SUPPORTING DOCUMENT FOR THE HISTORICAL TANK CONTENT ESTIMATE FOR

S TANK FARM

WORK ORDER ER4945

Prepared for

Westinghouse Hanford Company

June 1994

Prepared by

ICF Kaiser Hanford Company
Richland, Washington

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7. Abstract

This Supporting Document provides historical characterization information gathered on S-Tank Farm, such as historical waste transfer and level data, tank physical information, temperature data, sampling data, and dry well and liquid observation well data for Historical Tank Content Estimate of the SW Quadrant at the Hanford 200 West Area.

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SUPPORTING DOCUMENT FOR THE HISTORICAL TANK CONTENT ESTIMATE FOR

S TANK FARM

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Prepared by

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SUPPORTING DOCUMENT FOR THE HISTORICAL TANK CONTENT ESTIMATE FOR S TANK FARM

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1.0 Introduction

1.1 Purpose

This document provides historical evaluations of the radioactive mixed wastes stored in the Hanford Site 200-East Area underground single-shell tanks (SSTs). A Historical Tank Content Estimate has been developed by reviewing the process histories, waste transfer data, and available physical and chemical characterization data from various Department of Energy (DOE) and Department of Defense (DOD) contractors.

The historical data will supplement information gathered from in-tank core sampling activities that are currently underway. A tank history review that is accompanied by current characterization data creates a complete and reliable inventory estimate. Additionally, historical review of the tanks may reveal anomalies or unusual contents that are critical to characterization and post characterization activities. Complete and accurate tank waste characterizations are critical first steps for DOE and Westinghouse Hanford Company safety programs, waste pretreatment, and waste retrieval activities.

1.2 Scope

The scope of this document is limited to all the SSTs in the S Tank Farm of the southwest quadrant of the 200 West Area. For summarized characterization data on all SST's in the southwest quadrant of the 200 West area, refer to the Historical Tank Content Estimate Report (Brevick 1994). The northwest and southwest quadrants represent an approximate geographical division of the 200-West Area tank farms. The division was made as follows:

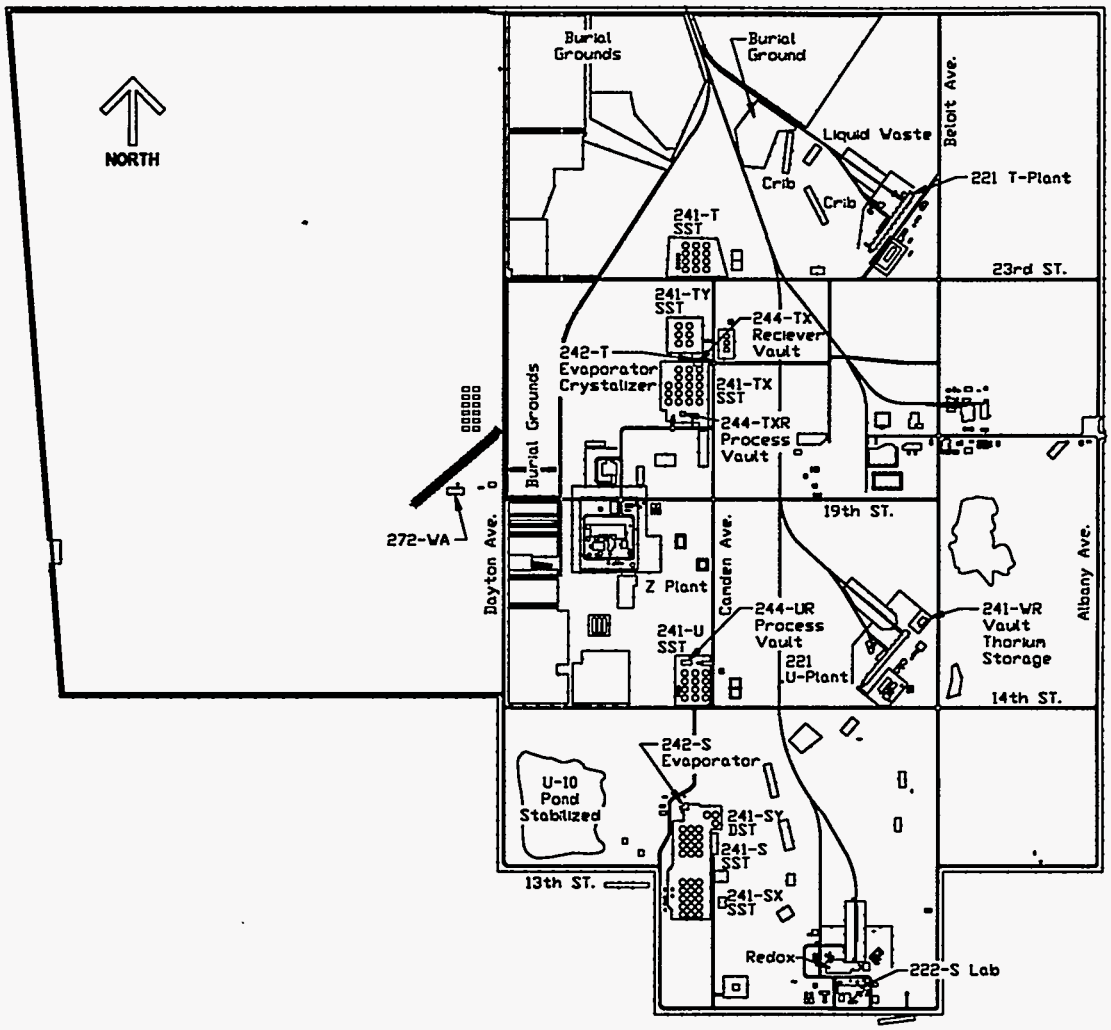
- NW Quadrant: T, TX, TY
- SW Quadrant: S, SX, U

The following map depicts the 200-East Area.

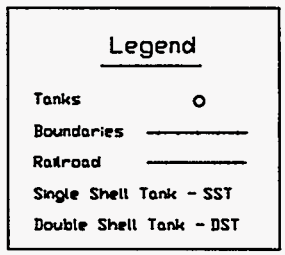
1.3 Approach

This report is a compilation of work performed by ICF Kaiser Hanford Company, Los Alamos National Laboratories, and Westinghouse Hanford Company.

Westinghouse Hanford Company requested that ICF Kaiser Hanford Company review the history of the tanks in each of the four quadrants and incorporate the tank layering models and inventory estimates being developed by Los Alamos National Laboratories into the report. Historical waste transfer and level data, tank physical information, temperature data, sampling data, and drywell and liquid observation well data have been compiled for this report.



200 West Area



1.3.1 Surveillance Techniques for the Hanford Radioactive Mixed Waste Storage Tanks

Surveillance information is used for tank characterization. Tank integrity (i.e., sound, assumed leaker, assumed re-leaker) is investigated by comparing the changing liquid levels to liquid observation well data and drywell activity. Waste temperatures can be used to correlate the inventories of heat-generating radionuclides (^{137}Cs and ^{91}Sr) in the tanks. The instrumentation and methods used for tank surveillance are described in the following sections.

- **In-Tank Surface Levels**

Surface levels within the SSTs are monitored by instruments consisting of calibrated steel tapes with an electrode plummet on the end that will complete a circuit when it contacts a conducting surface (i.e., liquid). The surface level measurements are usually taken with Food Instrument Corporation gauges and manual tapes. The tank monitoring device, manufactured by the Food Instrument Corporation, automatically moves up and down and contacts the waste. The gauge is often set to the intrusion mode by placing the plummet a short distance above the waste. If an intrusion occurs in the tank, the Food Instrument Corporation gauge will record the event when the surface level rises to meet the plummet. The manual tapes are similar to the Food Instrument Corporation gauge, except that manual operation of the tape and manual recording of the readings are required. Some tanks contain both types of level monitoring devices. The measurements are recorded on a computer automated surveillance system (CASS).

- **Interstitial Liquid Level (Liquid Observation Wells)**

Food Instrument Corporation gauges and manual tapes are limited to surface level measurement; therefore, liquid observation wells in many tanks have been installed specifically to monitor the interstitial liquid level within the SSTs. The interstitial liquid is the liquid trapped within and underneath the solid waste. Fiberglass or TEFZEL-reinforced epoxy-polyester resin liquid observation well tubes (by E.I. du Pont de Numours and Company) are sealed on the bottom and vertically installed approximately 1 in. from the tank bottom. Gamma, neutron, and acoustic probes may be lowered into the liquid observation wells to determine the interstitial liquid levels within the tank. A gamma probe detects the difference between saltcake and saltcake containing liquid, based on the principle that the liquid is the primary source of gamma emissions. A neutron probe distinguishes between the existing dry saltcake, wet saltcake, and liquid phases. Distinct differences exist in the neutron count rates of each material type. An acoustic probe emits a pulse that is reflected off the interface between the outer wall of the liquid observation well and the waste. A fiberglass/liquid interface produces a minimal reflected pulse and a fiberglass/air interface produces a maximum pulse reflection. Wet saltcake will fall between the limits appropriately; therefore, interpretation of the records will determine the liquid level. Each probe scan is fully automatic and

successful scans are input to the computer automated surveillance system.

- **Internal Tank Temperatures (Thermocouples)**

Temperatures usually are recorded automatically in the Computer Automated Surveillance System (CASS). Temperatures are monitored with thermocouple trees that are comprised of stainless steel pipe with 4 to 18 thermocouples. Usually, the lowest sensor is located approximately 4 in. from the tank bottom and the other sensors progress up the tree at 2-ft intervals. More frequent temperature readings are available for a few select tanks due to an upgrade in the surveillance data acquisition system to the tank monitor and control system (TMACS) in 1991.

Generally, a single thermocouple sensor is sent down the liquid observation well to take semiannual readings in tanks that do not contain a thermocouple tree. The temperatures are recorded manually in degrees Fahrenheit and are entered into the surveillance analysis computer system (SACS) that is currently using the ORACLE database.

- **External Leak Detection (Drywells)**

Drywells are located around the circumference of each SST and throughout the tank farms to determine if tank wastes have leaked. The drywells are generally 6-in. diameter carbon steel pipe, between 75- and 250-ft deep. The wells are termed dry because they are not deep enough to reach ground water. Scan profiles of radiation or moisture in the soil as a function of well depth are obtained with gamma radiation or neutron sensors. Scintillation monitors, Geiger-Mueller instruments, and neutron sensors are used to monitor the drywells. Scintillation monitors are radiation detection instruments based on the principle that light pulses are produced in some materials when they are exposed to radiation. Geiger-Mueller instruments detect low-level beta and gamma radiation. Neutron probes are equipped with a neutron source and detector that determine if moisture is present in the soil. The frequency of and probe used for drywell monitoring are specified in a schedule from the "Waste Storage Tank Status and Leak Detection Criteria" (Welty 1989).

Drywell readings are recorded at 1-ft intervals. The peak readings and the depth of the readings are recorded on a summary sheet. If a drywell indicates a new or unusual increase in activity, a rerun is requested and the drywell is retested. The wells are sealed when they are not being tested.

The drywells described in this report have a 6-digit computer identification number: the first two digits denote the tank farm (i.e., A=10, AX=11, B=20, BX=21, BY=22, and C=30), the third and fourth are the last two digits of the tank number (i.e., 241-A-105 would be 10-05 and 00 indicates a non-specific tank), and the fifth and sixth describe the clockwise location of the well from due north. For example, the identification number of the first drywell for Tank 241-BY-102 would be 22-02-01.

Laterals (i.e., horizontal drywells) are positioned under some SSTs to detect radionuclides in the soil which could be indicative of tank leakage. The drywells are monitored by radiation detection probes and occasionally by a temperature probe. Laterals have 4-in. inside diameter steel pipes located 8 to 10 ft below the concrete base of the tank, and each tank has three laterals. Laterals are located only in the A Tank Farm and a portion of the SX Tank Farm.

- **In-Tank Photography**

In-tank photography is another waste volume determination method used to resolve in-tank measurement anomalies and determine tank integrity. Photographs can help determine sludge and liquid levels, provide a degree of corroboration with other waste management processes, and are a source of information on foreign objects contained in the tanks. The photos can be compared to see if tank wastes with similar histories have similar characteristics.

1.3.2 Approach and Development of Supporting Information Contained in the Historical Tank Content Estimate and Supporting Documents

Extensive information was gathered for each tank. This document contains a comprehensive data set on each tank, that are summarized in the Historical Tank Characterization Estimates.

- **Tank Level Histories**

The tank level histories are graphical representations of waste levels over the lifetime of a tank. They include information such as pH, in-tank photo dates, waste types, transfer data, and physical data. Information from the mid 1940s to 1980 was compiled from two Westinghouse Hanford Company documents (Anderson 1990 and Welty 1988). Data from 1977 to the present were obtained from the monthly waste status summary reports. The following Hanford Site operating contractors prepared summaries: Atlantic Richfield Hanford Company from 1973 to 1977, Rockwell Hanford Operations from 1977 to 1987, and Westinghouse Hanford Company from 1987 to present. Script files were imported from a spreadsheet to AutoCAD 12 to graph the surface level data. Liquid observation well data were obtained from the Westinghouse Hanford Company Tank Farm Surveillance group in a spreadsheet format. Additional information was gathered from various documents and comments were added directly to each drawing.

The liquid, solid, and interstitial liquid levels (liquid observation wells data) are shown on the tank level history graphs as volumes and tank elevations. The following formulas were used to relate the volumes to the respective elevation for each tank farm design:

FORMULAS

$$\frac{\textit{Total Gallons}}{2750\ \frac{\textit{Gallons}}{\textit{Inch}}} = \textit{Total Inches} \tag{1}$$

$$\frac{\textit{Total Gallons} - 12{,}500\ \textit{Gallons}}{2750\ \frac{\textit{Gallons}}{\textit{Inch}}} + 12\ \textit{Inches} = \textit{Total Inches} \tag{2}$$

$$\frac{\textit{Total Gallons} - 12{,}500\ \textit{Gallons}}{2750\ \frac{\textit{Gallons}}{\textit{Inch}}} = \textit{Total Inches} \tag{3}$$

$$\frac{\textit{Total Gallons} - 18{,}500\ \textit{Gallons}}{2750\ \frac{\textit{Gallons}}{\textit{Inch}}} + 12\ \textit{Inches} = \textit{Total Inches} \tag{4}$$

$$\frac{\textit{Total Gallons} - 590\ \textit{Gallons}}{196\ \frac{\textit{Gallons}}{\textit{Inch}}} + 6\ \textit{Inches} = \textit{Total Inches} \tag{5}$$

Equation No.	Applicable Tank Farms:	Tank Diameter
1	A, AN, AP, AW, AX, AY, AZ, SY	75 ft
2	BY, S, TX, TY	75 ft
3	B, BX, C, T, U	75 ft
4	SX	75 ft
5	B, C, T, U (200 Series)	20 ft

- **Temperature Plots**

There are two categories of temperature data, one or few temperature readings per day and thermocouple temperature data. The documentation used for the first category includes Waste Status Summary Reports (Roberts, R.E. 2/58 - 10/58, Thress, M.A. 11/58 - 2/59, Lentz, J.E. 3/59-12/60, and Roberts, R.E. 6/61 - 6/62), RHO-CD-1172, and HW-83906. The thermocouple temperature data were obtained from the Westinghouse Hanford Company ORACLE database commonly known as the Surveillance Analysis Computer System (SACS) and various retrieved hand-entered temperature data sheets. Temperature versus time plots were developed for both categories of temperature data. Historical temperature plots cover the time span between January 1953 and January 1973. The common temperature span used for these plots is 350 degrees. There are no tanks that have temperature data outside the sliding 350 degree temperature range.

No thermocouple information has been located prior to 1973. The thermocouple temperature information was parsed in an EXCEL spreadsheet and graphed to show each individual thermocouple probe. January of 1973 is then the starting date for all thermocouple plots. The temperature range for all tank thermocouple plots in all tank farms was kept to a 120 degree F span, except where the data exceeded this range. In the few tanks where the temperature span exceeds this sliding range the data are shown using the smallest temperature range possible. A consistent time frame and temperature range is essential in comparing temperature information from one tank to another. If documentation was available, thermocouple elevations were included in the plots for tanks currently containing thermocouple trees. Thermocouples are ordered from the bottom to the top of the tank. Therefore, a plot of thermocouple 1 over time would indicate the temperature near the bottom of the tank. In-tank temperature information is available in Appendix D.

- **Surface Level Plots**

The surface level data from 1991 to 1993 were obtained from the Westinghouse Hanford Company ORACLE database. The information was parsed in an EXCEL spreadsheet and graphed to show the waste level versus time. Current in-tank surface level information is available in Appendix E.

- **Drywell Plots**

The drywell information was obtained from the manual records of the Westinghouse Hanford Company Tank Farm Surveillance Group. Data from 1990 to the present were input into an EXCEL spreadsheet and graphed to show the peaks in counts/second (c/s) and the peak depths in feet (ft) versus the date on the same chart. Tank drywell information is available in Appendix F.

- **Tank Profiles and Other Drawings**

The drawings included in this report have been compiled from several sources including as-built drawings, the Waste Storage Tank Status and Leak Detection Criteria (Welty 1988), and the Riser Configuration Document for Single-Shell Waste Tanks (Alstad 1991).

The risers and penetrations throughout the tank dome are used for many purposes. Some risers were installed during the original tank construction and others were added later.

Through the years, sleeves or smaller risers were installed in many of the larger risers. For the riser configurations in this report, a tank may have a riser number followed by a letter which means that a larger riser was fitted with smaller sleeves. Depending on the intended use, the riser sleeves can be as large as 12 in. or as small as 4 in. For example, a saltwell pump and screen require a 12-in. riser but a thermocouple tree requires only a 4-in. riser. The tank profile drawings are in Appendix K.

- **Photographs**

The tank farm photos were labeled to indicate the relative position of each tank in the farm and arrows were added to show the cascade series of each tank farm.

The latest in-tank and tank farm photos were obtained from Pacific Northwest Laboratory. In-tank photos have been arranged to show the contents of each tank. The auxiliary equipment within each photo collage was identified if possible and labeled appropriately. The latest in-tank and tank farm photos are available in Appendix I.

- **Historical Sample Analysis Data**

The sampling data were obtained from the WHC Tank Waste and Retrieval Group. Tables were made for the samples that were taken prior to September 1989. The information was compiled in EXCEL to present the data in as similar a manner as possible. The tables include physical data, chemical analysis data by component, and radiological analysis data by component. Any other data included with the sample references are summarized as text. Tank historical sample analysis data are available in Appendix H.

1.3.3 Approach and Development of the Process-Based Historical Tank Content Estimate

The process-based historical tank content estimates presented in this report were taken from work being performed by Los Alamos National Laboratories. The tank content estimates are the primary source of tank characterization data until the tank characterization reports are completed. The tank characterization reports will incorporate current core sampling and analysis results with historical-based tank content estimates to present the most current evaluation of the tank waste constituents.

Generating historical tank content estimates involves management and evaluation of large quantities of data. Several smaller components of the data management effort make up the system of generating historical tank estimates. The components are described in the following sections.

- **Waste Status and Transaction Record Summary Database**

The waste status and transaction record summary database (i.e., transaction summary) is a database of all known waste transfer records. Historically, when waste was pumped from a process plant to tank or tank to tank, a record of the pumped waste volume and type was kept. The transaction summary is the recorded waste level of the solids and supernatant.

The waste status and transaction record summary database is being partitioned into four separate sections (i.e., quadrants). The waste status and transaction record summary database for the northeast quadrant is available in WHC-SD-WM-TI-615 Rev. 0 (Agnew 1994).

- **Tank Layering Model**

The tank layering model is derived from the waste status and transaction record summary database. The purpose of the tank layering model is to predict the waste types and volumes in each tank. The transaction summary database records the types of waste that enter each tank and the corresponding increase in the solids volume from each waste entry. Each waste type that increases the solids volume in the tank is recorded in the tank layering model. Therefore, the completeness and accuracy of the information in the tank layering model is directly related to the completeness and accuracy of the transaction summary database.

The tank layering model was created to develop historical tank content estimates. The results of the tank layering model are reported in this document. The tank layering model is presented graphically with the inventory estimate described below in Appendix K.

- **Defined Waste Types**

Early in the development of the historical tank content estimates, a need to compile the chemical compositions of all known waste types into one source document was recognized. This compilation was performed by Los Alamos National Laboratories. The Hanford defined waste document was developed independently of the waste status and transaction record summaries database and the tank layering model. However, the Hanford defined waste list will be used with the tank layering model to obtain the actual tank waste inventory estimates as described below.

The Hanford defined waste document gives the compositions for all known Hanford waste types that went into the double-shell and single-shell tanks. For more details of the methods used to develop these waste types, refer to the Hanford Defined Wastes Document (Agnew 1994).

- **Inventory Estimates**

The end result of combining the tank layer model and the Hanford defined waste types is the tank inventory estimate. When the volumes and compositions of each waste type in a particular tank are known from the tank layering model and the Hanford defined

wastes document, a calculation of the total chemical inventory in the tank is performed. The individual tank results are presented in tabular form in Appendix K.

The inventory estimates developed by Los Alamos National Laboratory are quality checked against existing data from current sample analyses, thermal and physical models, and historical records. The checking constitutes a large portion of the time required to develop the estimates. When estimates are checked against existing data, the models used may be reevaluated. Thus, the process of generating estimates will iterate and the associated errors will be reduced over time as the historical knowledge of the tank waste operations increases.

1.3.4 Assumptions

The quality of the historical information available for the tanks often requires that assumptions and judgement calls be made on the applicability and validity of the data. Some assumptions were used to interpret the data.

- **Temperature Data**

The lines joining the data points on the temperature plots were detached to show gaps in data of more than three years.

The single thermocouple tree in some tanks was removed and replaced with two trees. The original single thermocouple tree and tree 1 data were plotted on the same graph, and the tree 2 data were graphed separately.

No conclusion has been made on the status of thermocouples with less than 5 data points. In general, when there is thermocouple data with less than 5 data points, the data are retained on the temperature data sheets, but have not been plotted. Some possible explanations for the limited data are that the thermocouple failed, it was inoperable when readings were taken, or the operator misrepresented the number of thermocouples and the temperature data in the tank.

The thermocouples used in the trees were installed as purchased. There were no field calibrations before 1991. In 1991, a survey of Ferrocyanide Watch List thermocouple trees was conducted. The thermocouple tree probe temperatures were tested against probes inserted in liquid observation wells or by other methods as specified in Engineering Evaluation of Thermocouples in FeCN Watchlist Tanks, (Bussell 1992). Thermocouples, with equipment that could be repaired outside the tank, were made operable at this time.

It is assumed that the sinusoidal variances in the data can be attributed to seasonal and diurnal trends which are clear after 1991 due to an upgrade in thermocouple surveillance to a computerized data acquisition system, i.e., Tank Monitor and

Control System (TMACS). Also, in general, the temperatures decrease from the bottom to the top of the tanks.

All the temperature data received by ICF Kaiser Hanford Company was reviewed for suspect data points. Data that obviously deviate from the temperature trend for a any tank are marked as suspect and designated in the comment column as either "suspect data (low)" or "suspect data (high)". Typically, suspect data sharply deviates from the data trend 15 degrees F or more (See historical and thermocouple temperature data in Appendix D - Temperature Graphs and Data).

After review of the data, it was determined that some data was recorded in degrees Celsius rather than in degrees Fahrenheit as it was electronically received. The data are converted to Fahrenheit and evaluated against the rest of the data set. Where the converted data are found to be consistent with the temperature trend, they are designated in the comment column as "raw data - assumed degree C". Other delineations used to flag suspect data or substantiate the degree Celsius conversions are found from the Tank Waste Information Network System (TWINS) database, property of Battelle - Pacific Northwest Laboratory. Data recorded in degree C or input incorrectly and confirmed with TWINS are delineated in the comments column as: "degree C/TWINS confirm" and "wrong input/TWINS confirm", respectively (See historical and thermocouple temperature data in Appendix D - Temperature Graphs and Data).

In addition, some of the lines of data were flagged in the comment column by Westinghouse Hanford Company (WHC) before transmission of the data. Some of the WHC comment flags include "cass" or "SET#2 FROM CASS". It is assumed that "cass", an acronym for Computer Automated Surveillance System, applies to all the data taken on that particular day, and that "SET#2 FROM CASS" applies to the contiguous data designated under the TREE SET # column as 2 (See historical and thermocouple temperature data in Appendix D - Temperature Graphs and Data).

Sources of temperature data are located in the footnotes of both the temperature plots and data. Some Historical Temperature plots use data from Waste Status Summary Reports (Roberts, R.E. 2/58 - 10/58, Thress, M.A. 11/58 - 2/59, Lentz, J.E. 3/59-12/60, and Roberts, R.E. 6/61 - 6/62). If these reports are used, footnotes on the temperature plots indicate by including the source of data concisely as from "Waste Status Summary Reports" (See historical temperature plots in Appendix D - Temperature Graphs and Data).

- **Drywell Data**

The drywell data did not appear to have had a quality review; therefore, the following assumptions were made about the data:

-A data point is considered suspect if an apparent rerun has been performed.

-A data point is considered to be a rerun if the preceding data are erratic and the rerun is performed on the same day if monitored daily, within one or two days if monitored weekly, or within several days if monitored monthly or yearly.

-If suspect data were indeed relevant, the appropriate surveillance organizations would have followed the appropriate procedures to identify any problems.

- **Sampling Data**

The data obtained from the historical analytical information are understood to be widely variable in type, quality, and scope. The data range from process control data obtained from a grab sample on a few selected analytes to a total characterization suite performed on a core sample. There are no specific quantitative data quality criteria for the information incorporated into the historical tank content estimate. A qualitative assessment of the information sources is done during construction of the historical tank content estimate. The available data are assessed for suitability and consistency in the study and each data source is weighted appropriately for its contribution to the overall estimates.

When the sampling data were compiled, a sample was considered a solids sample if it was greater than 30% solids. Sludge/slurry samples were included.

- **Inventory Estimates**

Solid waste formations vary by type and are determined individually by examination of the historical fill records. Further refinement and bounding of the solids formation are provided by conformation to physically attainable systems (e.g., waste volumes contained in the tanks do not exceed the tank capacity and negative void fractions are not possible).

Waste stream compositions were based on process flow sheet information and previous analytical data.

Solids were evenly distributed throughout tank. The solids were assumed to be evenly distributed throughout the slurry during their transfer and their settling rate was assumed to be uniform throughout the tank.

Complete settling of the sludge occurred and the solids settled in a pseudo-pancake formation (i.e., flat layers conforming to the boundaries of the tank) which was a simplifying assumption. Localized mounding and pocketing in various areas of the tank may have occurred due to inlet/outlet phenomena (e.g., cascades and transfers from the floating suction pumps that remove or deposit sludge). This phenomenon would have affected only a small fraction of the tank area and does not impact the overall results of this study. However, spatial variability within physical configuration and process history is acknowledged. No method is currently available that would adequately model this discrepancy. An effort

is underway to develop this concept and incorporate it into the tank characterization process, but it is incomplete at this time.

Solids from a specifically designated waste type are homogeneous, which is a simplifying assumption. Variation and layering of the sludge due to component concentration differences between batches, precipitate particle size, and particle density were quite likely. The effect of these factors on the distribution of analytes within the solids is unknown; however, the effect was probably small and not detectable with the present sample collection and analysis process.

Solids compaction did not occur and was not accounted for in the study which is a simplifying assumption. Although compaction probably occurred in the history of the tanks because of the formation of additional solids layers on top of each other, the degree of compression was not known and, therefore, was not incorporated.

Density and other physical characteristics of the solids were determined by individual waste type using available information or were based on approximate physical analogues.

The capacity of the tanks was never exceeded during transfers. Tank capacity is dependent on fill status, fill order, tank location in a cascade, and tank type.

Leaking of the tanks was not incorporated during the time of the study but was accounted for at the end.

Cascades, tank transfers, and crib line effluents were normally free of particulate; therefore, the majority of solids were confined to their initial receiver tanks and were not cribbed or transferred extensively from tank to tank. This assumption based on cases of plugged cascade lines when appreciable amounts of solids tried to cascade, and the pumping equipment typically was not designed to transfer of substantial quantities of solids (except when sluicing or specifically transferring solids). Monitors on the crib discharge lines should have indicated significant solids contamination, and the tank farm operating procedures would have prevented solids discharges to the ground.

1.4 Historical Information Quality

The quality of historical data compiled for this report varied greatly. Some data came from published documentation. Other data were retrieved electronically from various Westinghouse Hanford Company databases. The quality of data used in the estimates is described in the following section.

- **Level Histories**

The level history narrative is designed to give a general description of the waste types contained in a specific tank from startup to the present. The history presents physical

characteristics of the waste such as waste pH values and the latest maximum temperature of the waste. It also presents information on when the tank was removed from service, if it was stabilized, the method of stabilization, if it ever leaked, and the current stabilization status. It is not designed to be a detailed summary of every waste type and transaction for that tank. The waste types are general and usually are given only for large transactions (i.e., if a waste is not of sufficient volume to significantly impact the total volume of the tank then it was not reported in the narrative). For a more complete record of transactions and types of wastes involved, see the waste status and transaction record summary (Agnew 1994).

The accuracy of the tank level histories relies on the completeness of the Westinghouse Hanford Company document "A History of the 200 Area Tank Farms" (Anderson 1990); the monthly Westinghouse Hanford Company, Atlantic Richfield Hanford Company, and Rockwell Hanford Operations waste summary reports; and the waste status and transaction record summary (Agnew 1994).

Surface level readings may be affected by several factors: plummet error, flushing water accumulation, and waste surface irregularities. Crystalline wastes (i.e., saltcake) can build up on the end of the plummet gradually and contact the waste which indicates a false surface level increase. Significant level discrepancies occur when the buildup breaks off or when the measuring instrument plummet is flushed to remove the saltcake buildups. Flushing the Food Instrument Corporation Gauge, manual tapes, or any other equipment may cause accumulated wash water to collect under the plummet which indicates a false increase in the overall volume of waste within the tank. Surface level readings often are difficult to obtain from tanks that have a relatively dry saltcake surface. Some tanks have crystalline buildup on in-tank equipment (i.e., pumps, thermocouples, liquid observation wells, and other protruding equipment). As the supernatant is pumped from the tanks, the crystalline structure may remain attached to the equipment and be suspended above the liquid. Therefore, an accurate surface level measurement would be difficult if the breakup of the crystalline structure was inconsistent and a nonuniform waste surface was created. Steel tapes that are bent or warped from operation or those discarded on the waste surface are other sources of altered surface level readings.

Routine measurements of solids and sludges in most SSTs were not reported in the Anderson document until 1965. The solids measurements are taken with a steel donut on a string and operators interpret the sludge level. The interpretation could introduce a wide range of variability in the recorded solids level. Sometimes estimates taken from photographic data and saltwell pumping activities are the only indications of the solids levels.

- **Liquid Observation Well Data**

The liquid observation well data were obtained electronically from the Westinghouse Hanford Company Surveillance Group. Some

discrepancies exist in the liquid observation well readings for tanks with liquid waste surfaces. The discrepancies were supposed to be addressed in a December 1993 rebaselining of the liquid observation well data. Agreement between the liquid observation well plots and the data obtained from the surveillance group has been verified; however, errors in the data prior to the exchange of information could still exist. The liquid observation well data were understood to be unverified prior to the exchange. Therefore, the data should be reviewed before being used for any design purposes or safety evaluations.

- **Temperature Readings**

The single-shell tank temperature profiles are provided by electronic data from Westinghouse Hanford Company. Agreement between the thermocouple plots and the data obtained from the surveillance group has been verified; however, errors in the data prior to the exchange of information could still exist. Thermocouples used in the thermocouple trees were purchased and installed according to the American Society of Testing and Materials (ASTM) standard. There were no field calibrations before 1991 when a survey of Ferrocyanide Watch List thermocouple trees was conducted and a few of the thermocouple trees were compared against a thermocouple probe inserted in a liquid observation well.

During a review of the plots, some thermocouples were found to have outlying data points and many of them have only one or two readings. The unusual readings may be the result of the thermocouples functioning on only one occasion, the operator misrepresenting the number of thermocouples in the tank, unnecessary thermocouples readings, or possible thermocouple failure.

Occasionally the operator would read the temperature in degrees celsius instead of degrees fahrenheit and would not indicate this on the data sheets. The thermocouple data were understood to be unverified prior to the exchange. An attempt has been made by ICF Kaiser Hanford to validate and verify the data, however, the data should be checked before being used for any design purposes or safety evaluations.

- **Surface Level Data**

The surveillance automated computer system data were obtained electronically from the Westinghouse Hanford Company Surveillance Group and were plotted. The data are actual surface levels recorded from the surveillance equipment. If the surveillance equipment in a particular tank riser was removed from service, the readings may show a level change when a new instrument and/or riser is used, especially if the waste surface shows severe heterogeneity.

Agreement between the plots and the data obtained from the surveillance group has been verified; however, errors in the data prior to the exchange of information could still exist. The surveillance automated computer system data were understood to be

unverified prior to the exchange. Therefore, the data should be reviewed before being used for any design purposes or safety evaluations.

- **Drywell Data**

The drywell information is received on data sheets for each drywell. If the readings are questionable, Westinghouse Hanford Company often will request a rerun of the drywell scan. Because the reruns are not indicated on the data sheets, it can be difficult to determine if the data sheet has been superseded. In some wells, several scans occurred on the same day with no explanation; therefore, the scan with the accepted results is not identifiable.

- **Riser Configuration**

The riser configuration was determined from the WHC Riser Configuration Document for Single-Shell Waste Tanks (Alstad 1991). The information was current as of June 1991; therefore, any changes made after that date would not be included.

- **Photographs**

The photo collages were made from the latest available in-tank photographs. In some tanks, photos have not been taken since the early 1970s. Some tanks had fogging problems in the vapor space which prevented use of the latest photos. Sometimes a review of the older photos was useful to determine the waste changes. Collages made from older photos may not be indicative of current tank contents, especially if the tank has been pumped since the last photo date.

- **Historical Sample Analysis Data**

The historical sample results only refer to sample and analysis information obtained before August 1989. The historical sample and analysis results have not been validated by the characterization program. When validation occurs, they will be reissued in a later revision of the Historical Tank Content Estimate report and supporting documentation. The sample data often were retrieved from memos that indicated the results of the sample analysis. The analytical methods, holding times, and quality control information are unavailable. The location at which the sample was taken was not provided which leads to integration of some uncertainty into the sampling results. The analytical scope performed in many cases was quite narrow which limited the available data set. However, the data set is the only available historical chemical characterization information.

1.5 Background SW Quadrant

The SSTs located on the Hanford Site near Richland, Washington were built between 1943 and 1964 to provide interim storage for high-level nuclear wastes. Processes such as plutonium recovery from spent nuclear fuel rods and uranium metal recovery generated the millions of gallons of mixed radioactive hazardous waste solutions stored within these tanks.

The southwest quadrant located in the 200-West exclusion area consists of 43 tanks grouped into three tank farms. The tank farms are: S Farm (twelve 758,000 gal tanks), SX Farm (fifteen 1,000,000 gal tanks), and U Farm (twelve 500,000 gal tanks and four 55,000 gal tanks). Single-shell tank construction consists of mild steel cylinders and bases inside reinforced concrete, and covered by a reinforced concrete dome. Depending upon the farm, the top of the tanks are buried between 6 and 11 ft underground.

Several waste tanks are on watch lists. The definition of a watch list tank is explained in a later section of this report. Wastes stored in the NE quadrant were generated mostly from Plutonium Uranium Extraction (PUREX) and a Bismuth Phosphate Plant (B Plant); however, some tanks in the quadrant received wastes from the other onsite separation processes. The separation processes went through many changes as new technologies became available. Liquid waste volumes were reduced by evaporators, in-tank solidification units, or chemical precipitation of radionuclides. The resulting supernatant was disposed of in the ground. Vaults were used for temporary storage or treatment of waste and they were the intermediate storage point for tank waste or waste awaiting further processing. A special rail car facility in the NE quadrant was used to unload onsite waste that was distributed to an evaporator, tanks, or processing facilities. The facilities were sources of the waste that exists in the SSTs of the NE quadrant.

1.5.1 Waste Generating Processes

Although not all of the processes listed below contributed waste directly to tanks in the NE quadrant, the waste they generated could have been indirectly transferred to the quadrant through tank to tank transfers. The plants and processes that generated waste now contained in the SSTs and the DSTs are presented in chronological order.

- **T Plant**

T Plant was the first-full scale separations plant at Hanford. It was constructed in 1944 and was used as a separation facility for irradiated production reactor fuel until 1956. The bismuth phosphate separation process used at T Plant was identical to the one used at B Plant. Since 1957, T Plant has been used as a decontamination and repair facility. The facility was modified in 1978 for storage of pressurized water reactor (PWR) core II fuel assemblies. T Plant provided facilities for decontamination, decomposition, repair, testing, shipping, and burial of contaminated tools and equipment from onsite and offsite locations.

The following wastes were sent to SSTs: waste solution from equipment decontamination efforts at T Plant, decontamination waste (DW), metal waste (MW) from the bismuth phosphate process, first-cycle (1C) decontamination waste from the bismuth phosphate process, and second-cycle (2C) decontamination waste from the bismuth phosphate process.

- **B Plant**

B Plant was constructed between August 1943 and February 1945. The bismuth phosphate process ran until 1952. One of the first plants built along with T Plant, B Plant was designed to separate plutonium from uranium and the bulk of fission products in irradiated fuel via the bismuth phosphate separation process. In 1968, B Plant became a waste fractionation plant and was retrofitted to remove cesium 137 and strontium 90 from PUREX acid waste, high-level supernatant liquids, and sludge from self-boiling liquid wastes.

B Plant contained 40 processing cells that served several functions (e.g. equipment storage, radionuclide purification, liquid waste concentration, and solvent extraction). Cells 5, 23, 24 and 25 were used as liquid waste concentrators for the B Plant processing. Cell 23 of B Plant was used as a waste concentrator from July 28, 1967 to February 2, 1968. Because B Plant was being upgraded to a waste fractionation plant, the Cell 23 concentrator was running specifically to concentrate intermediate level waste in the single-shell tanks.

In 1974, the Waste Encapsulation and Storage Facility (WESF) was added to B plant to encapsulate strontium and cesium that was recovered from the B Plant process. The cesium capsules were leased commercially for irradiation of food, medical supplies, and lumber. The strontium and cesium capsules are stored in water basins for future retrieval. Currently most of B Plant is going through closure except for the plant sections that are needed to support the WESF mission. The closures result from a 1991 evaluation of the future B Plant mission.

The following B Plant waste streams were sent to SSTs: B Plant high-level waste (B), B Plant flush (BFSH), low-level waste from the waste fractionation plant (BL), complex concentrate (CC) or (CCPL), complexed waste (CPLX), fission products waste (FP), metal waste (MW), REDOX ion exchange waste processed at B Plant (RIX), ion exchange (IX), strontium sludge (SRS), cell 5 tank 6 waste (5-6), first-cycle waste (1C), and second-cycle waste (2C).

- **Bismuth Phosphate Process**

The B and T Plants used a bismuth phosphate extraction to remove plutonium from uranium fuel elements. The extraction waste that resulted was a metal waste that still contained 90% of the fission products and 99% of the original uranium. The metal waste was sent to specific tank cascades in the 200-East and 200-West Areas. First-cycle decontamination waste (1C), which contained approximately 10% of the fission products, was also stored in other underground waste tanks in the 200 Areas.

- **Plutonium Finishing Plant**

The Plutonium Finishing Plant (PFP or Z Plant), previously called Plutonium Recovery and Finishing Operations, began operation in late 1949 to process plutonium and prepare plutonium products.

PFP operations included plutonium handling, plutonium reclamation, plutonium conversion, and decontamination and decommissioning.

Waste from this plant contained minor amounts of fission products and low concentrations of plutonium and other transuranic elements, but was high in metallic nitrates. Initially, the waste was discharged via cribs to soil columns, which absorbed the transuranic elements and retained them close to the point of discharge. Later waste from Z plant was stored along with other waste in underground tanks.

The following waste was sent to tanks: waste from the Plutonium Reclamation Facility and the remote mechanical C line (Z).

- **Uranium Oxide Plant**

The 224-U Building was completed in 1944 as part of the U Plant complex. The building was converted to a UO_3 plant in 1951. The 224-UA building was constructed in 1957 with six installed calciners. The UO_3 plant was able to handle the uranyl nitrate hexahydrate (UNH) stream from REDOX, U Plant, and PUREX. The UO_3 plant shut down in 1972 and restarted in 1984 with the feed lines from REDOX and the U Plant canyon disconnected. Since 1984, there have been 17 campaigns at the plant that averaged 8 days each. The plant can calcine UNH much faster than the PUREX plant can produce it. Final deactivation was ordered for the plants in 1992. In April 1993, the UO_3 plant resumed operations to convert 200,000 gal of remaining UNH to uranium oxide powder. A final deactivation plan for the facility was prepared in the summer of 1993 and will be carried out in the next few years.

In the basic UO_3 process, calcining consisted of concentrating and heating liquid UNH until it was converted to a stable orange-yellow powder. The nitric acid in the UNH solution was also recovered in the same process. The UO_3 powder was the base material needed to manufacture uranium hexaflouride (UF_6) which is the primary feed material for gaseous diffusion plants in the United States.

- **REDOX**

The Reduction and Oxidation extraction (REDOX) plant was built between May 1950 and August 1951 and operated until July 1967. Uranium and plutonium were extracted from solid uranium metal slugs that were irradiated in the Hanford reactors or piles into a methyl isobutyl ketone (hexone) solvent by a continuous solvent extraction process. The REDOX process was the first at Hanford to recover both plutonium and uranium.

The waste stream which was slightly acidic contained fission products and large quantities of aluminum nitrate that were used to promote the extraction of plutonium and uranium. The waste was then neutralized and stored in SSTs.

The following wastes were sent to SSTs: REDOX process waste resulting from the dissolution of aluminum and zircaloy fuel element cladding, REDOX coating waste (CWR), REDOX high-level waste (R), and the supernatant liquid portion of waste generated by the REDOX process, REDOX supernatant (RSN). RSN is found above the sludge in the underground storage tanks.

- **U Plant**

U Plant (221-U) was built as one of three original bismuth phosphate process facilities although it was not used for that purpose. U Plant was modified extensively and used for the uranium recovery process. U Plant operated from 1952 to 1958. The main canyon at U Plant currently stores failed equipment.

Uranium in waste from the $BiPO_4$ process initially was stored in the SSTs. Later it was mined by sluicing, dissolved in nitric acid, and processed through a solvent extraction process. For every gallon of metal waste originally stored, the uranium extraction process yielded approximately 1.4 gal of UR waste. The waste volume increase made development of a technology that would reduce the volume of the stored waste a priority. This need resulted in the development/implementation of the ferrocyanide scavenging process.

The waste sent to the SSTs from U Plant was called tributyl phosphate (TBP). In reality it contained very little TBP; therefore, to eliminate confusion, it will be referred to as uranium recovery (UR) waste in this report.

- **Strontium Semiworks**

The strontium or hot semiworks processing facility (i.e., C Plant) was built in 1949 as a hot pilot plant for the REDOX process, but was later converted to a pilot plant for the PUREX process. In 1960, the plant was reactivated and used later as a process demonstration for the conversion of B Plant to a waste fractionation facility and was used to recover strontium 90, promethium 147, and cesium 144 from PUREX waste. The building and building site have been decontaminated and decommissioned.

The strontium semiworks waste sent to SSTs was known as hot semiworks (HS), strontium semiworks (SSW), and fission products waste (FP).

- **PUREX**

The Plutonium Uranium Extraction (PUREX) plant (i.e., A Plant) was an advanced solvent extraction process that used tributyl phosphate in a paraffin hydrocarbon solvent to recover uranium and plutonium from nitric acid solutions of irradiated uranium. PUREX was built between April 1953 and April 1955, it operated until 1972 when it was closed for 11 years. Two thorium campaigns were conducted in the PUREX plant between 1966 and 1971. The irradiated waste was similar to the PUREX waste but it contained thorium and uranium 233 rather than uranium and plutonium which was extracted from typical PUREX waste. It began operating again in November

1983 and was shut down in 1988 after a safety violation. The PUREX Plant was shut down several times between 1988 and 1990 for various reasons. In October 1990, the PUREX Plant was put in standby mode and was eventually identified for closure in December 1992 by Secretary of Energy James Watkins.

The following PUREX waste streams were sent to SSTs: cladding waste (CW) or (CWP), organic solvent wash waste (OWW), neutralized PUREX plant acid waste (P), low-level waste from PUREX (PL), PUREX sludge supernatant liquid (PSS), organic wash waste using sodium carbonate (CARB), cesium feed (CF), and concentrated neutralized high-level waste (1WW).

1.5.2 Waste Management Operations

This section describes the different waste concentrating methods used in the 200 Areas. Evaporating, concentrating, and scavenging are all methods used to reduce liquid volumes or precipitate solids out of the supernatant solutions. The operations are presented in chronological order.

- **242-T Evaporator**

The 242-T Evaporator was built in the early 1950s to reclaim nonboiling waste storage capacity in existing tanks. The evaporator was shut down in the summer of 1955 and modified for tributyl phosphate scavenging, although scavenging was never performed in this evaporator. The 242-T Evaporator restarted in 1965 and operated until 1976. Tank 241-TX-118 was the feed tank for the evaporator.

The following wastes were sent to tanks from the 242 T Evaporator: Slurry product from the evaporator bottoms (EB), evaporator feed (EF), and terminal liquor (TL).

- **242-B Evaporator**

The 242-B Evaporator was built south of the B Tank Farm and started operating in December 1951. It received feed waste until November 1954 and was shut down in September 1955. The evaporator was never reactivated. Tanks 241-B-105 and -106 were used as the bottoms and feed tank respectively. The evaporator operated at atmospheric pressure.

- **Ferrocyanide Scavenging**

Ferrocyanide scavenging was developed to reduce waste volumes. The ferrocyanide flow sheet was first tested in U Plant in October 1953. In-farm scavenging was completed in March 1956 and December 1957 for the 200-West and 200-East Areas respectively. The ferrocyanide scavenging program was designed to remove fission products such as ^{137}Cs (half life: 28.6 yr) and ^{90}Sr (half life: 30.2 yr) from the UR and 1C wastes as a precipitate. Because the ^{90}Sr was essentially insoluble in the neutralized UR waste, the strontium compounds would precipitate as phosphates, sulfates, or hydrated oxides when the acidic waste was neutralized. However, common cesium compounds are quite soluble even at alkaline pHs.

Development of the nickel ferrocyanide scavenging process provided a relatively simple process to precipitate ^{137}Cs and enhance the precipitation of ^{90}Sr. The precipitating chemicals were added in stainless steel process vessels with agitation (i.e. U Plant, T Plant, or the CR vault) and the waste slurry was routed to specific SSTs for settling. After the ^{137}Cs and ^{90}Sr precipitates settled, the clarified supernatant was sampled and disposed of in cribs. After the ^{137}Cs and ^{90}Sr precipitates settled, the clarified supernatant was sampled and disposed of in cribs.

- **In-Tank Solidification**

The primary function of the in-tank solidification systems was to concentrate the nonboiling waste directly inside of specially designed tanks that would produced a saltcake slurry. Each in-tank solidification system included a heat exchanger for water evaporation and a series of bottoms tanks. The first in-tank solidification unit (ITS #1) operated with an airlift circulator through Tank 241-BY-102 and the second in-tank solidification unit (ITS #2) operated with a similar circulator through Tank 241-BY-112. Tank 241-BY-112 contained a 4,000 kW electric immersion heater. Tank 241-BY-101 contained an in-tank solidification prototype that was used only for demonstration purposes. In-tank solidification units 1 and 2 began operating in 1965 and 1968, respectively. In 1971 in-tank solidification unit 1 became the cooler for in-tank solidification unit 2. Both units were shut down in 1974.

- **REDOX Concentrator**

The REDOX concentrator was used for volume reduction of dilute 200-West Area tank farm wastes by removing water. The concentrator received tank farm wastes from July 28, 1967 until June 30, 1972. Cell D in the REDOX process was the concentration and neutralization section of the plant.

- **242-S Evaporator/Crystallizer**

The 242-S Evaporator/Crystallizer began operating in November 1973 and shut down in 1981. It was designed as a reduced pressure (i.e., partial vacuum) evaporator/crystallizer. Aqueous salt wastes were converted in the evaporator to salt crystals for storage in underground tanks in the S and SX Tank Farms.

The following waste types were sent to SSTs from the 242-S Evaporator: non-complexed waste concentrated until the solution was nearly saturated with sodium aluminate known as double-shell slurry feed (DSSF), slurry product from the evaporator bottoms (EB), evaporator feed (EF), Hanford defense residual liquor (HDRL), partial neutralized feed waste (PNF), and terminal liquor (TL).

- **242-A Evaporator/Crystallizer**

Construction of the 242-A Evaporator/Crystallizer was completed in 1976. The evaporator began operation in March 1977 with a design life of 10 years. In 1987, design changes were developed to extend the facilities operating life by 10 years. The

evaporator was shut down in April 1989 because of regulatory issues and restarted in May 1994 after extensive modifications.

The following evaporated wastes were sent to SSTs: evaporator bottoms from B Plant low-level waste feed (BLEB), non-complexed waste concentrated in evaporators known as double-shell slurry feed (DSSF), evaporator feed (EF) or (EVAP), evaporator bottoms (EB), and terminal liquor (TL).

1.5.3 Miscellaneous Waste Sources and Equipment

There are various other sources of waste on the Hanford Site, as well as other material added to the tanks. Some wastes are from the 300 Area, 100 Area production reactors, various laboratories, and catch tanks. Unique contents added to SSTs included laboratory wastes, diatomaceous earth, Portland cement, shroud tubes, ceramic balls, experimental fuel elements, and relatively small amounts of enriched uranium, plutonium, cobalt, and natural uranium.

The following wastes contribute to SST waste: diatomaceous earth (DE), Hanford defense residual liquor (HDRL), Hanford laboratory operations (HLO), filtered Hanford water (H_2O), phosphate decontamination waste from N reactor (N), and non-complexed waste (NCPL).

- **Critical Mass Lab**

The critical mass lab was used to develop data on the factors that are necessary to make a criticality or self-sustained nuclear reaction occur. Because plutonium is the key radioactive element on the Hanford Site, the research was based on plutonium criticality safety in various fuel cycles. This facility was located next to the strontium semiworks and ran from the early 1950s to the early 1980s. The plutonium used in the lab was reprocessed in PUREX.

- **244-AR,-BXR, and-CR Process Vaults**

There are three process vaults in the NE quadrant: the AR Vault, the BXR Vault, and the CR Vault. The vaults were composed of several process vessels or tanks used to prepare the waste for treatment or storage. Specific wastes from tanks can be pumped temporarily to the vaults and the wastes can be sent directly to desired tanks or processing facilities later.

The AR Vault was designed and constructed between 1964 and 1968 and is located next to the A and AX Tank Farms. The AR Vault has been in standby mode since 1978.

The 244-BXR Vault is located south of the 241-BX Tank Farm and was constructed between 1950 and 1951. The BXR Vault began operating in 1952 and became inactive in 1956. The waste in the vault was difficult to handle, so the vault was high-pressure steam jetted in 1976. The vault was interim isolated after 1976 and interim stabilized in March 1985. Tank BXR-004 was removed in 1963.

The CR Vault was constructed in 1952 and is located next to the C Tank Farm. Saltwell waste from the C Tank Farm is interim stored in the CR Vault. The 244-BXR and -CR Vaults were constructed to aid in the recovery of uranium from bismuth phosphate metal waste. The CR Vault received waste from the Strontium Semiworks Plant en route to the 241-C Tank Farm.

- **204-AR and 204-S Railroad Car Facilities**

The 204-AR rail car unloading facility was built in 1981 and replaced the 204-S rail car unloading facility. The facilities were built for unloading radioactive liquid waste tank cars.

Liquids or slurries from the 1314-N Building in the 100 Area and the 340 Building in the 300 Area are unloaded at the 204-AR unloading facility.

1.5.4 Timeline

The following timeline represents the times and spans of different events that occurred during the lifetime of major Hanford plants in the 200-East and 200-West Areas. The plants were the main contributors of waste currently contained in SSTs. The following list of abbreviations and corresponding meanings are used on the timeline:

PUREX: Plutonium uranium extraction process

UO_3: Uranium trioxide

PFP: Plutonium finishing plant

RG-RB: Rubber glove - remote button line

RMA: Remote mechanical "A" line

RSE: Recuplex solvent extraction

RMC: Remote mechanical "C" line

PRF: Plutonium reclamation facility

PCB: Polychlorinated biphynels

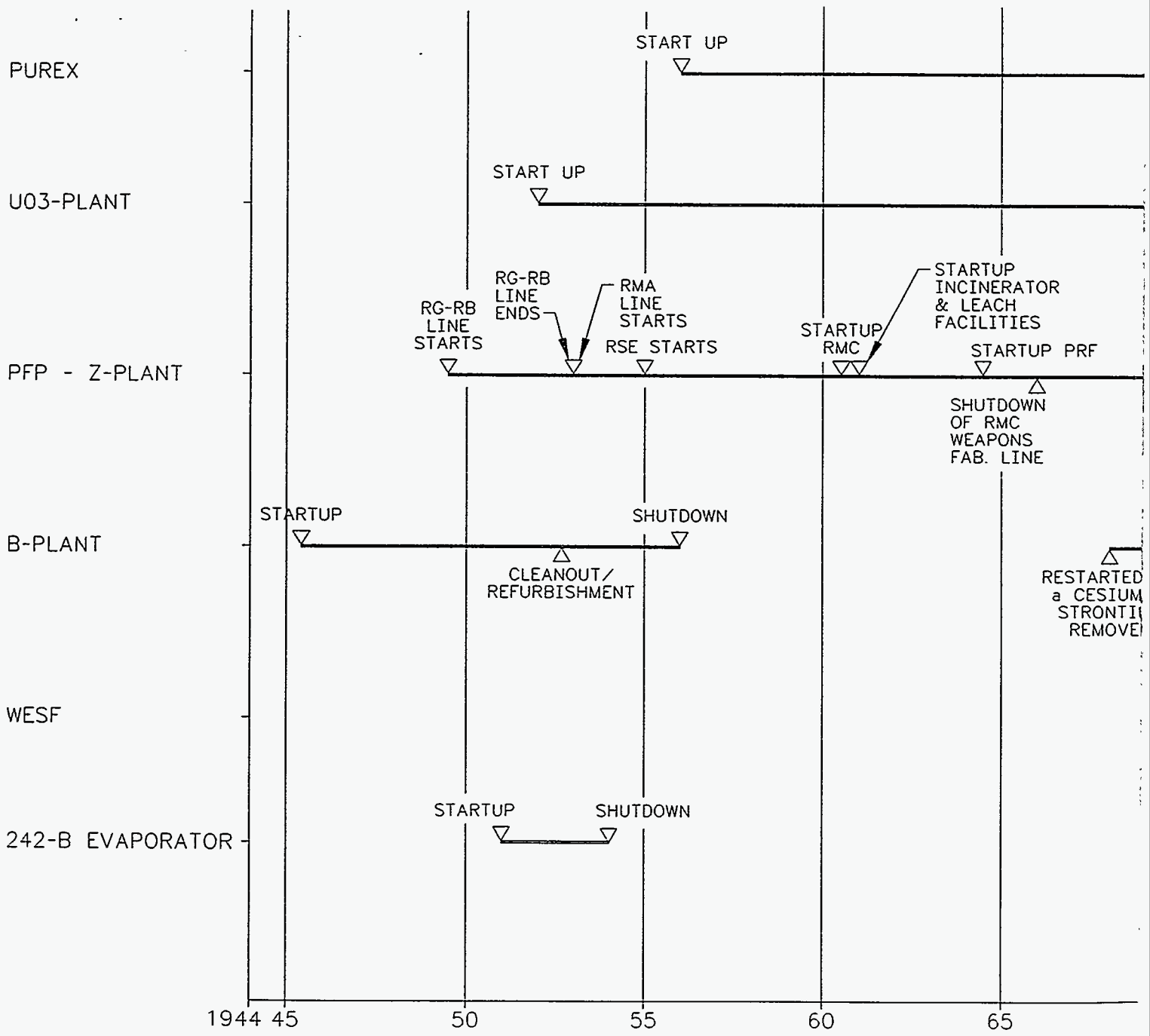
WESF: Waste encapsulation and storage facility

ITS: In-tank solidification (units 1 and 2)

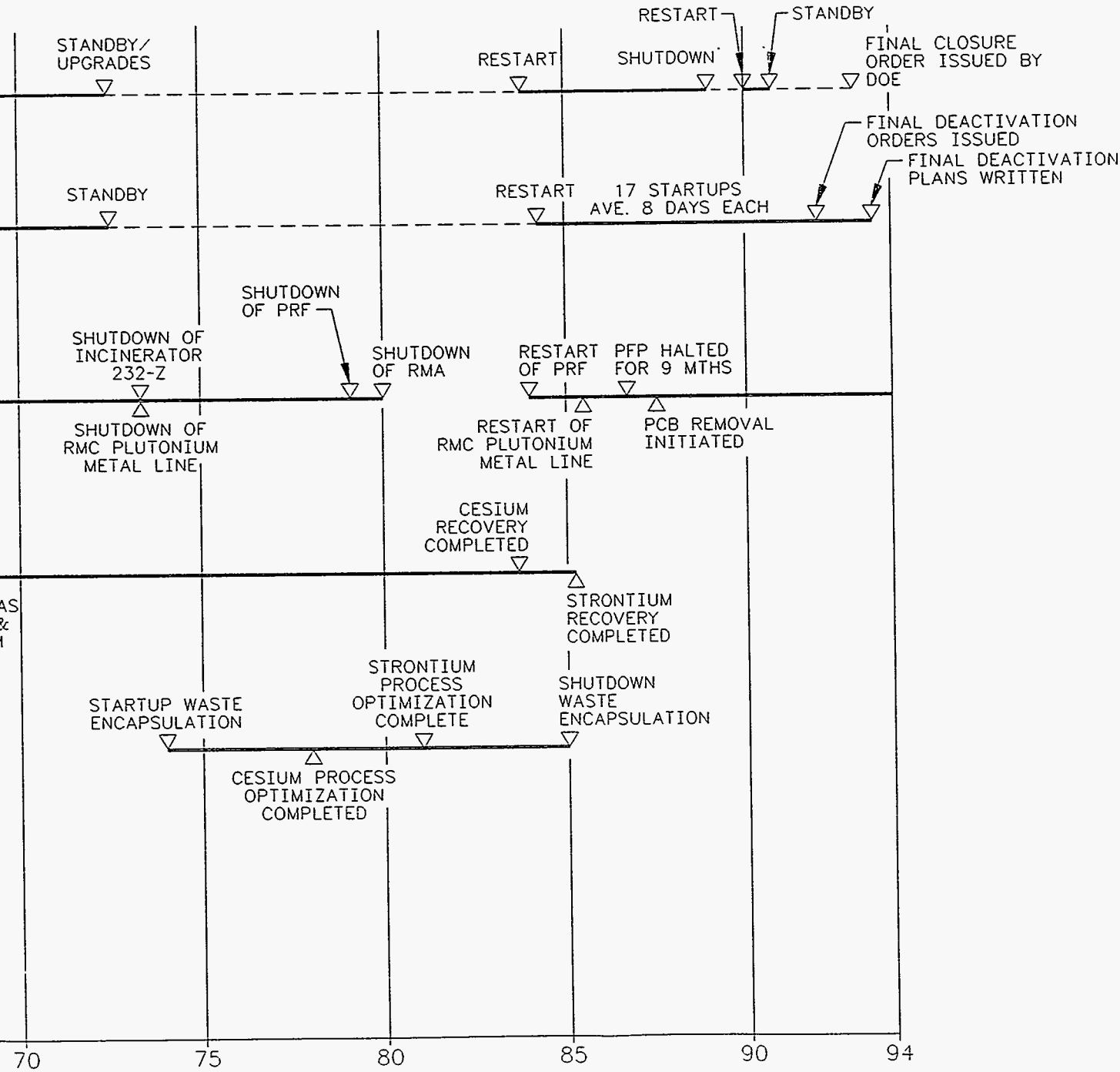
PWR: Pressurized water reactor

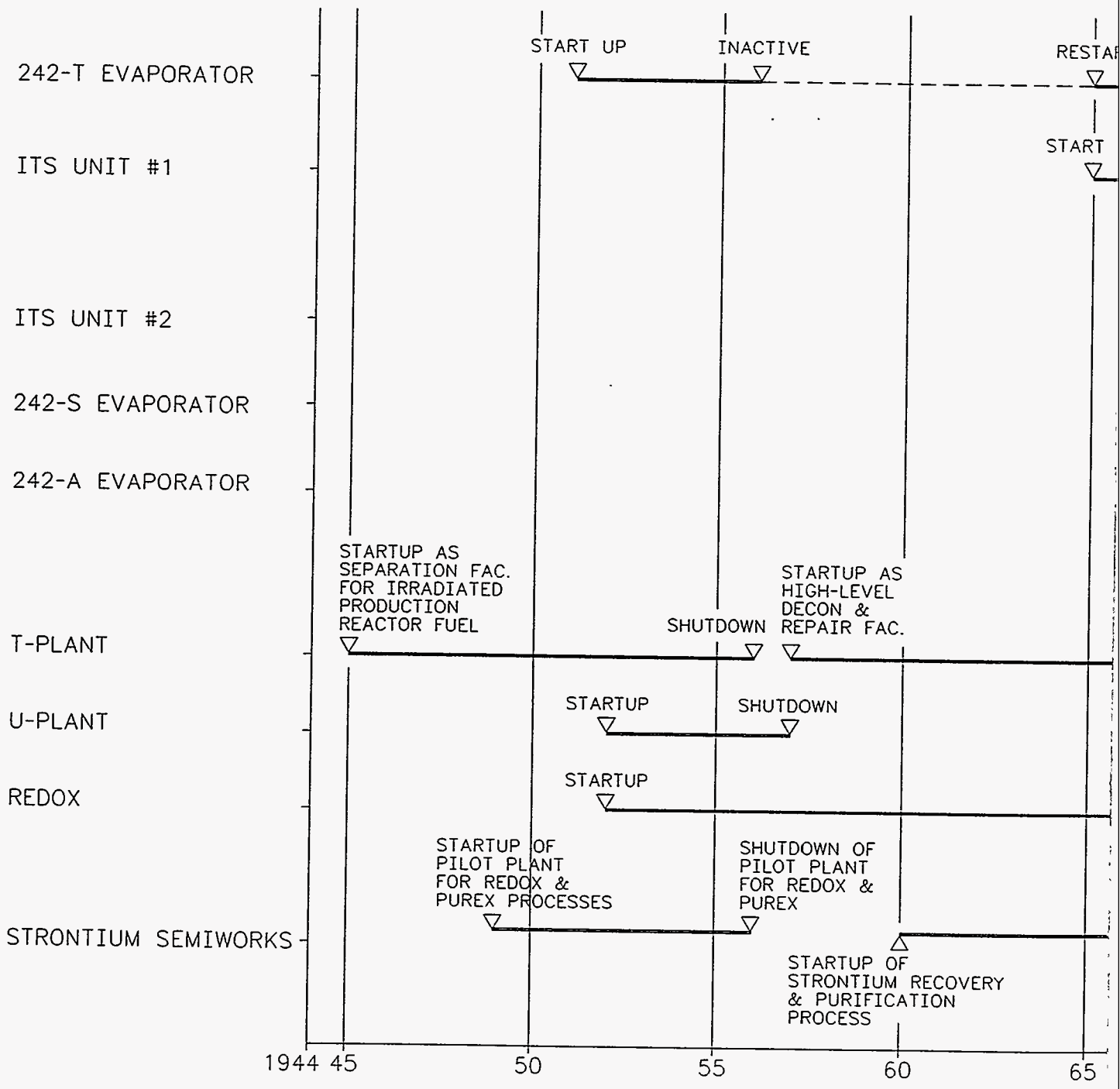
REDOX: Reduction oxidation process

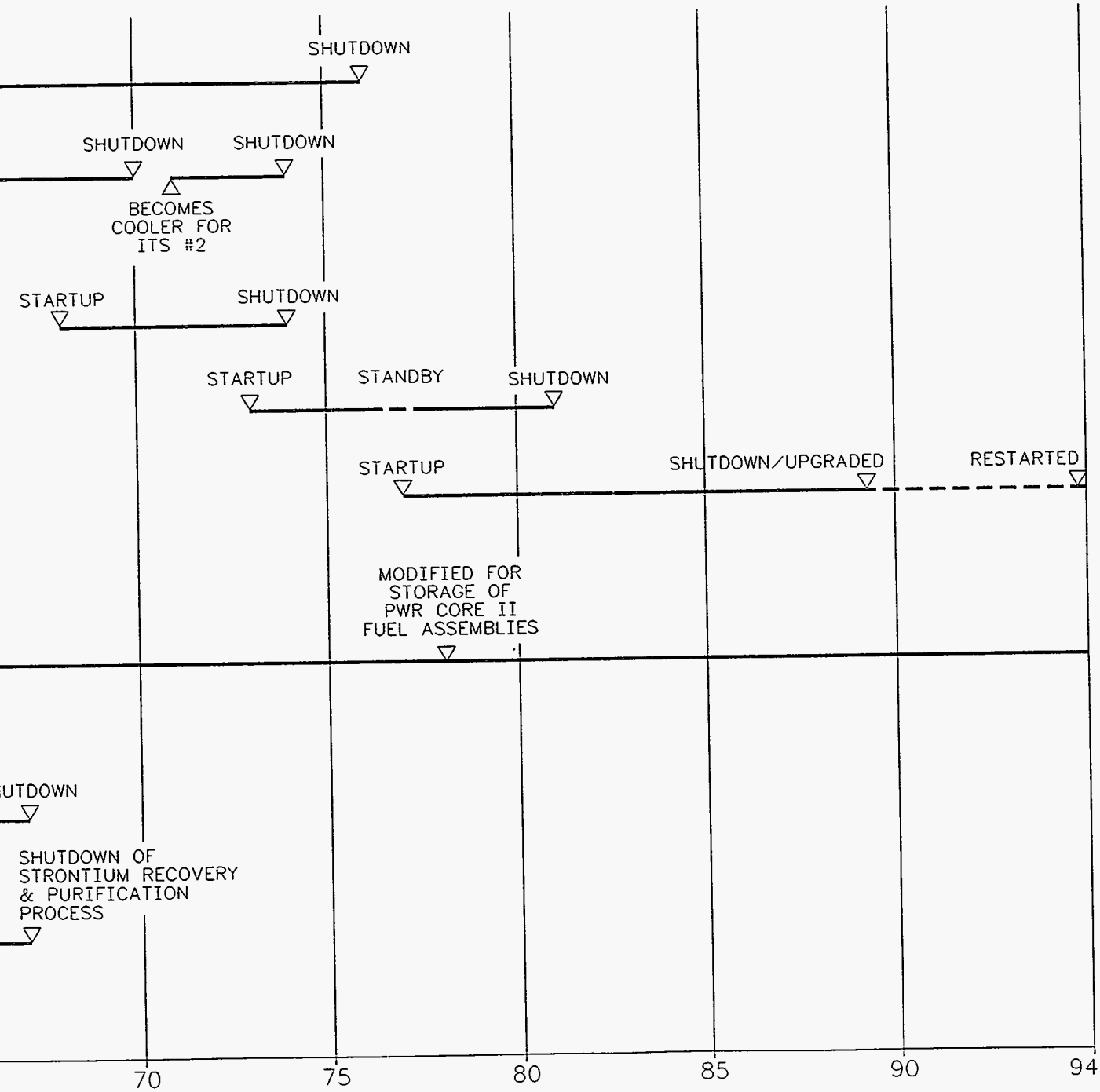
PROCESSES PRODUCING WASTE CONTAIN



ID IN 200 AREA TANK FARMS




242-T EVAPORATOR
START UP
INACTIVE
RESTAR
ITS UNIT #1
START
ITS UNIT #2
242-S EVAPORATOR
242-A EVAPORATOR
STARTUP AS SEPARATION FAC. FOR IRRADIATED PRODUCTION REACTOR FUEL
SHUTDOWN
STARTUP AS HIGH-LEVEL DECON & REPAIR FAC.
T-PLANT
U-PLANT
STARTUP
SHUTDOWN
REDOX
STARTUP
STARTUP OF PILOT PLANT FOR REDOX & PUREX PROCESSES
SHUTDOWN OF PILOT PLANT FOR REDOX & PUREX
STRONTIUM SEMIWORKS
STARTUP OF STRONTIUM RECOVERY & PURIFICATION PROCESS
1944 45
50
55
60
65


SHUTDOWN
SHUTDOWN
SHUTDOWN
BECOMES
COOLER FOR
ITS #2
STARTUP
SHUTDOWN
STARTUP
STANDBY
SHUTDOWN
STARTUP
SHUTDOWN/UPGRADED
RESTARTED
MODIFIED FOR
STORAGE OF
PWR CORE II
FUEL ASSEMBLIES
UTDOWN
SHUTDOWN OF
STRONTIUM RECOVERY
& PURIFICATION
PROCESS
70
75
80
85
90
94

1.6 Safety Issues

The safety issues that effect the tanks can be divided into two groups: watch list and non-watch list. The watch lists are listings of the tanks believed to pose potential safety hazards to the environment and the public. Non-watch list issues are of concern because they may impact the environment.

1.6.1 Watch List Safety Issues

Issues in these tanks were identified as "issues/situations that contain most necessary conditions that could lead to worker (onsite) or offsite radiation exposure through an uncontrolled release of fission products" under Public Law 101-510 , Section 3137, of the National Defense Authorization Act of Fiscal Year 1991 (i.e., the Wyden Amendment). As of October 1993, 45 SSTs and 6 double-shell tanks are on a watch list. In the NE quadrant, 21 of the 66 SSTs are on a watch list. The four watch list designations described in this report are: ferrocyanide, hydrogen/flammable gas, organic salts, and high-heat load. The following sections provide a general description and criteria of the different watch lists. For a more complete explanation, refer to the Hanford Site Tank Farm Facilities Interim Safety Basis (WHC 1993).

- **Ferrocyanide**
  A tank containing or believed to contain greater than 1,000 gram moles of ferrocyanide (dry basis) is on the Ferrocyanide Watch List.

- **Hydrogen and Flammable Gas**
  Most tanks were placed on the Hydrogen/Flammable Gas Watch List because of the potential to contain flammable gases rather than the verified presence of hazardous concentrations. Hydrogen/Flammable Gas Watch List tanks have been identified as unreviewed safety questions due to the concern of a flammable gas burn resulting in a radiological release.

- **Organic Salts**
  Tanks containing or believed to contain more than the equivalent of 10% by weight of sodium acetate or 3 wt% total organic carbon (TOC) on a dry basis received a watch list designation as in the Tank Farm Surveillance and Waste Status Summary Report (Hanlon 1993).

- **High-Heat Loads**
  Tanks with a heat load greater than 40,000 Btu/hr are designated as high-heat load tanks. Tank 241-C-106 is the only high-heat load tank on the High-Heat Load Watch List.

A tank that does not appear on a watch list but has a heat load less than 40,000 Btu/hr is considered a low-heat load tank by default.

The following table lists the tanks in the SW quadrant that appeared on a watch list as of November 1993. A current listing is published monthly in the Tank Farm Surveillance and Waste Status Summary Report (Hanlon 1993).

SW Quadrant SST Watch List Tanks

SST Tank	Category	SST Tank	Category
241-S-102	Hydrogen & Organic Salts	241-SX-109	Hydrogen, other tanks vent through it
-S-111	Hydrogen	-U-103	Hydrogen
-S-112	Hydrogen	-U-105	Hydrogen
-SX-101	Hydrogen	-U-106	Organic Salts
-SX-102	Hydrogen	-U-107	Hydrogen & Organic Salts
-SX-103	Hydrogen	-U-108	Hydrogen
-SX-104	Hydrogen	-U-109	Hydrogen
-SX-105	Hydrogen	-U-111	Organic Salts
-SX-106	Hydrogen & Organic Salts		

1.6.2 Non-Watch List Safety Issues

Tank leaks are a safety hazard because of the potential chemical and radioactive liquid releases to the ground. Corrosion is the main cause of tank leaks and stabilization, integrity, and intrusion prevention are discussed in the corrosion section of this report. Criticality, tank bumps, and toxic vapor releases are other safety issues that do not require a watch list designation and/or continual monitoring under the Wyden Amendment.

- **Corrosion**

Corrosion is believed to be caused by localized or general reduction in SST mild carbon liner thickness. Localized liner thickness reduction is caused by three types of corrosion: pitting corrosion, stress corrosion cracking , and crevice cracking. General liner thickness reduction may be caused by uniform corrosion.

The SSTs were removed from service on or before November 21, 1980 and no longer accept wastes. When the SSTs are deactivated, an effort is made to minimize potential leaks into the earth by reducing the liquid waste contained in the SSTs. Primary stabilization is the first deactivation process of removing the supernatant or free liquid above the solid wastes within the SSTs. Supernatant is removed by turbine or jet pumps in a saltwell system, low-volume submersible pumps, or in situ drying. In

saltwell systems, the liquid is pumped from the waste through a pipe screen in a manner similar to ground water pumping. Tanks with less than 50,000 gal of drainable interstitial liquid and less than 5,000 gal of supernatant liquid are known as interim stabilized tanks. Liquid waste is sent to the evaporator/crystallizer concentrating facilities and the concentrated waste is deposited into double-shell tanks (DSTs).

Eventually, SSTs will be interim stabilized and prepared for intrusion prevention (formerly known as interim isolation). Stabilization efforts will be completed prior to final closure of the SSTs. Partial isolation of the tanks includes sealing the piping and risers that are not required for pumping or other stabilization methods. Intrusion prevention is the total physical and administrative effort involved in sealing inactive storage tank accesses against liquid additions while still allowing for long-term surveillance.

There are 67 assumed/confirmed leaking SSTs in the 200 East and West Areas with 11 in the SW quadrant. The remaining 33 tanks in the SW quadrant are sound. There are 11 interim stabilized tanks in the SW quadrant and 33 noninterim stabilized tanks. Intrusion prevention is in place for 18 SSTs in the SW quadrant, and 25 tanks are at the partial interim isolation stage.

- **Criticality**

Criticality is an inadvertent self-sustained nuclear chain reaction. Studies have concluded that a nuclear criticality accident in the tank farms is probably not an imminent risk. However, definitive knowledge of the fissile material inventory and distribution within the tanks is lacking. Therefore, criticality remains a safety issue. The key criticality radionuclide on the Hanford Site is plutonium. A fissile material criticality prevention specification of 125 kg has been placed on the tanks. An unusual occurrence report involving nuclear criticality was filed in June 1991 for Tank 241-C-104. An inventory of 56 kg was calculated later which indicated a low probability for criticality. Criticality is considered an unreviewed safety question but is not affected by the Wyden Amendment according to the Hanford Site Tank Farm Facilities Interim Safety Basis (WHC 1993).

- **Tank Bumps**

Tank bumps have been an issue at Hanford since 1953 with the last bump occurring in 1968. The A Tank Farm is known to have had tank bumps. Tank bumps occur when heat from the hotter solid waste in the lower portion of the tank is suddenly transferred to a near boiling supernatant. Mixing can be achieved by "roll over" or sudden restart of airlift circulators which results in rapid fluid vaporization and a sudden internal tank pressurization that causes a bump. The three documented bumps that have occurred were due to airlift circulator failure followed by rapid startup of the airlift circulators which causes rapid mixing. Two key factors have been identified to control bumping: liquid and solid temperatures must be maintained as far away from the local boiling point as possible

and airlift circulators and ventilation systems must be operated as designed. A tank bump is extremely unlikely if airlift circulators and vent flow rates are maintained at 500 to 1,000 ft^3/min per tank and 50 ft^3/min to the airlift circulators, according to the Hanford Site Tank Farm Facilities Interim Safety Basis (WHC 1993).

- **Toxic Vapor Releases**

The safety concern of toxic vapor releases have been analyzed recently at Hanford. Odors have been released from the C Tank Farm in the NE quadrant and from Tank 241-SY-101. Tank 241-C-105 has experienced releases that have resulted in worker exposure. If toxic vapors are determined to exist in a tank, three safety recommendations should be followed: determine a release rate, determine offsite and onsite exposure concentrations, and determine if the release is a spray effect. The entire issue of toxic gas releases at the tank farms has just begun to be understood, Hanford Site Tank Farm Facilities Interim Safety Basis (WHC 1993).

2.0 S Tank Farm

2.0.1 S Tank Farm History

The S Tank Farm was constructed between 1950 and 1951 under specification HW-3937. It is located in the 200-West Area north of 13th Street and the SX Tank Farm, south of 16th Street, and west of Beloit Avenue. The S Tank Farm contains 12 type III tanks constructed to the second-generation tank design. The design is similar to the original 75-ft diameter tanks but with an increased operating depth. The tanks have a 12-in. dish bottom, 4-ft knuckle radius, 75-ft diameter, 758,000-gal volume, and 23-ft operating level. The tanks were designed with a primary steel liner and a concrete dome with various risers. The tanks are covered with approximately 8 ft of overburden. Various coatings and materials were used to seal the inside and outside of the tank liners, domes, risers, and manholes. Cascade overflows are connected from Tank 241-S-101 to -102 to -103, Tank 241-S-104 to -105 to -106, Tank 241-S-107 to -108 to -109, and Tank 241-S-110 to -111 to -112. Tanks 241-S-103, -106, -109, and -112 were designed to overflow to cribs. All tanks overflow at a height of 285.5 in. or approximately 23.8 ft. The tanks were designed to withstand pH values of 8 to 10, and fluid temperatures up to 220°F. The tanks were not designed with a boiling period.

Ten tanks contain non-complexed waste and two tanks contain double-shell slurry feed. Two tanks are on the Hydrogen Watch List only, one tank is on the Hydrogen Watch List and the Organic Salts Watch List, and nine tanks are on the Low-Heat Load Nonwatch List. The S Tank Farm received several types of REDOX plant waste in all four cascades. In 1953, surface condensers were installed that self-concentrated the wastes in the first two cascades by disposing of vapor condensate through cribbing. Further concentration in most S Tank Farm tanks was achieved with the reduced pressure 242-S Evaporator/Crystallizer during the 1970s.

The 1993 aerial photograph shows tank and valve pit locations for the S Tank Farm. Arrows between the tanks show the direction of cascade overflows.

2.0.1.1 S Tank Farm Waste History

After startup of the 12 tanks in the S Tank Farm in 1951, several types of REDOX Plant wastes were received. The tanks were almost filled with liquids by 1953; however, the wastes started to self-boil in the summer of 1952 which caused them to concentrate. To provide more tank space in 1953, surface condensers that concentrated the wastes in the first two cascades by disposing of vapor condensate to cribs were installed. Liquid levels in the tanks fluctuated for the next 20 years, then the tanks filled rapidly with solids. The change can be attributed to the startup of the 242-S Evaporator/Concentrator because the tanks were used as receivers for evaporator waste products. The waste materials are concentrated solutions and the difference between solid and liquid

may reflect only a small change in temperature or concentration. When the tanks were filled with solids, little could be done to increase their capacity with the technology that had been developed. The tanks were removed from service in the late 1970s or early 1980s.

2.0.1.2 S Tank Farm Temperature History

Each of the 12 tanks within the S Tank Farm contain one thermocouple tree designed to hold 6 to 14 thermocouple probes. Tanks 241-S-102, -111, and -112 are on the Hydrogen Watch List and Tank 241-S-102 is on the Organic Salts Watch List. The watch list tanks have weekly temperature monitoring requirements and the remaining tanks have semiannual temperature monitoring requirements. Historical temperature information is also available between 1952 and 1973. The original historical temperature data, for some of the tanks, specified either sludge or supernatant temperatures. To integrate unusual delineations of the temperature monitoring location, the data has been evaluated as the highest daily temperature, or the average temperature if there are multiple daily readings.

2.0.1.3 S Tank Farm Integrity

The twelve 750,000-gal tanks in the S Tank Farm are out of service. As of November 1993, only Tank 241-S-104 was categorized as an assumed leaker. Tank integrity surveillance methods include liquid observation wells, surface level measurements, and leak detection drywells. If a discrepancy is observed as a result of the surveillance activities; notification, reporting, documentation, and investigation of the surveillance anomaly (data outside the criteria limits, changing trend, or departure from steady state) is conducted in accordance with the appropriate procedure. The first plan of action is to determine if the discrepancy is caused by something other than a tank leak or intrusion.

All tanks in the S Tank Farm, except for Tanks 241-S-104 and -107, have liquid observation wells. The wells measure the interstitial liquid levels and are monitored weekly with a neutron probe and on request with a gamma probe. The maximum deviations from the established baseline values are a 0.3-ft increase and a 0.4-ft decrease.

Surface level monitoring for manual measurement devices in the S Tank Farm is conducted daily or quarterly depending on the tank. The maximum allowable decrease from an established baseline is 0.5, 1.0, 2.0, or 10.0 in. or no criterion depending on the tank. The maximum allowable increase from an established baseline is 2 or 3 in. depending on the tank. The no criterion designation was established for waste tanks containing sludge with little or no solution. For these tanks, a surface level decrease is not a valid means of leak detection because the level may decrease due to sludge slumpage (especially during saltwell pumping), tape flushes,

and perforation of the exposed sludge at the point of probe contact. Tanks that have a saltcake surface and are equipped with an automatic Food Instrument Corporation gauge may have a 10-in. decrease criteria that was established to alert operating personnel if the gauge unwinds in search of a conductive liquid surface.

The S Tank Farm has 72 leak detection wells (i.e., drywells) that were drilled from 1944 to 1976; three are not tank specific. Drywell 40-00-06 had readings greater than the background radiation of 50 c/s. The drywells in the S Tank Farm are monitored monthly or on request with scintillation or Geiger-Mueller probes. Increased activity action criteria for monitoring conducted with scintillation probes are as follows: if the normal readings are less than 200 c/s, the readings must double and exceed 200 c/s; if the normal readings are greater than 200 c/s, the readings must double. Increased activity action criteria for monitoring conducted with Geiger-Mueller probes are as follows: if the normal readings are between 16 and 1,000 c/s, the readings must triple; if the normal readings are greater than 1,000 c/s, the readings must double. Drywells associated with assumed leaking tanks are monitored for contamination migration and the criteria limits apply only where new radiation peaks occur. If increasing drywell activity has not exceeded the action criteria stated above, appropriate personnel will determine if increased monitoring is required.

The S Tank Farm layout includes the peak drywell information, tank integrity information, and tank status information. The drywell information is based on summarized data prior to 1987 and data collected from January 1990 to the present.

2.0.1.4 S Tank Farm Historical Sample Analysis Data

The major waste products from the REDOX process are sodium nitrate, sodium aluminate, sodium silicate, chromium hydroxide, iron hydroxide, and zirconium oxide. The major evaporator product is sodium nitrate with minor amounts of phosphates, carbonates, and nitrites.

Test results from supernatant, sludge, and saltcake waste samples have been compiled to make up a historical collection or library. The data were selected from the collection for use in this report. In most cases, one sample was obtained and analyzed at a time which means that measurement variability cannot be assessed in the analytical procedures or in the sampling techniques. The presence or lack of homogeneity in the tanks cannot be evaluated from the data available.

Wastes were added to and removed from the tanks continuously until the late 1970s or early 1980s when the tanks were removed from service. Therefore, samples taken after activity ceased are probably more representative of the tank contents than earlier samples, although that may not always be true. The activities

involved have to be considered to determine the value of each sample.

Samples were usually analyzed for a specific purpose such as to discover if the wastes in the tank could be sluiced, pumped, or concentrated further, or if supernatant could be sent to a crib. The specific nature of the samples often resulted in a limited look at the chemicals that may be in the tank. For these reasons, the data provide less information than desired in most cases. However, when used with caution, the data provides some useful information for characterization of tank contents.

2.0.2 Current Status of S Tank Farm

Tanks 241-S-102, -111, and -112 in the S Tank Farm were added to the watch list officially in January 1991. The three tanks are unreviewed safety questions due to the potential consequence of a radiological release resulting from a flammable gas burn. Previous safety studies did not investigate this potential. Tank 241-S-102 is identified on the Organic Salts Watch List and is a safety concern because high organic concentration in the tank could support an exothermic reaction at elevated temperatures. Therefore, releases of high-level waste would be possible. Organic Salts Watch List tanks must be monitored for temperature on a weekly basis. Non-watch list low- heat load tanks (<40,000 Btu/hr) include Tanks 241-S-101, -103, -104, -105, -106, -107, -108, -109, and -110. Low-heat load tanks are monitored for temperature on a semiannual basis. The waste volume totals 5,688,000 gal which is comprised of 54,000 gal of supernatant; 549,000 gal of saltslurry; 4,046,000 gal of saltcake; 175,000 gal of unknown waste; and 864,000 gal of sludge.

2.0.2.1 S Tank Farm In-Tank Photographs

The S Tank Farm photographs usually were taken from a side riser with the camera aimed toward the other side. Pictures of the entire inside surface area were taken and the photos were assembled into a collage portraying the interior of each tank. Most photographic collages provide a good representation of present tank contents because, except where noted, no activity has occurred to affect the tank since the photographs were taken.

2.1 Tank 241-S-101

2.1.1 241-S-101 Tank History

2.1.1.1 Waste History Tank 241-S-101

The waste history narrative in the following paragraph is from "A History of the 200 Area Tank Farms" (Anderson 1990). Tank 241-S-101 was filled with waste from the REDOX facility which it contained from the third quarter of 1953 until the third quarter of 1973. From the fourth quarter of 1973 until the third quarter of 1974, the tank received numerous types of waste from the U, S, and SX Tank Farms. The tank received bottoms and recycle streams from the 242-S Evaporator/Crystallizer from the fourth quarter 1974 until the second quarter of 1976. The tank contained various types of evaporator waste until the addition of partial neutralized feed in the second quarter of 1978. In the first quarter of 1980, the waste was classified as double-shell slurry feed. Presently, the waste is classified as non-complexed.

The waste history narrative of the primary additions that follow in this paragraph are from the "Waste Status and Transaction Record Summary" (Agnew 1994). Tank 241-S-101 received REDOX waste from the third quarter of 1953 until the second quarter of 1954. From the first quarter of 1954 until the third quarter of 1955, the tank received REDOX cladding waste. The tank received wastewater from the third quarter of 1955 until the first quarter of 1974.

Tank 241-S-101 was removed from service in 1980 and was partially isolated in December 1982. The tank level was adjusted in September 1980. In-tank photographs were taken on the following dates: June 1971, several in 1976, January 1977, two in 1978, July 1979, two in 1980, April 1983, and March 1988. The latest maximum temperature reading from July 1993 is 115°F. Sketch ES-TKS-E67, which shows a graphical representation of the Tank 241-S-101 level history, and the historical waste level data used to make it are in Appendix C. Three pH readings of 14.0 in September 1974, 13.6 in November 1975, and 13.4 in December 1991 are shown on the sketch. Currently, the tank is categorized as sound and is non-stabilized.

2.1.1.2 Temperature History 241-S-101

There are six thermocouple probes on a single thermocouple tree in Tank 241-S-101 with elevations available for each individual probe in riser 14. Data for thermocouples 1,3, and 5 span from January 1988 to March 1989 and thermocouples 2,4, and 6 span from January 1988 to July 1993. All thermocouples show similar trends with thermocouple 6 showing an overall cooler temperature of approximately 20°F. Review of the Tank 241-S-101 level history readings indicates that probes 1 through 5 were within or near the solid level and probe 6 was in the vapor space.

The mean temperature of the first electronically available data set taken from all six thermocouples is 120°F. A sum of the

squares regression line fit for thermocouple 1, starting in 1988, shows a positive slope of 0.098 ± 14°F. A sum of the squares regression line fit for probes 2 through 6, starting in 1988, shows a near zero slope ± 7°F. From January 1988 to July 1993, the median temperature was 124°F with a minimum of 90°F and a maximum of 169°F. As of November 1993, thermocouples, 1,3,5,and 6 were out of service and a work order was issued. Tank 241-S-101 has a semiannual temperature monitoring requirement.

Plots of thermocouple readings for Tank 241-S-101 are in Appendix D.

2.1.1.3 Integrity of Tank 241-S-101

Tank 241-S-101 is categorized as sound and is partially isolated. The Tank 241-S-101 surface level is monitored with a Food Instrument Corporation gauge. The gauge is set in the intrusion mode for a 1-in. increase. If the Food Instrument Corporation gauge fails, manual field measurements will be conducted quarterly. The maximum allowable increase from the 162.3-in. baseline is 3 in. There is no criterion for a decrease. Due to the Food Instrument Corporation gauge setting, a limited number of surface level measurements are available. A figure in Appendix E graphically represents the surface level measurements taken from May 1992 through June 1993. The readings range from 162 to 160 in.

The Tank 241-S-101 liquid observation well is located in riser 2. The tank is monitored weekly with a neutron probe and on request with a gamma probe. The maximum deviations from the established baseline are a 0.3-ft increase and a 0.4-ft decrease. Sketch ES-TKS-E67 in Appendix C is a graphical representation of the liquid observation well data.

Of the five drywells identified for Tank 241-S-101, none are considered active.

2.1.1.4 Historical Sample Analysis Data for Tank 241-S-101

The tank was used as a receiver for fresh feed en route to the 242-S Evaporator system. Data are included in this report for four sets of samples from Tank 241-S-101 that were analyzed between September 21, 1971 and December 5, 1975. The July 1975 sample was dark brown sludge which had the consistency of soft mud. The analysis indicated that the material sampled was primarily a nitrate and an aluminum compound. The two other samples analyzed were primarily liquid and most liquid was pumped from the tank in 1980. The results of these analyses will be found in Appendix H.

2.1.2 Current Status of Tank 241-S-101

Tank 241-S-101 entered service in July 1953 and currently stores 427,000 gal of waste. The waste is comprised of 12,000 gal of supernatant; 83,000 gal of saltslurry; 121,000 gal of saltcake;

and 211,000 gal of sludge with 90,000 gal of pumpable liquid remaining. The tank is identified as a low-heat load tank, is passively ventilated, and is categorized as sound, with partial interim isolation completed. Tank 241-S-101 is equipped to cascade to Tank 241-S-102 and is first in the three-tank cascade series. A plan view and tank cross-section are in Appendix G that depict the approximate waste level and riser configuration. Tank 241-S-101 has 12 risers and three are available for use: one 4-in. riser (no. 4) and two 12-in. risers (no. 7 and no. 8).

2.1.2.1 Waste Layer Volume Approximation for Tank 241-S-101

A comparative analysis of all layer approximations for the entire tank farm and the data used to derive the tank layer approximations are located in Appendix K.

2.1.2.2 In-Tank Photograph 241-S-101

In the Tank 241-S-101 picture, most of the waste appears to be solidified (see Appendix I). A few small pools of liquid remain on the surface. The waste in the center of the tank looks like the dark brown sludgy material which was sampled in 1975. The crust that formed around the outside of the tank looks like saltcake. A manual tape, Food Instrument Corporation level probe, temperature probe, and liquid observation well are all visible and labelled. A discarded level measurement tape is lying on the waste surface at the base of the liquid observation well. Recent measurements indicate that this tank holds about 430,000 gal of waste and the waste measures about 14 ft deep. There have been no changes in the tank after the pictures were taken in 1988 according to the waste level history diagram.

2.1.3 Synopsis Tank 241-S-101

(To be completed)

2.2 Tank 241-S-102

2.2.1 241-S-102 Tank History

2.2.1.1 Waste History Tank 241-S-102

The waste history narrative in the following paragraph is from "A History of the 200 Area Tank Farms" (Anderson 1990). Tank 241-S-102 was filled with waste from the REDOX facility from the third quarter of 1953 to the second quarter of 1965. From the third quarter of 1973 until the first quarter of 1976, the tank was used for feed from the 242-S Evaporator/Crystallizer and contained evaporator bottoms waste. In the second and third quarters of 1976, the tank received bottoms and recycle streams from the 242-S Evaporator/Crystallizer. From the fourth quarter of 1976 until the first quarter of 1978, the tank served as a low-heat evaporator feed tank. In the second quarter of 1978, the tank was designated as a future solids receiver and contained non-complexed waste. During the first, second, and third quarters of 1979, the tank contained partial neutralized feed. The waste was classified as double-shell slurry feed in the fourth quarter of 1979. Presently, the waste is classified as double-shell slurry feed.

The waste history narrative of the primary additions that follow in this paragraph are from the "Waste Status and Transaction Record Summary" (Agnew 1994). Tank 241-S-102 received wastewater from the third quarter of 1973 until the second quarter of 1976. During the third and fourth quarters of 1979, the tank received a HNO_3 / $KMnO_4$ solution.

The tank was removed from service and labeled inactive in 1980. The tank was partially isolated in December 1982. The tank level was adjusted in October 1979 and August 1980. In-tank photographs were taken on the following dates: June 1971, October 1974, July 1975, several in 1976, November 1977, April 1979, several in 1980, two in 1983, and March 1988. Sketch ES-TKS-E68, which shows a graphical representation of the Tank 241-S-102 level history, and the historical waste level data used to make it are in Appendix C. Nineteen pH readings are listed on the sketch: >14.0 in November 1973, 11.9 in December 1973, 11.4 in December 1973, 12.4 in May 1974, 12.6 in June 1974, 13.2 in September 1974, >12.8 in October 1974, 14.0 in December 1974, 13.3 in February 1975, 13.2 in September 1975, 12.7 in July 1975, 12.2 in September 1975, 12.7 in October 1975, 14.0 in November 1975, 13.7 in November 1975, 12.8 in November 1975, 13.0 in January 1976, 13.2 in February 1976, and >14.0 in March 1980. The latest maximum temperature reading from October 1993 is 106°F. Currently, the tank is categorized as sound and is non-stabilized.

2.2.1.2 Temperature History 241-S-102

There are six thermocouple probes on a single thermocouple tree in Tank 241-S-102 with elevations available for each probe. The data for all thermocouples span from January 1988 to December

1993. The thermocouples show similar trends with thermocouple 6 showing an overall cooler temperature of approximately 20°F. Review of the Tank 241-S-102 level history readings indicates that thermocouple probes 1 through 5 were in or near the solids level and probe 6 was in the vapor space.

The mean temperature of the first electronically available data set taken for the six thermocouples is 111°F. A sum of the squares regression line fit for the six thermocouples, starting in 1988, shows a slightly negative, near zero slope ± 2.75°F. A common outlying point is apparent for thermocouples 1 through 5 in February 1988. On the plot for thermocouple 6, minor seasonal temperature undulations begin to appear in January 1991. From January 1988 to December 1993, the median temperature was 105.85°F with a minimum of 71.2°F and a maximum of 122°F. Tank 241-S-101 has weekly temperature readings because it is on the Hydrogen Watch List and the Organic Salts Watch List.

Plots of thermocouple readings for Tank 241-S-102 are in Appendix D.

2.2.1.3 Integrity of Tank 241-S-102

Tank 241-S-102 is categorized as sound, and is partially isolated. The Tank 241-S-102 surface level is monitored with a Food Instrument Corporation gauge. If the Food Instrument Corporation gauge fails, manual field measurements will be conducted quarterly. The maximum allowable deviation from the 202.3-in. baseline is a 3-in. increase or a 10-in. decrease. Appendix E contains a figure that graphically represents the surface level measurements from January 1991 to the present. The readings range from 207.5 to 202.2 in. and the plot indicates an increasing trend. The maximum allowable waste level is 205.3 in.

The Tank 241-S-102 liquid observation well is located in riser 5. The tank is monitored weekly with a neutron probe and on request with a gamma probe. The maximum deviations from the established baseline are a 0.3-ft increase or a 0.4-ft decrease. Sketch ES-TKS-E68 in Appendix C is a graphical representation of the liquid observation well data.

Eight drywells are identified for Tank 241-S-102. Drywells 40-02-03 (active prior to 1990, current readings > 200 c/s) and 40-02-08 (active prior to 1990, current readings < 200 c/s) have or had readings greater than the 50 c/s background reading.

Graphical representations of the drywell data for the active drywells from January 1990 to the present are in Appendix F. The graphs include the peak c/s (some wells have multiple peaks), the depth at which the peak occurred, and the date of the reading.

2.2.1.4 Historical Sample Analysis Data for Tank 241-S-102

Data have been tabulated for more than one hundred analytical evaluations of the tank contents that were performed from September 21, 1971 to March 28, 1980. The tank was a slurry receiver for the 242-S Evaporator. The earliest samples contained mostly nitrates but the others are difficult to generalize. Many samples were a yellow liquid but some were mixed liquids and solids or other colors such as green and amber. Later samples contained nitrates, nitrites, aluminates, and phosphates. Samples taken in 1979 and 1980 contained the same compounds as well as hydroxide, sulfate, and carbonate, which are all apparently sodium salts. Results from these analyses are found in Appendix H.

2.2.2 Current Status of Tank 241-S-102

Tank 241-S-102 currently stores 549,000 gal of waste. The waste is comprised of 341,000 gal of saltslurry; 204,000 gal of saltcake; and 4,000 gal of sludge with 208,000 gal of pumpable interstitial liquid remaining. The tank is on the Hydrogen Watch List and the Organic Salts Watch List, is passively ventilated, and is categorized as sound with partial interim isolation completed. Tank 241-S-102 is equipped to cascade to Tank 241-S-103 and is second in the three-tank cascade series. A plan view and tank cross-section in Appendix G depict the approximate waste level and riser configuration. Tank 241-S-102 has 12 risers and two 12-in. risers, no. 6 and no. 7, are available for use.

2.2.2.1 Waste Layer Volume Approximation for Tank 241-S-102

A comparative analysis of all layer approximations for the entire tank farm and the data used to derive the tank layer approximations are located in Appendix K.

2.2.2.2 In-Tank Photograph 241-S-102

The picture of the Tank 241-S-102 waste surface in Appendix I displays an interesting variety of different textures and colors. Most of the center of the tank appears to be filled with solids that are beginning to form a crust. The crust is forming on a liquid surface which indicates that liquid exists to an indeterminate depth in much of the tank. The crust has formed continuously around the perimeter of the tank. The material in the center of the tank appears to be comprised of a variety of different compounds or a least of different crystalline structures. Chemical analyses in 1979 and 1980 suggested that the tank contained sodium hydroxide, sodium sulfate, sodium carbonate, sodium phosphate, and possibly sodium aluminate. The manual tape, level gauge, temperature probe, and a saltwell screen are all visible and labelled. Manholes, risers, and nozzles are clearly seen in the picture. The tank was photographed in 1988 and there have been only slight changes in the tank since then according to the level history diagram. The tank contains approximately 550,000 gal of waste and it is filled to a depth of about 17 ft.

2.2.3 Synopsis Tank 241-S-102

(To be completed)

2.3 Tank 241-S-103

2.3.1 241-S-103 Tank History

2.3.1.1 Waste History Tank 241-S-103

The waste history narrative in the following paragraph is from "A History of the 200 Area Tank Farms" (Anderson 1990). Tank 241-S-103 was filled with waste from the REDOX facility from the fourth quarter of 1953 until the fourth quarter of 1973. From the fourth quarter of 1973 until the second quarter of 1976, the tank received bottom and recycle streams from the 242-S Evaporator/Crystallizer. In the fourth quarter of 1976, the tank became a low-heat evaporator dump tank containing evaporator feed waste. Between the second quarter of 1978 and the fourth quarter of 1980, the tank was classified as having non-complexed, partial neutralized feed and double-shell slurry feed wastes. Presently, the tank contains double-shell slurry feed waste.

The waste history narrative of the primary additions that follow in this paragraph are from the "Waste Status and Transaction Record Summary" (Agnew 1994). Tank 241-S-103 received wastewater during the second quarter of 1955. From the first quarter of 1978 until the fourth quarter of 1980, the tank received a HNO_3 / $KMnO_4$ solution.

The tank was removed from service in 1980 and was partially isolated in December 1982. The tank level was adjusted in November 1978, October 1979, and November 1980. In-tank photographs were taken on the following dates: July 1971, May 1978, April 1979, April 1981, January 1984, and June 1989. Sketch ES-TKS-E69, which shows a graphical representation of the Tank 241-S-103 level history, and the historical waste level data used to make it are in Appendix C. Four pH readings are shown on the sketch: 11.8 in January 1974, >14.5 in October 1974, 11.0 in October 1974, and 13.6 in October 1991. The latest maximum temperature reading from July 1993 is 85°F. Presently, the tank is categorized as sound and is non-stabilized. The tank has what appears to be a saltcake buildup in the center of the tank that creates an uneven surface. The buildup is probably the reason for the liquid observation well (LOW) readings being higher than the waste level readings.

2.3.1.2 Temperature History 241-S-103

Seven thermocouple probes are on a single thermocouple tree in Tank 241-S-103 riser 4. Elevations are available for all thermocouple probes except probe 7. All thermocouple plots show similar trends with slight cooling of 10°F between thermocouples 1 and 6. Temperature data from thermocouple probes 2,3,5, and 6 span from January 1988 to July 1993. Thermocouple probe 1 temperature data span from January 1988 to February 1993 and thermocouple probe 4 temperature data span from January 1988 to January 1991. Thermocouple probe 7 contains only one temperature data point in November 1988. Review of the Tank 241-S-103 level history readings

for the thermocouple tree indicate that probes 1 through 4 were within or near the solids level and probes 5 through 7 are in the tank vapor space.

The mean temperature of the first electronically available data set taken from thermocouples 1 through 6 is 87.8°F. A sum of the squares regression line fit for the thermocouples, starting in 1988, shows a slightly negative near zero slope ± 7.5°F. Outlying points are apparent for thermocouple 1 in July and August 1988 and thermocouple 2 in July 1988. From January 1988 to July 1993, the median temperature was 87°F with a minimum of 69.5°F and a maximum of 130°F. Tank 241-S-103 has a semiannual temperature measurement requirement.

Plots of thermocouple readings for Tank 241-S-103 are found in Appendix D.

2.3.1.3 Integrity of Tank 241-S-103

Tank 241-S-103 is categorized as sound and is partially isolated. The Tank 241-U-103 surface level is monitored with a Food Instrument Corporation gauge. If the Food Instrument Corporation gauge fails, manual field measurements will be conducted daily. The maximum allowable deviation from the established 104.8-in. baseline is a 2-in. increase or a 2-in. decrease. A figure that graphically represents the surface level measurements from January 1991 to the present is in Appendix E. The surface level has an increasing trend with readings ranging from 105.1 to 102.2 in.

The Tank 241-S-103 liquid observation well is located in riser 2. The tank is monitored weekly with a neutron probe and on request with a gamma probe. The maximum deviation from the established baseline is a 0.3-ft increase or a 0.4-ft decrease. Sketch ES-TKS-E69 has a graphical representation of the liquid observation well data.

Seven drywells are identified for Tank 241-S-103. Drywell 40-03-09 was active prior to 1987.

2.3.1.4 Historical Sample Analysis Data for Tank 241-S-103

Between September 21, 1971 and December 6 1974, four sets of samples from Tank 241-S-103 were analyzed. The tank was a slurry receiver for the 242-S Evaporator system. All samples analyzed were a clear yellow liquid. The level history diagram showed that the tank contained almost all supernatant at the time the samples were taken. The supernatant was pumped from the tank in 1980. Results from the analyses are in Appendix H.

2.3.2 Current Status of Tank 241-S-103

Tank 241-S-103 entered service in November 1953 and currently stores 248,000 gal of waste. The waste is comprised of 17,000 gal

of supernatant; 103,000 gal of saltslurry; 119,000 gal of saltcake; and 9,000 gal of unknown waste with 79,000 gal of pumpable liquid remaining. The tank is identified as a low-heat load tank, passively ventilated, and is categorized as sound with partial interim isolation completed. Tank 241-S-103 is third in the three-tank cascade series. A plan view and tank cross-section that depict the approximate waste level and riser configuration are in Appendix G. Tank 241-S-103 has 12 risers, and three 12-in. risers (no. 6, no. 7 and no. 8) are available for use.

2.3.2.1 Waste Layer Volume Approximation for Tank 241-S-103

A comparative analysis of all layer approximations for the entire tank farm and the data used to derive the tank layer approximations are located in Appendix K.

2.3.2.2 In-Tank Photograph 241-S-103

The photographic montage of the Tank 241-S-103 contents shows a light yellow fractured saltcake surface with several interspersed pools of supernatant and a large area of supernatant in the foreground (see Appendix I). A 42-in riser with several drain pipes can be seen protruding through the tank ceiling. A Food Instrument Corporation surface level probe and a manual tape measurement device are at the top center of the photo. The bright white dot at the center of the tank is the reflection of the camera strobe light. The tank contains approximately 250,000 gal of waste with a depth of approximately 8 ft. Data supplied indicate that there has been no activity in the tank since these photographs were taken; therefore, the picture should represent the current tank contents.

2.3.3 Synopsis Tank 241-S-103

(To be completed)

2.4 Tank 241-S-104

2.4.1 241-S-104 Tank History

2.4.1.1 Waste History Tank 241-S-104

The waste history narrative in the following paragraph is from "A History of the 200 Area Tank Farms" (Anderson 1990). Tank 241-S-104 was filled with waste from the REDOX facility from the first quarter of 1953 until the fourth quarter of 1974. In the fourth quarter of 1973, the tank was reported to be a suspect leaker and during the next two years, some of the waste was pumped to Tank 241-S-107. Presently, the waste is classified as non-complexed.

The waste history narrative of the primary additions that follow in this paragraph are from the "Waste Status and Transaction Record Summary" (Agnew 1994). Tank 241-S-104 received REDOX cladding waste from the first quarter of 1953 until the third quarter of 1955. From the first quarter of 1953 until the second quarter of 1954, the tank received REDOX waste. During the second quarter of 1955, the tank received wastewater.

The tank was removed from service and was labeled an assumed leaker of 24,000 gal in 1968. The tank was labeled inactive in 1977 and was primary stabilized in 1979. The tank was administratively interim stabilized in November 1984 and intrusion prevention was completed in September 1988. A saltwell pump and a jet pump were installed in 1974 and 1978 respectively. A total of 2,000 gal of liquid was jet pumped between 1978 and 1980. The tank level was adjusted in April 1982 and December 1984. In-tank photographs were taken on the following dates: June 1971, May 1976, May 1979, May 1980, April 1982, and December 1984. Sketch ES-TKS-E70, which shows a graphical representation of the Tank 241-S-104 level history, and the historical waste level data used to make it are in Appendix C. A pH reading of >12.6 in December 1974 is listed on the sketch. The latest maximum temperature reading from July 1993 is 104°F. Currently, the tank is categorized as an assumed leaker and is stabilized.

2.4.1.2 Temperature History 241-S-104

Tank 241-S-104 has 14 thermocouple probes on a single thermocouple tree in riser 4. Elevations are not available for any of the thermocouple probes. The temperature data span from November 1991 to July 1993. All thermocouple plots show similar trends throughout the data span, though thermocouple 5 shows an overall temperature decrease of approximately 20°F. The same temperature decrease is apparent for thermocouples 6 through 14.

The mean temperature of the first electronically available data set taken from all 14 thermocouples is 98.9°F. A sum of the squares regression line fit for all 14 thermocouples, starting in 1991, shows a slightly negative slope ± 2.6°F. From November 1991 to July 1993, the median temperature was 89.75°F with a minimum of

83.1°F and a maximum of 112.7°F. Tank 241-S-104 has semiannual temperature monitoring requirements.

Plots of thermocouple readings for Tank 241-S-104 are in Appendix D.

2.4.1.3 Integrity of Tank 241-S-104

Tank 241-S-104 is categorized as an assumed leaker and is interim stabilized with intrusion prevention completed. The Tank 241-S-104 surface level is monitored quarterly with a manual tape. The maximum allowable increase from the 114.5-in. baseline is 3 in. There is no criterion for a decrease. A figure that graphically represents the surface level measurements from January 1991 to the present is in Appendix E. The surface level has remained steady with the readings ranging from 114.5 to 112.5 in.

Tank 241-S-104 does not have a liquid observation well. Four drywells are identified for Tank 241-S-104. Drywells 40-04-01 (active prior to 1990, no longer active), 40-04-05 (active prior to 1990, current readings > 200 c/s), and 40-04-08 (active prior to 1990, current readings < 200 c/s) have or had readings greater than the 50 c/s background radiation .

A graphical representation of the data for the active drywells from January 1990 to the present is in Appendix F. The graph includes the peak c/s (some wells have multiple peaks), the depth at which the peak occurred, and the date of the reading.

2.4.1.4 Historical Sample Analysis Data for Tank 241-S-104

The results of samples taken from Tank 241-S-104 on August 12, 1974 and January 9, 1976 are included in this report. The 1976 sample was grey and had a consistency similar to stiff dough or putty with a tendency to be sticky. Sample data indicated that the tank contained various metal nitrates and a significant amount of an aluminum compound. The 1974 sample was 90% liquid and the tank contains only solids now. Data from the analyses of both samples are in Appendix H.

2.4.2 Current Status of Tank 241-S-104

Tank 241-S-104 entered service in February 1953 and currently stores 294,000 gal of waste. The waste is comprised of 1,000 gal of supernatant; 54,000 gal of unknown waste; and 239,000 gal of sludge with 23,000 gal of pumpable liquid remaining. The tank is identified as a low-heat load tank, is passively ventilated, and is categorized as an assumed leaker with interim isolation and intrusion prevention completed. Tank 241-S-104 is equipped to cascade to Tank 241-S-105 and is first in the three-tank cascade series. A plan view and tank cross-section that depict the approximate waste level and riser conifguration are in Appendix G. Tank 241-S-104 has 9 risers and four are available for use: two 4-in. risers, no. 1 and no. 2 and two 12-in. risers, no. 7 and no. 8.

2.4.2.1 Waste Layer Volume Approximation for Tank 241-S-104

A comparative analysis of all layer approximations for the entire tank farm and the data used to derive the tank layer approximations are located in Appendix K.

2.4.2.2 In-Tank Photograph 241-S-104

The photographic montage of Tank 241-S-104 shows solid material over the entire tank surface except for a few randomly dispersed small pools of yellow liquid (see appendix I). A chemical sample in 1976 described the waste as grey with a consistency of dough or putty. In the photo, the waste appears brown or purple which may be due to lighting conditions in the tank. A saltwell screen penetrates what appears to be the deepest pool of liquid remaining in the tank. Behind the saltwell, the manual tape level measuring device is shown and there is a temperature probe further into the background. Because the photograph was taken after the tank was stabilized in 1984, it should represent the current tank conditions. The tank waste level has remained stable at almost 10 ft which equates to approximately 290,000 gal.

2.4.3 Synopsis Tank 241-S-104

(To be completed)

2.5 Tank 241-S-105

2.5.1 241-S-105 Tank History

2.5.1.1 Waste History Tank 241-S-105

The waste history narrative in the following paragraph is from "A History of the 200 Area Tank Farms" (Anderson 1990). Tank 241-S-105 was filled with waste from the REDOX facility from the second quarter of 1953 until the third quarter of 1973. In the first quarter of 1974, the tank received bottoms and recycle wastes from the 242-S Evaporator/Crystallizer until the tank was salt-filled in the fourth quarter of 1974. From the first quarter of 1978 until the third quarter of 1980, the tank received partial neutralized feed waste. In the fourth quarter of 1980, the waste was classified as non-complexed.

Tank 241-S-105 did not receive any primary waste additions according to the "Waste Status and Transaction Record Summary" (Agnew 1994) report.

The tank was removed from service in 1976, labeled inactive in 1978, primary stabilized in June 1979, partially isolated in December 1982, and jet pumped/interim stabilized in September 1988. Intrusion prevention was completed in September 1990. The tank was salt-filled with a saltwell pump that was installed in 1974. A jet pump was installed and initiated in 1978. A total of 114,300 gal of liquid was jet pumped between 1978 and 1980. The tank level was adjusted in June 1979 and September 1988. In-tank photographs were taken on the following dates: July 1971, several in 1974, December 1978, May 1979, August 1980, October 1981, April 1987, and April 1989. Sketch ES-TKS-E71, which shows a graphical representation of the Tank 241-S-105 level history, and the historical waste level data used to make it are in Appendix C. Three pH readings are shown on the sketch: 11.6 in October 1973, 11.5 in January 1974, and >14.0 in March 1974. The latest maximum temperature reading from July 1993 is 73°F. Presently, the tank is categorized as sound and is stabilized.

2.5.1.2 Temperature History 241-S-105

Fourteen thermocouple probes are on a single thermocouple tree in Tank 241-S-105 riser 4 with elevations available for all probes. All thermocouple temperature data span from January 1991 to July 1993. Review of the Tank 241-S-105 level history over the time span of readings for the thermocouple tree indicates that probes 1 through 7 were within the waste level and probes 8 through 14 were in the tank vapor space. The tank waste level has remained constant over the data span.

The mean temperature of the first electronically available data set taken from all 14 thermocouples is 69.5°F. A sum of the squares regression line fit for all 14 thermocouples, starting in 1991, shows a slightly negative near zero slope of ± 2.7°F. From

January 1991 to July 1993, the median temperature was 70.8°F with a minimum of 63.7°F and a maximum of 79.1°F. Tank 241-S-105 has a semiannual temperature reading requirement.

Plots of thermocouple readings for Tank 241-S-105 are in Appendix D.

2.5.1.3 Integrity of Tank 241-S-105

Tank 241-S-105 is categorized as sound and is interim stabilized with intrusion prevention completed. The Tank 241-S-105 surface level is monitored with a Food Instrument Corporation gauge. The gauge is set in the intrusion mode for a 1-in. increase. If the Food Instrument Corporation gauge fails, manual field measurements will be conducted quarterly. The maximum allowable increase from the 158-in. baseline is 3 in. There is no criterion for a decrease. Data for a surface level plot are not available due to the Food Instrument Corporation gauge setting.

The Tank 241-S-105 liquid observation well is located in riser 14. The tank is monitored weekly with a neutron probe and on request with a gamma probe. The monitoring limits are a 0.3-ft decrease and a 0.4-ft increase. Sketch ES-TKS-E71 is a graphical representation of the liquid observation well data.

Five drywells are identified for Tank 241-S-105. Drywell 40-05-03 was active prior to 1987.

2.5.1.4 Historical Sample Analysis Data for Tank 241-S-105

Tank 241-S-105 was used as a bottoms receiver for the 242-S Evaporator. Data from eight analytical investigations of Tank 241-S-105 contents were selected for inclusion in this report. The samples were analyzed between September 1971 and September 1974. The level history diagram indicates that the 1974 samples are more representative of current tank contents than the earlier results. According to 1974 results, the tank contains terminal liquors that are composed primarily of sodium hydroxide, sodium nitrate, and sodium aluminate with lesser quantities of other sodium compounds. The tables that contain the results of these analytical investigations are in Appendix H.

2.5.2 Current Status of Tank 241-S-105

Tank 241-S-105 entered service in 1953 and currently stores 456,000 gal of waste. The waste is comprised of 454,000 gal of saltcake and 2,000 gal of sludge with 13,000 gal of pumpable liquid remaining. The tank is categorized as sound with interim stabilization and intrusion prevention completed. Tank 241-S-105 is a low-heat, categorized as sound with interim stabilization and intrusion prevention completed, and is passively ventilated. Tank 241-S-105 is equipped to cascade to Tank 241-S-106 and is second in the three-tank cascade series. A plan view and tank cross-section that depict the approximate waste level and riser configuration are

in Appendix G. Tank 241-S-105 has 12 risers and four are available for use: one 4-in. riser (no. 2) and three 12-in. risers (no. 6, no. 7, and no. 8).

2.5.2.1 Waste Layer Volume Approximation for Tank 241-S-105

A comparative analysis of all layer approximations for the entire tank farm and the data used to derive the tank layer approximations are located in Appendix K.

2.5.2.2 In-Tank Photograph 241-S-105

The contents of Tank 241-S-105 are completely dry, at least on the surface, according to the picture which was made from a series of 1989 photographs (see Appendix I). In 1974, the tank contained terminal liquors composed primarily of sodium hydroxide, sodium nitrate, and sodium aluminate. After 1974, the tank level dropped twice, probably indicating that the material in the tank was solidifying. Since these photos were made, the tank level has remained constant. A number of risers are clearly shown in this picture, as are a saltwell screen in the foreground and a temperature probe in the center of the tank. An old level measurement tape is clearly visible lying on the surface of the waste. The waste level in the tank is about 15 ft which corresponds to a waste quantity of approximately 460,000 gal.

2.5.3 Synopsis Tank 241-S-105

(To be completed)

2.6 Tank 241-S-106

2.6.1 241-S-106 Tank History

2.6.1.1 Waste History Tank 241-S-106

The waste history narrative in the following paragraph is from "A History of the 200 Area Tank Farms" (Anderson 1990). Tank 241-S-106 was filled from the second quarter of 1953 with waste from the REDOX facility until the third quarter of 1973. From the fourth quarter of 1973 until the second quarter of 1976, the tank received bottoms and recycle streams from the 242-S Evaporator/Crystallizer. In the second quarter of 1976, the tank was removed from service and was salt-filled. A saltwell was installed the following quarter. From the second quarter of 1976 until the second quarter of 1977, the tank received and/or contained evaporator feed. During the third and fourth quarters of 1977, the tank contained residual evaporator liquor. In the first quarter of 1978, the tank contained Hanford defense residual liquor. From the second quarter of 1978 until the third quarter of 1980, the tank received and/or contained partial neutralized feed. The waste has been classified as non-complexed since the fourth quarter of 1980.

The waste history narrative of the primary additions that follow in this paragraph are from the "Waste Status and Transaction Record Summary" (Agnew 1994). Tank 241-S-106 received wastewater from the third quarter of 1955 until the third quarter of 1973.

The tank was removed from service in 1976 and was partially isolated in 1982. A jet pump was installed and initiated in 1978. A total of 99,800 gal of liquid was jet pumped between 1978 and 1980. A liquid observation well was installed in December 1980. The tank level was adjusted in September 1975 and June 1982. In-tank photographs were taken on the following dates: July 1971, two in 1974, December 1976, May 1978, two in 1981, November 1982, October 1984, April 1987, and March 1989. Sketch ES-TKS-E72, which shows a graphical representation of the Tank 241-S-106 level history, and the historical waste level data used to make it are in Appendix C. Four pH readings are shown on the sketch: >14.0 in August 1974, 14.0 in December 1974, >14.0 in June 1975, and 13.2 in October 1991. The latest maximum temperature reading from July 1993 is 78°F. Currently, the tank is categorized as sound and is non-stabilized.

2.6.1.2 Temperature History 241-S-106

There are 14 thermocouple probes on a single thermocouple tree in Tank 241-S-106 riser 2 with elevations available for each probe. Data for thermocouples 3 and 5 through 14 span from January 1991 to July 1993, and data for thermocouples 1, 2, and 4 span from November 1991 to July 1993. All thermocouples show similar trends with the exception of thermocouples 1 and 3. The graph of the data from those thermocouples is more jagged and less flat than the

other plots. Review of the Tank 241-S-106 level history readings for the thermocouple tree indicates that probes 1 through 8 were in or near the solids level and probes 9 through 14 appear to have been in the vapor space.

The mean temperature of the first electronically available data set was 71.7°F. A sum of the squares regression line fit, starting in 1991 for thermocouples 2 through 14, shows a slightly negative near zero slope ±3.4°F. Thermocouple 1 has a slightly positive near zero slope ±7.2. From January 1991 to July 1993, the median temperature was 73°F with a minimum of 57.6°F and a maximum of 93.7°F. Tank 241-S-106 has semiannual temperature monitoring requirements.

Plots of thermocouple readings for Tank 241-S-106 are in Appendix D.

2.6.1.3 Integrity of Tank 241-S-106

Tank 241-S-106 is categorized as sound and is partially isolated. The Tank 241-S-106 surface level is monitored with a Food Instrument Corporation gauge. If the Food Instrument Corporation gauge fails, manual field measurements will be conducted daily. The maximum allowable deviations from the established 176.8-in. baseline are a 3-in. increase and a 2-in. decrease. The figure that graphically represents the surface level measurements from January 1991 to the present is in Appendix E. The plot indicates an increasing trend in waste level. The readings range from 178.5 to 174.5 in.

The Tank 241-S-106 liquid observation well is located in riser 4. The tank is monitored weekly with a neutron probe and on request with a gamma probe. The monitoring limits are a 0.3-ft decrease and a 0.4-ft increase. Sketch ES-TKS-E72 is a graphical representation of the liquid observation well data.

Six drywells are identified for Tank 241-S-106 and none are considered active.

2.6.1.4 Historical Sample Analysis Data for Tank 241-S-106

Data from seven analytical investigations that were conducted on Tank 241-S-106 waste contents from September 1971 to July 1975 were selected for inclusion in this report. Many of the studies were intended to determine whether or not tank contents were deliquescent because the tank was experiencing unexplained liquid level increases. The samples appeared different, but they all seemed to contain sodium nitrate, sodium hydroxide, sodium aluminate, and various other compounds in smaller quantities. Results from the analyses are in Appendix H.

2.6.2 Current Status of Tank 241-S-106

Tank 241-S-106 entered service in 1953 and currently stores 543,000 gal of waste . The waste is comprised of 511,000 gal of saltcake and 32,000 gal of unknown waste with 162,000 gal of pumpable interstitial liquid remaining. The tank is identified as a low-heat load tank, is passively ventilated, and is categorized as sound with partial interim isolation completed. Tank 241-S-106 is third in the three-tank cascade series. A plan view and tank cross-section that depict the approximate waste level and riser configuration is in Appendix G. Tank 241-S-106 has 12 risers and four are available for use: two 12-in. risers, no. 7 and no. 8, and two 4-in. risers, no. 11 and no. 14.

2.6.2.1 Waste Layer Volume Approximation for Tank 241-S-106

A comparative analysis of all layer approximations for the entire tank farm and the data used to derive the tank layer approximations are located in Appendix K.

2.6.2.2 In-Tank Photograph 241-S-106

The tank waste has formed a thick solid crust around the perimeter of the tank. A pool of liquid in the center of the tank extends down to an indeterminate depth. The crust appears to be composed of at least two or three different materials judging from color variations. Chemical samples from the tank were primarily sodium nitrate, sodium hydroxide, and sodium aluminate. The liquid observation well is in the foreground of the picture, a temperature probe is in the background, and the Food Instrument Corporation level probe and a saltwell screen are in the middle (see Appendix I). The level history diagram indicates that tank contents have remained constant since the photographs were taken in 1989. The waste height in the tank is approximately 17 ft which corresponds with a quantity of about 540,000 gal.

2.6.3 Synopsis Tank 241-S-106

(To be completed)

2.7 Tank 241-S-107

2.7.1 241-S-107 Tank History

2.7.1.1 Waste History Tank 241-S-107

The waste history narrative in the following paragraph is from "A History of the 200 Area Tank Farms" (Anderson 1990). Tank 241-S-107 was filled with waste from the REDOX facility from the fourth quarter of 1952 until the fourth quarter of 1956. From the first quarter of 1957 until the third quarter of 1968, the tank received coating waste. The tank received evaporator bottoms waste from the REDOX evaporators from the fourth quarter of 1968. The tank began receiving evaporator bottoms waste from the REDOX evaporators from the second quarter of 1968 until the second quarter of 1971. The tank contained a mixture of REDOX and evaporator bottoms waste until the fourth quarter of 1973. From the first quarter of 1974 until the second quarter of 1980, the tank received a wide variety of waste types. In the third quarter of 1980, the waste was classified as double-shell slurry feed. Presently, the tank waste is classified as non-complexed.

The waste history narrative of the primary additions that follow in this paragraph are from the "Waste Status and Transaction Record Summary" (Agnew 1994). Tank 241-S-107 received REDOX waste from the third quarter of 1952 until the first quarter of 1972. From the third quarter of 1952 until the first quarter of 1975, the tank received wastewater. The tank received REDOX cladding waste from the fourth quarter of 1954 until the first quarter of 1967. From the fourth quarter of 1968 until the second quarter of 1972, the tank received saltcake waste from the REDOX concentrator.

The tank was removed from service in 1980 and was partially isolated in December 1982. The tank level was adjusted in November 1978 and September 1980. In-tank photographs were taken on the following dates: August 1971, March 1974, February 1976, November 1977, May 1979, January 1983, and March 1987. Sketch ES-TKS-E73, which shows a graphical representation of the Tank 241-S-107 level history, and the historical waste level data used to make it are in Appendix C. Nine pH readings are shown on the sketch: 11.9 in November 1973, 12.2 in November 1973, 14.0 in December 1974, >14.0 in March 1976, >14.0 in October 1978, >14.0 in April 1979, >14.0 in September 1980, 13.7 in October 1991, and 13.3 in October 1991. The latest maximum temperature reading from July 1993 is 107°F. Currently, the tank is categorized as sound/non-stabilized. A figure that graphically represents the Tank 241-S-107 level history is in Appendix C. The increase in the tank liquid (supernatant) level in December 1993 is due to a comparison of 1983 and 1987 photo packages that indicate a level increase. Based on this influx, an elevation was extrapolated for 1993 which correlates with the current liquid level.

2.7.1.2 Temperature History 241-S-107

There are six thermocouple probes on a single thermocouple tree in Tank 241-S-107 riser 4 with elevations available for each probe. The thermocouple probes have similar temperature trends that span from January 1988 to July 1993. Overall, the temperature readings decrease a maximum of 30°F from thermocouple 1 to thermocouple 6. Review of the Tank 241-S-107 level history readings for the thermocouple tree indicates that probes 1 through 5 were within or near the waste level and probe 6 appears to have been in the tank vapor space.

The mean temperature of the first electronically available data set for all six thermocouples is 108.5°F. A sum of the squares regression line fit averaged for all six thermocouple probes, starting in 1988, shows a zero slope ±6°F. From January 1988 to July 1993, the median temperature was 108.9°F with a maximum of 139°F and a minimum of 78°F. Tank 241-S-107 has a semiannual temperature monitoring requirement.

Plots of thermocouple readings for Tank 241-S-107 are in Appendix D.

2.7.1.3 Integrity of Tank 241-S-107

Tank 241-S-107 is categorized as sound and is partially isolated. The Tank 241-S-107 surface level is monitored with a Food Instrument Corporation gauge. If the Food Instrument Corporation gauge fails, manual field measurements will be conducted daily. The maximum allowable deviations from the 144.2-in. baseline established on May 27, 1993 are a 2-in. increase and a 1-in. decrease. A figure that graphically represents the surface level measurements from January 1991 to the present is in Appendix E. The surface level from May 27, 1993 to the present indicates an increasing trend and the readings range from 145.2 to 144.2 in. Occurrence Report no.76-81 was issued in July 1976 due to a liquid level decrease attributed to temperature and evaporative losses.

Tank 241-S-107 does not have a liquid observation well. Six drywells are identified for Tank 241-S-107 and none are considered active.

2.7.1.4 Historical Sample Analysis Data for Tank 241-S-107

Results from eight sets of samples taken from Tank 241-S-107 between November 1973 and September 1980 are included in this report. The samples taken prior to 1975 contained a large amount of liquid; therefore, the later samples are more representative of the current tank contents which are made up mostly solids. The most recent sample, analyzed on September 22, 1980, was made up of nitrates, nitrites, aluminates, hydroxides, phosphates, and carbonates and some organic material. The total organic carbon content of the tank is 4.0g/l. Three samples analyzed in 1978 and

1979 were similarly constituted. Viscosity and solids content were the main elements of concern in many of the later samples. Results from these analyses are in Appendix H.

2.7.2 Current Status of Tank 241-S-107

Tank 241-S-107 entered service in August 1952 and currently stores 376,000 gal of waste. The waste material is comprised of 14,000 gal of supernatant; 22,000 gal of saltslurry; 128,000 gal of saltcake; and 212,000 gal of sludge with 44,000 gal of pumpable liquid remaining. The tank is identified as a low-heat load tank, is passively ventilated, and is categorized as sound with partial interim isolation completed. Tank 241-S-107 is equipped to cascade to Tank 241-S-108 and is first in the three-tank cascade series. A plan view and tank cross-section that depict the approximate waste level and riser conifguration are in Appendix G. Tank 241-S-107 has 12 risers and four are available for use: two 12-in risers, no. 6 and no. 7, and two 4-in. risers, no. 11 and no. 14.

2.7.2.1 Waste Layer Volume Approximation for Tank 241-S-107

A comparative analysis of all layer approximations for the entire tank farm and the data used to derive the tank layer approximations are located in Appendix K.

2.7.2.2 In-Tank Photograph 241-S-107

The montage made from photographs inside Tank 241-S-107 shows reasonable detail around the perimeter but details are masked in the center which may be due to blurring from the flash (see Appendix I). A small amount of solid material appears to be clinging to the wall and the waste in the rest of the tank appears to be a liquid that has been described as sludgy. The waste history diagram indicates that the tank contains almost all solid material. The Food Instrument Corporation level probe and the temperature probe are clearly visible but blurring in the center photos obscures details. There is a strong image of a reflection from the strobe light in the center of the picture. The level gauge seems to be immersed in the liquid which seems to imply that tank contents are liquid rather than solid. Current measurements indicate that the tank holds about 376,000 gal of waste and the waste measures almost 12 ft deep.

2.7.3 Synopsis Tank 241-S-107

(To be completed)

2.8 Tank 241-S-108

2.8.1 241-S-108 Tank History

2.8.1.1 Waste History Tank 241-S-108

The waste history narrative in the following paragraph is from "A History of the 200 Area Tank Farms" (Anderson 1990). Tank 241-S-108 was filled with waste from the REDOX facility from the second quarter of 1952 until the fourth quarter of 1973. The tank received bottoms and recycle streams from the 242-S Evaporator/Crystallizer from the first quarter of 1974 until the third quarter of 1975. From the fourth quarter of 1975 until the first quarter of 1978, the tank received various types of evaporator wastes. In the second quarter of 1978, the tank received partial neutralized feed waste. The waste has been classified as non-complexed since the fourth quarter of 1980.

Tank 241-S-108 did not receive any primary waste additions according to the "Waste Status and Transaction Record Summary" (Agnew 1994) report.

The tank was removed from service, labeled inactive, and primary stabilized in 1979. The tank was partially isolated in December 1982. A jet pump was installed and initiated in 1978. A total of 151,600 gal of liquid was jet pumped between 1978 and 1980. The tank level was adjusted in June 1979 and April 1982. In-tank photographs were taken on the following dates: July 1971, October 1974, January 1976, two in 1979, August 1980, November 1982, and March 1987. Sketch ES-TKS-E74, which shows a graphical representation of the Tank 241-S-108 level history, and the historical waste level data used to make it are in Appendix C. The sketch shows five pH readings of 12.0 in March 1965, 12.0 in July 1972, 11.5 in October 1973, >14.0 in June 1974, and 13.6 in November 1991. The latest maximum temperature reading from July 1993 is 85°F. Presently, the tank is categorized as sound/non-stabilized.

2.8.1.2 Temperature History 241-S-108

There are 13 thermocouples on a single thermocouple tree in Tank 241-S-108 riser 4 with elevations available for each probe. No data are available for thermocouple 2. The data for all thermocouples span from January 1991 to July 1993 except for probes 4, 11, 12, and 14 which span from November 1991 to July 1993. All thermocouple plots show similar trends with more irregularity present in probes 1 and 10 through 14. Overall, the temperature readings decrease a maximum of 20°F from thermocouple 1 to thermocouple 13. Review of the Tank 241-S-108 level history readings for the thermocouple tree indicates that probes 1 through 9 were in or near the solids level and probes 10 through 14 appear to have been in the tank vapor space.

The mean temperature of the first electronically available data set taken from all 13 thermocouples is 79°F. A sum of the squares regression line fit averaged for the 13 thermocouple probes, starting in 1991, shows a zero slope ± 4°F. From January 1991 to July 1993, the median temperature was 78°F with a maximum of 94°F and a minimum of 49.9°F. Tank 241-S-108 has a semiannual temperature monitoring requirement.

Plots of the thermocouple readings for Tank 241-S-108 are in Appendix D.

2.8.1.3 Integrity of Tank 241-S-108

Tank 241-S-108 is categorized as sound and is partially isolated. The Tank 241-S-108 surface level is monitored with a Food Instrument Corporation gauge. The gauge is set in the intrusion mode for a 1-in. increase. If the Food Instrument Corporation gauge fails, manual field measurements will be conducted quarterly. The maximum allowable increase from the 172.8-in. baseline is 3 in. There is no criterion for a decrease. Due to the Food Instrument Corporation gauge setting, a limited number of surface level measurements is available. The figure that graphically represents the surface level measurements taken during the second quarter of 1993 is in Appendix E. The readings unexplainably range from 189.5 to 153.25 in.

The Tank 241-S-108 liquid observation well is located in riser 16. The tank is monitored weekly with a neutron probe and on request with a gamma probe. The monitoring limits are a 0.3-ft decrease and a 0.4-ft increase. Sketch ES-TKS-E74 in Appendix C is a graphical representation of the liquid observation well data.

Five drywells are identified for Tank 241-S-108 and none are considered active.

2.8.1.4 Historical Sample Analysis Data for Tank 241-S-108

Data from four sets of samples were selected for this report; two samples of solids and one supernatant sample were analyzed on July 8, 1974. The tank was a slurry receiving tank for the 242-S Evaporator/Crystallizer. The July samples were supposed to determine if tank contents were too concentrated or if they could be evaporated further. Although the constituents of the samples were basically the same, the percentages contained in each were quite different. The samples primarily contained sodium nitrate; and sodium hydroxide; and smaller amounts of sodium nitrite, sodium aluminate, and sodium carbonate. The solids in one of the samples came in two layers: the upper layer was a fine soft gray-colored solid and the lower layer was a coarse, yellow crystalline material. The other samples were from 1965, 1971, and 1973 when tank conditions were different. Results of the analyses are found in Appendix H.

2.8.2 Current Status of Tank 241-S-108

Tank 241-S-108 entered service in October 1952 and currently stores 604,000 gal of waste. The waste is comprised of 599,000 gal of saltcake and 5,000 gal of sludge with 105,000 gal of pumpable liquid remaining. The tank is identified as a low-heat load tank, is passively ventilated, and is categorized as sound with partial interim isolation completed. Tank 241-S-108 is equipped to cascade to Tank 241-S-109 and is second in the three-tank cascade series. The plan view and tank cross-section that depict the approximate waste level and riser configuration are in Appendix G. Tank 241-S-108 has 12 risers and two 12-in. risers, no. 6, and no. 7, are available for use.

2.8.2.1 Waste Layer Volume Approximation for Tank 241-S-108

A comparative analysis of all layer approximations for the entire tank farm and the data used to derive the tank layer approximations are located in Appendix K.

2.8.2.2 In-Tank Photograph 241-S-108

From the Tank 241-S-108 picture the waste surface appears to be completely dry (see Appendix I). The waste looks well mixed except in the center and at about five o'clock in the foreground where there may be some foreign material on the surface. A chemical analysis in 1974 indicated that the waste material was primarily sodium nitrate and sodium hydroxide. The manual tape, level gauge, temperature probe, and saltwell screen are all visible and labelled. Numerous manholes, risers, and nozzles are seen clearly in the picture. There is some debris, including a discarded manual tape, on the waste surface in the foreground at about five o'clock. Current measurements indicate that the tank holds about 600,000 gal of waste measuring about 19 ft deep. There have been no changes in the tank after the pictures were taken in 1987 according to the waste level history diagram.

2.8.3 Synopsis Tank 241-S-108

(To be completed)

2.9 Tank 241-S-109

2.9.1 241-S-109 Tank History

2.9.1.1 Waste History Tank 241-S-109

The waste history narrative in the following paragraph is from "A History of the 200 Area Tank Farms" (Anderson 1990). Tank 241-S-109 was filled with waste from the REDOX facility from the fourth quarter of 1952 until the fourth quarter of 1973. From the first quarter of 1974 until the fourth quarter of 1975, the tank received bottoms and recycle streams from the 242-S Evaporator/Crystallizer. The tank was salt-filled in the fourth quarter of 1974. Between the first quarter of 1976 and the first quarter of 1978, the tank received various types of evaporator waste. The tank received partial neutralized feed waste from the second quarter of 1978 until the third quarter of 1980. The waste has been classified as non-complexed since the fourth quarter of 1980.

Tank 241-S-109 did not receive any primary waste additions according to the "Waste Status and Transaction Record Summary" (Agnew 1994) report.

The tank was primary stabilized and removed from service in 1979 and it was partially isolated in December 1982. A jet pump was installed and initiated in 1978. A total of 111,000 gal of liquid was jet pumped between 1978 and 1980. A liquid observation well was installed in December 1980. The tank level was adjusted in September 1975. In-tank photographs were taken on the following dates: July 1971, several in 1974, January 1976, May 1979, two in 1981, and August 1984. Sketch ES-TKS-E75, which shows a graphical representation of the Tank 241-S-109 level history, and the historical waste level data used to make it are in Appendix C. The sketch shows seven pH readings of 12.0 in July 1972, 11.5 in October 1973, >14.0 in August 1974, >13.1 in September 1974, 14.0 in November 1974, 13.0 in April 1975, and 13.2 in October 1991. The latest maximum temperature reading from January 1993 is 83° F. As of July 1993, the temperature probe is out of service in this tank. Presently, the tank is categorized as sound/non-stabilized.

2.9.1.2 Temperature History 241-S-109

There are six thermocouple probes on a single thermocouple tree in Tank 241-S-109 riser 4 with elevations available for all probes. No data are available for probes two, three, four, five, six, and 8 and probes 1, 9, and 10 have only one data point. Probe 11 has two points and probe 12 has three points. The most data points were recorded for probe 7. Review of the Tank 241-S-109 level history readings for the thermocouple tree indicates that probes 1,7, and 9 were in or near the solids level and probes 10 through 12 appear to have been in the tank vapor space.

The mean temperature of the first electronically available data set was 68°F. A sum of the squares regression line fit and

variability analysis was not performed due to a limited number of data points. The median temperature is 66°F with a maximum of 82.9°F and a minimum of 55.3°F. The thermocouples have been out of service since November 1993. Tank 241-S-109 has a semiannual temperature monitoring requirement.

Plots of thermocouple readings for Tank 241-S-109 are in Appendix C.

2.9.1.3 Integrity of Tank 241-S-109

Tank 241-S-109 is categorized as sound and is partially isolated. The Tank 241-S-109 surface level is monitored with a Food Instrument Corporation gauge. The gauge is set in the intrusion mode for a 1-in. increase. If the Food Instrument Corporation gauge fails, manual field measurements will be conducted quarterly. The maximum allowable increase from the 173.8-in. baseline is 3 in. There is no criterion for a decrease. Due to the Food Instrument Corporation gauge setting, a limited number of surface level measurements are available. The figure that graphically represents the surface level measurements taken during the first and second quarters of 1993 is in Appendix E. The readings range from 172.6 to 169.3 in.

The Tank 241-S-109 liquid observation well is located in riser 8. The tank is monitored weekly with a neutron probe and on request with a gamma probe. The maximum allowable deviations from the established baseline value are a 0.3-ft increase and a 0.4-ft decrease. Sketch ES-TKS-E75 in Appendix C has a graphical representation of the liquid observation well data.

Six drywells are identified for Tank 241-S-109 and none are considered active.

2.9.1.4 Historical Sample Analysis Data for Tank 241-S-109

Data are included in this report for five sets of samples from Tank 241-S-109 that were analyzed between December 18, 1973 and December 8, 1976. The 1976 sample consisted of coarse, yellowish granular crystals that were about 85 to 90 percent water soluble. In 1974, the sample consisted of yellow crystals and it was noted that the sample tended to take up water from the atmosphere. The analyses indicate that the tank contains mostly sodium nitrate and lesser amounts of various other sodium compounds. Tables presenting the results of the analyses are in Appendix H.

2.9.2 Current Status of Tank 241-S-109

Tank 241-S-109 entered service in December 1952 and currently stores 568,000 gal of waste. The waste is comprised of 555,000 gal of saltcake and 13,000 gal of unknown waste with 119,000 gal of pumpable interstitial liquid remaining. The tank is identified as a low-heat load tank, is passively ventilated, and is categorized as sound with partial interim isolation completed. Tank 241-S-109

is third in the three-tank cascade series. The plan view and tank cross-section that depict the approximate waste level and riser conifguration are in Appendix G. Tank 241-S-109 has 12 risers, and five are available for use: two 12-in. risers (no. 6 and no. 7) and three 4-in. risers (no. no. 11, no. 14, and no. 16).

2.9.2.1 Waste Layer Volume Approximation for Tank 241-S-109

A comparative analysis of all layer approximations for the entire tank farm and the data used to derive the tank layer approximations are located in Appendix K.

2.9.2.2 In-Tank Photograph 241-S-109

The Tank 241-S-109 picture shows the surface to be thoroughly dried out which corresponds with level history data (see Appendix I). Chemical samples from 1976 indicate that the tank primarily contained sodium nitrate and there has been no activity in the tank since then. Different colored areas on the surface show some lack of homogeneity in the waste material; however, such areas are not dominant in the picture. The level measurement device, temperature probe, and saltwell are in the background and some foreign contaminants are shown on the waste surface. The tank waste level has remained stable since the photographs were taken at approximately 18 ft which corresponds with a waste content of about 570,000 gal.

2.9.3 Synopsis Tank 241-S-109

(To be completed)

2.10 Tank 241-S-110

2.10.1 241-S-110 Tank History

2.10.1.1 Waste History Tank 241-S-110

The waste history narrative in the following paragraph is from "A History of the 200 Area Tank Farms" (Anderson 1990). Tank 241-S-110 was filled with waste from the REDOX facility from the second quarter of 1952 until the fourth quarter of 1973. From the first quarter of 1974 until the first quarter of 1978, the tank was filled with various wastes from the BX, S, SX, T, TX, and U Tank Farms and the 242-S Evaporator/Crystallizer. The tank was salt-filled during the third quarter of 1975. The tank received partial neutralized feed waste from the second quarter of 1978 until the third quarter of 1980. The waste has been classified as non-complexed since the fourth quarter of 1980.

The waste history narrative of the primary additions that follow in this paragraph are from the "Waste Status and Transaction Record Summary" (Agnew 1994). Tank 241-S-110 received REDOX waste during the first, second, and third quarters of 1952. During the third and fourth quarters of 1953, the tank received REDOX cladding waste. From the first quarter of 1954 until the third quarter of 1974, the tank received wastewater.

The tank was removed from service and labeled inactive in 1976. It was primary stabilized in January 1979 and partially isolated in December 1982. A jet pump was installed and initiated in August 1978 and 185,900 gal were pumped from the tank. The tank level was adjusted in January 1979 and May 1992. In-tank photographs were taken on the following dates: July 1971, September 1973, several in 1975, and March 1987. Sketch ES-TKS-E76, which shows a graphical representation of the Tank 241-S-110 level history, and the historical waste level data used to make it are in Appendix C. The sketch shows two pH readings of >14.0 in July 1971 and 14.0 in December 1974. The latest maximum temperature reading from July 1993 is 116° F. Presently, the tank is categorized as sound/non-stabilized.

2.10.1.2 Temperature History 241-S-110

There are six thermocouple probes on a single thermocouple tree in Tank 241-S-110 riser 4 with elevations available for each. The thermocouples show similar trends that span from January 1988 to July 1993. The temperature readings decrease a maximum of 45°F from thermocouple 1 to thermocouple 6. Review of the tank level history readings for the thermocouple tree indicates that probes 1 through 5 were in or near the solids level with probe 6 in the vapor space.

The mean temperature of the first electronically available data set from all six thermocouples is 116°F. A sum of the squares regression line fit averaged for the six thermocouple probes,

starting in 1988, shows a zero slope ±6°F. A common outlying point is apparent for all the thermocouples in March 1989. From January 1988 to July 1993, the median temperature was 117°F with a maximum of 151°F and a minimum of 72.6°F. Tank 241-S-108 has a semiannual temperature monitoring requirement.

Plots of the thermocouple readings for Tank 241-S-110 are in Appendix D.

2.10.1.3 Integrity of Tank 241-S-110

Tank 241-S-110 is categorized as sound and is partially isolated. The Tank 241-S-110 surface level is monitored with a Food Instrument Corporation gauge. The gauge is set in the intrusion mode for a 1-in. increase. If the Food Instrument Corporation gauge fails, manual field measurements will be conducted quarterly. The maximum allowable increase from the 149.3-in. baseline is 3 in. There is no criterion for a decrease. Due to the Food Instrument Corporation gauge setting, a limited number of surface level measurements are available. The figure that graphically represents the surface level measurements taken during the first and second quarters of 1993 is in Appendix E. The readings range from 148.65 to 148.6 in.

The Tank 241-S-110 liquid observation well is located in riser 2. The tank is monitored weekly with a neutron probe and on request with a gamma probe. The maximum allowable deviation from the established baseline value is a 0.3-ft increase and a 0.4-ft decrease. Sketch ES-TKS-E76 in Appendix C has a graphical representation of the liquid observation well data.

Seven drywells are identified for Tank 241-S-110. Drywell 40-10-01 was active prior to 1987.

2.10.1.4 Historical Sample Analysis Data for Tank 241-S-110

Results of five samples taken from Tank 241-S-110 between September 1971 and June 1975 are included in this report. Two samples are from 1975 and the most recent gave a typical mixture of sodium compounds. The 1974 samples may be more representative of a sludge layer lying below the saltcake layer. The sample from September 1974 was described as being composed of two layers; the top was dark brown and the bottom was gray with hard, large, white chunks distributed throughout. Appendix H contains tables that show the analyses results.

2.10.2 Current Status of Tank 241-S-110

Tank 241-S-110 entered service in 1952 and currently stores 390,000 gal of waste. The waste is comprised of 277,000 gal of saltcake and 113,000 gal of sludge with 103,000 gal of pumpable interstitial liquid remaining. The tank is identified as a low-heat load tank, is passively ventilated, and is categorized as sound with partial interim isolation completed. Tank 241-S-110 is

equipped to cascade to Tank 241-S-111 and is first in the three-tank cascade series. The plan view and tank cross-section that depict the approximate waste level and riser configuration are in Appendix G. Tank 241-S-110 has 12 risers and two 12-in. risers, no. 6 and no. 7, are readily available for use.

2.10.2.1 Waste Layer Volume Approximation for Tank 241-S-110

A comparative analysis of all layer approximations for the entire tank farm and the data used to derive the tank layer approximations are located in Appendix K.

2.10.2.2 In-Tank Photograph 241-S-110

There was a large level adjustment in the tank in 1992; therefore, the 1987 photographs in Appendix I probably do not accurately reflect the current appearance of the tank waste. The waste in the picture has formed a thick solid crust around the perimeter of the tank and there is a pool of liquid in the center of the tank which extends down to an indeterminate depth. The crust appears to be composed of several different materials judging from color variations. A temperature probe, manual tape, liquid observation well, and saltwell screen are visible in the picture. The current tank waste height is about 12 ft and the quantity of waste is approximately 390,000 gal. When the pictures were taken, the waste height was about 22 ft.

2.10.3 Synopsis Tank 241-S-110

(To be completed)

2.11 Tank 241-S-111

2.11.1 241-S-111 Tank History

2.11.1.1 Waste History Tank 241-S-111

The waste history narrative in the following paragraph is from "A History of the 200 Area Tank Farms" (Anderson 1990). Tank 241-S-111 was filled with waste from the REDOX facility from the third quarter of 1952 until the fourth quarter of 1973. The tank received bottoms and recycle streams from the 242-S Evaporator/Crystallizer from the first quarter of 1974 until the tank was salt-filled in the third quarter of 1975. The tank was removed from service in the second quarter of 1976. During the following quarter it was labeled inactive and salt-well pumped. The tank contained partial neutralized feed waste from the first quarter of 1978 until the third quarter of 1980. The waste has been classified as non-complexed since the fourth quarter of 1980.

Tank 241-S-111 did not receive any primary waste additions according to the "Waste Status and Transaction Record Summary" (Agnew 1994) report.

The tank was removed from service in 1972 and labeled inactive in 1978. It was primary stabilized in March 1978 and was partially isolated in December 1982. A pump was installed and initiated in 1975 and a jet pump was installed the following year. A total of 3,300 gal of liquid was jet pumped between 1976 and 1980. The tank level was adjusted in September 1975 and April 1978. In-tank photographs were taken on the following dates: July 1971, two in 1974, September 1975, two in 1977, March 1978, April 1980, April 1983, May 1984, and October 1989. Sketch ES-TKS-E77, which shows a graphical representation of the Tank 241-S-111 level history and the historical waste level data used to make it are in Appendix C. The sketch shows five pH readings: >14.0 in July 1971, >14.0 in August 1974, 13.4 in December 1974, >14.0 in May 1975, and >14.0 in June 1978. The latest maximum temperature reading from October 1993 is 92° F. Currently, the tank is categorized as sound/non-stabilized.

2.11.1.2 Temperature History 241-S-111

There are 14 thermocouples on a single thermocouple tree in Tank 241-S-111 riser 4 with elevations available for each probe. All thermocouple plots show similar trends that span from January 1988 to December 1993. Review of the level history indicates that over the time span of readings, thermocouple probes 1 through 9 were in or near the solids level and probes 10 through 14 were in the vapor space.

The mean temperature of the first electronically available data set taken from all 14 thermocouples is 80.5°F. A sum of the squares regression line fit for all 14 thermocouples, starting in 1988, shows a zero slope ± 2°F. A low outlying temperature of

63.6 occurred June 1993 for thermocouple 5. Annual temperature undulations or a seasonal trend is evident in thermocouples 5 through 13. From January 1988 to December 1993, the median temperature was 80°F with a maximum of 97°F and a minimum of 63.6°F. Tank 241-S-111 has weekly temperature readings because it is on the Hydrogen Watch List.

Plots of thermocouple readings for Tank 241-S-111 are in Appendix D.

2.11.1.3 Integrity of Tank 241-S-111

Tank 241-S-111 is categorized as sound and is partially isolated. The Tank 241-S-111 surface level is monitored with a Food Instrument Corporation gauge. If the Food Instrument Corporation gauge fails, manual field measurements will be conducted daily. The maximum allowable deviations from the 202.6-in. baseline are a 3-in. increase and a 0.5-in. decrease. The figure that graphically represents the surface level measurements from January 1991 to the present is in Appendix E. The surface level for the past three years has remained steady with the readings ranging from 203.8 to 200.9 in.

The Tank 241-S-111 liquid observation well is located in riser 16. The tank is monitored weekly with a neutron probe and on request with a gamma probe. The maximum deviations from the established baseline are a 0.3-ft increase and a 0.4-ft decrease. Sketch ES-TKS-E77 in Appendix C has a graphical representation of the liquid observation well data.

Five drywells are identified for Tank 241-S-111 and none are considered active.

2.11.1.4 Historical Sample Analysis Data for Tank 241-S-111

Data from seven analytical investigations of Tank 241-S-111 contents were selected for inclusion in this report. The tank was a slurry receiving tank for the 242-S Evaporator. Five separate samples were analyzed on August 25, 1978. The salts, as received, were yellowish-green with variable crystal sizes. Samples taken in 1977 were dark green. The major constituent of all the samples was sodium nitrate. The samples contained lesser amounts of nitrite, carbonate, sulfate, and phosphate. Earlier samples from the tank yielded similar results. Twelve tables that contain the results of these investigations are in Appendix H.

2.11.2 Current Status of Tank 241-S-111

Tank 241-S-111 entered service in 1952 and currently stores 596,000 gal of waste. The waste is comprised of 10,000 gal of supernatant; 61,000 gal of unknown waste; 447,000 gal of saltcake; and 139,000 gal of sludge with 134,000 gal of pumpable liquid remaining. The tank is identified as a Hydrogen Watch List tank, is passively ventilated, and is categorized as sound with partial

interim isolation completed. Tank 241-S-111 is equipped to cascade to Tank 241-S-112 and is second in the three-tank cascade series. The plan view and tank cross-section that depict the approximate waste level and riser configuration are in Appendix G. Tank 241-S-111 has 12 risers and two 12-in. risers, no. 6 and no. 8, are available for use.

2.11.2.1 Waste Layer Volume Approximation for Tank 241-S-111

A comparative analysis of all layer approximations for the entire tank farm and the data used to derive the tank layer approximations are located in Appendix K.

2.11.2.2 In-Tank Photograph 241-S-111

The montage of Tank 241-S-111 in Appendix I shows a surface that is one-third to one-half covered with solid material which appears to be floating on a liquid surface. The solid material in the tank was analyzed in 1978, The sample was reported to be yellowish green and the major constituent of the sample was sodium nitrate. The temperature probe, level gauge, liquid observation well, and saltwell are clearly visible in the picture along with three other risers and some inlet and outlet nozzles. There is some debris on the solid surface at about one o'clock near the temperature probe. The level history diagram shows about 600,000 gal of waste in the tank which has a depth of almost 19 ft. The level has not changed since the photographs were taken in 1989.

2.11.3 Synopsis Tank 241-S-111

(To be completed)

2.12 Tank 241-S-112

2.12.1 241-S-112 Tank History

2.12.1.1 Waste History Tank 241-S-112

The waste history narrative in the following paragraph is from "A History of the 200 Area Tank Farms" (Anderson 1990). Tank 241-S-112 was filled with waste from the REDOX facility from the third quarter of 1952 until the fourth quarter of 1973. The tank received bottoms and recycle streams from the 242-S Evaporator/Crystallizer from the first quarter of 1974 until the first quarter of 1975 when the tank was salt-filled. The tank continued to hold evaporator type waste until the first quarter of 1978. The tank contained partial neutralized feed waste from the second quarter of 1978 until it was reclassified as non-complexed waste in the fourth quarter of 1980. Presently, the waste is classified as non-complexed.

Tank 241-S-112 did not receive any primary waste additions according to the "Waste Status and Transaction Record Summary" (Agnew 1994) report.

The tank was removed from service in 1974 and labeled inactive in 1976. The tank was primary stabilized in June 1979 and was partially isolated in December 1982. A jet pump was installed and initiated in 1978. A total of 125,100 gal of liquid was jet pumped between 1978 and 1980. The tank level was adjusted in July 1977, June 1979, and 1982. In-tank photographs were taken on the following dates: July 1971, September 1973, two in 1974, July 1977, May 1979, June 1981, and March 1987. Sketch ES-TKS-E78, which shows a graphical representation of the Tank 241-S-112 level history, and the historical waste level data used to make it are in Appendix C. The sketch shows four pH readings: >14.0 in July 1971, 12.2 in January 1974, >14.0 in May 1974, and 13.7 in December 1974. The latest maximum temperature reading from October 1993 is 84° F. Presently, the tank is categorized as sound and is non-stabilized.

2.12.1.2 Temperature History 241-S-112

There are 14 thermocouple probes on a single thermocouple tree in Tank 241-S-112 riser 4 with thermocouple elevations unavailable. Data for thermocouples 3, 4, and 6 through 12 span from March 1991 to December 1993 and data for thermocouples 1, 2, 5, 13, and 14 span from February 1992 to December 1993. The temperature plots show similar trends with annual temperature undulations present in the higher thermocouples.

The mean temperature of the first electronically available data set taken from the thermocouples is 71°F. A sum of the squares regression line fit for all 14 thermocouples, starting in 1991, shows a zero slope ±5.3°F. A common outlying point is apparent for thermocouples 1 through 8 in November 1993. From January 1991 to December 1993, the median temperature was 77°F with

a maximum of 92°F and a minimum of 47°F. Tank 241-S-112 has weekly temperature readings because it is on the Hydrogen Watch List.

Plots of thermocouple readings for Tank 241-S-112 are in Appendix D.

2.12.1.3 Integrity of Tank 241-S-112

Tank 241-S-112 is categorized as sound and is partially isolated. The Tank 241-S-112 surface level is monitored with a Food Instrument Corporation gauge. The gauge is set in the intrusion mode for a 1-in. increase. If the Food Instrument Corporation gauge fails, manual field measurements will be conducted quarterly. The maximum allowable increase from the 196.4-in. baseline is 3 in. There is no criterion for a decrease. Due to the Food Instrument Corporation gauge setting, a limited number of surface level measurements are available. The figure that graphically represents the surface level measurements taken during the first and second quarters of 1993 is in Appendix E. The readings range from 195.9 to 195.7 in.

The Tank 241-S-112 liquid observation well is located in riser 8. The tank is monitored weekly with a neutron probe and on request with a gamma probe. The maximum deviations from the established baseline are a 0.3-ft increase and a 0.4-ft decrease. Sketch ES-TKS-E78 in Appendix C has a graphical representation of the liquid observation well data.

Five drywells are identified for Tank 241-S-112 and none are considered active.

2.12.1.4 Historical Sample Analysis Data for Tank 241-S-112

Data are included in this report for four samples from Tank 241-S-112 that were analyzed in 1974 and for one sample that was analyzed in 1971. Tank 241-S-112 was a 242-S Evaporator slurry receiving tank. The most recent analysis indicates that it contains mostly sodium nitrate and sodium carbonate with lesser amounts of various other sodium compounds. Sodium hydroxide content was high enough to cause the salt to pick up moisture from the atmosphere. Samples were about 50% solids and were yellowish-green. A principal concern of the sampling was to determine if the waste material had reached terminal concentration. Tables presenting the results of these analyses are in Appendix H.

2.12.2 Current Status of Tank 241-S-112

Tank 241-S-112 entered service in July 1952 and currently stores 637,000 gal of waste. The waste is comprised of 631,000 gal of saltcake and 6,000 gal of unknown waste with 112,000 gal of pumpable interstitial liquid remaining. The tank is identified as a Hydrogen Watch List tank, is passively ventilated, and is categorized as sound with partial interim isolation completed. Tank 241-S-112 is third in the three-tank cascade series. The plan

view and tank cross-section that depict the approximate waste level and riser configuration are in Appendix G. Tank 241-S-112 has 12 risers, five are available for use: two 12-in. risers (no. 6 and no. 7) and three 4-in. risers (no. 2, no. 11, and no. 16).

2.12.2.1 Waste Layer Volume Approximation for Tank 241-S-112

A comparative analysis of all layer approximations for the entire tank farm and the data used to derive the tank layer approximations are located in Appendix K.

2.12.2.2 In-Tank Photograph 241-S-112

The picture of Tank 241-S-112 in Appendix I shows the waste in the tank is primarily a dry salt. Chemical analysis data from 1974 indicate that the tank contains mostly sodium nitrate. A plastic riser bag is visible near the center of photo as well as a metal pipe of unknown origin. A saltwell screen is also near the center of the photo. Various probes can be observed near the top of the photo including a liquid observation well, a temperature probe, a Food Instrument Corporation surface level probe, and other risers and nozzles. The tank contains approximately 640,000 gal of waste with a total depth of approximately 20 ft.

2.12.3 Synopsis Tank 241-S-112

(To be completed)

GLOSSARY

0.17	Transaction flag key-monthly volumes derived from semiannual reports.
0.33	Transaction flag key-monthly volumes derived from quarterly reports.
1	Monthly report.
1AYIN	See Waste Abbreviations.
1AZIN	See Waste Abbreviations.
1C	See Waste Abbreviations.
1CEB	See Waste Abbreviations.
1CS	See Waste Abbreviations.
1st Generation Tank	The original tank design encompassing Tank Farms B, C, T, U (excluding the 200 series tanks), and BX. These tanks have an operating capacity of 530,000 gal, a 75-ft diameter, a 12-in. dish bottom, and a 4-ft knuckle. Also see Type II tanks.
222-B	See Facilities.
222-C	See Facilities.
222-T	See Facilities.
222-U	See Facilities.
224	See Waste Abbreviations.
224-F	See Waste Abbreviations.
231Z	See Waste Abbreviations.
242-A	See Facilities.
242-B	See Facilities.

242-S	See Facilities.
242-T	See Facilities.
2AYIN	See Waste Abbreviations.
2AZIN	See Waste Abbreviations.
2C	See Waste Abbreviations.
2nd Generation Tank	Same as original tank design (1st generation, or type II) except the operating capacity was increased to 758,000 gal. Also see Type III tanks.
2SYIN	See Waste Abbreviations.
3	Quarterly report.
3AWIN	See Waste Abbreviations.
3rd Generation Tank	The first generation of the type IV tanks, contains the SX Tank Farm only. These tanks have a 1,000,000 gal operating capacity, a 75-ft diameter, a 14.875-in. dish bottom, and no knuckle. Also see Type IV tanks.
4th Generation Tank	The second generation of the type IV tanks, contains the A Tank Farm only. These tanks are the same as the 3rd generation except they have a flat bottom. Also see Type IV tanks.
5	See Waste Abbreviations.
5-6#	Cells 5 and 6 from B-Plant.
5AWIN	See Waste Abbreviations.
5th Generation Tank	The third generation of the type IV tanks, contains the AX Tank Farm only. These tanks are the same as the 4th generation with the addition of grid drain slots beneath the steel liner bottom.
6	Semiannual report.

6AWIN	See Waste Abbreviations.
A Plant (PUREX)	See Facilities.
A1 SLTCK	See LANL Defined Waste List.
A2 SLTSLRY	See LANL Defined Waste List.
Active Tank	A tank that contains more than 33,000 gal of waste and/or is still involved in waste management operations.
Active Drywell	Drywell in which radiation readings of greater than 50 counts/second are detected. To be considered active, the readings must be consistent as to depth and radiation level for repeated readings.
ADD	Add primary waste from process.
ADJ	Adjustment to waste amount-see CORR.
AGE, AGING	Waste Abbreviation.
Aging Waste	High-level, first-cycle solvent extraction waste from the PUREX Plant (NCAW).
Airlift Circulator	The airlift circulators are installed in tanks used to age wastes. The circulators promote mixing of the supernate and prevent agglomeration of radionuclides. By maintaining motion within the body of liquid, the circulators minimize superheat buildup and, consequently, minimize bumping.
Annulus	A vessel space in the form of a ring; the space between concentric walls.
AR Vault	A structure containing tanks and chemical processing equipment that is used for waste processing or storage operations.
AR	See LANL Defined Waste List.

Assumed Leaker	A waste storage tank for which surveillance data, in the past, has indicated a loss of liquid attributed to a breach of integrity.
Assumed Re-leaker	A designation that exists after a tank has been declared an "assumed leaker" and then the surveillance data indicate a new loss of liquid attributed to a breach of integrity.
Assumed Leaking Tank	In 1984, the criteria designations of "suspect leaker," "questionable integrity," "confirmed leaker," "declared leaker," "borderline," and "dormant" were merged into one category now reported as "assumed leaker."
B SLTCK	See LANL Defined Waste List.
B	See Waste Abbreviations.
B Plant (222-B)	See Facilities.
B860N	See Waste Abbreviations.
Background Radiation	Radioactivity from naturally occurring sources; primarily radiation from cosmogenic and naturally occurring radionuclides.
Baseline	A reference; for example, a specified liquid level or radiation level against which new information is compared.
BFSH	See Waste Abbreviations.
BL	See Waste Abbreviations.
BLEB	See Waste Abbreviations.
BLIX	See Waste Abbreviations.
BLIXB	See Waste Abbreviations.
BNW	Battelle Northwest Laboratory.
BNW	See Waste Abbreviations.

BPDCC	See Waste Abbreviations.
BPDCS	See Waste Abbreviations.
BPDCV	See Waste Abbreviations.
BPFPS	See Waste Abbreviations.
BPLCS	See Waste Abbreviations.
BPLDC	See Waste Abbreviations.
BPLDN	See Waste Abbreviations.
Bumping, Tank Bump	A tank bump occurs when solids overheat in the lower portion of the tank. The hot solids rapidly transfer heat to the liquid, some of which quickly vaporizes. The sudden pressurization caused by vapor generation is called a "bump".
BVCLN	See Waste Abbreviations.
BY SLTCK	See LANL Defined Waste List.
C Plant (222-C)	See Facilities.
C PLANT	See SSW.
Caisson	An underground structure used to store high-level waste; typical designs include corrugated metal or concrete cylinders, 55-gal drums welded end-to-end, and vertical steel pipes below grade.
Calcine	To heat a substance to a high temperature, but below its melting point, causing loss of volatile constituents such as moisture; refers also to the material produced by this process.
CARB	See Waste Abbreviations.
CAS	Cascade-see SET and END. This process filled three tanks with one pump using overflow siphoning. Normal use was with

	a sequence of tanks such as 101, 102, 103, or 110, 111, 112.
Cascade	Eleven of the single-shell tank farms (all except the AX Tank Farm) were equipped with overflow lines between tanks. The tanks were connected in series and were placed at different elevations creating a downhill gradient for liquids to flow from one tank to another.
CASS	Acronym for Computer Automated Surveillance System.
Catch Tanks	Small capacity single-shell tanks associated with diversion boxes and diverter stations. The tanks are designed to receive any transfer line cleanout, spills or leakage from the boxes, or leakage from the adjacent pipe encasement.
CAW	Current acid waste; this is PUREX acid HLW.
CC	See Waste Abbreviations.
CCGL	See Waste Abbreviations.
CCGR	See Waste Abbreviations.
CCPL	See Waste Abbreviations.
CCPLX	See Waste Abbreviations.
CCW	Concentrated customer waste.
CDF	Composition data file or transaction flag key-unit volume assumed to make stream active.
CE	See Waste Abbreviations.
CELL 23	Waste from cell 23 at B-Plant. Cell 23 contained an evaporator.
CEM	See Waste Abbreviations.

CF	See Waste Abbreviations.
CON	See Waste Abbreviations.
COND	Condensate-see EVAP, EB.
Condensate	Liquid formed from cooling vapors.
Conductivity Probe	A device that completes an electrical circuit when contacted by a conductive material.
Confirmed or Storage Declared Leaker	The designation of any underground waste tank where the data are considered sufficient to support a conclusion with 95 percent confidence that the tank has leaked.
COOL	Change in waste volume due to cooling. See CORR.
CORR	Correction to waste amount-see ADJ, LEAK, COOL.
CP	See Waste Abbreviations.
CPLX	See Waste Abbreviations.
CR Vault	Facility located adjacent to C Farm, used for scavenging campaign following uranium recovery. Ferrocyanide was added to tank supernatants in CR Vault and the slurry was returned to C-Farm.
Crib	A linear excavation approximately 15 ft in depth, with a perforated pipe in the bottom. The ditch is backfilled with broken rock or other loose material and then covered by soil and by a liquid impermeable membrane; the pipe is then used to distribute intermediate level liquid wastes along the crib.
Crust	A hard surface layer that has formed on top of the liquid in many waste tanks that contain concentrated solutions.
CSFD	See Waste Abbreviations.

CSR	See Waste Abbreviations.
CST	See Waste Abbreviations.
CSWLE	See Waste Abbreviations.
CSWLW	See Waste Abbreviations.
CTW	Caustic waste for makeup.
CW	See Waste Abbreviations
CWP	See Waste Abbreviations.
CWP/ZR	See Waste Abbreviations.
CWP2	See LANL Defined Waste List.
CWR	See Waste Abbreviations.
CX70	See Waste Abbreviations.
D	Transaction Flag Key-Amount by difference.
DBP	Dibutyl phosphate.
DC	See Waste Abbreviations.
DCS	Acroynm for dilute caustic solutions
DE	Acronym for diatomaceous earth that was added to Tanks 241-BX-102, -SX-113, -TX-106, and -U-104 from 1970 to 1972.
DE	See LANL Defined Waste List.
Deliquescent	A solid that is capable of absorbing moisture from the air and becoming a liquid.
Desiccant	A drying agent such as diatomaceous earth.
Diatomaceous Earth	Diatomite, a light friable siliceous material, derived chiefly from diatom (algae) remains that is added to selected underground waste storage tanks

	to absorb and, thereby, immobilize residual liquids (i.e help to stabilize the tank).
DBP	Dibutyl phosphate.
DIL	Dilution
DILFD	Dilute feed
Ditch	A linearly oriented excavation often used for the temporary diversion or disposal of process waste streams.
Diversion Box	A below grade concrete enclosure containing the remotely maintained jumpers and spare nozzles for the routing of waste solution to storage tank farms.
DN/PT	See Waste Abbreviations.
DN/PD	See Waste Abbreviations.
DN	See Waste Abbreviations.
Double-Shell Tank	The newer underground waste storage tanks consisting of a concrete shell and two concentric carbon steel liners with an annular space between the liners.
Double-Shell Slurry	Waste that exceeds the sodium aluminate saturation boundary in the evaporator without exceeding receiver tank composition limits. For reporting purposes, DSS is considered a solid.
Double-Shell Slurry Feed (DSSF)	Waste concentrated just before reaching the sodium aluminate saturation boundary in the evaporator without exceeding receiver tank composition limits. This form is not as concentrated as DSS.
Drywell	A steel casing, generally 6 inches in diameter drilled into the ground to various depths, and used to insert monitoring instruments for measuring the presence of radioactivity or moisture

	content.
Drywell (in-tank)	A sealed casing within a tank that is attached to a riser. It is used to insert experimental equipment, such as neutron or acoustical probes, to determine the level of drainable interstitial liquor.
DSS	See Waste Abbreviations.
DSSF	See Waste Abbreviations.
DUMM	See Waste Abbreviations.
DUMMY	See Waste Abbreviations.
DW	See Waste Abbreviations.
DWBIX	See Waste Abbreviations.
E	Transaction flag key-waste transferred through evaporator.
EB	See Waste Abbreviations.
EDTA	Ethylenediaminetetraacetic acid.
EF	See Waste Abbreviations.
EFD	See Waste Abbreviations.
END	Disconnect Cascaded Tanks, see CAS, Set.
Environs	Surrounding area, vicinity.
EV	Evaporation.
EVAP	See Waste Abbreviations.
EVAPF	See Waste Abbreviations.
Evaporator Feed	Any waste liquid that can be concentrated to form saltcake; e.g., low heat waste, dilute interstitial liquor, aged waste, and other radioactive waste solutions.

Evaporator-Crystallizer	242-A and 242-S waste concentration facilities that operate at a reduced pressure (vacuum) and are capable of producing a slurry containing about 30 volume percent solids at a specific gravity of greater than 1.6.
EVS	Partial neutralization in the 242-S Evaporator.
EVT	HEDTA destruction in the 242-B or 242-T Evaporators.
FD	See Waste Abbreviations.
FECN	Ferrocyanide wastes created during a scavenging campaign in 1953-57. See SCAV, POO, TOO.
Ferrocyanide	An ion composed of iron and cyanide with the chemical formula of $Fe(CN)^{-4}_{6}$.
FIC	A Food Instrument Corporation automatic liquid level gauge based on a conductivity probe. At Hanford, they are electrically connected to a computer for data transmission, analysis, and reporting. Local readings may also be obtained from a dial.
First- And Second-Cycle Decontamination Wastes	Waste contained 10 percent of the original fission product activity and 2 percent of the products. By-product cake solution was mixed with product waste and neutralized with 50 percent caustic. The waste contained a mixture of suspended solids, hydroxides, carbonate and phosphate, scavenger metals, chromium, iron, sodium, and silicofluoride.
FLSH	See Waste Abbreviations.
FP	Fission Product Waste. Waste produced at B Plant and Hot Semiworks in campaigns for Cs and Sr recovery during the 1960s. Cs was removed from PUREX supernatant and Sr was removed from

	PUREX sludge; both were removed from acidic waste.
FP	See Waste Abbreviations.
GA	Gain to tank.
Gamma Ray	Electromagnetic radiation sometimes emitted by the nuclei of radioactive substances during decay, similar in nature to X-rays.
GAS	Slurry growth as a result of gas generation.
GM Instrument	Instrument for detecting low-level beta and gamma radiation using a Geiger-Mueller tube.
GROUP	A group of tanks where ITS averaged the supernatant phases-see ITS.
Gunite	A building material consisting of a mixture of cement, sand, and water that is sprayed onto a mold.
H_2O	Water.
HDRL	See Waste Abbreviations.
HEAT	A tank correction, see CORR, COOL.
HEDTA	N hydroxy-ethylenediaminetriacetic acid.
Heel	The amount remaining in a vessel or container after most of the contents have been removed.
Hexone	Methyl isobutyl ketone, an organic solvent used in the REDOX solvent extraction process. Also known as Isobutyl methyl ketone, Methyl isobutyl ketone, 4-Methyl 2-pentanone, MIBK.
High-Level Waste	Waste from the fuel reprocessing operations in separations plants.
Historical Information	All information obtained from material

	referenced in published documentation and unpublished sources. Unpublished sources include electronically retrieved data (i.e. temperatures, liquid observation well, sampling, and surface level) and photographs.
HLO	See Waste Abbreviations.
HLO	Hanford Laboratory Operations.
HLW	See Waste Abbreviations.
HOT-SEMI	See HS, SSW.
HS	See Waste Abbreviations.
HS	Hot Semi-Works. A pilot facility that had a variety of operations. C Plant.
HWVP	Dilute, non-complexed waste from the vitrification plant.
I&S	Tank isolated and stabilized.
Inactive Tank	A tank that has been removed from liquid-processing service, has been pumped to less than 33,000 gal of waste, and is waiting to be, or is in the process of being, stabilized and interim isolated. Includes all tanks not in active or active-restricted categories. Otherwise inactive contingency spares that would be used if an active tank failed are also included.
INST	Change in tank level due to change in instrumentation.
Interim Isolated	An administrative designation reflecting the completion of the physical effort required to minimize the addition of liquids into an inactive storage tank, process vault, sump, catch tank, or diversion box.
Interim Stabilized	A tank which contains less than 50,000 gallons of drainable interstitial liquid

	and has less than 5,000 gallons of supernatant liquid. If the tank was jet pumped to achieve interim stabilization, then the jet pump flow must also have been at or below 0.05 gallons per minute before interim stabilization is completed.
Interstitial Liquor	The liquid that fills the interstices or the void volume in the solid material in a waste tank.
Interstitial	The volume within a solid matrix made up of the crevices, cracks, and void spaces.
Intrusion Mode FIC Setting	The FIC probe is positioned a short distance above the waste surface. If the surface level of the waste in the tank increases, thereby touching the probe tip, a positive indication is received.
Intrusion Prevention	This is an administrative designation reflecting the completion of the physical effort required to minimize the addition of liquid into an inactive storage tank, process vault, catch tank, sump, or diversion box.
ISO	Tank is interim-isolated.
ITS	The In-Tank Solidification Program was a program used to reduce waste volume directly by evaporating the wastes from inside certain tanks in the BX and BY Farms. The process used both hot air (ITS-1) and an electric heater (ITS-2).
IWW	See Waste Abbreviations.
IX	See Waste Abbreviations.
Jet Pump	A modified commercially available low capacity jet pump used as a salt well pump.
Knuckle	Point where the side wall and the bottom

	curved surface of a tank meet.
L222S	See Waste Abbreviations.
L3A4A	See Waste Abbreviations.
LaF	See Waste Abbreviations.
Lateral	Horizontal drywell under A Farm and certain SX Farm waste storage tanks.
Leak Detection Pit	Collection point for any leakage from AX Farm tanks. The pits are equipped with radiation and liquid detection instruments.
LEAK	Tank leak volume, see CORR.
LETF	Liquid effluent treatment facility from N-Reactor.
Level Adjustment	Any update in the waste inventory (or tank level) in a tank. The adjustments usually result from surveillance observations or historical investigations.
Level History	A diagram that shows the history of the waste level and waste level changes in a tank. The diagram also includes other related data.
Liquid Observation Well (LOW)	Liquid observation wells are used to monitor the interstitial liquid level (ILL) in single-shell waste storage tanks. Three probes are used to monitor changes in the ILL: acoustic, gamma, and neutron. Each method can indicate intrusions or leakage by increases or decreases in the ILL.
Liquid Level Best Engineering Judgement Line	During the initial fill of certain single-shell tanks, only the liquid level was reported. To adjust for the big increase in level height, which occurred when solids were added to the record, a sloped line was used to reflect solids volume between the

	initial fill and the time the solids data was recorded.
LO	Loss from tank.
LUNC	See Waste Abbreviations.
LW	See Waste Abbreviations.
Metal Waste (MW)	Waste from the extraction containing all the uranium, approximately 90 percent of the original fission product activity, and approximately 1 percent of the product. This waste was brought just to the neutral point with 50 percent caustic and then treated with an excess of sodium carbonate. This procedure yielded almost completely soluble waste at a minimum total volume. The exact composition of the carbonate compounds was not known but was assumed to be an uranium phosphate carbonate mixture.
Molarity	Number of gram molecular weights(moles) per liter of solution.
Mole	The amount of a substance with weight equal to the molecular weight in grams.
MW	See Waste Abbreviations.
MWF	See Waste Abbreviations.
N	See Waste Abbreviations.
NCAW	See Waste Abbreviations.
NCPL	See Waste Abbreviations.
NCPLEX	See Waste Abbreviations.
NCPLX	See Waste Abbreviations.
NCRW	See Waste Abbreviations.
Neutralized PUREX Acid Waste	The original plant in 1956 neutralized all the high-level waste and sent it to the 241-A Tank Farm. As fission product

	recovery started, a portion of the waste was treated for strontium recovery and then neutralized. As of 1967, all of the high-level waste left PUREX as an acid solution for treatment at B Plant.
Neutron Probe	Probe equipped with a neutron source and detector. They are used in dry well monitoring to determine the moisture content of the soil as one means for detecting leaks in underground waste storage tanks or pipelines.
NFAW	See Waste Abbreviations.
NHAW	See Waste Abbreviations.
NIT	$HNO_3/KMNO_4$ solution added during evaporator operation.
Noise At The Bottom Of Well--Drywell Probe	Erroneous reading caused by probe coming contact with foreign objects at the bottom of a well.
Non-Complexed (NCPLX)	General waste term applied to all Hanford Site liquors not identified as complexed (containing organics).
NPH	Normal paraffin hydrocarbon.
NRAW	See Waste Abbreviations.
NRP82	See Waste Abbreviations.
NRPO4	See Waste Abbreviations.
NRSO4	See Waste Abbreviations.
NTA	Nitrilotriacetic acid.
Nuclear reactor	A device for creating a controlled nuclear chain reaction using atomic fuel, as for the production of energy.
Open Hole Salt Well	A well in which a pump is inserted in solid waste. Frequently used to remove the liquid from tanks containing less than 2 feet of sludge.

Organic Wash Waste(OWW)	The solvent used in PUREX was treated before reuse by washing with potassium permanganate and sodium carbonate, followed by dilute nitric acid and then a sodium carbonate wash.
Out-of-Service-Tank	A tank that does not meet the definition of an in-service tank. Before September 1988, these tanks were defined as inactive. {Note: all single-shell tanks (SSTs) are out of service.}
OWW	See Waste Abbreviations.
P	See Waste Abbreviations.
P1:	See LANL Defined Waste List.
P2:	See LANL Defined Waste List.
PADFG	See Waste Abbreviations.
PADWG	See Waste Abbreviations.
Partially Interim Isolated	The administrative designation reflecting the completion of the physical effort required for Interim Isolation except for the isolation of risers and piping that will be required for jet pumping or for other methods of stabilization.
PAS	See Waste Abbreviations.
PASF	See Waste Abbreviations.
PAW	See Waste Abbreviations.
PD	See Waste Abbreviations.
PDBNG	See Waste Abbreviations.
PDBSU	See Waste Abbreviations.
PDBTG	See Waste Abbreviations.
PDCSS	See Waste Abbreviations.

PDL87	See Waste Abbreviations.
PDL89	See Waste Abbreviation.
PDNSG	See Waste Abbreviations.
PDS87	See Waste Abbreviations.
PDS89	See Waste Abbreviations.
PDSLG	See Waste Abbreviations.
PDSUP	See Waste Abbreviations.
PFeCN	See Waste Abbreviations.
PFeCN1:	See LANL Defined Waste List.
PFeCN2:	See LANL Defined Waste List.
PFMMS	See Waste Abbreviations.
PFP (Z-Plant)	See facilities.
PFP	Plutonium finishing plant waste (see Z, 224, PRF).
PFPGR	See Waste Abbreviations.
PFPNT	See Waste Abbreviations.
PFPPT	See Waste Abbreviations.
PFPSL	See Waste Abbreviations.
pH	A measure of the hydrogen ion concentration in a solution.
Pile	An early term used to describe a nuclear reactor.
PL	See Waste Abbreviations.
PML89	See Waste Abbreviations.
PMS89	See Waste Abbreviations.
PN	See Waste Abbreviations.

PNF	See Waste Abbreviations.
POO-P##	In-Plant scavenging with FeCN-see SCAV, TOO-T##.
Portland Cement	A hydraulic cement made by finely pulverizing the clinker produced by calcining to incipient fusion a mixture of clay and limestone or similar materials.
PRF	Plutonium Reclaimation Facility-Type of waste generated in Z-Plant for "finishing wastes". Solvent based extraction process using CCl_4/TBP.
Primary Addition	An addition of waste from a specific plant or process vault. These additions come from the "waste Status and Transaction Record Summary", WHC-SD-WM-TI-614 & -615 Rev. 0 DRAFT.
Primary Stabilization	The condition of an inactive waste storage tank after all liquid above the solids, other than isolated surface pockets, has been removed. Isolated surface pockets of liquid are those not pumpable by conventional techniques.
Probe	A device used to get information about the environment. In this report, an instrument package designed to be inserted in drywells, risers, or ports to measure waste characteristics.
PSL	See Waste Abbreviations.
PSS	See Waste Abbreviations.
PSSF	See Waste Abbreviations.
Psychrometry	Determination of humidity or dew point from wet and dry bulb temperatures with the difference in the two used as a measure of dryness in the atmosphere.
PT	See Waste Abbreviations.

