD # 1	71.02	71.11	71.18	71.2
RHD # 2	66.07	66.12	66.21	66.2
RHD # 3	65.88	65.95	65.99	66.03
RHD # 4	69.24	69.3	69.31	69.32
RHD # 5	69.11	69.16	69.19	69.25
RHD # 6	70.71	70.72	70.79	70.83
RHD # 7	/	/	/	/
RHD # 8	/	/	/	/
Pressure # 1	85354	85347	85340	85334
Pressure # 2	/	/	/	/

RTD - Resistance Temperature Detector, _____

RHD - Relative Humidity Detector, _____

Pressure, _____

Terminal Operator R L Merrill

11-1-75

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 70°

HOUR NO. 10

BAROMETRIC PRESSURE 30.11

DATE 12-2-75

ROTAMETER FLOW —

VERIFIED BY R. L. Marrow

ILRT DATA SHEET

TIME/SAMPLE NO.	0130 / 21	0145 / 22	0200 / 23	0215 / 24
RTD # 1	84.81	84.79	84.74	84.75
RTD # 2	85.11	85.09	85.07	85.05
RTD # 3	85.32	85.3	85.29	85.25
RTD # 4	85.69	85.67	85.63	85.62
RTD # 5	84.98	84.95	84.93	84.93
RTD # 6	85.16	85.2	85.12	85.14
RTD # 7	85.33	85.3	85.3	85.29
RTD # 8	85.31	85.29	85.24	85.24
RTD # 9	85.51	85.5	85.48	85.5
RTD # 10	85.38	85.34	85.34	85.33
RTD # 11	84.97	84.95	84.94	84.94
RTD # 12	84.73	84.66	84.67	84.66
RTD # 13	84.9	84.9	84.87	84.85
RTD # 14	84.82	84.82	84.8	84.8
RTD # 15	85.19 ~~84.19~~	85.17	85.16	85.15
RTD # 16	84.46	84.44	84.42	84.4
RTD # 17	84.57	84.56	84.54	84.51
RTD # 18	85.36	85.34	85.34	85.33
RTD # 19	84.92	84.91	84.91	84.89
RTD # 20	84.72	84.71	84.71	84.69
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	71.27	71.32	71.39	71.4
RHD # 2	66.27	66.31	66.39	66.48
RHD # 3	66.07	66.13	66.15	66.2
RHD # 4	69.32	69.36	69.36	69.39
RHD # 5	69.28	69.31	69.36	69.41
RHD # 6	70.97	71.04	71.01	71.09
RHD # 7				
RHD # 8				
Pressure # 1	85328	85326	85320	85313
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,

RHD - Relative Humidity Detector,

Pressure,

Terminal Operator Paul J. Baum

11-1-75

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 69° HOUR NO. 11

BAROMETRIC PRESSURE 30.10 DATE 12/2/75

ROTAMETER FLOW _____ VERIFIED BY E.R. Knuckles

ILRT DATA SHEET

TIME/SAMPLE NO.	0230 / 25	0245 / 26	0300 / 27	0315 / 28
RTD # 1	84.71	84.70	84.67	84.66
RTD # 2	85.03	85.02	85.01	84.99
RTD # 3	85.26	85.22	85.22	85.19
RTD # 4	85.58	85.55	85.52	85.49
RTD # 5	84.91	84.86	84.83	84.83
RTD # 6	85.12	85.07	85.1	85.07
RTD # 7	85.27	85.27	85.29	85.27
RTD # 8	85.23	85.21	85.21	85.15
RTD # 9	85.49	85.47	85.47	85.46
RTD # 10	85.33	85.32	85.31	85.29
RTD # 11	84.92	84.91	84.92	84.92
RTD # 12	84.65	84.64	84.62	84.6
RTD # 13	84.85	84.85	84.83	84.81
RTD # 14	84.77	84.75	84.74	84.72
RTD # 15	85.13	85.13	85.11	85.09
RTD # 16	84.38	84.37	84.37	84.37 ~~84.46~~ RM
RTD # 17	84.5	84.50	84.48	84.46 ~~85.29~~ RM
RTD # 18	85.31	85.31	85.3	85.29 ~~84.66~~ RM
RTD # 19	84.88	84.87	84.87	84.86
RTD # 20	84.67	84.66	84.66	84.64
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	71.39	71.47	71.51	71.46
RHD # 2	66.46	66.51	66.51	66.51
RHD # 3	66.22	66.27	66.28	66.31
RHD # 4	69.4	69.40	69.42	69.43
RHD # 5	69.46	69.46	69.49	69.51
RHD # 6	71.03	71.11	71.15	71.1
RHD # 7				
RHD # 8				
Pressure # 1	85307	85301	85296	85291
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector, _____
RHD - Relative Humidity Detector, _____
Pressure, _____

Terminal Operator E R Knuckles

11-1-75

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 69° HOUR NO. 12

BAROMETRIC PRESSURE 30.10 DATE 12/2/75

ROTAMETER FLOW N/A VERIFIED BY E. R. Kanuckel

ILRT DATA SHEET				
TIME/SAMPLE NO.	0330 / 29	0345 / 30	0400 / 31	0415 / 32
RTD # 1	84.65	84.62	84.61	84.58
RTD # 2	84.99	84.97	84.95	84.95
RTD # 3	85.16	85.14	85.14	85.11
RTD # 4	85.47	85.42	85.44	85.39
RTD # 5	84.82	84.77	84.77	84.76
RTD # 6	85.03	85.02	85.02	85.04
RTD # 7	85.24	85.19	85.19	85.17
RTD # 8	85.13	85.13	85.11	85.08
RTD # 9	85.47	85.46	85.46	85.46
RTD # 10	85.29	85.27	85.26	85.25
RTD # 11	84.91	84.9	84.89	84.9
RTD # 12	84.6	84.6	84.59	84.59
RTD # 13	84.83	84.81	84.8	84.78
RTD # 14	84.71	84.69	84.69	84.67
RTD # 15	85.1	85.09	85.08	85.07
RTD # 16	84.35	84.35	84.34	84.34
RTD # 17	84.45	84.43	84.43	84.42
RTD # 18	85.29	85.28	85.27	85.26
RTD # 19	84.85	84.84	84.84	84.81
RTD # 20	84.64	84.62	84.62	84.6
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	71.55	71.55	71.67	71.63
RHD # 2	66.62	66.6	66.66	66.73
RHD # 3	66.33	66.35	66.38	66.45
RHD # 4	69.45	69.45	69.46	69.46
RHD # 5	69.55	69.56	69.58	69.61
RHD # 6	71.17	71.17	71.23	71.22
RHD # 7				
RHD # 8				
Pressure # 1	85287	85281	85281	85276
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,

RHD - Relative Humidity Detector,

Pressure,

Terminal Operator R. L. Merrell

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 66 °F HOUR NO. 13

BAROMETRIC PRESSURE 30.08 DATE 12/2/75

ROTAMETER FLOW _____ VERIFIED BY E. R. Kuechler

ILRT DATA SHEET

TIME/SAMPLE NO.	0430 / 33	0445 / 34	0500 / 35	0515 / 36
RTD # 1	84.54	84.55	84.56	84.52
RTD # 2	84.92	84.91	84.9	84.88
RTD # 3	85.11	85.1	85.07	85.06
RTD # 4	85.41	85.37	85.36	85.33
RTD # 5	84.72	84.72	84.72	84.68
RTD # 6	85.02	84.99	85	84.96
RTD # 7	85.16	85.16	85.14	85.13
RTD # 8	85.1	85.09	85.06	85.04
RTD # 9	85.46	85.44	85.43	85.43
RTD # 10	85.24	85.23	85.22	85.19
RTD # 11	84.87 ~~84.27 inc~~	84.87	84.86	84.85
RTD # 12	84.57	84.55	84.52	84.54
RTD # 13	84.78	84.75 ~~SUR~~ RM	84.75	84.74
RTD # 14	84.63	84.64	84.62	84.61
RTD # 15	85.06	85.05	85.04	85.03
RTD # 16	84.32	84.31	84.29	84.29
RTD # 17	84.42	84.4	84.39	84.39
RTD # 18	85.25	85.24	85.24	85.23
RTD # 19	84.82	84.83	84.79	84.79
RTD # 20	84.59	84.58	84.59	84.55
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	71.7	71.76	71.77	71.78
RHD # 2	66.74	66.77	66.79	66.81
RHD # 3	66.45	66.46	66.51	66.53
RHD # 4	69.5	69.5	69.51	69.57
RHD # 5	69.63	69.7	69.68	69.73
RHD # 6	71.2	71.26	71.27	71.31
RHD # 7				
RHD # 8				
Pressure # 1	85269	85266	85259	85255
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector, _____
RHD - Relative Humidity Detector, _____
Pressure, _____

Terminal Operator R. L. Merrill

11-1-75

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 66°F HOUR NO. 14

BAROMETRIC PRESSURE 30.08 DATE 12/2/75

ROTAMETER FLOW N/A VERIFIED BY E.R. Knuckles

ILRT DATA SHEET

TIME/SAMPLE NO.	0530 / 37	0545 / 38	0600 / 39	0615 / 40
RTD # 1	84.54	84.5	84.47	84.43
RTD # 2	84.85	84.80	84.86	84.85
RTD # 3	85.02	85.04	85.03	85
RTD # 4	85.35	85.33	85.32	85.36
RTD # 5	84.68	84.68	84.65	84.67
RTD # 6	84.97	84.93	84.95	84.91
RTD # 7	85.17	85.13	85.08	85.08
RTD # 8	85.02	RM 85 84.99	85.01	84.99
RTD # 9	85.41	85.42	85.39	85.4
RTD # 10	85.20	85.2	85.19	85.18
RTD # 11	85.93	84.85	84.83	84.82
RTD # 12	84.52	84.51	84.49	84.5
RTD # 13	84.72	84.71	84.72	84.69
RTD # 14	84.60	84.61	84.6	84.6
RTD # 15	85.02	85.02	85.01	85.01
RTD # 16	84.28	84.27	84.27	84.26
RTD # 17	84.37	84.36	84.37	84.35
RTD # 18	85.22	85.21	85.21	85.21
RTD # 19	84.79	84.79	84.77	84.76
RTD # 20	84.55	84.54	84.53	84.52
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	71.78	71.83	71.82	71.91
RHD # 2	66.85	66.93	66.96	66.91
RHD # 3	66.53	66.59	66.59	66.61
RHD # 4	69.55	69.57	69.55	69.57
RHD # 5	69.72	69.78	69.79	69.79
RHD # 6	71.33	71.38	71.35	71.36
RHD # 7				
RHD # 8				
Pressure # 1	852 51	85247	852 43	85239
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,

RHD - Relative Humidity Detector,

Pressure,

Terminal Operator E.R. Knuckles

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 67°

BAROMETRIC PRESSURE 30.09

ROTAMETER FLOW N/A

HOUR NO. 15

DATE 12/2/75

VERIFIED BY E. R. Kundla

ILRT DATA SHEET

TIME/SAMPLE NO.	0630/41	0645/42	0700/43	0715/44
RTD # 1	84.46	84.43	84.46	84.42
RTD # 2	84.84	84.82	84.79	84.81
RTD # 3	85	84.99	84.97	84.94
RTD # 4	85.28	85.26	85.04	84.95
RTD # 5	84.64	84.62	84.61	84.60
RTD # 6	84.91	84.91	84.9	84.88
RTD # 7	85.05	85.1	85.04	85.05
RTD # 8	84.98	84.98	84.96	84.95
RTD # 9	85.4	85.39	85.37	85.40
RTD # 10	85.17	85.16	85.16	85.14
RTD # 11	84.82	84.83	84.79	84.78
RTD # 12	84.53	84.5	84.45	84.43
RTD # 13	84.69	84.67	84.66	84.65
RTD # 14	84.58	84.56	84.55	84.54
RTD # 15	85	84.99	84.98	84.97
RTD # 16	84.25	84.23	84.23	84.22
RTD # 17	84.36	84.33	84.31	84.29
RTD # 18	85.2	85.2	85.18	85.17
RTD # 19	84.75	84.76	84.74	84.77
RTD # 20	84.51	84.51	84.51	84.49
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	71.9	71.95	71.93	71.94
RHD # 2	66.92	66.97	66.96	67.
RHD # 3	66.66	66.66	66.68	66.71
RHD # 4	69.66	69.62	69.72	69.72
RHD # 5	69.94	69.93	69.84	69.89
RHD # 6	71.41	71.37	71.45	71.45
RHD # 7				
RHD # 8				
Pressure # 1	85235	85231	85227	85231
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,

RHD - Relative Humidity Detector,

Pressure,

Terminal Operator E. R. Kundla

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 67°

BAROMETRIC PRESSURE 30.09

ROTAMETER FLOW

HOUR NO. 16

DATE 12/2/75

VERIFIED BY E.R. Knudsen

ILRT DATA SHEET

TIME/SAMPLE NO.	0730/45	0745/46	0800/47	0815/48
RTD # 1	84.39	84.35	84.38	84.32
RTD # 2	84.74	84.76	84.78	84.76
RTD # 3	84.94	84.94	84.91	84.91
RTD # 4	84.94	84.91	84.9	84.88
RTD # 5	84.58	84.57	84.56	84.54
RTD # 6	84.89	84.88	84.86	84.82
RTD # 7	85.02	85.01	84.99	85.00
RTD # 8	84.91	84.80	84.89	84.86
RTD # 9	85.35	85.38	85.37	85.35
RTD # 10	85.11	85.12	85.1	85.07
RTD # 11	84.76	84.75	84.75	84.73
RTD # 12	84.39	84.38	84.38	84.37
RTD # 13	84.65	84.62	84.62	84.66
RTD # 14	84.55	84.53	84.52	84.52
RTD # 15	84.96	84.95	84.94	84.92
RTD # 16	84.22	84.21	84.2	84.19
RTD # 17	84.27	84.26	84.23	84.24
RTD # 18	85.17	85.15	85.15	85.14
RTD # 19	84.72	84.73	84.72	84.71
RTD # 20	84.49	84.48	84.48	84.47
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.02	72.04	72.03	72.06
RHD # 2	67.03	67.1	67.14	67.18
RHD # 3	66.76	66.78	66.79	66.81
RHD # 4	69.75	69.75	69.79	69.84
RHD # 5	69.91	69.93	69.95	69.97
RHD # 6	71.47	71.46	71.45	71.53
RHD # 7				
RHD # 8				
Pressure # 1	85219	85216	85213	85208
Pressure # 2				

RTD - Resistance Temperature Detector,

RHD - Relative Humidity Detector,

Pressure,

Terminal Operator E.R Knudsen

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 69° HOUR NO. 17

BAROMETRIC PRESSURE 30.11 ↑ DATE 12/2/75

ROTAMETER FLOW — VERIFIED BY E. R. Kanzell

Official Start 0900 12/2/75 PHB.

ILRT DATA SHEET

TIME/SAMPLE NO.	0830 / 49	0845 / 50	0900 / 51	0915 / 52
RTD # 1	84.33	84.34	84.36	84.35
RTD # 2	84.76	84.74	84.74	84.73
RTD # 3	84.9	84.9	84.88	84.87
RTD # 4	84.87	84.85	84.85	84.83
RTD # 5	84.55	84.5	84.54	84.54
RTD # 6	84.81	84.84	84.84	84.86
RTD # 7	84.97	84.96	85.01	84.95
RTD # 8	84.84	84.83	84.84	84.83
RTD # 9	85.36	85.33	85.33	85.33
RTD # 10	85.03	85.06	85.05	85.03
RTD # 11	84.74	84.71	84.71	84.69
RTD # 12	84.36	84.35	84.33	84.33
RTD # 13	84.59	84.57	84.59	84.59
RTD # 14	84.50	84.51	84.50	84.50
RTD # 15	84.91	84.9	84.91	84.90
RTD # 16	84.18	84.17	84.16	84.17
RTD # 17	84.23	84.25	84.19	84.21
RTD # 18	85.12	85.12	85.11	85.11
RTD # 19	84.74	84.71	84.7	84.69
RTD # 20	84.45	84.45	84.46	84.47
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.04	72.10	72.11	72.16
RHD # 2	67.21	67.25	67.18	67.22
RHD # 3	66.83	66.85	66.88	66.87
RHD # 4	69.85	69.88	69.89	69.92
RHD # 5	70.02	70.02	70.03	69.99
RHD # 6	71.56	71.51	71.53	71.54
RHD # 7				
RHD # 8				
Pressure # 1	85204	85203	85201	85200
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,

RHD - Relative Humidity Detector,

Pressure,

Terminal Operator R. L. Merrill

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 69°F HOUR NO. 18

BAROMETRIC PRESSURE 30.11 DATE 12/2/75

ROTAMETER FLOW _____ VERIFIED BY E.B. Kunsell

ILRT DATA SHEET

TIME/SAMPLE NO.	0930/53 (16)	0945/54 (17)	1000/55 (18)	1015/56 (19)
RTD # 1	84.30	84.28	84.29	84.30
RTD # 2	84.73	84.73	84.7	84.71
RTD # 3	84.87	84.87	84.87	84.87
RTD # 4	84.85	84.85	84.84	84.82
RTD # 5	84.52	84.53	84.53	84.52
RTD # 6	84.84	84.85	84.84	84.81
RTD # 7	84.95	84.92	84.92	84.93
RTD # 8	84.80	84.82	84.80	84.8
RTD # 9	RM ~~85.32~~ 85.32	85.32	85.34	85.33
RTD # 10	85.02	85.01	85.02	85.03
RTD # 11	84.71	84.69	84.69	84.69
RTD # 12	84.33	84.34	84.32	84.31
RTD # 13	84.55	84.56	84.58	84.58
RTD # 14	84.49	84.5	84.5	84.48
RTD # 15	84.89	84.89	84.89	84.8
RTD # 16	84.16	84.15	84.15	84.14
RTD # 17	84.22	84.22	84.20	84.19
RTD # 18	85.12	85.12	85.11	85.11
RTD # 19	84.71	84.7	84.7	84.7
RTD # 20	84.44	84.45	84.45	84.45
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.17	72.15	72.19	72.22
RHD # 2	67.24	67.25	67.21	67.26
RHD # 3	66.91	66.92	66.94	66.96
RHD # 4	69.92	69.9	69.97	69.96
RHD # 5	70.07	70.04	70.09	70.12
RHD # 6	7161	71.56	71.58	71.58
RHD # 7				
RHD # 8				
Pressure # 1	~~85199~~ RM	85198	85196	85195
Pressure # 2	85199	—	—	—

