

TOPICAL REPORT

BN-TOP-1

TESTING CRITERIA
FOR
INTEGRATED LEAKAGE RATE TESTING
OF
PRIMARY CONTAINMENT STRUCTURES
FOR
NUCLEAR POWER PLANTS

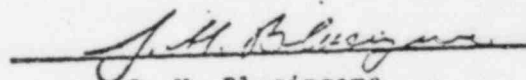
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1.0 INTRODUCTION

It has been customary to conduct integrated leakage rate tests on primary containment structures for a duration of at least 24 hours. The basis for the 24 hour test duration came from AEC guidelines and recommendations made in preliminary issues of ANS 7.60 (now ANSI N45.4-1972), "Leakage Rate Testing of Containment Structures for Nuclear Reactors."

However, several primary containment tests have been conducted over the past two years providing additional information in regards to containment leakage rate test duration. Test results have shown that a successful primary containment leakage rate test can be conducted in considerably less than 24 hours.

Bechtel Corporation personnel have conducted, commencing with the Palisades Nuclear Plant, fourteen primary containment leakage rate tests on seven containments to date. It became apparent early in the containment testing program that the acceptability or nonacceptability of the leakage rate measurements could be determined within a few hours (4 to 6) after the start of the test. Early tests were still conducted for 24 hours in accordance with the original guidelines until sufficient data was collected to confirm previous observations. Twenty-four hour primary containment tests were conducted at peak test pressure and at reduced test pressure at Palisades, Point Beach Unit 1, Point Beach Unit 2 and Pilgrim Unit 1. At Turkey Point Unit 3, the reduced pressure test was run for six hours. The peak pressure test was run for twenty-two hours, but the test results were reported based on six hours of test data.

Subsequent to the Turkey Point Unit 3 containment test, a formal presentation was made by Bechtel Corporation personnel to the AEC in Washington, D.C. on July 20, 1971. The AEC was represented by individuals from the Division of Compliance, the Division of Reactor Licensing and the Division of Reactor Standards. Data from previous containment tests conducted by Bechtel was presented in tabular and graphical form illustrating the ability of the leak rate measurement system and computer program to determine the containment leakage rate after approximately six hours of testing.

As a result of the July 20, 1971 meeting, it was agreed to conduct the Oconee Nuclear Station Unit 1 containment leakage rate test for a duration of ten hours. In August 1971 the reduced pressure test and peak pressure test were successfully conducted at Oconee, each for a duration of ten hours.

The data indicated that a containment leakage rate test can be successfully run in less than twenty four hours and it seems neither necessary nor desirable from a practical standpoint for a utility to commit to a 24 hour leak rate test.

In March 1972 the Turkey Point Plant Unit 4 containment integrated leak rate test was satisfactorily completed in less than twenty four hours. The test durations for the peak and reduced pressure tests were 8½ hours and six hours respectively.

Though data presented to justify containment leakage rate tests for durations of less than 24 hours was originally based on pressurized water reactor containments, similar criteria can be applied to boiling water reactor containments. In June 1972 the primary containment integrated leak rate test was satisfactorily completed at Pilgrim Unit 1. At the request of the client both the peak and reduced pressure tests were run for twenty four hours. However, review of the data confirmed that the criteria previously applied to pressurized water reactor containments also applies to boiling water reactor (BWR) containments. The Pilgrim Unit 1 containment integrated leak rate tests could have been satisfactorily run in less than twenty four hours. The instrumentation used and the method used to measure the leakage are the same. In general, only the containment size and maximum allowable leakage rate vary from site to site.

The recommended criteria for determining when a containment integrated leak rate test is successfully completed is presented in Section 2.0. ✓

Detailed explanations as to how the leak rate is determined and reported are presented in subsequent sections.

Section 4.0 describes instrumentation previously and currently used by Bechtel personnel. However, different instrumentation may be used on future containment integrated leak rate tests if it can be shown that the instrumentation provides equal or better test progress and results.

2.0 TEST DURATION CRITERIA

2.1 Historical Data

This discussion is based on fourteen containment integrated leak rate tests conducted on seven containments during the past two years. Peak pressure and reduced pressure tests were conducted at: Palisades Nuclear Power Station, Point Beach Nuclear Power Plant Unit 1; Point Beach Nuclear Power Plant Unit 2; Turkey Point Plant Unit 3; Oconee Nuclear Power Plant Unit 1; Turkey Point Plant Unit 4; and, Pilgrim Nuclear Power Station Unit 1.

A computer printout of the test report for each of these tests is provided in Appendix B of this report. Additionally, a graph of the Calculated Leak Rate versus Test Duration is provided for the reduced pressure tests (Figure B.1) and for the peak pressure tests (Figure B.2).

2.2 General Discussion

The objective of conducting a containment integrated leak rate test is to verify that the integrity of the containment is in compliance with the criteria set forth in the plant Final Safety Analysis Report and Technical Specifications.

This objective is accomplished by pressurizing containment and measuring the resulting leakage of contained air. ~~Data is accumulated and statistically compiled.~~ ^{10 min.} The data is then statistically compiled and reported to enable test personnel to make a decision as to the test results based on the data presented.

A review of the data shows that in practically every case the magnitude and the trend of the calculated leak rate indicates a satisfactorily completed test in less than twenty-four hours of test duration. Based upon this review the following containment integrated leak rate test duration criteria were formulated.

A. Bechtel Computer Program

The decision as to whether or not the leak rate is satisfactorily completed is determined from the ~~value of the measured data, the magnitude of the calculated leak rate, the statistical analysis of the data~~ provided by the Bechtel Corporation computer program, and the judgment of test personnel based on an overall review of test data and on previous testing experience.

Additionally, it should be noted that analysis of data is based on information received from the Bechtel containment structure integrated leakage rate test computer program printouts.

~~The Bechtel Containment Structure Integrated Leakage Rate Test Report is used as described in~~
using formulas as described in Section 6 of this topical report. In addition to computing the leakage rate, the Bechtel computer printouts provide information concerning the ~~measured leakage rate~~, standard deviation and ~~confidence limit~~ for the measured data.

Consequently, the below listed criteria may not be useable by others using different methods to analyze data and compute the containment structure integrated leakage rate.

B. Containment Atmosphere Stabilization

~~After the containment has been pressurized to test pressure a plot shall be made of the average containment air temperature versus time.~~

This plot yields a fairly smooth curve which will approach a straight line. A sloped straight line indicates that a heat sink or heat source (due to ventilation system operation for example) exists inside the containment. If heat sources or heat sinks are insignificant the plot will become horizontal.

If the status of heat sinks or sources changes during the test (starting or stopping ventilation system fans or cooling water for example) the slope of the line will of course change.

~~A plot of the pressure-time curve should follow the temperature-time curve.~~ The pressure-time curve should follow the temperature-time curve. For example if the current containment air temperature and pressure are 70°F and 65 psia, respectively, and the temperature drops 0.1°F in one hour, the pressure should drop 0.012 psi or more (depending on the leak rate) during the same hour.

C. Sensor Malfunction

In addition to the above plots the recorded data of individual sensors must also be continuously reviewed. ~~Each sensor should follow the trend of the average.~~ Deviation from the trend may indicate a faulty sensor.

In general, the number of sensors that can be lost without having to abort the test is a function of the number of sensors used, the sensor locations, and the volume fractions assigned to the sensors.

However, if data recorded over the past five hours indicates that dewpoint temperatures, i.e. partial pressure of water vapor, have stabilized and any changes are not of an order to cause error in leak rate calculations, then malfunction of any or all of the dewpoint sensors shall not require aborting the test (See ANSI N45.4-1972, section 7.9). ~~Otherwise, at least two thirds of the dewpoint temperature sensors must be functioning during the test.~~

~~At least one of the dewpoint temperature sensors must be functioning during the test.~~

~~At least one of the dewpoint temperature sensors must be functioning during the test.~~

D. System Verification

Subsequent to calculating the leak rate a superimposed leak rate of known magnitude is established. Data for verification portion of the test is reviewed and analyzed in the same manner as the data for leak rate portion of the test.

2.3 Duration Criteria

Specifically, the following criteria shall be met in order to consider an integrated leak rate test satisfactorily completed:

A. ~~Atmosphere Stabilization~~

Once the containment is at test pressure the containment atmosphere shall be allowed to stabilize for about ~~four hours~~. The atmosphere is considered stabilized when:

1. The rate of change of average temperature is less than $1.0^{\circ}\text{F}/\text{hour}$ averaged over the last two hours.

or

2. The rate of change of temperature changes less than $0.5^{\circ}\text{F}/\text{hour}/\text{hour}$ averaged over the last two hours.

B. Data Recording and Analysis

1. The Trend Report based on Total Time calculations shall indicate that the magnitude of the calculated leak rate is tending to stabilize at a value less than the maximum allowable leak rate (L_a). (Note: The magnitude of the calculated leak rate may be ~~increasing slightly~~ as it tends to stabilize. In this case the average rate of increase shall be determined from the accumulated data over the last five hours or last twenty data points, whichever provides the most points. ~~Using this average rate the calculated leak rate can then be linearly extrapolated to the 14th hour test point. If this extrapolated value of the calculated leak rate exceeds 75% of the maximum allowable leak rate (L_a) the test shall be terminated.~~)

and

2. The end of test upper 95% confidence limit for the calculated leak rate based on Total Time calculations shall be less than the maximum allowable leak rate.

and

3. ~~The 20% of the maximum allowable leak rate based on Total Time calculations over the last five hours of test or last twenty data points, whichever provides the most data, shall be less than the maximum allowable leak rate.~~

and

4. Data shall be recorded at approximately equal intervals and in no case at intervals greater than one hour.

and

5. At least twenty (20) data points shall be provided for proper statistical analysis.

and

6. In no case shall the minimum test duration be less than six (6) hours.

C. Verification

1. Containment atmospheric conditions shall be ~~stable~~ ~~stable after superimposing the~~ ~~leak rate~~.
2. The verification test duration shall be approximately equal to half the integrated leak rate test duration.

3. Results of this verification test shall be acceptable provided the correlation between the verification test data and the integrated leak rate test data demonstrate an agreement within plus or minus 25 percent.

3.0 ANALYSIS METHODS

3.1 General Discussion

The two methods of leakage rate testing generally applied to primary containment systems are the Reference Vessel Method and the Absolute Method. Both methods are described in ANSI N45.4-1972, "Leakage Rate Testing of Containment Structures for Nuclear Power Plants."

~~On the basis of testing conducted by Bechtel Corporation, procedures for calculating leakage rates by the Absolute Method.~~
Both procedures, ~~the Reference Vessel Method and the Absolute Method~~, are described in ANSI N45.4-1972.

3.2 Absolute Method

The method of leakage rate testing employed by Bechtel Corporation for primary containment structures is the ~~Absolute Method~~ since Bechtel testing experience has shown that the Absolute Method is currently more practical for the testing situations encountered.

Using instrumentation of comparable accuracy and repeatability both the Absolute Method and Reference Vessel Method provide comparable leakage rate measurement results. However, the Absolute Method is preferred by Bechtel for the following reasons:

- A. To accurately determine containment atmosphere conditions all regions of the containment should be sampled. This can be accomplished easily and relatively inexpensively using the Absolute Method.
- B. The leakage rate formula for the Reference Vessel Method presented in ANSI N45.4-1972 assumes that reference vessel atmosphere and containment atmosphere temperatures are equal. This temperature equalization is generally difficult to attain. Therefore, the usual Reference Vessel Method can make the reference vessel a gas thermometer and the shorter the time interval between taking data the greater the error associated with a variable temperature lag.
- C. Reference Vessel Method instrumentation located inside the containment is susceptible to leakage. Consequently, an additional leak rate test must be conducted on the reference vessel system. Also, due to their complexity, a minimum number of vessels would be built and installed. *not needed why* (Should a small leak occur in a reference vessel the containment must be depressurized to make repairs - a time consuming and costly operation. Absolute Method instrumentation located inside the containment is not susceptible to such failure.

- D. Due to redundancy provided by the number of sensors installed for the Absolute Method, should a small percentage of the sensors malfunction the test need not be aborted. The inoperative sensors are simply factored out of the program, volume fractions recomputed for the remaining sensors and the test continued.

3.3 Total-Time and Point-to-Point Calculations

The ~~Point-to-Point~~ computer program uses ~~both Total-Time and Point-to-Point~~ procedures for ~~calculating~~ leakage rates. These procedures are described in ANSI N45.4-1972. Leakage rate test reports were originally based on the Point-to-Point calculations as recommended by the April 1970 issue of ANS 7.60 (now ANSI N45.4-1972). Now, however, as recommended by Appendix J to 10CFR Part 50, "Reactor Containment Leakage Testing for Water Cooled Power Reactors," leakage rate test reports are based on the Total-Time calculations. Experience has shown that Total-Time calculations provide better results. Additionally, the current revision of ANSI N45.4-1972 recommends the Total-Time procedure.

The Total-Time procedure is preferred since it reduces the effect of instrument errors on leakage rate computations as the total test duration increases. ~~Additionally, the errors which occur at one data point affect only that data point.~~

~~Point-to-Point calculations are based on the effect of the error in one data point for a given data point and also affects subsequent data points. As an example, the following illustration is provided for a time distortion effect called time parallax:~~

Assume that the 1400 data was actually taken at 1402 but recorded as taken at 1400. The 1430 data was taken on time. The test started at 0800. Data is taken every half hour.

The 1400 Measured Leak Rate using Total-Time calculations would be in error by a factor of

$$\frac{+2 \text{ min}}{6 \text{ hours}} = \frac{+2 \text{ min}}{360 \text{ min}} = +0.0056$$

or about +1/2%. The 1430 Measured Leak Rate would be correct.

On the other hand, the 1400 Measured Leak Rate using Point-to-Point calculations would be in error by a factor of

$$\frac{+2 \text{ min}}{0.5 \text{ hours}} = \frac{+2 \text{ min}}{30 \text{ min}} = +0.067$$

or about 6.7%. The 1430 Measured Leak Rate would be in error by about the same amount except opposite in sign.

Handwritten note:
Calculate in 2 min?

The Point-to-Point procedure is retained as part of the computer report printout since this method of calculation will more rapidly indicate departures from the trend late in the test period.

4.0 TEST INSTRUMENTATION

4.1 Parameters Monitored

During the primary containment leakage rate tests, measurements are made of containment ~~atmosphere~~ ~~temperature~~, ~~humidity~~ ~~temperature~~ (for vapor pressure determination), and ~~pressure~~.

4.2 Drybulb Temperature

~~Temperature is measured by resistance thermometers~~
employing a sensitive element of extremely pure copper wire, wound and annealed to minimize strains. This construction provides a definite resistance value at each temperature within the range of the detector. This stability and accuracy assures the repeatability so important in leakage rate calculations since computations are based primarily on measuring the change in temperature and not on measuring the actual temperature. Response time for 90% of a temperature change is about 40 seconds. ~~The limit of error of the detector is $\pm 0.5^\circ\text{F}$ over a range of 32°F to 250°F with a repeatability of 0.1%.~~

Generally, twelve to twenty-four resistance thermometers are located throughout the containment. The number selected is a function of the containment free air volume, the containment configuration, and the redundancy desired to insure a representative containment air sampling should there be temperature sensor malfunctions. The locations of the sensors are selected, based on a temperature survey, to provide a representative sampling of containment atmosphere temperature. Each temperature sensor is assigned a volume fraction which is based on the fraction of the containment total internal free air volume, i.e. temperature zone determined by temperature survey, that the sensor is monitoring.

The recorded values of temperature for each temperature sensor are fed into the computer. The computer program then corrects for volume fractions, calibration curves and conversion tables, as required, and computes one total, corrected, average containment atmosphere temperature in degrees F. ✓

4.3 Dewpoint Temperature (Vapor Pressure)

Dewpoint temperature sensors generally used are described as follows:

- a. Aluminum oxide humidity sensors which consist of an aluminum strip which is anodized by a special process to provide a porous oxide layer. A very thin coating of gold is evaporated over this structure. The aluminum base and the gold layer form the two electrodes of what is essentially an aluminum oxide capacitor. Water pressure directly affects the electrical capacitance and hence the sensor output. System accuracy is $\pm 1^\circ\text{C}$ or $\pm 1.8^\circ\text{F}$ over a Dew/Frost point temperature range of -110°C to $+20^\circ\text{C}$, with a repeatability of $\pm 0.5^\circ\text{C}$ in the humidity range commonly encountered during the test.

- b. Resistance dependent humidity sensors which have an insulator surface consisting of an epoxy filled fiberglass cloth on which are deposited a pair of intermeshing gold fingers. The disc is mounted on a two-stage thermoelectric cooler. Current to the cooler is controlled by comparing the sensor impedance to a fixed resistor. The dewpoint determination is based on conductivity. System range is -20°F to 140°F with an accuracy of $\pm 1.0^{\circ}\text{F}$ and repeatability of $\pm 0.5^{\circ}\text{F}$.

Generally, six dewpoint temperature sensors are located throughout the containment. Dewpoint temperature sensors are located following a temperature survey and each sensor is assigned a volume fraction corresponding to the fraction of the containment internal free air volume monitored by that sensor.

The recorded values of dewpoint temperature for each sensor are fed into the computer. The computer program then corrects for volume fractions, calibration curves and conversion tables and computes one total, corrected, and average dewpoint temperature.

4.4 Absolute Pressure

The pressure sensor generally used is a precision pressure gage which consists of two parts: an interchangeable fused-quartz Bourdon tube capsule and a null-sensing optical readout unit. Optical coupling between pressure sensor and readout eliminates reactive and frictional forces on the sensor, assuring optimum repeatability. Range is 100,000 counts full scale; resolution 0.001% of full scale; repeatability 0.001% of full scale; and, accuracy of $\pm 0.001\%$.

The recorded value of pressure is fed into the computer. The computer program corrects for a tube constant associated with the Bourdon tube and computes one total, corrected containment atmospheric pressure.

4.5 Instrument Error Analysis

The error analysis is conducted twice. The analyses are used primarily to select a balanced integrated leak rate measurement system and evaluate, in terms of the figure of merit for the system. The first error analysis determines the range of expected errors based on the calibration tolerances. The second error analysis determines the range of expected errors based on the repeatability of the system.

Since containment leak rate measurements are sensitive to changes in temperature and pressure, the error analysis for the repeatability error analysis is meaningful. However, both analyses are provided.

ACCURACY ERROR ANALYSIS

The measured leak rate in weight percent per day is computed using the absolute method by the formula:

$$M = (100) \frac{(24)}{(H)} \left[1 - \frac{T_1 \bar{P}_n}{T_n \bar{P}_1} \right] \quad (1)$$

where:

$\bar{P}_1 = P_1 - P_{v1}$ = total containment atmosphere absolute pressure, in psia, at the start of the test, corrected for water vapor pressure.

$\bar{P}_n = P_n - P_{v2}$ = total containment atmosphere absolute pressure, in psia, at data point n after start of the test, corrected for water vapor pressure.

T_1, T_n = containment mean atmospheric temperature in $^{\circ}R$, at the start and at data point n, respectively.

H = test interval in hours between time 1 and time n.

R = gas constant (assumed to be a constant for the entire range of pressure and temperature).

The change or uncertainty interval in M due to uncertainties in the measured variables is given by:

$$b_M = \frac{2400}{H} \left[\left(\frac{dM}{dP_2} \cdot b_{P_2} \right)^2 + \left(\frac{dM}{dP_1} \cdot b_{P_1} \right)^2 + \left(\frac{dM}{dT_1} \cdot b_{T_1} \right)^2 + \left(\frac{dM}{dT_2} \cdot b_{T_2} \right)^2 \right]^{1/2} \quad (2)$$

what about
G + error

where b is the standard error for each variable. This formula

~~cannot be used to assess the accuracy of the system as a whole.~~ Even though the formula is deterministic it does, however, allow assessment of figure of merit for various equipment to be used in the measuring system without the need for assembling and calibrating the system as an entity.

that's
right

The error in M after differentiating is:

$$e_M = \frac{2400}{H} \left[\left(-\frac{T_1}{P_1 T_2} \cdot e_{P_2} \right)^2 + \left(\frac{\bar{P}_2 T_1}{\bar{P}_1^2 T_2} \cdot e_{\bar{P}_1} \right)^2 + \left(-\frac{\bar{P}_2}{\bar{P}_1 T_2} \cdot e_T \right)^2 + \left(\frac{\bar{P}_2 T_1}{\bar{P}_1 T_2^2} \cdot e_T \right)^2 \right]^{1/2} \quad (3)*$$

where:

$$e_{P_1} = b_{P_1}$$

$$e_{P_2} = b_{P_2}$$

$$e_T = e_{T_1} = e_{T_2}$$

For the purpose of developing a finite number for e_M using equation (3), it is necessary to assume certain containment conditions based on historical data encountered in previous Bechtel tested containment vessels. Therefore, the following conditions will be assumed to exist:

1. For purposes of comparison to other tests $H=24$ hours.
2. Containment leak rate is essentially zero, that is:

$$P_1 = P_2$$

$$T_1 = T_2$$

$$P_{V1} = P_{V2}$$

3. Containment mean absolute pressure = 60 psig.
4. Containment mean atmosphere temperature (drybulb) = $80^\circ\text{F} = 539.7^\circ\text{R}$ based on 20 volume weighted temperature sensors.

* Equation (3) has been verified by K. Joroshek and E. Weipport, Tightness Investigations on Reactor Safety Pressure Vessels," Vol. 13, No. 3, March 1961.

5. Containment mean dewpoint temperature = 70°F based on 6 volume weighted dewpoint temperature sensors.

Equation (2) becomes:

$$e_M = 100 \left[2 \left(\frac{e_P}{P} \right)^2 + 2 \left(\frac{e_T}{T} \right)^2 \right]^{1/2} \quad (4)$$

where:

e_P = the error in pressure which accounts for the error in the total pressure measurement system; both total absolute pressure and water vapor pressure.

$$e_P = \left[(e_{P_T})^2 + (e_{P_V})^2 \right]^{1/2}$$

e_{P_T} = inst. accuracy error / $\sqrt{\text{no. inst.}}$ = error in total absolute pressure in psia.

e_{P_V} = inst. accuracy error / $\sqrt{\text{no. inst.}}$ = error in water vapor pressure (dewpoint) indicator in psia at 70°F.

e_T = inst. accuracy error / $\sqrt{\text{no. inst.}}$ = error in temperature, °R.

Substituting the instrument accuracy values for the instrumentation previously described in this section into above equations yields:

$$e_{P_T} = \pm (0.015\%) (\text{scale reading}) / \sqrt{1}$$

$$= \pm (0.00015) (74.700 \text{ psia})$$

$$e_{P_T} = \pm 0.0112 \text{ psia}$$

$$e_{P_V} = \frac{\pm 1^\circ\text{C}}{\sqrt{6}} = \frac{\pm 1.8^\circ\text{F}}{\sqrt{6}} = \pm 0.735^\circ\text{F}$$

and from the steam tables at a dewpoint of 70°F

$$e_{P_V} = \pm 0.00918 \text{ psia}$$

Accuracy
quoted is
0.015% of $\frac{74.7}{100}$
scale not
reading.

and,

$$e_p = \pm \sqrt{(0.0112 \text{ psia})^2 + (0.00918 \text{ psia})^2}$$

$$e_p = \pm 0.0145 \text{ psia}$$

$$e_T = \pm \frac{0.3^\circ\text{F}}{\sqrt{20}} = \frac{0.3^\circ\text{R}}{\sqrt{20}}$$

$$e_T = \pm 0.0671^\circ\text{R}$$

Combine both pressures

Substituting into equation (4) yields:

$$e_M = \pm 100 \left[2 \left(\frac{0.0145}{74.700} \right)^2 + 2 \left(\frac{0.067}{539.7} \right)^2 \right]^{1/2}$$

$$e_M = \pm 0.0326 \text{ weight percent/day}$$

REPEATIBILITY ERROR ANALYSIS

Using the same formulas as before the repeatability error is substituted for the accuracy error.

$$e_{p_T} = \pm (0.001\%) (\text{scale reading})$$

$$= \pm (0.00001) (74.700 \text{ psia})$$

$$e_{p_T} = \pm 0.000747 \text{ psia}$$

$$e_{p_V} = \pm \frac{0.5^\circ\text{C}}{\sqrt{6}} = \frac{0.9^\circ\text{F}}{\sqrt{6}}$$

$$e_{p_V} = \pm 0.367^\circ\text{F}$$

and from the steam tables at a dewpoint of 70°F :

$$e_{p_V} = \pm 0.00465 \text{ psia}$$

$$e_p = \pm \left[(0.000747)^2 + (0.00465)^2 \right]^{1/2}$$

$$e_p = \pm 0.00471 \text{ psia}$$

$$e_T = \pm \frac{0.1^\circ\text{F}}{\sqrt{20}} = \pm \frac{0.1^\circ\text{R}}{\sqrt{20}}$$

$$e_T = 0.0223^\circ\text{R}$$

Substituting into equation (4):

$$e_M = \pm 100 \sqrt{2 \left[\left(\frac{0.00471}{74.700} \right)^2 + 2 \left(\frac{0.0223}{539.7} \right)^2 \right]^{1/2}}$$
$$e_M = \pm 0.0107 \text{ weight percent/day}$$

It should be noted that the errors associated with the above analyses are the worst possible or worst probable errors caused by the instruments. For measurements systems with multiple components, system calibrations typically show higher precision than inferred from the so called worst possible or worst probable error analyses.

5.0 COMPUTER PROGRAM AND PRINTOUTS

5.1 General Discussion

The computer program used was developed by Bechtel Corporation specifically for the purpose of computing containment structure integrated leak rates. The formulas used in the Bechtel Integrated Leak Rate Test Program are taken from formulas and guidelines presented in ANSI N45.4-1972.

The primary computer system currently used is the GE635 time share system. The computer is located in San Francisco. A remote terminal is taken to the jobsite and is linked to the Bechtel computer via telephone. The remote terminal is used to input data and receive leak rate reports at the jobsite thereby providing leak rate status reports immediately after data insertion.

The computer program is basically a two step program. The first step consists of computing the total, corrected, average containment atmospheric temperature and absolute pressure and providing a printout of this information. The second step then utilizes this information, called the Corrected Data Summary, to compute the leakage rate and provide a printout in report format.

5.2 Corrected Data Summary

The uncorrected value of each containment atmosphere parameter monitored (drybulb temperature, dewpoint temperature, and absolute pressure) is fed into the computer program. (See Appendix A, pages A-2 and A-4). The data is then corrected as explained in Section 4.0 and a ~~Summary of Measured Data is printed out showing the corrected values.~~ This gives the operator an opportunity to verify that the instrumentation is functioning as expected.

5.3 Report Printout

The second step of the computer program computes the leakage rate and provides a report as shown in Appendix A, pages A-6 through A-8. The report is divided into three sections as follows:

- A. Leak Rate Based on Total-Time Calculations.
- B. Leak Rate Based on Point-to-Point Calculations.
- C. Trends Based on Total-Time Calculations.

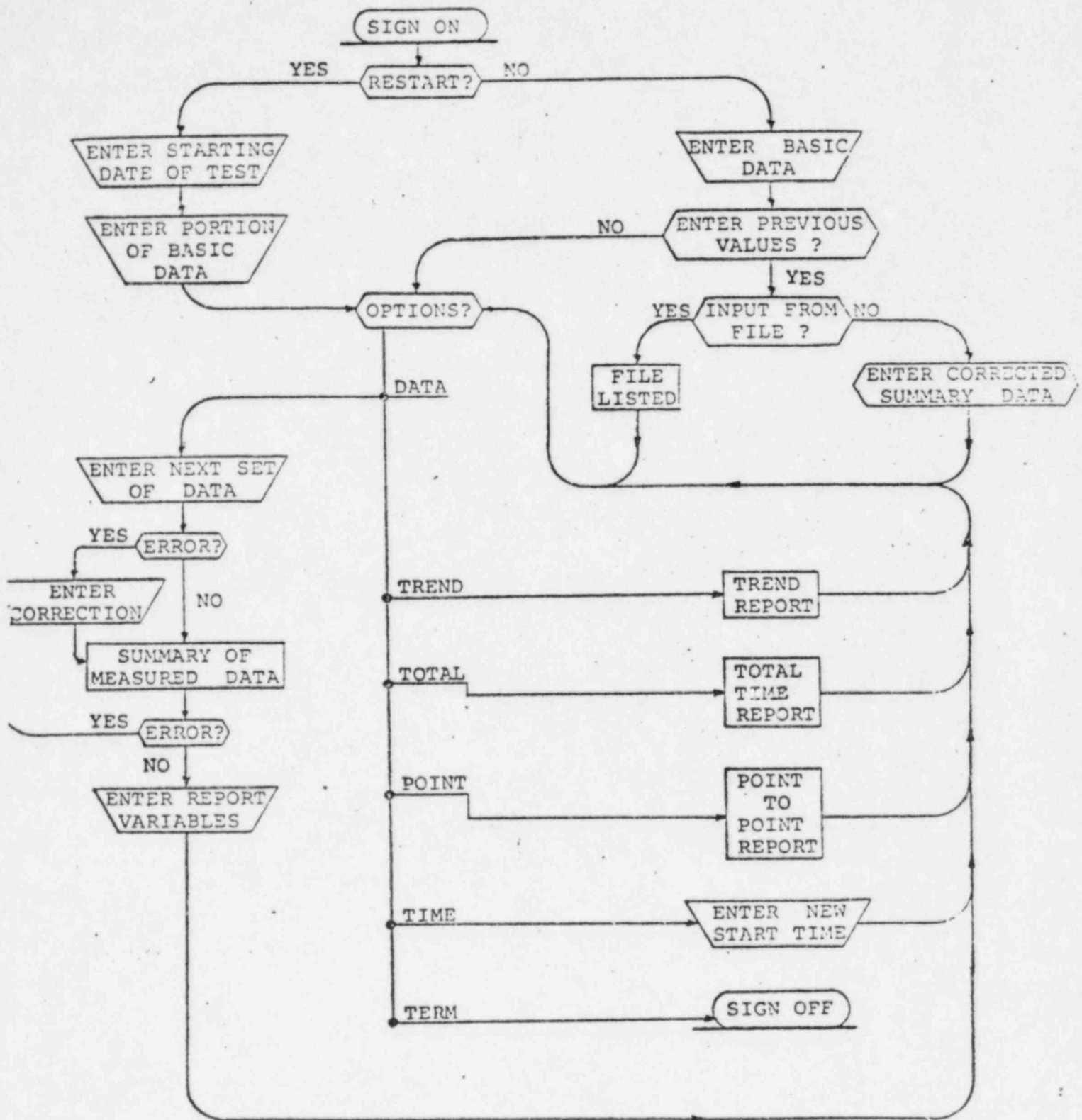
The Time, Temperature, and Pressure column data in the leak rate reports are obtained from the Corrected Data Summary blocks explained previously. The Measured Leak Rate, Calculated Leak Rate and 95% Confidence Limits column data are computed from the Corrected Data Summary as shown in Section 6.0.

The [REDACTED] is not the time the data was taken as in the leak rate reports, [REDACTED] the [REDACTED]. The number of data entries since the start of the test is shown in column two. The [REDACTED], Calculated Leak Rate, and Change in Calculated Leak Rate column data are computed as shown in Section 6.0.

The Trend Report has recently been added as a computer program report printout and is provided to give test personnel a better indication of how the test is progressing.

5.4 Computer Program Logic Diagram

A computer program logic diagram is shown on Figure 5.1, page 5-3 to illustrate the general flow of the user's decisions.



CONTAINMENT INTEGRATED LEAK RATE TEST PROCEDURE
COMPUTER PROGRAM LOGIC DIAGRAM

Figure 5.1

6.0 LEAK RATE COMPUTATIONS

6.1 Measured Leak Rate

The formula for computing the measured leak rate (M) is taken from ANSI N45.4-1972, "Leakage Rate Testing of Containment Structures for Nuclear Reactors." The derivation of the formula is also given in ANSI N45.4-1972.

The formula is as follows:

$$M = \frac{2400}{H} \left[1 - \frac{T_1 (P_2 - P_{v2})}{T_2 (P_1 - P_{v1})} \right] \quad (1)$$

where,

M = measured leak rate in weight percent per day.