PUREX	See Facilities.
PX86S	See Waste Abbreviations.
PXBAW	See Waste Abbreviations.
PXBSG	See Waste Abbreviations.
PXFTF	See Waste Abbreviations.
PXLOW	See Waste Abbreviations.
PXMET	See Waste Abbreviations.
PXMSC	See Waste Abbreviations.
PXNAW	See Waste Abbreviations.
Questionable Integrity	Any tank that has a small decrease in liquid level or a radiation increase in an associated dry well, for which the data are insufficient to support a conclusion with 95 percent confidence that the tank is sound.
R	See Waste Abbreviations.
R SLTCK:	See LANL Defined Waste List.
R1:	See LANL Defined Waste List.
R2:	See LANL Defined Waste List.
Radiation Zone	An area containing radioactive materials in quantities significant enough to require control of personnel entry to the area.
Radiation	Particles and electromagnetic energy emitted by nuclear transformations that are capable of producing ions when interacting with matter.
Readily available have Risers	Risers located above grade which do not apparatus attached to or contained in them.

REC	Receive waste from another tank-see XFER.
REDOX	See Facilities.
Removed From Service is not (Tanks)	Any tank that is a confirmed leaker or intended for reuse.
Rerun Drywell Data	Surveillance data which supersedes "suspect data".
RESD	See Waste Abbreviations.
RIX	See Waste Abbreviations.
RMC	Remote Mechanical C-Line -Process used in Z-Plant.
RSN	See Waste Abbreviations.
RSS	See Waste Abbreviations.
RTX	See Waste Abbreviations.
S	Transaction Flag Key-Partial neutralization (PNF).
S-Plant (REDOX)	See Facilities.
S1 SLTCK:	See LANL Defined Waste List.
S2 SLTSLRY:	See LANL Defined Waste List.
Salt Cake	Crystallized nitrate and other salts deposited in waste tanks, usually after active measures are taken to remove moisture.
Salt Well	A hole drilled or sluiced into a salt cake and lined with a cylindrical screen to permit drainage and jet pumping of interstitial liquors.
SCAV	Scavenging campaign with FECN on TBP, 1952-57. See TOO-T##, POO-P##.
Scavenged	Waste which has been treated with ferrocyanide to remove cesium from the

	supernatant by precipitating it into the sludge.
Scintillation Monitor	A radiation detection instrument based on the principle that light pulses are produced in some materials when they are exposed to radiation.
Self Concentrating	High-level liquid radioactive waste whose constituent radionuclides contribute sufficient decay heat to cause the solution to boil and/or self-concentrate.
Self-Evaporation	A waste material in which moisture is being lost as the moisture changes to a vapor and diffuses into the atmosphere.
SET	Connect cascaded tanks together-see CAS and END.
SIX	See Waste Abbreviations.
SL	See Waste Abbreviations.
SL3SY	See Waste Abbreviations.
Sludge	Primarily insoluble metal hydroxides and oxides precipitated from neutralized waste.
Slugs	An early term for uranium fuel elements which had been machined or extruded into short cylinders which were then clad or encased in corrosion-resistant metals.
Sluicing, or sluiced	To wash with water. At Hanford, this has meant to dissolve or suspend in solution by action of a high pressure water stream.
Slurry	Insoluble material suspended in water or aqueous solution.
Sound Tank	The classification of a waste storage tank for which surveillance data indicates there has been no loss of liquid attributed to a breach of

	integrity.
SPRG	Sparge-transfer of water or volume
SRR	See Waste Abbreviations.
SRS	See Waste Abbreviations.
SRS	See Waste Abbreviations.
SSW	See Waste Abbreviations.
STAB	Tank stabilized by removal of liquid. Both floating suction and salt-well jet pumps used to remove liquid.
Stabilization	The removal, or immobilization, as completely as possible, of the liquid contained in a radioactive waste storage tank by salt well pumping, open hole salt well pumping, diatomaceous earth addition, etc.
Static Tank	A tank with no significant change in liquid level or involvement in transfer operations during a stated period of time.
Strontium Semi-Works	Called C-Plant or Hot Semi-Works, was a pilot plant for both Redox and Purex, then reconfigured for strontium recovery.
SU	See Waste Abbreviations.
Supernatant (Supernatant Liquid)	In waste storage tanks, the liquid quantity defined by the difference between the measured liquid level and the measured average solids level in a tank.
Surveillance	Regular or systematic watch kept over someone or something.
Suspect Data	Surveillance data which does not fall within the expected range and is superseded by "reruns."

SV	Transaction Flag Key-Amount by difference in solids.
SW RCR	Salt-well Receiver.
SWLIQ	See Waste Abbreviations.
SWLQW	See Waste Abbreviation.
T-Plant (222-T)	See Facilities.
T1 SLTCK:	See LANL Defined Waste List.
T2 SLTCK:	See LANL Defined Waste List.
Tank Farm	An area containing a number of storage tanks; i.e., a chemical tank farm for storage of chemicals used in a plant, or underground waste tank storage of radioactive waste.
TBP	Tributyl phosphate, a solvent used in the PUREX solvent extraction process.
TBP	See Waste Abbreviations.
TCO	See Waste Abbreviations.
Terminal Liquor	The liquid product from the evaporation-crystallization process which, upon further concentration, forms an unacceptable solid for storage in single-shell tanks. Terminal liquor is characterized by a caustic concentration of approximately 5.5 M (the caustic molarity will be lower if the aluminum salt saturation is reached first).
TFeCN	See Waste Abbreviations.
TH	See Waste Abbreviations.
Thermocouple Tree	A group of thermocouples assembled in a pipe and inserted into a waste tank for measuring temperatures at regular (normally 2 feet) vertical intervals.
Thermocouple,	A probe for measuring temperature,

Thermocouple probe	consisting of two dissimilar metal wires joined at one end (hot junction) with the free ends joined to a measuring instrument. Electrical potential changes due to temperature changes at the hot end are measured and calibrated to read out as temperature.
Thermowell	A well in a waste tank which contains thermocouples.
THL	See Waste Abbreviations.
Thorium	A chemical element which is also a fertile material. By fertile is meant that when subjected to radiation in a nuclear reactor it will be converted, in this case, to ^{233} uranium, a potential fuel.
TK	Tank. TK-17-2, however, was an early designation for B-Plant.
TL	See Waste Abbreviations.
TOO-T##	In-Tank scavenging with FECN, see SCAV, P##.
TPLAL	See Waste Abbreviations.
TPLAN	See Waste Abbreviations.
TPLAS	See Waste Abbreviations.
TR	Transfer from tank.
Trench	A deep furrow in the ground. At Hanford they are used for the disposal of solid waste.
trFlag	Transaction Flag Keys-used by W-Trac-see CDF, D, E, S, SV, 1, 3, 6, 0.17, 0.33.
Tributyl Phosphate(TBP)	A chemical compound, also an organic solvent used in the PUREX solvent extraction process.

Type I Tank	These are the 200 series B, C, T, and U Farm tanks. They have an operating capacity of 55,000 gal, a 20-ft diameter, a 6-in. dish bottom, and a 3-ft knuckle. There is no generation associated with type I tanks.
Type II Tank	These are the original, 1st generation, tank designs, encompassing B, C, T, U (excluding the 200 series tanks), and BX Tank Farms. Also see 1st Generation Tank.
Type III Tank	These are the 2nd Generation tank designs, encompasing BY, S, TX, and TY Tank Farms. Also see 2nd Generation Tank.
Type IV Tank	These include 3rd, 4th, and 5th generation tank designs, encompasing SX, A, and AX Tank Farms respectively. Also see 3rd Generation Tank, 4th Generation Tank, and 5th Gneration Tank.
Type V Tank	These are the first double shell tank designs, encompasing AY, AZ, and SY Tank Farms.
U-Plant (222-U)	See Facilities.
U1U2	See Waste Abbreviations.
UNKN	Unknown waste origin sink.
UNKNOWN:	See LANL Defined Waste List.
UR	Uranium recovery operation in 222-U, 1952-57. Created TBP (primary waste) and FECN (scavenging wastes). See TFeCN, PFeCN, POO, TOO, FeCN.
UR:	See LANL Defined Waste List.
Watch List Tank	An underground storage tank containing waste that requires special safety precautions because it may have a serious potential for release of high-level radioactive waste because of

	uncontrolled increases in temperature or pressure. Special restrictions have been placed on these tanks by "Safety Measures for Waste Tanks at Hanford Nuclear Reservation," Section 3137 of the National Defense Authorization Act for Fiscal Year 1991, November 5, 1990, Public Law 101-501 (also known as the Wyden Amendment).
WATER	Flush water from various sources.
WTR	Water.
WVP	Waste volume projections
XFER	Transfer of waste out of tank.
Z	See Waste Abbreviations
Z-Plant	See Facilities
Z-PLANT	PFP. Plutonium Finishing Plant.
ZAW	See Waste Abbreviations.
ZHIGH	See Waste Abbreviations.
ZLAB	See Waste Abbreviations.
ZLOW	See Waste Abbreviations.
ZPRFL	See Waste Abbreviations.
ZPRFS	See Waste Abbreviations.
ZRM	See Waste Abbreviations.
ZRMCL	See Waste Abbreviations.
ZRMCS	See Waste Abbreviations.

WASTE ABBREVIATIONS

1AYIN	Concentrated complex waste from 101 AY inventory
1AZIN	Pre 2-81 101AZ inventory
1C	First cycle waste
1CEB	1st cycle evaporator bottoms
1CS	1st cycle scavenging waste
224	224-U waste
224-F	224-U waste. LaF Pu finishing plant
231Z	Dilute, phosphate waste from 231Z laboratories
2AYIN	Pre 2-81 102AY inventory
2AZIN	Pre 2-81 concentrated complex waste from 102AZ inventory
2C	Second cycle waste
2SYIN	Pre 2-81 102SY inventory
3AWIN	Pre 2-81 103AW inventory
5-6	B-Plant tank 5,6 waste
5AWIN	Pre 2-81 105AW inventory
6AWIN	Concentrated phosphate waste in 106AW inventory
AGE, AGING	Aging waste
B	B-Plant high- level waste
B860N	Dilute, non-complexed waste from B Plant cell drainage
BFSH	B-Plant flush waste water
BL	B-Plant low-level waste

BLEB	B-Plant low-level evaporator bottoms
BLIX	B-Plant low level ion exchange?
BLIXB	B-Plant low level ion exchange bottoms?
BNW	Battelle Northwest Laboratory waste
BPDCC	Dilute, complexed waste from B Plant cesium processing
BPDCS	Dilute, complexed waste from B Plant strontium processing
BPDCV	Dilute, complexed waste from B Plant vessel clean-out
BPFPS	B Plant high Tru solids from retrieved PFP solids
BPLCS	Dilute, non-complexed waste from B Plant strontium processing
BPLDC	Dilute, complexed waste from B Plant cesium processing
BPLDN	Dilute, non-complexed waste from B Plant cesium processing
BVCLN	Dilute, non-complexed waste from B Plant vessel clean-out
CARB	PUREX organic wash waste
CC	Complexant concentrate waste
CCGL	B-Plant high Tru solids from retrieved complexed concentrate
CCGR	Dilute, non-complexed waste from retrieved complexed concentrate
CCPL	Complexant concentrate
CCPLX	Complexant concentrate-see CPLX

CE	Evaporator concentrate
CEM	Concrete-see CON
CF	Cesium feed
CON	Concrete-see CEM
CP	Concentrated phosphate waste from N Reactor decontamination
CPLX	Complex waste
CSFD	Cesium feed
CSR	Waste sent to B-Plant for cesium recovery
CST	Caustic solution
CSWLE	Complexed salt well liquid east area
CSWLW	Complexed salt well liquid west area
CW	Coating waste
CWP/ZR	Coating waste (PUREX), Zirconium cladding
CWP	Coating waste (PUREX)
CWR	Coating waste (REDOX)
CX70	Dilute, complexed mixture hot-semiworks Tru solids
DC	Dilute complexed waste
DN/PD	DN with P Tru solids
DN	Dilute non-complexed waste
DN/PT	DN with PFP Tru solids
DSS	Double-shell slurry
DSSF	Double-shell slurry feed

DUMM	Dummy waste
DUMMY	Dummy waste
DW	Decontamination waste
DWBIX	Decontamination waste and B-Plant ion exchange
EB	Evaporator bottoms
EF	Evaporator feed
EFD	Evaporator feed dilute
EVAP	Evaporator feed (post 1976)
EVAPF	Dilute, non-complexed waste from evaporator pad flush
FD	Feed dilute
FLSH	Flush water
FP	Fission product waste
HDRL	Hanford defense residual liquor
HLO	Hanford laboratory operations waste
HLW	High level waste-generic for all Hanford tank wastes
HS	Hot semiworks waste
IWW	PUREX #1 acid concentrator waste
IX	Ion exchange waste
L222S	222S laboratory, dilute non-complexed waste
L3A4A	Dilute non-complexed laboratory wastes from 300 & 400 areas
LaF	Lanthanum fluoride waste generated in PFP

LUNC	Dilute, non-complexed waste from UNC fuels fabrication
LW	Laboratory waste
MW	Metal waste
MWF	Metal waste feed
N	N-Reactor waste
NCAW	Neutralized current acid waste, primary HLW stream from PUREX process
NCPLEX	Non-complexed waste-see NCPLX
NCPLX	Non-complexed waste-see NCPLEX
NCPL	Non-Complexed waste
NCRW	Neutralized cladding removal waste-same as CWP.
NFAW	Aging waste from PUREX/PFM high level waste
NHAW	Aging waste from PUREX/PFM processing of NPR fuel
NRAW	Aging waste from PUREX/PFM residue acid waste
NRP82	Dilute, non-complexed waste from FY82 100-N area waste transfer
NRPO4	Dilute, phosphate waste from 100N area
NRSO4	Dilute, non-complexed waste from 100N area
OWW	Organic wash waste
P	PUREX waste
PADFG	Purex ammonia destruction waste, from fuels grade fuel
PADWG	Purex ammonia destruction waste, from

	weapons grade fuel
PAS	Purex acidified sludge
PASF	Purex ammonia scrubber feed
PAW	Purex acidified waste
PD	Purex decladding waste
PDBNG	Decladding sludge (non-Tru) from B Plant processing
PDBSU	Dilute, non-complexed waste from B Plant decladding waste
PDBTG	B Plant aging waste solids from Purex decladding waste
PDCSS	Dilute non-complexed Purex decladding waste, FY1986 only
PDL87	Purex decladding supernatant, 1987
PDL89	Purex decladding supernatant, non-Tru, spent metathesis removed
PDNSG	Non-Tru decladding sludge from Purex
PDS87	Purex decladding sludge
PDS89	Purex decladding sludge after FY89
PDSLG	Purex decladding sludge sol Purex
PDSUP	Dilute, non-complexed waste, Purex decladding waste
PFeCN	Ferrocyanide sludge produced by in-plant scavenging of waste from uranium recovery
PFMMS	Dilute, non-complexed waste from shear/leach processing of NPR fuel
PFPGR	Dilute, non-complexed waste from retrieved PFP solids

PFPNT	Non-tru sludge from the PFP sol Z Plant
PFPPT	Dilute, non-complexed waste from the PFP (with TRUEX)
PFPSL	High-tru sludge from the PFP sol Z Plant
PL	PUREX low-level waste
PML89	Purex spent metathesis liquid after FY89
PMS89	Purex spent metathesis solids after FY89
PN	Purex neutralized cladding waste
PNF	Partial neutralized waste
PSL	Purex sludge sluiced during recovery of strontium
PSS	PUREX sludge supernatant
PSSF	Purex sludge supernatant feed
PT	Tru solids from 200W
PX86S	Dilute, non-complexed waste from Purex miscellaneous streams(NPR fuel) FY86
PXBAW	B Plant aging waste supernatant from retrieved aging waste
PXBSG	B Plant aging waste solids from retrieved aging waste
PXFTF	Dilute, non-complexed waste from Purex miscellaneous streams (FFTF)
PXLOW	Purex low level waste
PXMET	Purex dilute, non-complexed decladding: spent metathesis
PXMSC	Dilute, non-complexed waste from Purex miscellaneous streams(NPR fuel)
PXNAW	Aging waste from Purex high level waste

R	REDOX waste
RESD	Residual evaporator liquor
RIX	REDOX ion exchange waste
RSN	REDOX supernatant
RSS	Redox sludge supernatant
RTX	Redox ion exchange
SIX	PUREX ion exchange waste
SL	Sludge
SL3SY	Double shell slurry from end of FY80, 103SY inventory
SRR	Waste sent to B-Plant for strontium recovery
SRS	Strontium sludge
SRS	Strontium recovery supernatant
SSW	Strontium semiworks waste
SU	Supernatant
SWLIQ	Dilute, non-complexed waste from east area single shell tanks
SWLQW	Dilute, non-complexed waste from west area single shell tanks
TBP	Tri-Butyl Phosphate
TCO	Dilute non-complexed waste from terminal cleanout
TFeCN	Ferrocyanide sludge produced by in-tank or in-farm scavenging
TH	Thoria HLW or cladding waste
THL	Thoria low level waste

TL	Terminal liquor
TPLAL	Dilute, non-complexed waste from T Plant
TPLAN	Dilute, non-complexed waste from T Plant
TPLAS	Sludge from T Plant operations
U1U2	Dilute, non-complexed waste from U1/U2 groundwater pumping
Z	Z-Plant waste
ZAW	Purex waste stream from zirconium cladded fuel
ZHIGH	Dilute, non-complexed waste from the PFP (without Truex)
ZLAB	Dilute, non-complexed waste from the PFP laboratories
ZLOW	Dilute, non-complexed waste from Pre-FY85 Z Plant operations
ZPRFL	Dilute, non-complexed waste from PRF processing
ZPRFS	PFP Tru solids from PRF processing
ZRMCL	Dilute, non-complexed waste from PFP RMC processing
ZRMCS	PFP Tru solids from PFP RMC processing

A. LANL Defined Wastes

LANL DEFINED WASTE LIST

A1 SLTCK	Saltcake waste generated from the 242-A evaporator-crystallizer from 1977 until 1980.
A2 SLTSLRY	Salt slurry waste generated from the 242-A evaporator-crystallizer from 1981 until 1994.
AR	"Washed" PUREX sludge fromthe AR vault.
B SLTCK	Saltcake waste generated from the 242-B evaporator from 1951 until 1955.
BY SLTCK	Saltcake waste generated from in-tank solidification units 1 and 2 between 1965 and 1974.
CWP2	Cladding waste-PUREX 2???
DE	Diatomaceous earth.
P1	PUREX high-level waste generated between 1955 and 1962.
P2	PUREX high-level waste generated between 1963 and 1967.
PFeCN1	Ferrocyanide sludge generated from in-plant scavenging of waste from uranium recovery.
PFeCN2	Same as PFeCN1, except used 0.0025 M ferrocyanide.
R SLTCK	Salt cake waste from the REDOX concentrator.
R1	REDOX waste generated between 1952 and 1957.
R2	REDOX waste generated between 1958 and 1966.

S1 SLTCK	Saltcake waste generated from the 242-S evaporator/crystallizer from 1973 until 1976.
S2 SLTSLRY	Salt slurry waste generated from the 242-S evaporator-crystallizer from 1977 until 1980.
T1 SLTCK	Saltcake waste generated from the 242-T evaporator from 1951 until 1955.
T2 SLTCK	Saltcake waste generated from the 242-T evaporator from 1965 until 1955.
UNKNOWN	Unkown waste type.
UR	Uranium recovery waste (also known as tributyl phosphate (TBP) waste).

FACILITIES

A Plant (PUREX)	The facility at Hanford which contains the latest solvent extraction process for recovery of both plutonium and uranium.
B Plant (222-B)	On of the three original bismuth-phosphate processing facilities. Later converted to a waste fractionation plant.
C Plant (222-C)	Initially a pilot plant for Redox, later a pilot plant for Purex and B-Plant waste partitioning.
S Plant (REDOX)	The facility at Hanford which contains the original extraction process for recovery of both plutonium and uranium.
T Plant (222-T)	One of the three original bismuth-phosphate processing facilities. Later converted to a decontamination facility.
U Plant (222-U)	One of the three original bismuth-phosphate processing facilities. Later converted to a uranium recovery plant.
PFP (Z Plant)	Plutonium Finishing Plant. The final operations for production of plutonium products are carried out in this facility.
242-A	A forced circulation vacuum evaporation system.
242-B	An evaporator that operates at atmospheric pressure. Also referred to as an open air type evaporator.
242-S	A forced circulation vacuum evaporation system.
242-T	An evaporator that operates at atmospheric pressure. Also referred to as an open air type evaporator.

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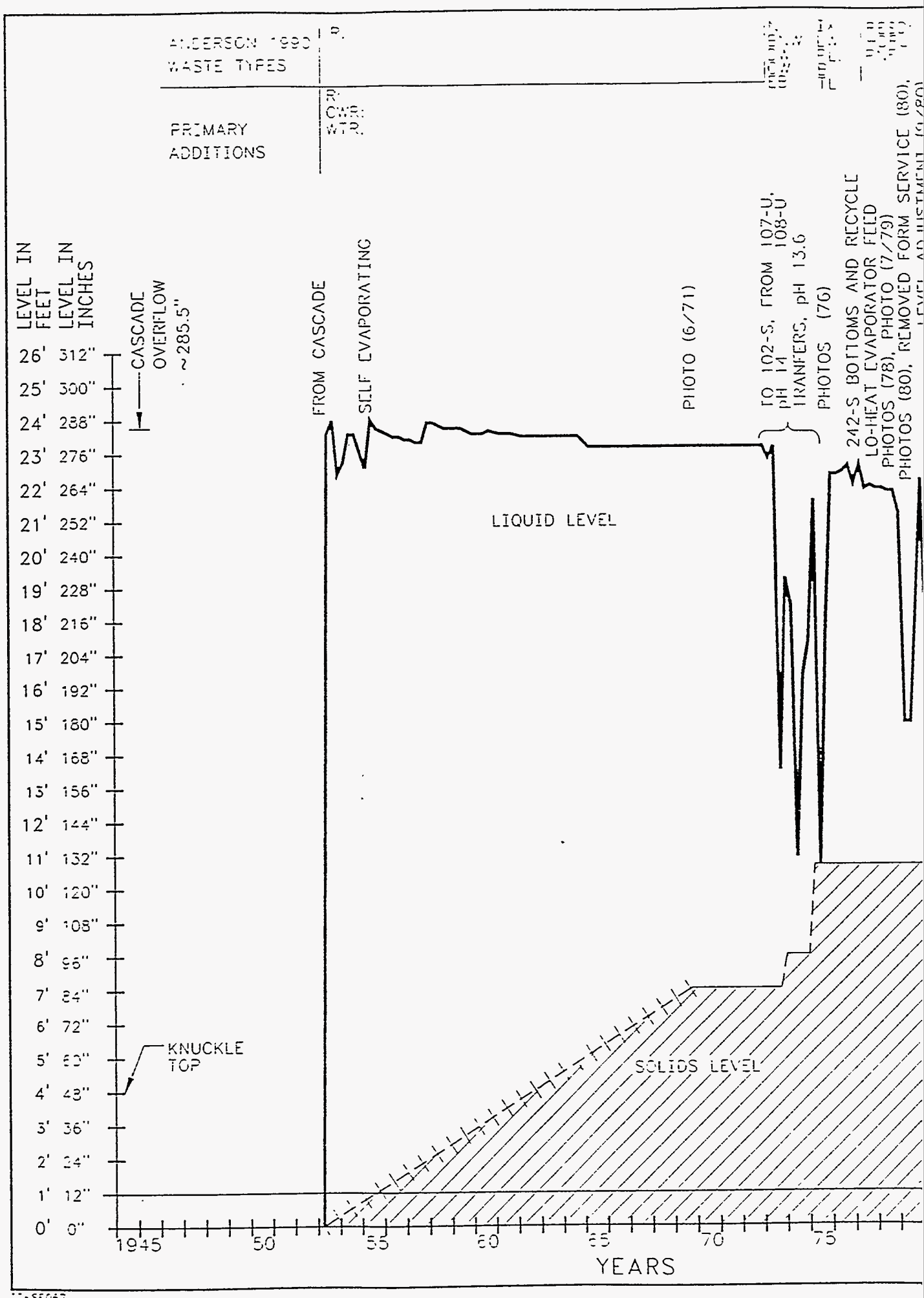
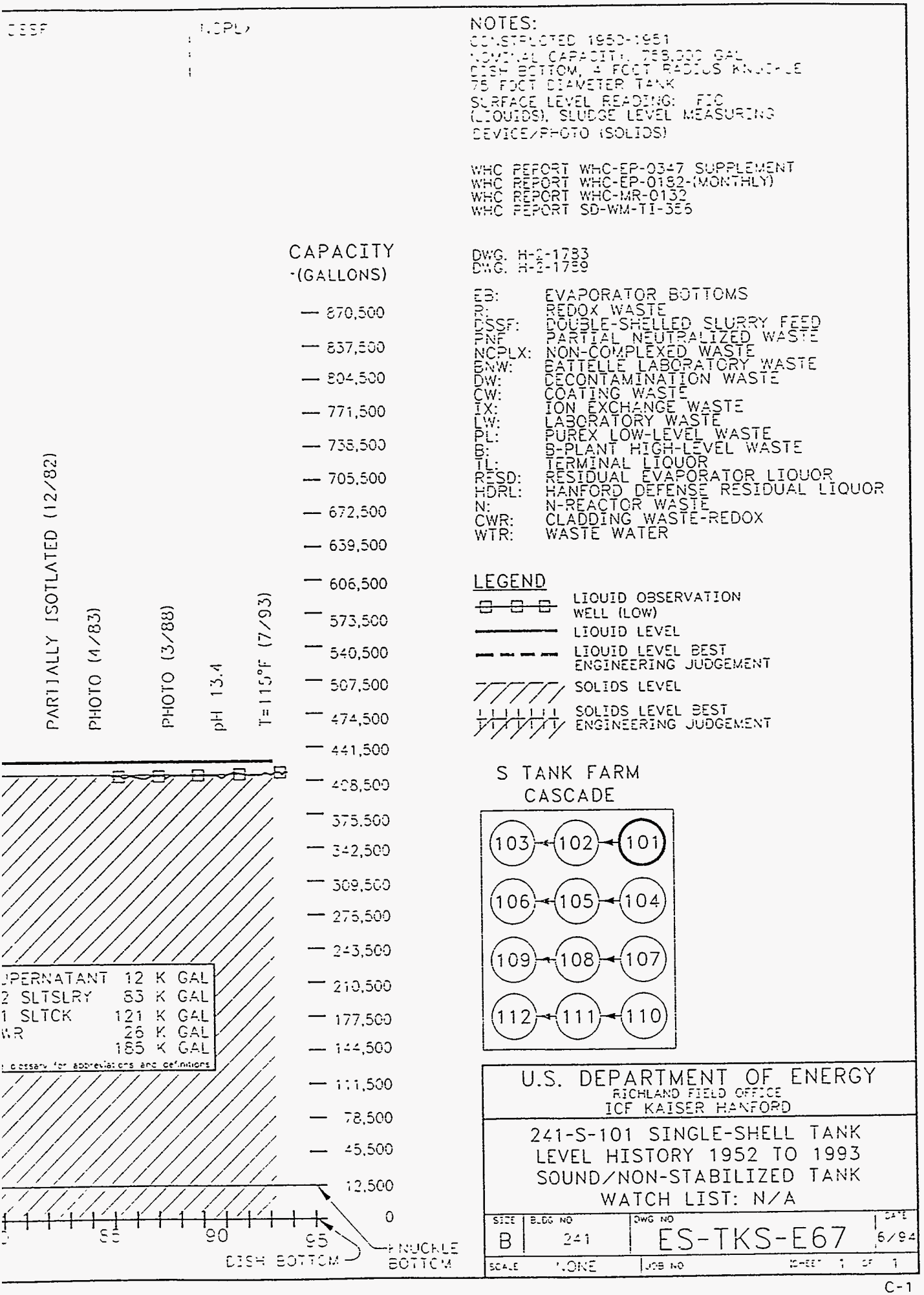
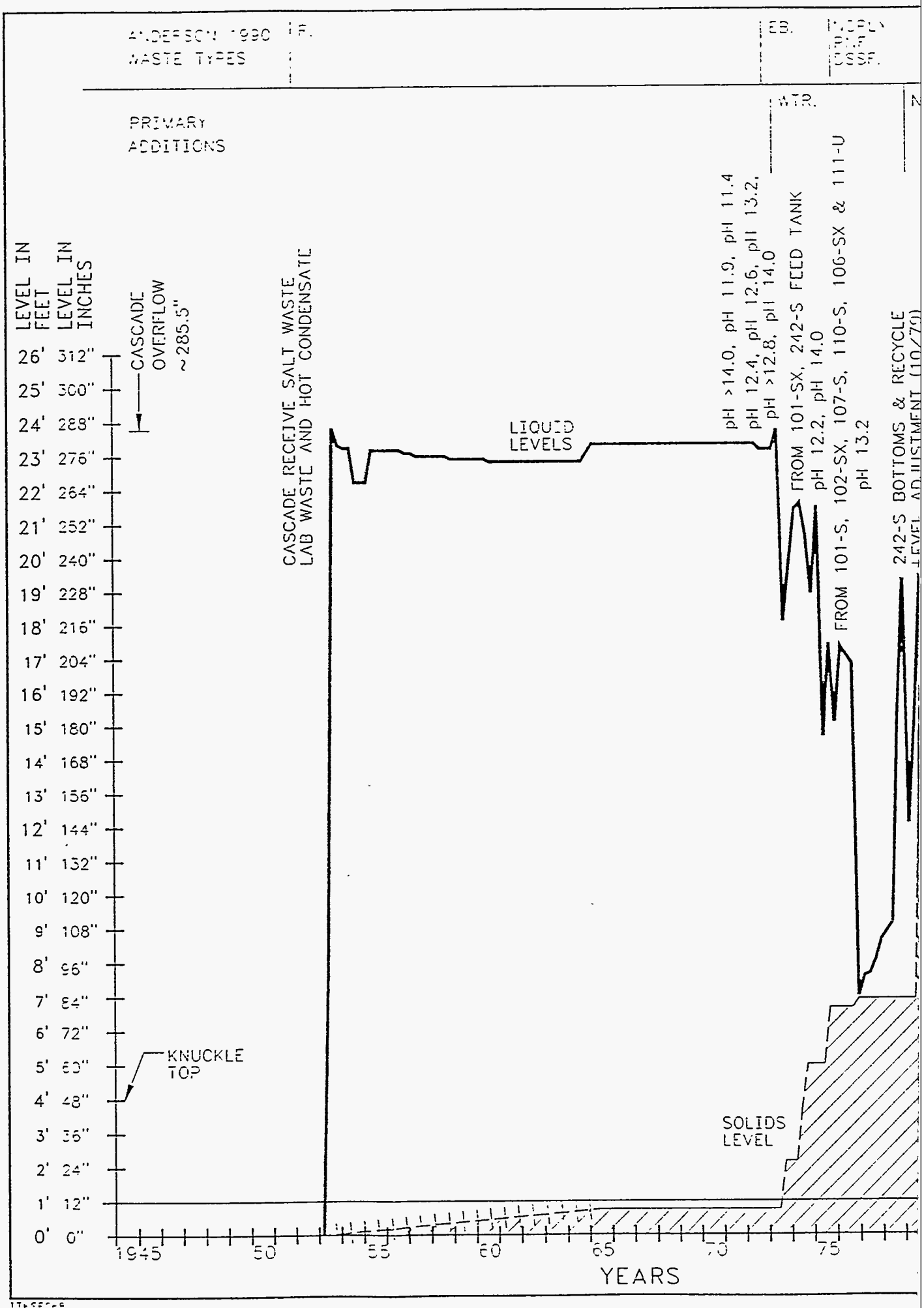

ANDERSON 1990
WASTE TYPES
PRIMARY
ADDITIONS
LEVEL IN FEET
LEVEL IN INCHES
CASCADE OVERFLOW ~285.5"
FROM CASCADE
SELF EVAPORATING
PHOTO (6/71)
TO 102-S, FROM 107-U, 108-U
pH 14
TRANFERS, pH 13.6
PHOTOS (76)
242-S BOTTOMS AND RECYCLE
LO-HEAT EVAPORATOR FEED
PHOTOS (78), PHOTO (7/79)
PHOTOS (80), REMOVED FORM SERVICE (80),
LIQUID LEVEL
SOLIDS LEVEL
KNUCKLE TOP
26' 312"
25' 300"
24' 288"
23' 276"
22' 264"
21' 252"
20' 240"
19' 228"
18' 216"
17' 204"
16' 192"
15' 180"
14' 168"
13' 156"
12' 144"
11' 132"
10' 120"
9' 108"
8' 96"
7' 84"
6' 72"
5' 60"
4' 48"
3' 36"
2' 24"
1' 12"
0' 0"
1945
50
55
60
65
70
75
YEARS


DSSF
NCPLX
NOTES:
CONSTRUCTED 1950-1951
NOMINAL CAPACITY: 758,000 GAL
DISH BOTTOM, 4 FOOT RADIUS KNUCKLE
75 FOOT DIAMETER TANK
SURFACE LEVEL READING: FIC (LIQUIDS), SLUDGE LEVEL MEASURING DEVICE/PHOTO (SOLIDS)
WHC REPORT WHC-EP-0347 SUPPLEMENT
WHC REPORT WHC-EP-0182-(MONTHLY)
WHC REPORT WHC-MR-0132
WHC REPORT SD-WM-TI-356
CAPACITY (GALLONS)
870,500
837,500
804,500
771,500
738,500
705,500
672,500
639,500
606,500
573,500
540,500
507,500
474,500
441,500
408,500
375,500
342,500
309,500
276,500
243,500
210,500
177,500
144,500
111,500
78,500
45,500
12,500
0
DWG. H-2-1783
DWG. H-2-1789
EB: EVAPORATOR BOTTOMS
R: REDOX WASTE
DSSF: DOUBLE-SHELLED SLURRY FEED
PNF: PARTIAL NEUTRALIZED WASTE
NCPLX: NON-COMPLEXED WASTE
BNW: BATTELLE LABORATORY WASTE
DW: DECONTAMINATION WASTE
CW: COATING WASTE
IX: ION EXCHANGE WASTE
LW: LABORATORY WASTE
PL: PUREX LOW-LEVEL WASTE
B: B-PLANT HIGH-LEVEL WASTE
TL: TERMINAL LIQUOR
RESD: RESIDUAL EVAPORATOR LIQUOR
HDRL: HANFORD DEFENSE RESIDUAL LIQUOR
N: N-REACTOR WASTE
CWR: CLADDING WASTE-REDOX
WTR: WASTE WATER
LEGEND
LIQUID OBSERVATION WELL (LOW)
LIQUID LEVEL
LIQUID LEVEL BEST ENGINEERING JUDGEMENT
SOLIDS LEVEL
SOLIDS LEVEL BEST ENGINEERING JUDGEMENT
PARTIALLY ISOLATED (12/82)
PHOTO (4/83)
PHOTO (3/88)
pH 13.4
T=115°F (7/93)
UPERNATANT 12 K GAL
2 SLTSLRY 83 K GAL
1 SLTCK 121 K GAL
W.R 26 K GAL
185 K GAL
Glossary for abbreviations and definitions
S TANK FARM CASCADE
103
102
101
106
105
104
109
108
107
112
111
110
85
90
95
DISH BOTTOM
KNUCKLE BOTTOM
U.S. DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE
ICF KAISER HANFORD
241-S-101 SINGLE-SHELL TANK
LEVEL HISTORY 1952 TO 1993
SOUND/NON-STABILIZED TANK
WATCH LIST: N/A
SIZE B
BLDG NO 241
DWG NO ES-TKS-E67
DATE 6/94
SCALE NONE
JOB NO
SHEET 1 OF 1


ANDERSON 1990
WASTE TYPES
PRIMARY
ADDITIONS
LEVEL IN FEET
LEVEL IN INCHES
26' 312"
25' 300"
24' 288"
23' 276"
22' 264"
21' 252"
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19' 228"
18' 216"
17' 204"
16' 192"
15' 180"
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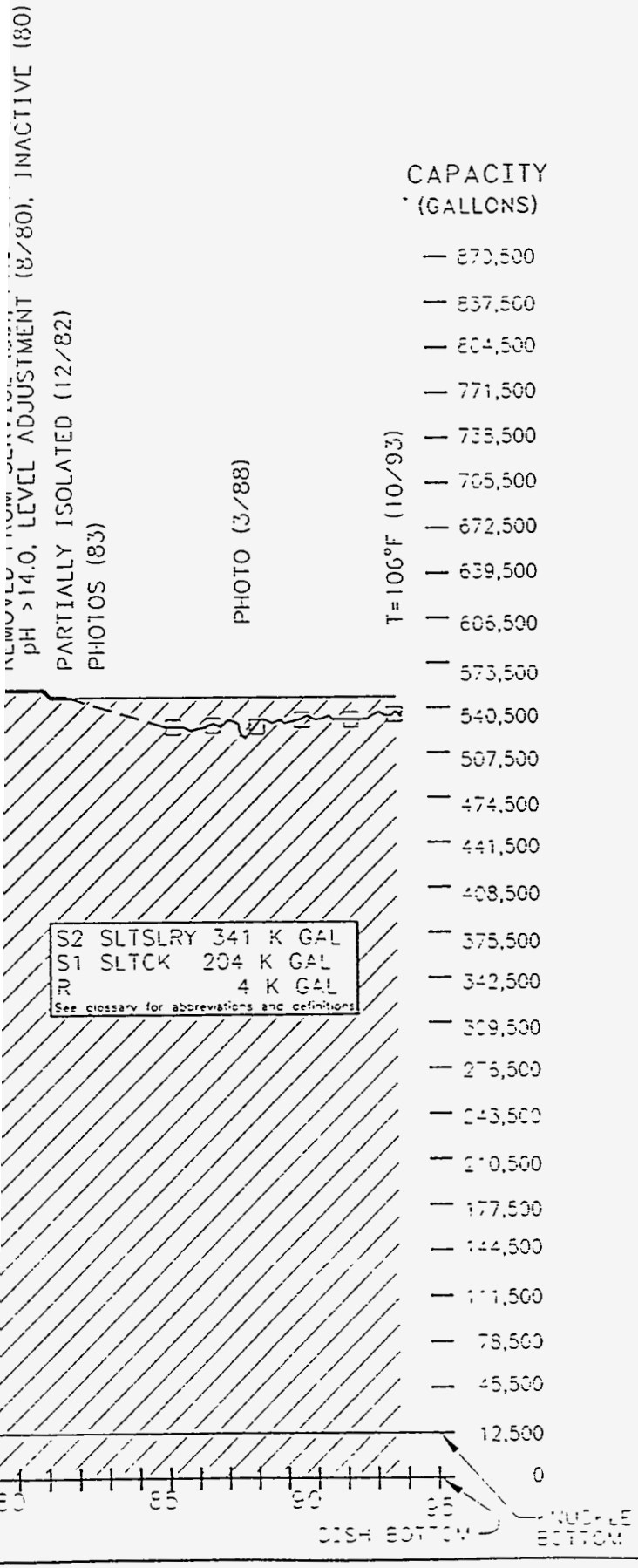
13' 156"
12' 144"
11' 132"
10' 120"
9' 108"
8' 96"
7' 84"
6' 72"
5' 60"
4' 48"
3' 36"
2' 24"
1' 12"
0' 0"
CASCADE OVERFLOW ~285.5"
KNUCKLE TOP
CASCADE RECEIVE SALT WASTE
LAB WASTE AND HOT CONDENSATE
LIQUID LEVELS
pH >14.0, pH 11.9, pH 11.4
pH 12.4, pH 12.6, pH 13.2,
pH >12.8, pH 14.0
FROM 101-SX, 242-S FEED TANK
pH 12.2, pH 14.0
FROM 101-S, 102-SX, 107-S, 110-S, 106-SX & 111-U
pH 13.2
242-S BOTTOMS & RECYCLE
SOLIDS LEVEL
1945
50
55
60
65
70
75
YEARS



NOTES:

CONSTRUCTED 1950-1951
NOMINAL CAPACITY 758,000 GAL
DISH BOTTOM, 4 FOOT RADIUS KNUCKLE
75 FOOT DIAMETER TANK
SURFACE LEVEL READING - PHOTO (LIQUIDS), FID/PHOTO (SOLIDS)

WHC REPORT WHC-EP-0347 SUPPLEMENT
WHC REPORT WHC-EP-0182-(MONTHLY)
WHC REPORT WHC-MR-0132
WHC REPORT SD-WM-TI-356
RHO-CD-0014-(MONTHLY)

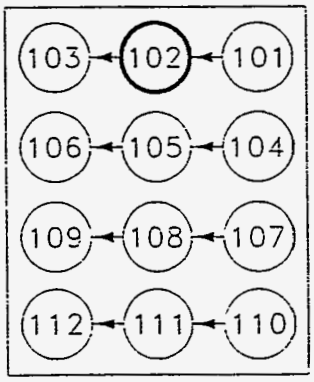
DWG. H-2-1783
DWG. H-2-1789

EB:	EVAPORATOR BOTTOMS
R:	REDOX WASTE
DSSF:	DOUBLE-SHELL SLURRY FEED
NCPLX:	NON-COMPLEXED WASTE
PNF:	PARTIAL NEUTRALIZED WASTE
WTR:	WASTE WATER
NIT:	$HNO_3/KMnO_4$ TREATMENT SOLUTION

LEGEND

- LIQUID OBSERVATION WELL (LOW)
- LIQUID LEVEL
- LIQUID LEVEL BEST ENGINEERING JUDGEMENT
- SOLIDS LEVEL
- SOLIDS LEVEL BEST ENGINEERING JUDGEMENT

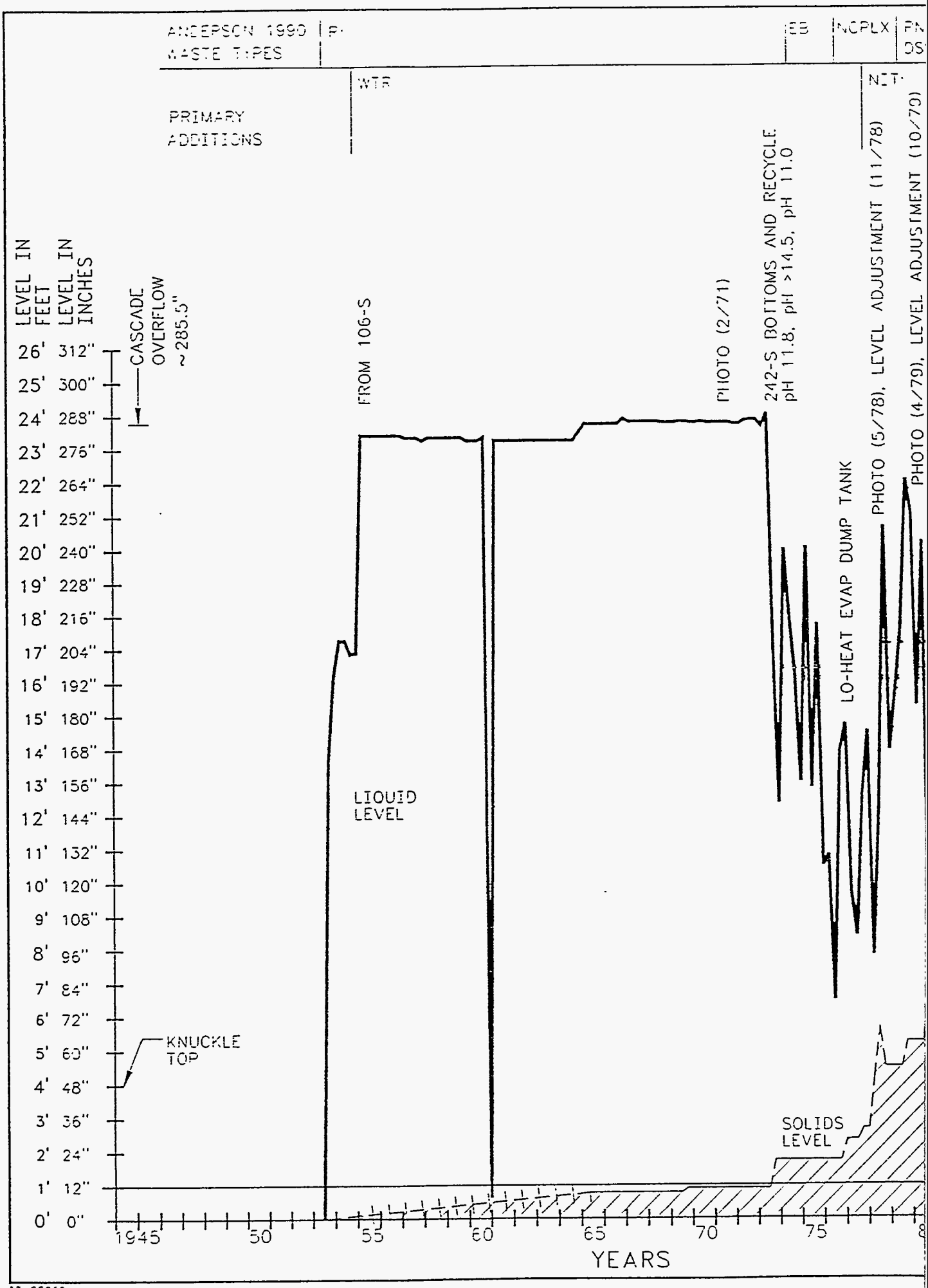
S TANK FARM CASCADE



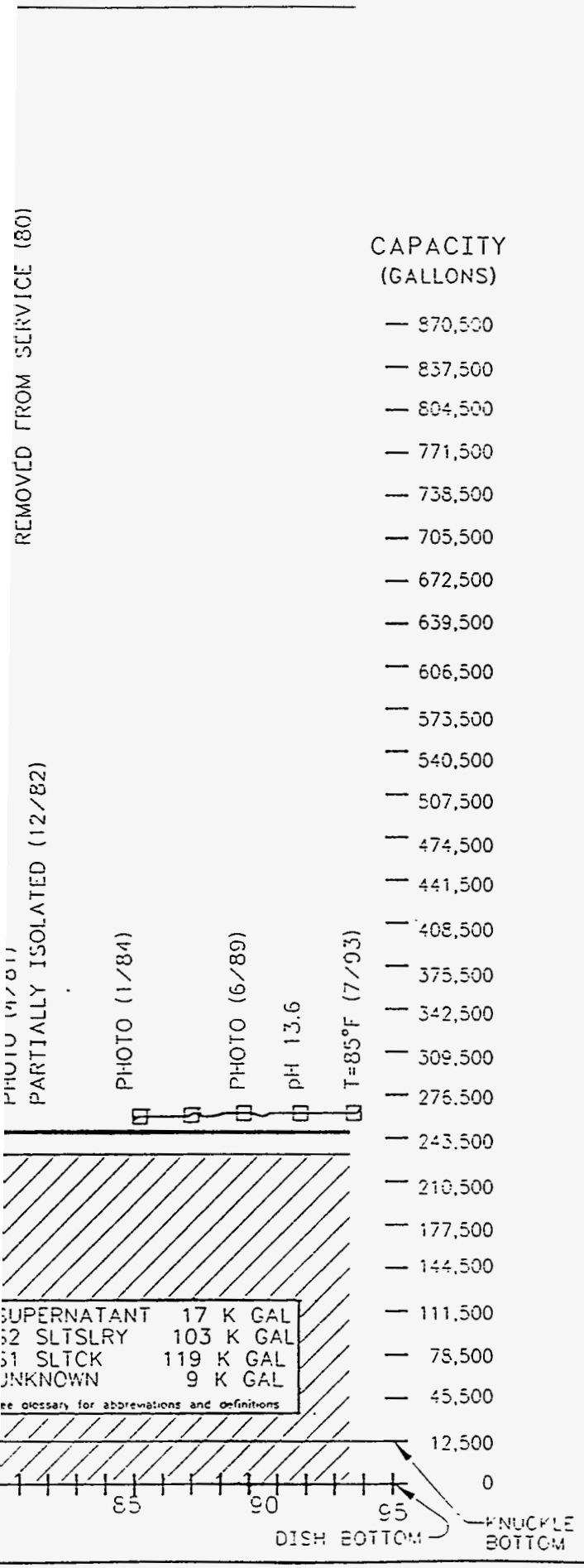
U.S. DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE
ICF KAISER HANFORD

241-S-102 SINGLE-SHELL TANK
LEVEL HISTORY 1952 TO 1993
SOUND/NON-STABILIZED TANK
WATCH LIST: HYDROGEN, ORGANIC SALT

SIZE	BLDG NO	DWG NO	DATE
B	241	ES-TKS-E68	5/94
SCALE NONE	JOB NO	SHEET 1 OF 1	


ANDERSON 1990
WASTE TYPES
PRIMARY ADDITIONS
WTR
NCPLX
NIT
LEVEL IN FEET
LEVEL IN INCHES
CASCADE OVERFLOW ~285.5"
FROM 106-S
PHOTO (2/71)
242-S BOTTOMS AND RECYCLE pH 11.8, pH >14.5, pH 11.0
LO-HEAT EVAP DUMP TANK
PHOTO (5/78), LEVEL ADJUSTMENT (11/78)
PHOTO (4/79), LEVEL ADJUSTMENT (10/79)
LIQUID LEVEL
KNUCKLE TOP
SOLIDS LEVEL
26' 312"
25' 300"
24' 288"
23' 276"
22' 264"
21' 252"
20' 240"
19' 228"
18' 216"
17' 204"
16' 192"
15' 180"
14' 168"
13' 156"
12' 144"
11' 132"
10' 120"
9' 108"
8' 96"
7' 84"
6' 72"
5' 60"
4' 48"
3' 36"
2' 24"
1' 12"
0' 0"
1945
50
55
60
65
70
75
YEARS

ITKSE069



NOTES:

CONSTRUCTED 1950-1951
NOMINAL CAPACITY: 758,000 GAL
DISH BOTTOM, 4 FOOT RADIUS KNUCKLE
75 FOOT DIAMETER TANK
SURFACE LEVEL READING: MANUAL TAPE (LIQUIDS), SLUDGE LEVEL MEASURING DEVICE (SOLIDS)

WHC REPORT WHC-EP-0347 SUPPLEMENT
WHC REPORT WHC-EP-0182-(MONTHLY)
WHC REPORT WHC-MR-0132
WHC REPORT SD-WM-TI-356
RHO-CD-0014-(MONTHLY)

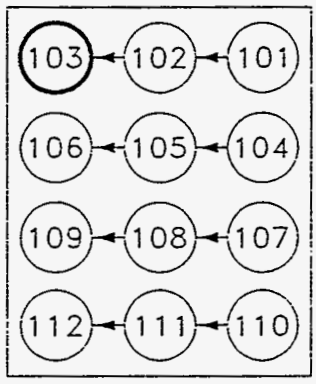
DWG. H-2-1783
DWG. H-2-1789

EB: EVAPORATOR BOTTOMS
R: REDOX WASTE
DSSF: DOUBLE-SHELL SLURRY FEED
NCPLX: NON-COMPLEXED WASTE
PNF: PARTIAL NEUTRALIZED WASTE
WTR: WASTE WATER
NIT: $HNO_3/KMnO_4$ TREATMENT SOLUTION

LEGEND

- LIQUID OBSERVATION WELL (LOW)
- LIQUID LEVEL
- LIQUID LEVEL BEST ENGINEERING JUDGEMENT
- SOLIDS LEVEL
- SOLIDS LEVEL BEST ENGINEERING JUDGEMENT

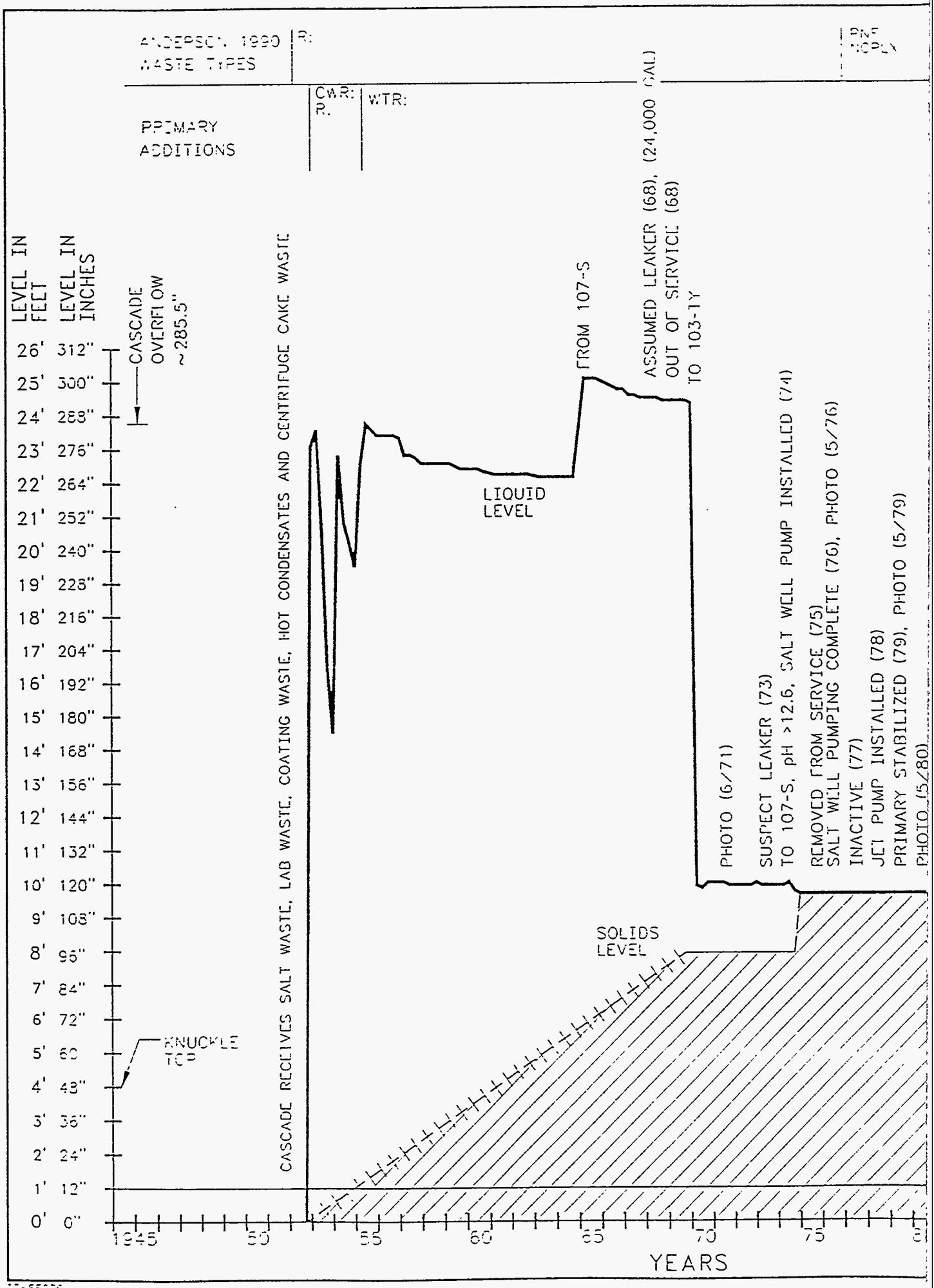
S TANK FARM CASCADE

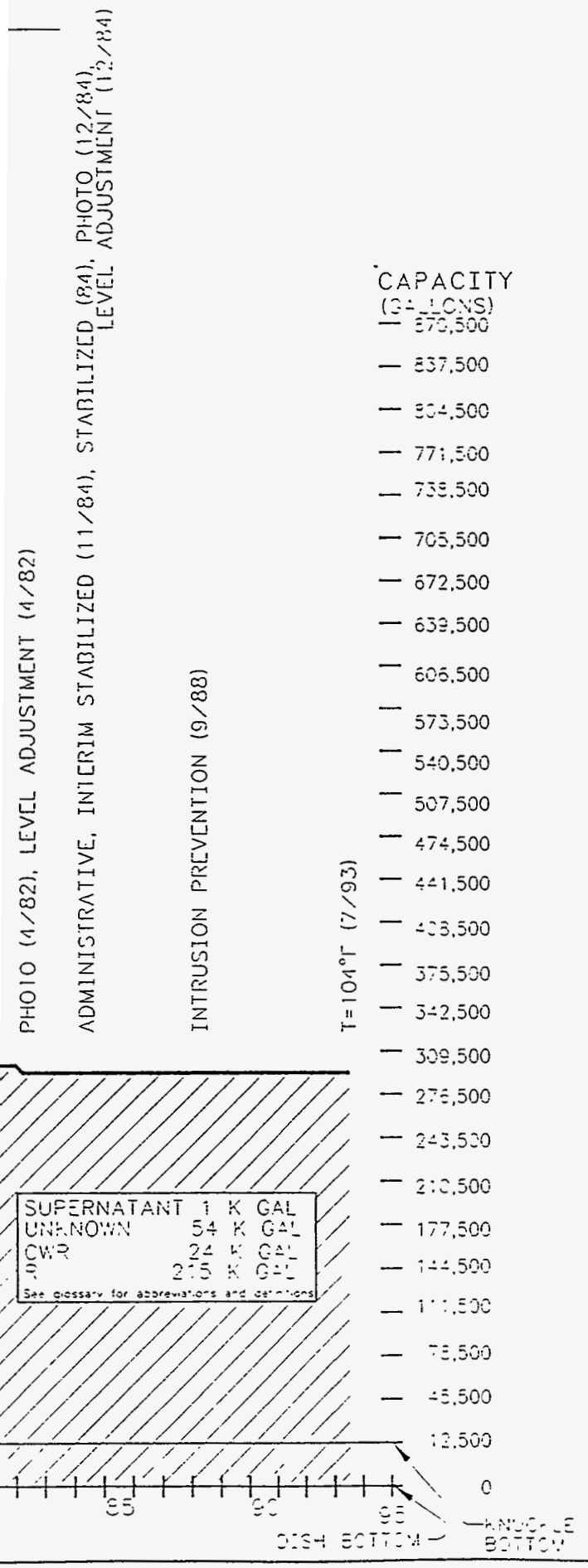


U.S. DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE
ICF KAISER HANFORD

241-S-103 SINGLE-SHELL TANK
LEVEL HISTORY 1952 TO 1993
SOUND/NON-STABILIZED TANK
WATCH LIST: N/A

SIZE	BLDG NO	DWG NO	DATE
B	241	ES-TKS-E69	6/94
SCALE NONE	JOB NO	SHEET 1 OF 1	


ANDERSON, 1990
WASTE TYPES
R:
CWR:
R.
WTR:
PRIMARY
ADDITIONS
LEVEL IN FEET
LEVEL IN INCHES
26' 312"
25' 300"
24' 288"
23' 276"
22' 264"
21' 252"
20' 240"
19' 228"
18' 216"
17' 204"
16' 192"
15' 180"
14' 168"
13' 156"
12' 144"
11' 132"
10' 120"
9' 108"
8' 96"
7' 84"
6' 72"
5' 60
4' 48"
3' 36"
2' 24"
1' 12"
0' 0"
CASCADE OVERFLOW ~285.5"
KNUCKLE TOP
CASCADE RECEIVES SALT WASTE, LAB WASTE, COATING WASTE, HOT CONDENSATES AND CENTRIFUGE CAKE WASTE
FROM 107-S
ASSUMED LEAKER (68), (24,000 GAL) OUT OF SERVICE (68) TO 103-1Y
LIQUID LEVEL
SOLIDS LEVEL
PHOTO (6/71)
SUSPECT LEAKER (73) TO 107-S, pH >12.6, SALT WELL PUMP INSTALLED (74)
REMOVED FROM SERVICE (75) SALT WELL PUMPING COMPLETE (76), PHOTO (5/76)
INACTIVE (77)
JET PUMP INSTALLED (78)
PRIMARY STABILIZED (79), PHOTO (5/79)
PHOTO (5/80)
1945
50
55
60
65
70
75
YEARS



NOTES:

CONSTRUCTED 1950-1951
NOMINAL CAPACITY 758,000 GAL
DISH BOTTOM, 4 FOOT RADIUS ANNULUS
75 FOOT DIAMETER TANK
SURFACE LEVEL READINGS: MANUAL TAPE (LIQUIDS AND SOLIDS)

WHC REPORT WHC-EP-0347 SUPPLEMENT
WHC REPORT WHC-EP-0182-(MONTHLY)
WHC REPORT WHC-MR-0132
WHC REPORT SD-WM-TI-356
RHO-CD-0014-(MONTHLY)

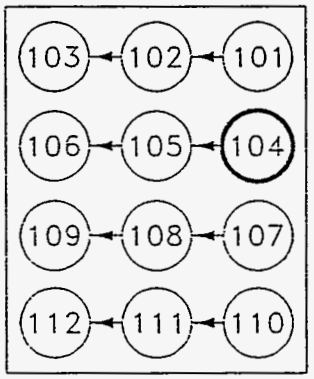
DWG. H-2-1783
DWG. H-2-1789

R: REDOX WASTE
PNF: PARTIAL NEUTRALIZED WASTE
NCPLX: NON-COMPLEXED WASTE
CWR: CLADDING WASTE-REDOX
WTR: WASTE WATER

LEGEND

- LIQUID OBSERVATION WELL (LOW)
- LIQUID LEVEL
- LIQUID LEVEL BEST ENGINEERING JUDGEMENT
- SOLIDS LEVEL
- SOLIDS LEVEL BEST ENGINEERING JUDGEMENT

S TANK FARM CASCADE

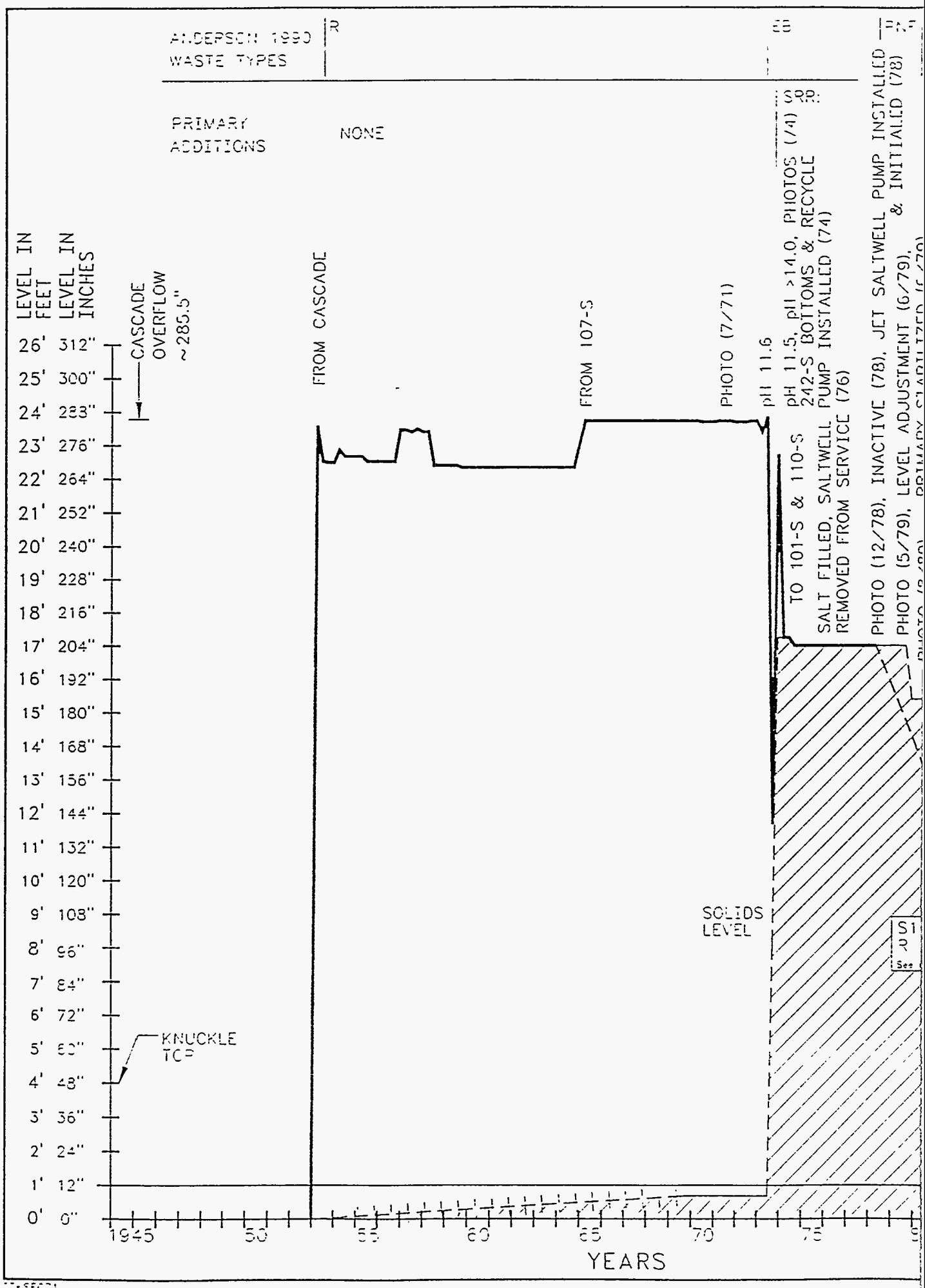


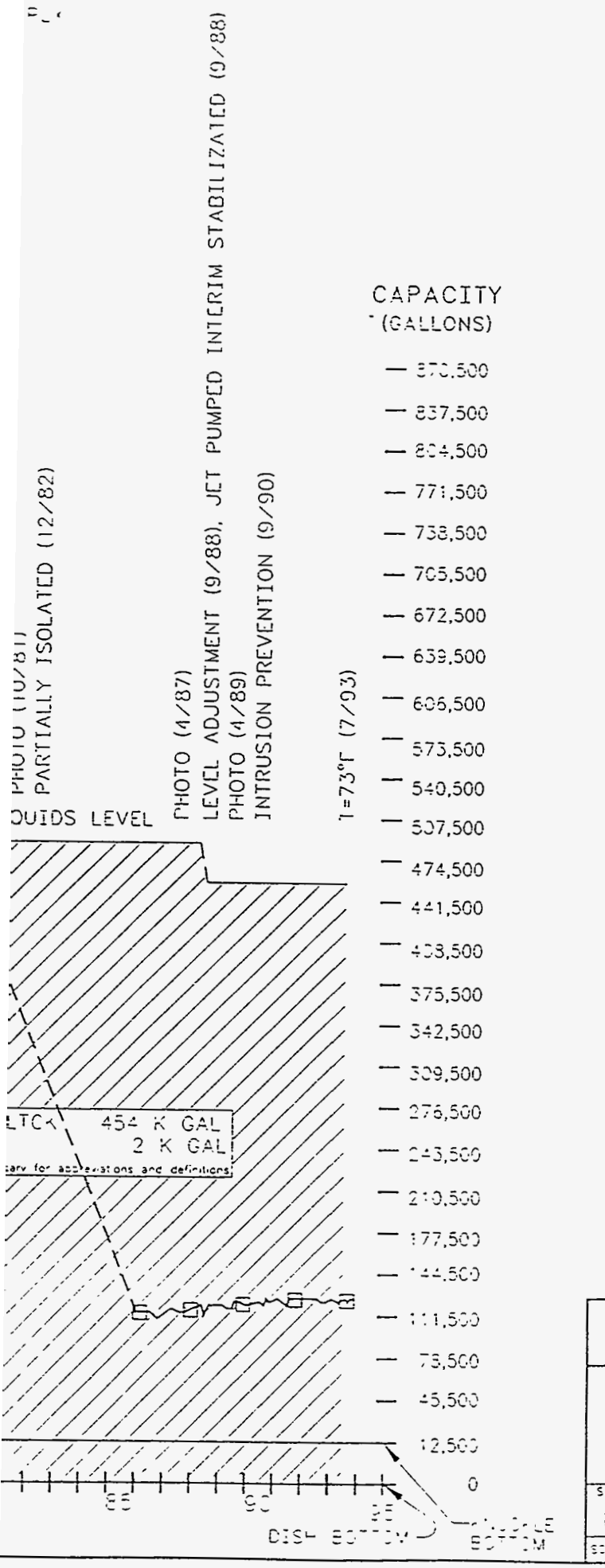
U.S. DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE
ICF KAISER HANFORD

241-S-104 SINGLE-SHELL TANK
LEVEL HISTORY 1952 TO 1993
ASSUMED LEAKER/STABILIZED TANK
WATCH LIST: N/A

SIZE	BLDG NO	DWG NO	DATE
B	241	ES-TKS-E70	6/94

SCALE NONE | SUB NO | SHEET 1 OF 1


ANDERSON 1990
WASTE TYPES
R
EB
PRIMARY ADDITIONS
NONE
LEVEL IN FEET
LEVEL IN INCHES
CASCADE OVERFLOW ~285.5"
FROM CASCADE
FROM 107-S
PHOTO (7/71)
pH 11.6
pH 11.5, pH >14.0, PHOTOS (74) SRR: 242-S BOTTOMS & RECYCLE
TO 101-S & 110-S
SALT FILLED, SALTWELL PUMP INSTALLED (74)
REMOVED FROM SERVICE (76)
PHOTO (12/78), INACTIVE (78), JET SALTWELL PUMP INSTALLED & INITIALED (78)
PHOTO (5/79), LEVEL ADJUSTMENT (6/79),
SOLIDS LEVEL
KNUCKLE TOP
26' 312"
25' 300"
24' 288"
23' 276"
22' 264"
21' 252"
20' 240"
19' 228"
18' 216"
17' 204"
16' 192"
15' 180"
14' 168"
13' 156"
12' 144"
11' 132"
10' 120"
9' 108"
8' 96"
7' 84"
6' 72"
5' 60"
4' 48"
3' 36"
2' 24"
1' 12"
0' 0"
1945
50
55
60
65
70
75
YEARS



NOTES:

CONSTRUCTED 1950-1951
NOMINAL CAPACITY: 758,000 GAL
DISH BOTTOM, 4 FOOT RADIUS KNUCKLE
75 FOOT DIAMETER TANK
SURFACE LEVEL READING: PHOTO MANUAL TAPE (LIQUIDS), SLUDGE LEVEL MEASURING DEVICE (SOLIDS)

WHC REPORT WHC-EP-0347 SUPPLEMENT
WHC REPORT WHC-EP-0182-(MONTHLY)
WHC REPORT WHC-MR-0132
WHC REPORT SD-WM-TI-356
RHO-CD-0014-(MONTHLY)

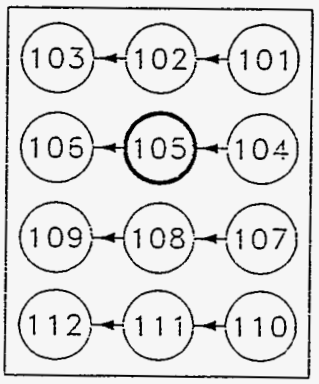
DWG. H-2-1783
DWG. H-2-1789

EB: EVAPORATOR BOTTOMS
R: REDOX WASTE
NCPLX: NON-COMPLEXED WASTE
PNF: PARTIAL NEUTRALIZED WASTE

LEGEND

- LIQUID OBSERVATION WELL (LOW)
- LIQUID LEVEL
- LIQUID LEVEL BEST ENGINEERING JUDGEMENT
- SOLIDS LEVEL
- SOLIDS LEVEL BEST ENGINEERING JUDGEMENT

S TANK FARM CASCADE

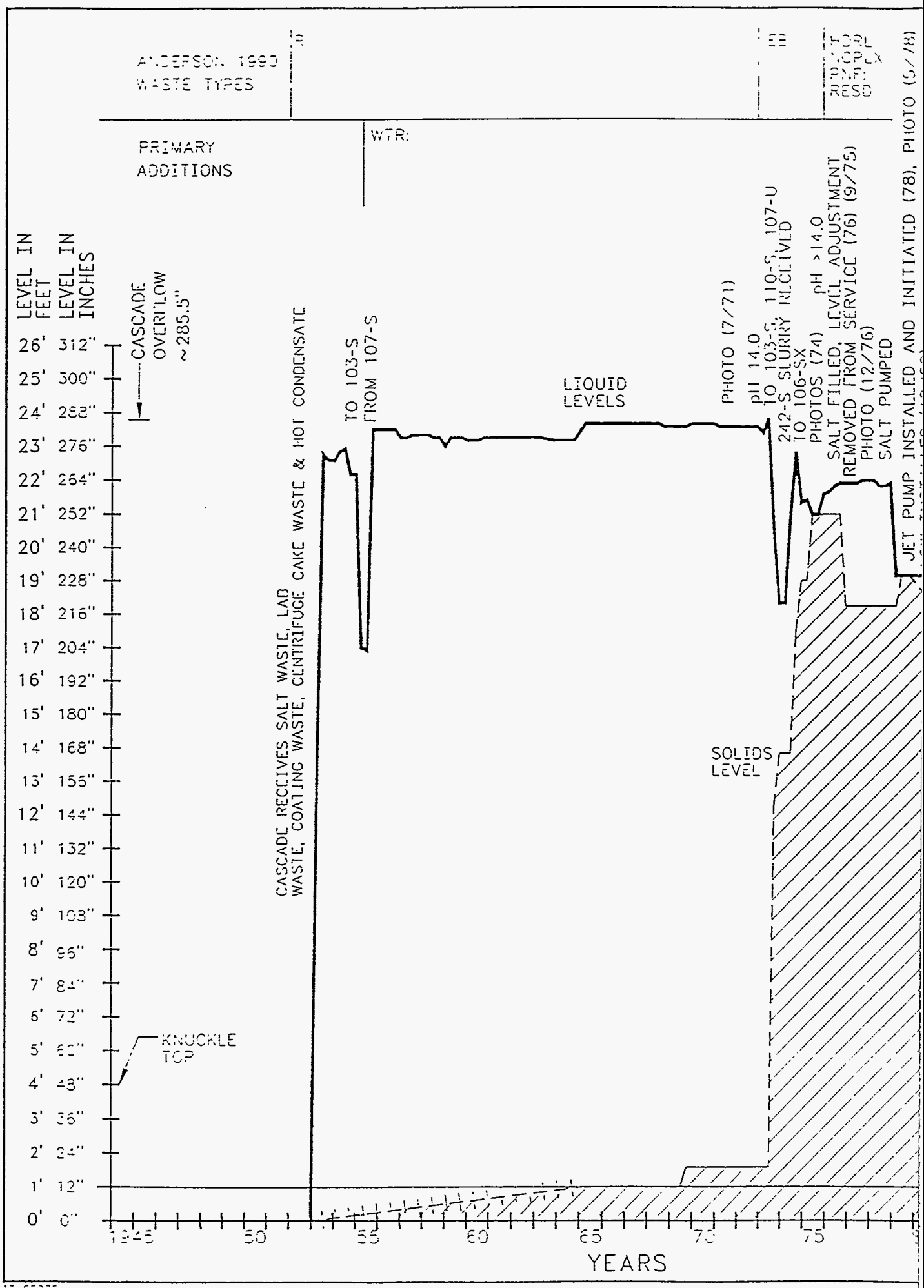


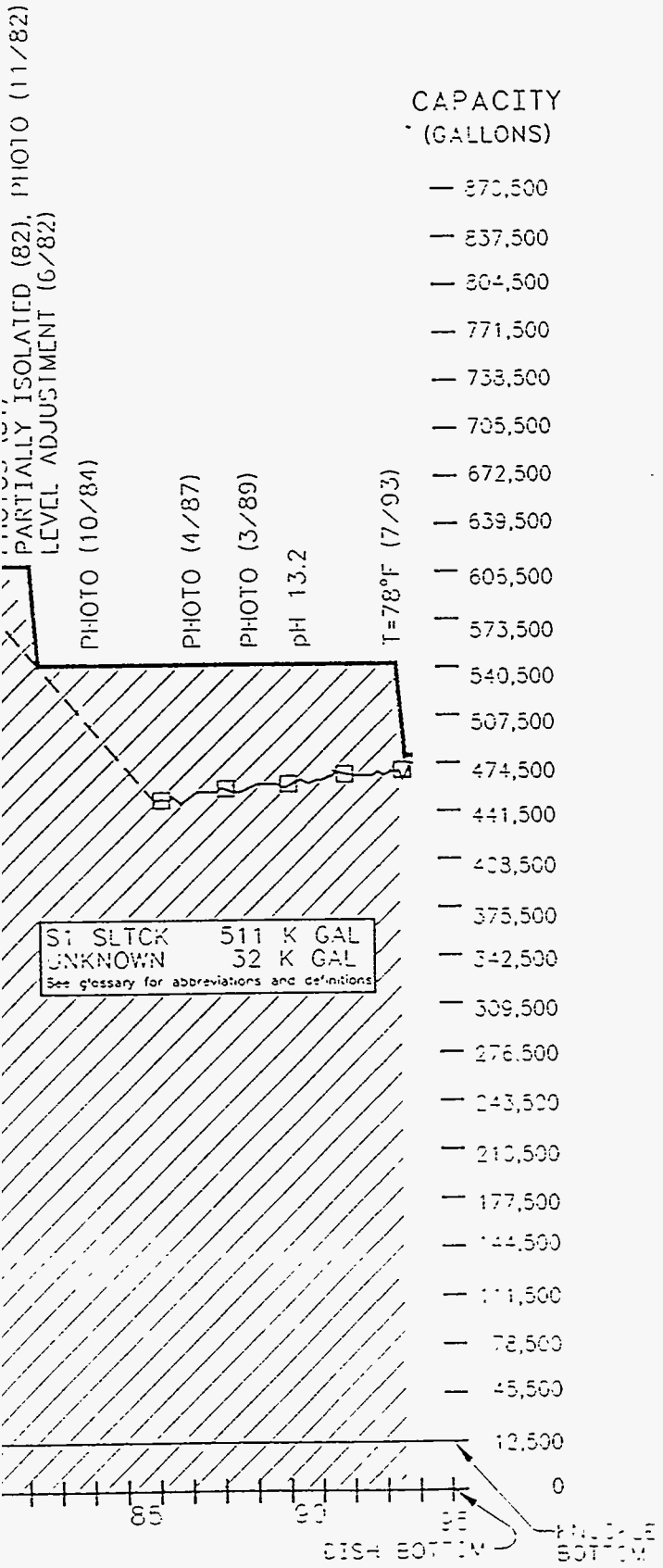
U.S. DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE
ICF KAISER HANFORD

241-S-105 SINGLE-SHELL TANK
LEVEL HISTORY 1952 TO 1993
SOUND/STABILIZED TANK
WATCH LIST: N/A

SIZE	BLDG NO	DWG NO	DATE
B	241	ES-TKS-E71	6/94

SCALE NONE JOB NO SHEET 1 OF 1


ANDERSON 1990
WASTE TYPES
PRIMARY
ADDITIONS
WTR:
LEVEL IN FEET
LEVEL IN INCHES
CASCADE OVERFLOW ~285.5"
KNUCKLE TOP
CASCADE RECEIVES SALT WASTE, LAB WASTE, COATING WASTE, CENTRIFUGE CAKE WASTE & HOT CONDENSATE
TO 103-S FROM 107-S
LIQUID LEVELS
PHOTO (7/71)
pH 14.0 TO 103-S, 110-S, 107-U
242-S SLURRY RECEIVED TO 106-SX
PHOTOS (74)
pH >14.0
SALT FILLED, LEVEL ADJUSTMENT REMOVED FROM SERVICE (76) (9/75)
PHOTO (12/76)
SALT PUMPED
JET PUMP INSTALLED AND INITIATED (78), PHOTO (5/78)
SOLIDS LEVEL
YEARS



NOTES:

CONSTRUCTED 1950-1951
NOMINAL CAPACITY 758,000 GAL
DISH BOTTOM, 4 FOOT RADIUS NOZZLE
75 FOOT DIAMETER TANK
SURFACE LEVEL READING: PHOTO (LIQUIDS),
FIC AND PHOTOS (SOLIDS)

WHC REPORT WHC-EP-0347 SUPPLEMENT
WHC REPORT WHC-EP-0182-(MONTHLY)
WHC REPORT WHC-MR-0132
WHC REPORT SD-WM-TI-356
RHO-CD-0014-(MONTHLY)

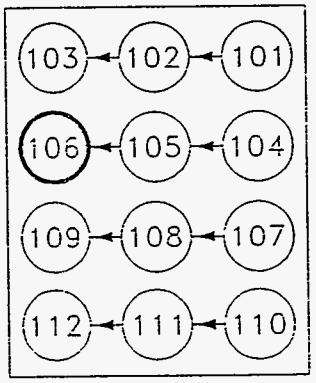
DWG. H-2-1783
DWG. H-2-1789

EB: EVAPORATOR BOTTOMS
R: REDOX WASTE
HDRL: HANFORD DEFENSE RESIDUAL LIQUOR
NCPLX: NON-COMPLEXED WASTE
PNF: PARTIAL NEUTRALIZED WASTE
RESD: RESIDUAL EVAPORATOR LIQUOR
WTR: WASTE WATER

LEGEND

- LIQUID OBSERVATION WELL (LOW)
- LIQUID LEVEL
- LIQUID LEVEL BEST ENGINEERING JUDGEMENT
- SOLIDS LEVEL
- SOLIDS LEVEL BEST ENGINEERING JUDGEMENT

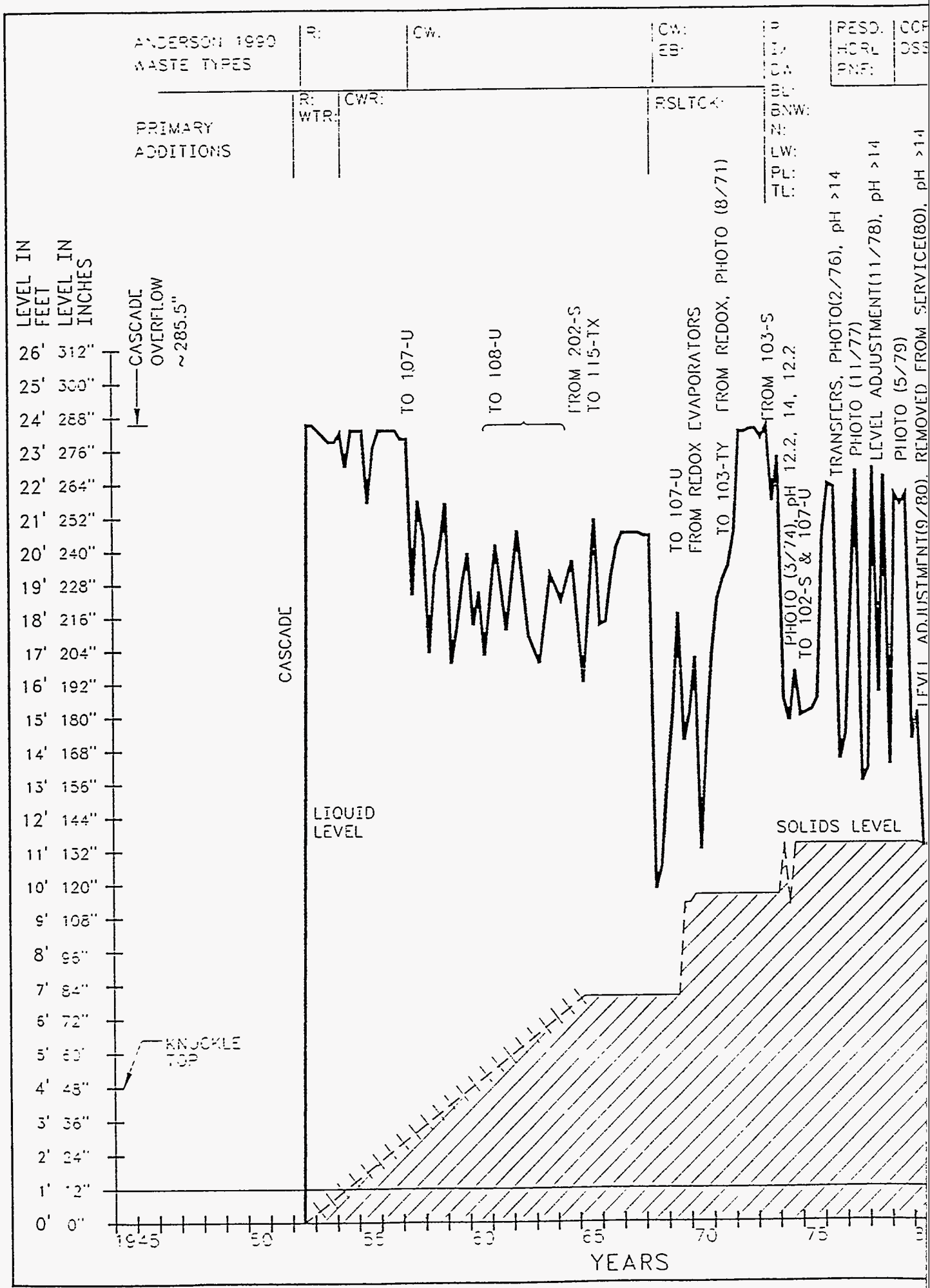
S TANK FARM CASCADE

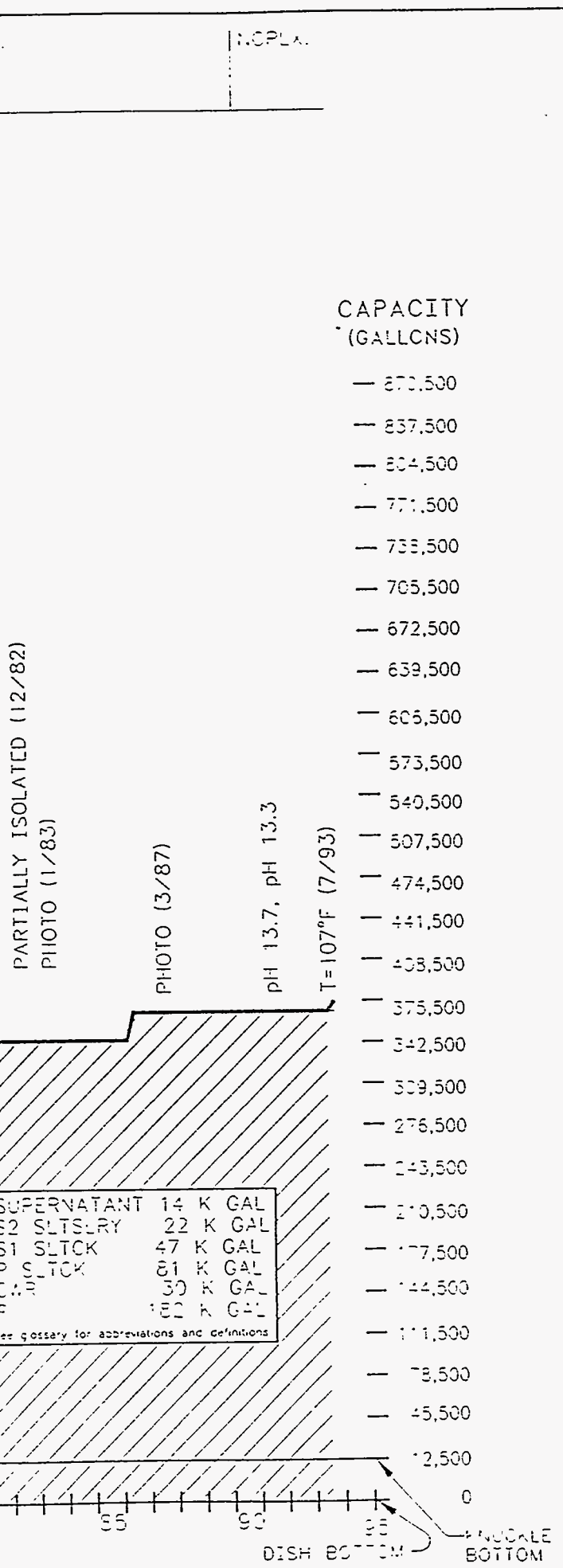


U.S. DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE
ICF KAISER HANFORD

241-S-106 SINGLE-SHELL TANK
LEVEL HISTORY 1952 TO 1993
SOUND/NON-STABILIZED TANK
WATCH LIST: N/A

SIZE	BLDG NO	DWG NO	DATE
B	241	ES-TKS-E72	6/94
SCALE NONE	JOB NO	SHEET 1 OF 1	


ANDERSON 1990
WASTE TYPES
PRIMARY
ADDITIONS
R:
CW.
CW:
EB:
R:
WTR:
CWR:
RSLTCK:
P
D:
CA
BL:
BNW:
N:
LW:
PL:
TL:
RESD.
HCRL
PNF:
LEVEL IN
FEET
LEVEL IN
INCHES
CASCADE
OVERFLOW
~285.5"
TO 107-U
TO 108-U
FROM 202-S
TO 115-TX
TO 107-U
FROM REDOX EVAPORATORS
TO 103-TY
FROM REDOX, PHOTO (8/71)
FROM 103-S
PHOTO (3/74), pH 12.2, 14, 12.2
TO 102-S & 107-U
TRANSFERS, PHOTO(2/76), pH >14
PHOTO (11/77)
LEVEL ADJUSTMENT(11/78), pH >14
PHOTO (5/79)
LEVEL ADJUSTMENT(9/80), REMOVED FROM SERVICE(80), pH >14
CASCADE
LIQUID
LEVEL
SOLIDS LEVEL
KNUCKLE
TOP
26' 312"
25' 300"
24' 288"
23' 276"
22' 264"
21' 252"
20' 240"
19' 228"
18' 216"
17' 204"
16' 192"
15' 180"
14' 168"
13' 156"
12' 144"
11' 132"
10' 120"
9' 108"
8' 96"
7' 84"
6' 72"
5' 60"
4' 48"
3' 36"
2' 24"
1' 12"
0' 0"
1945
50
55
60
65
70
75
YEARS



NOTES:

CONSTRUCTED 1950-1951
NOMINAL CAPACITY: 758,000 GAL
DISH BOTTOM, 4 FOOT RADIUS NUCLEAR
75 FOOT DIAMETER TANK
SURFACE LEVEL READING: FIC (LIQUIDS),
SLUDGE LEVEL MEASURING DEVICE AND
PHOTOS (SOLIDS)

WHC REPORT WHC-EP-0347 SUPPLEMENT
WHC REPORT WHC-EP-0182-(MONTHLY)
WHC REPORT WHC-MR-0132
WHC REPORT SD-WM-TI-356
PHO-CD-0014-(MONTHLY)

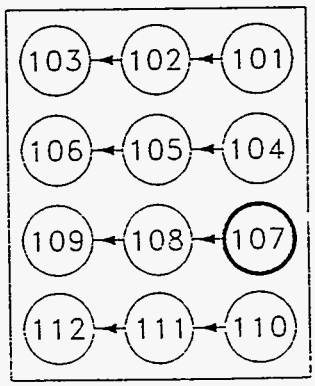
DWG. H-2-1783
DWG. H-2-1789

EB:	EVAPORATOR BOTTOMS
R:	REDOX WASTE
HDRL:	HANFORD DEFENSE RESIDUAL LIQUOR
NCPLX:	NON-COMPLEXED WASTE
PNF:	PARTIAL NEUTRALIZED WASTE
RESD:	RESIDUAL EVAPORATOR LIQUOR
CW:	COATING WASTE
IX:	ION EXCHANGE WASTE
DW:	DECONTAMINATION WASTE
BL:	B-PLANT LOW-LEVEL WASTE
BNW:	BATTELLE LAB WASTE
N:	N-REACTOR WASTE
LW:	LABORATORY WASTE
PL:	PUREX LOW-LEVEL WASTE
TL:	TERMINAL LIQUOR
CCPLX:	COMPLEXANT CONCENTRATE
DSSF:	DOUBLE-SHELL SLURRY FEED
WTR:	WASTE WATER
CWR:	CLADDING WASTE-REDOX
RSLTCK:	REDOX SALTCAKE WASTE

LEGEND

- LIQUID OBSERVATION WELL (LOW)
- LIQUID LEVEL
- LIQUID LEVEL BEST ENGINEERING JUDGEMENT
- SOLIDS LEVEL
- SOLIDS LEVEL BEST ENGINEERING JUDGEMENT

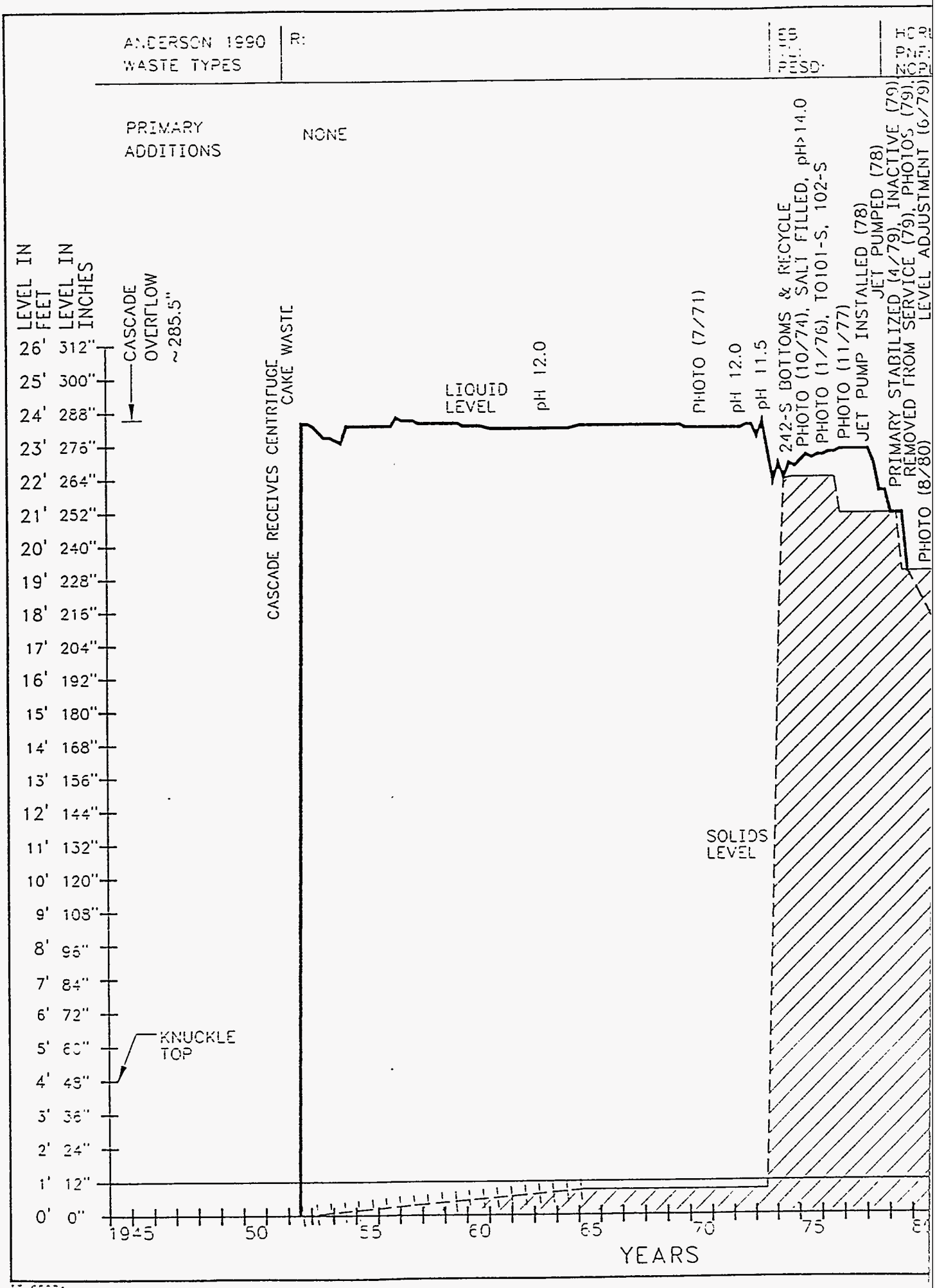
S TANK FARM CASCADE

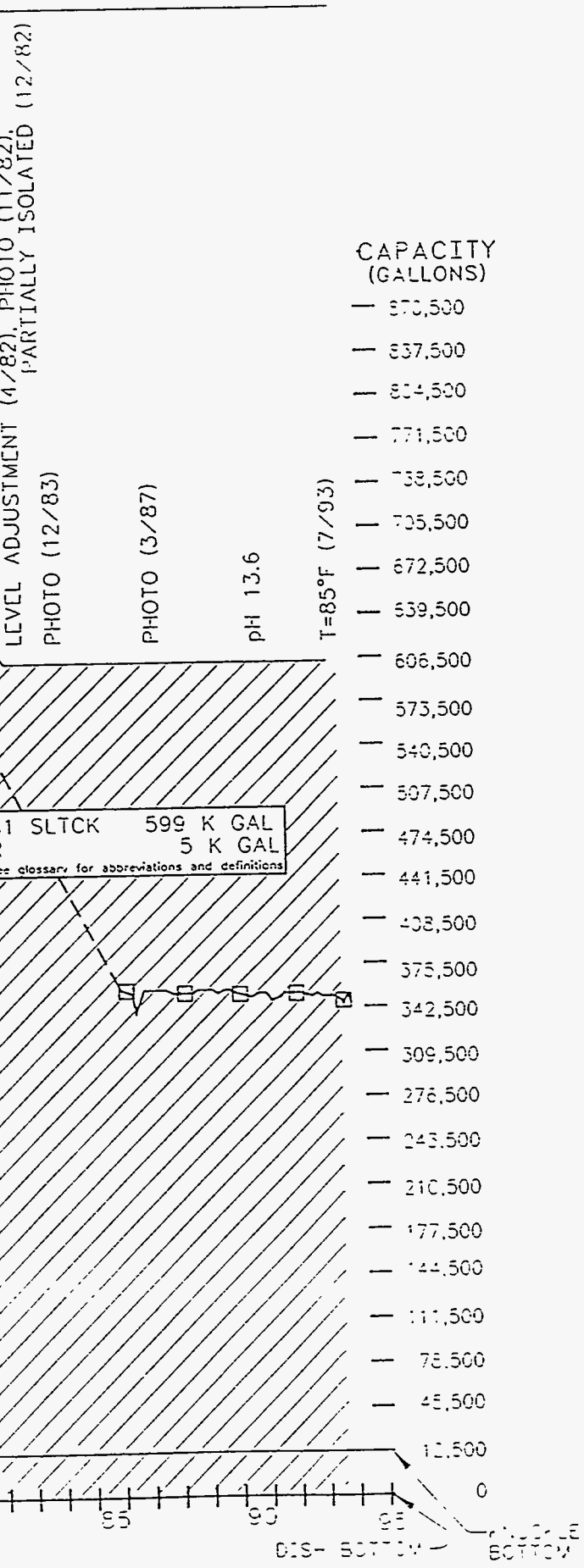


U.S. DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE
ICF KAISER HANFORD

241-S-107 SINGLE-SHELL TANK
LEVEL HISTORY 1952 TO 1993
SOUND/NON-STABILIZED TANK
WATCH LIST: N/A

SIZE	BLDG NO	DWG NO	DATE
B	241	ES-TKS-E73	6/94
SCALE NONE	JOB NO	SHEET 1 OF 1	


ANDERSON 1990
WASTE TYPES
PRIMARY ADDITIONS
NONE
LEVEL IN FEET
LEVEL IN INCHES
CASCADE OVERFLOW ~285.5"
CASCADE RECEIVES CENTRIFUGE CAKE WASTE
LIQUID LEVEL
pH 12.0
PHOTO (7/71)
pH 12.0
pH 11.5
242-S BOTTOMS & RECYCLE
PHOTO (10/74), SALT FILLED, pH>14.0
PHOTO (1/76), TO101-S, 102-S
PHOTO (11/77)
JET PUMP INSTALLED (78)
JET PUMPED (78)
PRIMARY STABILIZED (4/79), INACTIVE (79)
REMOVED FROM SERVICE (79), PHOTOS (79)
LEVEL ADJUSTMENT (6/79)
PHOTO (8/80)
SOLIDS LEVEL
KNUCKLE TOP
26' 312"
25' 300"
24' 288"
23' 276"
22' 264"
21' 252"
20' 240"
19' 228"
18' 216"
17' 204"
16' 192"
15' 180"
14' 168"
13' 156"
12' 144"
11' 132"
10' 120"
9' 108"
8' 96"
7' 84"
6' 72"
5' 60"
4' 48"
3' 36"
2' 24"
1' 12"
0' 0"
1945
50
55
60
65
70
75
YEARS



NOTES:
CONSTRUCTED 1950-1951
NOMINAL CAPACITY: 758,000 GAL
DISH BOTTOM, 4 FOOT RADIUS KNUCKLE
75 FOOT DIAMETER TANK
SURFACE LEVEL READING: PHOTO (LIQUIDS), MANUAL TAPE, PHOTO (SOLIDS)

WHC REPORT WHC-EP-0347 SUPPLEMENT
WHC REPORT WHC-EP-0182-(MONTHLY)
WHC REPORT WHC-MR-0132
WHC REPORT SD-WM-TI-356
RHO-CD-0014-(MONTHLY)

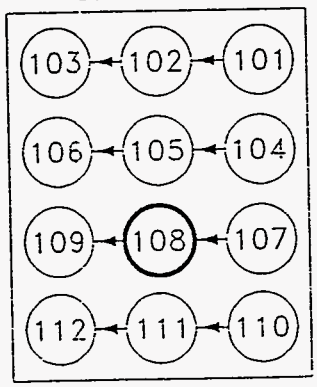
DWG. H-2-1783
DWG. H-2-1789

EB: EVAPORATOR BOTTOMS
HDRL: HANFORD DEFENSE RESIDUAL LIQUOR
PNF: PARTIAL NEUTRALIZED WASTE
R: REDOX WASTE
TL: TERMINAL LIQUOR
NCPLX: NON-COMPLEXED WASTE
RESD: RESIDUAL EVAPORATOR LIQUOR

LEGEND

- LIQUID OBSERVATION WELL (LOW)
- LIQUID LEVEL
- LIQUID LEVEL BEST ENGINEERING JUDGEMENT
- SOLIDS LEVEL
- SOLIDS LEVEL BEST ENGINEERING JUDGEMENT

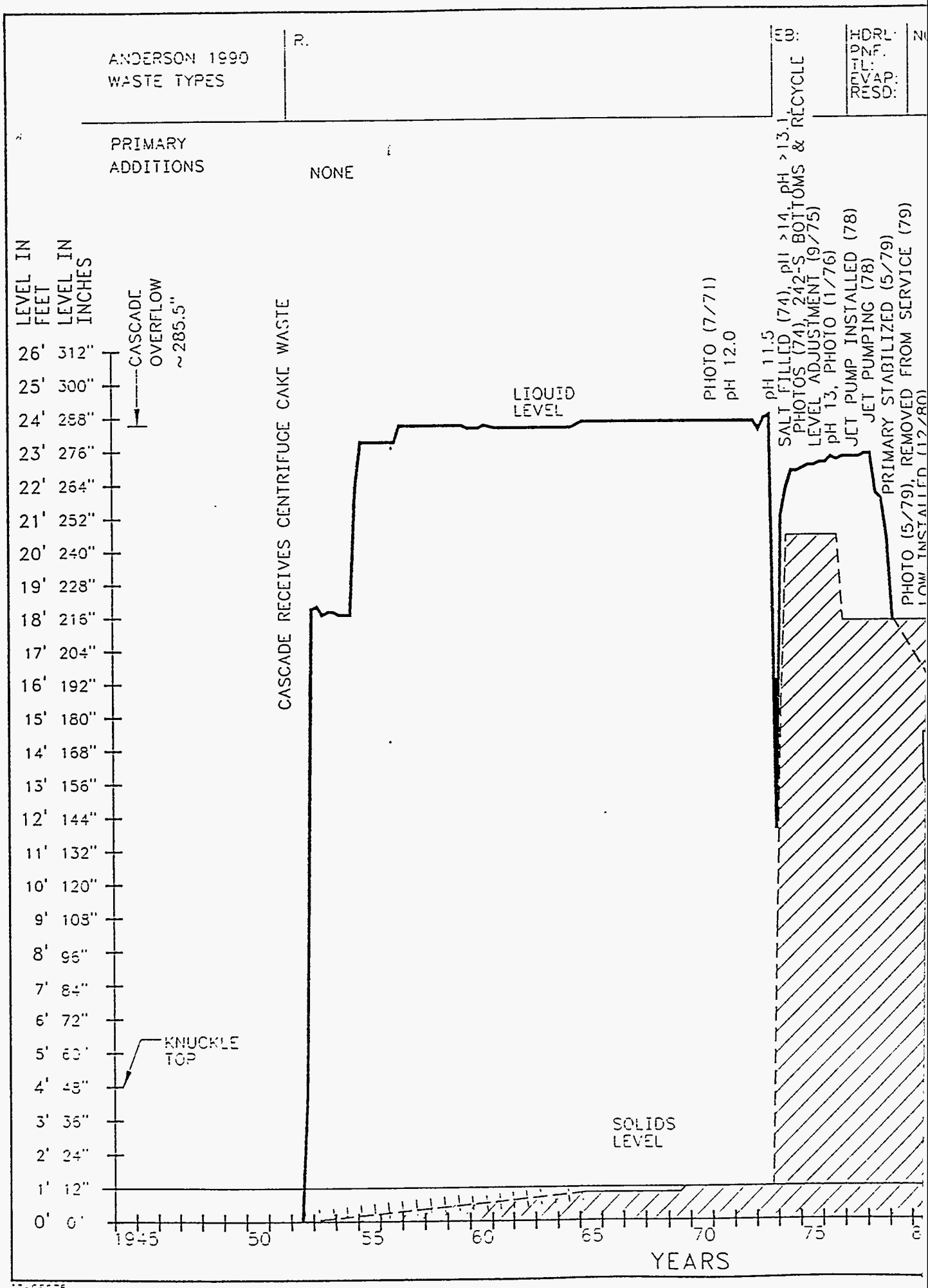
S TANK FARM CASCADE

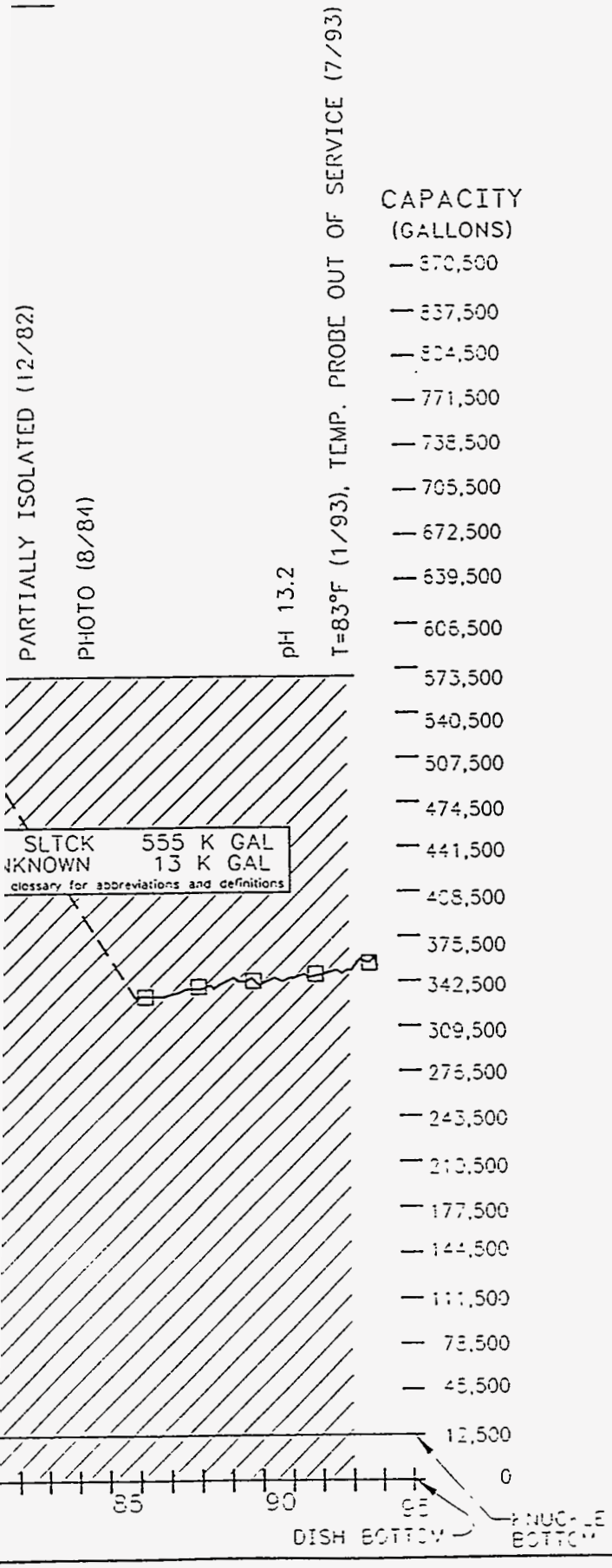


U.S. DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE
ICF KAISER HANFORD

241-S-108 SINGLE-SHELL TANK
LEVEL HISTORY 1952 TO 1993
SOUND/NON-STABILIZED TANK
WATCH LIST: N/A

SIZE	BLDG NO	DWG NO	DATE
B	241	ES-TKS-E74	6/94
SCALE NONE	JOB NO	SHEET 1 OF 1	


ANDERSON 1990
WASTE TYPES
PRIMARY
ADDITIONS
NONE
LEVEL IN FEET
LEVEL IN INCHES
CASCADE OVERFLOW ~285.5"
KNUCKLE TOP
CASCADE RECEIVES CENTRIFUGE CAKE WASTE
LIQUID LEVEL
SOLIDS LEVEL
PHOTO (7/71)
pH 12.0
pH 11.5
SALT FILLED (74), pH >14, pH >13.1
PHOTOS (74), 242-S BOTTOMS & RECYCLE
LEVEL ADJUSTMENT (9/75)
pH 13, PHOTO (1/76)
JET PUMP INSTALLED (78)
JET PUMPING (78)
PRIMARY STABILIZED (5/79)
PHOTO (5/79), REMOVED FROM SERVICE (79)
YEARS



NOTES:

CONSTRUCTED 1950-1951
NOMINAL CAPACITY. 758,000 GAL
DISH BOTTOM, 4 FOOT RADIUS KNUCKLE
75 FOOT DIAMETER TANK
SURFACE LEVEL READING: FIC (LIQUIDS). PHOTO.
SLUDGE MEASUREMENT DEVICE (SOLIDS)

WHC REPORT WHC-EP-0347 SUPPLEMENT
WHC REPORT WHC-EP-0182-(MONTHLY)
WHC REPORT WHC-MR-0132
WHC REPORT SD-WM-TI-356
RHO-CD-0014-(MONTHLY)

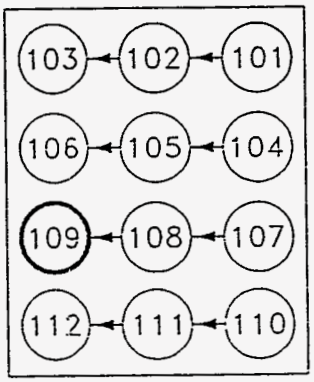
DWG. H-2-1783
DWG. H-2-1789
DWG. H-2-1774

EB: EVAPORATOR BOTTOMS
HDRL: HANFORD DEFENSE RESIDUAL LIQUOR
PNF: PARTIAL NEUTRALIZED WASTE
R: REDOX WASTE
EVAP: EVAPORATOR FEED
RESD: RESIDUAL EVAPORATOR LIQUOR
TL: TERMINAL LIQUOR
NCPLX: NON-COMPLEXED WASTE

LEGEND

- LIQUID OBSERVATION WELL (LOW)
- LIQUID LEVEL
- LIQUID LEVEL BEST ENGINEERING JUDGEMENT
- SOLIDS LEVEL
- SOLIDS LEVEL BEST ENGINEERING JUDGEMENT

S TANK FARM CASCADE

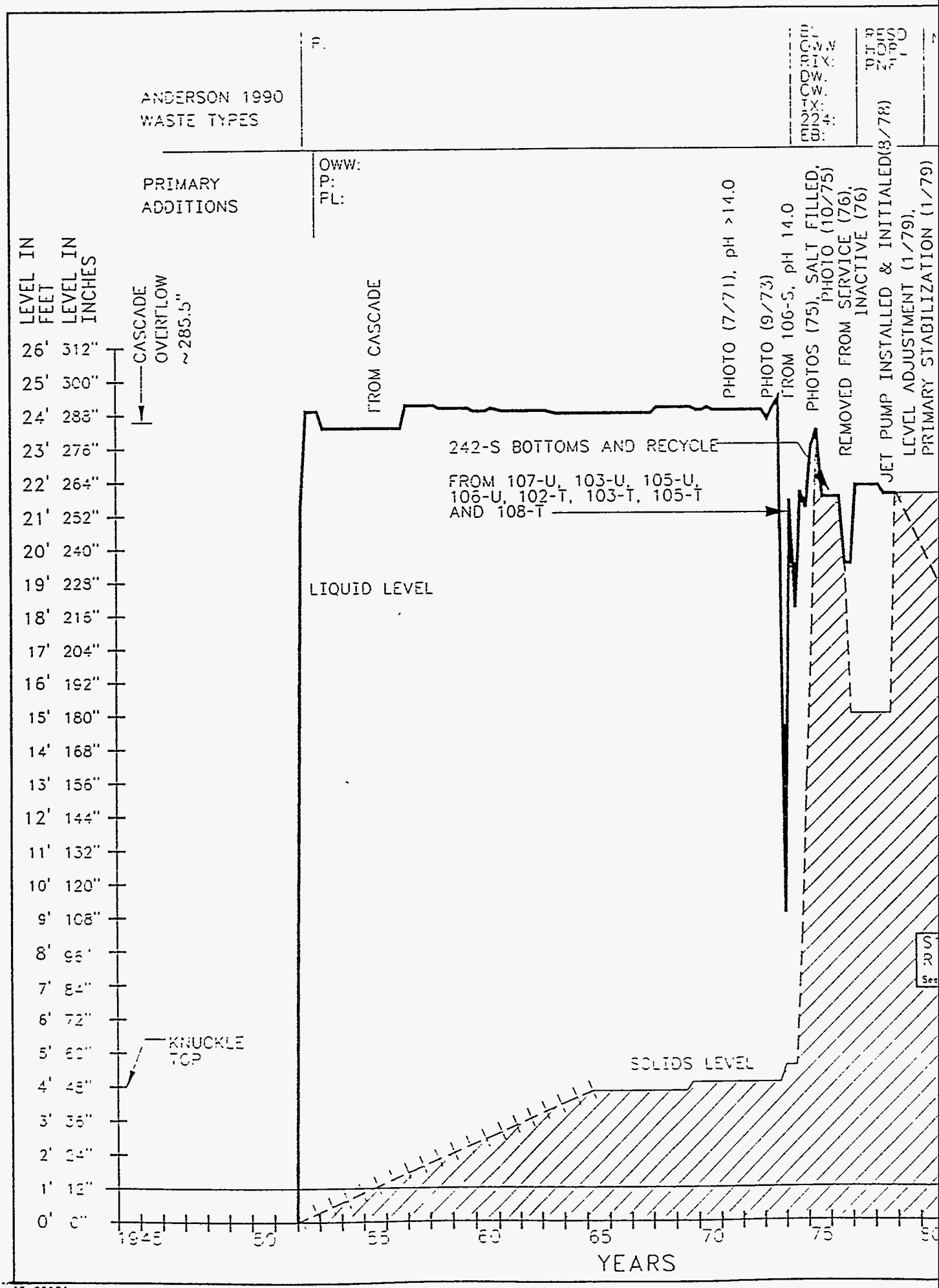


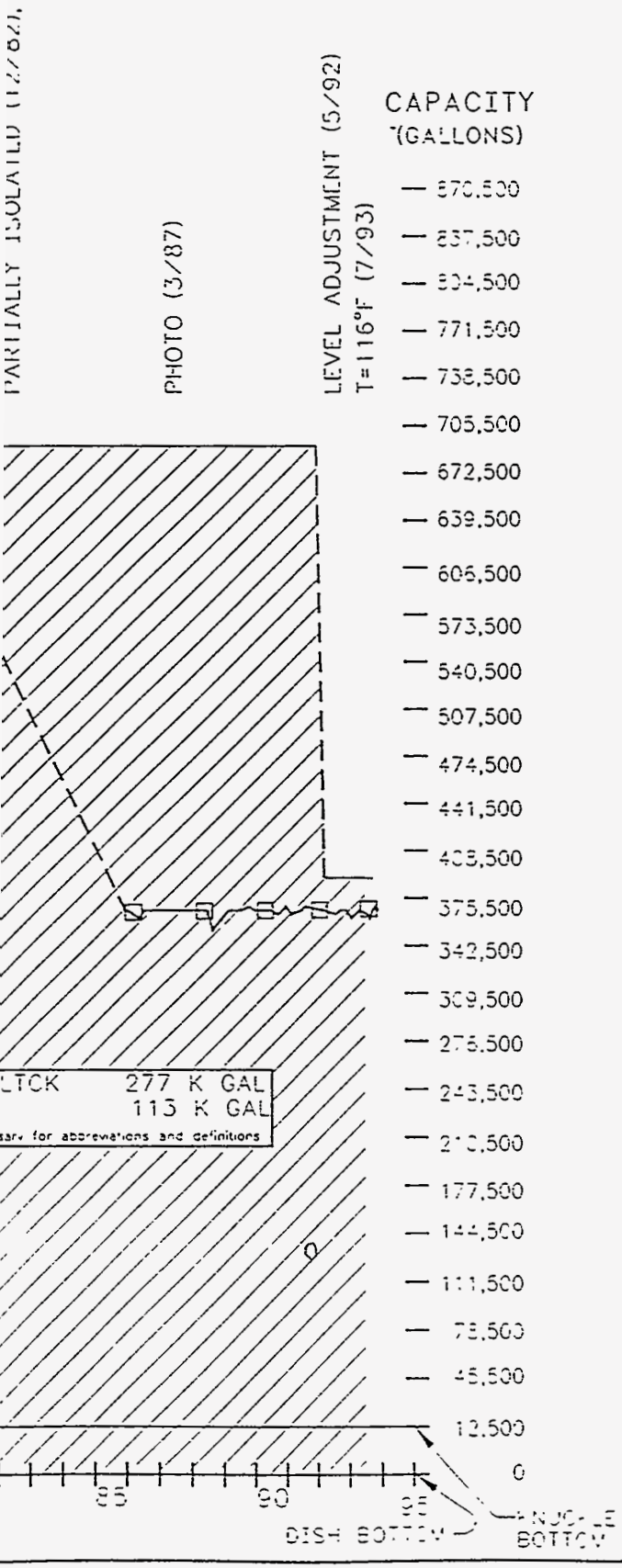
U.S. DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE
ICF KAISER HANFORD

241-S-109 SINGLE-SHELL TANK
LEVEL HISTORY 1952 TO 1993
SOUND/NON-STABILIZED TANK
WATCH LIST: N/A

SIZE	BLDG NO	DWG NO	DATE
B	241	ES-TKS-E75	6/94

SCALE NONE JOB NO SHEET 1 OF 1


ANDERSON 1990
WASTE TYPES
PRIMARY
ADDITIONS
OWW:
P:
FL:
LEVEL IN FEET
LEVEL IN INCHES
CASCADE OVERFLOW ~285.5"
FROM CASCADE
PHOTO (7/71), pH >14.0
PHOTO (9/73)
FROM 106-S, pH 14.0
PHOTOS (75), SALT FILLED, PHOTO (10/75)
REMOVED FROM SERVICE (76), INACTIVE (76)
JET PUMP INSTALLED & INITIALED(8/78)
LEVEL ADJUSTMENT (1/79), PRIMARY STABILIZATION (1/79)
242-S BOTTOMS AND RECYCLE
FROM 107-U, 103-U, 105-U, 106-U, 102-T, 103-T, 105-T AND 108-T
LIQUID LEVEL
SOLIDS LEVEL
KNUCKLE TOP
26' 312"
25' 300"
24' 288"
23' 276"
22' 264"
21' 252"
20' 240"
19' 228"
18' 216"
17' 204"
16' 192"
15' 180"
14' 168"
13' 156"
12' 144"
11' 132"
10' 120"
9' 108"
8' 96"
7' 84"
6' 72"
5' 60"
4' 48"
3' 36"
2' 24"
1' 12"
0' 0"
1945
50
55
60
65
70
75
YEARS



NOTES:

CONSTRUCTED 1950-1951
NOMINAL CAPACITY, 758,000 GAL
DISH BOTTOM, 4 FOOT RADIUS KNUCKLE
75 FOOT DIAMETER TANK
SURFACE LEVEL READING: FIC (LIQUIDS).
SLUDGE LEVEL MEASURING DEVICE AND
PHOTOS (SOLIDS)

WHC REPORT WHC-EP-0347 SUPPLEMENT
WHC REPORT WHC-EP-0182-(MONTHLY)
WHC REPORT WHC-MR-0132
WHC REPORT SD-WM-TI-356
RHO-CD-0014-(MONTHLY)

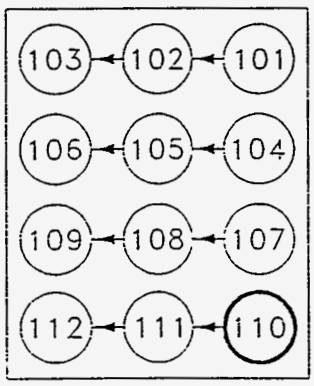
DWG. H-2-1783
DWG. H-2-1789

EB:	EVAPORATOR BOTTOMS
R:	REDOX WASTE
EVAP:	EVAPORATOR FEED
HDRL:	HANFORD DEFENSE RESIDUAL LIQUOR
NCPLX:	NON-COMPLEXED WASTE
PNF:	PARTIAL NEUTRALIZED WASTE
BL:	B-PLANT LOW-LEVEL WASTE
OWW:	ORGANIC WASH WASTE
RIX:	REDOX ION EXCHANGE WASTE
DW:	DECONTAMINATION WASTE
CW:	COATING WASTE
IX:	ION EXCHANGE WASTE
224:	224-U WASTE
RESD:	RESIDUAL EVAPORATOR LIQUOR
CWR:	CLADDING WASTE-REDOX
WTR:	WASTE WATER

LEGEND

- LIQUID OBSERVATION WELL (LOW)
- LIQUID LEVEL
- LIQUID LEVEL BEST ENGINEERING JUDGEMENT
- SOLIDS LEVEL
- SOLIDS LEVEL BEST ENGINEERING JUDGEMENT

S TANK FARM
CASCADE

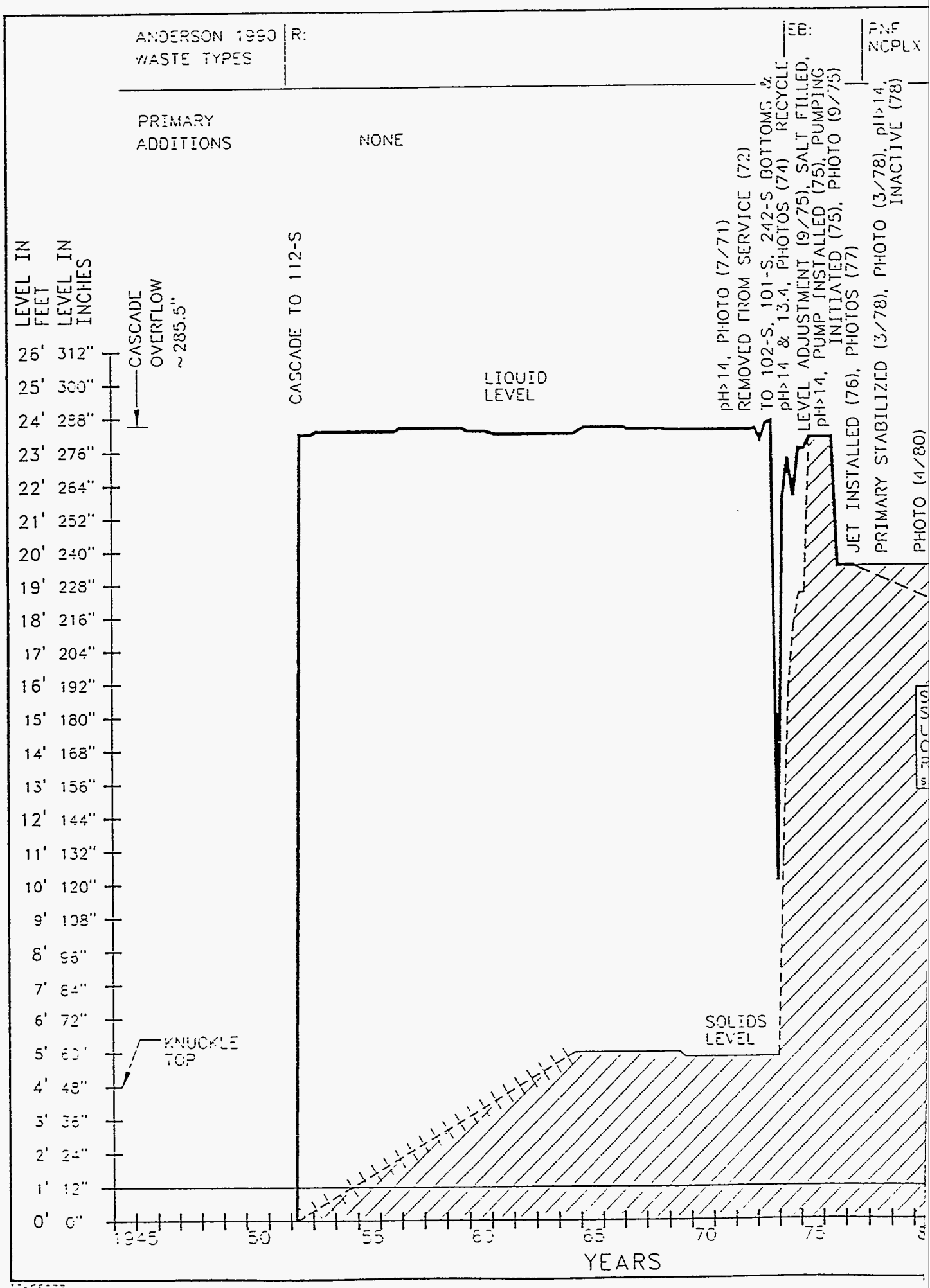


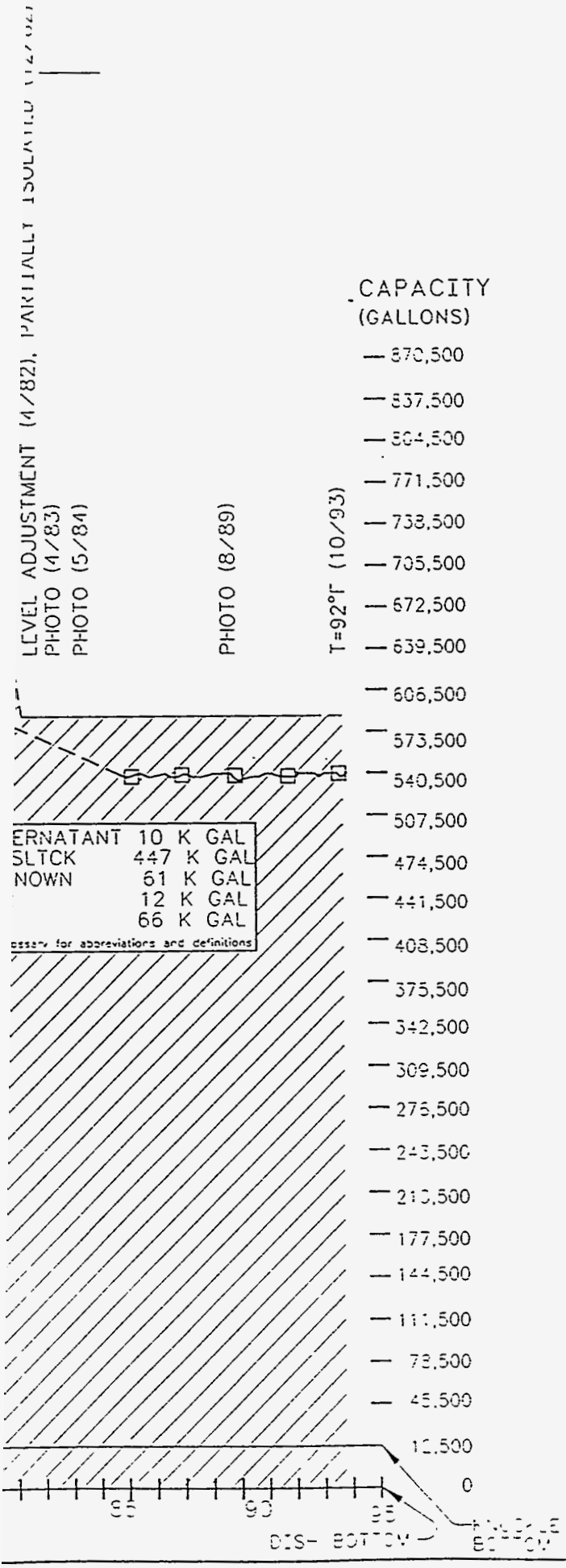
U.S. DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE
ICF KAISER HANFORD

241-S-110 SINGLE-SHELL TANK
LEVEL HISTORY 1952 TO 1993
SOUND/NON-STABILIZED TANK
WATCH LIST: N/A

SIZE	BLDG NO	DWG NO	DATE
B	241	ES-TKS-E76	6/94

SCALE NONE JOB NO SHEET 1 OF 1


ANDERSON 1990
WASTE TYPES
R:
EB:
PNF
NCPLX
PRIMARY
ADDITIONS
NONE
LEVEL IN FEET
LEVEL IN INCHES
CASCADE OVERFLOW ~285.5"
CASCADE TO 112-S
LIQUID LEVEL
pH>14, PHOTO (7/71)
REMOVED FROM SERVICE (72)
TO 102-S, 101-S, 242-S BOTTOMS & RECYCLE
pH>14 & 13.4, PHOTOS (74)
LEVEL ADJUSTMENT (9/75), SALT FILLED,
pH>14, PUMP INSTALLED (75), PUMPING
INITIATED (75), PHOTO (9/75)
JET INSTALLED (76), PHOTOS (77)
PRIMARY STABILIZED (3/78), PHOTO (3/78), pH>14,
INACTIVE (78)
PHOTO (4/80)
SOLIDS LEVEL
KNUCKLE TOP
26' 312"
25' 300"
24' 288"
23' 276"
22' 264"
21' 252"
20' 240"
19' 228"
18' 216"
17' 204"
16' 192"
15' 180"
14' 168"
13' 156"
12' 144"
11' 132"
10' 120"
9' 108"
8' 96"
7' 84"
6' 72"
5' 60"
4' 48"
3' 36"
2' 24"
1' 12"
0' 0"
1945
50
55
60
65
70
75
YEARS



NOTES:

CONSTRUCTED 1950-1951
NOMINAL CAPACITY: 758,000 GAL
DISH BOTTOM, 4 FOOT RADIUS KNUCKLE,
75 FOOT DIAMETER TANK
SURFACE LEVEL READING: PHOTO (LIQUIDS), FIC/PHOTO (SOLIDS)

WHC REPORT WHC-EP-0347 SUPPLEMENT
WHC REPORT WHC-EP-0182-(MONTHLY)
WHC REPORT WHC-MR-0132
WHC REPORT SD-WM-TI-356
RHO-CD-0014-(MONTHLY)

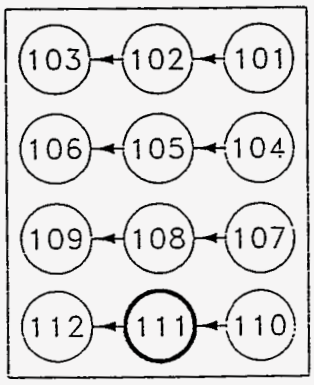
DWG. H-2-1783
DWG. H-2-1789

EB: EVAPORATOR BOTTOMS
PNF: PARTIAL NEUTRALIZED WASTE
R: REDOX WASTE
NCPLX: NON-COMPLEXED WASTE

LEGEND

- LIQUID OBSERVATION WELL (LOW)
- LIQUID LEVEL
- LIQUID LEVEL BEST ENGINEERING JUDGEMENT
- SOLIDS LEVEL
- SOLIDS LEVEL BEST ENGINEERING JUDGEMENT

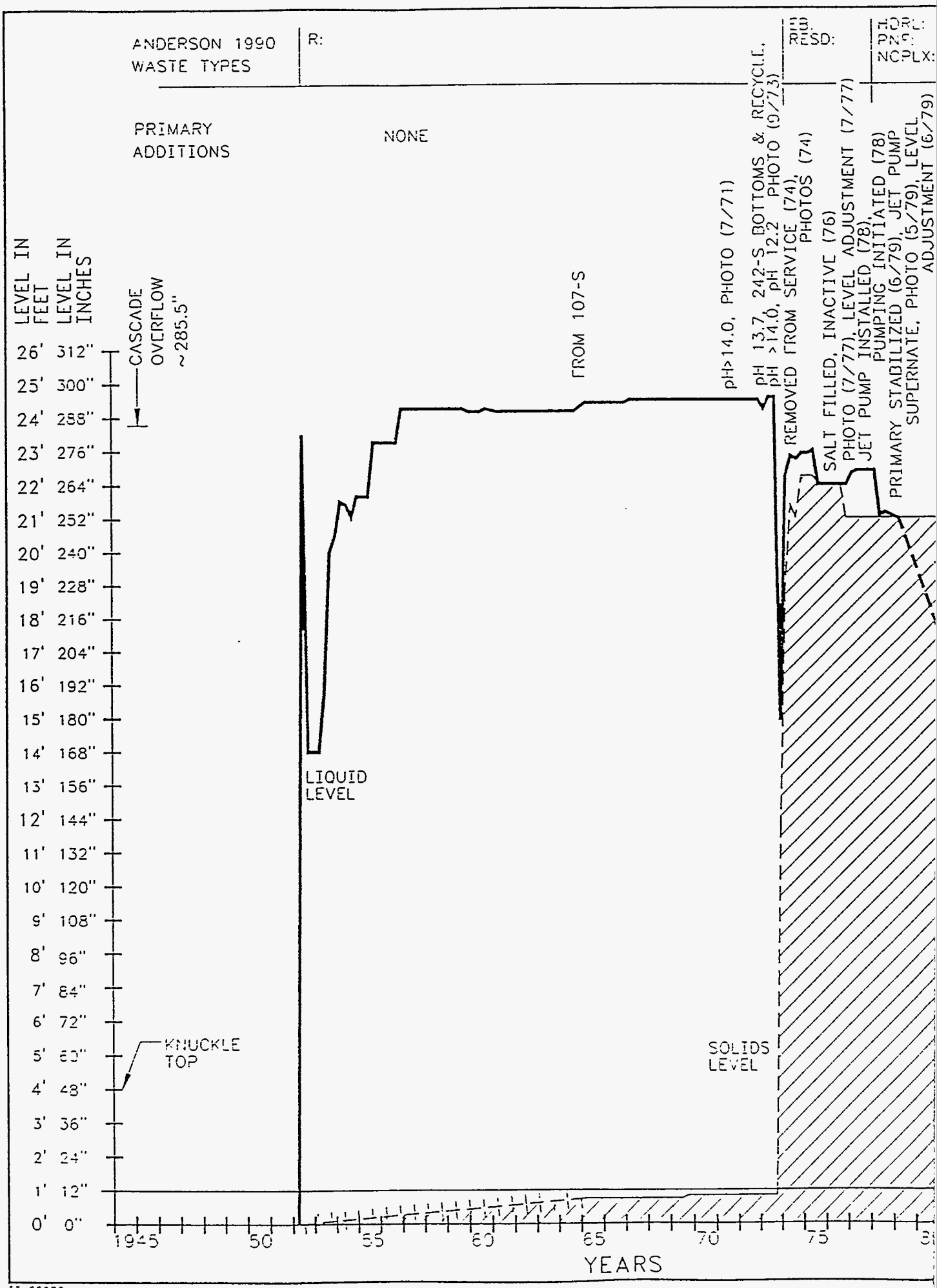
S TANK FARM CASCADE

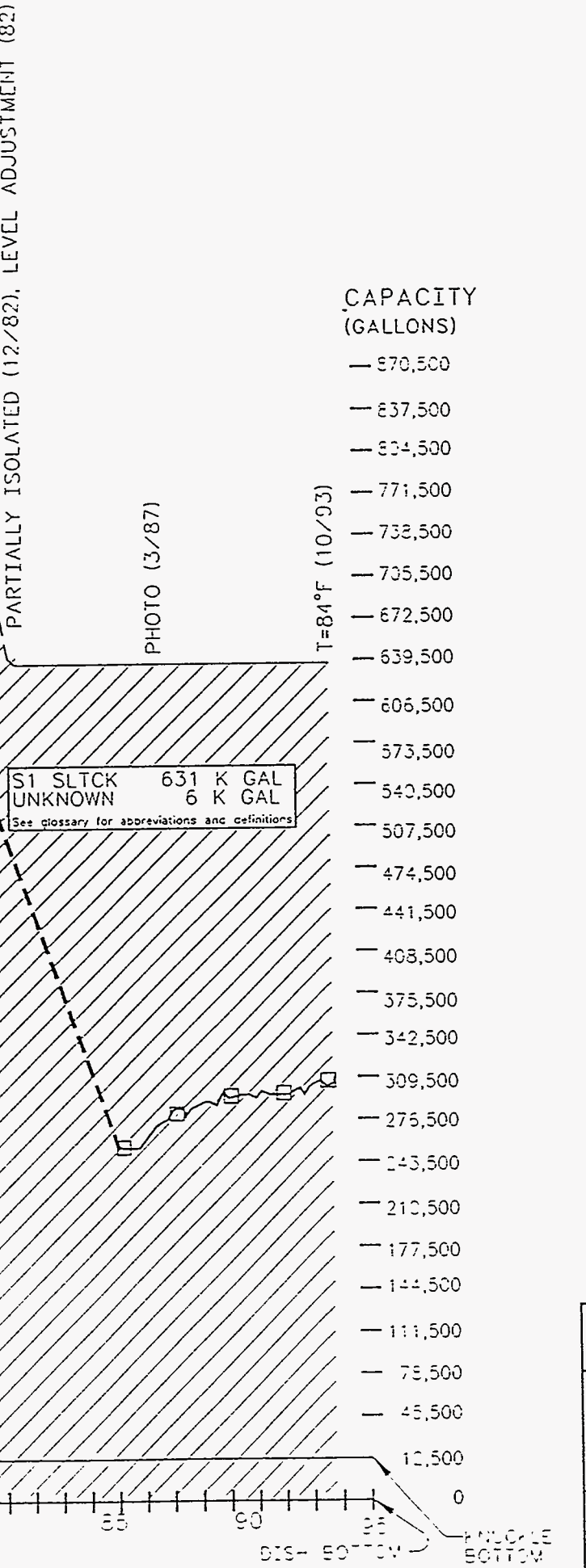


U.S. DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE
ICF KAISER HANFORD

241-S-111 SINGLE-SHELL TANK
LEVEL HISTORY 1952 TO 1993
SOUND/NON-STABILIZED TANK
WATCH LIST: HYDROGEN

SIZE	BLDG NO	DWG NO	DATE
B	241	ES-TKS-E77	6/94
SCALE NONE	JOB NO	SHEET 1 OF 1	


ANDERSON 1990
WASTE TYPES
R:
PRIMARY
ADDITIONS
NONE
LEVEL IN FEET
LEVEL IN INCHES
CASCADE OVERFLOW ~285.5"
FROM 107-S
pH>14.0, PHOTO (7/71)
pH 13.7, 242-S BOTTOMS & RECYCLE, pH >14.0, pH 12.2 PHOTO (9/73)
REMOVED FROM SERVICE (74), PHOTOS (74)
SALT FILLED, INACTIVE (76)
PHOTO (7/77), LEVEL ADJUSTMENT (7/77)
JET PUMP INSTALLED (78), PUMPING INITIATED (78)
PRIMARY STABILIZED (6/79), JET PUMP SUPERNATE, PHOTO (5/79), LEVEL ADJUSTMENT (6/79)
LIQUID LEVEL
SOLIDS LEVEL
KNUCKLE TOP
26' 312"
25' 300"
24' 288"
23' 276"
22' 264"
21' 252"
20' 240"
19' 228"
18' 216"
17' 204"
16' 192"
15' 180"
14' 168"
13' 156"
12' 144"
11' 132"
10' 120"
9' 108"
8' 96"
7' 84"
6' 72"
5' 60"
4' 48"
3' 36"
2' 24"
1' 12"
0' 0"
1945
50
55
60
65
70
75
YEARS



NOTES:

CONSTRUCTED 1950-1951
NOMINAL CAPACITY: 758,000 GAL
DISH BOTTOM, 4 FOOT RADIUS KNUCKLE,
75 FOOT DIAMETER TANK
SURFACE LEVEL READING: PHOTO (LIQUID),
FIC AND PHOTO (SOLIDS)

WHC REPORT WHC-EP-0347 SUPPLEMENT
WHC REPORT WHC-EP-0182-(MONTHLY)
WHC REPORT WHC-MR-0132
WHC REPORT SD-WM-TI-356
RHO-CD-0014-(MONTHLY)

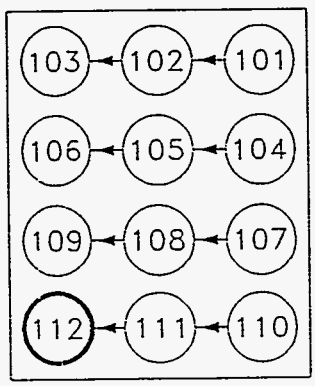
DWG. H-2-1783
DWG. H-2-1789

EB:	EVAPORATOR BOTTOMS
HDRL:	HANFORD DEFENSE RESIDUAL LIQUOR
PNF:	PARTIAL NEUTRALIZED WASTE
R:	REDOX WASTE
NCPLX:	NON-COMPLEXED WASTE
RESD:	RESIDUAL EVAPORATOR LIQUOR

LEGEND

- LIQUID OBSERVATION WELL (LOW)
- LIQUID LEVEL
- LIQUID LEVEL BEST ENGINEERING JUDGEMENT
- SOLIDS LEVEL
- SOLIDS LEVEL BEST ENGINEERING JUDGEMENT

S TANK FARM
CASCADE



U.S. DEPARTMENT OF ENERGY
RICHLAND FIELD OFFICE
ICF KAISER HANFORD

241-S-112 SINGLE-SHELL TANK
LEVEL HISTORY 1952 TO 1993
SOUND/NON-STABILIZED TANK
WATCH LIST: HYDROGEN

SIZE	BLDG NO	DWG NO	DATE
B	241	ES-TKS-E78	6/94
SCALE NONE	JOB NO	SHEET 1 OF 1	

241-S-101 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1952					
2					
3					
4					
1-1953					
2					
3	758	283	0	0	
4	772	288	0	0	
1-1954	719	269	0	0	
2	730	273	0	0	
3	759	283	0	0	
4	758	283	0	0	
1-1955	741	277	0	0	
2	725	271	0	0	
3	772	288	0	0	
4	763	285	0	0	
1-1956	761	284	0	0	
2	757	283	0	0	
3	756	282	0	0	
4	756	282	0	0	
1-1957	752	281	0	0	
2	752	281	0	0	
3	750	280	0	0	
4	750	280	0	0	
1-1958	769	287	0	0	
2	769	287	0	0	
3	766	286	0	0	
4	763	285	0	0	
1-1959	763	285	0	0	
2	763	285	0	0	
3	762	285	0	0	
4	761	284	0	0	
1-1960	757	283	0	0	
2	757	283	0	0	
3	757	283	0	0	
4	761	284	0	0	
1-1961					
2	758	283	0	0	
3					
4	758	283	0	0	
1-1962					
2	755	282	0	0	
3					
4	755	282	0	0	
1-1963					
2	755	282	0	0	

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3					
4	755	282	0	0	
1-1964					
2	755	282	0	0	
3					
4	755	282	0	0	
1-1965					
2	744	278	0	0	
3	744	278	0	0	
4	744	278	0	0	
1-1966	744	278	0	0	
2	744	278	0	0	
3	744	278	0	0	
4	744	278	0	0	
1-1967	744	278	0	0	
2	744	278	0	0	
3	744	278	0	0	
4	744	278	0	0	
1-1968	744	278	0	0	
2	745	278	0	0	
3	745	278	0	0	
4	745	278	0	0	
1-1969	744	278	0	0	
2	744	278	0	0	
3	744	278	0	0	
4	744	278	211	84	
1-1970	743	278	211	84	
2	743	278	211	84	
3	743	278	211	84	
4	743	278	211	84	
1-1971	743	278	211	84	
2	743	278	211	84	
3	743	278	211	84	
4	743	278	211	84	
1-1972	743	278	211	84	
2	743	278	211	84	
3	743	278	211	84	
4	744	278	211	84	
1-1973	744	278	211	84	
2	734	274	211	84	
3	744	278	211	84	
4	426	162	211	84	
1-1974	616	231	244	96	
2	588	221	244	96	
3	339	131	244	96	
4	519	196	244	96	

241-S-101 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1975	552	208	244	96	
2	692	259	332	128	
3	332	128	332	128	
4	560	211	332	128	
1-1976	717	268	332	128	
2	717	268	332	128	
3	719	269	332	128	
4	725	271	332	128	
1-1977	708	265	332	128	
2	725	271	332	128	
3	703	263	332	128	
4	706	264	332	128	
1-1978	703	263	332	128	
2	703	263	332	128	
3	700	262	332	128	
4	700	262	332	128	
1-1979	678	254	332	128	
2	472	179	332	128	
3	472	179	332	128	
4	585	220	332	128	
1-1980	711	266	332	128	
2	520	197	332	128	
3	427	163	415	158	
4	427	163	415	158	
1-1981	427	163	415	158	
2	427	163	415	158	
3	427	163	415	158	
4	427	163	415	158	
1-1982	427	163	415	158	
2	427	163	415	158	
3	427	163	415	158	
4	427	163	415	158	
1-1983	427	163	415	158	
2	427	163	415	158	
3	427	163	415	158	
4	427	163	415	158	
1-1984	427	163	415	158	
2	427	163	415	158	
3	427	163	415	158	
4	427	163	415	158	
1-1985	427	163	415	158	
2	427	163	415	158	
3	427	163	415	158	
4	427	163	415	158	
1-1986	427	163	415	158	160
2	427	163	415	158	160

241-S-101 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3	427	163	415	158	160
4	427	163	415	158	159
1-1987	427	163	415	158	
2	427	163	415	158	
3	427	163	415	158	160
4	427	163	415	158	159
1-1988	427	163	415	158	160
2	427	163	415	158	160
3	427	163	415	158	159
4	427	163	415	158	160
1-1989	427	163	415	158	
2	427	163	415	158	160
3	427	163	415	158	160
4	427	163	415	158	160
1-1990	427	163	415	158	160
2	427	163	415	158	
3	427	163	415	158	160
4	427	163	415	158	160
1-1991	427	163	415	158	160
2	427	163	415	158	160
3	427	163	415	158	161
4	427	163	415	158	161
1-1992	427	163	415	158	
2	427	163	415	158	160
3	427	163	415	158	
4	427	163	415	158	160
1-1993	427	163	415	158	161
2	427	163	415	158	160
3	427	163	415	158	161
4	427	163	415	158	161
1-1994					160

241-S-102 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1952					
2					
3					
4					
1-1953					
2					
3	239	94	0	0	
4	766	286	0	0	
1-1954	750	280	0	0	
2	747	279	0	0	
3	747	279	0	0	
4	715	267	0	0	
1-1955	715	267	0	0	
2	715	267	0	0	
3	745	278	0	0	
4	745	278	0	0	
1-1956	745	278	0	0	
2	745	278	0	0	
3	745	278	0	0	
4	745	278	0	0	
1-1957	740	277	0	0	
2	740	277	0	0	
3	739	276	0	0	
4	739	276	0	0	
1-1958	739	276	0	0	
2	739	276	0	0	
3	739	276	0	0	
4	739	276	0	0	
1-1959	736	275	0	0	
2	736	275	0	0	
3	736	275	0	0	
4	736	275	0	0	
1-1960	736	275	0	0	
2	736	275	0	0	
3	736	275	0	0	
4	733	274	0	0	
1-1961					
2	733	274	0	0	
3					
4	733	274	0	0	
1-1962					
2	733	274	0	0	
3					
4	733	274	0	0	
1-1963					
2	733	274	0	0	

241-S-102 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3					
4	733	274	0	0	
1-1964					
2	733	274	0	0	
3					
4	733	274	0	0	
1-1965					
2	750	280	0	0	
3	750	280	5	9	
4	750	280	5	9	
1-1966	750	280	5	9	
2	750	280	5	9	
3	750	280	5	9	
4	750	280	5	9	
1-1967	750	280	5	9	
2	750	280	5	9	
3	750	280	5	9	
4	750	280	5	9	
1-1968	750	280	5	9	
2	750	280	5	9	
3	750	280	5	9	
4	750	280	5	9	
1-1969	750	280	5	9	
2	750	280	5	9	
3	750	280	5	9	
4	750	280	4	9	
1-1970	750	280	4	9	
2	750	280	4	9	
3	750	280	4	9	
4	750	280	4	9	
1-1971	750	280	4	9	
2	750	280	4	9	
3	750	280	4	9	
4	750	280	4	9	
1-1972	750	280	4	9	
2	750	280	4	9	
3	750	280	4	9	
4	744	278	4	9	
1-1973	743	278	4	9	
2	743	278	4	9	
3	762	285	4	9	
4	577	217	51	26	
1-1974	634	238	51	26	
2	685	257	51	26	
3	691	259	103	45	
4	662	248	145	60	

241-S-102 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1975	604	227	145	60	
2	689	258	145	60	
3	464	176	145	60	
4	554	209	200	80	
1-1976	477	181	200	80	
2	552	208	200	80	
3	543	205	200	80	
4	535	202	200	80	
1-1977	211	84	208	83	
2	230	91	208	83	
3	233	92	208	83	
4	246	97	208	83	
1-1978	266	104	208	83	
2	274	107	208	83	
3	282	110	208	83	
4	483	183	208	83	
1-1979	618	232	208	83	
2	378	145	208	83	
3	480	182	208	83	
4	618	232	510	193	
1-1980	609	229	510	193	
2	561	211	510	193	
3	555	209	555	209	
4	555	209	555	209	
1-1981	555	209	555	209	
2	555	209	555	209	
3	555	209	555	209	
4	555	209	555	209	
1-1982	555	209	555	209	
2	549	207	549	207	
3	549	207	549	207	
4	549	207	549	207	
1-1983	549	207	549	207	
2	549	207	549	207	
3	549	207	549	207	
4	549	207	549	207	
1-1984	549	207	549	207	
2	549	207	549	207	
3	549	207	549	207	
4	549	207	549	207	
1-1985	549	207	549	207	
2	549	207	549	207	
3	549	207	549	207	
4	549	207	549	207	
1-1986	549	207	549	207	199
2	549	207	549	207	199

241-S-102 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3	549	207	549	207	199
4	549	207	549	207	199
1-1987	549	207	549	207	
2	549	207	549	207	
3	549	207	549	207	199
4	549	207	549	207	200
1-1988	549	207	549	207	199
2	549	207	549	207	201
3	549	207	549	207	197
4	549	207	549	207	196
1-1989	549	207	549	207	
2	549	207	549	207	201
3	549	207	549	207	201
4	549	207	549	207	200
1-1990	549	207	549	207	200
2	549	207	549	207	
3	549	207	549	207	201
4	549	207	549	207	202
1-1991	549	207	549	207	201
2	549	207	549	207	201
3	549	207	549	207	202
4	549	207	549	207	
1-1992	549	207	549	207	
2	549	207	549	207	201
3	549	207	549	207	
4	549	207	549	207	201
1-1993	549	207	549	207	202
2	549	207	549	207	203
3					202
4					203

241-S-103 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1952					
2					
3					
4					
1-1953					
2					
3	0	0	0	0	
4	430	164	0	0	
1-1954	514	194	0	0	
2	549	207	0	0	
3	549	207	0	0	
4	536	202	0	0	
1-1955	537	203	0	0	
2	752	281	0	0	
3	752	281	0	0	
4	752	281	0	0	
1-1956	752	281	0	0	
2	752	281	0	0	
3	752	281	0	0	
4	752	281	0	0	
1-1957	752	281	0	0	
2	750	280	0	0	
3	750	280	0	0	
4	750	280	0	0	
1-1958	747	279	0	0	
2	750	280	0	0	
3	750	280	0	0	
4	750	280	0	0	
1-1959	750	280	0	0	
2	750	280	0	0	
3	750	280	0	0	
4	750	280	0	0	
1-1960	747	279	0	0	
2	747	279	0	0	
3	747	279	0	0	
4	750	280	0	0	
1-1961					
2	747	279	0	0	
3					
4	747	279	0	0	
1-1962					
2	747	279	0	0	
3					
4	747	279	0	0	
1-1963					
2	747	279	0	0	

241-S-103 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3					
4	747	279	0	0	
1-1964					
2	747	279	0	0	
3					
4	747	279	0	0	
1-1965					
2	763	285	0	7	
3	763	285	5	9	
4	763	285	5	9	
1-1966	763	285	5	9	
2	763	285	5	9	
3	763	285	5	9	
4	763	285	5	9	
1-1967	768	287	5	9	
2	765	286	5	9	
3	765	286	5	9	
4	765	286	5	9	
1-1968	765	286	5	9	
2	765	286	5	9	
3	765	286	5	9	
4	764	285	5	9	
1-1969	764	285	5	9	
2	764	285	5	9	
3	765	286	5	9	
4	765	286	9	11	
1-1970	764	285	9	11	
2	764	285	9	11	
3	765	286	9	11	
4	764	285	9	11	
1-1971	764	285	9	11	
2	764	285	9	11	
3	764	285	9	11	
4	764	285	9	11	
1-1972	763	285	9	11	
2	763	285	9	11	
3	766	286	9	11	
4	767	286	9	11	
1-1973	767	286	9	11	
2	761	284	9	11	
3	773	289	9	11	
4	549	207	37	21	
1-1974	388	149	37	21	
2	640	240	37	21	
3	570	215	37	21	
4	513	194	37	21	

241-S-103 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1975	409	156	37	21	
2	642	241	37	21	
3	403	154	37	21	
4	565	213	37	21	
1-1976	326	126	37	21	
2	337	130	37	21	
3	194	78	37	21	
4	439	167	37	21	
1-1977	466	177	57	28	
2	301	117	57	28	
3	257	101	57	28	
4	395	151	68	32	
1-1978	459	174	68	32	
2	238	94	120	51	
3	387	148	167	68	
4	662	248	128	54	
1-1979	440	167	128	54	
2	499	189	128	54	
3	560	211	128	54	
4	708	265	153	63	
1-1980	675	253	153	63	
2	484	183	153	63	
3	647	243	153	63	
4	248	98	231	91	
1-1981	248	98	231	91	
2	248	98	231	91	
3	248	98	231	91	
4	248	98	231	91	
1-1982	248	98	231	91	
2	248	98	231	91	
3	248	98	231	91	
4	248	98	231	91	
1-1983	248	98	231	91	
2	248	98	231	91	
3	248	98	231	91	
4	248	98	231	91	
1-1984	248	98	231	91	
2	248	98	231	91	
3	248	98	231	91	
4	248	98	231	91	
1-1985	248	98	231	91	
2	248	98	231	91	
3	248	98	231	91	
4	248	98	231	91	
1-1986	248	98	231	91	101
2	248	98	231	91	102

241-S-103 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3	248	98	231	91	102
4	248	98	231	91	102
1-1987	248	98	231	91	102
2	248	98	231	91	
3	248	98	231	91	102
4	248	98	231	91	102
1-1988	248	98	231	91	102
2	248	98	231	91	103
3	248	98	231	91	102
4	248	98	231	91	102
1-1989	248	98	231	91	
2	248	98	231	91	103
3	248	98	231	91	103
4	248	98	231	91	103
1-1990	248	98	231	91	103
2	248	98	231	91	
3	248	98	231	91	102
4	248	98	231	91	103
1-1991	248	98	231	91	103
2	248	98	231	91	103
3	248	98	231	91	103
4	248	98	231	91	103
1-1992	248	98	231	91	
2	248	98	231	91	
3	248	98	231	91	
4	248	98	231	91	103
1-1993	248	98	231	91	103
2	248	98	231	91	103
3	248	98	231	91	103
4	248	98	231	91	103
1-1994					103

241-S-104 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	
1-1952					
2					
3					
4					
1-1953	741	277	0	0	
2	758	283	0	0	
3	663	249	0	0	
4	524	198	0	0	
1-1954	458	174	0	0	
2	734	274	0	0	
3	667	250	0	0	
4	648	243	0	0	
1-1955	623	234	0	0	
2	725	271	0	0	
3	763	285	0	0	
4	759	283	0	0	
1-1956	752	281	0	0	
2	753	281	0	0	
3	753	281	0	0	
4	753	281	0	0	
1-1957	750	280	0	0	
2	732	274	0	0	
3	732	274	0	0	
4	730	273	0	0	
1-1958	725	271	0	0	
2	725	271	0	0	
3	725	271	0	0	
4	725	271	0	0	
1-1959	725	271	0	0	
2	725	271	0	0	
3	721	270	0	0	
4	719	269	0	0	
1-1960	719	269	0	0	
2	719	269	0	0	
3	719	269	0	0	
4	716	268	0	0	
1-1961					
2	714	267	0	0	
3					
4	714	267	0	0	
1-1962					
2	714	267	0	0	
3					
4	714	267	0	0	
1-1963					
2	711	266	0	0	

241-S-104 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	
3					
4	711	266	0	0	
1-1964					
2	711	266	0	0	
3					
4	711	266	0	0	
1-1965					
2	807	301	0	0	
3	807	301	0	0	
4	807	301	0	0	
1-1966	805	300	0	0	
2	802	299	0	0	
3	799	298	0	0	
4	796	297	0	0	
1-1967	796	297	0	0	
2	791	295	0	0	
3	790	295	0	0	
4	789	294	0	0	
1-1968	787	294	0	0	
2	787	294	0	0	
3	787	294	0	0	
4	785	293	0	0	
1-1969	785	293	0	0	
2	784	293	0	0	
3	784	293			
4	784	293	241	95	
1-1970	783	292	241	95	
2	307	119	241	95	
3	304	118	241	95	
4	310	120	241	95	
1-1971	310	120	241	95	
2	309	120	241	95	
3	309	120	241	95	
4	308	119	241	95	
1-1972	308	119	241	95	
2	308	119	241	95	
3	308	119	241	95	
4	308	119	241	95	
1-1973	309	120	241	95	
2	307	119	241	95	
3	308	119	241	95	
4	307	119	241	95	
1-1974	307	119	241	95	
2	307	119	241	95	
3	309	120	241	95	
4	301	117	241	95	

241-S-104 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)
1-1975	299	116	299	116
2	299	116	299	116
3	299	116	299	116
4	299	116	299	116
1-1976	299	116	299	116
2	299	116	299	116
3	299	116	299	116
4	299	116	299	116
1-1977	299	116	299	116
2	299	116	299	116
3	299	116	299	116
4	299	116	299	116
1-1978	299	116	299	116
2	299	116	299	116
3	299	116	299	116
4	299	116	299	116
1-1979	299	116	299	116
2	299	116	299	116
3	299	116	299	116
4	299	116	299	116
1-1980	299	116	299	116
2	299	116	299	116
3	299	116	299	116
4	299	116	299	116
1-1981	299	116	299	116
2	299	116	299	116
3	299	116	299	116
4	299	116	299	116
1-1982	299	116	299	116
2	294	114	293	114
3	294	114	293	114
4	294	114	293	114
1-1983	294	114	293	114
2	294	114	293	114
3	294	114	293	114
4	294	114	293	114
1-1984	294	114	293	114
2	294	114	293	114
3	294	114	293	114
4	294	114	293	114
1-1985	294	114	293	114
2	294	114	293	114
3	294	114	293	114
4	294	114	293	114
1-1986	294	114	293	114
2	294	114	293	114

241-S-104 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	
3	294	114	293	114	
4	294	114	293	114	
1-1987	294	114	293	114	
2	294	114	293	114	
3	294	114	293	114	
4	294	114	293	114	
1-1988	294	114	293	114	
2	294	114	293	114	
3	294	114	293	114	
4	294	114	293	114	
1-1989	294	114	293	114	
2	294	114	293	114	
3	294	114	293	114	
4	294	114	293	114	
1-1990	294	114	293	114	
2	294	114	293	114	
3	294	114	293	114	
4	294	114	293	114	
1-1991	294	114	293	114	
2	294	114	293	114	
3	294	114	293	114	
4	294	114	293	114	
1-1992	294	114	293	114	
2	294	114	293	114	
3	294	114	293	114	
4	294	114	293	114	
1-1993	294	114	293	114	
2	294	114	293	114	
3					
4					

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1952					
2					
3					
4					
1-1953					
2	758	283	0	0	
3	723	270	0	0	
4	722	270	0	0	
1-1954	722	270	0	0	
2	734	274	0	0	
3	728	272	0	0	
4	728	272	0	0	
1-1955	728	272	0	0	
2	728	272	0	0	
3	723	270	0	0	
4	723	270	0	0	
1-1956	723	270	0	0	
2	723	270	0	0	
3	723	270	0	0	
4	723	270	0	0	
1-1957	754	282	0	0	
2	754	282	0	0	
3	752	281	0	0	
4	755	282	0	0	
1-1958	752	281	0	0	
2	752	281	0	0	
3	719	269	0	0	
4	719	269	0	0	
1-1959	719	269	0	0	
2	719	269	0	0	
3	719	269	0	0	
4	717	268	0	0	
1-1960	717	268	0	0	
2	717	268	0	0	
3	717	268	0	0	
4	717	268	0	0	
1-1961					
2	717	268	0	0	
3					
4	717	268	0	0	
1-1962					
2	717	268	0	0	
3					
4	717	268	0	0	
1-1963					
2	717	268	0	0	

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3					
4	717	268	0	0	
1-1964					
2	717	268	0	0	
3					
4	717	268	0	0	
1-1965					
2	763	285	0	0	
3	763	285	0	0	
4	763	285	0	0	
1-1966	763	285	0	0	
2	763	285	0	0	
3	763	285	0	0	
4	763	285	0	0	
1-1967	763	285	0	0	
2	763	285	0	0	
3	763	285	0	0	
4	763	285	0	0	
1-1968	763	285	0	0	
2	763	285	0	0	
3	763	285	0	0	
4	763	285	0	0	
1-1969	763	285	0	0	
2	763	285	0	0	
3	763	285			
4	763	285	2	8	
1-1970	763	285	2	8	
2	763	285	2	8	
3	762	285	2	8	
4	762	285	2	8	
1-1971	762	285	2	8	
2	763	285	2	8	
3	763	285	2	8	
4	763	285	2	8	
1-1972	762	285	2	8	
2	762	285	2	8	
3	762	285	2	8	
4	763	285	2	8	
1-1973	763	285	2	8	
2	753	281	2	8	
3	767	286	2	8	
4	365	140	249	98	
1-1974	730	273	549	207	
2	549	207	549	207	
3	549	207	549	207	
4	541	204	541	204	

241-S-105 SINGLE-SHEL
L TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1975	541	204	541	204	
2	541	204	541	204	
3	541	204	541	204	
4	541	204	541	204	
1-1976	541	204	541	204	
2	541	204	541	204	
3	541	204	541	204	
4	541	204	541	204	
1-1977	541	204	541	204	
2	541	204	541	204	
3	541	204	541	204	
4	541	204	541	204	
1-1978	541	204	541	204	
2	541	204	541	204	
3	541	204	541	204	
4	541	204	541	204	
1-1979	541	204	541	204	
2	541	204	541	204	
3	541	204	541	204	
4	541	204	541	204	
1-1980	488	185	488	185	
2	488	185	488	185	
3	488	185	488	185	
4	488	185	488	185	
1-1981	488	185	488	185	
2	488	185	488	185	
3	488	185	488	185	
4	488	185	488	185	
1-1982	488	185	488	185	
2	488	185	488	185	
3	488	185	488	185	
4	488	185	488	185	
1-1983	488	185	488	185	
2	488	185	488	185	
3	488	185	488	185	
4	488	185	488	185	
1-1984	488	185	488	185	
2	488	185	488	185	
3	488	185	488	185	
4	488	185	488	185	
1-1985	488	185	488	185	
2	488	185	488	185	
3	488	185	488	185	
4	488	185	488	185	
1-1986	488	185	488	185	49
2	488	185	488	185	49

241-S-105 SINGLE-SHEL
L TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3	488	185	488	185	49
4	488	185	488	185	50
1-1987	488	185	488	185	47
2	488	185	488	185	
3	488	185	488	185	50
4	488	185	488	185	49
1-1988	488	185	488	185	50
2	488	185	488	185	50
3	456	173	456	173	49
4	456	173	456	173	51
1-1989	456	173	456	173	
2	456	173	456	173	51
3	456	173	456	173	50
4	456	173	456	173	52
1-1990	456	173	456	173	51
2	456	173	456	173	
3	456	173	456	173	52
4	456	173	456	173	53
1-1991	456	173	456	173	52
2	456	173	456	173	53
3	456	173	456	173	51
4	456	173	456	173	53
1-1992	456	173	456	173	
2	456	173	456	173	53
3	456	173	456	173	
4	456	173	456	173	52
1-1993	456	173	456	173	52
2	456	173	456	173	53
3	456	173	456	173	52
4	456	173	456	173	52
1-1994					53

241-S-106 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1952					
2					
3					
4					
1-1953					
2	426	162	0	0	
3	729	273	0	0	
4	725	271	0	0	
1-1954	725	271	0	0	
2	733	274	0	0	
3	737	275	0	0	
4	712	266	0	0	
1-1955	711	266	0	0	
2	541	204	0	0	
3	539	203	0	0	
4	754	282	0	0	
1-1956	754	282	0	0	
2	754	282	0	0	
3	754	282	0	0	
4	754	282	0	0	
1-1957	748	279	0	0	
2	748	279	0	0	
3	750	280	0	0	
4	750	280	0	0	
1-1958	750	280	0	0	
2	750	280	0	0	
3	747	279	0	0	
4	747	279	0	0	
1-1959	739	276	0	0	
2	747	279	0	0	
3	747	279	0	0	
4	747	279	0	0	
1-1960	744	278	0	0	
2	744	278	0	0	
3	744	278	0	0	
4	747	279	0	0	
1-1961					
2	747	279	0	0	
3					
4	747	279	0	0	
1-1962					
2	747	279	0	0	
3					
4	747	279	0	0	
1-1963					
2	747	279	0	0	

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3					
4	744	278	0	0	
1-1964					
2	744	278	0	0	
3					
4	744	278	0	0	
1-1965					
2	761	284	13	12	
3	761	284	13	12	
4	761	284	13	12	
1-1966	761	284	13	12	
2	761	284	13	12	
3	761	284	13	12	
4	761	284	13	12	
1-1967	761	284	13	12	
2	761	284	13	12	
3	761	284	13	12	
4	761	284	13	12	
1-1968	761	284	13	12	
2	761	284	13	12	
3	761	284	13	12	
4	758	283	13	12	
1-1969	759	283	13	12	
2	759	283	13	12	
3	759	283	13	12	
4	759	283	32	19	
1-1970	760	284	32	19	
2	760	284	32	19	
3	760	284	32	19	
4	760	284	32	19	
1-1971	760	284	32	19	
2	759	283	32	19	
3	759	283	32	19	
4	759	283	32	19	
1-1972	759	283	32	19	
2	759	283	32	19	
3	759	283	32	19	
4	759	283	32	19	
1-1973	759	283	32	19	
2	753	281	32	19	
3	766	286	32	19	
4	657	246	384	147	
1-1974	585	220	436	166	
2	584	220	436	166	
3	669	251	436	166	
4	733	274	557	210	

241-S-106 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1975	684	256	607	228	
2	686	257	607	228	
3	673	252	673	252	
4	673	252	673	252	
1-1976	692	259	673	252	
2	695	260	673	252	
3	700	262	673	252	
4	703	263	673	252	
1-1977	703	263	582	219	
2	703	263	582	219	
3	703	263	582	219	
4	706	264	582	219	
1-1978	706	264	582	219	
2	706	264	582	219	
3	700	262	582	219	
4	700	262	582	219	
1-1979	703	263	582	219	
2	612	230	582	219	
3	612	230	612	230	
4	612	230	612	230	
1-1980	612	230	612	230	
2	612	230	612	230	
3	612	230	612	230	
4	612	230	612	230	
1-1981	612	230	612	230	
2	612	230	612	230	
3	612	230	612	230	
4	612	230	612	230	
1-1982	612	230	612	230	
2	612	230	611	230	
3	543	205	543	205	
4	543	205	543	205	
1-1983	543	205	543	205	
2	543	205	543	205	
3	543	205	543	205	
4	543	205	543	205	
1-1984	543	205	543	205	
2	543	205	543	205	
3	543	205	543	205	
4	543	205	543	205	
1-1985	543	205	543	205	
2	543	205	543	205	
3	543	205	543	205	
4	543	205	543	205	
1-1986	543	205	543	205	171
2	543	205	543	205	171

241-S-106 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3	543	205	543	205	171
4	543	205	543	205	172
1-1987	543	205	543	205	170
2	543	205	543	205	
3	543	205	543	205	173
4	543	205	543	205	173
1-1988	543	205	543	205	173
2	543	205	543	205	174
3	543	205	543	205	173
4	543	205	543	205	173
1-1989	543	205	543	205	
2	543	205	543	205	175
3	543	205	543	205	175
4	543	205	543	205	75
1-1990	543	205	543	205	174
2	543	205	543	205	
3	543	205	543	205	176
4	543	205	543	205	175
1-1991	543	205	543	205	176
2	543	205	543	205	176
3	543	205	543	205	177
4	543	205	543	205	178
1-1992	543	205	543	205	
2	543	205	543	205	177
3	543	205	543	205	
4	543	205	543	205	177
1-1993	543	205	543	205	178
2	543	205	543	205	177
3	543	205	543	205	178
4	479	182	475	180	177
1-1994	479	182	475	180	177

241-S-107 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	
1-1952					
2					
3					
4	763	285	0	0	
1-1953	763	285	0	0	
2	758	283	0	0	
3	751	281	0	0	
4	748	279	0	0	
1-1954	748	279	0	0	
2	754	282	0	0	
3	722	270	0	0	
4	758	283	0	0	
1-1955	758	283	0	0	
2	758	283	0	0	
3	685	257	0	0	
4	741	277	0	0	
1-1956	757	283	0	0	
2	757	283	0	0	
3	757	283	0	0	
4	757	283	0	0	
1-1957	750	280	0	0	
2	750	280	0	0	
3	596	224	0	0	
4	689	258	0	0	
1-1958	653	245	0	0	
2	538	203	0	0	
3	618	232	0	0	
4	642	241	0	0	
1-1959	686	257	0	0	
2	528	199	0	0	
3	562	212	0	0	
4	607	228	0	0	
1-1960	637	239	0	0	
2	564	213	0	0	
3	598	225	0	0	
4	536	202	0	0	
1-1961					
2	645	242	0	0	
3					
4	560	211	0	0	
1-1962					
2	659	247	0	0	
3					
4	555	209	0	0	
1-1963					
2	527	199	0	0	

241-S-107 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	
3					
4	615	231	0	0	
1-1964					
2	590	222	0	0	
3					
4	628	236	0	0	
1-1965					
2	508	192	194	78	
3	587	221	194	78	
4	669	251	194	78	
1-1966	565	213	194	78	
2	568	214	194	78	
3	613	230	194	78	
4	642	241	194	78	
1-1967	656	246	194	78	
2	656	246	194	78	
3	656	246	194	78	
4	656	246	194	78	
1-1968	654	245	194	78	
2	654	245	194	78	
3	305	118	194	78	
4	325	126	194	78	
1-1969	415	158	194	78	
2	476	181	194	78	
3	577	217	194	78	
4	451	171	285	111	
1-1970	477	181	285	111	
2	532	201	293	114	
3	343	132	293	114	
4	449	171	293	114	
1-1971	536	202	293	114	
2	589	222	293	114	
3	609	229	293	114	
4	622	234	293	114	
1-1972	655	246	293	114	
2	756	282	293	114	
3	756	282	293	114	
4	757	283	293	114	
1-1973	757	283	293	114	
2	749	280	293	114	
3	761	284	293	114	
4	686	257	293	114	
1-1974	731	273	293	114	
2	492	186	343	132	
3	468	178	282	110	
4	519	196	343	132	

241-S-107 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)
1-1975	475	180	343	132
2	477	181	343	132
3	480	182	343	132
4	491	186	343	132
1-1976	656	246	343	132
2	703	263	343	132
3	700	262	343	132
4	431	164	343	132
1-1977	455	173	343	132
2	585	220	343	132
3	717	268	343	132
4	409	156	343	132
1-1978	422	161	343	132
2	719	269	343	132
3	497	188	343	132
4	711	266	343	132
1-1979	425	162	343	132
2	692	259	343	132
3	684	256	343	132
4	692	259	343	132
1-1980	450	171	343	132
2	476	181	343	132
3	346	133	340	131
4	346	133	340	131
1-1981	346	133	340	131
2	346	133	340	131
3	346	133	340	131
4	346	133	340	131
1-1982	346	133	340	131
2	346	133	340	131
3	346	133	340	131
4	346	133	340	131
1-1983	346	133	340	131
2	346	133	340	131
3	346	133	340	131
4	346	133	340	131
1-1984	346	133	340	131
2	346	133	340	131
3	346	133	340	131
4	346	133	340	131
1-1985	346	133	340	131
2	346	133	340	131
3	346	133	340	131
4	346	133	340	131
1-1986	346	133	340	131
2	346	133	340	131

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	
3	368	141	362	139	
4	368	141	362	139	
1-1987	368	141	362	139	
2	368	141	362	139	
3	368	141	362	139	
4	368	141	362	139	
1-1988	368	141	362	139	
2	368	141	362	139	
3	368	141	362	139	
4	368	141	362	139	
1-1989	368	141	362	139	
2	368	141	362	139	
3	368	141	362	139	
4	368	141	362	139	
1-1990	368	141	362	139	
2	368	141	362	139	
3	368	141	362	139	
4	368	141	362	139	
1-1991	368	141	362	139	
2	368	141	362	139	
3	368	141	362	139	
4	368	141	362	139	
1-1992	368	141	362	139	
2	368	141	362	139	
3	368	141	362	139	
4	368	141	362	139	
1-1993	368	141	362	139	
2	368	141	362	139	
3	368	141	362	139	
4	376	144	362	139	

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1952					
2					
3					
4	760	284	0	0	
1-1953	760	284	0	0	
2	758	283	0	0	
3	751	281	0	0	
4	747	279	0	0	
1-1954	747	279	0	0	
2	743	278	0	0	
3	740	277	0	0	
4	758	283	0	0	
1-1955	758	283	0	0	
2	758	283	0	0	
3	758	283	0	0	
4	758	283	0	0	
1-1956	758	283	0	0	
2	758	283	0	0	
3	758	283	0	0	
4	758	283	0	0	
1-1957	765	286	0	0	
2	763	285	0	0	
3	763	285	0	0	
4	763	285	0	0	
1-1958	761	284	0	0	
2	761	284	0	0	
3	761	284	0	0	
4	761	284	0	0	
1-1959	761	284	0	0	
2	761	284	0	0	
3	761	284	0	0	
4	761	284	0	0	
1-1960	758	283	0	0	
2	758	283	0	0	
3	758	283	0	0	
4	758	283	0	0	
1-1961					
2	755	282	0	0	
3					
4	755	282	0	0	
1-1962					
2	755	282	0	0	
3					
4	755	282	0	0	
1-1963					
2	755	282	0	0	

241-S-108 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3					
4	755	282	0	0	
1-1964					
2	755	282	0	0	
3					
4	755	282	0	0	
1-1965					
2	758	283	4	9	
3	758	283	4	9	
4	758	283	4	9	
1-1966	758	283	4	9	
2	758	283	4	9	
3	758	283	4	9	
4	758	283	4	9	
1-1967	758	283	4	9	
2	758	283	4	9	
3	758	283	4	9	
4	758	283	4	9	
1-1968	758	283	4	9	
2	757	283	4	9	
3	757	283	4	9	
4	757	283	4	9	
1-1969	757	283	4	9	
2	757	283	4	9	
3	757	283	4	9	
4	757	283	5	9	
1-1970	756	282	5	9	
2	756	282	5	9	
3	756	282	5	9	
4	756	282	5	9	
1-1971	756	282	5	9	
2	756	282	5	9	
3	756	282	5	9	
4	756	282	5	9	
1-1972	756	282	5	9	
2	756	282	5	9	
3	756	282	5	9	
4	758	283	5	9	
1-1973	757	283	5	9	
2	748	279	5	9	
3	761	284	5	9	
4		7		7	
1-1974	704	263	373	143	
2	718	269	585	220	
3	706	264	702	263	
4	719	269	706	264	

241-S-108 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1975	717	268	706	264	
2	722	270	706	264	
3	728	272	706	264	
4	725	271	706	264	
1-1976	728	272	706	264	
2	728	272	706	264	
3	730	273	706	264	
4	730	273	706	264	
1-1977	733	274	670	251	
2	733	274	670	251	
3	733	274	670	251	
4	733	274	670	251	
1-1978	733	274	670	251	
2	733	274	670	251	
3	719	269	670	251	
4	692	259	670	251	
1-1979	692	259	670	251	
2	670	251	670	251	
3	670	251	670	251	
4	670	251	612	230	
1-1980	612	230	612	230	
2	612	230	612	230	
3	612	230	612	230	
4	612	230	612	230	
1-1981	612	230	612	230	
2	612	230	612	230	
3	612	230	612	230	
4	612	230	612	230	
1-1982	612	230	612	230	
2	604	227	604	227	
3	604	227	604	227	
4	604	227	604	227	
1-1983	604	227	604	227	
2	604	227	604	227	
3	604	227	604	227	
4	604	227	604	227	
1-1984	604	227	604	227	
2	604	227	604	227	
3	604	227	604	227	
4	604	227	604	227	
1-1985	604	227	604	227	
2	604	227	604	227	
3	604	227	604	227	
4	604	227	604	227	
1-1986	604	227	604	227	138
2	604	227	604	227	138

241-S-108 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3	604	227	604	227	136
4	604	227	604	227	138
1-1987	604	227	604	227	137
2	604	227	604	227	
3	604	227	604	227	137
4	604	227	604	227	137
1-1988	604	227	604	227	136
2	604	227	604	227	136
3	604	227	604	227	136
4	604	227	604	227	137
1-1989	604	227	604	227	
2	604	227	604	227	137
3	604	227	604	227	136
4	604	227	604	227	137
1-1990	604	227	604	227	136
2	604	227	604	227	
3	604	227	604	227	135
4	604	227	604	227	137
1-1991	604	227	604	227	136
2	604	227	604	227	134
3	604	227	604	227	135
4	604	227	604	227	136
1-1992	604	227	604	227	
2	604	227	604	227	136
3	604	227	604	227	
4	604	227	604	227	136
1-1993	604	227	604	227	135
2	604	227	604	227	135
3					135
4					135

241-S-109 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1952					
2					
3					
4	103	45			
1-1953	582	219			
2	585	220	0	0	
3	575	217	0	0	
4	579	218	0	0	
1-1954	579	218	0	0	
2	576	217	0	0	
3	576	217	0	0	
4	576	217	0	0	
1-1955	704	263	0	0	
2	747	279	0	0	
3	747	279	0	0	
4	747	279	0	0	
1-1956	747	279	0	0	
2	747	279	0	0	
3	747	279	0	0	
4	747	279	0	0	
1-1957	764	285	0	0	
2	764	285	0	0	
3	763	285	0	0	
4	763	285	0	0	
1-1958	763	285	0	0	
2	763	285	0	0	
3	763	285	0	0	
4	763	285	0	0	
1-1959	763	285	0	0	
2	763	285	0	0	
3	763	285	0	0	
4	763	285	0	0	
1-1960	761	284	0	0	
2	761	284	0	0	
3	761	284	0	0	
4	763	285	0	0	
1-1961					
2	761	284	0	0	
3					
4	761	284	0	0	
1-1962					
2	761	284	0	0	
3					
4	761	284	0	0	
1-1963					
2	761	284	0	0	

241-S-109 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3					
4	761	284	0	0	
1-1964					
2	761	284	0	0	
3					
4	761	284	0	0	
1-1965					
2	766	286	7	10	
3	766	286	7	10	
4	766	286	7	10	
1-1966	766	286	7	10	
2	766	286	7	10	
3	766	286	7	10	
4	766	286	7	10	
1-1967	766	286	7	10	
2	766	286	7	10	
3	766	286	7	10	
4	766	286	7	10	
1-1968	766	286	7	10	
2	766	286	7	10	
3	766	286	7	10	
4	765	286	7	10	
1-1969	765	286	7	10	
2	765	286	7	10	
3	765	286	7	10	
4	765	286	13	12	
1-1970	765	286	13	12	
2	765	286	13	12	
3	765	286	13	12	
4	765	286	13	12	
1-1971	765	286	13	12	
2	765	286	13	12	
3	765	286	13	12	
4	765	286	13	12	
1-1972	765	286	13	12	
2	765	286	13	12	
3	765	286	13	12	
4	765	286	13	12	
1-1973	765	286	13	12	
2	758	283	13	12	
3	770	287	13	12	
4	771	288	13	12	
1-1974	361	139	263	103	
2	672	252	488	185	
3	700	262	653	245	
4	717	268	653	245	