RTD - Resistance Temperature Detector, _____
RHD - Relative Humidity Detector, _____
Pressure, _____

Terminal Operator E. B. Kunsell

11-1-75

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 75°

BAROMETRIC PRESSURE 30.13

ROTAMETER FLOW _____

HOUR NO. 19

DATE 12/2/75

VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1030 / 57 (20)	1045 / 58 (21)	1100 / 59 (22)	1115 / 60 (23)
RTD # 1	84.29	84.29	84.26	84.25
RTD # 2	84.69	84.70	84.69	84.69
RTD # 3	84.86	84.86	84.85	84.84
RTD # 4	84.84	84.82	84.82	84.81
RTD # 5	84.51	84.49	84.50	84.5
RTD # 6	84.91	84.78	84.8	84.86
RTD # 7	84.91	84.91	RM-80 84.87	84.89
RTD # 8	84.78	84.79	84.78	84.78
RTD # 9	85.32	85.31	85.3	85.3
RTD # 10	85.03	85.01	84.99	85.01
RTD # 11	84.69	84.70	84.69	84.68
RTD # 12	84.31	84.32	84.31	84.31
RTD # 13	84.58	84.57	84.57	84.55
RTD # 14	84.48	84.49	84.49	84.48
RTD # 15	84.89	84.88	84.88	84.88
RTD # 16	84.14	84.14	84.14	84.14
RTD # 17	84.21	84.19	84.18	84.18
RTD # 18	85.11	85.1	85.1	85.1
RTD # 19	84.66	84.69	84.69	84.70
RTD # 20	84.46	84.47	84.45	84.44
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.25	72.28	72.27	72.27
RHD # 2	67.3	67.34	67.34	67.4
RHD # 3	66.97	66.98	66.99	67.02
RHD # 4	69.96	69.98	69.98	69.98
RHD # 5	70.10	70.09	70.09	70.14
RHD # 6	71.57	71.57	71.57	71.59
RHD # 7				
RHD # 8				
Pressure # 1	85194	85193	85192	85190
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector, _____

RHD - Relative Humidity Detector, _____

Pressure, _____

Terminal Operator Paul Bennett

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 69° 79° PHB

HOUR NO. 20

BAROMETRIC PRESSURE 30.11

DATE 12/2/75

ROTAMETER FLOW _____

VERIFIED BY P. Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1130 / 61 (24)	1145 / 62 (25)	1200 / 63 (26)	1215 / 64 (27)
RTD # 1	84.29	84.24	84.28 84.25	84.22
RTD # 2	84.68	84.69	84.67	84.68
RTD # 3	84.83	84.83	84.82	84.82
RTD # 4	84.83	84.79	84.82	84.81
RTD # 5	84.49	84.48	84.49	84.49
RTD # 6	84.78	84.8	84.81	84.80
RTD # 7	84.89	84.9	84.89	84.89
RTD # 8	84.75	84.76	84.76	84.75
RTD # 9	85.31	85.3	85.3	85.31
RTD # 10	85.01	85.	84.99	84.99
RTD # 11	84.67	84.69	84.67	84.69
RTD # 12	84.3	84.29	84.28	84.24
RTD # 13	84.55	84.54	84.56	84.55
RTD # 14	84.48	84.48	84.47	84.46
RTD # 15	84.87	84.87	84.87	84.87
RTD # 16	84.14	84.14	84.15	84.14
RTD # 17	84.2	84.17	84.18	84.20
RTD # 18	85.1	85.09	85.09	85.07
RTD # 19	84.69	84.69	84.69	84.70
RTD # 20	84.45	84.44	84.43	84.45
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.34	~~72.32~~ 72.32	72.30	72.37
RHD # 2	67.35	67.42	67.36	67.43
RHD # 3	67.03	67.05	67.05	67.08
RHD # 4	70.02	70.06	70.06	70.04
RHD # 5	70.18	70.18	70.19	70.18
RHD # 6	71.6	71.62	71.62	71.63
RHD # 7				
RHD # 8				
Pressure # 1	85189	85188	85187	85187
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector, _____

RHD - Relative Humidity Detector, _____

Pressure, _____

Terminal Operator _____

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 80° HOUR NO. 21

BAROMETRIC PRESSURE 30.10 DATE Dec 7 1975

ROTAMETER FLOW _____ VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1230/65	1245/66	1300/67	1315/68
RTD # 1	84.24	84.25	84.27	84.21
RTD # 2	84.66	84.65	84.63	84.65
RTD # 3	84.82	84.81	84.80	84.80
RTD # 4	84.80	84.81	84.79	84.81
RTD # 5	84.48	84.46	84.45	84.46
RTD # 6	84.74	84.78	84.72	84.81
RTD # 7	84.91	84.88	84.88	84.92
RTD # 8	84.76	84.74	84.74	84.74
RTD # 9	85.3	85.3	85.26	85.30
RTD # 10	84.99	85.01	84.98	84.96
RTD # 11	84.67	84.66	84.67	84.66
RTD # 12	84.3	84.28	84.27	84.27
RTD # 13	84.54	84.53	84.51	84.54
RTD # 14	84.48	84.46	84.43	84.47
RTD # 15	84.86	84.87	84.86	84.86
RTD # 16	84.14	84.13	84.10	84.13
RTD # 17	84.17	84.18	84.14	84.17
RTD # 18	85.08	85.07	85.04	85.08
RTD # 19	84.68	84.67	84.67	84.67
RTD # 20	84.43	84.43	84.42	84.45
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.37	72.38	72.39	72.44
RHD # 2	67.39	67.41	67.42	67.45
RHD # 3	67.07	67.10	67.11	67.13
RHD # 4	70.01	70.03	70.09	70.05
RHD # 5	70.20	70.21	70.26	70.22
RHD # 6	71.67	71.64	71.68	71.62
RHD # 7				
RHD # 8				
Pressure # 1	85186	85184	85180	85183
Pressure # 2				

RTD - Resistance Temperature Detector, _____

RHD - Relative Humidity Detector, _____

Pressure, _____

Terminal Operator _____

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 80 HOUR NO. 22

BAROMETRIC PRESSURE 30.10 DATE Dec 2, 1965

ROTAMETER FLOW _____ VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1330/69	1345/78	1400/84	1415/92
RTD # 1	84.22	84.23	84.25	84.23
RTD # 2	84.67	84.65	84.66	84.66
RTD # 3	84.81	84.80	84.80	84.79
RTD # 4	84.79	84.79	84.78	84.81
RTD # 5	84.47	84.47	84.46	84.47
RTD # 6	84.79	84.78	84.79	84.80
RTD # 7	84.87	84.91	84.88	84.91
RTD # 8	84.74	84.74	84.74	84.74
RTD # 9	85.3	85.32	85.32	85.30
RTD # 10	84.98	84.96	84.97	84.97
RTD # 11	84.68	84.66	84.66	84.66
RTD # 12	84.31	84.29	84.30	84.28
RTD # 13	84.55	84.54	84.54	84.55
RTD # 14	8448	84.48	84.48	84.48
RTD # 15	84.86	84.81	84.87	84.87
RTD # 16	84.12	84.12	84.12	84.12
RTD # 17	84.17	84.20	84.18	84.16
RTD # 18	85.08	85.08	85.09	85.05
RTD # 19	84.69	84.68	84.70	84.71
RTD # 20	84.43	84.45	84.45	84.44
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.47	72.42	72.46	72.45
RHD # 2	67.44	67.51	67.47	67.49
RHD # 3	67.13	67.14	67.13	67.17
RHD # 4	70.08	70.05	70.10	70.09
RHD # 5	70.24	70.23	70.25	70.28
RHD # 6	71.65	71.67	71.68	71.66
RHD # 7				
RHD # 8				
Pressure # 1	85183	85183	85182	85181
Pressure # 2				

RTD - Resistance Temperature Detector, _____
RHD - Relative Humidity Detector, _____
Pressure, _____

Terminal Operator Paul Bennett

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 81°F

BAROMETRIC PRESSURE 30.05

ROTAMETER FLOW _____

HOUR NO. 23

DATE Dec 2 75

VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1430 / 73	1445 / 74	1528 / 75	1515 / 76
RTD # 1	84.23	84.24	84.22	84.23
RTD # 2	84.67	84.65	84.66	84.66
RTD # 3	84.74	84.80	84.80	84.78
RTD # 4	84.81	84.82	84.81	84.85
RTD # 5	84.48	84.47	84.47	84.48
RTD # 6	84.81	84.78	84.77	84.76
RTD # 7	84.88	84.86	84.9	84.87
RTD # 8	84.75	84.74	84.73	84.74
RTD # 9	85.29	85.3	85.31	85.31
RTD # 10	84.98	84.99	84.97	84.98
RTD # 11	84.67	84.65	84.67	84.66
RTD # 12	84.29	84.27	84.29	84.29
RTD # 13	84.54	A) 85.55 84.55	84.55	84.55
RTD # 14	84.49	84.49	84.49	84.50
RTD # 15	84.87	84.87	84.86	84.87
RTD # 16	84.12	84.14	84.12	84.14
RTD # 17	84.18	84.17	84.19	84.2
RTD # 18	85.09	85.09	85.09	85.09
RTD # 19	84.70	84.71	84.70	84.68
RTD # 20	84.46	84.44	84.45	84.45
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.49	72.52	72.54	72.52
RHD # 2	67.51	67.53	67.54	67.59
RHD # 3	67.17	67.20	67.19	67.201
RHD # 4	70.08	70.11	70.13	70.05
RHD # 5	70.29	70.27	70.27	70.26
RHD # 6	71.67	71.66	71.67	71.68
RHD # 7				
RHD # 8				
Pressure # 1	85181	85181	85180	85180
Pressure # 2				

RTD - Resistance Temperature Detector, _____

RHD - Relative Humidity Detector, _____

Pressure, _____

Terminal Operator _____

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 81 HOUR NO. 24

BAROMETRIC PRESSURE 30.05 DATE Dec 2 75

ROTAMETER FLOW [illegible] VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1530 M/40	1545 /78/41	1600 /79/42	1615 /80/43
RTD # 1	84.25	84.23	84.23	84.22
RTD # 2	84.65	84.66	84.65	84.65
RTD # 3	84.76	84.79	84.79	84.79
RTD # 4	84.80	84.79	84.81	84.81
RTD # 5	84.47	84.46	84.47	84.46
RTD # 6	84.76	84.76	84.79	84.77
RTD # 7	84.86	84.86	84.88	84.92
RTD # 8	84.74	84.75	84.75	84.74
RTD # 9	85.3	85.3	85.3	85.31
RTD # 10	84.96	84.97	84.99	84.98
RTD # 11	84.67	84.69	84.69	84.66
RTD # 12	84.28	84.3	84.29	84.31
RTD # 13	84.55	84.55	84.54	84.54
RTD # 14	84.5	84.49	84.49	84.49
RTD # 15	84.87	84.87	84.87	84.87
RTD # 16	84.13	84.13	84.19	84.13
RTD # 17	84.18	84.18	84.19	84.17
RTD # 18	85.09	85.09	85.1	85.09
RTD # 19	84.7	84.71	84.71	84.69
RTD # 20	84.46	84.45	84.45	84.46
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.54	72.53	72.55	72.54
RHD # 2	67.35	67.56	67.51	67.56
RHD # 3	67.23	67.23	67.27	67.26
RHD # 4	70.15	70.10	70.13	70.15
RHD # 5	70.32	70.29	70.35	70.36
RHD # 6	71.68	71.68	71.73	71.74
RHD # 7				
RHD # 8				
Pressure # 1	85179	85179	85178	85178
Pressure # 2				

RTD - Resistance Temperature Detector,

RHD - Relative Humidity Detector,

Pressure,

Terminal Operator

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 82° HOUR NO. 24

BAROMETRIC PRESSURE 30.03 DATE Dec 2, 1975

ROTAMETER FLOW _____ VERIFIED BY Paul Bennett

ILRT DATA SHEET				
TIME/SAMPLE NO.	1630 / 81 / 44	1645 / 82 / 45	1700 / 83 / 46	1715 / 84 / 47
RTD # 1	84.24	84.23	84.22	84.26
RTD # 2	84.65	84.65	84.64	84.64
RTD # 3	84.78	84.78	84.80	84.78
RTD # 4	84.80	84.80	84.74	84.81
RTD # 5	84.46	84.46	84.48	84.45
RTD # 6	84.78	84.78	84.76	84.76
RTD # 7	84.86	84.89	84.88	84.87
RTD # 8	84.74	84.75	84.74	84.75
RTD # 9	85.31	85.32	85.31	85.32
RTD # 10	84.99	84.97	84.96	84.97
RTD # 11	84.67	84.67	84.66	84.66
RTD # 12	84.31	84.30	84.25	84.28
RTD # 13	84.54	84.55	84.56	84.54
RTD # 14	84.5	84.48	84.51	84.49
RTD # 15	84.87	84.87	84.87	84.87
RTD # 16	84.12	84.13	84.14	84.14
RTD # 17	84.2	84.18	84.18	84.19
RTD # 18	85.1	85.1	84.09	85.10
RTD # 19	84.71	84.69	84.70	84.70
RTD # 20	84.46	84.45	84.46	84.45
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.58	72.61	72.63	72.61
RHD # 2	67.61	67.58	67.58	67.65
RHD # 3	67.28	67.30	67.33	67.33
RHD # 4	70.14	70.16	70.19	70.20
RHD # 5	70.38	70.38	70.4	70.40
RHD # 6	71.74	71.74	71.72	71.78
RHD # 7				
RHD # 8				
Pressure # 1	85178	85177	85177	85177
Pressure # 2				

RTD - Resistance Temperature Detector, _____

RHD - Relative Humidity Detector, _____

Pressure, _____

Terminal Operator _____

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 82 HOUR NO. 26

BAROMETRIC PRESSURE 30.03 DATE Dec 2, 1975

ROTAMETER FLOW _____ VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1730 /84/48	1745 /85/49	1800 /86/50	1815 /87/51
RTD # 1	84.91	84.23	84.24	84.23
RTD # 2	84.64	84.65	84.65	84.65
RTD # 3	84.78	84.78	84.77	84.76
RTD # 4	84.87	84.81	84.83	84.82
RTD # 5	84.47	84.47	84.48	84.44
RTD # 6	84.79	84.84	84.75	84.74
RTD # 7	84.87	84.86	84.89	84.89
RTD # 8	84.74	84.74	84.75	84.76
RTD # 9	85.31	85.3	85.32	85.32
RTD # 10	84.98	84.97	84.97	84.98
RTD # 11	84.67	84.66	84.67	84.67
RTD # 12	84.3	84.29	84.28	84.3
RTD # 13	84.51	84.56	84.58	84.55
RTD # 14	84.5	84.49	84.49	84.5
RTD # 15	84.87	84.87	84.87	84.87
RTD # 16	84.13	84.13	84.14	84.11
RTD # 17	84.21	84.18	84.18	84.19
RTD # 18	85.1	85.1	85.09	85.11
RTD # 19	84.71	84.71	84.7	84.71
RTD # 20	84.45	84.45	84.48	84.46
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.63	72.68	72.73	72.65
RHD # 2	67.65	67.67	67.67	67.66
RHD # 3	67.35	67.37	67.38	67.4
RHD # 4	70.25	70.25	70.29	70.27
RHD # 5	70.43	70.43	70.45	70.47
RHD # 6	71.82	71.82	71.83	71.86
RHD # 7				
RHD # 8				
Pressure # 1	85176	85176	85176	85175
Pressure # 2				

RTD - Resistance Temperature Detector, _____
RHD - Relative Humidity Detector, _____
Pressure, _____

Terminal Operator _____

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 78 HOUR NO. 27

BAROMETRIC PRESSURE 30.06 DATE Dec 2 1975

ROTAMETER FLOW _____ VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1830 /88/52	1845 /89/53	1900 /90/54	1915 /91/55
RTD # 1	84.22	84.2405	84.23	84.28
RTD # 2	84.63	84.61	84.63	84.66
RTD # 3	84.77	84.76	84.77	84.78
RTD # 4	84.8	85.06	85.12	85.14
RTD # 5	84.43	84.47	84.46	84.48
RTD # 6	84.75	84.76	84.74	84.79
RTD # 7	84.86	84.86	84.89	84.89
RTD # 8	84.74	84.74	84.75	84.75
RTD # 9	85.3	85.21	85.33	85.32
RTD # 10	84.97	84.97	85.01	85.04
RTD # 11	84.67	84.67	84.70	84.72
RTD # 12	84.3	84.31	84.36	84.34
RTD # 13	84.53	84.57	84.54	84.52
RTD # 14	84.52	84.5	84.51	84.51
RTD # 15	84.87	84.88	84.89	84.89
RTD # 16	84.15	84.14	84.15	84.14
RTD # 17	84.19	84.19	84.22	84.22
RTD # 18	85.1	85.11	85.11	85.12
RTD # 19	84.71	84.72	84.72	84.71
RTD # 20	84.45	84.45	84.46	84.46
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.72	72.69	72.7	72.7
RHD # 2	67.74	67.66	67.7	67.71
RHD # 3	67.42	67.41	67.42	67.45
RHD # 4	70.24	70.24	70.22	70.23
RHD # 5	70.47	70.45	70.45	70.48
RHD # 6	71.88	71.8	71.85	71.89
RHD # 7				
RHD # 8				
Pressure # 1	85175	85175	85175	85176
Pressure # 2				