H = time interval, in hours, between measurements.

T_1, T_2 = mean absolute temperature, °R, of the containment atmosphere at the beginning and the end of the test interval (H) respectively.

P_1, P_2 = mean total absolute pressure, PSIA, of the containment atmosphere at the beginning and end of the test interval (H) respectively.

P_{v1}, P_{v2} = mean total water vapor pressure, PSIA, of the containment atmosphere at the beginning and end of the test interval (H) respectively.

$\bar{P}_1 = P_1 - P_{v1}$

$\bar{P}_2 = P_2 - P_{v2}$

Since the computer program corrects the containment atmosphere absolute pressure for water vapor pressure prior to computing the leak rate M, equation (1) becomes:

$$M = \frac{2400}{H} \left[1 - \frac{T_1 \bar{P}_2}{T_2 \bar{P}_1} \right] \quad (2)$$

The values of time, temperature, and pressure required to calculate M using equation (2) are taken from "Temperature and Pressure Corrected Data Summary" block of the computer printout for both the Total-Time and Point-to-Point calculations.

An explanation of the origin of the "Temperature and Pressure Corrected Data Summary" block is presented in Section 5.2.

Appendix A to this report provides a computer printout report of an actual leak rate test with a known leak. A tabular listing of measured leak rates is shown on pages A-7 and A-8. A plot of the measured leak rates for leak rate based on Total-Time calculations is provided on Figure A.1, page A-9.

Appendix C provides a sample problem illustrating how the measured leak rates (M) were calculated in the ILRT Demonstration Report (Appendix A).

6.2 Calculated Leak Rate

Since it is assumed that the leak rate is constant during the testing period, a plot of the Measured Leak Rate versus Time would ideally yield a horizontal, straight line. Obviously, sampling techniques and test conditions are not perfect and consequently the values of measured leak rate deviate from the ideal straight line plot situation.

The method of least squares is a statistical procedure for finding the "best fit" straight line, commonly known as a regression line, for a set of measured data such that the sum of the squares of the deviations of each measured data point from the straight line is minimized.

Using this statistical process a regression line is "best fit" to the calculated values of measured leak rates. The calculated leak rate based on regression line is called the calculated leak rate (L).

The regression line equation for the Least Squares "best fit" straight line is:

$$L = A + Bt \quad (3)$$

and therefore, the calculated leak rate at some specific time (t) is expressed as:

$$L_1 = A + Bt_1 \quad (3A)$$

The deviation of the measured leak rate (M) from the calculated leak rate (L) is shown graphically on Figure A.1 in Appendix A and is expressed as:

$$\text{Deviation} = M_1 - L_1$$

It was mentioned previously that the regression line is "best-fit" to the measured leak rate data by minimizing the sum of the squares of the deviations (i.e., the sum of the squares for error). Expressed mathematically we wish to minimize:

$$SSQ = \sum (M_1 - L_1)^2 \quad (4)$$

were SSQ is the sum of the squares of the deviations and

$$\sum = \sum_{i=1}^n$$

Substituting equation (3A) into equation (4) yields:

$$SSQ = \sum [M_i - (A + Bt_i)]^2 \quad (5)$$

Using differential calculus, the numerical values of A and B that will minimize SSQ can be determined. It can be shown that A and B are the solutions to the following pair of simultaneous linear equations:

$$B = \frac{(t_1 - \bar{t})(M_1 - \bar{M})}{(t_1 - \bar{t})^2}$$

$$B = \frac{n \sum t_1 M_1 - (\sum t_1)(\sum M_1)}{n \sum t_1^2 - (\sum t_1)^2} \quad (6)$$

$$A = \bar{M} - B\bar{t} \quad (7)$$

where,

$$\bar{M} = \frac{\sum M_1}{n} \quad \text{mean leak rate - used in trend report} \quad (8)$$

$$\bar{t} = \frac{\sum t_1}{n} \quad (9)$$

Substituting equations (6), (8) and (9) into equation (7) yields an alternate equation for A:

$$A = \frac{(\sum M_1)(\sum t_1^2) - (\sum t_1)(\sum t_1 M_1)}{n \sum t_1^2 - (\sum t_1)^2} \quad (10)$$

Equations (6) and (7) are referred to as the Least Square Equations and are used by the computer program to compute the calculated leak rate for the Total-Time and Point-to-Point calculations.

Appendix A to this report provides a computer printout report of an actual leak rate test with a known leak. A tabular listing of calculated leak rates is shown on pages A-7 and A-8. A plot of the calculated leak rates for leak rate based on Total-Time calculations is provided on Figure A.1, page A-9.

Appendix D provides a sample problem illustrating how the calculated leak rates (1) were computed in the ILRT Demonstration Report (Appendix A).

6.3 Confidence Limits

Even though the regression line is statistically determined to minimize the sum of the squares of error, the values of calculated leak rate cannot be considered to be exactly correct. If the containment integrated leak rate test were run a number of times, under the same conditions, the calculated leak rates would be close in value but not exactly the same each time.

However, based on statistics we can establish confidence limits associated with the regression line such that the limits of the calculated leak rate computed would successfully enclose the true value of the desired parameter a large fraction of the time. This fraction is called the confidence coefficient and the interval within the confidence limits is the confidence interval.

Confidence limits for the integrated leak test computer program are determined based on a confidence coefficient of 95%. The measured leak rate will fall within the confidence limits 95% of the time.

To determine the value of the confidence limits the following statistical information is required: the variance, standard deviation, and standard error.

The variance, as the name implies, is a measure of variability of the measured leak rate. The variance of the measured leak rate (M) from the calculated leak rate (L) is given by:

$$s^2 = \frac{SSQ}{n-2}$$

$$s = \sqrt{\frac{SSQ}{n-2}} \quad \left[\frac{\sum (m_i - \bar{m})^2}{n-2} \right]^{1/2} \quad (11)$$

where s^2 is the variance and s is the standard deviation based on $(n-2)$ degrees of freedom. SSQ is computed from equation (4).

The standard deviation has more practical significance since computing the standard deviation returns the measure of variability to the original units of measurement. Additionally, it can be shown that given a normal distribution of measurements, approximately 95% of the measurements will fall within two standard deviations of the mean.

The number of standard deviations either side of the regression line which establish a 95% confidence interval are more accurately determined using a statistical table called a "Table of Percentage Points of the T-Distribution" and provide increased confidence in outcomes for small and large sample sizes.

Since we are interested in reporting a single value of calculated leak rate based on measurements taken over a specific time period, an additional factor is applied to the formula for computing the variance and hence, the standard deviation.

For additional information concerning the use of the T-distribution and the use of the factor applied to the formula for determining variance and standard deviation consult reference 1 or any similar publication on probability and statistics.

The Table of T-Distributions has been formulized for use by the computer program as follows:

$$T = 1.95996 + \frac{2.37226}{(n-2)} + \frac{2.8225}{(n-2)^2} \quad (12)$$

where the value of T is based on 95% Confidence Limits and (n-2) degrees of freedom.

The application of the additional factor to the variance formula yields:

$$\sigma^2 = s^2 \left[1 + \frac{1}{n} + \frac{(t_p - \bar{t})^2}{\sum (t_i - \bar{t})^2} \right] = \quad (13) \leftarrow$$

where t_p is the time after start of test.

Taking the square root of equation (13) yields the standard deviation:

$$\sigma = s \left[1 + \frac{1}{n} + \frac{(t_p - \bar{t})^2}{\sum (t_i - \bar{t})^2} \right]^{1/2} \quad (14) \leftarrow$$

The upper and lower confidence limits can now be determined, the confidence limits being equal to T standard deviations above and below the regression line. Combining equations (12) and (14) yields:

$$\text{Confidence Limits} = L \pm T\sigma \quad (15) \leftarrow$$

or

$$UCL = L + T\sigma \quad (16) \leftarrow$$

$$LCL = L - T\sigma \quad (17) \leftarrow$$

where UCL and LCL are the upper and lower confidence limits respectively.

See also in Appendix E
for changes

Equation (16) and (17) are used by the computer program to compute the 95% Confidence Limits for both the Total-Time and Point-to-Point Calculations.

Appendix A provides a computer printout report of an actual leak rate test with a known leak. A tabular listing of 95% Confidence Limits is shown on pages A-7 and A-8. A plot of UCL and LCL for leak rate based on Total-Time calculations is provided on Figure A.1, page A-9.

Appendix E provides a sample problem illustrating how the 95% Confidence Limits were computed in the ILRT Demonstration Report (Appendix A).

It should be noted that the standard deviation computed by equation (14) will not yield the same value for standard deviation reported at the bottom of the tabulated data on the ILRT Demonstration Report printout, Appendix A, page A-7 and A-8. ~~The standard deviation reported on the computer printout is the standard deviation of the measured leak rates from the mean, computed by:~~

$$\sigma_m = \sqrt{\frac{\sum (M_i - M)^2}{n-1}}$$

The standard deviation in equation (14) is related not to the mean but to the regression line.

6.4 ~~Trend Report~~

The trend report uses values previously calculated, with the exception of the change in calculated leak rate column, to provide a printout of the trend of the leak rate. ~~The trend of the leak rate is determined by the change in calculated leak rate and the calculated leak rate.~~

The change in calculated leak rate is computed by taking the difference between the latest calculated leak rate and calculated leak rate immediately preceding.

The trend report is used primarily to determine when the leak rate is stabilizing.

Trend report values of calculated leak rate are the least squares "best-fit" values described in Section 6.2.

7.0 REFERENCES

- 7.1 "Introduction to Probability and Statistics," by William Mendenhall. Wadsworth Publishing Company, Inc., Belmont, California. July 1969. L. C. Cat. Card No.: 67-19290.
- 7.2 Appendix J to 10 CFR Part 50, "Reactor Containment Leakage Testing for Water Cooled Power Reactors."
- 7.3 ANSI N45.4-1972, "Leakage Rate Testing of Containment Structures for Nuclear Reactors." (Formerly ANS 7.60.)
- 7.4 ORNL-NSIC-26, "Testing of Containment Systems used with Light-Water-Cooled Power Reactors", by Frank C. Zapp, August 1968.
- 7.5 "Final Results of the Carolinas Virginia Tube Reactor Containment Leakage Rate Tests", by G. E. Bingham, IN-1399, June 1970.

MARSH & McLENNAN

3/25

J. R. Calhoun, 702 EB, C
R. H. Davidson, 303 PrB, C
R. T. Hathcote, Browns Ferry
Attn: M. N. Sawyer

March 19, 1975

Mr. Erik Kvaven, Assistant Chief
Nuclear Procurement Branch
Tennessee Valley Authority
112 Lupton Building
Chattanooga, Tenn. 37401

Dear Erik:

Browns Ferry 3
NELIA Inspection of ILRT
95% Confidence Limits

Enclosed are the Appendices A through E to the Bechtel BN-TOP-1 report which was forwarded with my letter of March 6, 1975.

I hope these prove useful.

Very truly yours,

John R. Duck, Jr.
John R. Duck, Jr.
Nuclear Department

JRD:ccc
Enc.

RECEIVED
23
3/31
JRC
JRC
JRC

for Erik Kvaven

MAR 21 1975

= 1330.0305

ENTER 21 TEMP. READ. IN DEG. F

T 1

= 77.59

T 2

= 78.51

T 3

= 77.72

T 4

= 77.45

T 5

= 77.63

T 6

= 77.24

T 7

= 75.86

T 8

= 75.97

T 9

= 75.88

T 10

= 76.03

T 11

= 75.88

T 12

= 76.28

T 13

= 73.15

T 14

= 74.22

T 15

= 73.48

T 16

= 73.40

T 17

= 73.48

T 18

= 70.19

T 19

= 70.27

T 20

= 69.91

T 21

= 69.96

ENTER 1 PRESS. IN PSIA

P 1

= 44.381

ENTER 6 VAP. PRESS. IN DEG. F

VP 1

= 64.09

VP 2

= 61.12

VP 3

= 56.12

VP 4

= 51.43

VP 5

= 54

VP 6

= 51.57

ILRT DEMONSTRATION REPORT

The demonstration integrated leak rate test (ILRT) presented in this Appendix is a portion of an actual containment test. In this case there was a leak of sufficient magnitude to cause the test to fail. The source of leakage was discovered and repaired and the containment was then retested satisfactorily.

An actual containment test with an excessive leak rate was used for this demonstration report to illustrate how rapidly the system detects and reports an excessive leak rate.

Pages A-2 and A-4 illustrate how data is entered for a given time period. Pages A-3 and A-5 illustrate the computer printout of temperature, pressure, and vapor pressure after all corrections have been made for calibration curves, tube constants, etc. Temperature is in degrees F, pressure in psia and vapor pressure in psia. The average containment atmosphere temperature corrected for volume fractions and the average containment absolute pressure corrected for vapor pressure and volume fractions is shown at the bottom of Pages A-3 and A-5.

"Temperature and Pressure Corrected Data Summary" values, including those shown at the bottom of Pages A-3 and A-5, are entered into the computer in the format shown at the top of page A-6.

Three report options are available. These include a Trend Report, a Total-Time Report and a Point-to-Point Report which are shown on pages A-6, A-7 and A-8 respectively.

A plot of the Total-Time Report values is shown on page A-9.

SUMMARY OF MEASURED DATA AT TIME 1330 305

TEMP	1	=	77.590
TEMP	2	=	78.510
TEMP	3	=	77.720
TEMP	4	=	77.450
TEMP	5	=	77.630
TEMP	6	=	77.240
TEMP	7	=	75.860
TEMP	8	=	75.970
TEMP	9	=	75.980
TEMP	10	=	76.030
TEMP	11	=	75.880
TEMP	12	=	76.280
TEMP	13	=	73.150
TEMP	14	=	74.220
TEMP	15	=	73.480
TEMP	16	=	73.400
TEMP	17	=	73.480
TEMP	18	=	70.190
TEMP	19	=	70.270
TEMP	20	=	69.910
TEMP	21	=	69.960
TPRS	1	=	44.381
VPRS	1	=	0.296
VPRS	2	=	0.257
VPRS	3	=	0.223
VPRS	4	=	0.188
VPRS	5	=	0.206
VPRS	6	=	0.189

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1330
 DATE = 305
 TEMP = 76.423717
 PRES = 44.191677

GPR-4

T 2
= 78.47
T 3
= 77.54
T 4
= 77.35
T 5
= 77.52
T 6
= 77.16
T 7
= 75.75
T 8
= 75.85
T 9
= 75.76
T 10
= 75.92
T 11
= 75.72
T 12
= 76.23
T 13
= 73.06
T 14
= 74.14
T 15
= 73.39
T 16
= 73.32
T 17
= 73.42
T 18
= 70.11
T 19
= 70.23
T 20
= 69.86
T 21
= 69.90

ENTER 1 PRESS. IN PSIA

P 1
= 44.370

ENTER 6 VAP. PRESS. IN DEG. F

VP 1
= 64.09
VP 2
= 61.12
VP 3
= 56.12
VP 4
= 51.43
VP 5
= 54
VP 6
= 51.57

SUMMARY OF MEASURED DATA AT TIME 1400 305

TEMP	1	=	77.460
TEMP	2	=	78.470
TEMP	3	=	77.540
TEMP	4	=	77.350
TEMP	5	=	77.520
TEMP	6	=	77.160
TEMP	7	=	75.750
TEMP	8	=	75.850
TEMP	9	=	75.760
TEMP	10	=	75.920
TEMP	11	=	75.720
TEMP	12	=	76.230
TEMP	13	=	73.060
TEMP	14	=	74.140
TEMP	15	=	73.390
TEMP	16	=	73.320
TEMP	17	=	73.420
TEMP	18	=	70.110
TEMP	19	=	70.230
TEMP	20	=	69.960
TEMP	21	=	69.900
TPRS	1	=	44.370
VPRS	1	=	0.296
VPRS	2	=	0.257
VPRS	3	=	0.223
VPRS	4	=	0.188
VPRS	5	=	0.296
VPRS	6	=	0.189

TEMP. AND PRESS. CORRECTED DATA SUMMARY

TIME = 1400

DATE = 305

TEMP = 76.332724

PRES = 44.181110

WHEN FINISHED ENTER 9999....

= 0800, 0305, 78.000559, 44.358173
= 0830, 0305, 77.832982, 44.340354
= 0900, 0305, 77.590538, 44.321431
= 0930, 0305, 77.496316, 44.300600
= 1000, 0305, 77.226938, 44.283097
= 1030, 0305, 77.127488, 44.267222
= 1100, 0305, 76.972475, 44.252736
= 1130, 0305, 76.822943, 44.239474
= 1200, 0305, 76.709837, 44.228717
= 1230, 0305, 76.580254, 44.213970
= 1300, 0305, 76.539358, 44.202492
= 1330, 0305, 76.423717, 44.191677
= 1400, 0305, 76.332724, 44.181110
= 9999,.,.,

ILRT DEMONSTRATION REPORT

TIME, DATE START OF TEST 8.00 305

TIME AFTER START OF TEST = 6.00 HR.

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR <i>for mean</i>	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
1.50	4	0.387E+00	0.460E+00	
2.00	5	0.366E+00	0.373E+00	-0.874E-01
2.50	6	0.375E+00	0.397E+00	0.237E-01
3.00	7	0.374E+00	0.389E+00	-0.774E-02
3.50	8	0.368E+00	0.366E+00	-0.227E-01
4.00	9	0.361E+00	0.343E+00	-0.235E-01
4.50	10	0.357E+00	0.333E+00	-0.986E-02
5.00	11	0.360E+00	0.345E+00	0.125E-01
5.50	12	0.360E+00	0.348E+00	0.210E-02
6.00	13	0.359E+00	0.349E+00	0.993E-03

THE CALCULATED LEAK RATE IS 0.349E+00
 THE MAXIMUM ALLOWABLE LEAK RATE IS 0.283E+00
 THE LAST 0 DATA POINTS ESTABLISH A NEGATIVE SLOPE

ILRT DEMONSTRATION REPORT

TIME, DATE START OF TEST 8.00 305

TIME AFTER START OF TEST = 6.00 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
8.50	77.83	44.340	0.428E+00	0.370E+00	0.11E+00	0.63E+00
9.00	77.59	44.321	0.156E+00	0.368E+00	0.12E+00	0.62E+00
9.50	77.50	44.301	0.576E+00	0.366E+00	0.12E+00	0.61E+00
10.00	77.23	44.283	0.304E+00	0.364E+00	0.12E+00	0.60E+00
10.50	77.13	44.267	0.409E+00	0.362E+00	0.13E+00	0.60E+00
11.00	76.97	44.253	0.372E+00	0.360E+00	0.13E+00	0.60E+00
11.50	76.82	44.239	0.333E+00	0.358E+00	0.12E+00	0.59E+00
12.00	76.71	44.229	0.311E+00	0.356E+00	0.12E+00	0.59E+00
12.50	76.58	44.214	0.325E+00	0.354E+00	0.12E+00	0.59E+00
13.00	76.54	44.202	0.381E+00	0.352E+00	0.11E+00	0.60E+00
13.50	76.42	44.192	0.359E+00	0.350E+00	0.10E+00	0.60E+00
14.00	76.33	44.181	0.357E+00	0.349E+00	0.92E-01	0.61E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.359E+00

THE STANDARD DEVIATION IS 0.968E-01

SKREW IS POSITIVE

THE CALCULATED LEAK RATE AFTER 6.00 HOURS OF TEST IS 0.349E+00

ILRT DEMONSTRATION REPORT

TIME, DATE START OF TEST 8.00 305

TIME AFTER START OF TEST = 6.00 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
7.00						
8.50	77.83	44.340	0.428E+00	0.354E+00	-0.98E+00	0.17E+01
9.00	77.59	44.321	-0.116E+00	0.354E+00	-0.95E+00	0.17E+01
9.50	77.50	44.301	0.141E+01	0.355E+00	-0.92E+00	0.16E+01
10.00	77.23	44.283	-0.511E+00	0.355E+00	-0.89E+00	0.16E+01
10.50	77.13	44.267	0.832E+00	0.356E+00	-0.88E+00	0.16E+01
11.00	76.97	44.252	0.185E+00	0.356E+00	-0.87E+00	0.16E+01
11.50	76.82	44.239	0.101E+00	0.357E+00	-0.87E+00	0.16E+01
12.00	76.71	44.229	0.155E+00	0.358E+00	-0.87E+00	0.16E+01
12.50	76.56	44.214	0.441E+00	0.358E+00	-0.89E+00	0.16E+01
13.00	76.54	44.202	0.880E+00	0.359E+00	-0.91E+00	0.16E+01
13.50	76.42	44.192	0.139E+00	0.359E+00	-0.94E+00	0.17E+01
4.00	76.33	44.181	0.333E+00	0.360E+00	-0.98E+00	0.17E+01

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.357E+00

THE STANDARD DEVIATION IS 0.504E+00

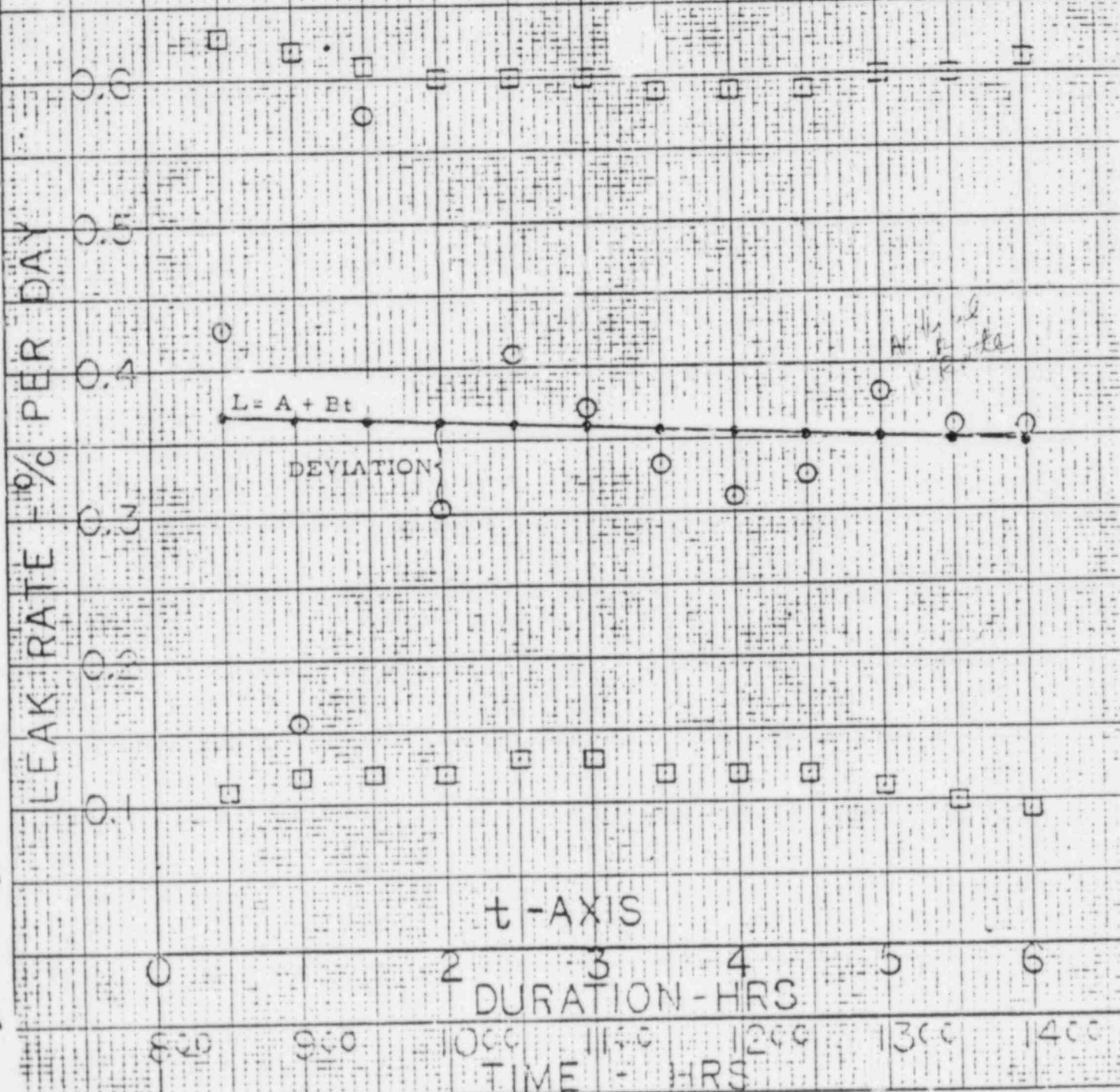
SKEW IS POSITIVE

THE CALCULATED LEAK RATE AFTER 6.00 HOURS OF TEST IS 0.360E+00

BASED ON TOTAL-TIME CALCULATIONS

○ MEASURED
 • CALCULATED
 □ 95% CONF LIMITS

L-AXIS



CONTAINMENT INTEGRATED LEAK
RATE TEST RESULTS

Appendix B consists of computer printouts of the integrated leak rate test results for seven containments tested by Bechtel personnel.

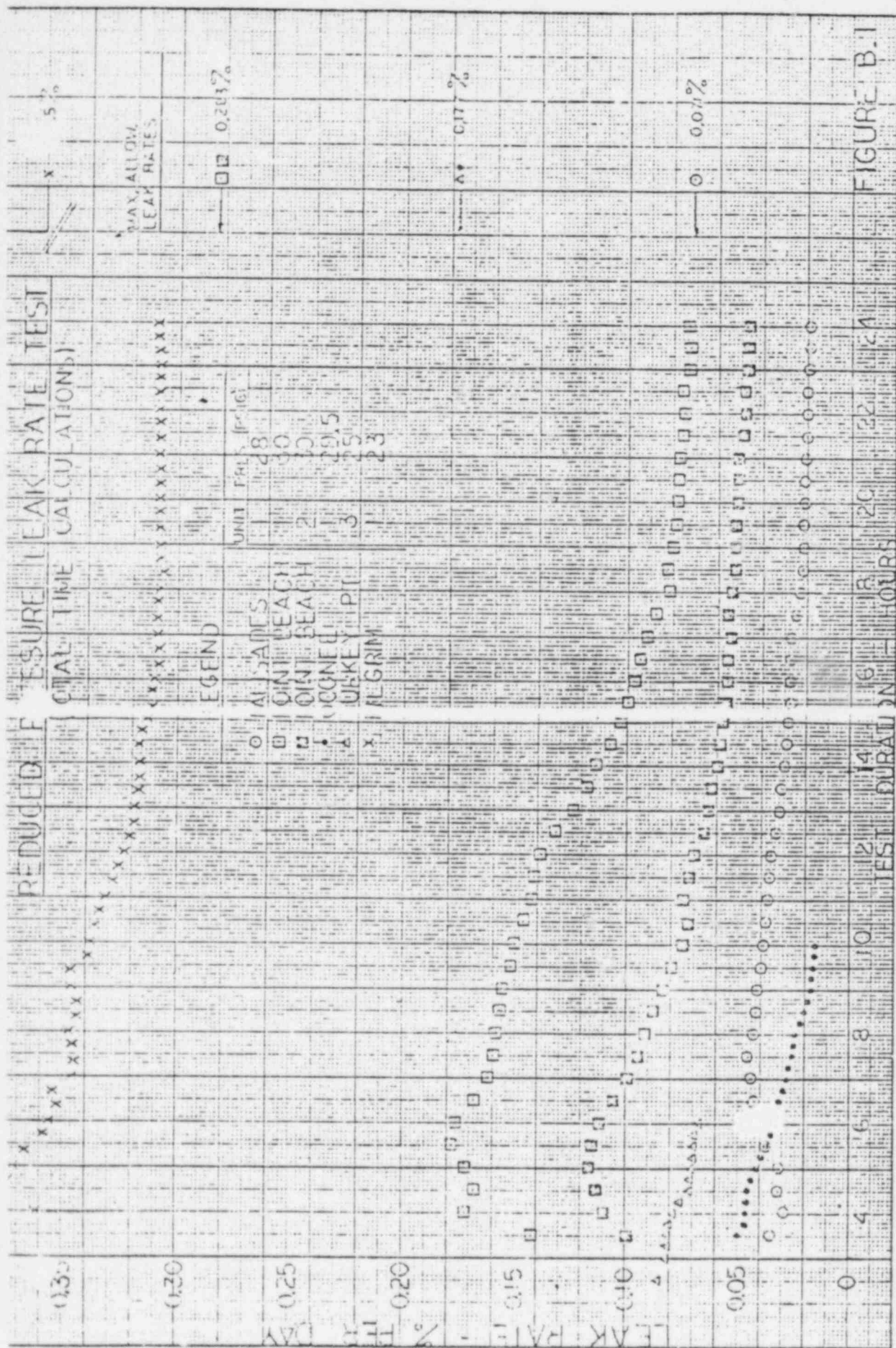
The computer printouts appear in the following order:

			<u>Page</u>
Palisades	28	psig ILRT	B-4 thru B-8
Palisades	55	psig ILRT	B-9 thru B-13
Point Beach Unit 1	30	psig ILRT	B-14 thru B-18
Point Beach Unit 1	60	psig ILRT	B-19 thru B-23
Point Beach Unit 2	30	psig ILRT	B-24 thru B-28
Point Beach Unit 2	60	psig ILRT	B-29 thru B-33
Turkey Point Unit 3	25	psig ILRT	B-34 thru B-37
Turkey Point Unit 3	50	psig ILRT	B-38 thru B-42
Oconee Unit 1	29.5	psig ILRT	B-43 thru B-46
Oconee Unit 1	59	psig ILRT	B-47 thru B-50
Turkey Point Unit 4	25	psig ILRT	B-51 thru B-54
Turkey Point Unit 4	50	psig ILRT	B-55 thru B-58
Pilgrim Station Unit 1	23	psig ILRT	B-59 thru B-66
Pilgrim Station Unit 1	45	psig ILRT	B-67 thru B-74

Each printout consists of a listing of the Temperature and Pressure Corrected Data Summary, the Trend Report, the Total-Time Calculations Report and the Point-to-Point Calculations Report.

Figures B.1 and B.2, on pages B-2 and B-3 respectively, graphically present the Trend Reports for each containment test. These graphs are provided to concisely illustrate the integrated leak rate test result trends for the containments included in Appendix B.

Containment integrated leak rate test results are currently reported based on Total-Time Calculations.