241-S-109 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1975	717	268	653	245	
2	719	269	653	245	
3	722	270	653	245	
4	722	270	653	245	
1-1976	725	271	653	245	
2	725	271	653	245	
3	730	273	653	245	
4	728	272	653	245	
1-1977	730	273	568	214	
2	730	273	568	214	
3	730	273	568	214	
4	730	273	568	214	
1-1978	733	274	568	214	
2	733	274	568	214	
3	695	260	568	214	
4	689	258	568	214	
1-1979	651	244	568	214	
2	568	214	568	214	
3	568	214	568	214	
4	568	214	568	214	
1-1980	568	214	568	214	
2	568	214	568	214	
3	568	214	568	214	
4	568	214	568	214	
1-1981	568	214	568	214	
2	568	214	568	214	
3	568	214	568	214	
4	568	214	568	214	
1-1982	568	214	568	214	
2	568	214	568	214	
3	568	214	568	214	
4	568	214	568	214	
1-1983	568	214	568	214	
2	568	214	568	214	
3	568	214	568	214	
4	568	214	568	214	
1-1984	568	214	568	214	
2	568	214	568	214	
3	568	214	568	214	
4	568	214	568	214	
1-1985	568	214	568	214	
2	568	214	568	214	
3	568	214	568	214	
4	568	214	568	214	
1-1986	568	214	568	214	127
2	568	214	568	214	128

241-S-109 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3	568	214	568	214	128
4	568	214	568	214	128
1-1987	568	214	568	214	128
2	568	214	568	214	
3	568	214	568	214	129
4	568	214	568	214	130
1-1988	568	214	568	214	130
2	568	214	568	214	130
3	568	214	568	214	130
4	568	214	568	214	131
1-1989	568	214	568	214	
2	568	214	568	214	133
3	568	214	568	214	132
4	568	214	568	214	133
1-1990	568	214	568	214	131
2	568	214	568	214	
3	568	214	568	214	133
4	568	214	568	214	132
1-1991	568	214	568	214	133
2	568	214	568	214	133
3	568	214	568	214	134
4	568	214	568	214	133
1-1992	568	214	568	214	
2	568	214	568	214	134
3	568	214	568	214	
4	568	214	568	214	134
1-1993	568	214	568	214	135
2	568	214	568	214	135
3					137
4					138

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1952					
2	681	255	0	0	
3	774	289	0	0	
4	774	289	0	0	
1-1953	774	289	0	0	
2	758	283	0	0	
3	758	283	0	0	
4	758	283	0	0	
1-1954	758	283	0	0	
2	758	283	0	0	
3	758	283	0	0	
4	758	283	0	0	
1-1955	758	283	0	0	
2	758	283	0	0	
3	758	283	0	0	
4	758	283	0	0	
1-1956	758	283	0	0	
2	758	283	0	0	
3	758	283	0	0	
4	758	283	0	0	
1-1957	781	291	0	0	
2	781	291	0	0	
3	780	291	0	0	
4	780	291	0	0	
1-1958	780	291	0	0	
2	780	291	0	0	
3	777	290	0	0	
4	777	290	0	0	
1-1959	777	290	0	0	
2	777	290	0	0	
3	777	290	0	0	
4	777	290	0	0	
1-1960	774	289	0	0	
2	774	289	0	0	
3	774	289	0	0	
4	777	290	0	0	
1-1961					
2	774	289	0	0	
3					
4	774	289	0	0	
1-1962					
2	774	289	0	0	
3					
4	774	289	0	0	
1-1963					
2	774	289	0	0	

241-S-110 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3					
4	772	288	0	0	
1-1964					
2	772	288	0	0	
3					
4	772	288	0	0	
1-1965					
2	772	288	106	46	
3	772	288	106	46	
4	772	288	106	46	
1-1966	772	288	106	46	
2	772	288	106	46	
3	772	288	106	46	
4	772	288	106	46	
1-1967	772	288	106	46	
2	772	288	106	46	
3	772	288	106	46	
4	772	288	106	46	
1-1968	772	288	106	46	
2	776	290	106	46	
3	776	290	106	46	
4	776	290	106	46	
1-1969	776	290	106	46	
2	776	290	106	46	
3	776	290	106	46	
4	776	290	113	49	
1-1970	775	289	113	49	
2	775	289	113	49	
3	776	290	113	49	
4	775	289	113	49	
1-1971	775	289	113	49	
2	774	289	113	49	
3	775	289	113	49	
4	775	289	113	49	
1-1972	774	289	113	49	
2	774	289	113	49	
3	773	289	113	49	
4	774	289	113	49	
1-1973	773	289	113	49	
2	766	286	113	49	
3	778	290	113	49	
4	786	293	113	49	
1-1974	280	109	131	55	
2	686	257	131	55	
3	580	218	131	55	
4	695	260	255	100	

241-S-110 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1975	678	254	414	158	
2	739	276	560	211	
3	755	282	755	282	
4	689	258	689	258	
1-1976	689	258	689	258	
2	689	258	689	258	
3	689	258	689	258	
4	623	234	623	234	
1-1977	623	234	475	180	
2	700	262	475	180	
3	700	262	475	180	
4	700	262	475	180	
1-1978	700	262	475	180	
2	700	262	475	180	
3	692	259	475	180	
4	692	259	475	180	
1-1979	692	259	692	259	
2	692	259	692	259	
3	692	259	692	259	
4	692	259	692	259	
1-1980	692	259	692	259	
2	692	259	692	259	
3	692	259	692	259	
4	692	259	692	259	
1-1981	692	259	692	259	
2	692	259	692	259	
3	692	259	692	259	
4	692	259	692	259	
1-1982	692	259	692	259	
2	692	259	692	259	
3	692	259	692	259	
4	692	259	692	259	
1-1983	692	259	692	259	
2	692	259	692	259	
3	692	259	692	259	
4	692	259	692	259	
1-1984	692	259	692	259	
2	692	259	692	259	
3	692	259	692	259	
4	692	259	692	259	
1-1985	692	259	692	259	
2	692	259	692	259	
3	692	259	692	259	
4	692	259	692	259	
1-1986	692	259	692	259	141
2	692	259	692	259	141

241-S-110 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3	692	259	692	259	139
4	692	259	692	259	141
1-1987	692	259	692	259	141
2	692	259	692	259	
3	692	259	692	259	141
4	692	259	692	259	141
1-1988	692	259	692	259	141
2	692	259	692	259	141
3	692	259	692	259	141
4	692	259	692	259	142
1-1989	692	259	692	259	
2	692	259	692	259	141
3	692	259	692	259	141
4	692	259	692	259	141
1-1990	692	259	692	259	141
2	692	259	692	259	
3	692	259	692	259	141
4	692	259	692	259	140
1-1991	692	259	692	259	142
2	692	259	692	259	140
3	692	259	692	259	141
4	692	259	692	259	142
1-1992	692	259	692	259	
2	390	149	390	149	141
3	390	149	390	149	
4	390	149	390	149	141
1-1993	390	149	390	149	141
2	390	149	390	149	139
3	390	149	390	149	141
4	390	149	390	149	141
1-1994					141

YEAR	Liquid (K gal)	Liquid (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1952					
2					
3	755	282	0	0	
4	755	282	0	0	
1-1953	755	282	0	0	
2	758	283	0	0	
3	758	283	0	0	
4	758	283	0	0	
1-1954	758	283	0	0	
2	758	283	0	0	
3	758	283	0	0	
4	758	283	0	0	
1-1955	758	283	0	0	
2	758	283	0	0	
3	758	283	0	0	
4	758	283	0	0	
1-1956	758	283	0	0	
2	758	283	0	0	
3	758	283	0	0	
4	758	283	0	0	
1-1957	761	284	0	0	
2	761	284	0	0	
3	761	284	0	0	
4	761	284	0	0	
1-1958	761	284	0	0	
2	761	284	0	0	
3	761	284	0	0	
4	761	284	0	0	
1-1959	761	284	0	0	
2	761	284	0	0	
3	761	284	0	0	
4	761	284	0	0	
1-1960	758	283	0	0	
2	758	283	0	0	
3	758	283	0	0	
4	758	283	0	0	
1-1961					
2	755	282	0	0	
3					
4	755	282	0	0	
1-1962					
2	755	282	0	0	
3					
4	755	282	0	0	
1-1963					
2	755	282	0	0	

241-S-111 SINGLE-SHELL
TANK LEVEL HISTORY

YEAR	Liquid (K gal)	Liquid (in)	Solids (K gal)	Solids (in)	LOW (in)
3					
4	755	282	0	0	
1-1964					
2	755	282	0	0	
3					
4	755	282	0	0	
1-1965					
2	761	284	144	60	
3	761	284	144	60	
4	761	284	144	60	
1-1966	761	284	144	60	
2	761	284	144	60	
3	761	284	144	60	
4	761	284	144	60	
1-1967	761	284	144	60	
2	759	283	144	60	
3	759	283	144	60	
4	759	283	144	60	
1-1968	759	283	144	60	
2	759	283	144	60	
3	759	283	144	60	
4	759	283	144	60	
1-1969	758	283	144	60	
2	758	283	144	60	
3	758	283	144	60	
4	758	283	139	58	
1-1970	758	283	139	58	
2	758	283	139	58	
3	758	283	139	58	
4	758	283	139	58	
1-1971	758	283	139	58	
2	758	283	139	58	
3	758	283	139	58	
4	758	283	139	58	
1-1972	758	283	139	58	
2	758	283	139	58	
3	758	283	139	58	
4	758	283	139	58	
1-1973	759	283	139	58	
2	749	280	139	58	
3	764	285	139	58	
4	766	286	139	58	
1-1974	311	121	139	58	
2	689	258	334	129	
3	730	273	502	190	
4	692	259	563	212	

241-S-111 SINGLE-SHELL
TANK LEVEL HISTORY

YEAR	Liquid (K gal)	Liquid (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1975	739	276	596	224	
2	739	276	596	224	
3	750	280	750	280	
4	750	280	750	280	
1-1976	750	280	750	280	
2	750	280	750	280	
3	750	280	750	280	
4	623	234	623	234	
1-1977	623	234	623	234	
2	623	234	623	234	
3	623	234	623	234	
4	623	234	623	234	
1-1978	623	234	623	234	
2	623	234	623	234	
3	623	234	623	234	
4	623	234	623	234	
1-1979	623	234	623	234	
2	623	234	623	234	
3	623	234	623	234	
4	623	234	623	234	
1-1980	623	234	623	234	
2	623	234	623	234	
3	623	234	623	234	
4	623	234	623	234	
1-1981	623	234	623	234	
2	623	234	623	234	
3	623	234	623	234	
4	623	234	623	234	
1-1982	623	234	623	234	
2	596	224	586	221	
3	596	224	586	221	
4	596	224	586	221	
1-1983	596	224	586	221	
2	596	224	586	221	
3	596	224	586	221	
4	596	224	586	221	
1-1984	596	224	586	221	
2	596	224	586	221	
3	596	224	586	221	
4	596	224	586	221	
1-1985	596	224	586	221	
2	596	224	586	221	
3	596	224	586	221	
4	596	224	586	221	
1-1986	596	224	586	221	203
2	596	224	586	221	203

241-S-111 SINGLE-SHELL
TANK LEVEL HISTORY

YEAR	Liquid (K gal)	Liquid (in)	Solids (K gal)	Solids (in)	LOW (in)
3	596	224	586	221	204
4	596	224	586	221	204
1-1987	596	224	586	221	203
2	596	224	586	221	
3	596	224	586	221	204
4	596	224	586	221	203
1-1988	596	224	586	221	203
2	596	224	586	221	204
3	596	224	586	221	203
4	596	224	586	221	203
1-1989	596	224	586	221	
2	596	224	586	221	204
3	596	224	586	221	204
4	596	224	586	221	204
1-1990	596	224	586	221	202
2	596	224	586	221	
3	596	224	586	221	203
4	596	224	586	221	203
1-1991	596	224	586	221	203
2	596	224	586	221	204
3	596	224	586	221	203
4	596	224	586	221	203
1-1992					
2	596	224	586	221	204
3	596	224	586	221	
4	596	224	586	221	204
1-1993	596	224	586	221	203
2	596	224	586	221	204
3					203
4					203

241-S-112 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1952					
2					
3	755	282	0	0	
4	442	168	0	0	
1-1953	442	168	0	0	
2	442	168	0	0	
3	498	189	0	0	
4	640	240	0	0	
1-1954	656	246	0	0	
2	688	258	0	0	
3	686	257	0	0	
4	675	253	0	0	
1-1955	695	260	0	0	
2	695	260	0	0	
3	695	260	0	0	
4	747	279	0	0	
1-1956	747	279	0	0	
2	747	279	0	0	
3	747	279	0	0	
4	747	279	0	0	
1-1957	780	291	0	0	
2	780	291	0	0	
3	780	291	0	0	
4	780	291	0	0	
1-1958	780	291	0	0	
2	780	291	0	0	
3	780	291	0	0	
4	780	291	0	0	
1-1959	780	291	0	0	
2	780	291	0	0	
3	780	291	0	0	
4	780	291	0	0	
1-1960	777	290	0	0	
2	777	290	0	0	
3	777	290	0	0	
4	780	291	0	0	
1-1961					
2	777	290	0	0	
3					
4	777	290	0	0	
1-1962					
2	777	290	0	0	
3					
4	777	290	0	0	
1-1963					
2	777	290	0	0	

241-S-112 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3					
4	777	290	0	0	
1-1964					
2	777	290	0	0	
3					
4	777	290	0	0	
1-1965					
2	785	293	4	9	
3	785	293	4	9	
4	785	293	4	9	
1-1966	785	293	4	9	
2	785	293	4	9	
3	785	293	4	9	
4	785	293	4	9	
1-1967	785	293	4	9	
2	788	294	4	9	
3	788	294	4	9	
4	788	294	4	9	
1-1968	788	294	4	9	
2	788	294	4	9	
3	788	294	4	9	
4	787	294	4	9	
1-1969	787	294	4	9	
2	787	294	4	9	
3	787	294	4	9	
4	787	294	6	10	
1-1970	787	294	6	10	
2	787	294	6	10	
3	787	294	6	10	
4	787	294	6	10	
1-1971	787	294	6	10	
2	787	294	6	10	
3	787	294	6	10	
4	788	294	6	10	
1-1972	787	294	6	10	
2	787	294	6	10	
3	787	294	6	10	
4	787	294	6	10	
1-1973	787	294	6	10	
2	780	291	6	10	
3	792	295	6	10	
4	792	295	6	10	
1-1974	473	179	367	141	
2	713	267	598	225	
3	732	274	686	257	
4	730	273	673	252	

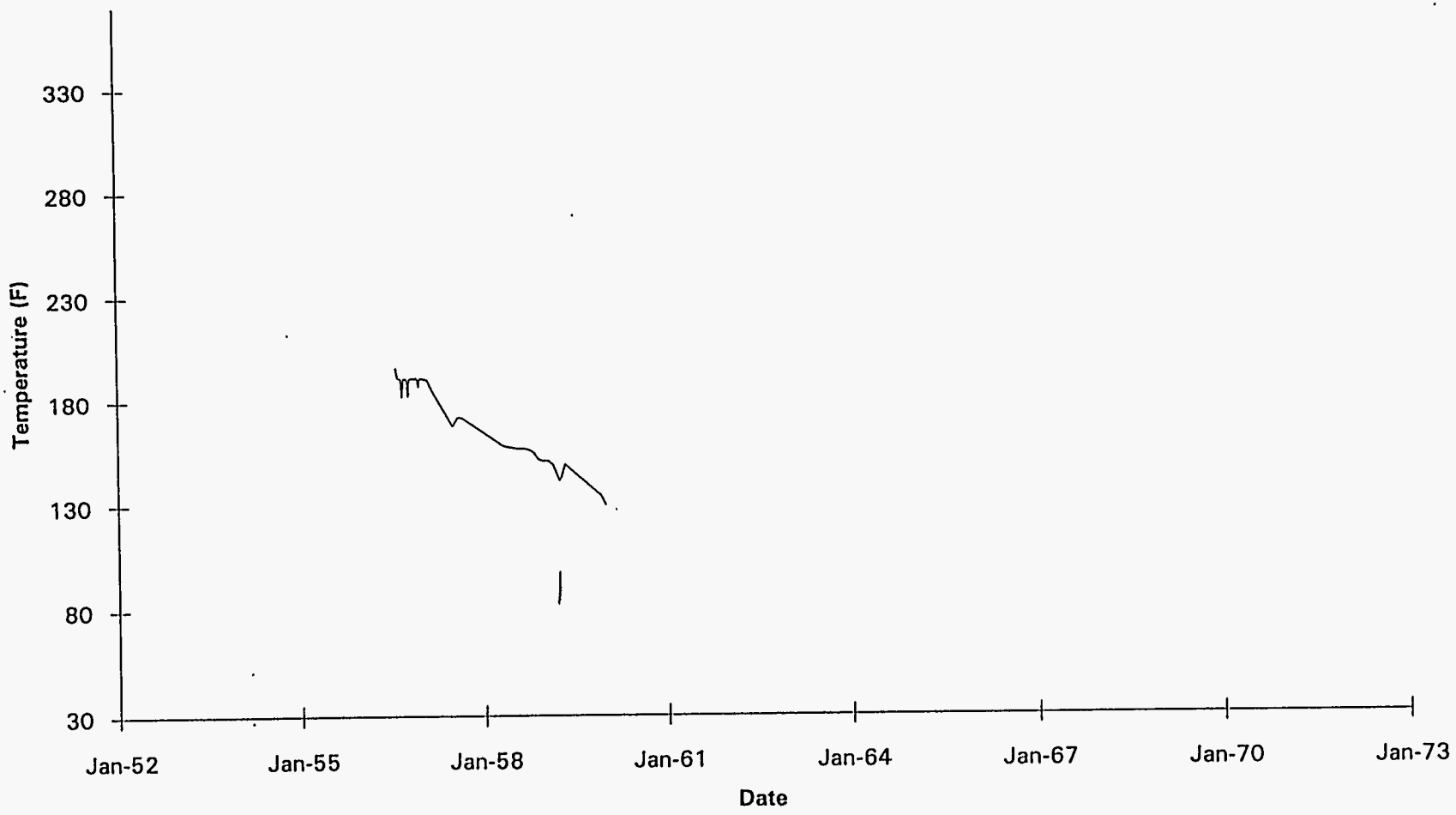
241-S-112 SINGLE-SHELL
TANK LEVEL HISTORY

Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
1-1975	736	275	714	267	
2	736	275	714	267	
3	739	276	714	267	
4	706	264	706	264	
1-1976	706	264	706	264	
2	706	264	706	264	
3	706	264	706	264	
4	706	264	706	264	
1-1977	706	264	673	252	
2	717	268	673	252	
3	719	269	673	252	
4	719	269	673	252	
1-1978	719	269	673	252	
2	719	269	673	252	
3	675	253	673	252	
4	678	254	673	252	
1-1979	675	253	673	252	
2	673	252	673	252	
3	673	252	673	252	
4	673	252	673	252	
1-1980	673	252	673	252	
2	672	252	672	252	
3	672	252	672	252	
4	672	252	672	252	
1-1981	672	252	672	252	
2	672	252	672	252	
3	672	252	672	252	
4	672	252	672	252	
1-1982	672	252	672	252	
2	641	241	641	241	
3	637	239	637	239	
4	637	239	637	239	
1-1983	637	239	637	239	
2	637	239	637	239	
3	637	239	637	239	
4	646	242	637	239	
1-1984	646	242	637	239	
2	646	242	637	239	
3	637	239	637	239	
4	637	239	637	239	
1-1985	637	239	637	239	
2	637	239	637	239	
3	637	239	637	239	
4	637	239	637	239	
1-1986	637	239	637	239	101
2	637	239	637	239	100

241-S-112 SINGLE-SHELL
TANK LEVEL HISTORY

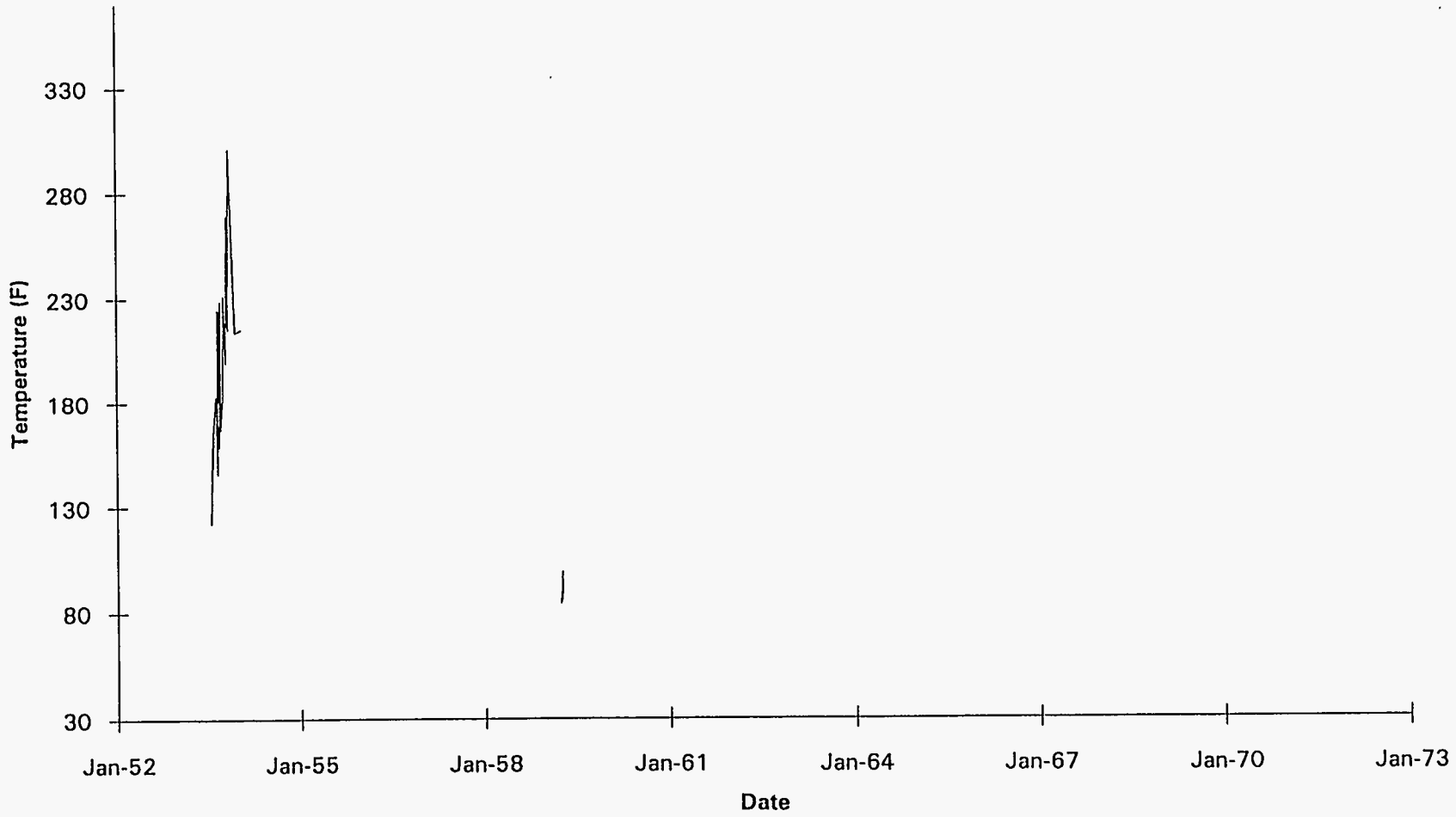
Year	Total (K gal)	Total (in)	Solids (K gal)	Solids (in)	LOW (in)
3	637	239	637	239	
4	637	239	637	239	
1-1987	637	239	637	239	100
2	637	239	637	239	
3	637	239	637	239	106
4	637	239	637	239	107
1-1988	637	239	637	239	108
2	637	239	637	239	111
3	637	239	637	239	109
4	637	239	637	239	111
1-1989	637	239	637	239	
2	637	239	637	239	113
3	637	239	637	239	113
4	637	239	637	239	115
1-1990	637	239	637	239	114
2	637	239	637	239	
3	637	239	637	239	115
4	637	239	637	239	115
1-1991	637	239	637	239	115
2	637	239	637	239	116
3	637	239	637	239	115
4	637	239	637	239	115
1-1992	637	239	637	239	
2	637	239	637	239	115
3	637	239	637	239	
4	637	239	637	239	115
1-1993	637	239	637	239	117
2	637	239	637	239	118
3	637	239	637	239	119
4	523	198	523	198	118

Tank 241-S-101
Historical Vapor Space Temperature



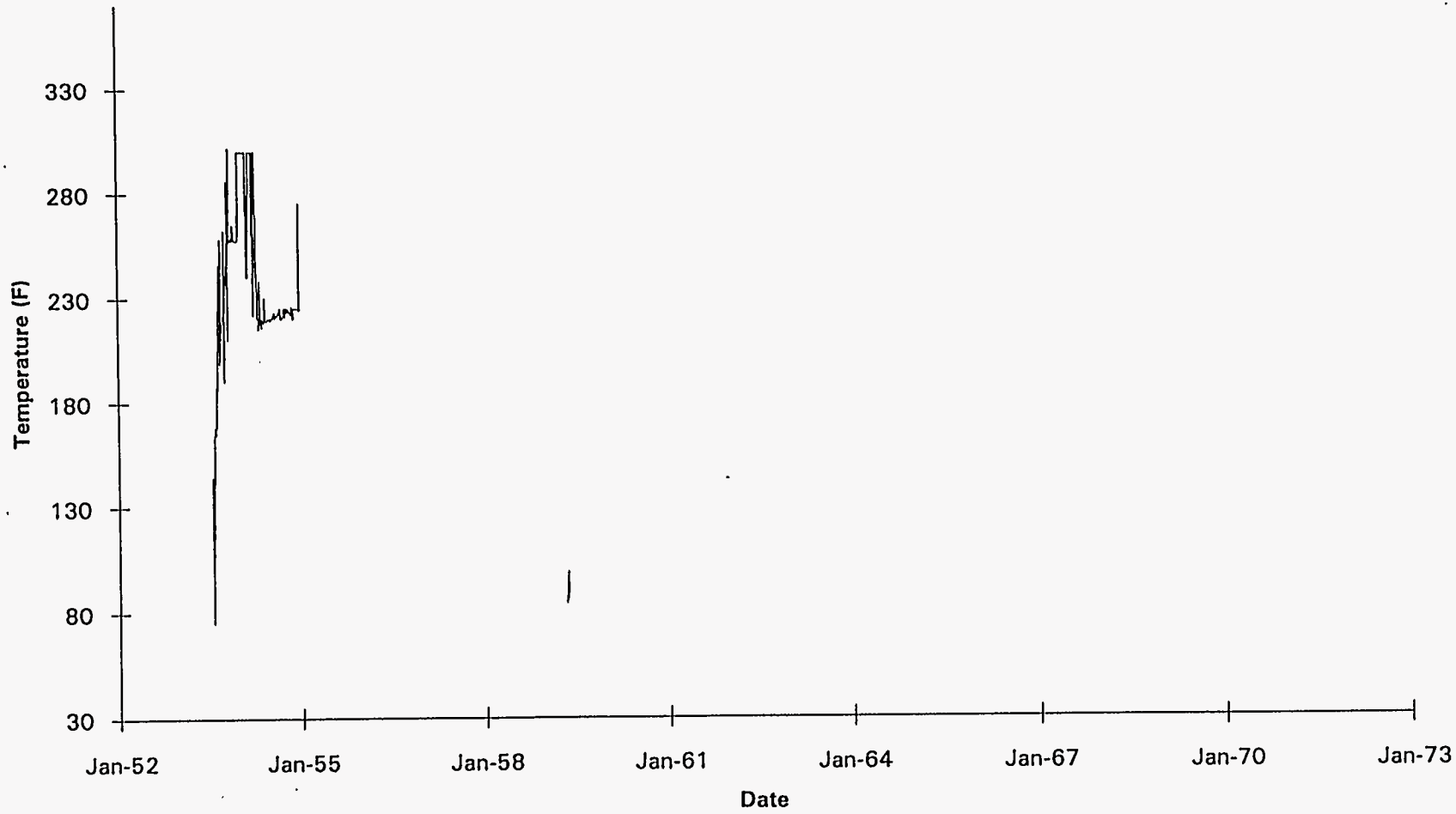
Data obtained from RHO-CD-1172.

Tank 241-S-101
Historical Average Waste Temperature



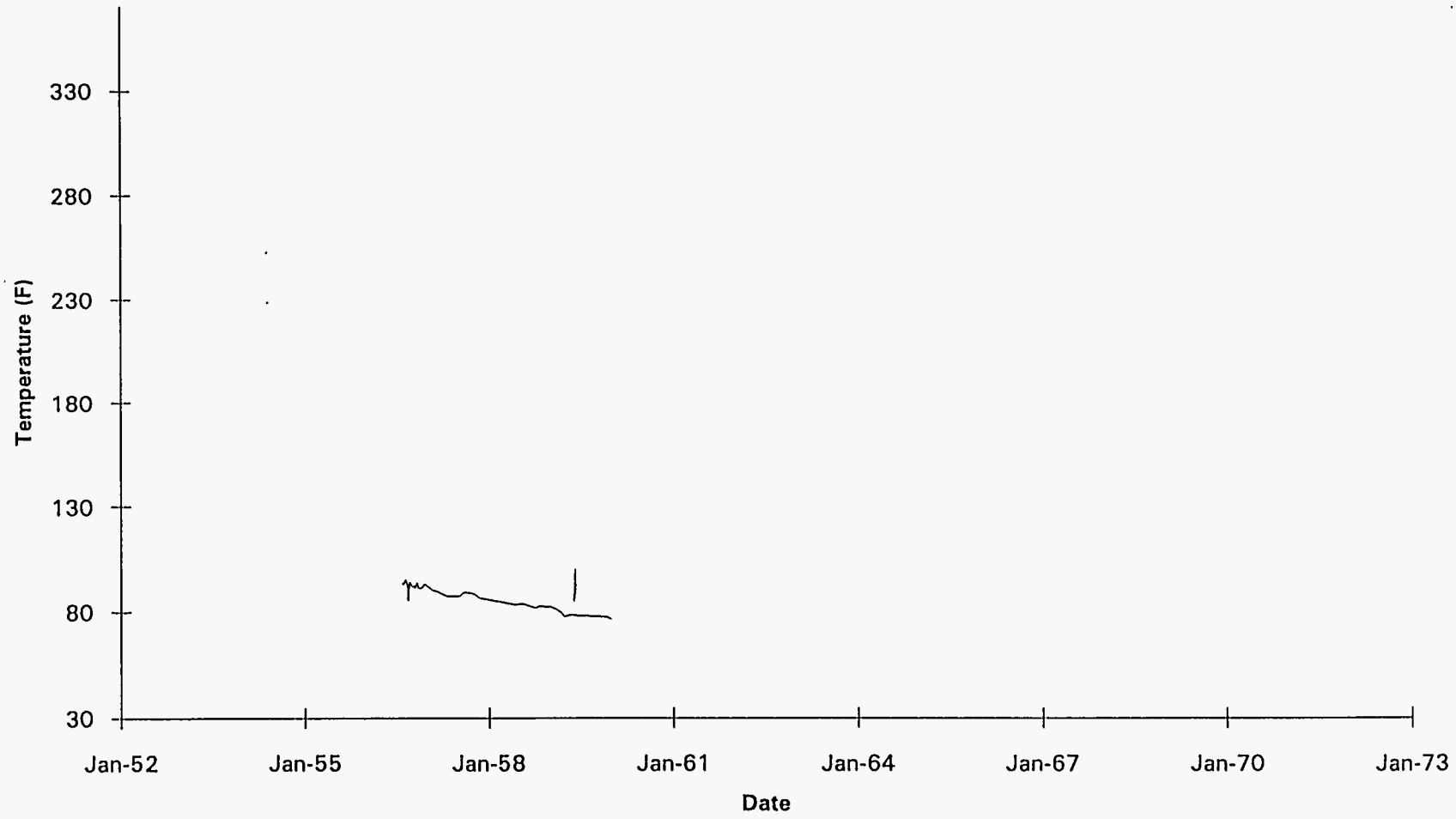
Data obtained m RHO-CD-1172.

Tank 241-S-101
Historical High or Only Waste Temperature



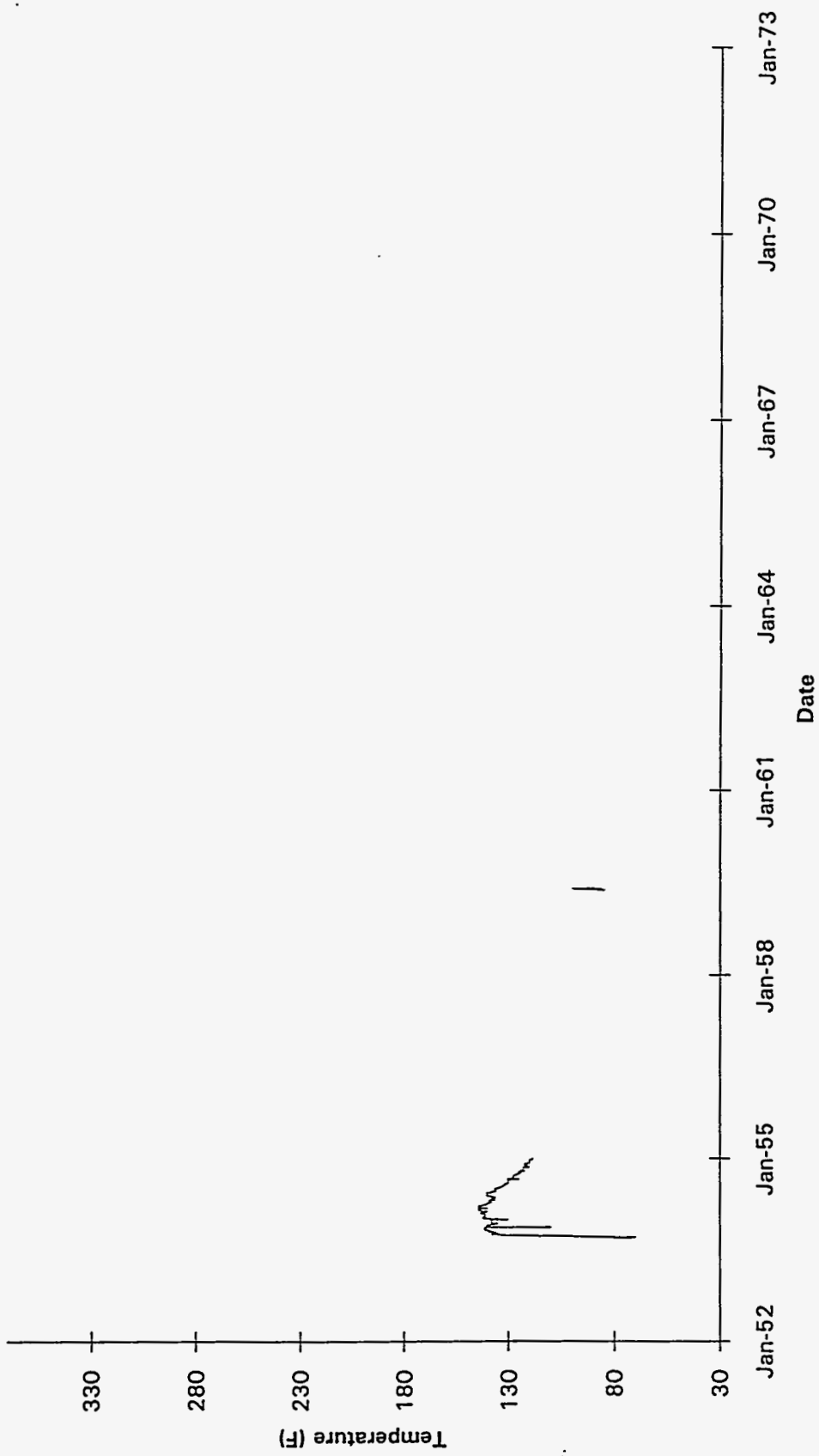
Data obtained from RHO-CD-1172 and HW-83906.

Tank 241-S-102
Historical Vapor Space Temperature



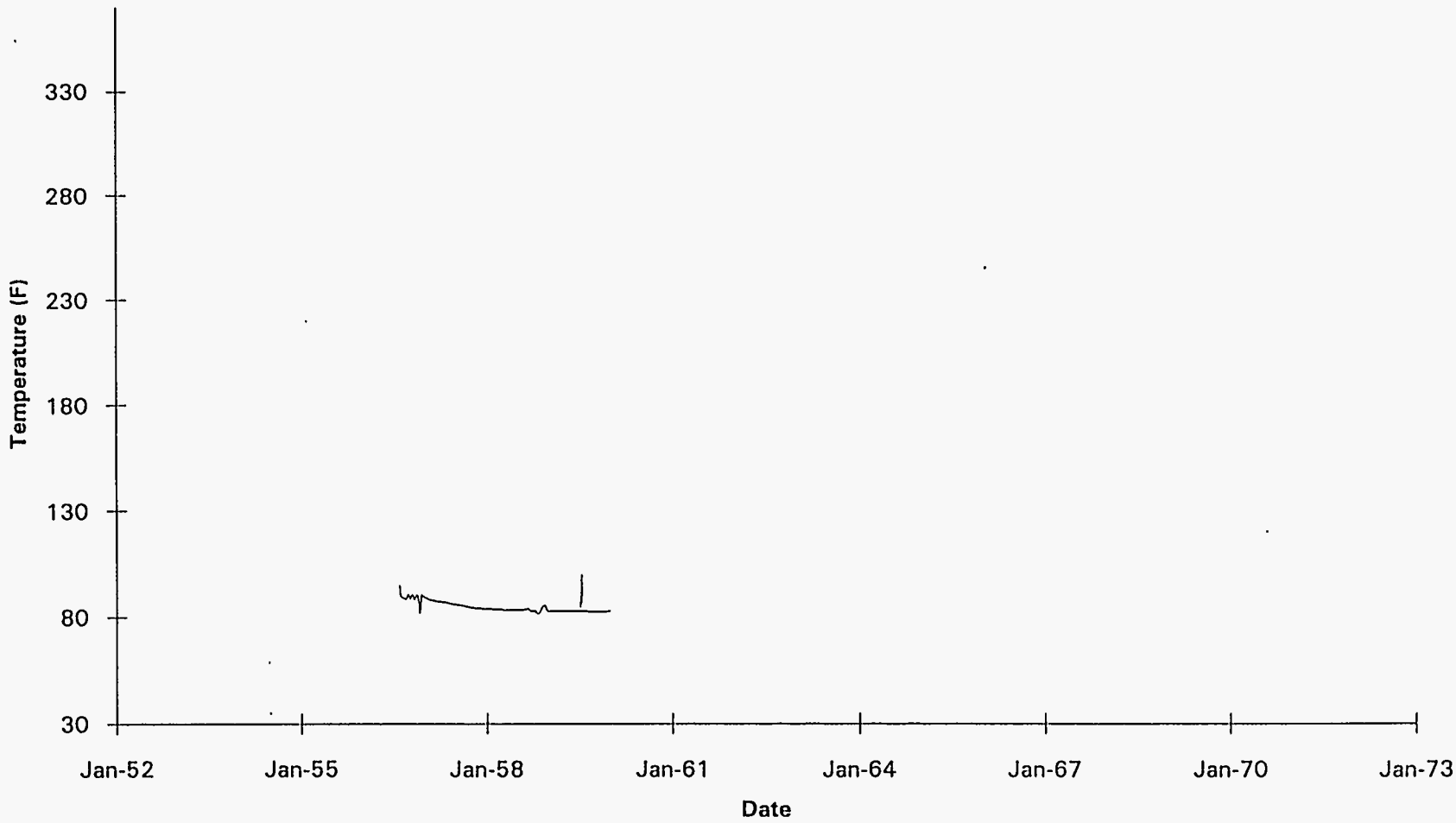
Data obtained RHO-CD-1172.

Tank 241-S-102
Historical High or Only Waste Temperature



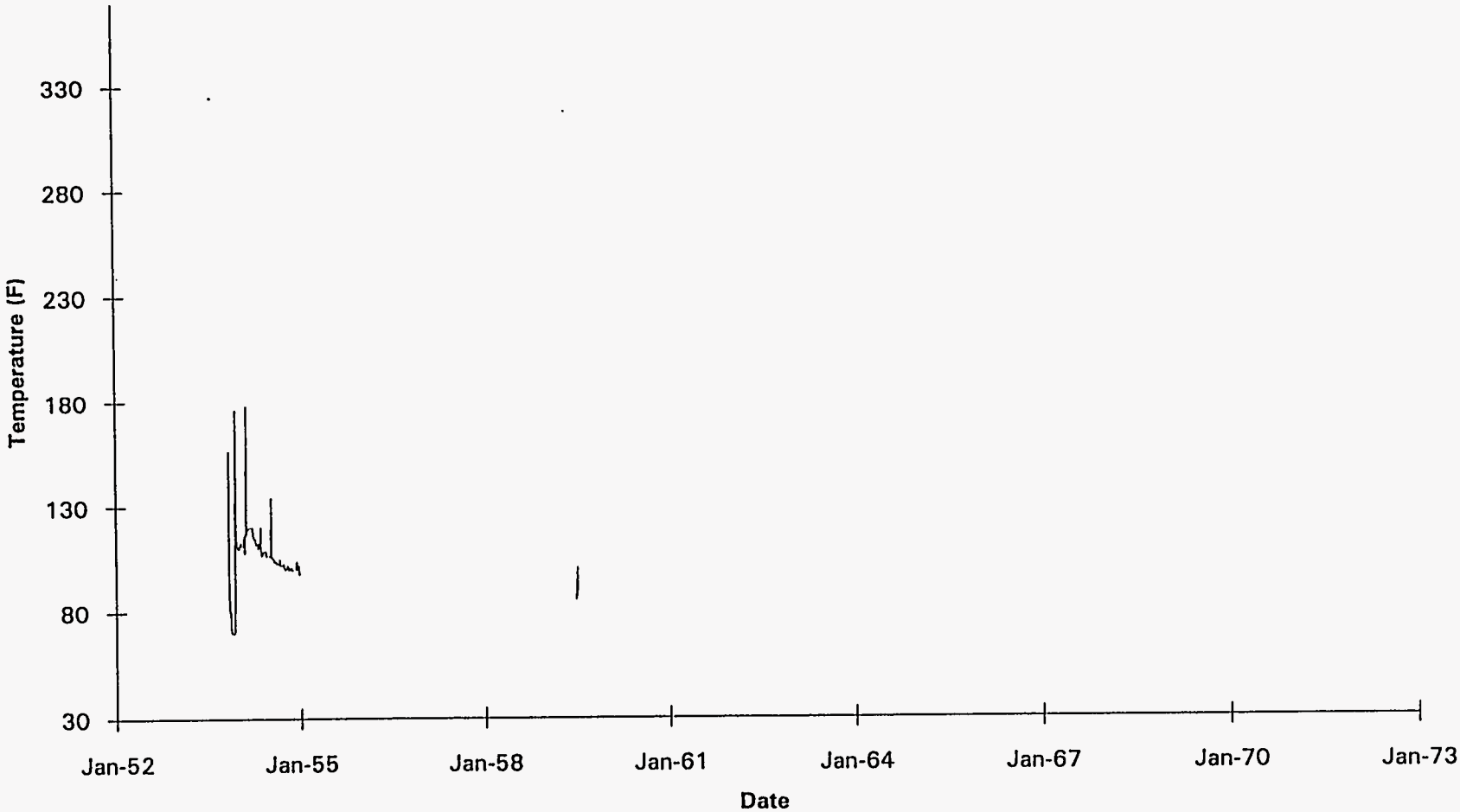
Data obtained from HW-83906.

Tank 241-S-103
Historical Vapor Space Temperature



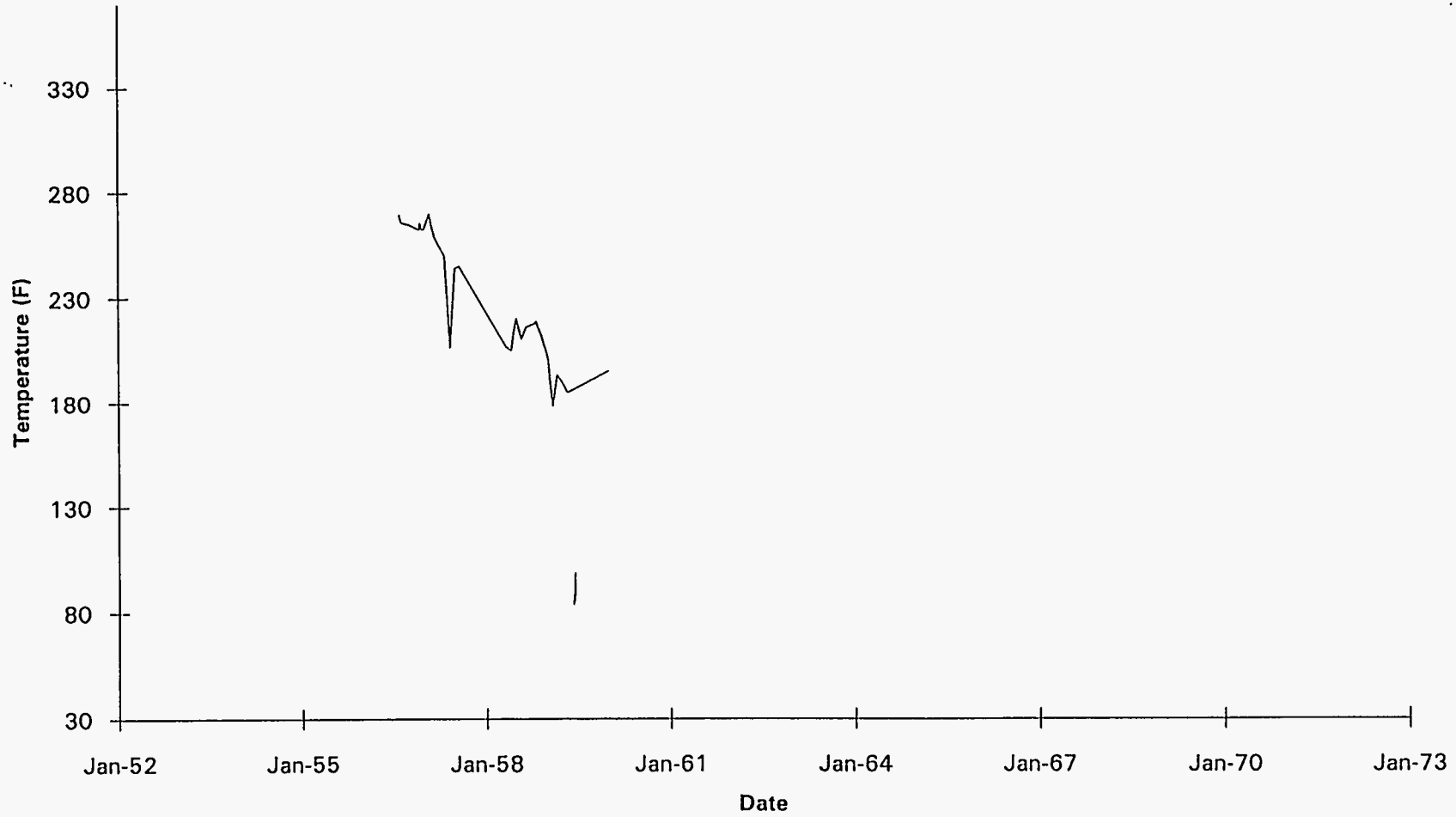
Data obtained f RHO-CD-1172.

Tank 241-S-103
Historical High or Only Waste Temperature



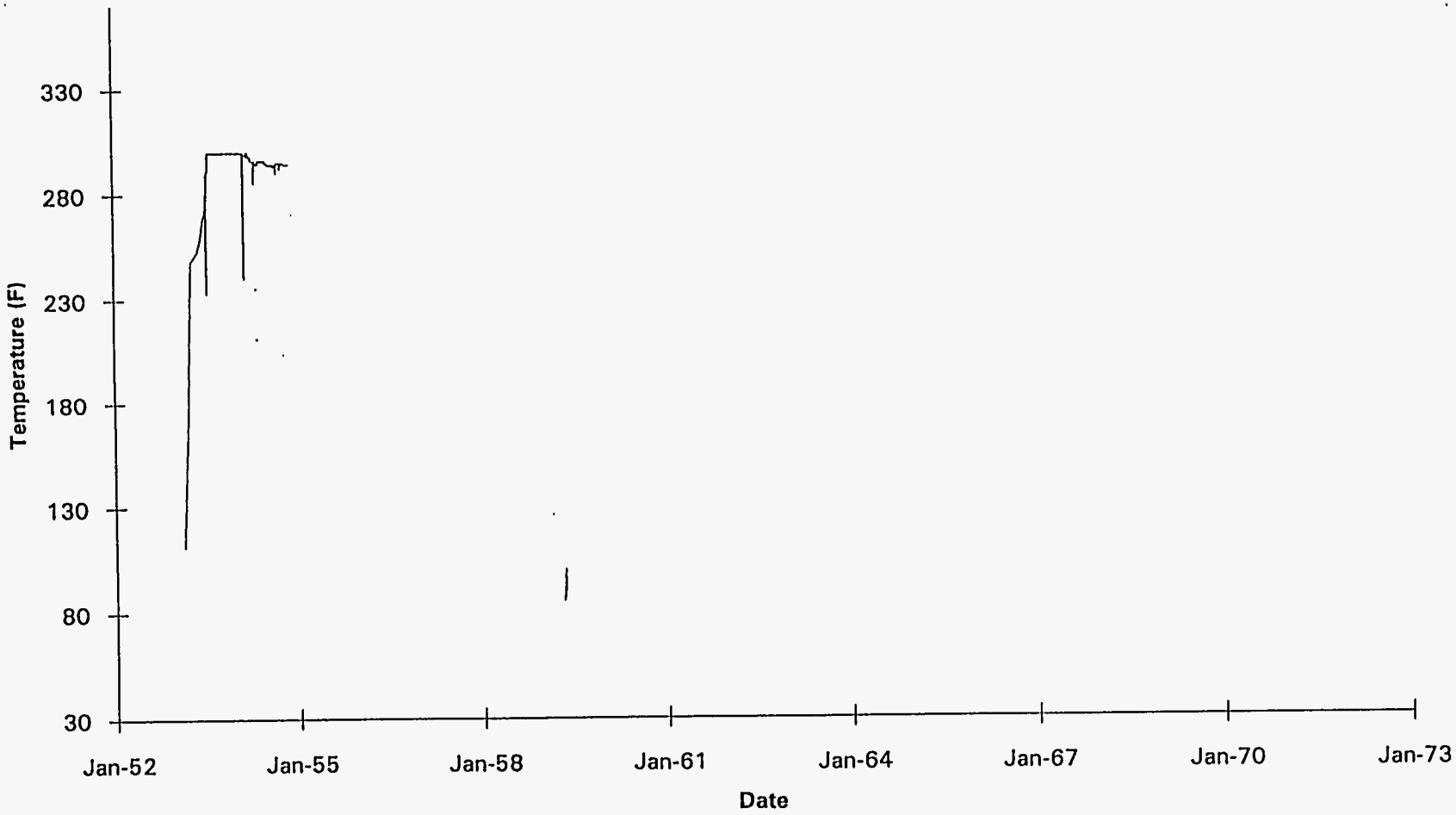
Data obtained from HW-83906.

Tank 241-S-104
Historical Vapor Space Temperature



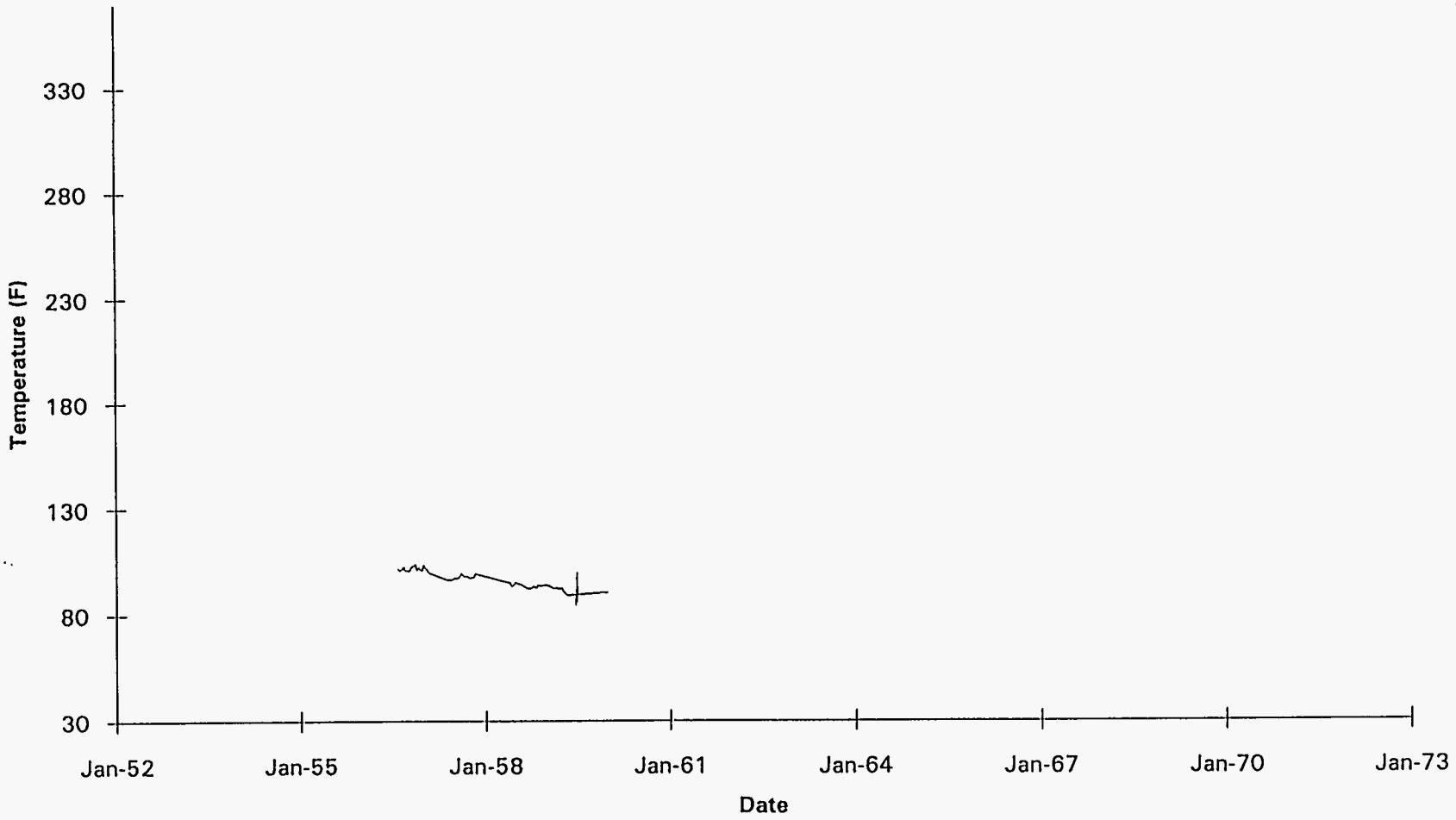
Data obtained f RHO-CD-1172.

Tank 241-S-104
Historical High or Only Waste Temperature



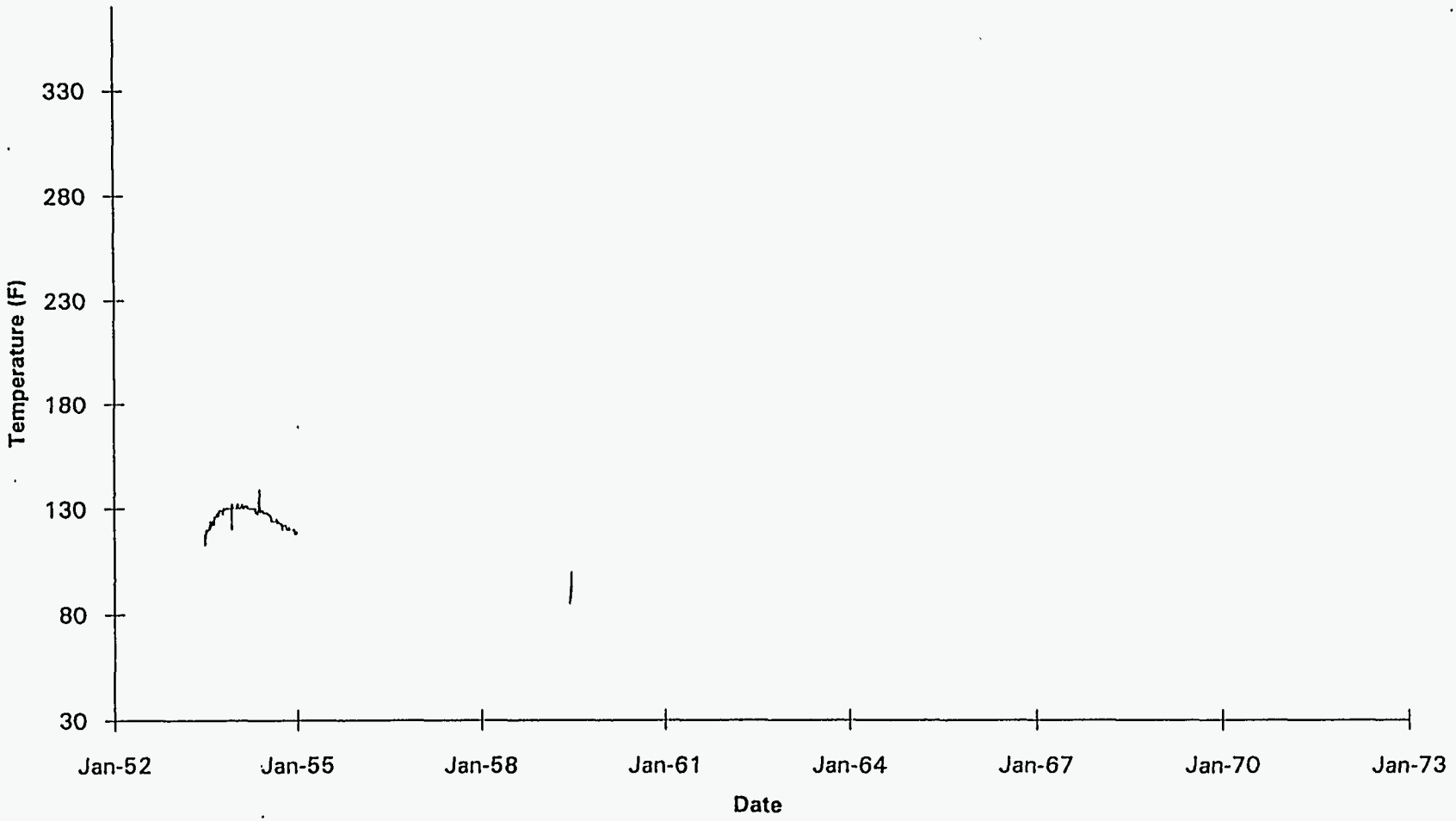
Data obtained from RHO-CD-1172 and HW-83906.

Tank 241-S-105
Historical Vapor Space Temperature



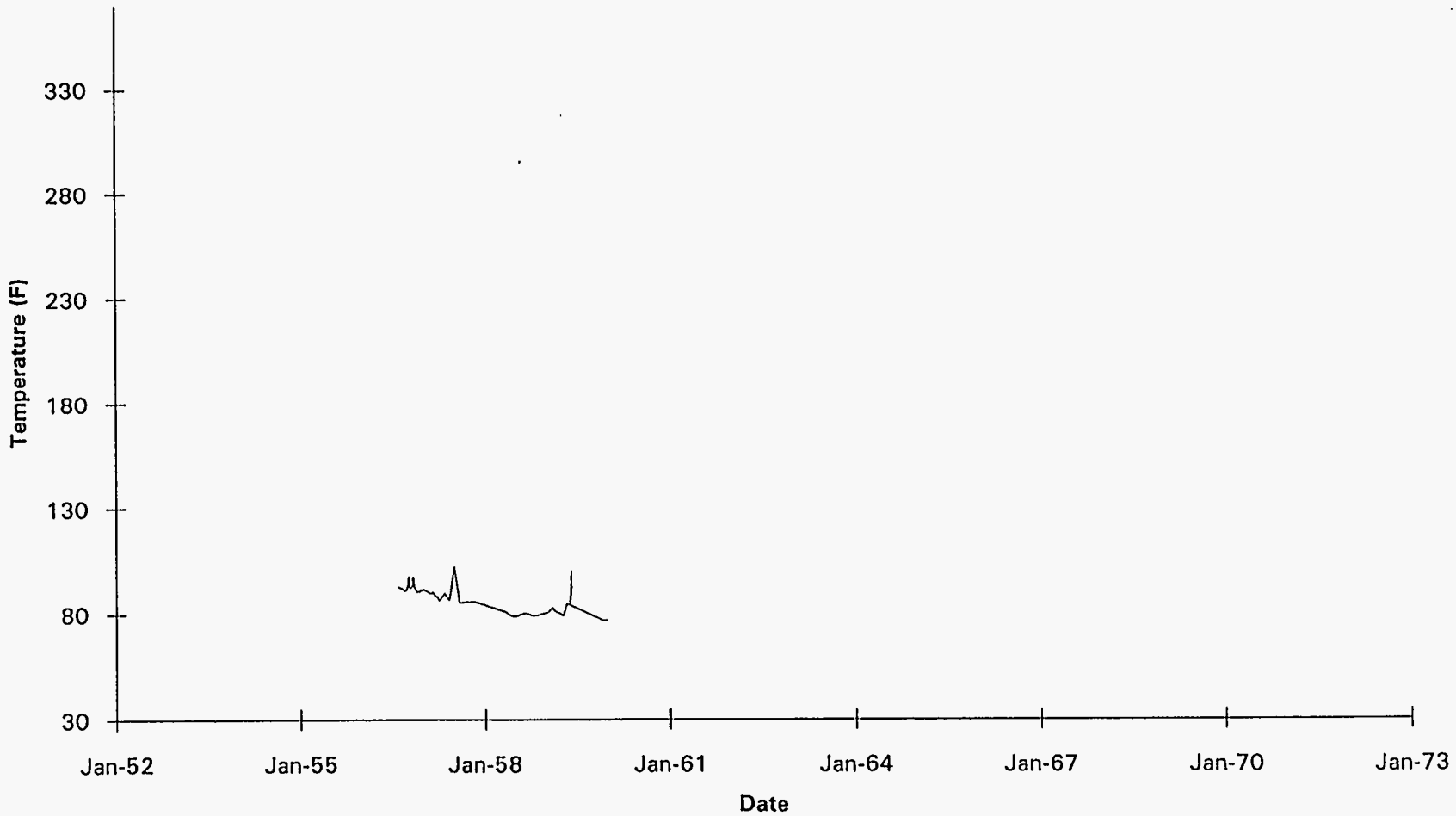
Data obtained f RHO-CD-1172.

Tank 241-S-105
Historical High or Only Waste Temperature



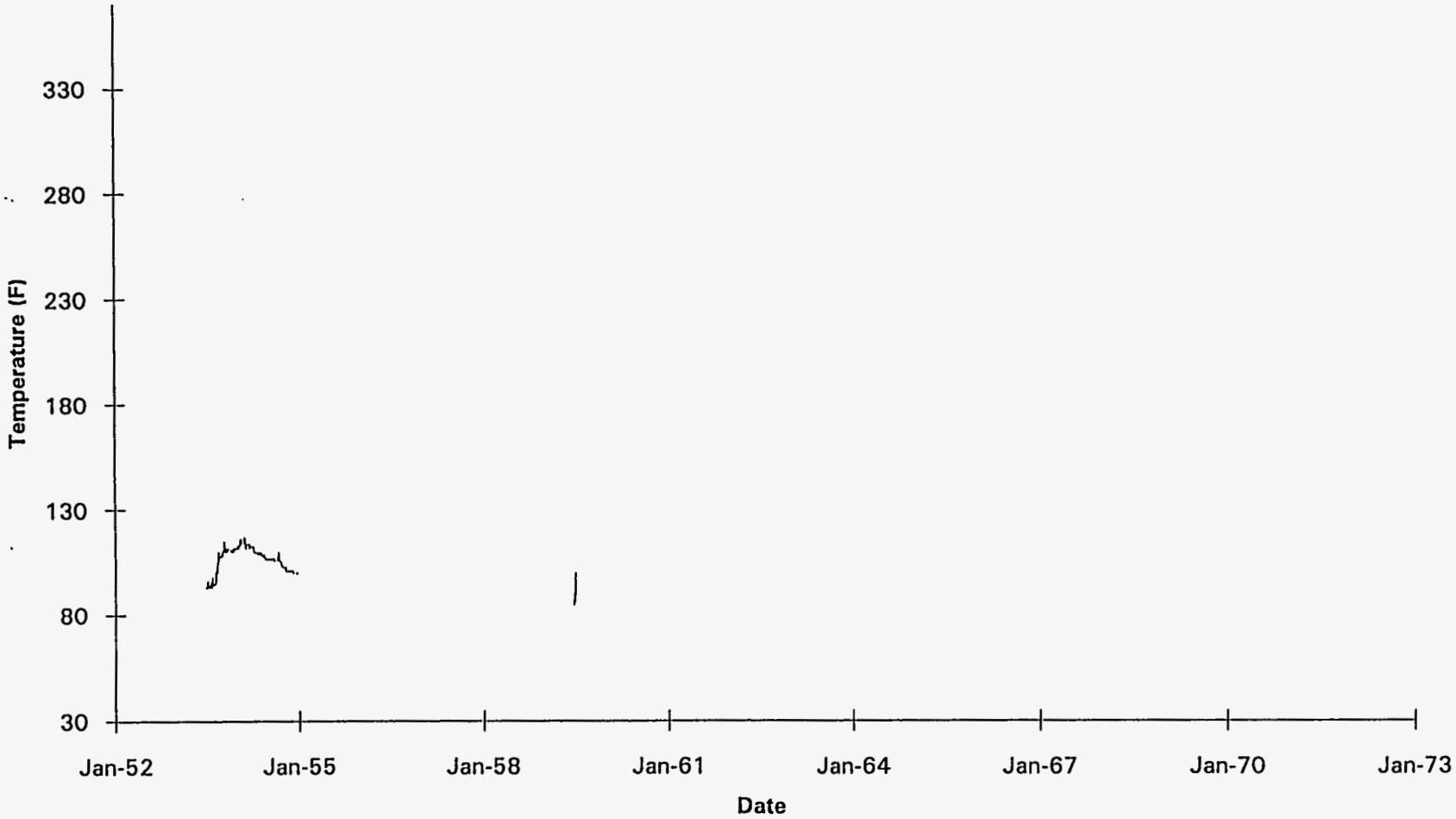
Data obtained from HW-83906.

Tank 241-S-106
Historical Vapor Space Temperature



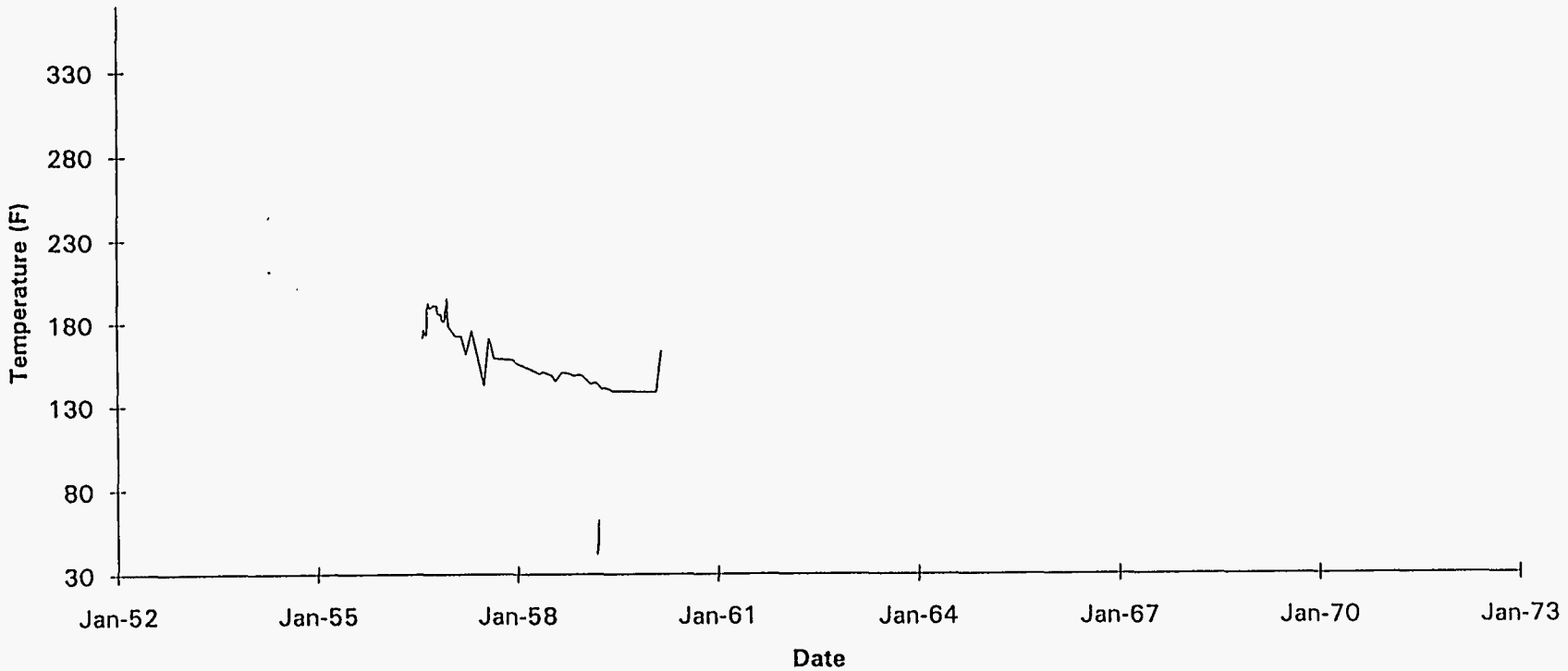
Data obtained ' า RHO-CD-1172.

Tank 241-S-106
Historical High or Only Waste Temperature



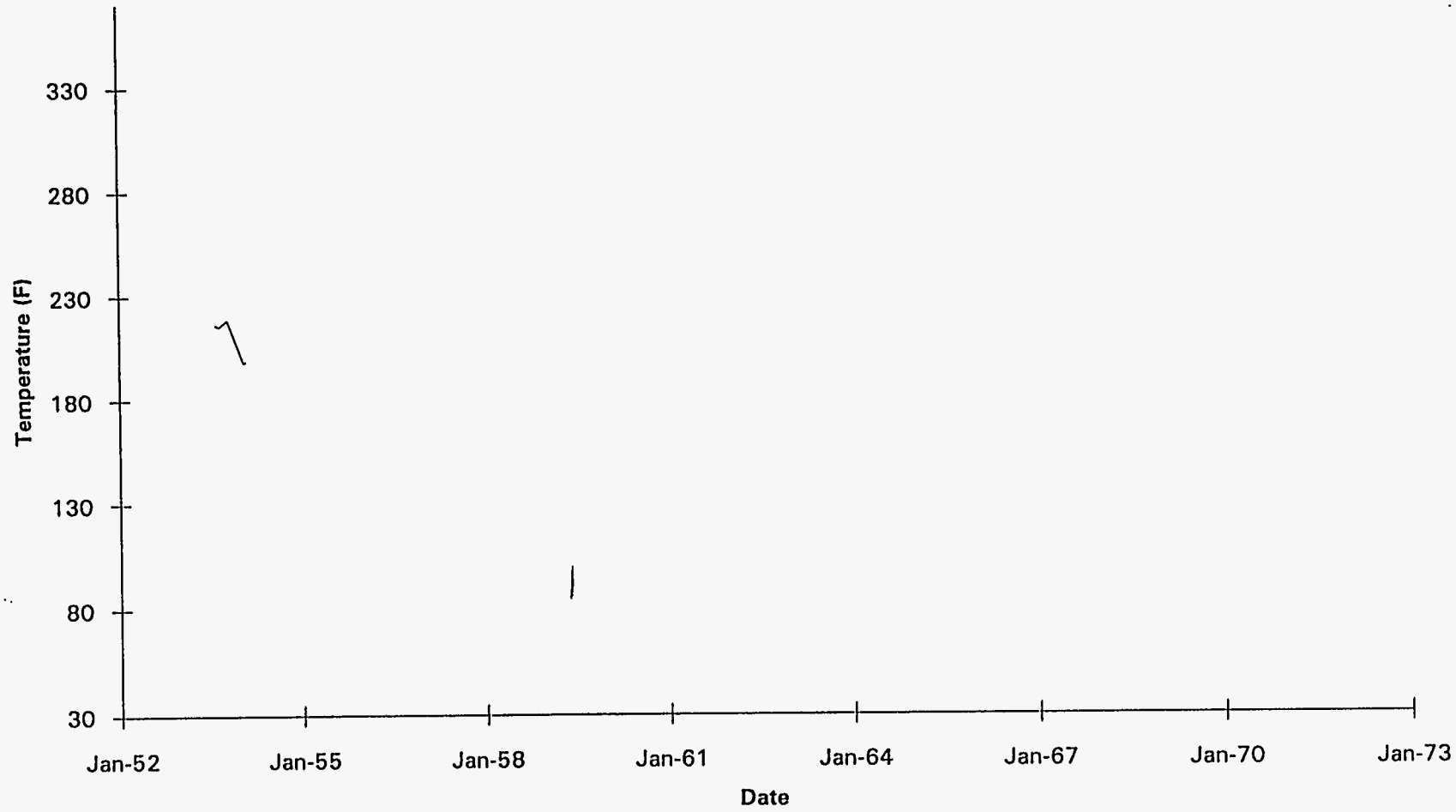
Data obtained from HW-83906.

Tank 241-S-107
Historical Vapor Space Temperature

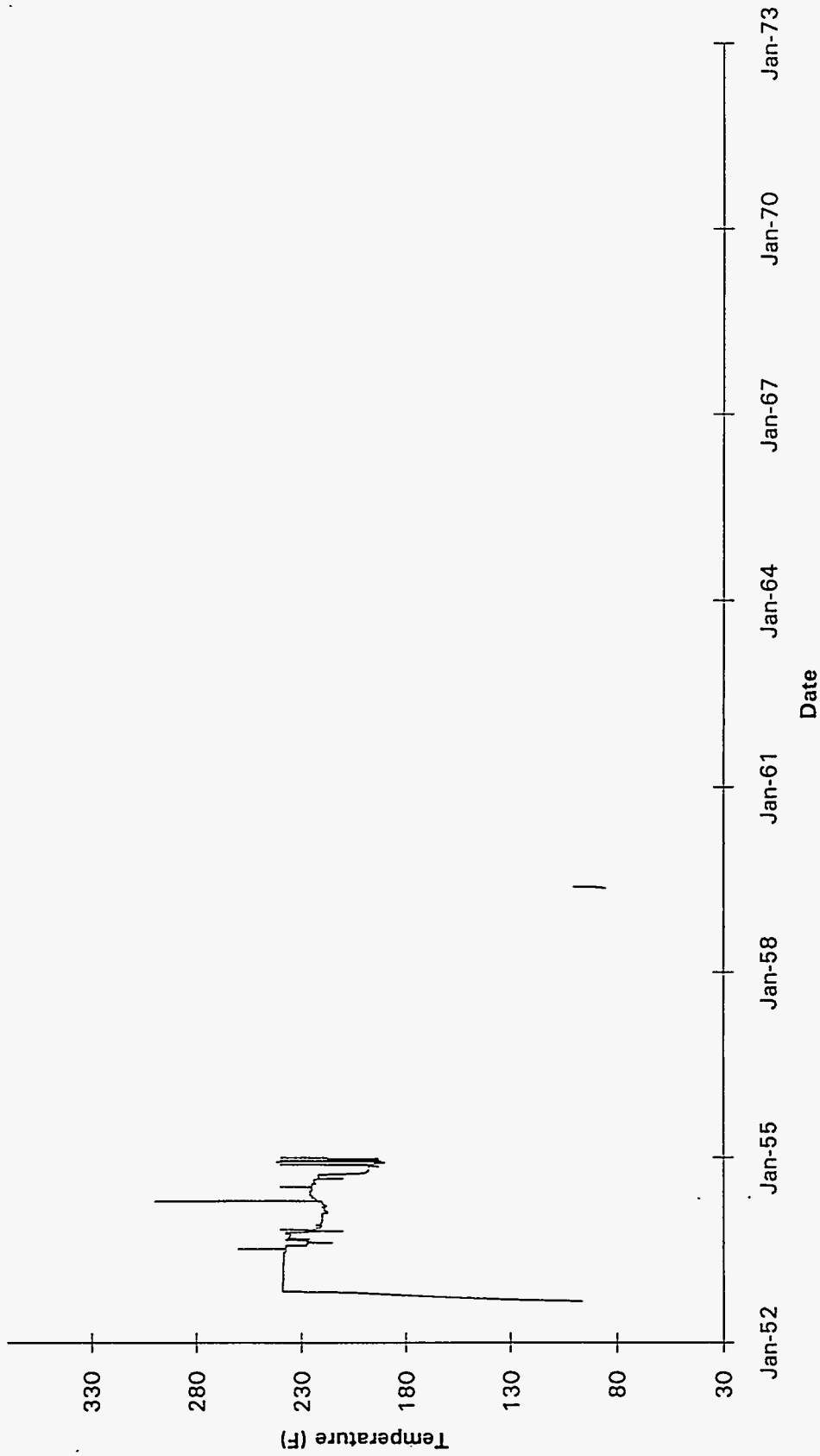


Data obtaine ›m RHO-CD-1172.

Tank 241-S-107
Historical Average Waste Temperature

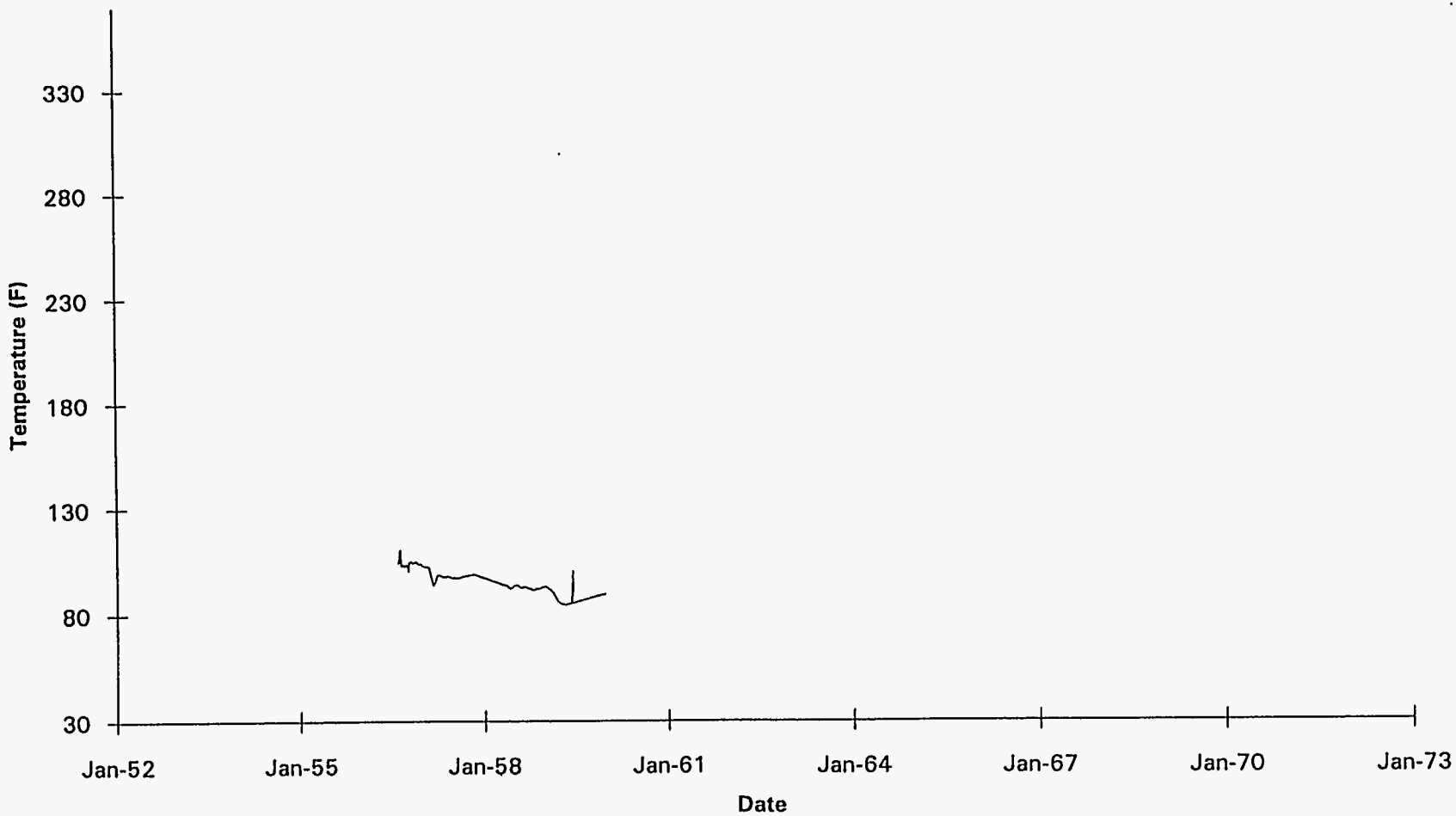


Data obtained from RHO-CD-1172 and HW-83906.



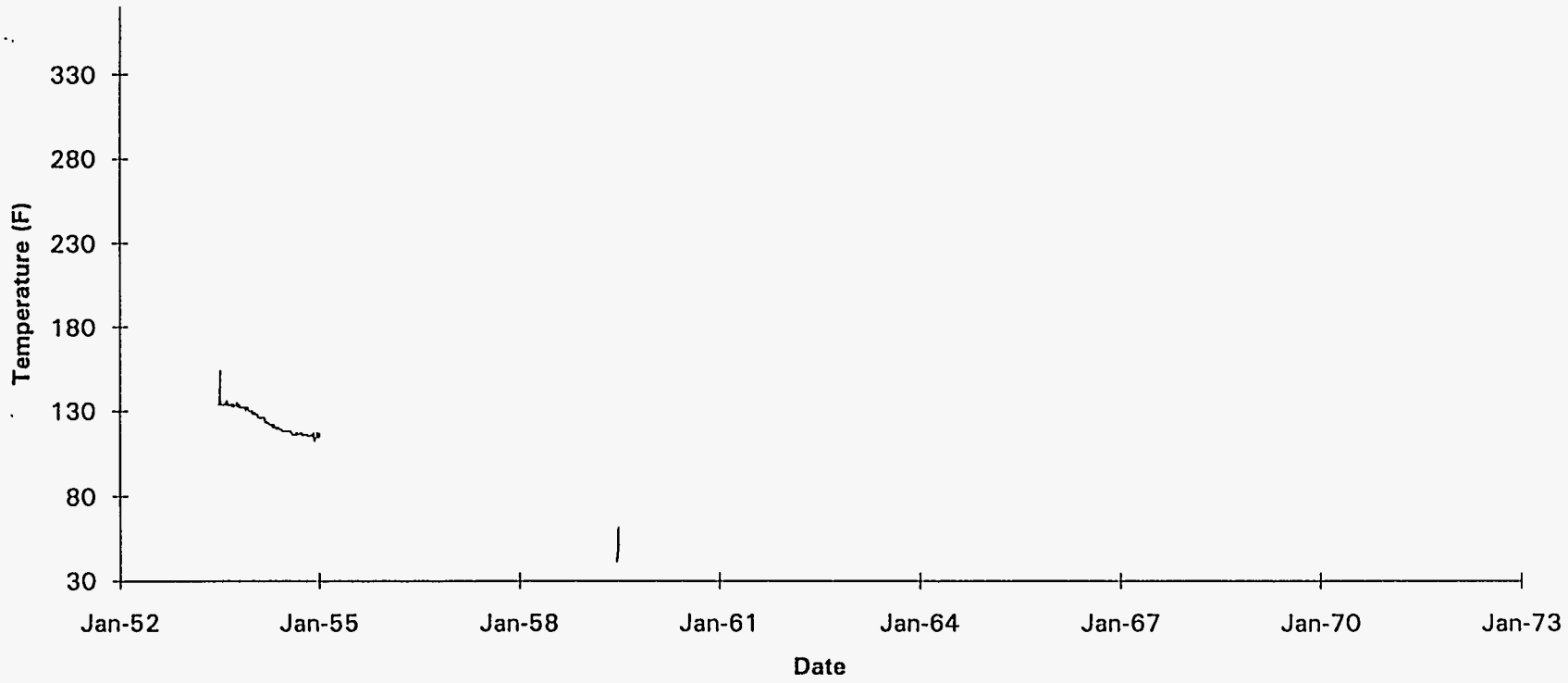
Data obtained from RHC ^D-1172 and HW-83906.

Tank 241-S-108
Historical Vapor Space Temperature



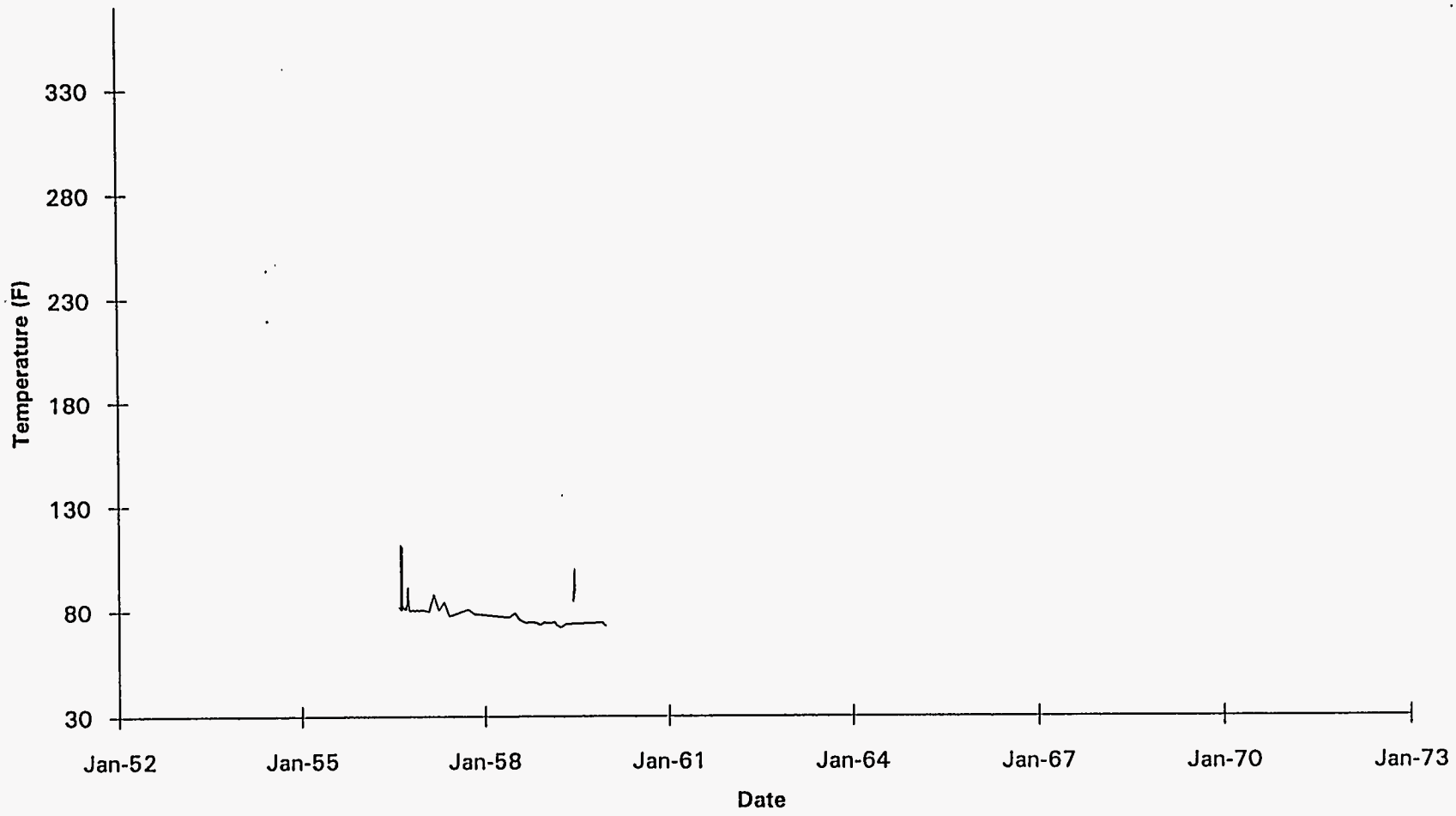
Data obtained from RHO-CD-1172.

Tank 241-S-108
Historical High or Only Waste Temperature



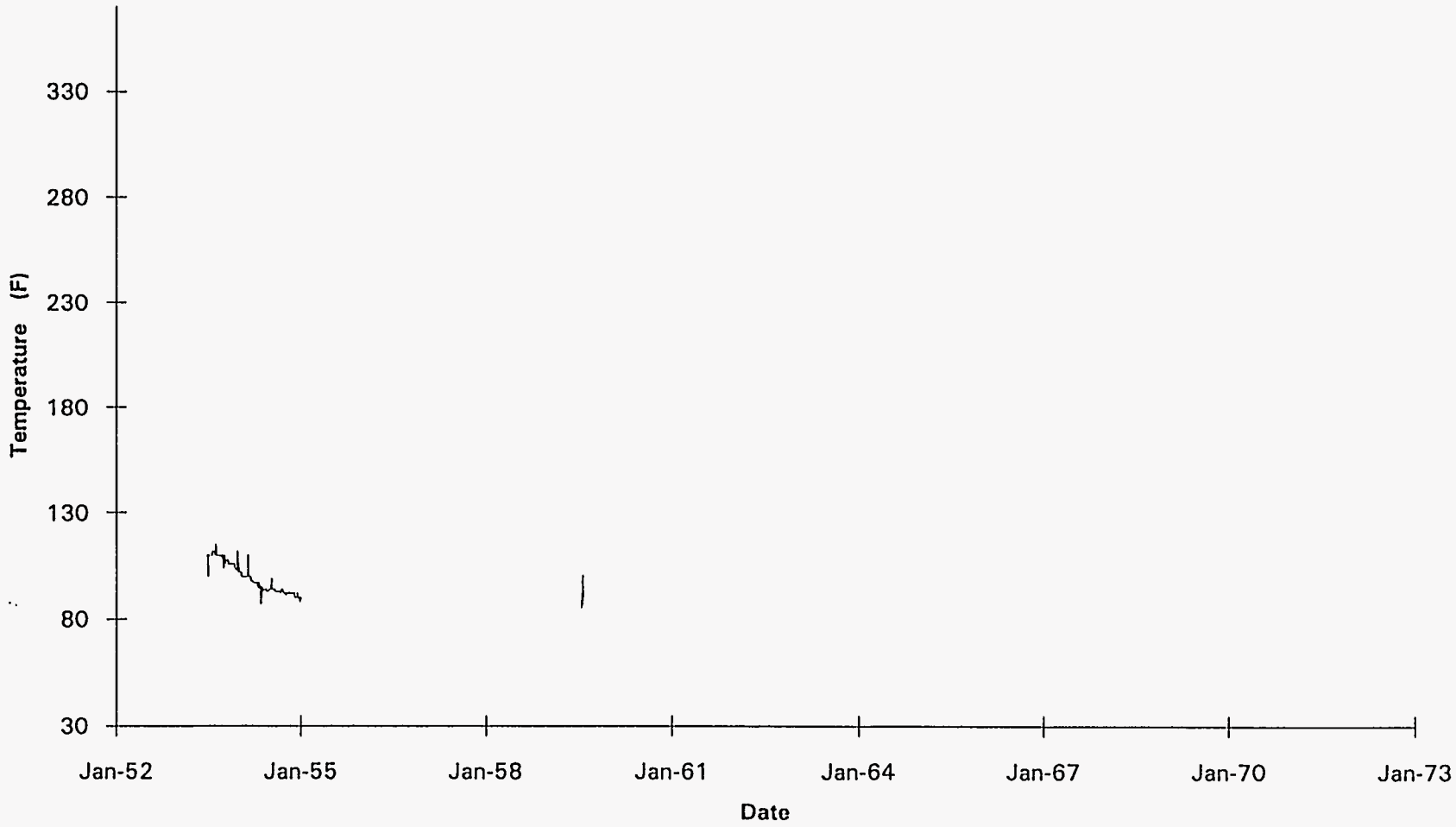
Data obtained from HW-83906.

Tank 241-S-109
Historical Vapor Space Temperature



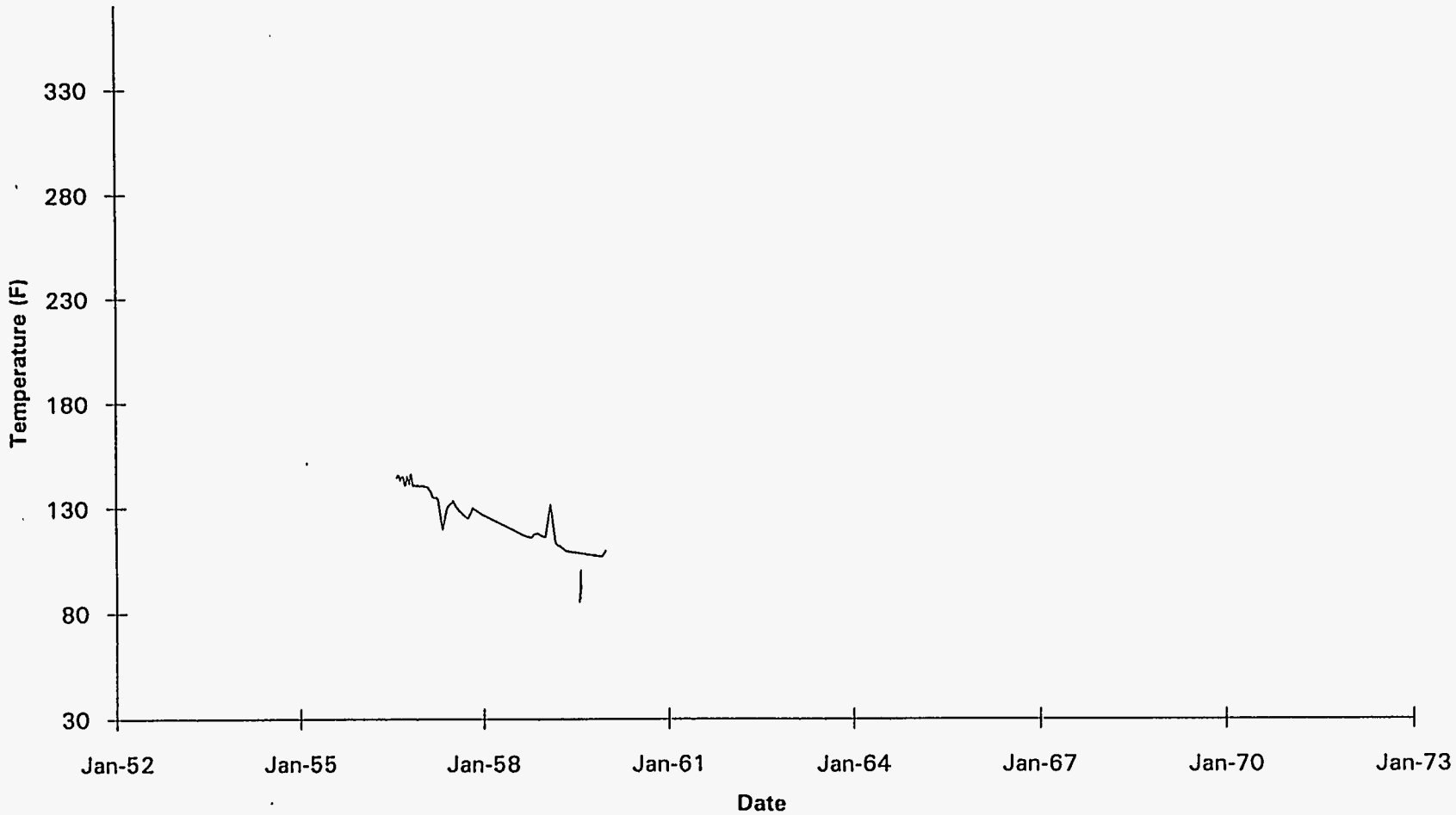
Data obtained from RHO-CD-1172.

Tank 241-S-109
Historical High or Only Waste Temperature



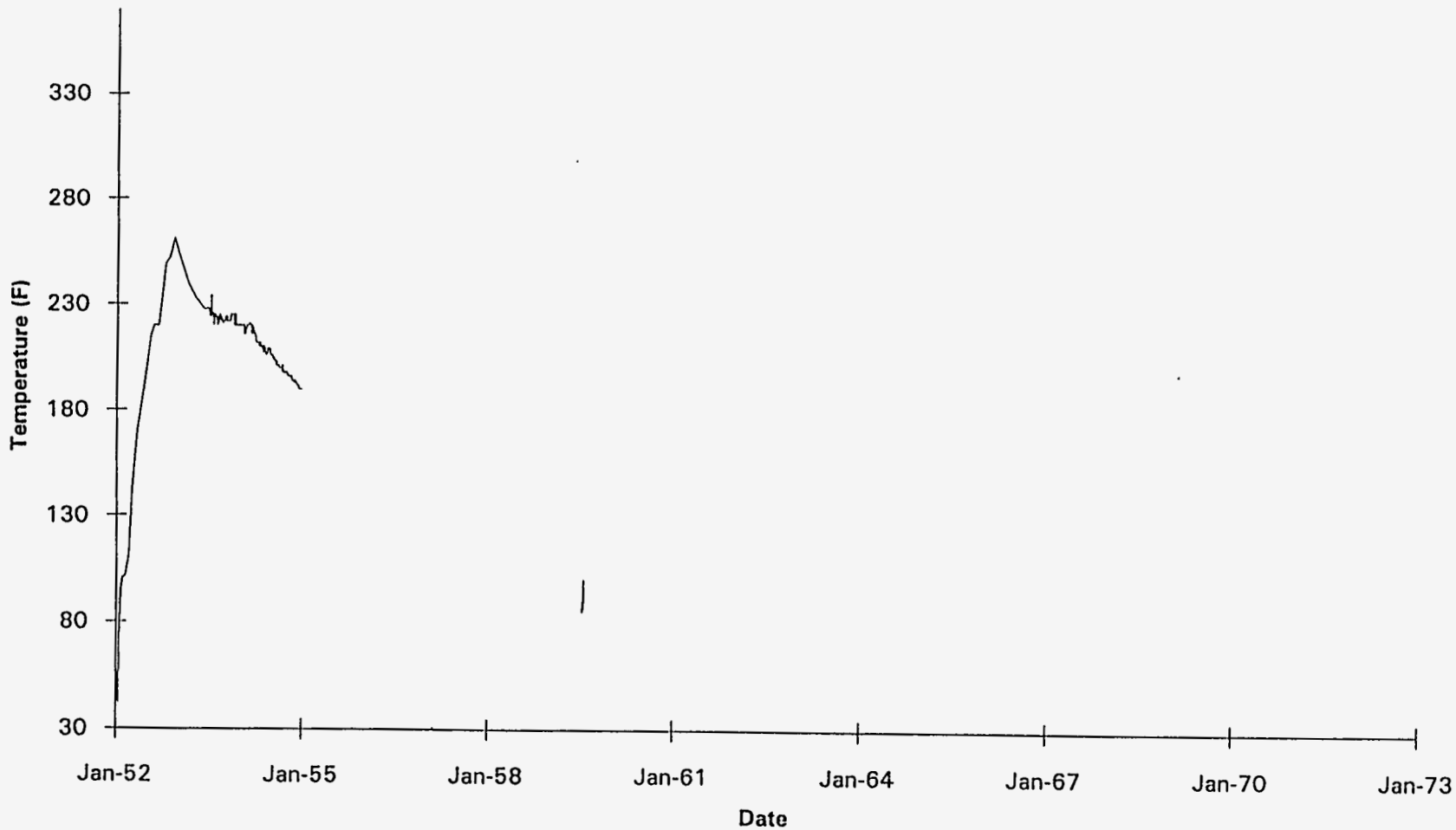
Data obtained ´ ท HW-83906.

Tank 241-S-110
Historical Vapor Space Temperature



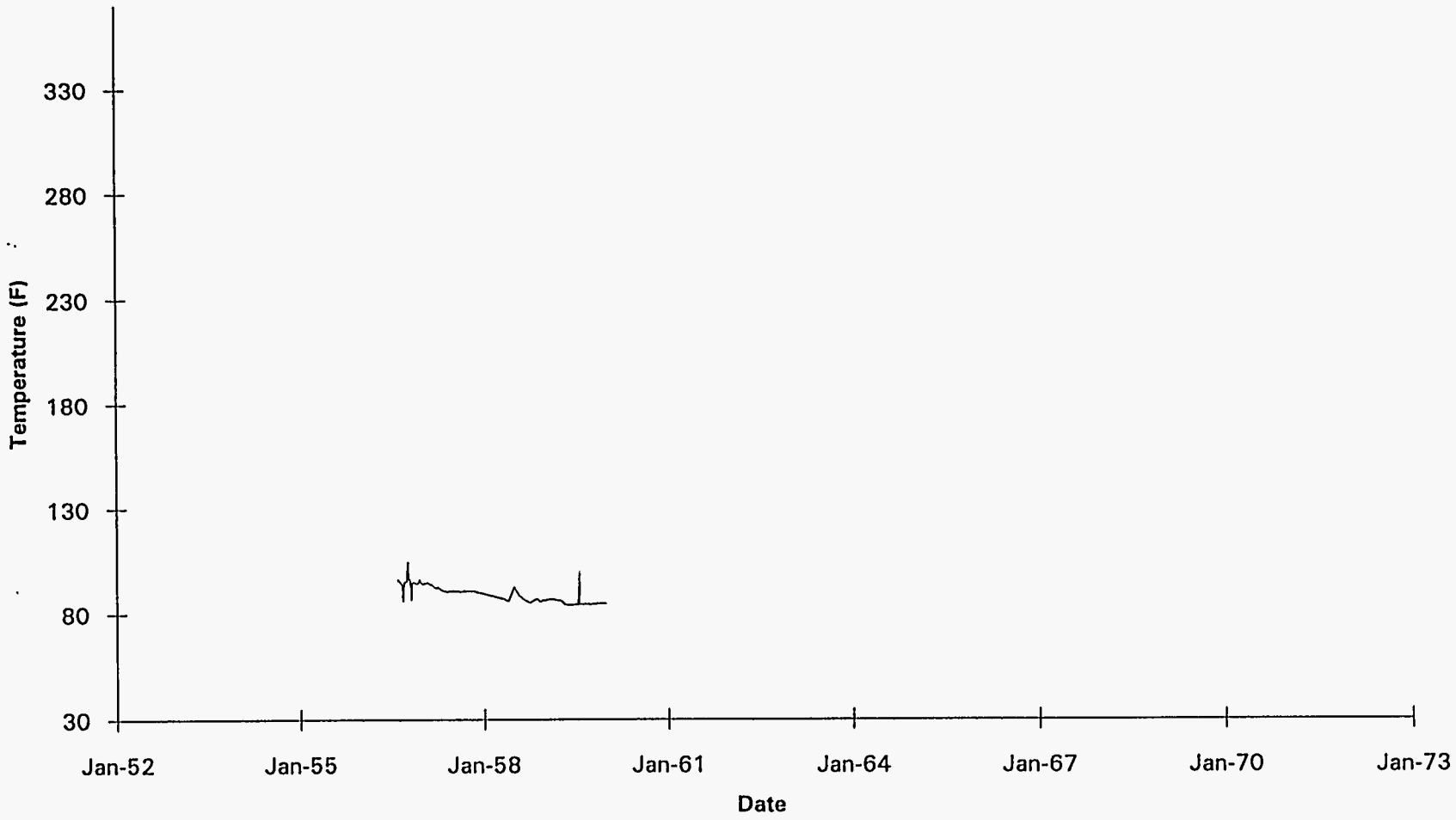
Data obtained from RHO-CD-1172.

Tank 241-S-110
Historical High or Only Waste Temperature



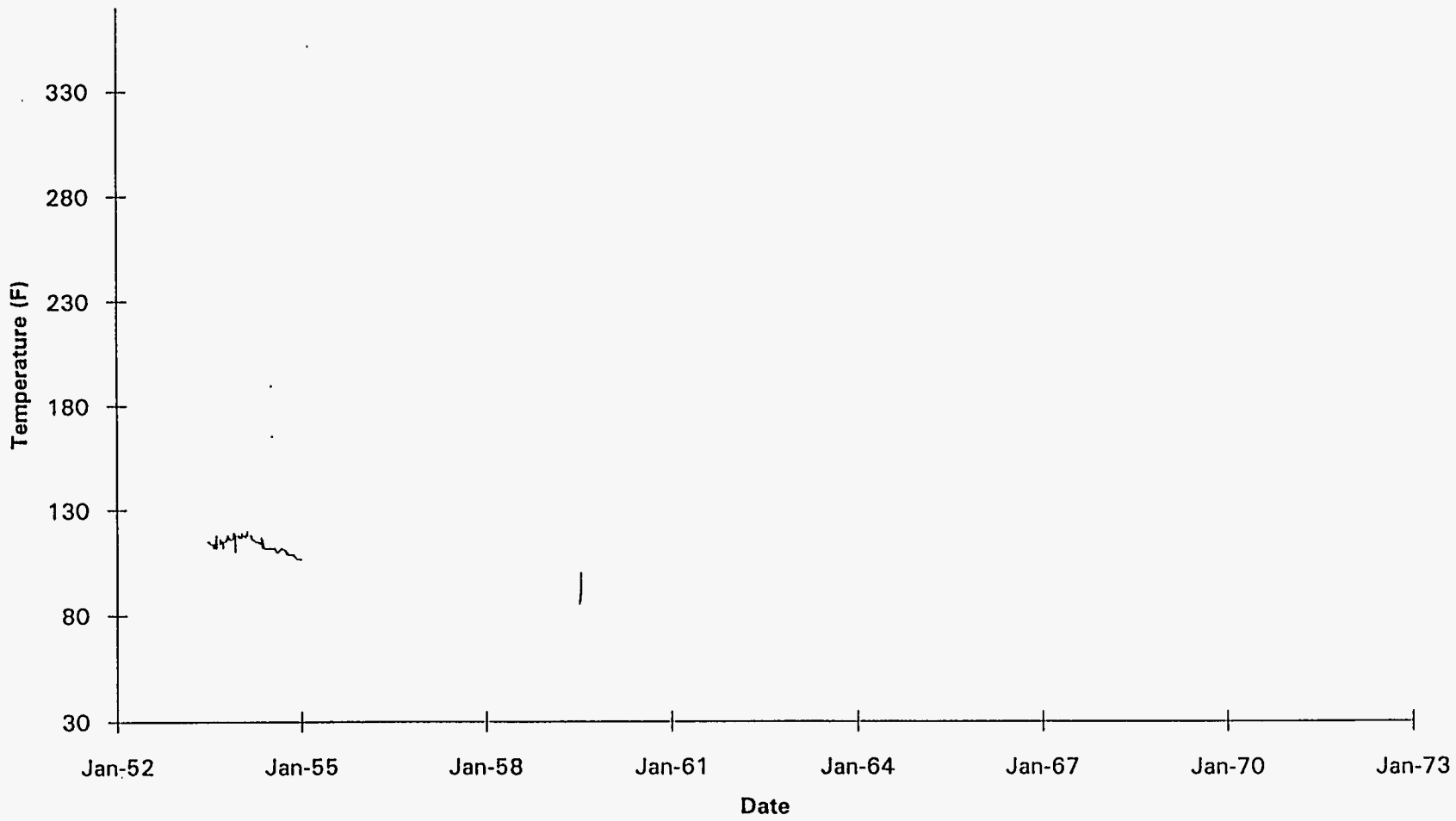
Data obtained from RHC 7-1172 and HW-83906.

Tank 241-S-111
Historical Vapor Space Temperature



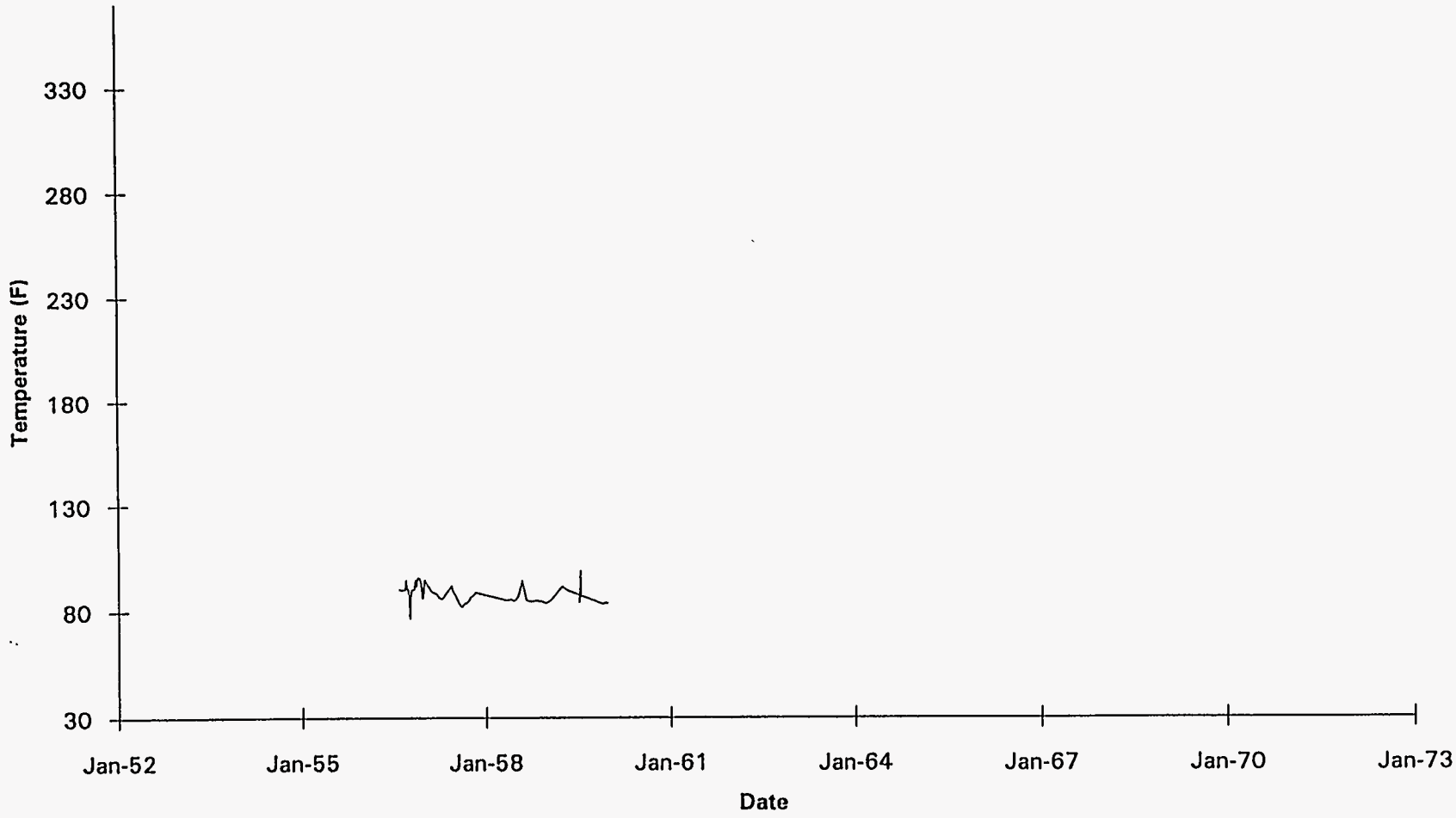
Data obtained from RHO-CD-1172.

Tank 241-S-111
Historical High or Only Waste Temperature



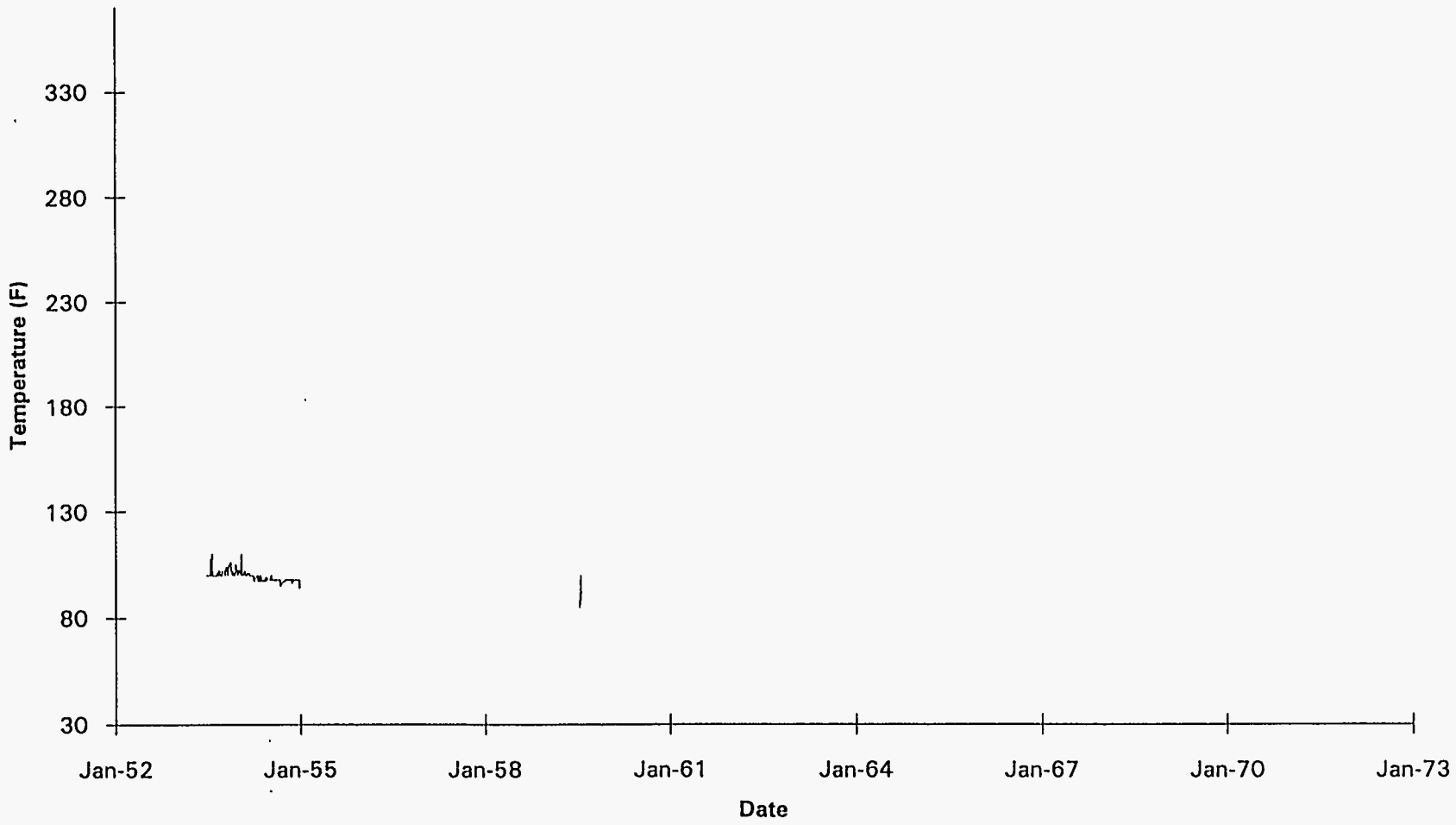
Data obtained from HW-83906.

Tank 241-S-112
Historical Vapor Space Temperature

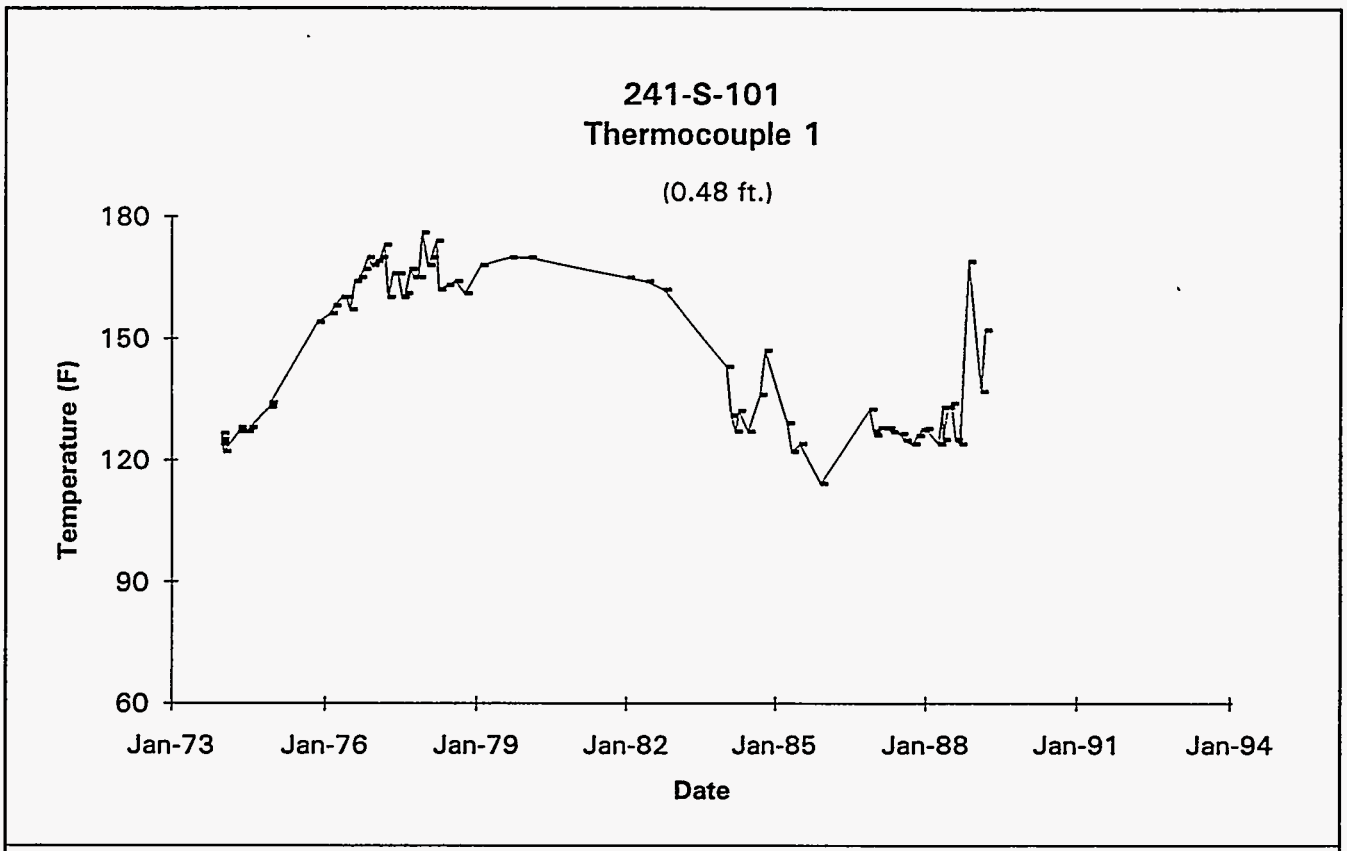


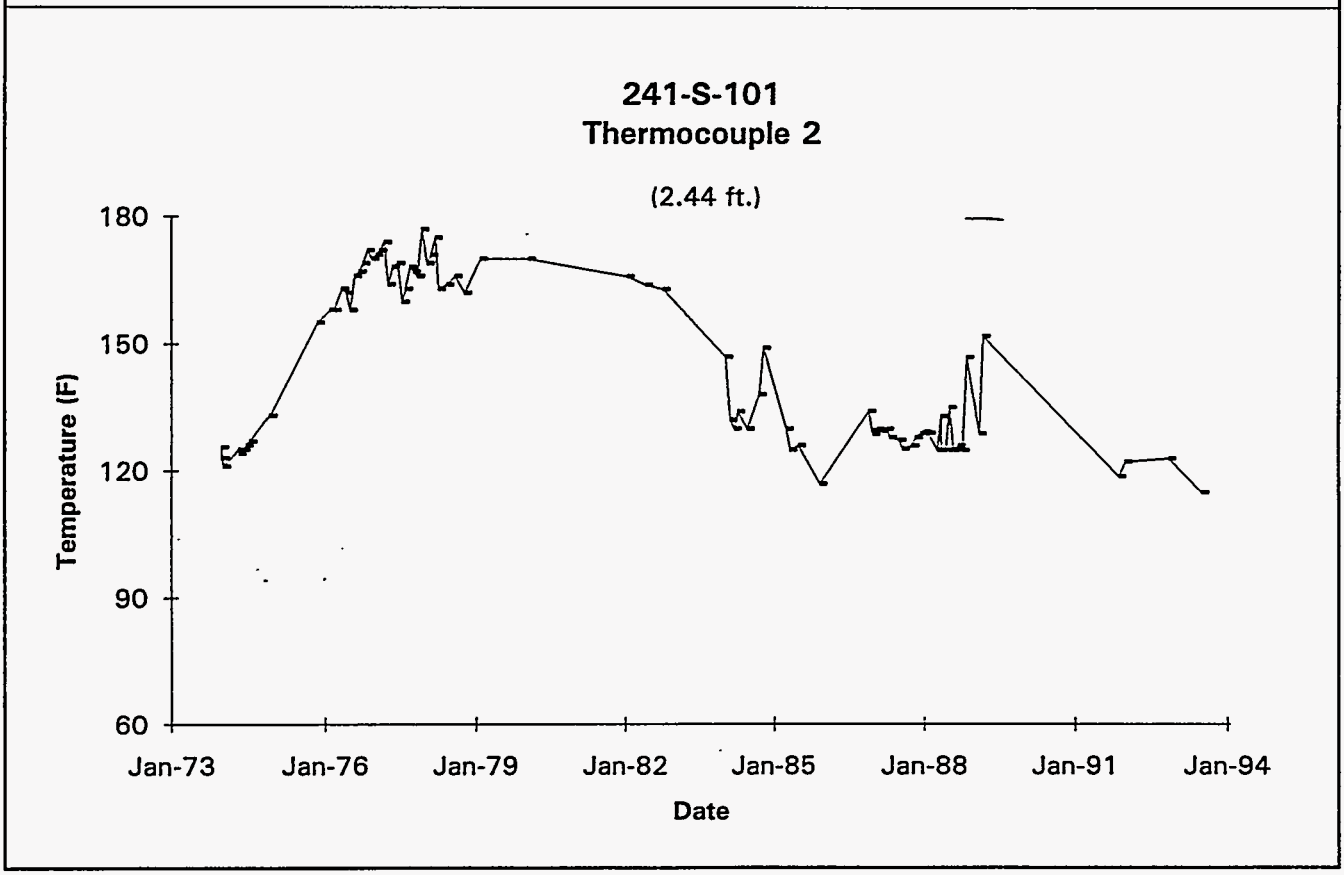
Data obtained from RHO-CD-1172.

Tank 241-S-112
Historical High or Only Waste Temperature

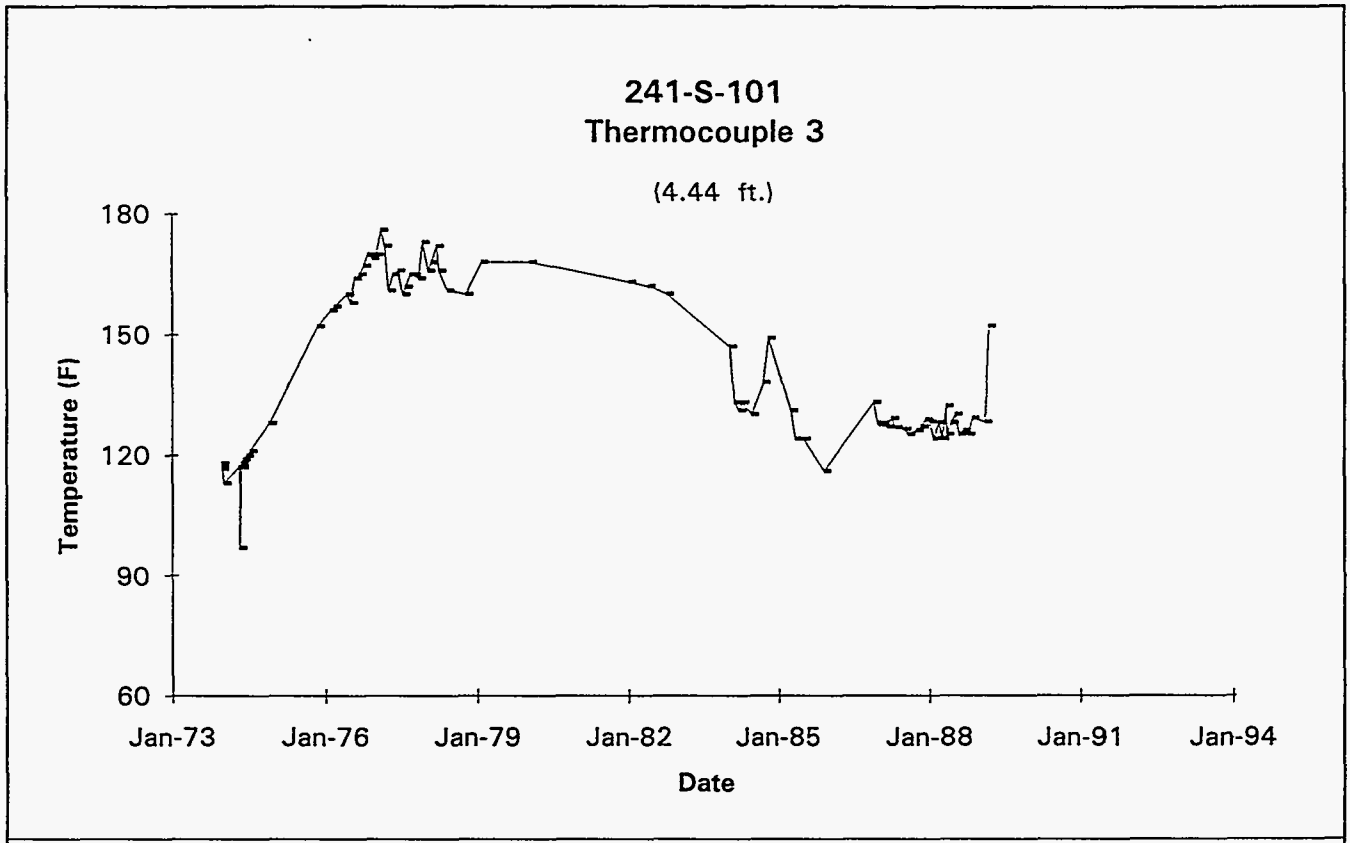


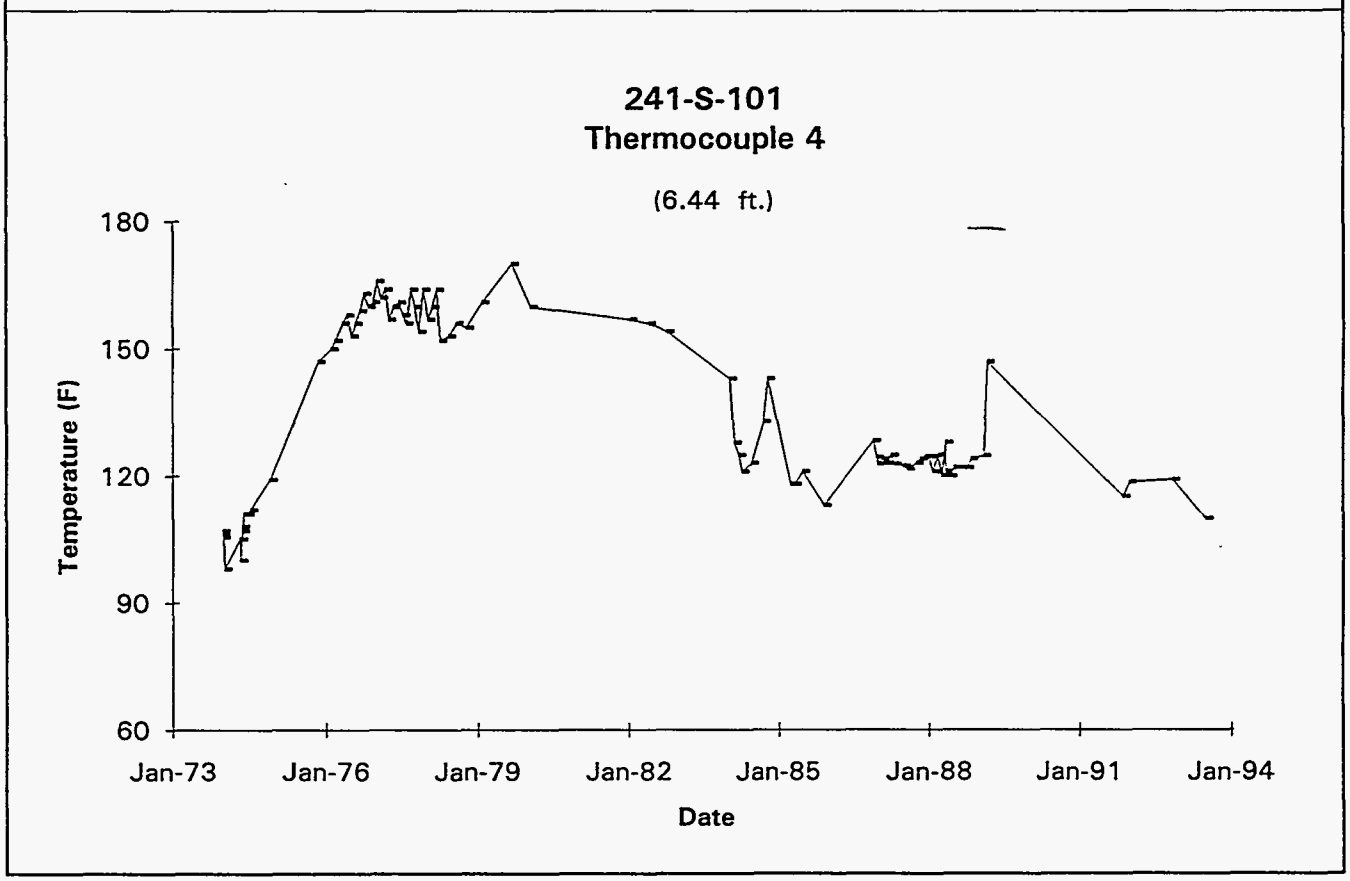
Data obtaine' 'm HW-83906.



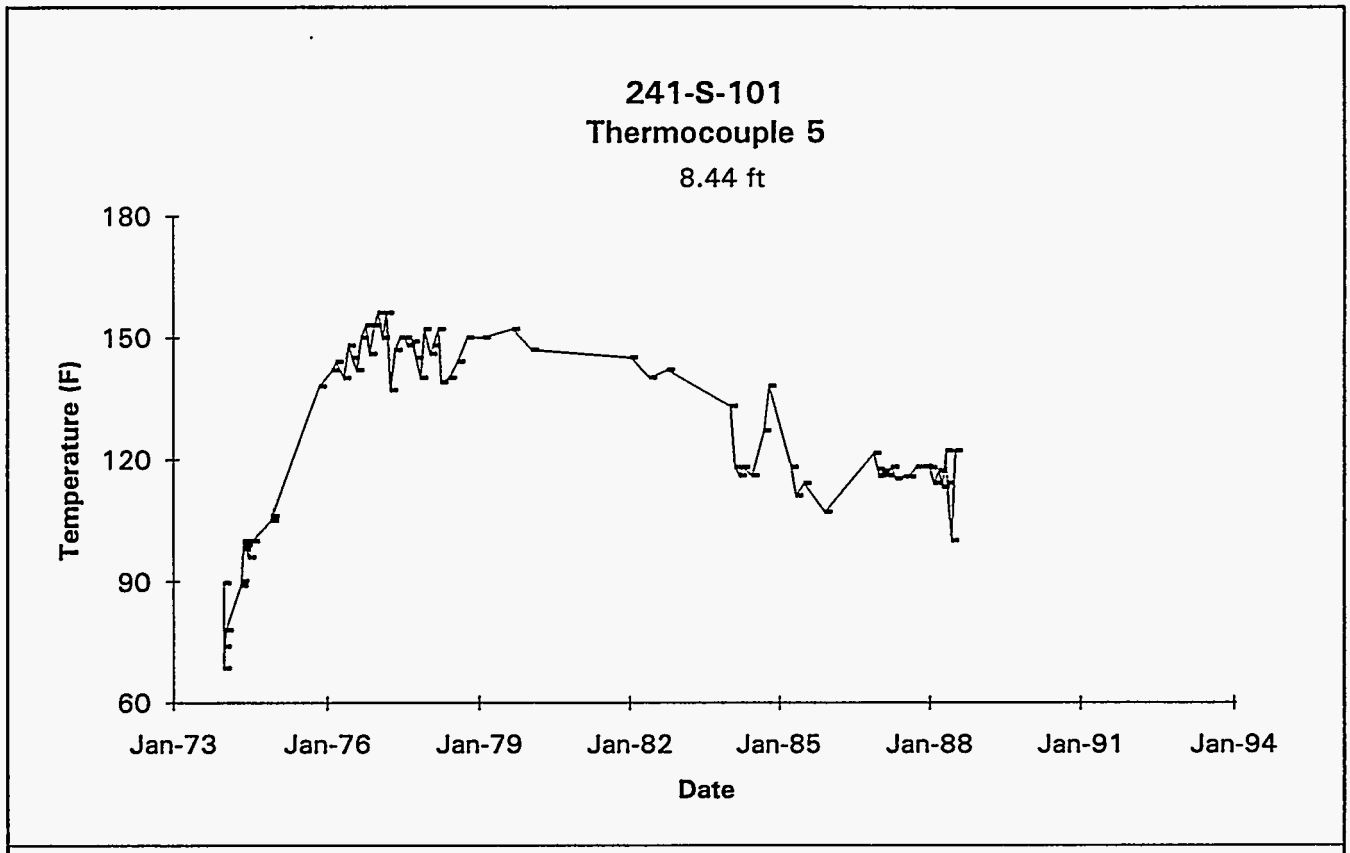


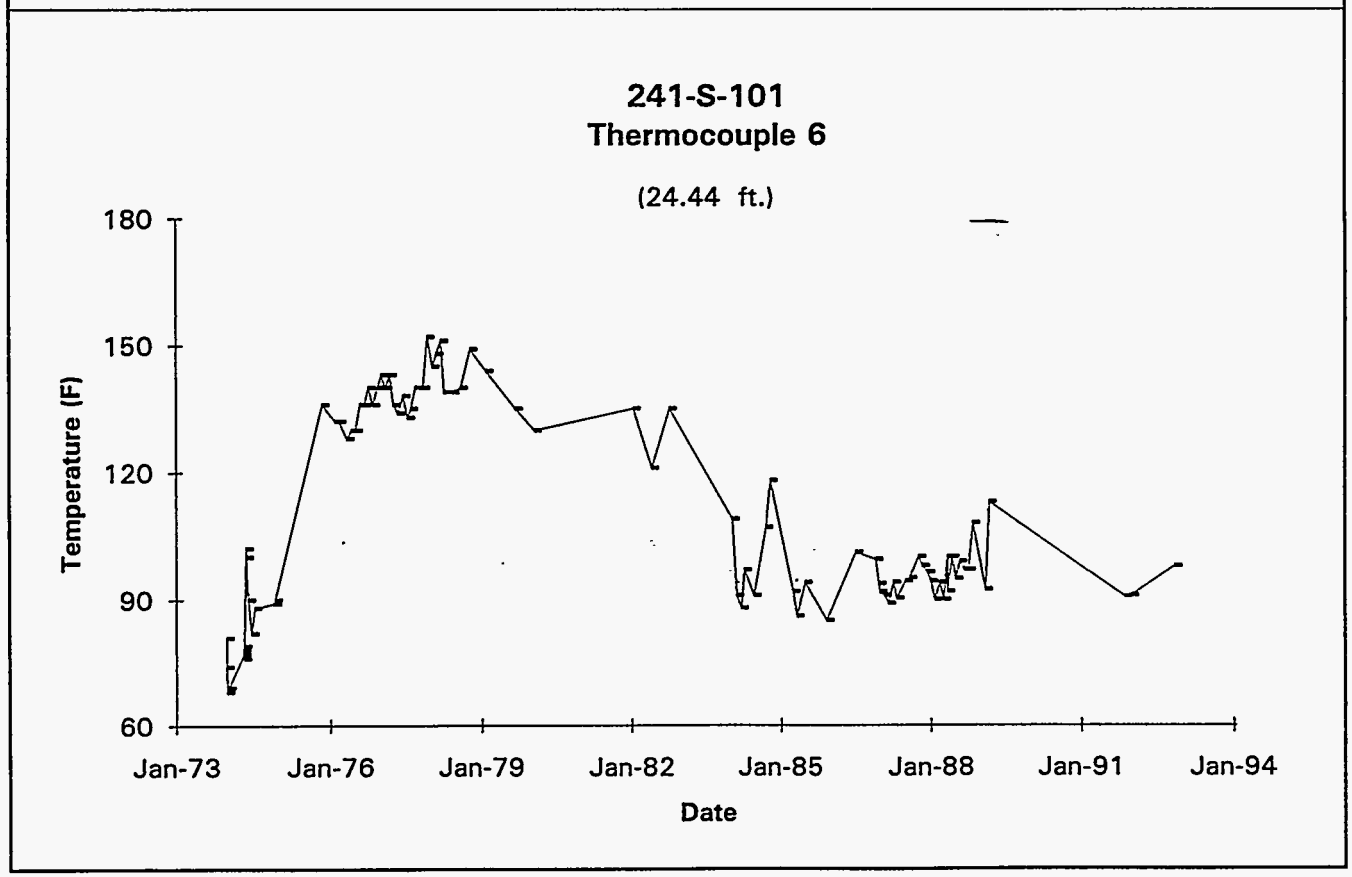
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.





Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.





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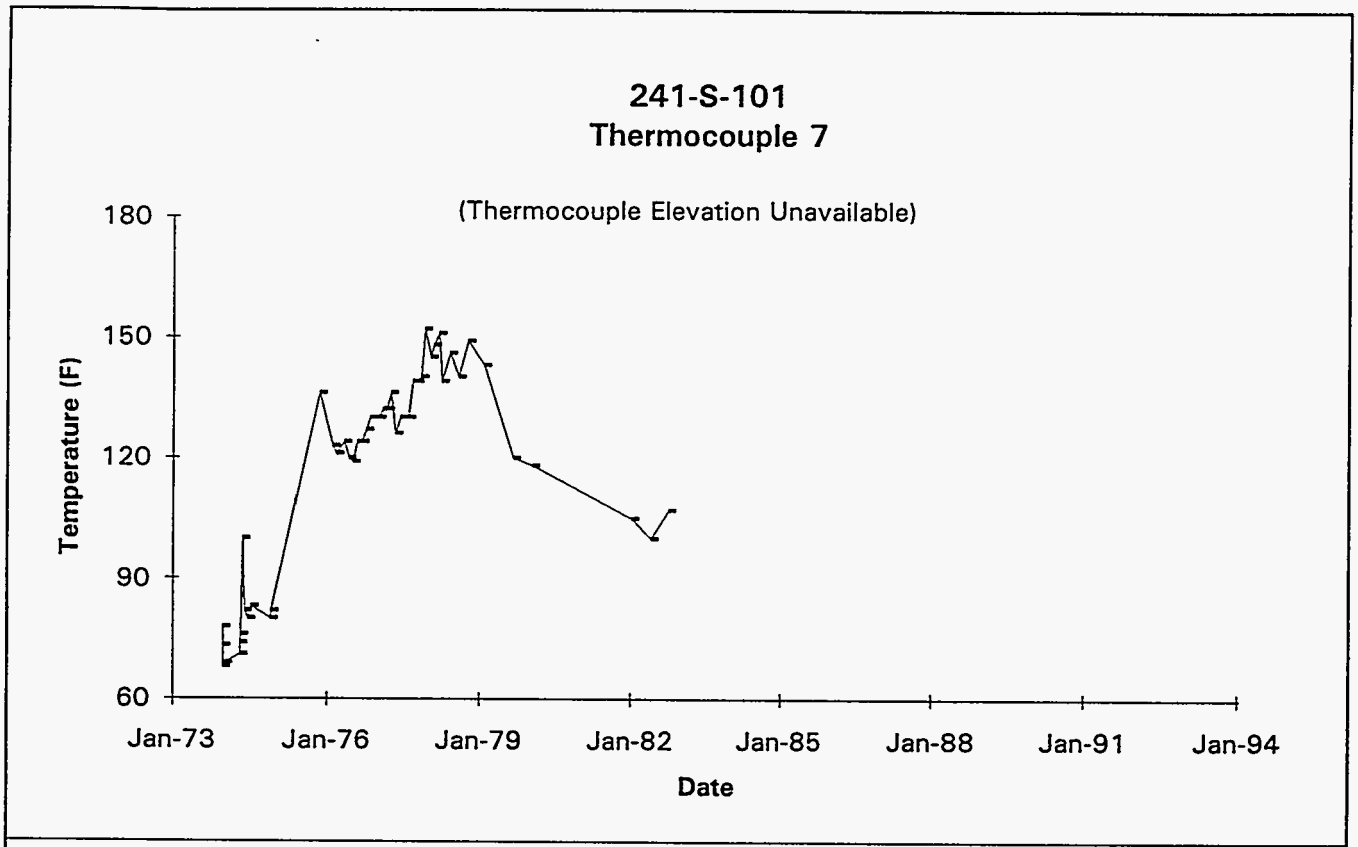
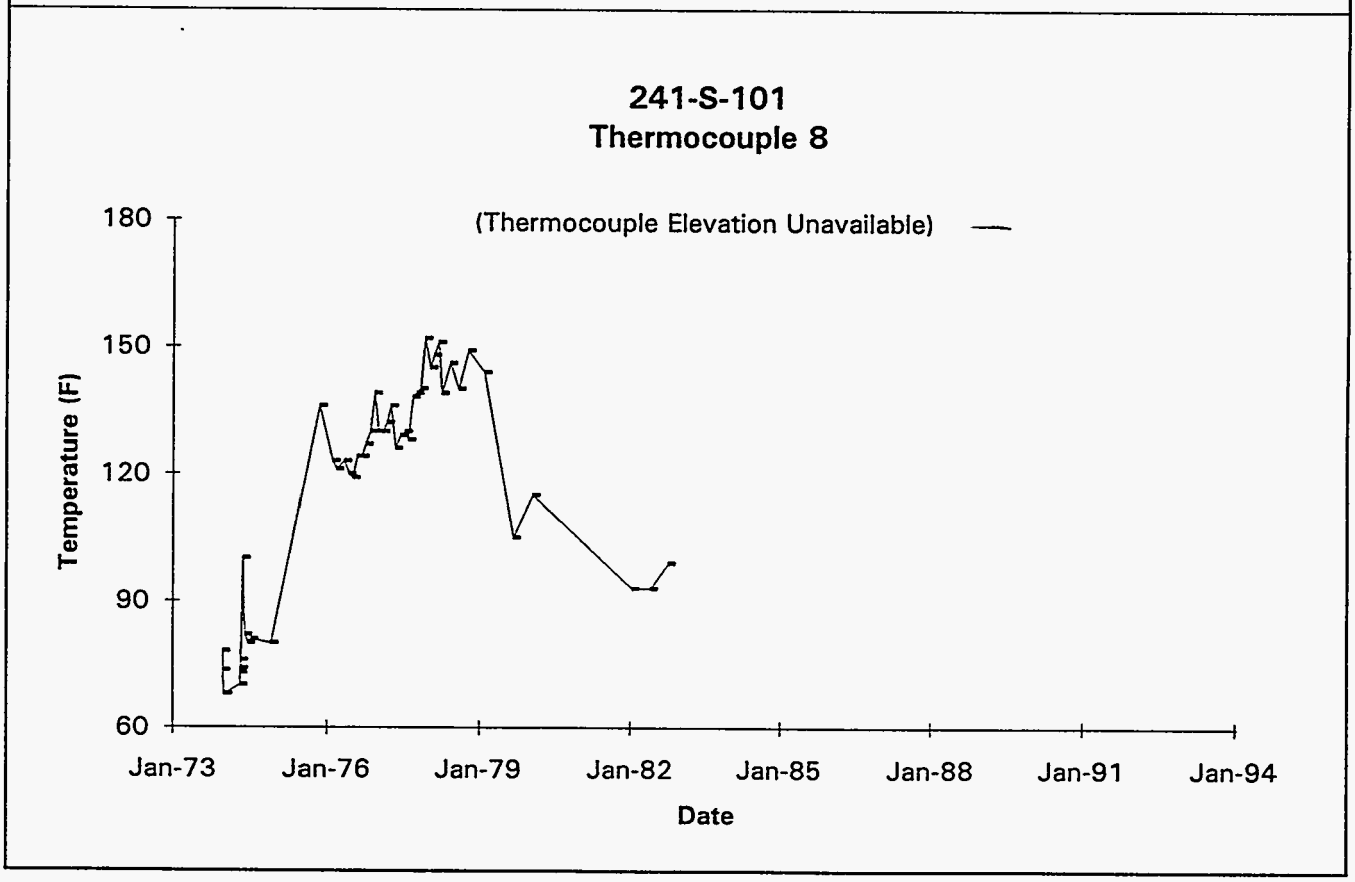
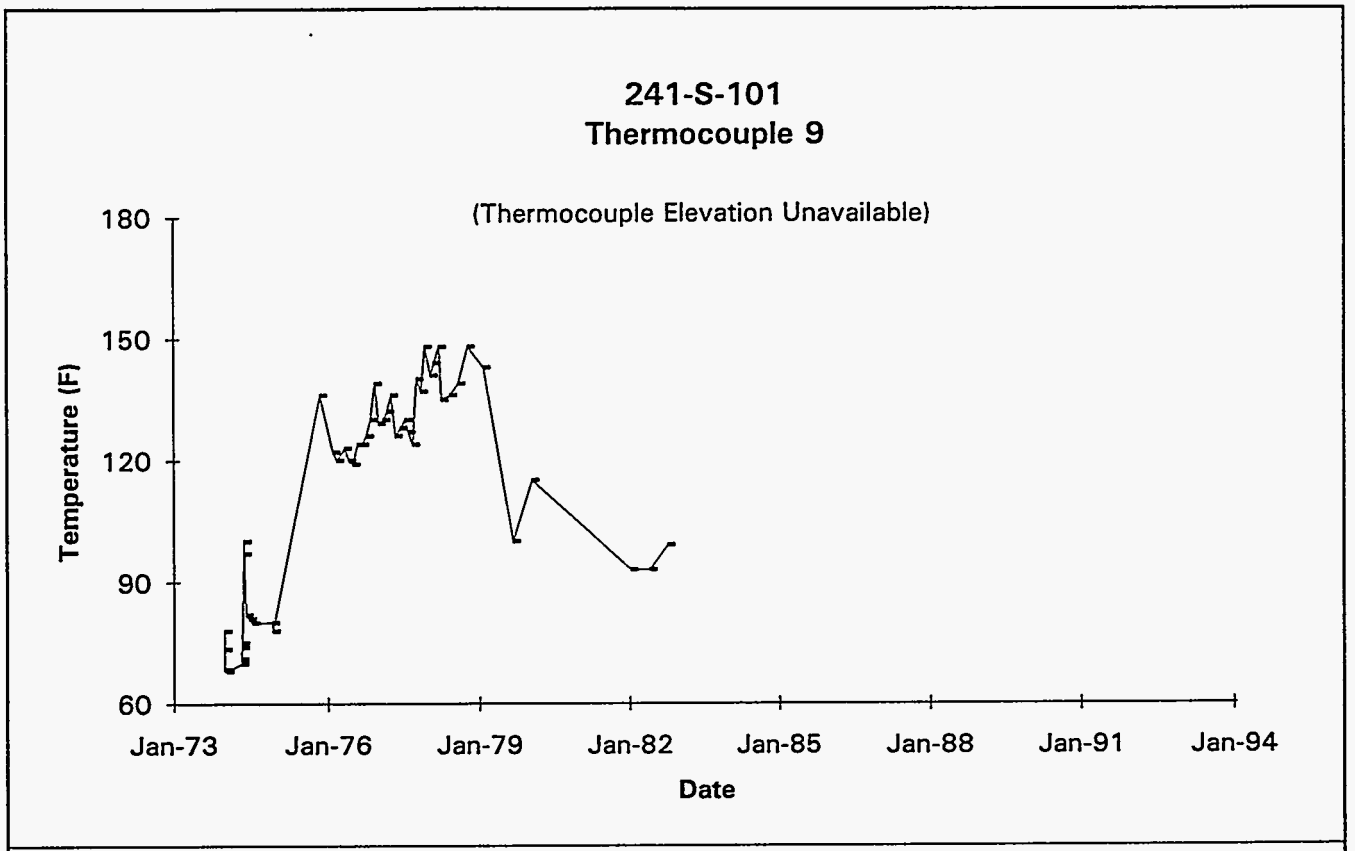
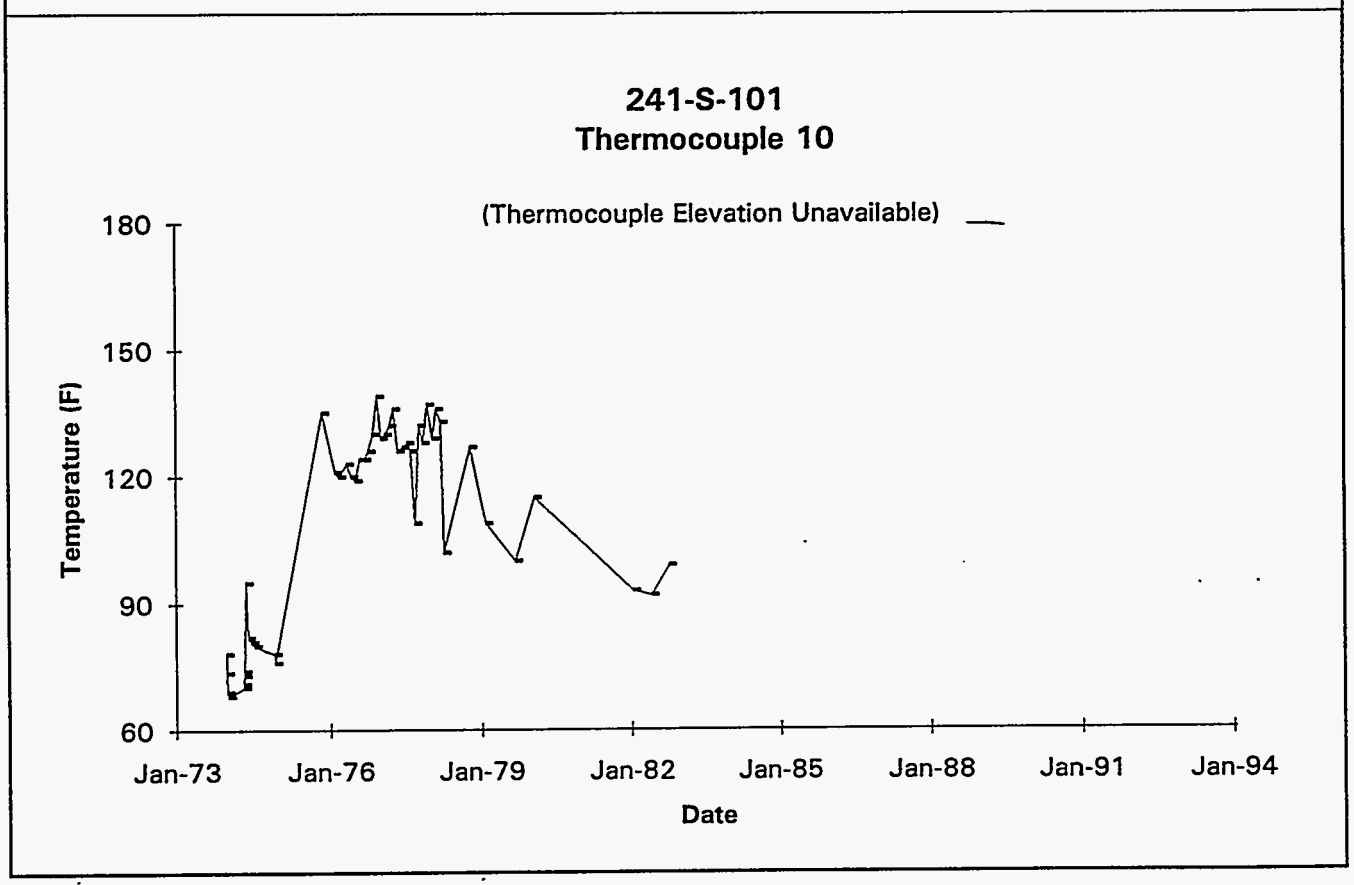


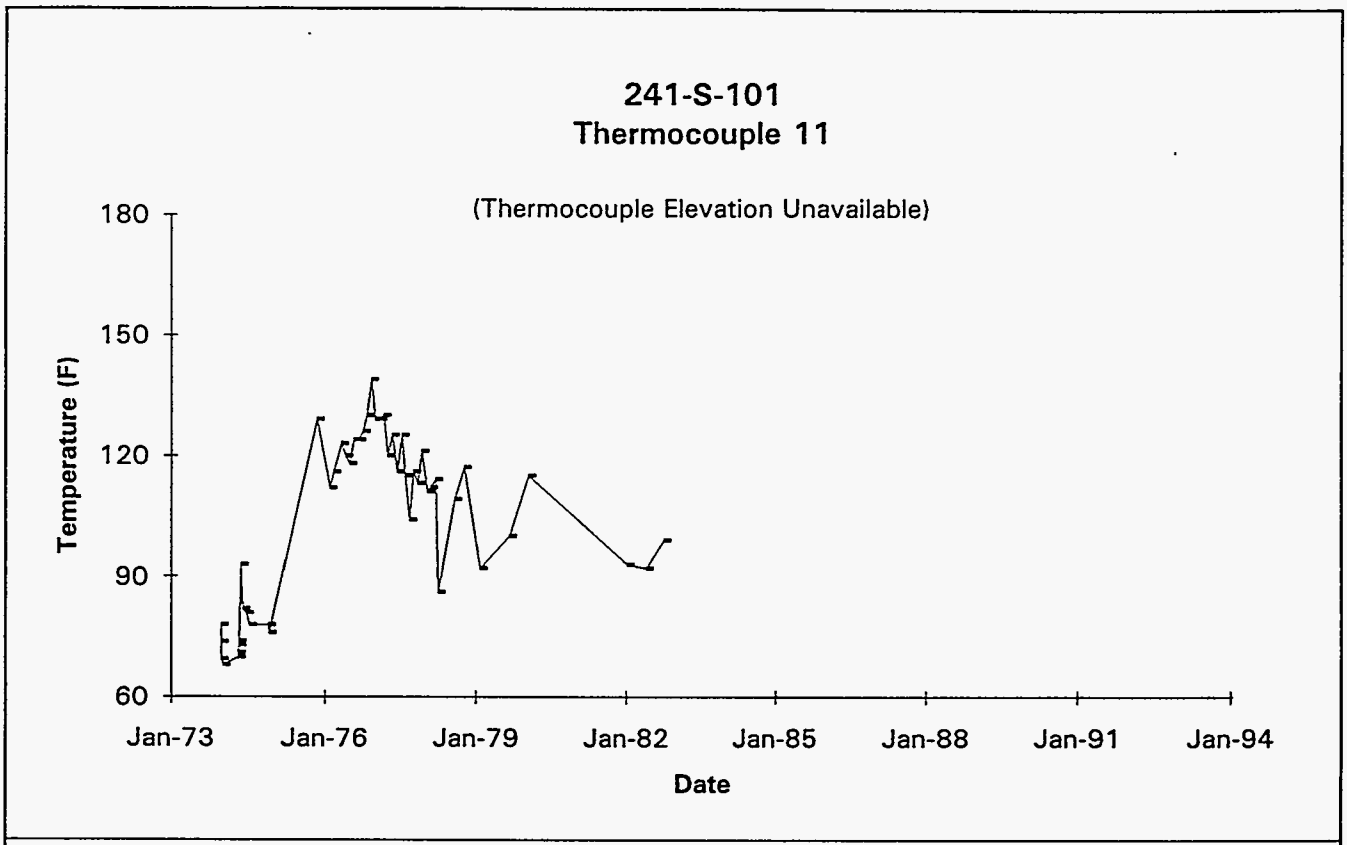


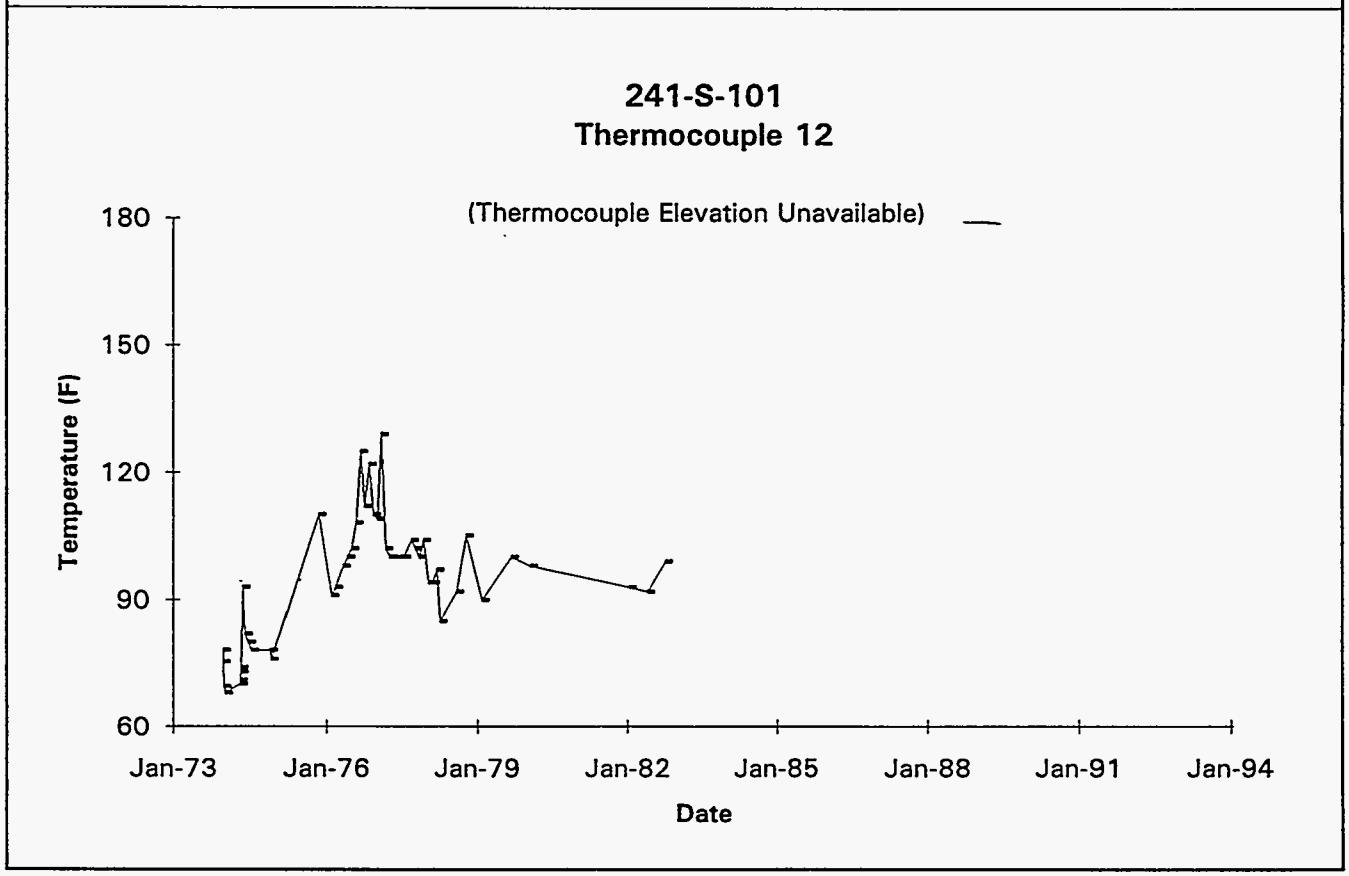
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.





Date obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.





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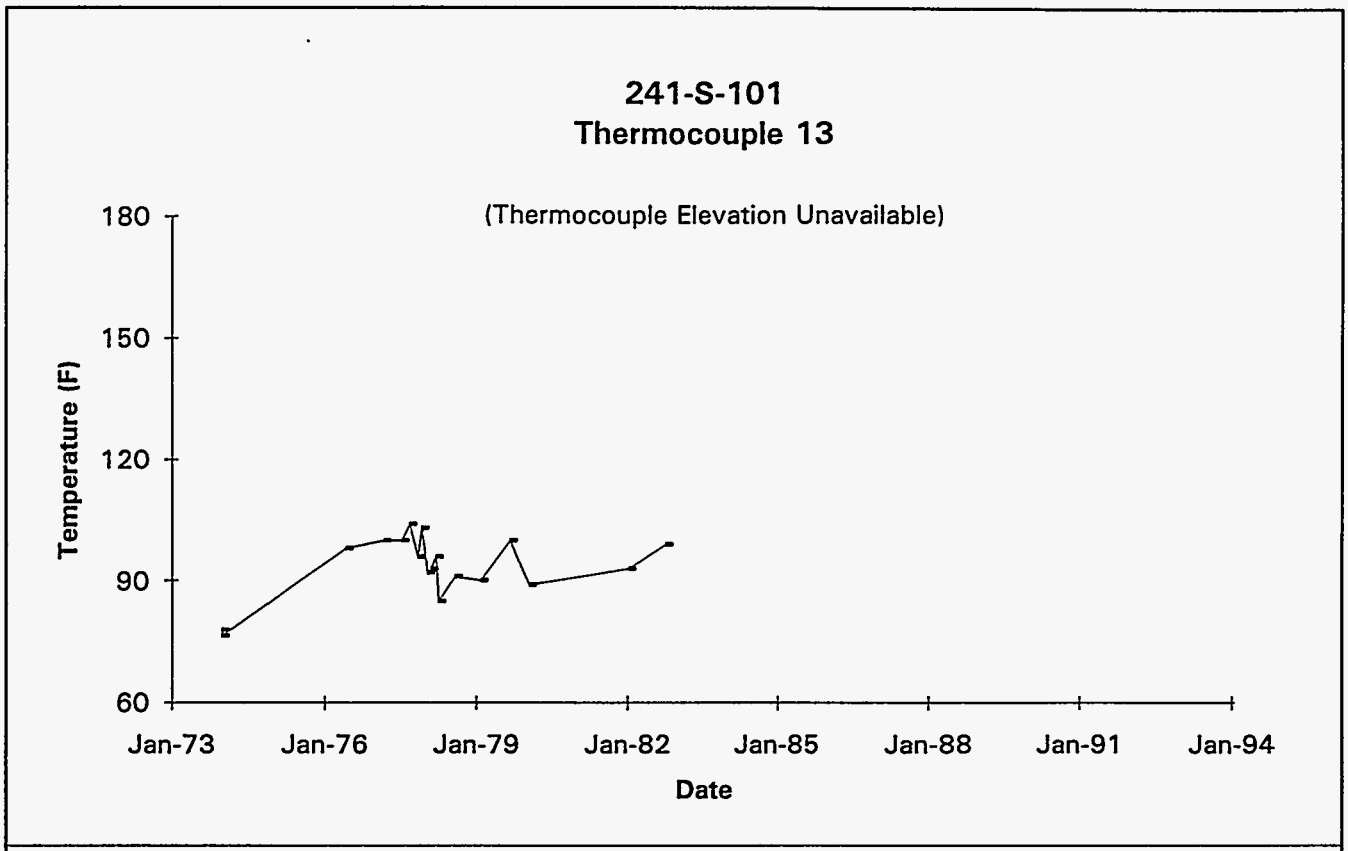

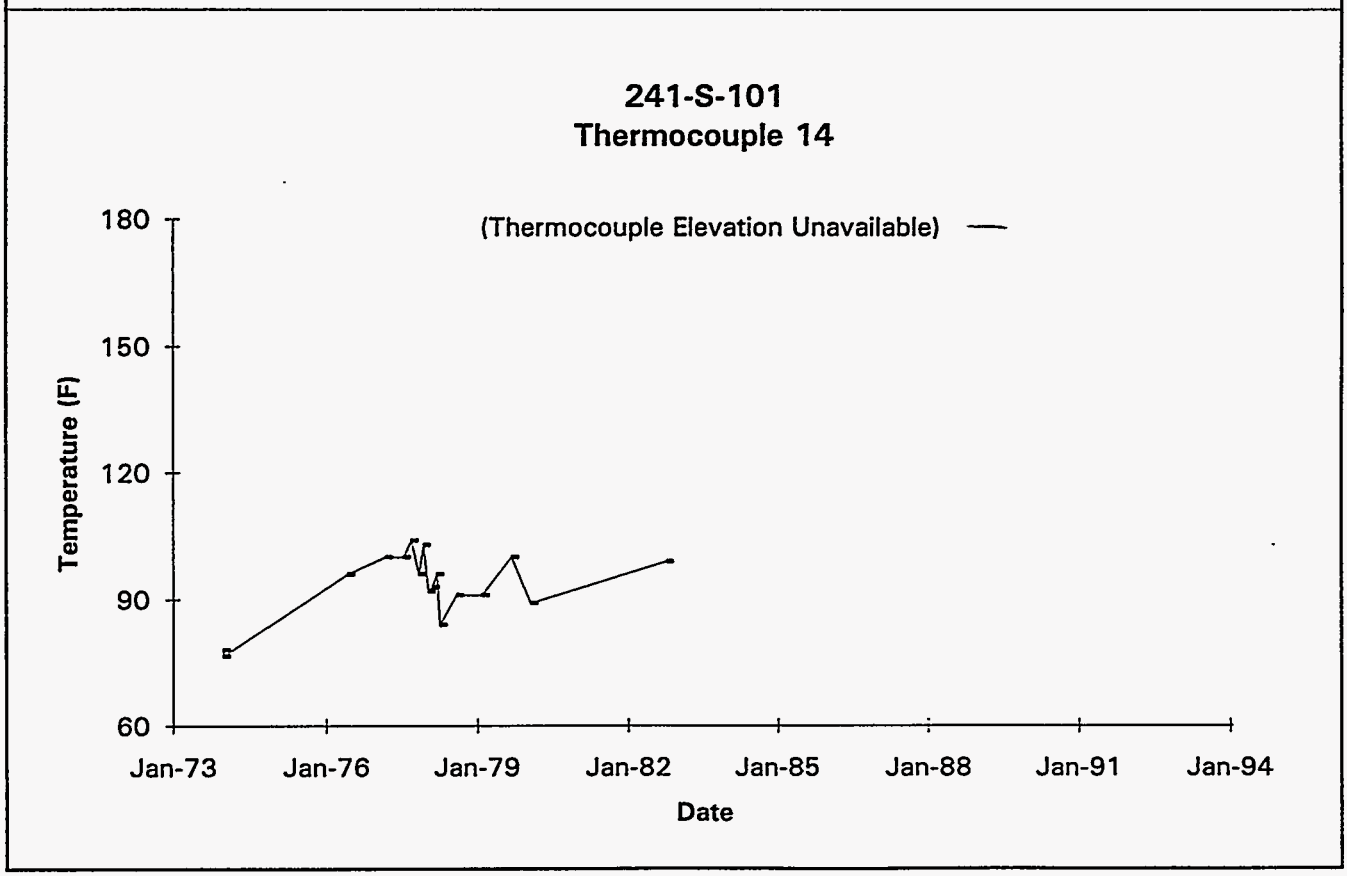

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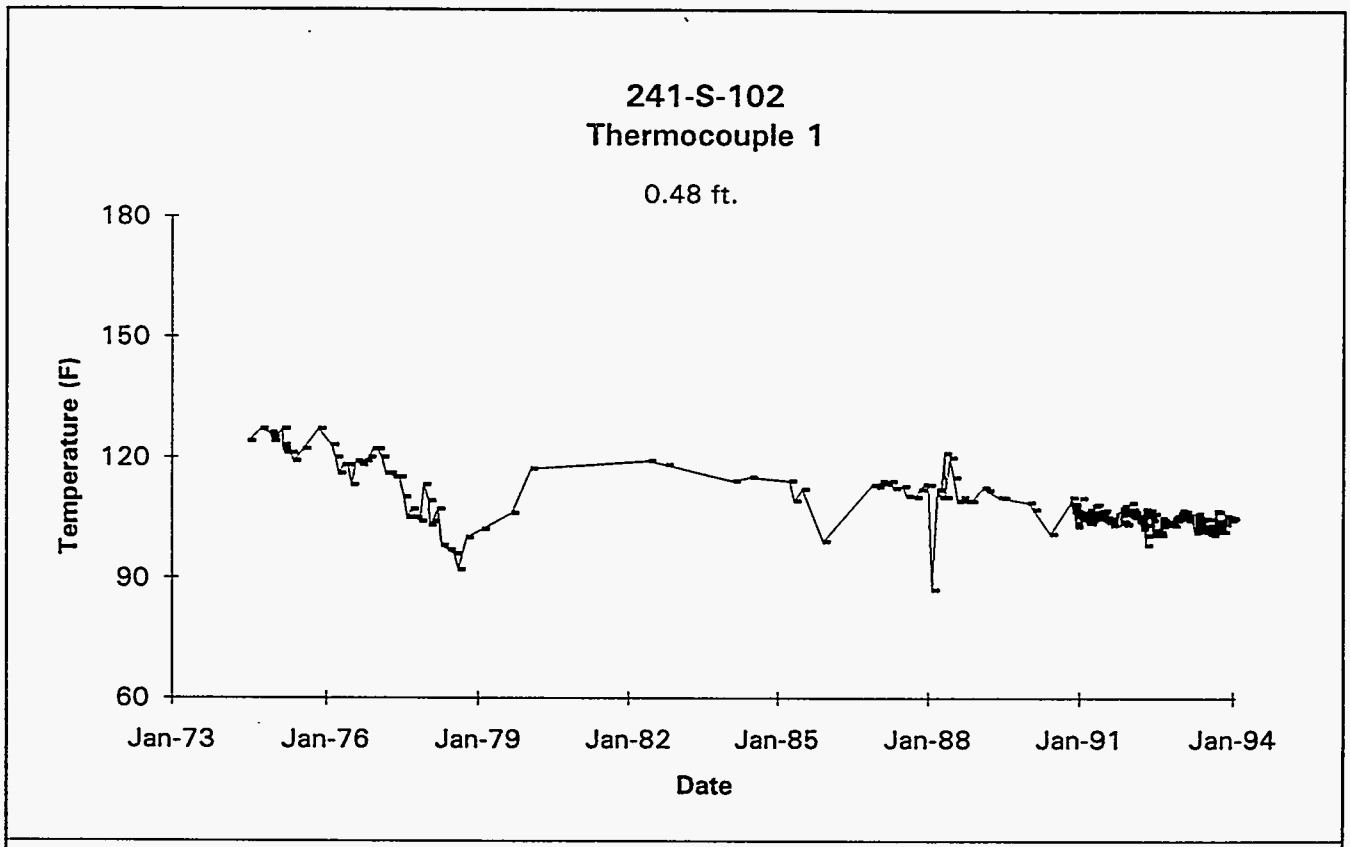
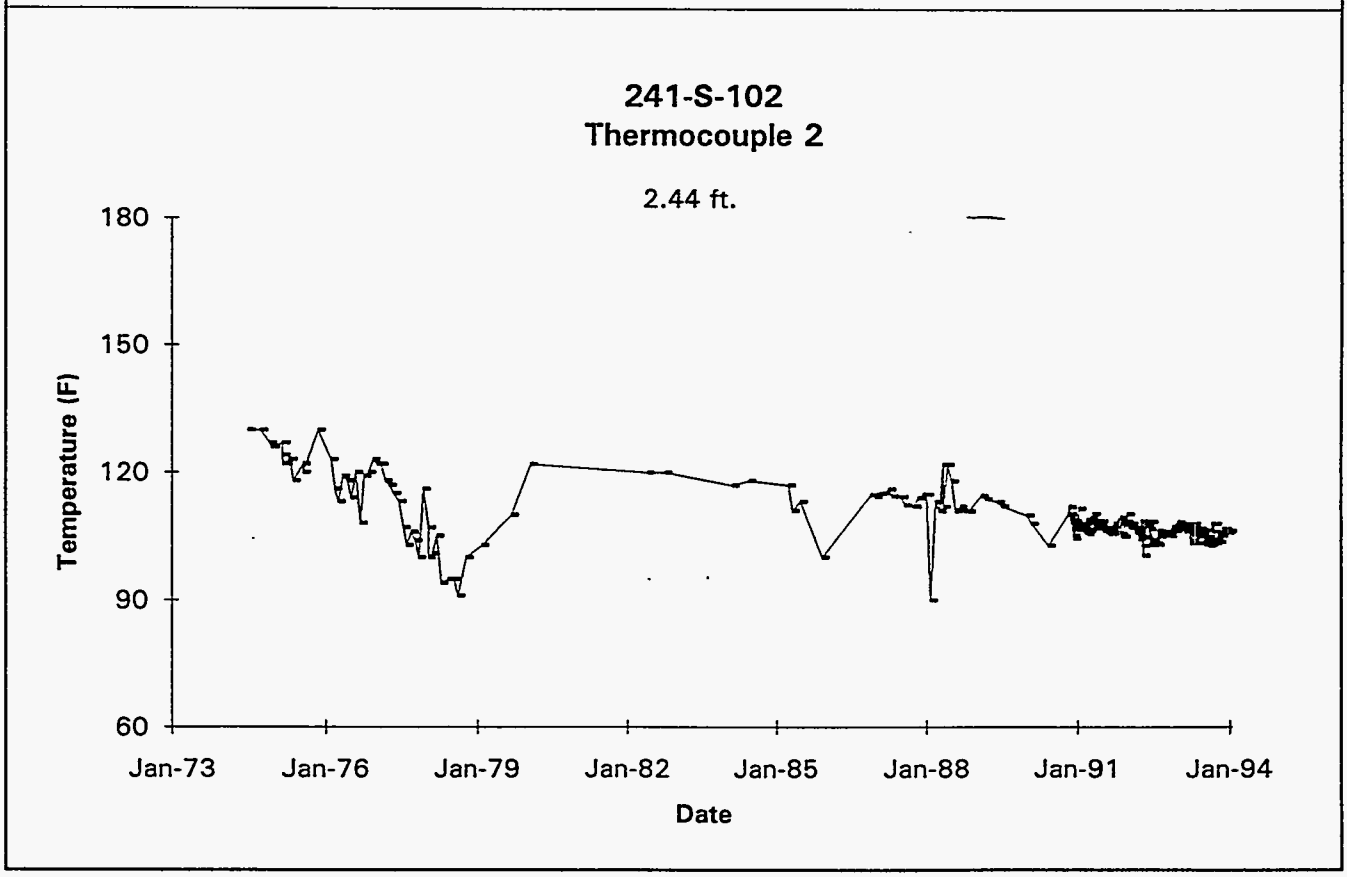
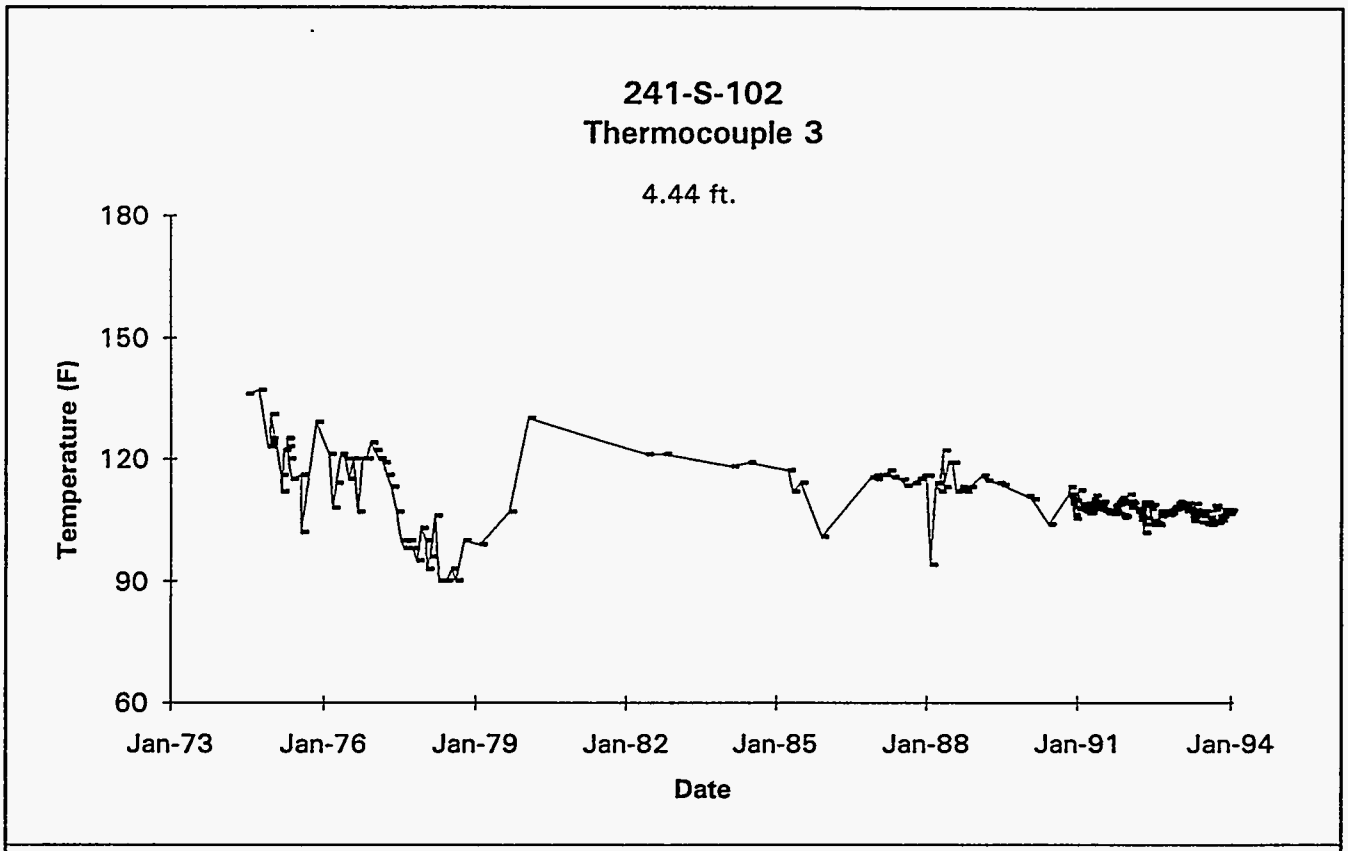
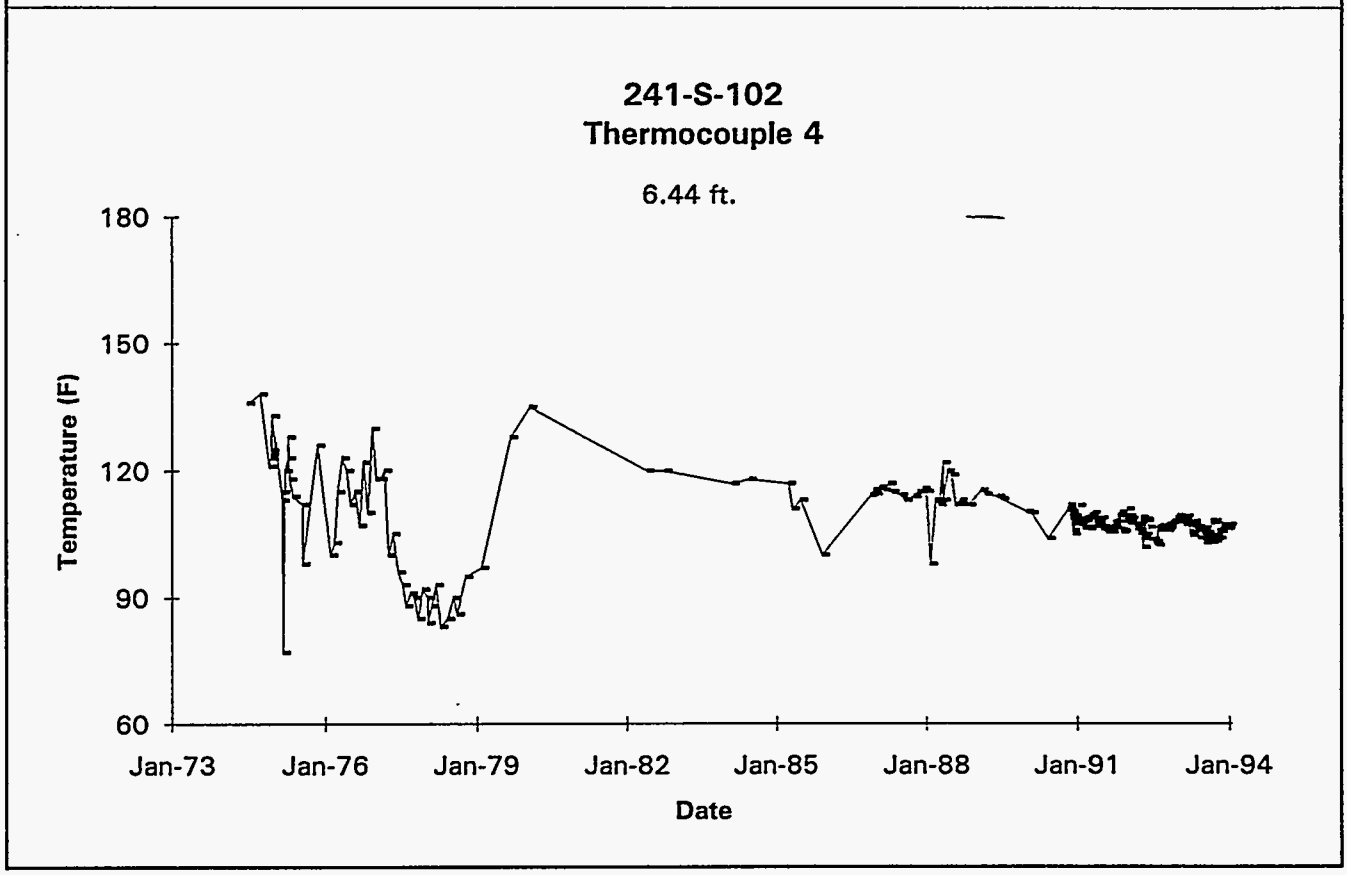


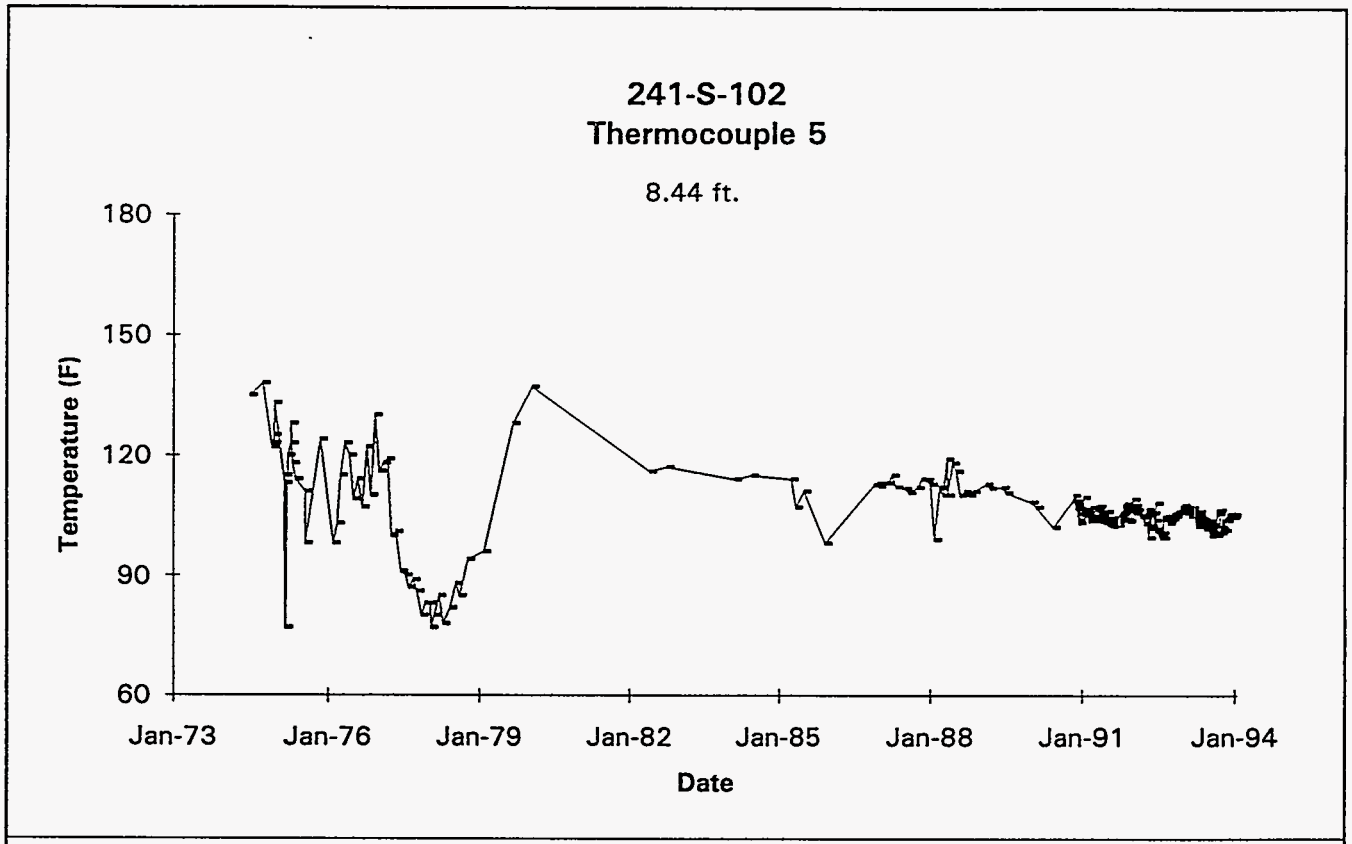


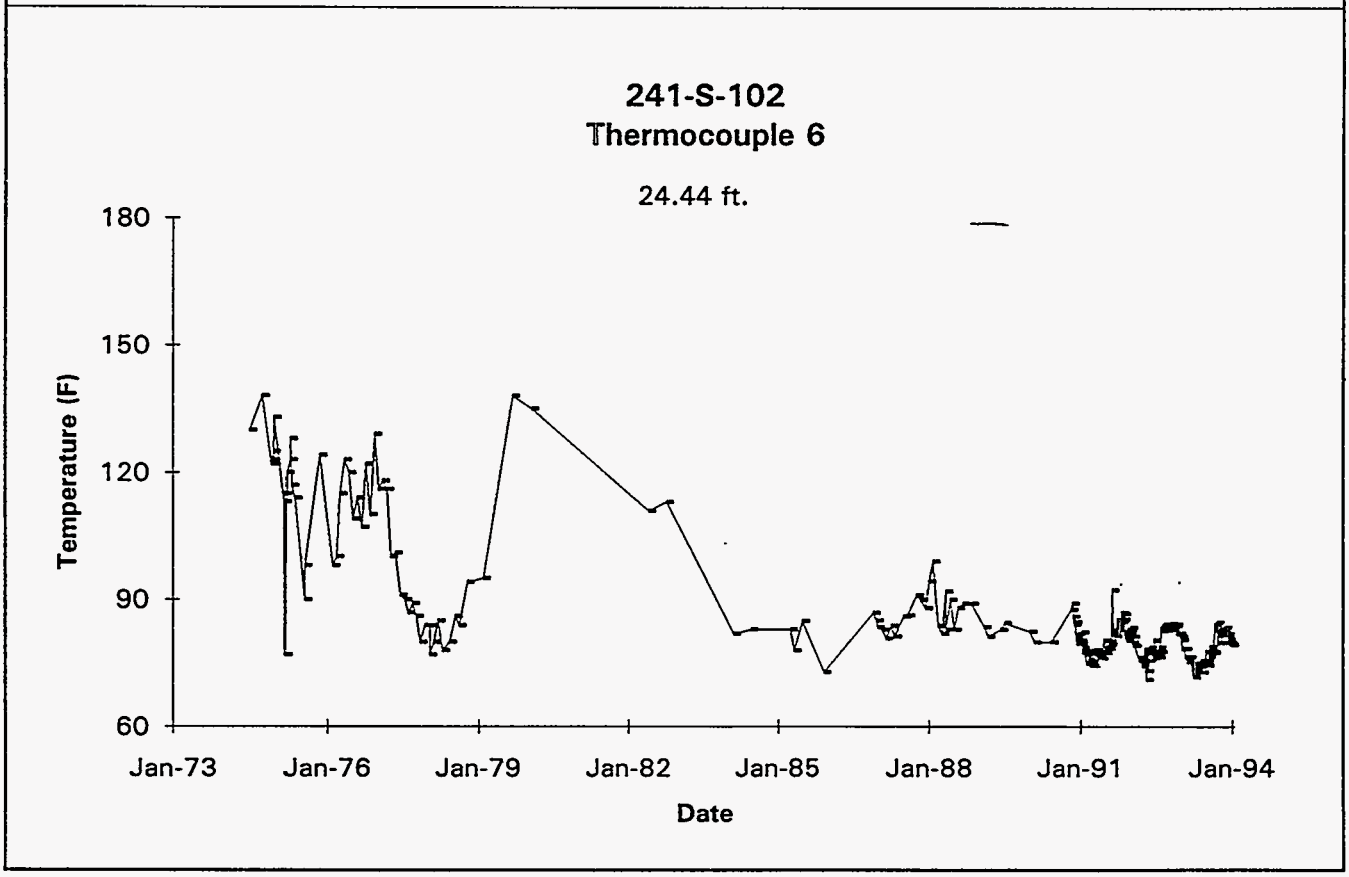
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, 242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.





Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, 242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.





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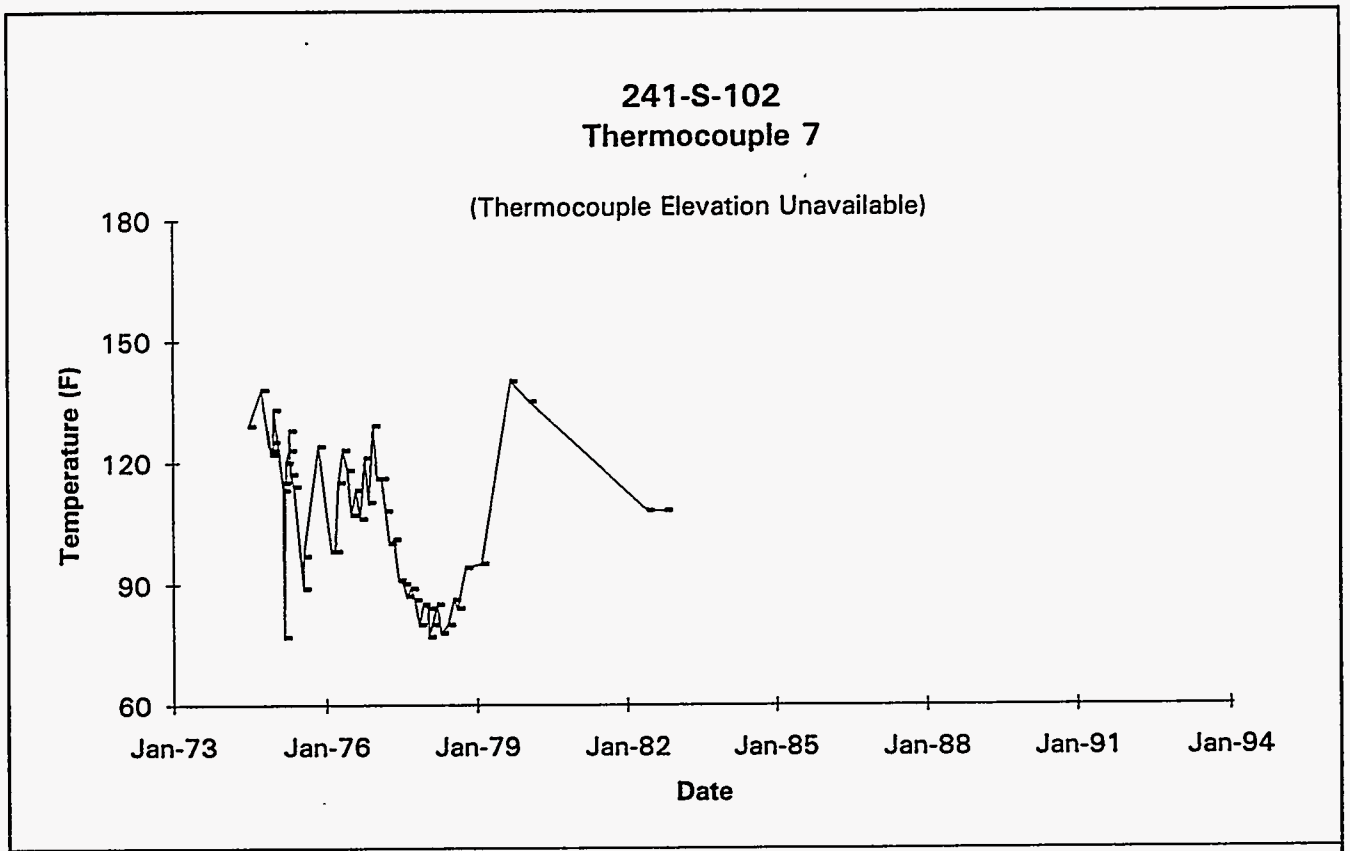

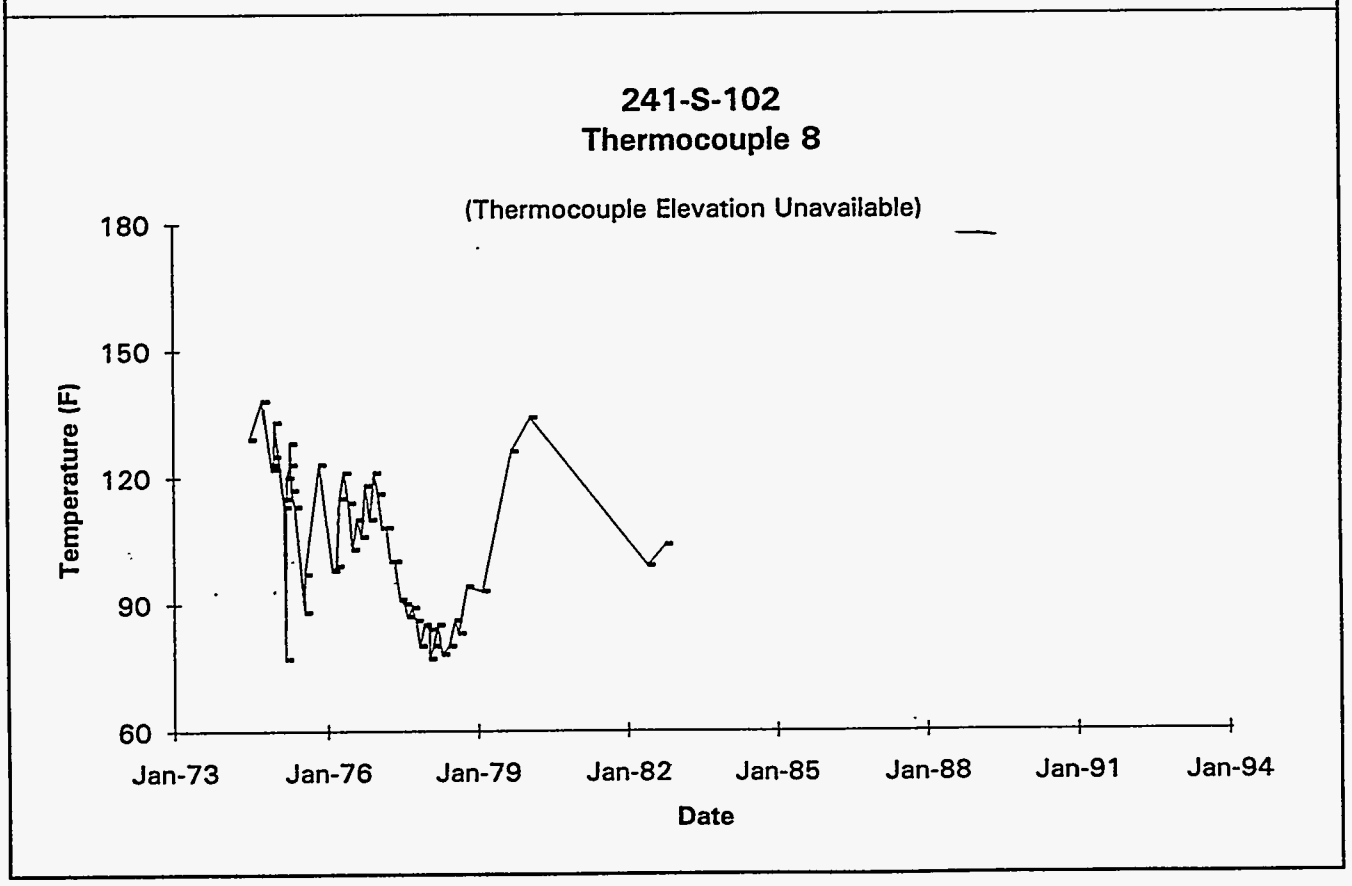

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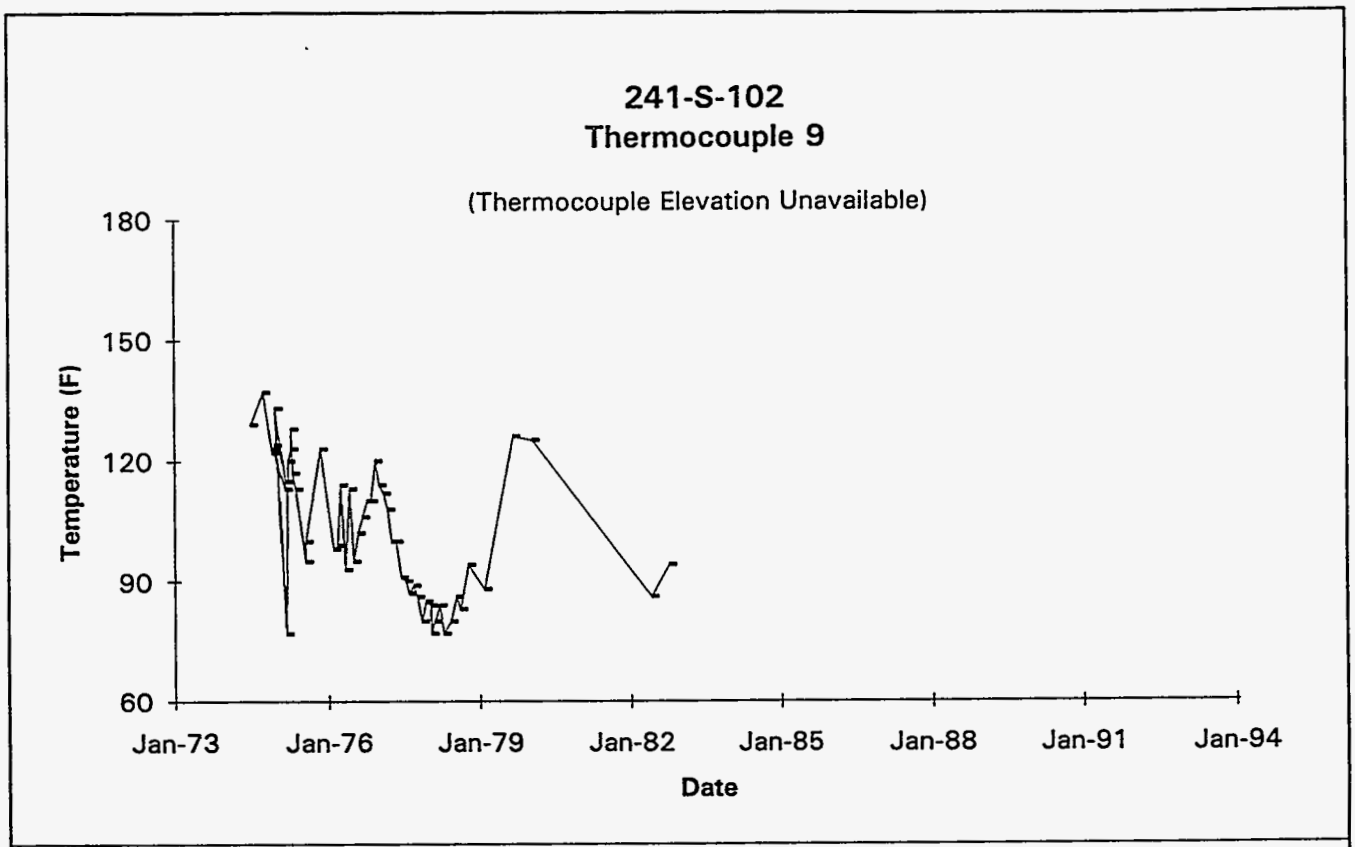
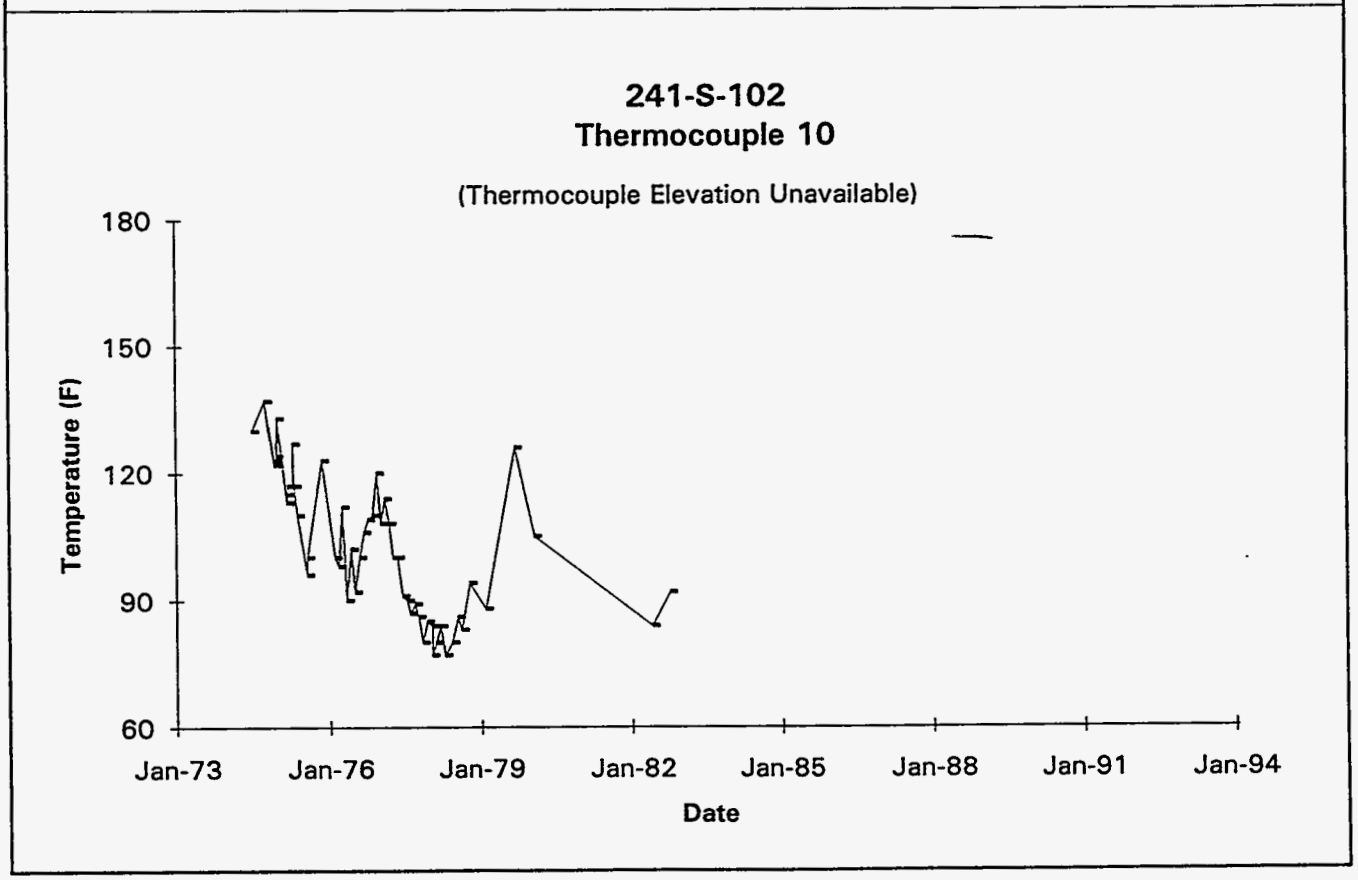
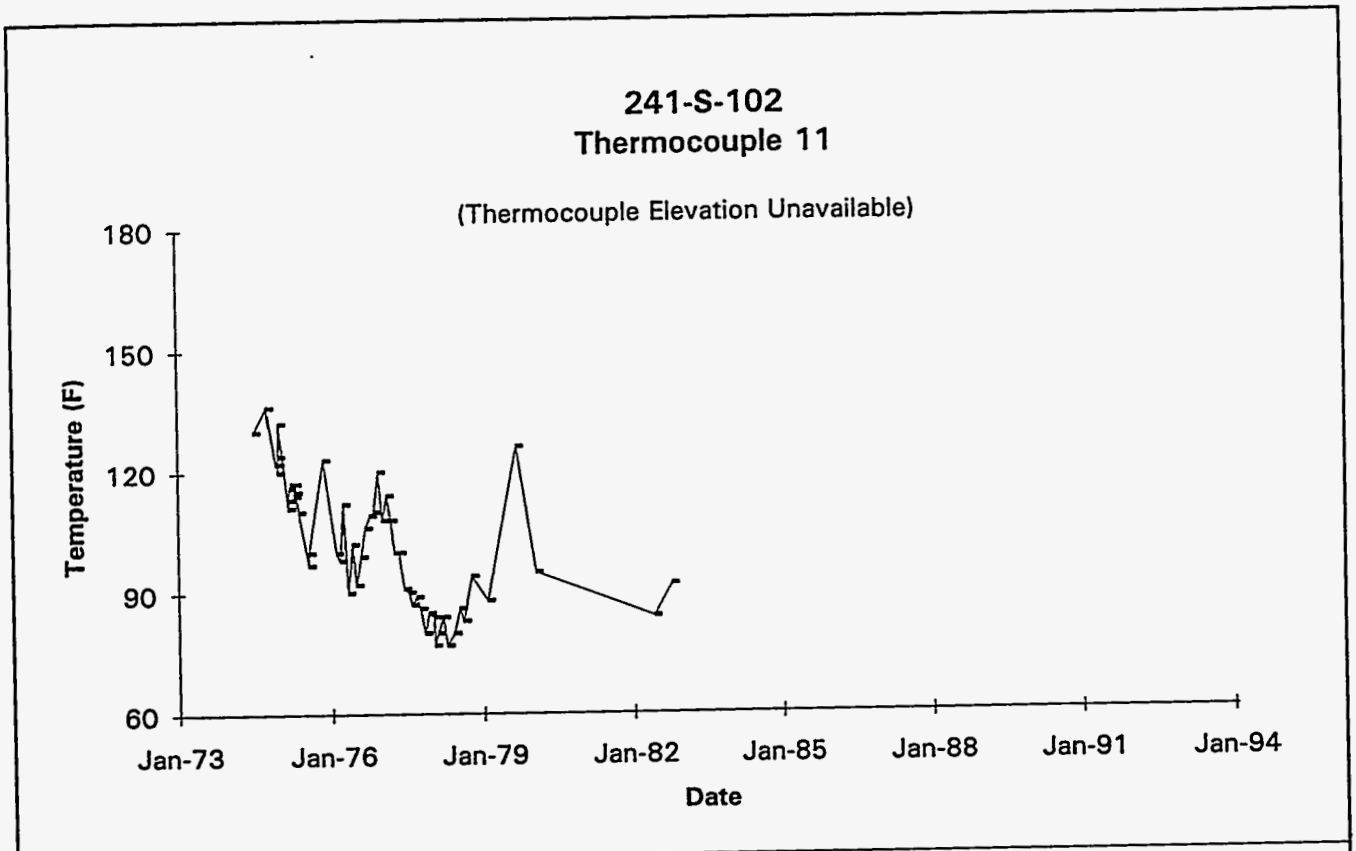
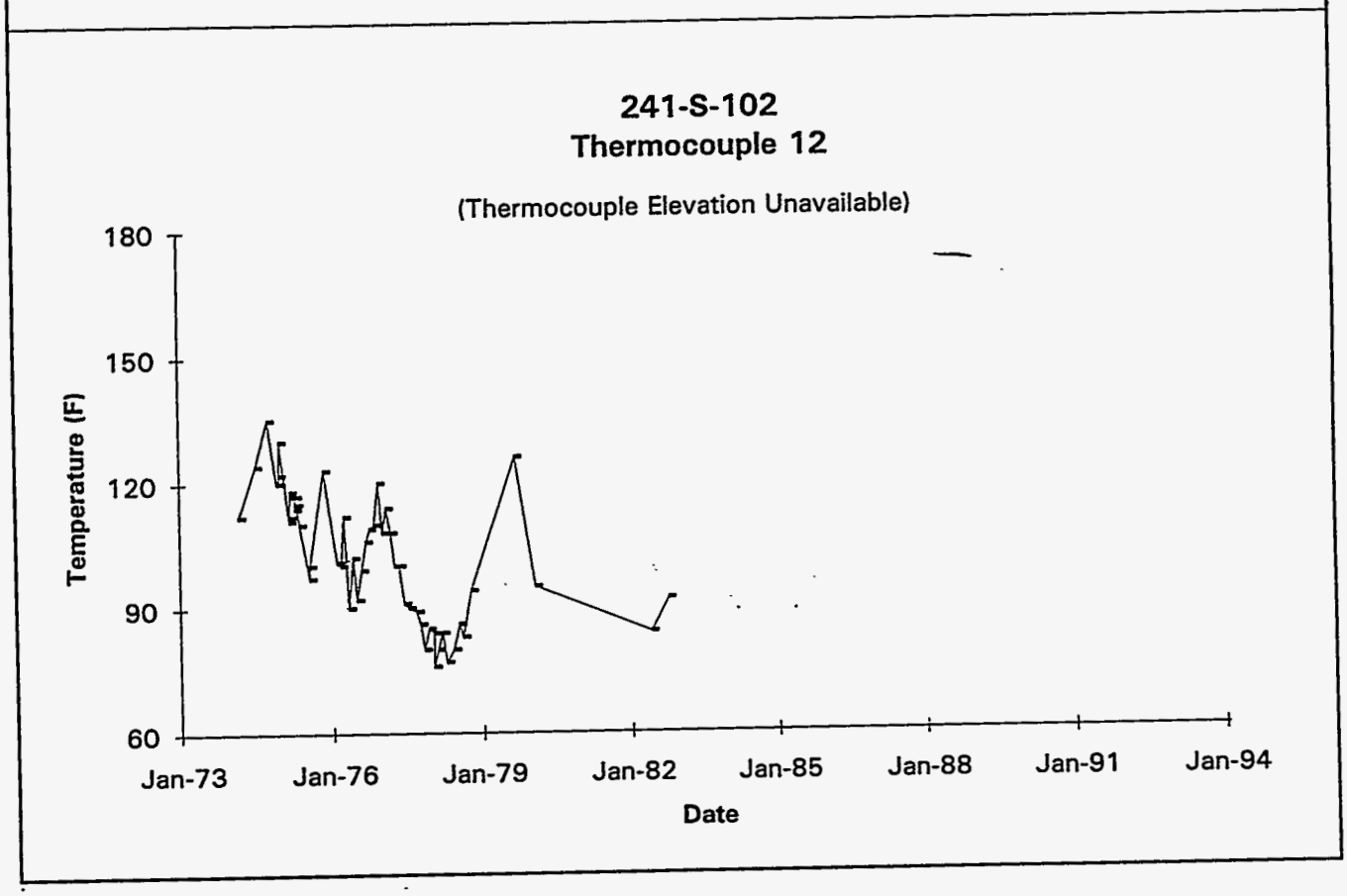




Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, 242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.





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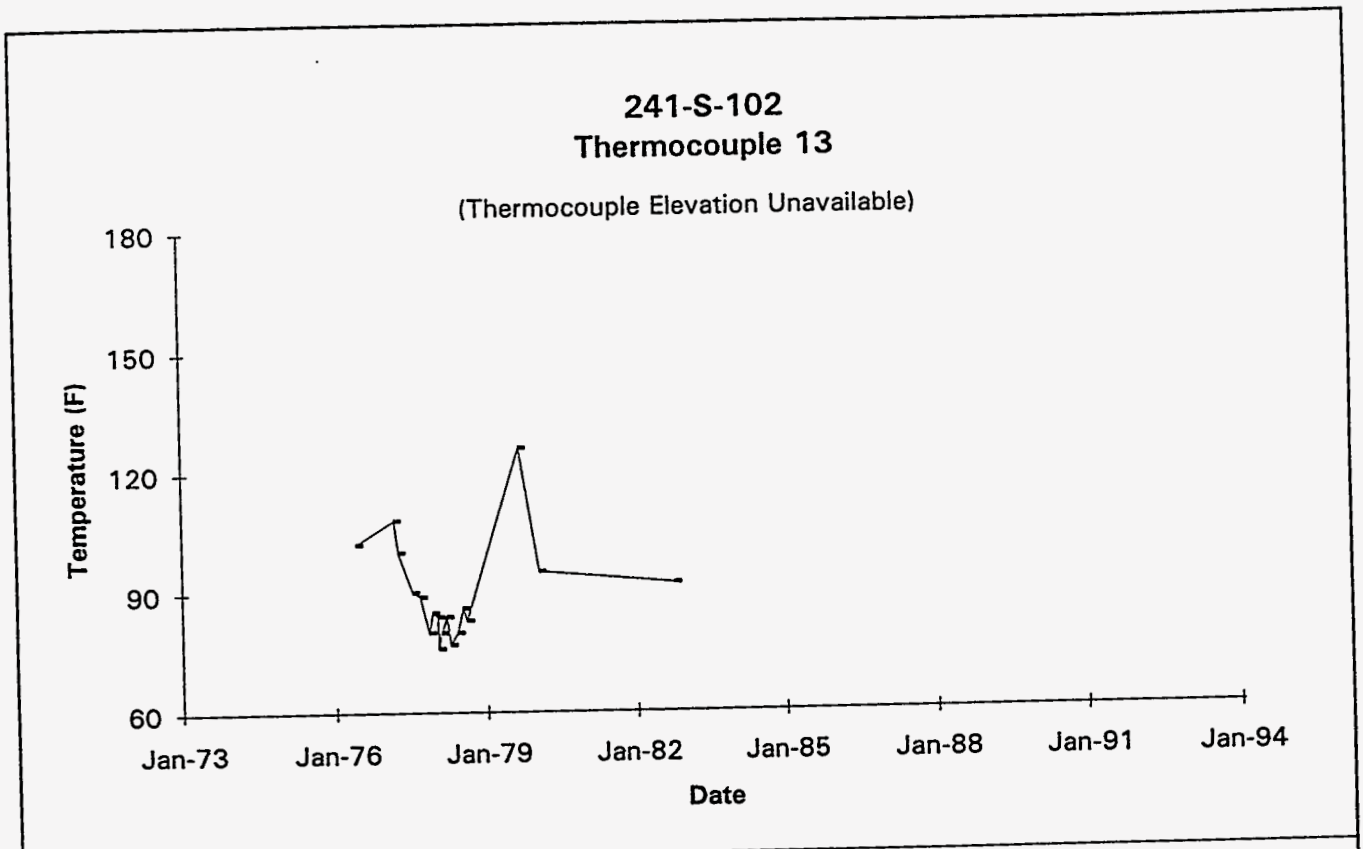
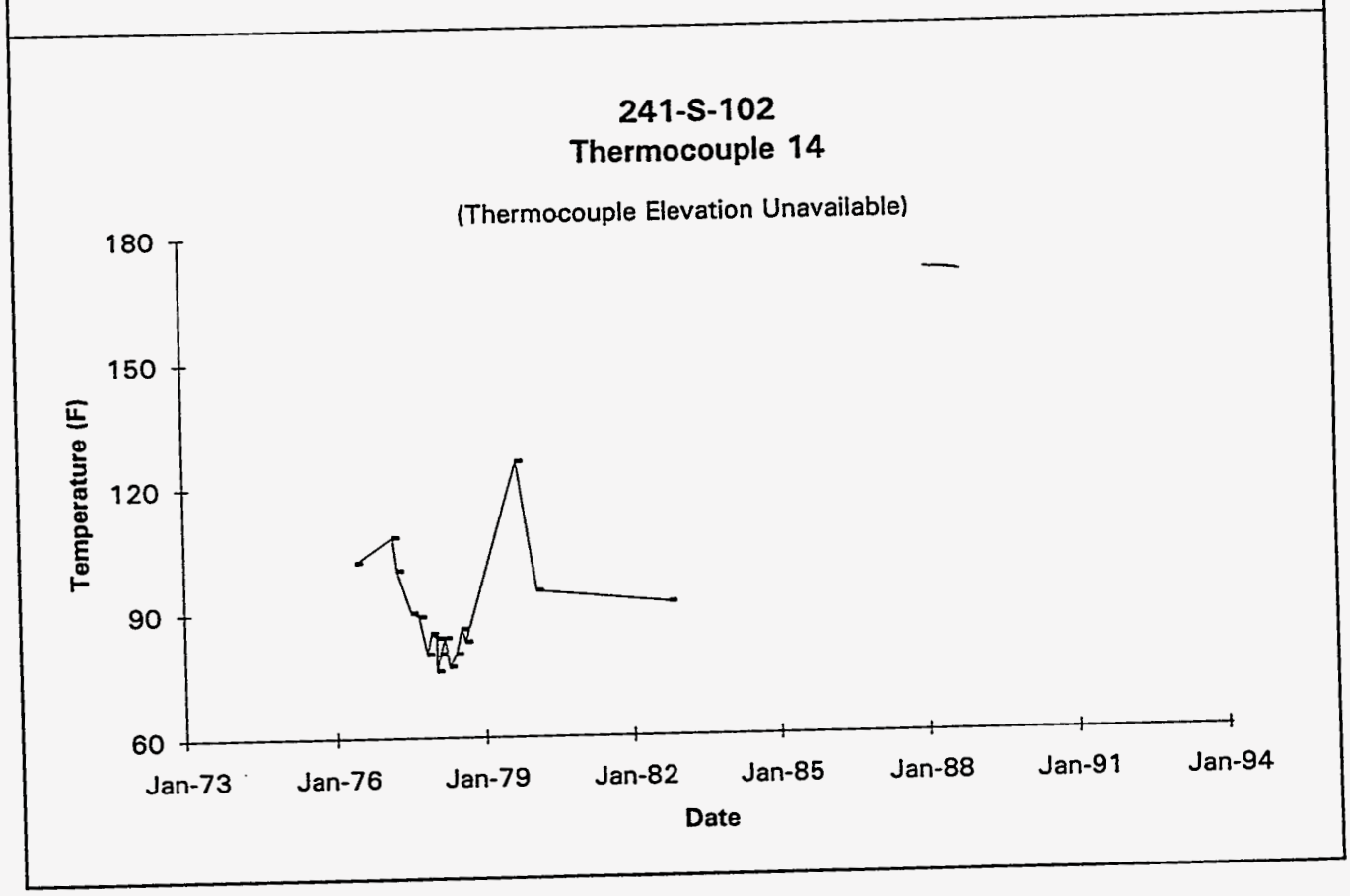
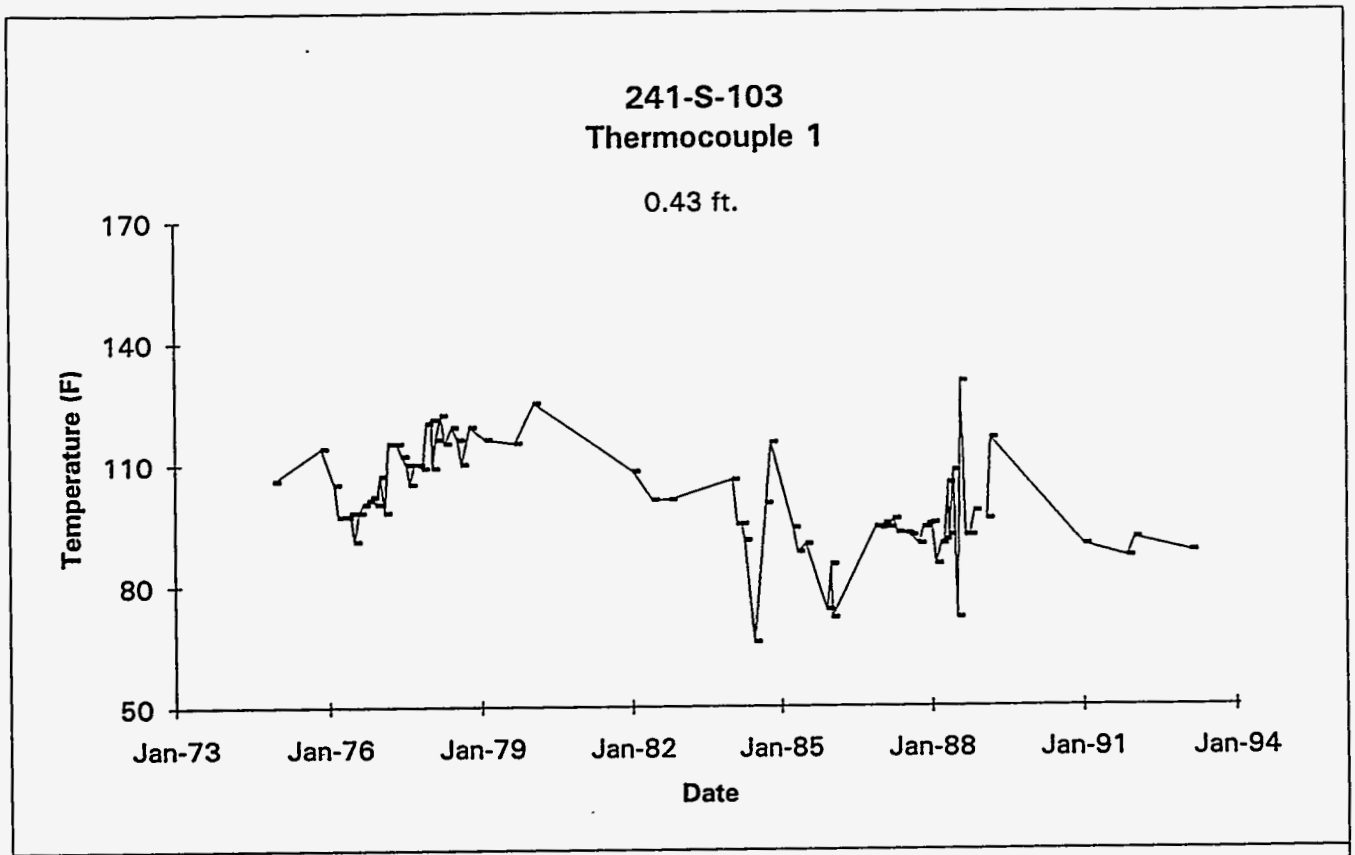
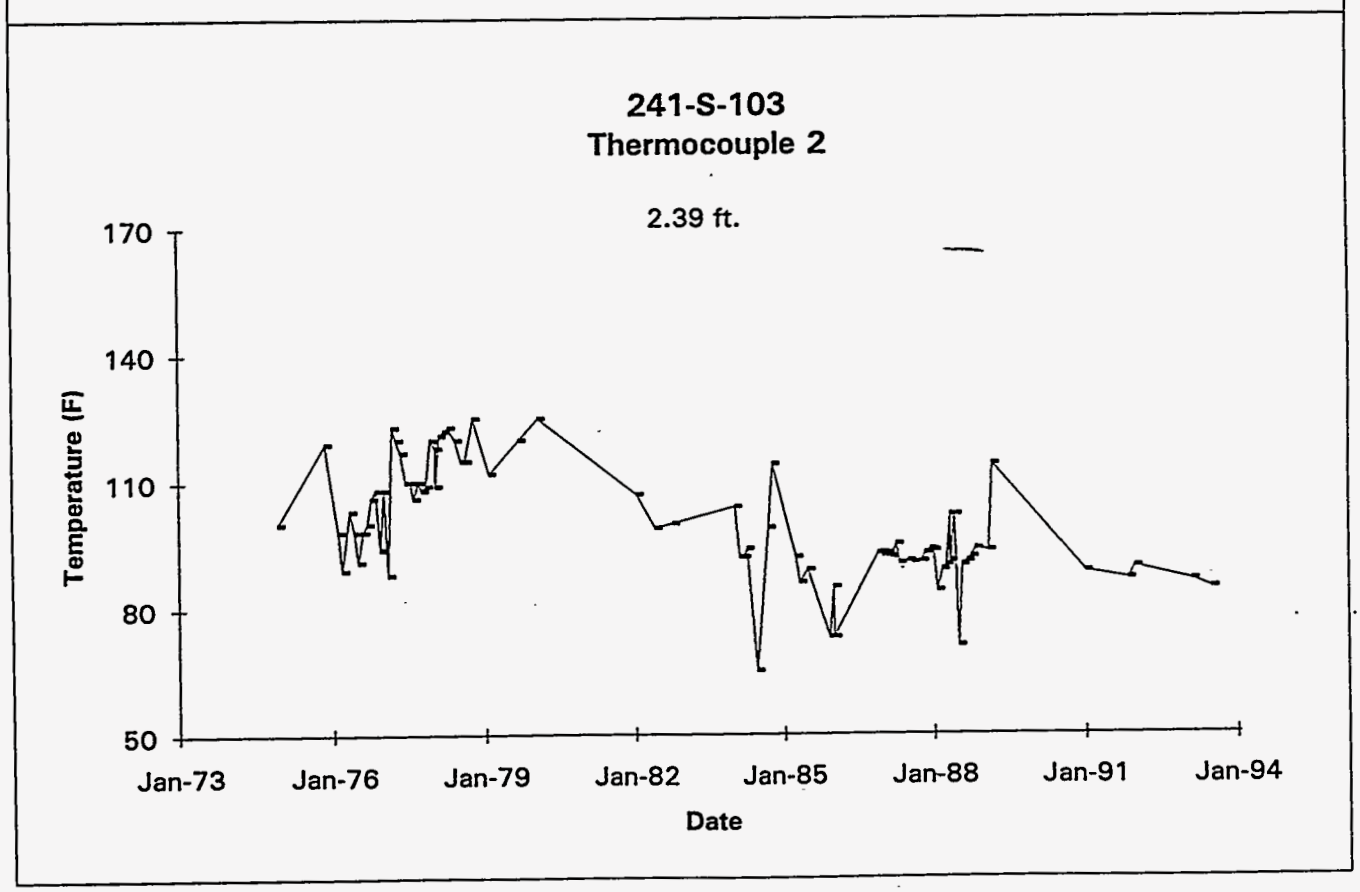




Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, 242-S Bottoms Tanks Transfer Record; Data Sheet TK-105-S to TK-101-S, and Archive box #121869.





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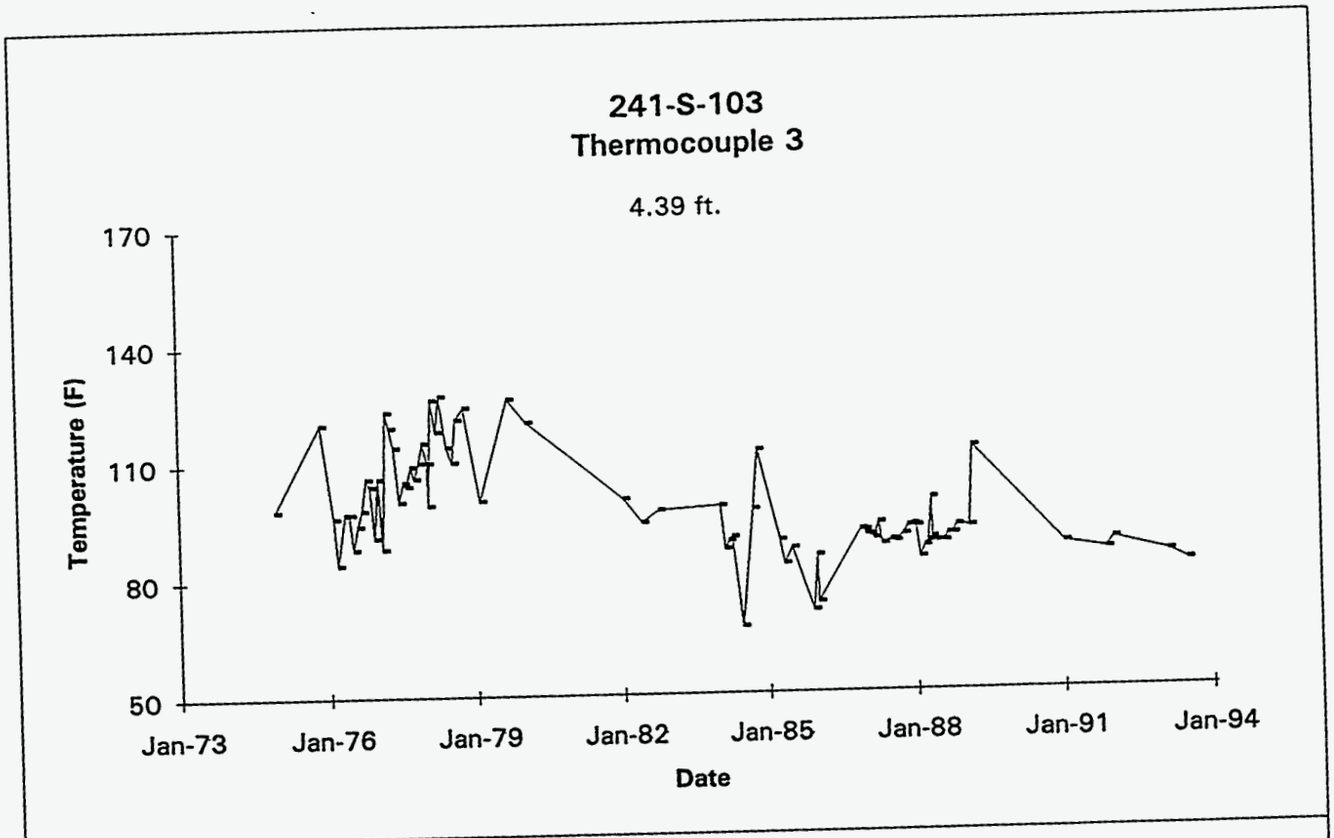

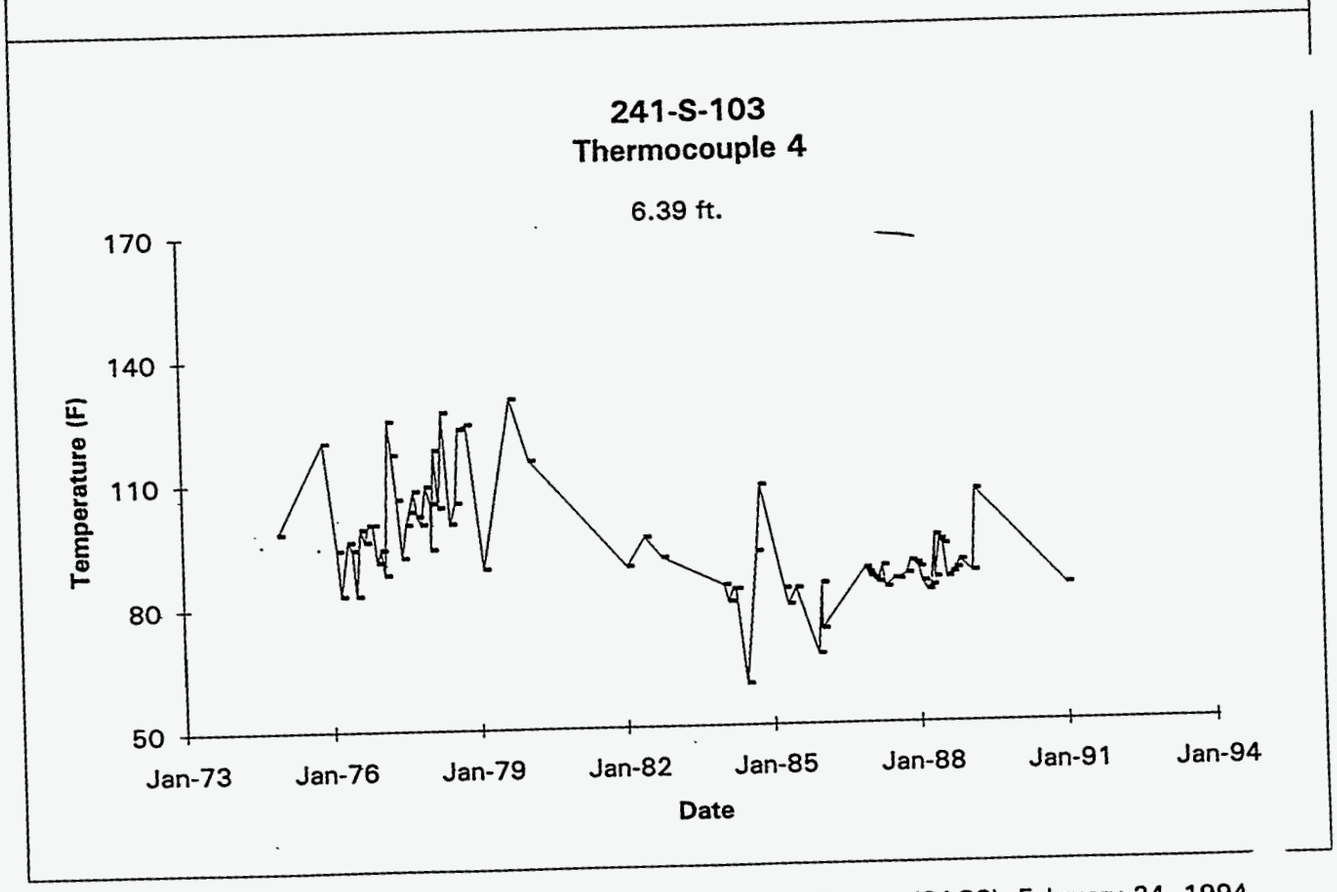

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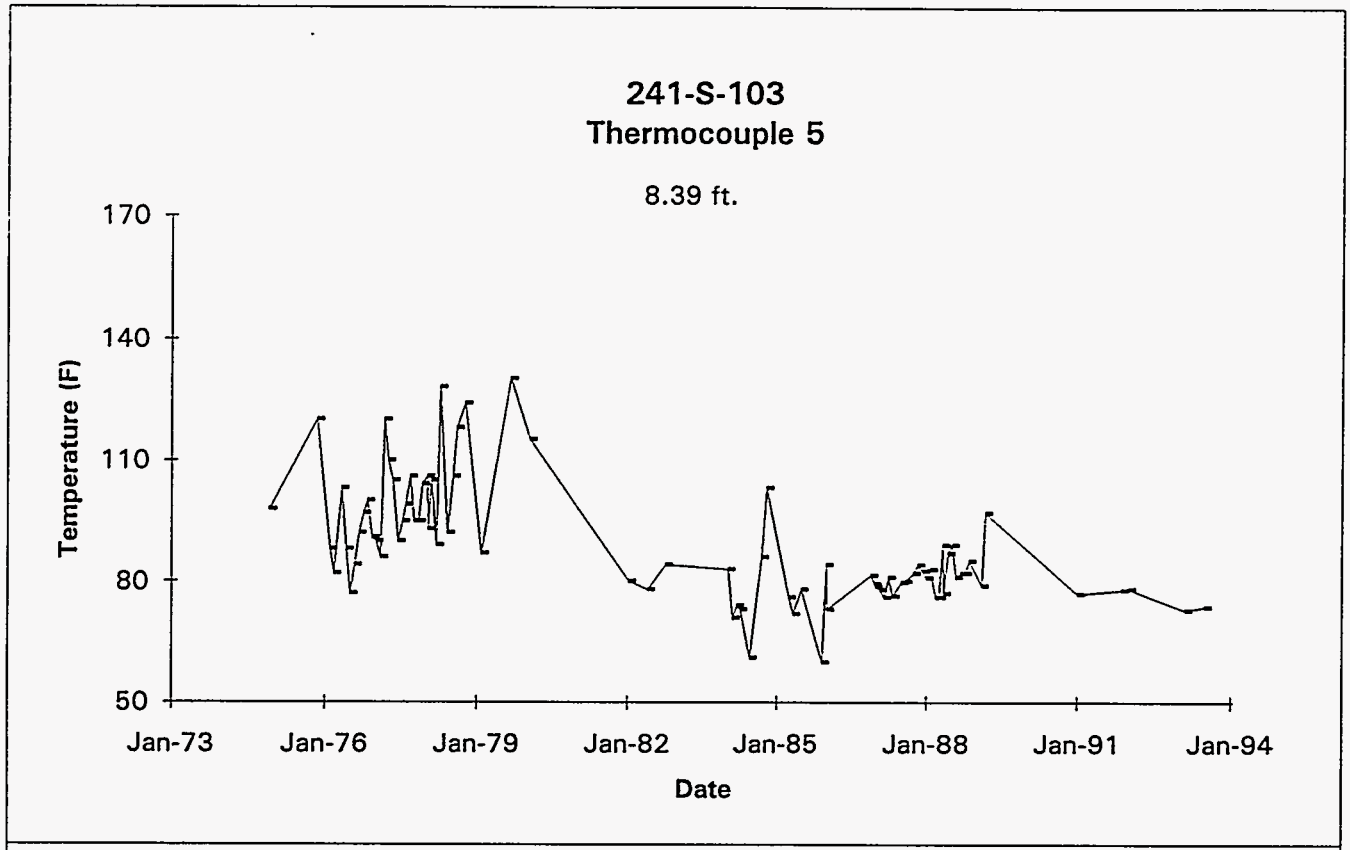

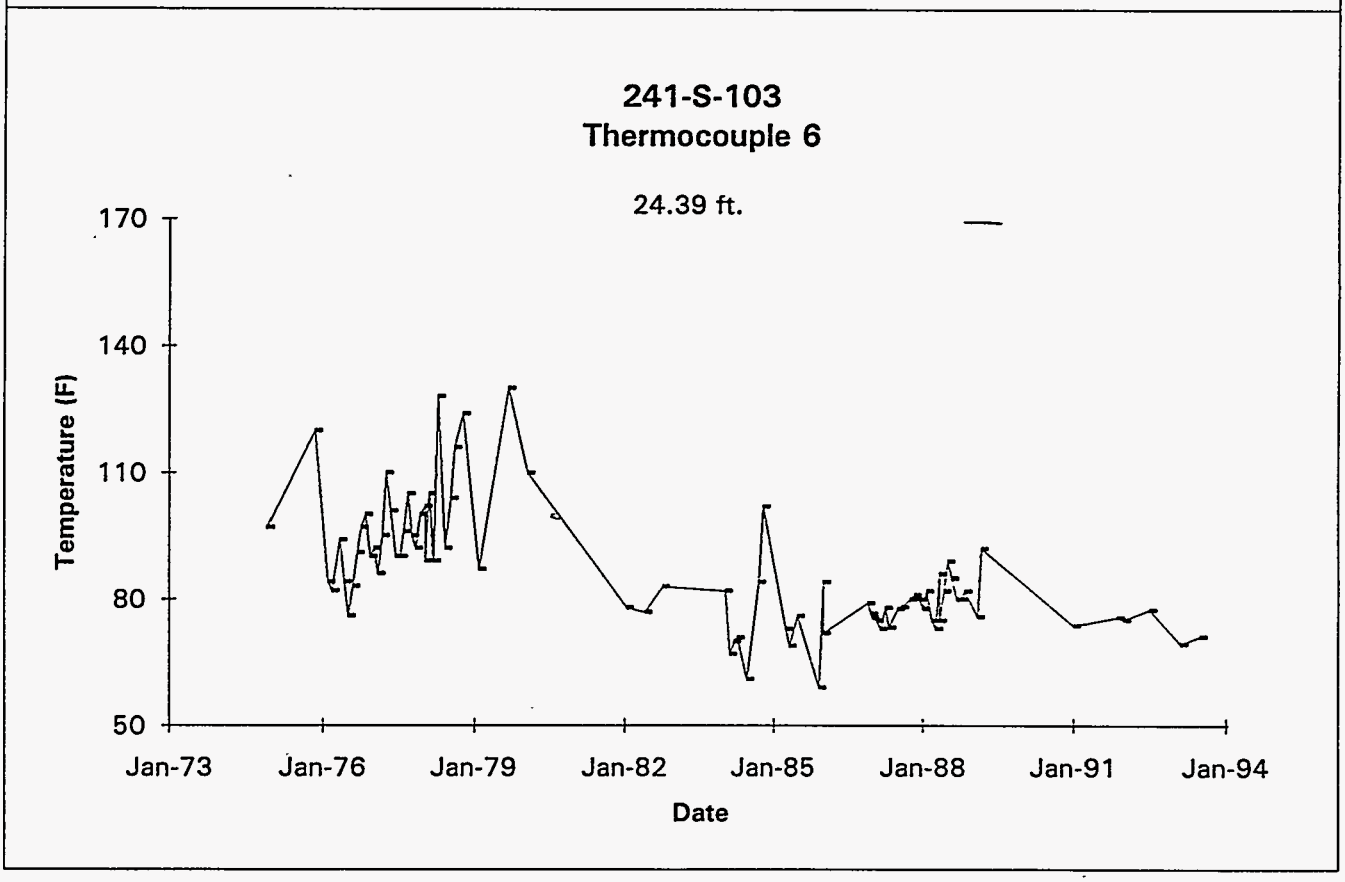

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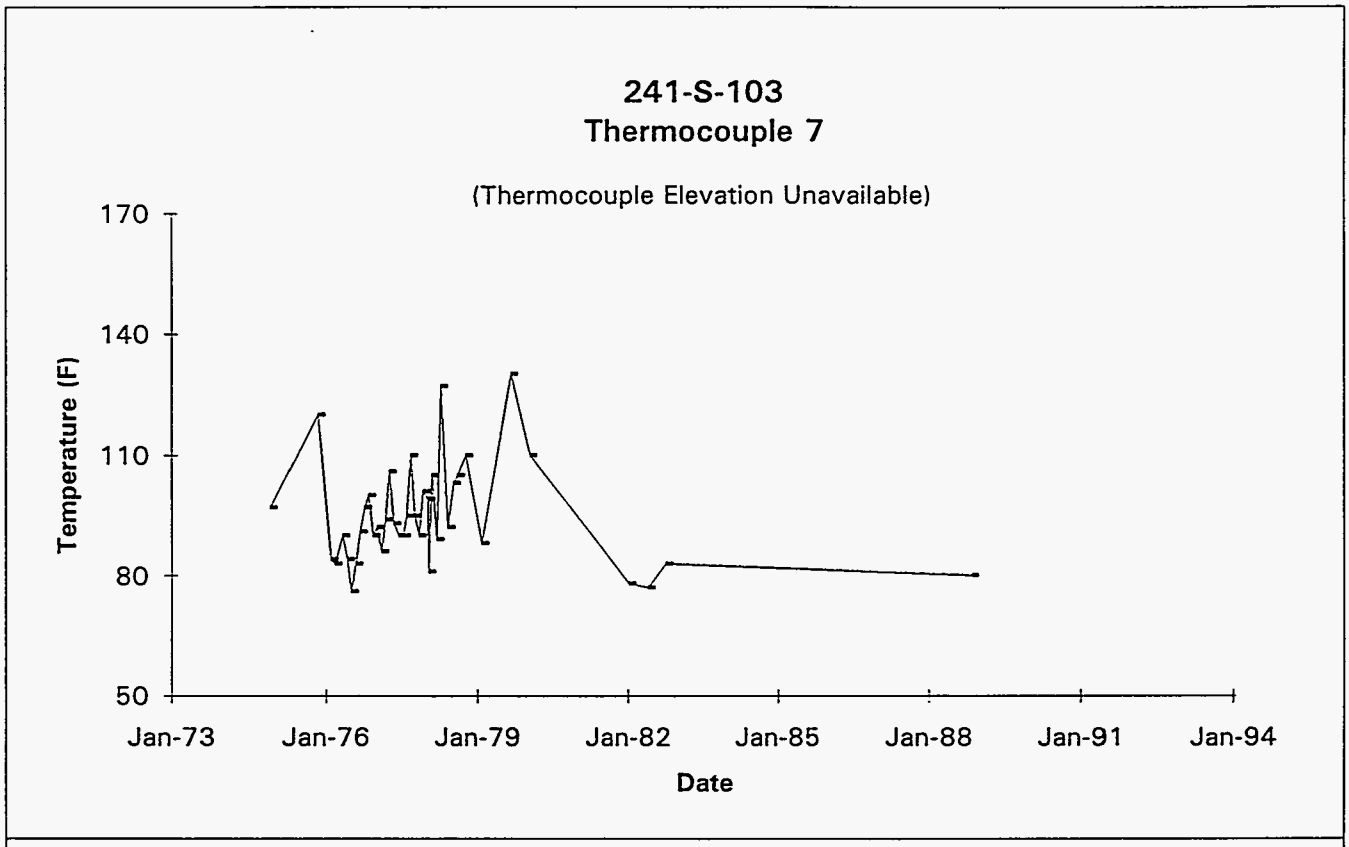

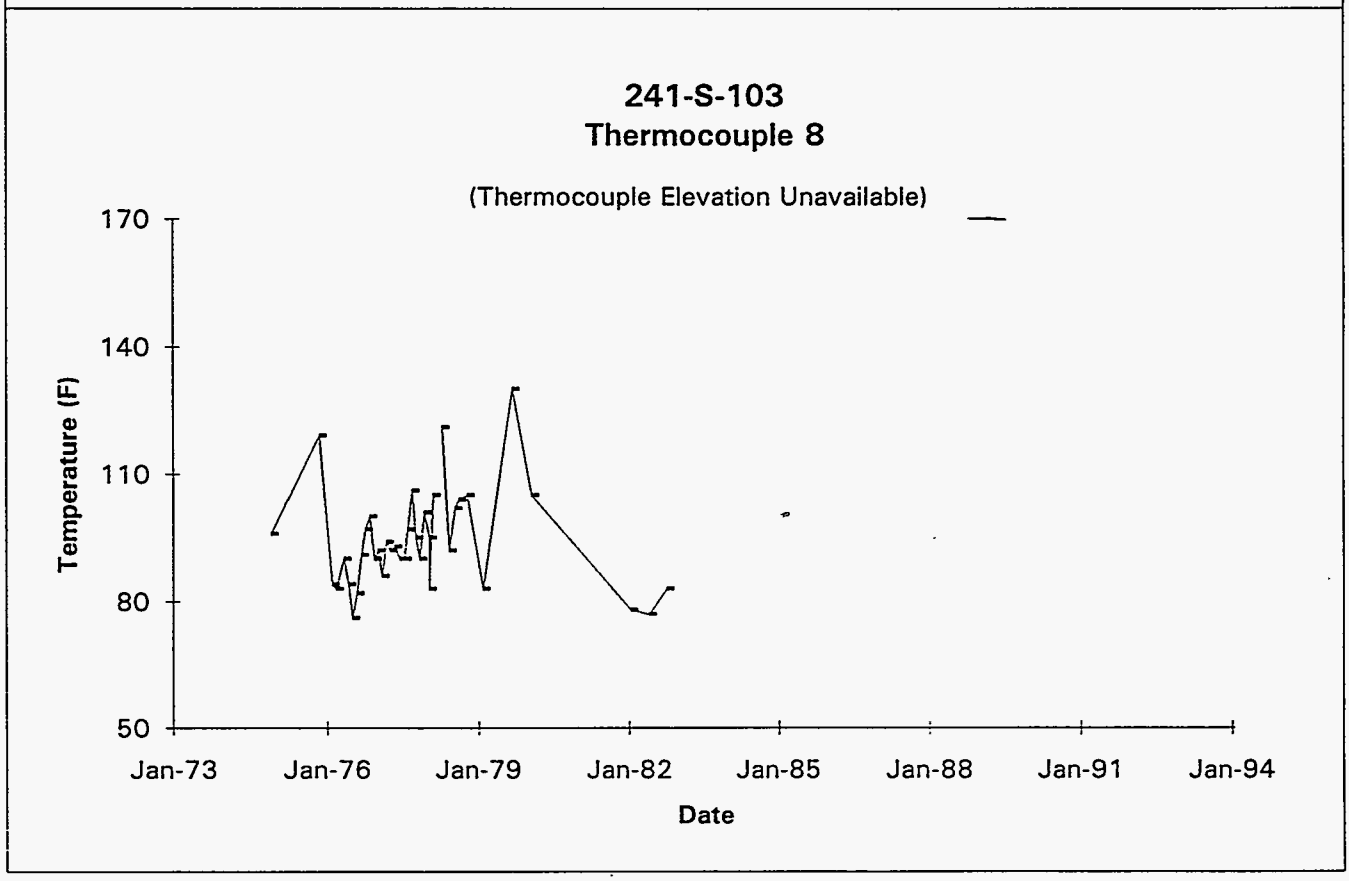

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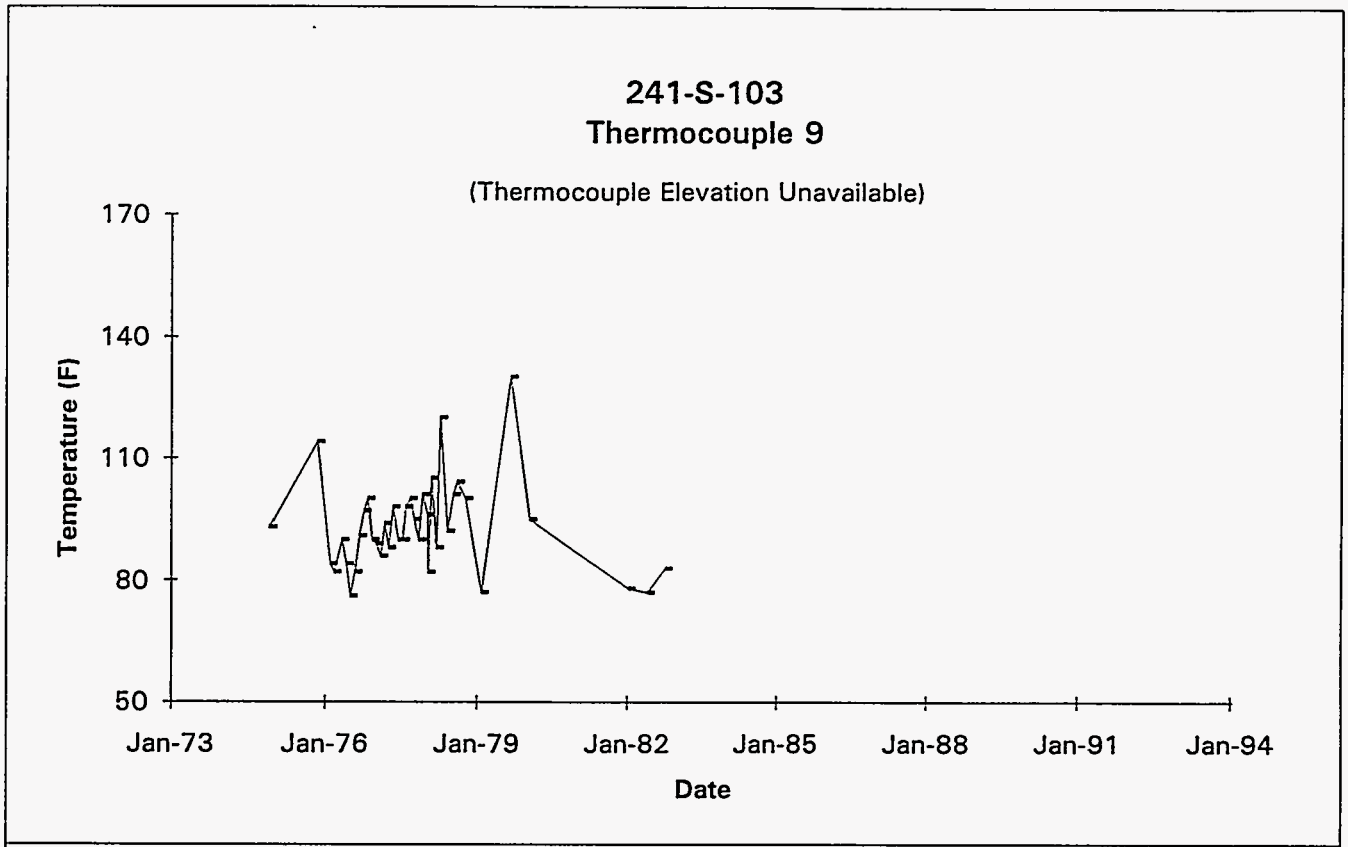

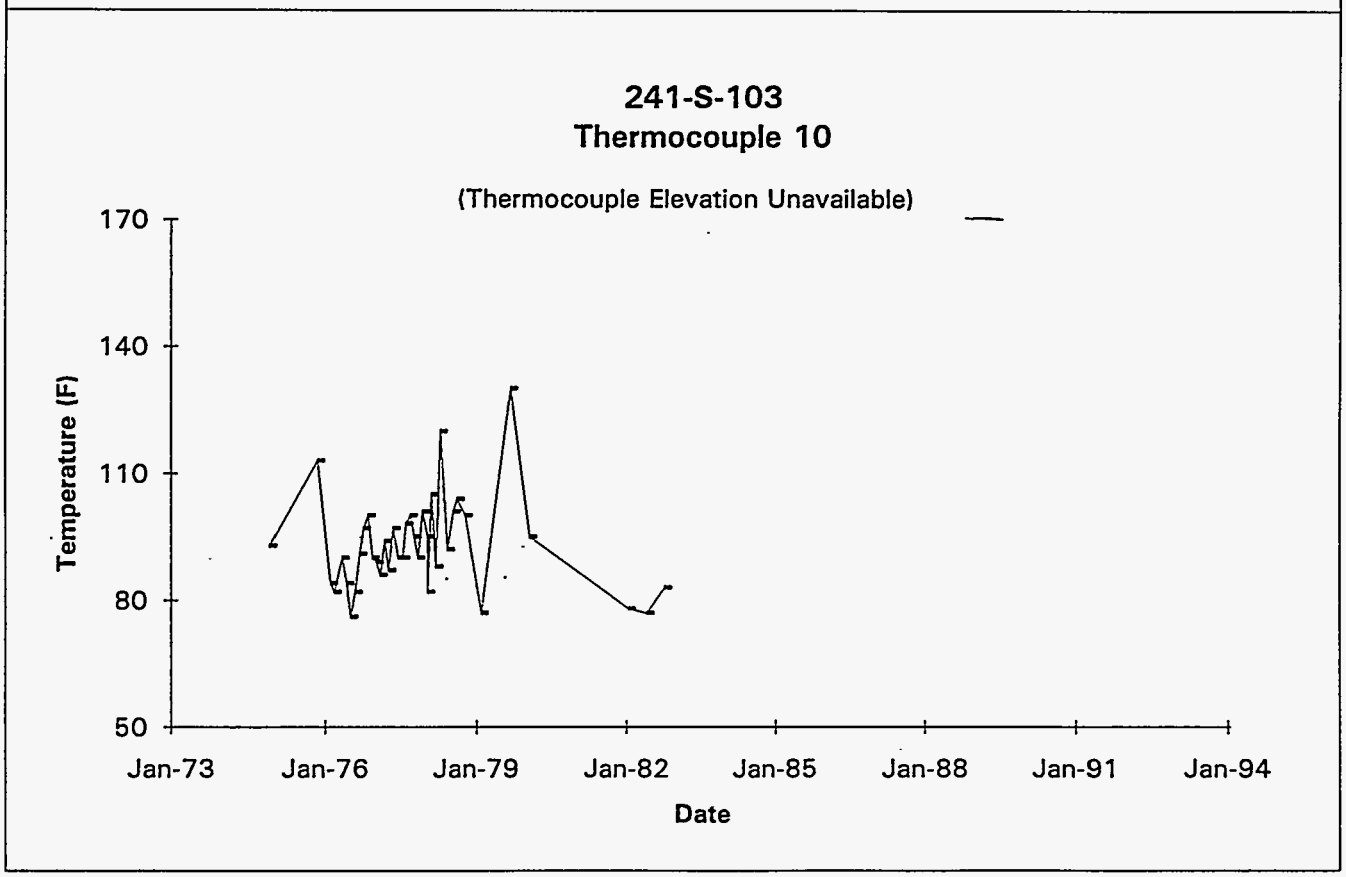

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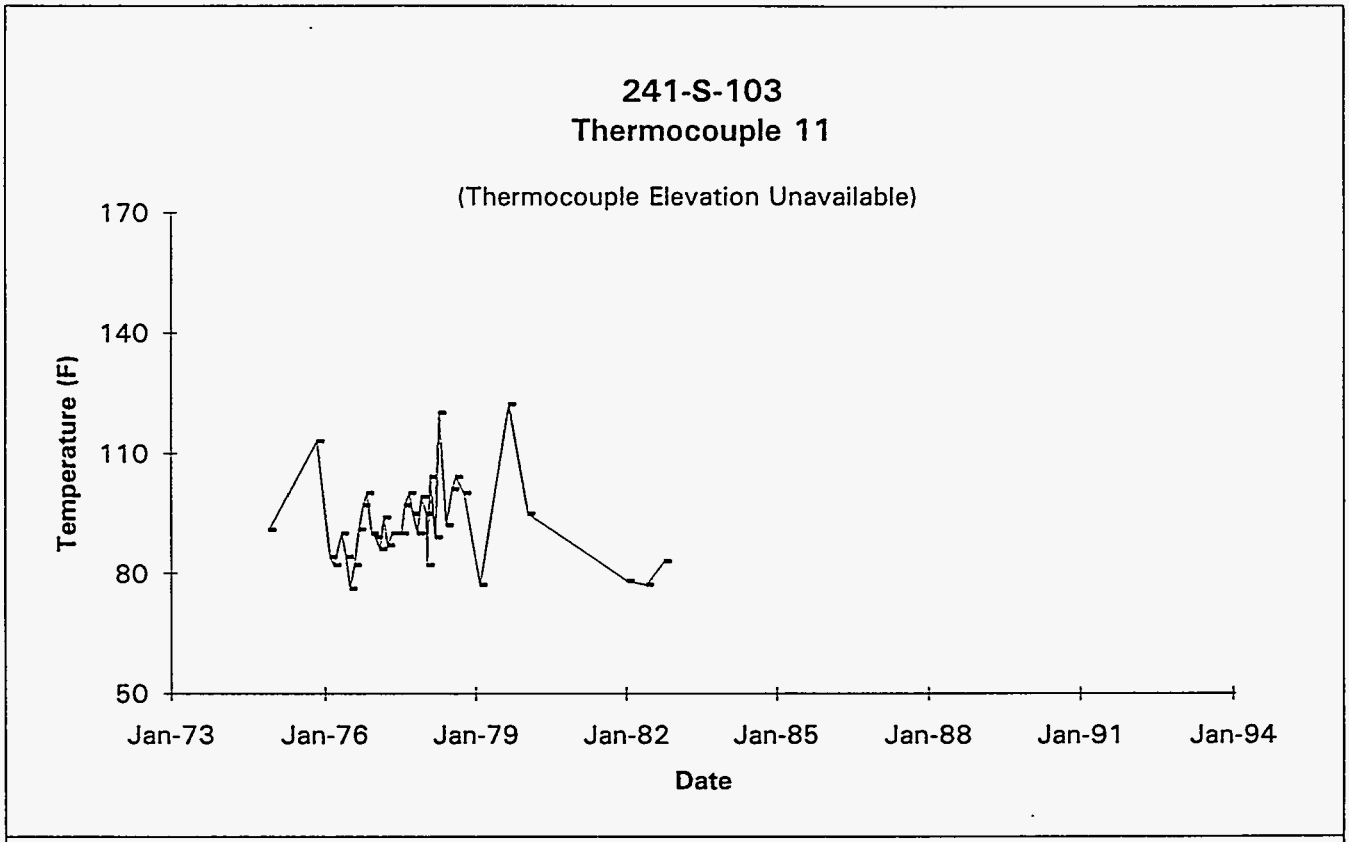

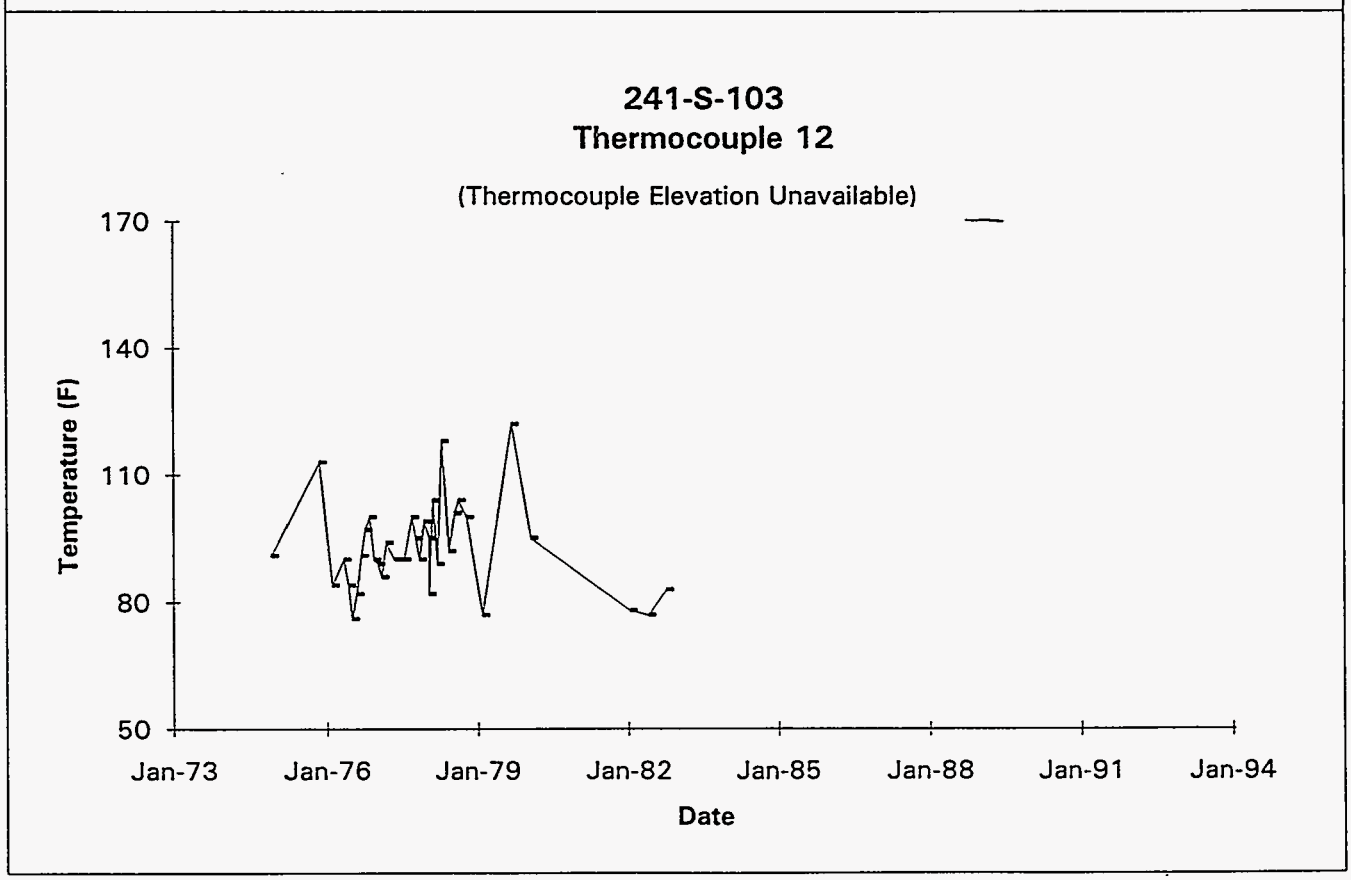

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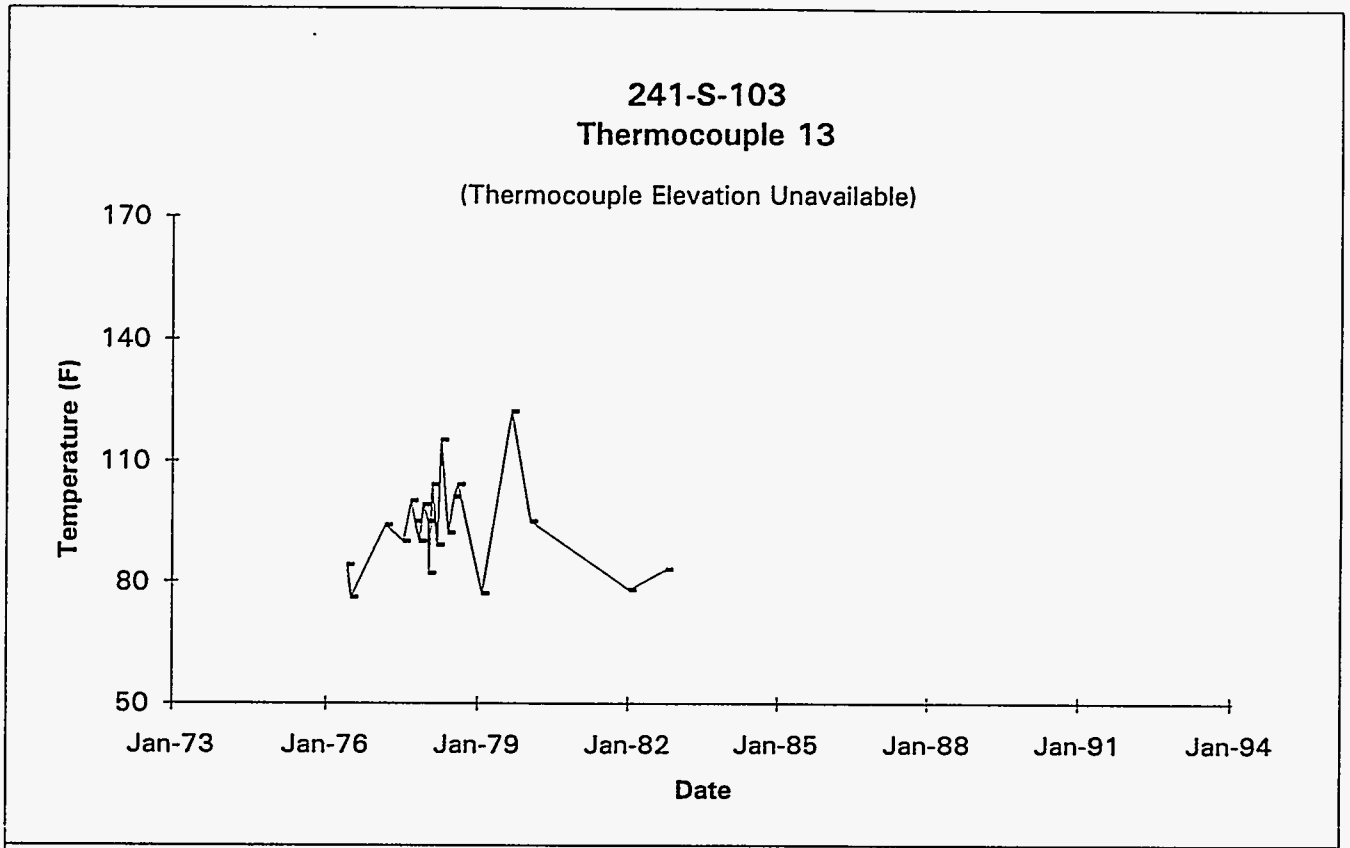

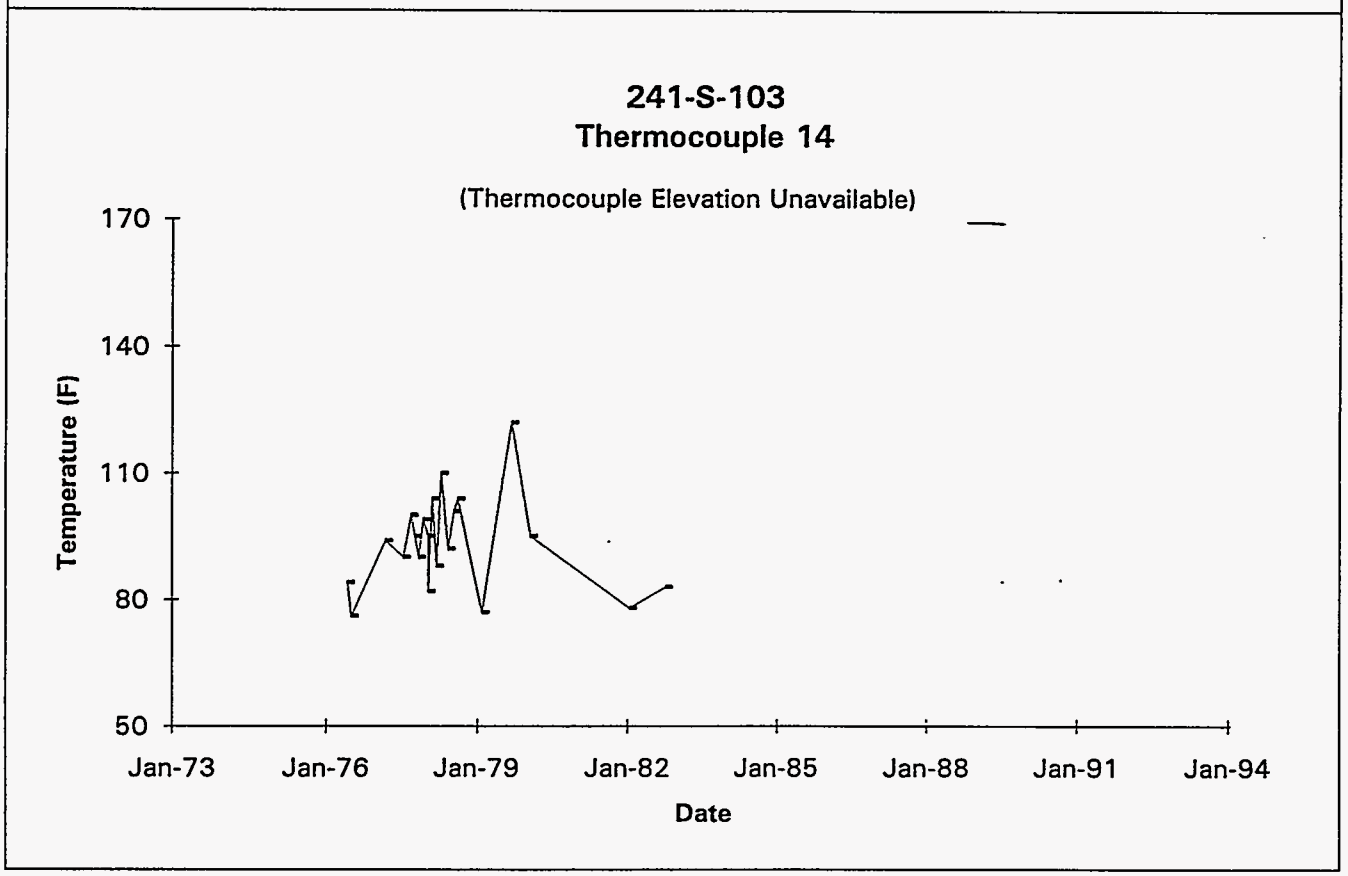

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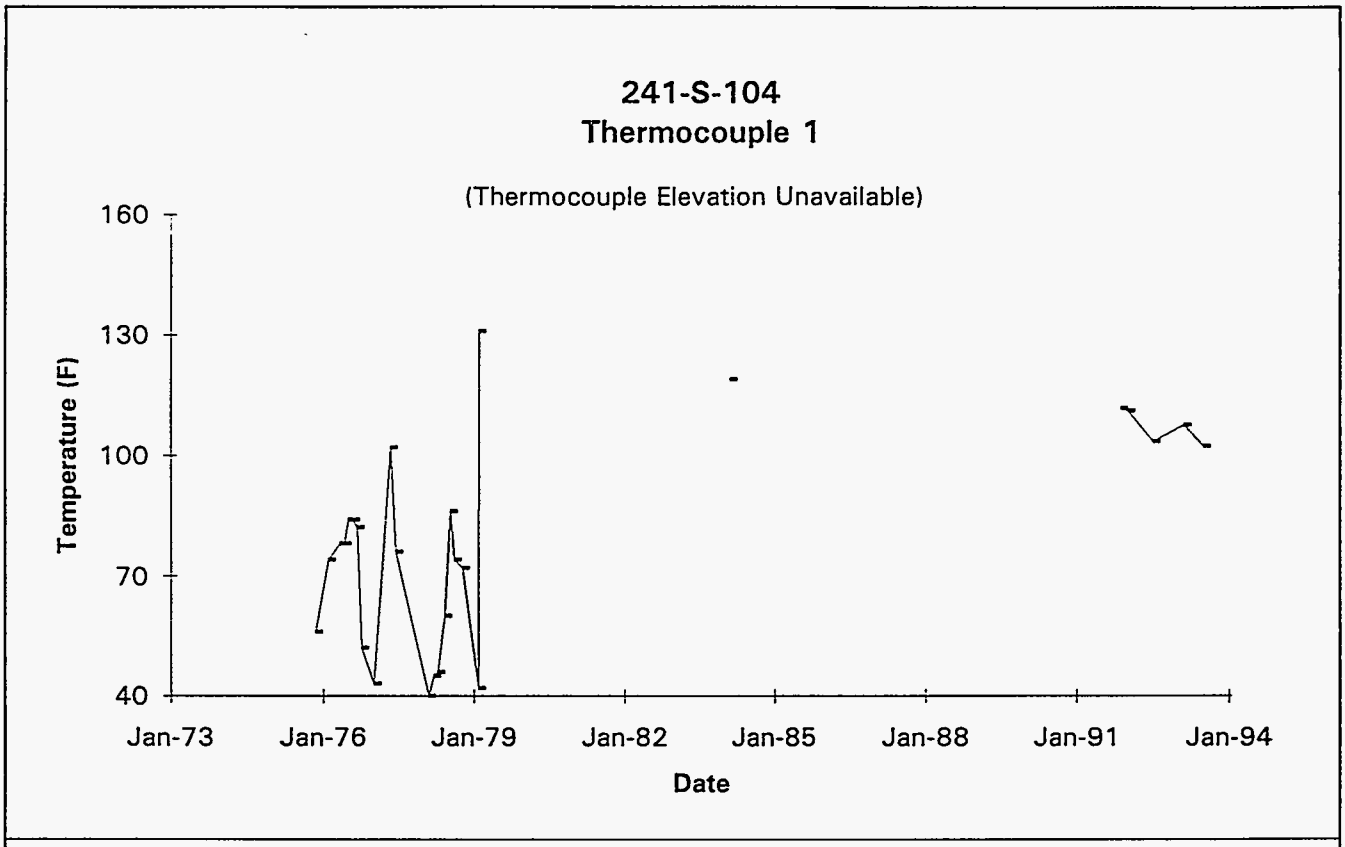

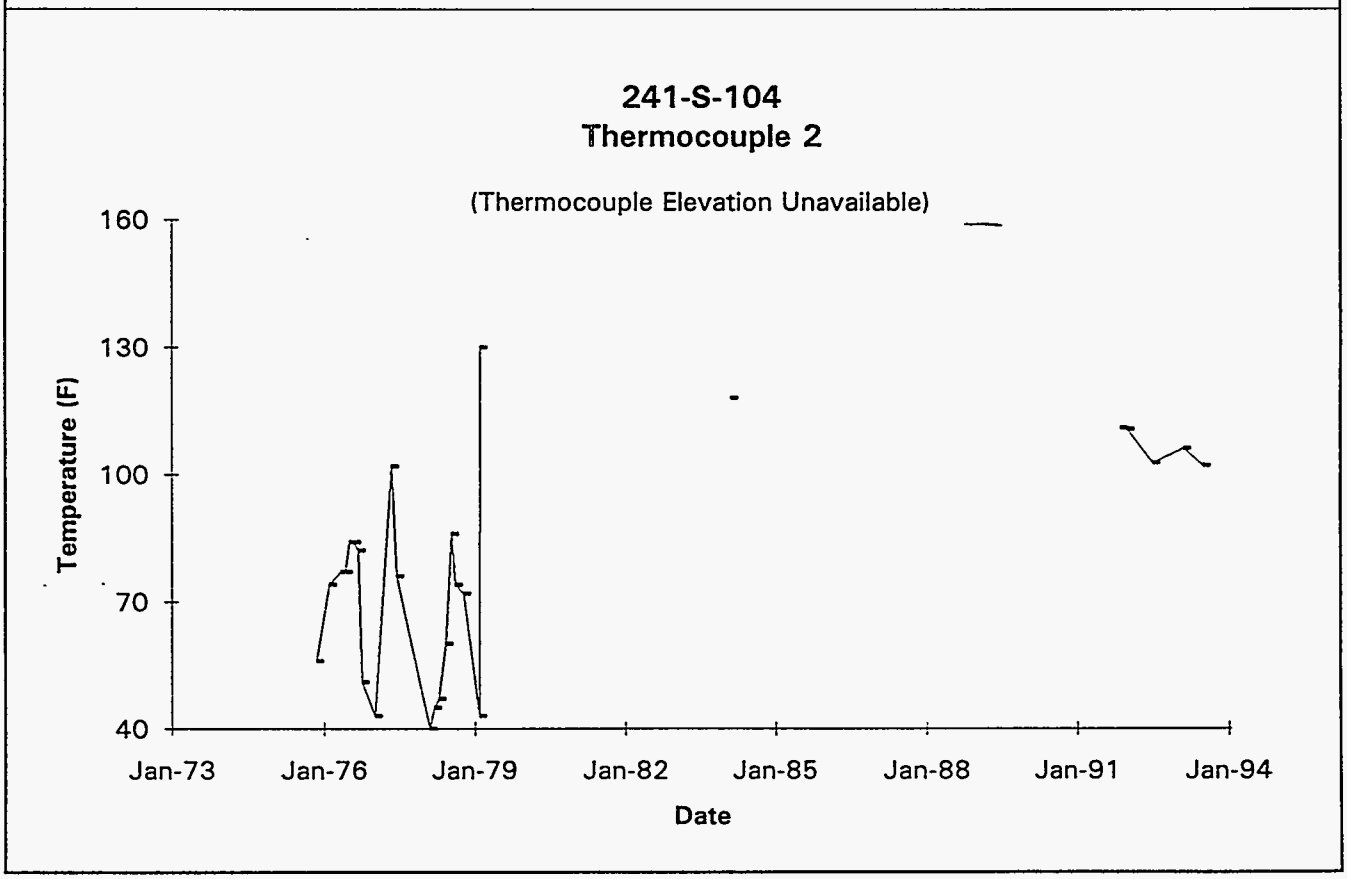

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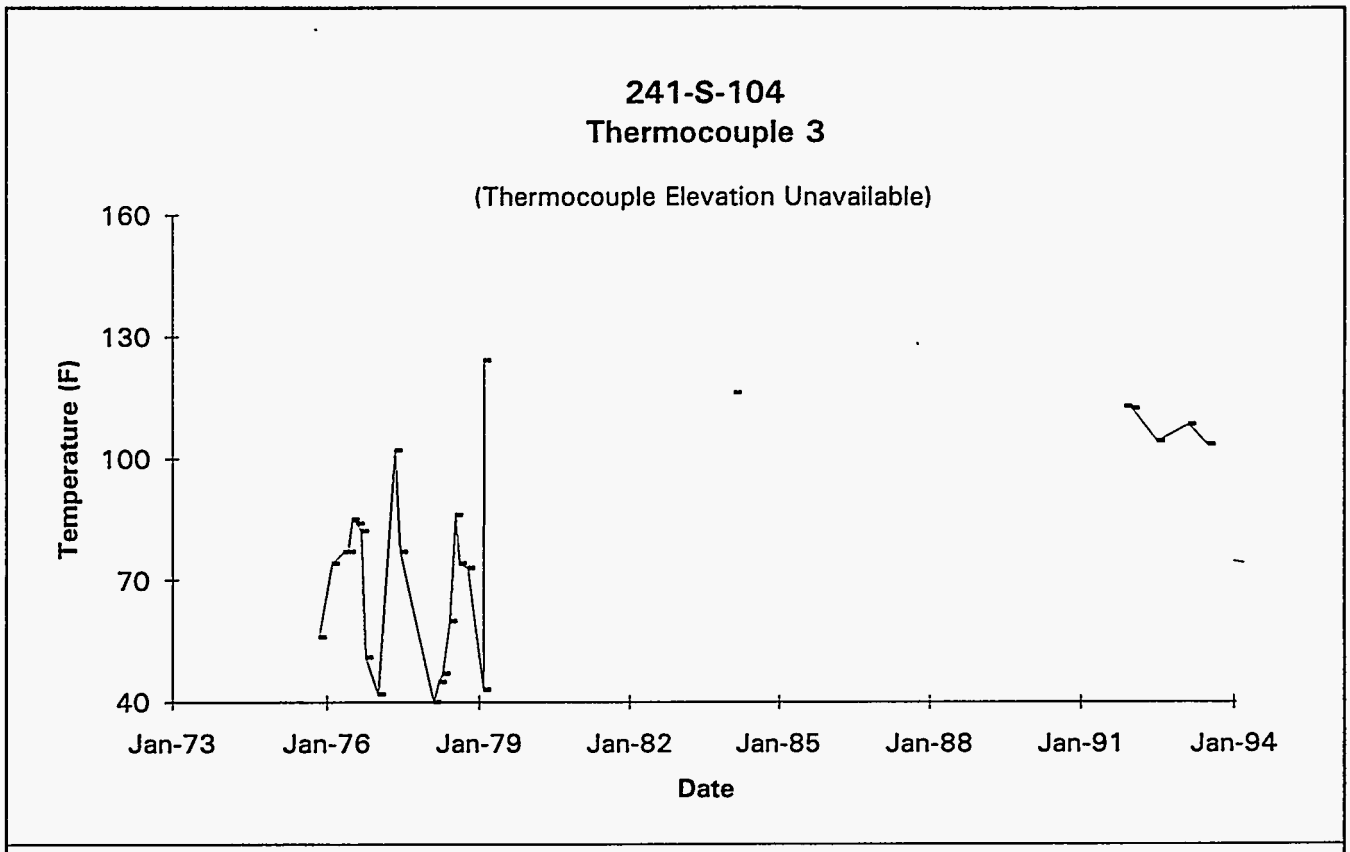

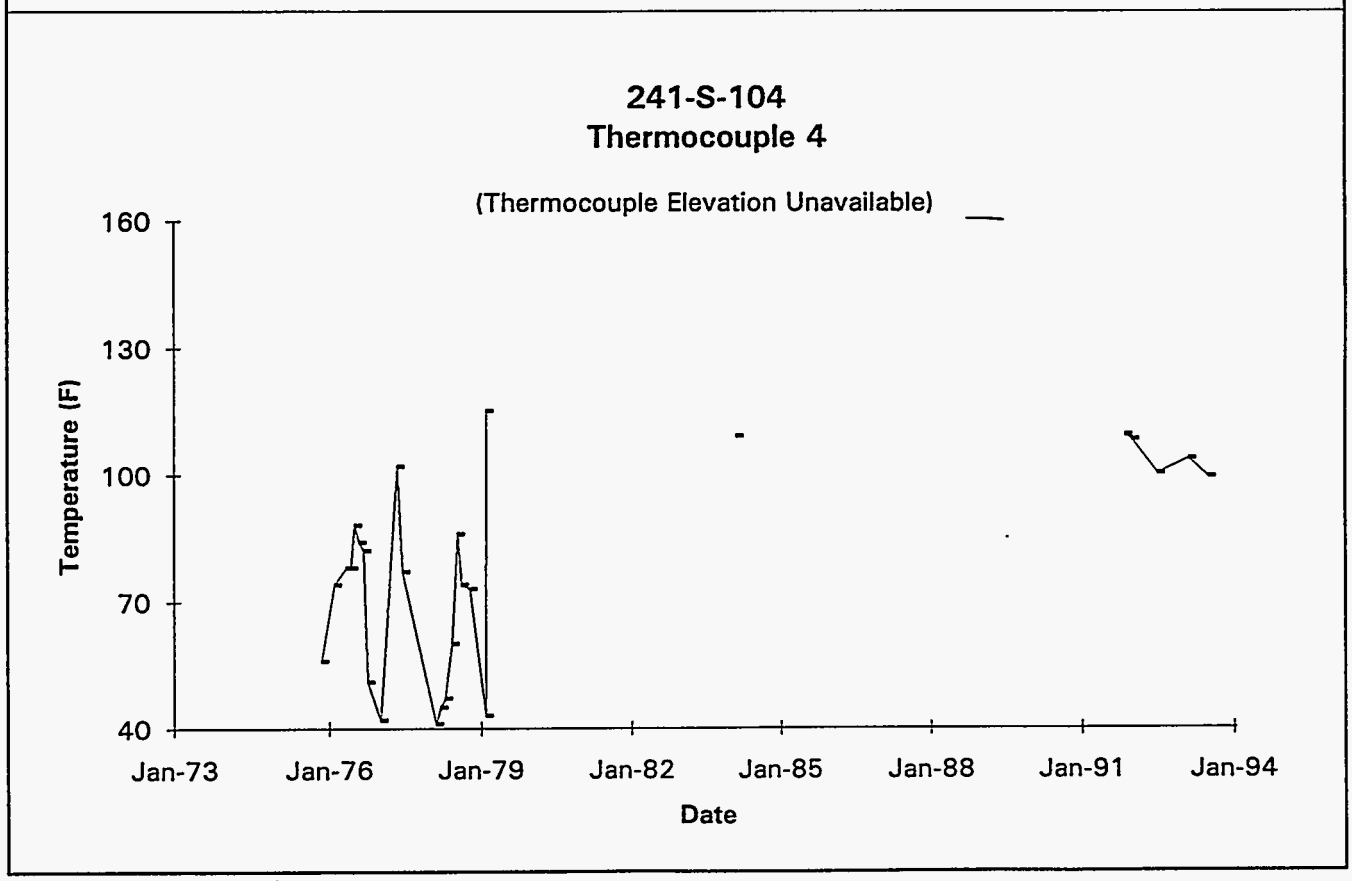

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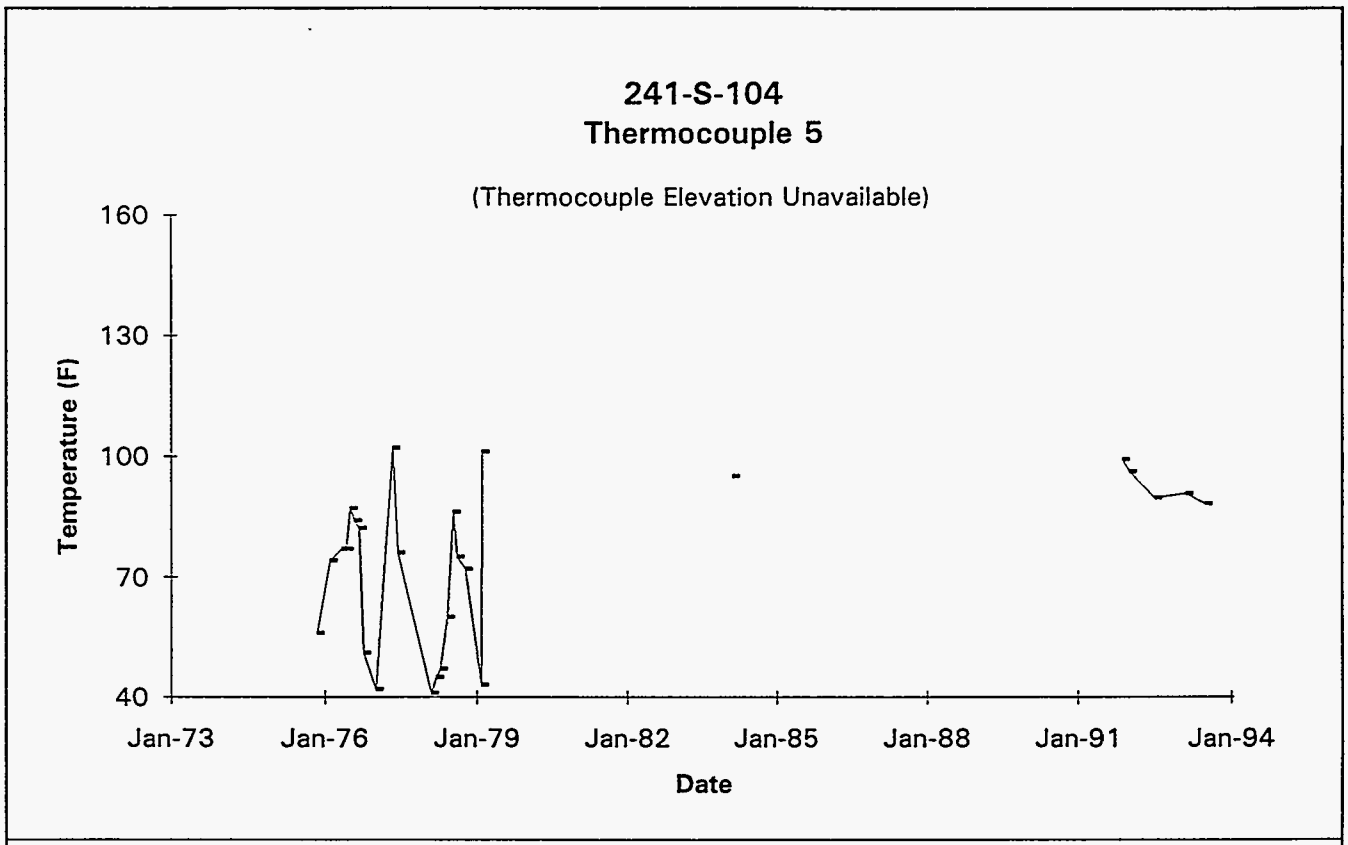

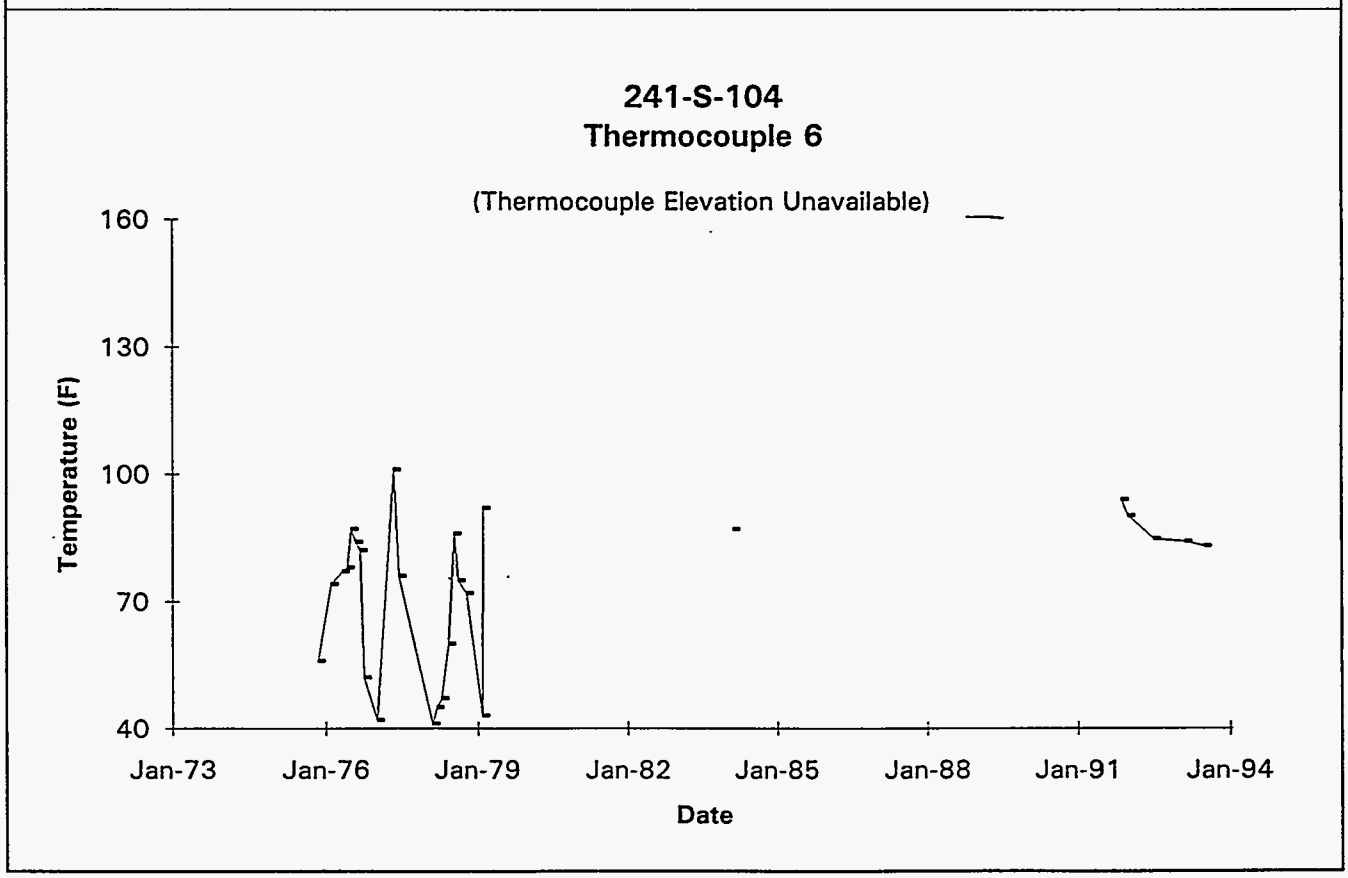

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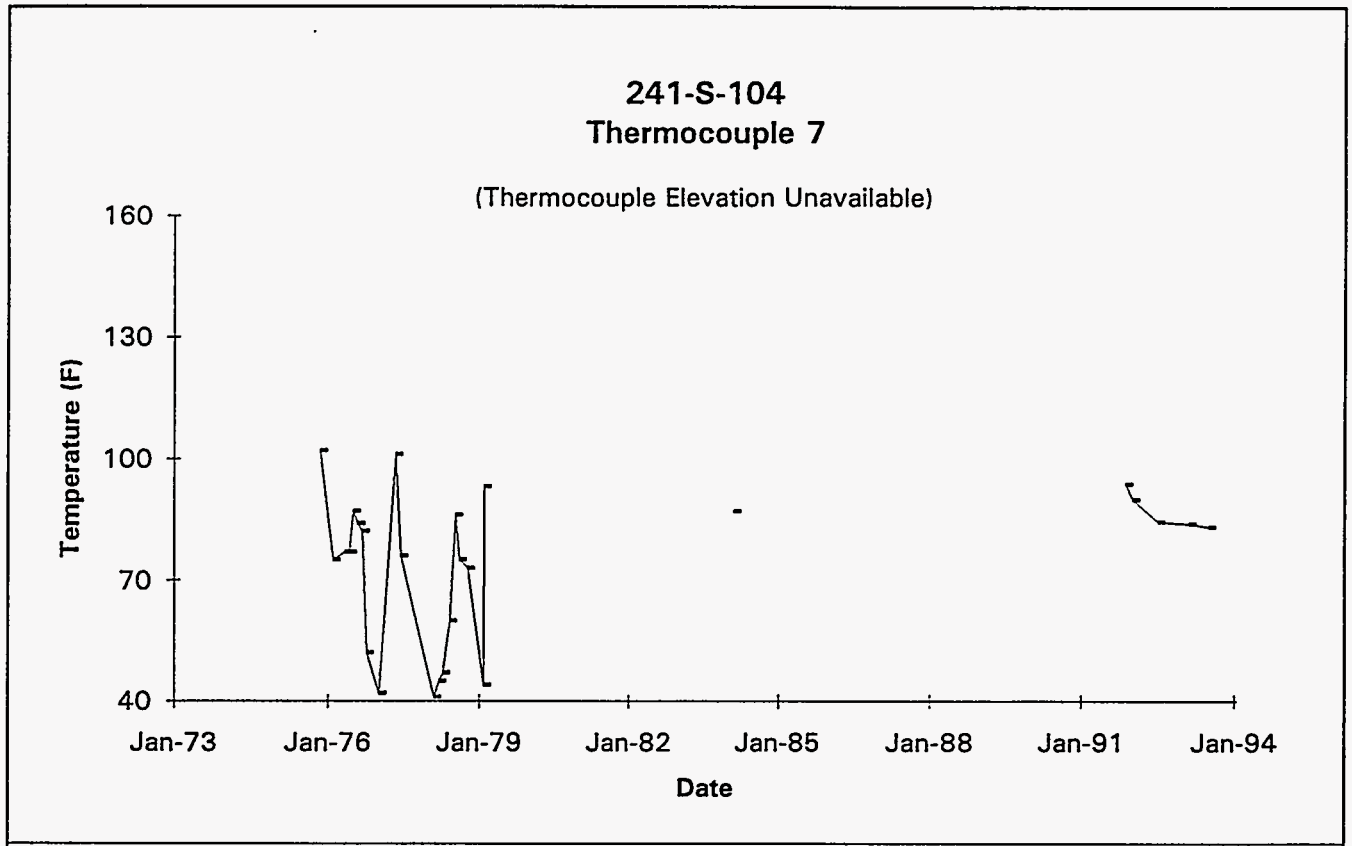

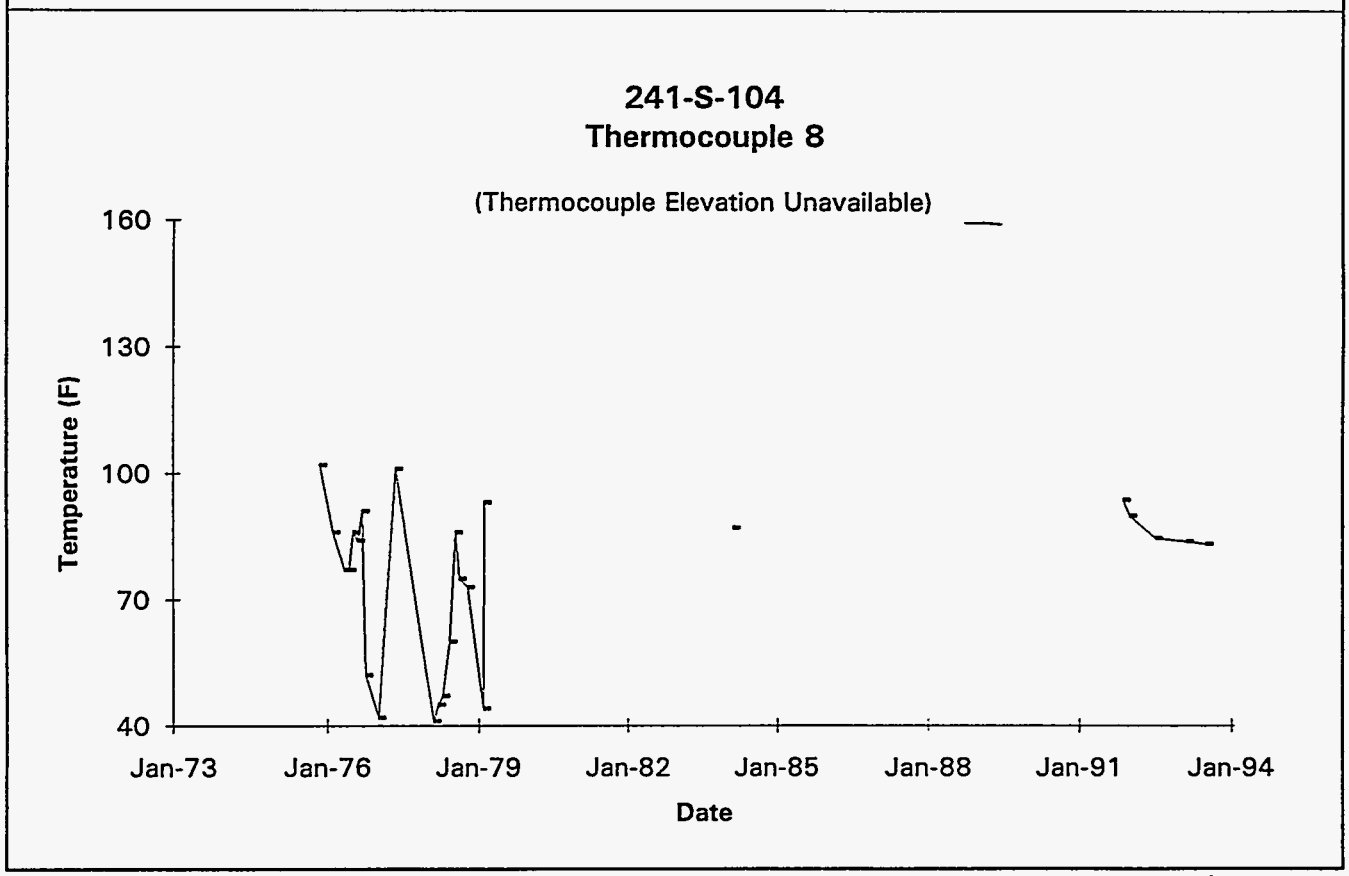

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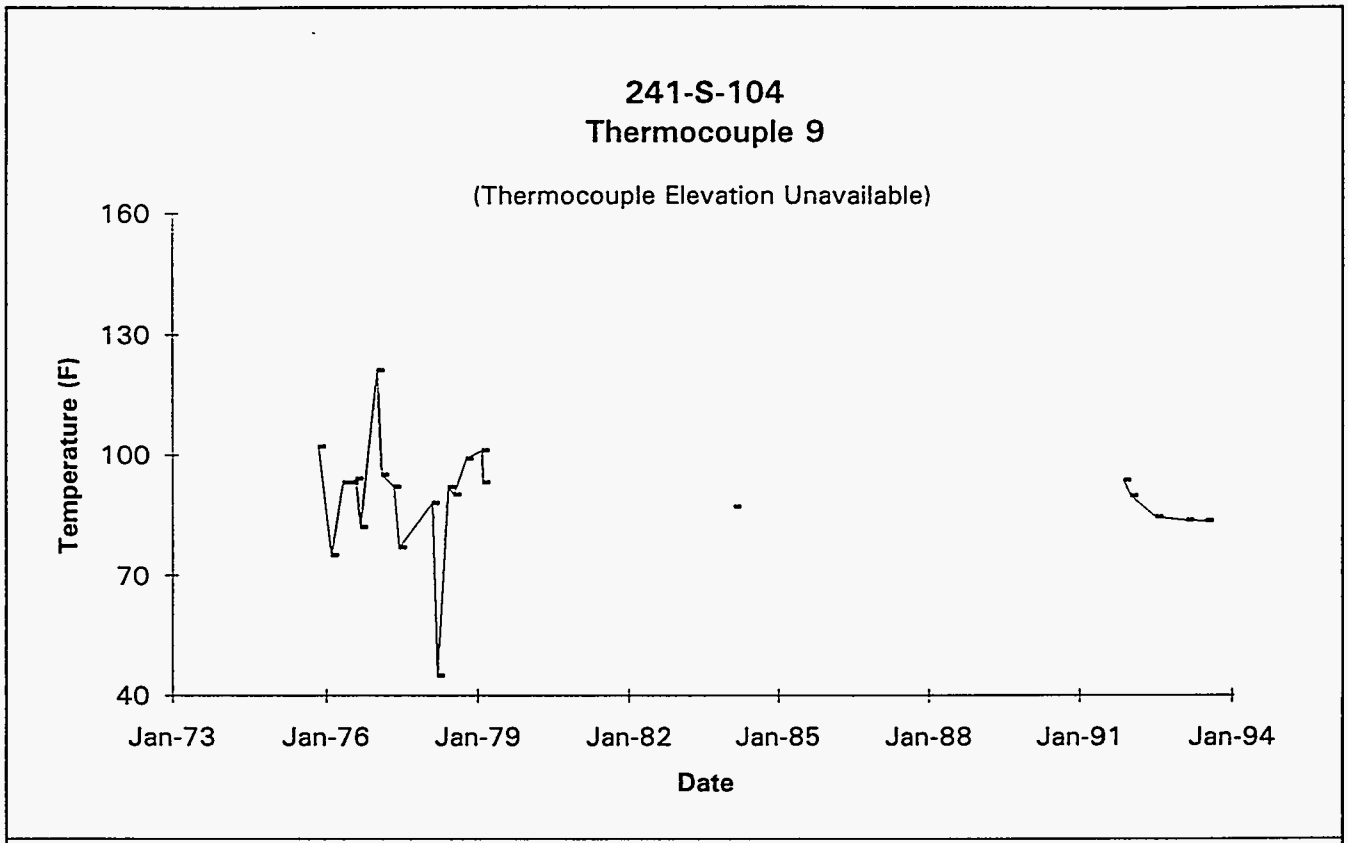

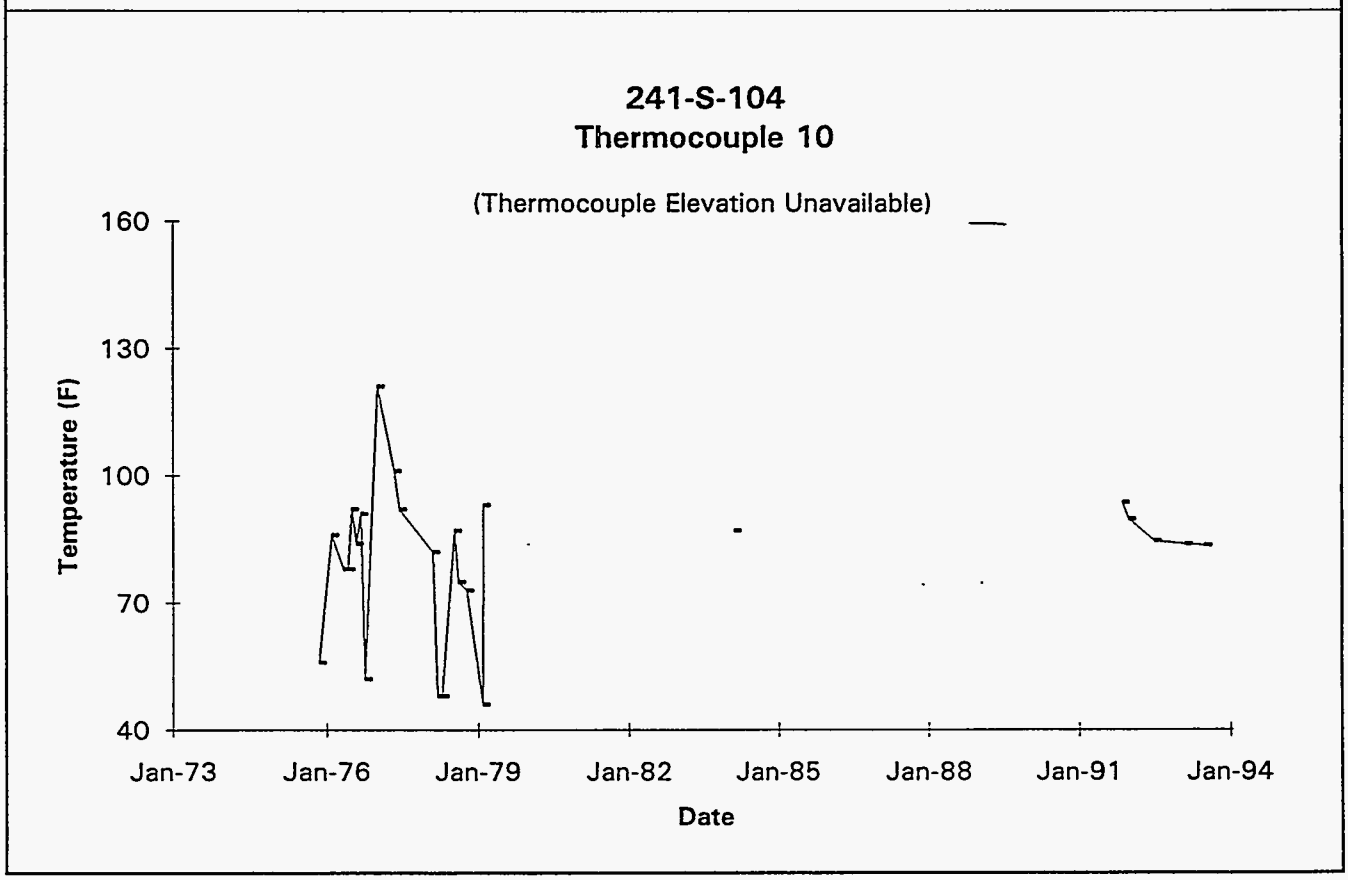

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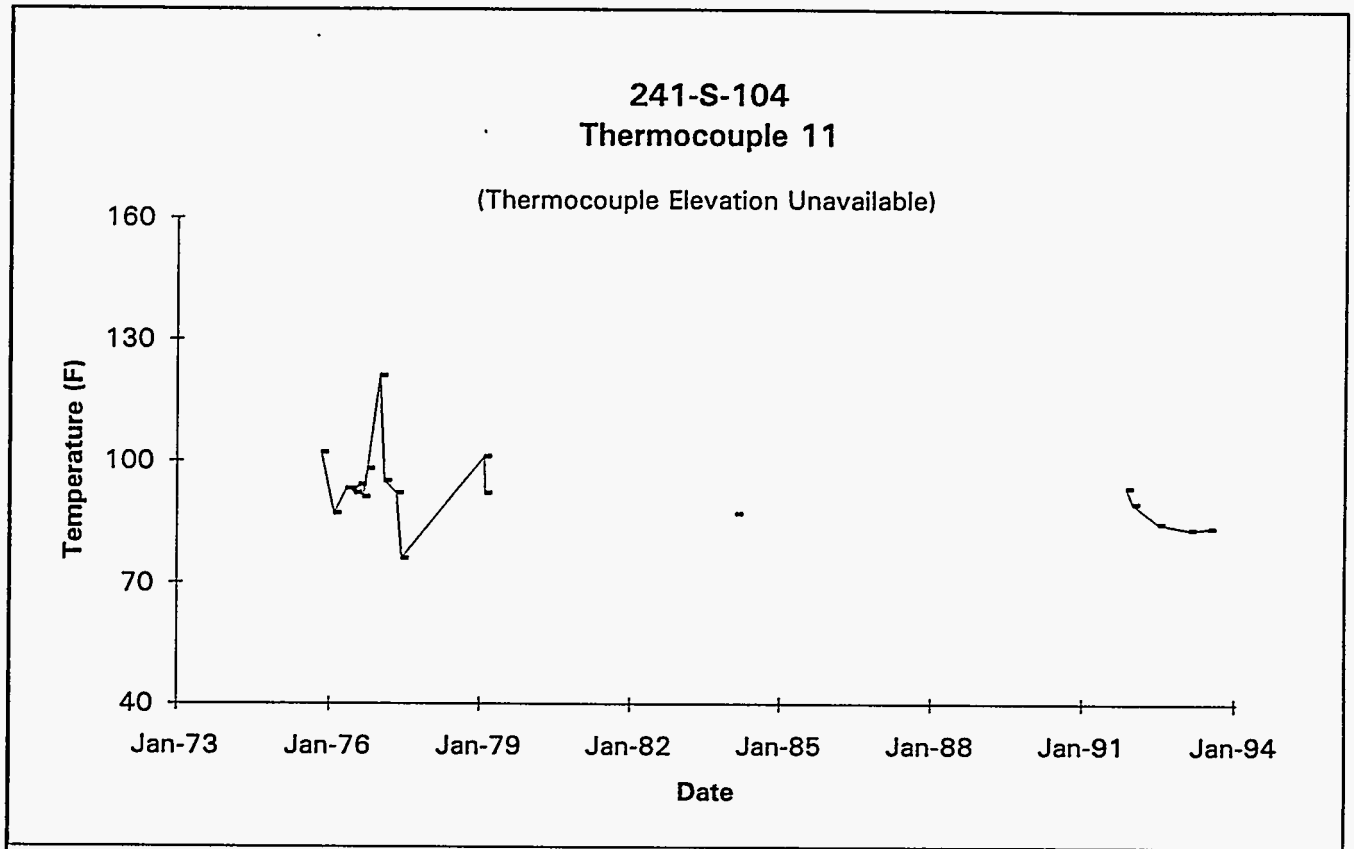

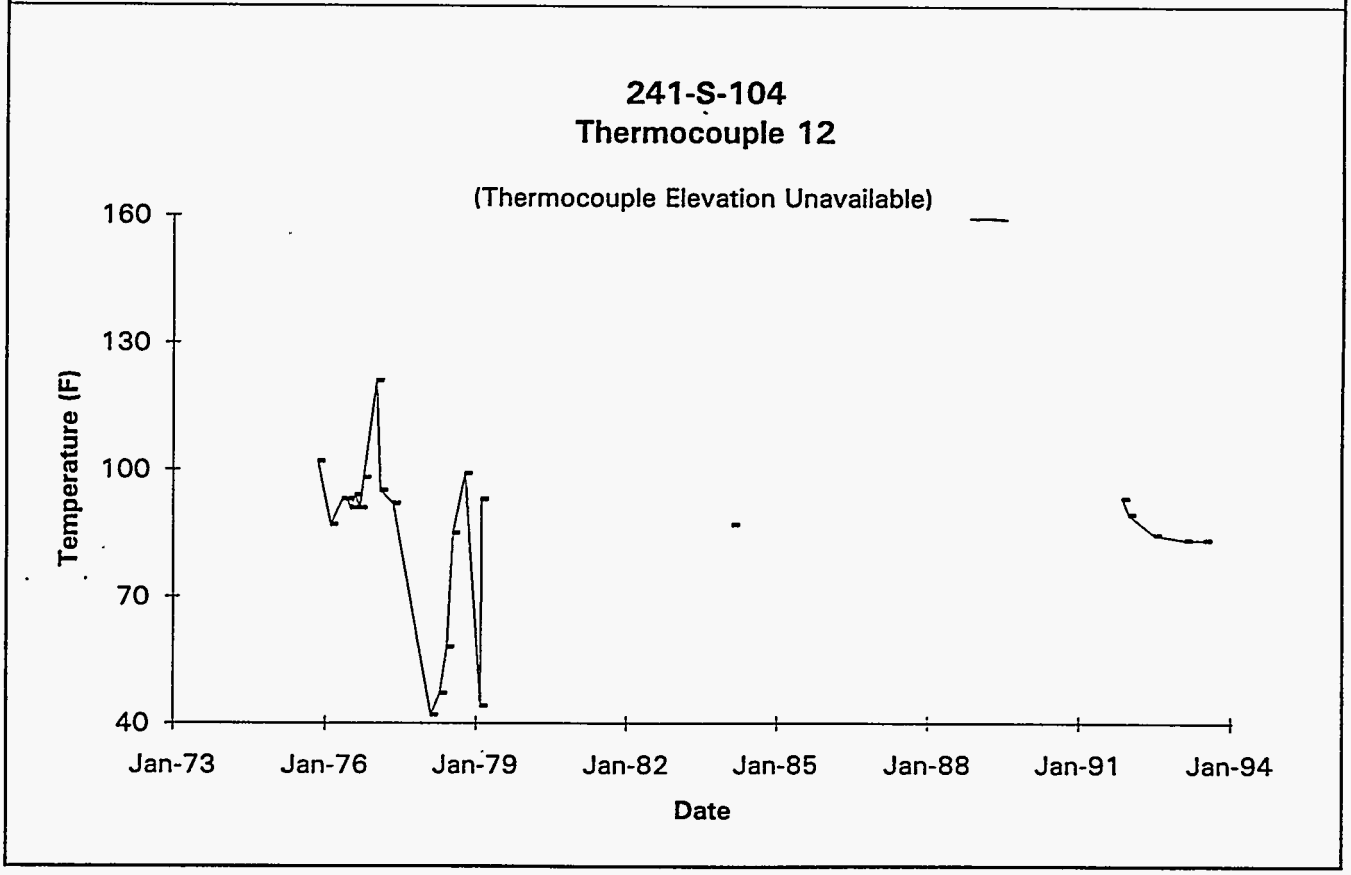

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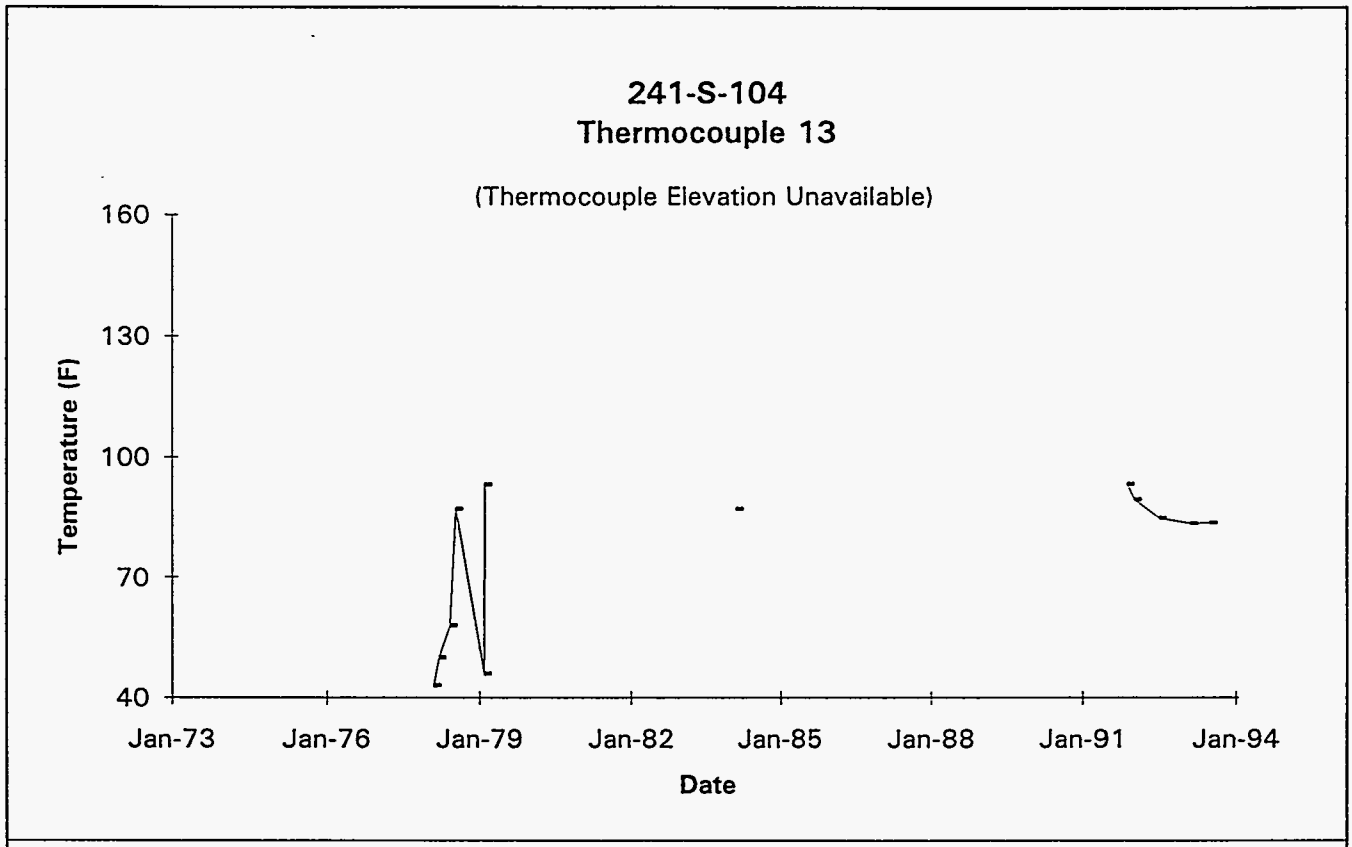

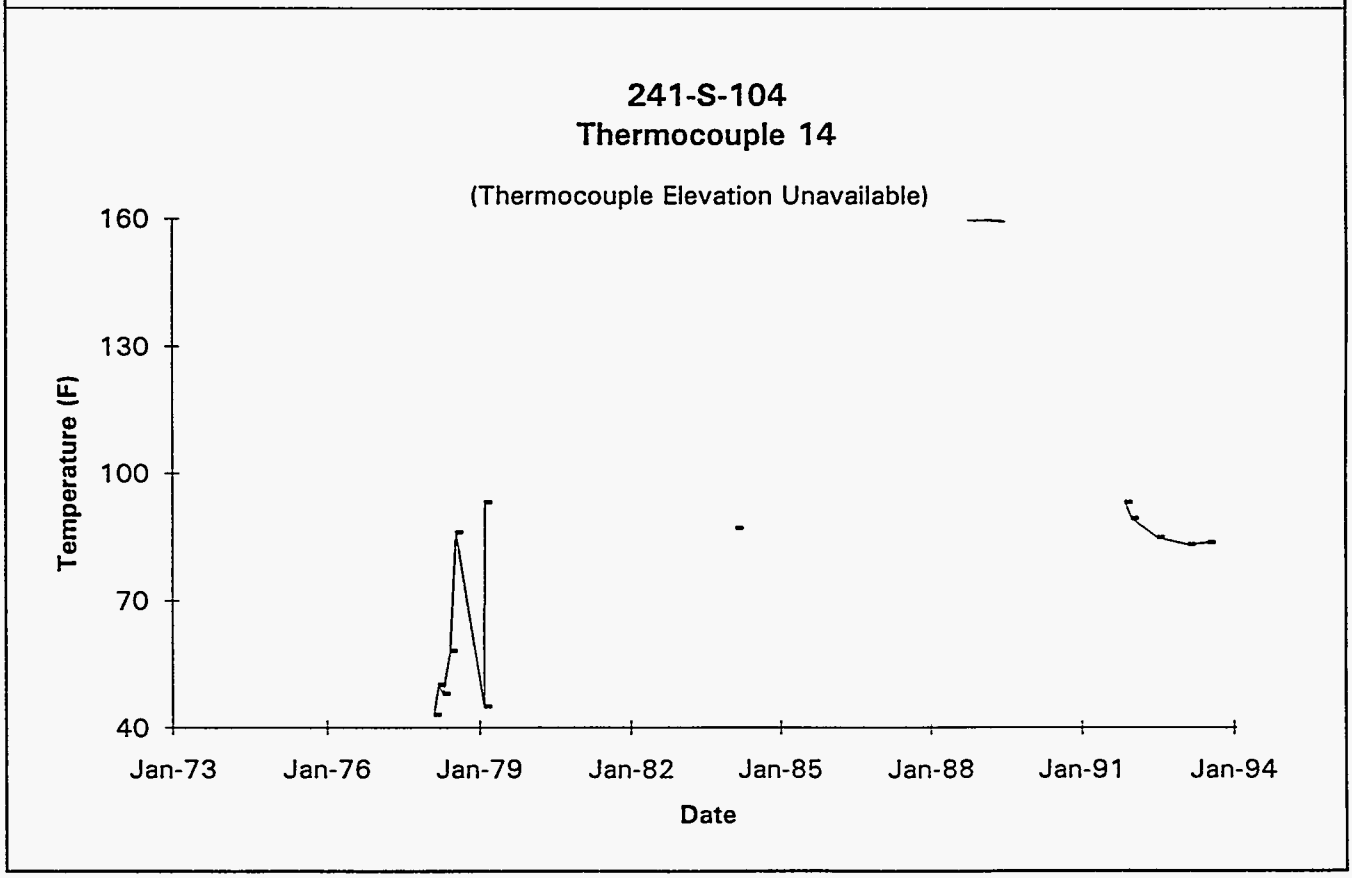

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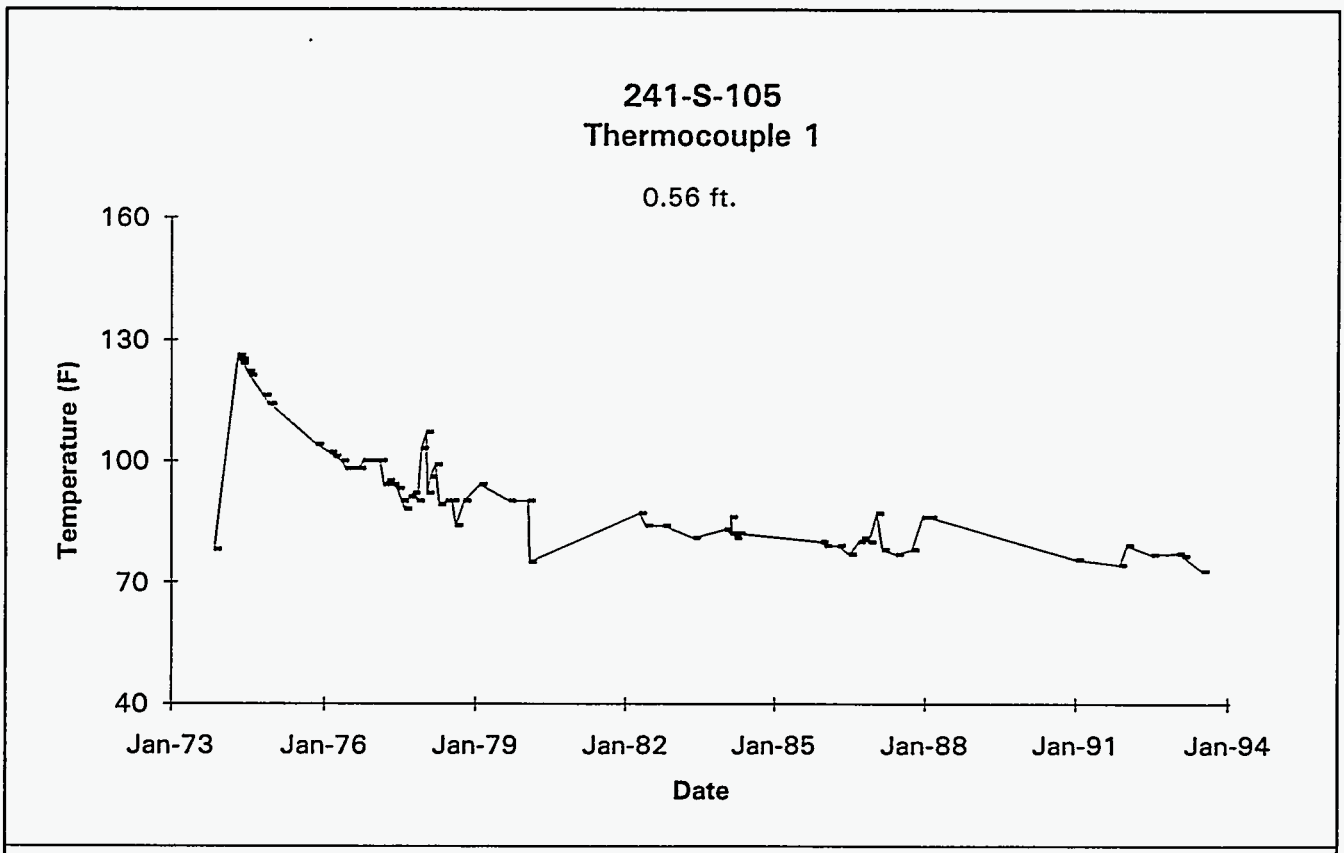

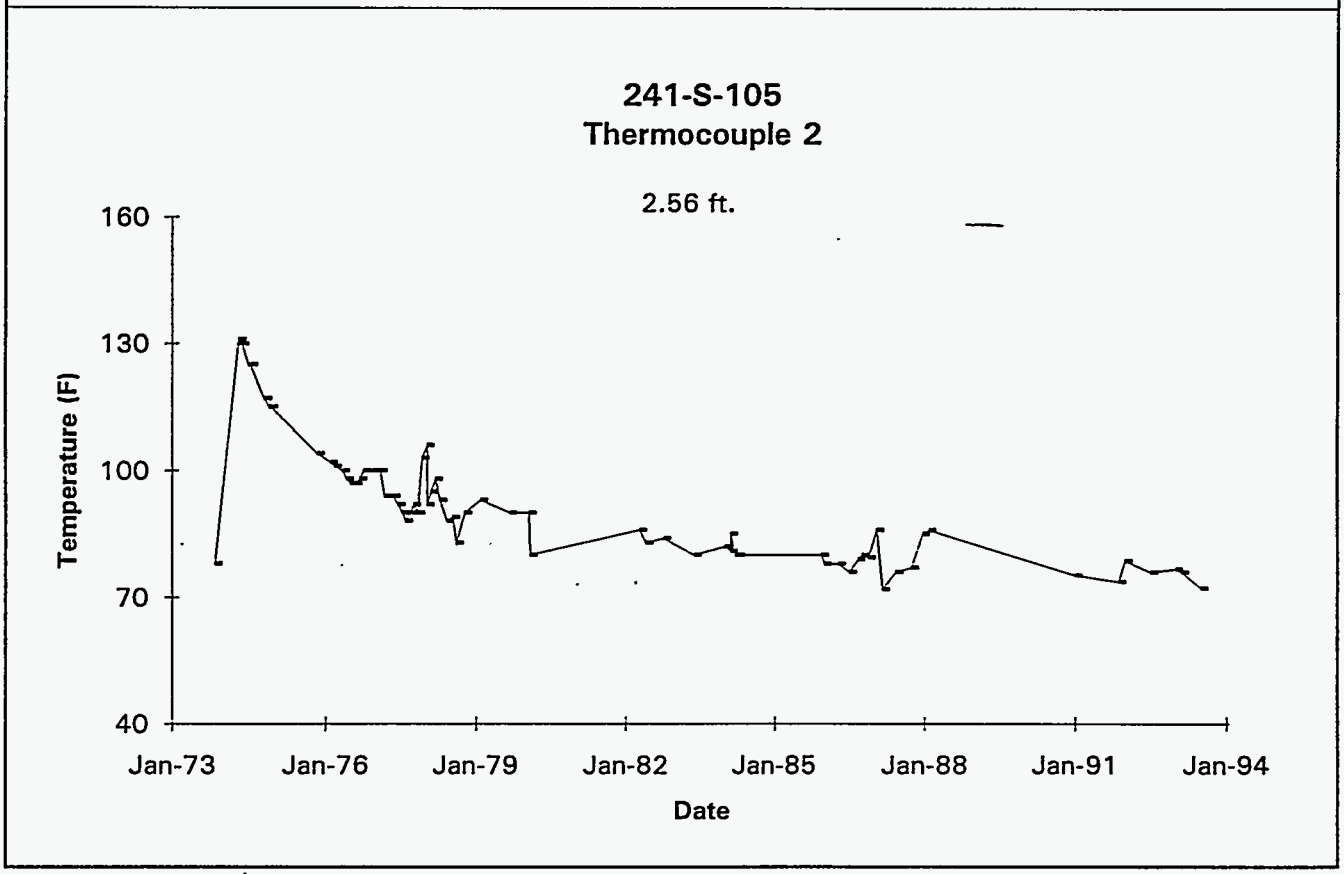

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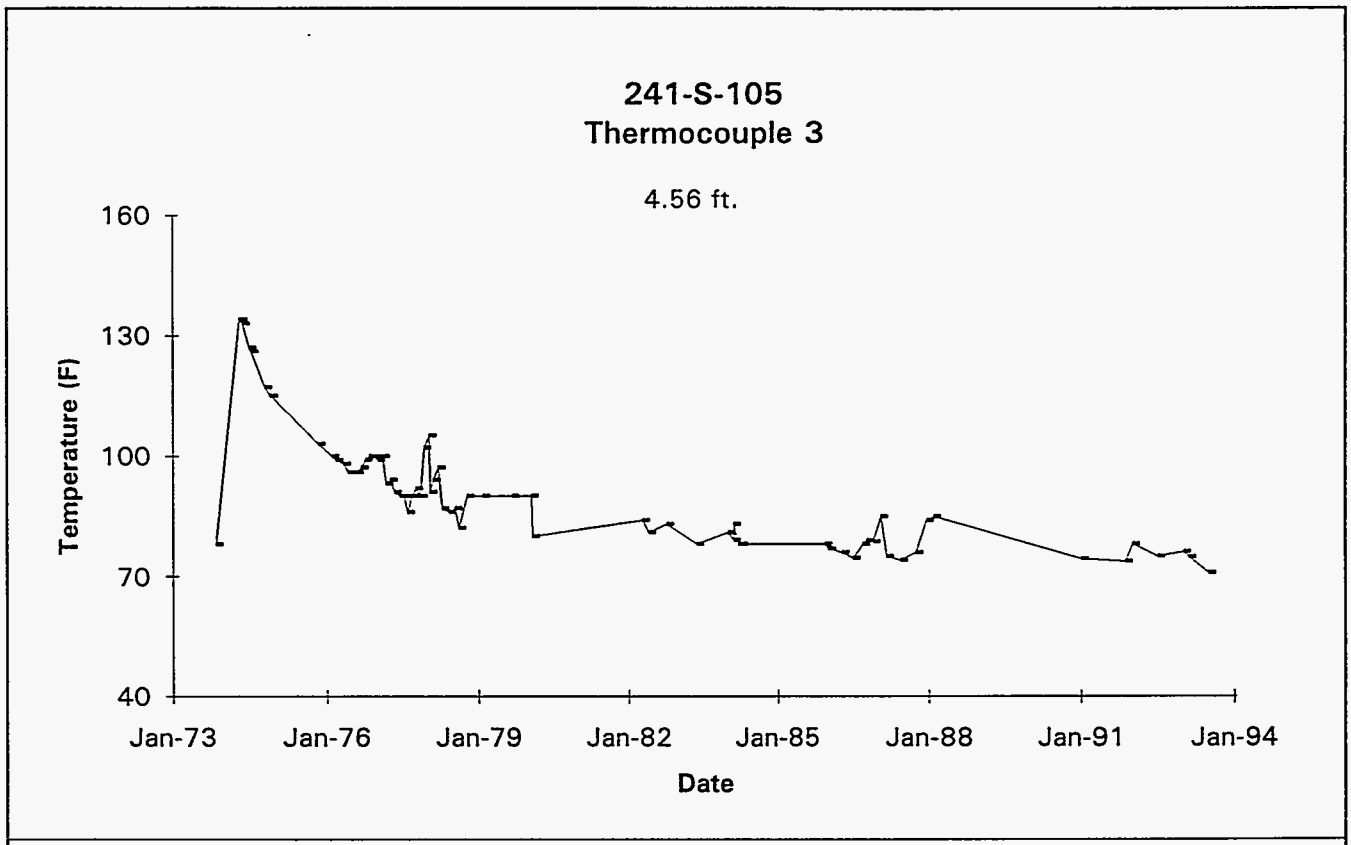

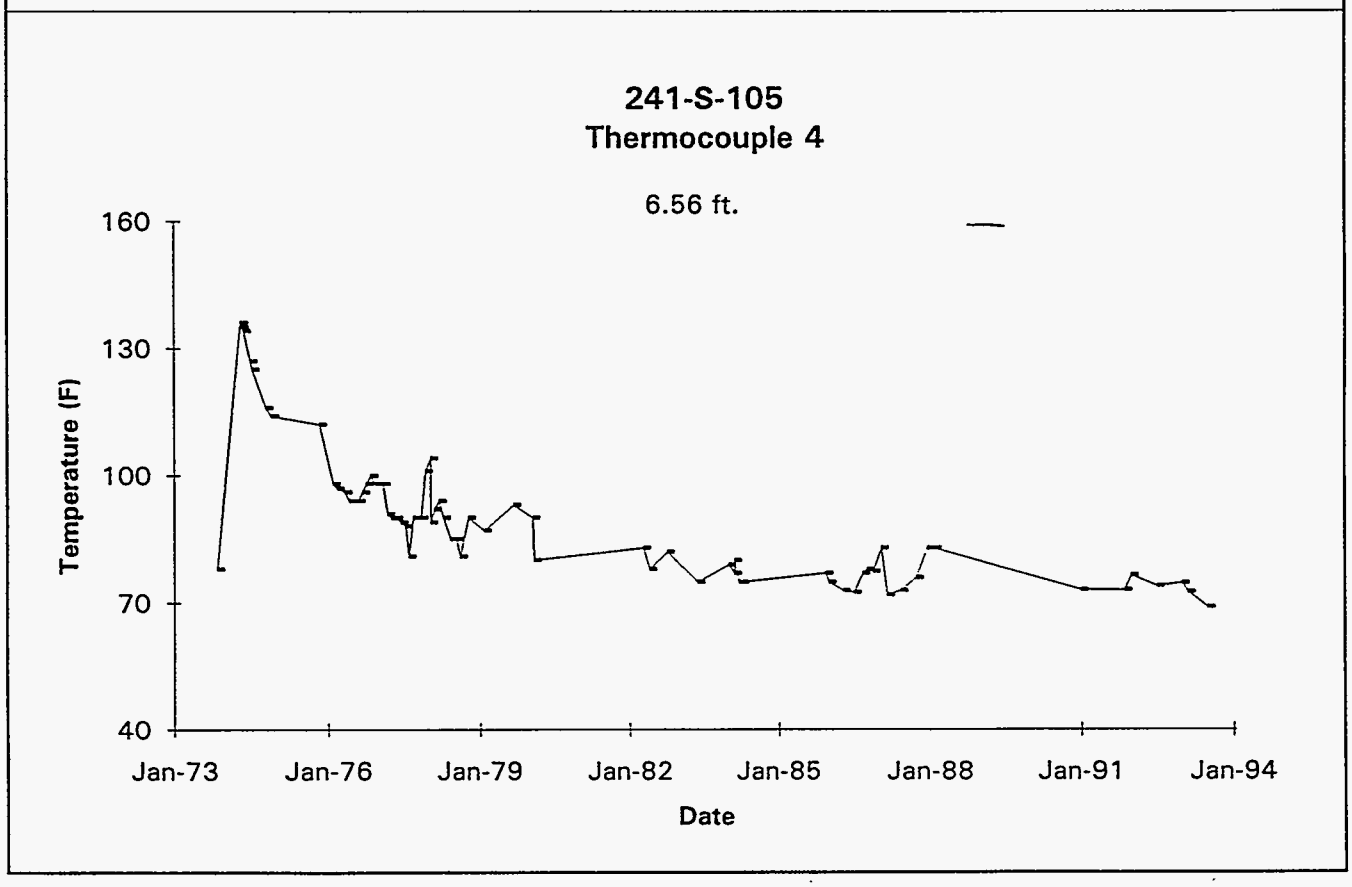

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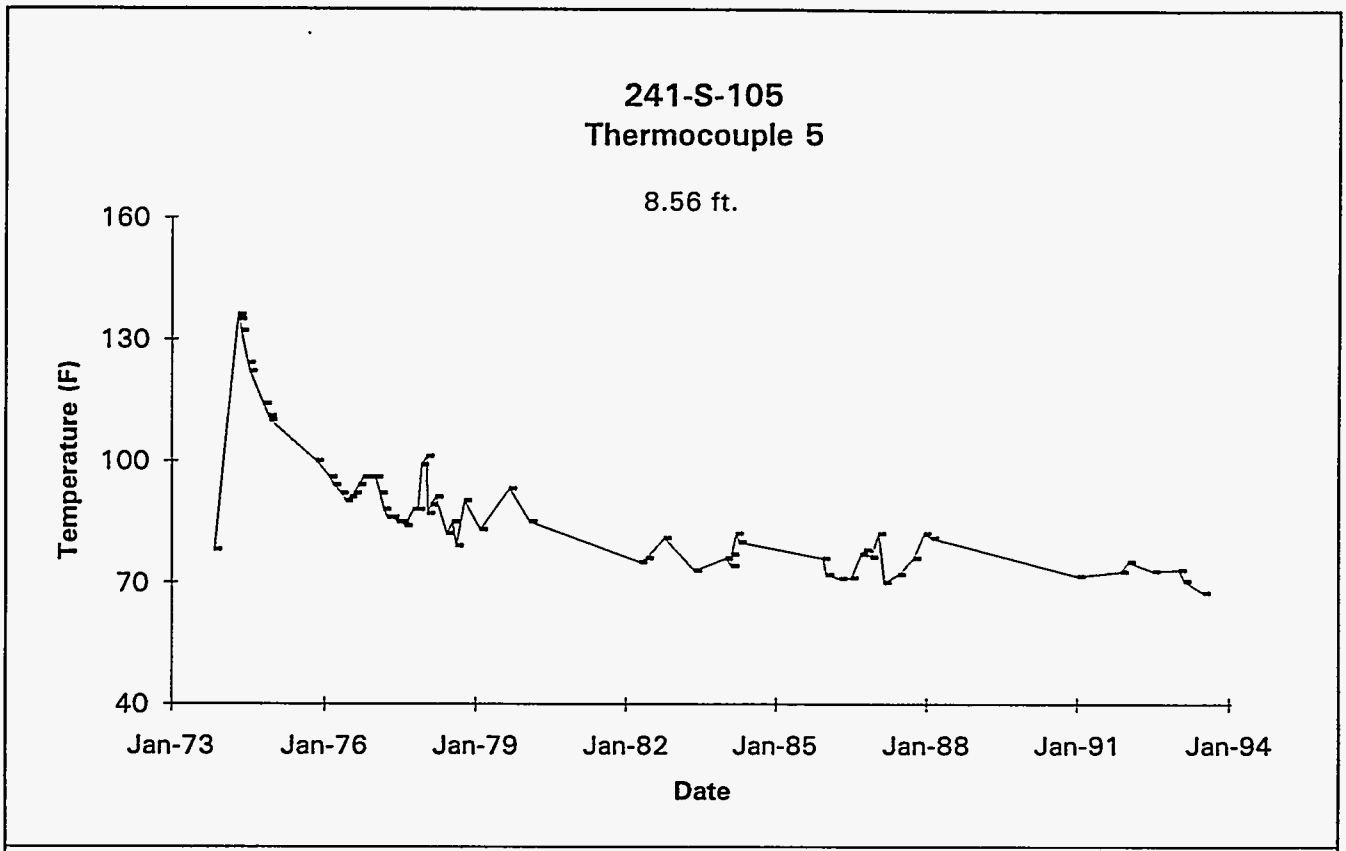

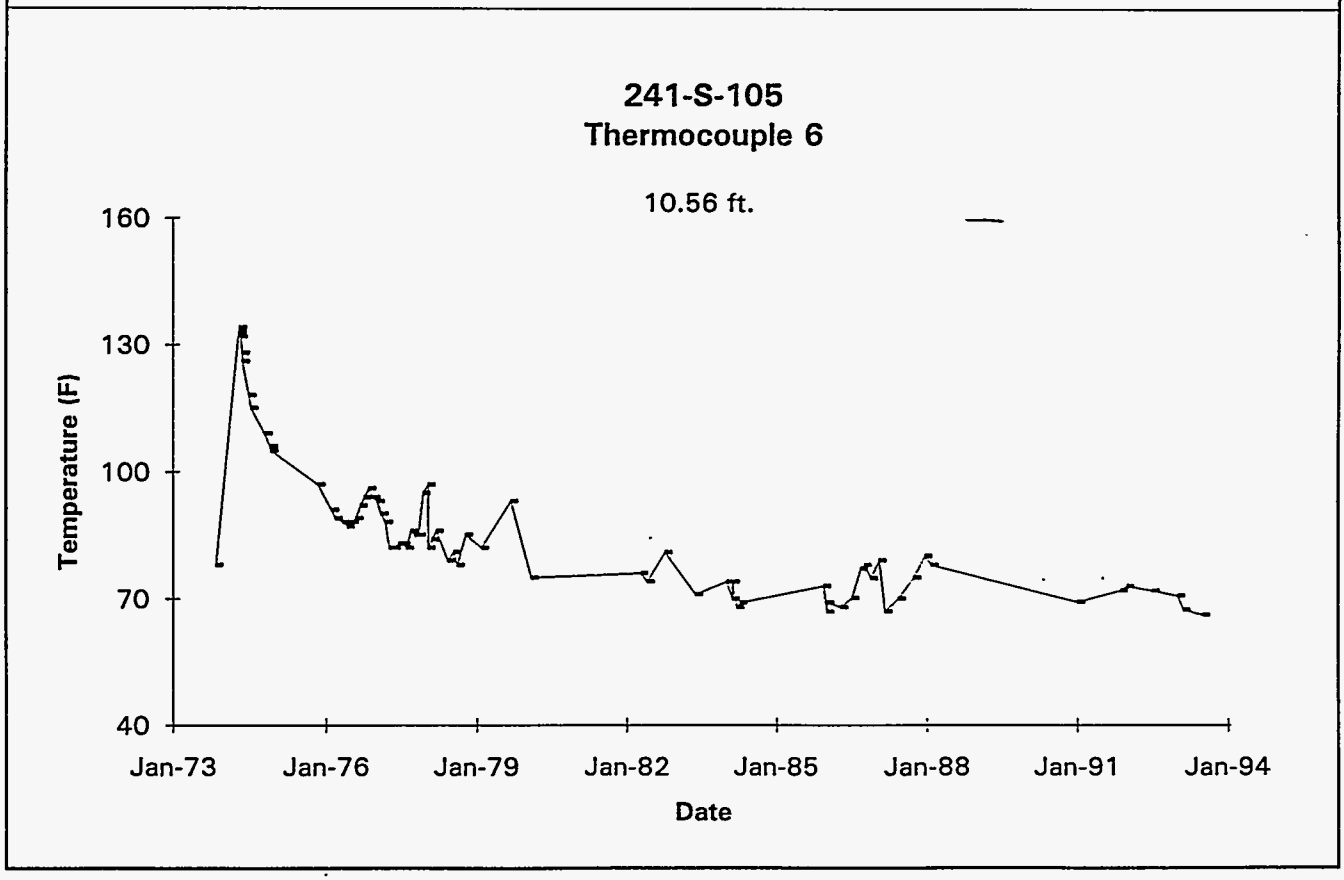

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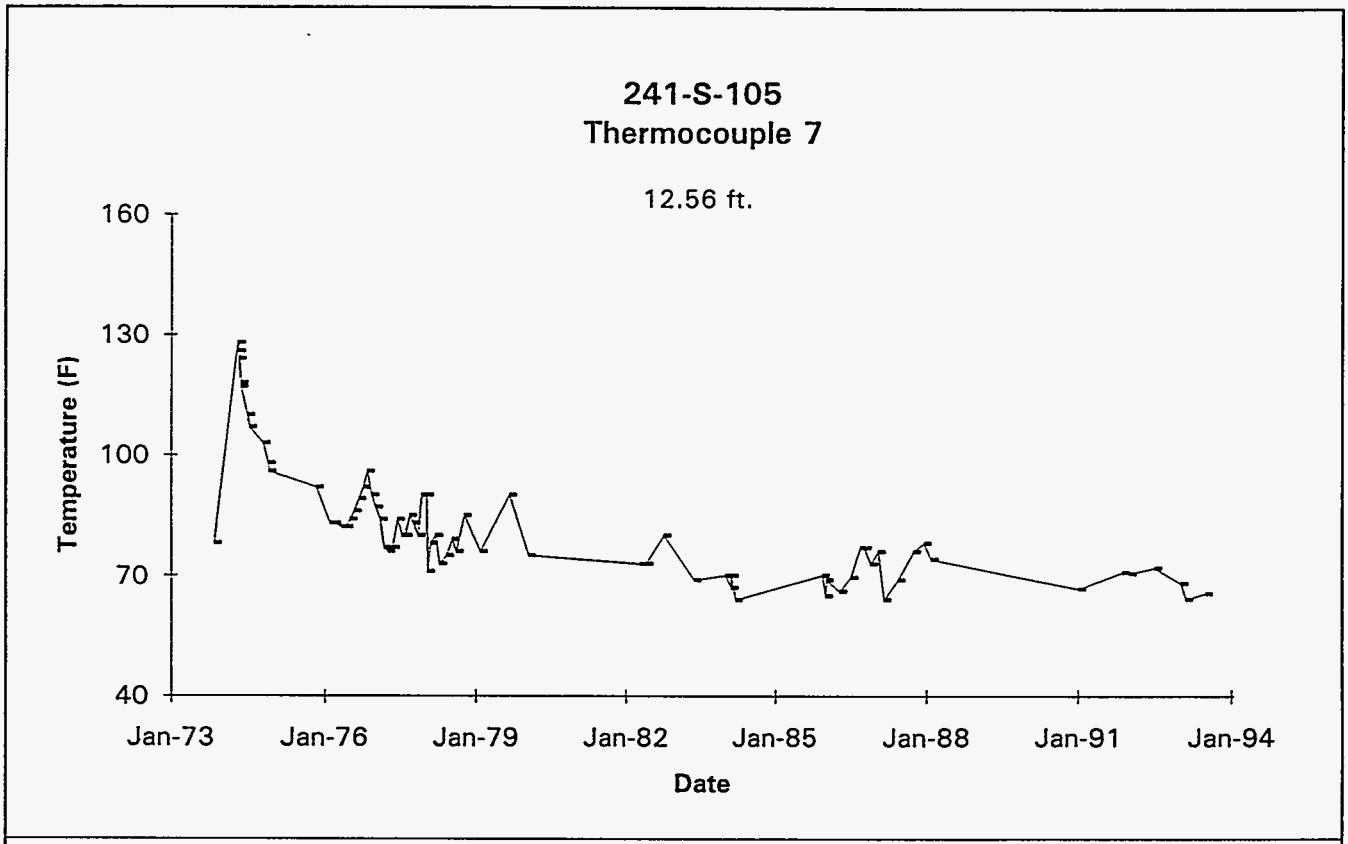

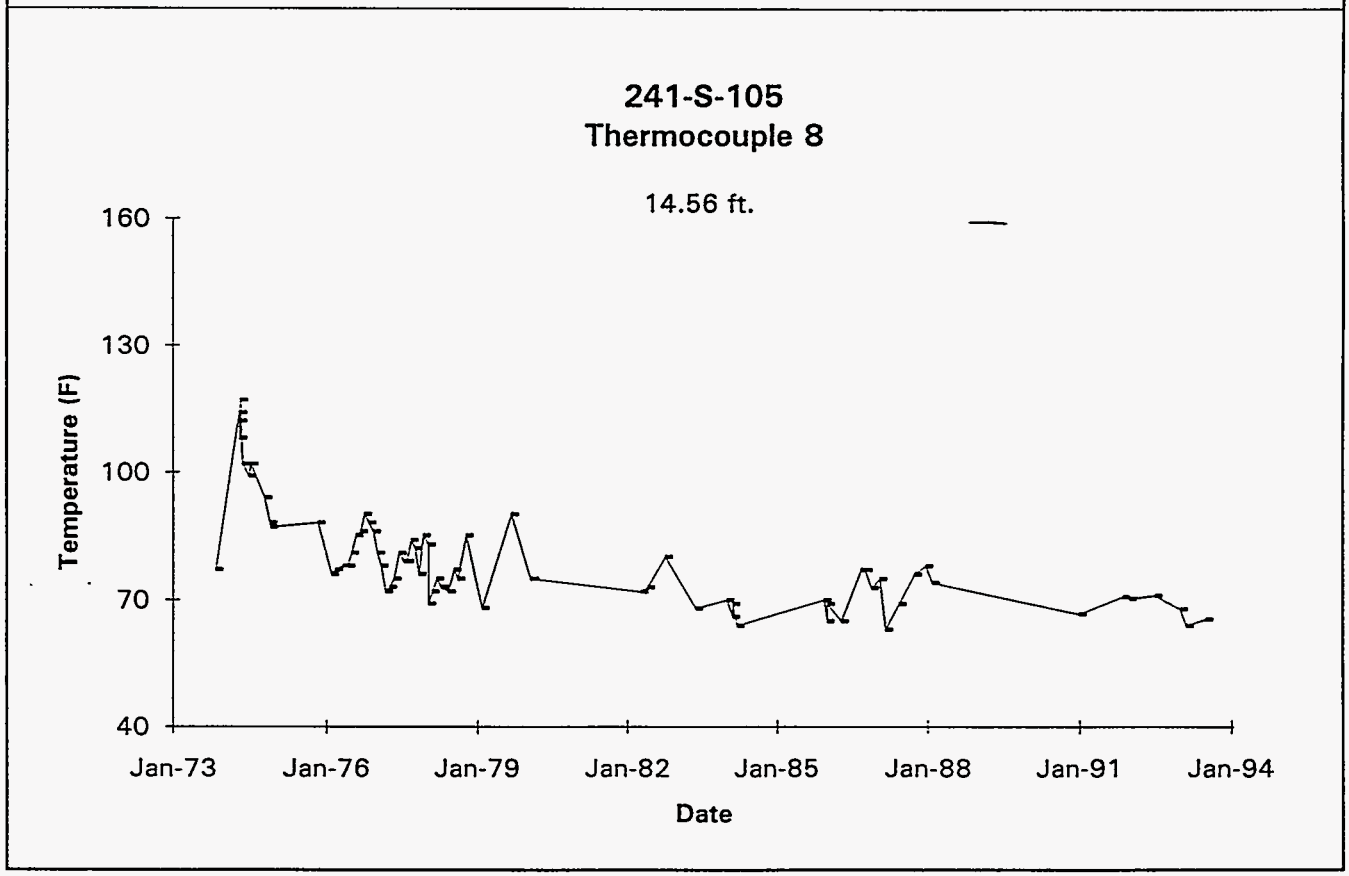

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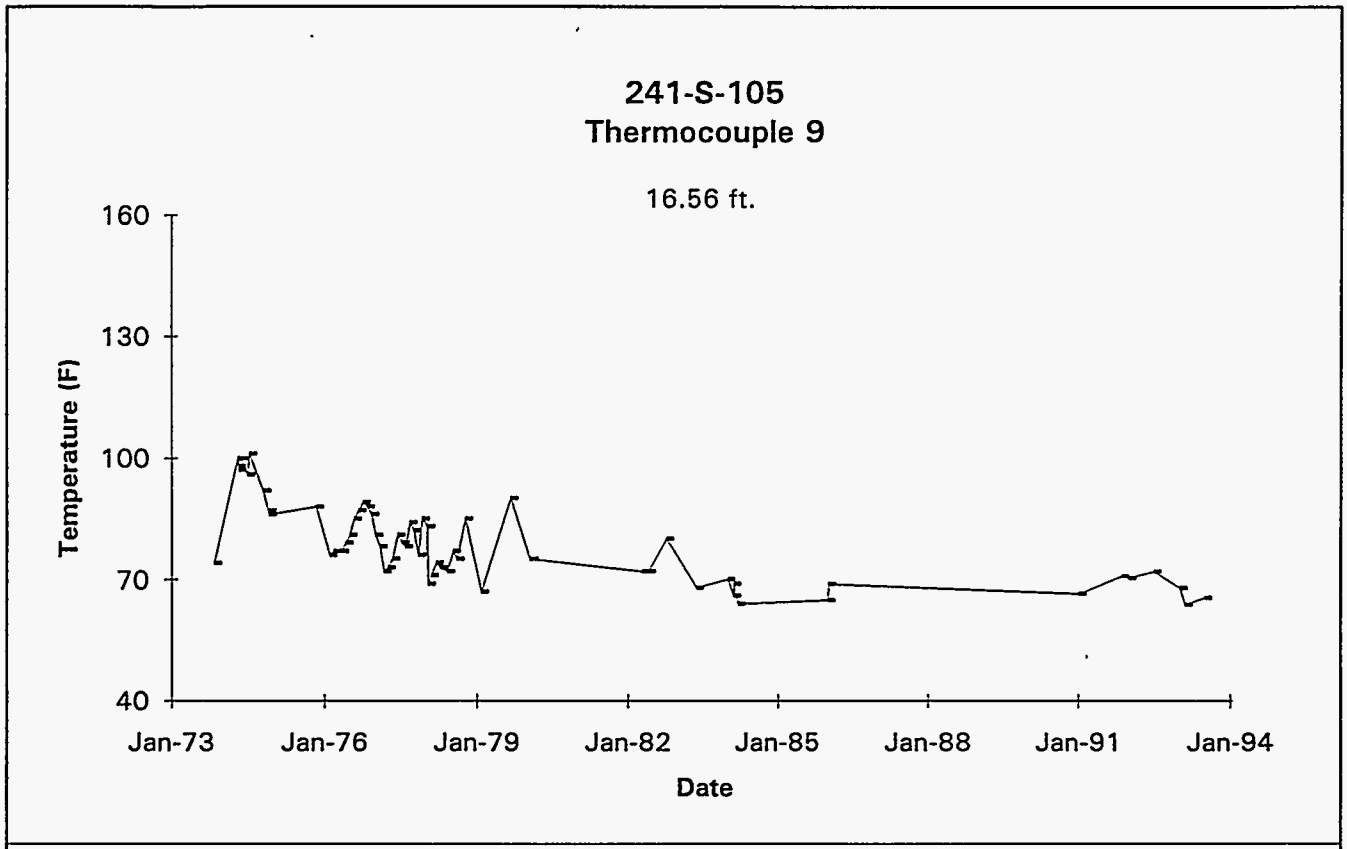

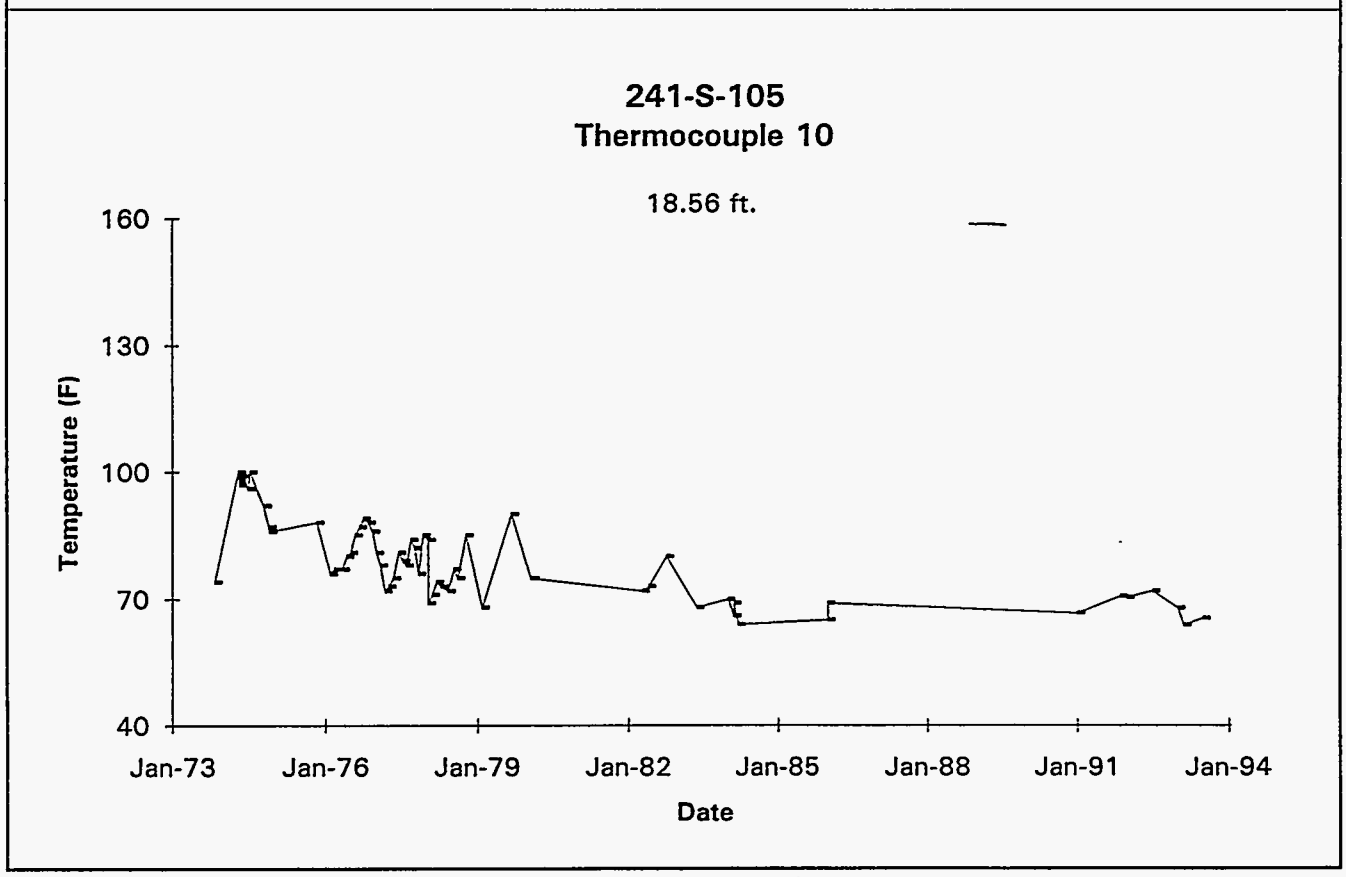

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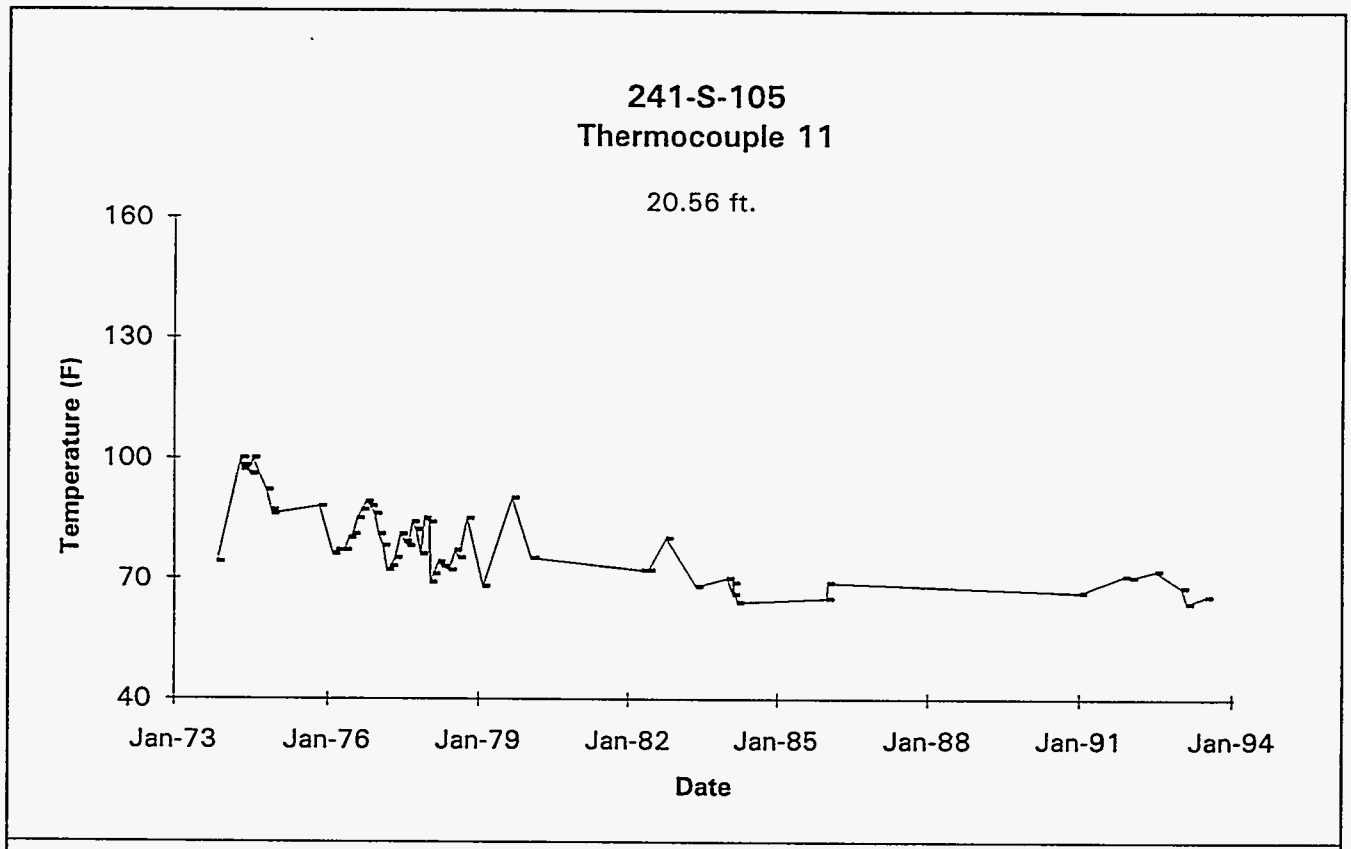