RTD - Resistance Temperature Detector, _____
RHD - Relative Humidity Detector, _____
Pressure, _____

Terminal Operator _____

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 78 HOUR NO. 28

BAROMETRIC PRESSURE 30.06 DATE Dec 7 1975

ROTAMETER FLOW _____ VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1630 / 92 / 56	1945 / 93 / 54	2000 / 94 / 57	2015 / 95 / 59
RTD # 1	84.24	84.27	84.26	84.25
RTD # 2	84.66	84.67	84.68	84.66
RTD # 3	84.78	84.79	84.79	84.79
RTD # 4	85.12	85.18	85.13	85.17
RTD # 5	84.48	84.48	84.48	84.47
RTD # 6	84.84	84.78	84.78	84.78
RTD # 7	84.91	84.91	84.88	84.92
RTD # 8	84.76	84.76	84.77	84.76
RTD # 9	85.32	85.34	85.33	85.33
RTD # 10	85.04	85.06	85.07	85.07
RTD # 11	84.74	84.73	84.73	84.74
RTD # 12	84.37	84.38	84.37	84.39
RTD # 13	84.59	84.57	84.58	84.58
RTD # 14	84.52	84.5	84.53	84.54
RTD # 15	84.88	84.9	84.90	84.91
RTD # 16	84.15	84.15	84.17	84.15
RTD # 17	84.23	84.24	84.25	84.24
RTD # 18	85.12	85.13	85.13	85.13
RTD # 19	84.7	84.71	84.72	84.72
RTD # 20	84.47	84.47	84.46	84.47
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.77	72.77	72.78	72.79
RHD # 2	67.76	67.78	67.77	67.77
RHD # 3	67.46	67.46	67.49	67.47
RHD # 4	70.3	70.26	70.23	70.23
RHD # 5	70.48	70.52	70.52	70.56
RHD # 6	71.70	71.9	71.95	71.94
RHD # 7				
RHD # 8				
Pressure # 1	85176	85176	85176	85176
Pressure # 2				

RTD - Resistance Temperature Detector, _____

RHD - Relative Humidity Detector, _____

Pressure, _____

Terminal Operator _____

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 74 HOUR NO. 29

BAROMETRIC PRESSURE 30.10 DATE Dec 2 1975

ROTAMETER FLOW _____ VERIFIED BY Paul Bonnell

ILRT DATA SHEET

TIME/SAMPLE NO.	2030 / 196 / 60	2045 / 197 / 61	2100 / 198 / 62	2115 / 199 / 63
RTD # 1	84.22	84.25	84.26	84.27
RTD # 2	84.69	84.68	84.68	84.67
RTD # 3	84.79	84.78	84.79	84.78
RTD # 4	Deleted	Deleted	Deleted	Deleted
RTD # 5	84.49	84.46	84.51	84.48
RTD # 6	84.81	84.82	84.84	84.78
RTD # 7	84.87	84.87	84.93	84.89
RTD # 8	84.76	84.77	84.78	84.77
RTD # 9	85.34	85.35	85.34	85.33
RTD # 10	85.08	85.07	85.07	85.08
RTD # 11	84.77	84.75	84.76	84.73
RTD # 12	84.40	84.4	84.31	84.39
RTD # 13	84.58	84.58	84.59	84.58
RTD # 14	84.52	84.55	84.54	84.53
RTD # 15	84.91	84.91	84.91	84.91
RTD # 16	84.16	84.17	84.18	84.18
RTD # 17	84.24	84.25	84.25	84.26
RTD # 18	85.14	85.14	85.14	85.14
RTD # 19	84.72	84.71	84.73	84.73
RTD # 20	84.48	84.47	84.47	84.47
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.81	72.77	72.83	72.85
RHD # 2	67.71	67.79	67.83	67.86
RHD # 3	67.49	67.49	67.51	67.52
RHD # 4	70.26	70.22	70.21	70.27
RHD # 5	70.52	70.52	70.54	70.52
RHD # 6	71.94	71.88	71.91	71.95
RHD # 7				
RHD # 8				
Pressure # 1	85176	75176	85177	85176
Pressure # 2				

RTD - Resistance Temperature Detector, _____
RHD - Relative Humidity Detector, _____
Pressure, _____

Terminal Operator _____

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 74 HOUR NO. 30

BAROMETRIC PRESSURE 30.10 DATE December 2, 1975

ROTAMETER FLOW _____ VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	2130 /100/64	2145 /101/65	2200 /102/66	2215 /103/67
RTD # 1	84.25	84.25	84.25	84.24
RTD # 2	84.67	84.67	84.65	84.67
RTD # 3	84.79	84.78	84.79	84.78
RTD # 4	DELETED	DELETED	DELETED	DELETED
RTD # 5	84.49	84.49	84.49	84.49
RTD # 6	84.80	84.78	84.81	84.82
RTD # 7	84.90	84.92	84.91	84.94
RTD # 8	84.76	84.77	84.77	84.71
RTD # 9	85.35	85.34	85.33	85.34
RTD # 10	85.08	85.09	85.08	85.06
RTD # 11	84.75	84.77	84.75	84.77
RTD # 12	84.38	84.39	84.38	84.4
RTD # 13	84.60	84.59	84.58	84.57
RTD # 14	84.52	84.54	84.52	84.53
RTD # 15	84.92	84.91	84.92	84.91
RTD # 16	84.19 AA	84.18	84.17	84.17
RTD # 17	~~84.25~~ 84.25	84.250	84.24	84.23
RTD # 18	85.14	85.014	85.15	85.14
RTD # 19	84.74	84.73	84.74	84.75
RTD # 20	84.49	84.48	84.47	84.48
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.80	72.82	67.7285	72.83
RHD # 2	67.82	67.77	67.87	67.91
RHD # 3	67.53	67.53	67.56	67.54
RHD # 4	70.23	70.25	70.33	70.28
RHD # 5	70.53	70.54	70.59	70.56
RHD # 6	71.95	71.95	71.96	71.97
RHD # 7				
RHD # 8				
Pressure # 1	85176	85175	85175	85175
Pressure # 2				

RTD - Resistance Temperature Detector, _____

RHD - Relative Humidity Detector, _____

Pressure, _____

Terminal Operator _____

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 71° HOUR NO. 31

BAROMETRIC PRESSURE 30.12 DATE Dec 2, 1975

ROTAMETER FLOW _____ VERIFIED BY Paul Bunnell

ILRT DATA SHEET

TIME/SAMPLE NO.	2230/104/68	2245/105/69	2300/106/70	2315/107/71
RTD # 1	84.25	84.25	84.26	84.24
RTD # 2	84.67	84.67	84.68	84.65
RTD # 3	84.77	84.78	84.78	84.79
RTD # 4	DELETED	DELETED	DELETED	DELETED
RTD # 5	~~84.47~~ 84.49	84.49	84.77	84.47
RTD # 6	84.8	84.82	84.85	84.81
RTD # 7	84.89	84.89	84.88	84.89
RTD # 8	84.78	84.77	84.77	84.77
RTD # 9	85.35	85.34	85.33	85.34
RTD # 10	85.07	85.06	85.08	85.07
RTD # 11	84.75	84.76	84.76	84.77
RTD # 12	84.38	84.36	84.39	84.39
RTD # 13	84.59	84.58	84.58	84.58
RTD # 14	84.53	84.52	84.53	84.53
RTD # 15	84.92	84.91	84.92	84.92
RTD # 16	84.17	84.17	84.18	84.18
RTD # 17	84.26	84.25	84.26	84.25
RTD # 18	85.14	85.13	85.15	85.14
RTD # 19	84.73	84.73	84.73	84.72
RTD # 20	84.47	84.48	84.48	84.48
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.84	72.83	72.82	72.87
RHD # 2	67.86	67.85	67.82	67.81
RHD # 3	67.55	67.55	67.56	67.59
RHD # 4	70.27	70.29	70.26	70.28
RHD # 5	70.57	70.58	70.57	70.63
RHD # 6	71.92	71.93	71.99	71.94
RHD # 7				
RHD # 8				
Pressure # 1	~~85174~~	85174	85174	85173
Pressure # 2	85174			

RTD - Resistance Temperature Detector, _____
RHD - Relative Humidity Detector, _____
Pressure, _____

Terminal Operator: _____

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 71°

HOUR NO. 32

BAROMETRIC PRESSURE 30.12

DATE 12/2-3/75

ROTAMETER FLOW _____

VERIFIED BY E. R. Knuckles

ILRT DATA SHEET

TIME/SAMPLE NO.	2330 / 108 / 72	2345 / 109 / 73	2400 / 110 / 74	0015 / 111 / 75
RTD # 1	84.25	84.27	84.27	84.27
RTD # 2	84.63	84.65	84.65	84.66
RTD # 3	84.78	84.78	84.79	94.79
RTD # 4	DELETED	DELETED	DELETED	DELETED
RTD # 5	84.48	84.5	84.49	84.47
RTD # 6	84.79	84.81	84.8	84.91
RTD # 7	84.87	84.92	RM ~~84.76~~ 84.91	84.94
RTD # 8	84.75	84.77	84.77	84.76
RTD # 9	85.35	85.36	85.36	85.34
RTD # 10	85.08	85.08	85.09	85.09
RTD # 11	84.78	84.74	84.75	84.75
RTD # 12	84.37	84.37	84.39	84.39
RTD # 13	84.57	84.6	84.59	84.58
RTD # 14	84.51	84.52	84.51	84.52
RTD # 15	84.91	84.92	84.92	84.92
RTD # 16	84.17	84.19	84.19	84.21
RTD # 17	84.25	84.26	84.23	84.25
RTD # 18	85.14	85.14	85.14	85.15
RTD # 19	84.73	84.74	84.74	84.75
RTD # 20	84.47	84.48	84.47	84.48
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.86	72.91	72.86	72.91
RHD # 2	67.87	67.86	67.85	67.94
RHD # 3	67.60	67.62	67.62	67.65
RHD # 4	70.30	70.31	70.3	70.32
RHD # 5	70.63	70.65	70.66	70.63
RHD # 6	72.00	72.01	72.01	72.03
RHD # 7				
RHD # 8				
Pressure # 1	85173	85173	85172	85171
Pressure # 2				

RTD - Resistance Temperature Detector, _____

RHD - Relative Humidity Detector, _____

Pressure, _____

Terminal Operator R. L. Merrill

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 68° HOUR NO. 33

BAROMETRIC PRESSURE 30.11 ↓ DATE 12/3/75

ROTAMETER FLOW — VERIFIED BY E. R. Knuckles

ILRT DATA SHEET

TIME/SAMPLE NO.	0030 / 112/76	0045 / 113/77	0100 / 114/78	0115 / 114/79
RTD # 1	84.25	84.26	84.26	84.25
RTD # 2	84.66	84.67	84.66	84.66
RTD # 3	84.78	84.77	84.78	84.79
RTD # 4	DELETED	DELETED	DELETED	DELETED
RTD # 5	84.49	84.5	84.48	84.49
RTD # 6	84.78	84.81	84.8	84.8
RTD # 7	84.9	84.88	84.9	84.9
RTD # 8	84.77	84.77	84.77	84.76
RTD # 9	85.34	85.35	85.34	85.35
RTD # 10	85.09	85.08	85.1	85.09
RTD # 11	84.77	84.77	84.76	84.77
RTD # 12	84.38	84.37	84.4	84.39
RTD # 13	84.59	84.61	84.6	84.58
RTD # 14	84.53	84.52	84.53	84.52
RTD # 15	84.92	84.93	84.92	84.92
RTD # 16	84.19	84.17	84.18	84.17
RTD # 17	84.24	84.22	84.24	84.25
RTD # 18	85.14	85.15	85.14	85.14
RTD # 19	84.73	84.72	84.74	84.72
RTD # 20	84.5	84.49	84.49	84.46
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.95	72.95	72.99	72.97
RHD # 2	67.93	67.88	67.94	67.87
RHD # 3	67.66	67.67	67.68	67.69
RHD # 4	70.39	70.39	70.38	70.39
RHD # 5	70.71	70.71	70.75	70.71
RHD # 6	72.08	72.08	72.05	72.08
RHD # 7				
RHD # 8				
Pressure # 1	85171	85171	85171	85170
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,_____

RHD - Relative Humidity Detector,_____

Pressure,_____

Terminal Operator E. R. Knuckles

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 68° HOUR NO. 34

BAROMETRIC PRESSURE 30.11 ↓ DATE 12/3/75

ROTAMETER FLOW — VERIFIED BY R L Morrill

ILRT DATA SHEET

TIME/SAMPLE NO.	0130 / 115/80	0145 / 116/81	0200 / 117/82	0215 / 118/83
RTD # 1	84.25	84.26	84.25	84.25
RTD # 2	84.66	84.66	84.67	84.64
RTD # 3	84.78	84.78	84.78	84.77
RTD # 4	DELETED	DELETED	DELETED	DELETED
RTD # 5	84.46	84.49	84.47	84.50
RTD # 6	84.78	84.8	84.83	84.81
RTD # 7	84.93	84.94	84.93	84.95
RTD # 8	84.77	84.76	84.75	84.76
RTD # 9	85.33	85.35	85.33	85.34
RTD # 10	85.09	85.09	85.08	85.09
RTD # 11	84.78	84.77	84.77	84.78
RTD # 12	84.41	84.38	84.4	84.37
RTD # 13	84.58	84.58	84.57	84.61
RTD # 14	84.52	84.51	84.52	84.51
RTD # 15	84.93	84.93	84.93	84.92
RTD # 16	84.17	84.17	84.19	84.19
RTD # 17	84.23	84.22	84.23	84.23
RTD # 18	85.15	85.14	85.15	85.14
RTD # 19	84.74	84.73	84.73	84.73
RTD # 20	84.46	84.48	84.47	84.47
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.95	72.92	72.98	72.96
RHD # 2	67.94	67.99	67.91	67.88
RHD # 3	67.66	67.66	67.67	67.68
RHD # 4	70.37	70.37	70.32	70.3
RHD # 5	70.66	70.65	70.68	70.67
RHD # 6	72.06	72.03	71.99	72.01
RHD # 7				
RHD # 8				
Pressure # 1	85170	85170	85169	85169
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,_____

RHD - Relative Humidity Detector,_____

Pressure,_____

Terminal Operator C. R. Knuckles

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 68° HOUR NO. 35

BAROMETRIC PRESSURE 30.11 ↓ DATE 12/3/75

ROTAMETER FLOW — VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	0230 / 119/84	0245 / 120/85	0300 / 121/86	0315 / 122/87
RTD # 1	84.22	84.27	84.24	84.26
RTD # 2	84.67	84.67	84.66	84.66
RTD # 3	84.79	84.78	84.78	84.78
RTD # 4	DELETED	DELETED	DELETED	DECETED
RTD # 5	84.49	84.49	84.48	84.49
RTD # 6	84.81	84.79	84.8	84.80
RTD # 7	84.86	84.88	84.91	84.89
RTD # 8	84.77	84.75	84.76	84.75
RTD # 9	85.34	85.34	85.35	85.35
RTD # 10	85.08	85.1	85.09	85.08
RTD # 11	84.78	84.77	84.77	84.77
RTD # 12	84.39	84.39	84.41	84.38
RTD # 13	84.61	84.6	84.59	84.6
RTD # 14	84.51	84.52	84.5	84.5
RTD # 15	84.93	84.93	84.93	84.93
RTD # 16	84.19	84.19	84.18	84.18
RTD # 17	84.22	84.24	84.22	84.22
RTD # 18	85.14	85.14	85.14	85.15
RTD # 19	84.73	84.74	84.74	84.72
RTD # 20	84.48	84.47	84.51	84.5
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	72.93	72.96	72.96	72.94
RHD # 2	67.93	67.91	67.94	67.98
RHD # 3	67.67	67.68	67.69	67.71
RHD # 4	70.33	70.35	70.34	70.38
RHD # 5	70.67	70.69	70.7	70.73
RHD # 6	71.98	72.01	72.02	72.04
RHD # 7				
RHD # 8				
Pressure # 1	85169	85168	85168	85168
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,

RHD - Relative Humidity Detector,

Pressure,

Terminal Operator Paul J. Baum

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 66° HOUR NO. 36

BAROMETRIC PRESSURE 30.10 ↓ DATE 12/3/75

ROTAMETER FLOW — VERIFIED BY Paul B. Bennett

ILRT DATA SHEET				
TIME/SAMPLE NO.	0330 / 123/88	0345 / 124/89	0400 / 125/90	0415 / 126/91
RTD # 1	84.25	84.23	84.22	84.24
RTD # 2	84.67	84.67	84.63	84.63
RTD # 3	84.78	84.77	84.78	84.78
RTD # 4	DELETED	DELETED	DELETED	DELETED
RTD # 5	84.46	84.47	84.48	84.46
RTD # 6	RM ~~84.74~~ 84.8	84.82	84.78	84.81
RTD # 7	84.89	84.93	84.89	84.89
RTD # 8	84.76	84.77	84.75	84.75
RTD # 9	RM ~~84.69~~ 85.34	85.32	85.32	85.34
RTD # 10	85.07	85.09	85.1	85.09
RTD # 11	84.77	84.78	84.77	84.78
RTD # 12	84.39	84.4	84.38	84.41
RTD # 13	84.57	84.58	84.6	84.56
RTD # 14	84.5	84.5	84.51	84.5
RTD # 15	84.93	84.93	84.92	84.92
RTD # 16	84.18	84.18	84.19	84.18
RTD # 17	84.23	84.24	84.22	84.24
RTD # 18	85.15	85.14	85.14	85.14
RTD # 19	84.73	84.73	84.72	84.73
RTD # 20	84.47	84.5	84.46	84.47
RTD # 21	RM			
RTD # 22				
RTD # 23				
RHD # 1	72.96	73.01	72.97	73.01
RHD # 2	67.94	67.92	67.98	67.99
RHD # 3	67.7	67.72	67.75	67.73
RHD # 4	70.39	70.39	70.39	70.39
RHD # 5	70.69	70.72	70.71	70.79
RHD # 6	72.06	71.99	72.06	72.1
RHD # 7				
RHD # 8				
Pressure # 1	85167	85166	85166	85165
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,
RHD - Relative Humidity Detector,
Pressure,