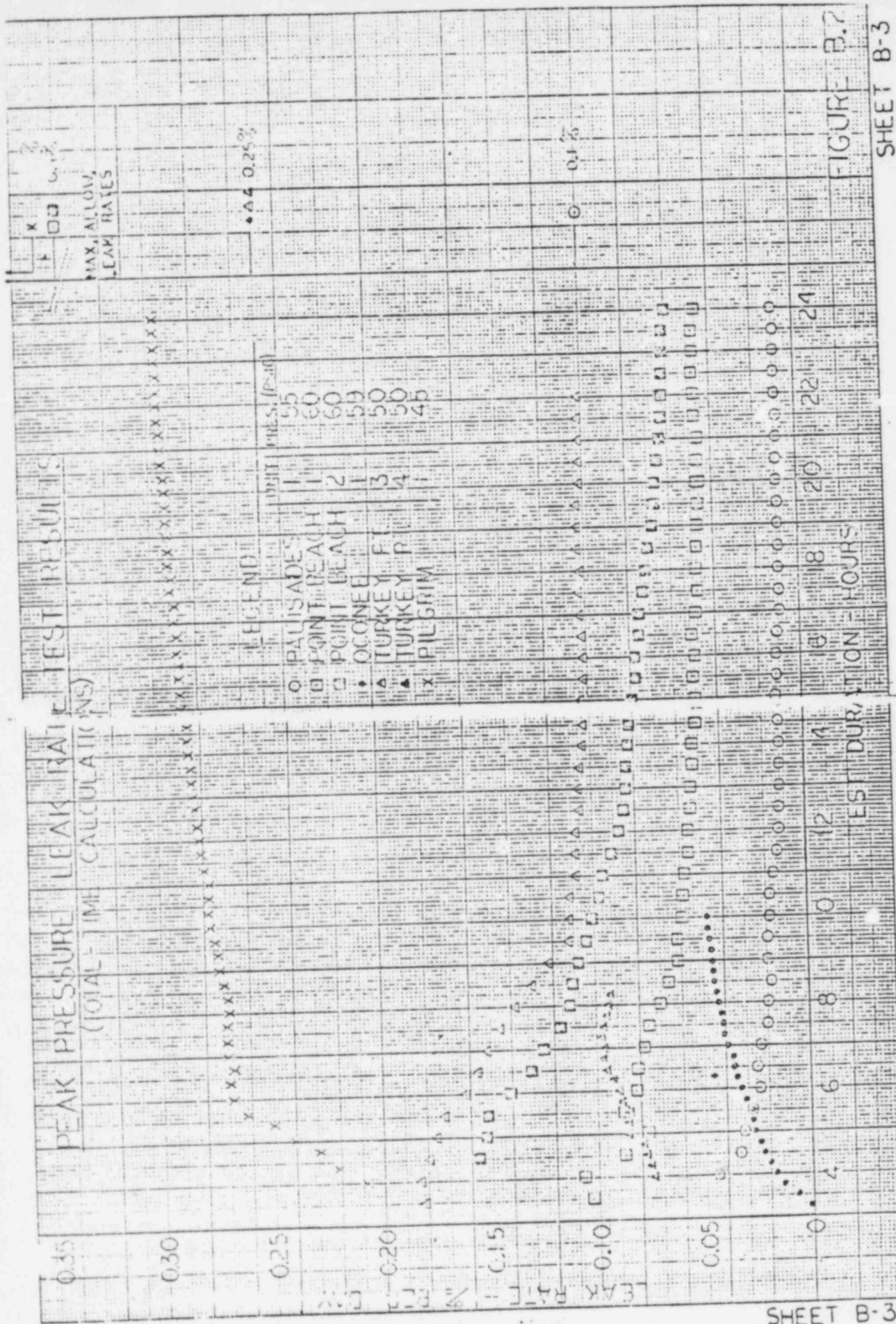


SHEET B-2

FIGURE B.1

SHEET B-2

48 105170



ENTER 1142, 1478, 1490, 1495

WHEN FINISHED ENTER 9999, , , ,

= 0800,0524,76.515710,43.800968
 = 0830,0524,76.510129,43.800834
 = 0900,0524,76.509181,43.800698
 = 0930,0524,76.522130,43.800629
 = 1000,0524,76.518581,43.800932
 = 1030,0524,76.518448,43.799203
 = 1100,0524,76.508528,43.798681
 = 1130,0524,76.528868,43.800265
 = 1200,0524,76.509138,43.799022
 = 1230,0524,76.522077,43.798635
 = 1300,0524,76.513416,43.798643
 = 1330,0524,76.511632,43.797055
 = 1400,0524,76.509263,43.796762
 = 1430,0524,76.511373,43.794152
 = 1500,0524,76.509291,43.795151
 = 1530,0524,76.511458,43.794138
 = 1600,0524,76.499705,43.795765
 = 1630,0524,76.492436,43.794138
 = 1700,0524,76.500337,43.793972
 = 1730,0524,76.497284,43.794227
 = 1800,0524,76.469676,43.791426
 = 1830,0524,76.483112,43.794051
 = 1900,0524,76.487583,43.792702
 = 1930,0524,76.481813,43.793079
 = 2000,0524,76.480240,43.791157
 = 2030,0524,76.454731,43.791013
 = 2100,0524,76.452633,43.790710
 = 2130,0524,76.452804,43.790449
 = 2200,0524,76.445662,43.790346
 = 2230,0524,76.459216,43.790196
 = 2300,0524,76.444523,43.789135
 = 2330,0524,76.451384,43.787488
 = 2400,0524,76.452312,43.789277
 = 0030,0525,76.449600,43.788275
 = 0100,0525,76.445625,43.789865
 = 0130,0525,76.434468,43.789661
 = 0200,0525,76.455931,43.789637
 = 0230,0525,76.429556,43.788603
 = 0300,0525,76.457891,43.788121
 = 0330,0525,76.433954,43.787339
 = 0400,0525,76.438507,43.788966
 = 0430,0525,76.443572,43.787570
 = 0500,0525,76.434651,43.786322
 = 0530,0525,76.437989,43.787262
 = 0600,0525,76.447623,43.788217
 = 0630,0525,76.438611,43.786209
 = 0700,0525,76.450584,43.787111
 = 0730,0525,76.444549,43.786575
 = 0800,0525,76.435616,43.784291
 = 9999, , , ,

TIME AFTER START OF TEST = 24.00 HP

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
1.50	4	0.185E-01	0.230E-01	
2.00	5	0.158E-01	0.134E-01	-0.956E-02
2.50	6	0.213E-01	0.309E-01	0.175E-01
3.00	7	0.229E-01	0.333E-01	0.236E-02
3.50	8	0.237E-01	0.330E-01	-0.294E-02
4.00	9	0.231E-01	0.291E-01	-0.389E-02
4.50	10	0.244E-01	0.323E-01	0.320E-02
5.00	11	0.243E-01	0.305E-01	-0.177E-02
5.50	12	0.253E-01	0.331E-01	0.258E-02
6.00	13	0.260E-01	0.343E-01	0.124E-02
6.50	14	0.282E-01	0.410E-01	0.663E-02
7.00	15	0.292E-01	0.427E-01	0.170E-02
7.50	16	0.304E-01	0.454E-01	0.271E-02
8.00	17	0.301E-01	0.428E-01	-0.261E-02
8.50	18	0.302E-01	0.417E-01	-0.105E-02
9.00	19	0.305E-01	0.415E-01	-0.244E-03
9.50	20	0.305E-01	0.403E-01	-0.116E-02
10.00	21	0.305E-01	0.396E-01	-0.708E-03
10.50	22	0.301E-01	0.373E-01	-0.231E-02
11.00	23	0.301E-01	0.366E-01	-0.694E-03
11.50	24	0.299E-01	0.351E-01	-0.148E-02
12.00	25	0.300E-01	0.350E-01	-0.156E-03
12.50	26	0.296E-01	0.334E-01	-0.162E-02
13.00	27	0.293E-01	0.319E-01	-0.146E-02
13.50	28	0.290E-01	0.307E-01	-0.123E-02
14.00	29	0.287E-01	0.292E-01	-0.145E-02
14.50	30	0.285E-01	0.285E-01	-0.746E-03
15.00	31	0.283E-01	0.277E-01	-0.826E-03
15.50	32	0.283E-01	0.278E-01	0.137E-03
16.00	33	0.281E-01	0.271E-01	-0.685E-03
16.50	34	0.280E-01	0.267E-01	-0.399E-03
17.00	35	0.277E-01	0.256E-01	-0.113E-02
17.50	36	0.273E-01	0.243E-01	-0.131E-02
18.00	37	0.271E-01	0.236E-01	-0.655E-03
18.50	38	0.268E-01	0.228E-01	-0.992E-03
19.00	39	0.267E-01	0.225E-01	-0.127E-03
19.50	40	0.265E-01	0.220E-01	-0.498E-03
20.00	41	0.262E-01	0.211E-01	-0.870E-03
20.50	42	0.261E-01	0.208E-01	-0.338E-03
21.00	43	0.260E-01	0.206E-01	-0.227E-03
21.50	44	0.258E-01	0.202E-01	-0.403E-03
22.00	45	0.257E-01	0.201E-01	-0.162E-04
22.50	46	0.256E-01	0.199E-01	-0.198E-03
23.00	47	0.255E-01	0.197E-01	-0.203E-03
23.50	48	0.254E-01	0.195E-01	-0.213E-03
24.00	49	0.253E-01	0.196E-01	0.577E-04

THE CALCULATED LEAK RATE IS 0.196E-01
 THE MAXIMUM ALLOWABLE LEAK RATE IS 0.714E-01
 THE LAST 0 DATA POINTS ESTABLISH A NEGATIVE SLOPE

PALISADES 28 PSIG ILRT

TIME, DATE START OF TEST 8.00 524

TIME AFTER START OF TEST = 24.00 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
8.50	76.51	43.800	0.305E-01	0.311E-01	0.96E-02	0.53E-01
9.00	76.51	43.801	-0.144E-01	0.308E-01	0.94E-02	0.52E-01
9.50	76.52	43.800	0.395E-01	0.306E-01	0.92E-02	0.52E-01
10.00	76.52	43.801	0.742E-02	0.303E-01	0.90E-02	0.52E-01
10.50	76.52	43.799	0.436E-01	0.301E-01	0.88E-02	0.51E-01
11.00	76.51	43.799	0.311E-01	0.299E-01	0.86E-02	0.51E-01
11.50	76.53	43.800	0.279E-01	0.296E-01	0.84E-02	0.51E-01
12.00	76.51	43.799	0.193E-01	0.294E-01	0.82E-02	0.51E-01
12.50	76.52	43.799	0.347E-01	0.291E-01	0.80E-02	0.50E-01
13.00	76.51	43.799	0.234E-01	0.289E-01	0.78E-02	0.50E-01
13.50	76.51	43.797	0.357E-01	0.286E-01	0.75E-02	0.50E-01
14.00	76.51	43.797	0.336E-01	0.284E-01	0.73E-02	0.49E-01
14.50	76.51	43.794	0.545E-01	0.281E-01	0.71E-02	0.49E-01
15.00	76.51	43.795	0.414E-01	0.279E-01	0.69E-02	0.49E-01
15.50	76.51	43.794	0.474E-01	0.277E-01	0.67E-02	0.49E-01
16.00	76.50	43.796	0.267E-01	0.274E-01	0.64E-02	0.48E-01
16.50	76.49	43.794	0.318E-01	0.272E-01	0.62E-02	0.48E-01
17.00	76.50	43.794	0.350E-01	0.269E-01	0.60E-02	0.48E-01
17.50	76.50	43.794	0.302E-01	0.267E-01	0.58E-02	0.48E-01
18.00	76.47	43.791	0.317E-01	0.264E-01	0.55E-02	0.47E-01
18.50	76.48	43.794	0.222E-01	0.262E-01	0.53E-02	0.47E-01
19.00	76.49	43.793	0.297E-01	0.259E-01	0.51E-02	0.47E-01
19.50	76.48	43.793	0.244E-01	0.257E-01	0.48E-02	0.47E-01
20.00	76.48	43.791	0.316E-01	0.255E-01	0.46E-02	0.46E-01
20.50	76.45	43.791	0.218E-01	0.252E-01	0.43E-02	0.46E-01
21.00	76.45	43.791	0.215E-01	0.250E-01	0.41E-02	0.46E-01
21.50	76.45	43.790	0.218E-01	0.247E-01	0.38E-02	0.46E-01
22.00	76.45	43.790	0.192E-01	0.245E-01	0.36E-02	0.45E-01
22.50	76.46	43.790	0.233E-01	0.242E-01	0.33E-02	0.45E-01
23.00	76.44	43.789	0.220E-01	0.240E-01	0.31E-02	0.45E-01
23.50	76.45	43.787	0.291E-01	0.237E-01	0.28E-02	0.45E-01
24.00	76.45	43.789	0.223E-01	0.235E-01	0.26E-02	0.44E-01
24.50	76.45	43.788	0.242E-01	0.233E-01	0.23E-02	0.44E-01
25.00	76.45	43.790	0.173E-01	0.230E-01	0.20E-02	0.44E-01
25.50	76.43	43.790	0.146E-01	0.228E-01	0.18E-02	0.44E-01
26.00	76.46	43.790	0.196E-01	0.225E-01	0.15E-02	0.44E-01
26.50	76.43	43.789	0.158E-01	0.223E-01	0.12E-02	0.43E-01
27.00	76.46	43.788	0.234E-01	0.220E-01	0.95E-03	0.43E-01

27.50	76.43	43.787	0.195E-01	0.212E-01	0.67E-03	0.43E-01
28.00	76.44	43.789	0.152E-01	0.215E-01	0.39E-03	0.43E-01
28.50	76.44	43.788	0.201E-01	0.213E-01	0.11E-03	0.42E-01
29.00	76.43	43.786	0.209E-01	0.211E-01	-0.17E-03	0.42E-01
29.50	76.44	43.787	0.198E-01	0.208E-01	-0.45E-03	0.42E-01
30.00	76.45	43.786	0.228E-01	0.206E-01	-0.74E-03	0.42E-01
30.50	76.44	43.786	0.206E-01	0.203E-01	-0.10E-02	0.42E-01
31.00	76.45	43.787	0.203E-01	0.201E-01	-0.13E-02	0.41E-01
31.50	76.44	43.787	0.200E-01	0.199E-01	-0.16E-02	0.41E-01
32.00	76.44	43.784	0.231E-01	0.196E-01	-0.19E-02	0.41E-01

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.253E-01
 THE STANDARD DEVIATION IS 0.107E-01
 SKEW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.196E-01

PALISADES 28 PSIG ILRT

TIME, DATE START OF TEST 8.00 524

TIME AFTER START OF TEST = 24.00 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
8.50	76.51	43.800	0.305E-01	0.240E-01	-0.28E+00	0.33E+00
9.00	76.51	43.801	-0.592E-01	0.240E-01	-0.28E+00	0.33E+00
9.50	76.52	43.800	0.147E+00	0.240E-01	-0.28E+00	0.33E+00
10.00	76.52	43.801	-0.886E-01	0.239E-01	-0.28E+00	0.33E+00
10.50	76.52	43.799	0.188E+00	0.239E-01	-0.28E+00	0.33E+00
11.00	76.51	43.799	-0.316E-01	0.239E-01	-0.28E+00	0.33E+00
11.50	76.53	43.800	0.878E-02	0.238E-01	-0.28E+00	0.33E+00
12.00	76.51	43.799	-0.406E-01	0.238E-01	-0.28E+00	0.33E+00
12.50	76.52	43.799	0.158E+00	0.237E-01	-0.28E+00	0.32E+00
13.00	76.51	43.799	-0.784E-01	0.237E-01	-0.28E+00	0.32E+00
13.50	76.51	43.797	0.158E+00	0.237E-01	-0.28E+00	0.32E+00
14.00	76.51	43.797	0.110E-01	0.236E-01	-0.28E+00	0.32E+00
14.50	76.51	43.794	0.305E+00	0.236E-01	-0.28E+00	0.32E+00
15.00	76.51	43.795	-0.128E+00	0.236E-01	-0.28E+00	0.32E+00

15.50	76.51	43.794	0.131E+00	0.235E-01	-0.27E+00	0.32E+00
16.00	76.50	43.796	-0.283E+00	0.235E-01	-0.27E+00	0.32E+00
16.50	76.49	43.794	0.113E+00	0.235E-01	-0.27E+00	0.32E+00
17.00	76.50	43.794	0.690E-01	0.234E-01	-0.27E+00	0.32E+00
17.50	76.50	43.794	-0.552E-01	0.234E-01	-0.27E+00	0.32E+00
18.00	76.47	43.791	0.605E-01	0.234E-01	-0.27E+00	0.32E+00
18.50	76.48	43.794	-0.188E+00	0.233E-01	-0.27E+00	0.32E+00
19.00	76.49	43.793	0.188E+00	0.233E-01	-0.27E+00	0.32E+00
19.50	76.48	43.793	-0.929E-01	0.232E-01	-0.27E+00	0.32E+00
20.00	76.48	43.791	0.197E+00	0.232E-01	-0.27E+00	0.32E+00
20.50	76.45	43.791	-0.213E+00	0.232E-01	-0.27E+00	0.32E+00
21.00	76.45	43.791	0.145E-01	0.231E-01	-0.27E+00	0.32E+00
21.50	76.45	43.790	0.302E-01	0.231E-01	-0.27E+00	0.32E+00
22.00	76.45	43.790	-0.526E-01	0.231E-01	-0.27E+00	0.32E+00
22.50	76.46	43.790	0.136E+00	0.230E-01	-0.27E+00	0.32E+00
23.00	76.44	43.789	-0.152E-01	0.230E-01	-0.27E+00	0.32E+00
23.50	76.45	43.787	0.242E+00	0.230E-01	-0.27E+00	0.32E+00
24.00	76.45	43.789	-0.188E+00	0.229E-01	-0.27E+00	0.32E+00
24.50	76.45	43.788	0.838E-01	0.229E-01	-0.28E+00	0.32E+00
25.00	76.45	43.790	-0.208E+00	0.229E-01	-0.28E+00	0.32E+00
25.50	76.48	43.790	-0.775E-01	0.228E-01	-0.28E+00	0.32E+00
26.00	76.46	43.790	0.195E+00	0.228E-01	-0.28E+00	0.32E+00
26.50	76.43	43.789	-0.123E+00	0.227E-01	-0.28E+00	0.32E+00
27.00	76.46	43.788	0.307E+00	0.227E-01	-0.28E+00	0.32E+00
27.50	76.43	43.787	-0.129E+00	0.227E-01	-0.28E+00	0.32E+00
28.00	76.44	43.789	-0.154E+00	0.226E-01	-0.28E+00	0.32E+00
28.50	76.44	43.788	0.214E+00	0.226E-01	-0.28E+00	0.32E+00
29.00	76.43	43.786	0.570E-01	0.226E-01	-0.28E+00	0.32E+00
29.50	76.44	43.787	-0.730E-01	0.225E-01	-0.28E+00	0.32E+00
30.00	76.45	43.786	0.195E+00	0.225E-01	-0.28E+00	0.33E+00
30.50	76.44	43.786	-0.743E-01	0.225E-01	-0.28E+00	0.33E+00
31.00	76.45	43.787	0.849E-02	0.224E-01	-0.28E+00	0.33E+00
31.50	76.44	43.787	0.469E-02	0.224E-01	-0.28E+00	0.33E+00
32.00	76.44	43.784	0.171E+00	0.223E-01	-0.28E+00	0.33E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.232E-01
 THE STANDARD DEVIATION IS 0.144E+00
 SKEW IS POSITIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.223E-01

ENTER TIME, DATE, TEMP, PRESS
 WHEN FINISHED ENTER 9999, , , ,
 = 1800,0521,76.955275,70.251714
 = 1830,0521,76.950001,70.253125
 = 1900,0521,76.931413,70.249877
 = 1930,0521,76.916763,70.245260
 = 2000,0521,76.924393,70.246571
 = 2030,0521,76.929121,70.247675
 = 2100,0521,76.932914,70.244140
 = 2130,0521,76.900739,70.246430
 = 2200,0521,76.902620,70.245857
 = 2230,0521,76.907342,70.244586
 = 2300,0521,76.903403,70.245139
 = 2330,0521,76.899224,70.244359
 = 2400,0521,76.891999,70.242582
 = 0030,0522,76.895716,70.241735
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 = 0300,0522,76.890189,70.240771
 = 0330,0522,76.893982,70.240327
 = 0400,0522,76.893201,70.242523
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 = 0500,0522,76.887478,70.243184
 = 0530,0522,76.886964,70.244073
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 = 1400,0522,76.939409,70.250061
 = 1430,0522,76.932377,70.246043
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 = 1530,0522,76.953078,70.247111
 = 1600,0522,76.963270,70.248009
 = 1630,0522,76.968282,70.248755
 = 1700,0522,76.969040,70.248868
 = 1730,0522,76.963612,70.248425
 = 1800,0522,76.975155,70.251495
 = 9999, , , ,

TIME AFTER START OF TEST = 24.00 HR

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
1.50	4	-0.518E-01	0.361E-01	
2.00	5	-0.341E-01	0.503E-01	0.143E-01
2.50	6	-0.256E-01	0.477E-01	-0.264E-02
3.00	7	-0.125E-01	0.679E-01	0.202E-01
3.50	8	-0.133E-01	0.452E-01	-0.227E-01
4.00	9	-0.128E-01	0.341E-01	-0.111E-01
4.50	10	-0.106E-01	0.320E-01	-0.209E-02
5.00	11	-0.973E-02	0.274E-01	-0.458E-02
5.50	12	-0.883E-02	0.243E-01	-0.305E-02
6.00	13	-0.770E-02	0.232E-01	-0.107E-02
6.50	14	-0.606E-02	0.247E-01	0.141E-02
7.00	15	-0.529E-02	0.233E-01	-0.131E-02
7.50	16	-0.485E-02	0.214E-01	-0.198E-02
8.00	17	-0.453E-02	0.195E-01	-0.190E-02
8.50	18	-0.406E-02	0.185E-01	-0.940E-03
9.00	19	-0.332E-02	0.189E-01	0.335E-03
9.50	20	-0.251E-02	0.196E-01	0.784E-03
10.00	21	-0.220E-02	0.187E-01	-0.969E-03
10.50	22	-0.186E-02	0.180E-01	-0.637E-03
11.00	23	-0.183E-02	0.164E-01	-0.160E-02
11.50	24	-0.192E-02	0.146E-01	-0.185E-02
12.00	25	-0.185E-02	0.135E-01	-0.108E-02
12.50	26	-0.153E-02	0.135E-01	0.390E-04
13.00	27	-0.158E-02	0.122E-01	-0.129E-02
13.50	28	-0.121E-02	0.127E-01	0.411E-03
14.00	29	-0.100E-02	0.125E-01	-0.175E-03
14.50	30	-0.997E-03	0.116E-01	-0.979E-03
15.00	31	-0.595E-03	0.123E-01	0.715E-03
15.50	32	-0.615E-03	0.114E-01	-0.881E-03
16.00	33	-0.482E-03	0.112E-01	-0.224E-03
16.50	34	-0.518E-03	0.104E-01	-0.824E-03
17.00	35	-0.531E-03	0.971E-02	-0.672E-03
17.50	36	-0.544E-03	0.909E-02	-0.621E-03
18.00	37	-0.308E-03	0.948E-02	0.386E-03
18.50	38	-0.329E-03	0.888E-02	-0.597E-03
19.00	39	-0.256E-03	0.869E-02	-0.191E-03
19.50	40	-0.153E-04	0.917E-02	0.480E-03
20.00	41	-0.330E-04	0.865E-02	-0.516E-03
20.50	42	0.764E-04	0.866E-02	0.847E-05
21.00	43	0.159E-03	0.858E-02	-0.802E-04
21.50	44	0.315E-03	0.880E-02	0.219E-03
22.00	45	0.475E-03	0.904E-02	0.244E-03
22.50	46	0.622E-03	0.924E-02	0.195E-03
23.00	47	0.759E-03	0.940E-02	0.162E-03
23.50	48	0.878E-03	0.950E-02	0.102E-03
24.00	49	0.943E-03	0.941E-02	-0.985E-04

THE CALCULATED LEAK RATE IS 0.941E-02
 THE MAXIMUM ALLOWABLE LEAK RATE IS 0.100E+00
 THE LAST 1 DATA POINTS ESTABLISH A NEGATIVE SLOPE

PALISADES 55 PSIG ILRT

TIME, DATE START OF TEST 18.00 521

TIME AFTER START OF TEST = 24.00 HF

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
18.50	76.95	70.253	-0.144E+00	-0.752E-02	-0.58E-01	0.43E-01
19.00	76.93	70.250	-0.440E-01	-0.716E-02	-0.58E-01	0.44E-01
19.50	76.92	70.245	0.321E-01	-0.630E-02	-0.58E-01	0.44E-01
20.00	76.92	70.247	0.188E-01	-0.644E-02	-0.57E-01	0.44E-01
20.50	76.93	70.248	0.839E-02	-0.608E-02	-0.57E-01	0.44E-01
21.00	76.93	70.244	0.529E-01	-0.572E-02	-0.56E-01	0.45E-01
21.50	76.90	70.246	-0.181E-01	-0.536E-02	-0.56E-01	0.45E-01
22.00	76.90	70.246	-0.886E-02	-0.500E-02	-0.55E-01	0.45E-01
22.50	76.91	70.245	0.647E-02	-0.464E-02	-0.55E-01	0.46E-01
23.00	76.90	70.245	-0.149E-02	-0.428E-02	-0.54E-01	0.46E-01
23.50	76.90	70.244	0.107E-03	-0.392E-02	-0.54E-01	0.46E-01
24.00	76.89	70.243	0.482E-02	-0.356E-02	-0.53E-01	0.46E-01
24.50	76.90	70.242	0.135E-01	-0.320E-02	-0.53E-01	0.47E-01
25.00	76.89	70.242	0.476E-02	-0.284E-02	-0.53E-01	0.47E-01
25.50	76.89	70.243	0.132E-02	-0.248E-02	-0.52E-01	0.47E-01
26.00	76.89	70.242	0.323E-03	-0.212E-02	-0.52E-01	0.48E-01
26.50	76.89	70.243	0.347E-02	-0.176E-02	-0.51E-01	0.48E-01
27.00	76.89	70.241	0.919E-02	-0.140E-02	-0.51E-01	0.48E-01
27.50	76.89	70.240	0.121E-01	-0.104E-02	-0.51E-01	0.49E-01
28.00	76.89	70.243	0.363E-02	-0.677E-03	-0.50E-01	0.49E-01
28.50	76.89	70.241	0.490E-02	-0.317E-03	-0.50E-01	0.49E-01
29.00	76.89	70.243	-0.108E-02	0.431E-04	-0.49E-01	0.50E-01
29.50	76.89	70.244	-0.387E-02	0.403E-03	-0.49E-01	0.50E-01
30.00	76.90	70.244	-0.391E-03	0.763E-03	-0.49E-01	0.50E-01
30.50	76.91	70.244	0.634E-02	0.113E-02	-0.48E-01	0.51E-01
31.00	76.89	70.245	-0.276E-02	0.148E-02	-0.48E-01	0.51E-01
31.50	76.93	70.245	0.839E-02	0.184E-02	-0.48E-01	0.51E-01
32.00	76.91	70.244	0.456E-02	0.220E-02	-0.47E-01	0.52E-01
32.50	76.90	70.245	-0.849E-02	0.256E-02	-0.47E-01	0.52E-01
33.00	76.92	70.243	0.110E-01	0.292E-02	-0.47E-01	0.53E-01
33.50	76.91	70.246	-0.120E-02	0.328E-02	-0.46E-01	0.53E-01
34.00	76.93	70.246	0.363E-02	0.364E-02	-0.46E-01	0.53E-01
34.50	76.91	70.247	-0.166E-02	0.400E-02	-0.46E-01	0.54E-01
35.00	76.91	70.247	-0.957E-03	0.436E-02	-0.45E-01	0.54E-01
35.50	76.92	70.248	-0.100E-02	0.472E-02	-0.45E-01	0.55E-01
36.00	76.94	70.246	0.796E-02	0.508E-02	-0.45E-01	0.55E-01

36.50	76.93	70.249	-0.110E-02	0.544E-02	-0.44E-01	0.55E-01
37.00	76.94	70.248	0.245E-02	0.580E-02	-0.44E-01	0.56E-01
37.50	76.95	70.245	0.913E-02	0.617E-02	-0.44E-01	0.56E-01
38.00	76.94	70.250	-0.724E-03	0.651E-02	-0.44E-01	0.57E-01
38.50	76.92	70.246	0.445E-02	0.689E-02	-0.43E-01	0.57E-01
39.00	76.95	70.250	0.305E-02	0.725E-02	-0.43E-01	0.58E-01
39.50	76.95	70.247	0.684E-02	0.761E-02	-0.43E-01	0.58E-01
40.00	76.96	70.248	0.738E-02	0.797E-02	-0.43E-01	0.58E-01
40.50	76.97	70.249	0.708E-02	0.833E-02	-0.42E-01	0.59E-01
41.00	76.97	70.249	0.690E-02	0.869E-02	-0.42E-01	0.59E-01
41.50	76.96	70.248	0.637E-02	0.905E-02	-0.42E-01	0.60E-01
42.00	76.98	70.252	0.402E-02	0.941E-02	-0.42E-01	0.60E-01

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.943E-03
 THE STANDARD DEVIATION IS 0.246E-01
 SKEW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.941E-02

PALISADES 55 PSIG ILRT

TIME, DATE START OF TEST 18.00 521

TIME AFTER START OF TEST = 24.00 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MERCURIED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS
18.50	76.95	70.253	-0.144E+00	0.333E-02	-0.37E+00 0.38E+00
19.00	76.93	70.250	0.358E-01	0.336E-02	-0.37E+00 0.38E+00
19.50	76.92	70.245	0.185E+00	0.340E-02	-0.37E+00 0.38E+00
20.00	76.92	70.247	-0.212E-01	0.343E-02	-0.37E+00 0.38E+00
20.50	76.93	70.248	-0.331E-01	0.346E-02	-0.37E+00 0.38E+00
21.00	76.93	70.244	0.276E+00	0.349E-02	-0.37E+00 0.38E+00
21.50	76.90	70.246	-0.444E+00	0.352E-02	-0.37E+00 0.38E+00
22.00	76.90	70.246	0.561E-01	0.355E-02	-0.37E+00 0.38E+00
22.50	76.91	70.245	0.129E+00	0.359E-02	-0.37E+00 0.38E+00
23.00	76.90	70.245	-0.730E-01	0.362E-02	-0.37E+00 0.38E+00
23.50	76.90	70.244	0.160E-01	0.365E-02	-0.37E+00 0.37E+00
24.00	76.89	70.243	0.568E-01	0.368E-02	-0.37E+00 0.37E+00

24.50	76.90	70.242	0.118E+00	0.371E-02	-0.37E+00	0.37E+00
25.00	76.89	70.242	-0.109E+00	0.374E-02	-0.37E+00	0.37E+00
25.50	76.89	70.243	-0.468E-01	0.377E-02	-0.37E+00	0.37E+00
26.00	76.89	70.242	-0.146E-01	0.381E-02	-0.37E+00	0.37E+00
26.50	76.89	70.243	0.539E-01	0.384E-02	-0.36E+00	0.37E+00
27.00	76.89	70.241	0.106E+00	0.387E-02	-0.36E+00	0.37E+00
27.50	76.89	70.240	0.644E-01	0.390E-02	-0.36E+00	0.37E+00
28.00	76.89	70.243	-0.157E+00	0.393E-02	-0.36E+00	0.37E+00
28.50	76.89	70.241	0.304E-01	0.396E-02	-0.36E+00	0.37E+00
29.00	76.89	70.243	-0.127E+00	0.400E-02	-0.36E+00	0.37E+00
29.50	76.89	70.244	-0.652E-01	0.403E-02	-0.36E+00	0.37E+00
30.00	76.90	70.244	0.796E-01	0.406E-02	-0.36E+00	0.37E+00
30.50	76.91	70.244	0.165E+00	0.409E-02	-0.36E+00	0.37E+00
31.00	76.89	70.245	-0.228E+00	0.412E-02	-0.36E+00	0.37E+00
31.50	76.93	70.245	0.298E+00	0.415E-02	-0.36E+00	0.37E+00
32.00	76.91	70.244	-0.990E-01	0.419E-02	-0.36E+00	0.37E+00
32.50	76.90	70.245	-0.152E+00	0.422E-02	-0.36E+00	0.37E+00
33.00	76.92	70.243	0.356E+00	0.425E-02	-0.36E+00	0.37E+00
33.50	76.91	70.246	-0.368E+00	0.428E-02	-0.36E+00	0.37E+00
34.00	76.93	70.246	0.153E+00	0.431E-02	-0.36E+00	0.37E+00
34.50	76.91	70.247	-0.171E+00	0.434E-02	-0.36E+00	0.37E+00
35.00	76.91	70.247	0.223E-01	0.438E-02	-0.36E+00	0.37E+00
35.50	76.92	70.248	-0.243E-02	0.441E-02	-0.37E+00	0.37E+00
36.00	76.94	70.246	0.322E+00	0.444E-02	-0.37E+00	0.37E+00
36.50	76.93	70.249	-0.327E+00	0.447E-02	-0.37E+00	0.38E+00
37.00	76.94	70.248	0.134E+00	0.450E-02	-0.37E+00	0.38E+00
37.50	76.95	70.245	0.263E+00	0.453E-02	-0.37E+00	0.38E+00
38.00	76.94	70.250	-0.385E+00	0.457E-02	-0.37E+00	0.38E+00
38.50	76.93	70.246	0.212E+00	0.460E-02	-0.37E+00	0.38E+00
39.00	76.95	70.250	-0.335E-01	0.463E-02	-0.37E+00	0.38E+00
39.50	76.95	70.247	0.146E+00	0.466E-02	-0.37E+00	0.38E+00
40.00	76.96	70.248	0.299E-01	0.469E-02	-0.37E+00	0.38E+00
40.50	76.97	70.249	-0.616E-02	0.472E-02	-0.37E+00	0.38E+00
41.00	76.97	70.249	-0.746E-03	0.476E-02	-0.37E+00	0.38E+00
41.50	76.96	70.248	-0.182E-01	0.479E-02	-0.37E+00	0.38E+00
42.00	76.98	70.252	-0.107E+00	0.482E-02	-0.37E+00	0.38E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.408E-02

THE STANDARD DEVIATION IS 0.179E+00

SKEW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.482E-02

ENTER TIME, DATE, TEMP, PRESS

WHEN FINISHED ENTER 9999,...