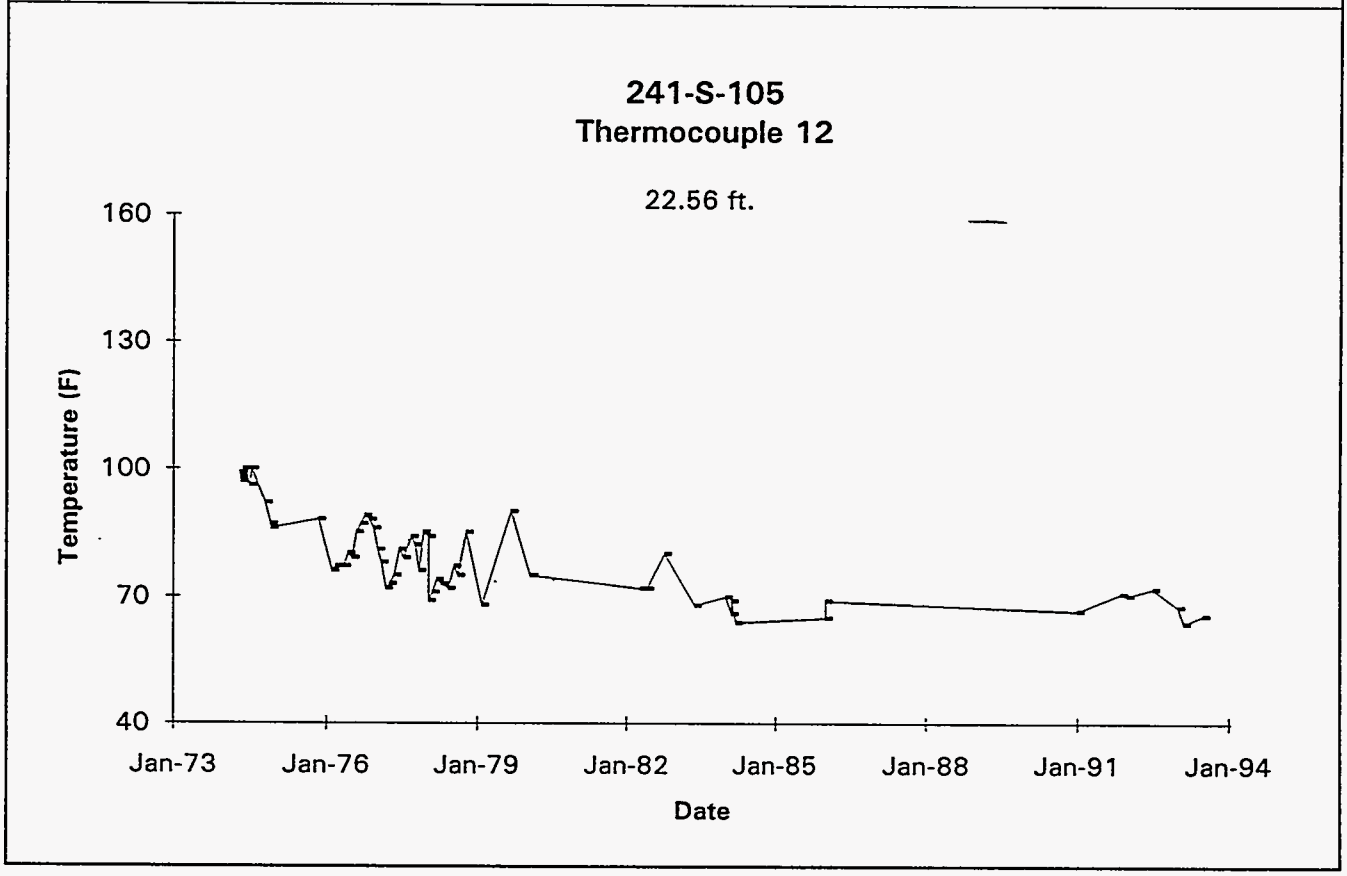

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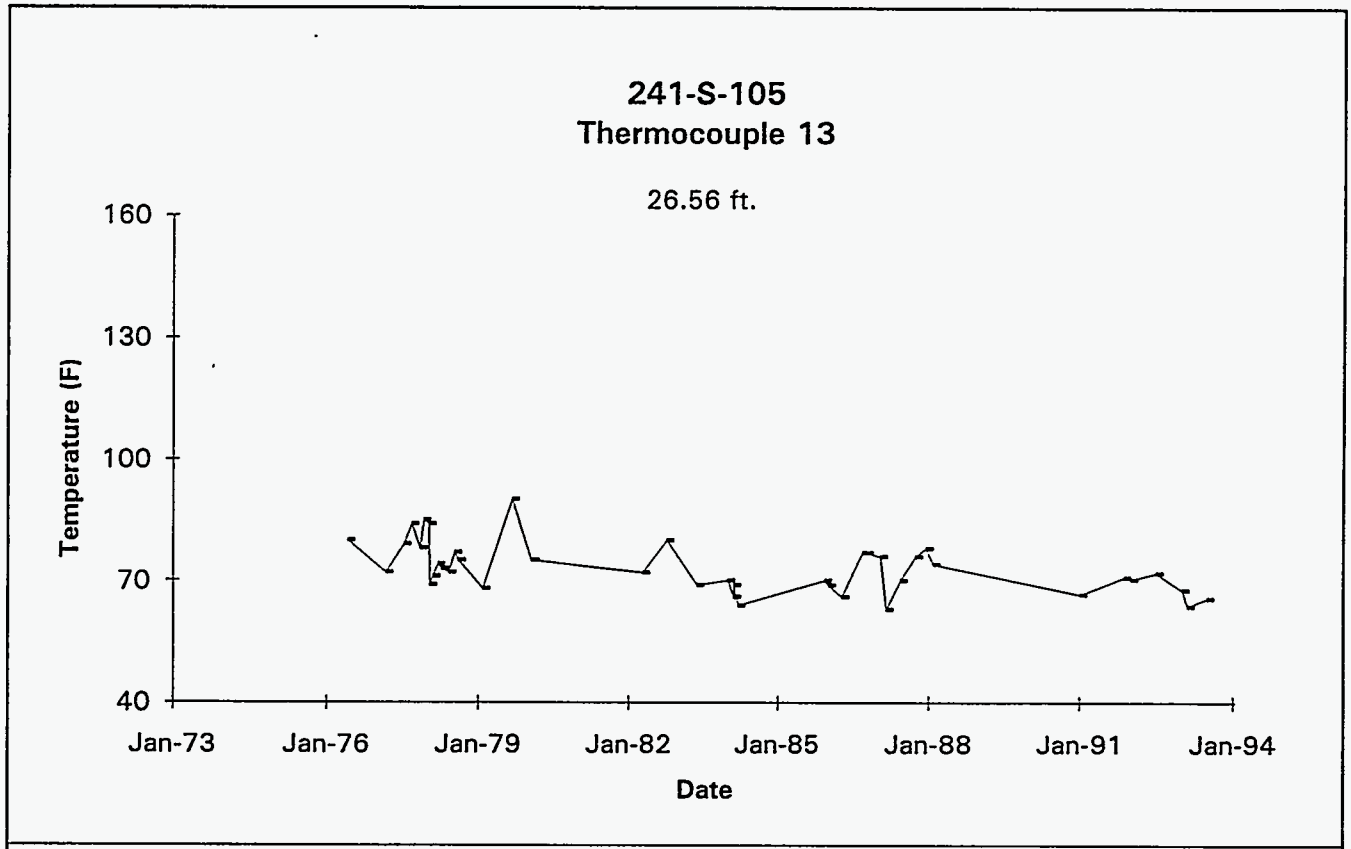

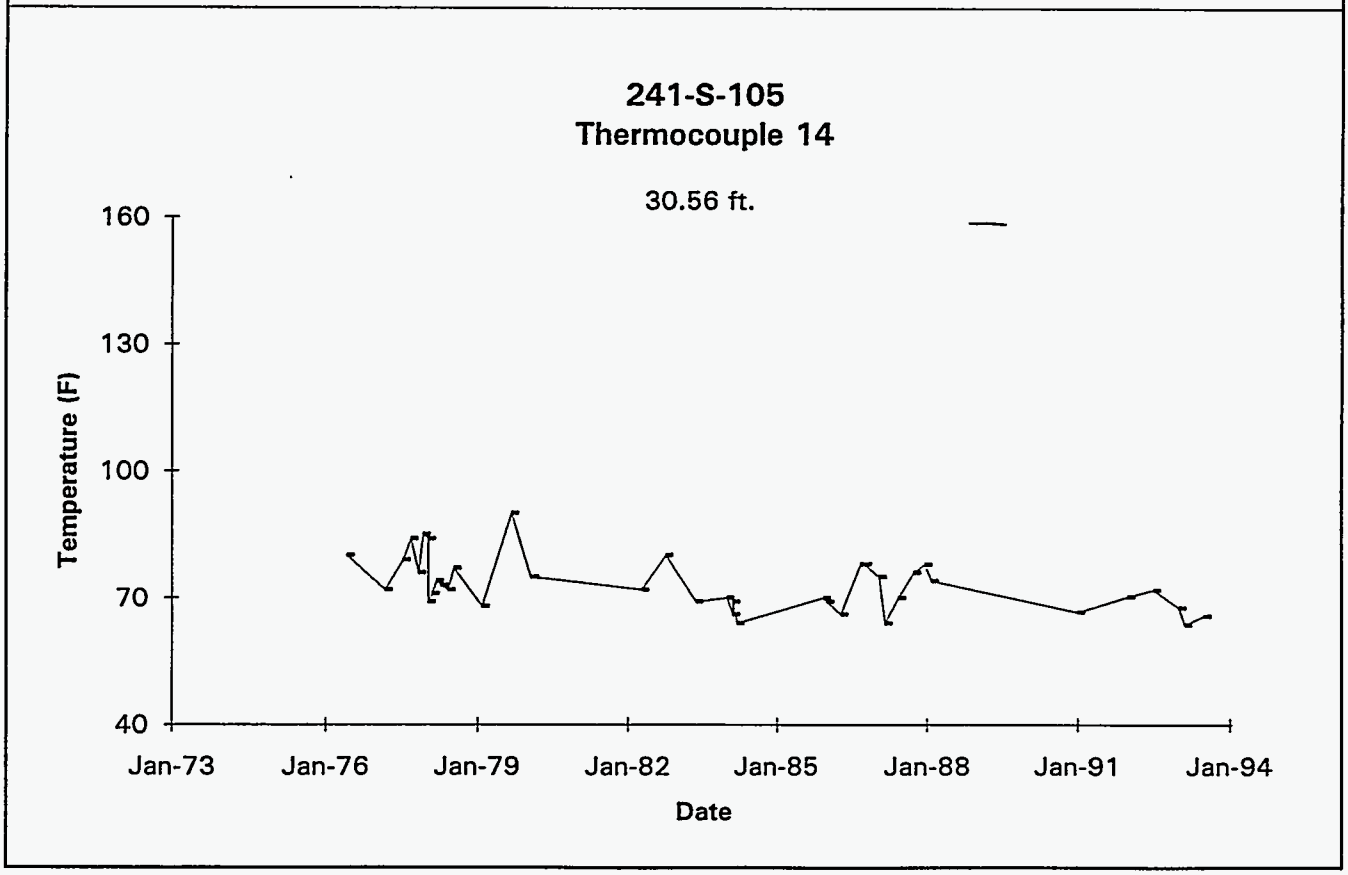

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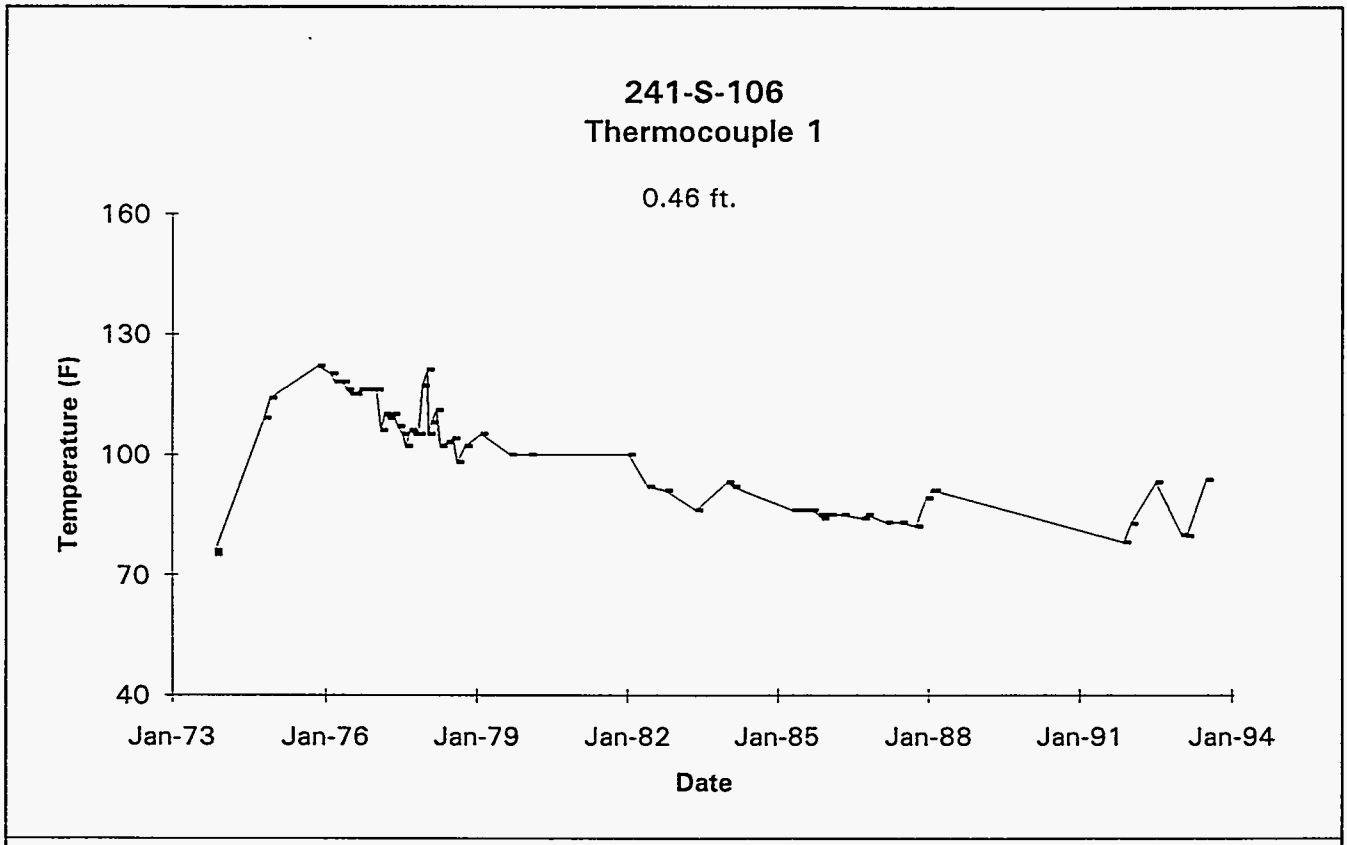

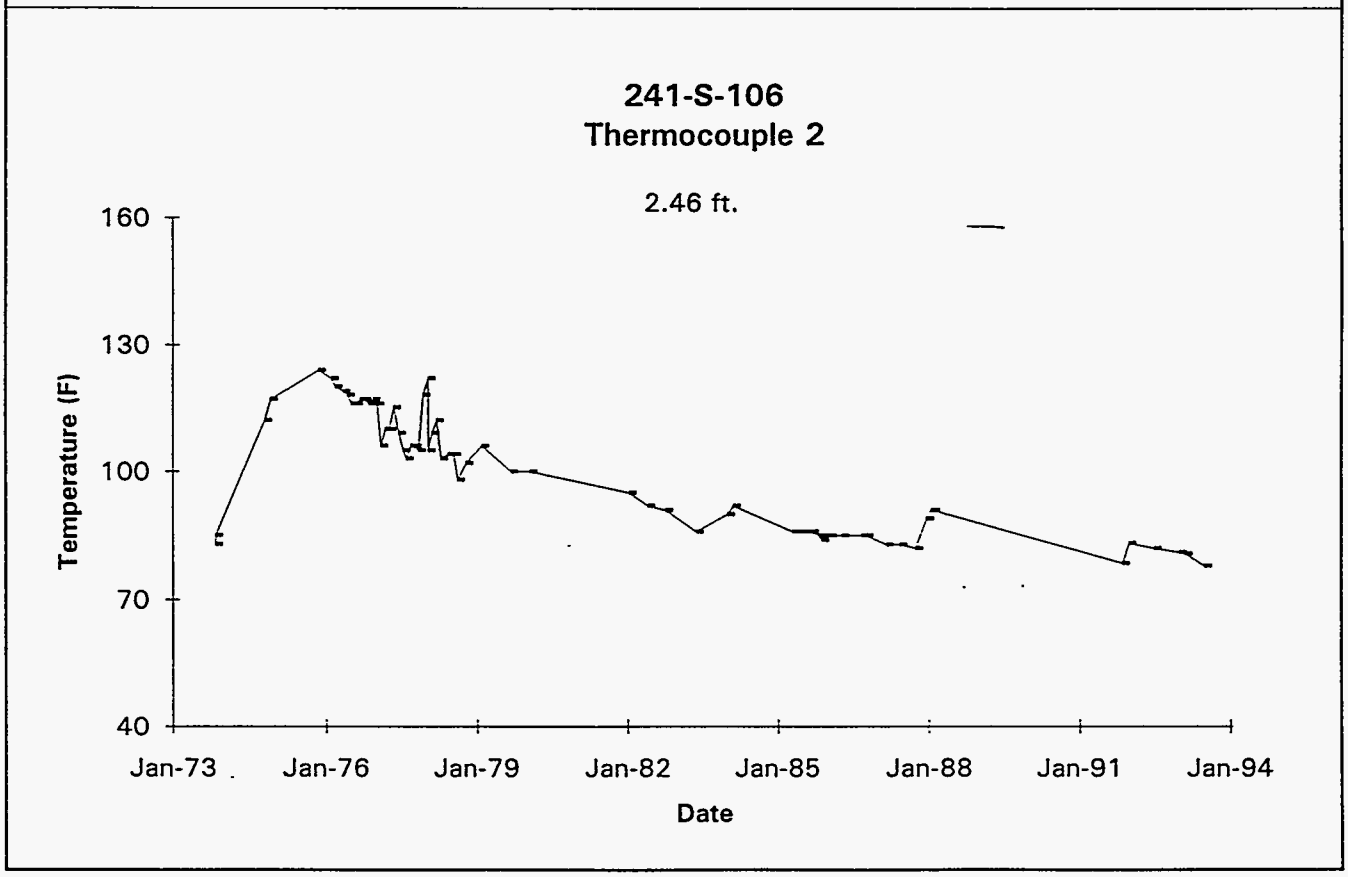

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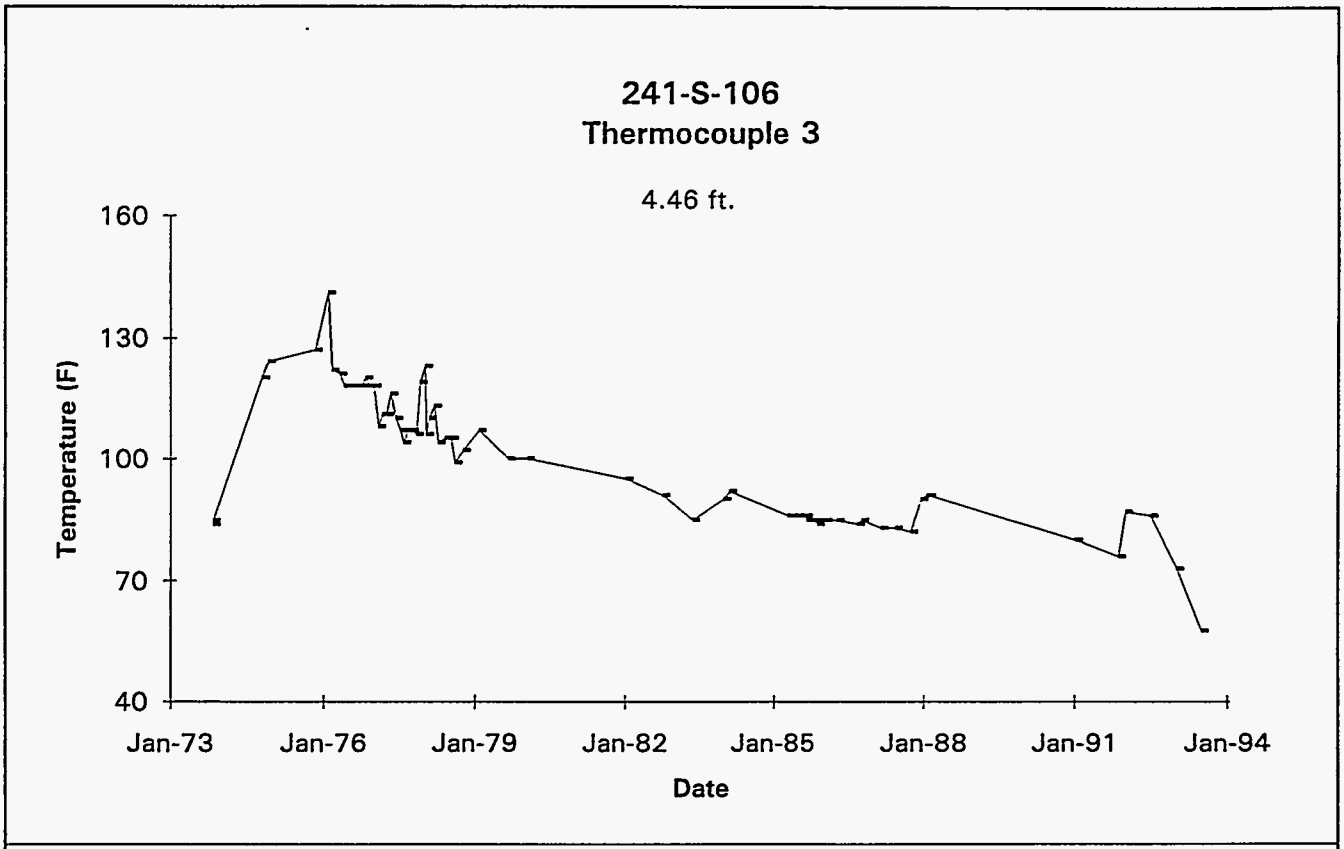

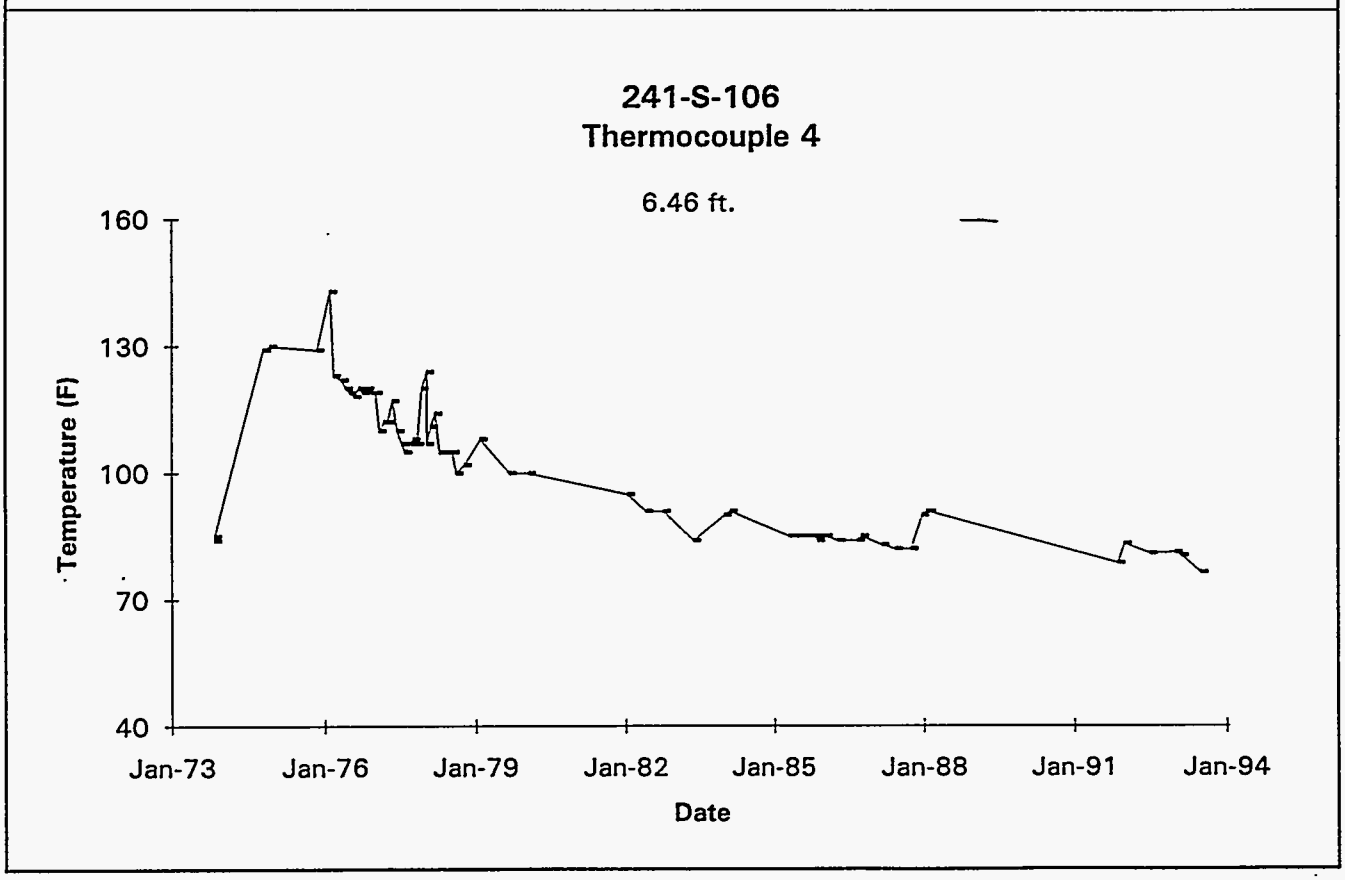

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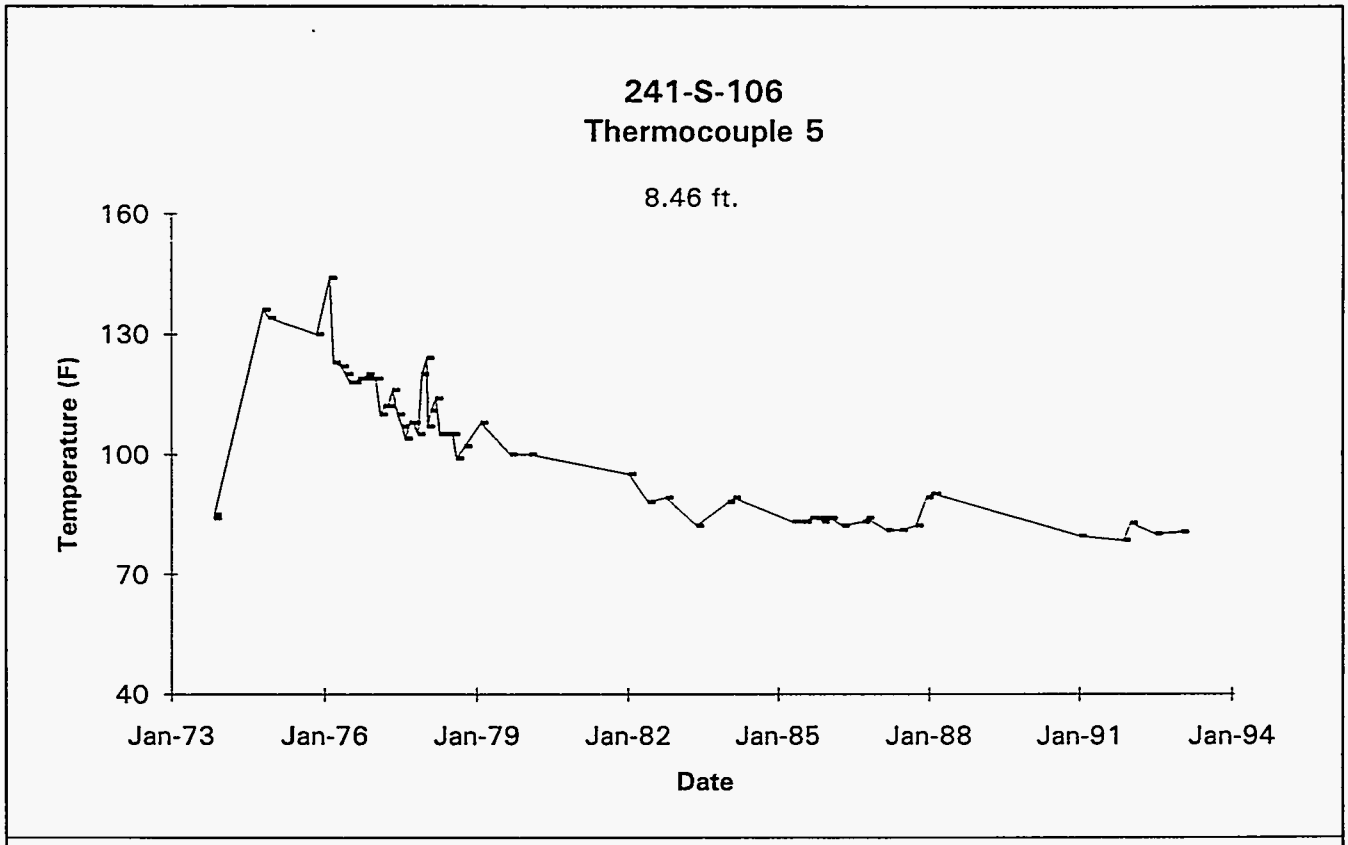

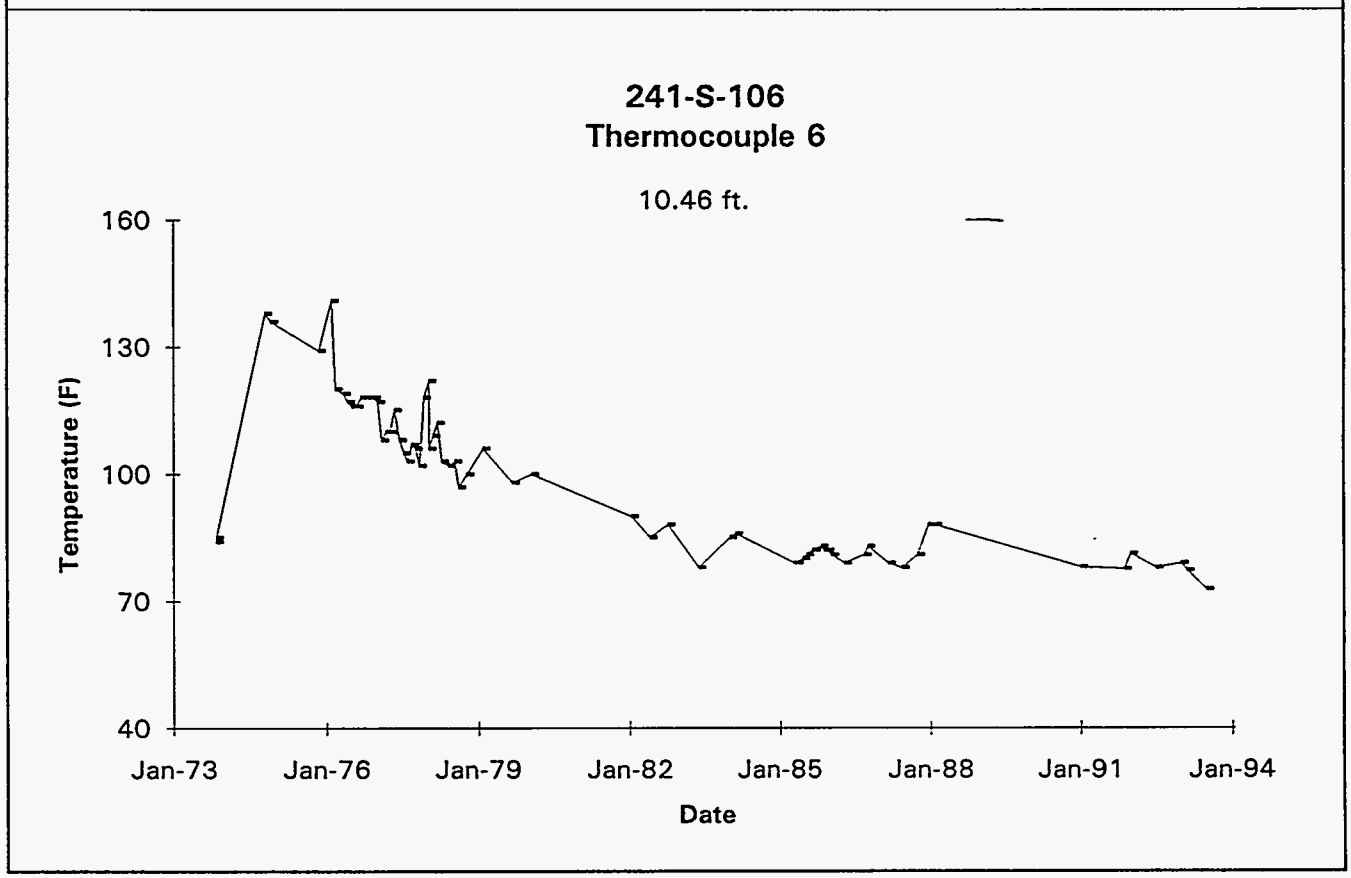

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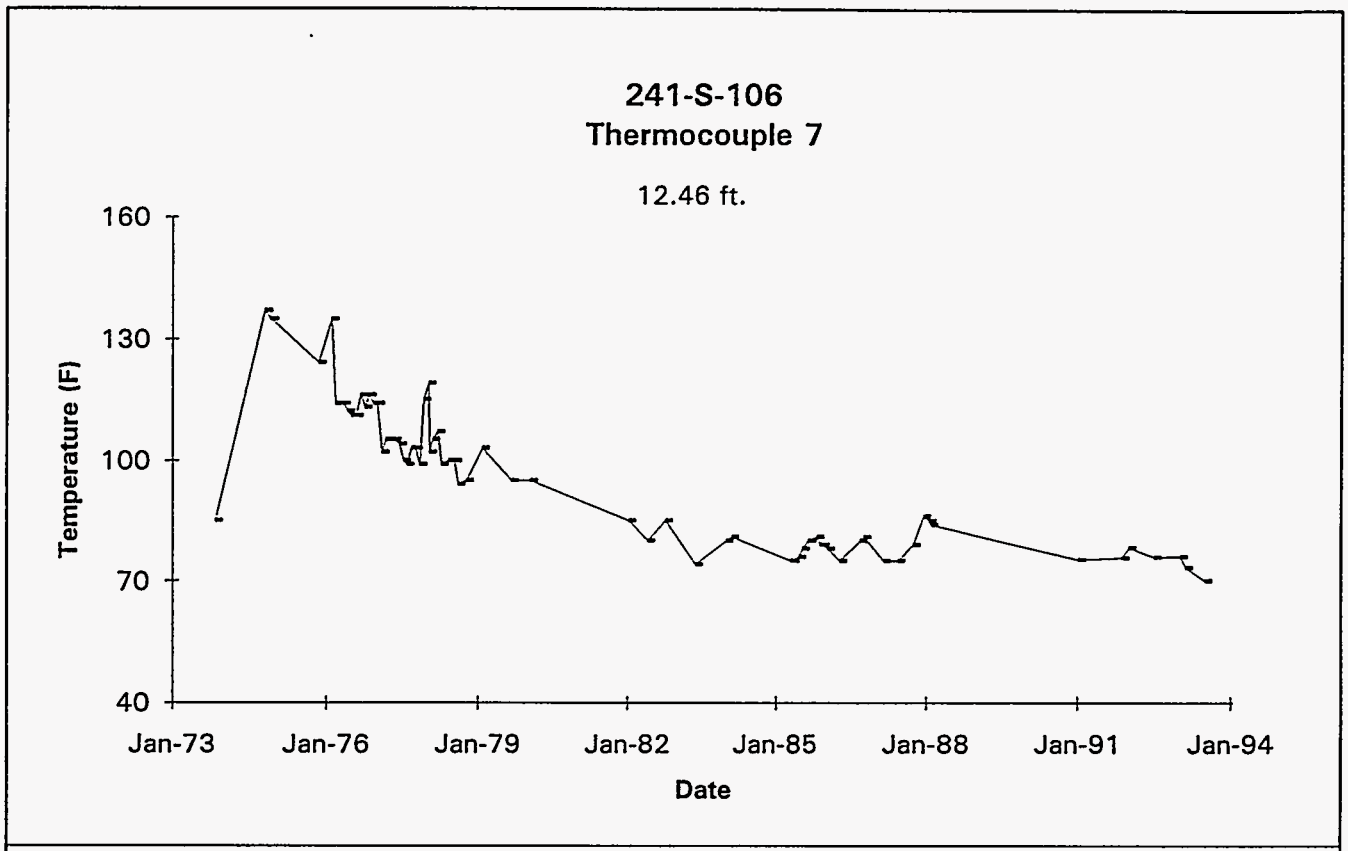

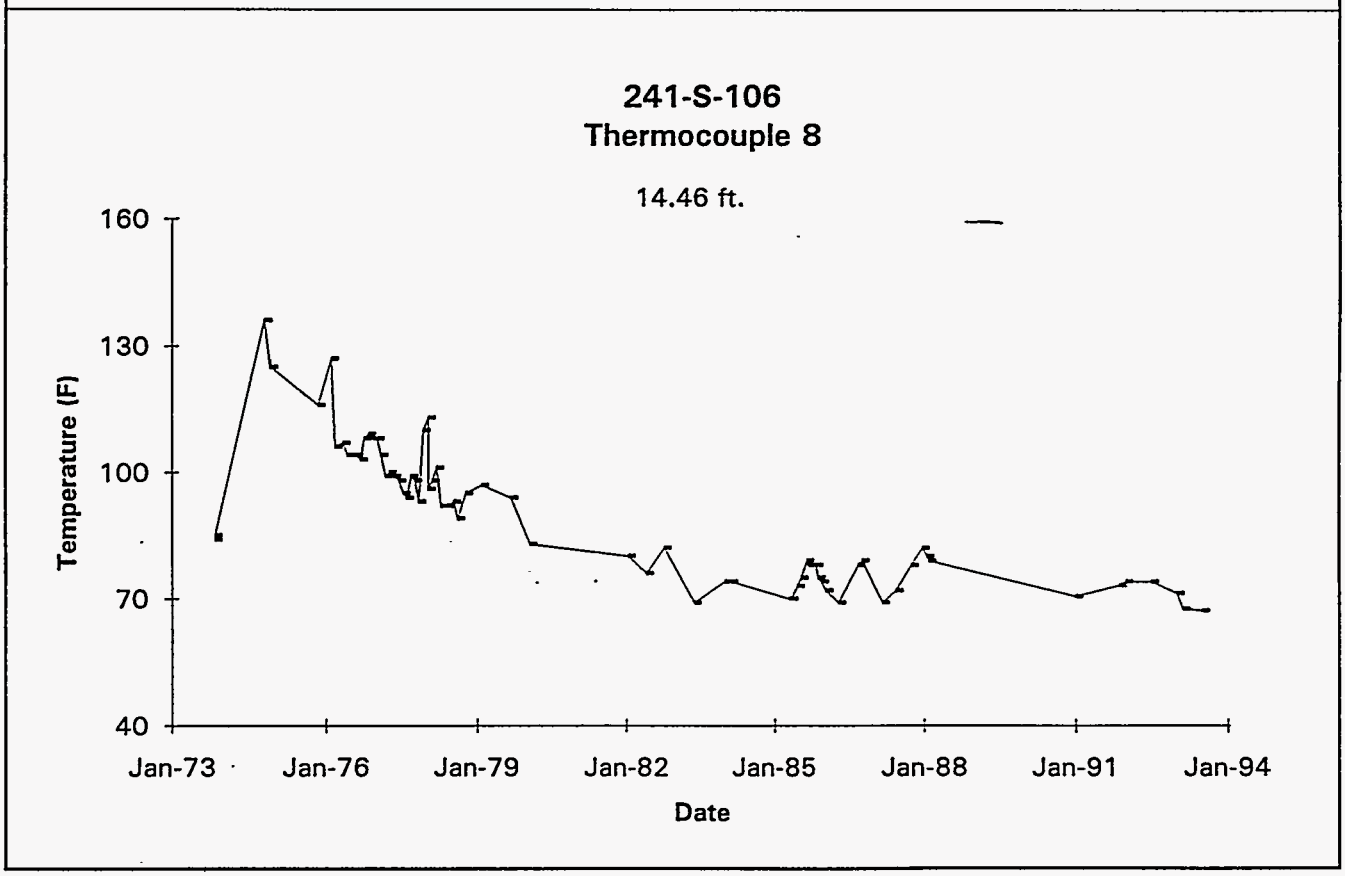

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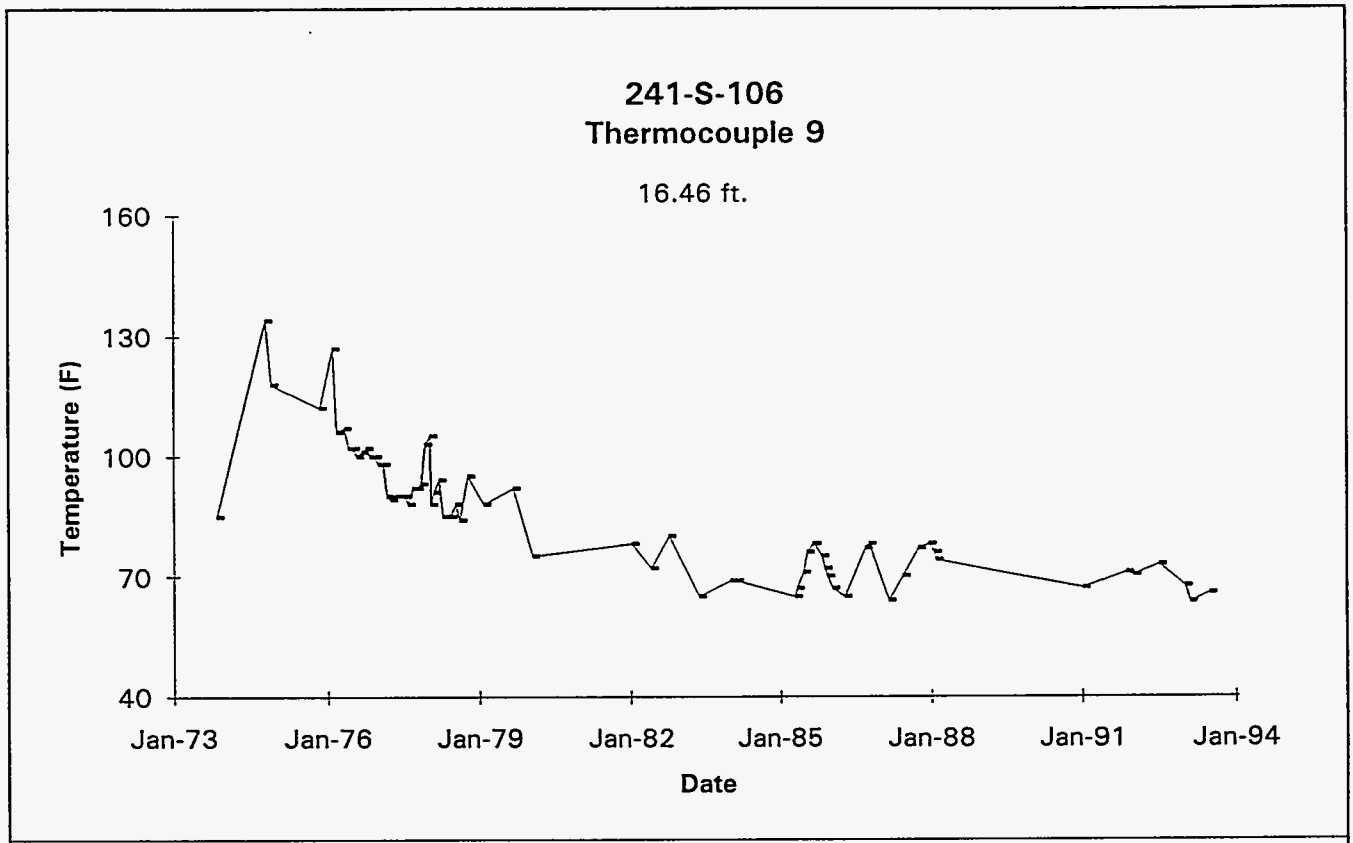

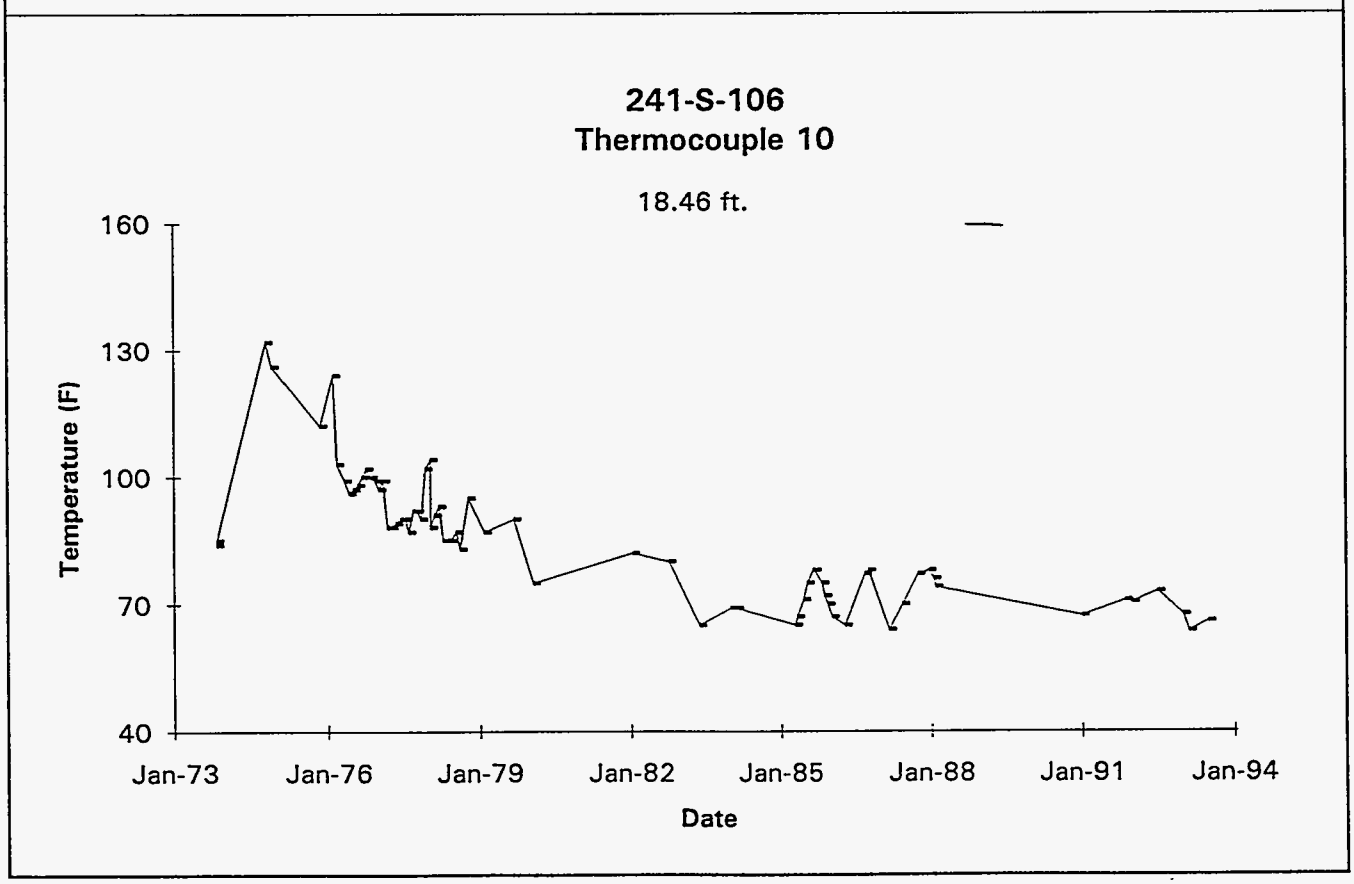

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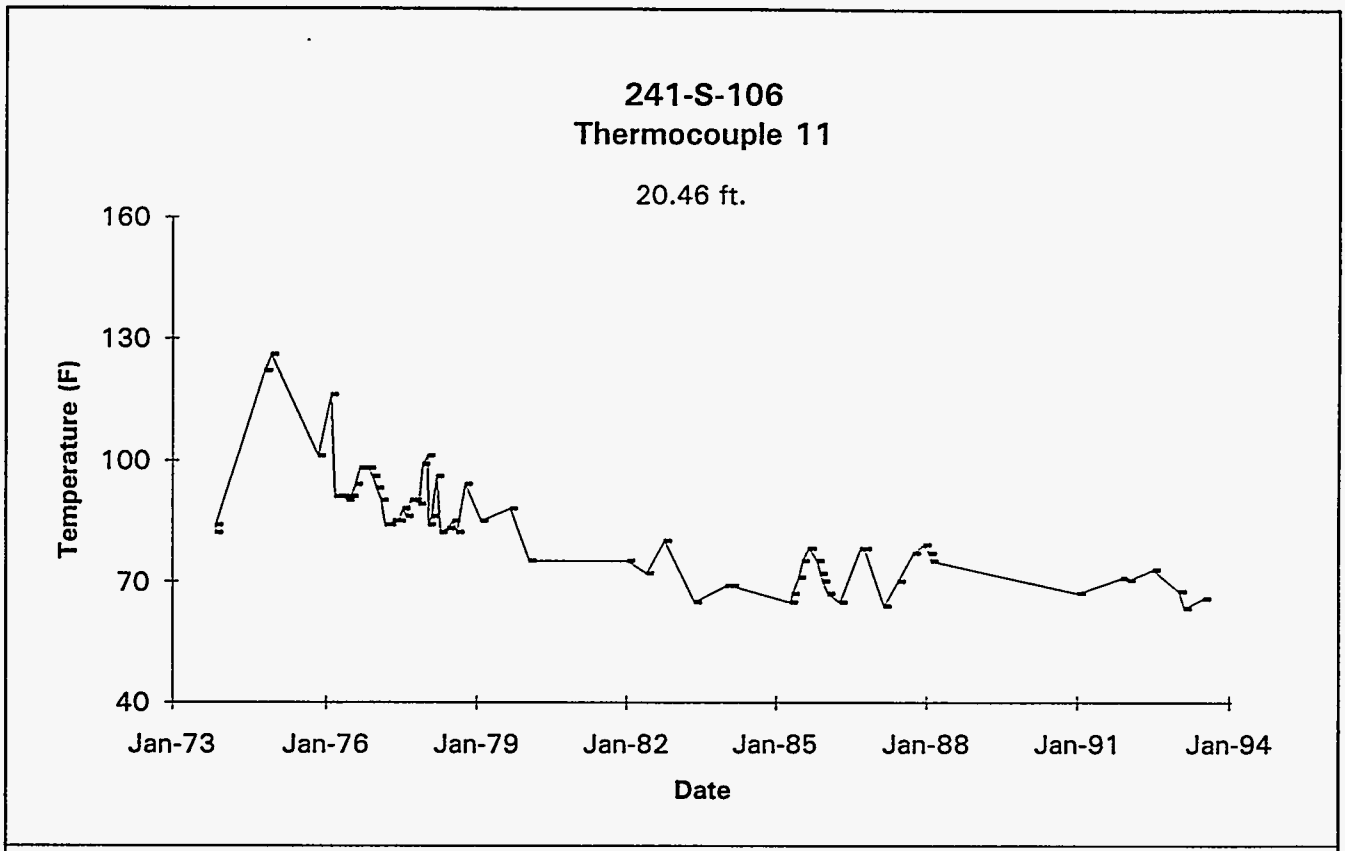

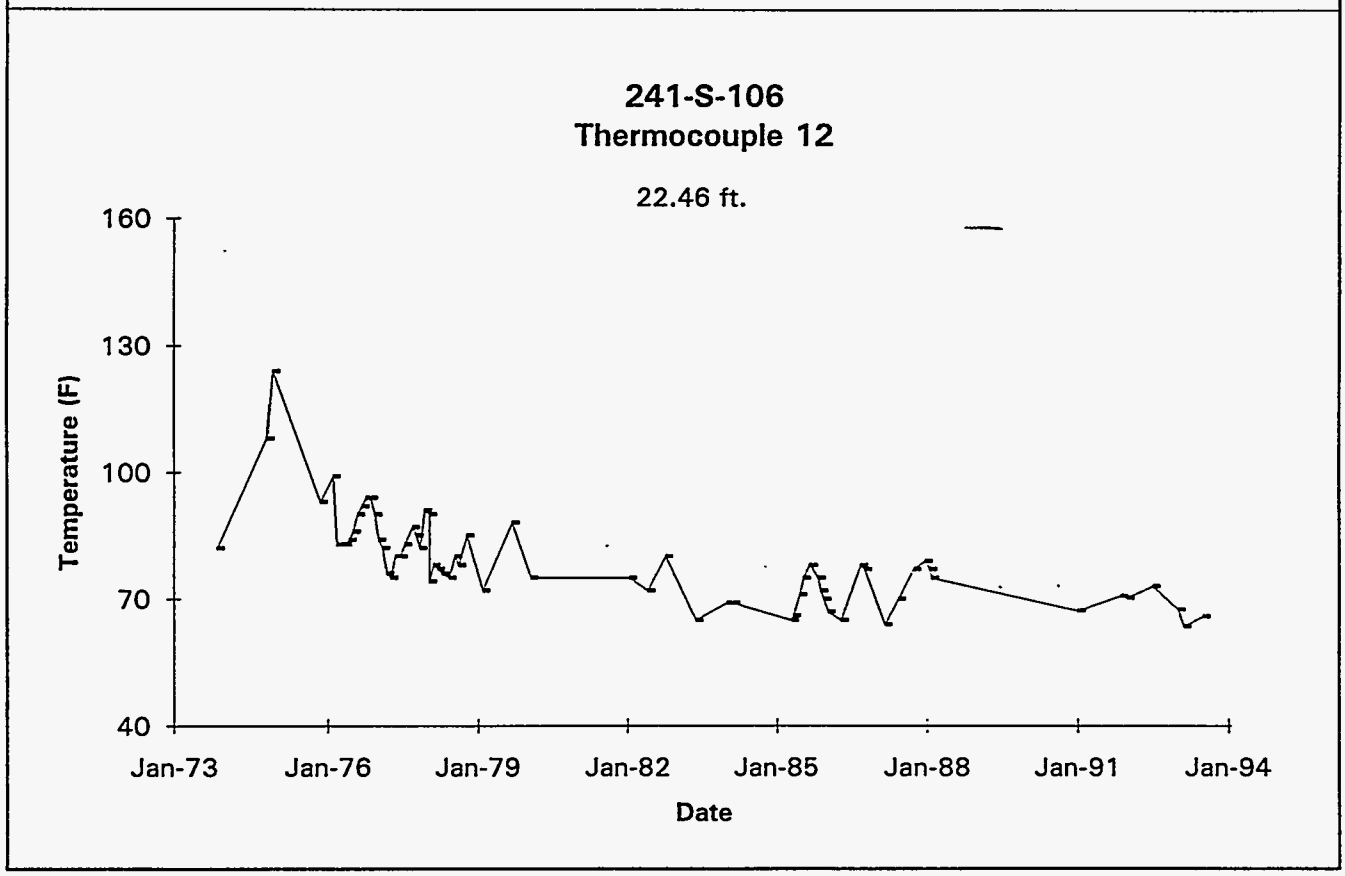

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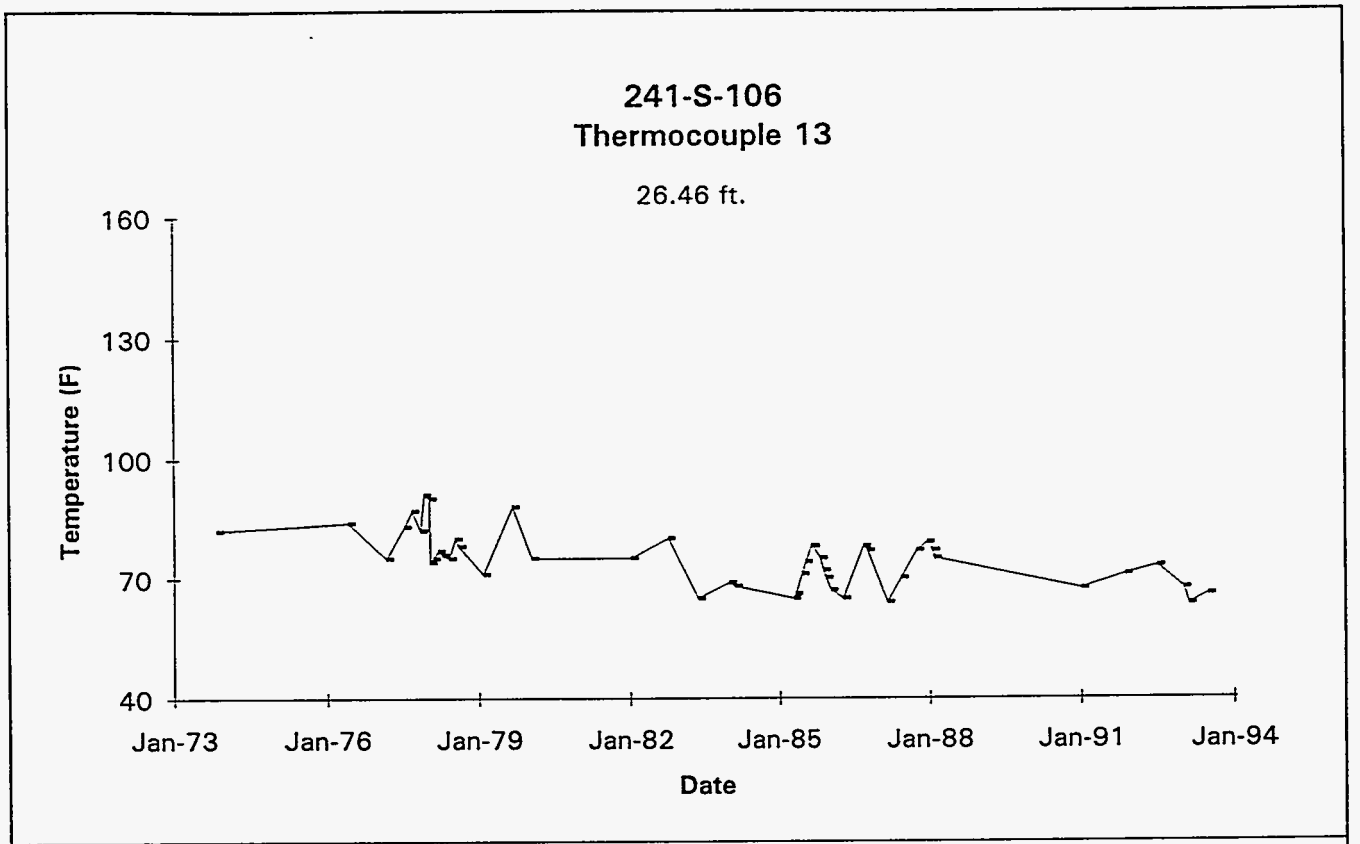

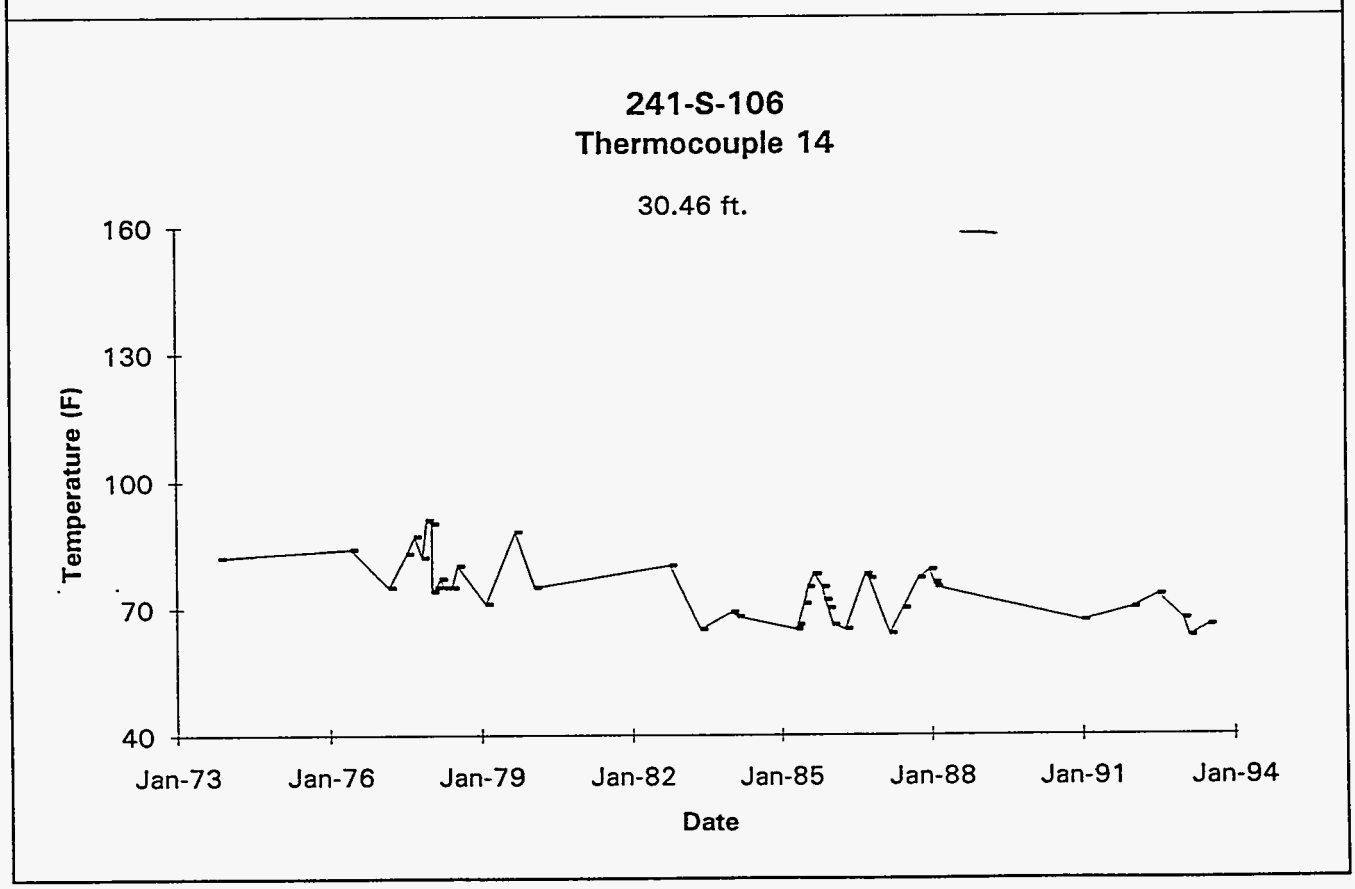

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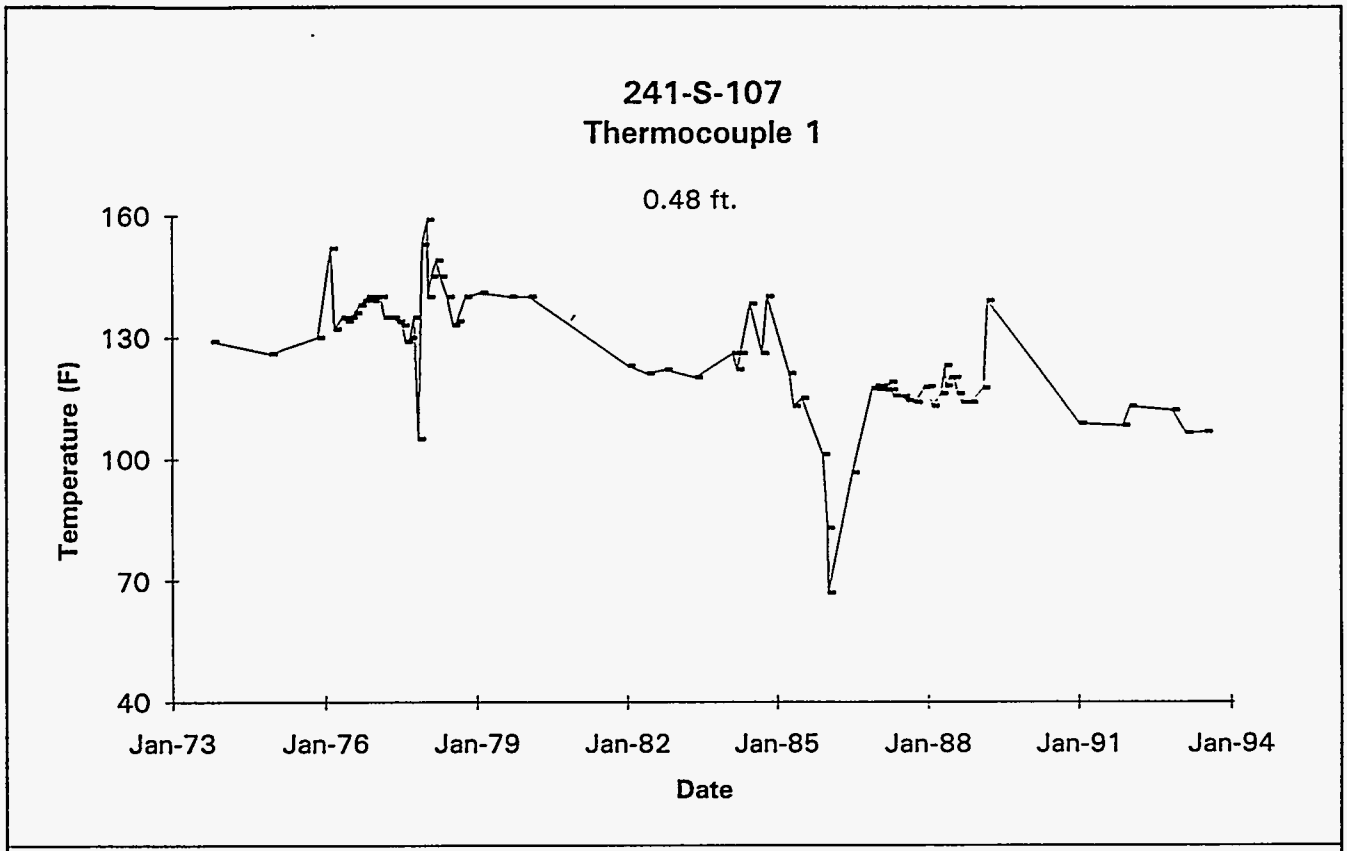

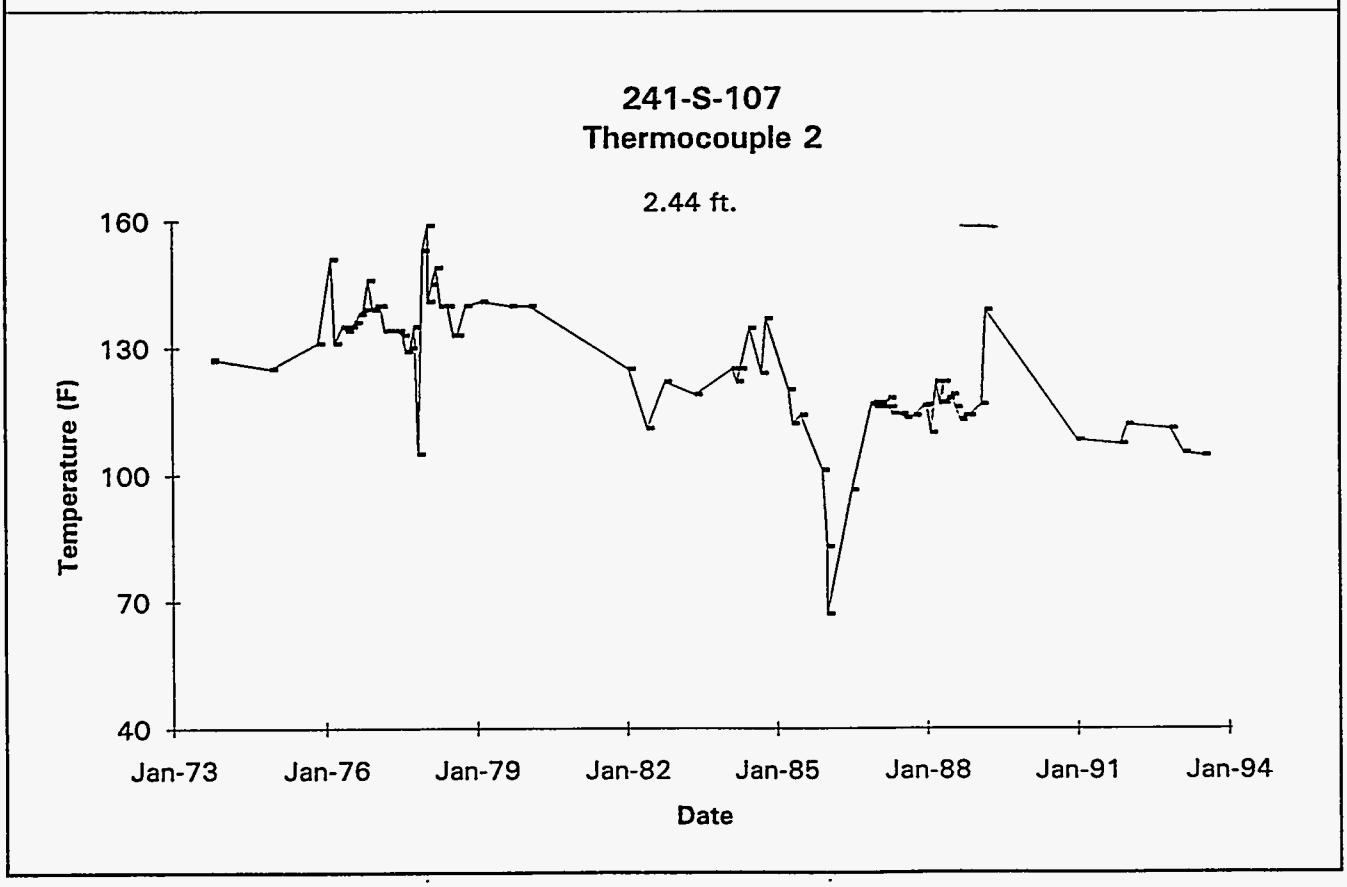

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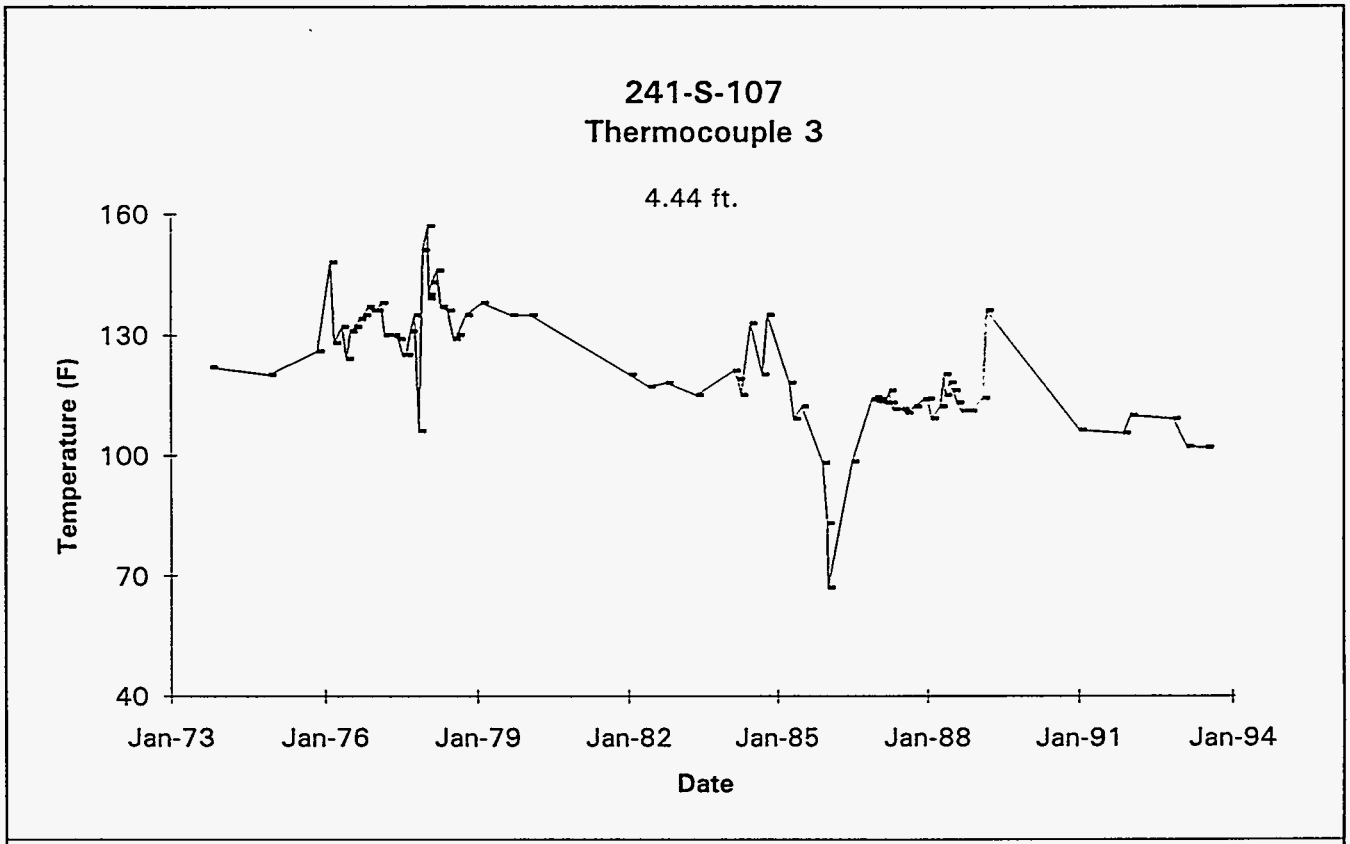

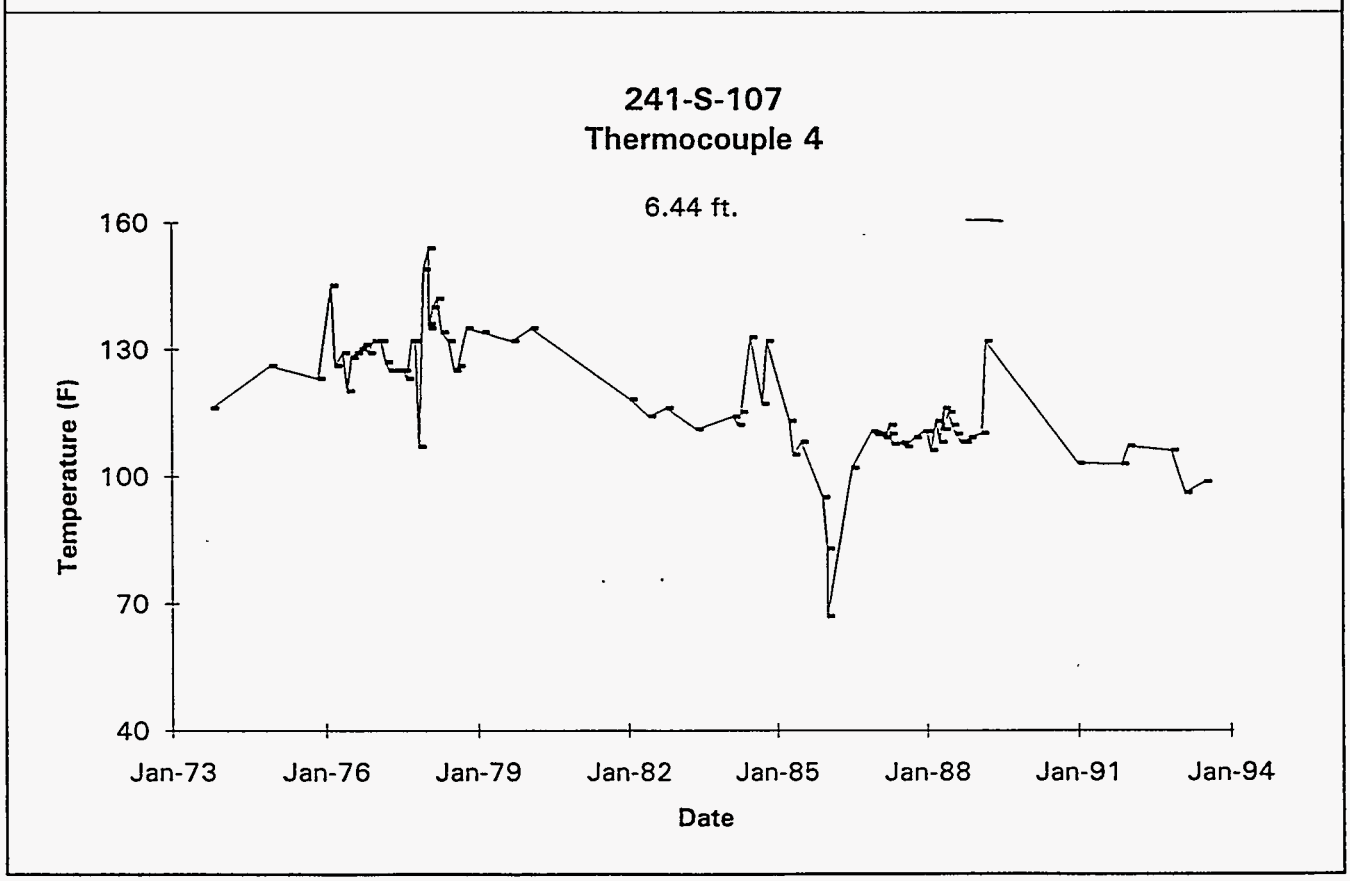

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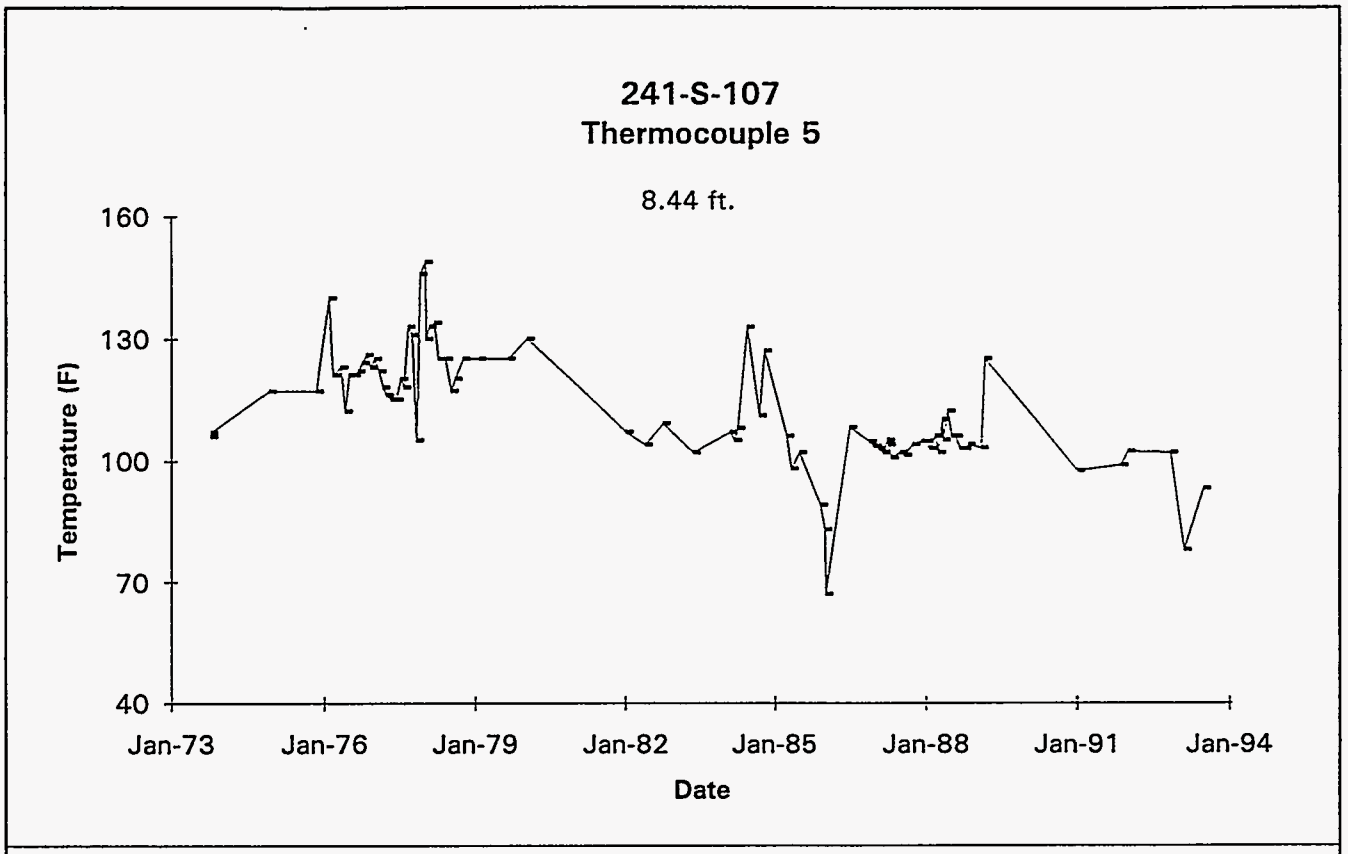

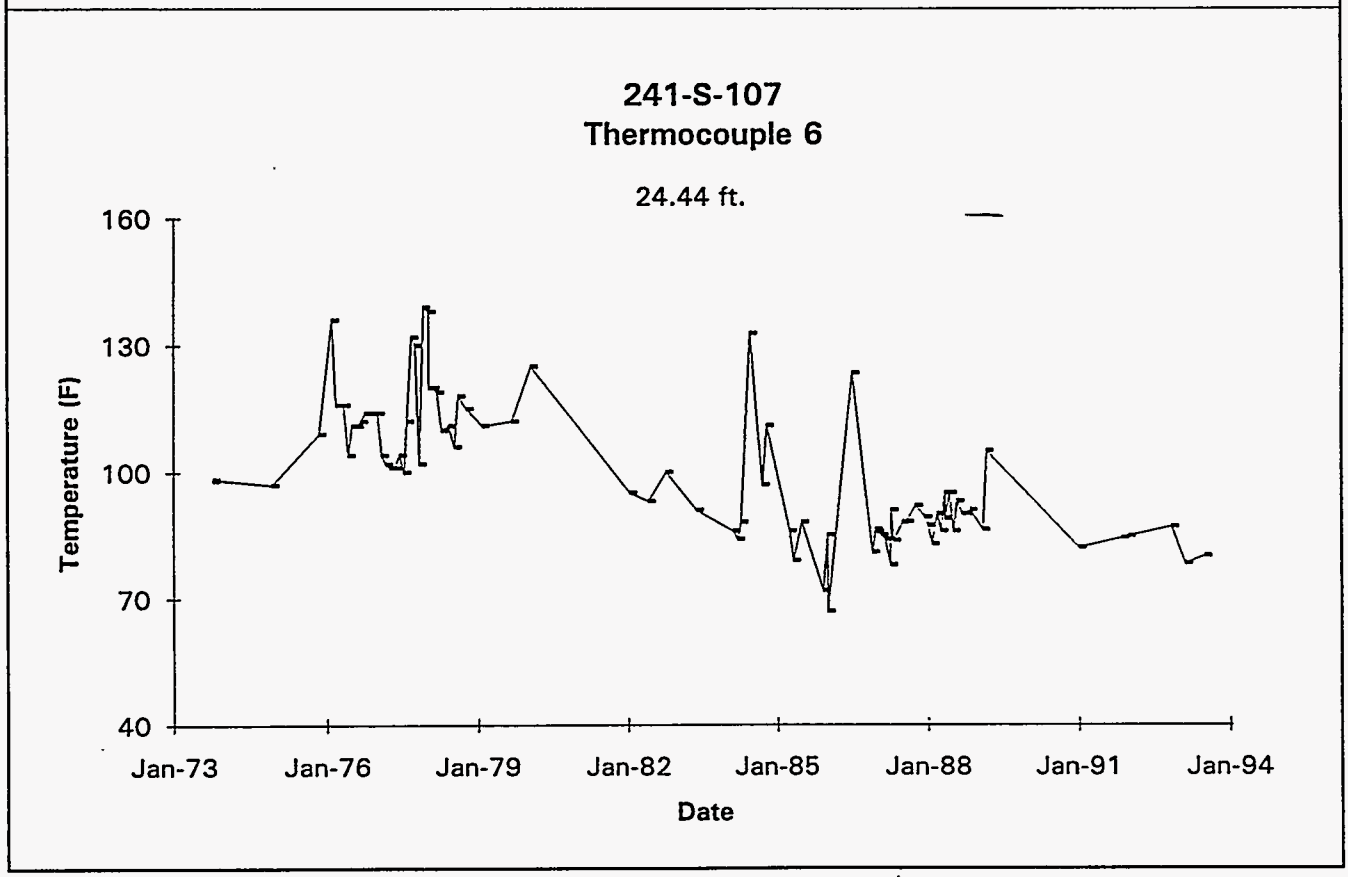

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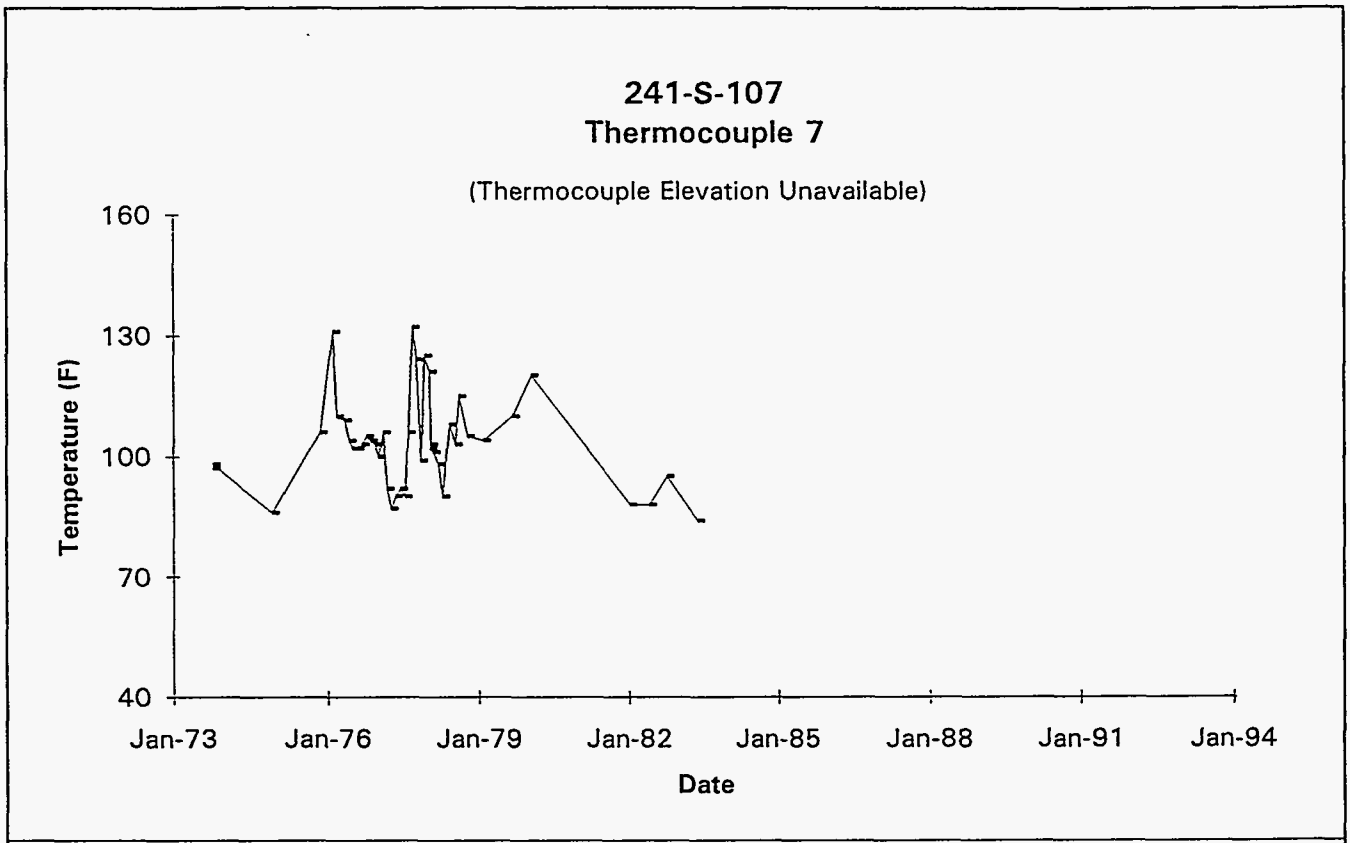

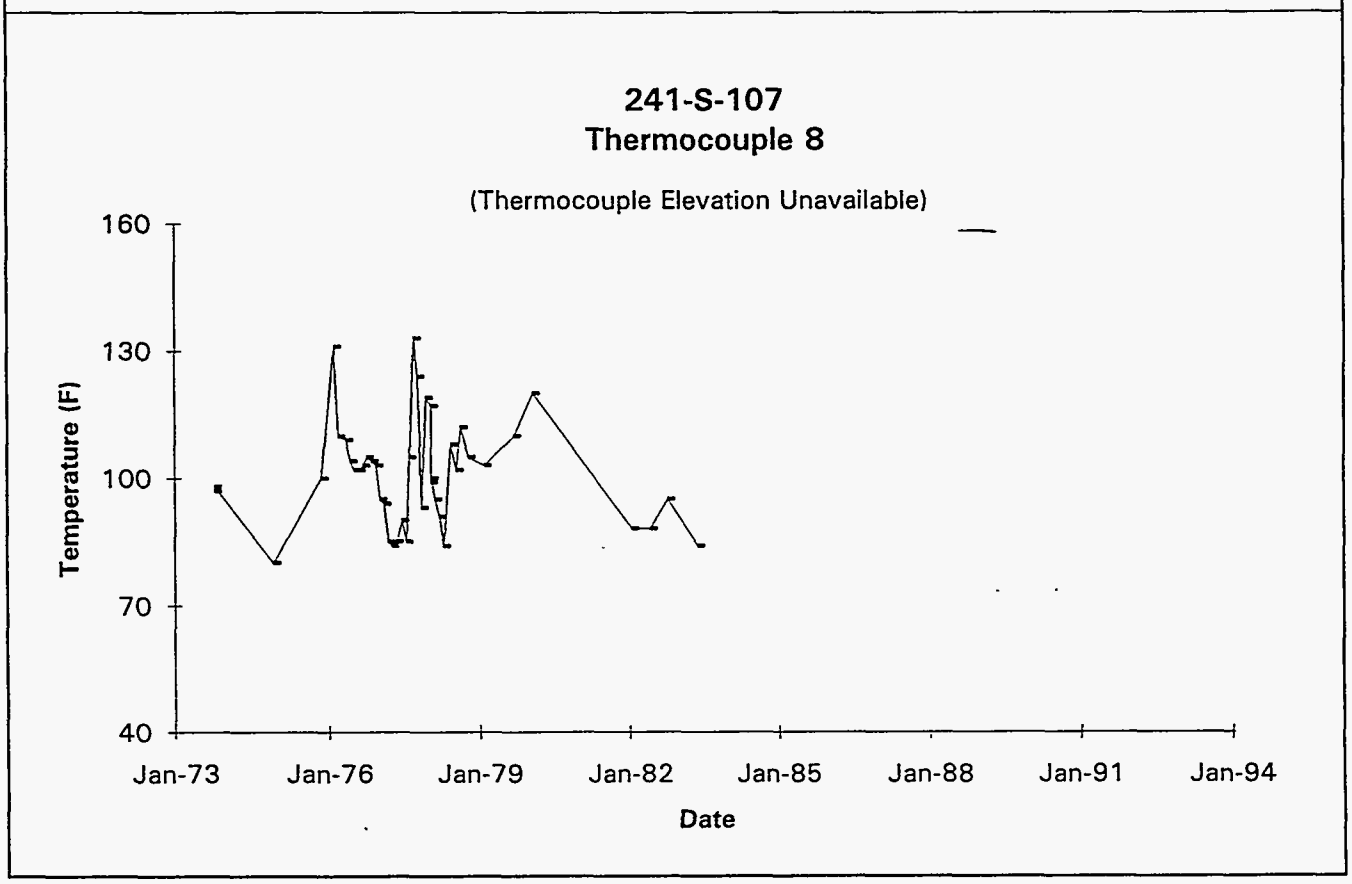

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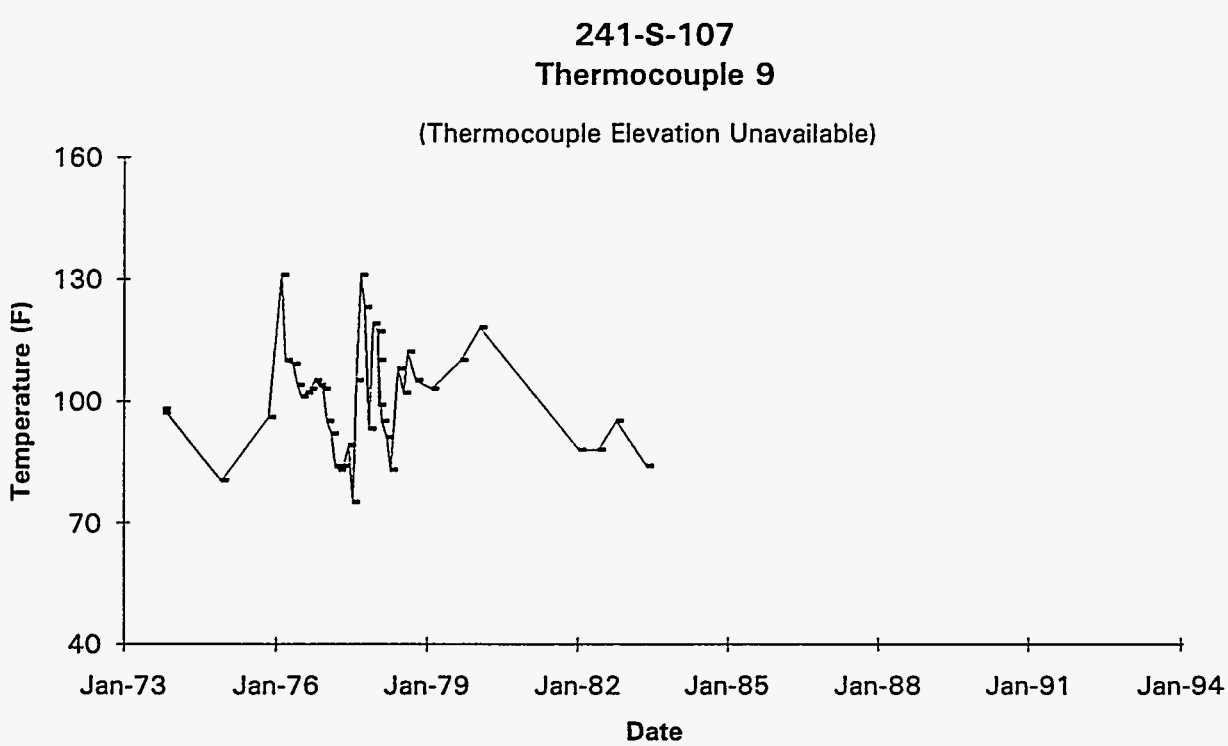

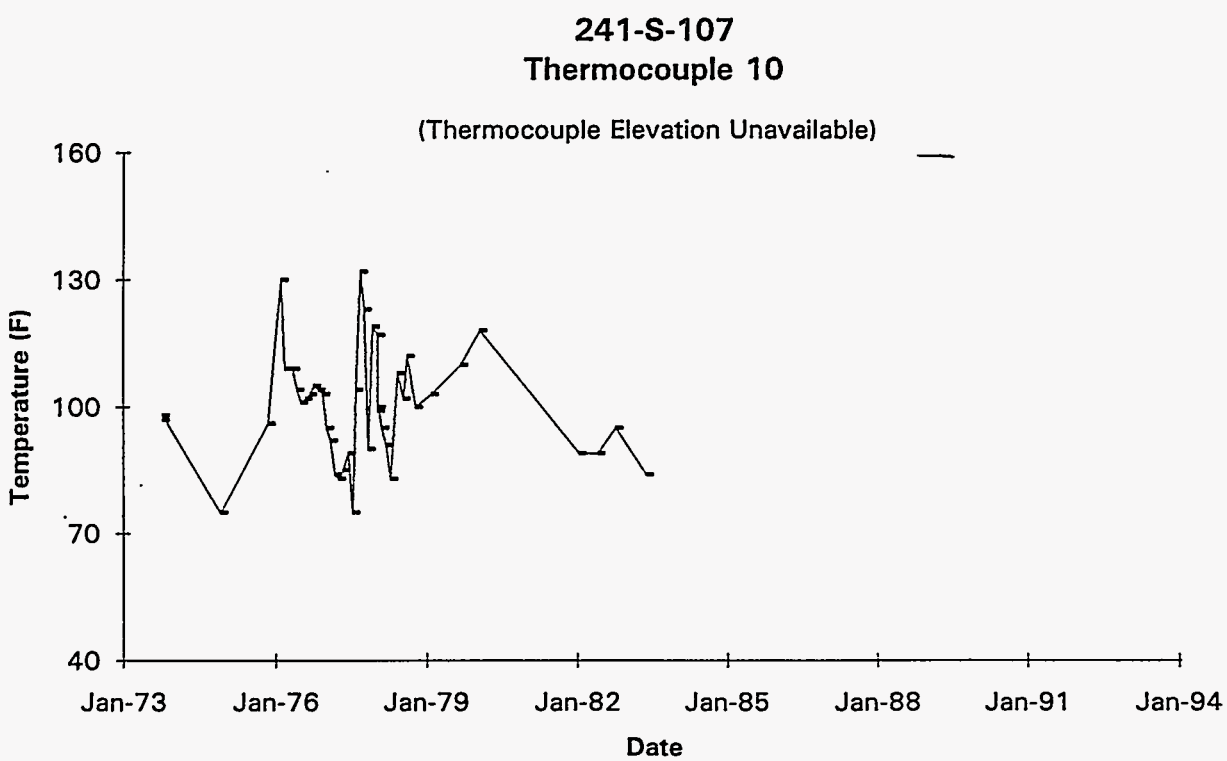

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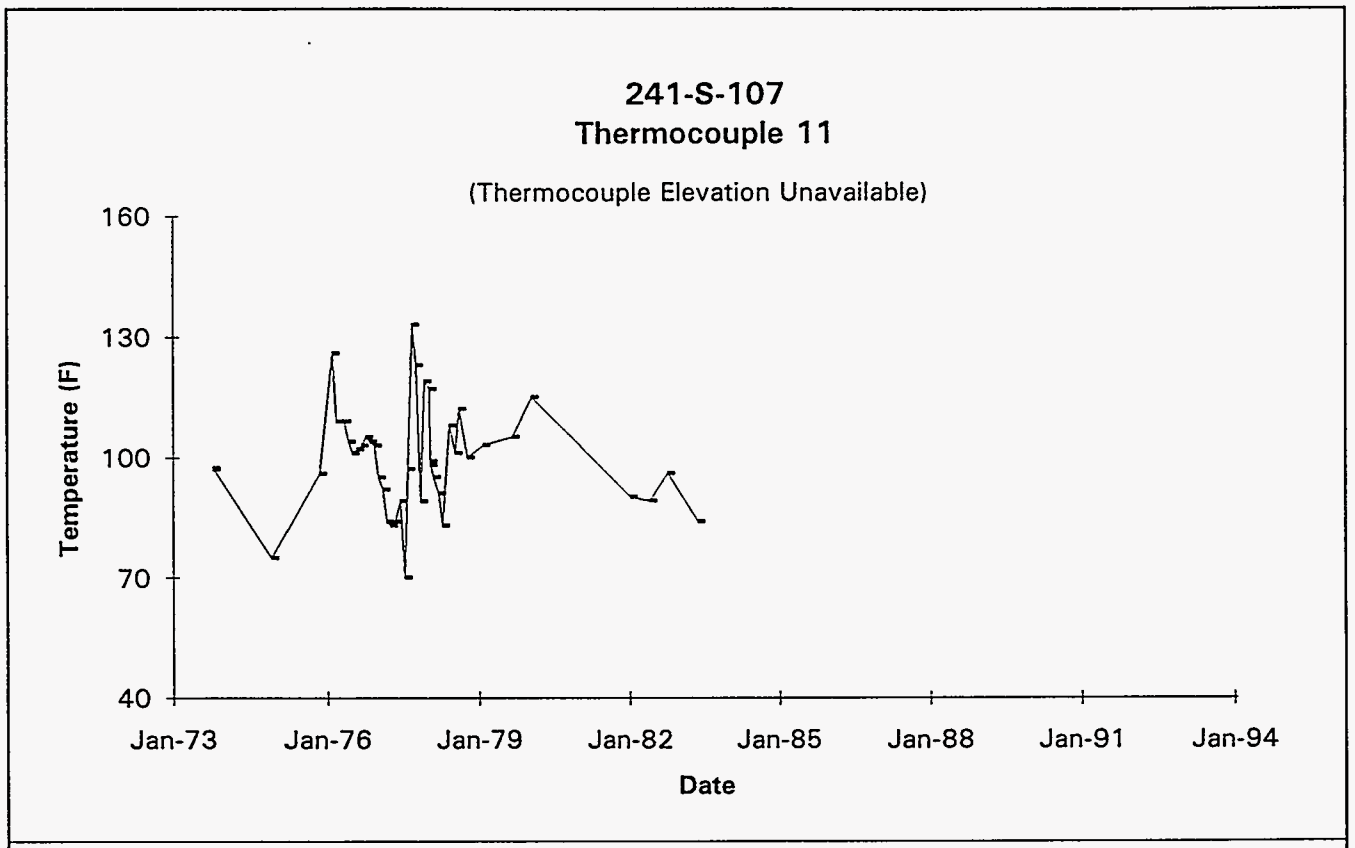

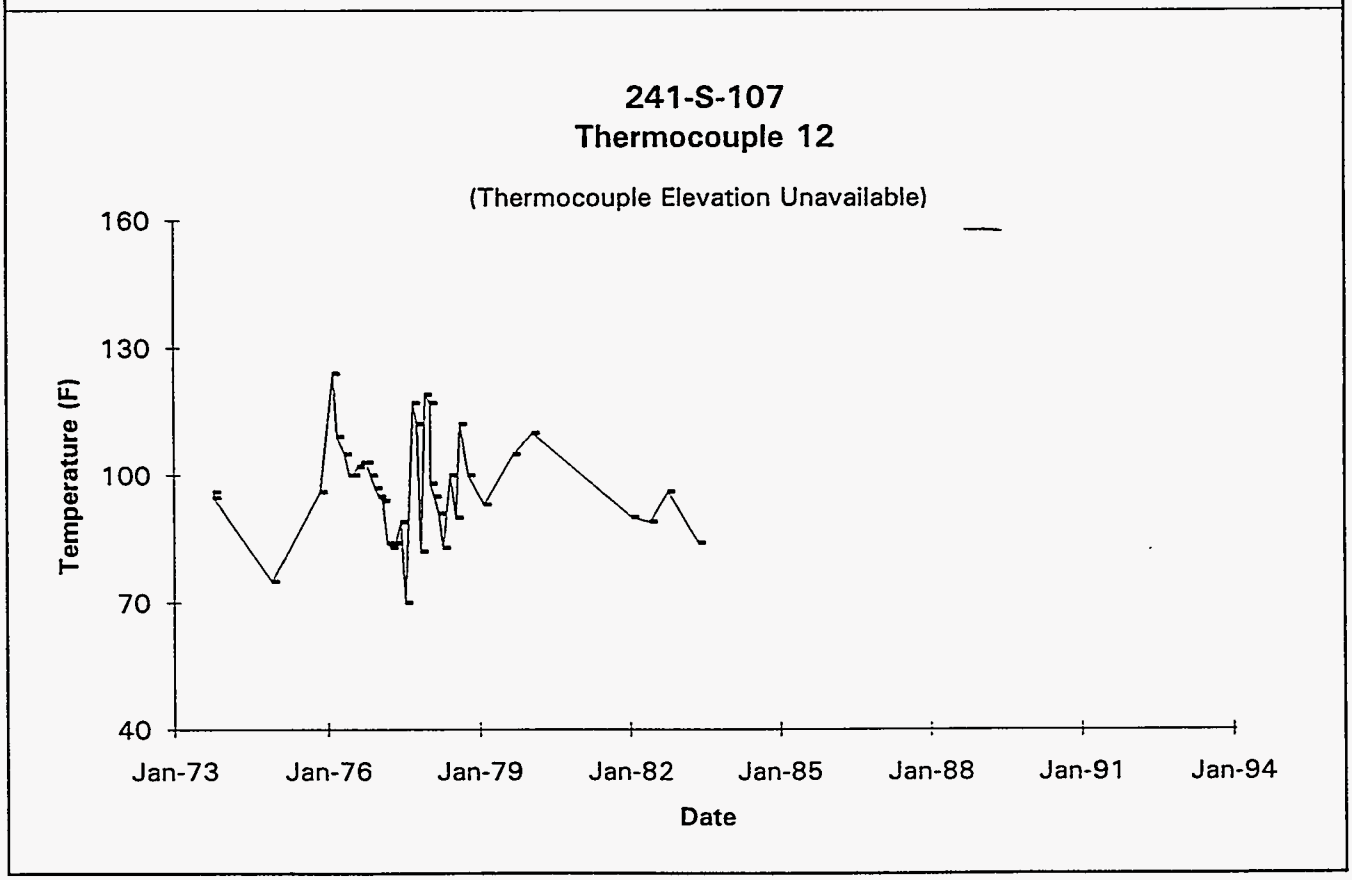

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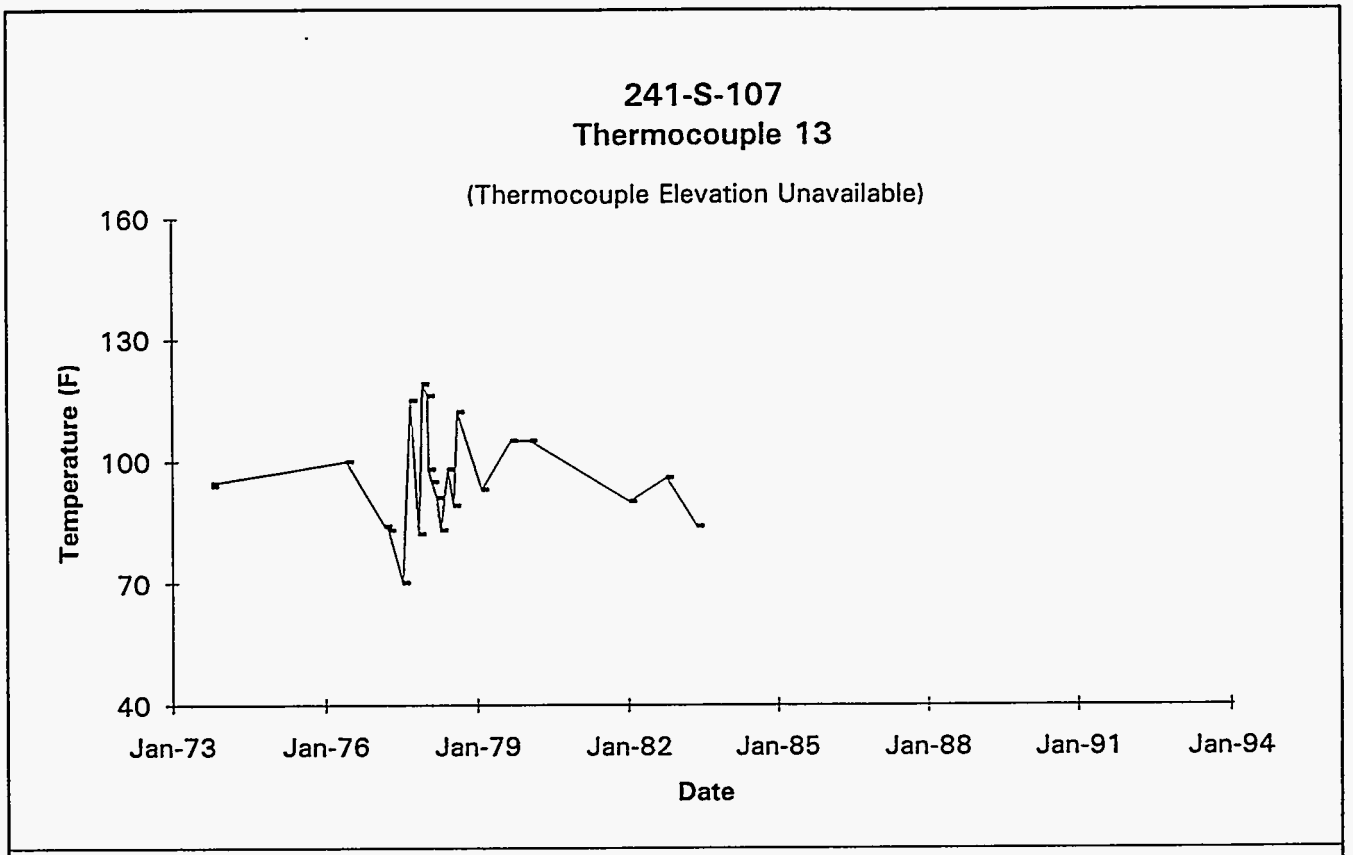

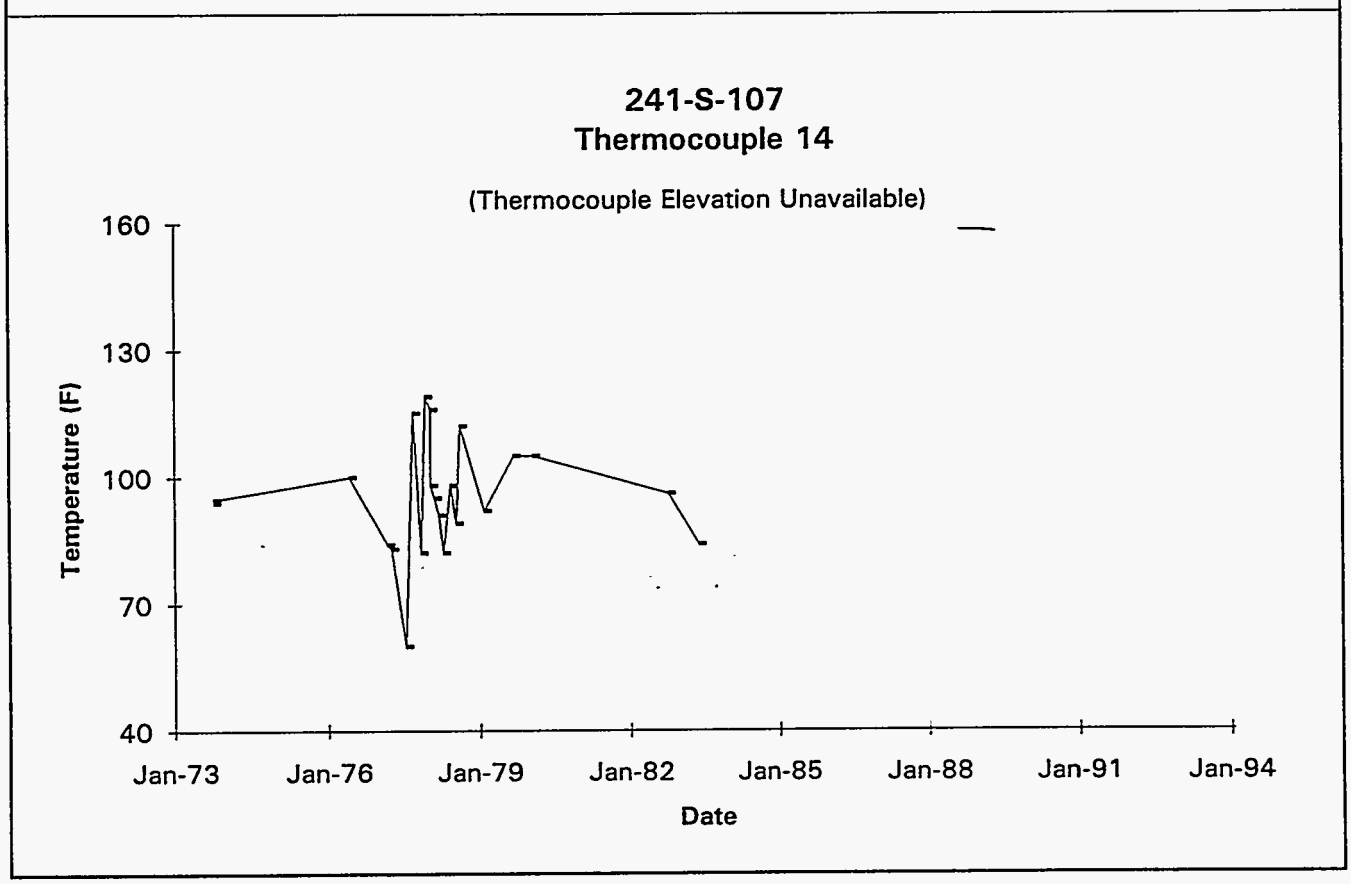

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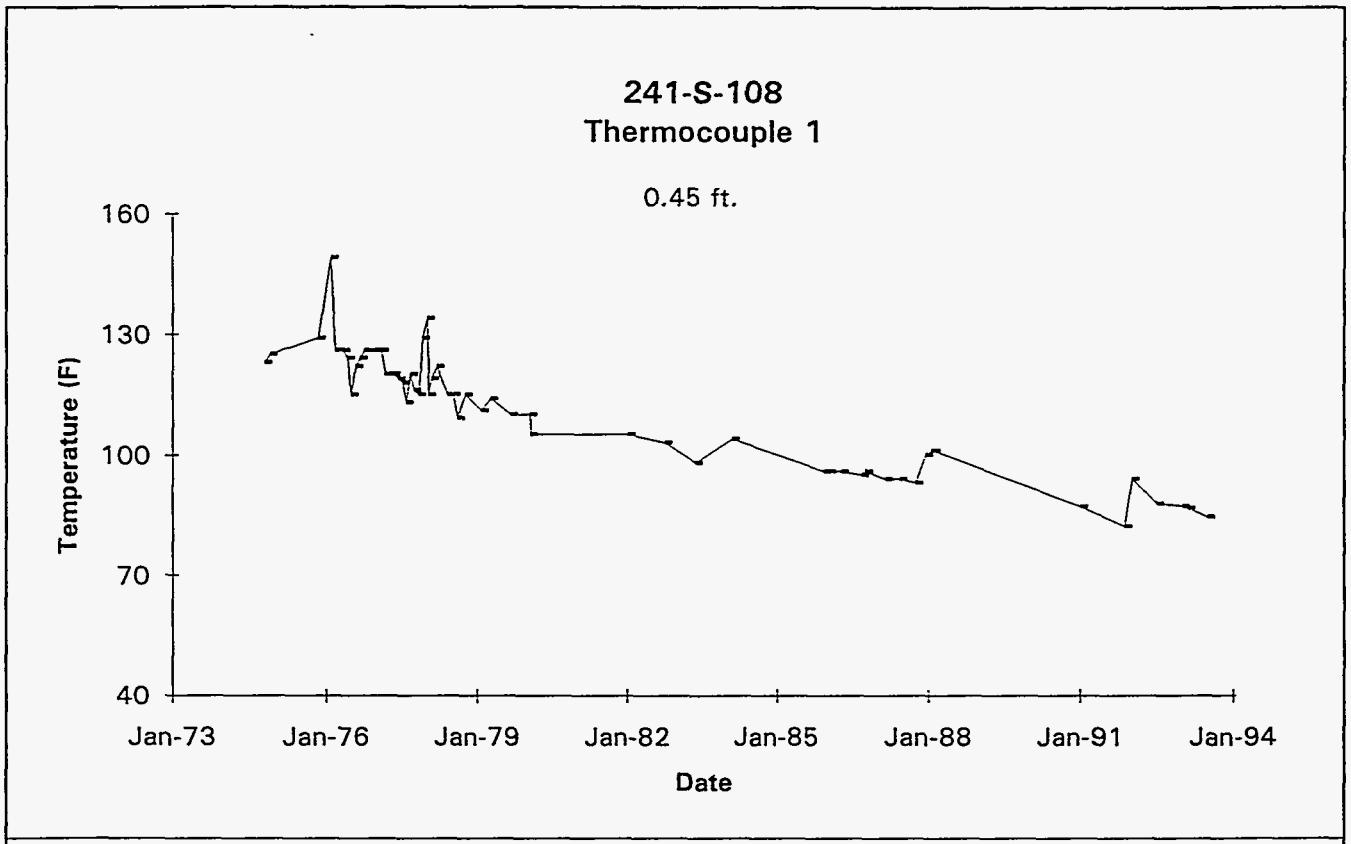

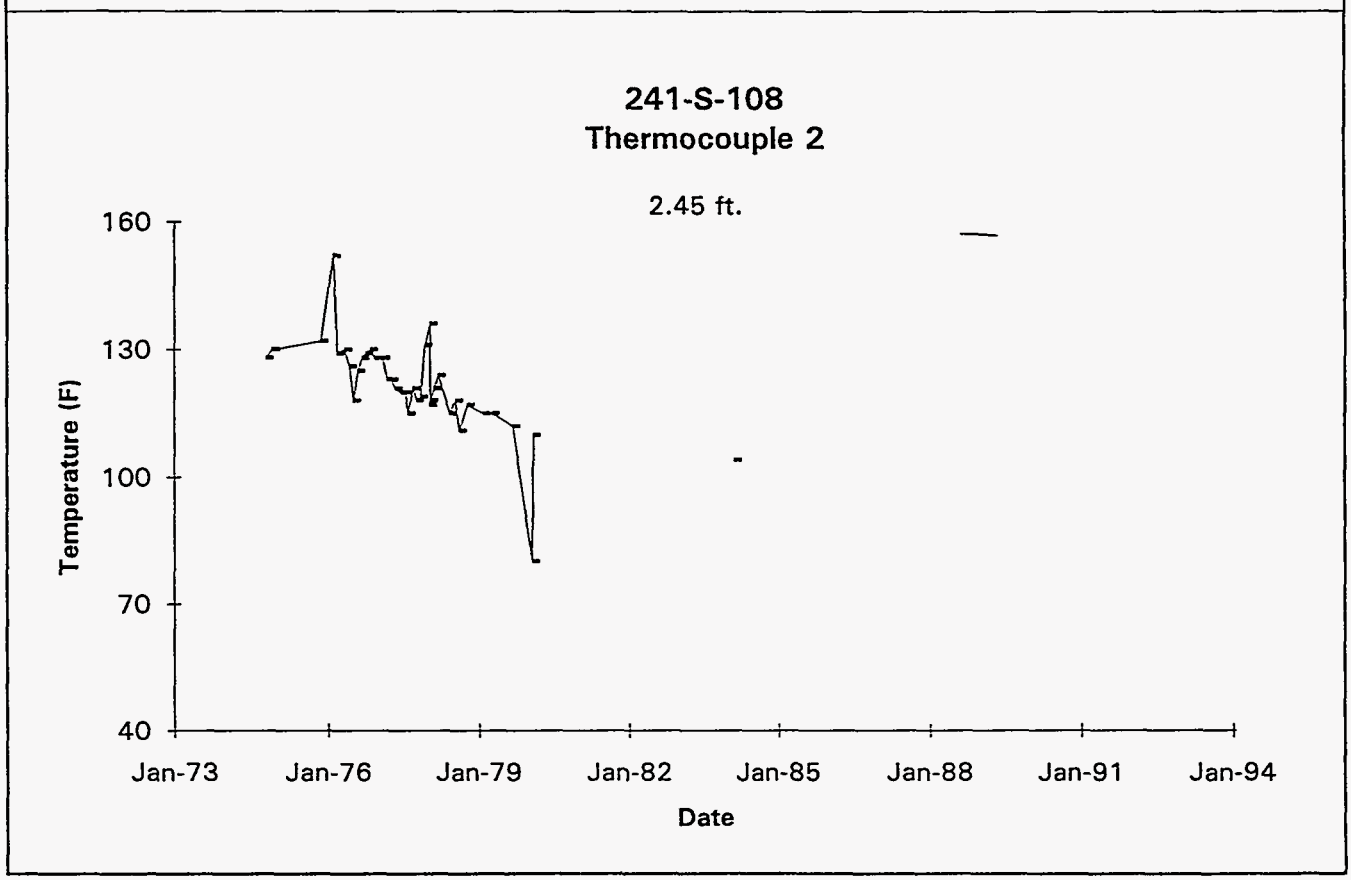

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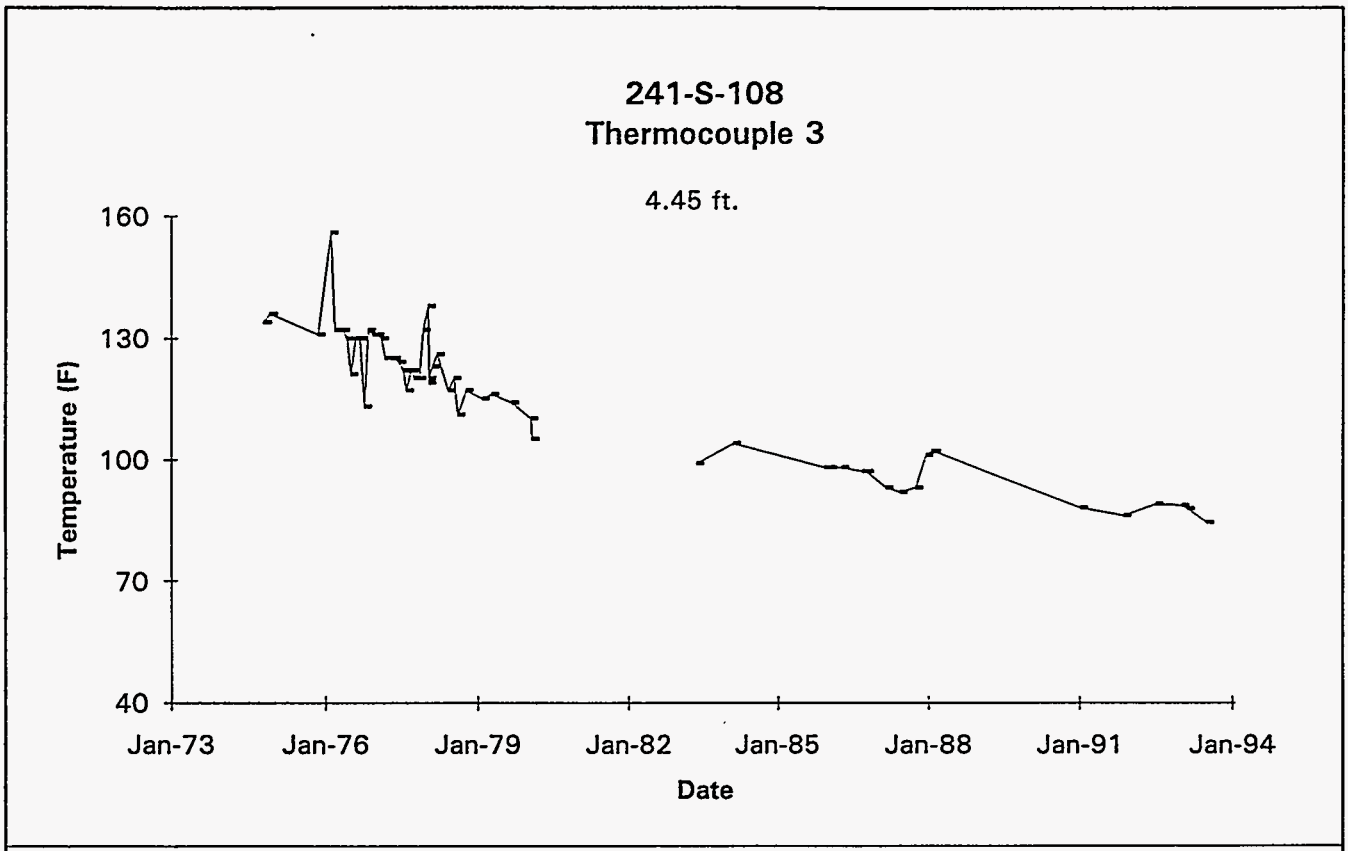

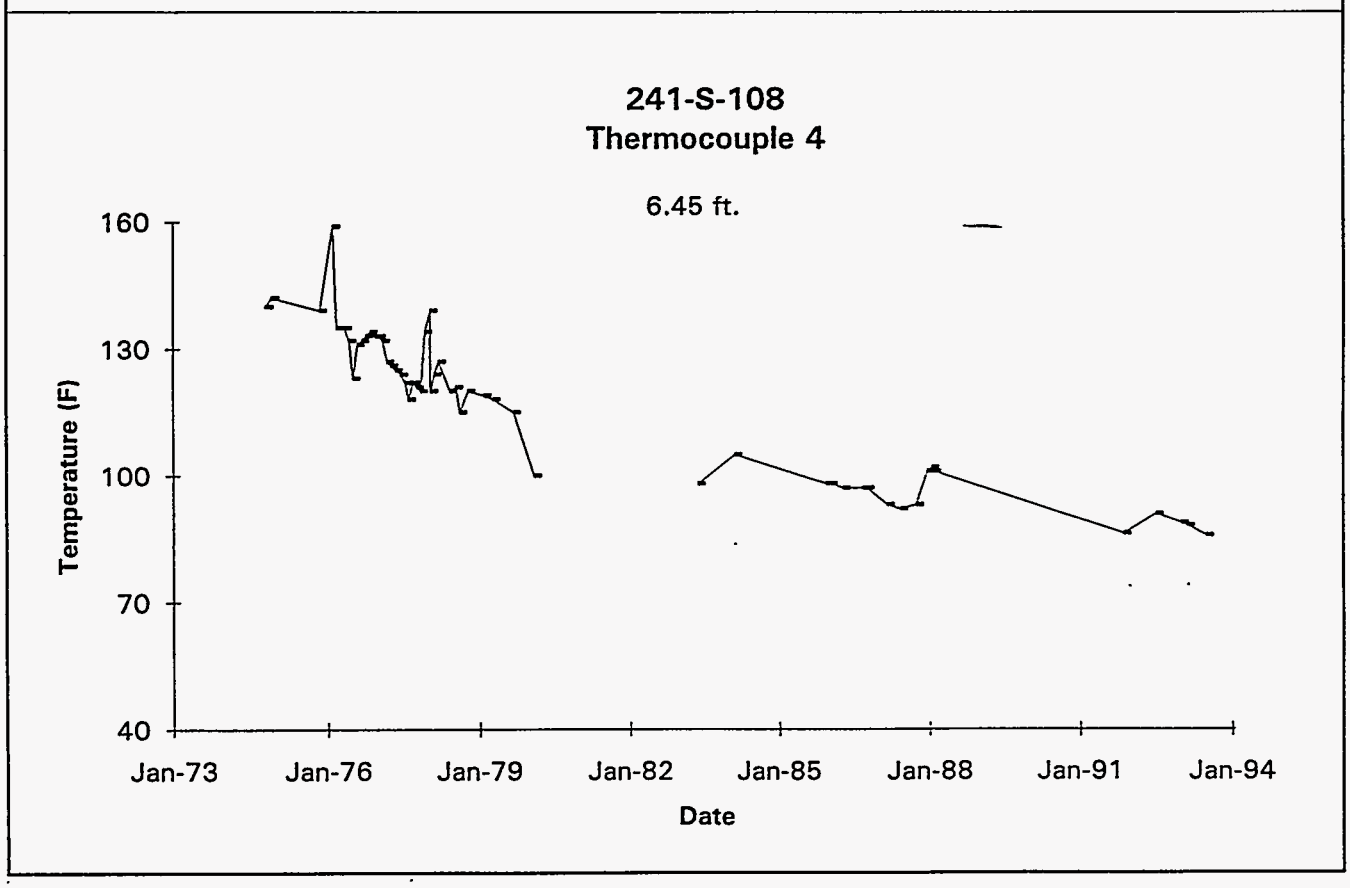

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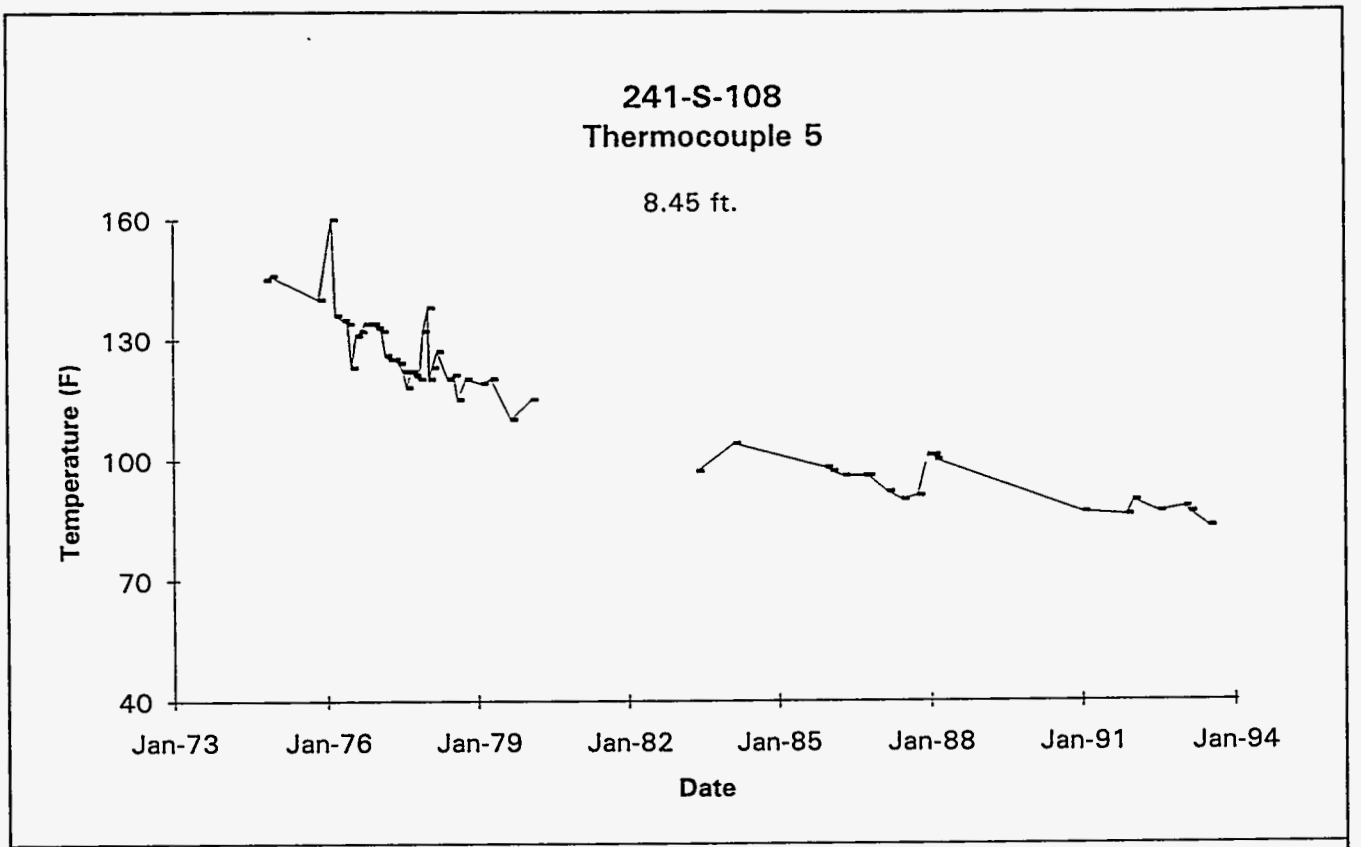

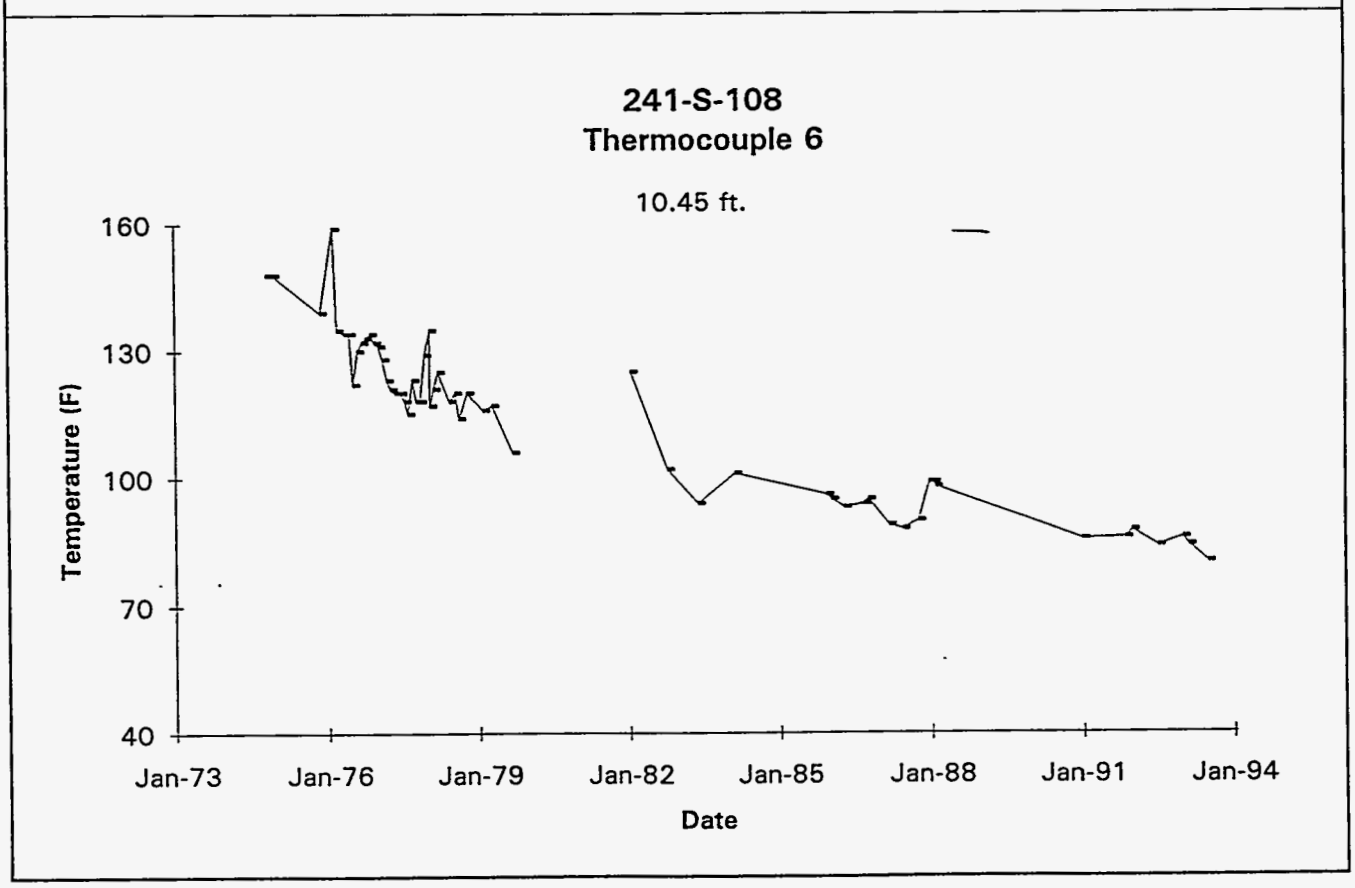

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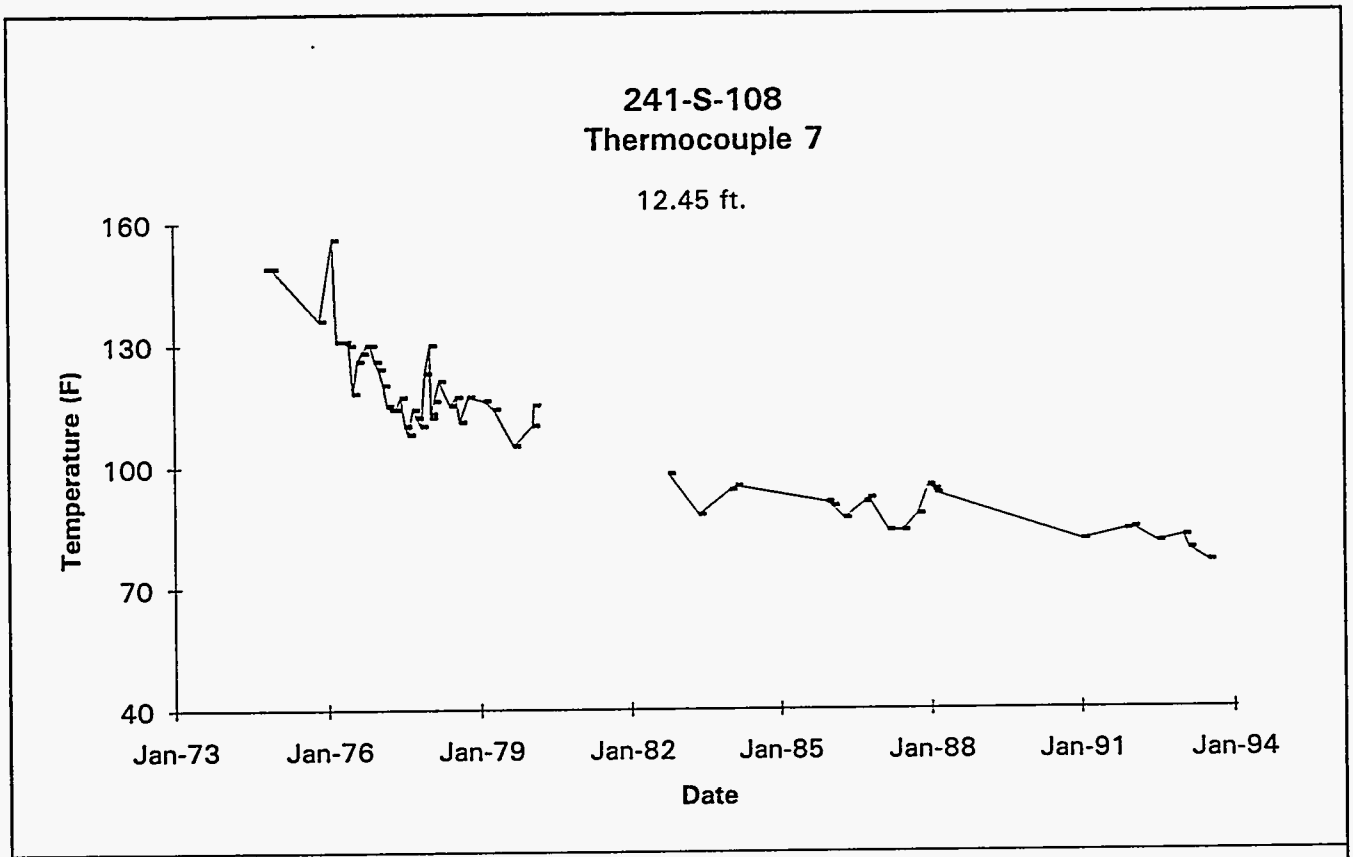

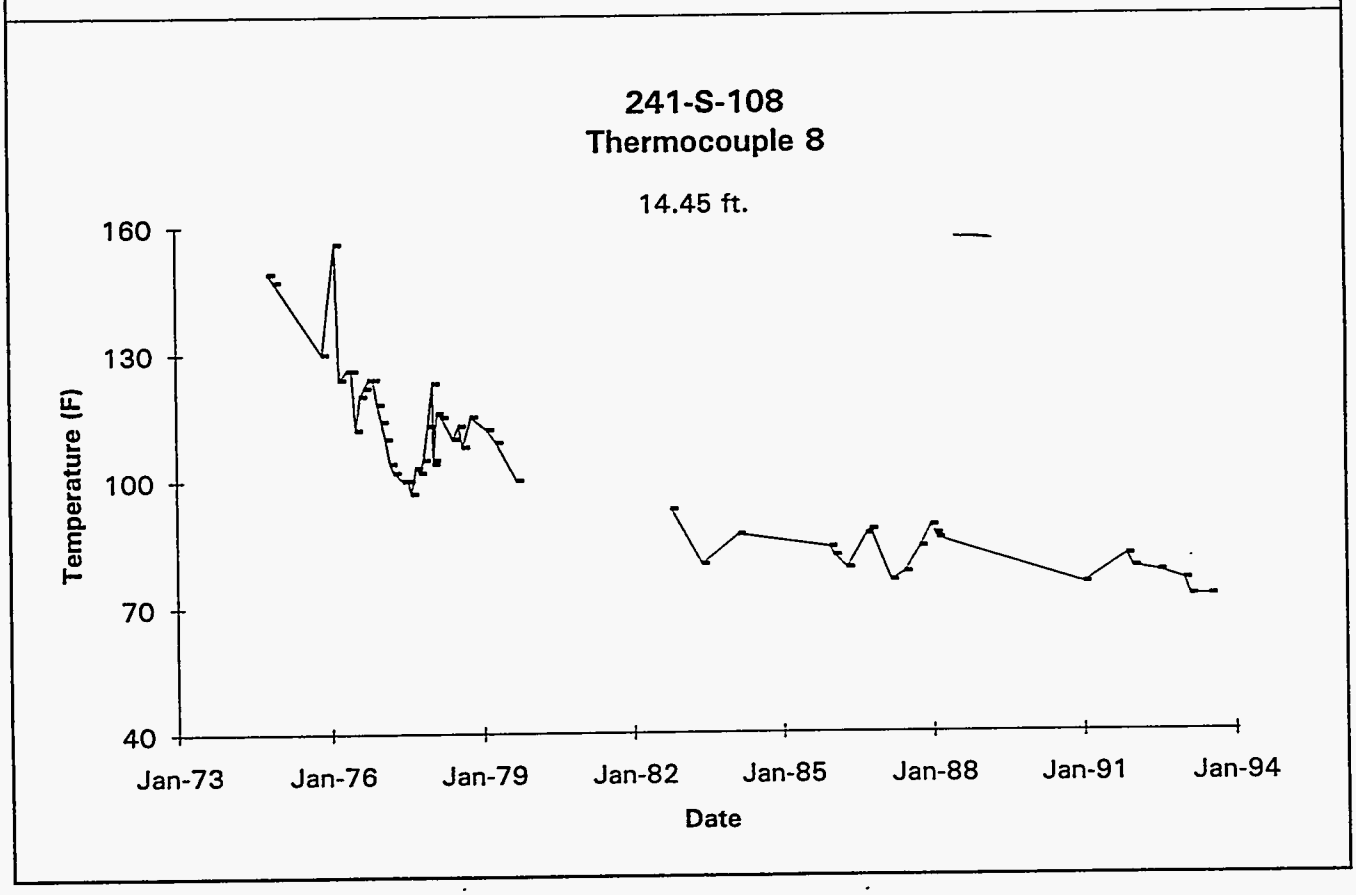

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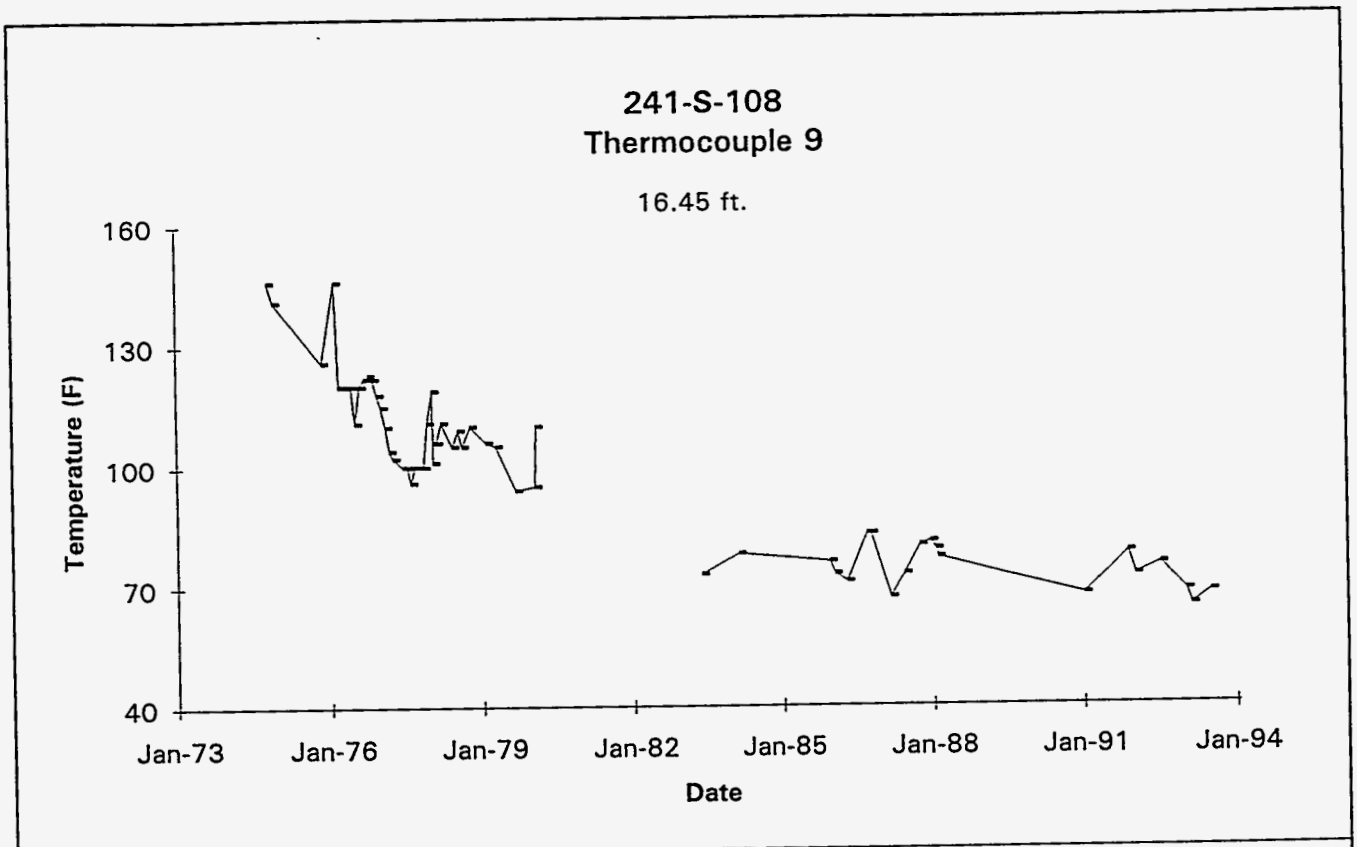

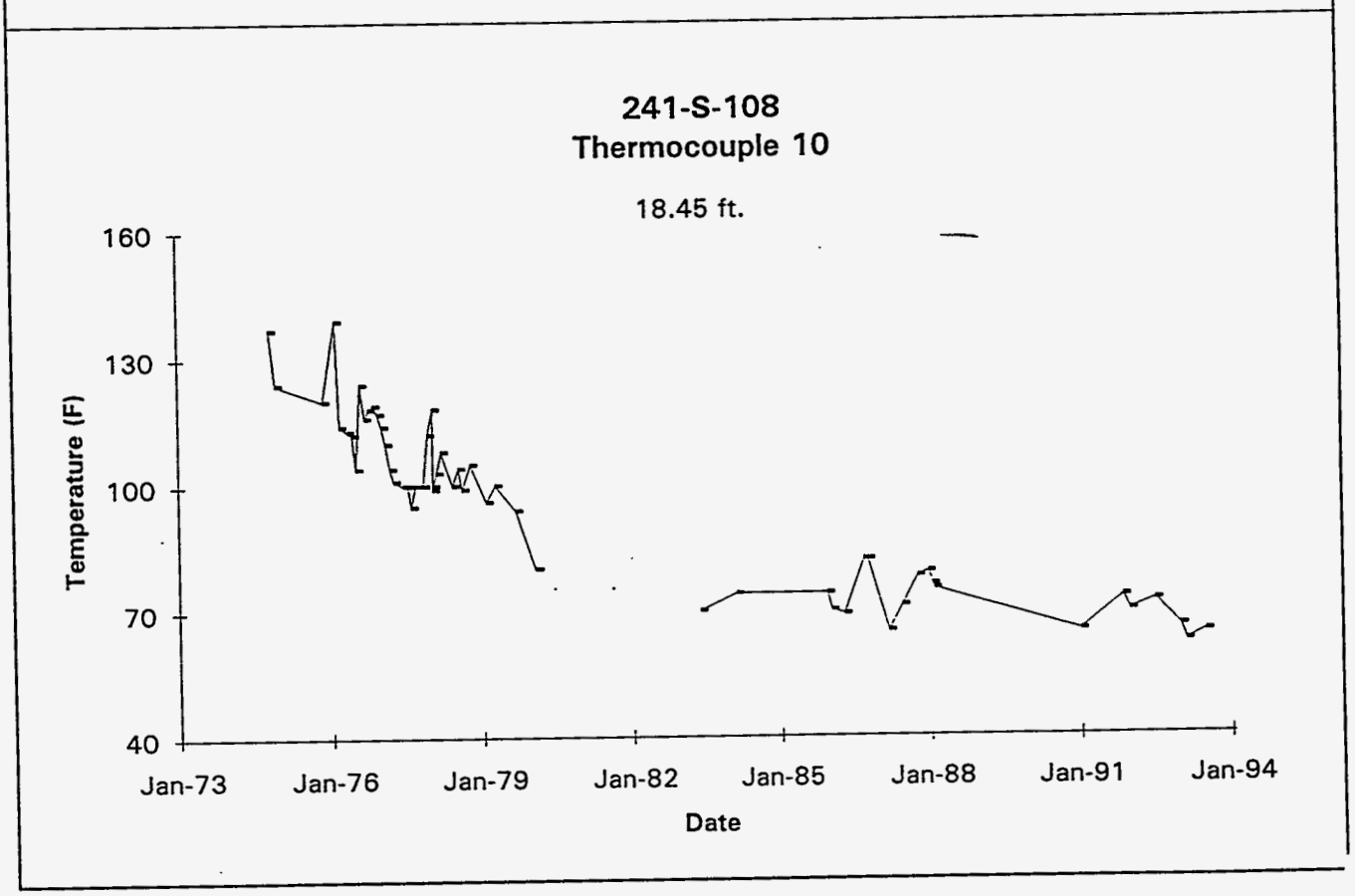

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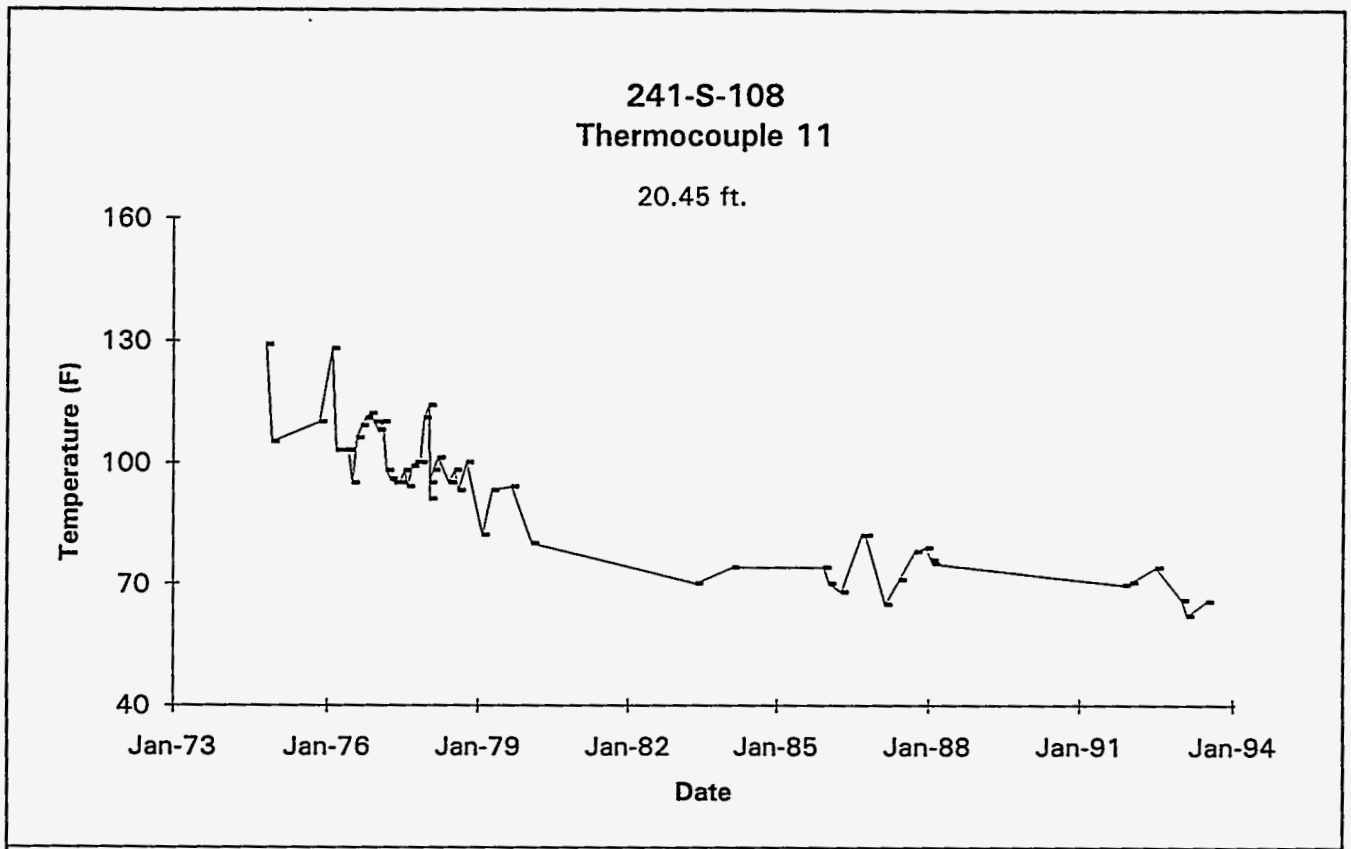

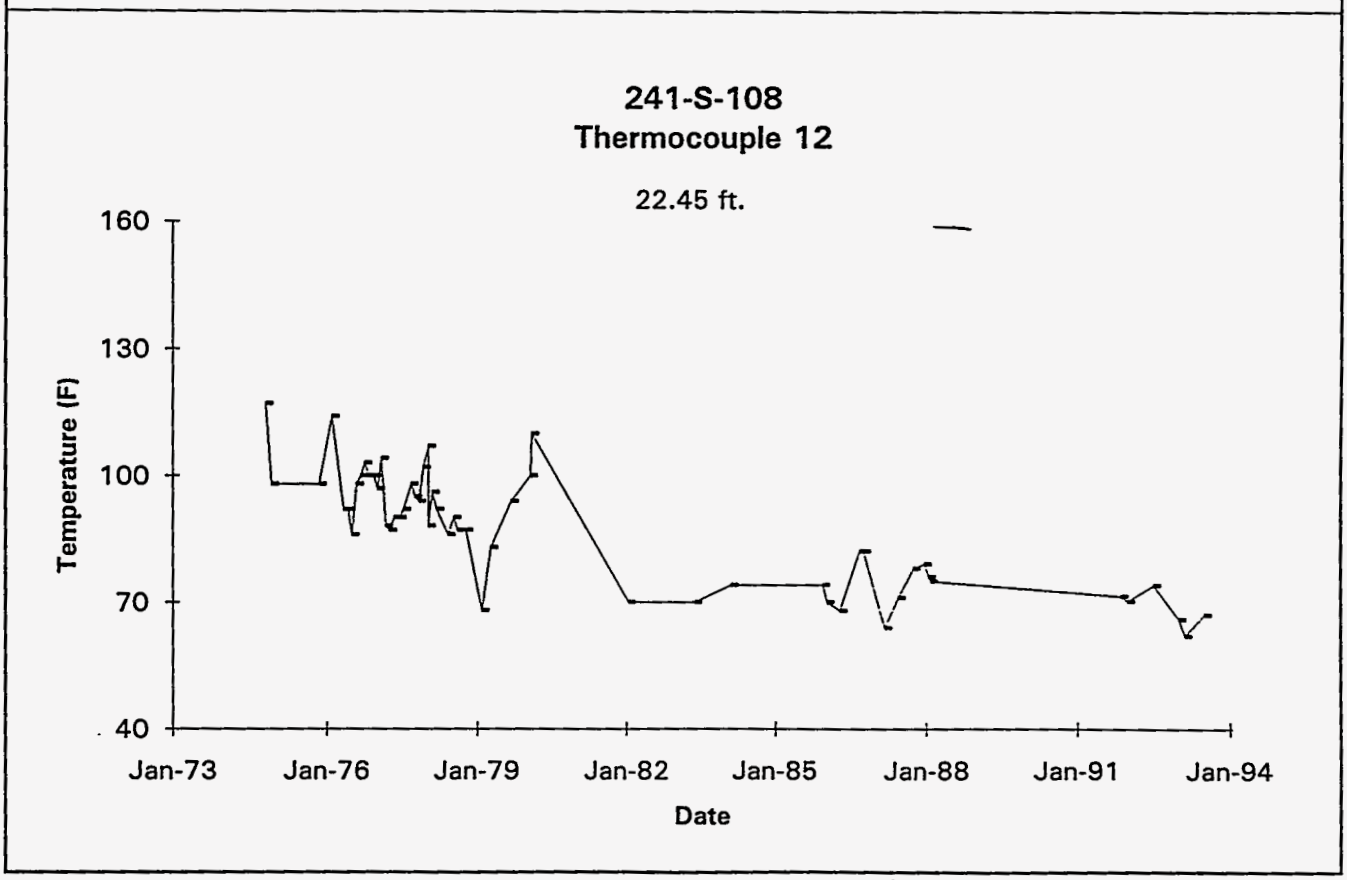

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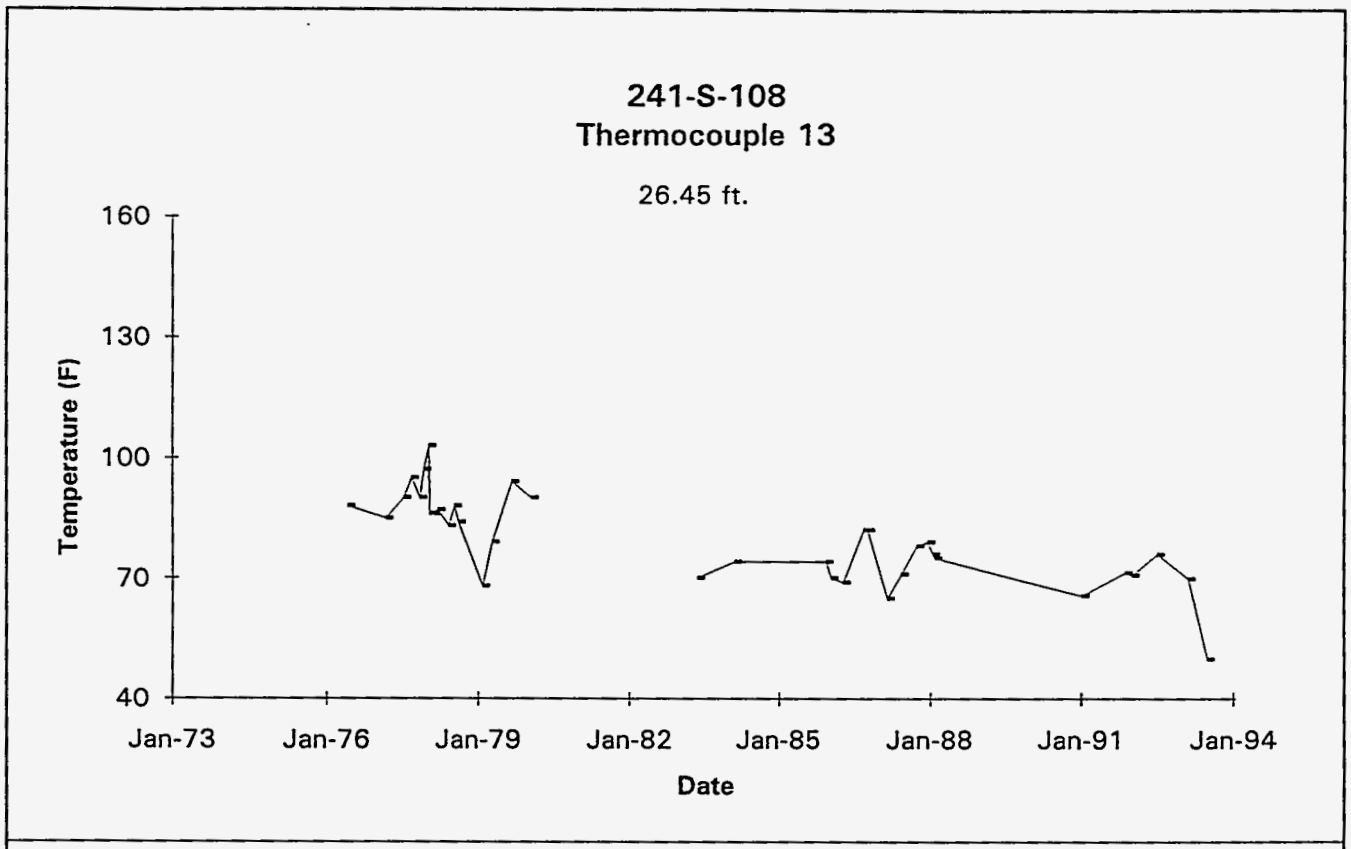

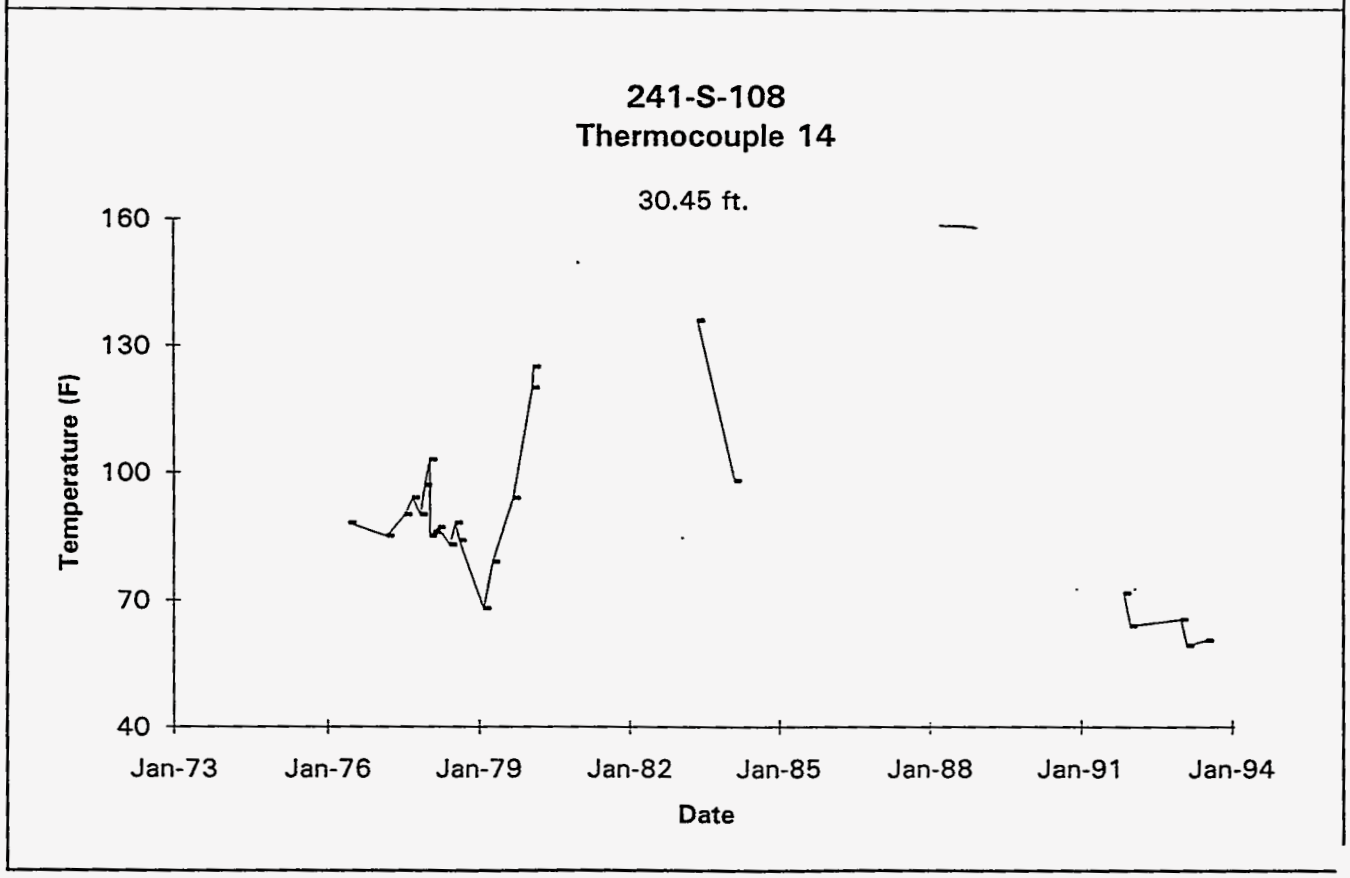

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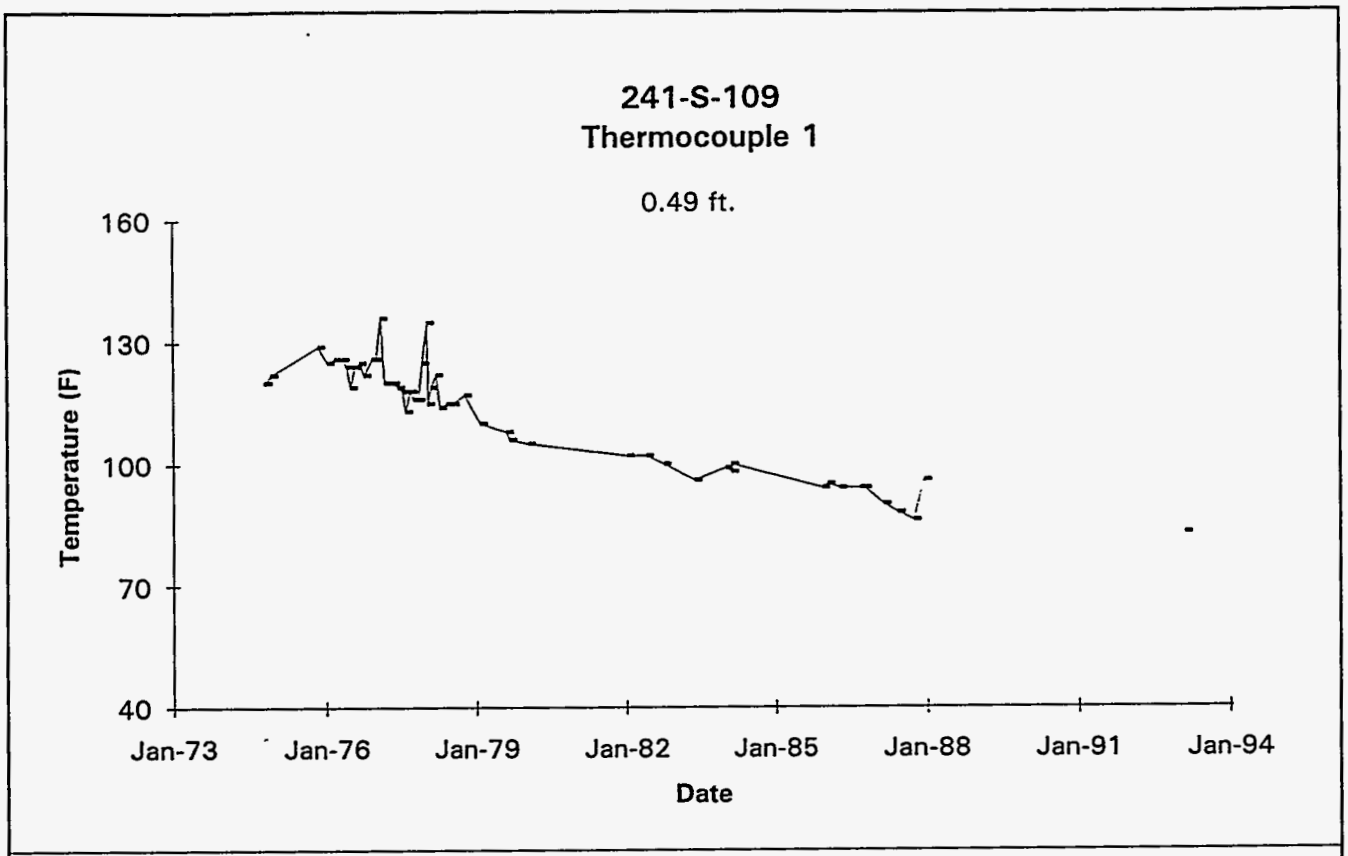

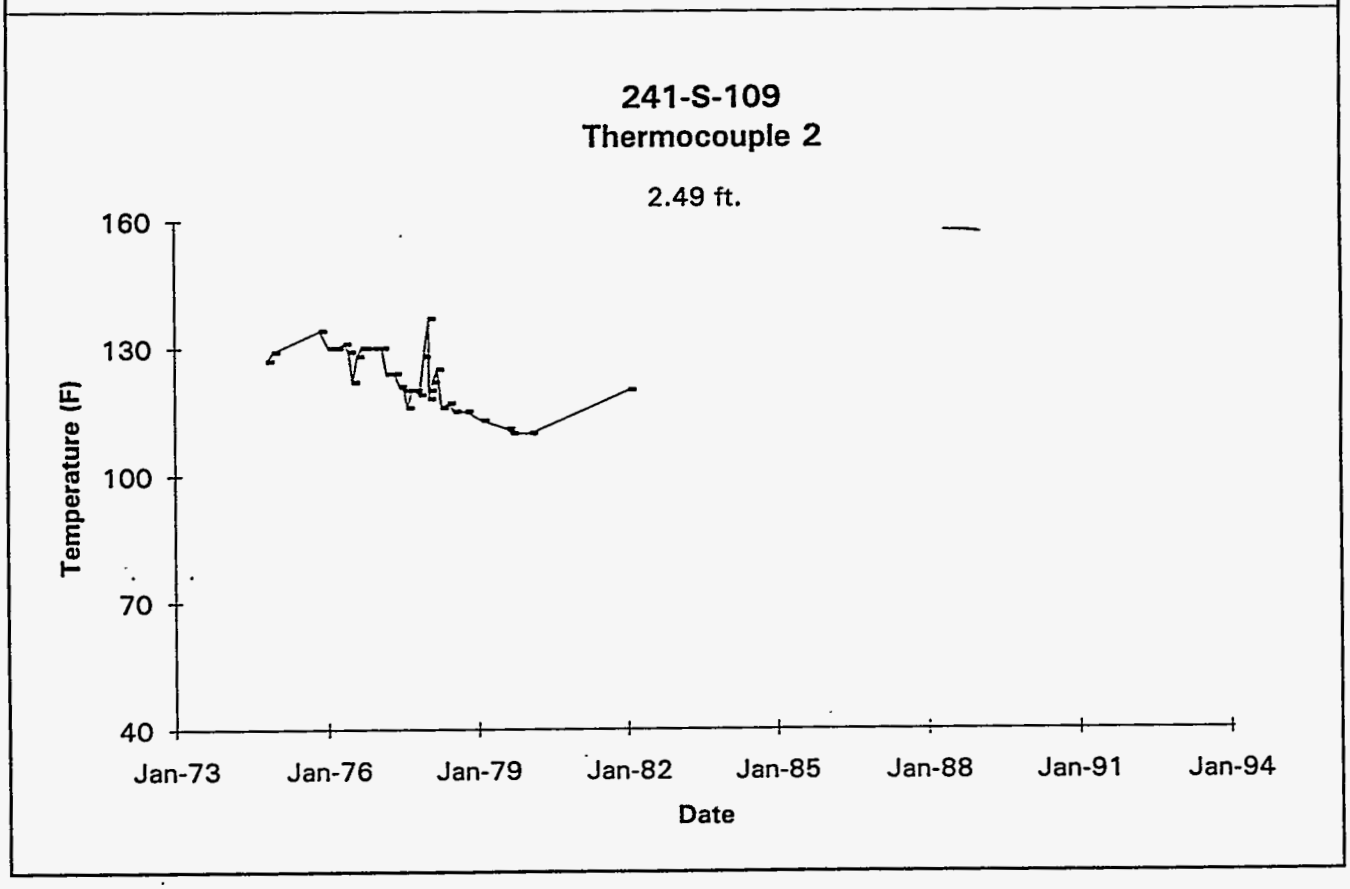

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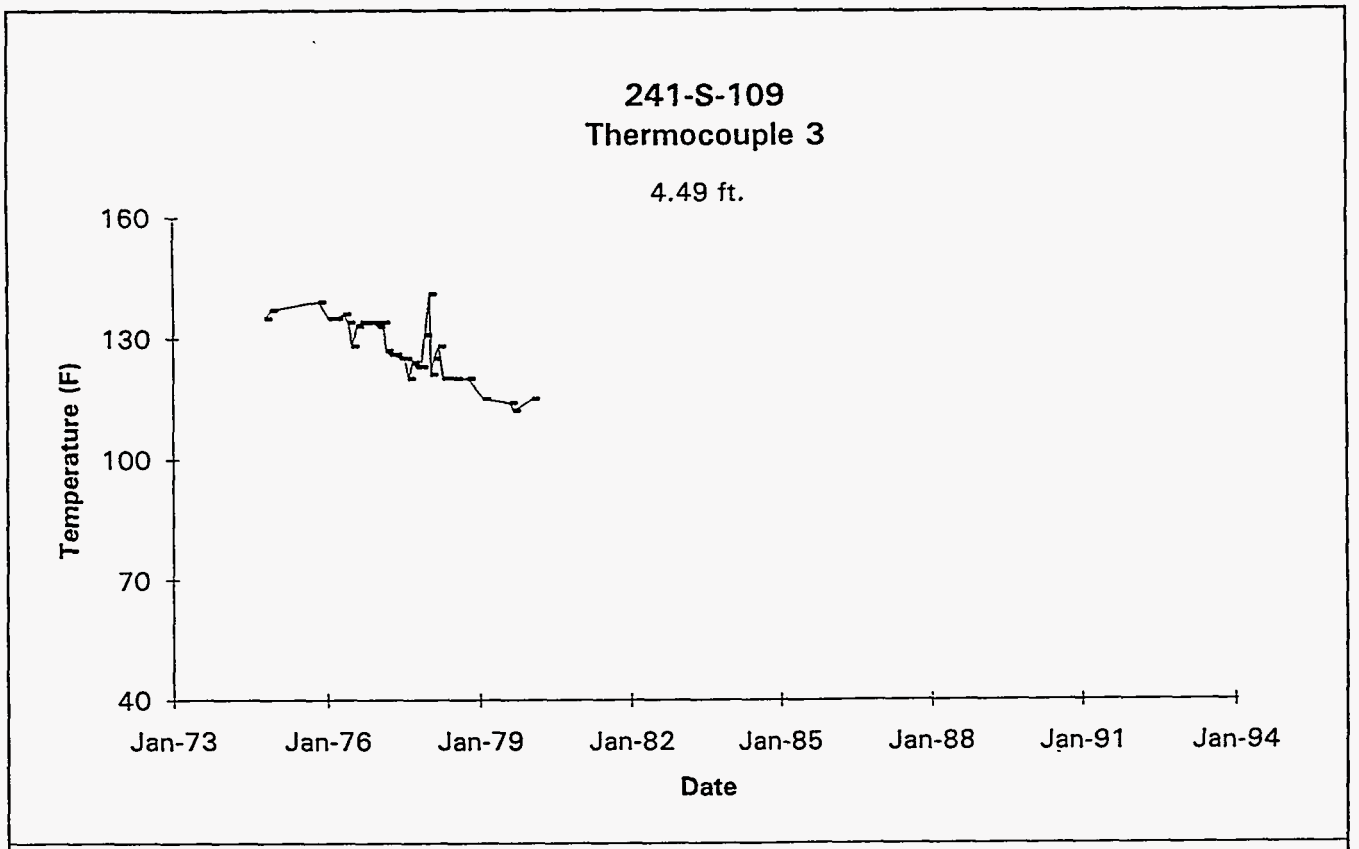