Terminal Operator Paul J. Bennett

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 62° HOUR NO. 37

BAROMETRIC PRESSURE 30.10 DATE 12/3/75

ROTAMETER FLOW — VERIFIED BY E. R. Knuckles

ILRT DATA SHEET				
TIME/SAMPLE NO.	0430 / 127/92	0445 / 128/93	0500 / 129/94	0515 / 130/95
RTD # 1	84.21	84.23	84.21	84.23
RTD # 2	84.65	84.65	84.65	84.65
RTD # 3	84.76	84.76	84.76	84.77
RTD # 4	DELETED	DELETED	DELETED	DELETED
RTD # 5	84.45	84.44	84.46	84.46
RTD # 6	84.75	84.77	84.77	84.77
RTD # 7	84.87	84.86	84.91	84.89
RTD # 8	84.77	84.75	84.75	84.74
RTD # 9	85.31	85.33	85.33	85.32
RTD # 10	85.07	85.07	85.08	85.07
RTD # 11	84.77	84.76	84.75	84.77
RTD # 12	84.4	84.39	84.39	84.38
RTD # 13	84.57	84.57	84.57	84.56
RTD # 14	84.5	84.49	84.47	84.50
RTD # 15	84.92	84.92	84.92	84.92
RTD # 16	84.18	84.17	84.18	84.17
RTD # 17	84.23	84.21	84.22	84.22
RTD # 18	85.14	85.14	85.14	85.14
RTD # 19	84.73	84.74	84.73	84.73
RTD # 20	84.46	84.47	84.46	84.46
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	73.0	73.04	73.04	73.05
RHD # 2	67.98	68.02	67.98	68.01
RHD # 3	67.75	67.75	67.76	67.78
RHD # 4	70.4	70.42	70.40	70.42
RHD # 5	70.77	70.75	70.73	70.76
RHD # 6	72.08	72.07	72.07	72.08
RHD # 7				
RHD # 8				
Pressure # 1	85164	85164	85164	85164
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,
RHD - Relative Humidity Detector,
Pressure,

Terminal Operator Paul J Baum

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 62°F HOUR NO. 38

BAROMETRIC PRESSURE 30.10 DATE 12/3/75

ROTAMETER FLOW — VERIFIED BY E. R. Knuebla

ILRT DATA SHEET

TIME/SAMPLE NO.	0530 / 131/96	0545 / 132/97	0600 / 133/98	0615 / 134/99
RTD # 1	84.27	84.21	84.21	84.23
RTD # 2	84.64	84.64	84.64	84.64
RTD # 3	84.76	84.75	84.75	84.76
RTD # 4	DELETED	DELETED	DELETED	DELETED
RTD # 5	84.46	84.47	84.46	84.45
RTD # 6	84.77	84.79	84.78	84.75
RTD # 7	84.86	84.9	84.92	84.87
RTD # 8	84.73	84.72	84.73	84.74
RTD # 9	85.31	85.33	85.31	85.29
RTD # 10	85.06	85.07	85.07	85.06
RTD # 11	84.77	84.76	84.75	84.76
RTD # 12	84.36	84.35	84.36	84.38
RTD # 13	84.55	84.57	84.57	84.56
RTD # 14	84.47	84.48	84.47	84.47
RTD # 15	84.91	84.92	84.92	84.91
RTD # 16	84.17	84.16	84.18	84.17
RTD # 17	84.23	84.21	84.2	84.21
RTD # 18	85.13	~~85.13~~ 85.13	85.13	85.13
RTD # 19	84.73	84.73	84.72	84.71
RTD # 20	84.45	84.44	84.44	84.43
RTD # 21	~~SREE~~			
RTD # 22				
RTD # 23				
RHD # 1	73.06	73.07	73.07	73.09
RHD # 2	68.00	67.95	68.03	68.04
RHD # 3	67.78	67.80	67.80	67.81
RHD # 4	70.43	70.44	70.45	70.46
RHD # 5	70.79	70.81	70.82	70.82
RHD # 6	72.13	72.09	72.11	72.13
RHD # 7				
RHD # 8				
Pressure # 1	85164	85163	85162	85162
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,
RHD - Relative Humidity Detector,
Pressure,

Terminal Operator E. R. Knuebla

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 60°F

BAROMETRIC PRESSURE 30.11

ROTAMETER FLOW —

HOUR NO. 39

DATE 12/3/75

VERIFIED BY E. R. Knuckles

ILRT DATA SHEET

TIME/SAMPLE NO.	0630 / 135/100	0645 / 136/101	0700 / 137/102	0715 / 138/103
RTD # 1	84.20	84.24	84.22	84.22
RTD # 2	84.65	84.64	84.64	84.65
RTD # 3	84.76	84.76	84.75	84.75
RTD # 4	DELETED	DELETED	DELETED	DELETED
RTD # 5	range 84.46	84.46	84.45	84.44
RTD # 6	84.78	84.77	84.78	84.75
RTD # 7	84.83	84.87	84.86	84.86
RTD # 8	84.74	84.72	84.73	84.71
RTD # 9	85.30	85.32	85.31	85.32
RTD # 10	85.05	85.05	85.05	85.06
RTD # 11	84.77	84.76	84.77	84.77
RTD # 12	84.36	84.37	84.38	84.35
RTD # 13	84.56	84.56	84.55	84.55
RTD # 14	84.46	84.48	84.47	84.46
RTD # 15	84.91	84.9	84.9	84.9
RTD # 16	84.17	84.17	84.16	84.17
RTD # 17	84.19	84.18	84.2	84.22
RTD # 18	85.12	85.12	85.12	85.12
RTD # 19	84.73	84.72	84.71	84.73
RTD # 20	84.44	84.42	84.43	84.43
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	73.10	73.11	73.12	73.12
RHD # 2	68.01	68.04	68.07	68.09
RHD # 3	67.82	67.85	67.85	67.85
RHD # 4	70.46	70.49	70.49	70.48
RHD # 5	70.85	70.85	70.83	70.83
RHD # 6	72.11	72.14	72.14	72.16
RHD # 7				
RHD # 8				
Pressure # 1	85162	85161	85161	85161
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector, _____

RHD - Relative Humidity Detector, _____

Pressure, _____

Terminal Operator E. R. Knuckles

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 60° HOUR NO. 40

BAROMETRIC PRESSURE 30.11 ↑ DATE 12/3/75

ROTAMETER FLOW — VERIFIED BY E R Knuckles

ILRT DATA SHEET				
TIME/SAMPLE NO.	0730 / 137/104	0745 / 140/105	0800 / 141/106	0815 / 142/107
RTD # 1	84.20	84.20	84.20	84.18
RTD # 2	84.63	84.63	84.62	84.63
RTD # 3	84.75	84.75	84.76	84.74
RTD # 4	DELETED	DELETED	DELETED	DELETED
RTD # 5	84.44	84.45	84.46	84.44
RTD # 6	84.78	84.78	84.77	84.72
RTD # 7	84.88	84.87	84.84	84.85
RTD # 8	84.72	84.72	84.72	84.71
RTD # 9	85.31	85.30	85.31	85.31
RTD # 10	85.06	85.06	85.05	85.05
RTD # 11	84.76	84.77	84.75	84.77
RTD # 12	84.39	84.35	84.32	84.35
RTD # 13	84.54	84.54	84.55	84.53
RTD # 14	84.48	84.48	84.46	84.47
RTD # 15	84.91	84.90	84.89	84.90
RTD # 16	84.17	84.17	84.15	84.15
RTD # 17	84.21	84.21	84.20	84.19
RTD # 18	85.13	85.13	85.12	85.11
RTD # 19	84.73	84.7	84.70	84.70
RTD # 20	84.45	84.44	84.41	84.44
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	73.14	73.15	73.18	73.16
RHD # 2	68.11	68.03	68.04	68.09
RHD # 3	67.85	67.99	67.90	67.89
RHD # 4	70.49	70.49	70.51	70.50
RHD # 5	70.96	70.86	70.93	70.99
RHD # 6	72.13	72.17	72.20	72.18
RHD # 7				
RHD # 8				
Pressure # 1	85160	95160	85160	85160
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,
RHD - Relative Humidity Detector,
Pressure,

Terminal Operator E. R. Knuckles

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 59°

HOUR NO. 41

BAROMETRIC PRESSURE 30.15" ↑

DATE 12/3/75

ROTAMETER FLOW —

VERIFIED BY Paul Bennett

ILRT DATA SHEET				
TIME/SAMPLE NO.	0830 / 1143/109	0845 / 1144/109	0900 / 1145/110	0915 / 1146/111
RTD # 1	84.17	84.19	84.19	
RTD # 2	84.62	84.61	84.61	
RTD # 3	84.73	84.73	84.72	
RTD # 4	DELETED	DELETED	DELETED	~~DELETED~~
RTD # 5	84.43	84.43	84.42	
RTD # 6	84.74	84.78	84.75	
RTD # 7	84.84	84.82	84.81	
RTD # 8	84.71	84.71	84.70	
RTD # 9	85.27	85.26	85.27	
RTD # 10	85.04	85.04	85.03	
RTD # 11	84.76	84.74	84.74	
RTD # 12	84.34	84.33	84.31	
RTD # 13	84.52	84.54	84.51	
RTD # 14	84.45	84.46	84.44	
RTD # 15	84.89	84.89	84.89	
RTD # 16	84.15	84.14	84.14	
RTD # 17	84.21	84.19	84.18	
RTD # 18	85.11	85.10	85.11	
RTD # 19	84.71	84.70	84.71	
RTD # 20	84.43	84.44	84.43	
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	73.14	73.18	73.21	
RHD # 2	68.14	68.10	68.1	
RHD # 3	67.89	67.91	67.92	
RHD # 4	70.55	70.55	70.56	
RHD # 5	70.90	70.90	70.93	
RHD # 6	72.17	72.18	72.21	
RHD # 7				
RHD # 8				
Pressure # 1	85158	85157	85155	
Pressure # 2	—	—	—	—

RTD - Resistance Temperature Detector,_____
RHD - Relative Humidity Detector,_____
Pressure,_____

Terminal Operator Paul Bennett

CLRT

PAGE 1
11-1-75

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

Official End of ILRT @ 0900 PITR

AMBIENT TEMPERATURE 59°

HOUR NO. 1

BAROMETRIC PRESSURE 30.15" ↓

DATE 12/3/75

ROTAMETER FLOW 3,4 S.C.F.M.

VERIFIED BY R L Merrill

0915 official start CLRT PITR

ILRT DATA SHEET

TIME/SAMPLE NO.	0900 / 1	0915 / 2	0930 / 3	0945 / 4
RTD # 1	84.19	84.15	84.18	84.16
RTD # 2	84.61	84.62	84.60	84.59
RTD # 3	84.72	84.72	84.72	84.72
RTD # 4	DELETE	DELETE	DELETE	DELETE
RTD # 5	84.42	84.39	84.42	84.42
RTD # 6	84.75	84.71	84.73	84.71
RTD # 7	84.81	84.80	84.81	84.79
RTD # 8	84.70	84.71	84.70	84.71
RTD # 9	85.27	85.27	85.27	85.26
RTD # 10	85.03	85.03	85.03	85.02
RTD # 11	84.74	84.75	84.75	84.76
RTD # 12	84.31	84.34	84.32	84.30
RTD # 13	84.51	84.52	84.53	84.52
RTD # 14	84.44	84.43	84.44	84.43
RTD # 15	84.89	84.89	84.89	84.88
RTD # 16	84.14	84.15	84.14	84.15
RTD # 17	84.18	84.18	84.19	84.17
RTD # 18	85.11	85.11	85.10	85.11
RTD # 19	84.71	84.72	84.71	84.70
RTD # 20	84.43	84.43	84.43	84.42
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	73.21	73.22	73.23	73.26
RHD # 2	68.10	68.15	68.16	68.10
RHD # 3	67.92	67.94	67.94	67.96
RHD # 4	70.56	70.56	70.58	70.59
RHD # 5	70.93	70.96	70.95	70.96
RHD # 6	72.21	72.24	72.24	72.27
RHD # 7				
RHD # 8				
Pressure # 1	85155	85155	85154	85152
Pressure # 2				

RTD - Resistance Temperature Detector,

RHD - Relative Humidity Detector,

Pressure,

Terminal Operator E R Kundalee

ILRT

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 59° HOUR NO. 2

BAROMETRIC PRESSURE 30.15" ↑ DATE 12/3/75

ROTAMETER FLOW 3.4 S.C.F.M. VERIFIED BY E. R. Knuebble

ILRT DATA SHEET				
TIME/SAMPLE NO.	1000 / 5	1015 / 6	1030 / 7	1045 / 8
RTD # 1	84.16	84.16	84.18	84.17
RTD # 2	84.58	84.59	84.6	84.61
RTD # 3	84.71	84.71	84.71	84.72
RTD # 4	DELETED	DELETED	DELETED	DELETED
RTD # 5	84.42	84.41	84.41	84.41
RTD # 6	84.75	84.74	84.72	84.81
RTD # 7	84.79	84.82	84.79	84.8
RTD # 8	84.72	84.71	84.69	84.69
RTD # 9	85.25	85.26	85.28	85.26
RTD # 10	85.02	85.02	85.01	85.01
RTD # 11	84.77	84.75	84.76	84.78
RTD # 12	84.32	84.32	84.33	84.34
RTD # 13	84.53	84.52	84.52	84.5
RTD # 14	84.46	84.43	84.46	84.46
RTD # 15	84.88	84.87	84.88	84.88
RTD # 16	84.14	84.14	84.13	84.14
RTD # 17	84.18	84.16	84.19	84.19
RTD # 18	85.09	85.1	85.1	85.11
RTD # 19	84.70	84.69	84.7	84.72
RTD # 20	84.43	84.44	84.47	84.46
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	73.28	73.32	73.28	73.29
RHD # 2	68.21	68.18	68.19	68.24
RHD # 3	67.97	68.01	67.98	67.99
RHD # 4	70.64	70.65	70.63	70.64
RHD # 5	70.99	RM 70. 71.01	71.01	71.01
RHD # 6	72.22	72.31	72.28	72.27
RHD # 7				
RHD # 8				
Pressure # 1	85151	85150	85149	85148
Pressure # 2	—			

RTD - Resistance Temperature Detector,_____
RHD - Relative Humidity Detector,_____
Pressure,_____

Terminal Operator Paul J. Bruno

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 69° HOUR NO. 3

BAROMETRIC PRESSURE 30.17 ↑ DATE 12-3-75

ROTAMETER FLOW 3.4 SCFM VERIFIED BY E. R. Knuckles

ILRT DATA SHEET

TIME/SAMPLE NO.	1100 / 9	1115 / 10	1130 / 11	1145 / 12
RTD # 1	84.17	84.18	84.17	84.17
RTD # 2	84.59	84.59	84.58	84.57
RTD # 3	84.72	84.72	84.72	84.72
RTD # 4	DELETED	DELETED	DELETED	DELETED
RTD # 5	84.4	84.41	84.42	84.42
RTD # 6	84.71	84.78	84.74	84.75
RTD # 7	84.8	84.82	84.78	84.8
RTD # 8	84.7	84.7	84.69	84.71
RTD # 9	85.28	85.28	85.28	85.26
RTD # 10	85.03	85.02	85.03	85.04
RTD # 11	84.77	84.77	84.78	84.78
RTD # 12	84.34	84.34	84.34	84.35
RTD # 13	84.51	84.51	84.53	84.54
RTD # 14	84.46	84.46	84.46	84.48
RTD # 15	84.88	84.88	84.88	84.89
RTD # 16	84.14	84.14	84.15	84.15
RTD # 17	84.14	84.19	84.19	84.18
RTD # 18	85.1	85.11	85.1	85.11
RTD # 19	84.68	84.70	84.73	84.7
RTD # 20	84.44	84.49	84.49	84.48
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	73.33	73.34	73.34	73.39
RHD # 2	68.14	68.26	68.16	68.27
RHD # 3	68.00	68.03	68.05	68.06
RHD # 4	70.67	70.65	70.68	70.68
RHD # 5	~~73~~ 71.01	71.07	71.02	71.05
RHD # 6	72.3	72.28	72.3	72.31
RHD # 7				
RHD # 8				
Pressure # 1	85147	85147	85146	85145
Pressure # 2				