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= 1500,0621,81.841445,44.647033
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= 1600,0621,81.950265,44.652030
= 9999,...
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TIME AFTER START OF TEST = 24.00 HR

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
1.50	4	0.488E+00	0.188E+00	
2.00	5	0.436E+00	0.162E+00	-0.257E-01
2.50	6	0.399E+00	0.142E+00	-0.204E-01
3.00	7	0.370E+00	0.124E+00	-0.173E-01
3.50	8	0.354E+00	0.130E+00	0.920E-02
4.00	9	0.351E+00	0.172E+00	0.383E-01
4.50	10	0.339E+00	0.168E+00	-0.325E-02
5.00	11	0.332E+00	0.174E+00	0.527E-02
5.50	12	0.326E+00	0.179E+00	0.522E-02
6.00	13	0.318E+00	0.176E+00	-0.327E-02
6.50	14	0.310E+00	0.167E+00	-0.905E-02
7.00	15	0.304E+00	0.163E+00	-0.374E-02
7.50	16	0.298E+00	0.160E+00	-0.308E-02
8.00	17	0.293E+00	0.158E+00	-0.186E-02
8.50	18	0.289E+00	0.157E+00	-0.443E-03
9.00	19	0.285E+00	0.156E+00	-0.160E-02
9.50	20	0.280E+00	0.151E+00	-0.486E-02
10.00	21	0.276E+00	0.150E+00	-0.115E-02
10.50	22	0.272E+00	0.146E+00	-0.351E-02
11.00	23	0.269E+00	0.143E+00	-0.299E-02
11.50	24	0.265E+00	0.141E+00	-0.251E-02
12.00	25	0.262E+00	0.139E+00	-0.219E-02
12.50	26	0.258E+00	0.132E+00	-0.654E-02
13.00	27	0.253E+00	0.124E+00	-0.853E-02
13.50	28	0.249E+00	0.118E+00	-0.575E-02
14.00	29	0.245E+00	0.113E+00	-0.506E-02
14.50	30	0.242E+00	0.108E+00	-0.483E-02
15.00	31	0.238E+00	0.103E+00	-0.477E-02
15.50	32	0.235E+00	0.997E-01	-0.345E-02
16.00	33	0.232E+00	0.965E-01	-0.321E-02
16.50	34	0.229E+00	0.947E-01	-0.183E-02
17.00	35	0.227E+00	0.922E-01	-0.253E-02
17.50	36	0.223E+00	0.862E-01	-0.602E-02
18.00	37	0.220E+00	0.813E-01	-0.484E-02
18.50	38	0.218E+00	0.815E-01	0.161E-03
19.00	39	0.216E+00	0.807E-01	-0.727E-03
19.50	40	0.214E+00	0.794E-01	-0.132E-02
20.00	41	0.212E+00	0.780E-01	-0.144E-02
20.50	42	0.210E+00	0.769E-01	-0.109E-02
21.00	43	0.208E+00	0.761E-01	-0.795E-03
21.50	44	0.206E+00	0.752E-01	-0.915E-03
22.00	45	0.205E+00	0.752E-01	-0.307E-05
22.50	46	0.203E+00	0.746E-01	-0.612E-03
23.00	47	0.202E+00	0.738E-01	-0.733E-03
23.50	48	0.200E+00	0.737E-01	-0.914E-04
24.00	49	0.199E+00	0.739E-01	0.177E-03

THE CALCULATED LEAK RATE IS 0.739E-01
 THE MAXIMUM ALLOWABLE LEAK RATE IS 0.283E+00
 THE LAST 0 DATA POINTS ESTABLISH A NEGATIVE SLOPE

TIME, DATE START OF TEST 16.00 620

TIME AFTER START OF TEST = 24.00 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. * (F)	PRESSURE * (PCIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
16.50	78.60	44.427	0.809E+00	0.324E+00	0.15E+00	0.50E+00
17.00	78.73	44.438	0.448E+00	0.319E+00	0.15E+00	0.49E+00
17.50	78.81	44.446	0.208E+00	0.314E+00	0.14E+00	0.49E+00
18.00	78.97	44.455	0.280E+00	0.308E+00	0.14E+00	0.48E+00
18.50	79.06	44.461	0.250E+00	0.303E+00	0.13E+00	0.47E+00
19.00	79.15	44.468	0.225E+00	0.298E+00	0.13E+00	0.47E+00
19.50	79.32	44.477	0.257E+00	0.292E+00	0.12E+00	0.46E+00
20.00	79.43	44.484	0.328E+00	0.287E+00	0.12E+00	0.46E+00
20.50	79.53	44.491	0.247E+00	0.282E+00	0.11E+00	0.45E+00
21.00	79.66	44.497	0.265E+00	0.276E+00	0.11E+00	0.45E+00
21.50	79.75	44.503	0.265E+00	0.271E+00	0.10E+00	0.44E+00
22.00	79.82	44.509	0.238E+00	0.266E+00	0.96E-01	0.44E+00
22.50	79.89	44.516	0.211E+00	0.260E+00	0.91E-01	0.43E+00
23.00	79.99	44.521	0.221E+00	0.255E+00	0.86E-01	0.42E+00
23.50	80.07	44.525	0.218E+00	0.250E+00	0.80E-01	0.42E+00
24.00	80.15	44.530	0.219E+00	0.244E+00	0.75E-01	0.41E+00
24.50	80.22	44.534	0.221E+00	0.239E+00	0.70E-01	0.41E+00
25.00	80.30	44.539	0.213E+00	0.234E+00	0.65E-01	0.40E+00
25.50	80.35	44.545	0.194E+00	0.228E+00	0.60E-01	0.40E+00
26.00	80.44	44.548	0.208E+00	0.223E+00	0.54E-01	0.39E+00
26.50	80.48	44.553	0.192E+00	0.218E+00	0.49E-01	0.39E+00
27.00	80.54	44.556	0.190E+00	0.212E+00	0.44E-01	0.38E+00
27.50	80.62	44.561	0.189E+00	0.207E+00	0.39E-01	0.38E+00
28.00	80.69	44.565	0.188E+00	0.202E+00	0.33E-01	0.37E+00
28.50	80.77	44.578	0.156E+00	0.196E+00	0.28E-01	0.36E+00
29.00	80.81	44.585	0.135E+00	0.191E+00	0.23E-01	0.36E+00
29.50	80.90	44.588	0.146E+00	0.186E+00	0.17E-01	0.35E+00
30.00	80.95	44.591	0.145E+00	0.180E+00	0.12E-01	0.35E+00
30.50	80.99	44.594	0.141E+00	0.175E+00	0.64E-02	0.34E+00
31.00	81.04	44.599	0.136E+00	0.170E+00	0.10E-02	0.34E+00
31.50	81.12	44.603	0.141E+00	0.164E+00	-0.44E-02	0.33E+00
32.00	81.17	44.606	0.139E+00	0.159E+00	-0.98E-02	0.33E+00
32.50	81.27	44.610	0.147E+00	0.154E+00	-0.15E-01	0.32E+00
33.00	81.28	44.613	0.139E+00	0.148E+00	-0.21E-01	0.32E+00
33.50	81.20	44.615	0.104E+00	0.143E+00	-0.26E-01	0.31E+00
34.00	81.26	44.618	0.108E+00	0.138E+00	-0.32E-01	0.31E+00
34.50	81.49	44.621	0.151E+00	0.132E+00	-0.37E-01	0.30E+00
35.00	81.49	44.623	0.142E+00	0.127E+00	-0.43E-01	0.30E+00
35.50	81.52	44.627	0.134E+00	0.122E+00	-0.48E-01	0.29E+00
36.00	81.55	44.629	0.131E+00	0.117E+00	-0.54E-01	0.29E+00

* Temperature and pressure increasing due to heat input from containment fan motors. Containment fans run during the ILRT.

36.50	81.61	44.633	0.133E+00	0.111E+00	-0.60E-01	0.28E+00
37.00	81.63	44.636	0.134E+00	0.106E+00	-0.65E-01	0.28E+00
37.50	81.72	44.640	0.131E+00	0.101E+00	-0.71E-01	0.27E+00
38.00	81.80	44.641	0.140E+00	0.952E-01	-0.77E-01	0.27E+00
38.50	81.79	44.643	0.132E+00	0.899E-01	-0.82E-01	0.26E+00
39.00	81.84	44.647	0.130E+00	0.846E-01	-0.88E-01	0.26E+00
50	81.91	44.649	0.136E+00	0.792E-01	-0.94E-01	0.25E+00
40.00	81.98	44.652	0.139E+00	0.739E-01	-0.99E-01	0.25E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.199E+00

THE STANDARD DEVIATION IS 0.111E+00

SKEM IS POSITIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.739E-01

PT BEACH 30 PSIG ILRT UNIT 1

TIME, DATE START OF TEST.16.00 620

TIME AFTER START OF TEST = 24.00 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP.* (F)	PRESSURE* (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
16.50	78.60	44.427	0.809E+00	0.195E+00	-0.67E+00	0.11E+01
17.00	78.73	44.438	0.876E+00	0.193E+00	-0.67E+00	0.11E+01
17.50	78.81	44.446	-0.274E+00	0.190E+00	-0.67E+00	0.11E+01
18.00	78.97	44.455	0.496E+00	0.188E+00	-0.67E+00	0.10E+01
18.50	79.06	44.461	0.130E+00	0.185E+00	-0.67E+00	0.10E+01
19.00	79.15	44.468	0.103E+00	0.183E+00	-0.67E+00	0.10E+01
19.50	79.32	44.477	0.450E+00	0.181E+00	-0.67E+00	0.10E+01
20.00	79.48	44.484	0.824E+00	0.178E+00	-0.67E+00	0.10E+01
20.50	79.53	44.491	-0.400E+00	0.176E+00	-0.68E+00	0.10E+01
21.00	79.66	44.497	0.420E+00	0.173E+00	-0.68E+00	0.10E+01
21.50	79.75	44.503	0.273E+00	0.171E+00	-0.68E+00	0.10E+01
22.00	79.82	44.509	-0.627E-01	0.169E+00	-0.68E+00	0.10E+01
22.50	79.89	44.516	-0.111E+00	0.166E+00	-0.68E+00	0.10E+01

See note page B-16

23.00	79.99	44.521	0.251E+00	0.164E+00	-0.68E+00	0.10E+01
23.50	80.07	44.525	0.176E+00	0.161E+00	-0.68E+00	0.10E+01
24.00	80.15	44.530	0.225E+00	0.159E+00	-0.68E+00	0.10E+01
24.50	80.22	44.534	0.266E+00	0.157E+00	-0.69E+00	0.10E+01
25.00	80.30	44.539	0.791E-01	0.154E+00	-0.69E+00	0.10E+01
25.50	80.35	44.545	-0.164E+00	0.153E+00	-0.69E+00	0.99E+00
26.00	80.44	44.548	0.474E+00	0.149E+00	-0.69E+00	0.99E+00
26.50	80.48	44.553	-0.125E+00	0.147E+00	-0.69E+00	0.99E+00
27.00	80.54	44.556	0.159E+00	0.145E+00	-0.70E+00	0.99E+00
27.50	80.62	44.561	0.165E+00	0.142E+00	-0.70E+00	0.98E+00
28.00	80.69	44.565	0.154E+00	0.140E+00	-0.70E+00	0.98E+00
28.50	80.77	44.578	-0.615E+00	0.137E+00	-0.70E+00	0.98E+00
29.00	80.81	44.585	-0.382E+00	0.135E+00	-0.71E+00	0.98E+00
29.50	80.90	44.588	0.435E+00	0.133E+00	-0.71E+00	0.97E+00
30.00	80.95	44.591	0.113E+00	0.130E+00	-0.71E+00	0.97E+00
30.50	80.99	44.594	0.321E-01	0.128E+00	-0.71E+00	0.97E+00
31.00	81.04	44.599	-0.467E-02	0.126E+00	-0.72E+00	0.97E+00
31.50	81.12	44.603	0.302E+00	0.123E+00	-0.72E+00	0.97E+00
32.00	81.17	44.606	0.755E-01	0.121E+00	-0.72E+00	0.96E+00
32.50	81.27	44.610	0.405E+00	0.118E+00	-0.73E+00	0.96E+00
33.00	81.28	44.613	-0.153E+00	0.116E+00	-0.73E+00	0.96E+00
33.50	81.20	44.615	-0.109E+01	0.114E+00	-0.73E+00	0.96E+00
34.00	81.26	44.618	0.275E+00	0.111E+00	-0.74E+00	0.96E+00
34.50	81.49	44.621	0.170E+01	0.109E+00	-0.74E+00	0.96E+00
35.00	81.49	44.623	-0.211E+00	0.106E+00	-0.74E+00	0.95E+00
35.50	81.52	44.627	-0.152E+00	0.104E+00	-0.75E+00	0.95E+00
36.00	81.55	44.629	0.243E-02	0.102E+00	-0.75E+00	0.95E+00
36.50	81.61	44.633	0.199E+00	0.992E-01	-0.75E+00	0.95E+00
37.00	81.68	44.636	0.195E+00	0.968E-01	-0.76E+00	0.95E+00
37.50	81.72	44.640	0.129E-01	0.944E-01	-0.76E+00	0.95E+00
38.00	81.80	44.641	0.520E+00	0.920E-01	-0.77E+00	0.95E+00
38.50	81.79	44.643	-0.212E+00	0.896E-01	-0.77E+00	0.95E+00
39.00	81.84	44.647	0.873E-02	0.872E-01	-0.77E+00	0.95E+00
39.50	81.91	44.649	0.433E+00	0.846E-01	-0.78E+00	0.95E+00
40.00	81.98	44.652	0.260E+00	0.824E-01	-0.78E+00	0.95E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.139E+00
 THE STANDARD DEVIATION IS 0.410E+00
 SKEW IS POSITIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.824E-01

ENTER TIME, DATE, TEMP, PRESS

WHEN FINISHED ENTER 9999,...

= 1200,0623,83.430013,74.309667
 = 1230,0623,83.567167,74.326128
 = 1300,0623,83.700575,74.341124
 = 1330,0623,83.746058,74.351520
 = 1400,0623,83.878973,74.361279
 = 1430,0623,83.911286,74.371339
 = 1500,0623,84.031820,74.377267
 = 1530,0623,84.051095,74.383254
 = 1600,0623,84.112120,74.388227
 = 1630,0623,84.125944,74.396186
 = 1700,0623,84.165696,74.399809
 = 1730,0623,84.290984,74.405966
 = 1800,0623,84.288796,74.409511
 = 1830,0623,84.318793,74.413568
 = 1900,0623,84.353213,74.418407
 = 1930,0623,84.390244,74.421800
 = 2000,0623,84.437915,74.431561
 = 2030,0623,84.453618,74.431955
 = 2100,0623,84.456940,74.432835
 = 2130,0623,84.531450,74.437081
 = 2200,0623,84.520251,74.440649
 = 2230,0623,84.577962,74.443049
 = 2300,0623,84.589811,74.447778
 = 2330,0623,84.640466,74.451291
 = 2400,0623,84.681405,74.452754
 = 0030,0624,84.700977,74.457465
 = 0100,0624,84.721451,74.459788
 = 0130,0624,84.755462,74.463844
 = 0200,0624,84.787307,74.465262
 = 0230,0624,84.790673,74.470094
 = 0300,0624,84.814816,74.472177
 = 0330,0624,84.898136,74.476061
 = 0400,0624,84.881218,74.478051
 = 0430,0624,84.924439,74.479421
 = 0500,0624,84.924688,74.483998
 = 0530,0624,84.944781,74.486983
 = 0600,0624,85.003684,74.488448
 = 0630,0624,85.009880,74.491508
 = 0700,0624,85.059451,74.499015
 = 0730,0624,85.047139,74.496031
 = 0800,0624,85.090960,74.498020
 = 0830,0624,85.108161,74.500010
 = 0900,0624,85.110631,74.501004
 = 0930,0624,85.169929,74.496060
 = 1000,0624,85.155035,74.506167
 = 1030,0624,85.184975,74.506972
 = 1100,0624,85.206080,74.509151
 = 1130,0624,85.215932,74.512340
 = 1200,0624,85.233538,74.515267
 = 9999,....

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
1.50	4	0.120E+00	0.601E-01	
2.00	5	0.129E+00	0.111E+00	0.510E-01
2.50	6	0.114E+00	0.721E-01	-0.391E-01
3.00	7	0.122E+00	0.107E+00	0.352E-01
3.50	8	0.119E+00	0.103E+00	-0.408E-02
4.00	9	0.119E+00	0.107E+00	0.354E-02
4.50	10	0.113E+00	0.878E-01	-0.189E-01
5.00	11	0.108E+00	0.768E-01	-0.110E-01
5.50	12	0.110E+00	0.877E-01	0.109E-01
6.00	13	0.108E+00	0.824E-01	-0.534E-02
6.50	14	0.106E+00	0.806E-01	-0.180E-02
7.00	15	0.104E+00	0.775E-01	-0.304E-02
7.50	16	0.103E+00	0.757E-01	-0.184E-02
8.00	17	0.100E+00	0.702E-01	-0.552E-02
8.50	18	0.985E-01	0.664E-01	-0.375E-02
9.00	19	0.965E-01	0.623E-01	-0.406E-02
9.50	20	0.956E-01	0.624E-01	0.239E-04
10.00	21	0.937E-01	0.587E-01	-0.369E-02
10.50	22	0.927E-01	0.581E-01	-0.537E-03
11.00	23	0.913E-01	0.557E-01	-0.250E-02
11.50	24	0.902E-01	0.547E-01	-0.939E-03
12.00	25	0.896E-01	0.553E-01	0.551E-03
12.50	26	0.887E-01	0.546E-01	-0.708E-03
13.00	27	0.879E-01	0.538E-01	-0.780E-03
13.50	28	0.870E-01	0.530E-01	-0.782E-03
14.00	29	0.864E-01	0.529E-01	-0.448E-04
14.50	30	0.854E-01	0.514E-01	-0.159E-02
15.00	31	0.845E-01	0.501E-01	-0.128E-02
15.50	32	0.840E-01	0.507E-01	0.581E-03
16.00	33	0.833E-01	0.499E-01	-0.750E-03
16.50	34	0.829E-01	0.501E-01	0.171E-03
17.00	35	0.821E-01	0.491E-01	-0.101E-02
17.50	36	0.813E-01	0.480E-01	-0.112E-02
18.00	37	0.809E-01	0.481E-01	0.108E-03
18.50	38	0.803E-01	0.476E-01	-0.462E-03
19.00	39	0.797E-01	0.469E-01	-0.683E-03
19.50	40	0.791E-01	0.464E-01	-0.535E-03
20.00	41	0.787E-01	0.464E-01	0.128E-04
20.50	42	0.783E-01	0.463E-01	-0.597E-04
21.00	43	0.779E-01	0.461E-01	-0.265E-03
21.50	44	0.778E-01	0.474E-01	0.131E-02
22.00	45	0.774E-01	0.470E-01	-0.399E-03
22.50	46	0.770E-01	0.469E-01	-0.595E-04
23.00	47	0.767E-01	0.468E-01	-0.701E-04
23.50	48	0.762E-01	0.465E-01	-0.367E-03
24.00	49	0.758E-01	0.460E-01	-0.480E-03

THE CALCULATED LEAK RATE IS 0.460E-01
 THE MAXIMUM ALLOWABLE LEAK RATE IS 0.400E+00
 THE LAST 5 DATA POINTS ESTABLISH A NEGATIVE SLOPE

TIME, DATE START OF TEST 12.00 623

TIME AFTER START OF TEST = 24.00 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP.* (F)	PRESSURE* (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
12.50	83.57	74.326	0.149E+00	0.106E+00	0.53E-01	0.16E+00
13.00	83.70	74.341	0.180E+00	0.104E+00	0.51E-01	0.16E+00
13.50	83.75	74.351	0.300E-01	0.103E+00	0.50E-01	0.16E+00
14.00	83.88	74.361	0.159E+00	0.102E+00	0.49E-01	0.15E+00
14.50	83.91	74.371	0.541E-01	0.101E+00	0.48E-01	0.15E+00
15.00	84.03	74.377	0.158E+00	0.993E-01	0.47E-01	0.15E+00
15.50	84.05	74.383	0.105E+00	0.960E-01	0.46E-01	0.15E+00
16.00	84.11	74.388	0.113E+00	0.967E-01	0.44E-01	0.15E+00
16.50	84.13	74.396	0.625E-01	0.955E-01	0.43E-01	0.15E+00
17.00	84.17	74.400	0.679E-01	0.942E-01	0.42E-01	0.15E+00
17.50	84.29	74.406	0.126E+00	0.929E-01	0.41E-01	0.15E+00
18.00	84.27	74.410	0.803E-01	0.917E-01	0.40E-01	0.14E+00
18.50	84.32	74.414	0.879E-01	0.904E-01	0.38E-01	0.14E+00
19.00	84.35	74.418	0.810E-01	0.891E-01	0.37E-01	0.14E+00
19.50	84.39	74.422	0.828E-01	0.879E-01	0.36E-01	0.14E+00
20.00	84.44	74.432	0.646E-01	0.866E-01	0.35E-01	0.14E+00
20.50	84.45	74.432	0.674E-01	0.853E-01	0.34E-01	0.14E+00
21.00	84.46	74.433	0.622E-01	0.841E-01	0.32E-01	0.14E+00
21.50	84.53	74.437	0.791E-01	0.828E-01	0.31E-01	0.13E+00
22.00	84.52	74.441	0.587E-01	0.815E-01	0.30E-01	0.13E+00
22.50	84.58	74.443	0.728E-01	0.803E-01	0.29E-01	0.13E+00
23.00	84.59	74.448	0.604E-01	0.790E-01	0.27E-01	0.13E+00
23.50	84.64	74.451	0.673E-01	0.777E-01	0.26E-01	0.13E+00
24.00	84.68	74.453	0.756E-01	0.764E-01	0.25E-01	0.13E+00
24.50	84.70	74.457	0.674E-01	0.752E-01	0.24E-01	0.13E+00
25.00	84.72	74.460	0.659E-01	0.739E-01	0.22E-01	0.13E+00
25.50	84.76	74.464	0.649E-01	0.726E-01	0.21E-01	0.12E+00
26.00	84.79	74.465	0.694E-01	0.714E-01	0.20E-01	0.12E+00
26.50	84.79	74.470	0.573E-01	0.701E-01	0.18E-01	0.12E+00
27.00	84.81	74.472	0.580E-01	0.688E-01	0.17E-01	0.12E+00
27.50	84.90	74.476	0.717E-01	0.676E-01	0.16E-01	0.12E+00
28.00	84.88	74.478	0.608E-01	0.663E-01	0.15E-01	0.12E+00
28.50	84.92	74.479	0.678E-01	0.650E-01	0.13E-01	0.12E+00
29.00	84.92	74.484	0.572E-01	0.638E-01	0.12E-01	0.12E+00
29.50	84.94	74.487	0.552E-01	0.625E-01	0.11E-01	0.11E+00
30.00	85.00	74.488	0.654E-01	0.612E-01	0.92E-02	0.11E+00
30.50	85.01	74.491	0.598E-01	0.600E-01	0.79E-02	0.11E+00
31.00	85.06	74.499	0.570E-01	0.587E-01	0.66E-02	0.11E+00
31.50	85.05	74.496	0.577E-01	0.574E-01	0.52E-02	0.11E+00
32.00	85.09	74.498	0.627E-01	0.561E-01	0.39E-02	0.11E+00

* See note page B-16

32.50	85.11	74.500	0.617E-01	0.549E-01	0.25E-02	0.11E+00
33.00	85.11	74.501	0.598E-01	0.536E-01	0.12E-02	0.11E+00
33.50	85.17	74.497	0.763E-01	0.523E-01	-0.21E-02	0.10E+00
34.00	85.15	74.506	0.579E-01	0.511E-01	-0.16E-02	0.10E+00
34.50	85.19	74.507	0.613E-01	0.498E-01	-0.30E-02	0.10E+00
35.00	85.21	74.509	0.610E-01	0.485E-01	-0.43E-02	0.10E+00
35.50	85.22	74.512	0.571E-01	0.473E-01	-0.57E-02	0.10E+00
36.00	85.23	74.515	0.553E-01	0.460E-01	-0.71E-02	0.99E-01

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.758E-01
 THE STANDARD DEVIATION IS 0.308E-01
 SKEW IS POSITIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.460E-01

PT BEACH 60 PSIG ILRT UNIT 1

TIME, DATE START OF TEST 12.00 623

TIME AFTER START OF TEST = 24.00 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP.* (F)	PRESSURE * (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS
12.50	83.57	74.326	0.149E+00	0.872E-01	-0.57E+00 0.75E+00
13.00	83.70	74.341	0.211E+00	0.858E-01	-0.57E+00 0.74E+00
13.50	83.75	74.351	-0.269E+00	0.844E-01	-0.57E+00 0.74E+00
14.00	83.88	74.361	0.544E+00	0.831E-01	-0.57E+00 0.74E+00
14.50	83.91	74.371	-0.364E+00	0.817E-01	-0.57E+00 0.74E+00
15.00	84.03	74.377	0.680E+00	0.804E-01	-0.57E+00 0.73E+00
15.50	84.05	74.383	-0.215E+00	0.790E-01	-0.57E+00 0.73E+00
16.00	84.11	74.388	0.218E+00	0.777E-01	-0.57E+00 0.73E+00
16.50	84.13	74.396	-0.391E+00	0.763E-01	-0.57E+00 0.73E+00
17.00	84.17	74.400	0.117E+00	0.750E-01	-0.57E+00 0.72E+00
17.50	84.29	74.406	0.709E+00	0.736E-01	-0.57E+00 0.72E+00
18.00	84.27	74.410	-0.424E+00	0.723E-01	-0.58E+00 0.72E+00
18.50	84.32	74.414	0.180E+00	0.709E-01	-0.58E+00 0.72E+00
19.00	84.35	74.418	-0.834E-02	0.695E-01	-0.58E+00 0.72E+00
19.50	84.39	74.422	0.108E+00	0.682E-01	-0.58E+00 0.71E+00
20.00	84.44	74.432	-0.209E+00	0.668E-01	-0.58E+00 0.71E+00
20.50	84.45	74.432	0.113E+00	0.655E-01	-0.58E+00 0.71E+00

* See note page B-16

21.00	84.46	74.433	-0.273E-01	0.641E-01	-0.58E+00	0.71E+00
21.50	84.53	74.437	0.383E+00	0.628E-01	-0.58E+00	0.71E+00
22.00	84.52	74.441	-0.323E+00	0.614E-01	-0.58E+00	0.70E+00
22.50	84.58	74.443	0.254E+00	0.601E-01	-0.58E+00	0.70E+00
23.00	84.59	74.448	-0.200E+00	0.587E-01	-0.58E+00	0.70E+00
23.50	84.64	74.451	0.220E+00	0.574E-01	-0.58E+00	0.70E+00
24.00	84.68	74.453	0.267E+00	0.560E-01	-0.59E+00	0.70E+00
24.50	84.70	74.457	-0.130E+00	0.546E-01	-0.59E+00	0.70E+00
25.00	84.72	74.460	0.296E-01	0.533E-01	-0.59E+00	0.70E+00
25.50	84.76	74.464	0.385E-01	0.519E-01	-0.59E+00	0.69E+00
26.00	84.79	74.465	0.183E+00	0.506E-01	-0.59E+00	0.69E+00
26.50	84.79	74.470	-0.282E+00	0.492E-01	-0.59E+00	0.69E+00
27.00	84.81	74.472	0.786E-01	0.479E-01	-0.60E+00	0.69E+00
27.50	84.90	74.476	0.484E+00	0.465E-01	-0.60E+00	0.69E+00
28.00	84.88	74.478	-0.277E+00	0.452E-01	-0.60E+00	0.69E+00
28.50	84.92	74.479	0.293E+00	0.438E-01	-0.60E+00	0.69E+00
29.00	84.92	74.484	-0.293E+00	0.425E-01	-0.60E+00	0.69E+00
29.50	84.94	74.487	-0.151E-01	0.411E-01	-0.60E+00	0.69E+00
30.00	85.00	74.488	0.425E+00	0.397E-01	-0.61E+00	0.69E+00
30.50	85.01	74.491	-0.142E+00	0.384E-01	-0.61E+00	0.69E+00
31.00	85.06	74.499	-0.468E-01	0.370E-01	-0.61E+00	0.69E+00
31.50	85.05	74.496	0.838E-01	0.357E-01	-0.61E+00	0.68E+00
32.00	85.09	74.498	0.258E+00	0.343E-01	-0.62E+00	0.68E+00
32.50	85.11	74.500	0.234E-01	0.330E-01	-0.62E+00	0.68E+00
33.00	85.11	74.501	-0.423E-01	0.316E-01	-0.62E+00	0.68E+00
33.50	85.17	74.497	0.793E+00	0.303E-01	-0.62E+00	0.68E+00
34.00	85.15	74.506	-0.735E+00	0.289E-01	-0.63E+00	0.68E+00
34.50	85.19	74.507	0.212E+00	0.276E-01	-0.63E+00	0.68E+00
35.00	85.21	74.509	0.456E-01	0.262E-01	-0.63E+00	0.68E+00
35.50	85.22	74.512	-0.119E+00	0.249E-01	-0.63E+00	0.68E+00
36.00	85.23	74.515	-0.334E-01	0.235E-01	-0.64E+00	0.68E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.553E-01
 THE STANDARD DEVIATION IS 0.313E+00
 SKEW IS POSITIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.235E-01

ENTER TIME, DATE, TEMP, PRESS

WHEN FINISHED ENTER 9999, , , ,

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 = 0300,0309,71.970123,44.386603
 = 0330,0309,71.762556,44.366246
 = 0400,0309,71.604748,44.350523
 = 0430,0309,71.426584,44.336863
 = 0500,0309,71.230781,44.323652
 = 0530,0309,71.123292,44.313282
 = 0600,0309,71.044540,44.300004
 = 0630,0309,70.892546,44.289239
 = 0700,0309,70.788662,44.279642
 = 0730,0309,70.697800,44.271837
 = 0800,0309,70.584785,44.262505
 = 0830,0309,70.490094,44.254420
 = 0900,0309,70.389791,44.246837
 = 0930,0309,70.298499,44.239825
 = 1000,0309,70.218371,44.232451
 = 1030,0309,70.137547,44.225077
 = 1100,0309,70.055653,44.218077
 = 1130,0309,69.971695,44.211861
 = 1200,0309,69.908348,44.205479
 = 1230,0309,69.803107,44.198588
 = 1300,0309,69.759908,44.192197
 = 1330,0309,69.733967,44.186790
 = 1400,0309,69.601957,44.181390
 = 1430,0309,69.566335,44.175483
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 = 1530,0309,69.429524,44.164530
 = 1600,0309,69.396626,44.160643
 = 1630,0309,69.299474,44.155362
 = 1700,0309,69.311485,44.152079
 = 1730,0309,69.245187,44.147162
 = 1800,0309,69.183680,44.141649
 = 1830,0309,69.098082,44.135916
 = 1900,0309,69.035880,44.129558
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 = 2000,0309,68.981489,44.122627
 = 2030,0309,68.921166,44.118279
 = 2100,0309,68.834377,44.114044
 = 2130,0309,68.824947,44.108170
 = 2200,0309,68.784266,44.105014
 = 2230,0309,68.687088,44.101036
 = 2300,0309,68.677061,44.093846
 = 2330,0309,68.612984,44.091951
 = 2400,0309,68.553089,44.087929
 = 0030,0310,68.507418,44.084513
 = 0100,031,68.493443,44.080553
 = 0130,0310,68.428702,44.075863
 = 0200,0310,68.384331,44.071597
 = 0230,0310,68.300365,44.066278
 = 9999, , , ,