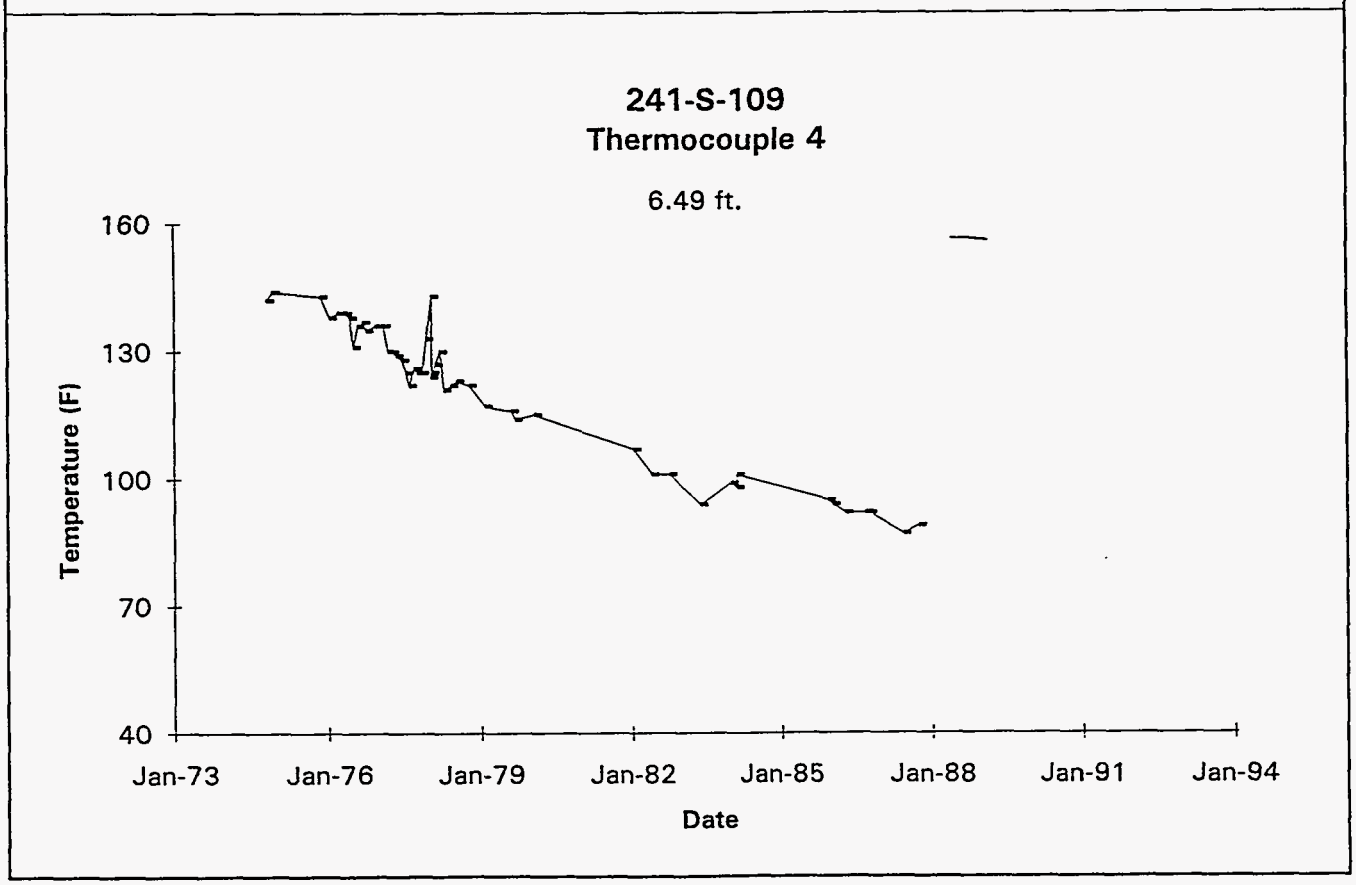

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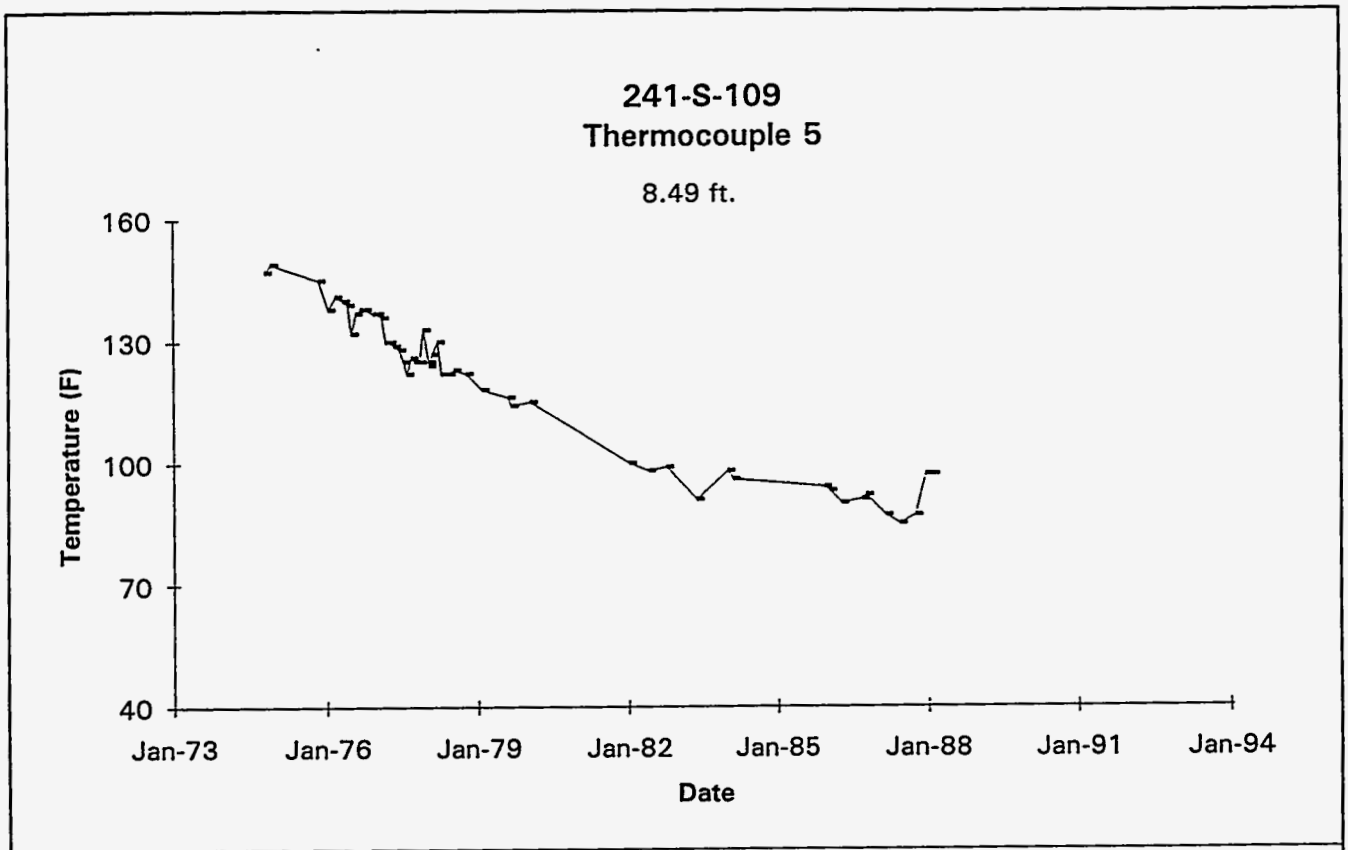

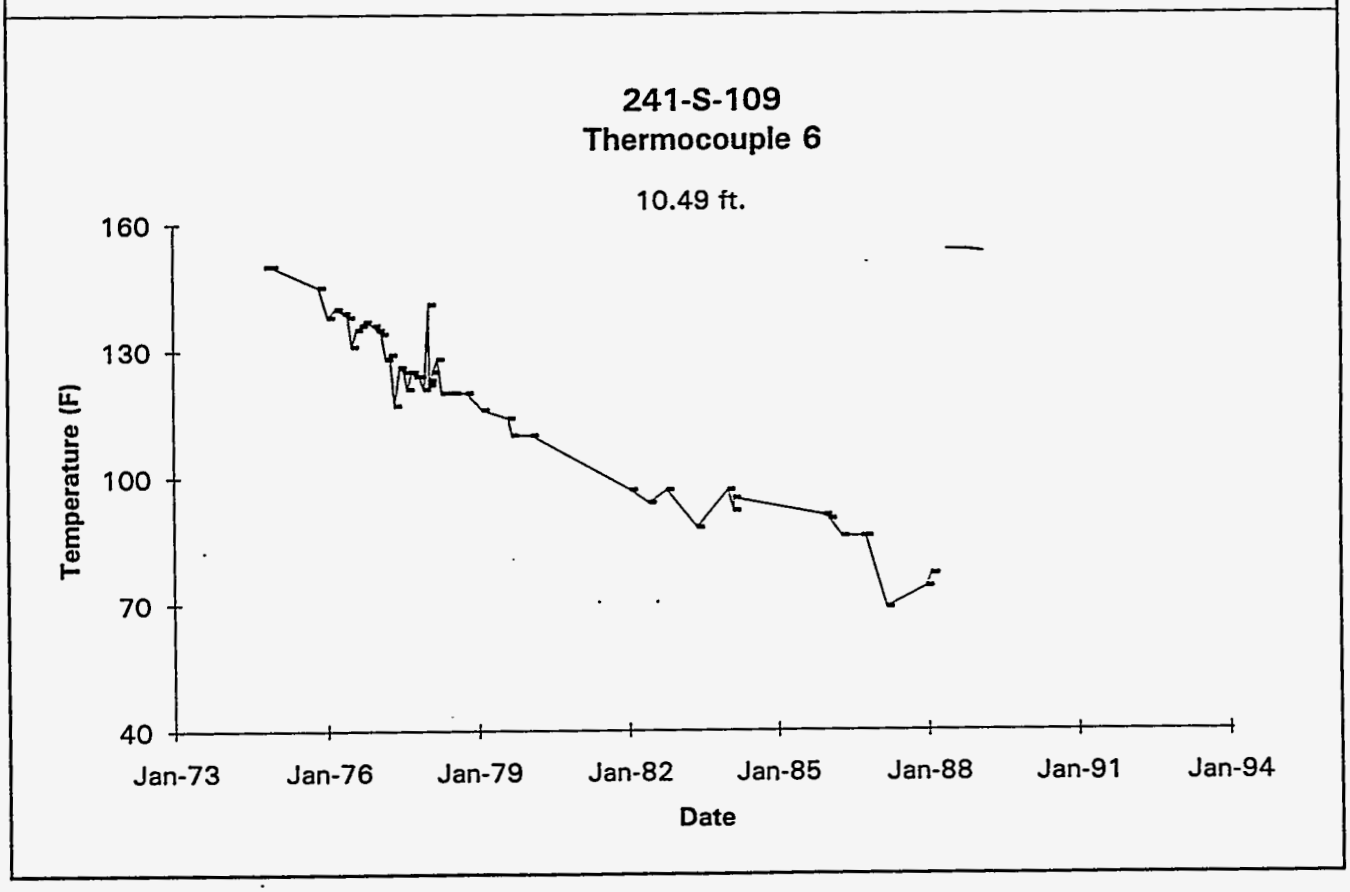

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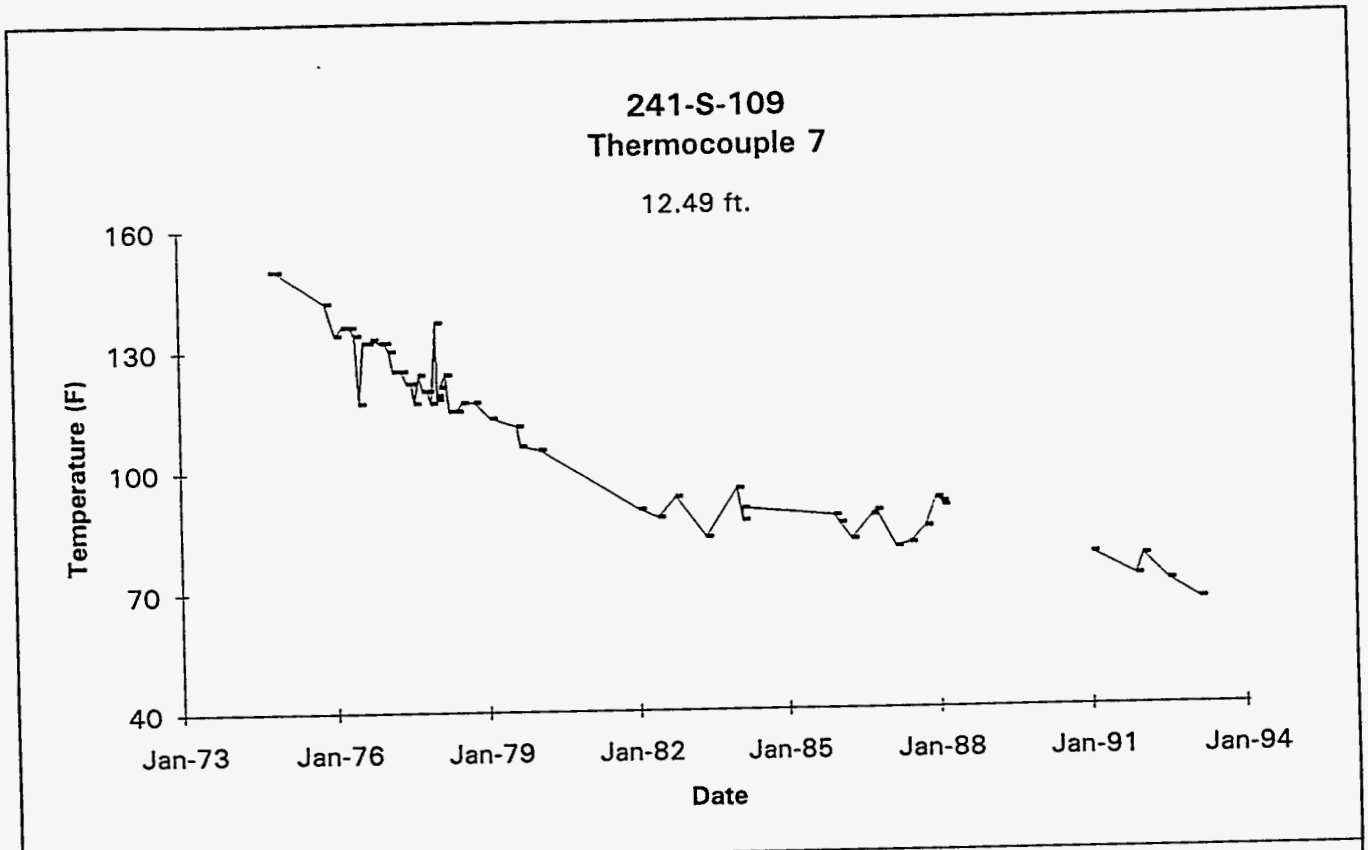

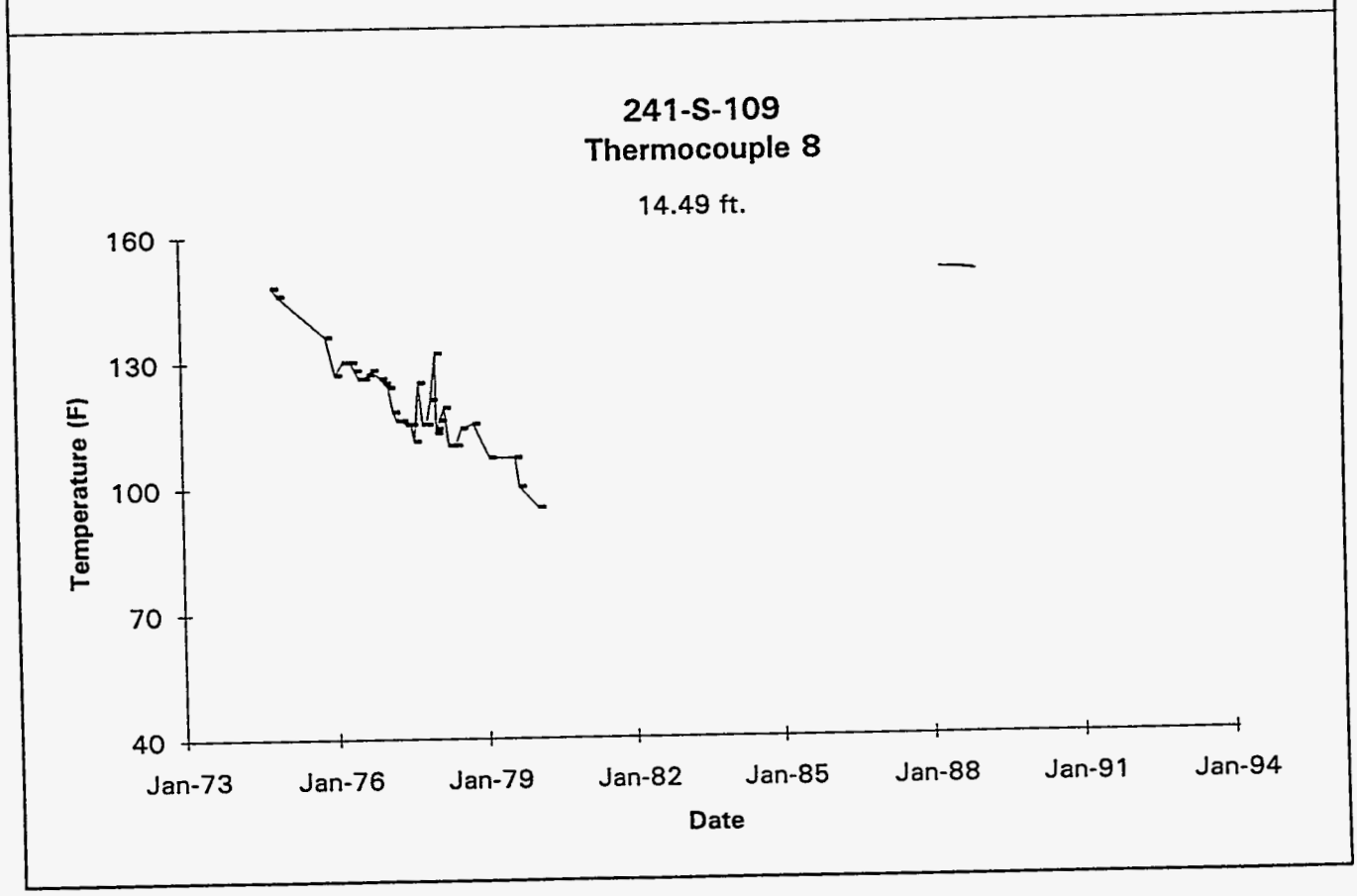

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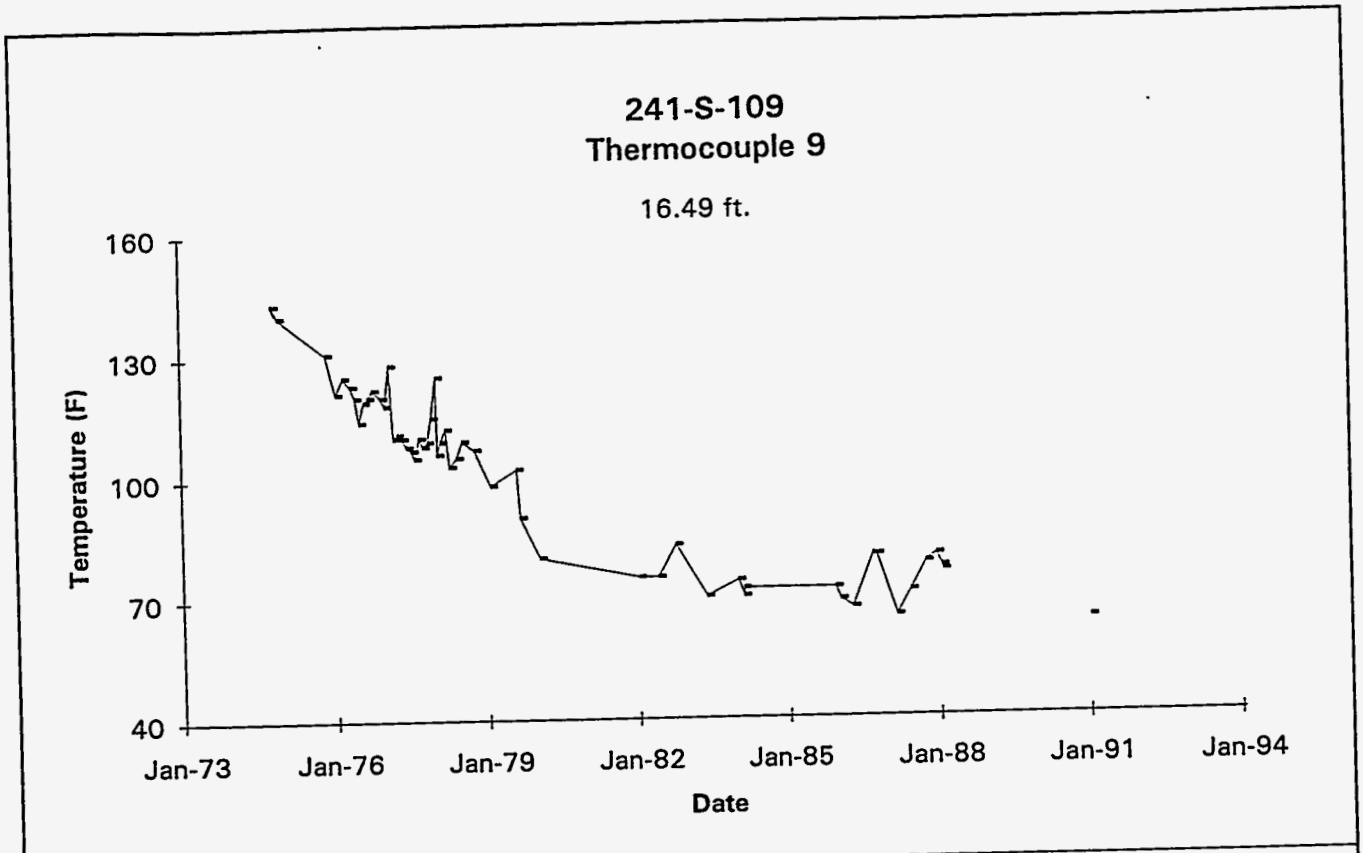

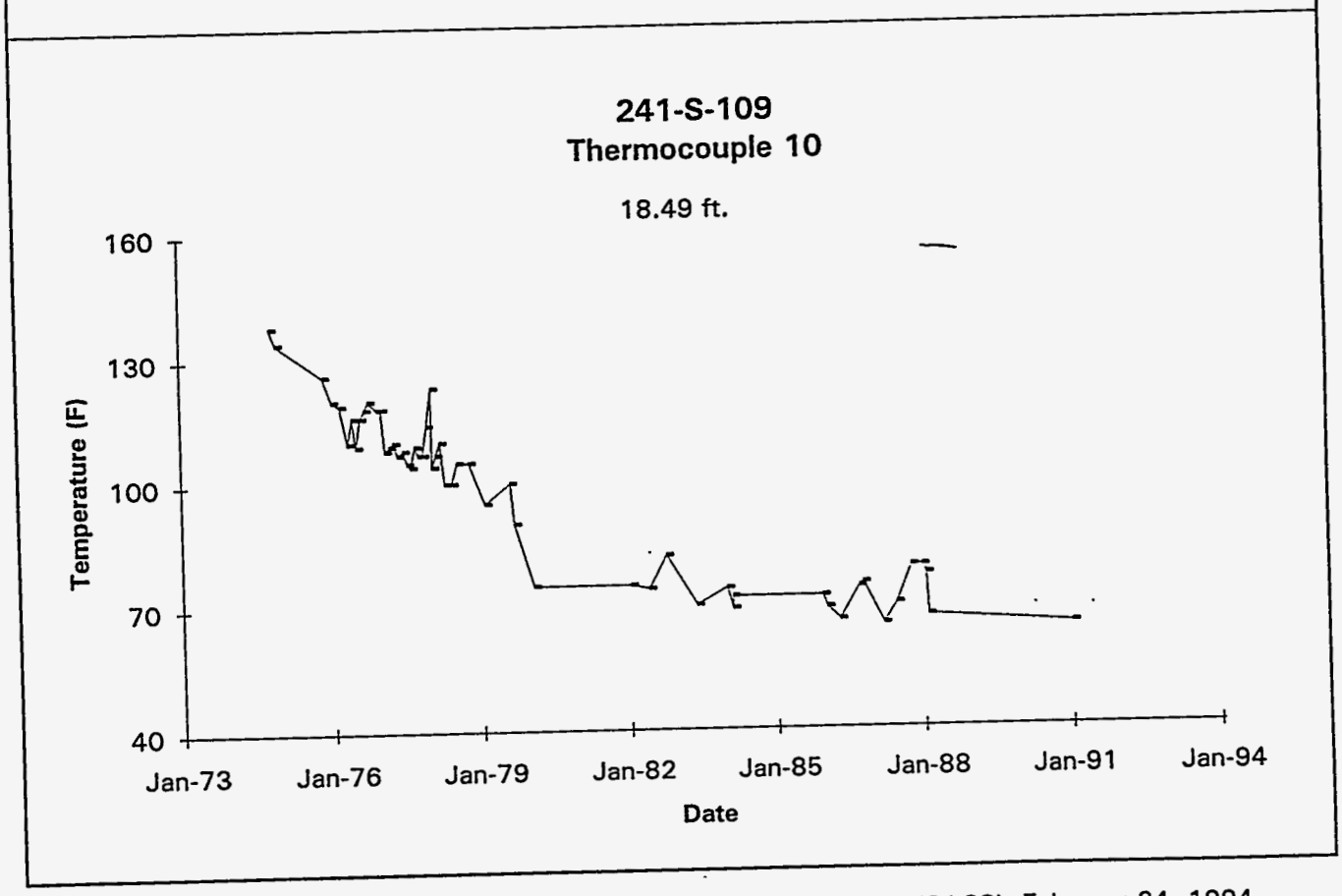

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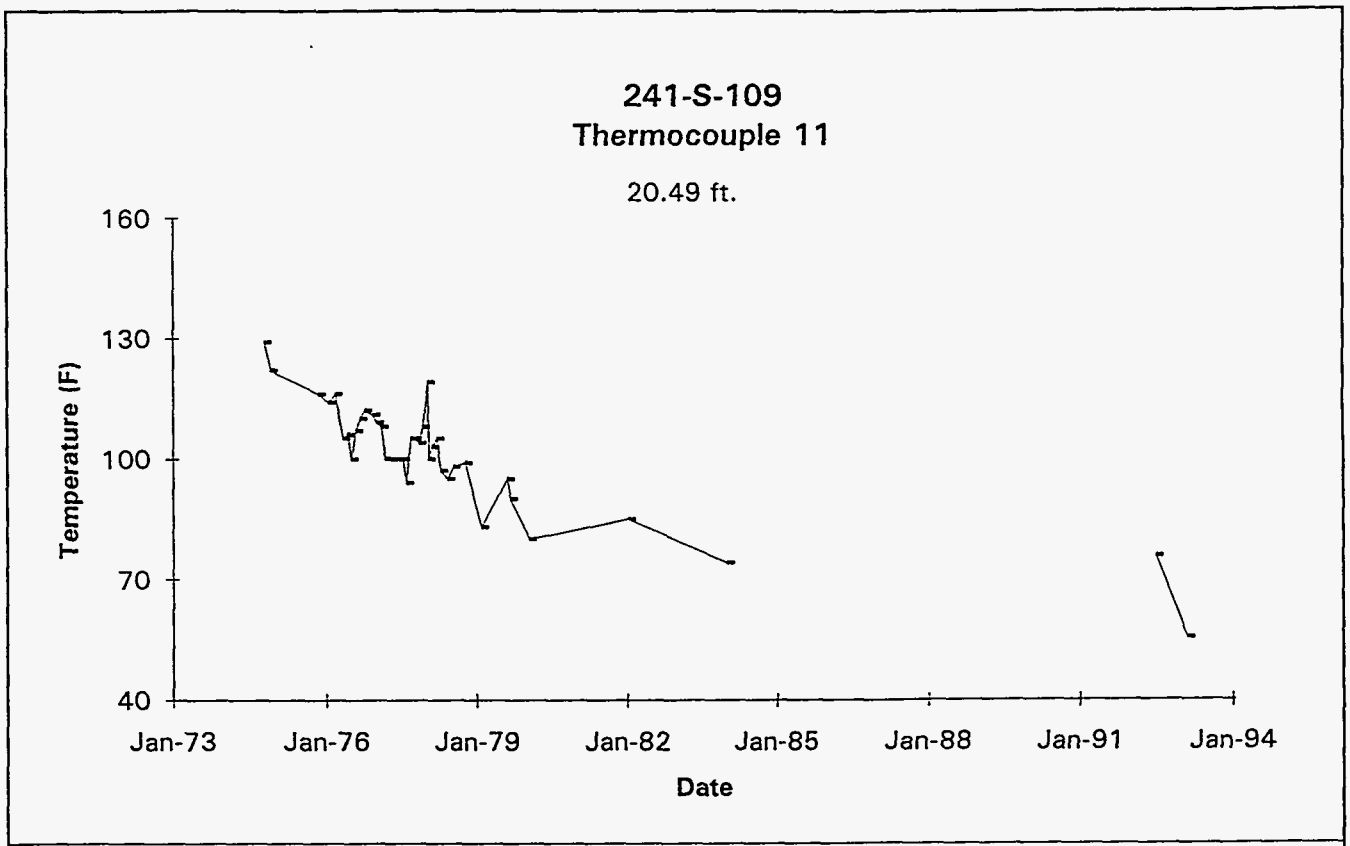

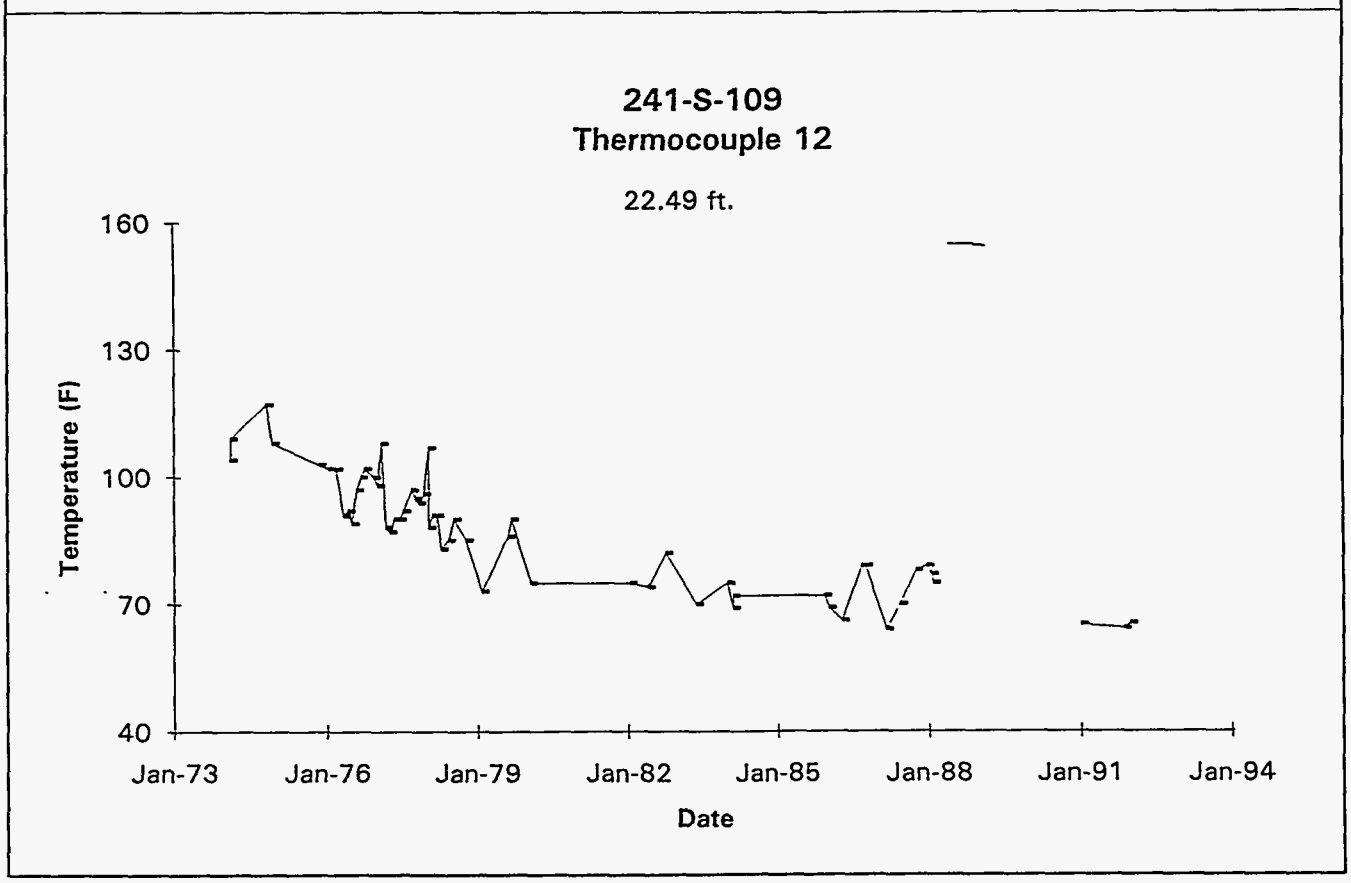

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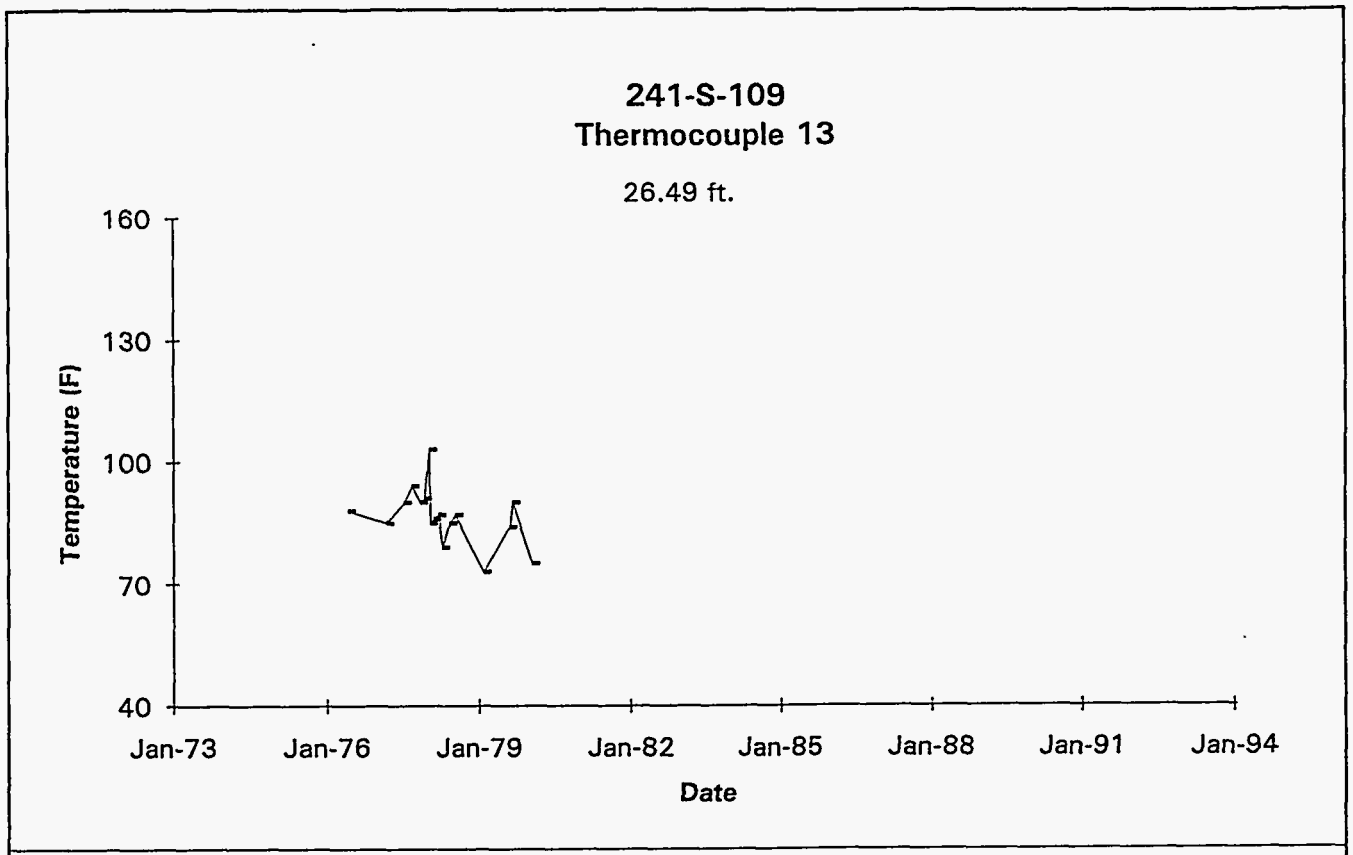

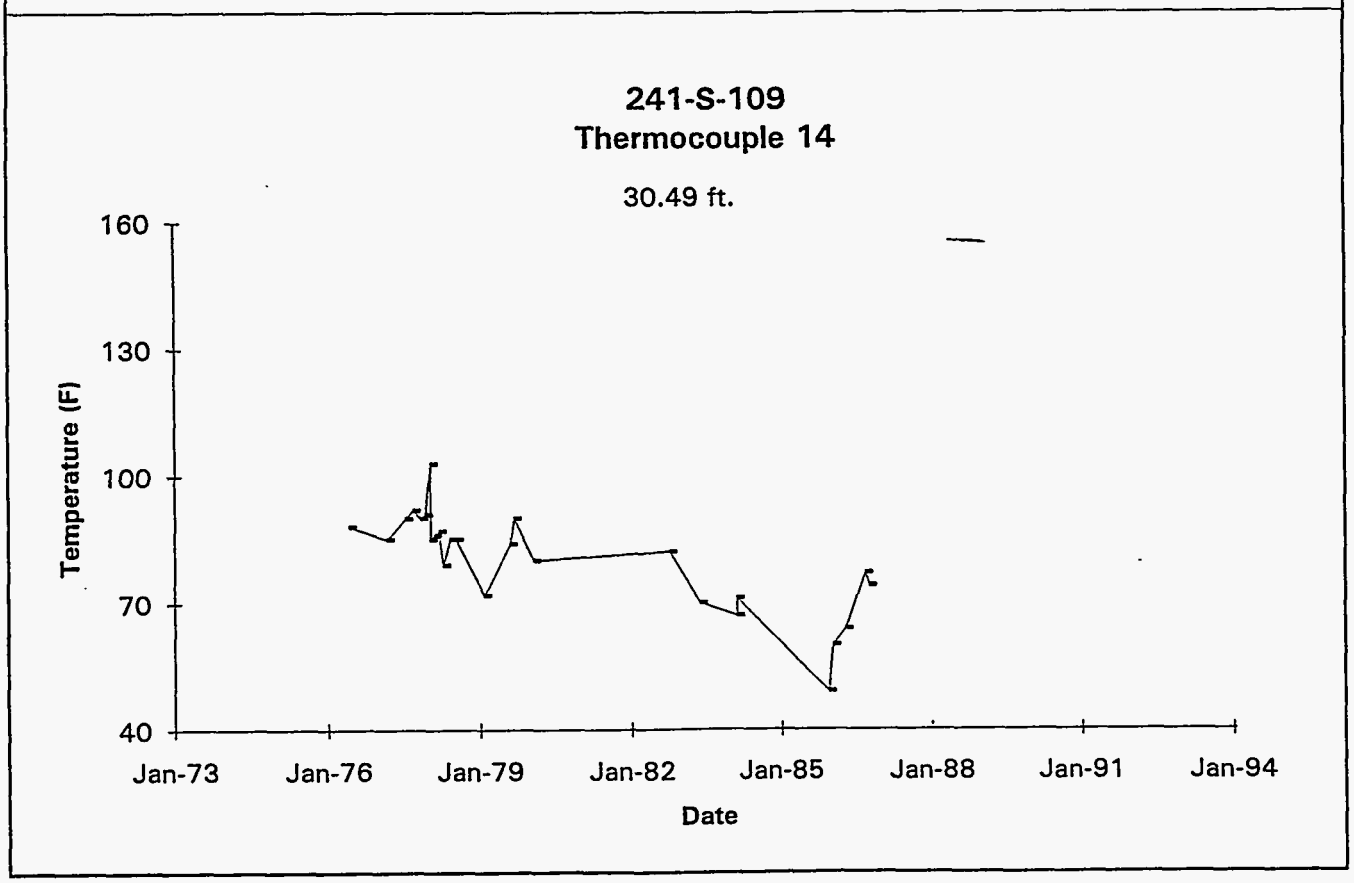

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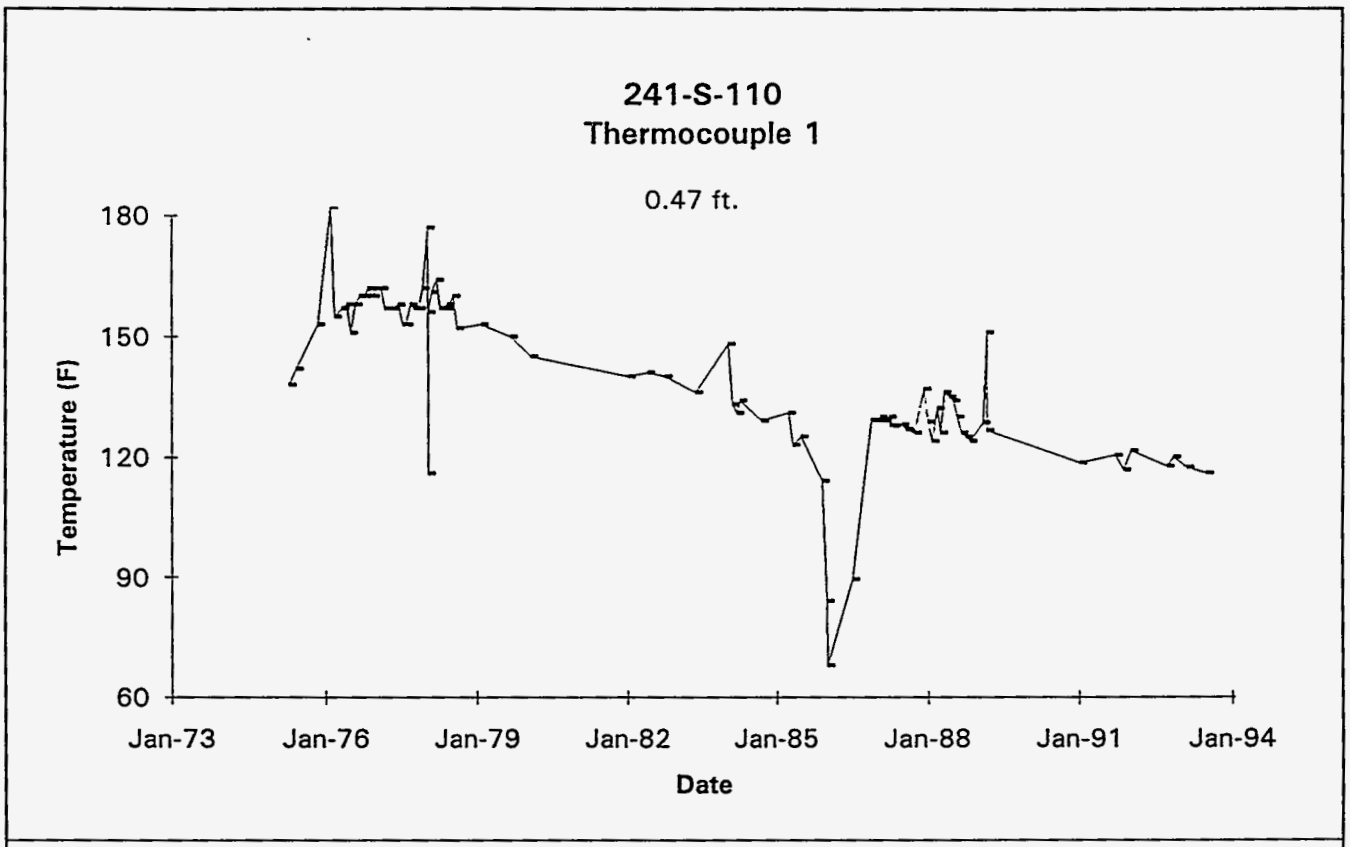

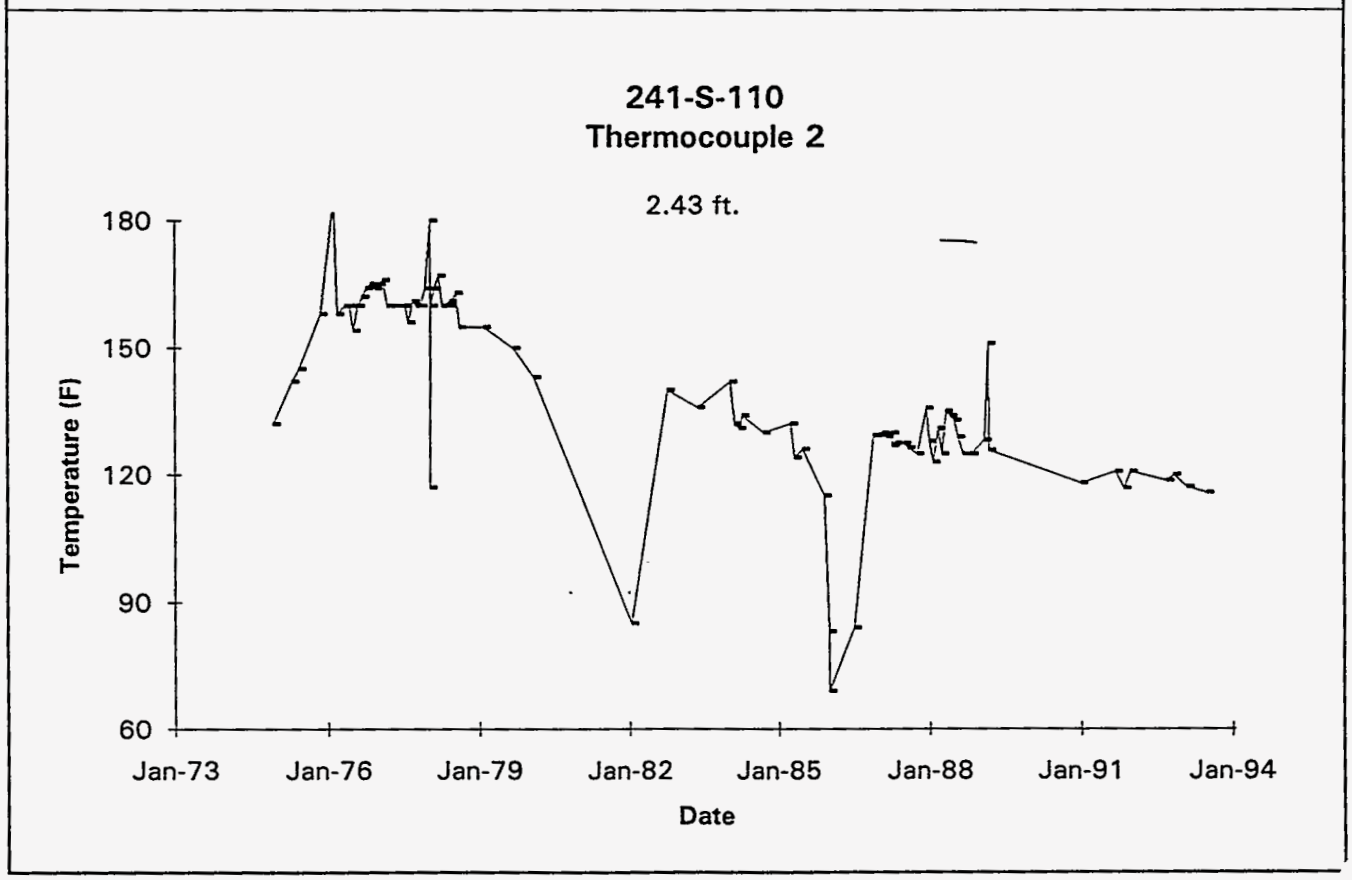

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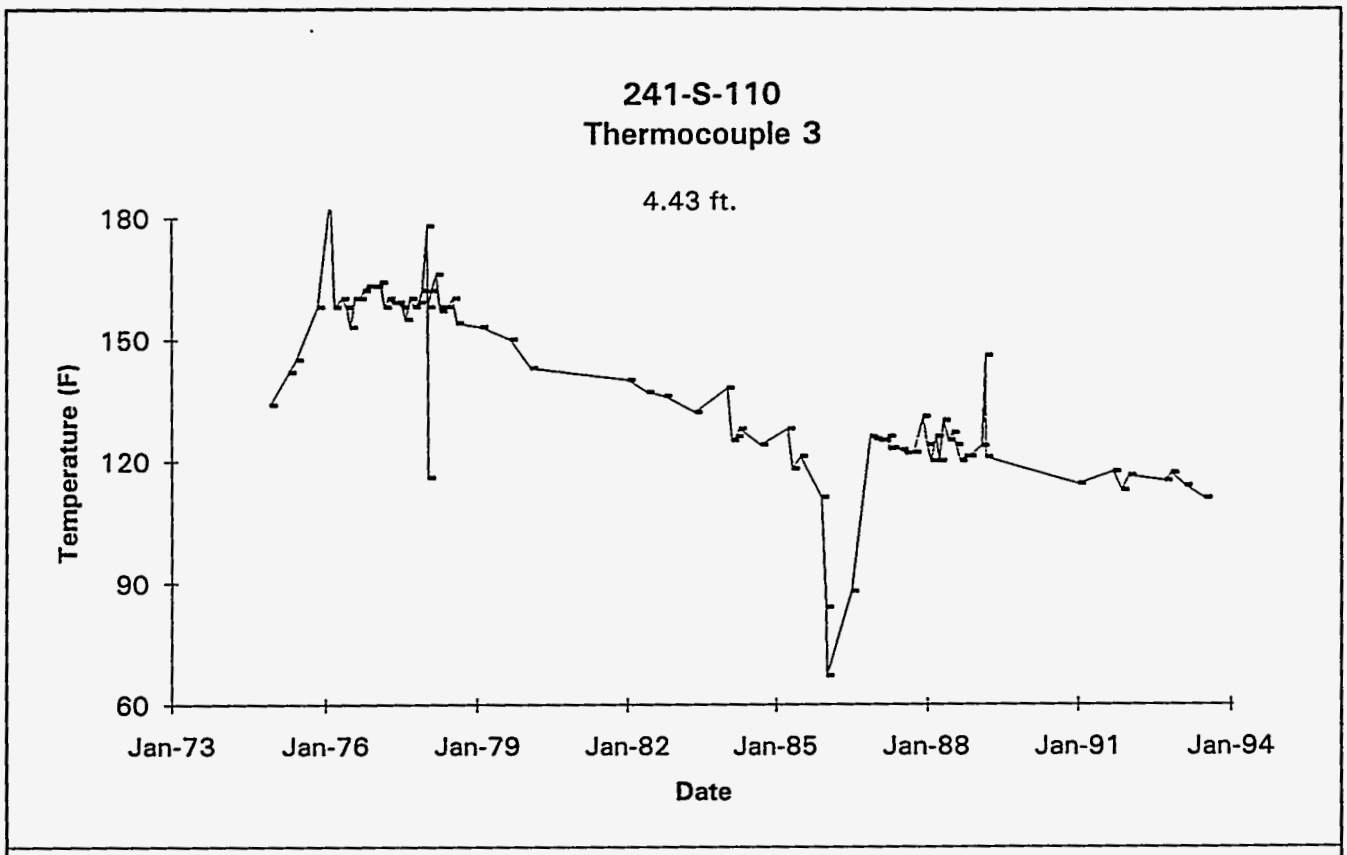

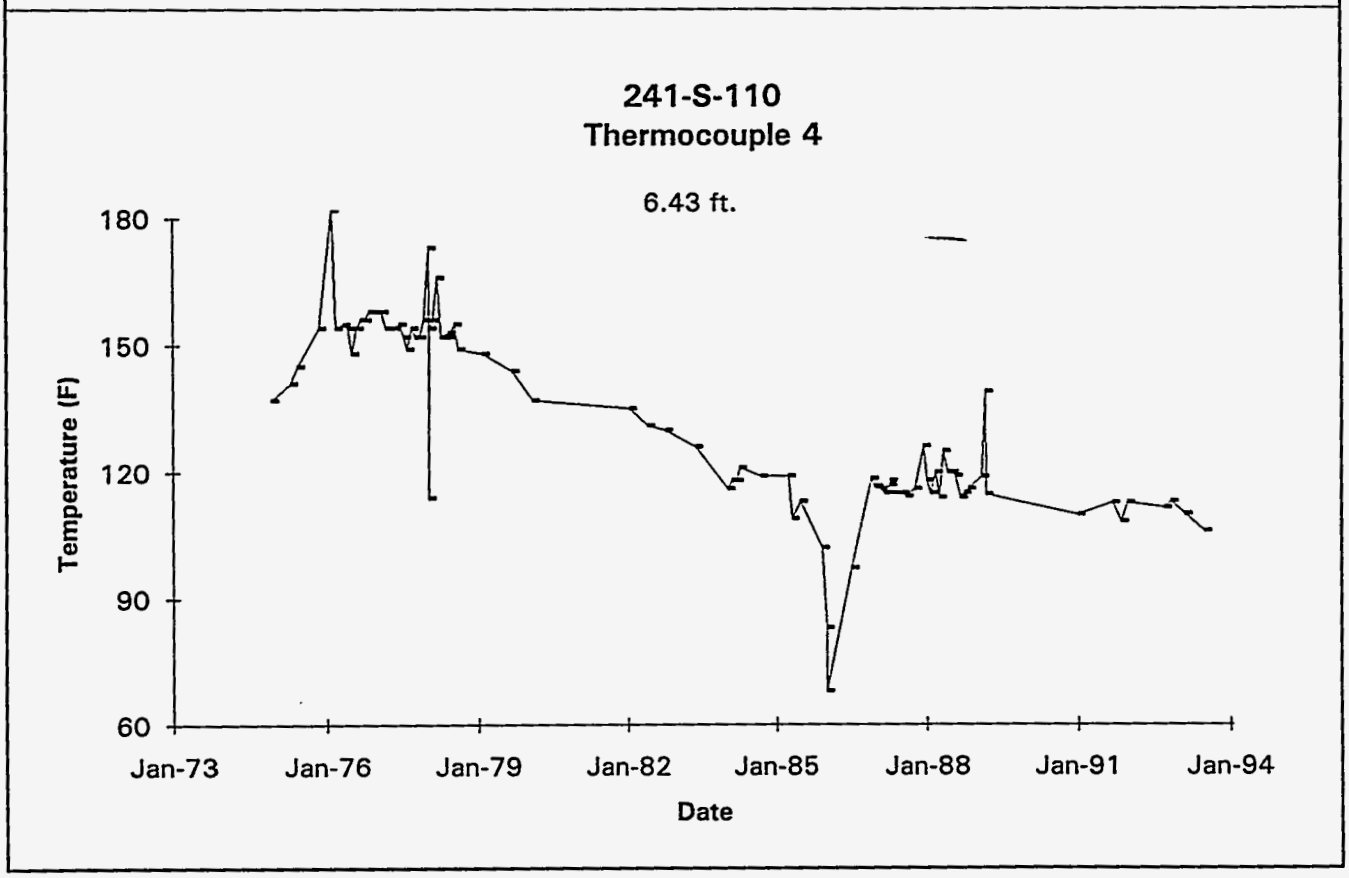

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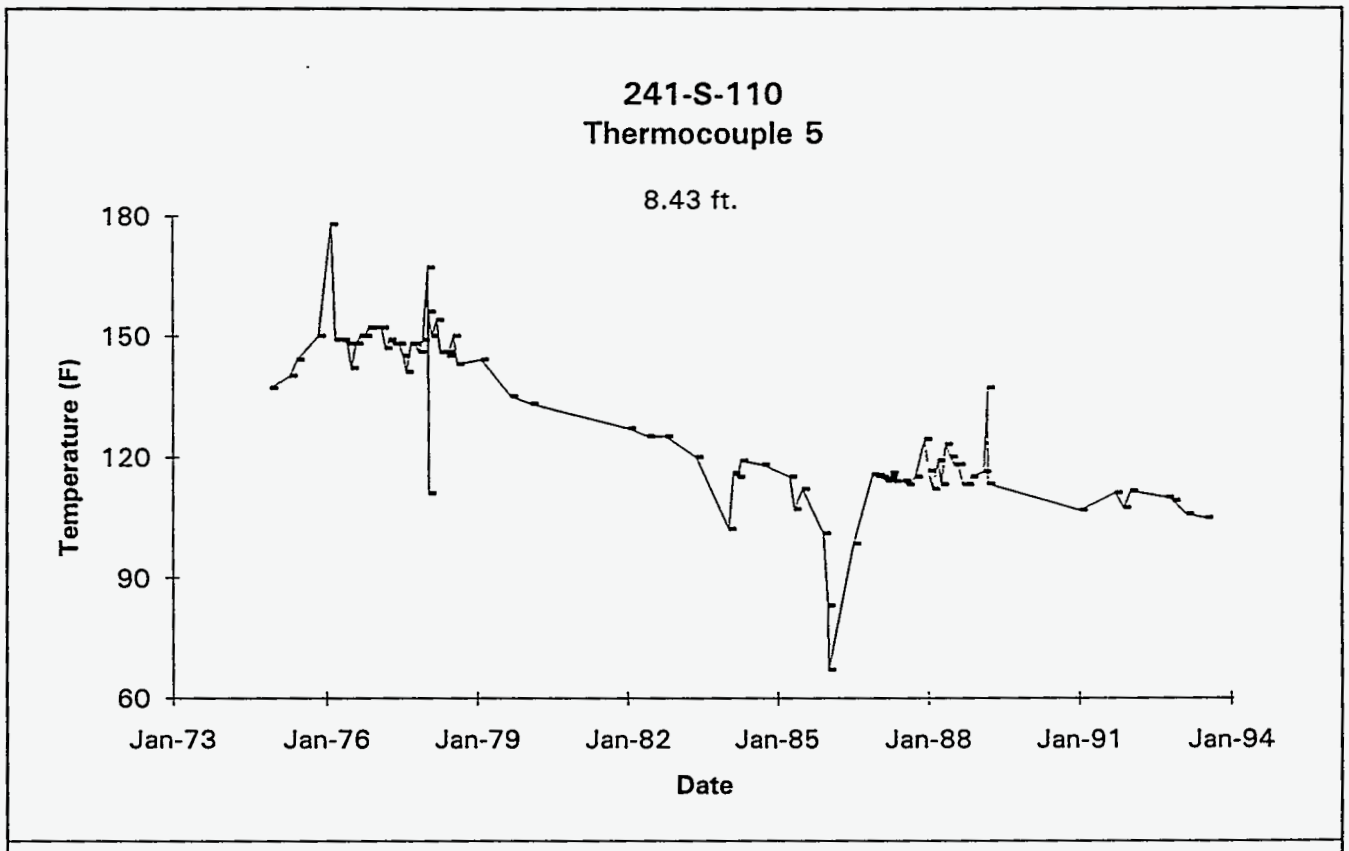

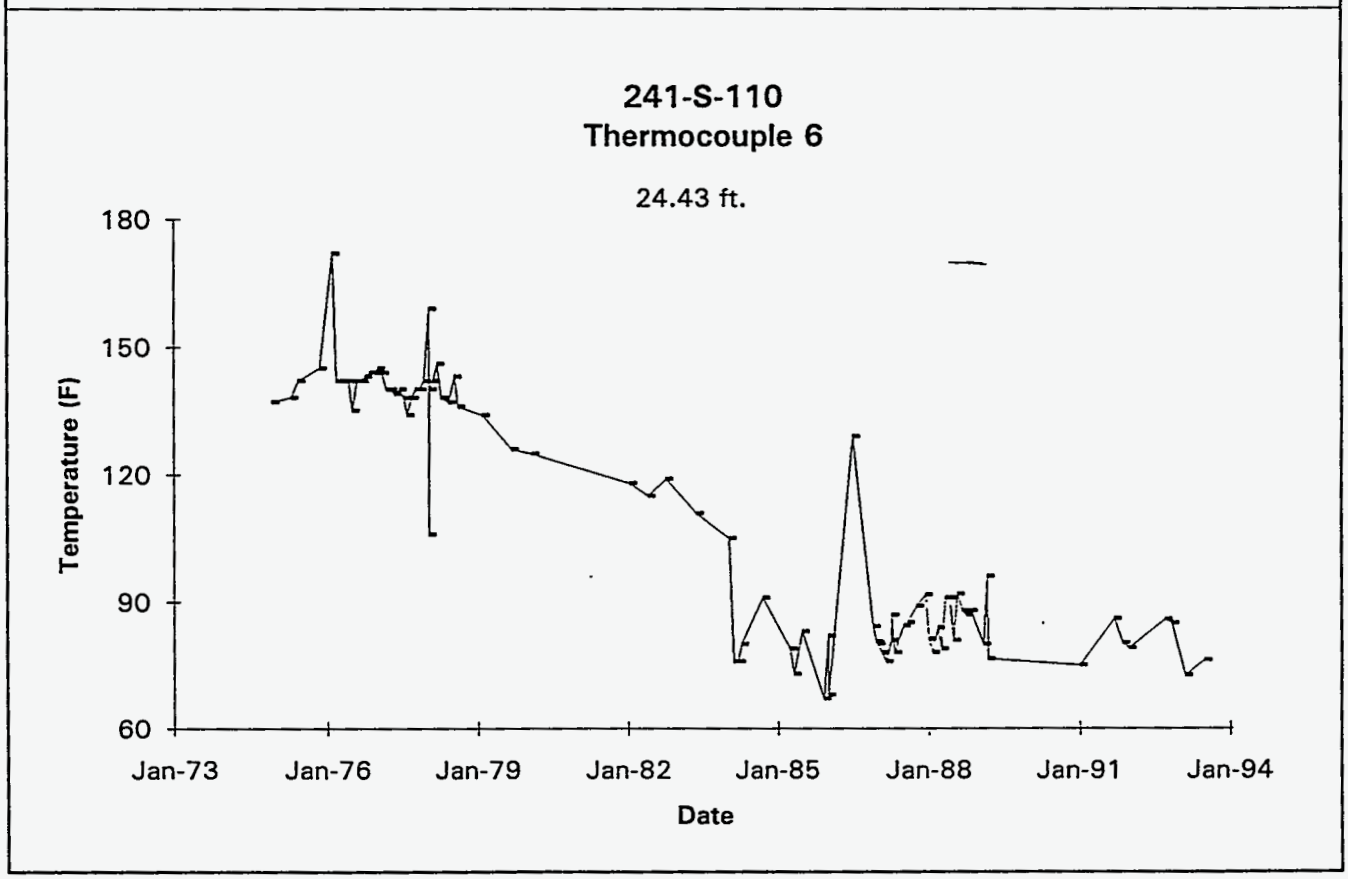

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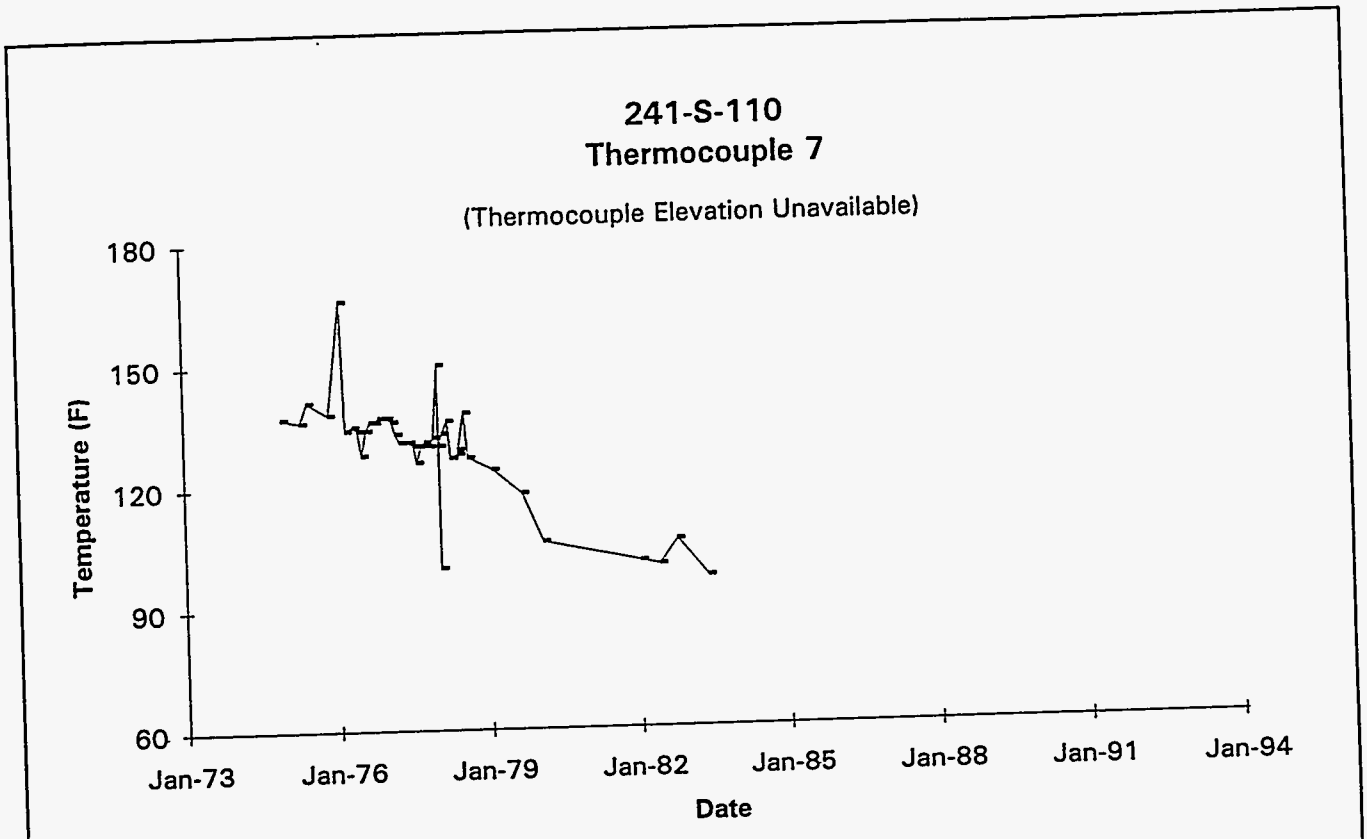

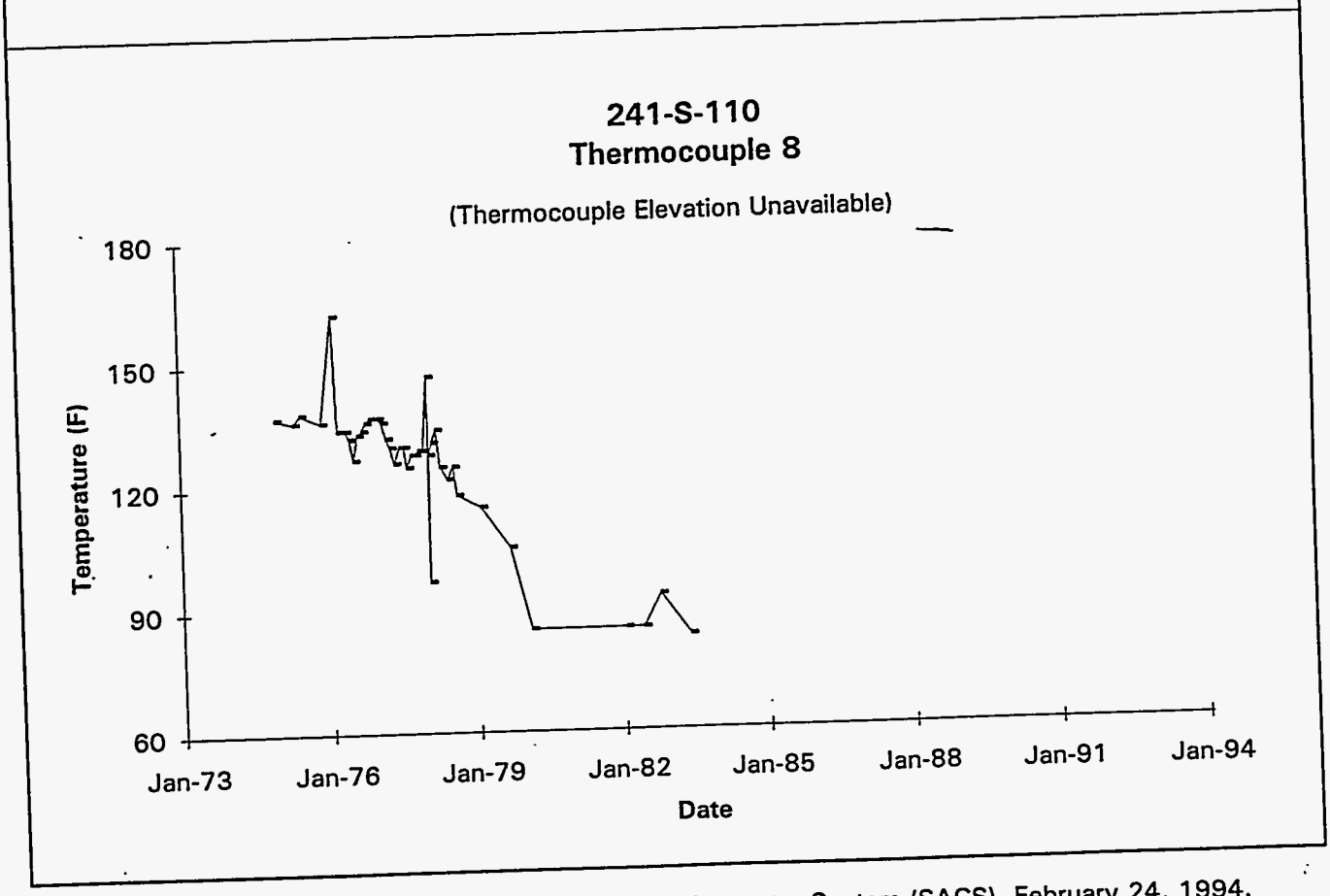

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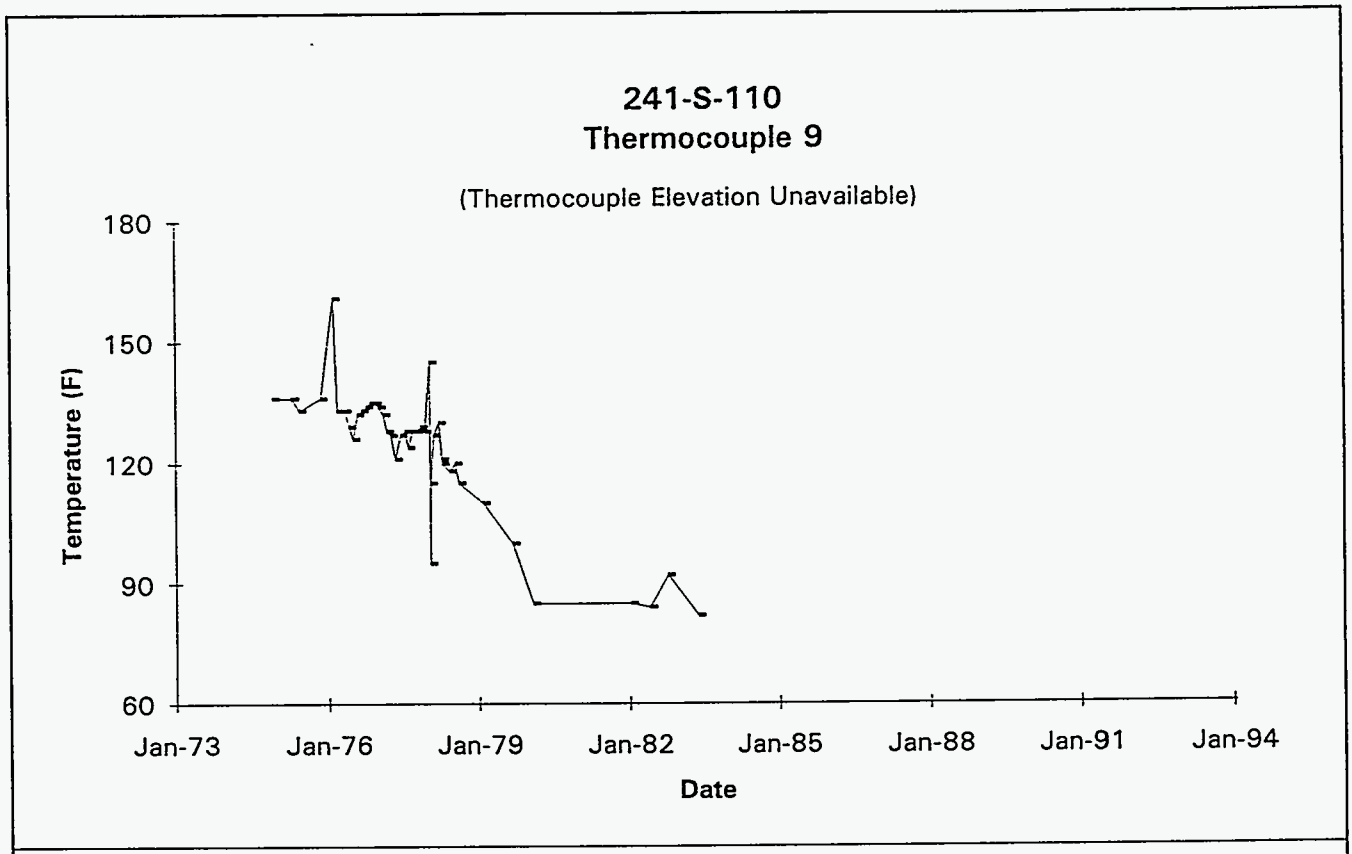

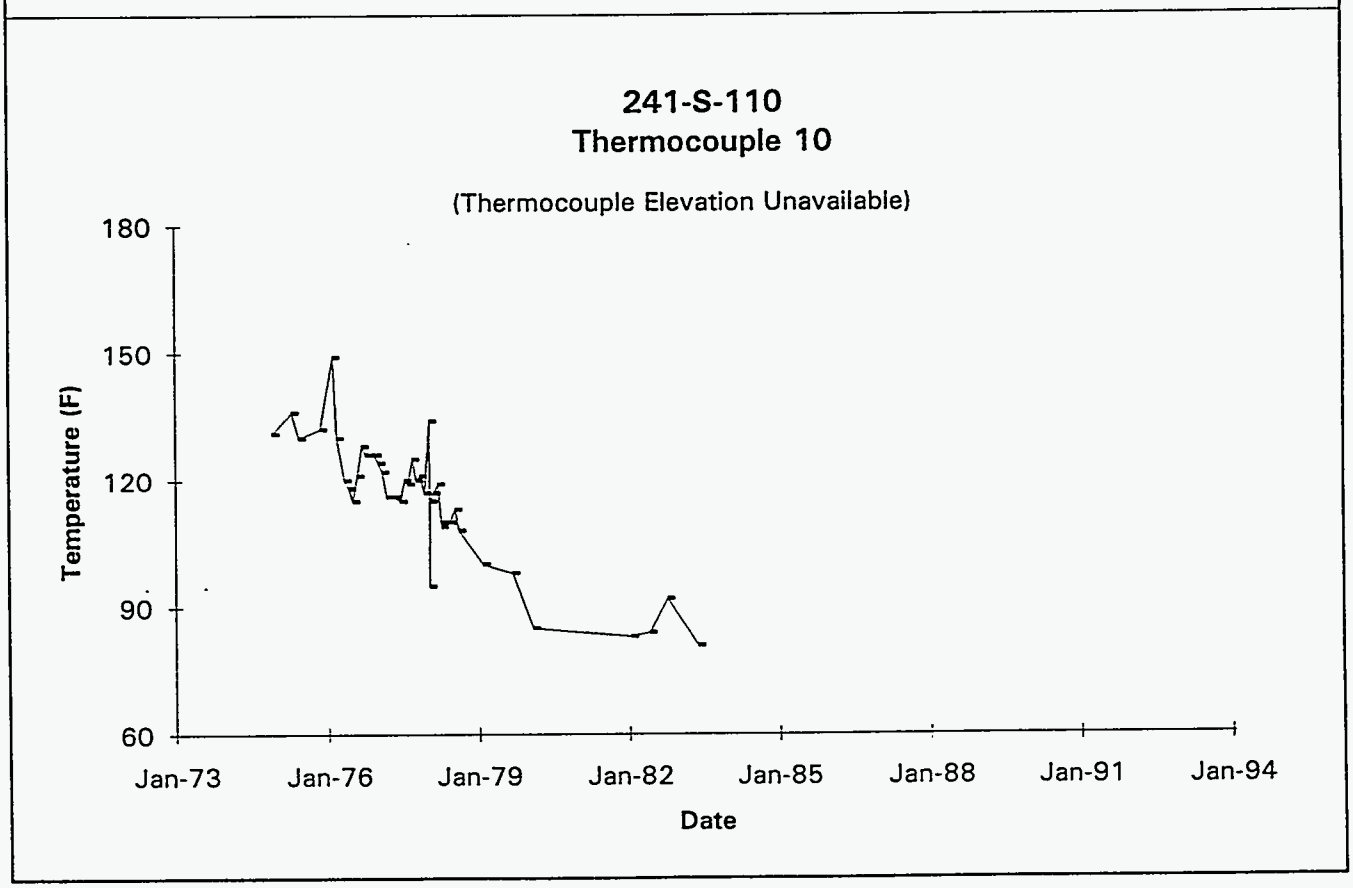

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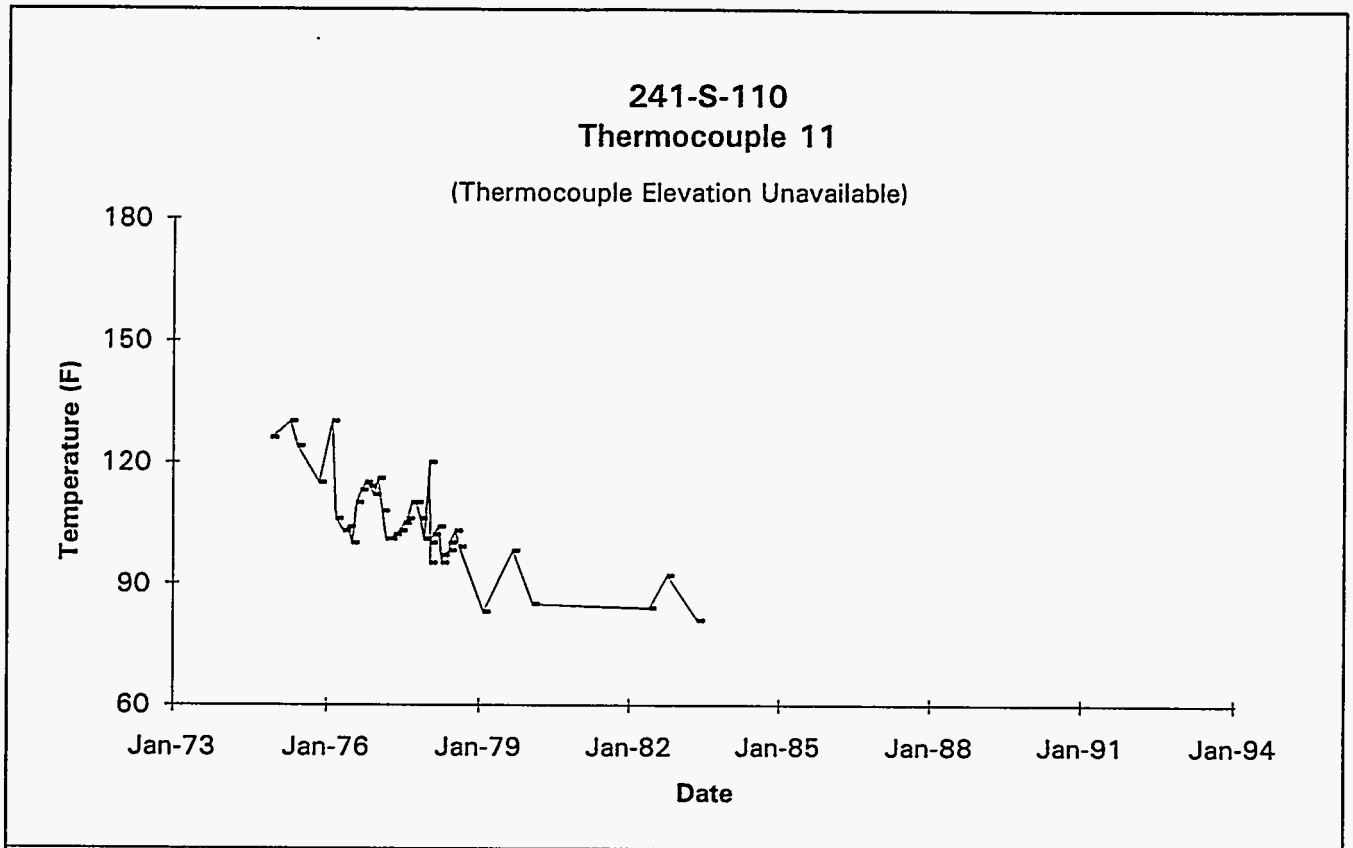

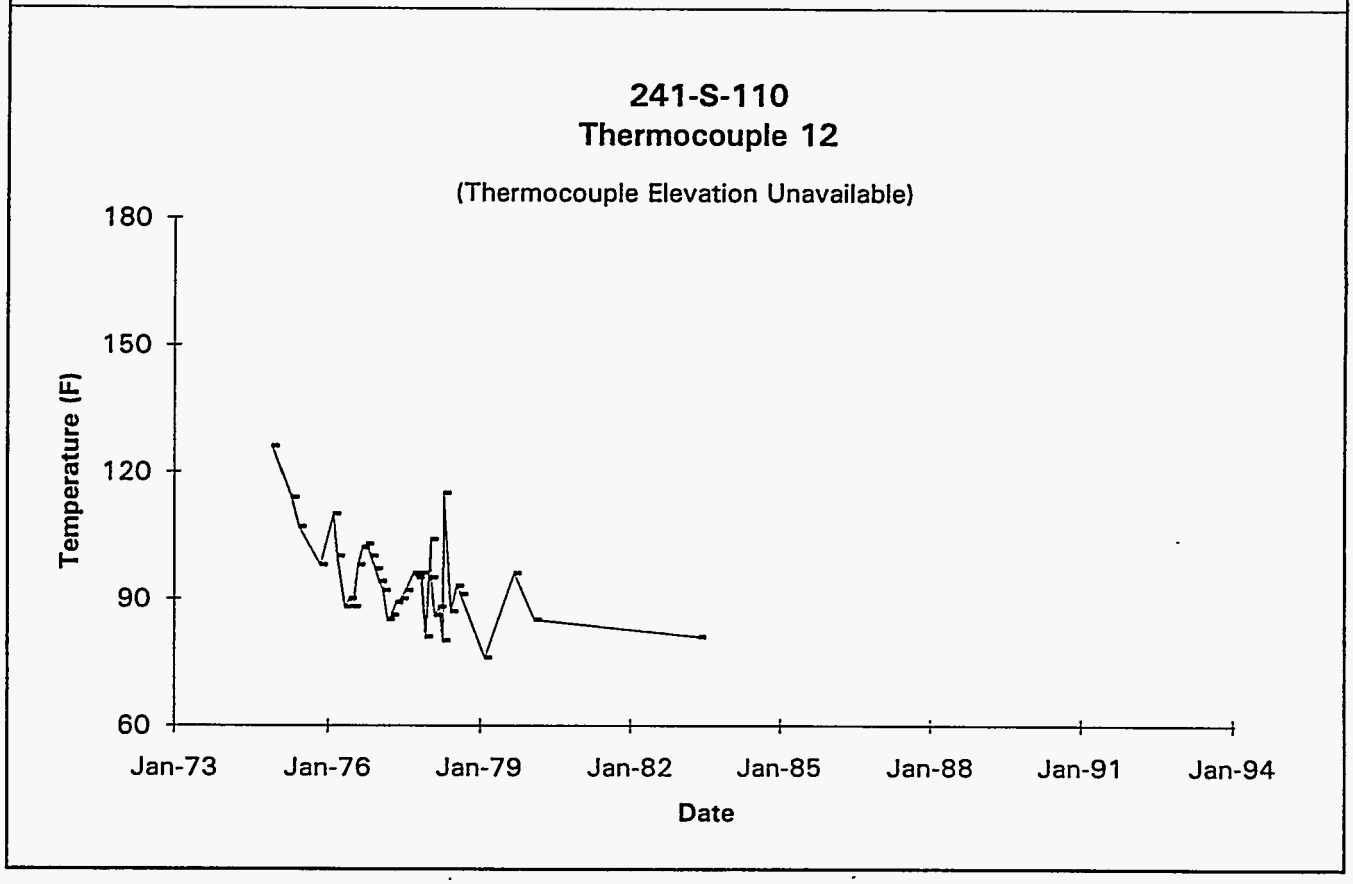

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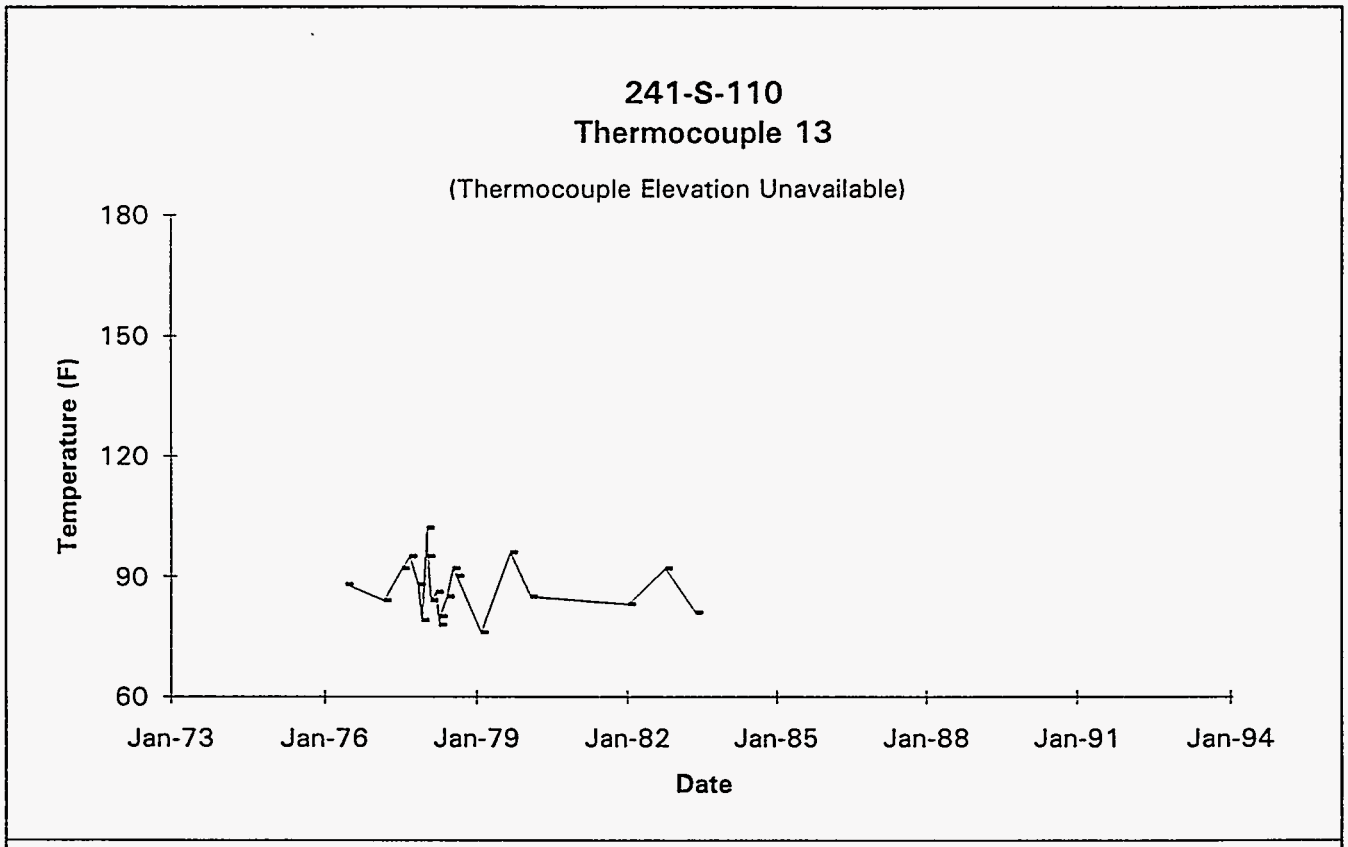

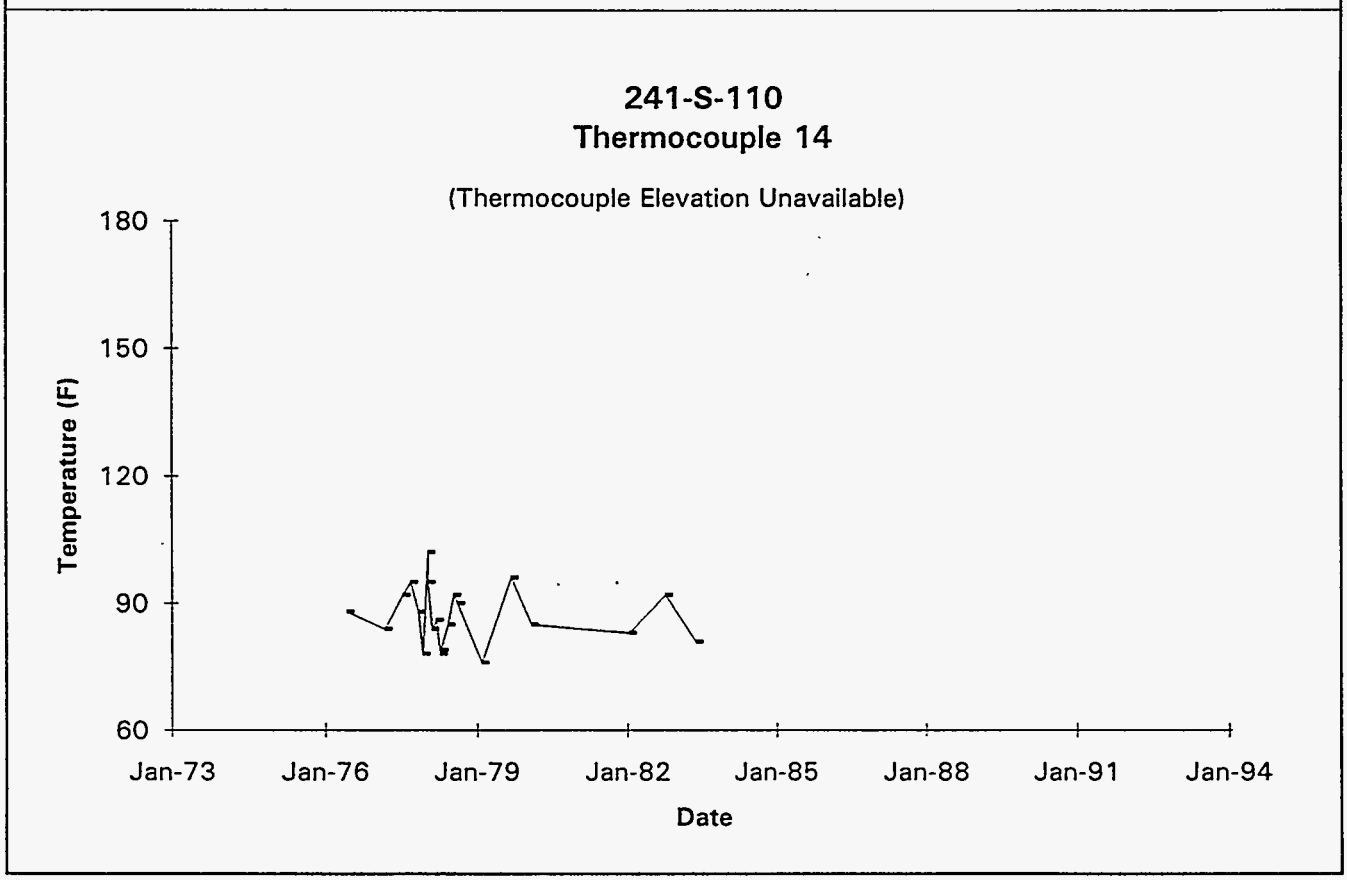

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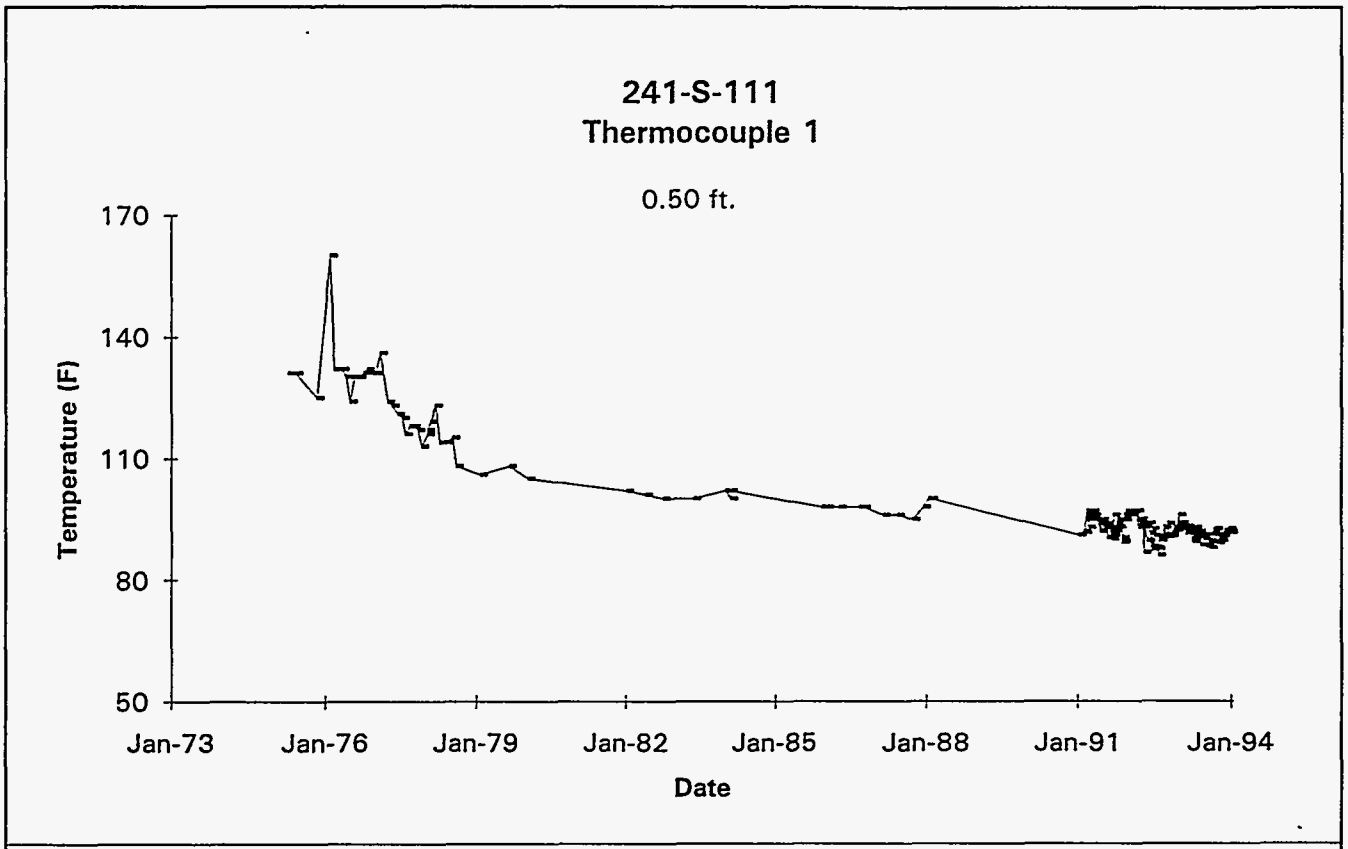

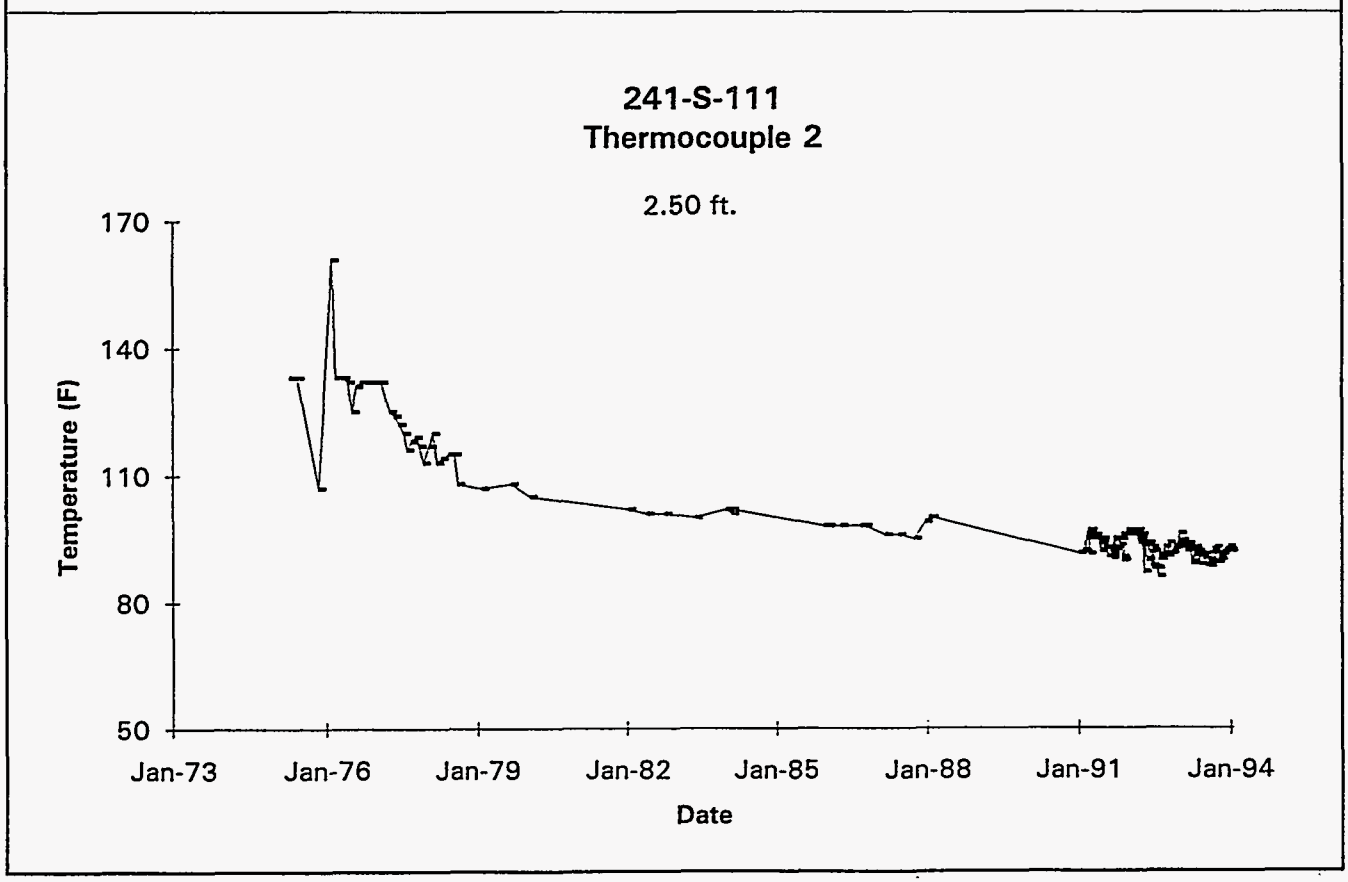

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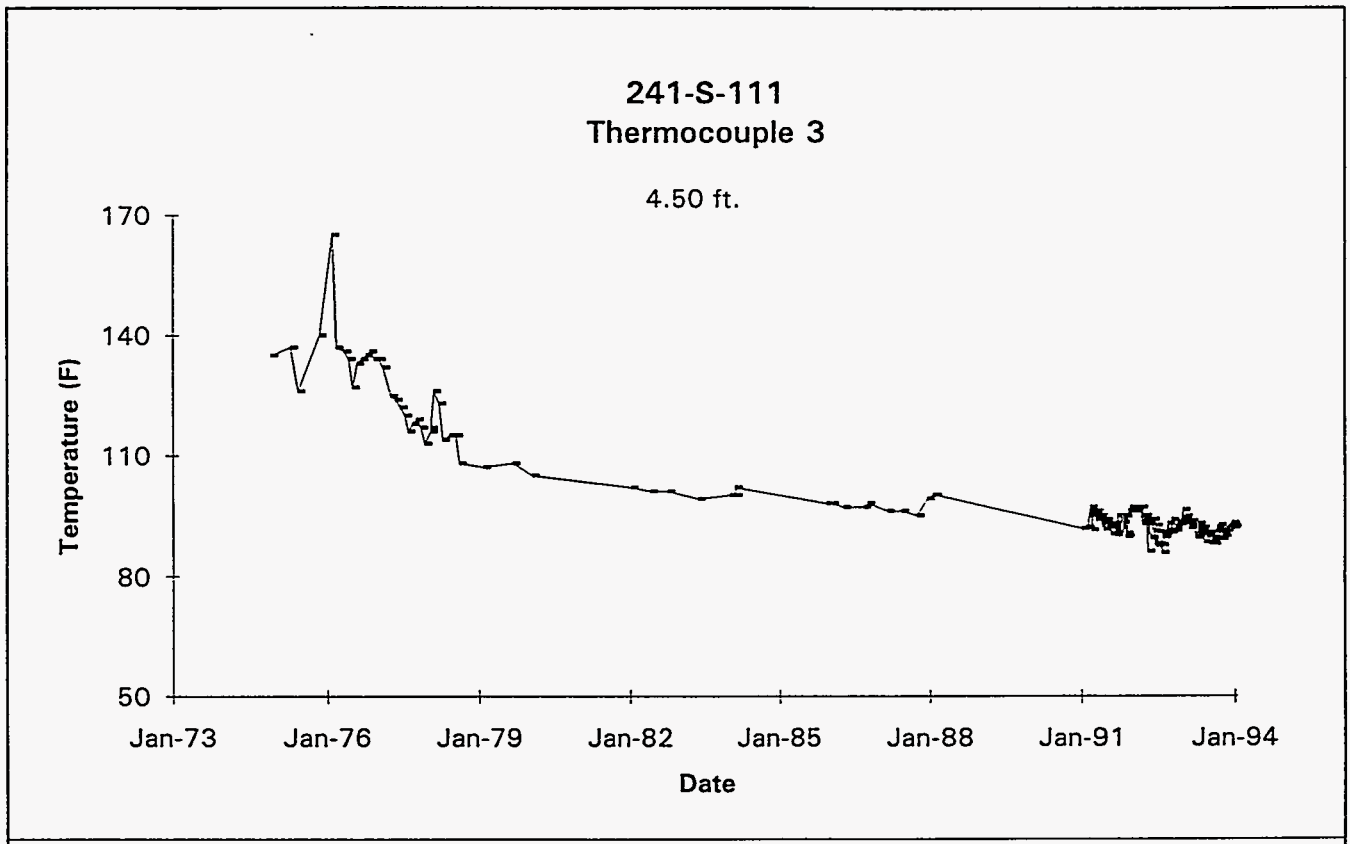

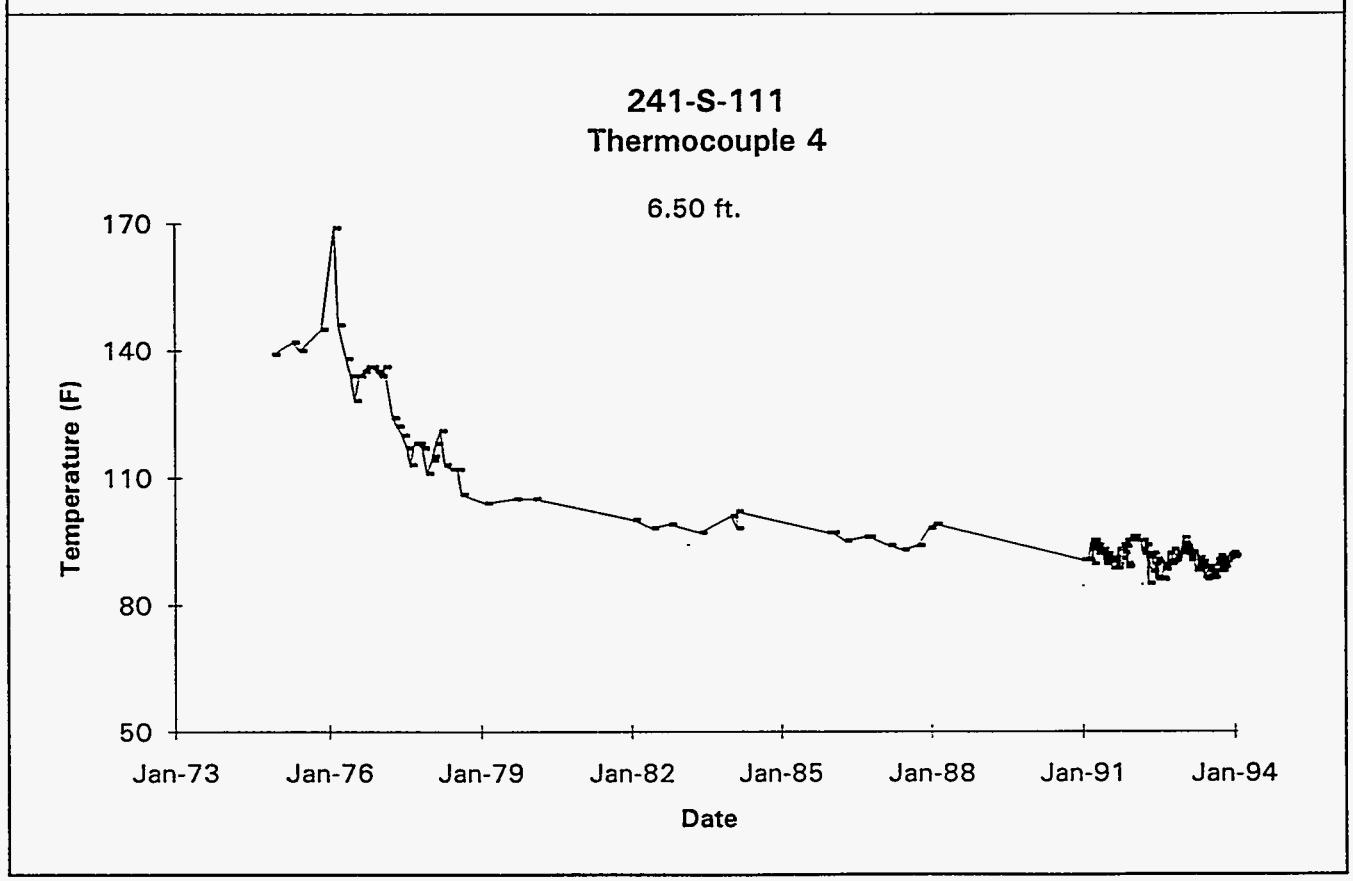

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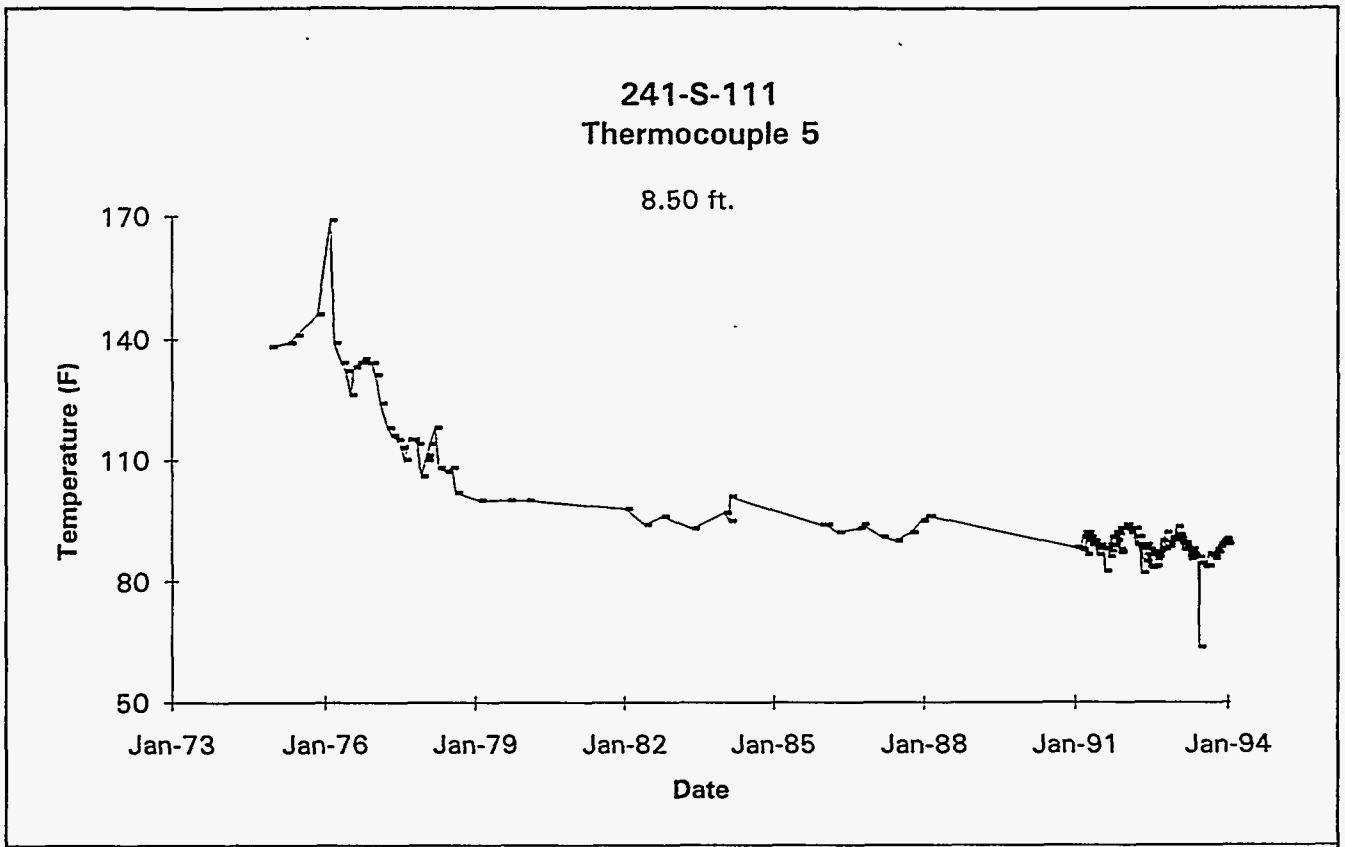
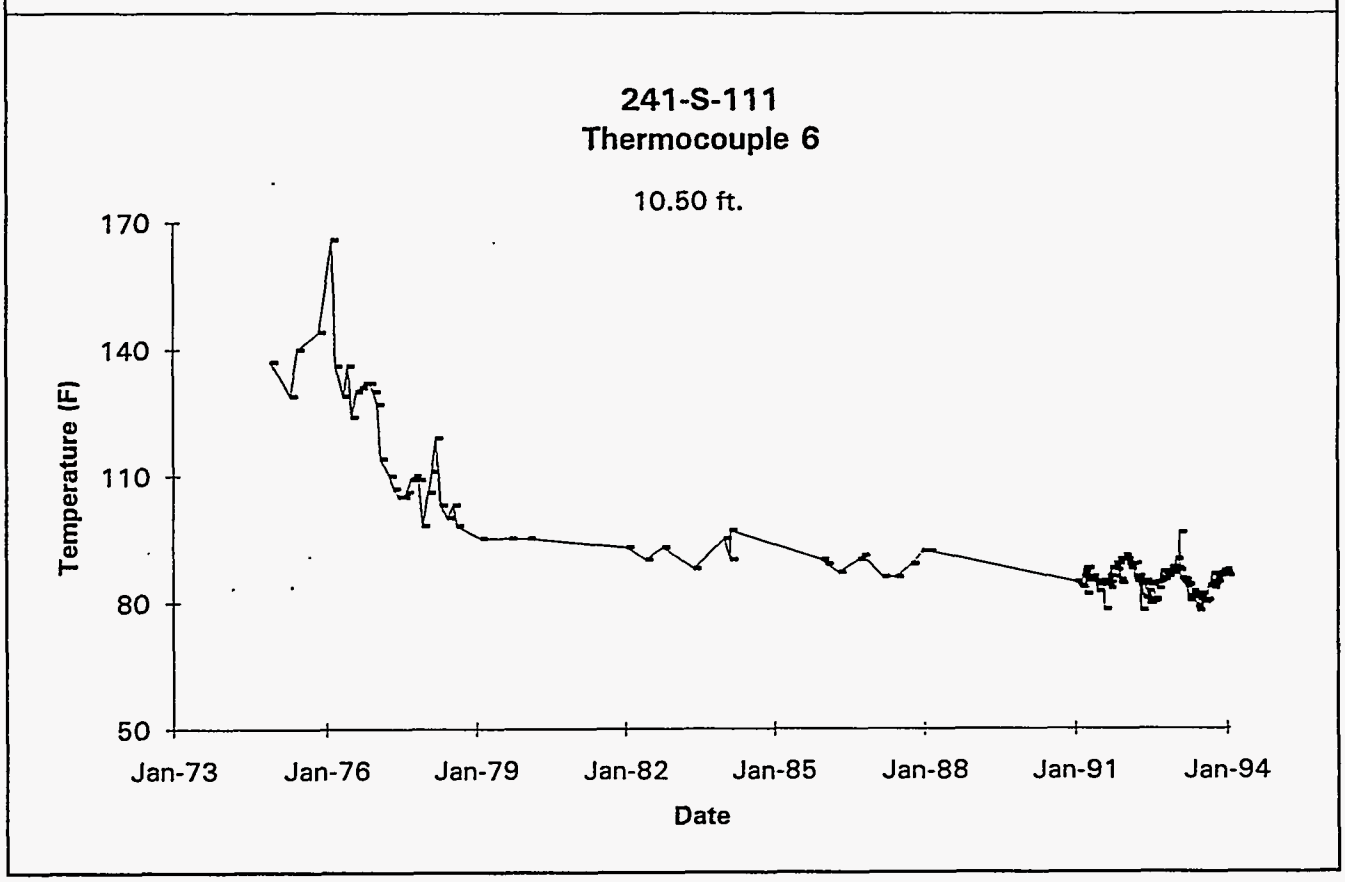
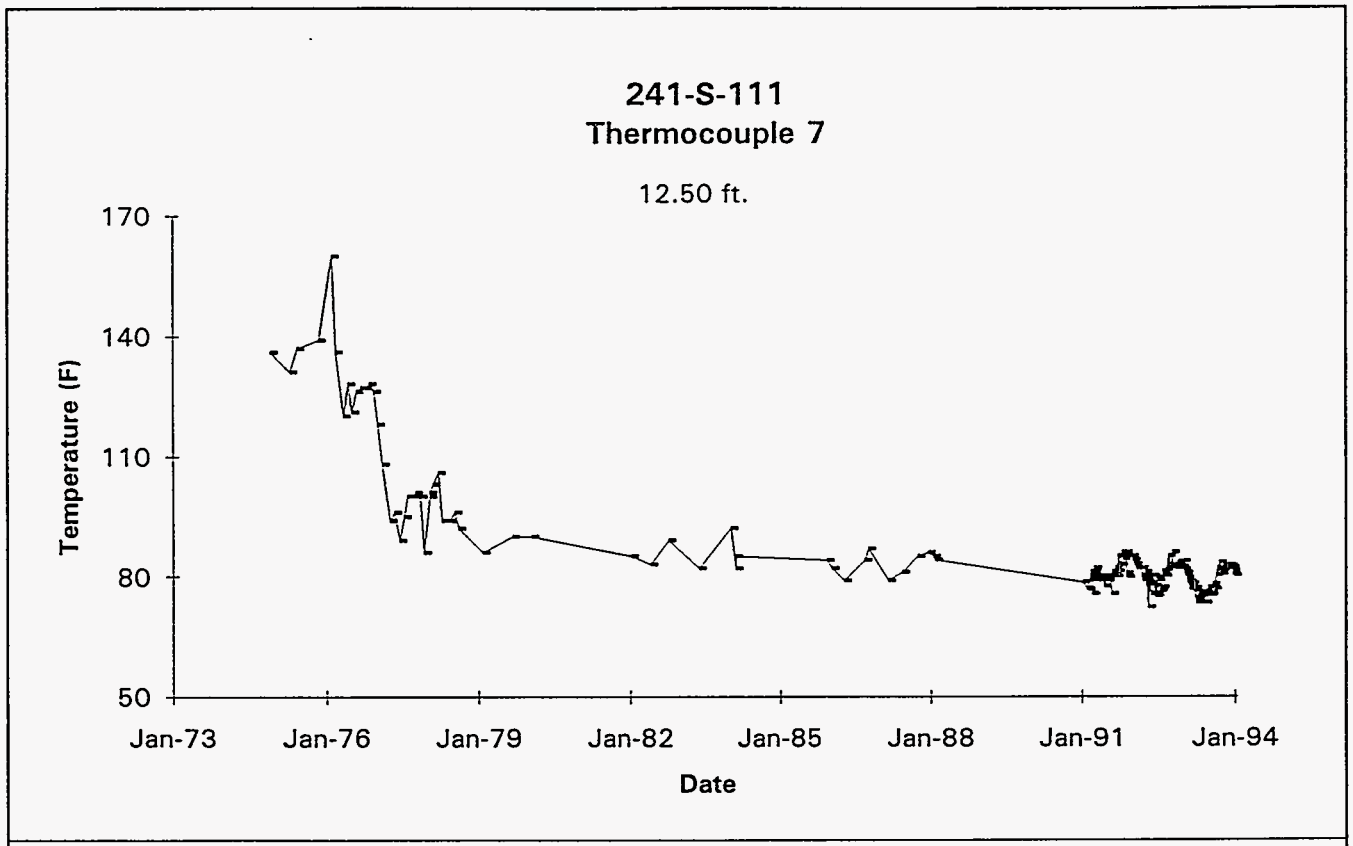
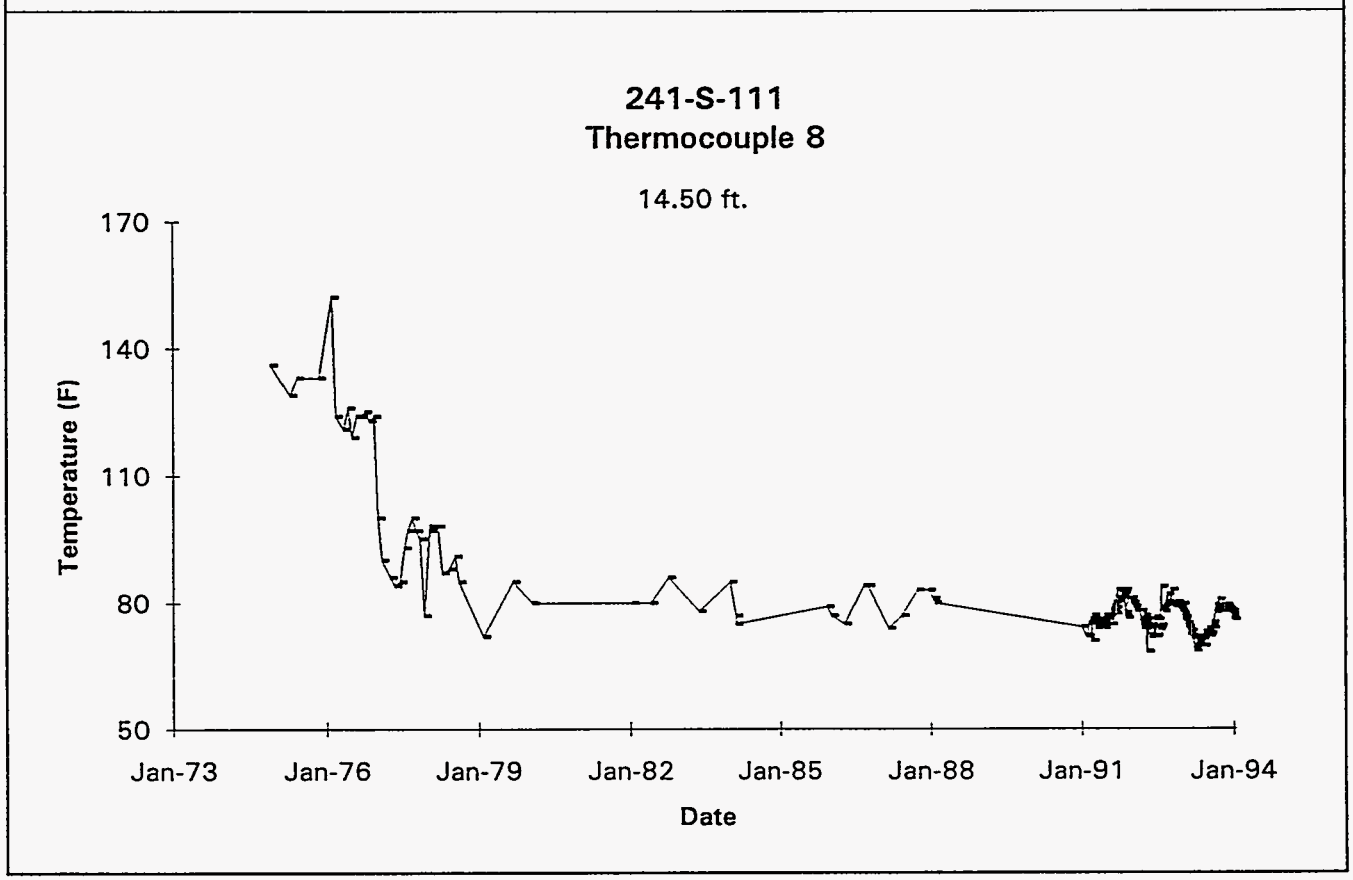


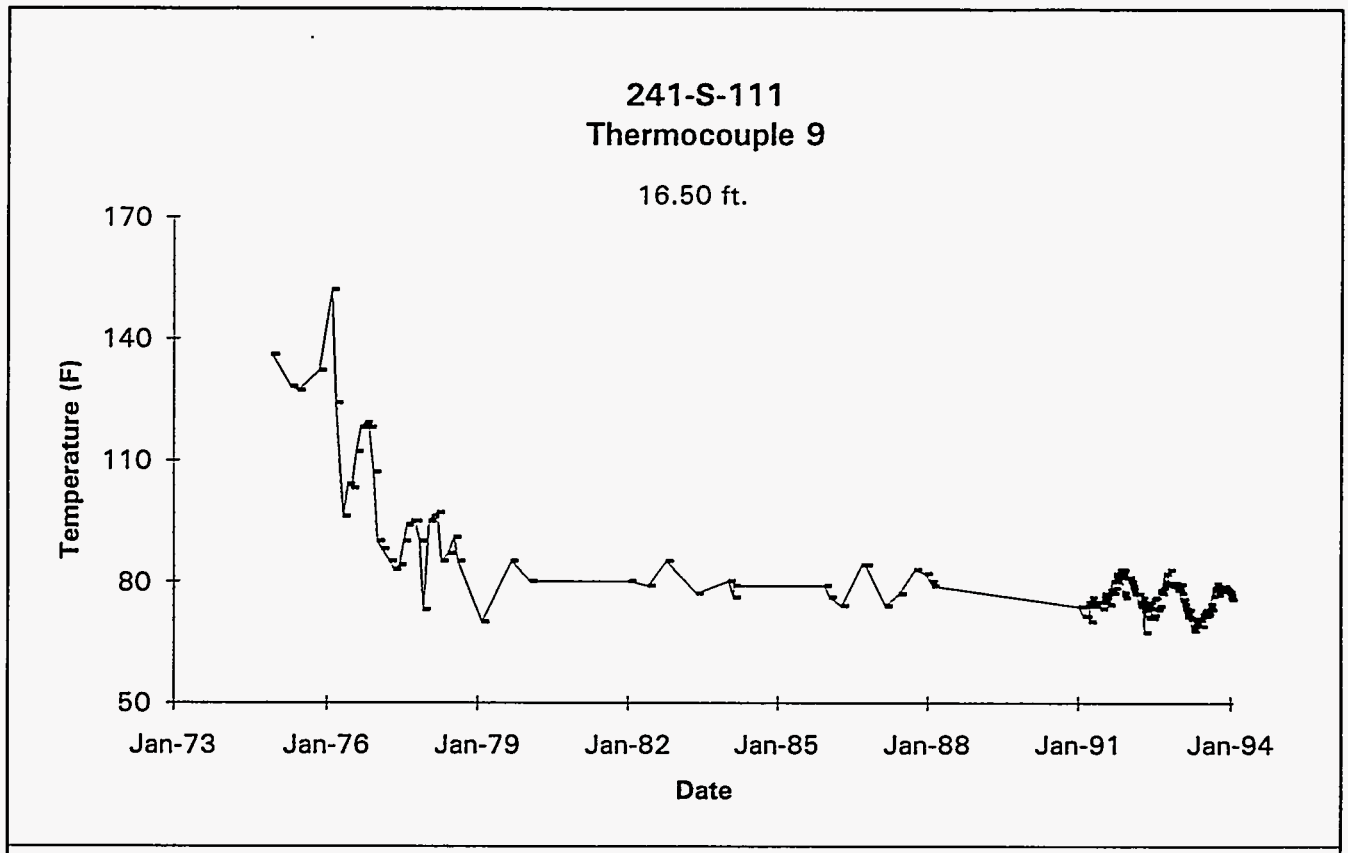


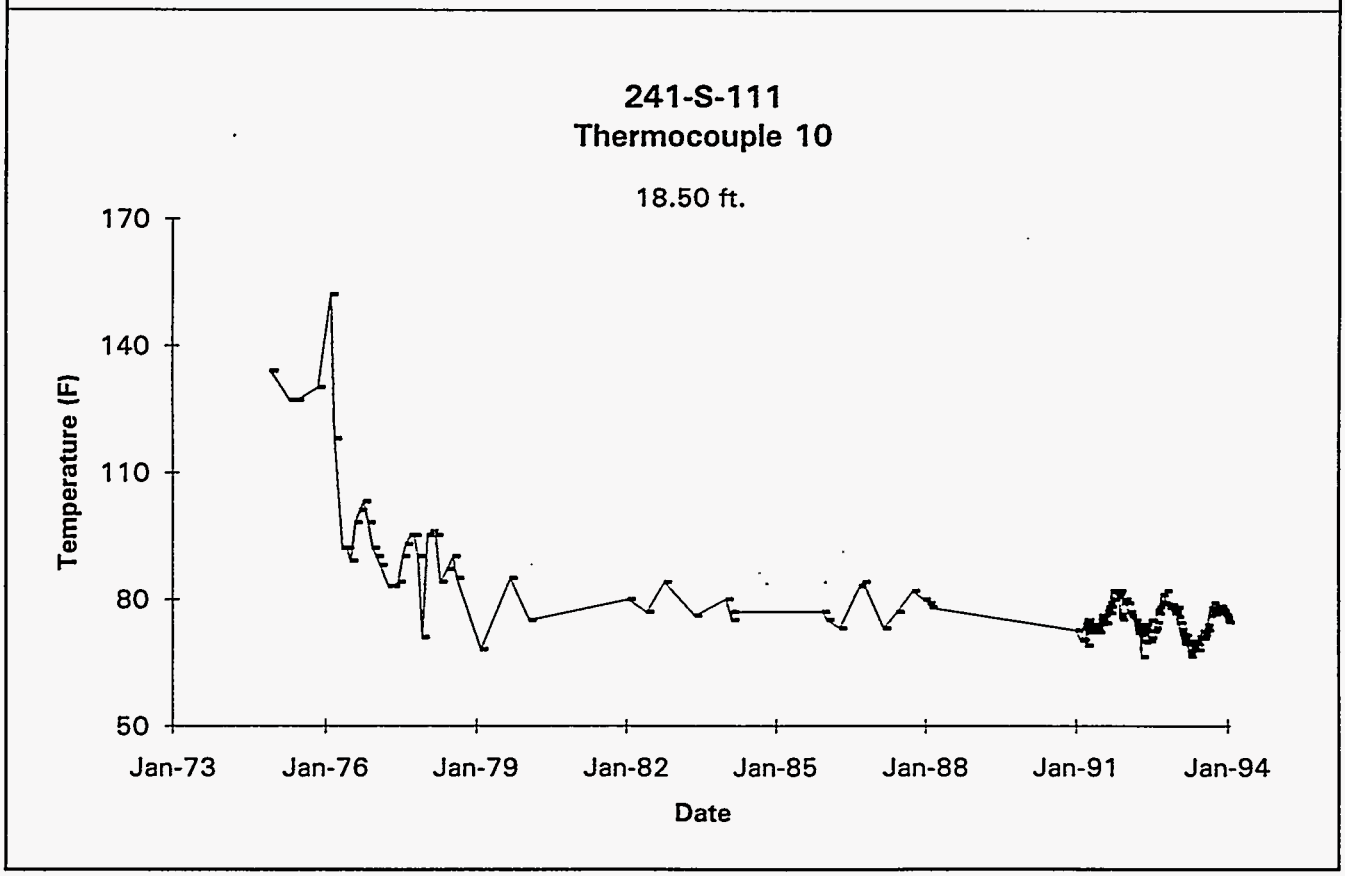
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.



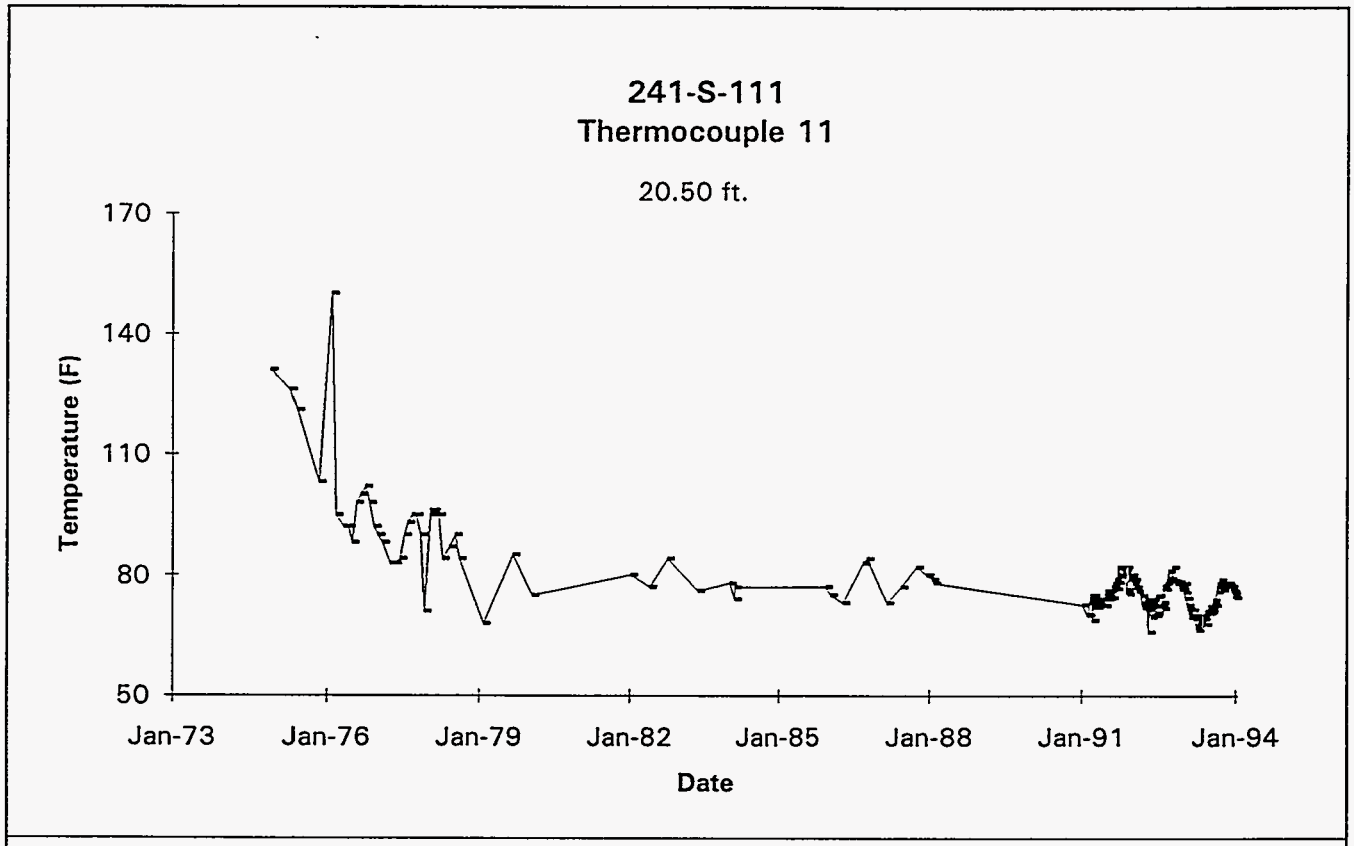


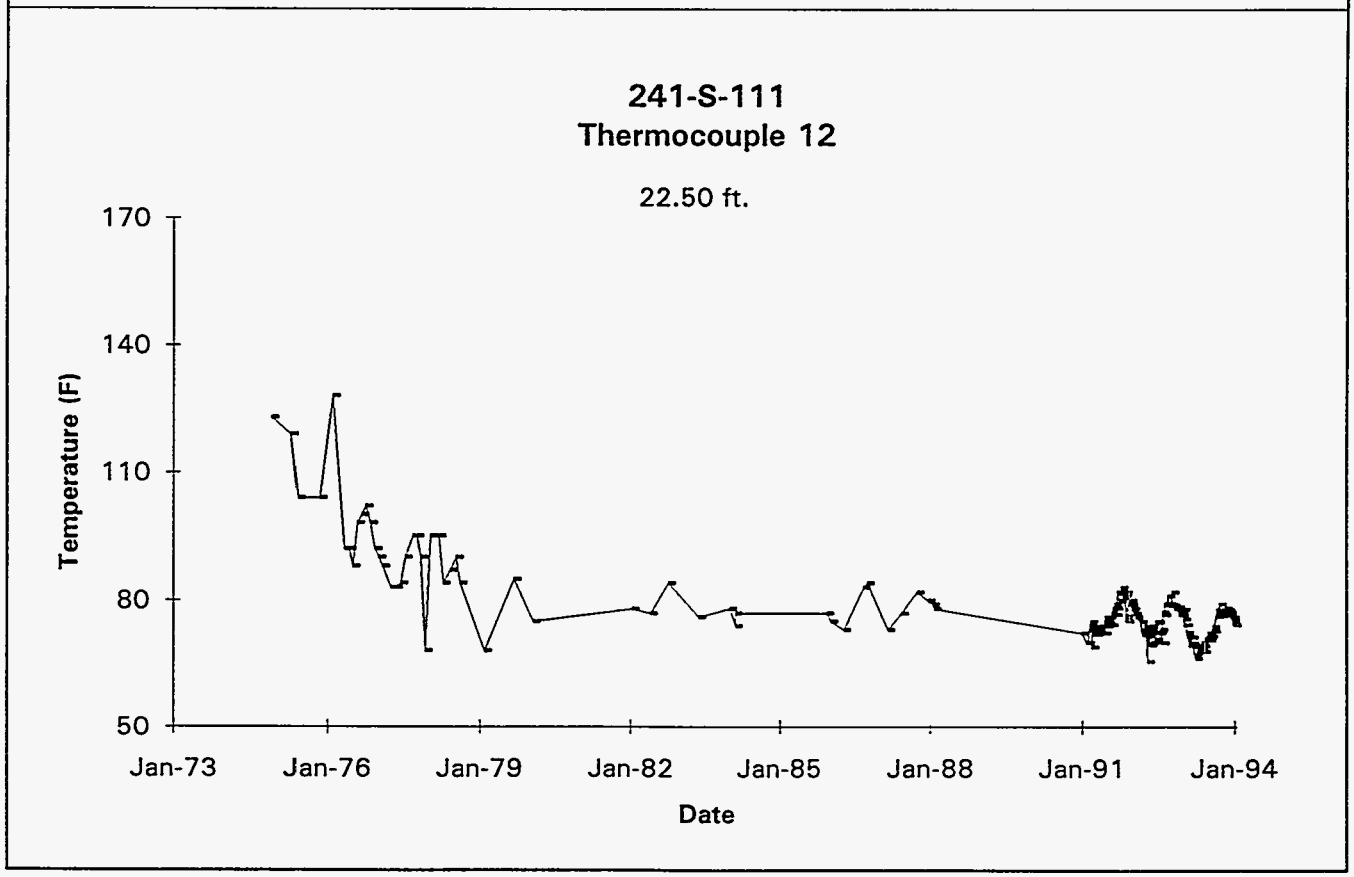
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.



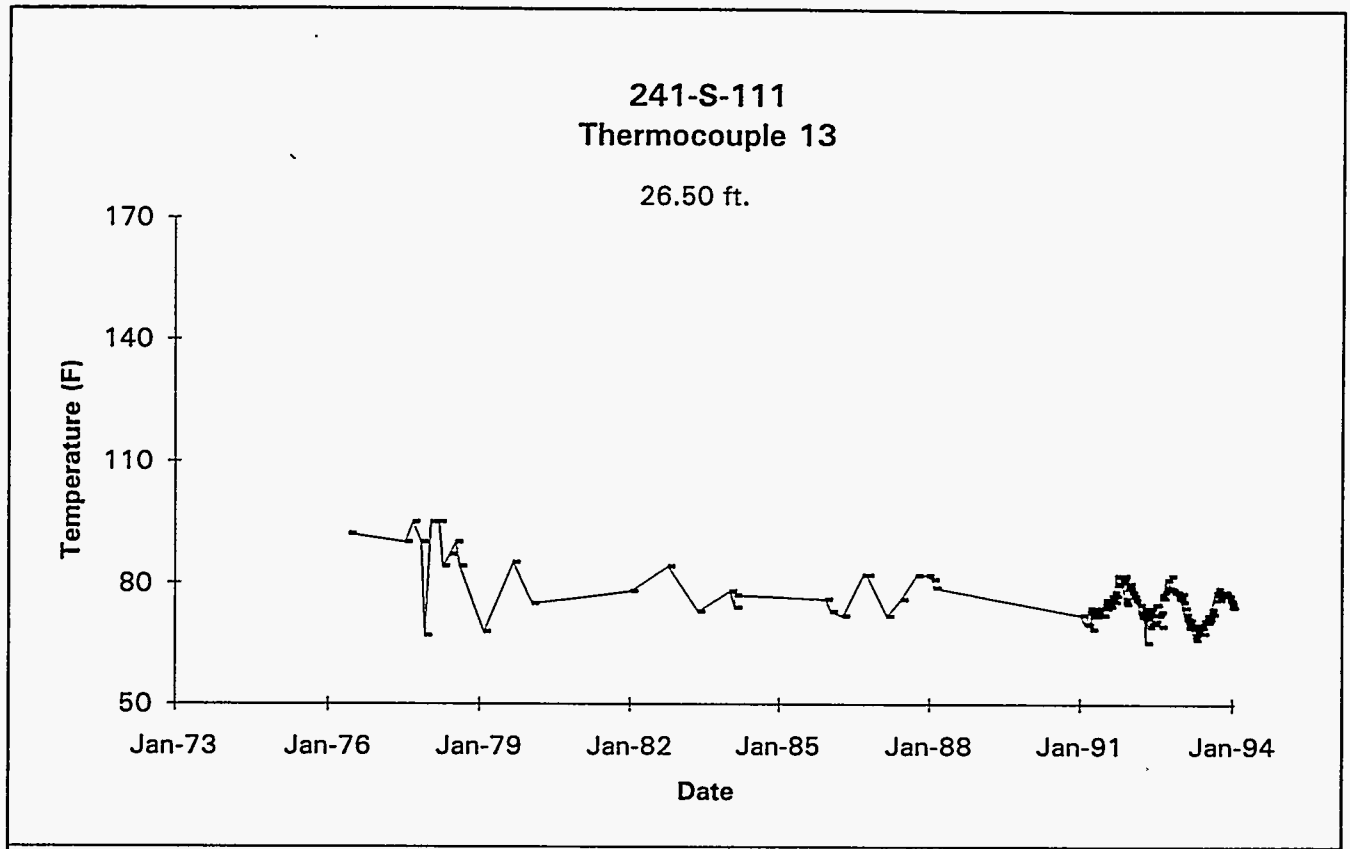


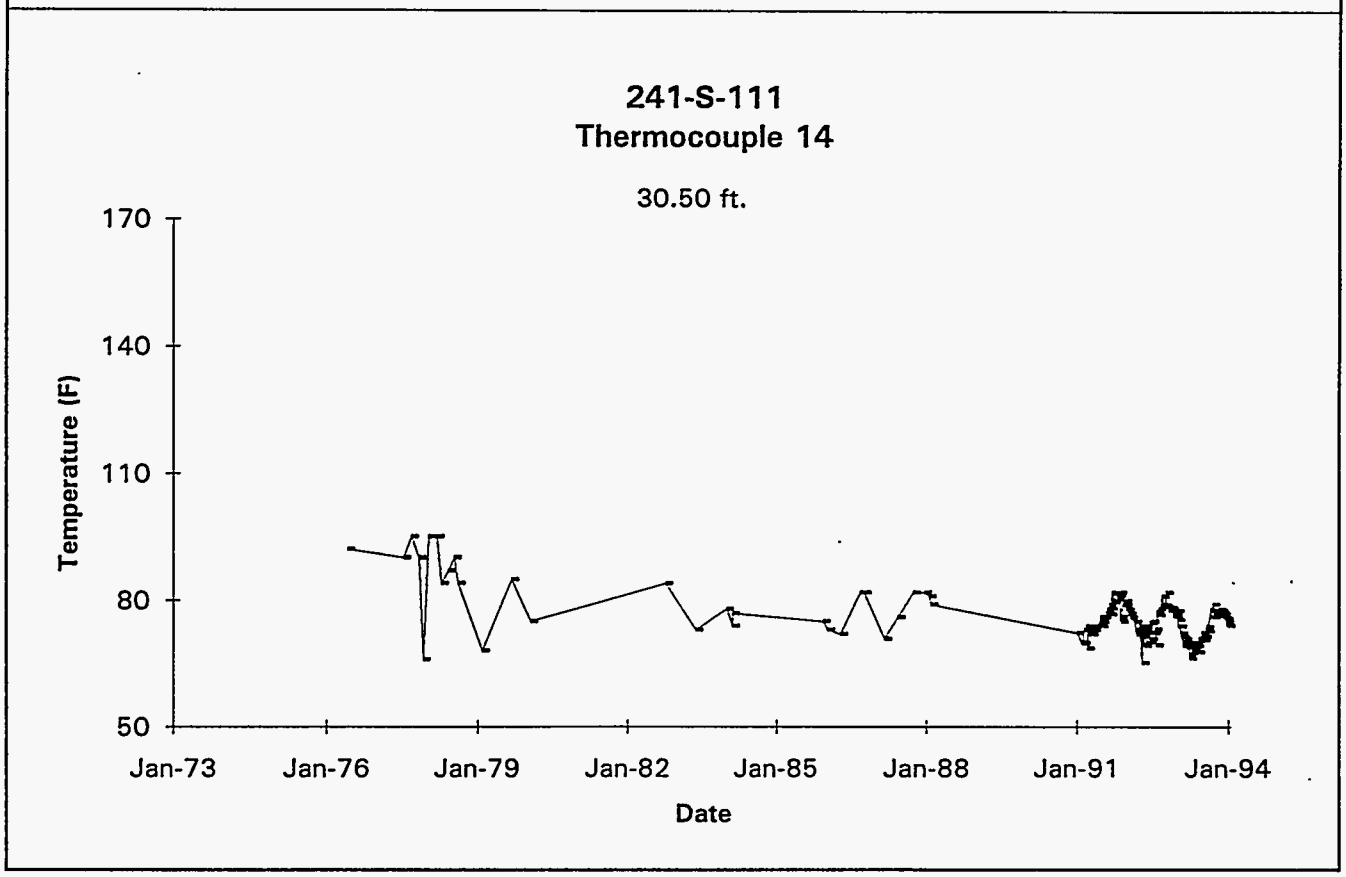
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.



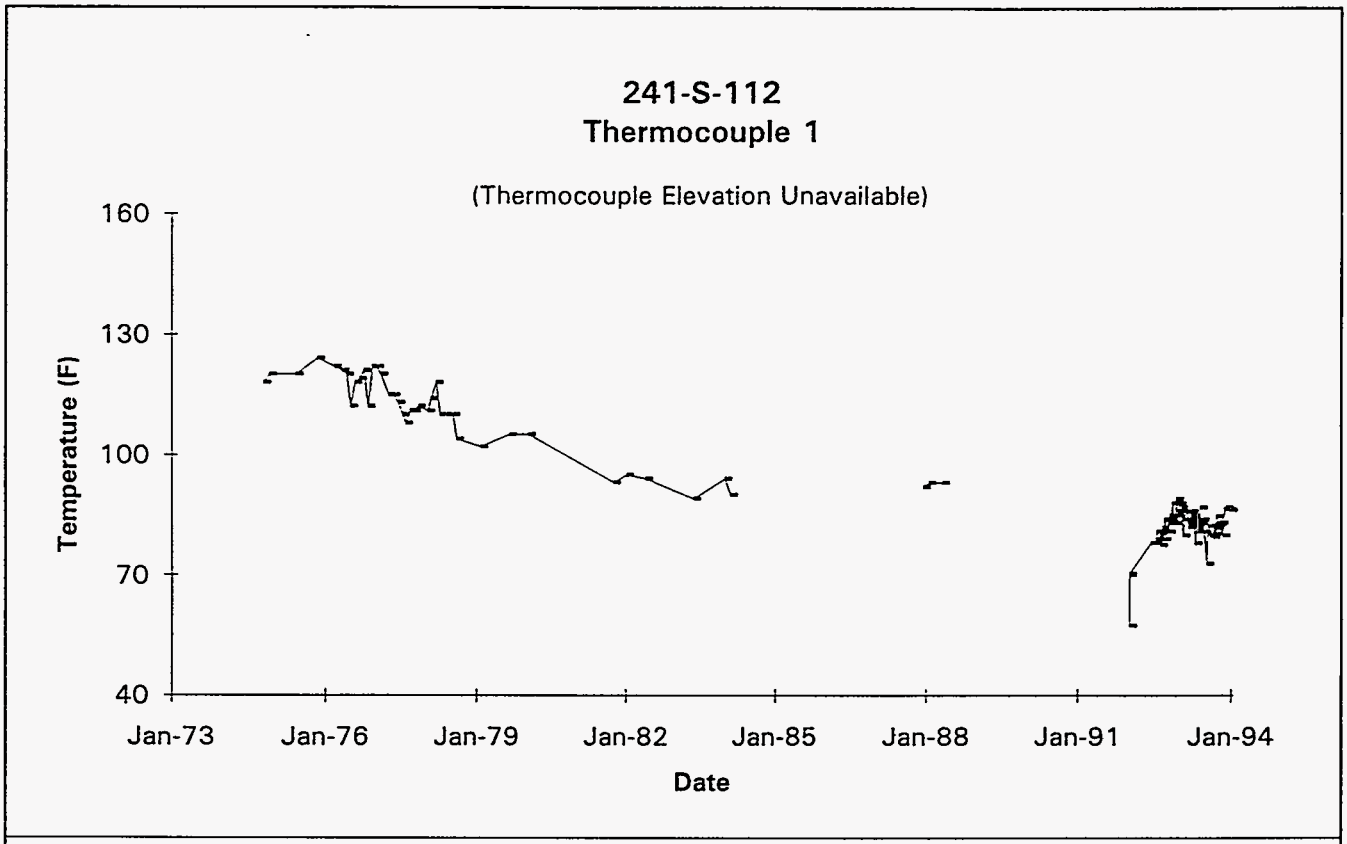


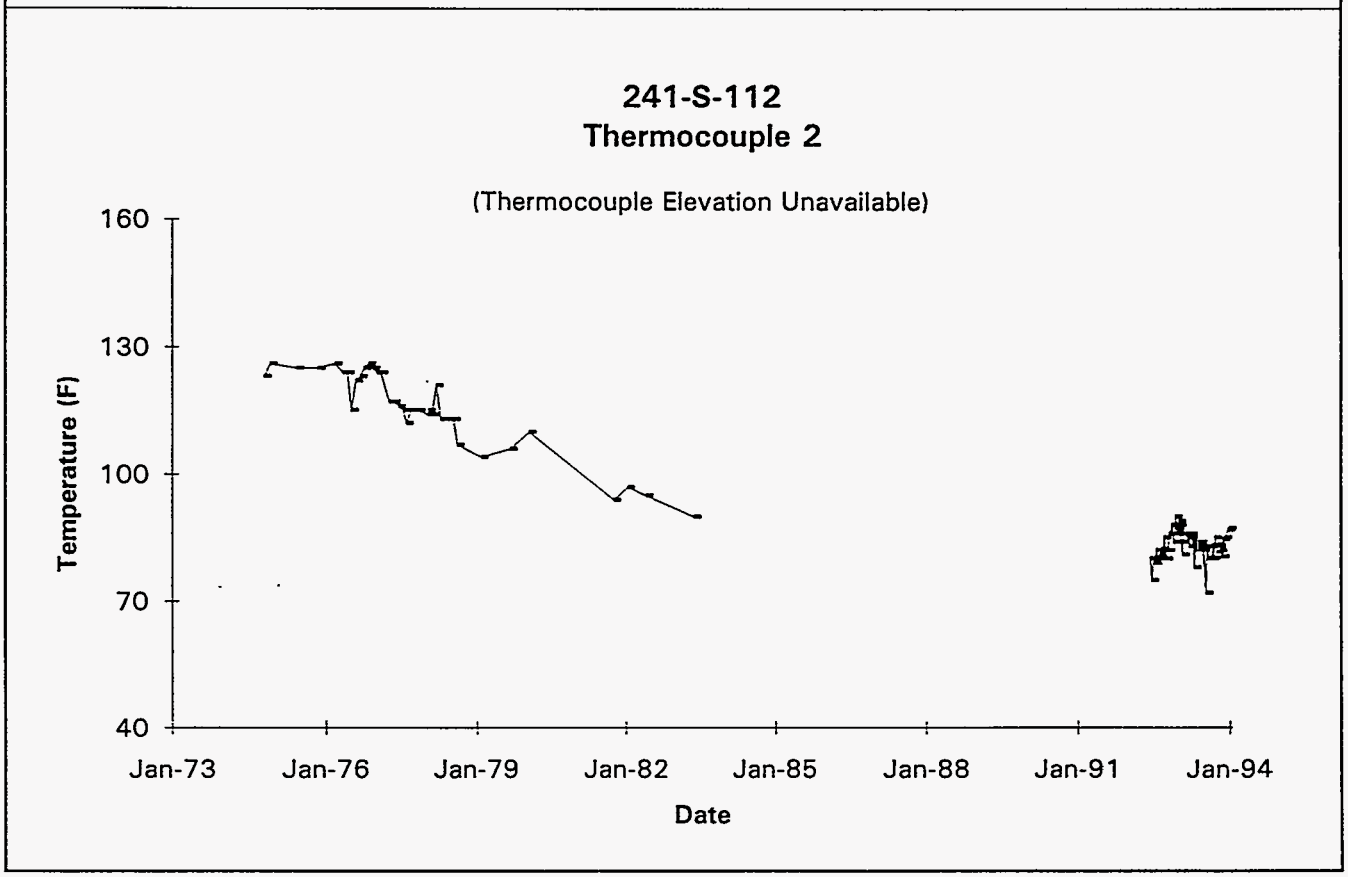
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.



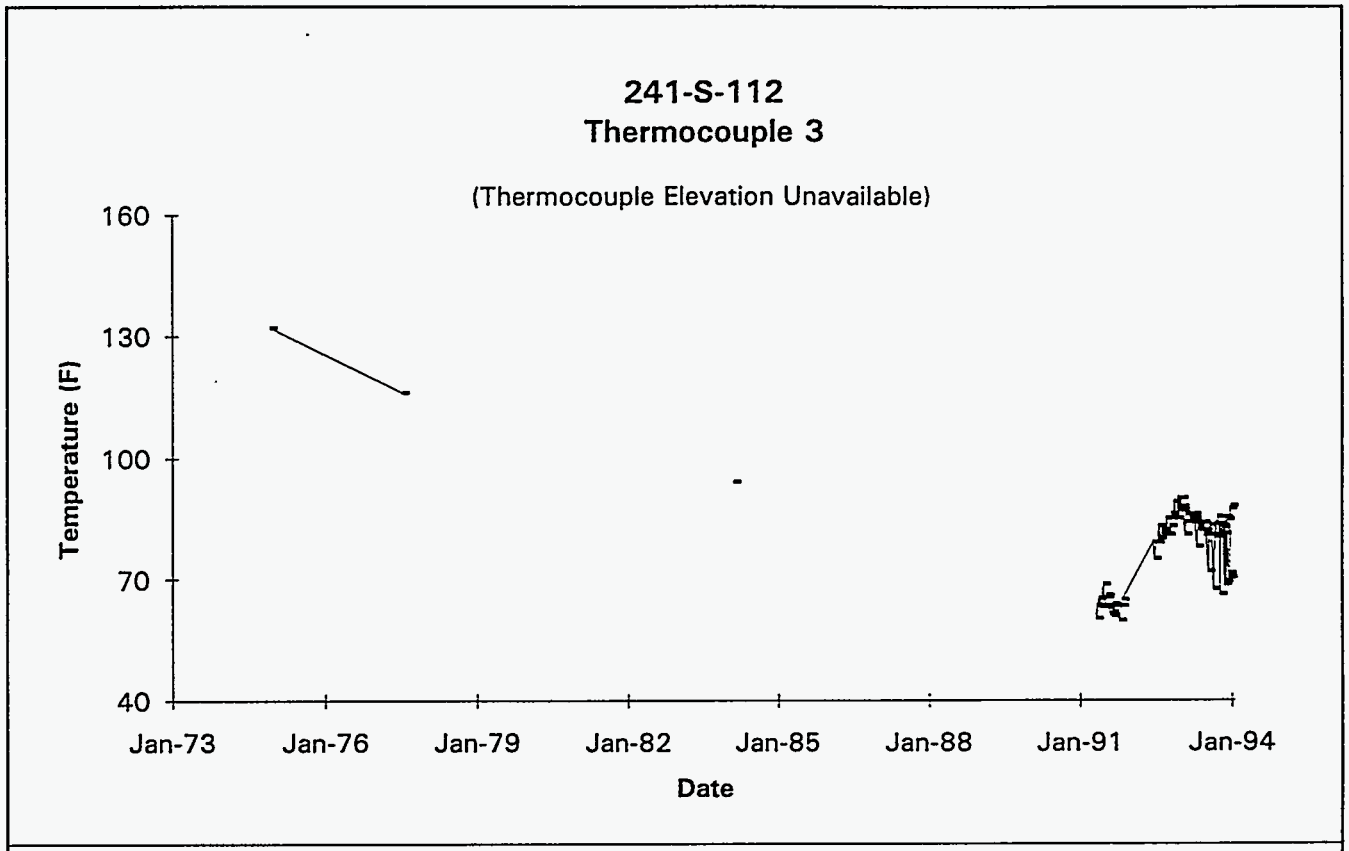


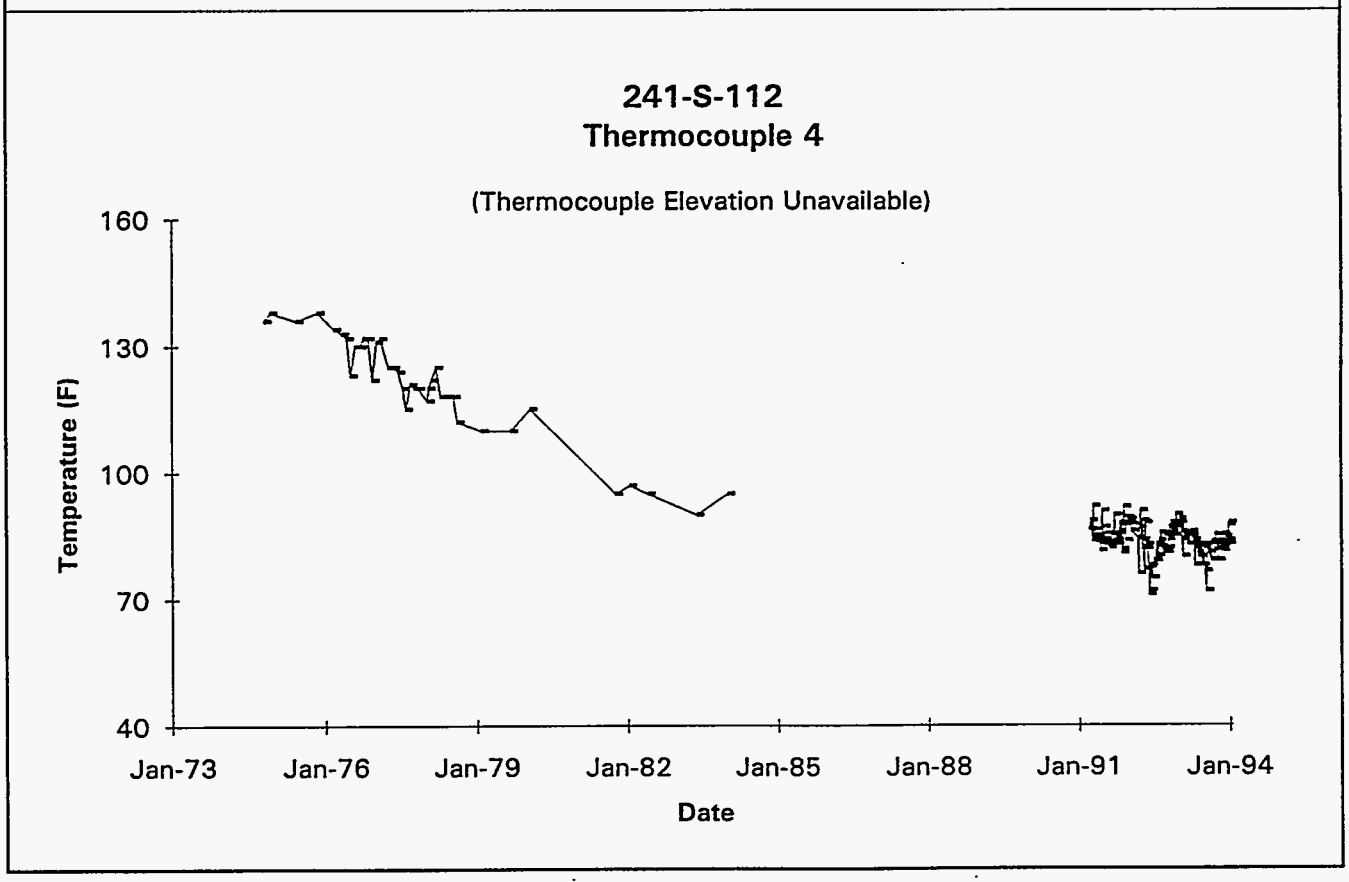
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.



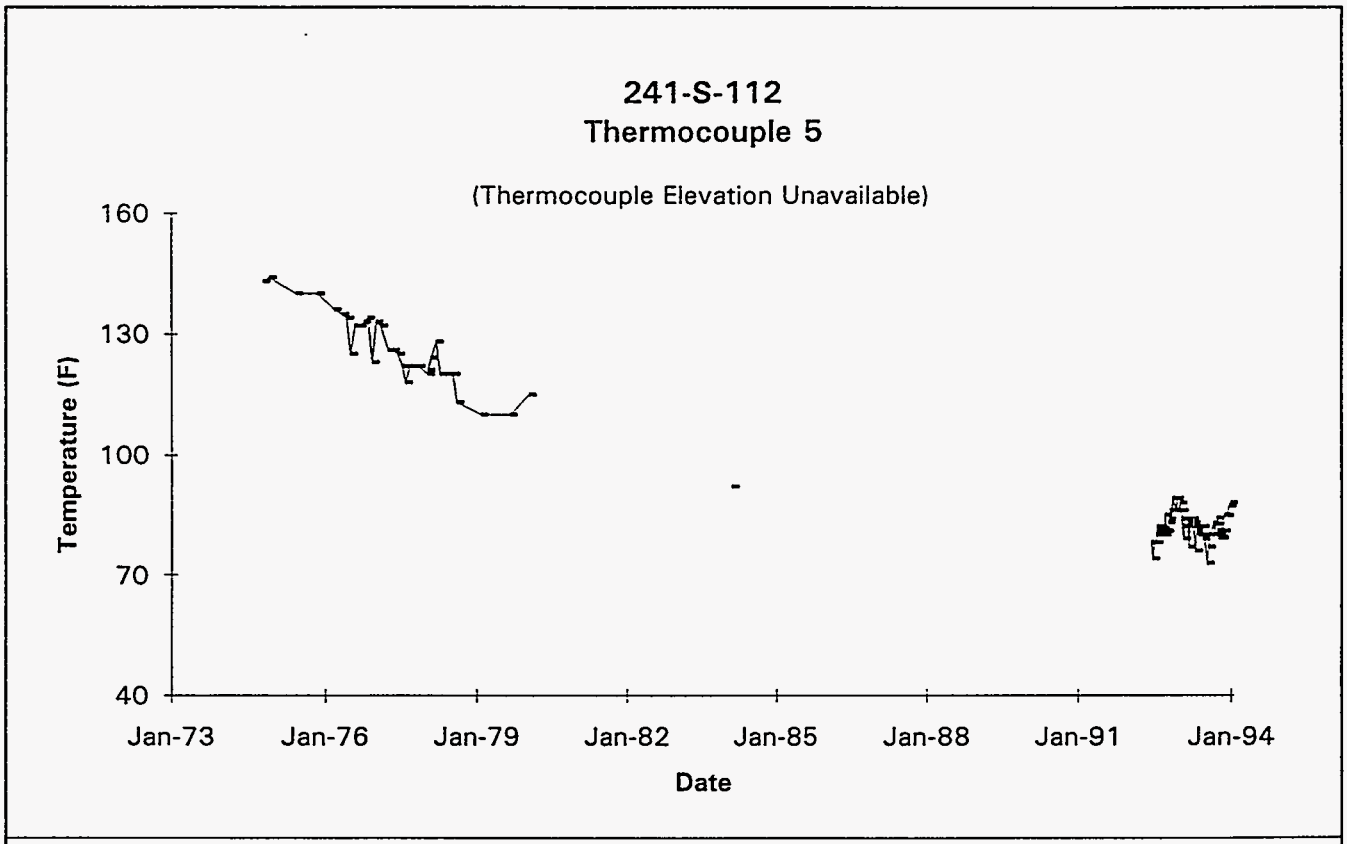


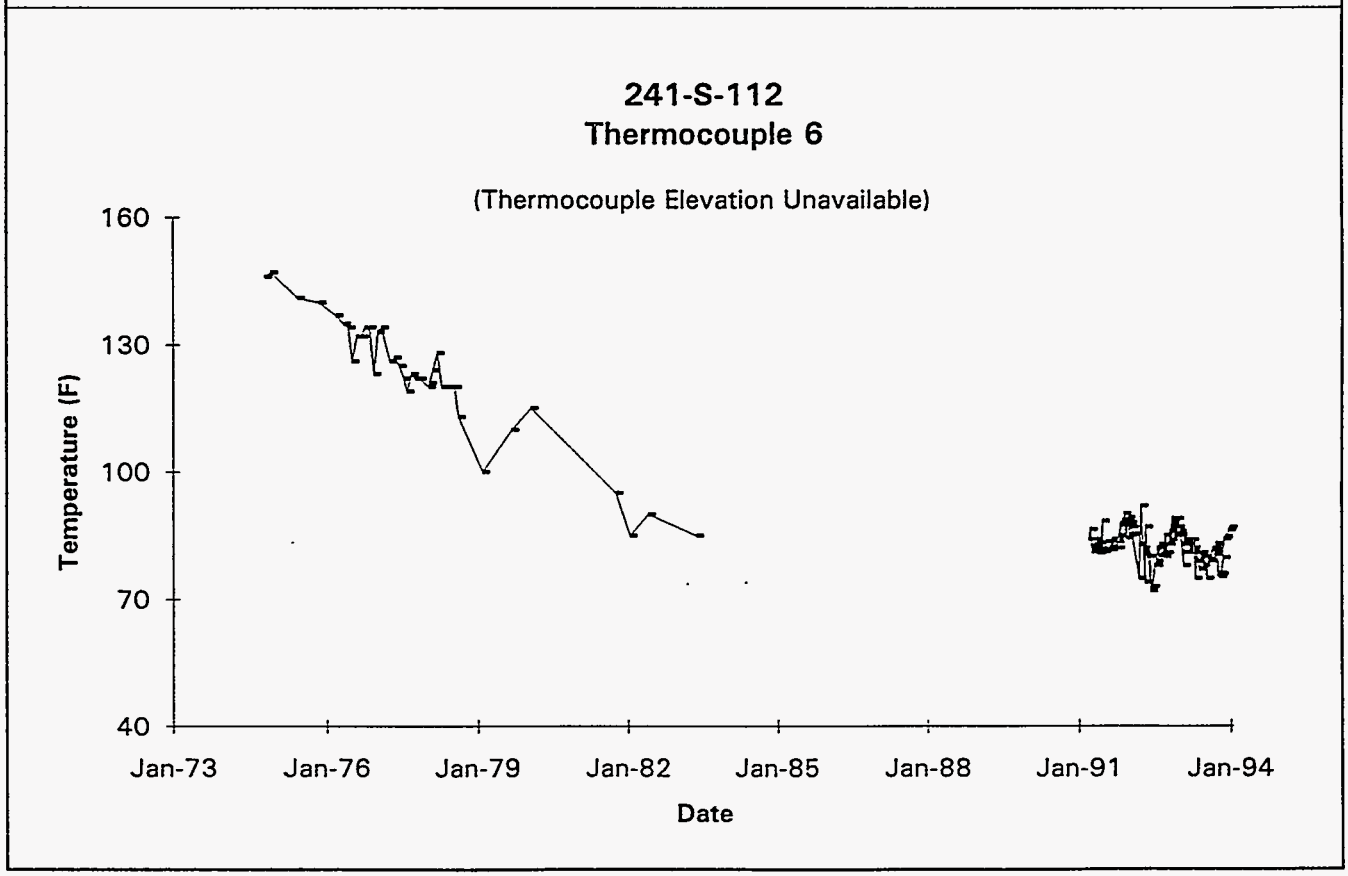
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.



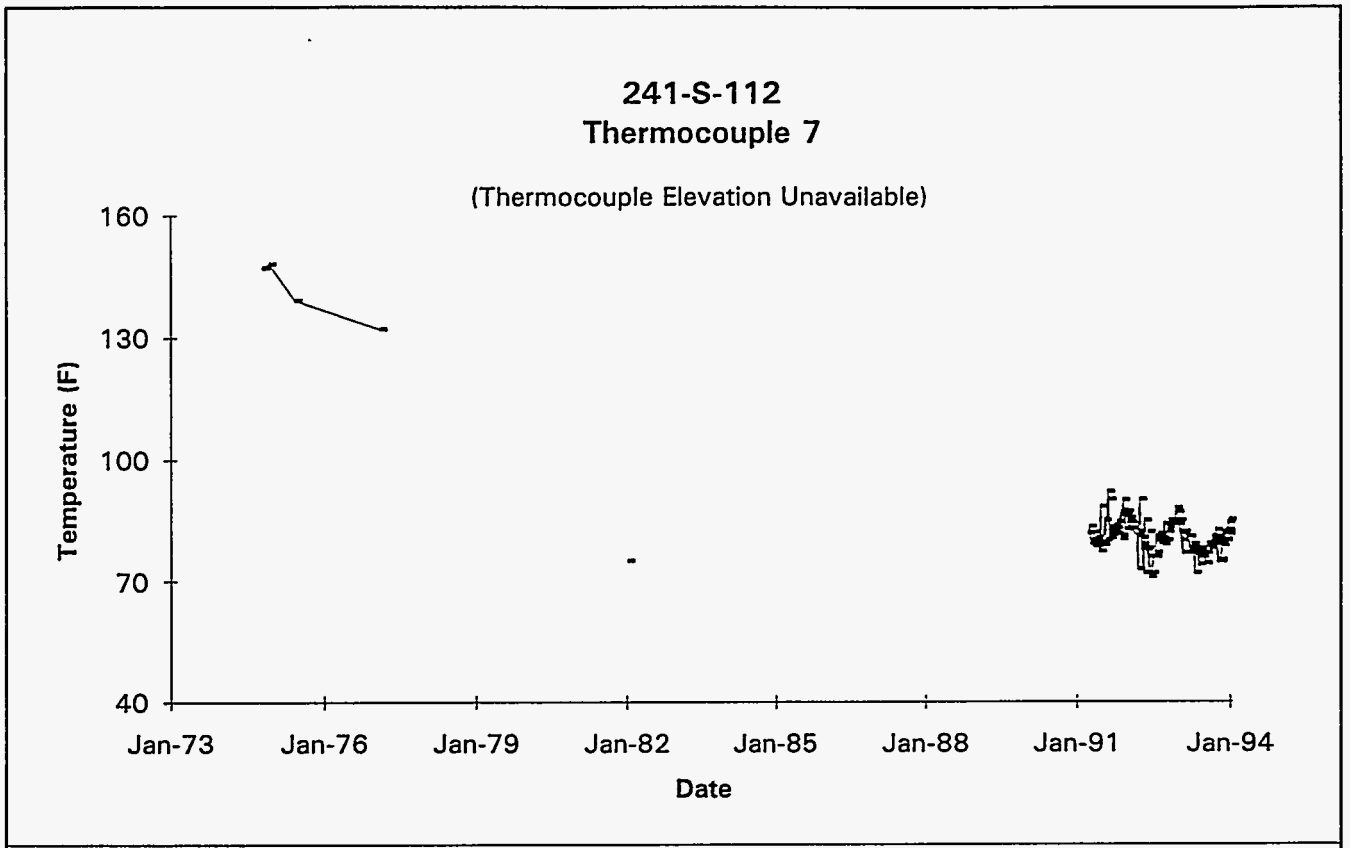


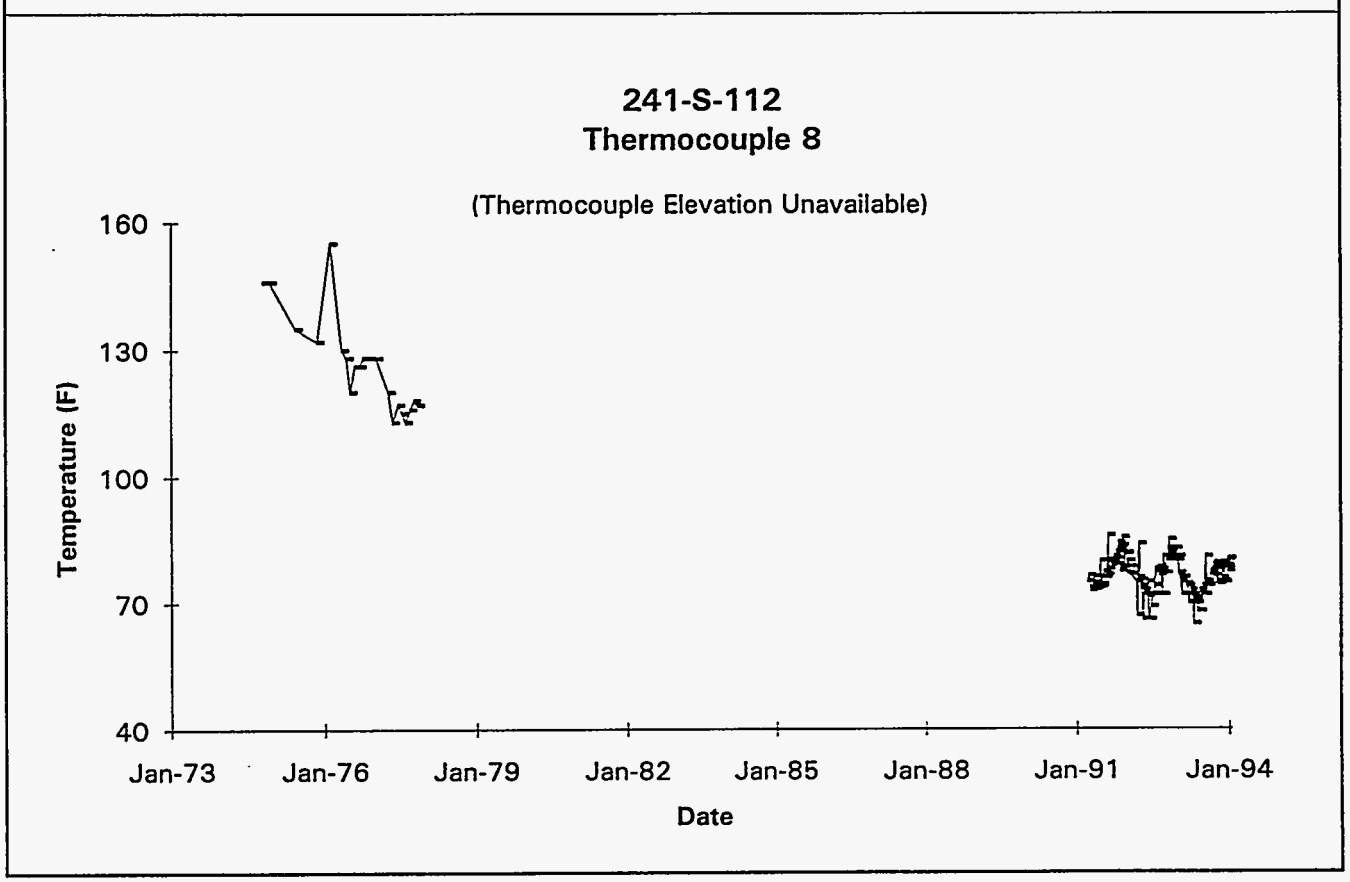
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.



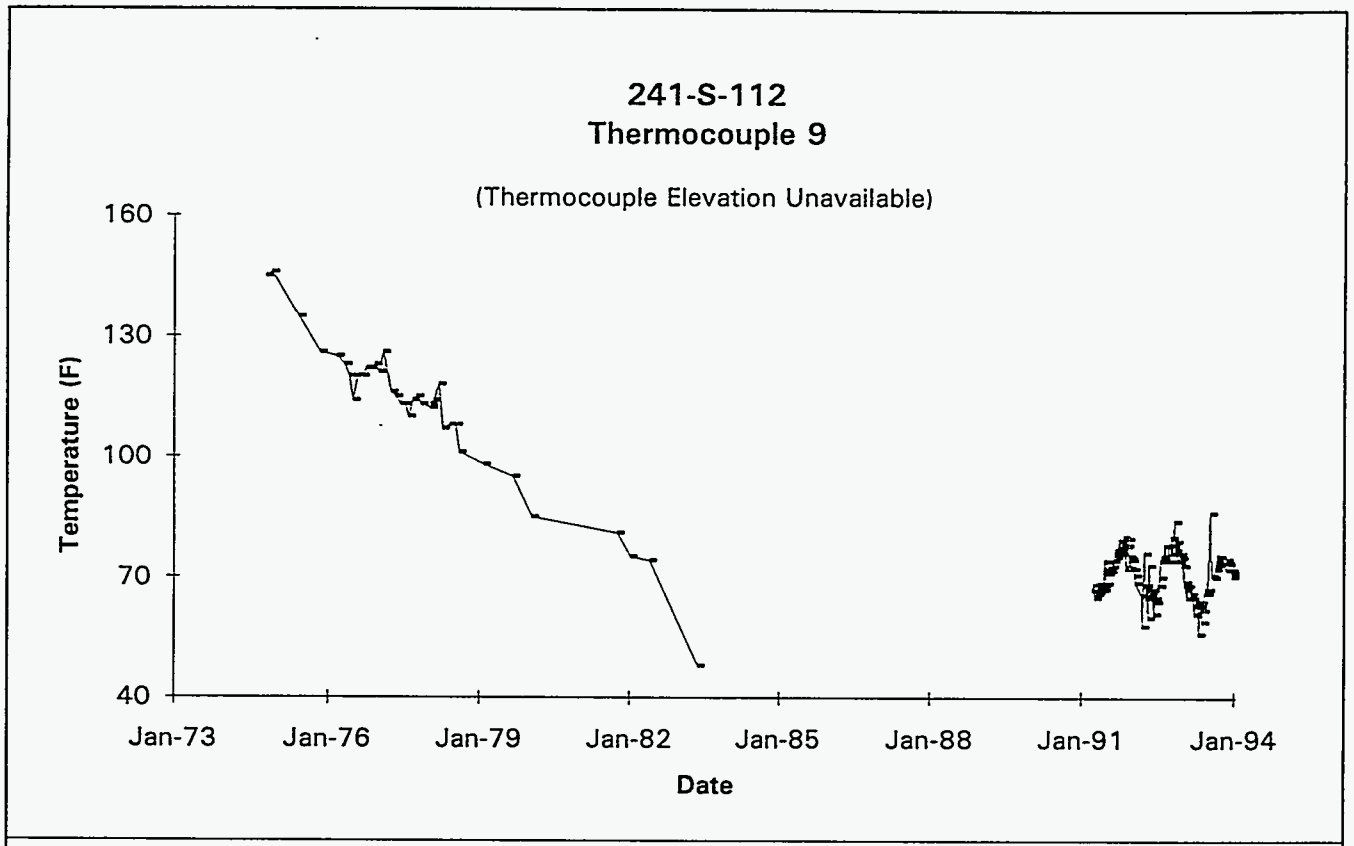


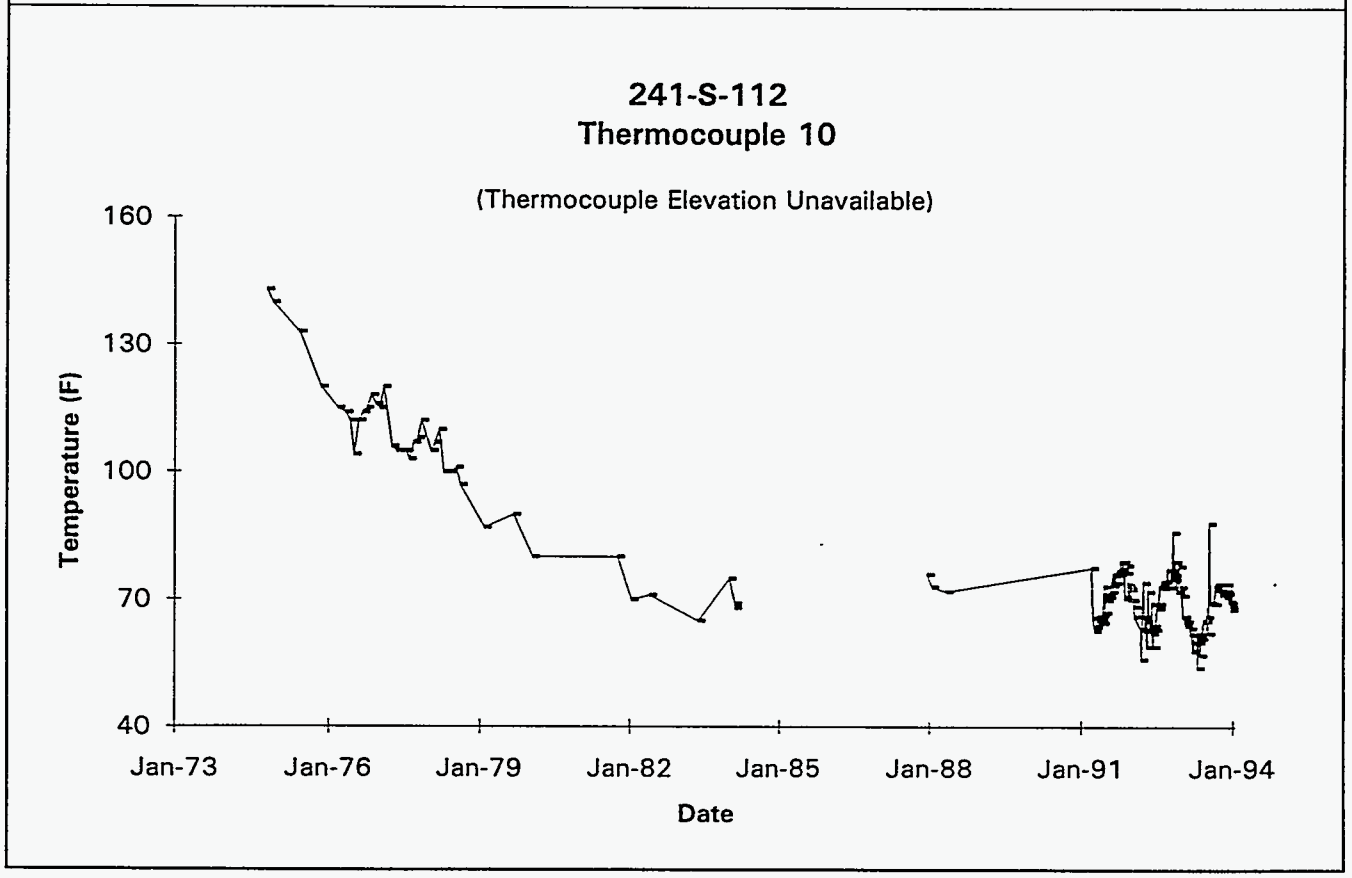
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.