RTD - Resistance Temperature Detector,_____

RHD - Relative Humidity Detector,_____

Pressure,_____

Terminal Operator Paul J. Baum

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 76 HOUR NO. 4

BAROMETRIC PRESSURE 30.15 DATE Dec-3, 75

ROTAMETER FLOW 3.4 SCFM VERIFIED BY Paul Bennett

ILRT DATA SHEET

TIME/SAMPLE NO.	1200/13	1215/14	1230/15	1245/16
RTD # 1	84.17	84.18	84.17	84.18
RTD # 2	84.61	84.62	84.60	84.61
RTD # 3	84.72	84.71	84.72	84.72
RTD # 4	Deleted	Deleted	Deleted	Deleted
RTD # 5	84.43	~~84.73~~ 84.43	84.44	84.42
RTD # 6	84.79	84.79	84.76	84.70
RTD # 7	84.80	84.8	84.80	84.82
RTD # 8	84.69	84.72	84.71	84.72
RTD # 9	85.26	85.27	85.29	85.25
RTD # 10	85.06	85.05	85.04	8504
RTD # 11	84.77	84.76	84.78	84.78
RTD # 12	84.36	84.34	84.33	84.33
RTD # 13	84.53	84.52	84.55	84.55
RTD # 14	84.47	84.47	84.48	84.49
RTD # 15	84.88	84.88	84.89	84.89
RTD # 16	84.15	84.15	84.16	84.16
RTD # 17	84.21	84.21	84.21	84.20
RTD # 18	85.11	85.10	85.11	85.12
RTD # 19	84.71	84.71	84.72	84.70
RTD # 20	84.52	84.51	84.53	84.57
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	73.37	73.40	73.41	73.41
RHD # 2	68.28	68.33	68.27	68.35
RHD # 3	68.08	68.09	68.10	68.12
RHD # 4	70.72	70.73	70.68	70.70
RHD # 5	71.09	71.11	71.08	71.12
RHD # 6	72.34	72.3	72.33	72.34
RHD # 7				
RHD # 8				
Pressure # 1	85145	85145	85144	85143
~~Pressure # 2~~ Rotameter Flow	3.4 SCFM	3.4 SCFM	3.4 SCFM	3.4 SCFM

RTD - Resistance Temperature Detector,_____
RHD - Relative Humidity Detector,_____
Pressure,_____

Terminal Operator

OPERATING PROCEDURE 13100.1
INTEGRATED LEAK RATE TEST

APPENDIX D

AMBIENT TEMPERATURE 76 HOUR NO. 5

BAROMETRIC PRESSURE 30.15 DATE Dec 3 1975

ROTAMETER FLOW 3.45 CFM VERIFIED BY Paul Bennett

Test completed @ 1345 PHB

ILRT DATA SHEET

TIME/SAMPLE NO.	1300 / 17	1315 / 18	1330 / 19	1345 / 20
RTD # 1	84.2	84.18	8421	84.20
RTD # 2	84.60	84.62	84.61	84.63
RTD # 3	84.73	84.72	84.74	84.73
RTD # 4	Deleted	Deleted	Deleted	Deleted
RTD # 5	84.43	84.45	84.44	84.46
RTD # 6	84.80	84.74	84.77	84.83
RTD # 7	84.81	84.83	84.80	84.81
RTD # 8	84.71	84.72	84.72	84.72
RTD # 9	85.29	85.29	85.07	85.29
RTD # 10	85.05	85.05	85.06	85.05
RTD # 11	84.78	84.79	84.80	84.79
RTD # 12	84.36	84.36	84.35	84.36
RTD # 13	84.54	84.54	84.57	84.57
RTD # 14	84.50	84.50	84.49	84.51
RTD # 15	84.89	84.89	84.89	84.90
RTD # 16	84.17	84.17	84.16	84.14
RTD # 17	84.22	84.21	84.22	84.23
RTD # 18	84.85.13	85.13	85.11	85.13
RTD # 19	84.73	84.74	84.72	84.73
RTD # 20	84.53	84.54	84.56	84.55
RTD # 21				
RTD # 22				
RTD # 23				
RHD # 1	73.41	73.42	7340	7346
RHD # 2	68.33	68.32	68.31	68.34
RHD # 3	68.10	68.12	68.12	68.15
RHD # 4	70.71	70.71	70.72	70.74
RHD # 5	71.12	71.14	71.14	71.16
RHD # 6	72.35	72.32	72.38	72.37
RHD # 7				
RHD # 8				
Pressure # 1	85142	85142	85141	75141
~~Pressure #~~ 2 Rotameter Flow	3.4 SCFM	3.4 SCFM	3.4 SCFM	3.4 SCFM

RTD - Resistance Temperature Detector,

RHD - Relative Humidity Detector,

Pressure,

Terminal Operator

2.
Test Log

Turkey Point - Unit No. 3 — 11-27-75
Integrated Leak Rate Test
Florida Power & Light Co.

Test Log

0945 — Instrument check-out continued with PCV injection made at 0945. Dog and fire extinguishers being removed as well as general cleanup and water removal. Final inspection will occur prior to LLRT pressurization scheduled for approximately 2000 today. Exited RV at 1130.

1130 — Exited containment, preliminary inspection completed. JPJ

1145 — Commenced valve lineup verification.

1423 — Commenced Local Leak Rate Test (LLRT) of Fuel Transfer Tube Flange.

1435 — Commenced LLRT of Equipment Access Hatch

1523 — Completed LLRT of Fuel Transfer Tube Flange. Results satisfactory 78.9 cc/min.

1535 — Completed LLRT of the Equipment Access Hatch results satisfactory. Zero leakage.

1630 — Compressor warmup commenced with blow to atmosphere

1740 — Commenced final inspection of containment

1815 — CONTAINMENT INSPECTION ABORTED, BLOWERS NOT YET IN PLACE, WATER REMAINING ON ON FLOOR @ ELEV. +14. WILL RE-ENTER FOR INSPECTION AFTER ITEMS NOTED ARE CLEANED UP.

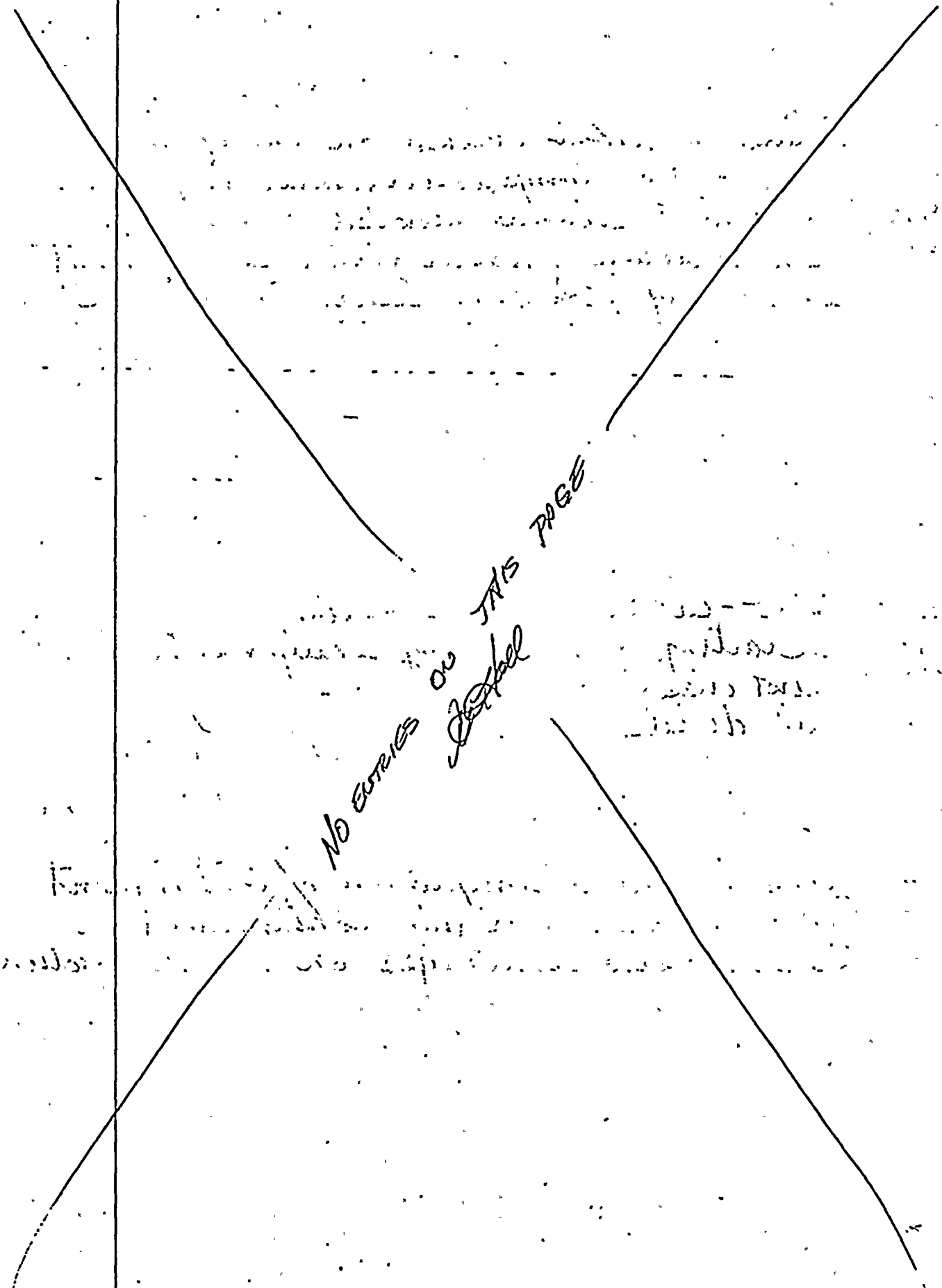
No entries on this page

1830 Found 3" elbow cracked on one of the 1050 SCFM compressors, repair in progress.
1915 Replaced 3" elbow restarted compressor.
1950 Shut down pressurization equipment because of problems with "Dew-cells"
2100 I & C commenced trouble shooting Dewcell problems.

Fri. Nov. 28, 1975

1810 Dew-cell problems resolved.
1815 Starting pressurizing equipment.
1830 First diesel started
1840 all diesels started
1930 all diesels supplying air to header.
2020 Commenced final inspection of containment
2025 Chiller driers secured
2141 Completed final inspection of Containment
2150 Commenced pressurizing Containment
2141 Verified valve line-ups on final inspection and verified containment was ready for pressurizing per OP 1312.1
2220 Commenced refueling diesels
2250 Containment pressure @ 18PSIA
2300 Air and moisture samples taken on Pressurization header down stream of filter - no evidence of oil or

cont.


NO ENTRIES ON THIS PAGE

Fri. Nov. 28, 1975

moisture.

2315 Increased flow to Containment. Compressor discharge pressure 60 PSI. Containment inlet pressure 55 PSI, upstream of throttle valve

Late entry
2300 Lost dew-cell (RHD) located at position 4, elevation 36. Ser. No. 10801H

2330 Sampled containment air supply for moisture, oil and debris. None present.
C. W. Mathaway Jr.

2350 Containment pressure @ 21.8 PSIA

2400 (Late entry) T.E. WATCH RECEIVED BY H.B. TRICKHAM

Sat. 29 Nov. 1975

ϕ ϕ ϕ ϕ Continued the log

ϕ ϕ 3 ϕ CONTINUED PRESSURIZATION OF CONTAINMENT — PRESSURE 24.4 P.S.I.A.

ϕ ϕ 45 INSPECTION TEAM SENT TO VALVE & PIPING ROOM IN AUX. BLDG. TO CHECK FOR LEAKS IN SYSTEM.

ϕ K ϕ ϕ PRESENT PRESSURE — 26.5 PSIA
MAX. PERMISSIBLE RATE P.S.I. PER HR. IS 6 P.S.I.A.

SAT. NOV. 29, 1975

0008 SAMPLE READINGS TAKEN THP, INPUT READINGS TO COMPUTER.

0130 PRESENT PRESSURE - 28.2 P.S.IA.

0200 PRESSURE READING - 30.2 P.S.I.A.
TC-38, TC-10, TC-111, TC-252, TC-121, TC-54 ALL SLIGHT LEAK - REPORT FROM INSPECTION TEAM IN VALVE & PIPING ROOM.

0230 PRESSURE READING - 32.15 P.S.I.A.

0300 PRESSURE READING - 34.2 PSIA.
SENT OUT LEAK INSPECTION TEAM UNDER E.R. KNUCKLES

0330 PRESSURE READING - 36.05 PSIA

0400 PRESSURE READING - 38.0 PSIA
LEAK INSPECTION TEAM RETURNS -
TC-121, TC-54, ~~TC-52~~ HBT TC-52, TC-44, TC-81, TC-10, TC-114, TC-41, HV-3-6, CCW-716B, 730C, TC-40, TC-111, TC-80; ALL LEAK, BUT NOT A MAJOR LEAK. 'B' S/G BLOWDOWN

0440 cont'	MAIN. ISO. VALVE HAS PACKING LEAK.
0430	PRESSURE READING - 39.9 PSIA
0445	Leak inspection revealed TC-4, TC-49 & possibly Charging line bypass valve 333 leaking.
0455	Secured pressurizing containment #3 Containment pressure is 41.47 psia.
0457	All air compressers secured
0502	Leak inspection team departed
0515	STARTED TAKING PRECIM'Y DATA.
0538	Leak inspection team returned; NO NCW leaks reported.
0610	RHD #3 deleted from I.L.R.T. program

0630	REMOVED ROPE/SIGNS ILRT EXCLUSION AREAS
0800	AS OF 0615 RHD #~~4~~ HBT 7 WILL BE DELETED FROM COMPUTER PROGRAM, ITS LAST <100% READING
0807	RHD #8 WILL BACK-UP RHD #~~4~~ HBT 7 ON S/G
1030	NOTIFIED OF WELD LEAK ON RHR PUMPS. LOOKING INTO PROBLEM, IT MAY AFFECT ILRT LEAK RATE. CONTINUED FIELD SURVEY FOR LEAKS -
1035	Backed up data on computer to re-start with original sample 12
1110	Backed up RHD #1 with RHD #6

1145 LEAKING WELD @ 761 D (RHR)

1155 T. E. WATCH RELIEVED.

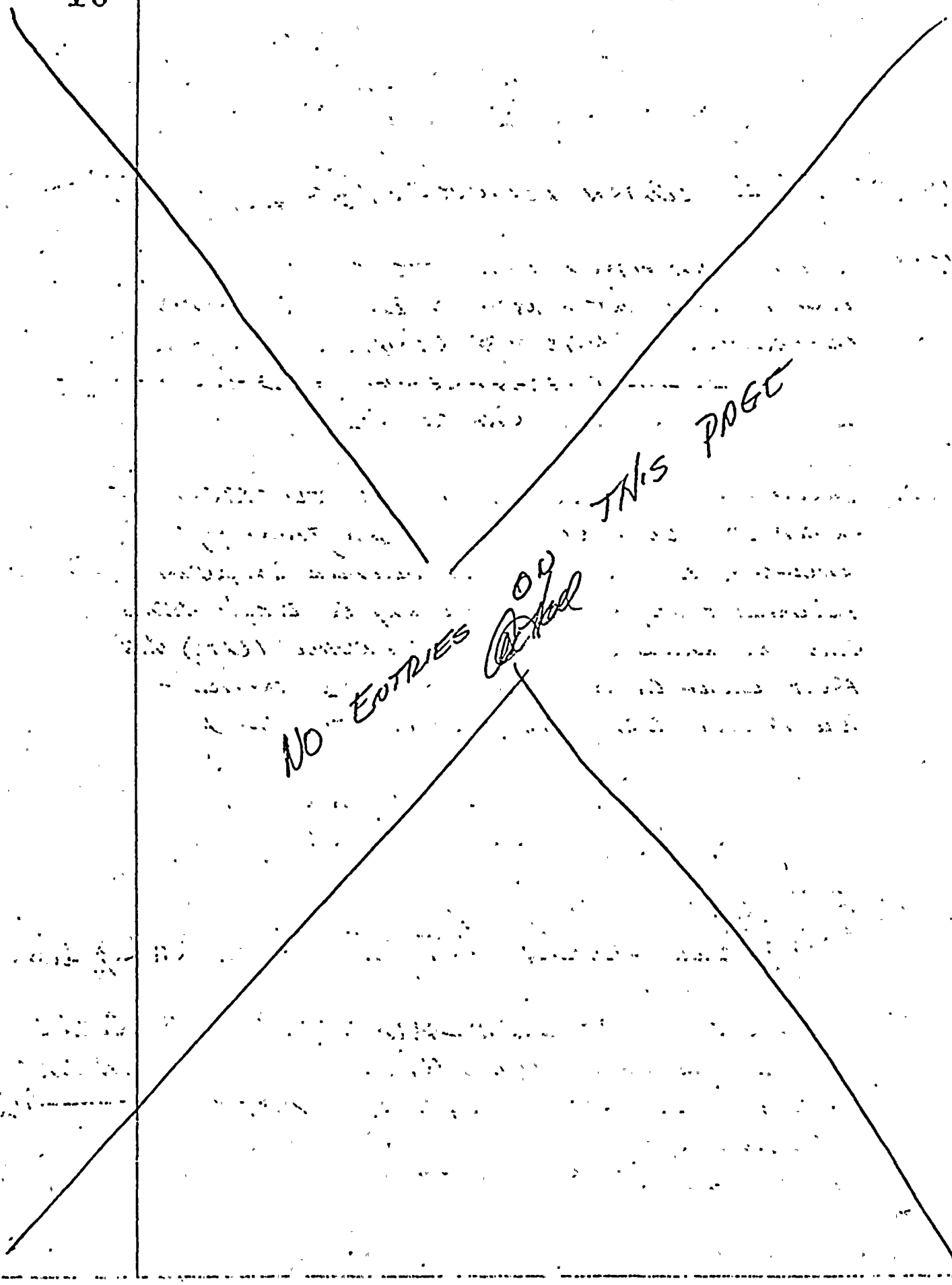
1200 DIRECTED EVEN REPRESENTATIVES TO STAY AT RAMADA INN UNTIL NOTIFIED BY HALL, THICKMAN, OR ZAGURSKY. INSPECTED COMPRESSION SERVICE PACKAGE – SATISFACTORY. COMPRESSOR DIESELS AT 1/2 TO 3/4 FUEL CHARGE.