TIME AFTER START OF TEST = 24.00 HF

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
1.50	4	-0.125E+00	0.110E+00	
2.00	5	-0.895E-01	0.115E+00	0.541E-02
2.50	6	-0.825E-01	0.682E-01	-0.472E-01
3.00	7	-0.721E-01	0.578E-01	-0.104E-01
3.50	8	-0.494E-01	0.989E-01	0.412E-01
4.00	9	-0.370E-01	0.107E+00	0.830E-02
4.50	10	-0.268E-01	0.113E+00	0.600E-02
5.00	11	-0.189E-01	0.115E+00	0.179E-02
5.50	12	-0.130E-01	0.113E+00	-0.156E-02
6.00	13	-0.821E-02	0.111E+00	-0.262E-02
6.50	14	-0.496E-02	0.105E+00	-0.538E-02
7.00	15	-0.268E-02	0.989E-01	-0.652E-02
7.50	16	-0.495E-03	0.942E-01	-0.478E-02
8.00	17	0.157E-02	0.905E-01	-0.362E-02
8.50	18	0.333E-02	0.871E-01	-0.341E-02
9.00	19	0.454E-02	0.828E-01	-0.437E-02
9.50	20	0.588E-02	0.799E-01	-0.287E-02
10.00	21	0.649E-02	0.751E-01	-0.476E-02
10.50	22	0.770E-02	0.734E-01	-0.176E-02
11.00	23	0.945E-02	0.742E-01	0.849E-03
11.50	24	0.981E-02	0.702E-01	-0.405E-02
12.00	25	0.107E-01	0.685E-01	-0.162E-02
12.50	26	0.109E-01	0.652E-01	-0.340E-02
13.00	27	0.115E-01	0.633E-01	-0.183E-02
13.50	28	0.122E-01	0.622E-01	-0.116E-02
14.00	29	0.124E-01	0.594E-01	-0.272E-02
14.50	30	0.131E-01	0.590E-01	-0.431E-03
15.00	31	0.136E-01	0.582E-01	-0.856E-03
15.50	32	0.142E-01	0.574E-01	-0.763E-03
16.00	33	0.145E-01	0.560E-01	-0.141E-02
16.50	34	0.149E-01	0.550E-01	-0.942E-03
17.00	35	0.152E-01	0.540E-01	-0.107E-02
17.50	36	0.157E-01	0.538E-01	-0.173E-03
18.00	37	0.161E-01	0.533E-01	-0.505E-03
18.50	38	0.163E-01	0.518E-01	-0.149E-02
19.00	39	0.167E-01	0.518E-01	0.381E-04
19.50	40	0.172E-01	0.517E-01	-0.141E-03
20.00	41	0.173E-01	0.504E-01	-0.131E-02
20.50	42	0.177E-01	0.507E-01	0.314E-03
21.00	43	0.180E-01	0.501E-01	-0.634E-03
21.50	44	0.181E-01	0.492E-01	-0.881E-03
22.00	45	0.182E-01	0.482E-01	-0.963E-03
22.50	46	0.185E-01	0.479E-01	-0.368E-03
23.00	47	0.187E-01	0.473E-01	-0.549E-03
23.50	48	0.188E-01	0.468E-01	-0.462E-03
24.00	49	0.189E-01	0.460E-01	-0.797E-03

THE CALCULATED LEAK RATE IS 0.460E-01
 THE MAXIMUM ALLOWABLE LEAK RATE IS 0.283E+00
 THE LAST 7 DATA POINTS ESTABLISH A NEGATIVE SLOPE

TIME, DATE START OF TEST 2.50 309

TIME AFTER START OF TEST = 24.00 HF

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
3.00	71.97	44.387	-0.403E+00	-0.818E-02	-0.14E+00	0.13E+00
3.50	71.76	44.366	-0.381E-01	-0.702E-02	-0.14E+00	0.13E+00
4.00	71.60	44.351	0.665E-01	-0.587E-02	-0.14E+00	0.13E+00
4.50	71.43	44.337	0.170E-01	-0.472E-02	-0.14E+00	0.13E+00
5.00	71.23	44.324	-0.544E-01	-0.357E-02	-0.14E+00	0.13E+00
5.50	71.12	44.313	-0.201E-01	-0.241E-02	-0.14E+00	0.13E+00
6.00	71.04	44.300	0.865E-01	-0.126E-02	-0.13E+00	0.13E+00
6.50	70.89	44.289	0.496E-01	-0.106E-02	-0.13E+00	0.13E+00
7.00	70.79	44.280	0.552E-01	0.105E-02	-0.13E+00	0.13E+00
7.50	70.70	44.272	0.521E-01	0.220E-02	-0.13E+00	0.14E+00
8.00	70.58	44.262	0.463E-01	0.336E-02	-0.13E+00	0.14E+00
8.50	70.49	44.254	0.441E-01	0.451E-02	-0.13E+00	0.14E+00
9.00	70.39	44.247	0.341E-01	0.566E-02	-0.13E+00	0.14E+00
9.50	70.30	44.240	0.269E-01	0.682E-02	-0.13E+00	0.14E+00
10.00	70.22	44.233	0.301E-01	0.797E-02	-0.12E+00	0.14E+00
10.50	70.14	44.225	0.325E-01	0.912E-02	-0.12E+00	0.14E+00
11.00	70.06	44.218	0.316E-01	0.103E-01	-0.12E+00	0.14E+00
11.50	69.97	44.212	0.251E-01	0.114E-01	-0.12E+00	0.14E+00
12.00	69.91	44.206	0.300E-01	0.126E-01	-0.12E+00	0.14E+00
12.50	69.80	44.199	0.182E-01	0.137E-01	-0.12E+00	0.15E+00
13.00	69.76	44.192	0.317E-01	0.149E-01	-0.12E+00	0.15E+00
13.50	69.73	44.187	0.463E-01	0.160E-01	-0.12E+00	0.15E+00
14.00	69.60	44.181	0.177E-01	0.172E-01	-0.11E+00	0.15E+00
14.50	69.57	44.175	0.303E-01	0.184E-01	-0.11E+00	0.15E+00
15.00	69.48	44.171	0.177E-01	0.195E-01	-0.11E+00	0.15E+00
15.50	69.43	44.165	0.260E-01	0.207E-01	-0.11E+00	0.15E+00
16.00	69.40	44.161	0.296E-01	0.218E-01	-0.11E+00	0.15E+00
16.50	69.30	44.155	0.176E-01	0.230E-01	-0.11E+00	0.15E+00
17.00	69.31	44.152	0.330E-01	0.241E-01	-0.11E+00	0.16E+00
17.50	69.25	44.147	0.297E-01	0.253E-01	-0.11E+00	0.16E+00
18.00	69.18	44.142	0.301E-01	0.264E-01	-0.11E+00	0.16E+00
18.50	69.10	44.136	0.243E-01	0.276E-01	-0.10E+00	0.16E+00
19.00	69.04	44.130	0.274E-01	0.287E-01	-0.10E+00	0.16E+00
19.50	69.00	44.127	0.258E-01	0.299E-01	-0.10E+00	0.16E+00
20.00	68.98	44.123	0.333E-01	0.310E-01	-0.10E+00	0.16E+00
20.50	68.92	44.118	0.203E-01	0.322E-01	-0.10E+00	0.16E+00
21.00	68.83	44.114	0.206E-01	0.334E-01	-0.99E-01	0.17E+00
21.50	68.82	44.108	0.346E-01	0.345E-01	-0.98E-01	0.17E+00
22.00	68.78	44.105	0.331E-01	0.357E-01	-0.97E-01	0.17E+00
22.50	68.69	44.101	0.210E-01	0.368E-01	-0.96E-01	0.17E+00
23.00	68.68	44.094	0.374E-01	0.380E-01	-0.95E-01	0.17E+00

23.50	68.61	44.092	0.275E-01	0.391E-01	-0.94E-01	0.17E+00
24.00	68.55	44.088	0.244E-01	0.403E-01	-0.93E-01	0.17E+00
24.50	68.51	44.084	0.229E-01	0.414E-01	-0.93E-01	0.18E+00
25.00	68.49	44.081	0.291E-01	0.426E-01	-0.92E-01	0.18E+00
25.50	68.43	44.076	0.268E-01	0.437E-01	-0.91E-01	0.18E+00
26.00	68.38	44.072	0.275E-01	0.449E-01	-0.90E-01	0.18E+00
26.50	68.30	44.066	0.231E-01	0.460E-01	-0.89E-01	0.18E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.189E-01

THE STANDARD DEVIATION IS 0.659E-01

SKEW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.460E-01

PT BEACH 30 PSIG ILRT UNIT 2

TIME, DATE START OF TEST 2.50 309

TIME AFTER START OF TEST = 24.00 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
3.00	71.97	44.387	-0.403E+00	0.377E-01	-0.56E+00	0.64E+00
3.50	71.76	44.366	0.327E+00	0.371E-01	-0.56E+00	0.64E+00
4.00	71.60	44.351	0.276E+00	0.365E-01	-0.56E+00	0.64E+00
4.50	71.43	44.337	-0.132E+00	0.359E-01	-0.56E+00	0.63E+00
5.00	71.23	44.324	-0.340E+00	0.352E-01	-0.56E+00	0.63E+00
5.50	71.12	44.313	0.151E+00	0.346E-01	-0.56E+00	0.63E+00
6.00	71.04	44.300	0.726E+00	0.340E-01	-0.56E+00	0.63E+00
6.50	70.89	44.289	-0.208E+00	0.334E-01	-0.56E+00	0.63E+00
7.00	70.79	44.280	0.100E+00	0.328E-01	-0.56E+00	0.63E+00
7.50	70.70	44.272	0.238E-01	0.321E-01	-0.56E+00	0.62E+00
8.00	70.58	44.262	-0.111E-01	0.315E-01	-0.56E+00	0.62E+00
8.50	70.49	44.254	0.195E-01	0.309E-01	-0.56E+00	0.62E+00
9.00	70.39	44.247	-0.857E-01	0.303E-01	-0.56E+00	0.62E+00
9.50	70.30	44.240	-0.661E-01	0.297E-01	-0.56E+00	0.62E+00
10.00	70.22	44.233	0.743E-01	0.290E-01	-0.56E+00	0.62E+00
10.50	70.14	44.225	0.680E-01	0.284E-01	-0.56E+00	0.62E+00
11.00	70.06	44.218	0.178E-01	0.278E-01	-0.56E+00	0.62E+00

12.00	69.91	44.212	-0.860E-01	0.272E-01	-0.56E+00	0.61E+00
12.50	69.80	44.206	0.119E+00	0.268E-01	-0.56E+00	0.61E+00
13.00	69.76	44.199	-0.206E+00	0.260E-01	-0.56E+00	0.61E+00
13.50	69.73	44.192	0.303E+00	0.253E-01	-0.56E+00	0.61E+00
14.00	69.60	44.187	0.352E+00	0.247E-01	-0.56E+00	0.61E+00
14.50	69.57	44.181	-0.611E+00	0.241E-01	-0.56E+00	0.61E+00
15.00	69.48	44.175	0.319E+00	0.235E-01	-0.56E+00	0.61E+00
15.50	69.43	44.171	-0.285E+00	0.229E-01	-0.56E+00	0.61E+00
16.00	69.40	44.165	0.234E+00	0.223E-01	-0.56E+00	0.61E+00
16.50	69.30	44.161	0.124E+00	0.216E-01	-0.56E+00	0.61E+00
17.00	69.31	44.155	-0.308E+00	0.210E-01	-0.57E+00	0.61E+00
17.50	69.25	44.152	0.466E+00	0.204E-01	-0.57E+00	0.61E+00
18.00	69.18	44.147	-0.671E-01	0.198E-01	-0.57E+00	0.61E+00
18.50	69.10	44.142	0.413E-01	0.191E-01	-0.57E+00	0.61E+00
19.00	69.04	44.136	-0.154E+00	0.185E-01	-0.57E+00	0.61E+00
19.50	69.00	44.130	0.127E+00	0.179E-01	-0.57E+00	0.61E+00
20.00	68.98	44.127	-0.291E-01	0.173E-01	-0.57E+00	0.61E+00
20.50	68.92	44.123	0.289E+00	0.167E-01	-0.57E+00	0.61E+00
21.00	68.83	44.118	-0.747E-01	0.161E-01	-0.57E+00	0.61E+00
21.50	68.82	44.114	-0.327E+00	0.154E-01	-0.58E+00	0.61E+00
22.00	68.78	44.108	0.554E+00	0.148E-01	-0.58E+00	0.61E+00
22.50	68.69	44.105	-0.260E-01	0.142E-01	-0.58E+00	0.61E+00
23.00	68.68	44.101	-0.450E+00	0.136E-01	-0.58E+00	0.61E+00
23.50	68.61	44.094	0.691E+00	0.130E-01	-0.58E+00	0.61E+00
24.00	68.55	44.092	-0.376E+00	0.123E-01	-0.58E+00	0.61E+00
24.50	68.51	44.088	-0.106E+00	0.117E-01	-0.58E+00	0.61E+00
25.00	68.49	44.084	-0.432E-01	0.111E-01	-0.59E+00	0.61E+00
25.50	68.43	44.081	0.304E+00	0.105E-01	-0.59E+00	0.61E+00
26.00	68.38	44.076	-0.777E-01	0.986E-02	-0.59E+00	0.61E+00
26.50	68.30	44.072	0.613E-01	0.924E-02	-0.59E+00	0.61E+00
		44.066	-0.184E+00	0.863E-02	-0.59E+00	0.61E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.232E-01

THE STANDARD DEVIATION IS 0.285E+00

SKEW IS POSITIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.863E-02

ENTER TIME, DATE, TEMP, PRESS
WHEN FINISHED ENTER 9999,...

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 = 0300,0311,71.092902,74.317145
 = 0330,0311,70.799562,74.271122
 = 0400,0311,70.530866,74.235528
 = 0430,0311,70.329601,74.202582
 = 0500,0311,70.154878,74.175247
 = 0530,0311,69.996996,74.150776
 = 0600,0311,69.833169,74.125367
 = 0630,0311,69.727304,74.108846
 = 0700,0311,69.586536,74.088672
 = 0730,0311,69.479271,74.071033
 = 0800,0311,69.380254,74.054053
 = 0830,0311,69.227122,74.037246
 = 0900,0311,69.150277,74.025388
 = 0930,0311,69.054891,74.010069
 = 1000,0311,68.959601,73.996286
 = 1030,0311,68.884551,73.983726
 = 1100,0311,68.815954,73.970880
 = 1130,0311,68.747490,73.960988
 = 1200,0311,68.676390,73.950439
 = 1230,0311,68.612762,73.939479
 = 1300,0311,68.520097,73.929608
 = 1330,0311,68.482529,73.920847
 = 1400,0311,68.392744,73.910746
 = 1430,0311,68.350168,73.902020
 = 1500,0311,68.293918,73.893530
 = 1530,0311,68.249984,73.884295
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 = 1630,0311,68.149920,73.866608
 = 1700,0311,68.078564,73.857679
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 = 2000,0311,67.759904,73.810480
 = 2030,0311,67.728250,73.801870
 = 2100,0311,67.667037,73.796566
 = 2130,0311,67.650059,73.789773
 = 2200,0311,67.577223,73.780796
 = 2230,0311,67.537026,73.774847
 = 2300,0311,67.484945,73.767250
 = 2330,0311,67.439659,73.760306
 = 2400,0311,67.427851,73.754306
 = 0030,0312,67.355285,73.746759
 = 0100,0312,67.355528,73.740682
 = 0130,0312,67.294052,73.736477
 = 0200,0312,67.263619,73.730123
 = 0230,0312,67.199024,73.722932
 = 9999,...

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
1.50	4	0.133E+00	0.144E+00	
2.00	5	0.138E+00	0.154E+00	0.969E-02
2.50	6	0.142E+00	0.162E+00	0.771E-02
3.00	7	0.145E+00	0.165E+00	0.298E-02
3.50	8	0.146E+00	0.162E+00	-0.283E-02
4.00	9	0.147E+00	0.161E+00	-0.683E-02
4.50	10	0.146E+00	0.156E+00	-0.576E-02
5.00	11	0.145E+00	0.153E+00	-0.301E-02
5.50	12	0.146E+00	0.152E+00	-0.483E-02
6.00	13	0.143E+00	0.141E+00	-0.114E-01
6.50	14	0.140E+00	0.131E+00	-0.943E-02
7.00	15	0.138E+00	0.124E+00	-0.686E-02
7.50	16	0.135E+00	0.118E+00	-0.662E-02
8.00	17	0.134E+00	0.113E+00	-0.490E-02
8.50	18	0.132E+00	0.111E+00	-0.248E-02
9.00	19	0.131E+00	0.108E+00	-0.301E-02
9.50	20	0.129E+00	0.104E+00	-0.312E-02
10.00	21	0.128E+00	0.102E+00	-0.227E-02
10.50	22	0.126E+00	0.977E-01	-0.444E-02
11.00	23	0.125E+00	0.950E-01	-0.265E-02
11.50	24	0.123E+00	0.910E-01	-0.403E-02
12.00	25	0.122E+00	0.882E-01	-0.280E-02
12.50	26	0.120E+00	0.855E-01	-0.267E-02
13.00	27	0.119E+00	0.839E-01	-0.165E-02
13.50	28	0.118E+00	0.837E-01	-0.178E-02
14.00	29	0.118E+00	0.827E-01	-0.102E-02
14.50	30	0.117E+00	0.811E-01	-0.159E-02
15.00	31	0.115E+00	0.794E-01	-0.173E-02
15.50	32	0.115E+00	0.782E-01	-0.117E-02
16.00	33	0.114E+00	0.775E-01	-0.666E-02
16.50	34	0.113E+00	0.761E-01	-0.145E-02
17.00	35	0.112E+00	0.743E-01	-0.179E-02
17.50	36	0.111E+00	0.726E-01	-0.168E-02
18.00	37	0.110E+00	0.717E-01	-0.919E-02
18.50	38	0.109E+00	0.701E-01	-0.164E-02
19.00	39	0.108E+00	0.692E-01	-0.898E-02
19.50	40	0.108E+00	0.680E-01	-0.120E-02
20.00	41	0.107E+00	0.668E-01	-0.121E-02
20.50	42	0.106E+00	0.656E-01	-0.121E-02
21.00	43	0.105E+00	0.644E-01	-0.116E-02
21.50	44	0.105E+00	0.638E-01	-0.612E-02
22.00	45	0.104E+00	0.627E-01	-0.104E-02
22.50	46	0.103E+00	0.624E-01	-0.318E-02
23.00	47	0.103E+00	0.615E-01	-0.945E-02
23.50	48	0.102E+00	0.607E-01	-0.744E-02
24.00	49	0.101E+00	0.597E-01	-0.999E-02

THE CALCULATED LEAK RATE IS 0.597E-01
 THE MAXIMUM ALLOWABLE LEAK RATE IS 0.400E+00
 THE LAST 42 DATA POINTS ESTABLISH A NEGATIVE SLOPE

TIME, DATE START OF TEST 2.50 811

TIME AFTER START OF TEST = 24.00 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
3.00	71.09	74.318	0.781E-01	0.143E+00	0.10E+00	0.18E+00
3.50	70.80	74.271	0.218E+00	0.141E+00	0.10E+00	0.18E+00
4.00	70.53	74.236	0.102E+00	0.139E+00	0.98E-01	0.18E+00
4.50	70.33	74.203	0.153E+00	0.137E+00	0.97E-01	0.18E+00
5.00	70.15	74.175	0.160E+00	0.136E+00	0.95E-01	0.18E+00
5.50	70.00	74.151	0.159E+00	0.134E+00	0.93E-01	0.17E+00
6.00	69.83	74.126	0.150E+00	0.132E+00	0.92E-01	0.17E+00
6.50	69.73	74.109	0.153E+00	0.130E+00	0.90E-01	0.17E+00
7.00	69.59	74.089	0.139E+00	0.129E+00	0.88E-01	0.17E+00
7.50	69.48	74.071	0.142E+00	0.127E+00	0.87E-01	0.17E+00
8.00	69.38	74.054	0.148E+00	0.125E+00	0.85E-01	0.17E+00
8.50	69.23	74.037	0.110E+00	0.123E+00	0.83E-01	0.17E+00
9.00	69.15	74.025	0.107E+00	0.122E+00	0.81E-01	0.16E+00
9.50	69.05	74.010	0.109E+00	0.120E+00	0.80E-01	0.16E+00
10.00	68.96	73.996	0.103E+00	0.118E+00	0.78E-01	0.16E+00
10.50	68.88	73.984	0.105E+00	0.116E+00	0.76E-01	0.16E+00
11.00	68.82	73.971	0.111E+00	0.114E+00	0.75E-01	0.15E+00
11.50	68.75	73.961	0.106E+00	0.113E+00	0.73E-01	0.15E+00
12.00	68.68	73.950	0.103E+00	0.111E+00	0.71E-01	0.15E+00
12.50	68.61	73.939	0.104E+00	0.109E+00	0.69E-01	0.15E+00
13.00	68.52	73.930	0.898E-01	0.107E+00	0.68E-01	0.15E+00
13.50	68.48	73.921	0.960E-01	0.106E+00	0.66E-01	0.15E+00
14.00	68.39	73.911	0.849E-01	0.104E+00	0.64E-01	0.14E+00
14.50	68.35	73.902	0.888E-01	0.102E+00	0.62E-01	0.14E+00
15.00	68.29	73.894	0.869E-01	0.100E+00	0.61E-01	0.14E+00
15.50	68.25	73.884	0.912E-01	0.986E-01	0.59E-01	0.14E+00
16.00	68.23	73.876	0.999E-01	0.968E-01	0.57E-01	0.14E+00
16.50	68.15	73.867	0.933E-01	0.951E-01	0.55E-01	0.13E+00
17.00	68.08	73.858	0.877E-01	0.933E-01	0.53E-01	0.13E+00
17.50	68.02	73.849	0.849E-01	0.915E-01	0.52E-01	0.13E+00
18.00	67.97	73.843	0.876E-01	0.898E-01	0.50E-01	0.13E+00
18.50	67.94	73.833	0.905E-01	0.880E-01	0.48E-01	0.13E+00
19.00	67.87	73.826	0.829E-01	0.862E-01	0.46E-01	0.13E+00
19.50	67.81	73.818	0.783E-01	0.845E-01	0.44E-01	0.12E+00
20.00	67.76	73.811	0.775E-01	0.827E-01	0.43E-01	0.12E+00
20.50	67.73	73.802	0.829E-01	0.809E-01	0.41E-01	0.12E+00
21.00	67.67	73.797	0.749E-01	0.792E-01	0.39E-01	0.12E+00
21.50	67.65	73.790	0.805E-01	0.774E-01	0.37E-01	0.12E+00
22.00	67.58	73.781	0.764E-01	0.756E-01	0.35E-01	0.12E+00
22.50	67.54	73.775	0.750E-01	0.739E-01	0.34E-01	0.11E+00
23.00	67.48	73.767	0.737E-01	0.721E-01	0.32E-01	0.11E+00
23.50	67.44	73.760	0.728E-01	0.703E-01	0.30E-01	0.11E+00

24.00	67.43	73.754	0.777E-01	0.686E-01	0.28E-01	0.11E+00
24.50	67.36	73.747	0.731E-01	0.668E-01	0.26E-01	0.11E+00
25.00	67.36	73.741	0.793E-01	0.650E-01	0.24E-01	0.11E+00
25.50	67.29	73.736	0.714E-01	0.632E-01	0.23E-01	0.10E+00
26.00	67.26	73.730	0.728E-01	0.615E-01	0.21E-01	0.10E+00
26.50	67.20	73.723	0.688E-01	0.597E-01	0.19E-01	0.10E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.101E+00

THE STANDARD DEVIATION IS 0.314E-01

SKEW IS POSITIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.597E-01

PT BEACH 60 PSIG ILRT UNIT 2

TIME, DATE START OF TEST 2.50 311

TIME AFTER START OF TEST = 24.00 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS
3.00	71.09	74.313	0.781E-01	0.125E+00	-0.23E+00 0.48E+00
3.50	70.80	74.271	0.358E+00	0.122E+00	-0.23E+00 0.48E+00
4.00	70.53	74.236	-0.131E+00	0.120E+00	-0.23E+00 0.47E+00
4.50	70.33	74.203	0.308E+00	0.118E+00	-0.24E+00 0.47E+00
5.00	70.15	74.175	0.186E+00	0.115E+00	-0.24E+00 0.47E+00
5.50	70.00	74.151	0.153E+00	0.113E+00	-0.24E+00 0.46E+00
6.00	69.83	74.126	0.953E-01	0.110E+00	-0.24E+00 0.46E+00
6.50	69.73	74.109	-0.175E+00	0.108E+00	-0.24E+00 0.46E+00
7.00	69.59	74.089	0.302E-01	0.106E+00	-0.24E+00 0.46E+00
7.50	69.48	74.071	0.170E+00	0.103E+00	-0.25E+00 0.45E+00
8.00	69.38	74.054	0.202E+00	0.101E+00	-0.25E+00 0.45E+00
8.50	69.23	74.037	-0.300E+00	0.986E-01	-0.25E+00 0.45E+00
9.00	69.15	74.025	0.714E-01	0.962E-01	-0.25E+00 0.44E+00
9.50	69.05	74.010	0.127E+00	0.938E-01	-0.25E+00 0.44E+00
10.00	68.96	73.996	0.287E-01	0.914E-01	-0.26E+00 0.44E+00
10.50	68.88	73.984	0.133E+00	0.891E-01	-0.26E+00 0.44E+00
11.00	68.82	73.971	0.210E+00	0.867E-01	-0.26E+00 0.43E+00

11.50	68.75	73.961	0.200E-01	0.843E-01	-0.26E+00	0.43E+00
12.00	68.68	73.950	0.386E-01	0.819E-01	-0.26E+00	0.43E+00
12.50	68.61	73.939	0.133E+00	0.795E-01	-0.27E+00	0.43E+00
13.00	68.52	73.930	-0.201E+00	0.772E-01	-0.27E+00	0.42E+00
13.50	68.48	73.921	0.227E+00	0.748E-01	-0.27E+00	0.42E+00
14.00	68.39	73.911	-0.160E+00	0.724E-01	-0.27E+00	0.42E+00
14.50	68.35	73.902	0.180E+00	0.700E-01	-0.28E+00	0.42E+00
15.00	68.29	73.894	0.401E-01	0.676E-01	-0.28E+00	0.41E+00
15.50	68.25	73.884	0.200E+00	0.653E-01	-0.28E+00	0.41E+00
16.00	68.23	73.876	0.326E+00	0.629E-01	-0.28E+00	0.41E+00
16.50	68.15	73.867	-0.367E-01	0.605E-01	-0.29E+00	0.41E+00
17.00	68.08	73.858	-0.688E-01	0.581E-01	-0.29E+00	0.40E+00
17.50	68.02	73.849	0.433E-02	0.557E-01	-0.29E+00	0.40E+00
18.00	67.99	73.843	0.170E+00	0.534E-01	-0.29E+00	0.40E+00
18.50	67.94	73.833	0.181E+00	0.510E-01	-0.30E+00	0.40E+00
19.00	67.87	73.826	-0.160E+00	0.486E-01	-0.30E+00	0.40E+00
19.50	67.81	73.818	-0.733E-01	0.462E-01	-0.30E+00	0.39E+00
20.00	67.76	73.811	0.483E-01	0.438E-01	-0.30E+00	0.39E+00
20.50	67.73	73.802	0.272E+00	0.414E-01	-0.31E+00	0.39E+00
21.00	67.67	73.797	-0.212E+00	0.391E-01	-0.31E+00	0.39E+00
21.50	67.65	73.790	0.287E+00	0.367E-01	-0.31E+00	0.39E+00
22.00	67.58	73.781	-0.791E-01	0.343E-01	-0.31E+00	0.38E+00
22.50	67.54	73.775	0.212E-01	0.319E-01	-0.32E+00	0.38E+00
23.00	67.48	73.767	0.201E-01	0.295E-01	-0.32E+00	0.38E+00
23.50	67.44	73.760	0.395E-01	0.272E-01	-0.32E+00	0.38E+00
24.00	67.43	73.754	0.283E+00	0.248E-01	-0.33E+00	0.38E+00
24.50	67.36	73.747	-0.170E+00	0.224E-01	-0.33E+00	0.37E+00
25.00	67.36	73.741	0.398E+00	0.200E-01	-0.33E+00	0.37E+00
25.50	67.29	73.736	-0.286E+00	0.176E-01	-0.34E+00	0.37E+00
26.00	67.26	73.730	0.136E+00	0.153E-01	-0.34E+00	0.37E+00
26.50	67.20	73.723	-0.120E+00	0.129E-01	-0.34E+00	0.37E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.688E-01

THE STANDARD DEVIATION IS 0.171E+00

SKREW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.129E-01

ENTER TIME, DATE, TEMP, PRESS

WHEN FINISHED ENTER 9999,...

= 0700,0705,92.922162,39.923794
 = 0730,0705,92.752210,39.912188
 = 0800,0705,92.614319,39.900290
 = 0815,0705,92.538922,39.895789
 = 0830,0705,92.485982,39.890100
 = 0845,0705,92.426083,39.886656
 = 0900,0705,92.378101,39.882979
 = 0915,0705,92.323061,39.878286
 = 0930,0705,92.283657,39.874763
 = 0945,0705,92.229054,39.871151
 = 1000,0705,92.190999,39.868011
 = 1015,0705,92.155950,39.865191
 = 1030,0705,92.118731,39.862060
 = 1045,0705,92.080656,39.859273
 = 1100,0705,92.049235,39.857009
 = 1115,0705,92.013302,39.854298
 = 1130,0705,91.974201,39.852149
 = 1145,0705,91.947372,39.848802
 = 1200,0705,91.917453,39.846760
 = 1215,0705,91.894182,39.844160
 = 1230,0705,91.867023,39.842538
 = 1245,0705,91.837394,39.840276
 = 1300,0705,91.811493,39.838500
 = 9999,...