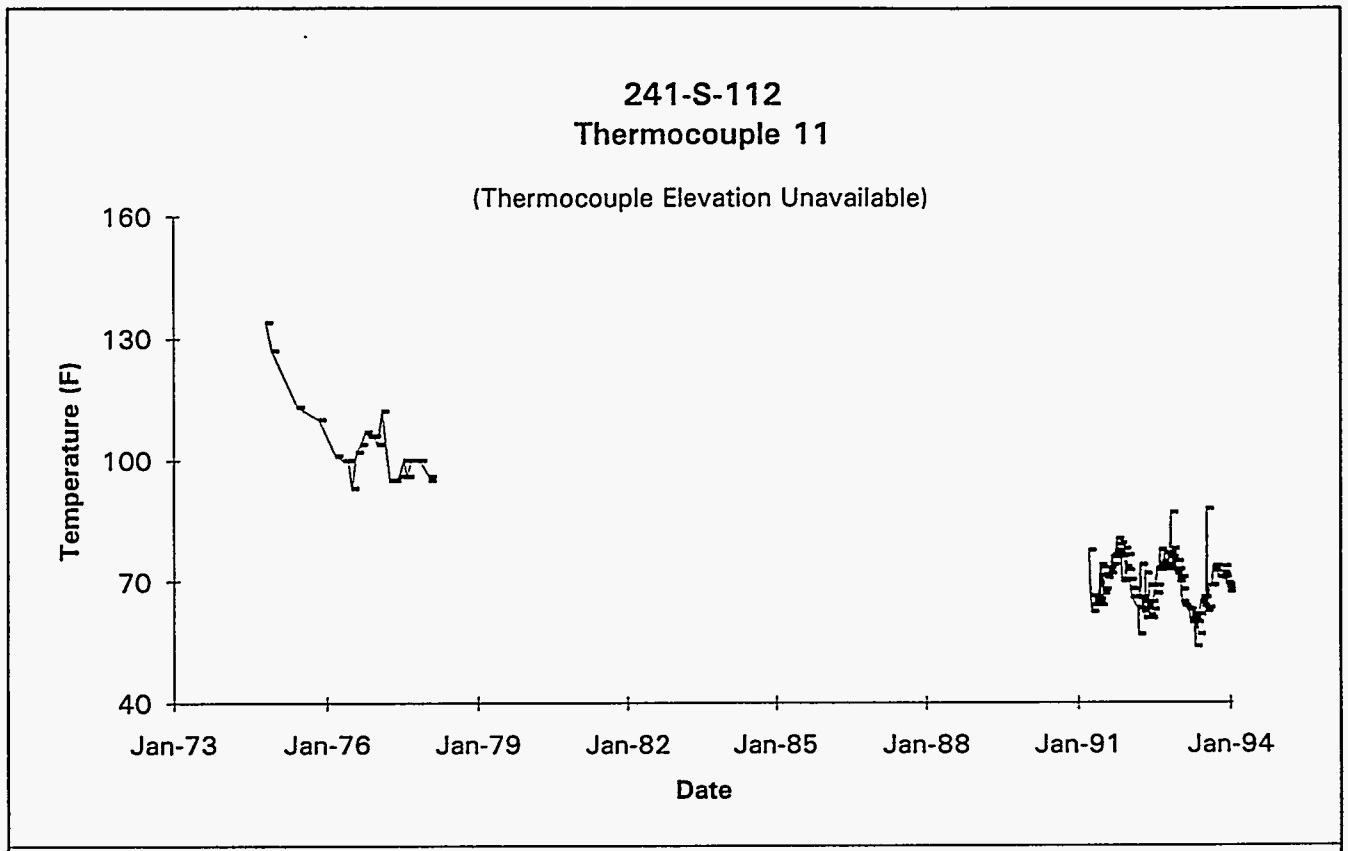


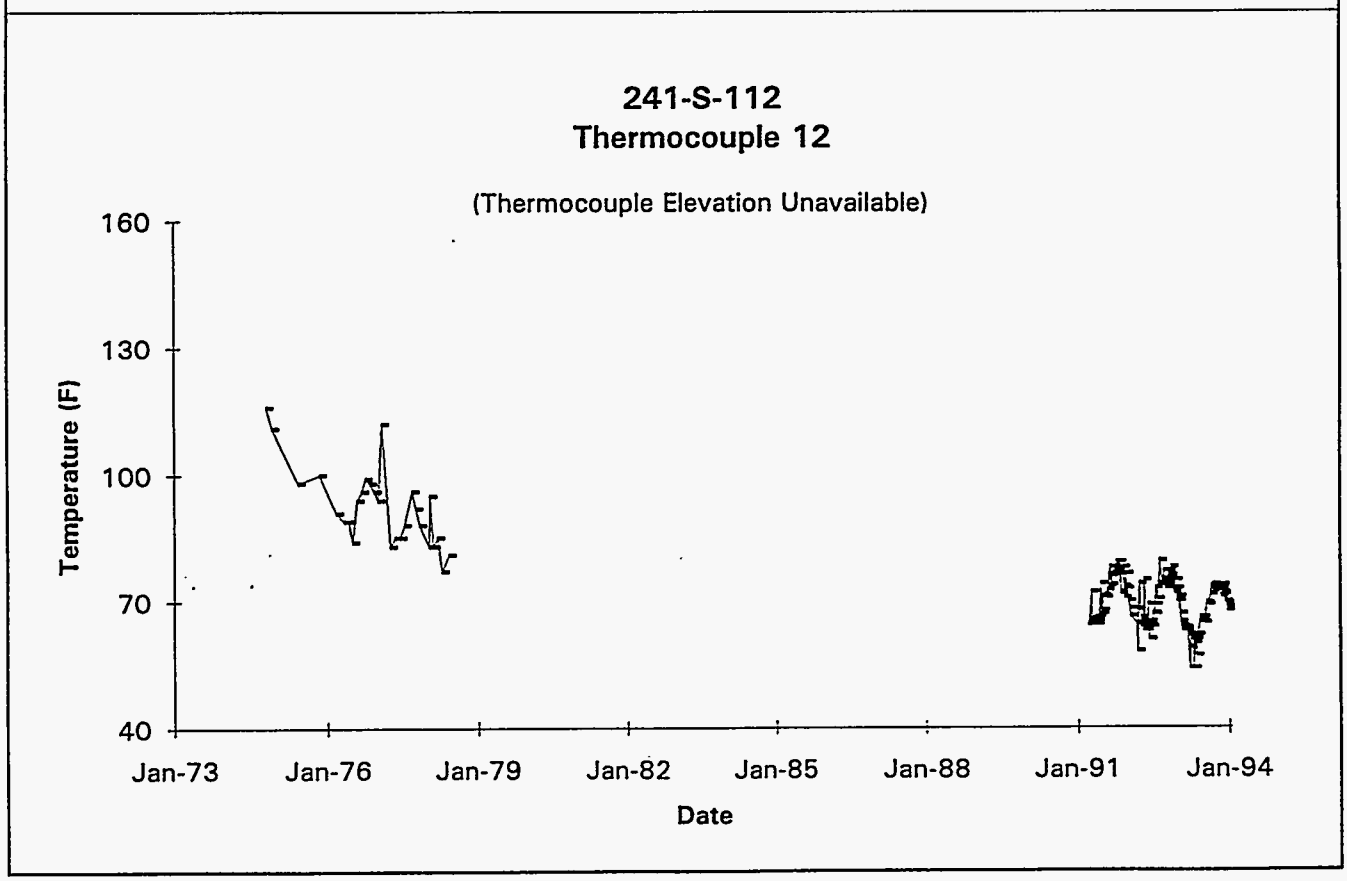
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.



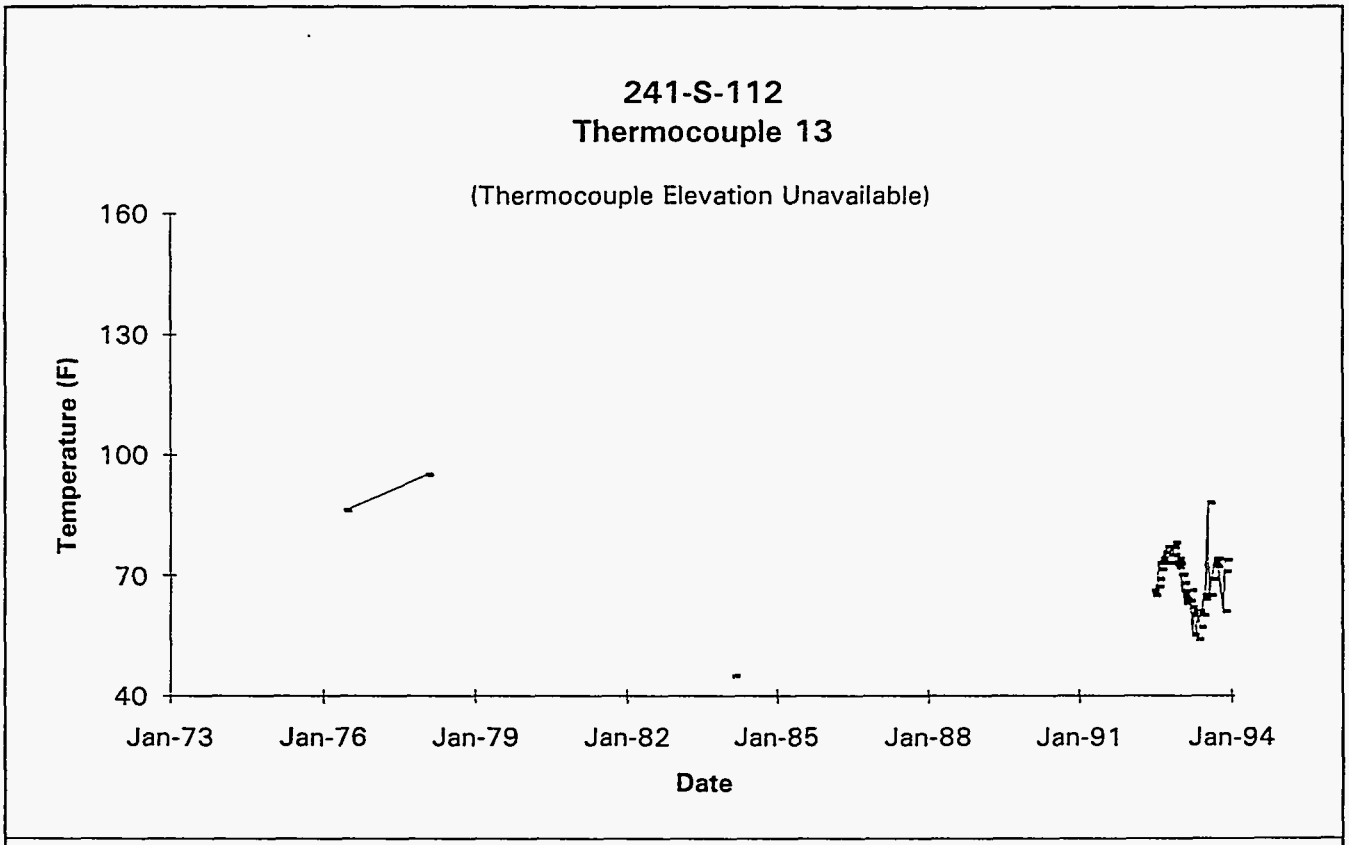


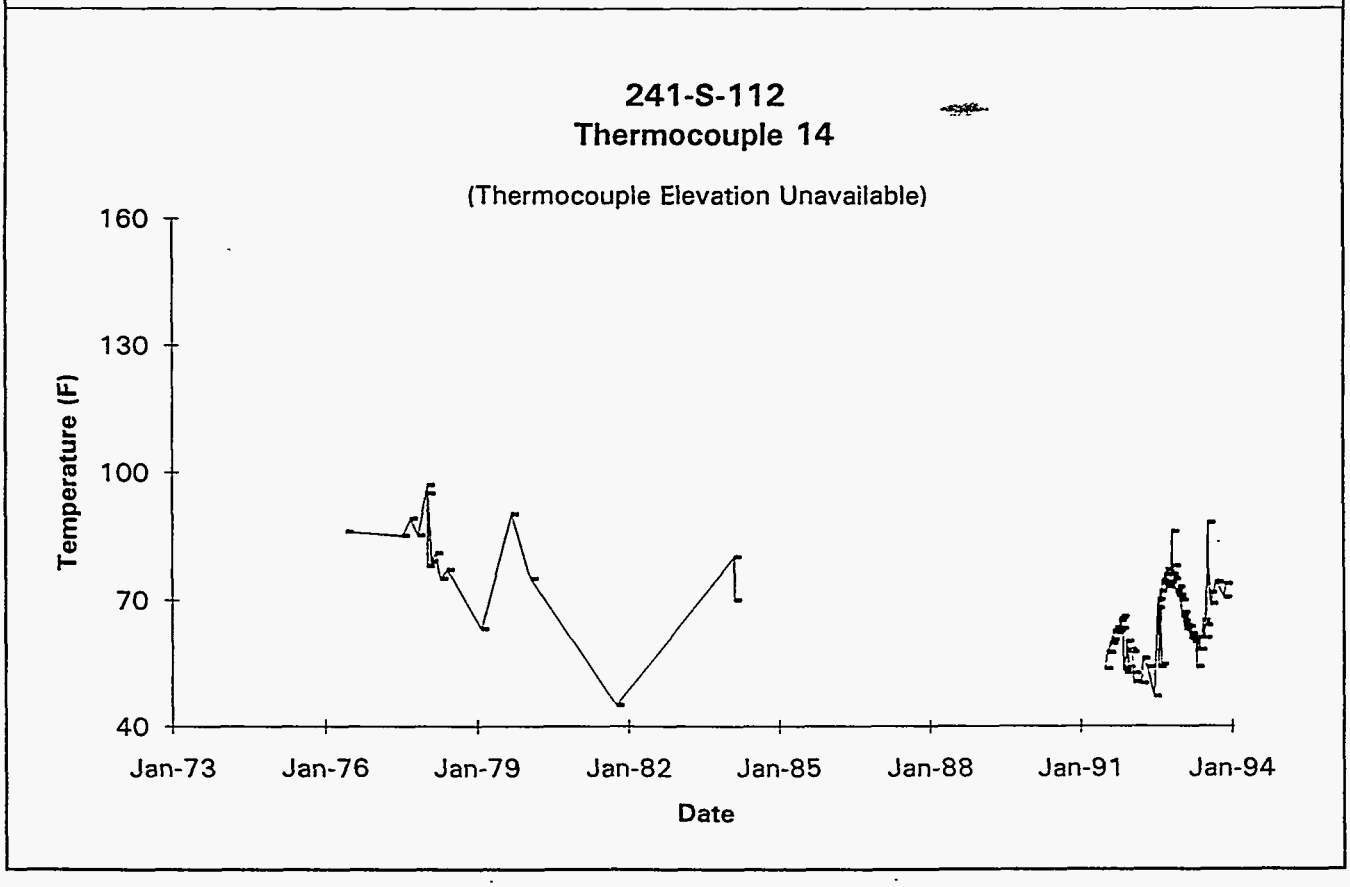
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.





Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.





Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

Historical Vapor Space Temperature Data							
Tank 241-S-101							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
7/28/56		196		11/13/56		191	
8/6/56		191		11/20/56		191	
8/16/56		191		11/25/56		191	
8/22/56		191		11/29/56		191	
8/26/56		191		12/4/56		191	
8/27/56		190		12/6/56		190	
8/29/56		188		12/7/56		189	
8/30/56		187		12/10/56		187	
8/31/56		185		12/11/56		187	
9/1/56		184		12/13/56		188	
9/2/56		182		12/14/56		191	
9/3/56		183		12/21/56		191	
9/5/56		184		12/28/56		191	
9/6/56		185		1/30/57		190	
9/7/56		186		2/28/57		185	
9/8/56		188		6/28/57		168	
9/9/56		190		8/1/57		172	
9/11/56		191		8/28/57		172	
9/13/56		191		5/1/58		158	
9/16/56		191		7/28/58		157	
9/25/56		191		9/2/58		157	
10/1/56		190		10/1/58		156	
10/3/56		189		10/27/58		155	
10/4/56		187		11/26/58		151	
10/6/56		185		12/18/58		151	
10/7/56		184		1/15/59		151	
10/8/56		182		1/29/59		150	
10/10/56		184		2/20/59		149	
10/11/56		186		3/2/59		147	
10/13/56		188		3/18/59		143	
10/14/56		190		3/28/59		141	
10/16/56		190		4/11/59		143	
10/18/56		191		5/3/59		149	
10/22/56		191		12/2/59		134	
10/29/56		191		12/31/59		129	
11/4/56		191					

Data obtained from RHO-CD-1172.

Historical Average Waste Temperature Data							
Tank 241-S-101							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
7/18/53		122		9/20/53		175	
7/31/53		164		9/27/53		183	
8/14/53		183		9/30/53		231	
8/23/53		145		10/11/53		199	
8/25/53		224		10/20/53		269	
9/2/53		223		10/25/53		215	
9/4/53		158		10/31/53		301	
9/9/53		228		12/6/53		214	
9/12/53		166		1/14/54		215	

Data obtained from RHO-CD-1172 and HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-101							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
7/17/53			-60 - suspect data, low	9/8/53		258	
7/18/53		144		9/9/53		246	ASSUMPTION
7/19/53		75		9/10/53		213	ASSUMPTION
7/20/53		100		9/11/53		216	ASSUMPTION
7/21/53		108		9/13/53		216	ASSUMPTION
7/22/53		107		9/14/53		211	ASSUMPTION
7/23/53		110		9/15/53		210	ASSUMPTION
7/24/53		114		9/16/53		218	ASSUMPTION
7/25/53		116		9/17/53		218	ASSUMPTION
7/26/53		120		9/18/53		218	ASSUMPTION
7/27/53		134		9/19/53		220	ASSUMPTION
7/28/53		136		9/20/53		220	ASSUMPTION
7/29/53		145		9/21/53		221	ASSUMPTION
7/30/53		159		9/22/53		223	ASSUMPTION
7/31/53		164		9/24/53		224	ASSUMPTION
8/1/53		165		9/25/53		224	ASSUMPTION
8/2/53		168		9/28/53		224	ASSUMPTION
8/3/53		167		9/29/53		190	
8/4/53		167		9/30/53		262	ASSUMPTION
8/5/53		167		10/1/53		200	ASSUMPTION
8/6/53		165		10/2/53		201	ASSUMPTION
8/7/53		165		10/3/53		232	ASSUMPTION
8/8/53		164		10/4/53		232	ASSUMPTION
8/9/53		164		10/5/53		233	ASSUMPTION
8/10/53		166		10/6/53		236	ASSUMPTION
8/11/53		169		10/7/53		237	ASSUMPTION
8/12/53		172		10/8/53		237	ASSUMPTION
8/13/53		175		10/9/53		237	ASSUMPTION
8/14/53		188		10/10/53		240	ASSUMPTION
8/15/53		182		10/11/53		242	ASSUMPTION
8/16/53		186		10/12/53		242	ASSUMPTION
8/17/53		186		10/14/53		246	ASSUMPTION
8/18/53		192		10/15/53		243	ASSUMPTION
8/19/53		204		10/16/53		246	ASSUMPTION
8/20/53		206		10/17/53		246	ASSUMPTION
8/21/53		212		10/18/53		250	ASSUMPTION
8/22/53		219		10/19/53		235	ASSUMPTION
8/23/53		221		10/20/53		286	ASSUMPTION
8/24/53		228		10/21/53		254	ASSUMPTION
8/25/53		233		10/22/53		210	
8/26/53		238		10/23/53		253	ASSUMPTION
8/27/53		240		10/24/53		252	ASSUMPTION
8/28/53		242		10/25/53		258	ASSUMPTION
8/29/53		242		10/26/53		257	ASSUMPTION
8/30/53		246		10/27/53		257	ASSUMPTION
8/31/53		246		10/28/53		257	ASSUMPTION
9/1/53		199	ASSUMPTION	10/29/53		257	ASSUMPTION
9/2/53		241	ASSUMPTION	10/30/53		257	ASSUMPTION
9/3/53		205	ASSUMPTION	10/31/53		302	
9/4/53		205	ASSUMPTION	11/2/53		257	ASSUMPTION
9/5/53		206	ASSUMPTION	11/3/53		257	ASSUMPTION
9/6/53		200	ASSUMPTION	11/4/53		257	ASSUMPTION
9/7/53		252		11/5/53		258	ASSUMPTION

Data obtained from RHO-CD-1172 and HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-101							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
11/6/53		258	ASSUMPTION	1/23/54		300	NOT SPECIFIC
11/10/53		258	ASSUMPTION	1/24/54		300	
11/11/53		259	ASSUMPTION	1/25/54		300	NOT SPECIFIC
11/12/53		259	ASSUMPTION	1/26/54		300	NOT SPECIFIC
11/13/53		257	ASSUMPTION	1/27/54		300	NOT SPECIFIC
11/15/53		259	ASSUMPTION	1/28/54		300	NOT SPECIFIC
11/16/53		259	ASSUMPTION	1/29/54		300	NOT SPECIFIC
11/17/53		259	ASSUMPTION	2/1/54		300	NOT SPECIFIC
11/18/53		259	ASSUMPTION	2/2/54		300	NOT SPECIFIC
11/19/53		259	ASSUMPTION	2/3/54		300	NOT SPECIFIC
11/20/53		258	ASSUMPTION	2/4/54		300	NOT SPECIFIC
11/22/53		265	ASSUMPTION	2/5/54		300	NOT SPECIFIC
11/23/53		258	ASSUMPTION	2/6/54		300	NOT SPECIFIC
11/24/53		258	ASSUMPTION	2/7/54		300	NOT SPECIFIC
11/25/53		258	ASSUMPTION	2/8/54		300	NOT SPECIFIC
11/27/53		258	ASSUMPTION	2/9/54		300	NOT SPECIFIC
11/29/53		263	ASSUMPTION	2/10/54		300	NOT SPECIFIC
11/30/53		258	ASSUMPTION	2/11/54		300	NOT SPECIFIC
12/1/53		258	ASSUMPTION	2/12/54		300	
12/2/53		258	ASSUMPTION	2/13/54		240	NOT SPECIFIC
12/3/53		258	ASSUMPTION	2/15/54		240	NOT SPECIFIC
12/4/53		258	ASSUMPTION	2/16/54		240	NOT SPECIFIC
12/5/53		258	ASSUMPTION	2/17/54		240	NOT SPECIFIC
12/6/53		258	ASSUMPTION	2/18/54		240	NOT SPECIFIC
12/7/53		258	ASSUMPTION	2/19/54		240	NOT SPECIFIC
12/8/53		258	ASSUMPTION	2/20/54		240	NOT SPECIFIC
12/14/53		258	ASSUMPTION	2/22/54		260	ASSUMPTION
12/17/53		258	ASSUMPTION	2/23/54		260	ASSUMPTION
12/18/53		258	ASSUMPTION	2/25/54		260	ASSUMPTION
12/21/53		258	ASSUMPTION	2/26/54		300	
12/22/53		258	ASSUMPTION	3/1/54		300	
12/23/53		258	ASSUMPTION	3/2/54		300	
12/24/53		270	ASSUMPTION	3/3/54		300	
12/25/53		260	ASSUMPTION	3/4/54		300	NOT SPECIFIC
12/26/53		260	ASSUMPTION	3/5/54		300	NOT SPECIFIC
12/28/53		300	NOT SPECIFIC	3/6/54		300	NOT SPECIFIC
12/29/53		300	NOT SPECIFIC	3/7/54		300	NOT SPECIFIC
12/30/53		300	NOT SPECIFIC	3/8/54		300	NOT SPECIFIC
12/31/53		300	NOT SPECIFIC	3/9/54		300	NOT SPECIFIC
1/4/54		300	NOT SPECIFIC	3/10/54		300	NOT SPECIFIC
1/5/54		300	NOT SPECIFIC	3/12/54		300	NOT SPECIFIC
1/6/54		300	NOT SPECIFIC	3/14/54		300	
1/7/54		300	NOT SPECIFIC	3/15/54		300	NOT SPECIFIC
1/8/54		300	NOT SPECIFIC	3/16/54		300	NOT SPECIFIC
1/11/54		300	NOT SPECIFIC	3/17/54		300	NOT SPECIFIC
1/12/54		300	NOT SPECIFIC	3/18/54		300	NOT SPECIFIC
1/13/54		300	NOT SPECIFIC	3/19/54		300	NOT SPECIFIC
1/14/54		300	NOT SPECIFIC	3/20/54		260	ASSUMPTION
1/15/54		300	NOT SPECIFIC	3/21/54		260	ASSUMPTION
1/18/54		300	NOT SPECIFIC	3/22/54		300	NOT SPECIFIC
1/19/54		300	NOT SPECIFIC	3/24/54		222	
1/20/54		300	NOT SPECIFIC	4/1/54		300	
1/21/54		300	NOT SPECIFIC	4/5/54		300	
1/22/54		300	NOT SPECIFIC	4/6/54		300	

Data obtained from RHO-CD-1172 and HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-101							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
4/7/54		300		6/26/54		220	
4/8/54		300		6/28/54		220	
4/9/54		300		6/30/54		219	
4/11/54		240		7/2/54		220	
4/12/54		250		7/3/54		220	
4/14/54		235	ASSUMPTION	7/4/54		220	
4/15/54		235	ASSUMPTION	7/5/54		219	
4/16/54		235	ASSUMPTION	7/6/54		220	
4/17/54		220		7/7/54		220	
4/18/54		220		7/10/54		220	
4/19/54		220		7/12/54		220	
4/21/54		220		7/13/54		221	
4/23/54		220		7/14/54		220	
4/25/54		215		7/16/54		220	
4/26/54		218		7/19/54		220	
4/27/54		217		7/20/54		222	
4/28/54		217		7/23/54		221	
4/29/54		217		7/26/54		221	
4/30/54		217		7/28/54		223	
5/1/54		218		7/29/54		223	
5/2/54		238		7/30/54		220	
5/3/54		218		7/31/54		220	
5/4/54		218		8/2/54		222	
5/5/54		219		8/4/54		222	
5/7/54		219		8/9/54		221	
5/8/54		220		8/10/54		222	
5/10/54		219		8/11/54		222	
5/11/54		218		8/13/54		222	
5/12/54		218		8/16/54		222	
5/13/54		219		8/17/54		222	
5/14/54		216		8/18/54		222	
5/15/54		220		8/19/54		222	
5/16/54		220		8/20/54		223	
5/24/54		218		8/21/54		223	
5/25/54		218		8/22/54		223	
5/26/54		218		8/23/54		223	
5/27/54		219		8/26/54		223	
5/28/54		219		8/27/54		223	
5/29/54		220		8/28/54		225	
5/30/54		225		8/30/54		222	
5/31/54		230		8/31/54		222	
6/1/54		220		9/1/54		224	
6/2/54		219		9/2/54		220	
6/3/54		219		9/3/54		220	
6/7/54		219		9/4/54		220	
6/8/54		219		9/5/54		222	
6/9/54		219		9/7/54		220	
6/14/54		219		9/8/54		220	
6/16/54		220		9/9/54		220	
6/18/54		220		9/10/54		221	
6/19/54		220		9/11/54		220	
6/21/54		220		9/20/54		222	
6/23/54		220		9/21/54		224	
6/25/54		220		9/22/54		223	

Data obtained from RHO-CD-1172 and HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-101							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
9/23/54		222		11/8/54		225	
9/24/54		222		11/9/54		224	
9/25/54		222		11/10/54		222	
9/26/54		225		11/11/54		222	
9/27/54		222		11/12/54		222	
9/28/54		221		11/13/54		225	
9/29/54		221		11/14/54		220	
9/30/54		223		11/15/54		225	
10/1/54		222		11/16/54		225	
10/2/54		222		11/17/54		220	
10/4/54		223		11/18/54		225	
10/5/54		225		11/19/54		225	
10/6/54		225		11/20/54		225	
10/7/54		223		11/22/54		225	
10/8/54		224		11/23/54		225	
10/9/54		223		11/24/54		225	
10/10/54		224		11/26/54		225	
10/11/54		224		11/29/54		225	
10/12/54		224		11/30/54		225	
10/13/54		223		12/1/54		225	
10/14/54		224		12/2/54		225	
10/15/54		224		12/3/54		225	
10/16/54		225		12/6/54		225	
10/17/54		225		12/7/54		225	
10/18/54		224		12/8/54		225	
10/19/54		224		12/9/54		225	
10/20/54		224		12/10/54		225	
10/21/54		224		12/13/54		225	
10/22/54		223		12/14/54		225	
10/25/54		224		12/15/54		225	
10/26/54		224		12/16/54		225	
10/28/54		223		12/17/54		225	
10/29/54		223		12/20/54		225	
10/30/54		223		12/21/54		275	
10/31/54		222		12/22/54		225	
11/1/54		222		12/23/54		224	
11/2/54		223		12/27/54		225	
11/3/54		223		12/28/54		225	
11/4/54		223		12/29/54		225	
11/5/54		224		12/30/54		225	
11/6/54		226		12/31/54		225	
11/7/54		225					

Data obtained from RHO-CD-1172 and HW-83906.

Historical Vapor Space Temperature Data								
Tank 241-S-102								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
7/31/56		94			11/11/56		91	
8/8/56		93			11/15/56		91	
8/13/56		94			11/18/56		91	
8/21/56		95			11/20/56		92	
8/28/56		94			11/26/56		92	
8/30/56		93			11/30/56		92	
8/31/56		91			12/3/56		92	
9/2/56		89			12/7/56		93	
9/4/56		87			12/10/56		93	
9/5/56		85			12/13/56		93	
9/7/56		87			1/30/57		90	
9/9/56		89			2/28/57		90	
9/10/56		90			3/16/57		89	
9/11/56		92			3/29/57		88	
9/12/56		93			4/30/57		87	
9/14/56		94			5/25/57		87	
9/19/56		94			6/13/57		87	
9/21/56		93			7/9/57		87	
9/24/56		93			7/27/57		89	
9/27/56		92			8/9/57		89	
9/30/56		92			9/6/57		89	
10/1/56		92			10/6/57		88	
10/5/56		92			10/31/57		87	
10/8/56		92			6/1/58		83	
10/10/56		92			7/28/58		84	
10/11/56		93			9/2/58		83	
10/14/56		91			10/3/58		82	
10/16/56		91			11/3/58		83	
10/19/56		92			12/4/58		82	
10/23/56		93			1/1/59		82	
10/25/56		93			1/31/59		81	
10/27/56		94			3/2/59		80	
10/29/56		93			3/25/59		78	
11/1/56		92			4/3/59		78	
11/2/56		92			4/28/59		78	
11/4/56		92			11/30/59		78	
11/7/56		91			1/1/60		76	

Data obtained from RHO-CD-1172.

Historical High or Only Waste Temperature Data							
Tank 241-S-102							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
9/10/53		72		11/5/53		141	
9/11/53		80		11/6/53		141	
9/13/53		70		11/10/53		141	
9/14/53		70		11/11/53		140	
9/15/53		76		11/11/53		140	
9/16/53		70		11/12/53		140	
9/17/53		73		11/13/53		140	
9/18/53		90		11/15/53		110	
9/19/53		100		11/16/53		140	
9/20/53		100		11/11/53		140	
9/21/53		100		11/12/53		140	
9/22/53		100		11/13/53		140	
9/23/53		116		11/15/53		110	
9/24/53		116		11/16/53		140	
9/25/53		116		11/17/53		140	
9/26/53		132		11/18/53		140	
9/27/53		132		11/19/53		140	
9/28/53		132		11/20/53		140	
9/29/53		132		11/22/53		140	
9/30/53		132		11/23/53		140	
10/1/53		134		11/24/53		140	
10/2/53		135		11/25/53		140	
10/3/53		138		11/27/53		138	
10/4/53		138		11/29/53		138	
10/5/53		135		11/30/53		138	
10/6/53		135		12/1/53		138	
10/7/53		135		12/2/53		136	
10/8/53		135		12/3/53		136	
10/9/53		135		12/4/53		136	
10/10/53		136		12/5/53		136	
10/11/53		136		12/6/53		135	
10/12/53		136		12/7/53		135	
10/14/53		136		12/8/53		138	
10/15/53		136		12/10/53		138	
10/16/53		138		12/11/53		138	
10/17/53		139		12/14/53		138	
10/18/53		139		12/15/53		138	
10/19/53		139		12/16/53		138	
10/20/53		139		12/17/53		138	
10/21/53		139		12/18/53		138	
10/22/53		138		12/21/53		138	
10/23/53		139		12/22/53		138	
10/24/53		138		12/23/53		138	
10/25/53		140		12/25/53		138	
10/26/53		140		12/26/53		138	
10/27/53		140		12/27/53		138	
10/28/53		140		12/28/53		138	
10/29/53		140		12/29/53		138	
10/30/53		141		12/30/53		138	
10/31/53		141		12/31/53		130	
11/1/53		141		1/4/54		138	
11/2/53		141		1/5/54		140	
11/3/53		141		1/6/54		142	
11/4/53		141		1/7/54		142	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-102							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
1/8/54		142		4/5/54		140	
1/11/54		142		4/6/54		140	
1/12/54		142		4/7/54		140	
1/21/54		141		4/16/54		138	
1/22/54		141		4/17/54		139	
1/23/54		141		4/18/54		139	
1/24/54		141		4/19/54		139	
1/25/54		141		4/21/54		139	
1/26/54		141		4/23/54		139	
1/27/54		141		4/24/54		136	
1/28/54		141		4/25/54		139	
1/29/54		141		4/26/54		139	
2/1/54		141		4/27/54		139	
2/2/54		141		4/28/54		137	
2/3/54		142		4/29/54		137	
2/4/54		142		4/30/54		137	
2/5/54		142		5/1/54		137	
2/6/54		143		5/3/54		137	
2/7/54		143		5/4/54		137	
2/8/54		143		5/5/54		136	
2/9/54		143		5/8/54		138	
2/10/54		142		5/9/54		138	
2/11/54		142		5/10/54		136	
2/12/54		142		5/12/54		136	
2/13/54		140		5/15/54		136	
2/15/54		140		5/16/54		137	
2/16/54		140		5/24/54		140	
2/17/54		140		5/26/54		140	
2/18/54		143		5/31/54		140	
2/19/54		143		6/1/54		140	
2/22/54		143		6/2/54		140	
2/23/54		143		6/3/54		140	
2/25/54		144		6/7/54		140	
2/26/54		144		6/8/54		140	
3/1/54		144		6/9/54		138	
3/2/54		144		6/14/54		138	
3/3/54		143		6/16/54		136	
3/4/54		143		6/18/54		136	
3/5/54		143		6/21/54		136	
3/6/54		143		6/23/54		136	
3/7/54		140		6/26/54		136	
3/8/54		140		6/28/54		136	
3/9/54		144		6/30/54		136	
3/10/54		142		7/5/54		136	
3/12/54		142		7/7/54		134	
3/14/54		144		7/12/54		134	
3/15/54		144		7/14/54		133	
3/16/54		144		7/19/54		133	
3/17/54		144		7/23/54		132	
3/18/54		144		7/26/54		132	
3/19/54		144		7/28/54		131	
3/22/54		144		8/2/54		131	
3/24/54		142		8/4/54		130	
4/1/54		140		8/9/54		130	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-102							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
8/11/54		130		11/4/54		123	
8/16/54		130		11/5/54		123	
8/18/54		130		11/6/54		120	
8/23/54		130		11/7/54		120	
8/26/54		130		11/8/54		120	
8/28/54		125		11/9/54		120	
8/30/54		130		11/10/54		122	
8/31/54		130		11/11/54		122	
9/1/54		127		11/12/54		122	
9/2/54		128		11/13/54		120	
9/6/54		127		11/14/54		120	
9/8/54		128		11/15/54		122	
9/20/54		127		11/16/54		122	
9/21/54		126		11/17/54		122	
9/27/54		126		11/18/54		122	
9/30/54		124		11/19/54		122	
10/4/54		124		11/20/54		122	
10/5/54		125		11/22/54		122	
10/6/54		125		11/23/54		121	
10/8/54		125		11/24/54		122	
10/11/54		125		11/26/54		122	
10/12/54		124		11/29/54		122	
10/13/54		124		11/30/54		122	
10/14/54		124		12/1/54		120	
10/15/54		124		12/2/54		120	
10/17/54		122		12/3/54		120	
10/18/54		124		12/6/54		120	
10/19/54		124		12/7/54		120	
10/20/54		123		12/8/54		120	
10/22/54		123		12/9/54		120	
10/25/54		123		12/10/54		120	
10/26/54		123		12/13/54		120	
10/27/54		123		12/14/54		120	
10/28/54		123		12/15/54		120	
10/29/54		123		12/17/54		120	
10/30/54		123		12/20/54		120	
10/31/54		123		12/22/54		119	
11/1/54		123		12/27/54		119	
11/3/54		123		12/29/54		118	

Data obtained from HW-83906.

Historical Vapor Space Temperature Data							
Tank 241-S-103							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
7/31/56		95		11/26/56		82	
8/2/56		93		11/28/56		81	
8/5/56		91		11/30/56		83	
8/6/56		90		12/1/56		84	
8/10/56		90		12/2/56		85	
8/13/56		89		12/4/56		86	
8/17/56		89		12/5/56		87	
8/22/56		89		12/6/56		88	
8/25/56		89		12/7/56		89	
8/29/56		89		12/8/56		90	
9/5/56		88		12/10/56		90	
9/9/56		88		12/13/56		90	
9/12/56		89		12/16/56		90	
9/15/56		89		12/20/56		90	
9/18/56		90		12/24/56		89	
9/22/56		90		12/28/56		89	
9/25/56		90		12/31/56		89	
9/29/56		90		1/30/57		88	
10/1/56		89		3/16/57		87	
10/3/56		88		4/27/57		87	
10/5/56		89		5/31/57		86	
10/8/56		90		8/8/57		85	
10/10/56		90		10/4/57		84	
10/13/56		90		10/28/57		84	
10/15/56		90		5/4/58		83	
10/18/56		90		5/31/58		83	
10/20/56		90		6/30/58		83	
10/25/56		88		7/29/58		83	
10/26/56		88		9/1/58		84	
10/30/56		88		9/15/58		83	
10/31/56		89		10/12/58		83	
11/3/56		90		10/20/58		82	
11/7/56		90		10/30/58		81	
11/9/56		90		11/7/58		82	
11/13/56		90		11/15/58		83	
11/15/56		90		11/24/58		85	
11/18/56		89		12/2/58		85	
11/19/56		88		12/10/58		85	
11/21/56		87		12/17/58		84	
11/22/56		87		12/24/58		83	
11/24/56		86		5/1/59		83	
11/25/56		84		11/30/59		82	
11/26/56		83		12/31/59		83	

Data obtained from RHO-CD-1172.

Historical High or Only Waste Temperature Data							
Tank 241-S-103							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
11/1/53		156		1/7/54		112	
11/2/53		92		1/8/54		112	
11/3/53		88		1/11/54		112	
11/4/53		84		1/12/54		113	
11/5/53		80		1/13/54		111	
11/6/53		80		1/14/54		111	
11/10/53		80		1/15/54		111	
11/11/53		76		1/18/54		111	
11/12/53		74		1/19/54		111	
11/13/53		70		1/12/54		113	
11/15/53		71		1/13/54		111	
11/16/53		71		1/14/54		111	
11/17/53		71		1/15/54		111	
11/18/53		70		1/18/54		111	
11/19/53		70		1/19/54		111	
11/20/53		70		1/20/54		111	
11/22/53		70		1/21/54		111	
11/23/53		70		1/22/54		111	
11/24/53		70		1/23/54		111	
11/25/53		70		1/24/54		111	
11/27/53		70		1/25/54		111	
11/29/53		70		1/26/54		111	
11/30/53		70		1/27/54		115	
12/1/53		70		1/28/54		115	
12/2/53		70		1/29/54		115	
12/3/53		70		2/1/54		115	
12/4/53		70		2/2/54		115	
12/5/53		77		2/3/54		117	
12/6/53		80		2/4/54		117	
12/7/53		80		2/5/54		117	
12/8/53		132		2/6/54		108	
12/10/53		129		2/7/54		116	
12/11/53		176		2/8/54		116	
12/12/53		113		2/9/54		116	
12/14/53		124		2/10/54		117	
12/15/53		122		2/11/54		117	
12/16/53		113		2/12/54		117	
12/17/53		113		2/13/54		178	
12/22/53		110		2/15/54		117	
12/23/53		110		2/16/54		117	
12/24/53		110		2/17/54		117	
12/25/53		110		2/18/54		119	
12/26/53		110		2/19/54		119	
12/27/53		110		2/22/54		119	
12/28/53		110		2/23/54		119	
12/29/53		110		2/25/54		120	
12/30/53		110		2/26/54		120	
12/31/53		111		3/1/54		120	
1/1/54		110		3/2/54		120	
1/2/54		112		3/3/54		120	
1/3/54		112		3/4/54		120	
1/4/54		111		3/5/54		120	
1/5/54		112		3/6/54		120	
1/6/54		112		3/7/54		120	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-103							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
3/8/54		120		6/28/54		107	
3/9/54		120		6/30/54		107	
3/10/54		120		7/5/54		107	
3/19/54		120		7/26/54		105	
3/22/54		120		7/28/54		104	
3/24/54		116		8/2/54		104	
4/1/54		115		8/4/54		104	
4/5/54		115		8/9/54		104	
4/6/54		115		8/11/54		103	
4/7/54		115		8/16/54		103	
4/8/54		115		8/18/54		103	
4/9/54		115		8/23/54		103	
4/11/54		112		8/26/54		103	
4/12/54		112		8/28/54		105	
4/14/54		112		8/30/54		103	
4/15/54		112		8/31/54		102	
4/16/54		112		9/1/54		102	
4/17/54		112		9/2/54		103	
4/18/54		112		9/6/54		102	
4/19/54		112		9/8/54		102	
4/21/54		113		9/20/54		103	
4/23/54		113		9/21/54		101	
4/24/54		110		9/27/54		101	
4/25/54		112		9/30/54		100	
4/26/54		113		10/4/54		100	
4/27/54		113		10/5/54		101	
4/28/54		111		10/6/54		101	
4/29/54		111		10/8/54		101	
4/30/54		111		10/11/54		101	
5/1/54		112		10/12/54		101	
5/3/54		111		10/13/54		101	
5/4/54		111		10/14/54		101	
5/5/54		110		10/15/54		102	
5/8/54		110		10/17/54		100	
5/9/54		120		10/18/54		101	
5/10/54		110		10/19/54		101	
5/12/54		109		10/20/54		100	
5/15/54		107		10/22/54		101	
5/16/54		107		10/25/54		100	
5/24/54		108		10/26/54		101	
5/26/54		109		10/27/54		100	
5/31/54		109		10/28/54		100	
6/1/54		109		10/29/54		100	
6/2/54		109		10/30/54		100	
6/3/54		109		10/31/54		100	
6/7/54		109		11/1/54		100	
6/8/54		109		11/3/54		100	
6/9/54		107		11/4/54		100	
6/14/54		107		11/5/54		101	
6/16/54		107		11/6/54		100	
6/18/54		107		11/7/54		100	
6/21/54		107		11/8/54		100	
6/23/54		107		11/9/54		100	
6/26/54		107		11/10/54		100	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-103							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
11/11/54		100		12/1/54		100	
11/12/54		100		12/2/54		100	
11/13/54		100		12/3/54		100	
11/14/54		100		12/6/54		104	
11/15/54		100		12/7/54		104	
11/16/54		100		12/8/54		100	
11/17/54		100		12/9/54		100	
11/18/54		100		12/10/54		100	
11/19/54		100		12/13/54		100	
11/20/54		100		12/14/54		100	
11/22/54		100		12/15/54		100	
11/23/54		100		12/17/54		102	
11/24/54		100		12/20/54		102	
11/26/54		100		12/22/54		98	
11/29/54		100		12/27/54		98	
11/30/54		100		12/29/54		98	

Data obtained from HW-83906.

Historical Vapor Space Temperature Data							
Tank 241-S-104							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
7/30/56		269		9/15/58		217	
8/13/56		266		10/7/58		217	
10/5/56		265		10/19/58		218	
11/29/56		262		10/23/58		218	
12/3/56		265		10/31/58		218	
12/11/56		262		11/4/58		216	
12/27/56		262		11/14/58		215	
1/26/57		270		11/28/58		212	
2/10/57		264		12/7/58		209	
2/28/57		258		12/16/58		206	
3/28/57		255		12/25/58		204	
4/28/57		250		12/31/58		202	
5/11/57		233		1/5/59		200	
5/31/57		207		1/9/59		196	
6/19/57		231		1/14/59		193	
6/30/57		244		1/25/59		183	
7/26/57		245		1/31/59		178	
4/30/58		207		3/2/59		193	
5/31/58		205		3/21/59		191	
6/16/58		213		4/10/59		188	
6/30/58		220		4/29/59		185	
7/29/58		210		12/28/59		195	
8/30/58		216		12/31/59		195	

Data obtained from RHO-CD-1172.

Historical High or Only Waste Temperature Data							
Tank 241-S-104							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
2/9/53		111		8/16/53		300	
3/10/53		172		8/17/53		300	NOT SPECIFIC
4/3/53		248		8/18/53		300	
5/13/53		253		8/19/53		300	NOT SPECIFIC
6/1/53		259		8/19/53		300	NOT SPECIFIC
6/22/53		270		8/19/53		300	
6/23/53		270		8/20/53		300	NOT SPECIFIC
6/24/53		270		8/20/53		300	NOT SPECIFIC
6/25/53		270		8/20/53		300	
6/26/53		270		8/21/53		300	NOT SPECIFIC
6/29/53		274		8/21/53		300	NOT SPECIFIC
7/1/53		274		8/22/53		300	NOT SPECIFIC
7/2/53		274		8/23/53		300	NOT SPECIFIC
7/3/53		274		8/24/53		300	NOT SPECIFIC
7/4/53		279		8/25/53		300	NOT SPECIFIC
7/5/53		274		8/26/53		300	NOT SPECIFIC
7/6/53		233		8/27/53		300	NOT SPECIFIC
7/7/53		289		8/28/53		300	NOT SPECIFIC
7/8/53		282		8/29/53		300	NOT SPECIFIC
7/9/53		282		8/30/53		300	NOT SPECIFIC
7/10/53		282		8/31/53		300	
7/11/53		290		9/1/53		300	
7/13/53		291		9/2/53		300	
7/15/53		291		9/3/53		300	
7/16/53		291		9/4/53		300	NOT SPECIFIC
7/17/53		299		9/5/53		300	NOT SPECIFIC
7/19/53		299		9/6/53		300	NOT SPECIFIC
7/20/53		300	NOT SPECIFIC	9/7/53		300	NOT SPECIFIC
7/21/53		300	NOT SPECIFIC	9/8/53		300	NOT SPECIFIC
7/22/53		300	NOT SPECIFIC	9/9/53		300	NOT SPECIFIC
7/23/53		300	NOT SPECIFIC	9/10/53		300	NOT SPECIFIC
7/24/53		300	NOT SPECIFIC	9/11/53		300	NOT SPECIFIC
7/25/53		300	NOT SPECIFIC	9/13/53		300	NOT SPECIFIC
7/26/53		300		9/14/53		300	NOT SPECIFIC
7/27/53		300		9/15/53		300	NOT SPECIFIC
7/28/53		300		9/16/53		300	NOT SPECIFIC
7/29/53		300		9/17/53		300	NOT SPECIFIC
7/30/53		300		9/18/53		300	NOT SPECIFIC
7/31/53		300	NOT SPECIFIC	9/19/53		300	NOT SPECIFIC
8/1/53		300		9/20/53		300	NOT SPECIFIC
8/2/53		300		9/21/53		300	NOT SPECIFIC
8/3/53		300		9/22/53		300	NOT SPECIFIC
8/4/53		300	NOT SPECIFIC	9/23/53		300	NOT SPECIFIC
8/5/53		300	NOT SPECIFIC	9/24/53		300	NOT SPECIFIC
8/6/53		300	NOT SPECIFIC	9/25/53		300	NOT SPECIFIC
8/7/53		300	NOT SPECIFIC	9/28/53		300	NOT SPECIFIC
8/8/53		300	NOT SPECIFIC	9/29/53		300	NOT SPECIFIC
8/9/53		300		9/30/53		300	NOT SPECIFIC
8/10/53		300	NOT SPECIFIC	10/1/53		300	NOT SPECIFIC
8/11/53		300	NOT SPECIFIC	10/2/53		300	NOT SPECIFIC
8/12/53		300	NOT SPECIFIC	10/3/53		300	NOT SPECIFIC
8/13/53		300	NOT SPECIFIC	10/4/53		300	NOT SPECIFIC
8/14/53		300	NOT SPECIFIC	10/5/53		300	NOT SPECIFIC
8/15/53		300	NOT SPECIFIC	10/6/53		300	NOT SPECIFIC

Data obtained from RHO-CD-1172 and HW-83906.

Historical High or Only Waste Temperature Data								
Tank 241-S-104								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
10/7/53		300	NOT SPECIFIC		12/24/53		300	
10/8/53		300	NOT SPECIFIC		12/30/53		300	
10/9/53		300	NOT SPECIFIC		12/31/53		300	
10/14/53		300	NOT SPECIFIC		1/4/54		300	
10/15/53		300	NOT SPECIFIC		1/5/54		300	
10/16/53		300	NOT SPECIFIC		1/6/54		300	
10/17/53		300	NOT SPECIFIC		1/7/54		300	
10/18/53		300	NOT SPECIFIC		1/8/54		300	
10/19/53		300	NOT SPECIFIC		1/11/54		300	
10/20/53		300			1/12/54		300	
10/21/53		300			1/13/54		300	
10/23/53		300			1/14/54		300	
10/24/53		300			1/15/54		300	
10/25/53		300			1/18/54		300	
10/26/53		300			1/19/54		300	
10/27/53		300			1/20/54		300	
10/28/53		300			1/21/54		300	
10/29/53		300			1/22/54		300	
10/30/53		300			1/23/54		300	
10/31/53		300			1/24/54		300	
11/2/53		300			1/25/54		300	
11/3/53		300			1/26/54		300	
11/4/53		300			1/27/54		300	
11/5/53		300			1/28/54		300	
11/6/53		300			1/29/54		300	
11/10/53		300			2/1/54		300	
11/11/53		300			2/2/54		300	
11/12/53		300			2/3/54		300	
11/13/53		300			2/4/54		300	
11/15/53		300			2/5/54		300	
11/16/53		300			2/6/54		300	
11/17/53		300			2/7/54		300	
11/18/53		300			2/8/54		300	
11/22/53		300			2/9/54		300	
11/23/53		300			2/10/54		300	
11/24/53		300			2/11/54		299	
11/25/53		300			2/12/54		299	
11/27/53		300			2/13/54		240	
11/30/53		300			2/15/54		299	
12/1/53		300			2/16/54		299	
12/2/53		300			2/17/54		299	
12/3/53		300			2/18/54		299	
12/4/53		300			2/19/54		299	
12/5/53		300			2/22/54		299	
12/6/53		300			2/23/54		299	
12/7/53		300			2/25/54		299	
12/8/53		300			2/26/54		299	
12/14/53		300			3/1/54		298	
12/15/53		300			3/2/54		298	
12/16/53		300			3/4/54		298	
12/17/53		300			3/5/54		298	
12/18/53		300			3/6/54		300	
12/21/53		300			3/7/54		298	
12/22/53		300			3/8/54		298	

-- Data obtained from RHO-CD-1172 and HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-104							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
3/9/54		298		5/31/54		296	
3/10/54		298		6/1/54		296	
3/12/54		298		6/2/54		296	
3/14/54		300		6/3/54		296	
3/15/54		298		6/7/54		296	
3/16/54		298		6/8/54		296	
3/17/54		298		6/9/54		296	
3/18/54		298		6/14/54		296	
3/19/54		298		6/16/54		296	
3/22/54		298		6/18/54		296	
3/22/54		298		6/21/54		296	
3/24/54		298		6/23/54		295	
4/1/54		296		6/26/54		295	
4/5/54		296		6/28/54		295	
4/6/54		296		6/30/54		295	
4/7/54		296		7/5/54		295	
4/8/54		296		7/7/54		294	
4/9/54		296		7/11/54		294	
4/11/54		296		7/12/54		294	
4/12/54		296		7/14/54		294	
4/14/54		296		7/19/54		294	
4/15/54		296		7/23/54		294	
4/16/54		296		7/26/54		294	
4/17/54		285		7/28/54		294	
4/18/54		285		8/2/54		294	
4/19/54		296		8/4/54		294	
4/21/54		296		8/9/54		294	
4/23/54		294		8/11/54		293	
4/24/54		295		8/16/54		293	
4/25/54		295		8/18/54		294	
4/26/54		295		8/23/54		294	
4/27/54		294		8/26/54		294	
4/28/54		294		8/28/54		290	
4/29/54		294		8/30/54		294	
4/30/54		294		8/31/54		295	
5/1/54		295		9/1/54		295	
5/2/54		295		9/2/54		295	
5/3/54		294		9/6/54		295	
5/4/54		294		9/8/54		295	
5/5/54		294		9/20/54		295	
5/7/54		295		9/21/54		292	
5/8/54		295		9/27/54		295	
5/9/54		295		9/30/54		295	
5/10/54		294		10/4/54		295	
5/11/54		295		10/5/54		295	
5/12/54		295		10/11/54		295	
5/13/54		296		10/18/54		294	
5/14/54		296		10/25/54		294	
5/15/54		296		11/1/54		294	
5/24/54		296		11/3/54		294	
5/25/54		296		11/8/54		294	
5/26/54		296		11/10/54		294	
5/27/54		296		11/15/54		294	

Data obtained from RHO-CD-1172 and HW-83906.

Historical Vapor Space Temperature Data								
Tank 241-S-105								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
7/31/56		102			12/20/56		101	
8/3/56		101			12/22/56		101	
8/7/56		101			12/25/56		102	
8/11/56		101			12/28/56		103	
8/14/56		101			1/29/57		100	
8/17/56		101			3/20/57		98	
8/20/56		101			5/19/57		96	
8/25/56		102			6/16/57		96	
8/28/56		102			7/1/57		97	
9/1/56		102			7/24/57		97	
9/3/56		102			8/11/57		99	
9/6/56		102			8/27/57		98	
9/9/56		101			9/15/57		98	
9/13/56		101			9/30/57		97	
9/17/56		101			10/11/57		97	
9/21/56		101			10/23/57		97	
9/25/56		101			10/30/57		99	
9/29/56		101			5/3/58		95	
10/2/56		101			5/21/58		95	
10/6/56		101			6/5/58		93	
10/9/56		101			6/26/58		95	
10/11/56		101			7/8/58		95	
10/15/56		102			7/29/58		94	
10/18/56		103			8/31/58		92	
10/21/56		103			9/29/58		92	
10/24/56		103			10/9/58		93	
10/29/56		103			10/28/58		92	
11/2/56		103			11/7/58		94	
11/5/56		103			11/24/58		93	
11/8/56		103			12/10/58		94	
11/11/56		104			12/27/58		94	
11/12/56		103			1/9/59		93	
11/15/56		103			2/6/59		92	
11/17/56		102			2/24/59		92	
11/19/56		101			3/9/59		92	
11/22/56		101			3/22/59		92	
11/27/56		102			4/3/59		92	
11/30/56		102			4/12/59		91	
12/6/56		101			5/2/59		89	
12/10/56		101			12/2/59		90	
12/15/56		101			1/1/60		90	

Data obtained from RHO-CD-1172.

Historical High or Only Waste Temperature Data							
Tank 241-S-105							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
6/22/53		118		8/22/53		125	
6/23/53		118		8/23/53		126	
6/24/53		118		8/24/53		126	
6/25/53		113		8/25/53		126	
6/26/53		113		8/26/53		126	
6/29/53		118		8/27/53		126	
7/1/53		118		8/28/53		126	
7/2/53		118		8/29/53		126	
7/3/53		120		8/30/53		126	
7/4/53		120		8/31/53		126	
7/5/53		120		9/1/53		126	
7/6/53		119		9/2/53		126	
7/7/53		119		9/3/53		126	
7/8/53		119		9/4/53		126	
7/9/53		119		9/5/53		127	
7/10/53		119		9/6/53		127	
7/11/53		120		9/7/53		128	
7/13/53		120		9/8/53		126	
7/15/53		120		9/9/53		126	
7/16/53		120		9/10/53		126	
7/17/53		120		9/11/53		126	
7/20/53		120		9/13/53		128	
7/21/53		120		9/14/53		128	
7/22/53		122		9/15/53		128	
7/23/53		122		9/16/53		126	
7/24/53		122		9/17/53		126	
7/25/53		120		9/18/53		126	
7/26/53		120		9/19/53		129	
7/27/53		124		9/20/53		129	
7/28/53		122		9/21/53		129	
7/29/53		123		9/22/53		129	
7/30/53		123		9/23/53		129	
7/31/53		123		9/24/53		129	
8/1/53		123		9/25/53		129	
8/2/53		121		9/28/53		129	
8/3/53		122		9/29/53		129	
8/4/53		122		9/30/53		129	
8/5/53		122		10/1/53		129	
8/6/53		122		10/2/53		129	
8/7/53		122		10/3/53		129	
8/8/53		124		10/4/53		129	
8/9/53		122		10/5/53		129	
8/10/53		122		10/6/53		129	
8/11/53		122		10/7/53		129	
8/12/53		122		10/8/53		129	
8/13/53		124		10/9/53		129	
8/14/53		124		10/10/53		128	
8/15/53		122		10/11/53		127	
8/16/53		122		10/12/53		127	
8/17/53		122		10/14/53		129	
8/18/53		122		10/15/53		129	
8/19/53		122		10/16/53		129	
8/20/53		122		10/17/53		130	
8/21/53		122		10/18/53		130	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-105							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
10/19/53		129		12/26/53		130	
10/20/53		129		12/27/53		130	
10/21/53		129		12/28/53		130	
10/22/53		129		12/29/53		130	
10/23/53		129		12/30/53		130	
10/24/53		129		12/31/53		130	
10/26/53		130		1/4/54		130	
10/27/53		130		1/5/54		130	
10/28/53		130		1/6/54		132	
10/29/53		130		1/7/54		132	
10/30/53		130		1/8/54		132	
10/31/53		130		1/11/54		132	
11/1/53		130		1/12/54		132	
11/2/53		130		1/13/54		130	
11/3/53		130		1/14/54		130	
11/4/53		130		1/15/54		130	
11/5/53		130		1/18/54		130	
11/6/53		130		1/19/54		130	
11/10/53		130		1/20/54		130	
11/11/53		130		1/21/54		130	
11/12/53		130		1/22/54		130	
11/13/53		130		1/23/54		130	
11/15/53		130		1/24/54		130	
11/16/53		130		1/25/54		130	
11/17/53		130		1/26/54		130	
11/18/53		130		1/27/54		131	
11/19/53		130		1/28/54		131	
11/20/53		130		1/29/54		131	
11/22/53		130		2/1/54		131	
11/23/53		130		2/2/54		131	
11/24/53		130		2/3/54		131	
11/25/53		130		2/4/54		131	
11/27/53		130		2/5/54		131	
11/29/53		130		2/6/54		132	
11/30/53		130		2/7/54		130	
12/1/53		130		2/8/54		130	
12/2/53		130		2/9/54		130	
12/3/53		120		2/10/54		130	
12/4/53		130		2/11/54		130	
12/5/53		130		2/12/54		130	
12/6/53		132		2/13/54		130	
12/7/53		132		2/15/54		130	
12/8/53		132		2/16/54		130	
12/10/53		130		2/17/54		130	
12/14/53		130		2/18/54		131	
12/15/53		130		2/19/54		131	
12/16/53		130		2/22/54		131	
12/17/53		130		2/23/54		131	
12/18/53		130		2/25/54		131	
12/21/53		130		2/26/54		131	
12/22/53		130		3/1/54		131	
12/23/53		130		3/2/54		131	
12/24/53		130		3/3/54		131	
12/25/53		130		3/4/54		131	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-105							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
3/5/54		131		6/1/54		129	
3/6/54		130		6/2/54		129	
3/7/54		131		6/3/54		129	
3/8/54		130		6/7/54		129	
3/9/54		130		6/8/54		129	
3/10/54		130		6/9/54		128	
3/12/54		130		6/14/54		128	
3/14/54		130		6/16/54		128	
3/15/54		130		6/18/54		128	
3/16/54		130		6/21/54		128	
3/17/54		130		6/23/54		128	
3/18/54		130		6/26/54		128	
3/19/54		130		6/28/54		128	
3/22/54		130		6/30/54		128	
3/24/54		130		7/5/54		128	
4/1/54		130		7/7/54		127	
4/5/54		130		7/10/54		127	
4/6/54		130		7/11/54		127	
4/7/54		130		7/12/54		127	
4/8/54		130		7/14/54		127	
4/9/54		130		7/19/54		127	
4/11/54		130		7/23/54		126	
4/12/54		130		7/26/54		126	
4/14/54		130		7/28/54		124	
4/15/54		130		8/2/54		124	
4/16/54		130		8/4/54		124	
4/17/54		130		8/9/54		124	
4/18/54		130		8/11/54		124	
4/19/54		130		8/16/54		124	
4/21/54		130		8/18/54		124	
4/23/54		130		8/23/54		124	
4/24/54		128		8/26/54		124	
4/25/54		130		8/28/54		125	
4/26/54		130		8/30/54		124	
4/27/54		130		8/31/54		124	
4/28/54		128		9/1/54		123	
4/29/54		128		9/2/54		124	
4/30/54		128		9/6/54		123	
5/1/54		128		9/8/54		124	
5/3/54		128		9/20/54		123	
5/4/54		128		9/21/54		122	
5/5/54		128		9/27/54		123	
5/8/54		127		9/30/54		120	
5/9/54		129		10/4/54		120	
5/10/54		128		10/5/54		122	
5/11/54		128		10/11/54		122	
5/12/54		129		10/12/54		122	
5/13/54		129		10/18/54		122	
5/14/54		129		10/20/54		122	
5/15/54		129		10/25/54		122	
5/16/54		139		10/27/54		120	
5/24/54		128		11/1/54		120	
5/26/54		129		11/3/54		120	
5/31/54		129		11/8/54		120	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data								
Tank 241-S-105								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
11/10/54		121			12/13/54		120	
11/15/54		120			12/15/54		118	
11/17/54		120			12/17/54		118	
11/22/54		120			12/20/54		118	
11/24/54		120			12/22/54		119	
12/1/54		120			12/27/54		119	
12/8/54		120			12/29/54		118	

Data obtained from HW-83906.

Historical Vapor Space Temperature Data								
Tank 241-S-106								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
8/1/56		93			11/1/56		97	
8/2/56		93			11/2/56		96	
8/5/56		93			11/3/56		96	
8/7/56		93			11/4/56		94	
8/10/56		93			11/6/56		94	
8/13/56		92			11/6/56		94	
8/16/56		92			11/7/56		93	
8/18/56		92			11/8/56		93	
8/20/56		92			11/9/56		92	
8/24/56		92			11/12/56		92	
8/26/56		92			11/13/56		92	
8/28/56		92			11/14/56		92	
8/29/56		92			11/17/56		92	
8/31/56		91			11/18/56		91	
9/4/56		91			11/20/56		91	
9/6/56		91			11/22/56		90	
9/8/56		91			11/25/56		91	
9/10/56		91			11/29/56		91	
9/11/56		91			12/6/56		90	
9/12/56		91			12/11/56		91	
9/13/56		91			12/17/56		92	
9/16/56		91			12/20/56		91	
9/18/56		91			12/22/56		91	
9/20/56		92			12/29/56		92	
9/22/56		92			1/31/57		90	
9/24/56		92			2/11/57		89	
9/26/56		93			2/23/57		90	
9/27/56		93			3/3/57		90	
9/29/56		94			3/13/57		88	
9/30/56		95			3/21/57		88	
9/30/56		96			4/2/57		87	
10/1/56		97			4/7/57		86	
10/3/56		98			4/25/57		89	
10/4/56		97			5/4/57		90	
10/5/56		96			6/2/57		86	
10/6/56		95			7/3/57		102	
10/7/56		94			8/1/57		85	
10/8/56		94			8/18/57		85	
10/9/56		92			8/31/57		85	
10/10/56		92			9/15/57		86	
10/11/56		92			9/30/57		85	
10/14/56		92			10/15/57		86	
10/15/56		92			10/30/57		86	
10/16/56		92			5/5/58		81	
10/19/56		93			5/15/58		80	
10/20/56		92			5/23/58		80	
10/23/56		93			6/4/58		79	
10/24/56		93			6/25/58		79	
10/26/56		94			7/9/58		79	
10/27/56		95			7/30/58		80	
10/28/56		96			9/2/58		80	
10/29/56		97			10/5/58		79	
10/31/56		97			11/7/58		79	
10/31/56		98			12/8/58		80	

Data obtained from RHO-CD-1172.

Historical Vapor Space Temperature Data								
Tank 241-S-106								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
1/6/59		81			3/30/59		80	
1/28/59		83			4/6/59		79	
2/6/59		83			4/30/59		85	
2/15/59		81			11/30/59		77	
3/7/59		81			12/28/59		77	

Data obtained from RHO-CD-1172.

Historical High or Only Waste Temperature Data							
Tank 241-S-106							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
6/22/53		93		8/18/53		95	
6/23/53		93		8/19/53		95	
6/24/53		93		8/20/53		95	
6/25/53		93		8/21/53		95	
6/26/53		93		8/22/53		100	
6/27/53		93		8/23/53		100	
6/28/53		93		8/24/53		100	
6/29/53		93		8/25/53		100	
7/1/53		94		8/26/53		101	
7/2/53		94		8/28/53		100	
7/3/53		94		8/29/53		100	
7/4/53		94		8/30/53		100	
7/5/53		96		8/31/53		100	
7/6/53		94		9/1/53		103	
7/7/53		94		9/2/53		106	
7/8/53		94		9/3/53		106	
7/9/53		94		9/4/53		106	
7/10/53		94		9/5/53		108	
7/11/53		94		9/6/53		108	
7/13/53		93		9/7/53		110	
7/15/53		93		9/8/53		108	
7/16/53		93		9/9/53		106	
7/17/53		93		9/10/53		106	
7/18/53		94		9/11/53		108	
7/19/53		93		9/13/53		108	
7/20/53		95		9/14/53		108	
7/21/53		95		9/15/53		108	
7/22/53		95		9/16/53		108	
7/23/53		95		9/17/53		108	
7/24/53		95		9/18/53		108	
7/25/53		96		9/19/53		109	
7/26/53		94		9/20/53		109	
7/27/53		94		9/21/53		109	
7/28/53		95		9/22/53		108	
7/29/53		95		9/23/53		108	
7/30/53		95		9/24/53		108	
7/31/53		93		9/25/53		108	
8/1/53		98		9/26/53		109	
8/2/53		98		9/27/53		109	
8/3/53		95		9/28/53		108	
8/4/53		95		9/29/53		110	
8/5/53		95		9/30/53		108	
8/6/53		95		10/1/53		110	
8/7/53		95		10/2/53		110	
8/8/53		95		10/3/53		111	
8/9/53		94		10/4/53		111	
8/10/53		94		10/5/53		111	
8/11/53		94		10/6/53		111	
8/12/53		94		10/7/53		111	
8/13/53		95		10/8/53		111	
8/14/53		95		10/9/53		111	
8/15/53		95		10/10/53		110	
8/16/53		95		10/11/53		115	
8/17/53		95		10/12/53		111	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-106							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
10/14/53		111		12/17/53		112	
10/15/53		111		12/18/53		112	
10/16/53		111		12/21/53		112	
10/17/53		110		12/22/53		112	
10/18/53		110		12/23/53		112	
10/19/53		110		12/24/53		112	
10/20/53		110		12/25/53		112	
10/21/53		110		12/26/53		112	
10/22/53		112		12/27/53		113	
10/23/53		111		12/28/53		113	
10/24/53		111		12/29/53		113	
10/25/53		110		12/30/53		112	
10/26/53		111		12/31/53		112	
10/27/53		111		1/1/54		113	
10/28/53		111		1/2/54		113	
10/29/53		111		1/3/54		113	
10/30/53		111		1/4/54		112	
10/31/53		112		1/5/54		113	
11/2/53		111		1/6/54		113	
11/3/53		111		1/7/54		113	
11/4/53		111		1/8/54		113	
11/5/53		111		1/11/54		115	
11/6/53		111		1/12/54		115	
11/10/53		111		1/13/54		116	
11/11/53		111		1/14/54		116	
11/12/53		111		1/15/54		116	
11/13/53		111		1/18/54		116	
11/15/53		111		1/19/54		116	
11/16/53		111		1/20/54		114	
11/17/53		111		1/21/54		114	
11/18/53		111		1/22/54		114	
11/19/53		111		1/23/54		114	
11/20/53		111		1/24/54		114	
11/22/53		110		1/25/54		114	
11/23/53		111		1/26/54		114	
11/24/53		111		1/27/54		114	
11/25/53		111		1/28/54		114	
11/27/53		111		1/29/54		114	
11/29/53		110		2/1/54		114	
11/30/53		110		2/2/54		114	
12/1/53		110		2/3/54		114	
12/2/53		110		2/4/54		114	
12/3/53		110		2/5/54		114	
12/4/53		110		2/6/54		117	
12/5/53		111		2/7/54		117	
12/6/53		112		2/8/54		117	
12/7/53		112		2/9/54		117	
12/8/53		112		2/10/54		117	
12/10/53		111		2/11/54		117	
12/11/53		111		2/13/54		112	
12/12/53		112		2/15/54		112	
12/14/53		112		2/16/54		112	
12/15/53		112		2/17/54		112	
12/16/53		112		2/18/54		114	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-106							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
2/19/54		114		5/11/54		109	
2/22/54		114		5/12/54		109	
2/23/54		114		5/13/54		109	
2/25/54		114		5/14/54		109	
2/26/54		114		5/15/54		109	
3/1/54		114		5/16/54		110	
3/2/54		114		5/24/54		108	
3/3/54		114		5/26/54		108	
3/4/54		114		5/31/54		109	
3/5/54		114		6/1/54		109	
3/6/54		114		6/2/54		108	
3/7/54		112		6/3/54		108	
3/8/54		114		6/7/54		108	
3/9/54		114		6/8/54		108	
3/10/54		113		6/9/54		107	
3/12/54		113		6/14/54		107	
3/14/54		112		6/16/54		107	
3/15/54		113		6/18/54		107	
3/16/54		113		6/21/54		107	
3/17/54		113		6/23/54		107	
3/18/54		113		6/26/54		107	
3/19/54		113		6/28/54		107	
3/22/54		113		6/30/54		107	
3/24/54		113		7/5/54		107	
4/1/54		113		7/7/54		107	
4/5/54		110		7/10/54		107	
4/6/54		110		7/11/54		107	
4/7/54		110		7/12/54		107	
4/8/54		110		7/14/54		107	
4/9/54		110		7/19/54		107	
4/11/54		110		7/23/54		107	
4/12/54		110		7/26/54		107	
4/14/54		110		7/28/54		107	
4/15/54		110		8/2/54		107	
4/16/54		110		8/4/54		106	
4/17/54		110		8/9/54		106	
4/18/54		110		8/11/54		106	
4/19/54		110		8/16/54		106	
4/21/54		110		8/18/54		106	
4/23/54		110		8/23/54		106	
4/24/54		110		8/26/54		106	
4/25/54		110		8/28/54		110	
4/26/54		110		8/30/54		106	
4/27/54		110		8/31/54		107	
4/28/54		109		9/1/54		106	
4/29/54		109		9/2/54		106	
4/30/54		109		9/6/54		106	
5/1/54		110		9/8/54		106	
5/3/54		109		9/20/54		103	
5/4/54		109		9/21/54		103	
5/5/54		109		9/27/54		103	
5/8/54		110		9/30/54		103	
5/9/54		110		10/4/54		103	
5/10/54		109		10/5/54		103	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data								
Tank 241-S-106								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
10/11/54		103			11/22/54		101	
10/12/54		101			11/24/54		100	
10/18/54		101			12/1/54		100	
10/20/54		101			12/8/54		100	
10/25/54		101			12/13/54		100	
10/27/54		101			12/15/54		100	
11/1/54		101			12/17/54		100	
11/3/54		101			12/20/54		100	
11/8/54		101			12/22/54		100	
11/10/54		101			12/27/54		100	
11/15/54		101			12/29/54		100	
11/17/54		101						

Data obtained from HW-83906.

Historical Vapor Space Temperature Data							
Tank 241-S-107							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
7/30/56		171		12/3/56		184	
8/1/56		172		12/3/56		185	
8/2/56		174		12/4/56		187	
8/5/56		175		12/6/56		189	
8/7/56		176		12/8/56		191	
8/9/56		175		12/8/56		193	
8/11/56		174		12/10/56		194	
8/13/56		173		12/11/56		195	
8/16/56		173		12/12/56		193	
8/19/56		173		12/13/56		192	
8/21/56		173		12/14/56		191	
8/22/56		173		12/15/56		189	
8/22/56		175		12/15/56		187	
8/23/56		176		12/16/56		185	
8/24/56		177		12/17/56		184	
8/24/56		179		12/18/56		183	
8/24/56		181		12/18/56		181	
8/24/56		183		12/19/56		180	
8/25/56		185		12/20/56		179	
8/27/56		188		12/21/56		179	
8/27/56		190		12/23/56		178	
8/27/56		192		12/24/56		178	
8/30/56		192		12/26/56		178	
9/2/56		191		12/29/56		177	
9/4/56		191		1/29/57		172	
9/6/56		190		2/28/57		172	
9/9/56		189		3/29/57		161	
9/13/56		189		4/30/57		176	
9/14/56		190		7/3/57		142	
9/18/56		191		7/31/57		171	
9/22/56		191		8/6/57		169	
9/25/56		191		8/27/57		159	
9/29/56		191		12/12/57		158	
10/2/56		191		12/24/57		156	
10/6/56		191		2/28/58		153	
10/9/56		191		5/1/58		149	
10/13/56		191		5/26/58		150	
10/16/56		191		6/17/58		149	
10/17/56		189		7/10/58		148	
10/20/56		189		7/29/58		145	
10/22/56		188		9/2/58		150	
10/24/56		186		10/5/58		150	
10/26/56		186		11/9/58		148	
10/31/56		186		12/3/58		149	
11/3/56		186		12/23/58		148	
11/7/56		186		1/22/59		145	
11/11/56		186		2/8/59		143	
11/13/56		185		2/20/59		144	
11/16/56		183		3/7/59		144	
11/16/56		182		3/21/59		142	
11/19/56		181		4/8/59		140	
11/23/56		182		4/20/59		141	
11/26/56		181		5/2/59		141	
11/29/56		182		5/17/59		140	
12/2/56		182		6/6/59		139	

Data obtained from RHO-CD-1172.

Historical Vapor Space Temperature Data								
Tank 241-S-107								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
1/30/60		138			3/1/60		163	
2/8/60		145						

Data obtained from RHO-CD-1172.

Historical Average Waste Temperature Data							
Tank 241-S-107							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
7/26/53		216		1/8/54		198	
8/18/53		216		1/29/54		199	
10/7/53		219					

Data obtained from RHO-CD-1172 and HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-107							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
9/2/52		96		8/13/53		228	ASSUMPTION
9/7/52		121		8/14/53		228	ASSUMPTION
9/11/52		131		8/15/53		228	ASSUMPTION
9/23/52		157		8/16/53		215	
10/3/52		170		8/17/53		228	ASSUMPTION
10/19/52		195		8/18/53		228	ASSUMPTION
10/24/52		206		8/19/53		228	ASSUMPTION
10/27/52		219		8/20/53		228	ASSUMPTION
10/30/52		239		8/21/53		228	ASSUMPTION
6/22/53		239	ASSUMPTION	8/22/53		227	ASSUMPTION
6/23/53		238	ASSUMPTION	8/23/53		227	ASSUMPTION
6/24/53		238	ASSUMPTION	8/24/53		227	ASSUMPTION
6/25/53		238	ASSUMPTION	8/25/53		226	ASSUMPTION
6/26/53		238	ASSUMPTION	8/26/53		227	ASSUMPTION
6/26/53		238	ASSUMPTION	8/28/53		228	
6/29/53		238	ASSUMPTION	8/29/53		228	ASSUMPTION
7/1/53		238	ASSUMPTION	8/30/53		228	ASSUMPTION
7/2/53		238	ASSUMPTION	8/31/53		238	ASSUMPTION
7/3/53		238	ASSUMPTION	9/1/53		238	ASSUMPTION
7/4/53		238	ASSUMPTION	9/2/53		236	ASSUMPTION
7/6/53		238	ASSUMPTION	9/3/53		236	ASSUMPTION
7/7/53		238	ASSUMPTION	9/4/53		236	ASSUMPTION
7/8/53		238	ASSUMPTION	9/5/53		228	ASSUMPTION
7/9/53		238	ASSUMPTION	9/6/53		226	ASSUMPTION
7/10/53		238	ASSUMPTION	9/7/53		228	ASSUMPTION
7/11/53		260	NOT SPECIFIC	9/8/53		228	ASSUMPTION
7/13/53		238	ASSUMPTION	9/9/53		236	ASSUMPTION
7/15/53		238	ASSUMPTION	9/10/53		236	ASSUMPTION
7/16/53		238	ASSUMPTION	9/11/53		236	ASSUMPTION
7/17/53		238	ASSUMPTION	9/13/53		236	ASSUMPTION
7/20/53		238	ASSUMPTION	9/14/53		236	ASSUMPTION
7/21/53		238	ASSUMPTION	9/15/53		237	ASSUMPTION
7/22/53		238	ASSUMPTION	9/16/53		236	ASSUMPTION
7/23/53		238	ASSUMPTION	9/17/53		236	ASSUMPTION
7/24/53		238	ASSUMPTION	9/18/53		236	ASSUMPTION
7/25/53		238	ASSUMPTION	9/19/53		236	ASSUMPTION
7/26/53		228	ASSUMPTION	9/20/53		236	ASSUMPTION
7/27/53		238	ASSUMPTION	9/21/53		236	ASSUMPTION
7/28/53		238	ASSUMPTION	9/22/53		236	ASSUMPTION
7/29/53		238	ASSUMPTION	9/23/53		235	ASSUMPTION
7/30/53		238	ASSUMPTION	9/24/53		235	ASSUMPTION
7/31/53		238	ASSUMPTION	9/25/53		235	ASSUMPTION
8/1/53		238	ASSUMPTION	9/28/53		235	ASSUMPTION
8/2/53		238	ASSUMPTION	9/29/53		235	ASSUMPTION
8/3/53		228	ASSUMPTION	9/30/53		235	ASSUMPTION
8/4/53		228	ASSUMPTION	10/1/53		235	ASSUMPTION
8/5/53		228	ASSUMPTION	10/2/53		235	ASSUMPTION
8/6/53		228	ASSUMPTION	10/3/53		235	ASSUMPTION
8/7/53		228	ASSUMPTION	10/4/53		235	ASSUMPTION
8/8/53		228	ASSUMPTION	10/5/53		235	ASSUMPTION
8/9/53		227	ASSUMPTION	10/6/53		238	ASSUMPTION
8/10/53		228	ASSUMPTION	10/7/53		238	ASSUMPTION
8/11/53		228	ASSUMPTION	10/8/53		238	ASSUMPTION
8/12/53		228	ASSUMPTION	10/9/53		238	ASSUMPTION

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-107							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
10/10/53		238	ASSUMPTION	12/14/53		220	ASSUMPTION
10/11/53		238	ASSUMPTION	12/15/53		220	ASSUMPTION
10/12/53		238	ASSUMPTION	12/16/53		220	ASSUMPTION
10/14/53		238	ASSUMPTION	12/17/53		220	ASSUMPTION
10/15/53		238	ASSUMPTION	12/18/53		220	ASSUMPTION
10/16/53		238	ASSUMPTION	12/21/53		220	ASSUMPTION
10/17/53		225	ASSUMPTION	12/22/53		220	ASSUMPTION
10/18/53		225	ASSUMPTION	12/23/53		220	ASSUMPTION
10/19/53		222	ASSUMPTION	12/24/53		220	ASSUMPTION
10/20/53		222	ASSUMPTION	12/25/53		220	ASSUMPTION
10/21/53		228	ASSUMPTION	12/26/53		220	ASSUMPTION
10/22/53		225	ASSUMPTION	12/29/53		220	ASSUMPTION
10/23/53		210		12/30/53		220	ASSUMPTION
10/24/53		210		12/31/53		220	ASSUMPTION
10/25/53		225	ASSUMPTION	1/4/54		220	ASSUMPTION
10/26/53		225	ASSUMPTION	1/5/54		220	ASSUMPTION
10/27/53		225	ASSUMPTION	1/6/54		220	ASSUMPTION
10/28/53		225	ASSUMPTION	1/7/54		220	ASSUMPTION
10/29/53		225	ASSUMPTION	1/8/54		220	ASSUMPTION
10/30/53		225	ASSUMPTION	1/11/54		220	ASSUMPTION
10/31/53		240	NOT SPECIFIC	1/12/54		220	ASSUMPTION
11/2/53		223	ASSUMPTION	1/13/54		220	ASSUMPTION
11/3/53		223	ASSUMPTION	1/14/54		220	ASSUMPTION
11/4/53		223	ASSUMPTION	1/15/54		220	ASSUMPTION
11/5/53		223	ASSUMPTION	1/18/54		220	ASSUMPTION
11/6/53		223	ASSUMPTION	1/19/54		220	ASSUMPTION
11/6/53		223	ASSUMPTION	1/20/54		220	ASSUMPTION
11/10/53		223	ASSUMPTION	1/21/54		220	ASSUMPTION
11/11/53		221	ASSUMPTION	1/22/54		220	ASSUMPTION
11/11/53		221	ASSUMPTION	1/23/54		220	ASSUMPTION
11/12/53		221	ASSUMPTION	1/24/54		220	ASSUMPTION
11/13/53		221	ASSUMPTION	1/25/54		220	ASSUMPTION
11/15/53		221	ASSUMPTION	1/26/54		220	ASSUMPTION
11/16/53		221	ASSUMPTION	1/27/54		220	ASSUMPTION
11/17/53		221	ASSUMPTION	1/28/54		220	ASSUMPTION
11/18/53		221	ASSUMPTION	1/29/54		220	ASSUMPTION
11/19/53		221	ASSUMPTION	2/1/54		220	ASSUMPTION
11/20/53		221	ASSUMPTION	2/2/54		220	ASSUMPTION
11/22/53		220	ASSUMPTION	2/3/54		220	ASSUMPTION
11/23/53		221	ASSUMPTION	2/4/54		220	ASSUMPTION
11/24/53		221	ASSUMPTION	2/5/54		220	ASSUMPTION
11/25/53		221	ASSUMPTION	2/6/54		218	ASSUMPTION
11/27/53		223	ASSUMPTION	2/7/54		218	ASSUMPTION
11/29/53		221	ASSUMPTION	2/8/54		218	ASSUMPTION
11/30/53		221	ASSUMPTION	2/9/54		218	ASSUMPTION
12/1/53		221	ASSUMPTION	2/10/54		218	ASSUMPTION
12/2/53		221	ASSUMPTION	2/11/54		218	ASSUMPTION
12/3/53		221	ASSUMPTION	2/12/54		218	ASSUMPTION
12/4/53		221	ASSUMPTION	2/15/54		218	ASSUMPTION
12/5/53		221	ASSUMPTION	2/16/54		218	ASSUMPTION
12/6/53		221	ASSUMPTION	2/17/54		218	ASSUMPTION
12/7/53		221	ASSUMPTION	2/18/54		219	ASSUMPTION
12/8/53		221	ASSUMPTION	2/19/54		219	ASSUMPTION
12/10/53		221	ASSUMPTION	2/22/54		219	ASSUMPTION

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-107							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
2/23/54		219	ASSUMPTION	5/16/54		225	ASSUMPTION
2/25/54		219	ASSUMPTION	5/24/54		226	ASSUMPTION
2/25/54		219	ASSUMPTION	5/26/54		226	ASSUMPTION
2/26/54		219	ASSUMPTION	5/31/54		226	ASSUMPTION
3/1/54		219	ASSUMPTION	6/1/54		226	ASSUMPTION
3/2/54		219	ASSUMPTION	6/2/54		226	ASSUMPTION
3/3/54		219	ASSUMPTION	6/3/54		226	ASSUMPTION
3/4/54		219	ASSUMPTION	6/7/54		226	ASSUMPTION
3/5/54		219	ASSUMPTION	6/8/54		226	ASSUMPTION
3/6/54		219	ASSUMPTION	6/9/54		226	ASSUMPTION
3/7/54		219	ASSUMPTION	6/14/54		226	ASSUMPTION
3/8/54		219	ASSUMPTION	6/16/54		225	ASSUMPTION
3/9/54		219	ASSUMPTION	6/18/54		225	ASSUMPTION
3/10/54		219	ASSUMPTION	6/21/54		225	ASSUMPTION
3/12/54		219	ASSUMPTION	6/22/54		225	ASSUMPTION
3/14/54		220	ASSUMPTION	6/23/54		225	ASSUMPTION
3/15/54		218	ASSUMPTION	6/26/54		225	ASSUMPTION
3/16/54		218	ASSUMPTION	6/28/54		225	ASSUMPTION
3/17/54		218	ASSUMPTION	6/30/54		225	ASSUMPTION
3/18/54		218	ASSUMPTION	7/5/54		225	ASSUMPTION
3/19/54		218	ASSUMPTION	7/7/54		225	ASSUMPTION
3/22/54		218	ASSUMPTION	7/11/54		240	NOT SPECIFIC
3/24/54		219	ASSUMPTION	7/12/54		225	ASSUMPTION
4/1/54		220	ASSUMPTION	7/14/54		225	ASSUMPTION
4/5/54		220	ASSUMPTION	7/19/54		225	ASSUMPTION
4/6/54		220	ASSUMPTION	7/23/54		225	ASSUMPTION
4/7/54		220	ASSUMPTION	7/26/54		225	ASSUMPTION
4/8/54		220	ASSUMPTION	7/28/54		223	ASSUMPTION
4/9/54		220	ASSUMPTION	8/2/54		224	ASSUMPTION
4/11/54		220	ASSUMPTION	8/4/54		224	ASSUMPTION
4/12/54		220	ASSUMPTION	8/9/54		224	ASSUMPTION
4/14/54		220	ASSUMPTION	8/11/54		224	ASSUMPTION
4/15/54		220	ASSUMPTION	8/16/54		224	ASSUMPTION
4/16/54		220	ASSUMPTION	8/18/54		224	ASSUMPTION
4/17/54		300	NOT SPECIFIC	8/23/54		224	ASSUMPTION
4/18/54		300	NOT SPECIFIC	8/26/54		222	ASSUMPTION
4/19/54		240	NOT SPECIFIC	8/28/54		210	ASSUMPTION
4/21/54		223	ASSUMPTION	8/30/54		222	ASSUMPTION
4/23/54		223	ASSUMPTION	8/31/54		222	ASSUMPTION
4/25/54		223	ASSUMPTION	9/1/54		222	ASSUMPTION
4/26/54		223	ASSUMPTION	9/2/54		222	ASSUMPTION
4/27/54		223	ASSUMPTION	9/6/54		222	ASSUMPTION
4/28/54		223	ASSUMPTION	9/8/54		222	ASSUMPTION
4/29/54		223	ASSUMPTION	9/20/54		222	ASSUMPTION
4/30/54		223	ASSUMPTION	9/21/54		222	ASSUMPTION
5/1/54		223	ASSUMPTION	9/27/54		204	
5/3/54		223	ASSUMPTION	9/30/54		199	
5/4/54		223	ASSUMPTION	10/4/54		199	
5/5/54		225	ASSUMPTION	10/5/54		199	
5/8/54		225	ASSUMPTION	10/11/54		199	
5/9/54		225	ASSUMPTION	10/12/54		198	
5/10/54		225	ASSUMPTION	10/18/54		198	
5/12/54		225	ASSUMPTION	10/20/54		198	
5/15/54		225	ASSUMPTION	10/25/54		198	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-107							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
10/27/54		198		12/6/54		194	
11/1/54		198		12/7/54		194	
11/3/54		198		12/8/54		192	
11/8/54		198		12/9/54		192	
11/10/54		193		12/10/54		192	
11/15/54		198		12/12/54		240	
11/17/54		240	> 240 F	12/13/54		192	
11/19/54		240	> 240 F	12/14/54		192	
11/22/54		240		12/15/54		198	
11/23/54		195		12/16/54		195	
11/24/54		195		12/17/54		195	
11/25/54		195		12/18/54		195	
11/26/54		195		12/19/54		240	
11/27/54		193		12/20/54		195	
11/28/54		193		12/21/54		196	
11/29/54		195		12/22/54		193	
11/30/54		193		12/23/54		193	
12/1/54		190		12/26/54		195	
12/2/54		192		12/27/54		193	
12/3/54		192		12/28/54		193	
12/4/54		193		12/29/54		195	
12/5/54		242		12/31/54		240	NOT SPECIFIC

Data obtained from HW-83906.

Historical Vapor Space Temperature Data							
Tank 241-S-108							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
7/31/56		104		12/6/56		104	
8/1/56		104		12/9/56		104	
8/4/56		104		12/12/56		104	
8/5/56		104		12/15/56		104	
8/7/56		104		12/18/56		104	
8/8/56		105		12/22/56		104	
8/8/56		106		12/24/56		103	
8/9/56		106		12/26/56		103	
8/10/56		107		2/1/57		102	
8/11/56		107		3/2/57		94	
8/13/56		109		3/10/57		95	
8/14/56		110		3/28/57		99	
8/15/56		110		4/17/57		98	
8/16/56		109		5/1/57		98	
8/17/56		108		5/25/57		98	
8/19/56		107		6/21/57		97	
8/20/56		105		7/11/57		97	
8/21/56		104		7/28/57		97	
8/22/56		103		8/15/57		98	
8/23/56		103		8/31/57		98	
8/24/56		103		9/24/57		98	
8/26/56		103		10/30/57		99	
8/28/56		104		5/5/58		94	
8/31/56		103		5/16/58		94	
9/4/56		104		5/27/58		93	
9/6/56		104		6/6/58		92	
9/10/56		103		6/17/58		93	
9/12/56		102		6/28/58		94	
9/14/56		103		7/11/58		94	
9/17/56		104		7/18/58		94	
9/24/56		104		7/25/58		93	
9/27/56		103		8/1/58		93	
9/30/56		102		9/2/58		93	
10/3/56		100		9/29/58		92	
10/8/56		105		10/19/58		91	
10/13/56		105		11/4/58		92	
10/17/56		105		11/23/58		92	
10/23/56		105		12/13/58		93	
10/24/56		104		12/30/58		93	
10/28/56		104		1/14/59		92	
11/1/56		105		1/30/59		92	
11/5/56		104		2/13/59		90	
11/13/56		105		2/27/59		88	
11/9/56		105		3/12/59		86	
11/18/56		105		3/25/59		85	
11/20/56		105		4/14/59		85	
11/25/56		104		4/28/59		84	
11/27/56		104		12/1/59		89	
12/1/56		104		12/28/59		89	
12/4/56		104					

-- Data obtained from RHO-CD-1172.

Historical High or Only Waste Temperature Data							
Tank 241-S-108							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
6/22/53		134		8/26/53		134	
6/23/53		134		8/27/53		134	
6/24/53		134		8/28/53		134	
6/25/53		134		8/29/53		134	
6/26/53		134		8/30/53		134	
6/29/53		134		8/31/53		134	
7/1/53		134		9/1/53		134	
7/2/53		134		9/2/53		134	
7/3/53		134		9/3/53		134	
7/4/53		154		9/4/53		134	
7/5/53		134		9/5/53		134	
7/6/53		134		9/6/53		132	
7/7/53		134		9/7/53		134	
7/8/53		134		9/8/53		134	
7/9/53		134		9/9/53		134	
7/10/53		134		9/10/53		134	
7/11/53		134		9/11/53		134	
7/13/53		134		9/13/53		134	
7/15/53		134		9/14/53		134	
7/16/53		134		9/15/53		134	
7/17/53		134		9/16/53		132	
7/20/53		134		9/17/53		132	
7/21/53		134		9/18/53		132	
7/22/53		134		9/19/53		134	
7/23/53		134		9/20/53		133	
7/24/53		134		9/21/53		133	
7/25/53		134		9/22/53		133	
7/26/53		134		9/23/53		133	
7/27/53		134		9/24/53		133	
7/28/53		134		9/25/53		133	
7/29/53		134		9/28/53		133	
7/30/53		134		9/29/53		133	
7/31/53		134		9/30/53		133	
8/1/53		134		10/1/53		133	
8/2/53		134		10/2/53		133	
8/3/53		135		10/3/53		133	
8/4/53		135		10/4/53		133	
8/5/53		135		10/5/53		135	
8/6/53		135		10/6/53		133	
8/7/53		135		10/7/53		132	
8/8/53		134		10/8/53		132	
8/9/53		133		10/9/53		132	
8/10/53		136		10/10/53		134	
8/11/53		135		10/11/53		132	
8/12/53		135		10/12/53		132	
8/13/53		135		10/14/53		132	
8/14/53		135		10/15/53		132	
8/15/53		134		10/16/53		132	
8/16/53		134		10/17/53		132	
8/17/53		134		10/18/53		134	
8/18/53		134		10/19/53		132	
8/19/53		133		10/20/53		132	
8/20/53		133		10/21/53		132	
8/21/53		133		10/22/53		132	
8/22/53		133		10/23/53		132	
8/23/53		134		10/24/53		132	
8/24/53		134		10/26/53		132	
8/25/53		134		10/27/53		132	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-108							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
10/28/53		132		1/13/54		128	
10/29/53		132		1/14/54		128	
10/30/53		132		1/15/54		128	
10/31/53		132		1/18/54		128	
11/2/53		132		1/19/54		128	
11/3/53		132		1/20/54		128	
11/4/53		132		1/21/54		128	
11/5/53		132		1/22/54		128	
11/6/53		132		1/23/54		128	
11/10/53		132		1/24/54		128	
11/11/53		132		1/25/54		128	
11/12/53		132		1/26/54		128	
11/13/53		132		1/27/54		126	
11/15/53		132		1/28/54		126	
11/16/53		132		1/29/54		126	
11/17/53		132		2/1/54		126	
11/18/53		132		2/2/54		126	
11/19/53		132		2/3/54		126	
11/20/53		132		2/4/54		126	
11/22/53		130		2/5/54		126	
11/23/53		132		2/6/54		126	
11/24/53		132		2/7/54		126	
11/25/53		132		2/8/54		126	
11/27/53		131		2/9/54		126	
11/29/53		132		2/10/54		126	
11/30/53		132		2/11/54		126	
12/1/53		132		2/12/54		126	
12/2/53		132		2/13/54		125	
12/3/53		132		2/15/54		126	
12/4/53		132		2/16/54		126	
12/5/53		132		2/17/54		126	
12/6/53		130		2/18/54		126	
12/7/53		130		2/19/54		126	
12/8/53		130		2/22/54		126	
12/10/53		130		2/23/54		126	
12/14/53		130		2/25/54		126	
12/15/53		130		2/26/54		126	
12/16/53		130		3/1/54		126	
12/17/53		130		3/2/54		126	
12/18/53		130		3/3/54		126	
12/21/53		130		3/4/54		126	
12/22/53		130		3/5/54		126	
12/23/53		129		3/6/54		124	
12/24/53		129		3/7/54		124	
12/25/53		130		3/8/54		124	
12/26/53		130		3/9/54		124	
12/27/53		129		3/10/54		123	
12/28/53		129		3/12/54		123	
12/29/53		128		3/14/54		124	
12/30/53		128		3/15/54		123	
12/31/53		128		3/16/54		123	
1/4/54		128		3/17/54		123	
1/5/54		128		3/18/54		123	
1/6/54		129		3/19/54		123	
1/7/54		129		3/22/54		123	
1/8/54		129		3/24/54		123	
1/11/54		129		4/1/54		122	
1/12/54		128		4/5/54		122	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-108							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
4/6/54		122		8/4/54		116	
4/7/54		122		8/9/54		116	
4/8/54		122		8/11/54		116	
4/9/54		122		8/16/54		116	
4/11/54		122		8/18/54		116	
4/12/54		122		8/23/54		116	
4/14/54		122		8/26/54		116	
4/15/54		122		8/28/54		117	
4/16/54		122		8/30/54		116	
4/17/54		120		8/31/54		117	
4/18/54		120		9/1/54		116	
4/19/54		120		9/2/54		116	
4/21/54		122		9/6/54		116	
4/23/54		122		9/8/54		116	
4/24/54		120		9/20/54		117	
4/25/54		120		9/21/54		116	
4/26/54		122		9/27/54		117	
4/27/54		122		9/30/54		115	
4/28/54		120		10/4/54		115	
4/29/54		120		10/5/54		116	
4/30/54		120		10/11/54		116	
5/1/54		120		10/12/54		116	
5/3/54		120		10/18/54		116	
5/4/54		120		10/20/54		116	
5/5/54		120		10/25/54		116	
5/8/54		120		10/27/54		115	
5/9/54		120		11/1/54		115	
5/10/54		120		11/3/54		115	
5/12/54		119		11/8/54		115	
5/15/54		120		11/10/54		115	
5/16/54		120		11/15/54		115	
5/24/54		120		11/17/54		116	
5/26/54		119		11/22/54		116	
5/31/54		119		11/23/54		114	
6/1/54		119		11/24/54		114	
6/2/54		119		11/26/54		115	
6/3/54		119		11/29/54		114	
6/7/54		119		11/30/54		114	
6/8/54		119		12/1/54		117	
6/9/54		118		12/2/54		112	
6/14/54		118		12/3/54		114	
6/16/54		118		12/4/54		114	
6/18/54		118		12/5/54		114	
6/21/54		118		12/6/54		112	
6/23/54		118		12/7/54		112	
6/26/54		118		12/8/54		114	
6/28/54		118		12/9/54		114	
6/30/54		118		12/10/54		113	
7/5/54		118		12/12/54		114	
7/7/54		118		12/13/54		114	
7/11/54		118		12/14/54		114	
7/12/54		118		12/15/54		117	
7/14/54		118		12/16/54		117	
7/19/54		118		12/17/54		117	
7/23/54		118		12/20/54		117	
7/26/54		118		12/21/54		117	
7/28/54		117		12/22/54		115	
8/2/54		117		12/23/54		115	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data								
Tank 241-S-108								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
12/24/54		114			12/29/54		114	
12/25/54		114			12/31/54		114	
12/26/54		114			1/1/55		116	
12/27/54		115			1/2/55		117	
12/28/54		115						

Data obtained from HW-83906.

Historical Vapor Space Temperature Data								
Tank 241-S-109								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
8/1/56		82			10/5/56		80	
8/5/56		81			10/11/56		80	
8/8/56		81			10/15/56		81	
8/12/56		81			10/19/56		81	
8/14/56		112			10/21/56		81	
8/15/56		81			10/24/56		81	
8/19/56		81			11/11/56		80	
8/21/56		80			11/20/56		81	
8/23/56		111			11/26/56		80	
8/24/56		81			12/5/56		81	
8/27/56		81			12/11/56		81	
8/30/56		82			12/20/56		81	
8/31/56		82			12/27/56		81	
9/1/56		82			12/30/56		81	
9/4/56		81			1/30/57		80	
9/6/56		81			3/1/57		88	
9/9/56		81			3/30/57		80	
9/12/56		82			5/2/57		84	
9/12/56		82			6/1/57		78	
9/12/56		82			7/9/57		79	
9/16/56		81			8/13/57		80	
9/18/56		81			9/24/57		81	
9/19/56		82			10/29/57		79	
9/20/56		84			5/2/58		77	
9/21/56		85			5/30/58		77	
9/22/56		86			7/1/58		79	
9/23/56		88			7/28/58		76	
9/23/56		89			9/2/58		74	
9/24/56		90			10/1/58		75	
9/25/56		91			11/3/58		74	
9/27/56		91			12/2/58		73	
9/28/56		91			12/26/58		75	
9/28/56		89			1/3/59		74	
9/29/56		88			2/1/59		74	
9/29/56		87			2/24/59		75	
9/30/56		86			3/3/59		73	
10/1/56		85			4/3/59		72	
10/1/56		84			4/30/59		74	
10/1/56		84			12/2/59		74	
10/2/56		83			12/15/59		73	
10/3/56		81			12/30/59		73	
10/3/56		81						

Data obtained from RHO-CD-1172.

Historical High or Only Waste Temperature Data								
Tank 241-S-109								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
6/22/53		110			8/22/53		110	
6/23/53		110			8/23/53		110	
6/24/53		110			8/24/53		110	
6/25/53		110			8/25/53		110	
6/26/53		110			8/26/53		110	
6/29/53		100			8/27/53		110	
7/1/53		110			8/28/53		110	
7/2/53		110			8/29/53		110	
7/3/53		110			8/30/53		110	
7/4/53		110			8/31/53		110	
7/5/53		110			9/1/53		110	
7/6/53		110			9/2/53		110	
7/7/53		110			9/3/53		110	
7/8/53		110			9/4/53		110	
7/9/53		110			9/5/53		110	
7/10/53		110			9/6/53		110	
7/11/53		110			9/7/53		110	
7/13/53		110			9/8/53		110	
7/15/53		110			9/9/53		110	
7/16/53		110			9/10/53		110	
7/17/53		110			9/11/53		110	
7/20/53		110			9/13/53		110	
7/21/53		110			9/14/53		110	
7/22/53		111			9/15/53		110	
7/23/53		111			9/16/53		109	
7/24/53		110			9/17/53		109	
7/25/53		110			9/18/53		109	
7/26/53		110			9/19/53		110	
7/27/53		112			9/20/53		110	
7/28/53		112			9/21/53		110	
7/29/53		112			9/22/53		110	
7/30/53		112			9/23/53		109	
7/31/53		112			9/24/53		109	
8/1/53		112			9/25/53		107	
8/2/53		112			9/28/53		109	
8/3/53		112			9/30/53		109	
8/4/53		112			10/1/53		104	
8/5/53		112			10/2/53		110	
8/6/53		112			10/3/53		110	
8/7/53		112			10/4/53		110	
8/8/53		112			10/5/53		110	
8/9/53		110			10/6/53		110	
8/10/53		112			10/7/53		108	
8/11/53		112			10/8/53		108	
8/12/53		112			10/9/53		108	
8/13/53		112			10/10/53		107	
8/14/53		112			10/11/53		106	
8/15/53		115			10/12/53		106	
8/16/53		110			10/14/53		108	
8/17/53		112			10/15/53		108	
8/18/53		113			10/16/53		108	
8/19/53		110			10/17/53		108	
8/20/53		110			10/18/53		108	
8/21/53		110			10/19/53		108	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-109							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
10/20/53		108		12/27/53		102	
10/21/53		108		12/28/53		107	
10/22/53		108		12/29/53		102	
10/23/53		108		12/30/53		102	
10/25/53		108		12/31/53		102	
10/26/53		106		1/4/54		102	
10/27/53		106		1/5/54		102	
10/28/53		106		1/6/54		102	
10/29/53		106		1/7/54		102	
10/30/53		106		1/8/54		102	
10/31/53		106		1/11/54		102	
11/2/53		106		1/12/54		100	
11/3/53		106		1/13/54		100	
11/4/53		106		1/14/54		100	
11/5/53		106		1/15/54		100	
11/6/53		106		1/18/54		100	
11/10/53		106		1/19/54		100	
11/11/53		106		1/20/54		100	
11/12/53		106		1/21/54		100	
11/13/53		106		1/22/54		100	
11/15/53		106		1/23/54		100	
11/16/53		106		1/24/54		100	
11/17/53		106		1/25/54		100	
11/18/53		106		1/26/54		100	
11/19/53		106		1/27/54		100	
11/20/53		106		1/28/54		100	
11/22/53		106		1/29/54		100	
11/23/53		106		2/1/54		100	
11/24/53		106		2/2/54		100	
11/25/53		106		2/3/54		100	
11/27/53		106		2/4/54		100	
11/29/53		106		2/5/54		100	
11/30/53		106		2/6/54		100	
12/1/53		106		2/7/54		100	
12/2/53		106		2/8/54		100	
12/3/53		106		2/9/54		100	
12/4/53		106		2/10/54		100	
12/5/53		104		2/11/54		100	
12/6/53		104		2/12/54		100	
12/7/53		104		2/13/54		100	
12/8/53		104		2/15/54		100	
12/10/53		103		2/16/54		100	
12/11/53		103		2/17/54		100	
12/14/53		103		2/18/54		100	
12/15/53		103		2/19/54		100	
12/16/53		103		2/22/54		110	
12/17/53		103		2/23/54		100	
12/18/53		103		2/25/54		100	
12/21/53		112		2/26/54		100	
12/22/53		103		3/1/54		100	
12/23/53		103		3/2/54		100	
12/24/53		103		3/3/54		100	
12/25/53		102		3/4/54		100	
12/26/53		105		3/5/54		100	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-109							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
3/6/54		100		6/8/54		94	
3/7/54		99		6/9/54		93	
3/8/54		100		6/14/54		93	
3/9/54		100		6/16/54		93	
3/10/54		98		6/18/54		93	
3/12/54		98		6/21/54		93	
3/14/54		98		6/23/54		94	
3/15/54		98		6/26/54		94	
3/16/54		98		6/28/54		94	
3/17/54		98		6/30/54		94	
3/18/54		98		7/5/54		94	
3/19/54		98		7/7/54		94	
3/22/54		98		7/11/54		99	
3/24/54		97		7/12/54		94	
4/1/54		97		7/14/54		94	
4/5/54		97		7/19/54		94	
4/6/54		97		7/23/54		94	
4/7/54		97		7/26/54		94	
4/8/54		97		7/28/54		93	
4/9/54		97		8/2/54		93	
4/11/54		97		8/4/54		93	
4/12/54		97		8/9/54		93	
4/14/54		97		8/11/54		93	
4/15/54		97		8/16/54		93	
4/16/54		97		8/18/54		93	
4/17/54		95		8/23/54		93	
4/18/54		95		8/26/54		93	
4/19/54		95		8/28/54		92	
4/21/54		97		8/30/54		93	
4/23/54		97		8/31/54		92	
4/24/54		94		9/1/54		93	
4/25/54		96		9/2/54		93	
4/26/54		97		9/6/54		93	
4/27/54		97		9/8/54		94	
4/28/54		95		9/20/54		92	
4/29/54		95		9/21/54		92	
4/30/54		95		9/27/54		92	
5/1/54		96		9/30/54		91	
5/3/54		95		10/4/54		91	
5/4/54		95		10/5/54		92	
5/5/54		87		10/11/54		92	
5/8/54		95		10/12/54		92	
5/9/54		95		10/18/54		92	
5/10/54		87		10/20/54		92	
5/12/54		95		10/25/54		92	
5/15/54		90		10/27/54		92	
5/16/54		95		11/1/54		92	
5/24/54		93		11/3/54		92	
5/26/54		94		11/8/54		92	
5/31/54		94		11/10/54		92	
6/1/54		94		11/15/54		92	
6/2/54		94		11/17/54		92	
6/3/54		94		11/22/54		92	
6/7/54		94		11/23/54		90	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-109							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
11/24/54		90		12/15/54		90	
11/26/54		90		12/16/54		90	
11/29/54		90		12/17/54		90	
11/30/54		90		12/20/54		90	
12/1/54		90		12/21/54		90	
12/2/54		90		12/22/54		90	
12/3/54		90		12/23/54		90	
12/4/54		90		12/24/54		88	
12/5/54		90		12/25/54		88	
12/6/54		90		12/26/54		88	
12/7/54		90		12/27/54		90	
12/8/54		90		12/28/54		90	
12/9/54		92		12/29/54		90	
12/10/54		92		12/30/54		90	
12/12/54		90		12/31/54		90	
12/13/54		90		1/1/55		89	
12/14/54		90		1/2/55		90	

Data obtained from HW-83906.

Historical Vapor Space Temperature Data								
Tank 241-S-110								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
7/30/56		144			10/22/56		145	
8/2/56		144			10/24/56		146	
8/5/56		145			10/27/56		146	
8/7/56		145			10/29/56		145	
8/9/56		145			10/30/56		144	
8/11/56		145			10/30/56		144	
8/13/56		145			10/31/56		143	
8/15/56		145			11/1/56		142	
8/17/56		144			11/2/56		142	
8/19/56		143			11/3/56		142	
8/21/56		143			11/4/56		141	
8/22/56		143			11/5/56		140	
8/24/56		143			11/7/56		140	
8/26/56		144			11/9/56		140	
8/28/56		144			11/11/56		141	
8/31/56		144			11/14/56		140	
9/2/56		145			11/14/56		140	
9/5/56		144			11/17/56		140	
9/7/56		145			11/19/56		140	
9/8/56		145			11/21/56		141	
9/10/56		144			11/23/56		140	
9/12/56		144			11/26/56		140	
9/13/56		143			11/28/56		140	
9/14/56		143			11/30/56		140	
9/15/56		142			12/3/56		140	
9/16/56		141			12/4/56		140	
9/18/56		140			12/7/56		141	
9/20/56		140			12/9/56		140	
9/23/56		140			12/11/56		140	
9/24/56		141			12/14/56		140	
9/26/56		141			12/16/56		140	
9/27/56		142			12/18/56		140	
9/27/56		142			12/20/56		140	
9/29/56		143			12/23/56		140	
9/30/56		144			12/25/56		140	
10/1/56		145			12/26/56		140	
10/2/56		145			12/28/56		140	
10/3/56		145			2/2/57		140	
10/5/56		144			2/22/57		137	
10/5/56		144			3/1/57		135	
10/7/56		143			3/6/57		135	
10/8/56		143			3/30/57		135	
10/9/56		143			4/5/57		133	
10/11/56		142			5/1/57		119	
10/13/56		142			5/30/57		129	
10/15/56		141			6/4/57		130	
10/15/56		141			6/14/57		131	
10/16/56		141			6/29/57		132	
10/17/56		141			7/4/57		133	
10/17/56		142			7/11/57		132	
10/17/56		143			7/22/57		130	
10/19/56		143			8/10/57		128	
10/20/56		144			8/22/57		127	
10/22/56		144			9/8/57		126	

Data obtained from RHO-CD-1172.

Historical Vapor Space Temperature Data								
Tank 241-S-110								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
9/21/57		125			11/19/58		118	
10/1/57		125			12/10/58		117	
10/21/57		128			1/4/59		116	
10/30/57		130			2/1/59		131	
11/5/57		129			3/4/59		113	
11/19/57		129			3/20/59		112	
12/8/57		127			3/28/59		112	
12/28/57		126			5/1/59		109	
9/2/58		117			12/2/59		107	
10/15/58		115			12/15/59		108	
10/28/58		117			12/29/59		110	

Data obtained from RHO-CD-1172.

Historical High or Only Waste Temperature Data							
Tank 241-S-110							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
1/14/52		42		8/2/53		225	
1/17/52		71		8/3/53		224	
1/28/52		95		8/4/53		224	
2/6/52		101		8/5/53		224	
2/23/52		102		8/6/53		224	
3/14/52		111		8/7/53		224	
4/2/52		142		8/8/53		222	
4/29/52		170		8/9/53		222	
6/9/52		191		8/10/53		224	
7/18/52		215		8/11/53		224	
8/6/52		220		8/12/53		224	
9/2/52		220		8/13/53		224	
9/27/52		238		8/14/53		224	
10/12/52		249		8/15/53		220	
11/7/52		252		8/16/53		221	
12/3/52		261		8/17/53		224	
1/5/53		252		8/18/53		224	
2/26/53		239		8/19/53		222	
4/9/53		233		8/20/53		222	
5/29/53		228		8/21/53		222	
6/22/53		228		8/22/53		221	
6/23/53		228		8/23/53		222	
6/24/53		228		8/24/53		222	
6/25/53		228		8/25/53		224	
6/26/53		228		8/26/53		223	
6/29/53		224		8/27/53		223	
7/1/53		224		8/28/53		223	
7/2/53		224		8/29/53		223	
7/3/53		224		8/30/53		225	
7/4/53		224		8/31/53		223	
7/5/53		224		9/1/53		223	
7/6/53		229		9/2/53		223	
7/7/53		234		9/3/53		222	
7/8/53		224		9/4/53		223	
7/9/53		234		9/5/53		222	
7/10/53		224		9/6/53		222	
7/11/53		226		9/7/53		223	
7/13/53		226		9/8/53		224	
7/15/53		226		9/9/53		222	
7/16/53		226		9/10/53		222	
7/17/53		226		9/11/53		222	
7/20/53		226		9/13/53		222	
7/21/53		224		9/14/53		222	
7/22/53		222		9/15/53		222	
7/23/53		220		9/16/53		221	
7/24/53		220		9/17/53		222	
7/25/53		222		9/18/53		222	
7/26/53		222		9/19/53		222	
7/27/53		225		9/20/53		222	
7/28/53		225		9/21/53		222	
7/29/53		225		9/22/53		222	
7/30/53		225		9/23/53		222	
7/31/53		225		9/24/53		222	
8/1/53		225		9/25/53		222	

Data obtained from RHO-CD-1172 and HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-110							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
9/28/53		222		12/1/53		225	
9/29/53		222		12/2/53		220	
9/30/53		224		12/3/53		220	
10/1/53		224		12/4/53		220	
10/2/53		224		12/5/53		220	
10/3/53		224		12/6/53		220	
10/4/53		224		12/7/53		220	
10/5/53		224		12/8/53		220	
10/6/53		224		12/10/53		220	
10/7/53		222		12/14/53		220	
10/8/53		222		12/15/53		220	
10/9/53		222		12/16/53		220	
10/10/53		224		12/17/53		220	
10/11/53		222		12/18/53		220	
10/12/53		222		12/21/53		220	
10/14/53		222		12/22/53		220	
10/15/53		222		12/23/53		220	
10/16/53		222		12/24/53		220	
10/17/53		222		12/25/53		220	
10/20/53		222		12/26/53		220	
10/21/53		222		12/27/53		220	
10/22/53		222		12/28/53		220	
10/23/53		222		12/29/53		220	
10/24/53		222		12/30/53		220	
10/25/53		222		12/31/53		220	
10/26/53		222		1/4/54		220	
10/27/53		222		1/5/54		220	
10/28/53		222		1/6/54		220	
10/29/53		222		1/7/54		220	
10/30/53		222		1/8/54		220	
10/31/53		225		1/11/54		220	
11/2/53		225		1/12/54		220	
11/3/53		225		1/13/54		220	
11/4/53		225		1/14/54		220	
11/5/53		225		1/15/54		220	
11/6/53		225		1/18/54		220	
11/10/53		225		1/19/54		220	
11/11/53		225		1/20/54		216	
11/12/53		225		1/21/54		216	
11/13/53		225		1/22/54		216	
11/15/53		225		1/23/54		216	
11/16/53		225		1/24/54		219	
11/17/53		225		1/25/54		216	
11/18/53		225		1/26/54		216	
11/19/53		225		1/27/54		218	
11/20/53		225		1/28/54		218	
11/22/53		220		1/29/54		218	
11/23/53		225		2/1/54		218	
11/24/53		225		2/2/54		218	
11/25/53		225		2/3/54		220	
11/26/53		220		2/4/54		220	
11/27/53		221		2/5/54		220	
11/29/53		220		2/6/54		220	
11/30/53		225		2/7/54		220	

Data obtained from RHO-CD-1172 and HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-110							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
2/8/54		220		4/28/54		210	
2/9/54		220		4/29/54		210	
2/10/54		220		4/30/54		210	
2/11/54		220		5/1/54		210	
2/12/54		220		5/3/54		210	
2/13/54		220		5/4/54		210	
2/15/54		220		5/5/54		209	
2/16/54		220		5/8/54		210	
2/17/54		220		5/9/54		210	
2/18/54		221		5/10/54		209	
2/19/54		221		5/12/54		207	
2/22/54		221		5/15/54		210	
2/23/54		221		5/16/54		210	
2/25/54		221		5/24/54		209	
2/26/54		220		5/26/54		206	
3/1/54		220		5/31/54		206	
3/2/54		220		6/1/54		206	
3/3/54		216		6/2/54		207	
3/4/54		216		6/3/54		207	
3/5/54		216		6/7/54		207	
3/6/54		220		6/8/54		207	
3/7/54		218		6/9/54		209	
3/8/54		217		6/14/54		209	
3/9/54		217		6/16/54		209	
3/10/54		219		6/18/54		209	
3/12/54		219		6/21/54		209	
3/14/54		216		6/22/54		206	
3/15/54		219		6/23/54		206	
3/16/54		219		6/26/54		206	
3/17/54		216		6/28/54		206	
3/18/54		217		6/30/54		206	
3/19/54		217		7/5/54		206	
3/22/54		216		7/7/54		204	
3/24/54		216		7/11/54		205	
4/1/54		212		7/12/54		204	
4/5/54		212		7/14/54		204	
4/6/54		212		7/19/54		204	
4/7/54		212		7/23/54		203	
4/8/54		212		7/26/54		203	
4/9/54		212		7/28/54		201	
4/11/54		212		8/2/54		201	
4/12/54		212		8/4/54		201	
4/14/54		212		8/9/54		201	
4/15/54		212		8/11/54		200	
4/16/54		212		8/16/54		200	
4/17/54		210		8/18/54		200	
4/18/54		210		8/23/54		200	
4/19/54		210		8/26/54		200	
4/21/54		210		8/28/54		200	
4/23/54		210		8/30/54		200	
4/24/54		210		8/31/54		201	
4/25/54		212		9/1/54		198	
4/26/54		210		9/2/54		200	
4/27/54		210		9/6/54		198	

Data obtained from RHO-CD-1172 and HW-83906.

Historical High or Only Waste Temperature Data								
Tank 241-S-110								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
9/8/54		198			11/8/54		194	
9/20/54		198			11/10/54		193	
9/21/54		198			11/15/54		194	
9/27/54		198			11/17/54		193	
9/30/54		197			11/22/54		193	
10/4/54		197			11/24/54		192	
10/5/54		196			12/1/54		192	
10/11/54		196			12/8/54		190	
10/12/54		196			12/13/54		190	
10/18/54		196			12/15/54		190	
10/20/54		196			12/20/54		190	
10/25/54		196			12/21/54		190	
10/27/54		194			12/22/54			90, BROKE
11/1/54		194			12/27/54		190	
11/3/54		194						

Data obtained from RHO-CD-1172 and HW-83906.

Historical Vapor Space Temperature Data							
Tank 241-S-111							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
7/31/56		96		10/29/56		94	
8/4/56		96		10/30/56		95	
8/6/56		96		11/5/56		95	
8/9/56		96		11/15/56		95	
8/16/56		95		11/24/56		94	
8/20/56		95		12/2/56		94	
8/26/56		94		12/4/56		95	
8/29/56		94		12/12/56		96	
8/31/56		93		12/20/56		95	
9/2/56		90		12/30/56		94	
9/3/56		88		1/30/57		95	
9/4/56		87		2/12/57		94	
9/5/56		86		2/25/57		94	
9/6/56		86		3/11/57		93	
9/7/56		88		3/20/57		92	
9/8/56		89		3/29/57		93	
9/10/56		93		4/27/57		91	
9/11/56		93		5/26/57		90	
9/12/56		95		6/19/57		91	
9/19/56		95		7/27/57		91	
9/23/56		95		8/9/57		90	
9/27/56		95		9/20/57		91	
9/29/56		99		10/29/57		91	
9/30/56		100		5/1/58		87	
10/2/56		102		5/28/58		86	
10/3/56		104		6/28/58		93	
10/4/56		105		7/28/58		89	
10/5/56		103		9/2/58		86	
10/5/56		101		9/14/58		86	
10/7/56		99		9/26/58		85	
10/7/56		98		10/5/58		85	
10/8/56		97		10/15/58		86	
10/9/56		97		10/23/58		86	
10/10/56		96		11/5/58		87	
10/11/56		96		11/16/58		87	
10/13/56		96		11/27/58		86	
10/14/56		97		12/14/58		86	
10/16/56		96		12/30/58		86	
10/17/56		96		1/13/59		87	
10/18/56		95		1/31/59		87	
10/19/56		94		2/16/59		87	
10/20/56		92		3/1/59		87	
10/21/56		91		3/11/59		86	
10/23/56		88		3/25/59		86	
10/25/56		87		4/7/59		86	
10/27/56		89		4/18/59		85	
10/28/56		91		4/27/59		84	
10/29/56		93		12/31/59		85	

Data obtained from RHO-CD-1172.

Historical High or Only Waste Temperature Data							
Tank 241-S-111							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
6/22/53		115		8/22/53		114	
6/23/53		115		8/23/53		114	
6/24/53		115		8/24/53		114	
6/25/53		115		8/25/53		114	
6/26/53		115		8/26/53		114	
6/29/53		115		8/27/53		114	
7/1/53		115		8/28/53		114	
7/2/53		115		8/29/53		114	
7/3/53		115		8/30/53		114	
7/4/53		115		8/31/53		114	
7/5/53		115		9/1/53		114	
7/6/53		114		9/2/53		114	
7/7/53		114		9/3/53		114	
7/8/53		114		9/4/53		114	
7/9/53		114		9/5/53		115	
7/10/53		114		9/6/53		114	
7/11/53		114		9/7/53		116	
7/13/53		114		9/8/53		116	
7/15/53		114		9/9/53		114	
7/16/53		114		9/10/53		114	
7/17/53		114		9/11/53		114	
7/20/53		114		9/13/53		114	
7/21/53		114		9/14/53		114	
7/22/53		114		9/15/53		114	
7/23/53		113		9/16/53		115	
7/24/53		113		9/17/53		115	
7/25/53		113		9/18/53		115	
7/26/53		112		9/19/53		115	
7/27/53		112		9/20/53		115	
7/28/53		112		9/21/53		115	
7/29/53		114		9/22/53		115	
7/30/53		114		9/23/53		112	
7/31/53		114		9/24/53		115	
8/1/53		114		9/25/53		115	
8/2/53		114		9/28/53		115	
8/3/53		112		9/29/53		115	
8/4/53		112		9/30/53		115	
8/5/53		112		10/1/53		115	
8/6/53		112		10/2/53		115	
8/7/53		112		10/3/53		115	
8/8/53		114		10/4/53		115	
8/9/53		116		10/5/53		115	
8/10/53		112		10/6/53		115	
8/11/53		112		10/7/53		115	
8/12/53		112		10/8/53		115	
8/13/53		112		10/9/53		115	
8/14/53		112		10/10/53		116	
8/15/53		112		10/11/53		115	
8/16/53		118		10/12/53		115	
8/17/53		112		10/14/53		116	
8/18/53		112		10/15/53		116	
8/19/53		114		10/16/53		116	
8/20/53		114		10/17/53		118	
8/21/53		114		10/18/53		118	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-111							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
10/20/53		118		12/26/53		118	
10/21/53		118		12/27/53		118	
10/22/53		116		12/28/53		118	
10/23/53		117		12/29/53		118	
10/24/53		117		12/30/53		117	
10/25/53		117		12/31/53		117	
10/26/53		116		1/4/54		117	
10/27/53		116		1/5/54		117	
10/28/53		116		1/6/54		117	
10/29/53		116		1/7/54		117	
10/30/53		116		1/8/54		117	
10/31/53		117		1/11/54		117	
11/1/53		116		1/12/54		119	
11/2/53		116		1/13/54		118	
11/3/53		116		1/14/54		118	
11/4/53		116		1/15/54		118	
11/5/53		116		1/18/54		118	
11/6/53		116		1/19/54		118	
11/10/53		116		1/20/54		118	
11/11/53		116		1/21/54		118	
11/12/53		116		1/22/54		118	
11/13/53		116		1/23/54		118	
11/15/53		116		1/24/54		118	
11/16/53		116		1/25/54		118	
11/17/53		116		1/26/54		118	
11/18/53		116		1/27/54		118	
11/19/53		116		1/28/54		118	
11/20/53		116		1/29/54		118	
11/22/53		119		2/1/54		118	
11/23/53		119		2/2/54		118	
11/24/53		119		2/3/54		117	
11/25/53		119		2/4/54		117	
11/27/53		119		2/5/54		117	
11/29/53		118		2/6/54		118	
11/30/53		119		2/7/54		118	
12/1/53		119		2/8/54		118	
12/2/53		116		2/9/54		118	
12/3/53		116		2/10/54		118	
12/4/53		110		2/11/54		118	
12/5/53		117		2/12/54		118	
12/6/53		118		2/13/54		120	
12/7/53		118		2/15/54		118	
12/8/53		118		2/16/54		118	
12/10/53		118		2/17/54		118	
12/11/53		118		2/18/54		118	
12/14/53		118		2/19/54		118	
12/15/53		118		2/22/54		118	
12/16/53		118		2/23/54		118	
12/17/53		118		2/25/54		118	
12/18/53		118		2/26/54		118	
12/21/53		118		3/1/54		118	
12/22/53		118		3/2/54		118	
12/23/53		118		3/3/54		118	
12/25/53		117		3/4/54		118	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-111							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
3/5/54		118		6/7/54		112	
3/6/54		118		6/8/54		112	
3/7/54		118		6/9/54		112	
3/8/54		118		6/14/54		112	
3/9/54		118		6/16/54		112	
3/10/54		116		6/18/54		112	
3/12/54		116		6/21/54		112	
3/14/54		117		6/23/54		112	
3/15/54		116		6/26/54		112	
3/16/54		116		6/28/54		112	
3/17/54		116		6/30/54		112	
3/18/54		116		7/5/54		112	
3/19/54		116		7/7/54		112	
3/22/54		116		7/11/54		112	
3/24/54		116		7/12/54		112	
4/1/54		115		7/14/54		112	
4/5/54		115		7/19/54		112	
4/6/54		115		7/23/54		112	
4/7/54		115		7/26/54		112	
4/8/54		115		7/28/54		111	
4/9/54		115		8/2/54		111	
4/11/54		115		8/4/54		110	
4/12/54		115		8/9/54		110	
4/14/54		115		8/11/54		110	
4/15/54		115		8/16/54		110	
4/16/54		115		8/18/54		111	
4/17/54		115		8/23/54		111	
4/18/54		115		8/26/54		111	
4/19/54		115		8/28/54		111	
4/21/54		115		8/30/54		111	
4/23/54		115		8/31/54		112	
4/24/54		114		9/1/54		112	
4/25/54		114		9/2/54		112	
4/26/54		115		9/6/54		112	
4/27/54		115		9/8/54		112	
4/28/54		114		9/20/54		111	
4/29/54		114		9/21/54		111	
4/30/54		114		9/27/54		111	
5/1/54		114		9/30/54		109	
5/3/54		114		10/4/54		109	
5/4/54		114		10/5/54		110	
5/5/54		114		10/11/54		110	
5/8/54		117		10/12/54		109	
5/9/54		114		10/18/54		109	
5/10/54		114		10/20/54		109	
5/12/54		112		10/25/54		109	
5/15/54		114		10/27/54		109	
5/16/54		116		11/1/54		109	
5/24/54		112		11/3/54		109	
5/26/54		112		11/8/54		109	
5/31/54		112		11/10/54		109	
6/1/54		112		11/15/54		109	
6/2/54		112		11/17/54		108	
6/3/54		112		11/22/54		108	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data								
Tank 241-S-111								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
11/24/54		108			12/22/54		107	
12/1/54		107			12/27/54		107	
12/8/54		107			12/29/54		106	
12/20/54		107						

Data obtained from HW-83906.

Historical Vapor Space Temperature Data							
Tank 241-S-112							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
8/1/56		90		10/11/56		89	
8/3/56		90		10/12/56		89	
8/5/56		90		10/14/56		90	
8/8/56		90		10/16/56		90	
8/13/56		90		10/19/56		90	
8/16/56		90		10/21/56		90	
8/19/56		90		10/25/56		90	
8/23/56		90		10/26/56		90	
8/26/56		90		10/28/56		90	
8/29/56		90		10/30/56		90	
9/1/56		90		10/31/56		91	
9/5/56		90		11/1/56		92	
9/7/56		91		11/3/56		93	
9/8/56		92		11/4/56		94	
9/9/56		93		11/5/56		94	
9/10/56		94		11/6/56		95	
9/11/56		95		11/7/56		95	
9/13/56		93		11/7/56		94	
9/14/56		92		11/8/56		93	
9/15/56		92		11/9/56		93	
9/16/56		91		11/11/56		91	
9/17/56		91		11/12/56		91	
9/17/56		90		11/14/56		92	
9/20/56		90		11/16/56		93	
9/23/56		90		11/18/56		94	
9/24/56		90		11/19/56		96	
9/26/56		90		11/22/56		96	
9/26/56		88		11/30/56		96	
9/28/56		87		12/2/56		95	
9/27/56		86		12/4/56		95	
9/28/56		85		12/6/56		94	
9/29/56		84		12/8/56		93	
9/29/56		83		12/10/56		92	
9/30/56		82		12/11/56		91	
10/1/56		81		12/13/56		90	
10/1/56		80		12/14/56		89	
10/1/56		80		12/15/56		88	
10/1/56		79		12/16/56		87	
10/2/56		79		12/17/56		87	
10/3/56		78		12/18/56		86	
10/3/56		77		12/21/56		87	
10/3/56		76		12/24/56		89	
10/5/56		78		12/25/56		90	
10/5/56		79		12/26/56		91	
10/5/56		80		12/28/56		92	
10/6/56		81		12/29/56		93	
10/7/56		82		12/29/56		95	
10/7/56		83		2/2/57		90	
10/7/56		84		2/12/57		89	
10/7/56		85		2/26/57		89	
10/8/56		85		3/14/57		88	
10/9/56		86		3/28/57		86	
10/10/56		87		4/13/57		86	
10/10/56		88		4/24/57		86	

Data obtained from RHO-CD-1172.

Historical Vapor Space Temperature Data							
Tank 241-S-112							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
5/6/57		88		6/23/58		85	
5/21/57		90		7/7/58		86	
6/2/57		91		7/17/58		88	
6/9/57		92		7/24/58		91	
6/17/57		90		7/30/58		92	
6/23/57		88		8/3/58		94	
6/29/57		88		8/30/58		85	
7/22/57		84		9/28/58		84	
8/5/57		82		10/21/58		85	
8/11/57		82		11/28/58		84	
8/19/57		83		12/19/58		84	
8/28/57		84		12/29/58		84	
9/6/57		84		1/26/59		85	
9/18/57		85		2/15/59		87	
9/30/57		86		3/7/59		89	
10/15/57		87		4/3/59		92	
10/31/57		89		4/30/59		90	
5/5/58		85		11/30/59		83	
5/29/58		85		12/2/59		84	
6/10/58		85		12/28/59		84	

Data obtained from RHO-CD-1172.

Historical High or Only Waste Temperature Data							
Tank 241-S-112							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
6/22/53		100		8/20/53		100	
6/23/53		100		8/21/53		100	
6/24/53		100		8/22/53		100	
6/25/53		100		8/23/53		100	
6/26/53		100		8/24/53		100	
6/29/53		100		8/25/53		101	
7/1/53		100		8/26/53		100	
7/2/53		100		8/28/53		100	
7/3/53		100		8/29/53		100	
7/4/53		100		8/30/53		100	
7/5/53		100		8/31/53		100	
7/6/53		100		9/1/53		100	
7/7/53		100		9/2/53		100	
7/8/53		100		9/3/53		100	
7/9/53		100		9/4/53		100	
7/10/53		100		9/5/53		102	
7/11/53		100		9/6/53		102	
7/13/53		100		9/7/53		102	
7/15/53		100		9/8/53		102	
7/16/53		100		9/9/53		100	
7/17/53		108		9/10/53		100	
7/18/53		100		9/11/53		100	
7/19/53		100		9/13/53		100	
7/20/53		100		9/14/53		100	
7/21/53		100		9/15/53		100	
7/22/53		100		9/16/53		100	
7/23/53		100		9/17/53		100	
7/24/53		100		9/18/53		100	
7/25/53		100		9/19/53		100	
7/26/53		110		9/20/53		100	
7/27/53		100		9/21/53		100	
7/28/53		100		9/22/53		100	
7/29/53		100		9/23/53		102	
7/30/53		100		9/24/53		102	
7/31/53		100		9/25/53		102	
8/1/53		100		9/26/53		102	
8/2/53		100		9/27/53		102	
8/3/53		100		9/28/53		102	
8/4/53		100		9/29/53		102	
8/5/53		100		9/30/53		102	
8/6/53		100		10/1/53		102	
8/7/53		100		10/2/53		102	
8/8/53		100		10/3/53		102	
8/9/53		100		10/4/53		102	
8/10/53		100		10/5/53		102	
8/11/53		100		10/6/53		102	
8/12/53		100		10/7/53		102	
8/13/53		100		10/8/53		102	
8/14/53		100		10/9/53		102	
8/15/53		100		10/10/53		101	
8/16/53		100		10/11/53		100	
8/17/53		100		10/12/53		100	
8/18/53		100		10/14/53		103	
8/19/53		100		10/15/53		103	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data							
Tank 241-S-112							
Date	Temp (C)	Temp (F)	Comments	Date	Temp (C)	Temp (F)	Comments
10/16/53		104		12/21/53		102	
10/17/53		104		12/22/53		102	
10/18/53		104		12/23/53		102	
10/19/53		104		12/24/53		102	
10/20/53		104		12/25/53		100	
10/21/53		104		12/26/53		103	
10/22/53		104		12/27/53		103	
10/23/53		104		12/28/53		103	
10/24/53		104		12/29/53		103	
10/25/53		100		12/30/53		101	
10/26/53		101		12/31/53		101	
10/27/53		101		1/1/54		101	
10/28/53		101		1/2/54		102	
10/29/53		101		1/3/54		102	
10/30/53		101		1/4/54		101	
10/31/53		105		1/5/54		101	
11/2/53		105		1/6/54		102	
11/3/53		105		1/7/54		102	
11/4/53		105		1/8/54		102	
11/5/53		105		1/11/54		100	
11/6/53		105		1/12/54		100	
11/10/53		106		1/13/54		100	
11/11/53		106		1/14/54		110	
11/12/53		106		1/15/54		110	
11/13/53		106		1/18/54		100	
11/15/53		102		1/19/54		100	
11/16/53		102		1/20/54		100	
11/17/53		102		1/21/54		100	
11/18/53		102		1/22/54		100	
11/19/53		102		1/23/54		100	
11/20/53		102		1/24/54		100	
11/22/53		100		1/25/54		100	
11/23/53		102		1/26/54		100	
11/24/53		102		1/27/54		100	
11/25/53		102		1/28/54		100	
11/27/53		101		1/29/54		101	
11/29/53		100		2/1/54		101	
11/30/53		100		2/2/54		101	
12/1/53		100		2/3/54		102	
12/2/53		100		2/4/54		102	
12/3/53		100		2/5/54		102	
12/4/53		100		2/6/54		101	
12/5/53		101		2/7/54		100	
12/6/53		100		2/8/54		100	
12/7/53		100		2/9/54		100	
12/8/53		100		2/10/54		100	
12/10/53		101		2/11/54		100	
12/11/53		101		2/12/54		100	
12/12/53		105		2/13/54		100	
12/14/53		105		2/15/54		100	
12/15/53		105		2/16/54		100	
12/16/53		102		2/17/54		100	
12/17/53		102		2/18/54		101	
12/18/53		102		2/19/54		101	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data								
Tank 241-S-112								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
2/22/54		101			5/24/54		97	
2/23/54		101			5/26/54		98	
2/25/54		101			5/31/54		98	
2/26/54		101			6/1/54		98	
3/1/54		101			6/2/54		97	
3/2/54		101			6/3/54		97	
3/3/54		100			6/7/54		97	
3/4/54		100			6/8/54		97	
3/5/54		100			6/9/54		99	
3/6/54		100			6/14/54		99	
3/7/54		100			6/16/54		98	
3/8/54		100			6/18/54		98	
3/9/54		100			6/21/54		98	
3/10/54		100			6/23/54		98	
3/12/54		100			6/26/54		98	
3/14/54		100			6/28/54		98	
3/15/54		100			6/30/54		98	
3/16/54		100			7/5/54		98	
3/17/54		100			7/7/54		98	
3/18/54		100			7/11/54		100	
3/19/54		100			7/12/54		98	
3/22/54		100			7/14/54		98	
3/24/54		100			7/19/54		98	
4/1/54		97			7/23/54		98	
4/5/54		99			7/26/54		98	
4/6/54		99			7/28/54		98	
4/7/54		99			8/2/54		98	
4/8/54		99			8/4/54		98	
4/9/54		99			8/9/54		98	
4/11/54		99			8/11/54		98	
4/12/54		99			8/16/54		98	
4/14/54		99			8/18/54		98	
4/15/54		99			8/23/54		98	
4/16/54		99			8/26/54		98	
4/18/54		100			8/28/54		98	
4/19/54		100			8/30/54		98	
4/21/54		99			8/31/54		98	
4/23/54		99			9/1/54		95	
4/24/54		97			9/2/54		97	
4/25/54		100			9/6/54		95	
4/26/54		99			9/8/54		96	
4/28/54		97			9/20/54		97	
4/29/54		97			9/21/54		97	
4/30/54		97			9/27/54		97	
5/1/54		97			9/30/54		98	
5/3/54		97			10/4/54		98	
5/4/54		97			10/5/54		98	
5/5/54		97			10/11/54		98	
5/8/54		100			10/12/54		98	
5/9/54		99			10/18/54		98	
5/10/54		97			10/20/54		98	
5/12/54		98			10/25/54		98	
5/15/54		98			10/27/54		98	
5/16/54		98			11/1/54		98	

Data obtained from HW-83906.

Historical High or Only Waste Temperature Data								
Tank 241-S-112								
Date	Temp (C)	Temp (F)	Comments		Date	Temp (C)	Temp (F)	Comments
11/3/54		98			12/8/54		98	
11/8/54		98			12/13/54		98	
11/10/54		96			12/15/54		98	
11/15/54		98			12/20/54		98	
11/17/54		98			12/22/54		94	
11/22/54		98			12/27/54		94	
11/24/54		98			12/29/54		98	
12/1/54		98						