1327 DIRECTED ATLAS-COPCO REPRESENTATIVE TO STAY AT RAMADA INN UNTIL NOTIFIED BY HALL, THICKMAN, OR ZAGURSKY. REP. INDICATED AN UNLOADER DIAPHRAM REPLACEMENT ON ONE MACHINE MAY BE REQ. – 45 MIN JOB – NO MAJOR DIFFICULTY. #7 MACHINE (CAT.) HAS FRONT ENGINE OIL SEAL LEAK – NO MAJOR PROBLEM – WILL REQUIRE OCCASIONAL OIL TOP OFF.

1508 Isolated 3/4" RHR drain line, commencing point to point leak rate for 1 hr.

1515 Commence leak test to check RHR 3/4" line.

1600 Located two significant air leaks on high pressure drain leaders 3A and 3B. Isolated by operations. ~~(RHR system)~~ 3/4" steam line drains. This indicates a leak into the steam side of ~~EUOT~~ the secondary system.


NO ENTRIES ON THIS PAGE

1615 No significant change in leak rate after isolation of 3A & 3B high pressure drain headers, or 3/4" RHR drain line.

1845 Last leak rate taken, aborted ILRT
P.H. Bennett

1900 DATA LOGGERS HESS & PRICE SENT HOME.

1939 UNIT #3 CONT. PRESSURE 39.93 PSIA BY INSTALLED PENNWALT GAUGE.

2026 air sample taken in ~~per~~ preperation of blowdown.

2145 Inspected fuel transfer canal in spent fuel pit after operations added ~ two feet of water. No apparent leaks.

2212 After depressurization suggest very strongly that the tube sheet drain stops on all three generators be checked for position, further suggest that the steam generator vents be checked. If these valves are shut suggest checking the manway and hand hole covers. C.W.H.

Sunday 30 Nov. 1975

0000 Continued the log; Unit #3 containment pressurized to 39.13 psia. ILRT has been aborted; prepairing to blow down containment

LOTC/COTP/ 2355 - 11/29/75 - Activity sample of containment atmosphere shows no gaseous or particulate (from Bruce Fender via telephone) [signature]

0028 38.82 PSIA - start #3 CONT'T BLOWDOWN - @ ≈ 4 PSIA/HR

0100 PRESSURE READING - 37.55 PSIA

0130 PRESSURE READING - 36.05 PSIA

0145 Pressure reading - 35.31 PSIA

0200 Press. reading - 34.61 psia

0230 PRESSURE READING - 33.0 PSIA

0300 PRESSURE READING - 31.4 PSIA

SUNDAY 30 NOV 1975

0330	PRESSURE READING - 29.72 PSIA
0400	PRESSURE READING — 28.05 PSIA
0430	PRESSURE READING - 26.35 PSIA
0500	Press Reading -24.78 PSIA
0530	Press Reading 23.11
0600	PRESS. READING 21.65
0630	PRESS READINGS 20.21
0700	PRESS READING 19.15
0730	PRESS READING 18.17
0800	PRESS READING 17.20
0815	H.P (J. IVES) SAID CONTAINMENT AIR IS OK FOR ENTRY.
0830	PRESS. READING 16.15 PSIA LEAK INSPECTION TEAM SENT INTO CONTAINMENT.

SUNDAY 30 NOV 75

0900 PRESS. READING - 15.95 P.S.I.A.

0920 CONTACTED ATLAS COPCO & ZURN REPRESENTATIVES AND THEY'RE ON THEIR WAY.

0930 PRESS. READING - 15.50 P.S.I.A.

1000 PRESS. READING - 15.3 P.S.I.A.

1030 PRESS. READING - 14.8 P.S.I.A., inspection teams entered the containment.

1100 PRESS. READING - 14.8 P.S.I.A.

1105 BLOWDOWN VALVE SHUT BY A. HALL.

1115 RECEIVED DISCREPANCY REPORT FROM CONTAINMENT LEAK INSPECTION TEAM

DISCREPACIES!

PENETRATION - 14

TC-12 SHUT, SHOULD BE OPEN, BUT IS FULL OF WATER.

PENETRATION - 15

TC-14 SHUT, SHOULD BE OPEN, BUT IS FULL OF WATER. (Exception to procedure; refer to OTSC #60 B/J)

PENETRATION-8

CV-951 POSSIBLY NOT FULLY CLOSED.
(Further inspection indicated that the valve is properly closed. B/J)

SUNDAY 30 NOV 75

PENETRATION -12
TC-66 LEAKING
PENETRATION – 1
TC- TAGS HANGING ON STEM LEAKOFF VLVS. WHICH WERE SHUT
RE-HUNG TC-100 TAG ON CORRECT VLV.
OPENED STEM LEAKOFF VLVS.
FOUND NO TC-1 TAG. (TC-1 closed on ps procedure) BPZ
FOUND TC-66 & TC-68 LEAKING
PENTRATION - 25-33 NEED TO BE CHECKED FOR VLV. LINE-UP.

1130 PRESS. READING – 14.75 P.S.I.A.
1200 Press. Reading 14.8 P.S.I.A. T.E WATCH RELIEVED
Lake Entry 12 midnite to 12 noon shift left.
R. Price, L Hess, P. Bennett on shift.
1300 Press Reading 14.82 P.S.I.A.
1500 Checked penetrations 25⇒33; line up Stm. Opened and drained TC-12.
1450 Cont. #3 Pressure - 14.90 PSIA

Late Entry: 1500 - FOUND FT-474 ON STM LINE FROM "A" STM. GEN. REMOVED AND ALL REMOTED VALVES OPEN. THESE VALVES WERE SHUT (LOCAL ISOL. & ROOT STOP) STM LINE HIGH POINT VENT ON "C" STM. GEN. WAS FOUND OPEN AND WITH AN EMPTY PACKING GLAND. VALVE WAS SHUT AND GLAND REPACKED. Found the "C" Stm Generator level indicator with all vents open to the containment

No Entries on this page

INTEGRITY: 1500 (COOT.) "A", "B", & "C" STM GEN BLOWDOWN MAN. ISOL. VALVES INSIDE CONT. WERE BACKSEATED TO INSURE MIN. LEAKAGE INTO SYSTEM. THE RADIAL ARRAYS OF PRESSURE TAPS ROOT STOPS ON "A", "B", & "C" GENERATORS WERE ALL SHUT. ALL STEAM LINE FT. ROOT STOPS. SHUT, ALL STEAM LINE HIGH POINT VENTS SHUT. TUBE SHEET DRAINS WERE FOUND SHUT AND CHECKED. MAINT. WILL INSURE ALL REMAIN WATER IS REMOVED WHERE PRACTICAL, AND DRAIN TROUGHS ARE CLEAR

1800 · Waiting on resolution of Dew cell problem.

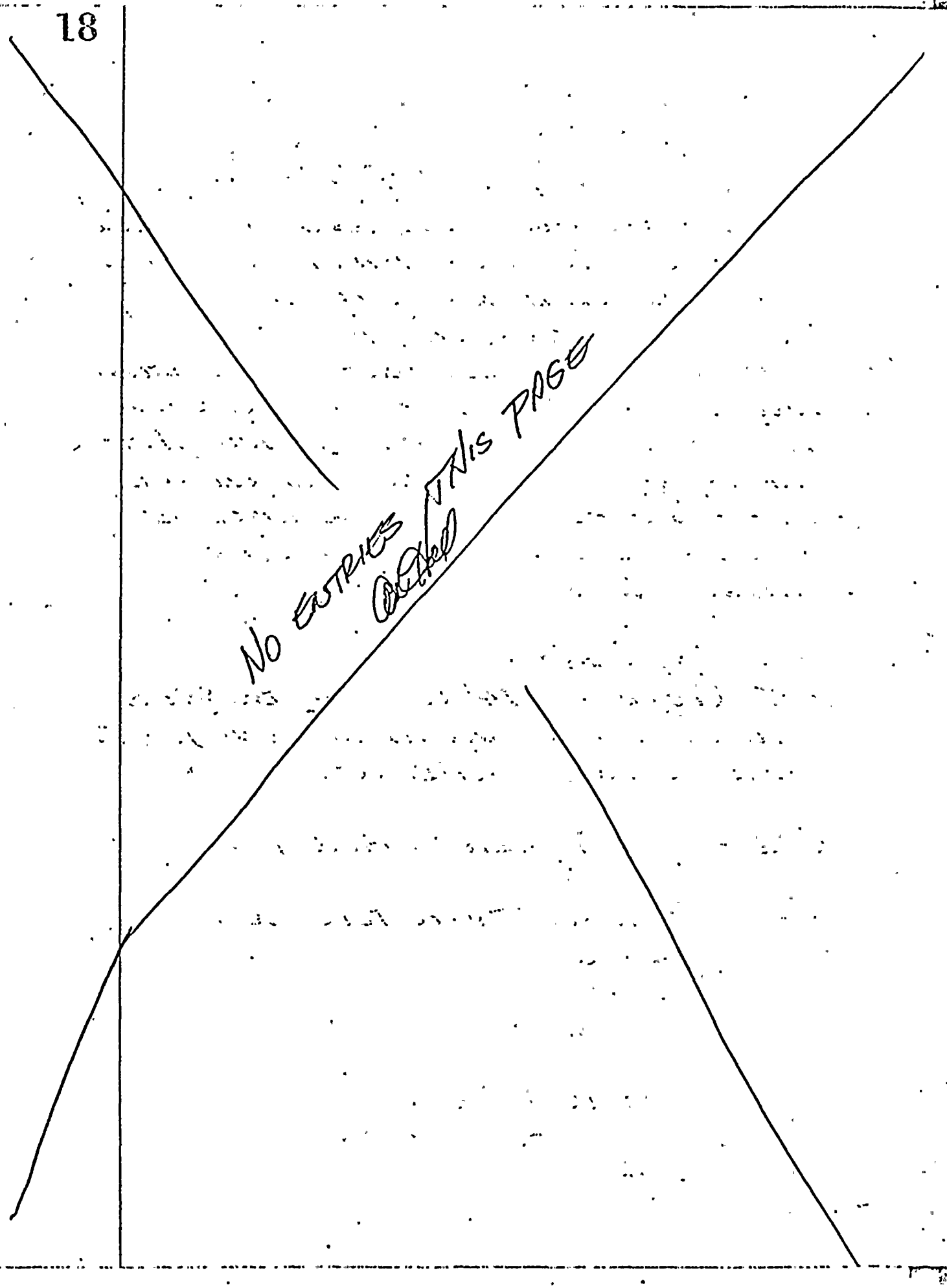
1815 CONTAINMENT 14' EL. INSIDE BIO SHIELD CLEANED, DRIED. SUMP PUMPED DOWN. I & C STILL INSTALLING RTD UNITS.

1845 - CONT. PRESSURE 14.90 PSIA

1848 - COMPRESSOR DIESEL FUEL VERIFIED AS TOPPED OFF

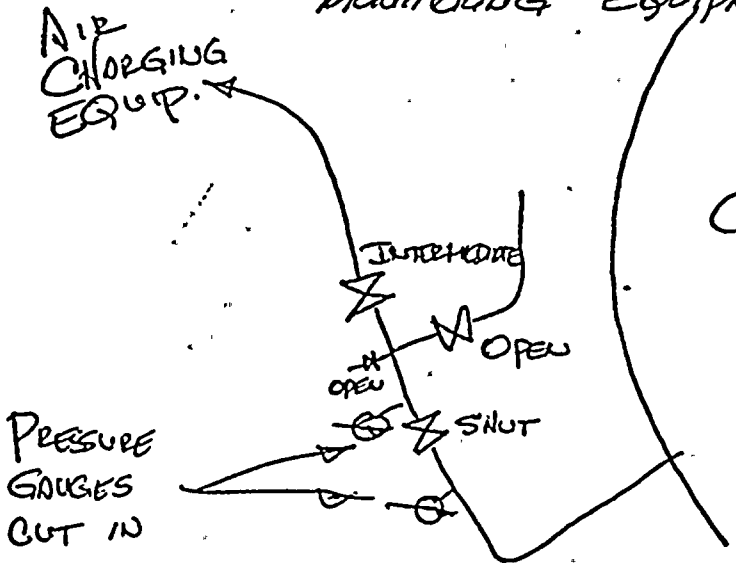
1945 14.95 PSIA CONTAINMENT PRESSURE.

2105 14.95 PSIA CONTAINMENT PRESSURE. ALL BARRICADES ARE POSTED EXCEPT AT COMPRESSION SERVICE AREA.


No entries on this page

LATE ENTRY 2015 – CONTAINMENT INSPECTION BY C.M. NOTTAWAY & A.T. HALL. SAT. @ COMMENTS: DUSTY; RND INSTALLATION APPROX. 2/3 COMPLETE. 14' ELEVATION RND'S ALL IN & CONNECTED. 30' ELEVATION RND'S 2 OUT OF 3 INSTALLED & CONNECTED. ~~C.M. Hall~~. COPPUS BLOWERS SATISF. FLOOR DRY. Valve #460 at the RHX showed some leakage at the packing gland. The water is contained in a plastic bag and is confined to a small area. C.M. Nottaway Jr.

2110 – COMPLETED INSPECTION OF CONTAINMENT AIR INLET/BLOWDOWN STATION AND COMPRESSION SERVICE AREAS. SAT. VALVES ALIGNED AS SHOWN. BLOWDOWN MONITORING EQUIPMENT SECURED.



NO ENTRIES
ON THIS PAGE

2120 – CONTACTED ATLAS-COPCO & ZURN TECH REPS. @ RAMADA INN. ALL IN NOT STANDBY.
GENE SNYDER - ATLAS COPCO - RM - 125
GEORGE DICKEY } - ZURN - RM - 158
LOUIS NEWELL }
RAMADA INN - 245-1260

2245 - SENT BOB PRICE HOME TO GET SOME REST / APPEARS TO HAVE SEVERE COLD.

2324 - LAST RHD CONNECTED IN CONT.

2340 - BILL ROMAN CALLED IN FOR STATUS REPORT. SATISFACTORY. HE INSTRUCTED THAT HE AND/OR PAUL SHOULD BE CALLED IF ANY QUESTION, REQUIRING THEIR HELP, OCCURS.

2400 - T.E. WATCH RECEIVED BY H.B. TRICKLAND ALL CONDITIONS SAT, ALL EQUIP. READY EXCEPT RND's AT 2400. WATCH RELIEF LIST DISCUSSED @ HBT.

NO ENTRIES THIS PAGE

0000 MONDAY DEC 1, 1975
CONTINUED ILRT WATCH, ALL EQUIPMENT SHUT DOWN & TAPPED OFF. I&C WORKING ON RHD PROBLEM. CONTAINMENT @ ATMOSPHERIC PRESSURE. H.B. THICKMAN, E.R. KNUCKLES, P. BAUM, B. MERRILL, T. STEPIEN, G COULSON - 12MN/12N

0645 NOTIFIED BY J.P. MENETIA THAT RHD'S ARE READY TO GO, EXCEPT FOR (1) SPARE ON S/G'S - . NOTIFIED ~~GE~~ HBT GPZ

0720 STARTED PREPS TO RESTART ILRT. WATCHES SET: DIESEL STA. MANNED. REPS CALLED OUT. CONTAINMENT INSPECTION STARTED (HBT/ERK).

0810 CONTAINMENT INSPECTION COMPLETE & SATISFACTORY.

0855 TECH REPS ON SITE, ALL AIR COMPRESSORS STARTED, CHILLER/DRYER IN SERVICE

0851 ~~COMMENCE #3 ILRT.~~ HBT RECHECK OF VALVE POSITIONS STARTED. CHECK OF ILRT EXCLUSION AREA.

NO ENTRIES
THIS PAGE

0923 COMMENCED FILLING #3 CONTAINMENT WITH AIR TO 25 PSIG

0930 PSIA - 15.25, STARTED checking AIR PURITY (every hour intervals)

1000 PSIA - 17.72

1100 PSIA - 21.72

1110 VALVE INSPECTION TEAM RETURNS. ALL ILRT BARRACADES IN PLACE.

1150 RELIEVED BY NOON to MID NITE SHIFT.

TEST PERSONNEL: 1200 TO 2400 SHIFT; 4PSIA/HR COMP RATE.

N.T. NOLL - T.E.
C.M. NATHAWAY, JR2 - F.E.
D.N. BENNETT - D.L.
L.G. NESS - D.L.
R.D. PRICE - D.L. } CALLED IN SICK.
A.G. Abbott - D.L.

1200 READINGS COMPLETE. 25.95 PSIA CONT. PRESSURE

1230 COMPLETED COMPRESSION SERVICE INSPECTION AND 3 VLV. STATION. ALL SAT. 1¼ TURNS OPEN ADDITIONAL ON AFT. COOLER CW DISCH. INCOMING AIR DEWPOINT ~ 45°F.