TURKEY PT 25PCIG ILRT UNIT 3

TIME, DATE START OF TEST 7.00 705

TIME AFTER START OF TEST = 6.00 HR

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
1.25	4	0.327E-02	0.549E-01	
1.50	5	0.243E-01	0.996E-01	0.350E-01
1.75	6	0.283E-01	0.836E-01	-0.619E-02
2.00	7	0.311E-01	0.788E-01	-0.481E-02
2.25	8	0.352E-01	0.808E-01	0.203E-02
2.50	9	0.395E-01	0.854E-01	0.455E-02
2.75	10	0.413E-01	0.828E-01	-0.254E-02
3.00	11	0.431E-01	0.819E-01	-0.987E-03
3.25	12	0.446E-01	0.810E-01	-0.915E-03
3.50	13	0.462E-01	0.811E-01	0.761E-04
3.75	14	0.472E-01	0.800E-01	-0.112E-02
4.00	15	0.478E-01	0.780E-01	-0.200E-02
4.25	16	0.482E-01	0.759E-01	-0.211E-02
4.50	17	0.479E-01	0.714E-01	-0.449E-02
4.75	18	0.484E-01	0.710E-01	-0.430E-03
5.00	19	0.487E-01	0.697E-01	-0.129E-02
5.25	20	0.494E-01	0.701E-01	0.400E-03
5.50	21	0.497E-01	0.696E-01	-0.909E-03
5.75	22	0.499E-01	0.681E-01	-0.101E-02
6.00	23	0.499E-01	0.667E-01	-0.143E-02

THE CALCULATED LEAK RATE IS 0.667E-01
 THE MAXIMUM ALLOWABLE LEAK RATE IS 0.177E+00
 THE LAST 3 DATA POINTS ESTABLISH A NEGATIVE SLOPE

TURKEY PT 25P116 ILPT UNIT

TIME, DATE START OF TEST 7.00 705

TIME AFTER START OF TEST = 6.00 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATION:

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
7.50	92.75	39.912	-0.611E-01	0.316E-01	-0.37E-01	0.10E+00
8.00	92.61	39.900	0.758E-01	0.348E-01	-0.35E-01	0.10E+00
8.25	92.54	39.896	0.151E-01	0.364E-01	-0.31E-01	0.11E+00
8.50	92.49	39.890	0.873E-01	0.380E-01	-0.31E-01	0.11E+00
8.75	92.43	39.887	0.445E-01	0.396E-01	-0.28E-01	0.11E+00
9.00	92.38	39.883	0.452E-01	0.412E-01	-0.26E-01	0.11E+00
9.25	92.32	39.878	0.595E-01	0.428E-01	-0.25E-01	0.11E+00
9.50	92.38	39.875	0.697E-01	0.444E-01	-0.23E-01	0.11E+00
9.75	92.23	39.871	0.554E-01	0.460E-01	-0.21E-01	0.11E+00
10.00	92.19	39.868	0.592E-01	0.476E-01	-0.19E-01	0.11E+00
10.25	92.16	39.865	0.600E-01	0.492E-01	-0.17E-01	0.12E+00
10.50	92.12	39.862	0.623E-01	0.508E-01	-0.16E-01	0.12E+00
10.75	92.08	39.859	0.597E-01	0.524E-01	-0.14E-01	0.12E+00
11.00	92.05	39.857	0.558E-01	0.540E-01	-0.12E-01	0.12E+00
11.25	92.01	39.854	0.542E-01	0.556E-01	-0.12E-01	0.12E+00
11.50	91.97	39.852	0.421E-01	0.571E-01	-0.10E-01	0.12E+00
11.75	91.95	39.849	0.578E-01	0.587E-01	-0.90E-02	0.13E+00
12.00	91.92	39.847	0.534E-01	0.603E-01	-0.78E-02	0.13E+00
12.25	91.89	39.844	0.614E-01	0.619E-01	-0.67E-02	0.13E+00
12.50	91.87	39.843	0.549E-01	0.635E-01	-0.56E-02	0.13E+00
12.75	91.84	39.840	0.538E-01	0.651E-01	-0.46E-02	0.13E+00
13.00	91.81	39.839	0.506E-01	0.667E-01	-0.37E-02	0.14E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.499E-01

THE STANDARD DEVIATION IS 0.322E-01

SKEM IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 6.00 HOURS OF TEST IS 0.667E-01

TURKEY PT 25PSIG ILRT UNIT 3

TIME, DATE START OF TEST 7.00 705

TIME AFTER START OF TEST = 6.00 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
7.50	92.75	39.912	-0.811E-01	0.580E-01	-0.34E+00	0.45E+00
8.00	92.61	39.900	0.233E+00	0.563E-01	-0.33E+00	0.44E+00
8.25	92.54	39.896	-0.228E+00	0.555E-01	-0.33E+00	0.44E+00
8.50	92.49	39.890	0.449E+00	0.546E-01	-0.33E+00	0.43E+00
8.75	92.43	39.887	-0.213E+00	0.538E-01	-0.32E+00	0.43E+00
9.00	92.38	39.883	0.567E-01	0.530E-01	-0.32E+00	0.43E+00
9.25	92.32	39.878	0.174E+00	0.521E-01	-0.32E+00	0.43E+00
9.50	92.28	39.875	0.161E+00	0.513E-01	-0.32E+00	0.42E+00
9.75	92.23	39.871	-0.173E-01	0.505E-01	-0.32E+00	0.42E+00
10.00	92.19	39.868	0.101E+00	0.496E-01	-0.32E+00	0.42E+00
10.25	92.16	39.865	0.694E-01	0.488E-01	-0.32E+00	0.42E+00
10.50	92.12	39.862	0.107E+00	0.480E-01	-0.32E+00	0.42E+00
10.75	92.08	39.859	0.874E-02	0.471E-01	-0.32E+00	0.42E+00
11.00	92.05	39.857	-0.129E-02	0.463E-01	-0.32E+00	0.42E+00
11.25	92.01	39.854	0.277E-01	0.454E-01	-0.33E+00	0.42E+00
11.50	91.97	39.852	-0.163E+00	0.446E-01	-0.33E+00	0.42E+00
11.75	91.95	39.849	0.340E+00	0.438E-01	-0.33E+00	0.42E+00
12.00	91.92	39.847	-0.287E-01	0.429E-01	-0.33E+00	0.42E+00
12.25	91.89	39.844	0.321E+00	0.421E-01	-0.34E+00	0.42E+00
12.50	91.87	39.843	-0.818E-01	0.413E-01	-0.34E+00	0.42E+00
12.75	91.84	39.840	0.293E-01	0.404E-01	-0.35E+00	0.43E+00
13.00	91.81	39.839	-0.228E-01	0.396E-01	-0.35E+00	0.43E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.484E-01

THE STANDARD DEVIATION IS 0.169E+00

SKEM IS POSITIVE

THE CALCULATED LEAK RATE AFTER 6.00 HOURS OF TEST IS 0.396E-01

ENTER TIME, DATE, TEST, PRESS

WHEN FINISHED ENTER 9999, . . .
= 0930,0706,94.562674,64.209401
= 0945,0706,94.500313,64.296031
= 1000,0706,94.456697,64.290915
= 1015,0706,94.405726,64.287012
= 1030,0706,94.362953,64.282953
= 1045,0706,94.362938,64.277824
= 1100,0706,94.352912,64.272799
= 1115,0706,94.341547,64.270735
= 1130,0706,94.315114,64.267632
= 1145,0706,94.312042,64.265898
= 1200,0706,94.299203,64.263646
= 1215,0706,94.273455,64.261960
= 1230,0706,94.265478,64.258443
= 1300,0706,94.240784,64.254903
= 1330,0706,94.206667,64.252208
= 1400,0706,94.208507,64.249684
= 1430,0706,94.201062,64.246152
= 1500,0706,94.184767,64.243653
= 1530,0706,94.164067,64.242645
= 1600,0706,94.157027,64.239252
= 1630,0706,94.164102,64.238050
= 1700,0706,93.784441,64.195564
= 1730,0706,93.590105,64.172770
= 1800,0706,93.434941,64.156839
= 1830,0706,93.324422,64.144441
= 1900,0706,93.240954,64.130923
= 1930,0706,93.170676,64.122245
= 2000,0706,93.102279,64.111536
= 2030,0706,93.036203,64.102517
= 2100,0706,92.995012,64.093463
= 2130,0706,92.940033,64.087609
= 2200,0706,92.894948,64.082749
= 2230,0706,92.856263,64.075659
= 2300,0706,92.822108,64.071659
= 2330,0706,92.779962,64.064066
= 2400,0706,92.741134,64.060726
= 0030,0707,92.710859,64.053747
= 0100,0707,92.682444,64.049359
= 0130,0707,92.652349,64.044245
= 0200,0707,92.621596,64.038005
= 0230,0707,92.594518,64.033311
= 0300,0707,92.568022,64.028307
= 0330,0707,92.538530,64.025134
= 0400,0707,92.513101,64.021164
= 0430,0707,92.492511,64.017988
= 0500,0707,92.469408,64.014015
= 0530,0707,92.441826,64.010382
= 0600,0707,92.424627,64.007967
= 0630,0707,92.295983,64.000404
= 0700,0707,92.275122,63.997763
= 0730,0707,92.346577,63.994420
= 9999, . . .

TIME AFTER START OF TEST = 22.00 HR

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
0.75	4	-0.110E+00	-0.115E+00	
1.00	5	-0.887E-01	-0.547E-01	0.607E-01
1.25	6	-0.626E-01	0.121E-01	0.669E-01
1.50	7	-0.377E-01	0.692E-01	0.571E-01
1.75	8	-0.139E-01	0.120E+00	0.503E-01
2.00	9	0.192E-02	0.143E+00	0.232E-01
2.25	10	0.154E-01	0.160E+00	0.177E-01
2.50	11	0.245E-01	0.166E+00	0.518E-02
2.75	12	0.308E-01	0.164E+00	-0.155E-02
3.00	13	0.381E-01	0.169E+00	0.520E-02
3.50	14	0.435E-01	0.182E+00	0.126E-01
4.00	15	0.479E-01	0.184E+00	0.169E-02
4.50	16	0.511E-01	0.178E+00	-0.534E-02
5.00	17	0.546E-01	0.175E+00	-0.309E-02
5.50	18	0.578E-01	0.172E+00	-0.296E-02
6.00	19	0.592E-01	0.162E+00	-0.976E-02
6.50	20	0.609E-01	0.156E+00	-0.632E-02
7.00	21	0.627E-01	0.153E+00	-0.408E-02
7.50	22	0.636E-01	0.145E+00	-0.670E-02
8.00	23	0.643E-01	0.139E+00	-0.646E-02
8.50	24	0.643E-01	0.131E+00	-0.819E-02
9.00	25	0.641E-01	0.123E+00	-0.791E-02
9.50	26	0.644E-01	0.118E+00	-0.455E-02
10.00	27	0.646E-01	0.114E+00	-0.417E-02
10.50	28	0.651E-01	0.112E+00	-0.257E-02
11.00	29	0.655E-01	0.109E+00	-0.205E-02
11.50	30	0.663E-01	0.109E+00	-0.219E-03
12.00	31	0.668E-01	0.108E+00	-0.100E-02
12.50	32	0.672E-01	0.107E+00	-0.154E-02
13.00	33	0.677E-01	0.106E+00	-0.776E-03
13.50	34	0.680E-01	0.105E+00	-0.110E-02
14.00	35	0.685E-01	0.104E+00	-0.453E-03
14.50	36	0.688E-01	0.103E+00	-0.115E-02
15.00	37	0.692E-01	0.103E+00	-0.337E-03
15.50	38	0.696E-01	0.103E+00	-0.334E-03
16.00	39	0.701E-01	0.102E+00	-0.191E-03
16.50	40	0.705E-01	0.103E+00	0.184E-03
17.00	41	0.710E-01	0.103E+00	0.233E-03
17.50	42	0.715E-01	0.103E+00	0.279E-03
18.00	43	0.719E-01	0.103E+00	0.354E-05
18.50	44	0.723E-01	0.103E+00	-0.387E-04
19.00	45	0.726E-01	0.103E+00	-0.122E-03
19.50	46	0.729E-01	0.103E+00	-0.102E-03
20.00	47	0.732E-01	0.103E+00	-0.233E-03
20.50	48	0.735E-01	0.102E+00	-0.345E-03
21.00	49	0.738E-01	0.102E+00	0.151E-03
21.50	50	0.741E-01	0.102E+00	-0.139E-04
22.00	51	0.744E-01	0.102E+00	-0.185E-03

THE CALCULATED LEAK RATE IS 0.102E+00

THE MAXIMUM ALLOWABLE LEAK RATE IS 0.250E+00

THE LAST 2 DATA POINTS ESTABLISH A NEGATIVE SLOPE

TIME, DATE START OF TEST 9.50, 706

TIME AFTER START OF TEST = 22.00 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
9.75	94.50	64.296	-0.128E+00	0.514E-01	-0.54E-01	0.1+2+00
10.00	94.46	64.291	-0.601E-01	0.520E-01	-0.53E-01	0.16E+00
10.25	94.41	64.287	-0.140E+00	0.526E-01	-0.52E-01	0.16E+00
10.50	94.38	64.282	-0.262E-01	0.522E-01	-0.52E-01	0.16E+00
10.75	94.36	64.278	0.417E-01	0.538E-01	-0.51E-01	0.16E+00
11.00	94.35	64.275	0.871E-01	0.544E-01	-0.50E-01	0.16E+00
11.25	94.34	64.271	0.126E+00	0.549E-01	-0.50E-01	0.16E+00
11.50	94.32	64.268	0.113E+00	0.555E-01	-0.49E-01	0.16E+00
11.75	94.31	64.266	0.123E+00	0.561E-01	-0.48E-01	0.16E+00
12.00	94.29	64.264	0.107E+00	0.567E-01	-0.48E-01	0.16E+00
12.25	94.27	64.262	0.936E-01	0.573E-01	-0.47E-01	0.16E+00
12.50	94.27	64.258	0.118E+00	0.578E-01	-0.46E-01	0.16E+00
13.00	94.24	64.255	0.108E+00	0.590E-01	-0.45E-01	0.16E+00
13.50	94.23	64.252	0.105E+00	0.602E-01	-0.44E-01	0.16E+00
14.00	94.21	64.250	0.963E-01	0.613E-01	-0.42E-01	0.17E+00
14.50	94.20	64.246	0.107E+00	0.625E-01	-0.41E-01	0.17E+00
15.00	94.19	64.244	0.109E+00	0.637E-01	-0.40E-01	0.17E+00
15.50	94.16	64.243	0.841E-01	0.648E-01	-0.38E-01	0.17E+00
16.00	94.16	64.240	0.913E-01	0.660E-01	-0.37E-01	0.17E+00
16.50	94.16	64.238	0.966E-01	0.672E-01	-0.36E-01	0.17E+00
17.00	93.78*	64.196	0.824E-01	0.683E-01	-0.35E-01	0.17E+00
17.50	93.59	64.173	0.724E-01	0.695E-01	-0.34E-01	0.17E+00
18.00	93.43	64.157	0.647E-01	0.707E-01	-0.32E-01	0.17E+00
18.50	93.32	64.144	0.594E-01	0.718E-01	-0.31E-01	0.17E+00
19.00	93.24	64.131	0.713E-01	0.730E-01	-0.30E-01	0.18E+00
19.50	93.17	64.122	0.898E-01	0.742E-01	-0.29E-01	0.18E+00
20.00	93.10	64.112	0.761E-01	0.753E-01	-0.28E-01	0.18E+00
20.50	93.04	64.102	0.775E-01	0.765E-01	-0.26E-01	0.18E+00
21.00	92.99	64.094	0.880E-01	0.777E-01	-0.25E-01	0.18E+00
21.50	92.94	64.088	0.827E-01	0.788E-01	-0.24E-01	0.18E+00
22.00	92.89	64.083	0.783E-01	0.800E-01	-0.23E-01	0.18E+00
22.50	92.86	64.076	0.823E-01	0.812E-01	-0.22E-01	0.18E+00
23.00	92.82	64.072	0.798E-01	0.823E-01	-0.21E-01	0.19E+00
23.50	92.78	64.064	0.842E-01	0.835E-01	-0.20E-01	0.19E+00
24.00	92.74	64.061	0.783E-01	0.847E-01	-0.19E-01	0.19E+00
24.50	92.71	64.054	0.843E-01	0.858E-01	-0.18E-01	0.19E+00
25.00	92.68	64.049	0.843E-01	0.870E-01	-0.17E-01	0.19E+00
25.50	92.65	64.044	0.854E-01	0.882E-01	-0.16E-01	0.19E+00
26.00	92.62	64.038	0.889E-01	0.893E-01	-0.15E-01	0.19E+00
26.50	92.59	64.033	0.897E-01	0.905E-01	-0.14E-01	0.19E+00
27.00	92.56	64.028	0.905E-01	0.917E-01	-0.13E-01	0.20E+00
27.50	92.54	64.025	0.882E-01	0.928E-01	-0.12E-01	0.20E+00
28.00	92.51	64.021	0.879E-01	0.940E-01	-0.11E-01	0.20E+00
28.50	92.49	64.018	0.872E-01	0.952E-01	-0.95E-02	0.20E+00
29.00	92.47	64.014	0.874E-01	0.963E-01	-0.86E-02	0.20E+00

* Step change in temperature was due to starting of containment ventilation fans which ran for remainder of test.

29.50	92.44	64.010	0.860E-01	0.875E-01	-0.76E-02	0.20E+00
30.00	92.42	64.008	0.847E-01	0.887E-01	-0.67E-02	0.20E+00
30.50	92.40	64.000	0.903E-01	0.998E-01	-0.57E-02	0.21E+00
31.00	92.38	63.998	0.886E-01	0.101E+00	-0.48E-02	0.21E+00
31.50	92.35	63.994	0.866E-01	0.102E+00	-0.39E-02	0.21E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.744E-01
 THE STANDARD DEVIATION IS 0.526E-01
 SKEW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 22.00 HOURS OF TEST IS 0.102E+00

OPTIONS ?
 = POIN

TURKEY PT 50PSIG ILRT UNIT 3

TIME, DATE START OF TEST 9.50 706

TIME AFTER START OF TEST = 22.00 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
9.75	94.50	64.296	-0.128E+00	0.925E-01	-0.23E+00	0.41E+00
10.00	94.46	64.291	0.829E-02	0.925E-01	-0.23E+00	0.41E+00
10.25	94.41	64.287	-0.300E+00	0.924E-01	-0.23E+00	0.41E+00
10.50	94.38	64.282	0.316E+00	0.924E-01	-0.23E+00	0.41E+00
10.75	94.36	64.278	0.313E+00	0.923E-01	-0.23E+00	0.41E+00
11.00	94.35	64.275	0.315E+00	0.923E-01	-0.23E+00	0.41E+00
11.25	94.34	64.271	0.378E+00	0.922E-01	-0.23E+00	0.41E+00
11.50	94.32	64.268	0.953E-02	0.922E-01	-0.23E+00	0.41E+00
11.75	94.31	64.266	0.206E+00	0.921E-01	-0.22E+00	0.41E+00
12.00	94.29	64.264	-0.421E-01	0.921E-01	-0.22E+00	0.41E+00
12.25	94.27	64.262	-0.379E-01	0.920E-01	-0.22E+00	0.41E+00
12.50	94.27	64.258	0.387E+00	0.920E-01	-0.22E+00	0.41E+00
3.00	94.24	64.255	0.505E-01	0.919E-01	-0.22E+00	0.41E+00

13.50	94.23	64.252	0.792E-01	0.918E-01	-0.22E+00	0.41E+00
14.00	94.21	64.250	0.292E-01	0.917E-01	-0.22E+00	0.41E+00
14.50	94.20	64.246	0.201E+00	0.915E-01	-0.22E+00	0.41E+00
15.00	94.19	64.244	0.132E+00	0.914E-01	-0.22E+00	0.41E+00
15.50	94.16	64.243	-0.191E+00	0.913E-01	-0.22E+00	0.41E+00
16.00	94.16	64.240	0.178E+00	0.912E-01	-0.22E+00	0.41E+00
16.50	94.16	64.238	0.166E+00	0.911E-01	-0.22E+00	0.41E+00
17.00	93.73*	64.196	-0.116E+00	0.910E-01	-0.22E+00	0.41E+00
17.50	93.59	64.173	0.188E-01	0.909E-01	-0.22E+00	0.41E+00
18.00	93.43	64.157	-0.155E+00	0.908E-01	-0.22E+00	0.41E+00
18.50	93.32	64.144	-0.209E-01	0.907E-01	-0.22E+00	0.41E+00
19.00	93.24	64.131	0.386E+00	0.906E-01	-0.22E+00	0.41E+00
19.50	93.17	64.122	0.415E-01	0.905E-01	-0.22E+00	0.41E+00
20.00	93.10	64.112	0.202E+00	0.904E-01	-0.22E+00	0.41E+00
20.50	93.04	64.102	0.105E+00	0.903E-01	-0.22E+00	0.41E+00
21.00	92.99	64.094	0.320E+00	0.902E-01	-0.22E+00	0.41E+00
21.50	92.94	64.088	-0.391E-01	0.901E-01	-0.22E+00	0.41E+00
22.00	92.89	64.083	-0.277E-01	0.900E-01	-0.22E+00	0.41E+00
22.50	92.86	64.076	0.195E+00	0.899E-01	-0.22E+00	0.41E+00
23.00	92.82	64.072	0.291E-02	0.898E-01	-0.22E+00	0.41E+00
23.50	92.78	64.064	0.203E+00	0.897E-01	-0.22E+00	0.41E+00
24.00	92.74	64.061	-0.372E-01	0.895E-01	-0.22E+00	0.41E+00
24.50	92.71	64.054	0.260E+00	0.894E-01	-0.22E+00	0.41E+00
25.00	92.68	64.049	0.320E-01	0.893E-01	-0.22E+00	0.41E+00
25.50	92.65	64.044	0.122E+00	0.892E-01	-0.22E+00	0.41E+00
26.00	92.62	64.038	0.200E+00	0.891E-01	-0.22E+00	0.41E+00
26.50	92.59	64.033	0.117E+00	0.890E-01	-0.22E+00	0.41E+00
27.00	92.56	64.028	0.119E+00	0.889E-01	-0.22E+00	0.41E+00
27.50	92.54	64.025	0.776E-02	0.888E-01	-0.22E+00	0.41E+00
28.00	92.51	64.021	0.765E-01	0.887E-01	-0.22E+00	0.41E+00
28.50	92.49	64.018	0.591E-01	0.886E-01	-0.22E+00	0.41E+00
29.00	92.47	64.014	0.972E-01	0.885E-01	-0.22E+00	0.41E+00
29.50	92.44	64.010	0.316E-01	0.884E-01	-0.22E+00	0.41E+00
30.00	92.42	64.008	0.209E-01	0.883E-01	-0.22E+00	0.41E+00
30.50	92.40	64.000	0.320E+00	0.882E-01	-0.22E+00	0.41E+00
31.00	92.38	63.998	0.174E-01	0.881E-01	-0.22E+00	0.41E+00
31.50	92.35	63.994	0.199E-02	0.880E-01	-0.22E+00	0.41E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.905E-01
 THE STANDARD DEVIATION IS 0.153E+00
 SKEW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 22.00 HOURS OF TEST IS 0.880E-01

* See note on page B-40

OCONEE 29.5 PSIG ILRT UNIT 1

ENTER TIME, DATE, TEMP, PRESS

WHEN FINISHED ENTER 9999, , , ,

2130, 0730, 79.837698, 43.794224

2145, 0730, 79.816499, 43.794224

2200, 0730, 79.796099, 43.793208

2215, 0730, 79.798698, 43.792191

2230, 0730, 79.798198, 43.791173

2245, 0730, 79.780599, 43.791173

2300, 0730, 79.769499, 43.791173

2315, 0730, 79.773499, 43.790156

2330, 0730, 79.773098, 43.790156

2345, 0730, 79.779698, 43.789139

2400, 0730, 79.778698, 43.789139

0015, 0731, 79.760098, 43.789139

0030, 0731, 79.761197, 43.789139

0045, 0731, 79.768198, 43.789139

0100, 0731, 79.762298, 43.789139

0115, 0731, 79.758598, 43.789139

0130, 0731, 79.766698, 43.789139

0145, 0731, 79.767697, 43.789139

0200, 0731, 79.762799, 43.789139

0215, 0731, 79.755898, 43.789139

0230, 0731, 79.755198, 43.789139

0245, 0731, 79.754398, 43.789139

0300, 0731, 79.753698, 43.789139

0315, 0731, 79.767998, 43.790156

0330, 0731, 79.764799, 43.790156

0345, 0731, 79.776298, 43.790156

0400, 0731, 79.768898, 43.791173

0415, 0731, 79.771098, 43.791173

0430, 0731, 79.767497, 43.791173

0445, 0731, 79.791819, 43.792191

0500, 0731, 79.779098, 43.792191

0515, 0731, 79.787198, 43.792191

0530, 0731, 79.798398, 43.793208

0545, 0731, 79.789498, 43.794224

0600, 0731, 79.797797, 43.794224

0615, 0731, 79.803497, 43.794224

0630, 0731, 79.804699, 43.795241

0645, 0731, 79.813498, 43.795241

0700, 0731, 79.817298, 43.796258

0715, 0731, 79.822598, 43.796258

0730, 0731, 79.822198, 43.796258

9999, , , ,

TIME, DATE START OF TEST 21.50 730

TIME AFTER START OF TEST = 10.00 HR

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
0.75	4	-0.240E+00	-0.924E-01	
1.00	5	-0.182E+00	0.105E-01	0.103E+00
1.25	6	-0.159E+00	0.138E-01	0.330E-02
1.50	7	-0.148E+00	0.211E-03	-0.136E-01
1.75	8	-0.132E+00	0.153E-01	0.150E-01
2.00	9	-0.119E+00	0.241E-01	0.883E-02
2.25	10	-0.105E+00	0.440E-01	0.199E-01
2.50	11	-0.951E-01	0.516E-01	0.764E-02
2.75	12	-0.886E-01	0.497E-01	-0.189E-02
3.00	13	-0.830E-01	0.485E-01	-0.121E-02
3.25	14	-0.773E-01	0.499E-01	0.143E-02
3.50	15	-0.729E-01	0.487E-01	-0.126E-02
3.75	16	-0.694E-01	0.464E-01	-0.229E-02
4.00	17	-0.656E-01	0.465E-01	0.770E-04
4.25	18	-0.622E-01	0.465E-01	0.395E-04
4.50	19	-0.594E-01	0.453E-01	-0.119E-02
4.75	20	-0.573E-01	0.429E-01	-0.239E-02
5.00	21	-0.553E-01	0.407E-01	-0.219E-02
5.25	22	-0.535E-01	0.387E-01	-0.202E-02
5.50	23	-0.518E-01	0.368E-01	-0.186E-02
5.75	24	-0.502E-01	0.354E-01	-0.141E-02
6.00	25	-0.488E-01	0.338E-01	-0.163E-02
6.25	26	-0.472E-01	0.336E-01	-0.204E-03
6.50	27	-0.462E-01	0.314E-01	-0.223E-02
6.75	28	-0.452E-01	0.296E-01	-0.174E-02
7.00	29	-0.443E-01	0.278E-01	-0.184E-02
7.25	30	-0.433E-01	0.271E-01	-0.672E-03
7.50	31	-0.425E-01	0.255E-01	-0.158E-02
7.75	32	-0.416E-01	0.247E-01	-0.824E-03
8.00	33	-0.407E-01	0.239E-01	-0.834E-03
8.25	34	-0.403E-01	0.218E-01	-0.209E-02
8.50	35	-0.397E-01	0.204E-01	-0.136E-02
8.75	36	-0.391E-01	0.195E-01	-0.895E-03
9.00	37	-0.386E-01	0.181E-01	-0.140E-02
9.25	38	-0.381E-01	0.173E-01	-0.810E-03
9.50	39	-0.376E-01	0.162E-01	-0.114E-02
9.75	40	-0.371E-01	0.154E-01	-0.784E-03
10.00	41	-0.366E-01	0.147E-01	-0.723E-03

THE CALCULATED LEAK RATE IS 0.147E-01
 THE MAXIMUM ALLOWABLE LEAK RATE IS 0.177E+00
 THE LAST 23 DATA POINTS ESTABLISH A NEGATIVE SLOPE

TIME, DATE START OF TEST 21.50 730

TIME AFTER START OF TEST = 10.00 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
21.75	79.82	43.794	-0.377E+00	-0.880E-01	-0.22E+00	0.45E-01
22.00	79.80	43.793	-0.259E+00	-0.853E-01	-0.22E+00	0.48E-01
22.25	79.80	43.792	-0.827E-01	-0.827E-01	-0.22E+00	0.50E-01
22.50	79.80	43.791	-0.851E-02	-0.801E-01	-0.21E+00	0.52E-01
22.75	79.78	43.791	-0.695E-01	-0.774E-01	-0.21E+00	0.54E-01
23.00	79.77	43.791	-0.908E-01	-0.748E-01	-0.21E+00	0.57E-01
23.25	79.77	43.790	-0.358E-01	-0.722E-01	-0.20E+00	0.59E-01
23.50	79.77	43.790	-0.322E-01	-0.695E-01	-0.20E+00	0.61E-01
23.75	79.78	43.789	0.918E-02	-0.669E-01	-0.20E+00	0.64E-01
24.00	79.77	43.789	-0.455E-02	-0.643E-01	-0.19E+00	0.66E-01
24.25	79.76	43.789	-0.242E-01	-0.616E-01	-0.19E+00	0.68E-01
24.50	79.76	43.789	-0.206E-01	-0.590E-01	-0.19E+00	0.71E-01
24.75	79.77	43.789	-0.939E-02	-0.564E-01	-0.19E+00	0.73E-01
25.00	79.76	43.789	-0.162E-01	-0.538E-01	-0.18E+00	0.76E-01
25.25	79.76	43.789	-0.195E-01	-0.511E-01	-0.18E+00	0.78E-01
25.50	79.77	43.789	-0.930E-02	-0.485E-01	-0.18E+00	0.81E-01
25.75	79.77	43.789	-0.770E-02	-0.459E-01	-0.17E+00	0.83E-01
26.00	79.76	43.789	-0.121E-01	-0.432E-01	-0.17E+00	0.86E-01
26.25	79.76	43.789	-0.179E-01	-0.406E-01	-0.17E+00	0.88E-01
26.50	79.76	43.789	-0.177E-01	-0.380E-01	-0.17E+00	0.91E-01
26.75	79.75	43.789	-0.175E-01	-0.353E-01	-0.16E+00	0.94E-01
27.00	79.75	43.789	-0.173E-01	-0.327E-01	-0.16E+00	0.96E-01
27.25	79.77	43.790	-0.152E-01	-0.301E-01	-0.16E+00	0.99E-01
27.50	79.76	43.790	-0.169E-01	-0.274E-01	-0.16E+00	0.10E+00
27.75	79.78	43.790	-0.804E-02	-0.248E-01	-0.15E+00	0.10E+00
28.00	79.77	43.791	-0.214E-01	-0.222E-01	-0.15E+00	0.11E+00
28.25	79.77	43.791	-0.191E-01	-0.195E-01	-0.15E+00	0.11E+00
28.50	79.77	43.791	-0.207E-01	-0.169E-01	-0.15E+00	0.11E+00
28.75	79.79	43.792	-0.128E-01	-0.143E-01	-0.14E+00	0.12E+00
29.00	79.78	43.792	-0.193E-01	-0.116E-01	-0.14E+00	0.12E+00
29.25	79.79	43.792	-0.146E-01	-0.902E-02	-0.14E+00	0.12E+00
29.50	79.80	43.793	-0.149E-01	-0.639E-02	-0.14E+00	0.12E+00
29.75	79.79	43.794	-0.260E-01	-0.378E-02	-0.13E+00	0.13E+00
30.00	79.80	43.794	-0.209E-01	-0.112E-02	-0.13E+00	0.13E+00
30.25	79.80	43.794	-0.174E-01	0.151E-02	-0.13E+00	0.13E+00
30.50	79.80	43.795	-0.225E-01	0.414E-02	-0.13E+00	0.14E+00
30.75	79.81	43.795	-0.177E-01	0.677E-02	-0.13E+00	0.14E+00
31.00	79.82	43.796	-0.213E-01	0.940E-02	-0.12E+00	0.14E+00
31.25	79.82	43.796	-0.183E-01	0.120E-01	-0.12E+00	0.14E+00
31.50	79.82	43.796	-0.180E-01	0.147E-01	-0.12E+00	0.15E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS -0.366E-01