NO ENTRIES ON THIS PAGE

1250 - PLANT MGR. INSPECTED TEST CENTER

1300 INLET AIR STILL free of excess oil and moisture. Checked hourly by T.O.

1400 Containment Press. 33.80 PSIG

1500 Containment Press. . 37.40

1550 Air inlet to containment is ~~44°~~ 72°F

1620 Secured pressurization to PCV @ FC550 by TI-1R which corresponds to ~ 42.55 psia. Pressurization station secured.

1630 First Leak Rate Data Taken - 86.255 psi

1700 THREE VALVE MANIFOLD SECURED, ALL GLANDS TORQUED AND CHECKED NO DETECTABLE LEAKS.

1710 ATLAS COPCO & TURN REPS. SENT OFF SITE TO RAMADA INN AND INSTRUCTED TO STANDBY UNTIL OTHERWISE NOTIFIED.

1800 COMMENCED INTENSIVE LEAK SEARCH & DATA ACQUISITION, No new leaks found.

1900 CONTINUED LEAK SEARCH & DATA ACQUISITION.

No entries on this page

2000 CONTINUED LEAK SEARCH & DATA ACQ.
Tightened packing leaks when discovered.

2100 CONTINUED LEAK SEARCH & DATA ACQ.
CORRECTED LKS. ON 3 KV. MANIF.; NO EFFECT ON LEAK RATE.

2200 CONTINUED LEAK SEARCH & DATA ACQ.

2300 CONTINUED LEAK SEARCH & DATA ACQ.

2400 ~~I.L.R.T~~ WATCH SECTION RELIEVED.
T.E.-N.B. THURMAN
F.E. G. COULSON
E.R. KNUCKLES
B. MERRILL
P. BAUM

Dec 2, 1975

0001 CONTINUED LEAK SEARCH & DATA ACQ

0145 FOUND LEAKS IN LINES TO I.L.R.T PANEL IN CABLE SPREAD. ROOM. TIGHTENED FITTINGS AND REMOVED LEAKS. COMPUTED LEAK RATE DROPPED SLIGHTLY.

0245 FOUND LEAKS IN SENSING LINE ISOLATION VALVES TO ILRT PRESS SENSOR

No entries on this page
ERKnuckle

Dec 2, 1975

	SYS 3 & 5 PHB
ϕ33ϕ	Lost ~~all computer systems~~
ϕ345	Regained computer systems 3 & 5
ϕ425	Tightened union nut on piping to instrumentation in ILRT panel. This leak did effect leak rate.
0505	Sent out survey teams to verify valve line up.
1145	RECEIVED BY 12N to 12M SHIFT T.E. - A.T. Nail. E.E. - CM Hathaway D.L. - P.A. Bennett D.L. - L. Ness D.L. - A. O'Clair & A.G. Abbott
1200	Zurn & Atlas Copco Reps still in Not Stby.
1350	Leak survey team entered emergency air lock inorder to snoop the inner door. The air lock gage indicates ≈~~0~~ 2 psig inside the lock.
1415	Packing gland on equalizing valve to containment leaking. Packing gland tightened. No effect on leak rate, will check periodically.
1500	Hung "Do not operate valve sign" on Sample Room Door.

NO ENTRIES ON THIS PAGE

2030 DELETED RTD #4 FROM PROGRAM
RTD #4 READOUT IS ERRATIC & RISING ~~AT~~ @ IN ~~WATER~~ IRREGULAR MANNER. REF. DATA SHEET SAMPLE #52 / 1830 HRS.

2400 T.G. WATCH AND 1200-2400 ILRT WATCH SECTION RECIEVED. ~~[illegible]~~.
HB THICKMAN
ER KNUCKLES
G. COULSON
T. STEDIEN
P. GAUM
B. MERRIC

0000 DEC 3, 1975 - CONTINUED ILRT -

0004 COMMENCE CLRT @ 3.4 SCFM

1145 RELIEVED BY NOON TO MIDNITE
2400-1200 SHIFT RECIEVED BY [illegible]
1200-2400 SHIFT.
T.E. - A.T. NALL
F.E. - G.M. NATHANSON, JR
D.L. - P.A. BENNETT
D.L. - A. O'CHAIR
D.L. - A. ABBOTT
Q.C. ENG. - J. OLSOWSKI

NO ENTRIES ON THIS PAGE

1200 CLRT CONTINUING AS BEFORE. CLRT ROTOMETER SER.# 7104-58890 READING 3.4 SCFM @ 41.86/845°F (851.45 ELEC)/ V.P. 0.41 PSIA
BLOW DOWN MONITOR:
GAS < 10 CPM / 50 PE/MIN AIR VEC.
PARTICULATE < 300 CPM @ 65 LPM
EARL BAKER NOTIFIED TO SECURE THE EM. DIESEL FUEL OIL STORAGE TANK DRAIN TAP USED FOR FUELING DIESEL COMPRESSORS.

1350 Secured CLRT rotometer. Data for ILRT & CLRT are complete and preparations are being made for blowdown.

1352 Informed Nuclear shift Supervisor that the test is complete and he is in agreement that blowdown should commence.

1449 Commenced blowdown with the continuous monitoring device in service. Notified the Nuclear shift supervisor. Received word from the Radiochemist confirming the fact that no Iodine or major radioactive contaminants were present in the containment sample. 2 full turns open on discharge valve.
BLOWDOWN MONITOR DATA ON PAGE 37.

1500 PRESSURE READING 41.4 PSIA

1518 Opened discharge valve 2 full turns more. (4 TOTAL)

1530 PRESSURE READING 39.8 PSIA

No Entries on this Page

Blowdown Monitor Data

Time	CPM (Det)	APM Det.	CPM (Gas)	Air Vec. ft/min
1500	< 100	60	30	50
1515	< 100	60	40	50
1530	< 100	60	30	50
1545	< 100	60	30	50
1600	< 100	60	40	50
1615	< 100	60	20	50
1630	< 100	60	30	50
1645	< 100	60	20	50
1700	< 100	60	20	40 - 50
1715	< 100	60	20	40 - 50
1730	< 100	60	20	40 - 50
1745	< 100	60	20	40 - 50
1800	< 100	60	20	40 - 50
1815	< 100	60	20	40 50
1830	< 100	60	20	30 - 50
1845	< 100	60	20	30 - 50
1900	< 100	60	20	30 - 50
1915	< 100	60	20	30 - 30
1930	< 100	60	20	20 - 30
1945	< 100	60	20	20 - 30
2000	< 100	60	20	20
2015	< 100	60	20	20
2030	< 100	60	20	20
2045	< 100	60	20	20
2100	< 100	60	20	10 - 20
2115	< 100	60	20	10 - 20
2130	< 100	60	20	10 - 20
2145	< 100	60	20	10 - 20

Cont. on reverse side

Blowdown Monitor Data

	Time	CPM (Port.)	LPH (Port)	CPM (Gas)	Air Vel.
	2200	<100	60	10-20	10-20
	2215	<100	60	10-20	10-20
	2230	<100	60	10-20	10-20
	2245	<100	60	10-20	10-20
	2245 (16.55 psia)				
	2300	<100	60	10-20	10-20
	2315	<100	60	10-20	10-20
	2330	<100	60	10-20	10-20
	2330 (15-25 psia)				
	2345	<100	60	10-20	10-15
	2400	<100	60	10-20	10-15
	2400 (15.30 psia)				
12-4-75	0015	<100	60	10-20	10-15
	0030	<100	60	10-20	10-15
	0045	<100	60	10-20	10-15
	0100	<100	60	10-20	10-15
	0115	<100	60	10-20	10-15

Blowdown monitor watch secured.

1600	PRESSURE AT GAGEBOARD 37.8 PSIA.
1630	" " " " 35.8 PSIA.
	~~1700~~ C, M, N.
1652	Opened discharge valve 1 additional turn (5 total).
1700	Pressure @ Gageboard 34.0 PSIA
1710	Opened discharg valve 1¼ additional turns. (6¼ Total)
1730	Pressure @ Gageboard 31.75
1800	Pressure @ Gageboard 29.7
1800	Discharge Valve fully opened
1830	Pressure @ Gageboard 27.5
1900	Pressure @ Gageboard 25.6
1930	" " 23.9
2000	" " " 22.25
2030	" " " 21.0
2100	" " " 19.7
2130	" " " 18.6

No entries on this page

2200 Pressure @ Gage Board. 17.7

2205 Second Talsing data

A W O C

R. S. Adams.

2215 17.25 PSIA Cont. Press.

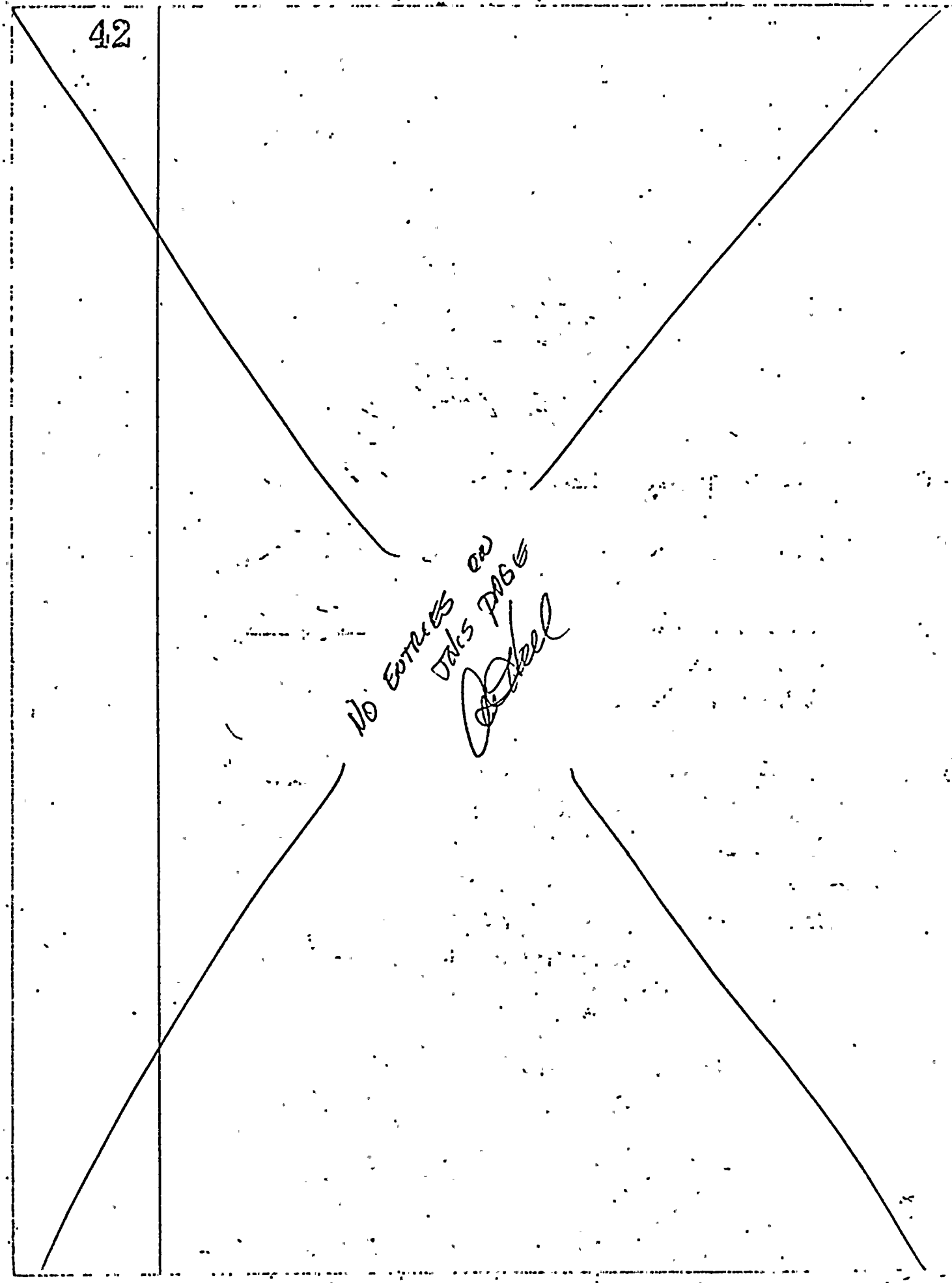
2230 16.90 PSIA Cont. Press.

2245 16.55 PSIA Cont. Press.
47.80% Rel. Hum. RHD #1
77.99°F - RTD #1

2300 16.20 PSIA Cont. Press.
47.37% Rel. Hum. RHD #1
78.12°F - RTD #1

2315 16.10 PSIA Cont. Press
46.52% Rel. Hum. RHD. #1
78.40°F - RTD #1

2330 15.75 PSIA Cont. Press
46.12% Rel. Hum. RHD. #1
78.62°F RTD #1


NO ENTRIES ON
THIS PAGE

2345 15.50 PSIA CONT PRESS.
45.75% REL. HUM. #1 RHD
78.75°F #1 RTD

2400 15.30 PSIA CONT PRESS.
45.27% REL. HUM. #1 RHD
79.02°F #1 RTD

12-4-75 CONTINUED THE WATCH & LOG.

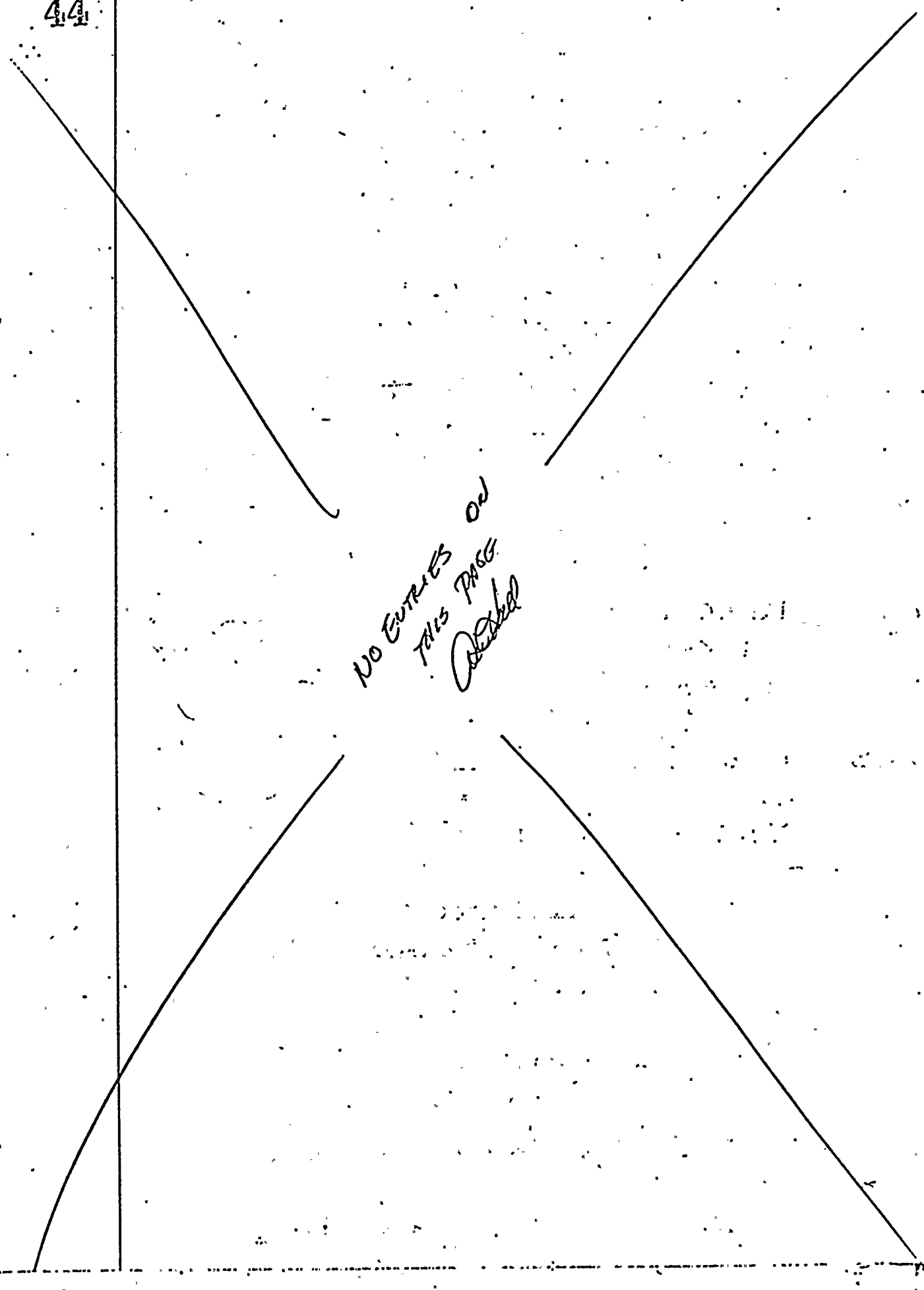
0015 ~~2415~~ 15.10 PSIA CONT. PRESS.
44.87% REL. HUM. #1 RHD
79.25°F #1 RTD

0030 15.00 PSIA CONT. PRESS.
44.44% REL. HUM. #1 RHD
79.48°F #1 RTD

0045 14.85 PSIA CONT. PRESS.
44.04% REL. HUM. #1 RHD
79.78°F #1 RTD

0100 14.80 PSIA CONT. PRESS.
43.84% REL. HUM. #1 RHD
80.06°F #1 RTD

0115 14.80 PSIA CONT PRESS
43.59% REL. HUM. #1 RHD
80.35°F #1 RTD


NO ENTRIES ON
THIS PAGE

0116 NOTIFIED QP. (NPS) THAT CONT. UNIT #3 @ ATMOSP. PRESS. REQUEST H-P. TO CONDUCT PRENTRY SAMPLE SURVEY.

0117 ALL PERSONS REQ. FOR ENTRY INSPECT. NOTIFIED:

0228 ~~0149~~ 0149 H-P REPORTS UNIT #3. RAD CON. SURVEY COMPLETE. AIRBORNE ACT. 3.5×10^{-9} μc/ml STAY TIME 10 HRS/WEEK. PROBABLY RADON DAUGHTER. NPS EARL BAKER GAVE PERMISSION FOR ILRT POST TEST INSPECTION TEAM TO ENTER CONTAINMENT.

0228 INSP. TEAM EXIT CONT. UNIT #3

~~0150~~ 0250 ILRT INSP. TEAM: J. OLSONOWSKI - QC, FPL PAUL STOJAK - EBASCO SERVICES, INC, N.T. HALL FPL - TECH, T. KNOX - FPL: MAINT; & PHELPS - OPERATIONS - FPL.