THE STANDARD DEVIATION IS 0.693E-01

SHEW IS NEGATIVE

E CALCULATED LEAK RATE AFTER 10.00 HOURS OF TEST IS 0.147E-01

TIME + DATE START OF TEST 21.50 730

TIME AFTER START OF TEST = 10.00 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
21.75	79.82	43.794	-0.377E+00	-0.225E-01	-0.42E+00	0.37E+00
22.00	79.80	43.793	-0.140E+00	-0.232E-01	-0.42E+00	0.37E+00
22.25	79.80	43.792	0.269E+00	-0.230E-01	-0.41E+00	0.37E+00
22.50	79.80	43.791	0.214E+00	-0.218E-01	-0.41E+00	0.37E+00
22.75	79.78	43.791	-0.313E+00	-0.215E-01	-0.41E+00	0.37E+00
23.00	79.77	43.791	-0.197E+00	-0.213E-01	-0.41E+00	0.37E+00
23.25	79.77	43.790	0.294E+00	-0.211E-01	-0.41E+00	0.37E+00
23.50	79.77	43.790	-0.714E-02	-0.208E-01	-0.41E+00	0.37E+00
23.75	79.78	43.789	0.341E+00	-0.206E-01	-0.41E+00	0.37E+00
24.00	79.77	43.789	-0.128E+00	-0.204E-01	-0.41E+00	0.36E+00
24.25	79.76	43.789	-0.221E+00	-0.201E-01	-0.40E+00	0.36E+00
24.50	79.76	43.789	0.196E-01	-0.199E-01	-0.40E+00	0.36E+00
24.75	79.77	43.789	0.125E+00	-0.197E-01	-0.40E+00	0.36E+00
25.00	79.76	43.789	-0.105E+00	-0.195E-01	-0.40E+00	0.36E+00
25.25	79.76	43.789	-0.656E-01	-0.192E-01	-0.40E+00	0.36E+00
25.50	79.77	43.789	0.144E+00	-0.190E-01	-0.40E+00	0.36E+00
25.75	79.77	43.789	0.179E-01	-0.188E-01	-0.40E+00	0.36E+00
26.00	79.76	43.789	-0.870E-01	-0.185E-01	-0.40E+00	0.36E+00
26.25	79.76	43.789	-0.123E+00	-0.183E-01	-0.40E+00	0.36E+00
26.50	79.76	43.789	-0.124E-01	-0.181E-01	-0.40E+00	0.36E+00
26.75	79.75	43.789	-0.142E-01	-0.178E-01	-0.40E+00	0.36E+00
27.00	79.75	43.789	-0.124E-01	-0.176E-01	-0.40E+00	0.36E+00
27.25	79.77	43.790	0.318E-01	-0.174E-01	-0.40E+00	0.36E+00
27.50	79.76	43.790	-0.570E-01	-0.171E-01	-0.40E+00	0.36E+00
27.75	79.78	43.790	0.205E+00	-0.169E-01	-0.40E+00	0.37E+00
28.00	79.77	43.791	-0.354E+00	-0.167E-01	-0.40E+00	0.37E+00
28.25	79.77	43.791	0.392E-01	-0.164E-01	-0.40E+00	0.37E+00
28.50	79.77	43.791	-0.639E-01	-0.162E-01	-0.40E+00	0.37E+00
28.75	79.79	43.792	0.210E+00	-0.160E-01	-0.40E+00	0.37E+00
29.00	79.78	43.792	-0.226E+00	-0.157E-01	-0.40E+00	0.37E+00
29.25	79.79	43.792	0.144E+00	-0.155E-01	-0.40E+00	0.37E+00
29.50	79.80	43.793	-0.235E-01	-0.153E-01	-0.40E+00	0.37E+00
29.75	79.79	43.794	-0.381E+00	-0.150E-01	-0.40E+00	0.37E+00
30.00	79.80	43.794	0.148E+00	-0.148E-01	-0.40E+00	0.37E+00
30.25	79.80	43.794	0.102E+00	-0.146E-01	-0.40E+00	0.37E+00
30.50	79.80	43.795	-0.202E+00	-0.143E-01	-0.40E+00	0.38E+00
30.75	79.81	43.795	0.157E+00	-0.141E-01	-0.41E+00	0.38E+00
31.00	79.82	43.796	-0.155E+00	-0.139E-01	-0.41E+00	0.38E+00
31.25	79.82	43.796	0.944E-01	-0.137E-01	-0.41E+00	0.38E+00
31.50	79.82	43.796	-0.694E-02	-0.134E-01	-0.41E+00	0.38E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS -0.179E-01

THE STANDARD DEVIATION IS 0.184E+00

SKEW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 10.00 HOURS OF TEST IS -0.134E-01

ENTER TIME, DATE, TEMP, PRESS

WHEN FINISHED ENTER 9999, , , ,

= 0215, 0802, 85.341498, 73.375829
 = 0230, 0802, 85.275797, 73.368152 -
 = 0245, 0802, 85.192797, 73.360031
 = 0300, 0802, 85.133397, 73.352926
 = 0315, 0802, 85.091396, 73.344807
 = 0330, 0802, 85.035598, 73.337702
 = 0345, 0802, 84.982897, 73.330597
 = 0400, 0802, 84.925997, 73.323492
 = 0415, 0802, 84.872097, 73.316387
 = 0430, 0802, 84.827998, 73.310297
 = 0445, 0802, 84.777097, 73.303191
 = 0500, 0802, 84.733497, 73.297102
 = 0515, 0802, 84.689298, 73.291012
 = 0530, 0802, 84.648697, 73.285936
 = 0545, 0802, 84.601697, 73.278831
 = 0600, 0802, 84.573298, 73.273756
 = 0615, 0802, 84.531898, 73.268682
 = 0630, 0802, 84.493797, 73.263607
 = 0645, 0802, 84.457897, 73.258532
 = 0700, 0802, 84.421897, 73.254471
 = 0715, 0802, 84.388097, 73.249397
 = 0730, 0802, 84.358997, 73.244322
 = 0745, 0802, 84.319696, 73.241277
 = 0800, 0802, 84.284297, 73.233156
 = 0815, 0802, 84.259697, 73.230112
 = 0830, 0802, 84.222198, 73.225037
 = 0845, 0802, 84.200197, 73.221992
 = 0900, 0802, 84.172897, 73.219916
 = 0915, 0802, 84.144998, 73.212857
 = 0930, 0802, 84.121097, 73.209811
 = 0945, 0802, 84.091698, 73.205751
 = 1000, 0802, 84.061399, 73.201693
 = 1015, 0802, 84.037398, 73.198647
 = 1030, 0802, 84.014598, 73.194586
 = 1045, 0802, 83.988198, 73.191542
 = 1100, 0802, 83.965898, 73.188497
 = 1115, 0802, 83.944398, 73.185452
 = 1130, 0802, 83.922998, 73.182407
 = 1145, 0802, 83.904198, 73.179347
 = 1200, 0802, 83.881698, 73.175303
 = 1215, 0802, 83.855699, 73.172256
 = 9999, , , ,

TIME, DATE START OF TEST 2.25 802

TIME AFTER START OF TEST = 10.00 HR

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
0.75	4	-0.217E+00	-0.253E+00	
1.00	5	-0.185E+00	-0.147E+00	0.106E+00
1.25	6	-0.164E+00	-0.969E-01	0.502E-01
1.50	7	-0.148E+00	-0.651E-01	0.318E-01
1.75	8	-0.136E+00	-0.485E-01	0.166E-01
2.00	9	-0.127E+00	-0.369E-01	0.116E-01
2.25	10	-0.119E+00	-0.268E-01	0.101E-01
2.50	11	-0.111E+00	-0.172E-01	0.958E-02
2.75	12	-0.104E+00	-0.943E-02	0.779E-02
3.00	13	-0.983E-01	-0.292E-02	0.651E-02
3.25	14	-0.934E-01	0.107E-02	0.400E-02
3.50	15	-0.885E-01	0.620E-02	0.513E-02
3.75	16	-0.834E-01	0.129E-01	0.667E-02
4.00	17	-0.791E-01	0.171E-01	0.420E-02
4.25	18	-0.753E-01	0.203E-01	0.319E-02
4.50	19	-0.718E-01	0.231E-01	0.286E-02
4.75	20	-0.689E-01	0.243E-01	0.118E-02
5.00	21	-0.661E-01	0.259E-01	0.156E-02
5.25	22	-0.632E-01	0.284E-01	0.251E-02
5.50	23	-0.612E-01	0.281E-01	-0.289E-03
5.75	24	-0.584E-01	0.309E-01	0.284E-02
6.00	25	-0.560E-01	0.330E-01	0.205E-02
6.25	26	-0.537E-01	0.346E-01	0.166E-02
6.50	27	-0.516E-01	0.360E-01	0.138E-02
6.75	28	-0.500E-01	0.360E-01	0.246E-02
7.00	29	-0.479E-01	0.380E-01	0.202E-02
7.25	30	-0.460E-01	0.396E-01	0.155E-02
7.50	31	-0.442E-01	0.409E-01	0.131E-02
7.75	32	-0.425E-01	0.419E-01	0.104E-02
8.00	33	-0.410E-01	0.427E-01	0.730E-03
8.25	34	-0.394E-01	0.437E-01	0.101E-02
8.50	35	-0.380E-01	0.443E-01	0.589E-03
8.75	36	-0.367E-01	0.447E-01	0.459E-03
9.00	37	-0.355E-01	0.451E-01	0.390E-03
9.25	38	-0.342E-01	0.458E-01	0.646E-03
9.50	39	-0.329E-01	0.465E-01	0.742E-03
9.75	40	-0.317E-01	0.471E-01	0.605E-03
10.00	41	-0.307E-01	0.474E-01	0.322E-03

THE CALCULATED LEAK RATE IS 0.474E-01
 THE MAXIMUM ALLOWABLE LEAK RATE IS 0.250E+00
 THE LAST 0 DATA POINTS ESTABLISH A NEGATIVE SLOPE

TIME, DATE START OF TEST 2.25 802

TIME AFTER START OF TEST = 10.00 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
2.50	85.28	73.368	-0.153E+00	-0.109E+00	-0.20E+00	-0.21E-01
2.75	85.19	73.360	-0.276E+00	-0.105E+00	-0.19E+00	-0.17E-01
3.00	85.13	73.353	-0.223E+00	-0.101E+00	-0.19E+00	-0.14E-01
3.25	85.09	73.345	-0.868E-01	-0.967E-01	-0.18E+00	-0.10E-01
3.50	85.04	73.338	-0.802E-01	-0.927E-01	-0.18E+00	-0.62E-02
3.75	84.98	73.331	-0.666E-01	-0.887E-01	-0.17E+00	-0.25E-02
4.00	84.93	73.323	-0.675E-01	-0.847E-01	-0.17E+00	0.13E-02
4.25	84.87	73.316	-0.616E-01	-0.807E-01	-0.17E+00	0.51E-02
4.50	84.83	73.310	-0.525E-01	-0.767E-01	-0.16E+00	0.90E-02
4.75	84.78	73.303	-0.426E-01	-0.727E-01	-0.16E+00	0.13E-01
5.00	84.73	73.297	-0.374E-01	-0.687E-01	-0.15E+00	0.17E-01
5.25	84.69	73.291	-0.327E-01	-0.647E-01	-0.15E+00	0.21E-01
5.50	84.65	73.286	-0.342E-01	-0.607E-01	-0.15E+00	0.24E-01
5.75	84.60	73.279	-0.245E-01	-0.567E-01	-0.14E+00	0.28E-01
6.00	84.57	73.274	-0.119E-01	-0.527E-01	-0.14E+00	0.32E-01
6.25	84.53	73.269	-0.153E-01	-0.487E-01	-0.13E+00	0.36E-01
6.50	84.49	73.264	-0.148E-01	-0.447E-01	-0.13E+00	0.40E-01
6.75	84.46	73.259	-0.122E-01	-0.407E-01	-0.13E+00	0.44E-01
7.00	84.42	73.255	-0.170E-01	-0.367E-01	-0.12E+00	0.48E-01
7.25	84.39	73.249	-0.127E-01	-0.327E-01	-0.12E+00	0.52E-01
7.50	84.36	73.244	-0.490E-02	-0.287E-01	-0.11E+00	0.56E-01
7.75	84.32	73.241	-0.181E-01	-0.247E-01	-0.11E+00	0.60E-01
8.00	84.28	73.233	0.184E-02	-0.207E-01	-0.11E+00	0.64E-01
8.25	84.26	73.230	0.303E-03	-0.166E-01	-0.10E+00	0.68E-01
8.50	84.22	73.225	0.423E-03	-0.126E-01	-0.97E-01	0.72E-01
8.75	84.20	73.222	0.822E-03	-0.864E-02	-0.94E-01	0.76E-01
9.00	84.17	73.220	-0.698E-02	-0.463E-02	-0.90E-01	0.80E-01
9.25	84.15	73.213	0.874E-02	-0.627E-03	-0.86E-01	0.84E-01
9.50	84.12	73.210	0.765E-02	0.338E-02	-0.82E-01	0.89E-01
9.75	84.09	73.206	0.785E-02	0.738E-02	-0.78E-01	0.93E-01
10.00	84.06	73.202	0.750E-02	0.114E-01	-0.74E-01	0.97E-01
10.25	84.04	73.199	0.650E-02	0.154E-01	-0.70E-01	0.10E+00
10.50	84.01	73.195	0.102E-01	0.194E-01	-0.66E-01	0.11E+00
10.75	83.99	73.191	0.798E-02	0.234E-01	-0.63E-01	0.11E+00
11.00	83.97	73.189	0.791E-02	0.274E-01	-0.59E-01	0.11E+00
11.25	83.94	73.186	0.823E-02	0.314E-01	-0.55E-01	0.12E+00
11.50	83.93	73.182	0.116E-01	0.354E-01	-0.51E-01	0.12E+00
11.75	83.90	73.178	0.136E-01	0.394E-01	-0.48E-01	0.13E+00
12.00	83.88	73.175	0.134E-01	0.434E-01	-0.44E-01	0.13E+00
12.25	83.86	73.172	0.115E-01	0.474E-01	-0.40E-01	0.13E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS -0.307E-01

THE STANDARD DEVIATION IS 0.621E-01

SKEW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 10.00 HOURS OF TEST IS 0.474E-01

TIME: DATE START OF TEST 2.25 802

TIME AFTER START OF TEST = 10.00 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
2.50	85.28	73.368	-0.153E+00	-0.368E-01	-0.37E+00	0.29E+00
2.75	85.19	73.360	-0.400E+00	-0.344E-01	-0.36E+00	0.30E+00
3.00	85.13	73.353	-0.117E+00	-0.319E-01	-0.36E+00	0.30E+00
3.25	85.09	73.345	0.323E+00	-0.294E-01	-0.35E+00	0.30E+00
3.50	85.04	73.338	-0.534E-01	-0.269E-01	-0.35E+00	0.30E+00
3.75	84.98	73.331	0.129E-02	-0.244E-01	-0.35E+00	0.30E+00
4.00	84.93	73.323	-0.728E-01	-0.219E-01	-0.35E+00	0.30E+00
4.25	84.87	73.316	-0.200E-01	-0.194E-01	-0.24E+00	0.30E+00
4.50	84.83	73.310	0.200E-01	-0.170E-01	-0.34E+00	0.31E+00
4.75	84.78	73.303	0.472E-01	-0.145E-01	-0.34E+00	0.31E+00
5.00	84.73	73.297	0.144E-01	-0.120E-01	-0.33E+00	0.31E+00
5.25	84.69	73.291	0.183E-01	-0.950E-02	-0.33E+00	0.31E+00
5.50	84.65	73.286	-0.511E-01	-0.701E-02	-0.33E+00	0.31E+00
5.75	84.60	73.279	0.102E+00	-0.453E-02	-0.33E+00	0.32E+00
6.00	84.57	73.274	0.164E+00	-0.204E-02	-0.32E+00	0.32E+00
6.25	84.53	73.269	-0.655E-01	0.446E-03	-0.32E+00	0.32E+00
6.50	84.49	73.264	-0.705E-02	0.293E-02	-0.32E+00	0.32E+00
6.75	84.46	73.259	0.318E-01	0.542E-02	-0.31E+00	0.33E+00
7.00	84.42	73.255	-0.103E+00	0.790E-02	-0.31E+00	0.33E+00
7.25	84.39	73.249	0.686E-01	0.104E-01	-0.31E+00	0.33E+00
7.50	84.36	73.244	0.152E+00	0.129E-01	-0.31E+00	0.33E+00
7.75	84.32	73.241	-0.294E+00	0.154E-01	-0.30E+00	0.33E+00
8.00	84.28	73.233	0.440E+00	0.178E-01	-0.30E+00	0.34E+00
8.25	84.26	73.230	-0.350E-01	0.203E-01	-0.30E+00	0.34E+00
8.50	84.22	73.225	0.341E-02	0.228E-01	-0.30E+00	0.34E+00
8.75	84.20	73.222	0.111E-01	0.253E-01	-0.30E+00	0.35E+00
9.00	84.17	73.220	-0.210E+00	0.278E-01	-0.29E+00	0.35E+00
9.25	84.15	73.213	0.433E+00	0.303E-01	-0.29E+00	0.35E+00
9.50	84.12	73.210	-0.225E-01	0.328E-01	-0.29E+00	0.35E+00
9.75	84.09	73.206	0.135E-01	0.352E-01	-0.29E+00	0.36E+00
10.00	84.06	73.202	-0.271E-02	0.377E-01	-0.28E+00	0.36E+00
10.25	84.04	73.199	-0.243E-01	0.402E-01	-0.28E+00	0.36E+00
10.50	84.01	73.195	0.130E+00	0.427E-01	-0.28E+00	0.37E+00
10.75	83.99	73.191	-0.668E-01	0.452E-01	-0.28E+00	0.37E+00
11.00	83.97	73.189	0.577E-02	0.477E-01	-0.28E+00	0.37E+00
11.25	83.94	73.186	0.197E-01	0.502E-01	-0.28E+00	0.38E+00
11.50	83.93	73.182	0.133E+00	0.527E-01	-0.27E+00	0.38E+00
11.75	83.90	73.178	0.894E-01	0.551E-01	-0.27E+00	0.38E+00
12.00	83.88	73.175	0.542E-02	0.576E-01	-0.27E+00	0.39E+00
12.25	83.86	73.172	-0.629E-01	0.601E-01	-0.27E+00	0.39E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.116E-01
 THE STANDARD DEVIATION IS 0.157E+00
 SKEW IS POSITIVE

THE CALCULATED LEAK RATE AFTER 10.00 HOURS OF TEST IS 0.601E-01

- ENTER TITLE OF LESS THAN 28 CHARACTERS
 = TURKEY PT 4 ILAT 25 PCIG
 ENTER MAX ALLOWABLE LEAK RATE
 = .132
 ENTER NO. OF VARIABLES TO BE PRINTED ON EACH REPORT

=
 ENTER PRESSURE CONSTANT
 = .492

ENTER PREVIOUS VALUES ?

= YES

INPUT FROM FILE ?

= YES

245	221	84.464198	39.735508
300	221	84.420846	39.733594
315	221	84.396072	39.732040
330	221	84.382883	39.729757
345	221	84.362073	39.728596
400	221	84.305953	39.726725
415	221	84.293841	39.724837
430	221	84.261681	39.723820
445	221	84.247468	39.721734
500	221	84.221296	39.720305
515	221	84.189256	39.719458
530	221	84.173001	39.717378
545	221	84.138927	39.716389
600	221	84.123601	39.714870
615	221	84.104048	39.713886
630	221	84.071678	39.712701
645	221	84.045058	39.710863
700	221	84.041249	39.709715
715	221	84.020317	39.709219
730	221	84.003307	39.707622
745	221	83.994328	39.705791
800	221	83.978843	39.704865
815	221	83.969664	39.704208
830	221	83.948784	39.702156
845	221	83.923644	39.700832

OPTIONS ?
= TENDEND

TURKEY PT 4 ILRT 25 PSIG

TIME, DATE START OF TEST 2.75 221

TIME AFTER START OF TEST = 6.00 HR

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC FROM LAST PT
0.75	4	-0.167E+00	-0.228E-01	
1.00	5	-0.166E+00	-0.795E-01	-0.567E-01
1.25	6	-0.160E+00	-0.891E-01	-0.962E-01
1.50	7	-0.145E+00	-0.630E-01	0.262E-01
1.75	8	-0.140E+00	-0.659E-01	-0.291E-01
2.00	9	-0.130E+00	-0.499E-01	0.159E-01
2.25	10	-0.123E+00	-0.426E-01	0.735E-01
2.50	11	-0.121E+00	-0.484E-01	-0.577E-01
2.75	12	-0.116E+00	-0.440E-01	0.438E-01
3.00	13	-0.114E+00	-0.484E-01	-0.445E-01
3.25	14	-0.111E+00	-0.481E-01	0.299E-01
3.50	15	-0.109E+00	-0.487E-01	-0.595E-01
3.75	16	-0.108E+00	-0.527E-01	-0.401E-01
4.00	17	-0.107E+00	-0.552E-01	-0.243E-01
4.25	18	-0.105E+00	-0.535E-01	0.168E-01
4.50	19	-0.104E+00	-0.543E-01	-0.789E-01
4.75	20	-0.102E+00	-0.533E-01	0.938E-01
5.00	21	-0.998E-01	-0.493E-01	0.399E-01
5.25	22	-0.977E-01	-0.460E-01	0.331E-01
5.50	23	-0.956E-01	-0.429E-01	0.311E-01
5.75	24	-0.934E-01	-0.391E-01	0.384E-01
6.00	25	-0.916E-01	-0.364E-01	0.271E-01

THE CALCULATED LEAK RATE IS -0.364E-01
THE MAXIMUM ALLOWABLE LEAK RATE IS 0.132E+00
THE LAST 0 DATA POINTS ESTABLISH A NEGATIVE SLOPE

OPTIONS :
= TOTAL

TURKEY PT 4 ILRT 25 PSIG

TIME, DATE START OF TEST 2.75 221

TIME AFTER START OF TEST = 6.00 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS
	84.46	39.736			
3.00	84.42	39.734	-0.302E+00	-0.147E+00	-0.25E+00 -0.39E-01
3.25	84.40	39.732	-0.182E+00	-0.142E+00	-0.25E+00 -0.35E-01
3.50	84.38	39.730	-0.151E-01	-0.137E+00	-0.24E+00 -0.31E-01
3.75	84.33	39.729	-0.165E+00	-0.132E+00	-0.24E+00 -0.27E-01
4.00	84.31	39.727	-0.134E+00	-0.128E+00	-0.23E+00 -0.23E-01
4.25	84.29	39.725	-0.713E-01	-0.123E+00	-0.23E+00 -0.19E-01
4.50	84.26	39.724	-0.107E+00	-0.118E+00	-0.22E+00 -0.15E-01
4.75	84.25	39.722	-0.621E-01	-0.113E+00	-0.22E+00 -0.10E-01
5.00	84.22	39.720	-0.681E-01	-0.108E+00	-0.21E+00 -0.58E-02
5.25	84.19	39.719	-0.974E-01	-0.104E+00	-0.21E+00 -0.13E-02
5.50	84.17	39.717	-0.689E-01	-0.988E-01	-0.20E+00 0.33E-02
5.75	84.14	39.716	-0.934E-01	-0.940E-01	-0.20E+00 0.81E-02
6.00	84.12	39.715	-0.788E-01	-0.892E-01	-0.19E+00 0.13E-01
6.25	84.10	39.714	-0.808E-01	-0.844E-01	-0.19E+00 0.18E-01
6.50	84.07	39.713	-0.945E-01	-0.796E-01	-0.18E+00 0.23E-01
6.75	84.05	39.711	-0.902E-01	-0.748E-01	-0.18E+00 0.28E-01
7.00	84.04	39.710	-0.725E-01	-0.700E-01	-0.17E+00 0.33E-01
7.25	84.02	39.709	-0.823E-01	-0.652E-01	-0.17E+00 0.38E-01
7.50	84.00	39.708	-0.735E-01	-0.604E-01	-0.16E+00 0.43E-01
7.75	83.99	39.706	-0.556E-01	-0.556E-01	-0.16E+00 0.49E-01
8.00	83.98	39.705	-0.553E-01	-0.508E-01	-0.16E+00 0.54E-01
8.25	83.97	39.704	-0.530E-01	-0.460E-01	-0.15E+00 0.60E-01
8.50	83.95	39.702	-0.451E-01	-0.412E-01	-0.15E+00 0.65E-01
8.75	83.92	39.701	-0.484E-01	-0.364E-01	-0.14E+00 0.71E-01

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS -0.916E-01

THE STANDARD DEVIATION IS 0.581E-01

SKEM IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 6.00 HOURS OF TEST IS -0.364E-01

OPTIONAL ?
= POINT

TURKEY PT 4 ILRT 25 PSIG

TIME, DATE START OF TEST 2.75 221

TIME AFTER START OF TEST = 6.00 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
3.00	84.42	39.734	-0.302E+00	-0.123E+00	-0.68E+00	0.43E+00
3.25	84.40	39.732	-0.616E-01	-0.116E+00	-0.66E+00	0.43E+00
3.50	84.38	39.730	0.319E+00	-0.110E+00	-0.65E+00	0.42E+00
3.75	84.33	39.729	-0.616E+00	-0.103E+00	-0.64E+00	0.44E+00
4.00	84.31	39.727	-0.879E-02	-0.968E-01	-0.63E+00	0.44E+00
4.25	84.29	39.725	0.243E+00	-0.903E-01	-0.62E+00	0.44E+00
4.50	84.26	39.724	-0.322E+00	-0.838E-01	-0.62E+00	0.45E+00
4.75	84.25	39.722	0.253E+00	-0.774E-01	-0.61E+00	0.45E+00
5.00	84.22	39.720	-0.117E+00	-0.709E-01	-0.60E+00	0.46E+00
5.25	84.19	39.719	-0.361E+00	-0.645E-01	-0.59E+00	0.46E+00
5.50	84.17	39.717	0.216E+00	-0.580E-01	-0.58E+00	0.47E+00
5.75	84.14	39.716	-0.262E+00	-0.515E-01	-0.58E+00	0.47E+00
6.00	84.12	39.715	0.967E-01	-0.451E-01	-0.57E+00	0.48E+00
6.25	84.10	39.714	-0.107E+00	-0.386E-01	-0.56E+00	0.49E+00
6.50	84.07	39.713	-0.285E+00	-0.321E-01	-0.56E+00	0.49E+00
6.75	84.05	39.711	-0.258E-01	-0.257E-01	-0.55E+00	0.50E+00
7.00	84.04	39.710	0.211E+00	-0.192E-01	-0.55E+00	0.51E+00
7.25	84.02	39.709	-0.250E+00	-0.127E-01	-0.54E+00	0.52E+00
7.50	84.00	39.708	0.858E-01	-0.628E-02	-0.54E+00	0.53E+00
7.75	83.99	39.706	0.284E+00	0.180E-03	-0.54E+00	0.54E+00
8.00	83.98	39.705	-0.495E-01	0.664E-02	-0.53E+00	0.55E+00
8.25	83.97	39.704	-0.315E-02	0.131E-01	-0.53E+00	0.56E+00
8.50	83.95	39.702	0.128E+00	0.196E-01	-0.53E+00	0.57E+00
8.75	83.92	39.701	-0.124E+00	0.260E-01	-0.53E+00	0.58E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS -0.483E-01

THE STANDARD DEVIATION IS 0.247E+00

SKEW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 6.00 HOURS OF TEST IS 0.260E-01

ENTER TITLE OF LESS THAN 28 CHARACTERS
 = TURKEY PT 4 ILFT 50 P11G
 ENTER MAX ALLOWABLE LEAK RATE
 = .187
 ENTER NO. OF VARIABLES TO BE PRINTED ON EACH REPORT
 =
 ENTER PRESSURE CONSTANT
 = 1.008
 ENTER PREVIOUS VALUES ?
 = YES
 INPUT FROM FILE ?
 = YES

815	222	84.890917	64.575491
830	222	84.815578	64.565991
845	222	84.748323	64.557928
900	222	84.680598	64.550813
915	222	84.620767	64.543633
930	222	84.573458	64.537400
945	222	84.532473	64.530528
1000	222	84.483460	64.524441
1015	222	84.478481	64.519401
1030	222	84.378191	64.513110
1045	222	84.339383	64.508129
1100	222	84.309402	64.503222
1115	222	84.287372	64.498999
1130	222	84.253657	64.493589
1145	222	84.216741	64.488869
1200	222	84.183637	64.484797
1215	222	84.156272	64.479088
1230	222	84.121907	64.475367
1245	222	84.090188	64.472207
1300	222	84.060226	64.467656
1315	222	84.064003	64.463457
1330	222	83.993955	64.459099
1345	222	83.967884	64.455226
1400	222	83.962464	64.451703
1415	222	83.931631	64.447822
1430	222	83.903746	64.444797
1445	222	83.881929	64.438139
1500	222	83.833377	64.434796
1515	222	83.808769	64.431734
1530	222	83.789634	64.428566
1545	222	83.763671	64.425728
1600	222	83.734842	64.423850
1615	222	83.715137	64.419731
1630	222	83.694536	64.416149

OPTIONS ?

TURKEY POINT 4 ILRT 50 FC16

TIME, DATE START OF TEST 8.25 222

TIME AFTER START OF TEST = 8.25 HR

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
0.75	4	0.398E-01	-0.876E-02	
1.00	5	0.282E-01	-0.219E-01	-0.132E-01
1.25	6	0.252E-01	-0.143E-01	0.766E-02
1.50	7	0.311E-01	0.157E-01	0.299E-01
1.75	8	0.350E-01	0.320E-01	0.163E-01
2.00	9	0.473E-01	0.737E-01	0.417E-01
2.25	10	0.449E-01	0.604E-01	-0.133E-01
2.50	11	0.433E-01	0.521E-01	-0.830E-02
2.75	12	0.434E-01	0.511E-01	-0.103E-02
3.00	13	0.449E-01	0.550E-01	0.399E-02
3.25	14	0.470E-01	0.612E-01	0.611E-02
3.50	15	0.487E-01	0.654E-01	0.425E-02
3.75	16	0.500E-01	0.679E-01	0.248E-02
4.00	17	0.523E-01	0.741E-01	0.617E-02
4.25	18	0.538E-01	0.772E-01	0.316E-02
4.50	19	0.546E-01	0.778E-01	0.612E-03
4.75	20	0.556E-01	0.791E-01	0.126E-02
5.00	21	0.580E-01	0.858E-01	0.675E-02
5.25	22	0.586E-01	0.856E-01	-0.221E-03
5.50	23	0.593E-01	0.857E-01	0.110E-03
5.75	24	0.605E-01	0.883E-01	0.257E-02
6.00	25	0.616E-01	0.901E-01	0.181E-02
6.25	26	0.624E-01	0.909E-01	0.751E-03
6.50	27	0.639E-01	0.944E-01	0.355E-02
6.75	28	0.647E-01	0.951E-01	0.677E-03
7.00	29	0.653E-01	0.953E-01	0.254E-03
7.25	30	0.659E-01	0.958E-01	0.425E-03
7.50	31	0.664E-01	0.956E-01	-0.160E-03
7.75	32	0.665E-01	0.942E-01	-0.140E-02
8.00	33	0.668E-01	0.936E-01	-0.549E-03
8.25	34	0.671E-01	0.935E-01	-0.188E-03

THE CALCULATED LEAK RATE IS 0.935E-01

THE MAXIMUM ALLOWABLE LEAK RATE IS 0.187E+00

THE LAST 4 DATA POINTS ESTABLISH A NEGATIVE SLOPE

TIME, DATE START OF TEST 8.25 222

TIME AFTER START OF TEST = 8.25 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
8.50	84.82	64.566	0.841E-01	0.408E-01	-0.15E-01	0.97E-01
8.75	84.75	64.558	0.485E-01	0.425E-01	-0.13E-01	0.98E-01
9.00	84.68	64.551	-0.131E-01	0.441E-01	-0.11E-01	0.10E+00
9.25	84.62	64.544	-0.674E-02	0.458E-01	-0.94E-02	0.10E+00
9.50	84.57	64.537	0.131E-01	0.474E-01	-0.76E-02	0.10E+00
9.75	84.53	64.531	0.608E-01	0.491E-01	-0.57E-02	0.10E+00
10.00	84.48	64.524	0.580E-01	0.507E-01	-0.39E-02	0.11E+00
10.25	84.48	64.519	0.133E+00	0.523E-01	-0.21E-02	0.11E+00
10.50	84.38	64.513	0.260E-01	0.540E-01	-0.33E-03	0.11E+00
10.75	84.34	64.508	0.290E-01	0.556E-01	0.15E-02	0.11E+00
11.00	84.31	64.503	0.447E-01	0.573E-01	0.33E-02	0.11E+00
11.25	84.29	64.499	0.609E-01	0.589E-01	0.50E-02	0.11E+00
11.50	84.25	64.494	0.724E-01	0.606E-01	0.67E-02	0.11E+00
11.75	84.22	64.489	0.709E-01	0.622E-01	0.84E-02	0.12E+00
12.00	84.18	64.485	0.676E-01	0.639E-01	0.10E-01	0.12E+00
12.25	84.16	64.479	0.863E-01	0.655E-01	0.12E-01	0.12E+00
12.50	84.12	64.475	0.781E-01	0.671E-01	0.13E-01	0.12E+00
12.75	84.09	64.472	0.688E-01	0.688E-01	0.15E-01	0.12E+00
13.00	84.06	64.468	0.730E-01	0.704E-01	0.17E-01	0.12E+00
13.25	84.06	64.463	0.104E+00	0.721E-01	0.18E-01	0.13E+00
13.50	83.99	64.459	0.710E-01	0.737E-01	0.20E-01	0.13E+00
13.75	83.97	64.455	0.731E-01	0.754E-01	0.21E-01	0.13E+00
14.00	83.96	64.452	0.886E-01	0.770E-01	0.23E-01	0.13E+00
14.25	83.93	64.448	0.863E-01	0.787E-01	0.24E-01	0.13E+00
14.50	83.90	64.445	0.811E-01	0.803E-01	0.26E-01	0.13E+00
14.75	83.88	64.438	0.101E+00	0.819E-01	0.27E-01	0.14E+00
15.00	83.83	64.435	0.843E-01	0.836E-01	0.29E-01	0.14E+00
15.25	83.81	64.432	0.820E-01	0.852E-01	0.30E-01	0.14E+00
15.50	83.79	64.429	0.838E-01	0.869E-01	0.32E-01	0.14E+00
15.75	83.76	64.426	0.798E-01	0.885E-01	0.33E-01	0.14E+00
16.00	83.73	64.424	0.698E-01	0.902E-01	0.35E-01	0.15E+00
16.25	83.72	64.420	0.760E-01	0.918E-01	0.36E-01	0.15E+00
16.50	83.69	64.416	0.786E-01	0.935E-01	0.38E-01	0.15E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.671E-01

THE STANDARD DEVIATION IS 0.301E-01

SKEW IS NEGATIVE

CALCULATED LEAK RATE AFTER 8.25 HOURS OF TEST IS 0.935E-01

TIME, DATE START OF TEST 8.25 222

TIME AFTER START OF TEST = 8.25 HR

LEAK RATE BASED ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
8.50	84.82	64.566	0.841E-01	0.703E-01	-0.61E+00	0.75E+00
8.75	84.75	64.558	0.131E-01	0.708E-01	-0.60E+00	0.74E+00
9.00	84.68	64.551	-0.136E+00	0.714E-01	-0.60E+00	0.74E+00
9.25	84.62	64.544	0.127E-01	0.719E-01	-0.60E+00	0.74E+00
9.50	84.57	64.537	0.926E-01	0.724E-01	-0.59E+00	0.74E+00
9.75	84.53	64.531	0.249E+00	0.730E-01	-0.59E+00	0.74E+00
10.00	84.48	64.524	0.410E-01	0.735E-01	-0.59E+00	0.73E+00
10.25	84.48	64.517	0.662E+00	0.741E-01	-0.59E+00	0.73E+00
10.50	84.38	64.513	-0.834E+00	0.746E-01	-0.58E+00	0.73E+00
10.75	84.34	64.508	0.564E-01	0.751E-01	-0.58E+00	0.73E+00
11.00	84.31	64.503	0.201E+00	0.757E-01	-0.58E+00	0.73E+00
11.25	84.29	64.499	0.240E+00	0.762E-01	-0.58E+00	0.73E+00
11.50	84.25	64.494	0.210E+00	0.768E-01	-0.58E+00	0.73E+00
11.75	84.22	64.489	0.512E-01	0.773E-01	-0.57E+00	0.73E+00
12.00	84.18	64.485	0.219E-01	0.778E-01	-0.57E+00	0.73E+00
12.25	84.16	64.479	0.367E+00	0.784E-01	-0.57E+00	0.73E+00
12.50	84.12	64.475	-0.525E-01	0.789E-01	-0.57E+00	0.73E+00
12.75	84.09	64.472	-0.893E-01	0.795E-01	-0.57E+00	0.73E+00
13.00	84.06	64.468	0.149E+00	0.800E-01	-0.57E+00	0.73E+00
13.25	84.06	64.463	0.692E+00	0.806E-01	-0.57E+00	0.73E+00
13.50	83.99	64.459	-0.588E+00	0.811E-01	-0.57E+00	0.73E+00
13.75	83.97	64.455	0.117E+00	0.816E-01	-0.57E+00	0.73E+00
14.00	83.96	64.452	0.429E+00	0.822E-01	-0.57E+00	0.74E+00
14.25	83.93	64.448	0.336E-01	0.827E-01	-0.57E+00	0.74E+00
14.50	83.90	64.445	-0.418E-01	0.833E-01	-0.57E+00	0.74E+00
14.75	83.88	64.438	0.607E+00	0.838E-01	-0.58E+00	0.74E+00
15.00	83.83	64.435	-0.360E+00	0.843E-01	-0.58E+00	0.75E+00
15.25	83.81	64.432	0.217E-01	0.849E-01	-0.58E+00	0.75E+00
15.50	83.79	64.429	0.134E+00	0.854E-01	-0.58E+00	0.75E+00
15.75	83.76	64.426	-0.358E-01	0.860E-01	-0.58E+00	0.75E+00
16.00	83.73	64.424	-0.229E+00	0.865E-01	-0.58E+00	0.76E+00
16.25	83.72	64.420	0.266E+00	0.870E-01	-0.59E+00	0.76E+00
16.50	83.69	64.416	0.170E+00	0.876E-01	-0.59E+00	0.76E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.789E-01

THE STANDARD DEVIATION IS 0.309E+00

SKEW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 8.25 HOURS OF TEST IS 0.876E-01

PILGRIM 23 PISG ILRT SUMMARY DATA

715	418	74.956247	37.397087
735	418	74.884465	37.391397
755	418	74.822480	37.384053
815	418	74.758759	37.377854
835	418	74.716776	37.374887
855	418	74.669914	37.367402
915	418	74.629765	37.361652
935	418	74.588752	37.356888
955	418	74.555734	37.357893
1015	418	74.525414	37.349307
1035	418	74.501325	37.348976
1055	418	74.473636	37.345291
1115	418	74.439338	37.339716
1135	418	74.489973	37.338033
1155	418	74.382644	37.331306
1215	418	74.350527	37.328240
1235	418	74.333984	37.326899
1255	418	74.324568	37.325108
1315	418	74.300512	37.320589
1335	418	74.284869	37.319066
1355	418	74.268775	37.313377
1415	418	74.251817	37.314480
1435	418	74.239738	37.309047
1455	418	74.227	37.305922
1515	418	74.221429	37.303091
1535	418	74.211597	37.303124
1555	418	74.199554	37.298808
1615	418	74.196404	37.294480
1635	418	74.195953	37.294297
1655	418	74.176330	37.299638
1715	418	74.166501	37.289633
1735	418	74.156672	37.290367
1755	418	74.149091	37.288216
1815	418	74.142794	37.288114
1835	418	74.129364	37.284904
1855	418	74.116418	37.283180
1915	418	74.102989	37.279352
1935	418	74.092295	37.279016
1955	418	74.095825	37.275826
2015	418	74.094475	37.274938
2035	418	74.088660	37.273129
2055	418	74.085546	37.269678
2115	418	74.085060	37.267064
2135	418	74.077931	37.264915
2155	418	74.066338	37.264094
2215	418	74.052730	37.265483
2235	418	74.053808	37.260200
2255	418	74.056923	37.257604
2315	418	74.049344	37.258600
2335	418	74.039165	37.256002
2355	418	74.039480	37.251978

15	419	74.021035	37.248387
35	419	74.028788	37.247786
55	419	74.026123	37.247563
115	419	74.020791	37.245894
135	419	74.021690	37.245565
155	419	74.027922	37.240999
215	419	74.027055	37.236922
235	419	74.021690	37.233720
255	419	74.023040	37.233552
315	419	74.022175	37.235061
335	419	74.021690	37.233809
355	419	74.018159	37.227861
415	419	74.011964	37.229668
435	419	74.009716	37.225339
455	419	74.007464	37.225919
515	419	74.007882	37.222779
535	419	74.004315	37.221340
555	419	74.004350	37.219682
615	419	74.003934	37.216374
635	419	74.002634	37.215075
655	419	74.005666	37.214469
715	419	73.994971	37.210235

PILGRIM 23 PSIG ILRT

TIME, DATE START OF TEST 7.25 418

TIME AFTER START OF TEST = 24.00 HR

TRENDS BASED ON TOTAL-TIME CALCULATIONS

HOURS OF TEST	DATA ENTRIES	MEAN OF CALC LR	CALCULATED LEAK RATE	CHG IN CALC LR FROM LAST POINT
1.00	4	0.277E+00	0.386E+00	
1.33	5	0.273E+00	0.302E+00	
1.67	6	0.293E+00	0.372E+00	-0.540E-01
2.00	7	0.312E+00	0.408E+00	0.395E-01
2.33	8	0.324E+00	0.424E+00	0.358E-01
2.67	9	0.317E+00	0.379E+00	0.165E-01
3.00	10	0.324E+00	0.390E+00	-0.451E-01
3.33	11	0.323E+00	0.374E+00	0.105E-01
3.67	12	0.322E+00	0.363E+00	-0.154E-01
4.00	13	0.324E+00	0.362E+00	-0.108E-01
4.33	14	0.329E+00	0.376E+00	-0.914E-02
4.67	15	0.331E+00	0.376E+00	0.132E-01
5.00	16	0.331E+00	0.372E+00	-0.757E-05
5.33	17	0.331E+00	0.365E+00	-0.333E-02
5.67	18	0.330E+00	0.358E+00	-0.715E-02
6.00	19	0.330E+00	0.355E+00	-0.720E-02
6.33	20	0.329E+00	0.349E+00	-0.334E-02
6.67	21	0.330E+00	0.350E+00	-0.534E-02
7.00	22	0.329E+00	0.344E+00	0.732E-03
7.33	23	0.329E+00	0.343E+00	-0.606E-02
7.67	24	0.329E+00	0.343E+00	-0.707E-03
8.00	25	0.330E+00	0.344E+00	0.133E-03
8.33	26	0.329E+00	0.342E+00	0.903E-03
8.67	27	0.330E+00	0.342E+00	-0.214E-02
9.00	28	0.330E+00	0.345E+00	0.558E-04
9.33	29	0.331E+00	0.345E+00	0.240E-02
9.67	30	0.329E+00	0.338E+00	0.527E-03
10.00	31	0.329E+00	0.338E+00	-0.694E-02
10.33	32	0.329E+00	0.336E+00	0.219E-03
10.67	33	0.329E+00	0.334E+00	-0.223E-02
11.00	34	0.328E+00	0.331E+00	-0.202E-02
11.33	35	0.327E+00	0.329E+00	-0.315E-02
11.67	36	0.327E+00	0.326E+00	-0.240E-02
12.00	37	0.326E+00	0.324E+00	-0.264E-02
12.33	38	0.325E+00	0.322E+00	-0.164E-02
12.67	39	0.325E+00	0.320E+00	-0.258E-02
				-0.139E-02

13.00	40	0.325E+00	0.319E+00	-0.166E-02
13.33	41	0.324E+00	0.317E+00	-0.160E-02
13.67	42	0.324E+00	0.316E+00	-0.733E-03
14.00	43	0.324E+00	0.316E+00	-0.265E-03
14.33	44	0.324E+00	0.316E+00	-0.236E-03
14.67	45	0.323E+00	0.315E+00	-0.844E-03
15.00	46	0.323E+00	0.313E+00	-0.223E-02
15.33	47	0.322E+00	0.312E+00	-0.707E-03
15.67	48	0.322E+00	0.312E+00	-0.242E-02
16.00	49	0.322E+00	0.311E+00	-0.124E-02
16.33	50	0.321E+00	0.310E+00	-0.107E-02
16.67	51	0.321E+00	0.309E+00	-0.233E-03
17.00	52	0.321E+00	0.309E+00	0.185E-03
17.33	53	0.321E+00	0.309E+00	-0.156E-03
17.67	54	0.321E+00	0.309E+00	-0.565E-03
18.00	55	0.320E+00	0.308E+00	-0.602E-03
18.33	56	0.320E+00	0.307E+00	-0.857E-03
18.67	57	0.320E+00	0.307E+00	0.214E-04
19.00	58	0.320E+00	0.308E+00	0.577E-03
19.33	59	0.320E+00	0.309E+00	0.805E-03
19.67	60	0.320E+00	0.309E+00	0.453E-03
20.00	61	0.320E+00	0.309E+00	-0.246E-02
20.33	62	0.320E+00	0.309E+00	-0.309E-03
20.67	63	0.320E+00	0.309E+00	0.514E-03
21.00	64	0.320E+00	0.309E+00	-0.254E-03
21.33	65	0.320E+00	0.309E+00	0.234E-03
21.67	66	0.319E+00	0.309E+00	-0.202E-02
22.00	67	0.319E+00	0.309E+00	0.309E-04
22.33	68	0.319E+00	0.309E+00	0.402E-05
22.67	69	0.319E+00	0.309E+00	0.112E-04
23.00	70	0.319E+00	0.309E+00	0.274E-03
23.33	71	0.319E+00	0.309E+00	0.237E-03
23.67	72	0.319E+00	0.310E+00	0.609E-04
24.00	73	0.319E+00	0.310E+00	0.330E-03

THE CALCULATED LEAK RATE IS 0.310E+00
 THE MAXIMUM ALLOWABLE LEAK RATE IS 0.500E+00
 THE LAST 0 DATA POINTS ESTABLISH A NEGATIVE SLOPE

TIME, DATE START OF TEST 7.25 418

TIME AFTER START OF TEST = 24.00 HR

LEAK RATE BASED ON TOTAL-TIME CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
7.58	74.88	37.391	0.129E+00	0.329E+00	0.26E+00	0.40E+00
7.92	74.82	37.384	0.354E+00	0.328E+00	0.26E+00	0.40E+00
8.25	74.76	37.378	0.348E+00	0.328E+00	0.26E+00	0.40E+00
8.58	74.72	37.375	0.262E+00	0.328E+00	0.26E+00	0.40E+00
8.92	74.67	37.367	0.372E+00	0.327E+00	0.26E+00	0.40E+00
9.25	74.63	37.362	0.404E+00	0.327E+00	0.26E+00	0.40E+00
9.58	74.59	37.357	0.399E+00	0.327E+00	0.26E+00	0.40E+00
9.92	74.56	37.358	0.269E+00	0.327E+00	0.26E+00	0.39E+00
10.25	74.53	37.349	0.378E+00	0.326E+00	0.26E+00	0.39E+00
10.58	74.50	37.349	0.314E+00	0.326E+00	0.26E+00	0.39E+00
10.92	74.47	37.345	0.316E+00	0.326E+00	0.26E+00	0.39E+00
11.25	74.44	37.340	0.341E+00	0.326E+00	0.26E+00	0.39E+00
11.58	74.49	37.338	0.392E+00	0.325E+00	0.26E+00	0.39E+00
11.92	74.38	37.331	0.353E+00	0.325E+00	0.26E+00	0.39E+00
12.25	74.35	37.328	0.340E+00	0.325E+00	0.26E+00	0.39E+00
12.58	74.33	37.327	0.321E+00	0.325E+00	0.26E+00	0.39E+00
12.92	74.32	37.325	0.315E+00	0.324E+00	0.26E+00	0.39E+00
13.25	74.30	37.321	0.328E+00	0.324E+00	0.26E+00	0.39E+00
13.58	74.28	37.319	0.315E+00	0.324E+00	0.26E+00	0.39E+00
13.92	74.27	37.313	0.343E+00	0.324E+00	0.26E+00	0.39E+00
14.25	74.25	37.314	0.306E+00	0.323E+00	0.26E+00	0.39E+00
14.58	74.24	37.309	0.332E+00	0.323E+00	0.26E+00	0.39E+00
14.92	74.23	37.306	0.387E+00	0.323E+00	0.26E+00	0.39E+00
15.25	74.22	37.303	0.342E+00	0.322E+00	0.26E+00	0.39E+00
15.58	74.21	37.303	0.323E+00	0.322E+00	0.25E+00	0.39E+00
15.92	74.20	37.299	0.336E+00	0.322E+00	0.25E+00	0.39E+00
16.25	74.20	37.294	0.353E+00	0.322E+00	0.25E+00	0.39E+00
16.58	74.20	37.294	0.342E+00	0.321E+00	0.25E+00	0.39E+00
16.92	74.18	37.300	0.285E+00	0.321E+00	0.25E+00	0.39E+00
17.25	74.17	37.290	0.338E+00	0.321E+00	0.25E+00	0.39E+00
17.58	74.16	37.290	0.318E+00	0.321E+00	0.25E+00	0.39E+00
17.92	74.15	37.288	0.316E+00	0.320E+00	0.25E+00	0.39E+00
18.25	74.14	37.288	0.304E+00	0.320E+00	0.25E+00	0.39E+00
18.58	74.13	37.285	0.308E+00	0.320E+00	0.25E+00	0.39E+00
18.92	74.12	37.283	0.304E+00	0.320E+00	0.25E+00	0.39E+00
19.25	74.10	37.279	0.311E+00	0.319E+00	0.25E+00	0.39E+00
19.58	74.09	37.279	0.300E+00	0.319E+00	0.25E+00	0.39E+00
19.92	74.10	37.278	0.310E+00	0.319E+00	0.25E+00	0.39E+00
20.25	74.09	37.275	0.306E+00	0.319E+00	0.25E+00	0.39E+00
20.58	74.09	37.273	0.305E+00	0.318E+00	0.25E+00	0.39E+00
20.92	74.09	37.270	0.313E+00	0.318E+00	0.25E+00	0.39E+00
21.25	74.09	37.267	0.317E+00	0.318E+00	0.25E+00	0.39E+00
21.58	74.08	37.265	0.317E+00	0.317E+00	0.25E+00	0.38E+00
21.92	74.07	37.264	0.310E+00	0.317E+00	0.25E+00	0.38E+00

22.25	74.05	37.265	0.293E+00	0.317E+00	0.25E+00	0.38E+00
22.58	74.05	37.260	0.309E+00	0.317E+00	0.25E+00	0.38E+00
22.92	74.06	37.258	0.314E+00	0.316E+00	0.25E+00	0.38E+00
23.25	74.05	37.259	0.202E+00	0.316E+00	0.25E+00	0.38E+00
23.58	74.04	37.256	0.303E+00	0.316E+00	0.25E+00	0.38E+00
23.92	74.04	37.252	0.312E+00	0.316E+00	0.25E+00	0.38E+00
24.25	74.03	37.248	0.318E+00	0.315E+00	0.25E+00	0.38E+00
24.58	74.03	37.248	0.313E+00	0.315E+00	0.25E+00	0.38E+00
24.92	74.03	37.248	0.307E+00	0.315E+00	0.25E+00	0.38E+00
25.25	74.02	37.246	0.306E+00	0.315E+00	0.25E+00	0.38E+00
25.58	74.02	37.246	0.302E+00	0.314E+00	0.25E+00	0.38E+00
25.92	74.03	37.241	0.314E+00	0.314E+00	0.25E+00	0.38E+00
26.25	74.03	37.237	0.322E+00	0.314E+00	0.25E+00	0.38E+00
26.58	74.02	37.234	0.326E+00	0.314E+00	0.25E+00	0.38E+00
26.92	74.02	37.234	0.321E+00	0.313E+00	0.25E+00	0.38E+00
27.25	74.02	37.235	0.311E+00	0.313E+00	0.25E+00	0.38E+00
27.58	74.02	37.234	0.310E+00	0.313E+00	0.24E+00	0.38E+00
27.92	74.02	37.228	0.322E+00	0.313E+00	0.24E+00	0.38E+00
28.25	74.01	37.230	0.310E+00	0.312E+00	0.24E+00	0.38E+00
28.58	74.01	37.225	0.318E+00	0.312E+00	0.24E+00	0.38E+00
28.92	74.01	37.226	0.311E+00	0.312E+00	0.24E+00	0.38E+00
29.25	74.01	37.223	0.315E+00	0.311E+00	0.24E+00	0.38E+00
29.58	74.00	37.221	0.314E+00	0.311E+00	0.24E+00	0.38E+00
29.92	74.00	37.220	0.314E+00	0.311E+00	0.24E+00	0.38E+00
30.25	74.00	37.216	0.319E+00	0.311E+00	0.24E+00	0.38E+00
30.58	74.01	37.215	0.318E+00	0.310E+00	0.24E+00	0.38E+00
30.92	74.01	37.214	0.315E+00	0.310E+00	0.24E+00	0.38E+00
31.25	73.99	37.210	0.320E+00	0.310E+00	0.24E+00	0.38E+00

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.319E+00

THE STANDARD DEVIATION IS 0.337E-01

SKREW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.310E+00

PILGRIM 23 PSIG ILRT

TIME, DATE START OF TEST 7.25 418

TIME AFTER START OF TEST = 24.00 HR

LEAK RATE BAS'D ON POINT-TO-POINT CALCULATIONS

TIME	TEMP. (F)	PRESSURE (PSIA)	MEASURED LEAK RATE	CALCULATED LEAK RATE	95% CONFIDENCE LIMITS	
7.58	74.88	37.391	0.129E+00	0.309E+00	-0.69E+00	0.13E+01
7.92	74.88	37.384	0.579E+00	0.309E+00	-0.69E+00	0.13E+01
8.25	74.76	37.378	0.336E+00	0.308E+00	-0.69E+00	0.11E+01
8.58	74.72	37.375	0.581E-02	0.309E+00	-0.69E+00	0.13E+01
8.92	74.67	37.367	0.811E+00	0.309E+00	-0.69E+00	0.13E+01
9.25	74.63	37.362	0.567E+00	0.309E+00	-0.68E+00	0.13E+01
9.58	74.59	37.357	0.365E+00	0.310E+00	-0.68E+00	0.13E+01
9.92	74.56	37.358	-0.639E+00	0.310E+00	-0.68E+00	0.13E+01
10.25	74.53	37.349	0.125E+01	0.311E+00	-0.68E+00	0.13E+01
10.58	74.50	37.349	-0.261E+00	0.311E+00	-0.68E+00	0.13E+01
10.92	74.47	37.345	0.337E+00	0.311E+00	-0.68E+00	0.13E+01
11.25	74.44	37.340	0.613E+00	0.312E+00	-0.68E+00	0.13E+01
11.58	74.49	37.338	0.101E+01	0.312E+00	-0.68E+00	0.13E+01
11.92	74.38	37.331	-0.150E+00	0.312E+00	-0.67E+00	0.13E+01
12.25	74.35	37.328	0.158E+00	0.313E+00	-0.67E+00	0.13E+01
12.58	74.33	37.327	0.357E-01	0.313E+00	-0.67E+00	0.13E+01
12.92	74.32	37.325	0.218E+00	0.314E+00	-0.67E+00	0.13E+01
13.25	74.30	37.321	0.547E+00	0.314E+00	-0.67E+00	0.13E+01
13.58	74.28	37.319	0.830E-01	0.314E+00	-0.67E+00	0.13E+01
13.92	74.27	37.313	0.881E+00	0.315E+00	-0.67E+00	0.13E+01
14.25	74.25	37.314	-0.441E+00	0.315E+00	-0.67E+00	0.13E+01
14.58	74.24	37.309	0.885E+00	0.315E+00	-0.67E+00	0.13E+01
14.92	74.23	37.306	0.441E+00	0.316E+00	-0.67E+00	0.13E+01
15.25	74.22	37.303	0.462E+00	0.316E+00	-0.67E+00	0.13E+01
15.58	74.21	37.303	-0.139E+00	0.317E+00	-0.66E+00	0.13E+01
15.92	74.20	37.299	0.671E+00	0.317E+00	-0.66E+00	0.13E+01
16.25	74.20	37.294	0.793E+00	0.317E+00	-0.66E+00	0.13E+01
16.58	74.20	37.294	0.293E-01	0.318E+00	-0.66E+00	0.13E+01
16.92	74.18	37.300	-0.130E+01	0.318E+00	-0.66E+00	0.13E+01
17.25	74.17	37.290	0.180E+01	0.319E+00	-0.66E+00	0.13E+01
17.58	74.16	37.290	-0.274E+00	0.319E+00	-0.66E+00	0.13E+01
17.92	74.15	37.288	0.313E+00	0.319E+00	-0.66E+00	0.13E+01
18.25	74.14	37.288	-0.651E-01	0.320E+00	-0.66E+00	0.13E+01
18.58	74.13	37.285	0.439E+00	0.320E+00	-0.66E+00	0.13E+01
18.92	74.12	37.283	0.158E+00	0.320E+00	-0.66E+00	0.13E+01
19.25	74.10	37.279	0.558E+00	0.321E+00	-0.66E+00	0.13E+01
19.58	74.09	37.279	-0.793E-01	0.321E+00	-0.66E+00	0.13E+01
19.92	74.10	37.276	0.664E+00	0.322E+00	-0.66E+00	0.13E+01

20.25	74.09	37.275	0.153E+00	0.322E+00	-0.66E+00	0.13E+01
20.58	74.09	37.273	0.271E+00	0.322E+00	-0.66E+00	0.13E+01
20.92	74.09	37.270	0.625E+00	0.323E+00	-0.66E+00	0.13E+01
21.25	74.09	37.267	0.499E+00	0.323E+00	-0.66E+00	0.13E+01
21.58	74.08	37.265	0.319E+00	0.323E+00	-0.66E+00	0.13E+01
21.92	74.07	37.264	0.239E-02	0.324E+00	-0.66E+00	0.13E+01
22.25	74.05	37.265	-0.452E+00	0.324E+00	-0.66E+00	0.13E+01
22.58	74.05	37.260	0.104E+01	0.325E+00	-0.66E+00	0.13E+01
22.92	74.06	37.258	0.544E+00	0.325E+00	-0.66E+00	0.13E+01
23.25	74.05	37.259	-0.295E+00	0.325E+00	-0.66E+00	0.13E+01
23.58	74.04	37.256	0.351E+00	0.326E+00	-0.66E+00	0.13E+01
23.92	74.04	37.252	0.795E+00	0.326E+00	-0.66E+00	0.13E+01
24.25	74.03	37.248	0.580E+00	0.326E+00	-0.66E+00	0.13E+01
24.58	74.03	37.248	0.860E-01	0.327E+00	-0.66E+00	0.13E+01
24.92	74.03	37.248	0.734E-02	0.327E+00	-0.66E+00	0.13E+01
25.25	74.02	37.246	0.251E+00	0.328E+00	-0.66E+00	0.13E+01
25.58	74.02	37.246	0.759E-01	0.328E+00	-0.66E+00	0.13E+01
25.92	74.03	37.241	0.967E+00	0.328E+00	-0.66E+00	0.13E+01
26.25	74.03	37.237	0.777E+00	0.329E+00	-0.66E+00	0.13E+01
26.58	74.02	37.234	0.547E+00	0.329E+00	-0.66E+00	0.13E+01
26.92	74.02	37.234	0.506E-01	0.330E+00	-0.66E+00	0.13E+01
27.25	74.02	37.235	-0.303E+00	0.330E+00	-0.66E+00	0.13E+01
27.58	74.02	37.234	0.236E+00	0.330E+00	-0.66E+00	0.13E+01
27.92	74.02	37.228	0.110E+01	0.331E+00	-0.66E+00	0.13E+01
28.25	74.01	37.230	-0.433E+00	0.331E+00	-0.66E+00	0.13E+01
28.58	74.01	37.225	0.807E+00	0.331E+00	-0.66E+00	0.13E+01
28.92	74.01	37.226	-0.142E+00	0.332E+00	-0.66E+00	0.13E+01
29.25	74.01	37.223	0.613E+00	0.332E+00	-0.66E+00	0.13E+01
29.58	74.00	37.221	0.230E+00	0.333E+00	-0.66E+00	0.13E+01
29.92	74.00	37.220	0.321E+00	0.333E+00	-0.66E+00	0.13E+01
30.25	74.00	37.216	0.634E+00	0.333E+00	-0.66E+00	0.13E+01
30.58	74.01	37.215	0.288E+00	0.334E+00	-0.66E+00	0.13E+01
30.92	74.01	37.214	0.104E+00	0.334E+00	-0.66E+00	0.13E+01
31.25	73.99	37.210	0.675E+00	0.334E+00	-0.66E+00	0.13E+01

IF IT IS ASSUMED THAT THE LEAK RATE IS CONSTANT:

THE MEAN IS 0.321E+00
 THE STANDARD DEVIATION IS 0.484E+00
 SKEW IS NEGATIVE

THE CALCULATED LEAK RATE AFTER 24.00 HOURS OF TEST IS 0.334E+00

PILGRIM 45 PSIG ILRT SUMMARY DATA

815	420	75.530509	59.493123
835	420	75.465268	59.479157
855	420	75.378119	59.474186
915	420	75.321808	59.465077
935	420	75.278406	59.456510
955	420	75.234967	59.449432
1015	420	75.167063	59.445488
1035	420	75.129025	59.433773
1055	420	75.086038	59.430981
1115	420	75.052466	59.424549
1135	420	75.015398	59.415545
1155	420	74.988990	59.402711
1215	420	74.973277	59.400989
1235	420	74.945069	59.397480
1255	420	74.914613	59.392164
1315	420	74.887752	59.384505
1335	420	74.866111	59.379062
1355	420	74.840268	59.371660
1415	420	74.812961	59.368823
1435	420	74.792818	59.366491
1455	420	74.768590	59.363531
1515	420	74.746199	59.356734
1535	420	74.717054	59.352393
1555	420	74.699645	59.347544
1615	420	74.687947	59.346126
1635	420	74.676732	59.340964
1655	420	74.666835	59.335658
1715	420	74.649356	59.329447
1735	420	74.639842	59.329026
1755	420	74.636759	59.325980
1815	420	74.629579	59.320415
1835	420	74.613429	59.318282
1855	420	74.602633	59.315822
1915	420	74.589652	59.311317
1935	420	74.582904	59.305324
1955	420	74.571654	59.302150
2015	420	74.562691	59.299856
2035	420	74.549228	59.294548
2055	420	74.542892	59.292763
2115	420	74.536179	59.287955
2135	420	74.529914	59.282415
2155	420	74.524480	59.280928
2215	420	74.520225	59.273963
2235	420	74.520811	59.276377
2255	420	74.523026	59.271748
2315	420	74.529222	59.268713
2335	420	74.526522	59.263216
2355	420	74.524687	59.262844

PILGRIM 45 PSIG ILRT SUMMARY
DATA (CONTINUED)

15	421	74.521538	59.258831
35	421	74.517939	59.253901
55	421	74.518354	59.252742
115	421	74.516037	59.247725
135	421	74.511606	59.242919
155	421	74.505756	59.241808
215	421	74.509252	59.240819
235	421	74.502122	59.233835
255	421	74.499422	59.232433
315	421	74.501152	59.232405
335	421	74.494438	59.229040
355	421	74.489073	59.226974
415	421	74.490354	59.225880
435	421	74.484089	59.221130
455	421	74.484956	59.213707
515	421	74.485405	59.213853
535	421	74.477791	59.214845
555	421	74.474191	59.206680
615	421	74.471040	59.202733
635	421	74.469657	59.204212
655	421	74.463392	59.202150
715	421	74.464706	59.198134
735	421	74.461143	59.190996
755	421	74.462457	59.191835
815	421	74.454427	59.191020

PILGRIM 45 PSIG JLRT SUMMARY
DATA (CONTINUED)

15	421	74.521538	59.258831
35	421	74.517939	59.253901
55	421	74.518354	59.252742
115	421	74.516037	59.247725
135	421	74.511606	59.242919
155	421	74.505756	59.241808
215	421	74.509252	59.240819
235	421	74.502122	59.233835
255	421	74.499422	59.232433
315	421	74.501152	59.232405
335	421	74.494438	59.229040
355	421	74.489073	59.226974
415	421	74.490354	59.225880
435	421	74.484089	59.221130
455	421	74.484956	59.213707
515	421	74.485405	59.213853
535	421	74.477791	59.214845
555	421	74.474191	59.206680
615	421	74.471040	59.202733
635	421	74.469657	59.204212
655	421	74.463392	59.202150
715	421	74.464706	59.198134
735	421	74.461143	59.190996
755	421	74.462457	59.191835
815	421	74.454427	59.191020