INSPECTION SATISFACTORY; EXCEPTION SEVERAL MINOR PAINT FLAKE OFFS (TOTAL: 1 SQ. FT.)

[signature] - FPL - TECH. DEPT. PTP
[signature] Ebasco DHS / PQCB
J.A. Olsonoski FPL - PTP Q.C.
[signature] FPL PTP Supv.

NO ENTRIES ON THIS PAGE

0300 IHRT TERMINATED AS COMPLETE AND SATISFACTORY TO STEP 8.14 OF IHRT Op. Proc. 13100.1

J.A. Olsonoski

E.L. Baker Shift Supv.

0301 SECURITY GUARD INSTRUCTED TO REMAIN ON STATION UNTIL RELIEVED OR UNTIL EQUIP FENCING CABLE SPLD. ROOM DOOR IS REMOVED AND DOOR FUNCTIONS PROPERLY AND DOOR IS SECURED.

APPENDIX C

Periodic Type B And Type C Test Reports

CONTAINMENT LEAK RATE TESTS
(TYPE B AND C TESTS)

The following routine local leak rate tests were performed during the reporting period on Unit 3; i.e., since the Unit 3 pre-operational ILRT (Type A test).

I. Penetration Tested

1. Personnel Air Lock (entire air lock test)

Test Date	"AS LEFT" Leak Rate (cc/m)
3/9/73	0.0
7/9/73	0.0
10/30/73	0.0
4/1/74	0.0
8/8/74	0.0
12/3/74	8.16
3/20/75	0.0
7/9/75	0.0

2. Emergency Air Lock (entire air lock test)

3/8/73	0.0
7/10/73	0.0
10/31/73	0.0
4/1/74	0.0
8/7/74	61.2
8/12/74	12.24
12/2/74	20.4
3/19/75	10.2
7/10/75	0.0

3. Fuel Transfer Flange

10/27/73	76.77
12/19/73	0.0
3/23/74	0.0
11/26/74	0.0
11/27/75	78.9

4. Equipment Hatch

8/6/73	0.0
10/27/73	0.0
12/18/73	0.0
10/15/74	0.0
11/8/74	0.0
11/27/74	0.0
12/2/74	0.0
4/10/75	

5. Isolation Valves (after repair)

	Test Date	"AS LEFT" Leak Rate (cc/m)
3-873A	8/3/73	21.0
3-873B	8/3/73	0.0
3-873C	8/3/73	28.0
MOV-86DA, 862A	3/25/74	0.0
MOV-880A, 883M	3/25/74	0.0
MOV-880B	6/11/74	0.0

The above tests were performed in accordance with Technical Specification 4.4.2 (Local Penetrations).

II. The local leak rate tests on all boundary valves and penetrations were conducted during the Unit 3 refueling shutdown from October 7, 1974, to December 4, 1974, to meet the refueling surveillance requirements.

The following procedures were used:

Operating Procedure 13514.1 - Personnel/Emergency Air Locks
Operating Procedure 13531.1 - Equipment Access Hatches
Operating Procedure 13104.1 - Containment Purge Valves
Operating Procedure 13404.2 - Electrical Penetration Canisters
Operating Procedure 13404.1 - Containment Isolation Valves
Operating Procedure 16004.1 - Fuel Transfer Tube Flange

The total "as-found" leak rate was 125.67% of the maximum allowed in Section 4.4.2 of the Technical Specifications.

Repairs and retests were made and the total leak rate at the time of heat up above 200°F was 21.21% of the maximum allowed in Section 4.4.2.

As part of the local leak rate tests, the following valves were repaired to reduce their respective leak rates:

Valve Repaired	Penetration Number	Leak Rate cc/min. As-Found	Leak Rate cc/min. As-Left	Remarks
989A	8	203	0	Disassembled and cleaned
MOV-869	18	216	6.42	Tightened packing
298A	24A	4,826	540	Installed and lapped new plug
298B	24B	3,217	0	Installed and lapped new plug
298C	24C	7,239	0	Installed and lapped new plug
MOV-1410	28A	630	0	Cleaned and lapped disc
Isolation Valve B	28B	450	0	Cleaned and lapped plug
POV-2603	36	21,240	1704	Gasket leak on body, reduced by caulking

The following table lists the valves and penetrations tested, with the "as-found" and "as-left" leak rates.

LOCAL LEAK RATE TESTS FOR REFUELING SHUTDOWN IN FALL OF 1974

Penetration Number	Valves Tested	AS-FOUND Lowest Pressure (psia)	AS-FOUND Leak Rate cc/min.	AS-LEFT Lowest Pressure (psia)	AS-LEFT Leak Rate cc/min.
1	MOV-750: MOV-751	65.55	540	65.55	540
2	MOV-744A: MOV-744B: MOV-734	70.50	0	70.50	0
3	MOV-716A	71.00	0	71.00	0
3	MOV-716B: 717	77.40	0	77.40	0
3	717	72.10	0	72.10	0
4	MOV-730: 732	70.50	0	70.50	0
5	Valve-A: 517: 549	68.95	0	68.95	0
5	CV-516: 552	70.40	0	70.40	0
6	Check Valve 518	70.60	47.08	70.60	47.08
6	550	69.10	0	69.10	0
7	CV-519 A & B: CV-522A, B, C.	67.77	0	67.77	0
8	CV-951: CV-956A	69.85	486	69.85	486
8	989A	66.00	203	67.10	0
9	CV-953: 956B	69.70	0	69.70	0
9	989B	67.80	0	67.80	0
10	4658 A & B	70.20	0	70.20	0
10	Check Valve 4657	71.50	32.1	71.50	32.1
11	MOV-863 A & B: MOV-872: 887	71.45	10.7	71.45	10.7
12	737A	69.30	0	69.30	0
12	738	68.60	0	68.60	0
13	CV-739: 737B	68.80	0	68.80	0
14	CV-200A, B, C: CV 204	68.20	0	68.20	0
15	Check Valve-312C: CV-310 A & B: CV-311	69.75	21.4	69.75	21.4
15	HCV-121: 333	68.85	25.68	68.85	25.68
16	Valve A & B	68.30	0	68.30	0
17	895 V	69.20	0	69.20	0
18	MOV-866 A & B: MOV-869	68.50	216	68.10	6.42
19A	MOV-880A: 883M	68.50	0	68.50	0
19A	Check Valve-890A	66.90	12.85	66.90	12.85
19B	MOV-880B: 883N	68.60	0	68.60	0
19B	Check Valve-890B	66.00	38.5	66.00	38.5
20	989C: 957A	69.70	27.82	69.70	27.82
20	CV-955 A & B: CV-956C	66.10	53.5	66.10	53.5
21	MOV-1417: MOV-1418} Tested Together	68.55	12.84	68.55	12.84
22	MOV-1417: MOV-1418}	68.55	12.84	68.55	12.84
23	CV-2821: CV-2822	68.50	0	68.50	0
24A	298A	68.00	4826	65.40	540
24B	298B	68.00	3217	73.80	0
24C	298C	68.00	7239	76.00	0
24A,B,C	297A, B, C	69.50	0	69.50	0
25	MOV-381	69.70	0	69.70	0
28A	MOV-1410	64.70	630	70.20	0
28B	MOV-1411	65.50	450	70.00	0
28C	MOV-1412	68.40	0	68.40	0
29	Check Valve-C	70.50	21.4	70.50	21.4
29	CV-2803	71.30	0	71.30	0
31	CV-4659 A & B	68.60	0	68.60	0
32	Check Valve-B	71.55	21.4	71.55	21.4
32	SV-2912	67.00	450	67.00	450

Penetration Number	Valves Tested	AS-FOUND Lowest Pressure psia	AS-FOUND Leak Rate cc/min.	AS-LEFT Lowest Pressure psia	AS-LEFT Leak Rate cc/min.
33	SV-2911	67.00	486	67.00	486
33	SV-2913	67.00	450	67.00	450
34	Valves A & B	72.40	0	72.40	0
35	POV-2600: POV-2601	65.00	0	65.00	0
36	POV-2602: POV-2603	65.00	21240	67.30	1704
42	CV-855: CV-853A, B, C: HCV-936	74.00	0	74.00	0
43	MOV-626: 736	68.40	0	68.40	0
47	Valves A & B	67.00	2170	67.00	2170
52	CV-4668 A & B	68.20	0	68.20	0
53	Valves C & D	69.80	0	69.80	0
54A	MOV-860A: MOV-862A	69.20	0	69.20	0
54B	MOV-860B: MOV-862B	71.00	0	71.00	0
55	CV-955C, D, E: CV-956D	68.50	0	68.50	0
58	Check Valve-873A	68.40	0	68.40	0
59	Check Valve-873B	68.40	0	68.40	0
60	Check Valve-873C	69.10	0	69.10	0
58,59,60	MOV-843 A & B: 837	67.30	0	67.30	0
61B	First Valve Outside Containment	71.70	0	71.70	0
63	CV-2819: CV-2826	67.60	27.82	67.60	27.82
64A	MOV-1427	66.70	0	66.70	0
64B	MOV-1426	69.70	0	69.70	0
64C	MOV-1425	69.40	0	69.40	0
65A	From ILRT Air Compressor	69.80	0	69.80	0
65B	Pressure Sensing and Flow ILRT	70.60	0	70.60	0
65C	ILRT Leakage Flow	69.10	0	69.10	0
39	Transfer Tube Flange			66.0	25.7
40	Equipment Hatch			68.7	0
41	Personnel Air Lock, Inner Door			66.7	0
41	Personnel Air Lock, Outer Door			66.7	8.16
49	Emergency Air Lock, Inner Door			67.0	0
49	Emergency Air Lock, Outer Door			65.8	20.4

The total leak rate from the electrical canisters equaled zero.

Total As-Found Leak Rate = 43,023.10 cc/min.
Total As-Left Leak Rate = 7,252.61 cc/min.

III. The local leak rate tests on all boundary valves and penetrations were conducted during the unit #3 refueling shutdown from October 25, 1975, through December 11, 1975.

The following procedures were used;

Operating Procedure 13,514.1, Personnel/Emergency Air Locks
Operating Procedure 13,531.1, Equipment Access Hatch
Operating Procedure 13,104.1, Containment Purge Valves
Operating Procedure 13,404.2, Electrical Penetration Canisters
Operating Procedure 13,404.1, Containment Isolation Valves
Operating Procedure 16,004.1, Fuel Transfer Tube Flange

The total "as found" leak rate was 546% of the maximum allowed in Section 4.4.2 of the Technical Specifications.

Repairs and retests were made and the total leak rate at the time of heat-up above 200°F was 27% of the maximum allowed in Section 4.4.2.

A new maximum allowable leak rate was established using L_a of .25% per day as per Appendix J of 10 CFR 50.

VALVE REPAIR LIST

Penetration Number	Valve Number	PWO Number	Leak Rate cc/m AS FOUND	Leak Rate cc/m AS LEFT	Remarks
6	518	5872	15,000	195.6	check valve; disassembled and cleaned
8	956A 951	5873	44,000	21.5	lapped and cleaned
10	4657	5871	2,200	38.7	check valve; disassembled and cleaned
19A	890A	34,506	37,000	4,000	check valve; disassembled and cleaned
20	CV-955A CV-955B CV-956C	34,508	44,000+	0	lapped and cleaned
28A	MOV-1410	34,509	4,000	279.3	lapped and cleaned
32	VLV-B	26,789	2,400	6.86	check valve; disassembled and cleaned
33	SV-2912 SV-2911 SV-2912	8,792	2,600 6,900 1,080	301.8 130.3 178.4	replaced valve diaphrams
36	POV-2603	5,897	70,000*		replaced shaft seals, bearing and seats
64A	MOV-1425	5,870	5,900	0	lapped discs
5KVA	South Canister		3,600	0	lower left hand insulator was cracked at the base. The entire insulator was replaced.

*Calculated from pressure drop test.

LOCAL LEAK RATE TESTS FOR REFUELING SHUTDOWN IN FALL OF 1975

Penetration Number	Equipment Tested	AS-FOUND Lowest Pressure psia	AS-FOUND Leak Rate cc/min.	AS-LEFT Lowest Pressure psia	AS-LEFT Leak Rate cc/min.
1	MOV-750: MOV-751	66.0	2500	66.0	2500
2	MOV-744A,B: FCV-605: HCV-75B	65.27	34.4	65.27	34.4
3	MOV-716A	69.43	29.0	69.43	29.0
3	MOV-716B	67.52	37.0	67.52	32.0
3	KC.VLV-717	67.5	15.0	67.5	15.0
4	MOV-730: 732	67.6	30.0	67.6	30.0
5	552:CV-516	70.3	0.0	70.3	0.0
6	CK VLV-518	66.0	15,000	66.0	195.6
7	CV-519A,B: CV-522ABC	68.3	0.0	68.3	0.0
8	CV-951:CV956A	66.0	44,000	66.1	21.5
8	989A	68.5	0.0	68.5	0.0
9	CV-953:CV-956B	70.07	0.0	70.07	0.0
9	989B	69.32	0.0	69.32	0.0
10	4658 A,B	70.0	0.0	70.0	0.0
10	CK VLV-4657	66.0	2200	67.72	38.7
11	MOV-872	66.89	0.0	69.89	0.0
12/13	737A:739	70.0	0.0	70.0	0.0
12/13	CK.VLV-738:737B	71.15	0.0	71.15	0.0
14	CV-200A,B,C	66.0	3500	66.0	3500
14	CV-204	67.78	0.0	67.78	0.0
15	CK VLV 312C	67.53	10.75	67.53	10.75
15	HCV-121:333	70.32	0.0	70.32	0.0
16	HV-3-1:HV-3-2	69.6	0.0	69.6	0.0
17	895V	72.11	0.0	72.11	0.0
18	MOV-866A,B:CV-869	69.56	0.0	69.56	0.0
19A	MOV-880A	70.1	0.0	70.1	0.0
19A	CK.VLV-890A	66.0	37,000	66.0	4,000
19B	MOV-880B	68.60	0.0	68.6	0.0
19B	CK.VLV-890B	73.55	0.0	73.55	0.0
20	989C	69.43	0.0	69.43	0.0
20	CV-955A,B:CV-956C	66.0	44,000	68.45	0.0
21/22	MOV-1417:MOV-1418	68.0	0.0	68.0	0.0
23	CV-2821:CV-2822	67.5	0.0	67.5	0.0
24A	CK VLV-298A	67.60	10.0	67.6	10.0
24B	CK VLV-298B	70.0	5.0	70.0	5.0
24C	CK.VLV-298C	68.91	10.0	68.91	10.0
25	MOV-381	69.6	0.0	69.6	0.0
28A	MOV-1410:127	66.0	4,000	66.0	279.3
28B	MOV-1411:227	67.2	0.0	67.2	0.0
28C	MOV-1412:327	66.2	0.0	66.2	0.0
29	CK VLV-336	65.8	0.0	65.8	0.0
29	CV-2803	68.13	0.0	68.13	0.0
31	CV-4659A,B	68.2	15.0	68.2	15.0
32	CK VLV-'B'	66.0	2400	69.83	6.86
32	SV-2912	66.0	2600	66.0	301.8
33	SV-2911	66.0	6900	66.0	130.3
33	SV-2913	66.0	1080	66.0	178.4
34	203:205	67.95	0.0	67.95	0.0

Penetration Number	Equipment Tested	AS-FOUND Lowest Pressure psia	AS-FOUND Leak Rate cc/min.	AS-LEFT Lowest Pressure psia	AS-LEFT Leak Rate cc/min.
35	POV-2600:POV-2601	67.5	10.0	67.5	10.0
36	POV-2602:POV-2603	66.0	70,000	70.2	0.0
42	CV-855	68.3	0.0	68.3	0.0
43	MOV-626	69.0	15.0	69.0	15.0
43	736	64.8	60.0	64.8	60.0
47	CK VLV-'A'	66.0	279.3	66.0	279.3
52	CV-4668A,B	70.2	0.0	70.2	0.0
53	HV-3-3:HV-3-4	68.5	10.75	68.5	10.75
54A	MOV-860A:MOV-861A	68.0	0.0	68.0	0.0
54B	MOV-860B:MOV-861B	68.6	0.0	68.6	0.0
55	CV-955C,D,E:CV-956D	69.5	0.0	69.5	0.0
58	CK VLV-873A	69.95	0.0	69.95	0.0
59	CK VLV-873B	68.6	0.0	68.6	0.0
60	CK VLV-873C	68.1	30.0	68.1	30.0
58-59-60	MOV-843A,B	67.35	0.0	67.35	0.0
61B	Valve 'C'	68.6	0.0	68.6	0.0
63	CV-2819:CV-2826	66.0	300.0	66.0	300.0
64A	MOV-1425	66.0	5,900	68.0	0.0
64B	MOV-1426	69.05	0.0	69.05	0.0
64C	MOV-1427	69.22	0.0	69.22	0.0
65A	ILRT 'E'	74.1	0.0	74.1	0.0
65B	ILRT 'F'	68.0	0.0	68.0	0.0
65C	ILRT 'G'	68.4	0.0	68.4	0.0
39	Transfer Tube Flange			66.0	78.9
40	Equipment Hatch			70.1	0.0
41	Personnel Air Lock (Inner Door)			70.2	0.0
41	Personnel Air Lock (Outer Door)			66.1	0.0
49	Emergency Air Lock (Inner Door)			68.1	0.0
49	Emergency Air Lock (Outer Door)			67.0	0.0

The total "AS-FOUND" leak rate for the electrical canisters= 3600 cc/m
(the only canister that leaked was 5KV-A2. The leak was due to a broken insulator which was replaced before heat up)

The total "AS-LEFT" leak rate for the electrical canisters = 0.0 cc/m

Therefore, Total "AS-FOUND" leak rate = 245,576.20 cc/m
Total "AS-LEFT" leak rate = 12,127.56 cc/m