Data obtained from HW-83906.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/26/73	1			124		
1	12/26/73	2			123		
1	12/26/73	3			117		
1	12/26/73	4			107		
1	12/26/73	5			89.5		
1	12/26/73	6			81		
1	12/26/73	7			78		
1	12/26/73	8			78		
1	12/26/73	9			78		
1	12/26/73	10			78		
1	12/26/73	11			78		
1	12/26/73	12			78		
1	12/26/73	13			78		
1	12/26/73	14			78		
1	12/27/73	1			126.5		
1	12/27/73	2			125.5		
1	12/27/73	3			116.5		
1	12/27/73	4			106.5		
1	12/27/73	5			74		
1	12/27/73	6			74		
1	12/27/73	7			73.3		
1	12/27/73	8			73.5		
1	12/27/73	9			73.5		
1	12/27/73	10			73.5		
1	12/27/73	11			73.8		
1	12/27/73	12			75.3		
1	12/27/73	13			76.5		
1	12/27/73	14			76.5		
1	12/28/73	1			125		
1	12/28/73	2			123		
1	12/28/73	3			118		
1	12/28/73	4			105.5		
1	12/28/73	5			68.5		
1	12/28/73	6			68		
1	12/28/73	7			68		
1	12/28/73	8			68		
1	12/28/73	9			68.5		
1	12/28/73	10			69		
1	12/28/73	11			69.5		
1	12/28/73	12			69.5		
1	1/11/74	1			122		
1	1/11/74	2			121		
1	1/11/74	3			113		
1	1/11/74	4			98		
1	1/11/74	5			78		
1	1/11/74	6			69		
1	1/11/74	7			69		
1	1/11/74	8			68		
1	1/11/74	9			68		
1	1/11/74	10			68		
1	1/11/74	11			68		
1	1/11/74	12			68		
1	4/25/74	1			127		
1	4/25/74	2			125		
1	4/25/74	3			117		
1	4/25/74	4			105		
1	4/25/74	5			89		
1	4/25/74	6			77		
1	4/25/74	7			71		
1	4/25/74	8			70		
1	4/25/74	9			70		
1	4/25/74	10			70		
1	4/25/74	11			70		
1	4/25/74	12			70		
1	4/26/74	1			127		
1	4/26/74	2			125		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/26/74	3			117		
1	4/26/74	4			105		
1	4/26/74	5			89		
1	4/26/74	6			78		
1	4/26/74	7			74		
1	4/26/74	8			73		
1	4/26/74	9			71		
1	4/26/74	10			71		
1	4/26/74	11			71		
1	4/26/74	12			71		
1	5/1/74	1			127		
1	5/1/74	2			124		
1	5/1/74	3			117		
1	5/1/74	4			105		
1	5/1/74	5			90		
1	5/1/74	6			76		
1	5/1/74	7			76		
1	5/1/74	8			76		
1	5/1/74	9			75		
1	5/1/74	10			74		
1	5/1/74	11			74		
1	5/1/74	12			74		
1	5/2/74	1			128		
1	5/2/74	2			125		
1	5/2/74	3			97		
1	5/2/74	4			100		
1	5/2/74	5			90		
1	5/2/74	6			79		
1	5/2/74	7			76		
1	5/2/74	8			74		
1	5/2/74	9			74		
1	5/2/74	10			73		
1	5/2/74	11			73		
1	5/2/74	12			73		
1	5/14/74	1			127		
1	5/14/74	2			125		
1	5/14/74	3			117		
1	5/14/74	4			107		
1	5/14/74	5			98		
1	5/14/74	6			102		
1	5/14/74	9			97		
1	5/16/74	1.			127		
1	5/16/74	2			125		
1	5/16/74	3			118		
1	5/16/74	4			108		
1	5/16/74	5			100		
1	5/16/74	6			100		
1	5/16/74	7			100		
1	5/16/74	8			100		
1	5/16/74	9			100		
1	5/16/74	10			95		
1	5/16/74	11			93		
1	5/16/74	12			93		
1	5/30/74	1			127		
1	5/30/74	2			125		
1	5/30/74	3			119		
1	5/30/74	4			111		
1	5/30/74	5			99		
1	5/30/74	6			90		
1	5/30/74	7			82		
1	5/30/74	8			82		
1	5/30/74	9			82		
1	5/30/74	10			82		
1	5/30/74	11			82		
1	5/30/74	12			82		
1	6/20/74	1			127		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/20/74	2			126		
1	6/20/74	3			120		
1	6/20/74	4			111		
1	6/20/74	5			96		
1	6/20/74	6			82		
1	6/20/74	7			80		
1	6/20/74	8			80		
1	6/20/74	9			81		
1	6/20/74	10			81		
1	6/20/74	11			81		
1	6/20/74	12			80		
1	7/12/74	1			128		
1	7/12/74	2			127		
1	7/12/74	3			121		
1	7/12/74	4			112		
1	7/12/74	5			100		
1	7/12/74	6			88		
1	7/12/74	7			83		
1	7/12/74	8			81		
1	7/12/74	9			80		
1	7/12/74	10			80		
1	7/12/74	11			78		
1	7/12/74	12			78		
1	11/26/74	1			133		
1	11/26/74	2			133		
1	11/26/74	3			128		
1	11/26/74	4			119		
1	11/26/74	5			105		
1	11/26/74	6			89		
1	11/26/74	7			80		
1	11/26/74	8			80		
1	11/26/74	9			80		
1	11/26/74	10			78		
1	11/26/74	11			78		
1	11/26/74	12			78		
1	11/27/74	1			133		
1	11/27/74	2			133		
1	11/27/74	3			128		
1	11/27/74	4			119		
1	11/27/74	5			105		
1	11/27/74	6			89		
1	11/27/74	7			80		
1	11/27/74	8			80		
1	11/27/74	9			80		
1	11/27/74	10			78		
1	11/27/74	11			78		
1	11/27/74	12			78		
1	12/2/74	1		56.67	134.006		raw data - assumed degree C
1	12/2/74	2		56.11	132.998		raw data - assumed degree C
1	12/2/74	3		53.33	127.994		raw data - assumed degree C
1	12/2/74	4		48.33	118.994		raw data - assumed degree C
1	12/2/74	5		41.11	105.998		raw data - assumed degree C
1	12/2/74	6		32.22	89.996		raw data - assumed degree C
1	12/2/74	7		27.78	82.004		raw data - assumed degree C
1	12/2/74	8		26.67	80.006		raw data - assumed degree C
1	12/2/74	9		25.56	78.008		raw data - assumed degree C
1	12/2/74	10		24.44	75.992		raw data - assumed degree C
1	12/2/74	11		24.44	75.992		raw data - assumed degree C
1	12/2/74	12		24.44	75.992		raw data - assumed degree C
1	11/3/75	1			154		
1	11/3/75	2			155		
1	11/3/75	3			152		
1	11/3/75	4			147		
1	11/3/75	5			138		
1	11/3/75	6			136		
1	11/3/75	7			136		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/3/75	8			136		
1	11/3/75	9			136		
1	11/3/75	10			135		
1	11/3/75	11			129		
1	11/3/75	12			110		
1	2/4/76	1			156		
1	2/4/76	2			158		
1	2/4/76	3			156		
1	2/4/76	4			150		
1	2/4/76	5			142		
1	2/4/76	6			132		
1	2/4/76	7			123		
1	2/4/76	8			123		
1	2/4/76	9			122		
1	2/4/76	10			121		
1	2/4/76	11			112		
1	2/4/76	12			91		
1	3/5/76	1			158		
1	3/5/76	2			158		
1	3/5/76	3			157		
1	3/5/76	4			152		
1	3/5/76	5			144		
1	3/5/76	6			132		
1	3/5/76	7			121		
1	3/5/76	8			121		
1	3/5/76	9			120		
1	3/5/76	10			120		
1	3/5/76	11			116		
1	3/5/76	12			93		
1	5/2/76	1			160		
1	5/2/76	2			163		
1	5/2/76	3					112 - suspect data (low)
1	5/2/76	4			156		
1	5/2/76	5			140		
1	5/2/76	6			128		
1	5/2/76	7			124		
1	5/2/76	8			123		
1	5/2/76	9			123		
1	5/2/76	10			123		
1	5/2/76	11			123		
1	5/2/76	12			98		
1	6/1/76	1			160		
1	6/1/76	2			162		
1	6/1/76	3			160		
1	6/1/76	4			158		
1	6/1/76	5			148		
1	6/1/76	6			130		
1	6/1/76	7			120		
1	6/1/76	8			120		
1	6/1/76	9			120		
1	6/1/76	10			120		
1	6/1/76	11			120		
1	6/1/76	12			100		
1	6/1/76	13			98		
1	6/1/76	14			96		
1	7/1/76	1			157		
1	7/1/76	2			158		
1	7/1/76	3			158		
1	7/1/76	4			153		
1	7/1/76	5			145		
1	7/1/76	6			130		
1	7/1/76	7			119		
1	7/1/76	8			119		
1	7/1/76	9			119		
1	7/1/76	10			119		
1	7/1/76	11			118		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/1/76	12			102		
1	8/3/76	1			164		
1	8/3/76	2			166		
1	8/3/76	3			164		
1	8/3/76	4			156		
1	8/3/76	5			142		
1	8/3/76	6			136		
1	8/3/76	7			124		
1	8/3/76	8			124		
1	8/3/76	9			124		
1	8/3/76	10			124		
1	8/3/76	11			124		
1	8/3/76	12			108		
1	9/2/76	1			165		
1	9/2/76	2			167		
1	9/2/76	3			165		
1	9/2/76	4			159		
1	9/2/76	5			150		
1	9/2/76	6			136		
1	9/2/76	7			124		
1	9/2/76	8			124		
1	9/2/76	9			124		
1	9/2/76	10			124		
1	9/2/76	11			124		
1	9/2/76	12			125		
1	10/3/76	1			167		
1	10/3/76	2			169		
1	10/3/76	3			167		
1	10/3/76	4			163		
1	10/3/76	5			153		
1	10/3/76	6			140		
1	10/3/76	7			127		
1	10/3/76	8			127		
1	10/3/76	9			126		
1	10/3/76	10			126		
1	10/3/76	11			126		
1	10/3/76	12			112		
1	11/1/76	1			170		
1	11/1/76	2			172		
1	11/1/76	3			170		
1	11/1/76	4			160		
1	11/1/76	5			146		
1	11/1/76	6			136		
1	11/1/76	7			130		
1	11/1/76	8			130		
1	11/1/76	9			130		
1	11/1/76	10			130		
1	11/1/76	11			130		
1	11/1/76	12			122		
1	12/4/76	1			168		
1	12/4/76	2			170		
1	12/4/76	3			169		
1	12/4/76	4			161		
1	12/4/76	5			153		
1	12/4/76	6			140		
1	12/4/76	7			130		
1	12/4/76	8			139		
1	12/4/76	9			139		
1	12/4/76	10			139		
1	12/4/76	11			139		
1	12/4/76	12			110		
1	1/1/77	1			169		
1	1/1/77	2			171		
1	1/1/77	3			170		
1	1/1/77	4			166		
1	1/1/77	5			156		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/1/77	6			143		
1	1/1/77	7			130		
1	1/1/77	8			130		
1	1/1/77	9			129		
1	1/1/77	10			129		
1	1/1/77	11			129		
1	1/1/77	12			109		
1	2/1/77	1			170		
1	2/1/77	2			172		
1	2/1/77	3			176		
1	2/1/77	4			162		
1	2/1/77	5			150		
1	2/1/77	6			140		
1	2/1/77	7			132		
1	2/1/77	8			130		
1	2/1/77	9			130		
1	2/1/77	10			130		
1	2/1/77	11			129		
1	2/1/77	12			129		
1	3/1/77	1			173		
1	3/1/77	2			174		
1	3/1/77	3			172		
1	3/1/77	4			164		
1	3/1/77	5			156		
1	3/1/77	6			143		
1	3/1/77	7			132		
1	3/1/77	8			132		
1	3/1/77	9			132		
1	3/1/77	10			132		
1	3/1/77	11			130		
1	3/1/77	12			102		
1	3/1/77	13			100		
1	3/1/77	14			100		
1	4/1/77	1			160		
1	4/1/77	2			164		
1	4/1/77	3			161		
1	4/1/77	4			157		
1	4/1/77	5			137		
1	4/1/77	6			136		
1	4/1/77	7			136		
1	4/1/77	8			136		
1	4/1/77	9			136		
1	4/1/77	10			136		
1	4/1/77	11			120		
1	4/1/77	12			100		
1	5/1/77	1			166		
1	5/1/77	2			168		
1	5/1/77	3			165		
1	5/1/77	4			160		
1	5/1/77	5			147		
1	5/1/77	6			134		
1	5/1/77	7			126		
1	5/1/77	8			126		
1	5/1/77	9			126		
1	5/1/77	10			126		
1	5/1/77	11			125		
1	5/1/77	12			100		
1	6/7/77	1			166		
1	6/7/77	2			169		
1	6/7/77	3			166		
1	6/7/77	4			161		
1	6/7/77	5			150		
1	6/7/77	6			138		
1	6/7/77	7			130		
1	6/7/77	8			129		
1	6/7/77	9			128		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/7/77	10			127		
1	6/7/77	11			116		
1	6/7/77	12			100		
1	7/11/77	1			160		
1	7/11/77	2			160		
1	7/11/77	3			160		
1	7/11/77	4			158		
1	7/11/77	5			150		
1	7/11/77	6			133		
1	7/11/77	7			130		
1	7/11/77	8			130		
1	7/11/77	9			130		
1	7/11/77	10			128		
1	7/11/77	11			125		
1	7/11/77	12			100		
1	7/11/77	13			100		
1	7/11/77	14			100		
1	8/5/77	1			161		
1	8/5/77	2			163		
1	8/5/77	3			162		
1	8/5/77	4			156		
1	8/5/77	5			148		
1	8/5/77	6			135		
1	8/5/77	7			130		
1	8/5/77	8			128		
1	8/5/77	9			127		
1	8/5/77	10			126		
1	8/5/77	11			115		
1	9/5/77	1			167		
1	9/5/77	2			168		
1	9/5/77	3			165		
1	9/5/77	4			164		
1	9/5/77	5			149		
1	9/5/77	6			140		
1	9/5/77	7			139		
1	9/5/77	8			138		
1	9/5/77	9			124		
1	9/5/77	10			109		
1	9/5/77	11			104		
1	9/5/77	12			104		
1	9/5/77	13			104		
1	9/5/77	14			104		
1	10/3/77	1			165		
1	10/3/77	2			167		
1	10/3/77	3			165		
1	10/3/77	4			160		
1	10/3/77	5			145		
1	10/3/77	6			140		
1	10/3/77	7			139		
1	10/3/77	8			139		
1	10/3/77	9			140		
1	10/3/77	10			132		
1	10/3/77	11			116		
1	10/3/77	12			102		
1	11/3/77	1			165		
1	11/3/77	2			166		
1	11/3/77	3			164		
1	11/3/77	4			154		
1	11/3/77	5			140		
1	11/3/77	6			140		
1	11/3/77	7			140		
1	11/3/77	8			140		
1	11/3/77	9			137		
1	11/3/77	10			128		
1	11/3/77	11			113		
1	11/3/77	12			100		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/3/77	13			96		
1	11/3/77	14			96		
1	12/4/77	1			176		
1	12/4/77	2			177		
1	12/4/77	3			173		
1	12/4/77	4			164		
1	12/4/77	5			152		
1	12/4/77	6			152		
1	12/4/77	7			152		
1	12/4/77	8			152		
1	12/4/77	9			148		
1	12/4/77	10			137		
1	12/4/77	11			121		
1	12/4/77	12			104		
1	12/4/77	13			103		
1	12/4/77	14			103		
1	1/8/78	1					219 - suspect data (high)
1	1/8/78	2					219 - suspect data (high)
1	1/8/78	3					216 - suspect data (high)
1	1/8/78	4					213 - suspect data (high)
1	1/8/78	5					207 - suspect data (high)
1	1/8/78	6					205 - suspect data (high)
1	1/8/78	7					175 - suspect data (high)
1	1/8/78	8					176 - suspect data (high)
1	1/8/78	9					175 - suspect data (high)
1	1/8/78	10					169 - suspect data (high)
1	1/8/78	11					161 - suspect data (high)
1	1/8/78	12					155 - suspect data (high)
1	1/8/78	13					155 - suspect data (high)
1	1/8/78	14					151 - suspect data (high)
1	1/11/78	1			168		
1	1/11/78	2			169		
1	1/11/78	3			166		
1	1/11/78	4			157		
1	1/11/78	5			146		
1	1/11/78	6			145		
1	1/11/78	7			145		
1	1/11/78	8			145		
1	1/11/78	9			141		
1	1/11/78	10			129		
1	1/11/78	11			111		
1	1/11/78	12			94		
1	1/11/78	13			92		
1	1/11/78	14			92		
1	2/7/78	1			170		
1	2/7/78	2			171		
1	2/7/78	3			168		
1	2/7/78	4			160		
1	2/7/78	5			148		
1	2/7/78	6			148		
1	2/7/78	7			148		
1	2/7/78	8			148		
1	2/7/78	9			144		
1	2/7/78	10			136		
1	2/7/78	11			112		
1	2/7/78	12			94		
1	2/7/78	13			93		
1	2/7/78	14			93		
1	3/12/78	1			174		
1	3/12/78	2			175		
1	3/12/78	3			172		
1	3/12/78	4			164		
1	3/12/78	5			152		
1	3/12/78	6			151		
1	3/12/78	7			151		
1	3/12/78	8			151		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/12/78	9			148		
1	3/12/78	10			133		
1	3/12/78	11			114		
1	3/12/78	12			97		
1	3/12/78	13			96		
1	3/12/78	14			96		
1	4/1/78	1			162		
1	4/1/78	2			163		
1	4/1/78	3			166		
1	4/1/78	4			152		
1	4/1/78	5			139		
1	4/1/78	6			139		
1	4/1/78	7			139		
1	4/1/78	8			139		
1	4/1/78	9			135		
1	4/1/78	10			102		
1	4/1/78	11			86		
1	4/1/78	12			85		
1	4/1/78	13			85		
1	4/1/78	14			84		
1	6/1/78	1			163		
1	6/1/78	2			164		
1	6/1/78	3			161		
1	6/1/78	4			153		
1	6/1/78	5			140		
1	6/1/78	6			139		
1	6/1/78	7			146		
1	6/1/78	8			146		
1	6/1/78	9			136		
1	8/1/78	1			164		
1	8/1/78	2			166		
1	8/1/78	3					113 - suspect data (low)
1	8/1/78	4			156		
1	8/1/78	5			144		
1	8/1/78	6			140		
1	8/1/78	7			140		
1	8/1/78	8			140		
1	8/1/78	9			139		
1	8/1/78	11			109		
1	8/1/78	12			92		
1	8/1/78	13			91		
1	8/1/78	14			91		
1	10/10/78	1			161		
1	10/10/78	2			162		
1	10/10/78	3			160		
1	10/10/78	4			155		
1	10/10/78	5			150		
1	10/10/78	6			149		
1	10/10/78	7			149		
1	10/10/78	8			149		
1	10/10/78	9			148		
1	10/10/78	10			127		
1	10/10/78	11			117		
1	10/10/78	12			105		
1	2/4/79	1			168		
1	2/4/79	2			170		
1	2/4/79	3			168		
1	2/4/79	4			161		
1	2/4/79	5			150		
1	2/4/79	6			144		
1	2/4/79	7			143		
1	2/4/79	8			144		
1	2/4/79	9			143		
1	2/4/79	10			109		
1	2/4/79	11			92		
1	2/4/79	12			90		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/4/79	13			90		
1	2/4/79	14			91		
1	9/6/79	1			170		
1	9/6/79	4			170		
1	9/6/79	5			152		
1	9/6/79	6			135		
1	9/6/79	7			120		
1	9/6/79	8			105		
1	9/6/79	9			100		
1	9/6/79	10			100		
1	9/6/79	11			100		
1	9/6/79	12			100		
1	9/6/79	13			100		
1	9/6/79	14			100		
1	1/23/80	1			170		
1	1/23/80	2			170		
1	1/23/80	3			168		
1	1/23/80	4			160		
1	1/23/80	5			147		
1	1/23/80	6			130		
1	1/23/80	7			118		
1	1/23/80	8			115		
1	1/23/80	9			115		
1	1/23/80	10			115		
1	1/23/80	11			115		
1	1/23/80	12			98		
1	1/23/80	13			89		
1	1/23/80	14			89		
1	1/13/82	1			165		
1	1/13/82	2			166		
1	1/13/82	3			163		
1	1/13/82	4			157		
1	1/13/82	5			145		
1	1/13/82	6			135		
1	1/13/82	7			105		
1	1/13/82	8			93		
1	1/13/82	9			93		
1	1/13/82	10			93		
1	1/13/82	11			93		
1	1/13/82	12			93		
1	1/13/82	13			93		
1	5/29/82	1			164		
1	5/29/82	2			164		
1	5/29/82	3			162		
1	5/29/82	4			156		
1	5/29/82	5			140		
1	5/29/82	6			121		
1	5/29/82	7			100		
1	5/29/82	8			93		
1	5/29/82	9			93		
1	5/29/82	10			92		
1	5/29/82	11			92		
1	5/29/82	12			92		
1	10/6/82	1			162		
1	10/6/82	2			163		
1	10/6/82	3			160		
1	10/6/82	4			154		
1	10/6/82	5			142		
1	10/6/82	6			135		
1	10/6/82	7			107		
1	10/6/82	8			99		
1	10/6/82	9			99		
1	10/6/82	10			99		
1	10/6/82	11			99		
1	10/6/82	12			99		
1	10/6/82	13			99		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/6/82	14			99		
1	1/12/84	1			143		
1	1/12/84	2			147		
1	1/12/84	3			147		
1	1/12/84	4			143		
1	1/12/84	5			133		
1	1/12/84	6			109		
1	2/14/84	1			131		
1	2/14/84	2			132		
1	2/14/84	3			133		
1	2/14/84	4			128		
1	2/14/84	5			118		
1	2/14/84	6			91		
1	3/14/84	1			127		
1	3/14/84	2			130		
1	3/14/84	3			131		
1	3/14/84	4			125		
1	3/14/84	5			116		
1	3/14/84	6			88		
1	4/9/84	1			132		
1	4/9/84	2			134		
1	4/9/84	3			133		
1	4/9/84	4			121		
1	4/9/84	5			118		
1	4/9/84	6			97		
1	6/19/84	1			127		
1	6/19/84	2			130		
1	6/19/84	3			130		
1	6/19/84	4			123		
1	6/19/84	5			116		
1	6/19/84	6			91		
1	9/13/84	1			136		
1	9/13/84	2			138		
1	9/13/84	3			138		
1	9/13/84	4			133		
1	9/13/84	5			127		
1	9/13/84	6			107		
1	10/19/84	1			147		
1	10/19/84	2			149		
1	10/19/84	3			149		
1	10/19/84	4			143		
1	10/19/84	5			138		
1	10/19/84	6			118		
1	4/2/85	1			129		
1	4/2/85	2			130		
1	4/2/85	3			131		
1	4/2/85	4			118		
1	4/2/85	5			118		
1	4/2/85	6			92		
1	5/2/85	1			122		
1	5/2/85	2			125		
1	5/2/85	3			124		
1	5/2/85	4			118		
1	5/2/85	5			111		
1	5/2/85	6			86		
1	7/2/85	1			124		
1	7/2/85	2			126		
1	7/2/85	3			124		
1	7/2/85	4			121		
1	7/2/85	5			114		
1	7/2/85	6			94		
1	12/5/85	1			114		
1	12/5/85	2			117		
1	12/5/85	3			116		
1	12/5/85	4			113		
1	12/5/85	5			107		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/5/85	6			85		
1	1/6/86	1					65 - suspect data (low)
1	1/6/86	2					65 - suspect data (low)
1	1/6/86	3					65 - suspect data (low)
1	1/6/86	4					65 - suspect data (low)
1	1/6/86	5					65 - suspect data (low)
1	1/6/86	6					65 - suspect data (low)
1	1/7/86	1					55 - suspect data (low)
1	1/7/86	2					56 - suspect data (low)
1	1/7/86	3					56 - suspect data (low)
1	1/7/86	4					56 - suspect data (low)
1	1/7/86	5					55 - suspect data (low)
1	1/7/86	6					55 - suspect data (low)
1	7/8/86	1					70 - suspect data (low)
1	7/8/86	2					67 - suspect data (low)
1	7/8/86	3					67 - suspect data (low)
1	7/8/86	4					72 - suspect data (low)
1	7/8/86	5					79 - suspect data (low)
1	7/8/86	6			101.2		
1	11/27/86	1			132.6		
1	11/27/86	2			134.2		
1	11/27/86	3			133.1		
1	11/27/86	4			128.5		
1	11/27/86	5			121.4		
1	11/27/86	6			99.4		
1	12/22/86	1			127.2		
1	12/22/86	2			129.6		
1	12/22/86	3			127.9		
1	12/22/86	4			124.5		
1	12/22/86	5			117.6		
1	12/22/86	6			93.8		
1	1/2/87	1			126.1		
1	1/2/87	2			128.7		
1	1/2/87	3			127.4		
1	1/2/87	4			122.9		
1	1/2/87	5			115.8		
1	1/2/87	6			91.8		
1	2/2/87	1			128		
1	2/2/87	2			130		
1	2/2/87	3			128		
1	2/2/87	4			124		
1	2/2/87	5			117		
1	2/2/87	6			91		
1	3/2/87	1			128		
1	3/2/87	2			129.5		
1	3/2/87	3			127		
1	3/2/87	4			123		
1	3/2/87	5			116		
1	3/2/87	6			89		
1	4/6/87	1			128		
1	4/6/87	2			130		
1	4/6/87	3			129		
1	4/6/87	4			125		
1	4/6/87	5			118		
1	4/6/87	6			94		
1	5/3/87	1			127		
1	5/3/87	2			128		
1	5/3/87	3			126.8		
1	5/3/87	4			122.8		
1	5/3/87	5			115.2		
1	5/3/87	6			90.2		
1	7/6/87	1			126.5		
1	7/6/87	2			127.4		
1	7/6/87	3			126.4		
1	7/6/87	4			122.4		
1	7/6/87	5			115.6		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/6/87	6			94.4		
1	8/4/87	1			124.9		
1	8/4/87	2			125.3		
1	8/4/87	3			125.1		
1	8/4/87	4			121.6		
1	8/4/87	5			115.6		
1	8/4/87	6			95.1		
1	10/5/87	1			124		
1	10/5/87	2			126		
1	10/5/87	3			126		
1	10/5/87	4			123		
1	10/5/87	5			118		
1	10/5/87	6			100		
1	11/4/87	1			126		
1	11/4/87	2			128		
1	11/4/87	3			127		
1	11/4/87	4			124		
1	11/4/87	5			118		
1	11/4/87	6			98		
1	12/8/87	1			127.4		
1	12/8/87	2			128.8		
1	12/8/87	3			128.8		
1	12/8/87	4			124.7		
1	12/8/87	5			118.1		
1	12/8/87	6			96.4		
1	1/4/88	1	1		127.7	N	
1	1/4/88	2	1		129.3	Y	
1	1/4/88	3	1		128.2	N	
1	1/4/88	4	1		124.7	N	
1	1/4/88	5	1		117.8	N	
1	1/4/88	6	1		94.3	N	
1	2/1/88	1	1			N	91 - suspect data (low)
1	2/1/88	2	1		129	N	
1	2/1/88	3	1		124	Y	
1	2/1/88	4	1		121	N	
1	2/1/88	5	1		114	N	
1	2/1/88	6	1		90	N	
1	3/8/88	1	1			N	106 - suspect data (low)
1	3/8/88	3	1		128	Y	
1	3/8/88	4	1		125	N	
1	3/8/88	5	1		117	N	
1	3/8/88	6	1		94	N	
1	4/4/88	1	1		124	N	
1	4/4/88	2	1		125	Y	
1	4/4/88	3	1		124	N	
1	4/4/88	4	1		120	N	
1	4/4/88	5	1		113	N	
1	4/4/88	6	1		90	N	
1	5/2/88	1	1		133	Y	
1	5/2/88	2	1		133	N	
1	5/2/88	3	1		132	N	
1	5/2/88	4	1		128	N	
1	5/2/88	5	1		122	N	
1	5/2/88	6	1		100	N	
1	5/4/88	1	1		125	Y	
1	5/4/88	2	1		125	N	
1	5/4/88	3	1		125	N	
1	5/4/88	4	1		121	N	
1	5/4/88	5	1		114	N	
1	5/4/88	6	1		92	N	
1	6/6/88	1	1		133	Y	
1	6/6/88	2	1		125	N	
1	6/6/88	3	1		128	N	
1	6/6/88	4	1		120	N	
1	6/6/88	5	1		100	N	
1	6/6/88	6	1		100	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-101							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/4/88	1	1		134	N	
1	7/4/88	2	1		135	Y	
1	7/4/88	3	1		130	N	
1	7/4/88	4	1		122	N	
1	7/4/88	5	1		122	N	
1	7/4/88	6	1		95	N	
1	8/1/88	1	1		125	Y	
1	8/1/88	2	1		125	N	
1	8/1/88	3	1		125	N	
1	8/1/88	4	1		122	N	
1	8/1/88	6	1		99	N	
1	9/5/88	1	1		124	N	
1	9/5/88	2	1		126	Y	
1	9/5/88	3	1		126	N	
1	9/5/88	4	1		122	N	
1	9/5/88	6	1		97	N	
1	10/3/88	2	1		125	Y	
1	10/3/88	3	1		125	N	
1	10/3/88	4	1		122	N	
1	10/3/88	6	1		97	N	
1	11/7/88	1	1		169	N	
1	11/7/88	2	1		147	N	
1	11/7/88	3	1		129	N	
1	11/7/88	4	1		124	N	
1	11/7/88	5	1			Y	308 - suspect data (high)
1	11/7/88	6	1		108	N	
1	12/5/88	1	1			N	BAD READINGS
1	1/2/89	1	1			N	O/S
1	2/6/89	1	1		136.8	Y	
1	2/6/89	2	1		128.8	N	
1	2/6/89	3	1		128.1	N	
1	2/6/89	4	1		124.8	N	
1	2/6/89	6	1		92.4	N	
1	3/6/89	1	1		152	Y	
1	3/6/89	2	1		152	N	
1	3/6/89	3	1		152	N	
1	3/6/89	4	1		147	N	
1	3/6/89	6	1		113	N	
1	11/13/91	2	1		118.8	Y	TC #135 O/S WORK ORDER #04529 J-890423320-42
1	11/13/91	4	1		115.2	N	
1	11/13/91	6	1		90.8	N	
1	1/1/92	2	1		122.2	Y	J-890523512-20 TC #135 O/S
1	1/1/92	4	1		118.5	N	
1	1/1/92	6	1		91	N	
1	11/4/92	1	1			N	#S&DA-92-488 NO RDGS SINCE JANUARY 1992
1	11/5/92	1	1			N	ENTIRE SYSTEM O/S
1	11/7/92	2	1		123	Y	J 817-13-20-019293
1	11/7/92	4	1		119	N	
1	11/7/92	6	1		98	N	
1	2/13/93	1	1			N	OUTOF SERVICE
1	7/2/93	1	1			N	TCs 135&6 O/S
1	7/2/93	2	1		115	Y	
1	7/2/93	4	1		109.9	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data sheet TK-105-S to TK-101 S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/2/74	12			112		
1	7/2/74	1			124		
1	7/2/74	2			130		
1	7/2/74	3			136		
1	7/2/74	4			136		
1	7/2/74	5			135		
1	7/2/74	6			130		
1	7/2/74	7			129		
1	7/2/74	8			129		
1	7/2/74	9			129		
1	7/2/74	10			130		
1	7/2/74	11			130		
1	7/2/74	12			124		
1	9/28/74	1			127		
1	9/28/74	2			130		
1	9/28/74	3			137		
1	9/28/74	4			138		
1	9/28/74	5			138		
1	9/28/74	6			138		
1	9/28/74	7			138		
1	9/28/74	8			138		
1	9/28/74	9			137		
1	9/28/74	10			137		
1	9/28/74	11			136		
1	9/28/74	12			135		
1	12/2/74	1		52.22	125.996		raw data - assumed degree C
1	12/2/74	2		52.78	127.004		raw data - assumed degree C
1	12/2/74	3		50.56	123.008		raw data - assumed degree C
1	12/2/74	4		49.44	120.992		raw data - assumed degree C
1	12/2/74	5		50.00	122		raw data - assumed degree C
1	12/2/74	6		50.00	122		raw data - assumed degree C
1	12/2/74	7		50.00	122		raw data - assumed degree C
1	12/2/74	8		50.00	122		raw data - assumed degree C
1	12/2/74	9		50.00	122		raw data - assumed degree C
1	12/2/74	10		50.00	122		raw data - assumed degree C
1	12/2/74	11		50.00	122		raw data - assumed degree C
1	12/2/74	12		48.89	120.002		raw data - assumed degree C
1	12/11/74	1			125		
1	12/11/74	2			126		
1	12/11/74	3			123		
1	12/11/74	4			123		
1	12/11/74	5			123		
1	12/11/74	6			123		
1	12/11/74	7			123		
1	12/11/74	8			123		
1	12/11/74	9			123		
1	12/11/74	10			123		
1	12/11/74	11			122		
1	12/11/74	12			120		
1	12/13/74	1			125		
1	12/13/74	2			126		
1	12/13/74	3			124		
1	12/13/74	4			125		
1	12/13/74	5			125		
1	12/13/74	6			125		
1	12/13/74	7			125		
1	12/13/74	8			125		
1	12/13/74	9			124		
1	12/13/74	10			124		
1	12/13/74	11			124		
1	12/13/74	12			122		
1	12/15/74	1			124		
1	12/15/74	2			126		
1	12/15/74	3			125		
1	12/15/74	4			124		
1	12/15/74	5			123		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/15/74	6			122		
1	12/15/74	7			122		
1	12/15/74	8			122		
1	12/15/74	9			122		
1	12/15/74	10			122		
1	12/15/74	11			120		
1	12/15/74	12			120		
1	12/21/74	1			124		
1	12/21/74	2			126		
1	12/21/74	3			131		
1	12/21/74	4			133		
1	12/21/74	5			133		
1	12/21/74	6			133		
1	12/21/74	7			133		
1	12/21/74	8			133		
1	12/21/74	9			133		
1	12/21/74	10			133		
1	12/21/74	11			132		
1	12/21/74	12			130		
1	2/25/75	1			127		
1	2/25/75	2			127		
1	2/25/75	3			116		
1	2/25/75	4			113		
1	2/25/75	5			113		
1	2/25/75	6			113		
1	2/25/75	7			113		
1	2/25/75	8			113		
1	2/25/75	9			113		
1	2/25/75	10			113		
1	2/25/75	11			111		
1	2/25/75	12			111		
1	2/26/75	1			123		
1	2/26/75	2			124		
1	2/26/75	3			116		
1	2/26/75	4			115		
1	2/26/75	5			115		
1	2/26/75	6			115		
1	2/26/75	7			115		
1	2/26/75	8			115		
1	2/26/75	9			115		
1	2/26/75	10			115		
1	2/26/75	11			113		
1	2/26/75	12			112		
1	3/6/75	1			122		
1	3/6/75	2			122		
1	3/6/75	3			112		
1	3/6/75	4			77		
1	3/6/75	5			77		
1	3/6/75	6			77		
1	3/6/75	7			77		
1	3/6/75	8			77		
1	3/6/75	9			77		
1	3/6/75	10			117		
1	3/6/75	11			116		
1	3/6/75	12			118		
1	3/17/75	1			121		
1	3/17/75	2			122		
1	3/17/75	3			122		
1	3/17/75	4			120		
1	3/17/75	5			120		
1	3/17/75	6			120		
1	3/17/75	7			120		
1	3/17/75	8			120		
1	3/17/75	9			120		
1	3/17/75	10			117		
1	3/17/75	11			117		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/17/75	12			117		
1	4/9/75	1			121		
1	4/9/75	2			123		
1	4/9/75	3			123		
1	4/9/75	4			123		
1	4/9/75	5			123		
1	4/9/75	6			123		
1	4/9/75	7			123		
1	4/9/75	8			123		
1	4/9/75	9			123		
1	4/9/75	10			117		
1	4/9/75	11			117		
1	4/9/75	12			117		
1	4/10/75	1			121		
1	4/10/75	2			123		
1	4/10/75	3			125		
1	4/10/75	4			128		
1	4/10/75	5			128		
1	4/10/75	6			128		
1	4/10/75	7			128		
1	4/10/75	8			128		
1	4/10/75	9			128		
1	4/10/75	10			127		
1	4/10/75	11			114		
1	4/10/75	12			114		
1	4/21/75	1			121		
1	4/21/75	2			123		
1	4/21/75	3			120		
1	4/21/75	4			118		
1	4/21/75	5			118		
1	4/21/75	6			117		
1	4/21/75	7			117		
1	4/21/75	8			117		
1	4/21/75	9			117		
1	4/21/75	10			117		
1	4/21/75	11			115		
1	4/21/75	12			115		
1	5/12/75	1			119		
1	5/12/75	2			118		
1	5/12/75	3			115		
1	5/12/75	4			114		
1	5/12/75	5			114		
1	5/12/75	6			114		
1	5/12/75	7			114		
1	5/12/75	8			113		
1	5/12/75	9			113		
1	5/12/75	10			110		
1	5/12/75	11			110		
1	5/12/75	12			110		
1	7/21/75	1			122		
1	7/21/75	2			122		
1	7/21/75	3			116		
1	7/21/75	4			112		
1	7/21/75	5			111		
1	7/21/75	6			90		
1	7/21/75	7			89		
1	7/21/75	8			88		
1	7/21/75	9			95		
1	7/21/75	10			96		
1	7/21/75	11			97		
1	7/21/75	12			97		
1	7/21/75	1			122		
1	7/21/75	2			120		
1	7/21/75	3			102		
1	7/21/75	4			98		
1	7/21/75	5			98		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/21/75	6			98		
1	7/21/75	7			97		
1	7/21/75	8			97		
1	7/21/75	9			100		
1	7/21/75	10			100		
1	7/21/75	11			100		
1	7/21/75	12			100		
1	11/3/75	1			127		
1	11/3/75	2			130		
1	11/3/75	3			129		
1	11/3/75	4			126		
1	11/3/75	5			124		
1	11/3/75	6			124		
1	11/3/75	7			124		
1	11/3/75	8			123		
1	11/3/75	9			123		
1	11/3/75	10			123		
1	11/3/75	11			123		
1	11/3/75	12			123		
1	2/4/76	1			123		
1	2/4/76	2			123		
1	2/4/76	3			121		
1	2/4/76	4			100		
1	2/4/76	5			98		
1	2/4/76	6			98		
1	2/4/76	7			98		
1	2/4/76	8			98		
1	2/4/76	9			98		
1	2/4/76	10			100		
1	2/4/76	11			100		
1	2/4/76	12			101		
1	3/5/76	1			120		
1	3/5/76	2			116		
1	3/5/76	3			108		
1	3/5/76	4			103		
1	3/5/76	5			103		
1	3/5/76	6			100		
1	3/5/76	7			98		
1	3/5/76	8			99		
1	3/5/76	9			99		
1	3/5/76	10			98		
1	3/5/76	11			98		
1	3/5/76	12			100		
1	3/30/76	1			116		
1	3/30/76	2			113		
1	3/30/76	3			114		
1	3/30/76	4			115		
1	3/30/76	5			115		
1	3/30/76	6			115		
1	3/30/76	7			115		
1	3/30/76	8			115		
1	3/30/76	9			114		
1	3/30/76	10			112		
1	3/30/76	11			112		
1	3/30/76	12			112		
1	5/2/76	1			118		
1	5/2/76	2			119		
1	5/2/76	3			121		
1	5/2/76	4			123		
1	5/2/76	5			123		
1	5/2/76	6			123		
1	5/2/76	7			123		
1	5/2/76	8			121		
1	5/2/76	9			93		
1	5/2/76	10			90		
1	5/2/76	11			90		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/2/76	12			90		
1	6/1/76	1			118		
1	6/1/76	2			118		
1	6/1/76	3			120		
1	6/1/76	4			120		
1	6/1/76	5			120		
1	6/1/76	6			120		
1	6/1/76	7			118		
1	6/1/76	8			114		
1	6/1/76	9			113		
1	6/1/76	10			102		
1	6/1/76	11			102		
1	6/1/76	12			102		
1	6/1/76	13			102		
1	6/1/76	14			102		
1	7/1/76	1			113		
1	7/1/76	2			114		
1	7/1/76	3			115		
1	7/1/76	4			112		
1	7/1/76	5			109		
1	7/1/76	6			109		
1	7/1/76	7			107		
1	7/1/76	8			103		
1	7/1/76	9			95		
1	7/1/76	10			92		
1	7/1/76	11			92		
1	7/1/76	12			92		
1	8/3/76	1			119		
1	8/3/76	2			120		
1	8/3/76	3			120		
1	8/3/76	4			115		
1	8/3/76	5			114		
1	8/3/76	6			114		
1	8/3/76	7			113		
1	8/3/76	8			110		
1	8/3/76	9			102		
1	8/3/76	10			100		
1	8/3/76	11			99		
1	8/3/76	12			99		
1	9/2/76	1			118		
1	9/2/76	2			108		
1	9/2/76	3			107		
1	9/2/76	4			107		
1	9/2/76	5			107		
1	9/2/76	6			107		
1	9/2/76	7			106		
1	9/2/76	8			106		
1	9/2/76	9			106		
1	9/2/76	10			106		
1	9/2/76	11			106		
1	9/2/76	12			106		
1	10/3/76	1			119		
1	10/3/76	2			119		
1	10/3/76	3			120		
1	10/3/76	4			122		
1	10/3/76	5			122		
1	10/3/76	6			122		
1	10/3/76	7			121		
1	10/3/76	8			118		
1	10/3/76	9			110		
1	10/3/76	10			109		
1	10/3/76	11			109		
1	10/3/76	12			109		
1	11/1/76	1			120		
1	11/1/76	2			120		
1	11/1/76	3			120		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/1/76	4			110		
1	11/1/76	5			110		
1	11/1/76	6			110		
1	11/1/76	7			110		
1	11/1/76	8			110		
1	11/1/76	9			110		
1	11/1/76	10			110		
1	11/1/76	11			110		
1	11/1/76	12			110		
1	12/4/76	1			122		
1	12/4/76	2			123		
1	12/4/76	3			124		
1	12/4/76	4			130		
1	12/4/76	5			130		
1	12/4/76	6			129		
1	12/4/76	7			129		
1	12/4/76	8			121		
1	12/4/76	9			120		
1	12/4/76	10			120		
1	12/4/76	11			120		
1	12/4/76	12			120		
1	1/1/77	1			122		
1	1/1/77	2			122		
1	1/1/77	3			122		
1	1/1/77	4			118		
1	1/1/77	5			116		
1	1/1/77	6			116		
1	1/1/77	7			116		
1	1/1/77	8			116		
1	1/1/77	9			114		
1	1/1/77	10			108		
1	1/1/77	11			108		
1	1/1/77	12			108		
1	2/1/77	1			120		
1	2/1/77	2			122		
1	2/1/77	3			120		
1	2/1/77	4			118		
1	2/1/77	5			118		
1	2/1/77	6			118		
1	2/1/77	7			116		
1	2/1/77	8			108		
1	2/1/77	9			112		
1	2/1/77	10			114		
1	2/1/77	11			114		
1	2/1/77	12			114		
1	3/1/77	1			116		
1	3/1/77	2			118		
1	3/1/77	3			119		
1	3/1/77	4			120		
1	3/1/77	5			119		
1	3/1/77	6			116		
1	3/1/77	7			108		
1	3/1/77	8			108		
1	3/1/77	9			108		
1	3/1/77	10			108		
1	3/1/77	11			108		
1	3/1/77	12			108		
1	3/1/77	13			108		
1	3/1/77	14			108		
1	4/1/77	1			116		
1	4/1/77	2			117		
1	4/1/77	3			116		
1	4/1/77	4			100		
1	4/1/77	5			100		
1	4/1/77	6			100		
1	4/1/77	7			100		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/1/77	8			100		
1	4/1/77	9			100		
1	4/1/77	10			100		
1	4/1/77	11			100		
1	4/1/77	12			100		
1	4/1/77	13			100		
1	4/1/77	14			100		
1	5/1/77	1			115		
1	5/1/77	2			115		
1	5/1/77	3			113		
1	5/1/77	4			105		
1	5/1/77	5			101		
1	5/1/77	6			101		
1	5/1/77	7			101		
1	5/1/77	8			100		
1	5/1/77	9			100		
1	5/1/77	10			100		
1	5/1/77	11			100		
1	5/1/77	12			100		
1	6/7/77	1			115		
1	6/7/77	2			113		
1	6/7/77	3			107		
1	6/7/77	4			96		
1	6/7/77	5			91		
1	6/7/77	6			91		
1	6/7/77	7			91		
1	6/7/77	8			91		
1	6/7/77	9			91		
1	6/7/77	10			91		
1	6/7/77	11			91		
1	6/7/77	12			91		
1	7/11/77	1			110		
1	7/11/77	2			107		
1	7/11/77	3			100		
1	7/11/77	4			93		
1	7/11/77	5			90		
1	7/11/77	6			90		
1	7/11/77	7			90		
1	7/11/77	8			90		
1	7/11/77	9			90		
1	7/11/77	10			90		
1	7/11/77	11			90		
1	7/11/77	12			90		
1	7/11/77	13			90		
1	7/11/77	14			90		
1	8/5/77	1			105		
1	8/5/77	2			103		
1	8/5/77	3			98		
1	8/5/77	4			88		
1	8/5/77	5			87		
1	8/5/77	6			87		
1	8/5/77	7			87		
1	8/5/77	8			87		
1	8/5/77	9			87		
1	8/5/77	10			87		
1	8/5/77	11			87		
1	9/5/77	1			107		
1	9/5/77	2			106		
1	9/5/77	3			100		
1	9/5/77	4			91		
1	9/5/77	5			89		
1	9/5/77	6			89		
1	9/5/77	7			89		
1	9/5/77	8			89		
1	9/5/77	9			89		
1	9/5/77	10			89		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/5/77	11			89		
1	9/5/77	12			89		
1	9/5/77	13			89		
1	9/5/77	14			89		
1	10/3/77	1			105		
1	10/3/77	2			104		
1	10/3/77	3			98		
1	10/3/77	4			90		
1	10/3/77	5			86		
1	10/3/77	6			86		
1	10/3/77	7			86		
1	10/3/77	8			86		
1	10/3/77	9			86		
1	10/3/77	10			86		
1	10/3/77	11			86		
1	10/3/77	12			86		
1	11/3/77	1			104		
1	11/3/77	2			100		
1	11/3/77	3			95		
1	11/3/77	4			85		
1	11/3/77	5			80		
1	11/3/77	6			80		
1	11/3/77	7			80		
1	11/3/77	8			80		
1	11/3/77	9			80		
1	11/3/77	10			80		
1	11/3/77	11			80		
1	11/3/77	12			80		
1	11/3/77	13			80		
1	11/3/77	14			80		
1	12/4/77	1			113		
1	12/4/77	2			116		
1	12/4/77	3			103		
1	12/4/77	4			92		
1	12/4/77	5			83		
1	12/4/77	6			84		
1	12/4/77	7			85		
1	12/4/77	8			85		
1	12/4/77	9			85		
1	12/4/77	10			85		
1	12/4/77	11			85		
1	12/4/77	12			85		
1	12/4/77	13			85		
1	12/4/77	14			85		
1	1/8/78	1			109		
1	1/8/78	2			107		
1	1/8/78	3			100		
1	1/8/78	4			90		
1	1/8/78	5			83		
1	1/8/78	6			84		
1	1/8/78	7			84		
1	1/8/78	8			84		
1	1/8/78	9			84		
1	1/8/78	10			84		
1	1/8/78	11			84		
1	1/8/78	12			84		
1	1/8/78	13			84		
1	1/8/78	14			84		
1	1/11/78	1			103		
1	1/11/78	2			100		
1	1/11/78	3			93		
1	1/11/78	4			84		
1	1/11/78	5			77		
1	1/11/78	6			77		
1	1/11/78	7			77		
1	1/11/78	8			77		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/11/78	9			77		
1	1/11/78	10			77		
1	1/11/78	11			77		
1	1/11/78	12			76		
1	1/11/78	13			76		
1	1/11/78	14			76		
1	2/7/78	1			104		
1	2/7/78	2			101		
1	2/7/78	3			96		
1	2/7/78	4			88		
1	2/7/78	5			80		
1	2/7/78	6			80		
1	2/7/78	7			80		
1	2/7/78	8			80		
1	2/7/78	9			80		
1	2/7/78	10			80		
1	2/7/78	11			80		
1	2/7/78	12			80		
1	2/7/78	13			80		
1	2/7/78	14			80		
1	3/12/78	1			107		
1	3/12/78	2			105		
1	3/12/78	3			106		
1	3/12/78	4			93		
1	3/12/78	5			85		
1	3/12/78	6			85		
1	3/12/78	7			85		
1	3/12/78	8			85		
1	3/12/78	9			84		
1	3/12/78	10			84		
1	3/12/78	11			84		
1	3/12/78	12			84		
1	3/12/78	13			84		
1	3/12/78	14			84		
1	4/11/78	1			98		
1	4/11/78	2			94		
1	4/11/78	3			90		
1	4/11/78	4			83		
1	4/11/78	5			78		
1	4/11/78	6			78		
1	4/11/78	7			78		
1	4/11/78	8			78		
1	4/11/78	9			77		
1	4/11/78	10			77		
1	4/11/78	11			77		
1	4/11/78	12			77		
1	4/11/78	13			77		
1	4/11/78	14			77		
1	6/3/78	1			97		
1	6/3/78	2			95		
1	6/3/78	3			90		
1	6/3/78	4			85		
1	6/3/78	5			82		
1	6/3/78	6			80		
1	6/3/78	7			80		
1	6/3/78	8			80		
1	6/3/78	9			80		
1	6/3/78	10			80		
1	6/3/78	11			80		
1	6/3/78	12			80		
1	6/3/78	13			80		
1	6/3/78	14			80		
1	7/13/78	1			96		
1	7/13/78	2			95		
1	7/13/78	3			93		
1	7/13/78	4			90		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/13/78	5			88		
1	7/13/78	6			86		
1	7/13/78	7			86		
1	7/13/78	8			86		
1	7/13/78	9			86		
1	7/13/78	10			86		
1	7/13/78	11			86		
1	7/13/78	12			86		
1	7/13/78	13			86		
1	7/13/78	14			86		
1	8/11/78	1			92		
1	8/11/78	2			91		
1	8/11/78	3			90		
1	8/11/78	4			86		
1	8/11/78	5			85		
1	8/11/78	6			84		
1	8/11/78	7			84		
1	8/11/78	8			83		
1	8/11/78	9			83		
1	8/11/78	10			83		
1	8/11/78	11			83		
1	8/11/78	12			83		
1	8/11/78	13			83		
1	8/11/78	14			83		
1	10/10/78	1			100		
1	10/10/78	2			100		
1	10/10/78	3			100		
1	10/10/78	4			95		
1	10/10/78	5			94		
1	10/10/78	6			94		
1	10/10/78	7			94		
1	10/10/78	8			94		
1	10/10/78	9			94		
1	10/10/78	10			94		
1	10/10/78	11			94		
1	10/10/78	12			94		
1	2/4/79	1			102		
1	2/4/79	2			103		
1	2/4/79	3			99		
1	2/4/79	4			97		
1	2/4/79	5			96		
1	2/4/79	6			95		
1	2/4/79	7			95		
1	2/4/79	8			93		
1	2/4/79	9			88		
1	2/4/79	10			88		
1	2/4/79	11			88		
1	9/6/79	1			106		
1	9/6/79	2			110		
1	9/6/79	3			107		
1	9/6/79	4			128		
1	9/6/79	5			128		
1	9/6/79	6			138		
1	9/6/79	7			140		
1	9/6/79	8			126		
1	9/6/79	9			126		
1	9/6/79	10			126		
1	9/6/79	11			126		
1	9/6/79	12			126		
1	9/6/79	13			126		
1	9/6/79	14			126		
1	1/23/80	1			117		
1	1/23/80	2			122		
1	1/23/80	3			130		
1	1/23/80	4			135		
1	1/23/80	5			137		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/23/80	6			135		
1	1/23/80	7			135		
1	1/23/80	8			134		
1	1/23/80	9			125		
1	1/23/80	10			105		
1	1/23/80	11			95		
1	1/23/80	12			95		
1	1/23/80	13			95		
1	1/23/80	14			95		
1	5/29/82	1			119		
1	5/29/82	2			120		
1	5/29/82	3			121		
1	5/29/82	4			120		
1	5/29/82	5			116		
1	5/29/82	6			111		
1	5/29/82	7			108		
1	5/29/82	8			99		
1	5/29/82	9			86		
1	5/29/82	10			84		
1	5/29/82	11			84		
1	5/29/82	12			84		
1	10/6/82	1			118		
1	10/6/82	2			120		
1	10/6/82	3			121		
1	10/6/82	4			120		
1	10/6/82	5			117		
1	10/6/82	6			113		
1	10/6/82	7			108		
1	10/6/82	8			104		
1	10/6/82	9			94		
1	10/6/82	10			92		
1	10/6/82	11			92		
1	10/6/82	12			92		
1	10/6/82	13			92		
1	10/6/82	14			92		
1	2/14/84	1			114		
1	2/14/84	2			117		
1	2/14/84	3			118		
1	2/14/84	4			117		
1	2/14/84	5			114		
1	2/14/84	6			82		
1	6/19/84	1			115		
1	6/19/84	2			118		
1	6/19/84	3			119		
1	6/19/84	4			118		
1	6/19/84	5			115		
1	6/19/84	6			83		
1	4/2/85	1			114		
1	4/2/85	2			117		
1	4/2/85	3			117		
1	4/2/85	4			117		
1	4/2/85	5			114		
1	4/2/85	6			83		
1	5/2/85	1			109		
1	5/2/85	2			111		
1	5/2/85	3			112		
1	5/2/85	4			111		
1	5/2/85	5			107		
1	5/2/85	6			78		
1	7/2/85	1			112		
1	7/2/85	2			113		
1	7/2/85	3			114		
1	7/2/85	4			113		
1	7/2/85	5			111		
1	7/2/85	6			85		
1	12/4/85	1			99		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/4/85	2			100		
1	12/4/85	3			101		
1	12/4/85	4			100		
1	12/4/85	5			98		
1	12/4/85	6			73		
1	11/27/86	1			113.1		
1	11/27/86	2			114.7		
1	11/27/86	3			115.3		
1	11/27/86	4			114.2		
1	11/27/86	5			112.6		
1	11/27/86	6			87		
1	12/22/86	1			113		
1	12/22/86	2			114.7		
1	12/22/86	3			115.7		
1	12/22/86	4			115.5		
1	12/22/86	5			113		
1	12/22/86	6			85.1		
1	1/2/87	1			112.6		
1	1/2/87	2			114.3		
1	1/2/87	3			115		
1	1/2/87	4			114.6		
1	1/2/87	5			112.3		
1	1/2/87	6			83.7		
1	2/2/87	1			114		
1	2/2/87	2			115		
1	2/2/87	3			116		
1	2/2/87	4			116		
1	2/2/87	5			113		
1	2/2/87	6			83		
1	3/2/87	1			113.4		
1	3/2/87	2			115.2		
1	3/2/87	3			116		
1	3/2/87	4			115.5		
1	3/2/87	5			113		
1	3/2/87	6			81		
1	4/6/87	1			114		
1	4/6/87	2			116		
1	4/6/87	3			117		
1	4/6/87	4			117		
1	4/6/87	5			115		
1	4/6/87	6			84		
1	5/3/87	1			112.3		
1	5/3/87	2			114.4		
1	5/3/87	3			115.4		
1	5/3/87	4			115		
1	5/3/87	5			112.1		
1	5/3/87	6			81.3		
1	7/6/87	1			112.7		
1	7/6/87	2			114.3		
1	7/6/87	3			114.8		
1	7/6/87	4			114.2		
1	7/6/87	5			111.7		
1	7/6/87	6			86		
1	8/4/87	1			110.4		
1	8/4/87	2			112.3		
1	8/4/87	3			113.3		
1	8/4/87	4			113		
1	8/4/87	5			110.6		
1	8/4/87	6			86.4		
1	10/5/87	1			110		
1	10/5/87	2			112		
1	10/5/87	3			114		
1	10/5/87	4			114		
1	10/5/87	5			112		
1	10/5/87	6			91		
1	11/4/87	1			112		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/4/87	2			114		
1	11/4/87	3			115		
1	11/4/87	4			115		
1	11/4/87	5			114		
1	11/4/87	6			90		
1	12/8/87	1			113.2		
1	12/8/87	2			114.9		
1	12/8/87	3			115.8		
1	12/8/87	4			115.7		
1	12/8/87	5			113.8		
1	12/8/87	6			88		
1	1/4/88	1	1		113.1	N	
1	1/4/88	2	1		114.9	N	
1	1/4/88	3	1		115.7	Y	
1	1/4/88	4	1		115.2	N	
1	1/4/88	5	1		112.7	N	
1	1/4/88	6	1		94.3	N	
1	2/1/88	1	1		87	N	
1	2/1/88	2	1		90	N	
1	2/1/88	3	1		94	N	
1	2/1/88	4	1		98	N	
1	2/1/88	5	1		99	Y	
1	2/1/88	6	1		99	N	
1	3/8/88	1	1		112	N	
1	3/8/88	2	1		113	N	
1	3/8/88	3	1		114	Y	
1	3/8/88	4	1		113	N	
1	3/8/88	5	1		112	N	
1	3/8/88	6	1		84	N	
1	4/4/88	1	1		110	N	
1	4/4/88	2	1		111	N	
1	4/4/88	3	1		112	Y	
1	4/4/88	4	1		112	N	
1	4/4/88	5	1		110	N	
1	4/4/88	6	1		82	N	
1	5/2/88	1	1		121	N	
1	5/2/88	2	1		122	Y	
1	5/2/88	3	1		122	N	
1	5/2/88	4	1		122	N	
1	5/2/88	5	1		119	N	
1	5/2/88	6	1		92	N	
1	5/4/88	1	1		110	N	
1	5/4/88	2	1		112	N	
1	5/4/88	3	1		113	Y	
1	5/4/88	4	1		113	N	
1	5/4/88	5	1		110	N	
1	5/4/88	6	1		83	N	
1	6/6/88	1	1		120	N	
1	6/6/88	2	1		122	Y	
1	6/6/88	3	1		119	N	
1	6/6/88	4	1		120	N	
1	6/6/88	5	1		118	N	
1	6/6/88	6	1		90	N	
1	7/4/88	1	1		115	N	
1	7/4/88	2	1		118	N	
1	7/4/88	3	1		119	Y	
1	7/4/88	4	1		119	N	
1	7/4/88	5	1		116	N	
1	7/4/88	6	1		83	N	
1	8/1/88	1	1		109	N	
1	8/1/88	2	1		111	N	
1	8/1/88	3	1		112	Y	
1	8/1/88	4	1		112	N	
1	8/1/88	5	1		110	N	
1	8/1/88	6	1		88	N	
1	9/5/88	1	1		110	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/5/88	2	1		112	N	
1	9/5/88	3	1		113	N	
1	9/5/88	4	1		113	N	
1	9/5/88	5	1		111	N	
1	9/5/88	6	1		89	N	
1	10/3/88	1	1		109	N	
1	10/3/88	2	1		111	N	
1	10/3/88	3	1		112	Y	
1	10/3/88	4	1		112	N	
1	10/3/88	5	1		110	N	
1	10/3/88	6	1		89	N	
1	11/7/88	1	1		109	N	
1	11/7/88	2	1		111	N	
1	11/7/88	3	1		113	Y	
1	11/7/88	4	1		112	N	
1	11/7/88	5	1		111	N	
1	11/7/88	6	1		89	N	
1	12/5/88	1	1			N	BAD READINGS
1	1/2/89	1	1			N	O/S
1	2/6/89	1	1		112.4	N	J
1	2/6/89	2	1		114.5	N	
1	2/6/89	3	1		115.7	Y	
1	2/6/89	4	1		115.5	N	
1	2/6/89	5	1		112.8	N	
1	2/6/89	6	1		83.7	N	
1	3/8/89	1	1		111.7	N	
1	3/8/89	2	1		113.8	N	
1	3/8/89	3	1		114.7	Y	
1	3/8/89	4	1		114.5	N	
1	3/8/89	5	1		111.8	N	
1	3/8/89	6	1		81.3	N	
1	6/5/89	1	1		110	N	
1	6/5/89	2	1		113	N	
1	6/5/89	3	1		114	Y	
1	6/5/89	4	1		114	N	
1	6/5/89	5	1		112	N	
1	6/5/89	6	1		83	N	
1	7/3/89	1	1		109.9	N	
1	7/3/89	2	1		112.1	N	
1	7/3/89	3	1		113.6	Y	
1	7/3/89	4	1		113.4	N	
1	7/3/89	5	1		110.7	N	
1	7/3/89	6	1		84.6	N	
1	1/1/90	1	1		108.7	N	J
1	1/1/90	2	1		110.1	N	
1	1/1/90	3	1		110.8	Y	
1	1/1/90	4	1		110.4	N	
1	1/1/90	5	1		108.3	N	
1	1/1/90	6	1		82.6	N	
1	2/5/90	1	1		107	N	J
1	2/5/90	2	1		108	N	
1	2/5/90	3	1		110	Y	
1	2/5/90	4	1		110	N	
1	2/5/90	5	1		107	N	
1	2/5/90	6	1		80	N	
1	6/4/90	1	1		101	N	
1	6/4/90	2	1		103	N	
1	6/4/90	3	1		104	Y	
1	6/4/90	4	1		104	N	
1	6/4/90	5	1		102	N	
1	6/4/90	6	1		80	N	
1	10/28/90	1	1		108.6	N	J-2E-OP-020
1	10/28/90	2	1		110.2	N	
1	10/28/90	3	1		111.1	Y	
1	10/28/90	4	1		110.8	N	
1	10/28/90	5	1		108.8	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/28/90	6	1		87.8	N	
1	10/29/90	1	1		108.6	Y	J-2E-OP-020
1	10/29/90	2	1		110.2	N	
1	10/29/90	3	1		111.1	N	
1	10/29/90	4	1		110.8	N	
1	10/29/90	5	1		108.8	N	
1	10/29/90	6	1		87.8	N	
1	11/4/90	1	1		110	N	J 2E-OP-020
1	11/4/90	2	1		112	N	
1	11/4/90	3	1		113	Y	
1	11/4/90	4	1		112	N	
1	11/4/90	5	1		110	N	
1	11/4/90	6	1		89	N	
1	11/12/90	1	1		108.4	N	2E-OP-020
1	11/12/90	2	1		110.3	N	
1	11/12/90	3	1		111.3	Y	
1	11/12/90	4	1		110.9	N	
1	11/12/90	5	1		108.6	N	
1	11/12/90	6	1		86.1	N	
1	11/18/90	1	1		106.6	N	2E-OP-020
1	11/18/90	2	1		108.3	N	
1	11/18/90	3	1		109.1	Y	
1	11/18/90	4	1		108.8	N	
1	11/18/90	5	1		106.8	N	
1	11/18/90	6	1		84.3	N	
1	11/25/90	1	1		107.6	N	J-2E-OP-020
1	11/25/90	2	1		109.1	N	
1	11/25/90	3	1		110	Y	
1	11/25/90	4	1		109.8	N	
1	11/25/90	5	1		107.8	N	
1	11/25/90	6	1		84.8	N	
1	12/2/90	1	1		103.7	N	J Used with Tyep E Connector
1	12/2/90	2	1		105.4	N	
1	12/2/90	3	1		106.3	Y	
1	12/2/90	4	1		106	N	
1	12/2/90	5	1		104	N	
1	12/2/90	6	1		81	N	
1	12/9/90	1	1		102.9	N	HH-99AA-J 890523512-47
1	12/9/90	2	1		104.6	N	
1	12/9/90	3	1		105.4	Y	
1	12/9/90	4	1		105.1	N	
1	12/9/90	5	1		103.2	N	
1	12/9/90	6	1		79.7	N	
1	12/16/90	1	1		106.7	N	2E-OP-20
1	12/16/90	2	1		108.8	N	
1	12/16/90	3	1		109.9	Y	
1	12/16/90	4	1		109.5	N	
1	12/16/90	5	1		106.9	N	
1	12/16/90	6	1		81.9	N	
1	12/25/90	1	1		105.1	N	J 890523512
1	12/25/90	2	1		106.6	N	
1	12/25/90	3	1		107.6	Y	
1	12/25/90	4	1		107.3	N	
1	12/25/90	5	1		105.2	N	
1	12/25/90	6	1		80.5	N	
1	12/30/90	1	1		106	N	J 890523512-47
1	12/30/90	2	1		107.5	N	
1	12/30/90	3	1		108	Y	
1	12/30/90	4	1		108	N	
1	12/30/90	5	1		106	N	
1	12/30/90	6	1		80.5	N	
1	1/7/91	1	1		104.6	N	J
1	1/7/91	2	1		106.6	N	
1	1/7/91	3	1		107.9	Y	
1	1/7/91	4	1		107.7	N	
1	1/7/91	5	1		106.1	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/7/91	6	1		79.9	N	
1	1/13/91	1	1		109.9	N	J 890523512-47
1	1/13/91	2	1		111.6	N	
1	1/13/91	3	1		112.3	Y	
1	1/13/91	4	1		111.9	N	
1	1/13/91	5	1		109.5	N	
1	1/13/91	6	1		82.4	N	
1	1/19/91	1	1		105.2	N	J 890523512-47
1	1/19/91	2	1		107.2	N	
1	1/19/91	3	1		108.2	Y	
1	1/19/91	4	1		107.8	N	
1	1/19/91	5	1		105.1	N	
1	1/19/91	6	1		77.6	N	
1	1/20/91	1	1		106.4	N	J HH99A Ser# 890523512-47
1	1/20/91	2	1		108.1	N	
1	1/20/91	3	1		108.9	Y	
1	1/20/91	4	1		108.7	N	
1	1/20/91	5	1		106.5	N	
1	1/20/91	6	1		78.8	N	
1	2/2/91	1	1		105.8	N	J 890423320-11
1	2/2/91	2	1		107.7	N	
1	2/2/91	3	1		108.3	Y	
1	2/2/91	4	1		108.2	N	
1	2/2/91	5	1		105.9	N	
1	2/2/91	6	1		78	N	
1	2/9/91	1	1		104.8	N	890423320-11
1	2/9/91	2	1		106.5	N	
1	2/9/91	3	1		107.8	N	
1	2/9/91	4	1		107.9	N	
1	2/9/91	5	1		105.7	N	
1	2/9/91	6	1		77.2	N	
1	2/17/91	1	1		104.5	N	890423320-11
1	2/17/91	2	1		106.5	N	
1	2/17/91	3	1		107.3	N	
1	2/17/91	4	1		106.4	N	
1	2/17/91	5	1		103.6	N	
1	2/17/91	6	1		75	N	
1	2/26/91	1	1		103.8	N	J 804423320-11
1	2/26/91	2	1		105.9	N	
1	2/26/91	3	1		107.2	Y	
1	2/26/91	4	1		106.7	N	
1	2/26/91	5	1		104.4	N	
1	2/26/91	6	1		74.9	N	
1	3/3/91	1	1		106	N	J 890423320-11
1	3/3/91	2	1		108	Y	
1	3/3/91	3	1		108	N	
1	3/3/91	4	1		108	N	
1	3/3/91	5	1		105	N	
1	3/3/91	6	1		76	N	
1	3/9/91	1	1		107	N	J 890423320-11
1	3/9/91	2	1		109	Y	
1	3/9/91	3	1		109	N	
1	3/9/91	4	1		109	N	
1	3/9/91	5	1		107	N	
1	3/9/91	6	1		78	N	
1	3/16/91	1	1		103.6	N	J 890423320-11
1	3/16/91	2	1		105.6	N	
1	3/16/91	3	1		106.7	Y	
1	3/16/91	4	1		106.7	N	
1	3/16/91	5	1		104.1	N	
1	3/16/91	6	1		74.5	N	
1	3/24/91	1	1		105	N	J 890423320-11 TC #4 O/S No pkg initiated
1	3/24/91	2	1		106.8	N	
1	3/24/91	3	1		107.8	Y	
1	3/24/91	5	1		104.8	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/24/91	6	1		75.5	N	
1	3/31/91	1	1		104.3	N	J 890423320-11
1	3/31/91	2	1		106.2	N	
1	3/31/91	3	1		106.9	Y	
1	3/31/91	4	1		106.3	N	
1	3/31/91	5	1		103.6	N	
1	3/31/91	6	1		74.4	N	
1	4/9/91	1	1		106.3	N	J-890423320-11
1	4/9/91	2	1		108.3	N	
1	4/9/91	3	1		109.4	Y	
1	4/9/91	4	1		109.4	N	
1	4/9/91	5	1		107	N	
1	4/9/91	6	1		77.7	N	
1	4/14/91	1	1		107.9	N	J-HH-99-A 89-0423320-11
1	4/14/91	2	1		109.5	N	
1	4/14/91	3	1		110	Y	
1	4/14/91	4	1		109.6	N	
1	4/14/91	5	1		107.1	N	
1	4/14/91	6	1		78.2	N	
1	4/20/91	1	1		105.9	N	J 890423320-11
1	4/20/91	2	1		108.1	N	
1	4/20/91	3	1		109.1	Y	
1	4/20/91	4	1		108.9	N	
1	4/20/91	5	1		106.4	N	
1	4/20/91	6	1		77.1	N	
1	4/27/91	1	1		108.2	N	J Keithley 872
1	4/27/91	2	1		110.3	N	
1	4/27/91	3	1		111	Y	
1	4/27/91	4	1		110.1	N	
1	4/27/91	5	1		107.3	N	
1	4/27/91	6	1		77.7	N	
1	5/4/91	1	1		104.8	N	J HH-99A-J
1	5/4/91	2	1		107.4	N	
1	5/4/91	3	1		108.3	Y	
1	5/4/91	4	1		108	N	
1	5/4/91	5	1		105.5	N	
1	5/4/91	6	1		76.7	N	
1	5/12/91	1	1		104.9	N	J Omega 199
1	5/12/91	2	1		106.9	N	
1	5/12/91	3	1		107.6	Y	
1	5/12/91	4	1		107.1	N	
1	5/12/91	5	1		104.6	N	
1	5/12/91	6	1		76.5	N	
1	5/19/91	1	1		106.7	N	J Omega 99-A
1	5/19/91	2	1		108.8	N	
1	5/19/91	3	1		109.5	Y	
1	5/19/91	4	1		108.4	N	
1	5/19/91	5	1		105.4	N	
1	5/19/91	6	1		77.7	N	
1	5/26/91	1	1		105.1	N	J 890423320-11
1	5/26/91	2	1		107.6	N	
1	5/26/91	3	1		108.7	Y	
1	5/26/91	4	1		108.5	N	
1	5/26/91	5	1		105.9	N	
1	5/26/91	6	1		77.8	N	
1	6/1/91	1	1		105.2	N	J Omega Model #199
1	6/1/91	2	1		107.6	N	
1	6/1/91	3	1		108.2	Y	
1	6/1/91	4	1		106.9	N	
1	6/1/91	5	1		103.3	N	
1	6/1/91	6	1		76.2	N	
1	6/9/91	1	1		105.6	N	J 890423320-11
1	6/9/91	2	1		107.9	N	
1	6/9/91	3	1		108.6	Y	
1	6/9/91	4	1		107.7	N	
1	6/9/91	5	1		104.4	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/9/91	6	1		77.8	N	
1	6/16/91	1	1		106.5	N	J 890423320-11
1	6/16/91	2	1		108	N	
1	6/16/91	3	1		108.7	N	
1	6/16/91	4	1		108.9	Y	
1	6/16/91	5	1		105.9	N	
1	6/16/91	6	1		80.4	N	
1	6/22/91	1	1		106.9	N	J 910126143-39
1	6/22/91	2	1		108.7	N	
1	6/22/91	3	1		109.5	Y	
1	6/22/91	4	1		108.9	N	
1	6/22/91	5	1		106	N	
1	6/22/91	6	1		80.3	N	
1	6/29/91	1	1		104.5	N	J 9101261438-75
1	6/29/91	2	1		106.9	N	
1	6/29/91	3	1		107.7	Y	
1	6/29/91	4	1		106.3	N	
1	6/29/91	5	1		102.9	N	
1	6/29/91	6	1		77.4	N	
1	7/7/91	1	1		104.5	N	J 910126143-73
1	7/7/91	2	1		106.4	N	
1	7/7/91	3	1		107.3	Y	
1	7/7/91	4	1		106.9	N	
1	7/7/91	5	1		104.5	N	
1	7/7/91	6	1		79	N	
1	7/13/91	1	1		105.2	N	J 910126143-75
1	7/13/91	2	1		107.2	N	
1	7/13/91	3	1		107.6	Y	
1	7/13/91	4	1		106.4	N	
1	7/13/91	5	1		103.2	N	
1	7/13/91	6	1		78.8	N	
1	7/20/91	1	1		104	N	J
1	7/20/91	2	1		106.4	N	
1	7/20/91	3	1		107.2	Y	
1	7/20/91	4	1		105.9	N	
1	7/20/91	5	1		102.6	N	
1	7/20/91	6	1		78.5	N	
1	7/27/91	1	1		104.2	N	J 910126143-75
1	7/27/91	2	1		106.1	N	
1	7/27/91	3	1		106.8	Y	
1	7/27/91	4	1		106.4	N	
1	7/27/91	5	1		104	N	
1	7/27/91	6	1		80.3	N	
1	8/3/91	1	1		104	N	J 910126143-75
1	8/3/91	2	1		106.1	N	
1	8/3/91	3	1		106.7	Y	
1	8/3/91	4	1		105.5	N	
1	8/3/91	5	1		102.3	N	
1	8/3/91	6	1		79.6	N	
1	8/11/91	1	1		104.7	N	J 910126143-75
1	8/11/91	2	1		106.3	N	
1	8/11/91	3	1		107.2	Y	
1	8/11/91	4	1		106.7	N	
1	8/11/91	5	1		104.4	N	
1	8/11/91	6	1		81.8	N	
1	8/18/91	1	1		103.1	N	J 910126143-75
1	8/18/91	2	1		105.7	N	
1	8/18/91	3	1		106.7	Y	
1	8/18/91	4	1		106.6	N	
1	8/18/91	5	1		104.4	N	
1	8/18/91	6	1		92.3	N	
1	8/25/91	1	1		103.8	N	J HH-99A-J
1	8/25/91	2	1		105.8	N	
1	8/25/91	3	1		106.8	Y	
1	8/25/91	4	1		106.5	N	
1	8/25/91	5	1		104.3	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	8/25/91	6	1		82.1	N	
1	8/31/91	1	1		104.6	N	J-890523512-20
1	8/31/91	2	1		106.4	N	
1	8/31/91	3	1		107.4	Y	
1	8/31/91	4	1		106.6	N	
1	8/31/91	5	1		104.2	N	
1	8/31/91	6	1		82.9	N	
1	9/7/91	1	1		103.4	N	J-890523512-20
1	9/7/91	2	1		105.7	N	
1	9/7/91	3	1		106.6	Y	
1	9/7/91	4	1		105.5	N	
1	9/7/91	5	1		102.7	N	
1	9/7/91	6	1		81.6	N	
1	9/14/91	1	1		105	N	J-890523512-20
1	9/14/91	2	1		107.3	N	
1	9/14/91	3	1		108.2	Y	
1	9/14/91	4	1		106.6	N	
1	9/14/91	5	1		103.6	N	
1	9/14/91	6	1		83	N	
1	9/21/91	1	1		105.9	N	J-HH-99A-J
1	9/21/91	2	1		108	N	
1	9/21/91	3	1		108.7	Y	
1	9/21/91	4	1		107.8	N	
1	9/21/91	5	1		105	N	
1	9/21/91	6	1		85.3	N	
1	9/28/91	1	1		104	N	J-890523512-20
1	9/28/91	2	1		106	N	
1	9/28/91	3	1		107.2	Y	
1	9/28/91	4	1		106.8	N	
1	9/28/91	5	1		104.8	N	
1	9/28/91	6	1		83.9	N	
1	10/5/91	1	1		105.8	N	J-890523518-20
1	10/5/91	2	1		108	N	
1	10/5/91	3	1		108.8	Y	
1	10/5/91	4	1		108.1	N	
1	10/5/91	5	1		105.6	N	
1	10/5/91	6	1		85.1	N	
1	10/11/91	1	1		106.2	N	J-890523512-20
1	10/11/91	2	1		108.2	N	
1	10/11/91	3	1		109.2	Y	
1	10/11/91	4	1		108.1	N	
1	10/11/91	5	1		105.6	N	
1	10/11/91	6	1		85.2	N	
1	10/20/91	1	1		105.9	N	J-890523512-20
1	10/20/91	2	1		108.2	N	
1	10/20/91	3	1		109.3	Y	
1	10/20/91	4	1		108.1	N	
1	10/20/91	5	1		105.5	N	
1	10/20/91	6	1		84.8	N	
1	10/26/91	1	1		107.4	N	J-890523512-20
1	10/26/91	2	1		108.9	N	
1	10/26/91	3	1		109.8	Y	
1	10/26/91	4	1		109.5	N	
1	10/26/91	5	1		107.5	N	
1	10/26/91	6	1		86.9	N	
1	11/2/91	1	1		107.2	N	J-890523512-80
1	11/2/91	2	1		108.8	N	
1	11/2/91	3	1		109.9	Y	
1	11/2/91	4	1		109.2	N	
1	11/2/91	5	1		106.7	N	
1	11/2/91	6	1		85.5	N	
1	11/9/91	1	1		107.9	N	J-890523512-20
1	11/9/91	2	1		109.6	N	
1	11/9/91	3	1		110.5	Y	
1	11/9/91	4	1		110.2	N	
1	11/9/91	5	1		108	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/9/91	6	1		86.6	N	
1	11/13/91	1	1		104.1	N	J-890423320-42
1	11/13/91	2	1		105.7	N	
1	11/13/91	3	1		106.4	Y	
1	11/13/91	4	1		106.1	N	
1	11/13/91	5	1		104.2	N	
1	11/13/91	6	1		82.6	N	
1	11/15/91	1	1		103.7	N	J-817-13-55-008
1	11/15/91	2	1		105.3	N	
1	11/15/91	3	1		106.2	Y	
1	11/15/91	4	1		105.9	N	
1	11/15/91	5	1		104	N	
1	11/15/91	6	1		82.1	N	
1	11/23/91	1	1		103.4	N	J-890423320-42
1	11/23/91	2	1		105	N	
1	11/23/91	3	1		105.8	Y	
1	11/23/91	4	1		105.5	N	
1	11/23/91	5	1		103.6	N	
1	11/23/91	6	1		81.2	N	
1	12/1/91	1	1		103.5	N	J-890523512-47
1	12/1/91	2	1		105.1	N	
1	12/1/91	3	1		106	N	
1	12/1/91	4	1		105.8	Y	
1	12/1/91	5	1		103.8	N	
1	12/1/91	6	1		80.5	N	
1	12/6/91	1	1		106	N	J-910126143-64
1	12/6/91	2	1		108	N	
1	12/6/91	3	1		109	Y	
1	12/6/91	4	1		108	N	
1	12/6/91	5	1		107	N	
1	12/6/91	6	1		83	N	
1	12/14/91	1	1		105.9	N	J-910126143-64
1	12/14/91	2	1		107.9	N	
1	12/14/91	3	1		109	Y	
1	12/14/91	4	1		108.5	N	
1	12/14/91	5	1		106.2	N	
1	12/14/91	6	1		81.9	N	
1	12/22/91	1	1		106.8	N	J-TI-007
1	12/22/91	2	1		108.7	N	
1	12/22/91	3	1		109.6	Y	
1	12/22/91	4	1		109.3	N	
1	12/22/91	5	1		107.4	N	
1	12/22/91	6	1		82.6	N	
1	12/28/91	1	1		108.7	N	J-890523512-20
1	12/28/91	2	1		110.4	N	
1	12/28/91	3	1		111.3	Y	
1	12/28/91	4	1		110.9	N	
1	12/28/91	5	1		109	N	
1	12/28/91	6	1		83.5	N	
1	1/6/92	1	1		105.6	N	J-TI-030
1	1/6/92	2	1		107.3	N	
1	1/6/92	3	1		108.1	Y	
1	1/6/92	4	1		107.6	N	
1	1/6/92	5	1		105.8	N	
1	1/6/92	6	1		80	N	
1	1/12/92	1	1		107.2	N	J 890523512-20
1	1/12/92	2	1		108.2	N	
1	1/12/92	3	1		109.7	Y	
1	1/12/92	4	1		109.5	N	
1	1/12/92	5	1		107.6	N	
1	1/12/92	6	1		81.3	N	
1	1/16/92	1	1		105.2	N	J Omega 199
1	1/16/92	2	1		107.2	N	
1	1/16/92	3	1		108.1	Y	
1	1/16/92	4	1		107.9	N	
1	1/16/92	5	1		105.8	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/16/92	6	1		79.2	N	
1	1/25/92	1	1		106.5	N	J-890523512-20
1	1/25/92	2	1		108.2	N	
1	1/25/92	3	1		109.2	Y	
1	1/25/92	4	1		108.8	N	
1	1/25/92	5	1		106.6	N	
1	1/25/92	6	1		79.3	N	
1	1/28/92	1	1			N	ACCESS RESTRICTED 1/28 - 2/22 DUE TO BATTERY FUME INCIDENT
1	2/22/92	1	1		104.4	N	J-910126143-50
1	2/22/92	2	1		106.3	N	
1	2/22/92	3	1		107.6	Y	
1	2/22/92	4	1		107.4	N	
1	2/22/92	5	1		104.9	N	
1	2/22/92	6	1		76.4	N	
1	3/1/92	1	1		104.2	N	J-910126143-50
1	3/1/92	2	1		106	N	
1	3/1/92	3	1		107.1	Y	
1	3/1/92	4	1		106.3	N	
1	3/1/92	5	1		104.9	N	
1	3/1/92	6	1		76.1	N	
1	3/6/92	1	1		105.1	N	J 910126143-50
1	3/6/92	2	1		107.1	N	
1	3/6/92	3	1		107.9	Y	
1	3/6/92	4	1		107.5	N	
1	3/6/92	5	1		104.8	N	
1	3/6/92	6	1		75.7	N	
1	3/15/92	1	1		105.5	N	J-890523512-20
1	3/15/92	2	1		106.8	N	
1	3/15/92	3	1		107.7	Y	
1	3/15/92	4	1		107.5	N	
1	3/15/92	5	1		105.1	N	
1	3/15/92	6	1		76.4	N	
1	3/22/92	1	1		102.4	N	J 890423320 42
1	3/22/92	2	1		104.4	N	
1	3/22/92	3	1		105.3	Y	
1	3/22/92	4	1		105.2	N	
1	3/22/92	5	1		103	N	
1	3/22/92	6	1		74.5	N	
1	3/28/92	1	1		103	N	J 890423320-42 TC#5 SUSPECT
1	3/28/92	2	1		105	N	
1	3/28/92	3	1		106	Y	
1	3/28/92	4	1		106	N	
1	3/28/92	6	1		75	N	
1	4/4/92	1	1		106.8	N	J 890423320-42
1	4/4/92	2	1		108.6	N	
1	4/4/92	3	1		108.9	Y	
1	4/4/92	4	1		108	N	
1	4/4/92	5	1		105.4	N	
1	4/4/92	6	1		77.4	N	
1	4/12/92	1	1		107.1	N	J 900925741-79
1	4/12/92	2	1		108.7	N	
1	4/12/92	3	1		109.4	Y	
1	4/12/92	4	1		109	N	
1	4/12/92	5	1		106.5	N	
1	4/12/92	6	1		78.4	N	
1	4/18/92	1	1		98.2	N	J 890423320 42
1	4/18/92	2	1		100.7	N	
1	4/18/92	3	1		102	Y	
1	4/18/92	4	1		101.9	N	
1	4/18/92	5	1		99.5	N	
1	4/18/92	6	1		71.2	N	
1	4/25/92	1	1		100.6	N	J 890423320 42
1	4/25/92	2	1		102.9	N	
1	4/25/92	3	1		104.2	Y	
1	4/25/92	4	1		104	N	
1	4/25/92	5	1		101.9	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/25/92	6	1		73.2	N	
1	4/30/92	1	1		106.6	N	J 900925741-29
1	4/30/92	2	1		108.6	N	
1	4/30/92	3	1		109.2	Y	
1	4/30/92	4	1		108.3	N	
1	4/30/92	5	1		105.3	N	
1	4/30/92	6	1		77.4	N	
1	5/8/92	1	1		103.3	N	J 890423320-42
1	5/8/92	2	1		104.9	N	
1	5/8/92	3	1		105.6	Y	
1	5/8/92	4	1		105	N	
1	5/8/92	5	1		102.6	N	
1	5/8/92	6	1		75.6	N	
1	5/15/92	1	1		106.9	N	J 90092574179
1	5/15/92	2	1		108.6	N	
1	5/15/92	3	1		109.3	Y	
1	5/15/92	4	1		108.5	N	
1	5/15/92	5	1		105.7	N	
1	5/15/92	6	1		78.7	N	
1	5/20/92	1	1		105.4	N	J 89042330-42
1	5/20/92	2	1		107.6	N	
1	5/20/92	3	1		108.5	Y	
1	5/20/92	4	1		108.2	N	
1	5/20/92	5	1		105.7	N	
1	5/20/92	6	1		78.8	N	
1	5/30/92	1	1		104.5	N	J 900925741-79
1	5/30/92	2	1		106.8	N	
1	5/30/92	3	1		107.8	Y	
1	5/30/92	4	1		106.7	N	
1	5/30/92	5	1		103.9	N	
1	5/30/92	6	1		77.9	N	
1	6/8/92	1	1		101.6	Y	J 890423320-42
1	6/8/92	2	1		104	N	
1	6/8/92	3	1		104.7	N	
1	6/8/92	4	1		103.8	N	
1	6/8/92	5	1		101.2	N	
1	6/8/92	6	1		76.3	N	
1	6/13/92	1	1		106.1	N	J 900925741-79
1	6/13/92	2	1		108.5	N	
1	6/13/92	3	1		108.7	Y	
1	6/13/92	5	1		108.1	N	
1	6/13/92	6	1		80.5	N	
1	6/19/92	1	1		100.8	N	J 890423320-42 6-92
1	6/19/92	2	1		103.1	N	
1	6/19/92	3	1		104	Y	
1	6/19/92	4	1		103.9	N	
1	6/19/92	5	1		101.8	N	
1	6/19/92	6	1		76.7	N	
1	6/29/92	1	1		102.1	N	J TK102-890423320-42
1	6/29/92	2	1		104.3	N	
1	6/29/92	3	1		104.9	Y	
1	6/29/92	4	1		103.8	N	
1	6/29/92	5	1		100.9	N	
1	6/29/92	6	1		77	N	
1	7/8/92	1	1		101.2	N	J 890523512-47
1	7/8/92	2	1		103.5	N	
1	7/8/92	3	1		104.5	Y	
1	7/8/92	4	1		103.3	N	
1	7/8/92	5	1		100.3	N	
1	7/8/92	6	1		76.9	N	
1	7/17/92	1	1		101.3	N	j 890523512-47
1	7/17/92	2	1		103.6	N	
1	7/17/92	3	1		104.4	Y	
1	7/17/92	4	1		102.8	N	
1	7/17/92	5	1		99.5	N	
1	7/17/92	6	1		76.6	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/24/92	1	1		101.5	N	J 890523512-47
1	7/24/92	2	1		103.2	N	
1	7/24/92	3	1		104.1	Y	
1	7/24/92	4	1		103.3	N	
1	7/24/92	5	1		100.7	N	
1	7/24/92	6	1		78.8	N	
1	7/30/92	1	1		100.8	N	J 890523512-47
1	7/30/92	2	1		103.2	N	
1	7/30/92	3	1		103.9	Y	
1	7/30/92	4	1		102.5	N	
1	7/30/92	5	1		99.5	N	
1	7/30/92	6	1		77.8	N	
1	8/6/92	1	1		104.9	N	J 890523512-47
1	8/6/92	2	1		106.4	N	
1	8/6/92	3	1		107.3	Y	
1	8/6/92	4	1		106.7	N	
1	8/6/92	5	1		104.6	N	
1	8/6/92	6	1		83.3	N	
1	8/13/92	1	1		102.9	N	J 890523512-47
1	8/13/92	2	1		105.1	N	
1	8/13/92	3	1		106.1	Y	
1	8/13/92	4	1		106	N	
1	8/13/92	5	1		104.2	N	
1	8/13/92	6	1		82.8	N	
1	8/21/92	1	1		104.5	N	J 890523512-47
1	8/21/92	2	1		106.1	N	
1	8/21/92	3	1		106.8	Y	
1	8/21/92	4	1		106.4	N	
1	8/21/92	5	1		104.4	N	
1	8/21/92	6	1		84	N	
1	8/27/92	1	1		103.5	N	J 890523512-47
1	8/27/92	2	1		105.5	N	
1	8/27/92	3	1		107	Y	
1	8/27/92	4	1		107	N	
1	8/27/92	5	1		104.9	N	
1	8/27/92	6	1		84.2	N	
1	9/3/92	1	1		103.9	N	J 890523512-47
1	9/3/92	2	1		106.2	N	
1	9/3/92	3	1		107.2	Y	
1	9/3/92	4	1		106.4	N	
1	9/3/92	5	1		104.2	N	
1	9/3/92	6	1		83.9	N	
1	9/9/92	1	1		103.8	N	J 910126143-29
1	9/9/92	2	1		106.1	N	
1	9/9/92	3	1		107.2	Y	
1	9/9/92	4	1		106.1	N	
1	9/9/92	5	1		103.2	N	
1	9/9/92	6	1		82.9	N	
1	9/18/92	1	1		104.1	N	J 890523512-47
1	9/18/92	2	1		106	N	
1	9/18/92	3	1		106.9	Y	
1	9/18/92	4	1		106.2	N	
1	9/18/92	5	1		103.8	N	
1	9/18/92	6	1		83.7	N	
1	9/25/92	1	1		103.8	N	J 910126143-42
1	9/25/92	2	1		105.9	N	
1	9/25/92	3	1		106.8	Y	
1	9/25/92	4	1		106.2	N	
1	9/25/92	5	1		104.6	N	
1	9/25/92	6	1		83.9	N	
1	10/1/92	1	1		103.3	N	J 890523512-47
1	10/1/92	2	1		105.5	N	
1	10/1/92	3	1		106.7	Y	
1	10/1/92	4	1		106.6	N	
1	10/1/92	5	1		104.8	N	
1	10/1/92	6	1		84.3	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/8/92	1	1		103.5	N	J 890523512047
1	10/8/92	2	1		105.3	N	
1	10/8/92	3	1		106.4	Y	
1	10/8/92	4	1		106	N	
1	10/8/92	5	1		104.3	N	
1	10/8/92	6	1		83.8	N	
1	10/15/92	1	1		104	N	j 910126143-50
1	10/15/92	2	1		106	N	
1	10/15/92	3	1		107.4	Y	
1	10/15/92	4	1		107.4	N	
1	10/15/92	5	1		105.4	N	
1	10/15/92	6	1		84.4	N	
1	10/22/92	1	1		103.9	N	J 890523512-47
1	10/22/92	2	1		105.6	N	
1	10/22/92	3	1		106.7	Y	
1	10/22/92	4	1		106.6	N	
1	10/22/92	5	1		105	N	
1	10/22/92	6	1		84.4	N	
1	10/30/92	1	1		103.1	N	J 910126143-50
1	10/30/92	2	1		105.2	N	
1	10/30/92	3	1		106.8	N	
1	10/30/92	4	1		106.9	Y	
1	10/30/92	5	1		104.9	N	
1	10/30/92	6	1		83.1	N	
1	11/7/92	1	1		105	N	J 817-13-20-019293
1	11/7/92	2	1		106.6	N	
1	11/7/92	3	1		107.7	Y	
1	11/7/92	4	1		107.6	N	
1	11/7/92	5	1		105.7	N	
1	11/7/92	6	1		84	N	
1	11/13/92	1	1		105	N	J 910126143-50
1	11/13/92	2	1		107.3	N	
1	11/13/92	3	1		108	Y	
1	11/13/92	4	1		107.8	N	
1	11/13/92	5	1		106	N	
1	11/13/92	6	1		83.9	N	
1	11/19/92	1	1		105.4	N	J 817-13-20-019
1	11/19/92	2	1		106.7	N	
1	11/19/92	3	1		108.3	Y	
1	11/19/92	4	1		108	N	
1	11/19/92	5	1		106.1	N	
1	11/19/92	6	1		84.2	N	
1	11/25/92	1	1		104.5	N	J 910126143-50
1	11/25/92	2	1		106.2	N	
1	11/25/92	3	1		107.7	N	
1	11/25/92	4	1		107.9	Y	
1	11/25/92	5	1		105.9	N	
1	11/25/92	6	1		82.1	N	
1	12/3/92	1	1		104.7	N	J 910126143-32
1	12/3/92	2	1		106.4	N	
1	12/3/92	3	1		107.8	N	
1	12/3/92	4	1		108	Y	
1	12/3/92	5	1		106.1	N	
1	12/3/92	6	1		81.9	N	
1	12/11/92	1	1		106.1	N	J 910126143-32
1	12/11/92	2	1		107.8	N	
1	12/11/92	3	1		109.1	Y	
1	12/11/92	4	1		108.9	N	
1	12/11/92	5	1		107.1	N	
1	12/11/92	6	1		82.2	N	
1	12/20/92	1	1		106.2	N	J 91012614332
1	12/20/92	2	1		107.9	N	
1	12/20/92	3	1		108.6	Y	
1	12/20/92	4	1		108.6	N	
1	12/20/92	5	1		106.8	N	
1	12/20/92	6	1		81.5	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/27/92	1	1		106.8	N	J 910126143-32
1	12/27/92	2	1		108.5	N	
1	12/27/92	3	1		109.5	Y	
1	12/27/92	4	1		109.4	N	
1	12/27/92	5	1		107.6	N	
1	12/27/92	6	1		81.4	N	
1	12/30/92	1	1		106.5	N	J 91012614332
1	12/30/92	2	1		108	N	
1	12/30/92	3	1		109.2	Y	
1	12/30/92	4	1		109.1	N	
1	12/30/92	5	1		107.2	N	
1	12/30/92	6	1		80.7	N	
1	1/7/93	1	1		105.6	N	J 910126143-29
1	1/7/93	2	1		107.4	N	
1	1/7/93	3	1		108.3	Y	
1	1/7/93	4	1		107.9	N	
1	1/7/93	5	1		105.7	N	
1	1/7/93	6	1		78.5	N	
1	1/23/93	1	1		106.5	N	J 91012614329
1	1/23/93	2	1		107.8	N	
1	1/23/93	3	1		108.6	N	
1	1/23/93	4	1		108.9	Y	
1	1/23/93	5	1		107.1	N	
1	1/23/93	6	1		78.5	N	
1	1/31/93	1	1		104.8	N	J 910126143-29
1	1/31/93	2	1		106.9	N	
1	1/31/93	3	1		107.9	N	
1	1/31/93	4	1		108	N	
1	1/31/93	5	1		105.7	N	
1	1/31/93	6	1		76.6	N	
1	2/5/93	1	1		105.6	N	J 910126143-32
1	2/5/93	2	1		107.7	N	
1	2/5/93	3	1		108.7	Y	
1	2/5/93	4	1		108.4	N	
1	2/5/93	5	1		106.1	N	
1	2/5/93	6	1		76.6	N	
1	2/13/93	1	1		104.4	N	J 910126143-42
1	2/13/93	2	1		106.2	N	
1	2/13/93	3	1		107.4	Y	
1	2/13/93	4	1		107.4	N	
1	2/13/93	5	1		104.9	N	
1	2/13/93	6	1		75.4	N	
1	2/18/93	1	1		105.4	N	J 910126143-29
1	2/18/93	2	1		107.4	N	
1	2/18/93	3	1		108	N	
1	2/18/93	4	1		108.3	Y	
1	2/18/93	5	1		106	N	
1	2/18/93	6	1		76	N	
1	2/25/93	1	1		105.7	N	J 817-13-55-008
1	2/25/93	2	1		108	N	
1	2/25/93	3	1		109.2	Y	
1	2/25/93	4	1		109.2	N	
1	2/25/93	5	1		107	N	
1	2/25/93	6	1		76.5	N	
1	3/4/93	1	1		104.5	N	J 910126143-66 TC#6 SUSPECT
1	3/4/93	2	1		106.6	N	
1	3/4/93	3	1		107.8	Y	
1	3/4/93	4	1		107.8	N	
1	3/4/93	5	1		105.5	N	
1	3/11/93	1	1		105.1	N	J 910126143-66
1	3/11/93	2	1		107.2	N	
1	3/11/93	3	1		108	Y	
1	3/11/93	4	1		107.9	N	
1	3/11/93	5	1		105.4	N	
1	3/11/93	6	1		75.1	N	
1	3/19/93	1	1		103.9	N	J 910126143-66

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102 THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/19/93	2	1		106	N	
1	3/19/93	3	1		107.1	Y	
1	3/19/93	4	1		107.1	N	
1	3/19/93	5	1		104.8	N	
1	3/19/93	6	1		74	N	
1	3/27/93	1	1		102.3	N	J 91612614360
1	3/27/93	2	1		103.6	N	
1	3/27/93	3	1		105.1	N	
1	3/27/93	4	1		105.5	Y	
1	3/27/93	5	1		103.3	N	
1	3/27/93	6	1		72.4	N	
1	4/1/93	1	1		101.4	N	J 8904-23320-42
1	4/1/93	2	1		104.2	N	
1	4/1/93	3	1		105	N	
1	4/1/93	4	1		104.8	N	
1	4/1/93	5	1		102.3	N	
1	4/1/93	6	1		71.8	N	
1	4/8/93	1	1		103.6	N	J 0126143-14
1	4/8/93	2	1		105.5	N	
1	4/8/93	3	1		106.1	Y	
1	4/8/93	4	1		105.7	N	
1	4/8/93	5	1		103.4	N	
1	4/8/93	6	1		73	N	
1	4/15/93	1	1		106	N	J 910126143-66
1	4/15/93	2	1		108	N	
1	4/15/93	3	1		109	Y	
1	4/15/93	4	1		108	N	
1	4/15/93	5	1		106	N	
1	4/15/93	6	1		75	N	
1	4/21/93	1	1		103.3	N	J 910126143-66
1	4/21/93	2	1		105.3	N	
1	4/21/93	3	1		106.7	N	
1	4/21/93	4	1		106.9	Y	
1	4/21/93	5	1		104.5	N	
1	4/21/93	6	1		74.2	N	
1	4/23/93	1	1		105.4	N	J 910126143-66
1	4/23/93	2	1		107.1	N	
1	4/23/93	3	1		107.7	Y	
1	4/23/93	4	1		107.3	N	
1	4/23/93	5	1		104.9	N	
1	4/23/93	6	1		75	N	
1	4/29/93	1	1		103	N	J 910126143-66
1	4/29/93	2	1		106.6	N	
1	4/29/93	3	1		107.4	Y	
1	4/29/93	4	1		106.8	N	
1	4/29/93	5	1		104.4	N	
1	4/29/93	6	1		74.7	N	
1	5/6/93	1	1		104.4	N	J 91012614366
1	5/6/93	2	1		106.3	N	
1	5/6/93	3	1		107.1	Y	
1	5/6/93	4	1		106.5	N	
1	5/6/93	5	1		103.5	N	
1	5/6/93	6	1		74.1	N	
1	5/13/93	1	1		102.7	N	J 910126143
1	5/13/93	2	1		105	N	
1	5/13/93	3	1		107.3	Y	
1	5/13/93	4	1		106.3	N	
1	5/13/93	5	1		103.7	N	
1	5/13/93	6	1		74.2	N	
1	5/20/93	1	1		104.5	N	J 910126143-66
1	5/20/93	2	1		106.4	N	
1	5/20/93	3	1		107.3	Y	
1	5/20/93	4	1		106.8	N	
1	5/20/93	5	1		104.3	N	
1	5/20/93	6	1		75.6	N	
1	5/27/93	1	1		101.6	N	J 890423320-42

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/27/93	2	1		103.6	N	
1	5/27/93	3	1		104.6	Y	
1	5/27/93	4	1		104.2	N	
1	5/27/93	5	1		101.7	N	
1	5/27/93	6	1		72.9	N	
1	6/3/93	1	1		105	N	J 817-13-20-019
1	6/3/93	2	1		107	Y	
1	6/3/93	3	1		107	N	
1	6/3/93	4	1		106	N	
1	6/3/93	5	1		103	N	
1	6/3/93	6	1		75	N	
1	6/10/93	1	1		102.1	N	J 910126143-32
1	6/10/93	2	1		105.1	N	
1	6/10/93	3	1		106.1	Y	
1	6/10/93	4	1		106.1	N	
1	6/10/93	5	1		103.7	N	
1	6/10/93	6	1		75.6	N	
1	6/18/93	1	1		103.1	N	J
1	6/18/93	2	1		105.7	N	
1	6/18/93	3	1		106.4	Y	
1	6/18/93	4	1		105.4	N	
1	6/18/93	5	1		102.2	N	
1	6/18/93	6	1		75	N	
1	6/27/93	1	1		104.7	N	J 910126143-32
1	6/27/93	2	1		106.6	N	
1	6/27/93	3	1		107.3	Y	
1	6/27/93	4	1		106.5	N	
1	6/27/93	5	1		103.8	N	
1	6/27/93	6	1		77.7	N	
1	7/1/93	1	1		102	N	J 890423320-42
1	7/1/93	2	1		103.9	N	
1	7/1/93	3	1		104.6	Y	
1	7/1/93	4	1		103.9	N	
1	7/1/93	5	1		103.1	N	
1	7/1/93	6	1		75.7	N	
1	7/8/93	1	1		101.4	N	J 890423320-42
1	7/8/93	2	1		103.2	N	
1	7/8/93	3	1		104.1	Y	
1	7/8/93	4	1		103	N	
1	7/8/93	5	1		99.9	N	
1	7/8/93	6	1		74.6	N	
1	7/16/93	1	1		101.1	N	TYPE J 890423320-42
1	7/16/93	2	1		103.3	N	
1	7/16/93	3	1		104.3	Y	
1	7/16/93	4	1		103.8	N	
1	7/16/93	5	1		101.3	N	
1	7/16/93	6	1		76.6	N	
1	7/22/93	1	1		102.9	N	J 0126143-14
1	7/22/93	2	1		104.9	N	
1	7/22/93	3	1		105.8	Y	
1	7/22/93	4	1		105.5	N	
1	7/22/93	5	1		102.9	N	
1	7/22/93	6	1		78.8	N	
1	7/29/93	1	1		103.2	N	J 910126143-14
1	7/29/93	2	1		105	N	
1	7/29/93	3	1		105.6	Y	
1	7/29/93	4	1		104.9	N	
1	7/29/93	5	1		102.4	N	
1	7/29/93	6	1		78.9	N	
1	8/5/93	1	1		100.8	N	J 890423320-42
1	8/5/93	2	1		103	N	
1	8/5/93	3	1		103.9	Y	
1	8/5/93	4	1		103.4	N	
1	8/5/93	5	1		100.9	N	
1	8/5/93	6	1		77.5	N	
1	8/13/93	1	1		101.7	N	J89042332042

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102 THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	8/13/93	2	1		104.1	N	
1	8/13/93	3	1		105	Y	
1	8/13/93	4	1		103.9	N	
1	8/13/93	5	1		100.9	N	
1	8/13/93	6	1		77.9	N	
1	8/19/93	1	1		101.4	N	J 8906233042
1	8/19/93	2	1		103.3	N	
1	8/19/93	3	1		104.3	Y	
1	8/19/93	4	1		103.1	N	
1	8/19/93	5	1		100.1	N	
1	8/19/93	6	1		77.6	N	
1	8/27/93	1	1		106.7	N	J 910126143-66
1	8/27/93	2	1		108.1	N	
1	8/27/93	3	1		108.6	Y	
1	8/27/93	4	1		108.2	N	
1	8/27/93	5	1		106.2	N	
1	8/27/93	6	1		84.1	N	
1	9/3/93	1	1		104.3	N	J 910126143-66
1	9/3/93	2	1		106.3	N	
1	9/3/93	3	1		107.6	N	
1	9/3/93	4	1		107.8	Y	
1	9/3/93	5	1		105.6	N	
1	9/3/93	6	1		82.9	N	
1	9/12/93	1	1		106.5	N	J TI-042
1	9/12/93	2	1		108	N	
1	9/12/93	3	1		108.6	Y	
1	9/12/93	4	1		108.2	N	
1	9/12/93	5	1		106.3	N	
1	9/12/93	6	1		84.7	N	
1	9/20/93	1	1		101.9	N	J 910126143-50
1	9/20/93	2	1		103.6	N	
1	9/20/93	3	1		104.4	Y	
1	9/20/93	4	1		103.4	N	
1	9/20/93	5	1		100.8	N	
1	9/20/93	6	1		79.8	N	
1	9/27/93	1	2		102.6	N	HDAT
1	9/27/93	1	3		102.6	N	HDAT
1	9/27/93	1	1		103.1	N	J 890423320-42
1	9/27/93	2	3		103.9	N	
1	9/27/93	2	1		104.5	N	
1	9/27/93	3	3		104.6	Y	
1	9/27/93	3	1		105	Y	
1	9/27/93	4	2		103.9	Y	
1	9/27/93	4	3		104.1	N	
1	9/27/93	4	1		104.7	N	
1	9/27/93	5	2		102.1	N	
1	9/27/93	5	3		102.1	N	
1	9/27/93	5	1		102.2	N	
1	9/27/93	6	2		81.7	N	
1	9/27/93	6	3		81.7	N	
1	9/27/93	6	1		81.9	N	
1	10/5/93	1	1		103.6	N	J 910126143-48
1	10/5/93	2	1		105.2	N	
1	10/5/93	3	1		106	Y	
1	10/5/93	4	1		105.8	N	
1	10/5/93	5	1		103.8	N	
1	10/5/93	6	1		82.8	N	
1	10/12/93	1	1		104.2	N	J 910126143-48
1	10/12/93	2	1		105.6	N	
1	10/12/93	3	1		106.2	Y	
1	10/12/93	4	1		105.8	N	
1	10/12/93	5	1		103.8	N	
1	10/12/93	6	1		83.1	N	
1	10/18/93	1	1		101.5	N	J 910126143-14
1	10/18/93	2	1		103.8	N	
1	10/18/93	3	1		105.1	Y	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/18/93	4	1		104.1	N	
1	10/18/93	5	1		101.4	N	
1	10/18/93	6	1		79.8	N	
1	10/27/93	1	1		104.4	N	J 91012614348
1	10/27/93	2	1		105.8	N	
1	10/27/93	3	1		106.4	Y	
1	10/27/93	4	1		106.1	N	
1	10/27/93	5	1		104.3	N	
1	10/27/93	6	1		83.2	N	
1	11/1/93	1	1		103.5	N	J 910126143-29
1	11/1/93	2	1		105.2	N	
1	11/1/93	3	1		106	Y	
1	11/1/93	4	1		105.7	N	
1	11/1/93	5	1		103.8	N	
1	11/1/93	6	1		82.3	N	
1	11/8/93	1	1		105.5	N	J 910126143-29
1	11/8/93	2	1		106.9	N	
1	11/8/93	3	1		107.6	Y	
1	11/8/93	4	1		107.3	N	
1	11/8/93	5	1		105.2	N	
1	11/8/93	6	1		83.5	N	
1	11/17/93	1	1		104.6	N	J TI-041
1	11/17/93	2	1		106.2	N	
1	11/17/93	3	1		107.1	Y	
1	11/17/93	4	1		106.8	N	
1	11/17/93	5	1		105	N	
1	11/17/93	6	1		82.2	N	
1	11/23/93	1	1		104.6	N	J 910126143-29
1	11/23/93	2	1		106.2	N	
1	11/23/93	3	1		107	Y	
1	11/23/93	4	1		106.6	N	
1	11/23/93	5	1		104.8	N	
1	11/23/93	6	1		82	N	
1	11/29/93	1	2		104.8	N	J-910126143-29
1	11/29/93	1	1		105.2	N	J 910126143-29
1	11/29/93	2	2		106.3	N	
1	11/29/93	2	1		106.8	N	
1	11/29/93	3	2		107.2	Y	
1	11/29/93	3	1		107.6	Y	
1	11/29/93	4	2		106.8	N	
1	11/29/93	4	1		107.4	N	
1	11/29/93	5	2		105.2	N	
1	11/29/93	5	1		105.4	N	
1	11/29/93	6	2		81.7	N	
1	11/29/93	6	1		81.9	N	
1	12/7/93	1	1		105.1	N	J 910126143-29
1	12/7/93	2	1		106.4	N	
1	12/7/93	3	1		107.1	Y	
1	12/7/93	4	1		106.8	N	
1	12/7/93	5	1		105	N	
1	12/7/93	6	1		80.8	N	
1	12/14/93	1	1		104.5	N	J 910126143-29
1	12/14/93	2	1		105.9	N	
1	12/14/93	3	1		106.7	Y	
1	12/14/93	4	1		106.4	N	
1	12/14/93	5	1		104.6	N	
1	12/14/93	6	1		79.8	N	
1	12/20/93	1	1		104.7	N	J 910126143-29
1	12/20/93	1	2		104.7	N	J 910126143-29
1	12/20/93	2	1		106.2	N	
1	12/20/93	2	2		106.3	N	
1	12/20/93	3	1		107.1	Y	
1	12/20/93	3	2		107.2	Y	
1	12/20/93	4	1		106.8	N	
1	12/20/93	4	2		106.8	N	
1	12/20/93	5	1		104.8	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-102							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/20/93	5	2		105.1	N	
1	12/20/93	6	1		79.5	N	
1	12/20/93	6	2		79.9	N	
1	12/27/93	1	1		104.9	N	J 910126143-29
1	12/27/93	2	1		106.4	N	
1	12/27/93	3	1		107.5	Y	
1	12/27/93	4	1		107.3	N	
1	12/27/93	5	1		105.3	N	
1	12/27/93	6	1		79.5	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994242-S Bottoms Tanks Transfer Record, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-103							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/2/74	1		41.11	105.998		raw data - assumed degree C
1	12/2/74	2		37.78	100.004		raw data - assumed degree C
1	12/2/74	3		36.67	98.006		raw data - assumed degree C
1	12/2/74	4		36.67	98.006		raw data - assumed degree C
1	12/2/74	5		36.67	98.006		raw data - assumed degree C
1	12/2/74	6		36.11	96.998		raw data - assumed degree C
1	12/2/74	7		36.11	96.998		raw data - assumed degree C
1	12/2/74	8		35.56	96.008		raw data - assumed degree C
1	12/2/74	9		33.89	93.002		raw data - assumed degree C
1	12/2/74	10		33.89	93.002		raw data - assumed degree C
1	12/2/74	11		32.78	91.004		raw data - assumed degree C
1	12/2/74	12		32.78	91.004		raw data - assumed degree C
1	11/3/75	1			114		
1	11/3/75	2			119		
1	11/3/75	3			120		
1	11/3/75	4			120		
1	11/3/75	5			120		
1	11/3/75	6			120		
1	11/3/75	7			120		
1	11/3/75	8			119		
1	11/3/75	9			114		
1	11/3/75	10			113		
1	11/3/75	11			113		
1	11/3/75	12			113		
1	2/4/76	1			105		
1	2/4/76	2			98		
1	2/4/76	3			96		
1	2/4/76	4			94		
1	2/4/76	5			88		
1	2/4/76	6			84		
1	2/4/76	7			84		
1	2/4/76	8			84		
1	2/4/76	9			84		
1	2/4/76	10			84		
1	2/4/76	11			84		
1	2/4/76	12			84		
1	3/5/76	1			97		
1	3/5/76	2			89		
1	3/5/76	3			84		
1	3/5/76	4			83		
1	3/5/76	5			82		
1	3/5/76	6			82		
1	3/5/76	7			83		
1	3/5/76	8			83		
1	3/5/76	9			82		
1	3/5/76	10			82		
1	3/5/76	11			82		
1	5/2/76	1			97		
1	5/2/76	2			103		
1	5/2/76	3			97		
1	5/2/76	4			96		
1	5/2/76	5			103		
1	5/2/76	6			94		
1	5/2/76	7			90		
1	5/2/76	8			90		
1	5/2/76	9			90		
1	5/2/76	10			90		
1	5/2/76	11			90		
1	5/2/76	12			90		
1	6/1/76	1			98		
1	6/1/76	2			98		
1	6/1/76	3			97		
1	6/1/76	4			94		
1	6/1/76	5			88		
1	6/1/76	6			84		
1	6/1/76	7			84		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-103							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/1/76	8			84		
1	6/1/76	9			84		
1	6/1/76	10			84		
1	6/1/76	11			84		
1	6/1/76	12			84		
1	6/1/76	13			84		
1	6/1/76	14			84		
1	7/1/76	1			91		
1	7/1/76	2			91		
1	7/1/76	3			88		
1	7/1/76	4			83		
1	7/1/76	5			77		
1	7/1/76	6			76		
1	7/1/76	7			76		
1	7/1/76	8			76		
1	7/1/76	9			76		
1	7/1/76	10			76		
1	7/1/76	11			76		
1	7/1/76	12			76		
1	7/1/76	13			76		
1	7/1/76	14			76		
1	8/3/76	1			98		
1	8/3/76	2			98		
1	8/3/76	3			94		
1	8/3/76	4			99		
1	8/3/76	5			84		
1	8/3/76	6			83		
1	8/3/76	7			83		
1	8/3/76	8			82		
1	8/3/76	9			82		
1	8/3/76	10			82		
1	8/3/76	11			82		
1	8/3/76	12			82		
1	9/2/76	1			100		
1	9/2/76	2			100		
1	9/2/76	3			98		
1	9/2/76	4			96		
1	9/2/76	5			92		
1	9/2/76	6			91		
1	9/2/76	7			91		
1	9/2/76	8			91		
1	9/2/76	9			91		
1	9/2/76	10			91		
1	9/2/76	11			91		
1	9/2/76	12			91		
1	10/3/76	1			101		
1	10/3/76	2			106		
1	10/3/76	3			106		
1	10/3/76	4			100		
1	10/3/76	5			97		
1	10/3/76	6			97		
1	10/3/76	7			97		
1	10/3/76	8			97		
1	10/3/76	9			97		
1	10/3/76	10			97		
1	10/3/76	11			97		
1	10/3/76	12			97		
1	11/1/76	1			102		
1	11/1/76	2			108		
1	11/1/76	3			104		
1	11/1/76	4			100		
1	11/1/76	5			100		
1	11/1/76	6			100		
1	11/1/76	7			100		
1	11/1/76	8			100		
1	11/1/76	9			100		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-103							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/1/76	10			100		
1	11/1/76	11			100		
1	11/1/76	12			100		
1	12/4/76	1			100		
1	12/4/76	2			94		
1	12/4/76	3			91		
1	12/4/76	4			91		
1	12/4/76	5			91		
1	12/4/76	6			90		
1	12/4/76	7			90		
1	12/4/76	8			90		
1	12/4/76	9			90		
1	12/4/76	10			90		
1	12/4/76	11			90		
1	12/4/76	12			90		
1	1/1/77	1			107		
1	1/1/77	2			108		
1	1/1/77	3			106		
1	1/1/77	4			94		
1	1/1/77	5			90		
1	1/1/77	6			92		
1	1/1/77	7			92		
1	1/1/77	8			92		
1	1/1/77	9			89		
1	1/1/77	10			89		
1	1/1/77	11			89		
1	1/1/77	12			89		
1	2/1/77	1			98		
1	2/1/77	2			88		
1	2/1/77	3			88		
1	2/1/77	4			88		
1	2/1/77	5			86		
1	2/1/77	6			86		
1	2/1/77	7			86		
1	2/1/77	8			86		
1	2/1/77	9			86		
1	2/1/77	10			86		
1	2/1/77	11			86		
1	2/1/77	12			86		
1	3/1/77	1			115		
1	3/1/77	2			123		
1	3/1/77	3			123		
1	3/1/77	4			125		
1	3/1/77	5			120		
1	3/1/77	6			95		
1	3/1/77	7			94		
1	3/1/77	8			94		
1	3/1/77	9			94		
1	3/1/77	10			94		
1	3/1/77	11			94		
1	3/1/77	12			94		
1	3/1/77	13			94		
1	3/1/77	14			94		
1	4/1/77	1			115		
1	4/1/77	2			120		
1	4/1/77	3			119		
1	4/1/77	4			117		
1	4/1/77	5			110		
1	4/1/77	6			110		
1	4/1/77	7			106		
1	4/1/77	8			92		
1	4/1/77	9			88		
1	4/1/77	10			87		
1	4/1/77	11			87		
1	4/1/77	11			87		
1	5/1/77	1			115		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-103							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/1/77	2			117		
1	5/1/77	3			114		
1	5/1/77	4			106		
1	5/1/77	5			105		
1	5/1/77	6			101		
1	5/1/77	7			93		
1	5/1/77	8			93		
1	5/1/77	9			98		
1	5/1/77	10			97		
1	5/1/77	11			90		
1	5/1/77	12			90		
1	6/7/77	1			112		
1	6/7/77	2			110		
1	6/7/77	3			100		
1	6/7/77	4			92		
1	6/7/77	5			90		
1	6/7/77	6			90		
1	6/7/77	7			90		
1	6/7/77	8			90		
1	6/7/77	9			90		
1	6/7/77	10			90		
1	6/7/77	11			90		
1	6/7/77	12			90		
1	7/11/77	1			110		
1	7/11/77	2			110		
1	7/11/77	3			105		
1	7/11/77	4			100		
1	7/11/77	5			95		
1	7/11/77	6			90		
1	7/11/77	7			90		
1	7/11/77	8			90		
1	7/11/77	9			90		
1	7/11/77	10			90		
1	7/11/77	11			90		
1	7/11/77	12			90		
1	7/11/77	13			90		
1	7/11/77	14			90		
1	8/5/77	1			105		
1	8/5/77	2			106		
1	8/5/77	3			104		
1	8/5/77	4			103		
1	8/5/77	5			99		
1	8/5/77	6			96		
1	8/5/77	7			95		
1	8/5/77	8			97		
1	8/5/77	9			98		
1	8/5/77	10			98		
1	8/5/77	11			97		
1	9/5/77	1			110		
1	9/5/77	2			110		
1	9/5/77	3			109		
1	9/5/77	4			108		
1	9/5/77	5			106		
1	9/5/77	6			105		
1	9/5/77	7			110		
1	9/5/77	8			106		
1	9/5/77	9			100		
1	9/5/77	10			100		
1	9/5/77	11			100		
1	9/5/77	12			100		
1	9/5/77	13			100		
1	9/5/77	14			100		
1	10/3/77	1			110		
1	10/3/77	2			108		
1	10/3/77	3			106		
1	10/3/77	4			102		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-103							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/3/77	5			95		
1	10/3/77	6			95		
1	10/3/77	7			95		
1	10/3/77	8			95		
1	10/3/77	9			95		
1	10/3/77	10			95		
1	10/3/77	11			95		
1	10/3/77	12			95		
1	10/3/77	13			95		
1	10/3/77	14			95		
1	11/3/77	1			109		
1	11/3/77	2			109		
1	11/3/77	3			110		
1	11/3/77	4			100		
1	11/3/77	5			95		
1	11/3/77	6			92		
1	11/3/77	7			90		
1	11/3/77	8			90		
1	11/3/77	9			90		
1	11/3/77	10			90		
1	11/3/77	11			90		
1	11/3/77	12			90		
1	11/3/77	13			90		
1	11/3/77	14			90		
1	12/4/77	1			120		
1	12/4/77	2			120		
1	12/4/77	3			115		
1	12/4/77	4			109		
1	12/4/77	5			104		
1	12/4/77	6			100		
1	12/4/77	7			101		
1	12/4/77	8			101		
1	12/4/77	9			101		
1	12/4/77	10			101		
1	12/4/77	11			99		
1	12/4/77	12			99		
1	12/4/77	13			99		
1	12/4/77	14			99		
1	1/8/78	1			121		
1	1/8/78	2			118		
1	1/8/78	3			110		
1	1/8/78	4			105		
1	1/8/78	5			106		
1	1/8/78	6			102		
1	1/8/78	7			99		
1	1/8/78	8			95		
1	1/8/78	9			96		
1	1/8/78	10			95		
1	1/8/78	11			95		
1	1/8/78	12			95		
1	1/8/78	13			95		
1	1/8/78	14			95		
1	1/11/78	1			109		
1	1/11/78	2			109		
1	1/11/78	3			99		
1	1/11/78	4			94		
1	1/11/78	5			93		
1	1/11/78	6			89		
1	1/11/78	7			81		
1	1/11/78	8			83		
1	1/11/78	9			82		
1	1/11/78	10			82		
1	1/11/78	11			82		
1	1/11/78	12			82		
1	1/11/78	13			82		
1	1/11/78	14			82		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-103							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/7/78	1			116		
1	2/7/78	2			121		
1	2/7/78	3			126		
1	2/7/78	4			118		
1	2/7/78	5			105		
1	2/7/78	6			105		
1	2/7/78	7			105		
1	2/7/78	8			105		
1	2/7/78	9			105		
1	2/7/78	10			105		
1	2/7/78	11			104		
1	2/7/78	12			104		
1	2/7/78	13			104		
1	2/7/78	14			104		
1	3/12/78	1			122		
1	3/12/78	2			122		
1	3/12/78	3			118		
1	3/12/78	4			104		
1	3/12/78	5			89		
1	3/12/78	6			89		
1	3/12/78	7			89		
1	3/12/78	8					
1	3/12/78	9			88		
1	3/12/78	10			88		
1	3/12/78	11			89		
1	3/12/78	12			89		
1	3/12/78	13			89		
1	3/12/78	14			88		
1	4/11/78	1			115		
1	4/11/78	2			123		
1	4/11/78	3			127		
1	4/11/78	4			127		
1	4/11/78	5			128		
1	4/11/78	6			128		
1	4/11/78	7			127		
1	4/11/78	8			121		
1	4/11/78	9			120		
1	4/11/78	10			120		
1	4/11/78	11			120		
1	4/11/78	12			118		
1	4/11/78	13			115		
1	4/11/78	14			110		
1	6/3/78	1			119		
1	6/3/78	2			120		
1	6/3/78	3			114		
1	6/3/78	4			100		
1	6/3/78	5			92		
1	6/3/78	6			92		
1	6/3/78	7			92		
1	6/3/78	8			92		
1	6/3/78	9			92		
1	6/3/78	10			92		
1	6/3/78	11			92		
1	6/3/78	12			92		
1	6/3/78	13			92		
1	6/3/78	14			92		
1	7/13/78	1			116		
1	7/13/78	2			115		
1	7/13/78	3			110		
1	7/13/78	4			105		
1	7/13/78	5			106		
1	7/13/78	6			104		
1	7/13/78	7			103		
1	7/13/78	8			102		
1	7/13/78	9			101		
1	7/13/78	10			101		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-103							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/13/78	11			101		
1	7/13/78	12			101		
1	7/13/78	13			101		
1	7/13/78	14			101		
1	8/11/78	1			110		
1	8/11/78	2			115		
1	8/11/78	3			121		
1	8/11/78	4			123		
1	8/11/78	5			118		
1	8/11/78	6			116		
1	8/11/78	7			105		
1	8/11/78	8			104		
1	8/11/78	9			104		
1	8/11/78	10			104		
1	8/11/78	11			104		
1	8/11/78	12			104		
1	8/11/78	13			104		
1	8/11/78	14			104		
1	10/10/78	1			119		
1	10/10/78	2			125		
1	10/10/78	3			124		
1	10/10/78	4			124		
1	10/10/78	5			124		
1	10/10/78	6			124		
1	10/10/78	7			110		
1	10/10/78	8			105		
1	10/10/78	9			100		
1	10/10/78	10			100		
1	10/10/78	11			100		
1	10/10/78	12			100		
1	2/4/79	1			116		
1	2/4/79	2			112		
1	2/4/79	3			100		
1	2/4/79	4			89		
1	2/4/79	5			87		
1	2/4/79	6			87		
1	2/4/79	7			88		
1	2/4/79	8			83		
1	2/4/79	9			77		
1	2/4/79	10			77		
1	2/4/79	11			77		
1	2/4/79	12			77		
1	2/4/79	13			77		
1	2/4/79	14			77		
1	9/6/79	1			115		
1	9/6/79	2			120		
1	9/6/79	3			126		
1	9/6/79	4			130		
1	9/6/79	5			130		
1	9/6/79	6			130		
1	9/6/79	7			130		
1	9/6/79	8			130		
1	9/6/79	9			130		
1	9/6/79	10			130		
1	9/6/79	11			122		
1	9/6/79	12			122		
1	9/6/79	13			122		
1	9/6/79	14			122		
1	1/23/80	1			125		
1	1/23/80	2			125		
1	1/23/80	3			120		
1	1/23/80	4			115		
1	1/23/80	5			115		
1	1/23/80	6			110		
1	1/23/80	7			110		
1	1/23/80	8			105		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-103							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/23/80	9			95		
1	1/23/80	10			95		
1	1/23/80	11			95		
1	1/23/80	12			95		
1	1/23/80	13			95		
1	1/23/80	14			95		
1	1/13/82	1			108		
1	1/13/82	2			107		
1	1/13/82	3			100		
1	1/13/82	4			89		
1	1/13/82	5			80		
1	1/13/82	6			78		
1	1/13/82	7			78		
1	1/13/82	8			78		
1	1/13/82	9			78		
1	1/13/82	10			78		
1	1/13/82	11			78		
1	1/13/82	12			78		
1	1/13/82	13			78		
1	1/13/82	14			78		
1	5/29/82	1			101		
1	5/29/82	2			99		
1	5/29/82	3			94		
1	5/29/82	4			96		
1	5/29/82	5			78		
1	5/29/82	6			77		
1	5/29/82	7			77		
1	5/29/82	8			77		
1	5/29/82	9			77		
1	5/29/82	10			77		
1	5/29/82	11			77		
1	5/29/82	12			77		
1	10/6/82	1			101		
1	10/6/82	2			100		
1	10/6/82	3			97		
1	10/6/82	4			91		
1	10/6/82	5			84		
1	10/6/82	6			83		
1	10/6/82	7			83		
1	10/6/82	8			83		
1	10/6/82	9			83		
1	10/6/82	10			83		
1	10/6/82	11			83		
1	10/6/82	12			83		
1	10/6/82	13			83		
1	10/6/82	14			83		
1	1/12/84	1			106		
1	1/12/84	2			104		
1	1/12/84	3			98		
1	1/12/84	4			84		
1	1/12/84	5			83		
1	1/12/84	6			82		
1	2/14/84	1			95		
1	2/14/84	2			92		
1	2/14/84	3			87		
1	2/14/84	4			80		
1	2/14/84	5			71		
1	2/14/84	6			67		
1	3/14/84	1			95		
1	3/14/84	2			92		
1	3/14/84	3			89		
1	3/14/84	4			83		
1	3/14/84	5			74		
1	3/14/84	6			70		
1	4/9/84	1			91		
1	4/9/84	2			94		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-103							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/9/84	3			90		
1	4/9/84	4			83		
1	4/9/84	5			73		
1	4/9/84	6			71		
1	6/19/84	1			66		
1	6/19/84	2			65		
1	6/19/84	3			67		
1	6/19/84	4			60		
1	6/19/84	5			61		
1	6/19/84	6			61		
1	9/13/84	1			100		
1	9/13/84	2			99		
1	9/13/84	3			97		
1	9/13/84	4			92		
1	9/13/84	5			86		
1	9/13/84	6			84		
1	10/19/84	1			115		
1	10/19/84	2			114		
1	10/19/84	3			112		
1	10/19/84	4			108		
1	10/19/84	5			103		
1	10/19/84	6			102		
1	4/2/85	1			94		
1	4/2/85	2			92		
1	4/2/85	3			89		
1	4/2/85	4			83		
1	4/2/85	5			76		
1	4/2/85	6			73		
1	5/2/85	1			88		
1	5/2/85	2			86		
1	5/2/85	3			83		
1	5/2/85	4			79		
1	5/2/85	5			72		
1	5/2/85	6			69		
1	7/2/85	1			90		
1	7/2/85	2			89		
1	7/2/85	3			87		
1	7/2/85	4			83		
1	7/2/85	5			78		
1	7/2/85	6			76		
1	12/4/85	1			74		
1	12/4/85	2			73		
1	12/4/85	3			71		
1	12/4/85	4			67		
1	12/4/85	5			60		
1	12/4/85	6			59		
1	1/6/86	1			85		
1	1/6/86	2			85		
1	1/6/86	3			85		
1	1/6/86	4			84		
1	1/6/86	5			84		
1	1/6/86	6			84		
1	1/7/86	1			72		
1	1/7/86	2			73		
1	1/7/86	3			73		
1	1/7/86	4			73		
1	1/7/86	5			73		
1	1/7/86	6			72		
1	11/27/86	1			94.2		
1	11/27/86	2			93		
1	11/27/86	3			91.4		
1	11/27/86	4			87.6		
1	11/27/86	5			81.5		
1	11/27/86	6			79.1		
1	12/22/86	1			94.2		
1	12/22/86	2			93.1		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-103							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/22/86	3			91.3		
1	12/22/86	4			86.5		
1	12/22/86	5			79.4		
1	12/22/86	6			76.6		
1	1/2/87	1			93.8		
1	1/2/87	2			92.4		
1	1/2/87	3			90.1		
1	1/2/87	4			85.6		
1	1/2/87	5			78.8		
1	1/2/87	6			75.8		
1	2/2/87	1			95		
1	2/2/87	2			93		
1	2/2/87	3			90		
1	2/2/87	4			85		
1	2/2/87	5			78		
1	2/2/87	6			75		
1	3/2/87	1			94		
1	3/2/87	2			92		
1	3/2/87	3			89		
1	3/2/87	4			84		
1	3/2/87	5			76		
1	3/2/87	6			73		
1	4/6/87	1			96		
1	4/6/87	2			95		
1	4/6/87	3			93		
1	4/6/87	4			88		
1	4/6/87	5			81		
1	4/6/87	6			78		
1	5/3/87	1			92.7		
1	5/3/87	2			90.6		
1	5/3/87	3			87.5		
1	5/3/87	4			82.9		
1	5/3/87	5			76.3		
1	5/3/87	6			73.3		
1	7/6/87	1			92.5		
1	7/6/87	2			91.1		
1	7/6/87	3			88.6		
1	7/6/87	4			84.8		
1	7/6/87	5			79.7		
1	7/6/87	6			77.8		
1	8/4/87	1			92		
1	8/4/87	2			90.7		
1	8/4/87	3			88.2		
1	8/4/87	4			84.6		
1	8/4/87	5			80		
1	8/4/87	6			78.2		
1	10/5/87	1			90		
1	10/5/87	2			91		
1	10/5/87	3			90		
1	10/5/87	4			86		
1	10/5/87	5			82		
1	10/5/87	6			80		
1	11/4/87	1			94		
1	11/4/87	2			93		
1	11/4/87	3			92		
1	11/4/87	4			89		
1	11/4/87	5			84		
1	11/4/87	6			81		
1	12/8/87	1			94.8		
1	12/8/87	2			93.8		
1	12/8/87	3			92.3		
1	12/8/87	4			88.4		
1	12/8/87	5			82.6		
1	12/8/87	6			80		
1	1/4/88	1	1		95.1	Y	
1	1/4/88	2	1		93.5	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-103							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/4/88	3	1		92.1	N	
1	1/4/88	4	1		87.5	N	
1	1/4/88	5	1		80.9	N	
1	1/4/88	6	1		77.9	N	
1	2/1/88	1	1		85	Y	
1	2/1/88	2	1		84	N	
1	2/1/88	3	1		84	N	
1	2/1/88	4	1		84	N	
1	2/1/88	5	1		83	N	
1	2/1/88	6	1		82	N	
1	3/8/88	1	1		90	Y	
1	3/8/88	2	1		89	N	
1	3/8/88	3	1		87	N	
1	3/8/88	4	1		82	N	
1	3/8/88	5	1		76	N	
1	3/8/88	6	1		75	N	
1	4/4/88	1	1		91	Y	
1	4/4/88	2	1		90	N	
1	4/4/88	3	1		88	N	
1	4/4/88	4	1		83	N	
1	4/4/88	5	1		76	N	
1	4/4/88	6	1		73	N	
1	5/2/88	1	1		105	Y	
1	5/2/88	2	1		102	N	
1	5/2/88	3	1		99	N	
1	5/2/88	4	1		95	N	
1	5/2/88	5	1		89	N	
1	5/2/88	6	1		86	N	
1	5/4/88	1	1		92	Y	
1	5/4/88	2	1		91	N	
1	5/4/88	3	1		89	N	
1	5/4/88	4	1		85	N	
1	5/4/88	5	1		77	N	
1	5/4/88	6	1		75	N	
1	6/6/88	1	1		108	Y	
1	6/6/88	2	1		102	N	
1	6/6/88	3	1		88	N	
1	6/6/88	4	1		94	N	
1	6/6/88	5	1		87	N	
1	6/6/88	6	1		82	N	
1	7/4/88	1	1		72	N	
1	7/4/88	2	1		71	N	
1	7/4/88	3	1		88	N	
1	7/4/88	4	1		93	Y	
1	7/4/88	5	1		89	N	
1	7/4/88	6	1		89	N	
1	8/1/88	1	1		130	Y	
1	8/1/88	2	1		90	N	
1	8/1/88	3	1		88	N	
1	8/1/88	4	1		85	N	
1	8/1/88	5	1		81	N	
1	8/1/88	6	1		85	N	
1	9/5/88	1	1		92	Y	
1	9/5/88	2	1		91	N	
1	9/5/88	3	1		90	N	
1	9/5/88	4	1		86	N	
1	9/5/88	5	1		82	N	
1	9/5/88	6	1		80	N	
1	10/3/88	1	1		92	Y	
1	10/3/88	2	1		92	N	
1	10/3/88	3	1		90	N	
1	10/3/88	4	1		87	N	
1	10/3/88	5	1		82	N	
1	10/3/88	6	1		80	N	
1	11/7/88	1	1		98	Y	
1	11/7/88	2	1		94	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-103							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/7/88	3	1		92	N	
1	11/7/88	4	1		89	N	
1	11/7/88	5	1		85	N	
1	11/7/88	6	1		82	N	
1	11/7/88	7	1		80	N	
1	12/5/88	1	1			N	BAD READINGS
1	1/2/89	1	1			N	O/S
1	2/6/89	1	1		96	Y	
1	2/6/89	2	1		93.5	N	
1	2/6/89	3	1		91.7	N	
1	2/6/89	4	1		86.3	N	
1	2/6/89	5	1		79	N	
1	2/6/89	6	1		75.9	N	
1	3/6/89	1	1		116	Y	
1	3/6/89	2	1		114	N	
1	3/6/89	3	1		112	N	
1	3/6/89	4	1		106	N	
1	3/6/89	5	1		97	N	
1	3/6/89	6	1		92	N	
1	1/4/91	1	1		89.7	Y	HH-99A-J #890523512-47
1	1/4/91	2	1		88.5	N	
1	1/4/91	3	1		87.3	N	
1	1/4/91	4	1		83	N	
1	1/4/91	5	1		76.8	N	
1	1/4/91	6	1		73.8	N	
1	11/13/91	1	1		86.7	Y	J-890423320-42 TC #4 O/S WORK ORDER #04529
1	11/13/91	2	1		86.7	N	
1	11/13/91	3	1		85.5	N	
1	11/13/91	5	1		77.8	N	
1	11/13/91	6	1		75.8	N	
1	1/1/92	1	1		91.2	Y	J-890523512-20 TC #4 O/S
1	1/1/92	2	1		89.6	N	
1	1/1/92	3	1		88	N	
1	1/1/92	5	1		78.1	N	
1	1/1/92	6	1		75.2	N	
1	7/3/92	6	1		77.5	Y	J 890423320-42
1	2/13/93	1	1		88.1	Y	J 910126143-42
1	2/13/93	2	1		86.5	N	
1	2/13/93	3	1		84.6	N	
1	2/13/93	5	1		72.9	N	
1	2/13/93	6	1		69.5	N	
1	7/2/93	2	1		84.6	Y	J 890423320-42
1	7/2/93	3	1		82.1	N	
1	7/2/93	5	1		73.7	N	
1	7/2/93	6	1		71.2	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-104							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/3/75	1			56		
1	11/3/75	2			56		
1	11/3/75	3			56		
1	11/3/75	4			56		
1	11/3/75	5			56		
1	11/3/75	6			56		
1	11/3/75	7			102		
1	11/3/75	8			102		
1	11/3/75	9			102		
1	11/3/75	10			56		
1	11/3/75	11			102		
1	11/3/75	12			102		
1	2/4/76	1			74		
1	2/4/76	2			74		
1	2/4/76	3			74		
1	2/4/76	4			74		
1	2/4/76	5			74		
1	2/4/76	6			74		
1	2/4/76	7			75		
1	2/4/76	8			86		
1	2/4/76	9			75		
1	2/4/76	10			86		
1	2/4/76	11			87		
1	2/4/76	12			87		
1	5/2/76	1			78		
1	5/2/76	2			77		
1	5/2/76	3			77		
1	5/2/76	4			78		
1	5/2/76	5			77		
1	5/2/76	6			77		
1	5/2/76	7			77		
1	5/2/76	8			77		
1	5/2/76	9			93		
1	5/2/76	10			78		
1	5/2/76	11			93		
1	5/2/76	12			93		
1	6/1/76	1			78		
1	6/1/76	2			77		
1	6/1/76	3			77		
1	6/1/76	4			78		
1	6/1/76	5			77		
1	6/1/76	6			78		
1	6/1/76	7			77		
1	6/1/76	8			77		
1	6/1/76	9			93		
1	6/1/76	10			78		
1	6/1/76	11			93		
1	6/1/76	12			93		
1	7/1/76	1			84		
1	7/1/76	2			84		
1	7/1/76	3			85		
1	7/1/76	4			88		
1	7/1/76	5			87		
1	7/1/76	6			87		
1	7/1/76	7			87		
1	7/1/76	8			86		
1	7/1/76	9			93		
1	7/1/76	10			92		
1	7/1/76	11			92		
1	7/1/76	12			91		
1	8/3/76	1			84		
1	8/3/76	2			84		
1	8/3/76	3			84		
1	8/3/76	4			84		
1	8/3/76	5			84		
1	8/3/76	6			84		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-104							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	8/3/76	7			84		
1	8/3/76	8			84		
1	8/3/76	9			94		
1	8/3/76	10			84		
1	8/3/76	11			94		
1	8/3/76	12			94		
1	9/2/76	1			82		
1	9/2/76	2			82		
1	9/2/76	3			82		
1	9/2/76	4			82		
1	9/2/76	5			82		
1	9/2/76	6			82		
1	9/2/76	7			82		
1	9/2/76	8			91		
1	9/2/76	9			82		
1	9/2/76	10			91		
1	9/2/76	11			91		
1	9/2/76	12			91		
1	10/3/76	1			52		
1	10/3/76	2			51		
1	10/3/76	3			51		
1	10/3/76	4			51		
1	10/3/76	5			51		
1	10/3/76	6			52		
1	10/3/76	7			52		
1	10/3/76	8			52		
1	10/3/76	10			52		
1	10/3/76	11			98		
1	10/3/76	12			98		
1	1/1/77	1			43		
1	1/1/77	2			43		
1	1/1/77	3			42		
1	1/1/77	4			42		
1	1/1/77	5			42		
1	1/1/77	6			42		
1	1/1/77	7			42		
1	1/1/77	8			42		
1	1/1/77	9			121		
1	1/1/77	10			121		
1	1/1/77	11			121		
1	1/1/77	12			121		
1	2/1/77	9			95		
1	2/1/77	11			95		
1	2/1/77	12			95		
1	5/1/77	1			102		
1	5/1/77	2			102		
1	5/1/77	3			102		
1	5/1/77	4			102		
1	5/1/77	5			102		
1	5/1/77	6			101		
1	5/1/77	7			101		
1	5/1/77	8			101		
1	5/1/77	9			92		
1	5/1/77	10			101		
1	5/1/77	11			92		
1	5/1/77	12			92		
1	6/7/77	1			76		
1	6/7/77	2			76		
1	6/7/77	3			77		
1	6/7/77	4			77		
1	6/7/77	5			76		
1	6/7/77	6			76		
1	6/7/77	7			76		
1	6/7/77	9			77		
1	6/7/77	10			92		
1	6/7/77	11			76		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-104							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/7/78	1			40		
1	2/7/78	2			40		
1	2/7/78	3			40		
1	2/7/78	4			41		
1	2/7/78	5			41		
1	2/7/78	6			41		
1	2/7/78	7			41		
1	2/7/78	8			41		
1	2/7/78	9			88		
1	2/7/78	10			82		
1	2/7/78	12			42		
1	2/7/78	13			43		
1	2/7/78	14			43		
1	3/12/78	1			45		
1	3/12/78	2			45		
1	3/12/78	3			45		
1	3/12/78	4			45		
1	3/12/78	5			45		
1	3/12/78	6			45		
1	3/12/78	7			45		
1	3/12/78	8			45		
1	3/12/78	9			45		
1	3/12/78	10			48		
1	3/12/78	13			50		
1	3/12/78	14			50		
1	4/11/78	1			46		
1	4/11/78	2			47		
1	4/11/78	3			47		
1	4/11/78	4			47		
1	4/11/78	5			47		
1	4/11/78	6			47		
1	4/11/78	7			47		
1	4/11/78	8			47		
1	4/11/78	10			48		
1	4/11/78	12			47		
1	4/11/78	14			48		
1	6/3/78	1			60		
1	6/3/78	2			60		
1	6/3/78	3			60		
1	6/3/78	4			60		
1	6/3/78	5			60		
1	6/3/78	6			60		
1	6/3/78	7			60		
1	6/3/78	8			60		
1	6/3/78	9			92		
1	6/3/78	12			58		
1	6/3/78	13			58		
1	6/3/78	14			58		
1	7/13/78	1			86		
1	7/13/78	2			86		
1	7/13/78	3			86		
1	7/13/78	4			86		
1	7/13/78	5			86		
1	7/13/78	6			86		
1	7/13/78	7			86		
1	7/13/78	8			86		
1	7/13/78	9			90		
1	7/13/78	10			87		
1	7/13/78	12			85		
1	7/13/78	13			87		
1	7/13/78	14			86		
1	8/11/78	1			74		
1	8/11/78	2			74		
1	8/11/78	3			74		
1	8/11/78	4			74		
1	8/11/78	5			75		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-104							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	8/11/78	6			75		
1	8/11/78	7			75		
1	8/11/78	8			75		
1	8/11/78	10			75		
1	10/10/78	1			72		
1	10/10/78	2			72		
1	10/10/78	3			73		
1	10/10/78	4			73		
1	10/10/78	5			72		
1	10/10/78	6			72		
1	10/10/78	7			73		
1	10/10/78	8			73		
1	10/10/78	9			99		
1	10/10/78	10			73		
1	10/10/78	12			99		
1	2/4/79	1			42		
1	2/4/79	2			43		
1	2/4/79	3			43		
1	2/4/79	4			43		
1	2/4/79	5			43		
1	2/4/79	6			43		
1	2/4/79	7			44		
1	2/4/79	8			44		
1	2/4/79	9			101		
1	2/4/79	10			46		
1	2/4/79	11			101		
1	2/4/79	12			44		
1	2/4/79	13			46		
1	2/4/79	14			45		
1	2/4/79	15			46		
1	2/4/79	16			45		
1	2/8/79	1			131		
1	2/8/79	2			130		
1	2/8/79	3			124		
1	2/8/79	4			115		
1	2/8/79	5			101		
1	2/8/79	6			92		
1	2/8/79	7			93		
1	2/8/79	8			93		
1	2/8/79	9			93		
1	2/8/79	10			93		
1	2/8/79	11			92		
1	2/8/79	12			93		
1	2/8/79	13			93		
1	2/8/79	14			93		
1	2/14/84	1			119		
1	2/14/84	2			118		
1	2/14/84	3			116		
1	2/14/84	4			109		
1	2/14/84	5			95		
1	2/14/84	6			87		
1	2/14/84	7			87		
1	2/14/84	8			87		
1	2/14/84	9			87		
1	2/14/84	10			87		
1	2/14/84	11			87		
1	2/14/84	12			87		
1	2/14/84	13			87		
1	2/14/84	14			87		
1	1/4/91	1	1			N	O/S
1	11/13/91	1	1		111.8	N	J-890423320-42 TC #1516 O/S W/O#04529
1	11/13/91	2	1		111	N	
1	11/13/91	3	1		112.7	Y	
1	11/13/91	4	1		109.3	N	
1	11/13/91	5	1		99.1	N	
1	11/13/91	6	1		94	N	

-- Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-104 THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/13/91	7	1		93.7	N	
1	11/13/91	8	1		93.6	N	
1	11/13/91	9	1		93.6	N	
1	11/13/91	10	1		93.6	N	
1	11/13/91	11	1		93.4	N	
1	11/13/91	12	1		93.4	N	
1	11/13/91	13	1		93.2	N	
1	11/13/91	14	1		93	N	
1	1/1/92	1	1		111.1	N	J-890523512-20 TC #15-16 O/S
1	1/1/92	2	1		110.7	N	
1	1/1/92	3	1		112.3	Y	
1	1/1/92	4	1		108.3	N	
1	1/1/92	5	1		96.1	N	
1	1/1/92	6	1		90.2	N	
1	1/1/92	7	1		89.9	N	
1	1/1/92	8	1		89.8	N	
1	1/1/92	9	1		89.7	N	
1	1/1/92	10	1		89.7	N	
1	1/1/92	11	1		89.6	N	
1	1/1/92	12	1		89.6	N	
1	1/1/92	13	1		89.4	N	
1	1/1/92	14	1		89.3	N	
1	7/3/92	1	1		103.5	N	J 890423320-42
1	7/3/92	2	1		102.7	N	
1	7/3/92	3	1		104.3	Y	
1	7/3/92	4	1		100.3	N	
1	7/3/92	5	1		89.6	N	
1	7/3/92	6	1		84.7	N	
1	7/3/92	7	1		84.5	N	
1	7/3/92	8	1		84.6	N	
1	7/3/92	9	1		84.5	N	
1	7/3/92	10	1		84.6	N	
1	7/3/92	11	1		84.7	N	
1	7/3/92	12	1		84.7	N	
1	7/3/92	13	1		84.7	N	
1	7/3/92	14	1		84.7	N	
1	2/13/93	1	1		107.6	Y	J 910126143-42
1	2/13/93	2	1		106.1	N	
1	2/13/93	3	1		108.4	N	
1	2/13/93	4	1		103.7	N	
1	2/13/93	5	1		90.6	N	
1	2/13/93	6	1		84.2	N	
1	2/13/93	7	1		84	N	
1	2/13/93	8	1		83.9	N	
1	2/13/93	9	1		83.7	N	
1	2/13/93	10	1		83.8	N	
1	2/13/93	11	1		83.3	N	
1	2/13/93	12	1		83.6	N	
1	2/13/93	13	1		83.5	N	
1	2/13/93	14	1		83.1	N	
1	7/2/93	1	1		102.3	N	J 890423320-42
1	7/2/93	2	1		102.1	N	
1	7/2/93	3	1		103.5	Y	
1	7/2/93	4	1		99.5	N	
1	7/2/93	5	1		88.1	N	
1	7/2/93	6	1		83.1	N	
1	7/2/93	7	1		83.1	N	
1	7/2/93	8	1		83.3	N	
1	7/2/93	9	1		83.5	N	
1	7/2/93	10	1		83.6	N	
1	7/2/93	11	1		83.6	N	
1	7/2/93	12	1		83.6	N	
1	7/2/93	13	1		83.6	N	
1	7/2/93	14	1		83.5	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-105							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/5/73	1			78		
1	11/5/73	2			78		
1	11/5/73	3			78		
1	11/5/73	4			78		
1	11/5/73	5			78		
1	11/5/73	6			78		
1	11/5/73	7			78		
1	11/5/73	8			77		
1	11/5/73	9			74		
1	11/5/73	10			74		
1	11/5/73	11			74		
1	11/5/73	12			74		
1	4/23/74	1			126		
1	4/23/74	2			131		
1	4/23/74	3			134		
1	4/23/74	4			136		
1	4/23/74	5			136		
1	4/23/74	6			134		
1	4/23/74	7			128		
1	4/23/74	8			114		
1	4/23/74	9			100		
1	4/23/74	10			100		
1	4/23/74	11			100		
1	4/23/74	12			99		
1	4/24/74	1			126		
1	4/24/74	2			131		
1	4/24/74	3			134		
1	4/24/74	4			136		
1	4/24/74	5			136		
1	4/24/74	6			134		
1	4/24/74	7			128		
1	4/24/74	8			114		
1	4/24/74	9			100		
1	4/24/74	10			100		
1	4/24/74	11			100		
1	4/24/74	12			99		
1	4/25/74	1			126		
1	4/25/74	2			130		
1	4/25/74	3			134		
1	4/25/74	4			136		
1	4/25/74	5			136		
1	4/25/74	6			134		
1	4/25/74	7			128		
1	4/25/74	8			112		
1	4/25/74	9			100		
1	4/25/74	10			99		
1	4/25/74	11			98		
1	4/25/74	12			99		
1	4/26/74	1			126		
1	4/26/74	2			130		
1	4/26/74	3			134		
1	4/26/74	4			136		
1	4/26/74	5			136		
1	4/26/74	6			133		
1	4/26/74	7			126		
1	4/26/74	8			108		
1	4/26/74	9			98		
1	4/26/74	10			98		
1	4/26/74	11			98		
1	4/26/74	12			98		
1	5/1/74	1			125		
1	5/1/74	2			130		
1	5/1/74	3			134		
1	5/1/74	4			135		
1	5/1/74	5			135		
1	5/1/74	6			132		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-105							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/1/74	7			124		
1	5/1/74	8			117		
1	5/1/74	9			97		
1	5/1/74	10			97		
1	5/1/74	11			97		
1	5/1/74	12			97		
1	5/14/74	1			124		
1	5/14/74	5			132		
1	5/14/74	6			128		
1	5/14/74	7			118		
1	5/14/74	8			102		
1	5/16/74	1			125		
1	5/16/74	2			130		
1	5/16/74	3			133		
1	5/16/74	4			134		
1	5/16/74	5			132		
1	5/16/74	6			126		
1	5/16/74	7			117		
1	5/16/74	8			102		
1	5/16/74	9			100		
1	5/16/74	10			99		
1	5/16/74	11			98		
1	5/16/74	12			100		
1	7/2/74	1			122		
1	7/2/74	2			125		
1	7/2/74	3			127		
1	7/2/74	4			127		
1	7/2/74	5			124		
1	7/2/74	6			118		
1	7/2/74	7			110		
1	7/2/74	8			99		
1	7/2/74	9			96		
1	7/2/74	10			96		
1	7/2/74	11			96		
1	7/2/74	12			96		
1	7/12/74	1			121		
1	7/12/74	2			125		
1	7/12/74	3			126		
1	7/12/74	4			125		
1	7/12/74	5			122		
1	7/12/74	6			115		
1	7/12/74	7			107		
1	7/12/74	8			102		
1	7/12/74	9			101		
1	7/12/74	10			100		
1	7/12/74	11			100		
1	7/12/74	12			100		
1	10/20/74	1		46.67	116.006		raw data - assumed degree C
1	10/20/74	2		47.22	116.996		raw data - assumed degree C
1	10/20/74	3		47.22	116.996		raw data - assumed degree C
1	10/20/74	4		46.67	116.006		raw data - assumed degree C
1	10/20/74	5		45.56	114.008		raw data - assumed degree C
1	10/20/74	6		42.78	109.004		raw data - assumed degree C
1	10/20/74	7		39.44	102.992		raw data - assumed degree C
1	10/20/74	8		34.44	93.992		raw data - assumed degree C
1	10/20/74	9		33.33	91.994		raw data - assumed degree C
1	10/20/74	10		33.33	91.994		raw data - assumed degree C
1	10/20/74	11		33.33	91.994		raw data - assumed degree C
1	10/20/74	12		33.33	91.994		raw data - assumed degree C
	11/26/74	1			114		
	11/26/74	2			115		
	11/26/74	3			115		
	11/26/74	4			114		
	11/26/74	5			111		
	11/26/74	6			106		
	11/26/74	7			98		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-105							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
	11/26/74	8			88		
	11/26/74	9			87		
	11/26/74	10			87		
	11/26/74	11			87		
	11/26/74	12			87		
	11/27/74	1			114		
	11/27/74	2			115		
	11/27/74	3			115		
	11/27/74	4			114		
	11/27/74	5			111		
	11/27/74	6			106		
	11/27/74	7			98		
	11/27/74	8			88		
	11/27/74	9			87		
	11/27/74	10			87		
	11/27/74	11			87		
	11/27/74	12			87		
1	12/2/74	1		45.56	114.008		raw data - assumed degree C
1	12/2/74	2		46.11	114.998		raw data - assumed degree C
1	12/2/74	3		46.11	114.998		raw data - assumed degree C
1	12/2/74	4		45.56	114.008		raw data - assumed degree C
1	12/2/74	5		43.33	109.994		raw data - assumed degree C
1	12/2/74	6		40.56	105.008		raw data - assumed degree C
1	12/2/74	7		35.56	96.008		raw data - assumed degree C
1	12/2/74	8		30.56	87.008		raw data - assumed degree C
1	12/2/74	9		30.00	86		raw data - assumed degree C
1	12/2/74	10		30.00	86		raw data - assumed degree C
1	12/2/74	11		30.00	86		raw data - assumed degree C
1	12/2/74	12		30.00	86		raw data - assumed degree C
1	11/2/75	1			104		
1	11/2/75	2			104		
1	11/2/75	3			103		
1	11/2/75	4			112		
1	11/2/75	5			100		
1	11/2/75	6			97		
1	11/2/75	7			92		
1	11/2/75	8			88		
1	11/2/75	9			88		
1	11/2/75	10			88		
1	11/2/75	11			88		
1	11/2/75	12			88		
1	2/4/76	1			102		
1	2/4/76	2			102		
1	2/4/76	3			100		
1	2/4/76	4			98		
1	2/4/76	5			96		
1	2/4/76	6			91		
1	2/4/76	7			83		
1	2/4/76	8			76		
1	2/4/76	9			76		
1	2/4/76	10			76		
1	2/4/76	11			76		
1	2/4/76	12			76		
1	3/5/76	1			101		
1	3/5/76	2			101		
1	3/5/76	3			99		
1	3/5/76	4			97		
1	3/5/76	5			94		
1	3/5/76	6			89		
1	3/5/76	7			83		
1	3/5/76	8			77		
1	3/5/76	9			77		
1	3/5/76	10			77		
1	3/5/76	11			77		
1	3/5/76	12			77		
1	5/2/76	1			100		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-105							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/2/76	2			100		
1	5/2/76	3			98		
1	5/2/76	4			96		
1	5/2/76	5			92		
1	5/2/76	6			88		
1	5/2/76	7			82		
1	5/2/76	8			78		
1	5/2/76	9			77		
1	5/2/76	10			77		
1	5/2/76	11			77		
1	5/2/76	12			77		
1	6/1/76	1			98		
1	6/1/76	2			98		
1	6/1/76	3			96		
1	6/1/76	4			94		
1	6/1/76	5			90		
1	6/1/76	6			87		
1	6/1/76	7			82		
1	6/1/76	8			78		
1	6/1/76	9			79		
1	6/1/76	10			80		
1	6/1/76	11			80		
1	6/1/76	12			80		
1	6/1/76	13			80		
1	6/1/76	14			80		
1	7/1/76	1			98		
1	7/1/76	2			97		
1	7/1/76	3			96		
1	7/1/76	4			94		
1	7/1/76	5			91		
1	7/1/76	6			88		
1	7/1/76	7			84		
1	7/1/76	8			81		
1	7/1/76	9			81		
1	7/1/76	10			81		
1	7/1/76	11			81		
1	7/1/76	12			79		
1	8/3/76	1			98		
1	8/3/76	2			97		
1	8/3/76	3			96		
1	8/3/76	4			94		
1	8/3/76	5			92		
1	8/3/76	6			89		
1	8/3/76	7			86		
1	8/3/76	8			85		
1	8/3/76	9			85		
1	8/3/76	10			85		
1	8/3/76	11			85		
1	8/3/76	12			85		
1	9/2/76	1			98		
1	9/2/76	2			98		
1	9/2/76	3			97		
1	9/2/76	4			96		
1	9/2/76	5			94		
1	9/2/76	6			92		
1	9/2/76	7			89		
1	9/2/76	8			86		
1	9/2/76	9			87		
1	9/2/76	10			87		
1	9/2/76	11			87		
1	9/2/76	12			87		
1	10/3/76	1			100		
1	10/3/76	2			100		
1	10/3/76	3			99		
1	10/3/76	4			98		
1	10/3/76	5			96		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-105							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/3/76	6			94		
1	10/3/76	7			92		
1	10/3/76	8			90		
1	10/3/76	9			89		
1	10/3/76	10			89		
1	10/3/76	11			89		
1	10/3/76	12			89		
1	11/1/76	1			100		
1	11/1/76	2			100		
1	11/1/76	3			100		
1	11/1/76	4			100		
1	11/1/76	5			96		
1	11/1/76	6			96		
1	11/1/76	7			96		
1	11/1/76	8			88		
1	11/1/76	9			88		
1	11/1/76	10			88		
1	11/1/76	11			88		
1	11/1/76	12			88		
1	12/4/76	1			100		
1	12/4/76	2			100		
1	12/4/76	3			100		
1	12/4/76	4			98		
1	12/4/76	5			96		
1	12/4/76	6			94		
1	12/4/76	7			90		
1	12/4/76	8			86		
1	12/4/76	9			86		
1	12/4/76	10			86		
1	12/4/76	11			86		
1	12/4/76	12			86		
1	1/1/77	1			100		
1	1/1/77	2			100		
1	1/1/77	3			99		
1	1/1/77	4			98		
1	1/1/77	5			96		
1	1/1/77	6			93		
1	1/1/77	7			87		
1	1/1/77	8			81		
1	1/1/77	9			81		
1	1/1/77	10			81		
1	1/1/77	11			81		
1	1/1/77	12			81		
1	2/1/77	1			100		
1	2/1/77	2			100		
1	2/1/77	3			100		
1	2/1/77	4			98		
1	2/1/77	5			92		
1	2/1/77	6			90		
1	2/1/77	7			84		
1	2/1/77	8			78		
1	2/1/77	9			78		
1	2/1/77	10			78		
1	2/1/77	11			78		
1	2/1/77	12			78		
1	3/1/77	1			94		
1	3/1/77	2			94		
1	3/1/77	3			93		
1	3/1/77	4			91		
1	3/1/77	5			88		
1	3/1/77	6			88		
1	3/1/77	7			77		
1	3/1/77	8			72		
1	3/1/77	9			72		
1	3/1/77	10			72		
1	3/1/77	11			72		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y = MAX TEMP	COMMENTS
1	6/19/92	14	1		70.9	N	
1	6/29/92	1	1		91	N	J TK102-890423320-42
1	6/29/92	2	1		92	Y	
1	6/29/92	3	1		91	N	
1	6/29/92	4	1		90	N	
1	6/29/92	5	1		87	N	
1	6/29/92	6	1		84	N	
1	6/29/92	7	1		79	N	
1	6/29/92	8	1		76	N	
1	6/29/92	9	1		76	N	
1	6/29/92	10	1		75	N	
1	6/29/92	11	1		75	N	
1	6/29/92	12	1		75	N	
1	6/29/92	13	1		75	N	
1	6/29/92	14	1		75	N	
1	7/8/92	1	1		88	N	J 890523512-47
1	7/8/92	2	1		88.1	Y	
1	7/8/92	3	1		87.9	N	
1	7/8/92	4	1		86	N	
1	7/8/92	5	1		83.4	N	
1	7/8/92	6	1		80.1	N	
1	7/8/92	7	1		76.2	N	
1	7/8/92	8	1		73.7	N	
1	7/8/92	9	1		73	N	
1	7/8/92	10	1		72.3	N	
1	7/8/92	11	1		72.3	N	
1	7/8/92	12	1		72.3	N	
1	7/8/92	13	1		72.3	N	
1	7/8/92	14	1		72.3	N	
1	7/16/92	1	1		87.9	N	J 890523512-42
1	7/16/92	2	1		88	Y	
1	7/16/92	3	1		87.8	N	
1	7/16/92	4	1		86	N	
1	7/16/92	5	1		83.5	N	
1	7/16/92	6	1		80.2	N	
1	7/16/92	7	1		76.6	N	
1	7/16/92	8	1		74.1	N	
1	7/16/92	9	1		73.4	N	
1	7/16/92	10	1		72.7	N	
1	7/16/92	11	1		72.6	N	
1	7/16/92	12	1		72.8	N	
1	7/16/92	13	1		72.7	N	
1	7/16/92	14	1		72.7	N	
1	7/24/92	1	1		87.8	N	J 890523512-47
1	7/24/92	2	1		88	Y	
1	7/24/92	3	1		87.7	N	
1	7/24/92	4	1		86.1	N	
1	7/24/92	5	1		83.7	N	
1	7/24/92	6	1		80.6	N	
1	7/24/92	7	1		77.1	N	
1	7/24/92	8	1		74.6	N	
1	7/24/92	9	1		74	N	
1	7/24/92	10	1		73.2	N	
1	7/24/92	11	1		73.2	N	
1	7/24/92	12	1		73.2	N	
1	7/24/92	13	1		73.2	N	
1	7/24/92	14	1		73.2	N	
1	7/30/92	1	1		86.1	N	J 890523512-47
1	7/30/92	2	1		86	N	
1	7/30/92	3	1		85.8	Y	
1	7/30/92	4	1		85.8	N	
1	7/30/92	5	1		85.5	N	
1	7/30/92	6	1		84.7	N	
1	7/30/92	7	1		81.2	N	
1	7/30/92	8	1		83.7	N	
1	7/30/92	9	1		77.6	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/30/92	10	1		74.4	N	
1	7/30/92	11	1		71.8	N	
1	7/30/92	12	1		70.1	N	
1	7/30/92	13	1		69.6	N	
1	7/30/92	14	1		69.5	N	
1	8/6/92	1	1		90.8	N	J 890523512-47
1	8/6/92	2	1		91.2	Y	
1	8/6/92	3	1		90.8	N	
1	8/6/92	4	1		89.4	N	
1	8/6/92	5	1		87.2	N	
1	8/6/92	6	1		84.4	N	
1	8/6/92	7	1		80.8	N	
1	8/6/92	8	1		78.6	N	
1	8/6/92	9	1		77.9	N	
1	8/6/92	10	1		77.4	N	
1	8/6/92	11	1		77.3	N	
1	8/6/92	12	1		77.3	N	
1	8/6/92	13	1		77.4	N	
1	8/6/92	14	1		77.4	N	
1	8/16/92	1	1		89.8	N	J 910126143-29
1	8/16/92	2	1		90.1	Y	
1	8/16/92	3	1		89.7	N	
1	8/16/92	4	1		88.3	N	
1	8/16/92	5	1		86.1	N	
1	8/16/92	6	1		83.2	N	
1	8/16/92	7	1		80	N	
1	8/16/92	8	1		77.9	N	
1	8/16/92	9	1		77.2	N	
1	8/16/92	10	1		76.6	N	
1	8/16/92	11	1		76.5	N	
1	8/16/92	12	1		76.7	N	
1	8/16/92	13	1		76.6	N	
1	8/16/92	14	1		76.7	N	
1	8/21/92	1	1		90.5	N	J 890523512-47
1	8/21/92	2	1		90.8	Y	
1	8/21/92	3	1		90.5	N	
1	8/21/92	4	1		89.3	N	
1	8/21/92	5	1		87.2	N	
1	8/21/92	6	1		84.6	N	
1	8/21/92	7	1		81.5	N	
1	8/21/92	8	1		79.2	N	
1	8/21/92	9	1		78.4	N	
1	8/21/92	10	1		78	N	
1	8/21/92	11	1		77.9	N	
1	8/21/92	12	1		79	N	
1	8/21/92	13	1		78	N	
1	8/21/92	14	1		78	N	
1	9/3/92	1	1		90.8	N	J 890523512-47
1	9/3/92	2	1		91.2	Y	
1	9/3/92	3	1		91	N	
1	9/3/92	4	1		89.7	N	
1	9/3/92	5	1		87.7	N	
1	9/3/92	6	1		85	N	
1	9/3/92	7	1		82.1	N	
1	9/3/92	8	1		80	N	
1	9/3/92	9	1		79.3	N	
1	9/3/92	10	1		78.7	N	
1	9/3/92	11	1		78.7	N	
1	9/3/92	12	1		78.9	N	
1	9/3/92	13	1		78.8	N	
1	9/3/92	14	1		78.8	N	
1	9/9/92	1	1		93	Y	J 910126143-29
1	9/9/92	2	1		93	N	
1	9/9/92	3	1		93	N	
1	9/9/92	4	1		92	N	
1	9/9/92	5	1		90	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111 THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/9/92	6	1		87	N	
1	9/9/92	7	1		85	N	
1	9/9/92	8	1		82	N	
1	9/9/92	9	1		82	N	
1	9/9/92	10	1		81	N	
1	9/9/92	11	1		81	N	
1	9/9/92	12	1		81	N	
1	9/9/92	13	1		81	N	
1	9/9/92	14	1		81	N	
1	9/18/92	1	1		91.1	N	J 890523512-47
1	9/18/92	2	1		91.4	Y	
1	9/18/92	3	1		91.3	N	
1	9/18/92	4	1		90.1	N	
1	9/18/92	5	1		88.1	N	
1	9/18/92	6	1		85.7	N	
1	9/18/92	7	1		82.7	N	
1	9/18/92	8	1		80.1	N	
1	9/18/92	9	1		79.9	N	
1	9/18/92	10	1		79.3	N	
1	9/18/92	11	1		79.2	N	
1	9/18/92	12	1		79.3	N	
1	9/18/92	13	1		79.1	N	
1	9/18/92	14	1		79.1	N	
1	9/25/92	1	1		90.7	N	J 910126143-42
1	9/25/92	2	1		91	Y	
1	9/25/92	3	1		90.8	N	
1	9/25/92	4	1		89.7	N	
1	9/25/92	5	1		87.9	N	
1	9/25/92	6	1		85.3	N	
1	9/25/92	7	1		82.2	N	
1	9/25/92	8	1		79.5	N	
1	9/25/92	9	1		79.3	N	
1	9/25/92	10	1		78.7	N	
1	9/25/92	11	1		78.7	N	
1	9/25/92	12	1		78.8	N	
1	9/25/92	13	1		78.7	N	
1	9/25/92	14	1		78.6	N	
1	10/1/92	1	1		90.6	N	J 890523512-47
1	10/1/92	2	1		90.9	Y	
1	10/1/92	3	1		90.9	N	
1	10/1/92	4	1		89.8	N	
1	10/1/92	5	1		87.9	N	
1	10/1/92	6	1		85.5	N	
1	10/1/92	7	1		82.4	N	
1	10/1/92	8	1		79.6	N	
1	10/1/92	9	1		79.5	N	
1	10/1/92	10	1		79	N	
1	10/1/92	11	1		78.8	N	
1	10/1/92	12	1		79.1	N	
1	10/1/92	13	1		78.9	N	
1	10/1/92	14	1		78.9	N	
1	10/8/92	1	1		94	Y	J 890523512-47
1	10/8/92	2	1		94	N	
1	10/8/92	3	1		94	N	
1	10/8/92	4	1		93	N	
1	10/8/92	5	1		92	N	
1	10/8/92	6	1		87.2	N	
1	10/8/92	7	1		86	N	
1	10/8/92	8	1		83	N	
1	10/8/92	9	1		83	N	
1	10/8/92	10	1		82	N	
1	10/8/92	11	1		82	N	
1	10/8/92	12	1		82	N	
1	10/8/92	13	1		82	N	
1	10/8/92	14	1		82	N	
1	10/15/92	1	1		90.8	N	J 910126143-50

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-105							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/3/78	14			72		
1	7/13/78	1			90		
1	7/13/78	2			89		
1	7/13/78	3			87		
1	7/13/78	4			85		
1	7/13/78	5			85		
1	7/13/78	6			81		
1	7/13/78	7			79		
1	7/13/78	8			77		
1	7/13/78	9			77		
1	7/13/78	10			77		
1	7/13/78	11			77		
1	7/13/78	12			77		
1	7/13/78	13			77		
1	7/13/78	14			77		
1	8/11/78	1			84		
1	8/11/78	2			83		
1	8/11/78	3			82		
1	8/11/78	4			81		
1	8/11/78	5			79		
1	8/11/78	6			78		
1	8/11/78	7			76		
1	8/11/78	8			75		
1	8/11/78	9			75		
1	8/11/78	10			75		
1	8/11/78	11			75		
1	8/11/78	12			75		
1	8/11/78	13			75		
1	10/10/78	1			90		
1	10/10/78	2			90		
1	10/10/78	3			90		
1	10/10/78	4			90		
1	10/10/78	5			90		
1	10/10/78	6			85		
1	10/10/78	7			85		
1	10/10/78	8			85		
1	10/10/78	9			85		
1	10/10/78	10			85		
1	10/10/78	11			85		
1	10/10/78	12			85		
1	2/4/79	1			94		
1	2/4/79	2			93		
1	2/4/79	3			90		
1	2/4/79	4			87		
1	2/4/79	5			83		
1	2/4/79	6			82		
1	2/4/79	7			76		
1	2/4/79	8			68		
1	2/4/79	9			67		
1	2/4/79	10			68		
1	2/4/79	11			68		
1	2/4/79	12			68		
1	2/4/79	13			68		
1	2/4/79	14			68		
1	9/6/79	1			90		
1	9/6/79	2			90		
1	9/6/79	3			90		
1	9/6/79	4			93		
1	9/6/79	5			93		
1	9/6/79	6			93		
1	9/6/79	7			90		
1	9/6/79	8			90		
1	9/6/79	9			90		
1	9/6/79	10			90		
1	9/6/79	11			90		
1	9/6/79	12			90		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-105							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/6/79	13			90		
1	9/6/79	14			90		
1	1/23/80	1			90		
1	1/23/80	2			90		
1	1/23/80	3			90		
1	1/23/80	4			90		
1	1/23/80	5					125 - suspect data (high)
1	1/23/80	6					120 - suspect data (high)
1	1/23/80	7			75		
1	1/23/80	8			75		
1	1/23/80	9			75		
1	1/23/80	10			75		
1	1/23/80	11			75		
1	1/23/80	12			75		
1	1/23/80	13			75		
1	1/23/80	14			75		
1	2/1/80	1			75		
1	2/1/80	2			80		
1	2/1/80	3			80		
1	2/1/80	4			80		
1	2/1/80	5			85		
1	2/1/80	6			75		
1	2/1/80	7					120 - suspect data (high)
1	2/1/80	8			75		
1	2/1/80	9			75		
1	2/1/80	10			75		
1	2/1/80	11			75		
1	2/1/80	12			75		
1	2/1/80	13			75		
1	2/1/80	14			75		
1	4/12/82	1			87		
1	4/12/82	2			86		
1	4/12/82	3			84		
1	4/12/82	4			83		
1	4/12/82	5			75		
1	4/12/82	6			76		
1	4/12/82	7			73		
1	4/12/82	8			72		
1	4/12/82	9			72		
1	4/12/82	10			72		
1	4/12/82	11			72		
1	4/12/82	12			72		
1	4/12/82	13			72		
1	4/12/82	14			72		
1	4/12/82	15			72		
1	4/12/82	16			66		
1	5/29/82	1			84		
1	5/29/82	2			83		
1	5/29/82	3			81		
1	5/29/82	4			78		
1	5/29/82	5			76		
1	5/29/82	6			74		
1	5/29/82	7			73		
1	5/29/82	8			73		
1	5/29/82	9			72		
1	5/29/82	10			73		
1	5/29/82	11			72		
1	5/29/82	12			72		
1	10/6/82	1			84		
1	10/6/82	2			84		
1	10/6/82	3			83		
1	10/6/82	4			82		
1	10/6/82	5			81		
1	10/6/82	6			81		
1	10/6/82	7			80		
1	10/6/82	8			80		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-105							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/6/82	9			80		
1	10/6/82	10			80		
1	10/6/82	11			80		
1	10/6/82	12			80		
1	10/6/82	13			80		
1	10/6/82	14			80		
1	5/19/83	1			81		
1	5/19/83	2			80		
1	5/19/83	3			78		
1	5/19/83	4			75		
1	5/19/83	5			73		
1	5/19/83	6			71		
1	5/19/83	7			69		
1	5/19/83	8			68		
1	5/19/83	9			68		
1	5/19/83	10			68		
1	5/19/83	11			68		
1	5/19/83	12			68		
1	5/19/83	13			69		
1	5/19/83	14			69		
1	1/3/84	1			83		
1	1/3/84	2			82		
1	1/3/84	3			81		
1	1/3/84	4			79		
1	1/3/84	5			76		
1	1/3/84	6			74		
1	1/3/84	7			70		
1	1/3/84	8			70		
1	1/3/84	9			70		
1	1/3/84	10			70		
1	1/3/84	11			70		
1	1/3/84	12			70		
1	1/3/84	13			70		
1	1/3/84	14			70		
1	2/13/84	1			82		
1	2/13/84	2			81		
1	2/13/84	3			79		
1	2/13/84	4			77		
1	2/13/84	5			74		
1	2/13/84	6			70		
1	2/13/84	7			67		
1	2/13/84	8			66		
1	2/13/84	9			66		
1	2/13/84	10			66		
1	2/13/84	11			66		
1	2/13/84	12			66		
1	2/13/84	13			66		
1	2/13/84	14			66		
1	2/14/84	1			86		
1	2/14/84	2			85		
1	2/14/84	3			83		
1	2/14/84	4			80		
1	2/14/84	5			77		
1	2/14/84	6			74		
1	2/14/84	7			70		
1	2/14/84	8			69		
1	2/14/84	9			69		
1	2/14/84	10			69		
1	2/14/84	11			69		
1	2/14/84	12			69		
1	2/14/84	13			69		
1	2/14/84	14			69		
1	3/14/84	1			81		
1	3/14/84	2			80		
1	3/14/84	3			78		
1	3/14/84	4			75		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-105							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/14/84	5			82		
1	3/14/84	6			68		
1	3/14/84	7			64		
1	3/14/84	8			64		
1	3/14/84	9			64		
1	3/14/84	10			64		
1	3/14/84	11			64		
1	3/14/84	12			64		
1	3/14/84	13			64		
1	3/14/84	14			64		
1	3/14/84	15			64		
1	3/14/84	16			64		
1	4/9/84	1			82		
1	4/9/84	2			80		
1	4/9/84	3			78		
1	4/9/84	4			75		
1	4/9/84	5			80		
1	4/9/84	6			69		
1	12/13/85	1			80		
1	12/13/85	2			80		
1	12/13/85	3			78		
1	12/13/85	4			77		
1	12/13/85	5			76		
1	12/13/85	6			73		
1	12/13/85	7			70		
1	12/13/85	8			70		
1	12/13/85	13			70		
1	12/13/85	14			70		
1	1/6/86	2			78		
1	1/6/86	3			77		
1	1/6/86	4			75		
1	1/6/86	5			72		
1	1/6/86	6			67		
1	1/6/86	7			65		
1	1/6/86	8			65		
1	1/6/86	9			65		
1	1/6/86	10			65		
1	1/6/86	11			65		
1	1/6/86	12			65		
1	1/7/86	1			79		
1	1/7/86	2			78		
1	1/7/86	3			77		
1	1/7/86	4			75		
1	1/7/86	5			72		
1	1/7/86	6			69		
1	1/7/86	7			69		
1	1/7/86	8			69		
1	1/7/86	9			69		
1	1/7/86	10			69		
1	1/7/86	11			69		
1	1/7/86	12			69		
1	1/7/86	13			69		
1	1/7/86	14			69		
1	4/18/86	1			79		
1	4/18/86	2			78		
1	4/18/86	3			76		
1	4/18/86	4			73		
1	4/18/86	5			71		
1	4/18/86	6			68		
1	4/18/86	7			66		
1	4/18/86	8			65		
1	4/18/86	13			66		
1	4/18/86	14			66		
1	7/7/86	1			77		
1	7/7/86	2			76		
1	7/7/86	3			74.5		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-105							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/7/86	4			72.6		
1	7/7/86	5			71.2		
1	7/7/86	6			70.1		
1	7/7/86	7			69.6		
1	9/12/86	1			80		
1	9/12/86	2			79		
1	9/12/86	3			78		
1	9/12/86	4			77		
1	9/12/86	5			77		
1	9/12/86	6			77		
1	9/12/86	7			77		
1	9/12/86	8			77		
1	9/12/86	13			77		
1	9/12/86	14			78		
1	10/10/86	1			81		
1	10/10/86	2			80		
1	10/10/86	3			79		
1	10/10/86	4			78		
1	10/10/86	5			78		
1	10/10/86	6			78		
1	10/10/86	7			77		
1	10/10/86	8			77		
1	10/10/86	13			77		
1	10/10/86	14			78		
1	11/25/86	1			80		
1	11/25/86	2			79.5		
1	11/25/86	3			78.7		
1	11/25/86	4			77.5		
1	11/25/86	5			76.3		
1	11/25/86	6			74.8		
1	11/25/86	7			73		
1	11/25/86	8			72.8		
1	1/22/87	1			87		
1	1/22/87	2			86		
1	1/22/87	3			85		
1	1/22/87	4			83		
1	1/22/87	5			82		
1	1/22/87	6			79		
1	1/22/87	7			76		
1	1/22/87	8			75		
1	1/22/87	13			76		
1	1/22/87	14			75		
1	3/6/87	1			78		
1	3/6/87	2			72		
1	3/6/87	3			75		
1	3/6/87	4			72		
1	3/6/87	5			70		
1	3/6/87	6			67		
1	3/6/87	7			64		
1	3/6/87	8			63		
1	3/6/87	13			63		
1	3/6/87	14			64		
1	6/12/87	1			77		
1	6/12/87	2			76		
1	6/12/87	3			74		
1	6/12/87	4			73		
1	6/12/87	5			72		
1	6/12/87	6			70		
1	6/12/87	7			69		
1	6/12/87	8			69		
1	6/12/87	13			70		
1	6/12/87	14			70		
1	10/2/87	1			78		
1	10/2/87	2			77		
1	10/2/87	3			76		
1	10/2/87	4			76		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-105							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/2/87	5			76		
1	10/2/87	6			75		
1	10/2/87	7			76		
1	10/2/87	8			76		
1	10/2/87	13			76		
1	10/2/87	14			76		
1	12/18/87	1			86		
1	12/18/87	2			85		
1	12/18/87	3			84		
1	12/18/87	4			83		
1	12/18/87	5			82		
1	12/18/87	6			80		
1	12/18/87	7			78		
1	12/18/87	8			78		
1	12/18/87	13			78		
1	12/18/87	14			78		
1	2/5/88	1			86		
1	2/5/88	2			86		
1	2/5/88	3			85		
1	2/5/88	4			83		
1	2/5/88	5			81		
1	2/5/88	6			78		
1	2/5/88	7			74		
1	2/5/88	8			74		
1	2/5/88	13			74		
1	2/5/88	14			74		
1	1/4/91	1	1		75.6	Y	HH-99A-J #890523512-47
1	1/4/91	2	1		75.2	N	
1	1/4/91	3	1		74.4	N	
1	1/4/91	4	1		73.1	N	
1	1/4/91	5	1		71.6	N	
1	1/4/91	6	1		69.3	N	
1	1/4/91	7	1		66.7	N	
1	1/4/91	8	1		66.6	N	
1	1/4/91	9	1		66.6	N	
1	1/4/91	10	1		66.6	N	
1	1/4/91	11	1		66.6	N	
1	1/4/91	12	1		66.6	N	
1	1/4/91	13	1		66.7	N	
1	1/4/91	14	1		66.7	N	
1	11/13/91	1	1		74.3	Y	J-890423320-42 TC #14-16 O/S W/O #04529
1	11/13/91	2	1		73.8	N	
1	11/13/91	3	1		73.8	N	
1	11/13/91	4	1		73.2	N	
1	11/13/91	5	1		72.8	N	
1	11/13/91	6	1		72	N	
1	11/13/91	7	1		70.8	N	
1	11/13/91	8	1		70.8	N	
1	11/13/91	9	1		70.8	N	
1	11/13/91	10	1		70.8	N	
1	11/13/91	11	1		70.7	N	
1	11/13/91	12	1		70.8	N	
1	11/13/91	13	1		70.9	N	
1	1/1/92	1	1		79.1	N	J-890523512-20 TC #1516 O/S
1	1/1/92	2	1		78.7	N	
1	1/1/92	3	1		78	N	
1	1/1/92	4	1		76.6	N	
1	1/1/92	5	1		75.2	N	
1	1/1/92	6	1		73	N	
1	1/1/92	7	1		70.6	N	
1	1/1/92	8	1		70.3	N	
1	1/1/92	9	1		70.3	N	
1	1/1/92	10	1		70.4	N	
1	1/1/92	11	1		70.3	N	
1	1/1/92	12	1		70.3	N	
1	1/1/92	13	1		70.4	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-105							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/1/92	14	1		70.3	N	
1	7/3/92	1	1		77	Y	J 890423320-42
1	7/3/92	2	1		76	N	
1	7/3/92	3	1		75	N	
1	7/3/92	4	1		74	N	
1	7/3/92	5	1		73	N	
1	7/3/92	6	1		72	N	
1	7/3/92	7	1		72	N	
1	7/3/92	8	1		71	N	
1	7/3/92	9	1		72	N	
1	7/3/92	10	1		72	N	
1	7/3/92	11	1		72	N	
1	7/3/92	12	1		72	N	
1	7/3/92	13	1		72	N	
1	7/3/92	14	1		72	N	
1	1/3/93	1	1		77.2	Y	J 910126143-29
1	1/3/93	2	1		76.8	N	
1	1/3/93	3	1		76.1	N	
1	1/3/93	4	1		74.8	N	
1	1/3/93	5	1		73.2	N	
1	1/3/93	6	1		70.7	N	
1	1/3/93	7	1		68.1	N	
1	1/3/93	8	1		67.9	N	
1	1/3/93	9	1		67.9	N	
1	1/3/93	10	1		67.9	N	
1	1/3/93	11	1		67.8	N	
1	1/3/93	12	1		67.8	N	
1	1/3/93	13	1		67.8	N	
1	1/3/93	14	1		67.7	N	
1	2/13/93	1	1		76.6	Y	J 910126143-42
1	2/13/93	2	1		76	N	
1	2/13/93	3	1		74.8	N	
1	2/13/93	4	1		72.7	N	
1	2/13/93	5	1		70.5	N	
1	2/13/93	6	1		67.4	N	
1	2/13/93	7	1		64.2	N	
1	2/13/93	8	1		63.9	N	
1	2/13/93	9	1		63.8	N	
1	2/13/93	10	1		63.8	N	
1	2/13/93	11	1		63.8	N	
1	2/13/93	12	1		63.8	N	
1	2/13/93	13	1		63.8	N	
1	2/13/93	14	1		63.7	N	
1	7/2/93	1	1		73	Y	J 890423320-42
1	7/2/93	2	1		72.2	N	
1	7/2/93	3	1		70.9	N	
1	7/2/93	4	1		69.1	N	
1	7/2/93	5	1		67.6	N	
1	7/2/93	6	1		66.2	N	
1	7/2/93	7	1		65.6	N	
1	7/2/93	8	1		65.5	N	
1	7/2/93	9	1		65.5	N	
1	7/2/93	10	1		65.5	N	
1	7/2/93	11	1		65.6	N	
1	7/2/93	12	1		65.6	N	
1	7/2/93	13	1		65.7	N	
1	7/2/93	14	1		65.8	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-101-S, and Archive box #121869.

TANK 241-S-106
THERMOCOUPLE DATA

TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/4/73	1			75		
1	11/4/73	2			83		
1	11/4/73	3			84		
1	11/4/73	4			84		
1	11/4/73	5			84		
1	11/4/73	6			84		
1	11/4/73	7			84		
1	11/4/73	8			84		
1	11/4/73	9			84		
1	11/4/73	10			84		
1	11/4/73	11			82		
1	11/4/73	12			82		
1	11/4/73	13			82		
1	11/4/73	14			82		
1	11/4/73	1			76		
1	11/4/73	2			85		
1	11/4/73	3			85		
1	11/4/73	4			85		
1	11/4/73	5			85		
1	11/4/73	6			85		
1	11/4/73	7			85		
1	11/4/73	8			85		
1	11/4/73	9			85		
1	11/4/73	10			85		
1	11/4/73	11			84		
1	11/4/73	12			82		
1	10/20/74	1		42.78	109.004		raw data - assumed degree C
1	10/20/74	2		44.44	111.992		raw data - assumed degree C
1	10/20/74	3		48.89	120.002		raw data - assumed degree C
1	10/20/74	4		53.89	129.002		raw data - assumed degree C
1	10/20/74	5		57.78	136.004		raw data - assumed degree C
1	10/20/74	6		58.89	138.002		raw data - assumed degree C
1	10/20/74	7		58.33	136.994		raw data - assumed degree C
1	10/20/74	8		57.78	136.004		raw data - assumed degree C
1	10/20/74	9		56.67	134.006		raw data - assumed degree C
1	10/20/74	10		55.56	132.008		raw data - assumed degree C
1	10/20/74	11		50.00	122		raw data - assumed degree C
1	10/20/74	12		42.22	107.996		raw data - assumed degree C
1	12/2/74	1		45.56	114.008		raw data - assumed degree C
1	12/2/74	2		47.22	116.996		raw data - assumed degree C
1	12/2/74	3		51.11	123.998		raw data - assumed degree C
1	12/2/74	4		54.44	129.992		raw data - assumed degree C
1	12/2/74	5		56.67	134.006		raw data - assumed degree C
1	12/2/74	6		57.78	136.004		raw data - assumed degree C
1	12/2/74	7		57.22	134.996		raw data - assumed degree C
1	12/2/74	8		51.67	125.006		raw data - assumed degree C
1	12/2/74	9		47.78	118.004		raw data - assumed degree C
1	12/2/74	10		52.22	125.996		raw data - assumed degree C
1	12/2/74	11		52.22	125.996		raw data - assumed degree C
1	12/2/74	12		51.11	123.998		raw data - assumed degree C
1	11/3/75	1			122		
1	11/3/75	2			124		
1	11/3/75	3			127		
1	11/3/75	4			129		
1	11/3/75	5			130		
1	11/3/75	6			129		
1	11/3/75	7			124		
1	11/3/75	8			116		
1	11/3/75	9			112		
1	11/3/75	10			112		
1	11/3/75	11			101		
1	11/3/75	12			93		
1	2/4/76	1			120		
1	2/4/76	2			122		
1	2/4/76	3			141		
1	2/4/76	4			143		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/4/76	5			144		
1	2/4/76	6			141		
1	2/4/76	7			135		
1	2/4/76	8			127		
1	2/4/76	9			127		
1	2/4/76	10			124		
1	2/4/76	11			116		
1	2/4/76	12			99		
1	3/5/76	1			118		
1	3/5/76	2			120		
1	3/5/76	3			122		
1	3/5/76	4			123		
1	3/5/76	5			123		
1	3/5/76	6			120		
1	3/5/76	7			114		
1	3/5/76	8			106		
1	3/5/76	9			106		
1	3/5/76	10			103		
1	3/5/76	11			91		
1	3/5/76	12			83		
1	5/2/76	1			118		
1	5/2/76	2			119		
1	5/2/76	3			121		
1	5/2/76	4			122		
1	5/2/76	5			122		
1	5/2/76	6			119		
1	5/2/76	7			114		
1	5/2/76	8			107		
1	5/2/76	9			107		
1	5/2/76	10			99		
1	5/2/76	11			91		
1	5/2/76	12			83		
1	6/1/76	1			116		
1	6/1/76	2			118		
1	6/1/76	3			118		
1	6/1/76	4			120		
1	6/1/76	5			120		
1	6/1/76	6			117		
1	6/1/76	7			112		
1	6/1/76	8			104		
1	6/1/76	9			102		
1	6/1/76	10			96		
1	6/1/76	11			90		
1	6/1/76	12			84		
1	6/1/76	13			84		
1	6/1/76	14			84		
1	7/1/76	1			115		
1	7/1/76	2			116		
1	7/1/76	3			118		
1	7/1/76	4			119		
1	7/1/76	5			118		
1	7/1/76	6			116		
1	7/1/76	7			111		
1	7/1/76	8			104		
1	7/1/76	9			102		
1	7/1/76	10			97		
1	7/1/76	11			91		
1	7/1/76	12			86		
1	8/3/76	1			115		
1	8/3/76	2			116		
1	8/3/76	3			118		
1	8/3/76	4			118		
1	8/3/76	5			118		
1	8/3/76	6			116		
1	8/3/76	7			111		
1	8/3/76	8			104		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106 THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	8/3/76	9			100		
1	8/3/76	10			98		
1	8/3/76	11			94		
1	8/3/76	12			90		
1	9/2/76	1			116		
1	9/2/76	2			117		
1	9/2/76	3			118		
1	9/2/76	4			120		
1	9/2/76	5			119		
1	9/2/76	6			118		
1	9/2/76	7			116		
1	9/2/76	8			103		
1	9/2/76	9			101		
1	9/2/76	10			100		
1	9/2/76	11			98		
1	9/2/76	12			92		
1	10/3/76	1			116		
1	10/3/76	2			117		
1	10/3/76	3			118		
1	10/3/76	4			119		
1	10/3/76	5			119		
1	10/3/76	6			118		
1	10/3/76	7			113		
1	10/3/76	8			108		
1	10/3/76	9			102		
1	10/3/76	10			102		
1	10/3/76	11			98		
1	10/3/76	12			94		
1	11/1/76	1			116		
1	11/1/76	2			116		
1	11/1/76	3			120		
1	11/1/76	4			120		
1	11/1/76	5			120		
1	11/1/76	6			118		
1	11/1/76	7			116		
1	11/1/76	8			109		
1	11/1/76	9			100		
1	11/1/76	10			100		
1	11/1/76	11			98		
1	11/1/76	12			94		
1	12/4/76	1			116		
1	12/4/76	2			117		
1	12/4/76	3			118		
1	12/4/76	4			119		
1	12/4/76	5			119		
1	12/4/76	6			118		
1	12/4/76	7			114		
1	12/4/76	8			108		
1	12/4/76	9			100		
1	12/4/76	10			99		
1	12/4/76	11			96		
1	12/4/76	12			90		
1	1/1/77	1			116		
1	1/1/77	2			116		
1	1/1/77	3			118		
1	1/1/77	4			119		
1	1/1/77	5			119		
1	1/1/77	6			117		
1	1/1/77	7			114		
1	1/1/77	8			108		
1	1/1/77	9			98		
1	1/1/77	10			97		
1	1/1/77	11			93		
1	1/1/77	12			84		
1	2/1/77	1			106		
1	2/1/77	2			106		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/1/77	3			108		
1	2/1/77	4			110		
1	2/1/77	5			110		
1	2/1/77	6			108		
1	2/1/77	7			102		
1	2/1/77	8			104		
1	2/1/77	9			98		
1	2/1/77	10			99		
1	2/1/77	11			90		
1	2/1/77	12			82		
1	3/1/77	1			110		
1	3/1/77	2			110		
1	3/1/77	3			111		
1	3/1/77	4			112		
1	3/1/77	5			112		
1	3/1/77	6			110		
1	3/1/77	7			105		
1	3/1/77	8			99		
1	3/1/77	9			90		
1	3/1/77	10			88		
1	3/1/77	11			84		
1	3/1/77	12			76		
1	3/1/77	13			75		
1	3/1/77	14			75		
1	4/1/77	1			109		
1	4/1/77	2			110		
1	4/1/77	3			111		
1	4/1/77	4			112		
1	4/1/77	5			112		
1	4/1/77	6			110		
1	4/1/77	7			105		
1	4/1/77	8			100		
1	4/1/77	9			89		
1	4/1/77	10			88		
1	4/1/77	11			84		
1	4/1/77	12			75		
1	5/1/77	1			110		
1	5/1/77	2			115		
1	5/1/77	3			116		
1	5/1/77	4			117		
1	5/1/77	5			116		
1	5/1/77	6			115		
1	5/1/77	7			105		
1	5/1/77	8			99		
1	5/1/77	9			90		
1	5/1/77	10			89		
1	5/1/77	11			85		
1	5/1/77	12			80		
1	6/7/77	1			107		
1	6/7/77	2			109		
1	6/7/77	3			110		
1	6/7/77	4			110		
1	6/7/77	5			110		
1	6/7/77	6			108		
1	6/7/77	7			104		
1	6/7/77	8			98		
1	6/7/77	9			90		
1	6/7/77	10			90		
1	6/7/77	11			85		
1	6/7/77	12			80		
1	7/11/77	1			105		
1	7/11/77	2			105		
1	7/11/77	3			107		
1	7/11/77	4			107		
1	7/11/77	5			107		
1	7/11/77	6			105		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/11/77	7			100		
1	7/11/77	8			95		
1	7/11/77	9			90		
1	7/11/77	10			90		
1	7/11/77	11			88		
1	7/11/77	12			83		
1	7/11/77	13			83		
1	7/11/77	14			83		
1	8/5/77	1			102		
1	8/5/77	2			103		
1	8/5/77	3			104		
1	8/5/77	4			105		
1	8/5/77	5			104		
1	8/5/77	6			103		
1	8/5/77	7			99		
1	8/5/77	8			94		
1	8/5/77	9			88		
1	8/5/77	10			87		
1	8/5/77	11			86		
1	9/5/77	1			106		
1	9/5/77	2			106		
1	9/5/77	3			107		
1	9/5/77	4			107		
1	9/5/77	5			108		
1	9/5/77	6			107		
1	9/5/77	7			103		
1	9/5/77	8			99		
1	9/5/77	9			92		
1	9/5/77	10			92		
1	9/5/77	11			90		
1	9/5/77	12			87		
1	9/5/77	13			87		
1	9/5/77	14			87		
1	10/3/77	1			105		
1	10/3/77	2			106		
1	10/3/77	3			107		
1	10/3/77	4			108		
1	10/3/77	5			108		
1	10/3/77	6			106		
1	10/3/77	7			103		
1	10/3/77	8			98		
1	10/3/77	9			92		
1	10/3/77	10			92		
1	10/3/77	11			90		
1	10/3/77	12			85		
1	11/3/77	1			105		
1	11/3/77	2			105		
1	11/3/77	3			106		
1	11/3/77	4			107		
1	11/3/77	5			105		
1	11/3/77	6			102		
1	11/3/77	7			99		
1	11/3/77	8			93		
1	11/3/77	9			93		
1	11/3/77	10			90		
1	11/3/77	11			89		
1	11/3/77	12			82		
1	11/3/77	13			82		
1	11/3/77	14			82		
1	12/4/77	1			117		
1	12/4/77	2			118		
1	12/4/77	3			119		
1	12/4/77	4			120		
1	12/4/77	5			120		
1	12/4/77	6			118		
1	12/4/77	7			115		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/4/77	8			110		
1	12/4/77	9			103		
1	12/4/77	10			102		
1	12/4/77	11			99		
1	12/4/77	12			91		
1	12/4/77	13			91		
1	12/4/77	14			91		
1	1/8/78	1			121		
1	1/8/78	2			122		
1	1/8/78	3			123		
1	1/8/78	4			124		
1	1/8/78	5			124		
1	1/8/78	6			122		
1	1/8/78	7			119		
1	1/8/78	8			113		
1	1/8/78	9			105		
1	1/8/78	10			104		
1	1/8/78	11			101		
1	1/8/78	12			90		
1	1/8/78	13			90		
1	1/8/78	14			90		
1	1/11/78	1			105		
1	1/11/78	2			105		
1	1/11/78	3			106		
1	1/11/78	4			107		
1	1/11/78	5			107		
1	1/11/78	6			106		
1	1/11/78	7			102		
1	1/11/78	8			96		
1	1/11/78	9			88		
1	1/11/78	10			88		
1	1/11/78	11			84		
1	1/11/78	12			74		
1	1/11/78	13			74		
1	1/11/78	14			74		
1	2/7/78	1			108		
1	2/7/78	2			109		
1	2/7/78	3			110		
1	2/7/78	4			111		
1	2/7/78	5			111		
1	2/7/78	6			109		
1	2/7/78	7			105		
1	2/7/78	8			98		
1	2/7/78	9			91		
1	2/7/78	10			91		
1	2/7/78	11			86		
1	2/7/78	12			78		
1	2/7/78	13			75		
1	2/7/78	14			75		
1	3/12/78	1			111		
1	3/12/78	2			112		
1	3/12/78	3			113		
1	3/12/78	4			114		
1	3/12/78	5			114		
1	3/12/78	6			112		
1	3/12/78	7			107		
1	3/12/78	8			101		
1	3/12/78	9			94		
1	3/12/78	10			93		
1	3/12/78	11			96		
1	3/12/78	12			77		
1	3/12/78	13			77		
1	3/12/78	14			77		
1	4/11/78	1			102		
1	4/11/78	2			103		
1	4/11/78	3			104		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/11/78	4			105		
1	4/11/78	5			105		
1	4/11/78	6			103		
1	4/11/78	7			99		
1	4/11/78	8			92		
1	4/11/78	9			85		
1	4/11/78	10			85		
1	4/11/78	11			82		
1	4/11/78	12			76		
1	4/11/78	13			76		
1	4/11/78	14			75		
1	6/3/78	1			103		
1	6/3/78	2			104		
1	6/3/78	3			105		
1	6/3/78	4			105		
1	6/3/78	5			105		
1	6/3/78	6			102		
1	6/3/78	7			100		
1	6/3/78	8			92		
1	6/3/78	9			85		
1	6/3/78	10			85		
1	6/3/78	11			83		
1	6/3/78	12			75		
1	6/3/78	13			75		
1	6/3/78	14			75		
1	7/13/78	1			104		
1	7/13/78	2			104		
1	7/13/78	3			105		
1	7/13/78	4			105		
1	7/13/78	5			105		
1	7/13/78	6			103		
1	7/13/78	7			100		
1	7/13/78	8			93		
1	7/13/78	9			88		
1	7/13/78	10			87		
1	7/13/78	11			85		
1	7/13/78	12			80		
1	7/13/78	13			80		
1	7/13/78	14			80		
1	8/11/78	1			98		
1	8/11/78	2			98		
1	8/11/78	3			99		
1	8/11/78	4			100		
1	8/11/78	5			99		
1	8/11/78	6			97		
1	8/11/78	7			94		
1	8/11/78	8			89		
1	8/11/78	9			84		
1	8/11/78	10			83		
1	8/11/78	11			82		
1	8/11/78	12			78		
1	8/11/78	13			78		
1	10/10/78	1			102		
1	10/10/78	2			102		
1	10/10/78	3			102		
1	10/10/78	4			102		
1	10/10/78	5			102		
1	10/10/78	6			100		
1	10/10/78	7			95		
1	10/10/78	8			95		
1	10/10/78	9			95		
1	10/10/78	10			95		
1	10/10/78	11			94		
1	10/10/78	12			85		
1	2/4/79	1			105		
1	2/4/79	2			106		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/4/79	3			107		
1	2/4/79	4			108		
1	2/4/79	5			108		
1	2/4/79	6			106		
1	2/4/79	7			103		
1	2/4/79	8			97		
1	2/4/79	9			88		
1	2/4/79	10			87		
1	2/4/79	11			85		
1	2/4/79	12			72		
1	2/4/79	13			71		
1	2/4/79	14			71		
1	9/6/79	1			100		
1	9/6/79	2			100		
1	9/6/79	3			100		
1	9/6/79	4			100		
1	9/6/79	5			100		
1	9/6/79	6			98		
1	9/6/79	7			95		
1	9/6/79	8			94		
1	9/6/79	9			92		
1	9/6/79	10			90		
1	9/6/79	11			88		
1	9/6/79	12			88		
1	9/6/79	13			88		
1	9/6/79	14			88		
1	1/23/80	1			100		
1	1/23/80	2			100		
1	1/23/80	3			100		
1	1/23/80	4			100		
1	1/23/80	5			100		
1	1/23/80	6			100		
1	1/23/80	7			95		
1	1/23/80	8			83		
1	1/23/80	9			75		
1	1/23/80	10			75		
1	1/23/80	11			75		
1	1/23/80	12			75		
1	1/23/80	13			75		
1	1/23/80	14			75		
1	1/13/82	1			100		
1	1/13/82	2			95		
1	1/13/82	3			95		
1	1/13/82	4			95		
1	1/13/82	5			95		
1	1/13/82	6			90		
1	1/13/82	7			85		
1	1/13/82	8			80		
1	1/13/82	9			78		
1	1/13/82	10			82		
1	1/13/82	11			75		
1	1/13/82	12			75		
1	1/13/82	13			75		
1	5/29/82	1			92		
1	5/29/82	2			92		
1	5/29/82	4			91		
1	5/29/82	5			88		
1	5/29/82	6			85		
1	5/29/82	7			80		
1	5/29/82	8			76		
1	5/29/82	9			72		
1	5/29/82	11			72		
1	5/29/82	12			72		
1	10/6/82	1			91		
1	10/6/82	2			91		
1	10/6/82	3			91		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/6/82	4			91		
1	10/6/82	5			89		
1	10/6/82	6			88		
1	10/6/82	7			85		
1	10/6/82	8			82		
1	10/6/82	9			80		
1	10/6/82	10			80		
1	10/6/82	11			80		
1	10/6/82	12			80		
1	10/6/82	13			80		
1	10/6/82	14			80		
1	5/19/83	1			86		
1	5/19/83	2			86		
1	5/19/83	3			85		
1	5/19/83	4			84		
1	5/19/83	5			82		
1	5/19/83	6			78		
1	5/19/83	7			74		
1	5/19/83	8			69		
1	5/19/83	9			65		
1	5/19/83	10			65		
1	5/19/83	11			65		
1	5/19/83	12			65		
1	5/19/83	13			65		
1	5/19/83	14			65		
1	1/3/84	1			93		
1	1/3/84	2			90		
1	1/3/84	3			90		
1	1/3/84	4			90		
1	1/3/84	5			88		
1	1/3/84	6			85		
1	1/3/84	7			80		
1	1/3/84	8			74		
1	1/3/84	9			69		
1	1/3/84	10			69		
1	1/3/84	11			69		
1	1/3/84	12			69		
1	1/3/84	13			69		
1	1/3/84	14			69		
1	2/13/84	1					101 - suspect data (high)
1	2/13/84	2					104 - suspect data (high)
1	2/13/84	3					118 - suspect data (high)
1	2/13/84	5					97 - suspect data (high)
1	2/13/84	6					103 - suspect data (high)
1	2/13/84	7					141 - suspect data (high)
1	2/13/84	8					119 - suspect data (high)
1	2/13/84	11					102 - suspect data (high)
1	2/14/84	1			92		
1	2/14/84	2			92		
1	2/14/84	3			92		
1	2/14/84	4			91		
1	2/14/84	5			89		
1	2/14/84	6			86		
1	2/14/84	7			81		
1	2/14/84	8			74		
1	2/14/84	9			69		
1	2/14/84	10			69		
1	2/14/84	11			69		
1	2/14/84	12			69		
1	2/14/84	13			68		
1	2/14/84	14			68		
1	4/19/85	1			86		
1	4/19/85	2			86		
1	4/19/85	3			86		
1	4/19/85	4			85		
1	4/19/85	5			83		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/19/85	6			79		
1	4/19/85	7			75		
1	4/19/85	8			70		
1	4/19/85	9			65		
1	4/19/85	10			65		
1	4/19/85	11			65		
1	4/19/85	12			65		
1	4/19/85	13			65		
1	4/19/85	14			65		
1	5/3/85	1			86		
1	5/3/85	2			86		
1	5/3/85	3			86		
1	5/3/85	4			85		
1	5/3/85	5			83		
1	5/3/85	6			79		
1	5/3/85	7			75		
1	5/3/85	8			70		
1	5/3/85	9			67		
1	5/3/85	10			67		
1	5/3/85	11			67		
1	5/3/85	12			66		
1	5/3/85	13			66		
1	5/3/85	14			66		
1	6/21/85	1			86		
1	6/21/85	2			86		
1	6/21/85	3			86		
1	6/21/85	4			85		
1	6/21/85	5			83		
1	6/21/85	6			80		
1	6/21/85	7			76		
1	6/21/85	8			73		
1	6/21/85	9			71		
1	6/21/85	10			71		
1	6/21/85	11			71		
1	6/21/85	12			71		
1	6/21/85	13			71		
1	6/21/85	14			71		
1	7/19/85	1			86		
1	7/19/85	2			86		
1	7/19/85	3			86		
1	7/19/85	4			85		
1	7/19/85	5			83		
1	7/19/85	6			81		
1	7/19/85	7			78		
1	7/19/85	8			75		
1	7/19/85	9			76		
1	7/19/85	10			75		
1	7/19/85	11			75		
1	7/19/85	12			75		
1	7/19/85	13			74		
1	7/19/85	14			75		
1	8/30/85	1			86		
1	8/30/85	2			86		
1	8/30/85	3			86		
1	8/30/85	4			85		
1	8/30/85	5			84		
1	8/30/85	6			82		
1	8/30/85	7			80		
1	8/30/85	8			79		
1	8/30/85	9			78		
1	8/30/85	10			78		
1	8/30/85	11			78		
1	8/30/85	12			78		
1	8/30/85	13			78		
1	8/30/85	14			78		
1	9/6/85	1			86		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/6/85	2			86		
1	9/6/85	3			85		
1	9/6/85	4			85		
1	9/6/85	5			84		
1	9/6/85	6			82		
1	9/6/85	7			80		
1	9/6/85	8			78		
1	9/6/85	9			78		
1	9/6/85	10			78		
1	9/6/85	11			78		
1	9/6/85	12			78		
1	9/6/85	13			78		
1	9/6/85	14			78		
1	10/31/85	1			85		
1	10/31/85	2			85		
1	10/31/85	3			85		
1	10/31/85	4			85		
1	10/31/85	5			84		
1	10/31/85	6			83		
1	10/31/85	7			81		
1	10/31/85	8			78		
1	10/31/85	9			75		
1	10/31/85	10			75		
1	10/31/85	11			75		
1	10/31/85	12			75		
1	10/31/85	13			75		
1	10/31/85	14			75		
1	11/22/85	1			84		
1	11/22/85	2			84		
1	11/22/85	3			84		
1	11/22/85	4			84		
1	11/22/85	5			83		
1	11/22/85	6			82		
1	11/22/85	7			79		
1	11/22/85	8			75		
1	11/22/85	9			72		
1	11/22/85	10			72		
1	11/22/85	11			72		
1	11/22/85	12			72		
1	11/22/85	13			72		
1	11/22/85	14			72		
1	12/13/85	1			85		
1	12/13/85	2			85		
1	12/13/85	3			85		
1	12/13/85	4			85		
1	12/13/85	5			84		
1	12/13/85	6			82		
1	12/13/85	7			79		
1	12/13/85	8			74		
1	12/13/85	9			70		
1	12/13/85	10			70		
1	12/13/85	11			70		
1	12/13/85	12			70		
1	12/13/85	13			70		
1	12/13/85	14			70		
1	1/17/86	1			85		
1	1/17/86	2			85		
1	1/17/86	3			85		
1	1/17/86	4			85		
1	1/17/86	5			84		
1	1/17/86	6			81		
1	1/17/86	7			78		
1	1/17/86	8			72		
1	1/17/86	9			67		
1	1/17/86	10			67		
1	1/17/86	11			67		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/17/86	12			67		
1	1/17/86	13			67		
1	1/17/86	14			66		
1	4/18/86	1			85		
1	4/18/86	2			85		
1	4/18/86	3			85		
1	4/18/86	4			84		
1	4/18/86	5			82		
1	4/18/86	6			79		
1	4/18/86	7			75		
1	4/18/86	8			69		
1	4/18/86	9			65		
1	4/18/86	10			65		
1	4/18/86	11			65		
1	4/18/86	12			65		
1	4/18/86	13			65		
1	4/18/86	14			65		
1	9/12/86	1			84		
1	9/12/86	2			85		
1	9/12/86	3			84		
1	9/12/86	4			84		
1	9/12/86	5			83		
1	9/12/86	6			81		
1	9/12/86	7			80		
1	9/12/86	8			78		
1	9/12/86	9			77		
1	9/12/86	10			77		
1	9/12/86	11			78		
1	9/12/86	12			78		
1	9/12/86	13			78		
1	9/12/86	14			78		
1	10/10/86	1			85		
1	10/10/86	2			85		
1	10/10/86	3			85		
1	10/10/86	4			85		
1	10/10/86	5			84		
1	10/10/86	6			83		
1	10/10/86	7			81		
1	10/10/86	8			79		
1	10/10/86	9			78		
1	10/10/86	10			78		
1	10/10/86	11			78		
1	10/10/86	12			77		
1	10/10/86	13			77		
1	10/10/86	14			77		
1	3/6/87	1			83		
1	3/6/87	2			83		
1	3/6/87	3			83		
1	3/6/87	4			83		
1	3/6/87	5			81		
1	3/6/87	6			79		
1	3/6/87	7			75		
1	3/6/87	8			69		
1	3/6/87	9			64		
1	3/6/87	10			64		
1	3/6/87	11			64		
1	3/6/87	12			64		
1	3/6/87	13			64		
1	3/6/87	14			64		
1	6/12/87	1			83		
1	6/12/87	2			83		
1	6/12/87	3			83		
1	6/12/87	4			82		
1	6/12/87	5			81		
1	6/12/87	6			78		
1	6/12/87	7			75		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/12/87	8			72		
1	6/12/87	9			70		
1	6/12/87	10			70		
1	6/12/87	11			70		
1	6/12/87	12			70		
1	6/12/87	13			70		
1	6/12/87	14			70		
1	10/2/87	1			82		
1	10/2/87	2			82		
1	10/2/87	3			82		
1	10/2/87	4			82		
1	10/2/87	5			82		
1	10/2/87	6			81		
1	10/2/87	7			79		
1	10/2/87	8			78		
1	10/2/87	9			77		
1	10/2/87	10			77		
1	10/2/87	11			77		
1	10/2/87	12			77		
1	10/2/87	13			77		
1	10/2/87	14			77		
1	12/18/87	1			89		
1	12/18/87	2			89		
1	12/18/87	3			90		
1	12/18/87	4			90		
1	12/18/87	5			89		
1	12/18/87	6			88		
1	12/18/87	7			86		
1	12/18/87	8			82		
1	12/18/87	9			78		
1	12/18/87	10			78		
1	12/18/87	11			79		
1	12/18/87	12			79		
1	12/18/87	13			79		
1	12/18/87	14			79		
1	1/22/88	1			91		
1	1/22/88	2			91		
1	1/22/88	3			91		
1	1/22/88	4			91		
1	1/22/88	5			90		
1	1/22/88	6			88		
1	1/22/88	7			85		
1	1/22/88	8			80		
1	1/22/88	9			76		
1	1/22/88	10			76		
1	1/22/88	11			77		
1	1/22/88	12			77		
1	1/22/88	13			77		
1	1/22/88	14			76		
1	2/5/88	1			91		
1	2/5/88	2			91		
1	2/5/88	3			91		
1	2/5/88	4			91		
1	2/5/88	5			90		
1	2/5/88	6			88		
1	2/5/88	7			84		
1	2/5/88	8			79		
1	2/5/88	9			74		
1	2/5/88	10			74		
1	2/5/88	11			75		
1	2/5/88	12			75		
1	2/5/88	13			75		
1	2/5/88	14			75		
1	1/4/91	3	1		80.2	Y	HH-99A-J #890523512-47 TC #s 1,2,4 O/S
1	1/4/91	5	1		79.5	N	
1	1/4/91	6	1		78.1	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869:

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/4/91	7	1		75.3	N	
1	1/4/91	8	1		70.6	N	
1	1/4/91	9	1		67.2	N	
1	1/4/91	10	1		67.2	N	
1	1/4/91	11	1		67.2	N	
1	1/4/91	12	1		67.2	N	
1	1/4/91	13	1		67.3	N	
1	1/4/91	14	1		67	N	
1	11/13/91	1	1		78.1	N	J-890423320-42 TC #14-16 O/S W/O #04529
1	11/13/91	2	1		78.5	N	
1	11/13/91	3	1		75.9	N	
1	11/13/91	4	1		78.7	Y	
1	11/13/91	5	1		78.4	N	
1	11/13/91	6	1		77.7	N	
1	11/13/91	7	1		75.8	N	
1	11/13/91	8	1		73.1	N	
1	11/13/91	9	1		71	N	
1	11/13/91	10	1		70.9	N	
1	11/13/91	11	1		70.8	N	
1	11/13/91	12	1		70.8	N	
1	11/13/91	13	1		70.9	N	
1	1/1/92	1	1		82.7	N	J-890523512-20 TC #1315-16 O/S
1	1/1/92	2	1		83.2	N	
1	1/1/92	3	1		87	Y	
1	1/1/92	4	1		83.3	N	
1	1/1/92	5	1		82.7	N	
1	1/1/92	6	1		81.3	N	
1	1/1/92	7	1		78.4	N	
1	1/1/92	8	1		74	N	
1	1/1/92	9	1		70.4	N	
1	1/1/92	10	1		70.4	N	
1	1/1/92	11	1		70.3	N	
1	1/1/92	12	1		70.3	N	
1	1/1/92	14	1		70	N	
1	7/3/92	1	1		93	Y	J 890423320-42
1	7/3/92	2	1		82	N	
1	7/3/92	3	1		86	N	
1	7/3/92	4	1		81	N	
1	7/3/92	5	1		80	N	
1	7/3/92	6	1		78	N	
1	7/3/92	7	1		76	N	
1	7/3/92	8	1		74	N	
1	7/3/92	9	1		73	N	
1	7/3/92	10	1		73	N	
1	7/3/92	11	1		73	N	
1	7/3/92	12	1		73	N	
1	7/3/92	13	1		73	N	
1	7/3/92	14	1		73	N	
1	1/3/93	1	1		80	N	J 910126143-29
1	1/3/93	2	1		81.1	N	
1	1/3/93	3	1		73	N	
1	1/3/93	4	1		81.3	Y	
1	1/3/93	5	1		80.5	N	
1	1/3/93	6	1		79	N	
1	1/3/93	7	1		76.1	N	
1	1/3/93	8	1		71.3	N	
1	1/3/93	9	1		67.6	N	
1	1/3/93	10	1		67.6	N	
1	1/3/93	11	1		67.6	N	
1	1/3/93	12	1		67.5	N	
1	1/3/93	13	1		67.5	N	
1	1/3/93	14	1		67.2	N	
1	2/13/93	1	1		79.6	N	J 910126143-42
1	2/13/93	2	1		80.8	Y	
1	2/13/93	4	1		80.6	N	
1	2/13/93	5	1		79.5	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-106							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/13/93	6	1		77.3	N	
1	2/13/93	7	1		73.4	N	
1	2/13/93	8	1		67.7	N	
1	2/13/93	9	1		63.7	N	
1	2/13/93	10	1		63.6	N	
1	2/13/93	11	1		63.5	N	
1	2/13/93	12	1		63.5	N	
1	2/13/93	13	1		63.5	N	
1	2/13/93	14	1		63.2	N	
1	7/2/93	1	1		93.7	Y	J 890423320-42
1	7/2/93	2	1		77.9	N	
1	7/2/93	3	1		57.6	N	
1	7/2/93	4	1		76.5	N	
1	7/2/93	5	1		74.9	N	
1	7/2/93	6	1		72.8	N	
1	7/2/93	7	1		70.2	N	
1	7/2/93	8	1		67.3	N	
1	7/2/93	9	1		65.9	N	
1	7/2/93	10	1		65.9	N	
1	7/2/93	11	1		65.9	N	
1	7/2/93	12	1		65.9	N	
1	7/2/93	13	1		65.9	N	
1	7/2/93	14	1		65.7	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-107							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/11/73	1			129		
1	10/11/73	2			127		
1	10/11/73	3			122		
1	10/11/73	4			116		
1	10/11/73	5			106		
1	10/11/73	6			98		
1	10/11/73	7			97		
1	10/11/73	8			97		
1	10/11/73	9			97		
1	10/11/73	10			97		
1	10/11/73	11			97		
1	10/11/73	12			96		
1	10/11/73	13			94		
1	10/11/73	14			94		
1	10/12/73	1			129		
1	10/12/73	2			127.3		
1	10/12/73	3			122		
1	10/12/73	4			116		
1	10/12/73	5			107		
1	10/12/73	6			98.3		
1	10/12/73	7			98		
1	10/12/73	8			98		
1	10/12/73	9			98		
1	10/12/73	10			98		
1	10/12/73	11			97.3		
1	10/12/73	12			94.7		
1	10/12/73	13			94.7		
1	10/12/73	14			94.7		
1	12/2/74	1			125.996		
1	12/2/74	2			125.006		
1	12/2/74	3			120.002		
1	12/2/74	4			125.996		
1	12/2/74	5			116.996		
1	12/2/74	6			96.998		
1	12/2/74	7			86		
1	12/2/74	8			80.006		
1	12/2/74	9			80.402		
1	12/2/74	10			75.002		
1	12/2/74	11			75.002		
1	12/2/74	12			75.002		
1	11/3/75	1			130		
1	11/3/75	2			131		
1	11/3/75	3			126		
1	11/3/75	4			123		
1	11/3/75	5			117		
1	11/3/75	6			109		
1	11/3/75	7			106		
1	11/3/75	8			100		
1	11/3/75	9			96		
1	11/3/75	10			96		
1	11/3/75	11			96		
1	11/3/75	12			96		
1	2/4/76	1			152		
1	2/4/76	2			151		
1	2/4/76	3			148		
1	2/4/76	4			145		
1	2/4/76	5			140		
1	2/4/76	6			136		
1	2/4/76	7			131		
1	2/4/76	8			131		
1	2/4/76	9			131		
1	2/4/76	10			130		
1	2/4/76	11			126		
1	2/4/76	12			124		
1	3/5/76	1			132		
1	3/5/76	2			131		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-107							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/5/76	3			128		
1	3/5/76	4			126		
1	3/5/76	5			121		
1	3/5/76	6			116		
1	3/5/76	7			110		
1	3/5/76	8			110		
1	3/5/76	9			110		
1	3/5/76	10			109		
1	3/5/76	11			109		
1	3/5/76	12			109		
1	5/2/76	1			135		
1	5/2/76	2			135		
1	5/2/76	3			132		
1	5/2/76	4			129		
1	5/2/76	5			123		
1	5/2/76	6			116		
1	5/2/76	7			109		
1	5/2/76	8			109		
1	5/2/76	9			109		
1	5/2/76	10			109		
1	5/2/76	11			109		
1	5/2/76	12			105		
1	6/1/76	1			134		
1	6/1/76	2			134		
1	6/1/76	3			124		
1	6/1/76	4			120		
1	6/1/76	5			112		
1	6/1/76	6			104		
1	6/1/76	7			104		
1	6/1/76	8			104		
1	6/1/76	9			104		
1	6/1/76	10			104		
1	6/1/76	11			104		
1	6/1/76	12			100		
1	6/1/76	13			100		
1	6/1/76	14			100		
1	7/1/76	1			135		
1	7/1/76	2			135		
1	7/1/76	3			131		
1	7/1/76	4			128		
1	7/1/76	5			121		
1	7/1/76	6			111		
1	7/1/76	7			102		
1	7/1/76	8			102		
1	7/1/76	9			101		
1	7/1/76	10			101		
1	7/1/76	11			101		
1	7/1/76	12			100		
1	8/3/76	1			136		
1	8/3/76	2			136		
1	8/3/76	3			132		
1	8/3/76	4			129		
1	8/3/76	5			121		
1	8/3/76	6			111		
1	8/3/76	7			102		
1	8/3/76	8			102		
1	8/3/76	9			102		
1	8/3/76	10			102		
1	8/3/76	11			102		
1	8/3/76	12			102		
1	9/2/76	1			138		
1	9/2/76	2			138		
1	9/2/76	3			134		
1	9/2/76	4			130		
1	9/2/76	5			122		
1	9/2/76	6			112		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-107							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/2/76	7			103		
1	9/2/76	8			103		
1	9/2/76	9			103		
1	9/2/76	10			103		
1	9/2/76	11			103		
1	9/2/76	12			103		
1	10/3/76	1			139		
1	10/3/76	2			139		
1	10/3/76	3			135		
1	10/3/76	4			131		
1	10/3/76	5			124		
1	10/3/76	6			114		
1	10/3/76	7			105		
1	10/3/76	8			105		
1	10/3/76	9			105		
1	10/3/76	10			105		
1	10/3/76	11			105		
1	10/3/76	12			103		
1	11/1/76	1			140		
1	11/1/76	2			146		
1	11/1/76	3			137		
1	11/1/76	4			129		
1	11/1/76	5			126		
1	11/1/76	6			114		
1	11/1/76	7			104		
1	11/1/76	8			104		
1	11/1/76	9			104		
1	11/1/76	10			104		
1	11/1/76	11			104		
1	11/1/76	12			100		
1	12/4/76	1			139		
1	12/4/76	2			139		
1	12/4/76	3			136		
1	12/4/76	4			132		
1	12/4/76	5			123		
1	12/4/76	6			114		
1	12/4/76	7			103		
1	12/4/76	8			103		
1	12/4/76	9			103		
1	12/4/76	10			103		
1	12/4/76	11			103		
1	12/4/76	12			97		
1	1/1/77	1			140		
1	1/1/77	2			140		
1	1/1/77	3			136		
1	1/1/77	4			132		
1	1/1/77	5			125		
1	1/1/77	6			114		
1	1/1/77	7			100		
1	1/1/77	8			95		
1	1/1/77	9			95		
1	1/1/77	10			95		
1	1/1/77	11			95		
1	1/1/77	12			95		
1	2/1/77	1			140		
1	2/1/77	2			140		
1	2/1/77	3			138		
1	2/1/77	4			132		
1	2/1/77	5			122		
1	2/1/77	6			104		
1	2/1/77	7			106		
1	2/1/77	8			94		
1	2/1/77	9			92		
1	2/1/77	10			92		
1	2/1/77	11			92		
1	2/1/77	12			94		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-107							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/1/77	1			135		
1	3/1/77	2			134		
1	3/1/77	3			130		
1	3/1/77	4			127		
1	3/1/77	5			118		
1	3/1/77	6			102		
1	3/1/77	7			92		
1	3/1/77	8			85		
1	3/1/77	9			84		
1	3/1/77	10			84		
1	3/1/77	11			84		
1	3/1/77	12			84		
1	3/1/77	13			84		
1	3/1/77	14			84		
1	4/1/77	1			135		
1	4/1/77	2			134		
1	4/1/77	3			130		
1	4/1/77	4			125		
1	4/1/77	5			116		
1	4/1/77	6			101		
1	4/1/77	7			87		
1	4/1/77	8			84		
1	4/1/77	9			83		
1	4/1/77	10			83		
1	4/1/77	11			83		
1	4/1/77	12			83		
1	4/1/77	13			83		
1	4/1/77	14			83		
1	5/1/77	1			135		
1	5/1/77	2			134		
1	5/1/77	3			130		
1	5/1/77	4			125		
1	5/1/77	5			115		
1	5/1/77	6			101		
1	5/1/77	7			90		
1	5/1/77	8			85		
1	5/1/77	9			84		
1	5/1/77	10			85		
1	5/1/77	11			84		
1	5/1/77	12			84		
1	6/7/77	1			134		
1	6/7/77	2			134		
1	6/7/77	3			129		
1	6/7/77	4			125		
1	6/7/77	5			115		
1	6/7/77	6			104		
1	6/7/77	7			92		
1	6/7/77	8			90		
1	6/7/77	9			89		
1	6/7/77	10			89		
1	6/7/77	11			89		
1	6/7/77	12			89		
1	7/11/77	1			133		
1	7/11/77	2			133		
1	7/11/77	3			125		
1	7/11/77	4			125		
1	7/11/77	5			120		
1	7/11/77	6			100		
1	7/11/77	7			90		
1	7/11/77	8			85		
1	7/11/77	9			75		
1	7/11/77	10			75		
1	7/11/77	11			70		
1	7/11/77	12			70		
1	7/11/77	13			70		
1	7/11/77	14			60		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-107							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	8/5/77	1			129		
1	8/5/77	2			129		
1	8/5/77	3			125		
1	8/5/77	4			123		
1	8/5/77	5			118		
1	8/5/77	6			112		
1	8/5/77	7			106		
1	8/5/77	8			105		
1	8/5/77	9			105		
1	8/5/77	10			104		
1	8/5/77	11			97		
1	9/5/77	1			130		
1	9/5/77	2			130		
1	9/5/77	3			131		
1	9/5/77	4			132		
1	9/5/77	5			133		
1	9/5/77	6			132		
1	9/5/77	7			132		
1	9/5/77	8			133		
1	9/5/77	9			131		
1	9/5/77	10			132		
1	9/5/77	11			133		
1	9/5/77	12			117		
1	9/5/77	13			115		
1	9/5/77	14			115		
1	10/3/77	1			135		
1	10/3/77	2			135		
1	10/3/77	3			135		
1	10/3/77	4			132		
1	10/3/77	5			131		
1	10/3/77	6			130		
1	10/3/77	7			124		
1	10/3/77	8			124		
1	10/3/77	9			123		
1	10/3/77	10			123		
1	10/3/77	11			123		
1	10/3/77	12			112		
1	11/3/77	1			105		
1	11/3/77	2			105		
1	11/3/77	3			106		
1	11/3/77	4			107		
1	11/3/77	5			105		
1	11/3/77	6			102		
1	11/3/77	7			99		
1	11/3/77	8			93		
1	11/3/77	9			93		
1	11/3/77	10			90		
1	11/3/77	11			89		
1	11/3/77	12			82		
1	11/3/77	13			82		
1	11/3/77	14			82		
1	12/4/77	1			153		
1	12/4/77	2			153		
1	12/4/77	3			151		
1	12/4/77	4			149		
1	12/4/77	5			146		
1	12/4/77	6			139		
1	12/4/77	7			125		
1	12/4/77	8			119		
1	12/4/77	9			119		
1	12/4/77	10			119		
1	12/4/77	11			119		
1	12/4/77	12			119		
1	12/4/77	13			119		
1	12/4/77	14			119		
1	1/8/78	1			159		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-107							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/8/78	2			159		
1	1/8/78	3			157		
1	1/8/78	4			154		
1	1/8/78	5			149		
1	1/8/78	6			138		
1	1/8/78	7			121		
1	1/8/78	8			117		
1	1/8/78	9			117		
1	1/8/78	10			117		
1	1/8/78	11			117		
1	1/8/78	12			117		
1	1/8/78	13			116		
1	1/8/78	14			116		
1	1/11/78	1			140		
1	1/11/78	2			141		
1	1/11/78	3			139		
1	1/11/78	4			136		
1	1/11/78	5			130		
1	1/11/78	6			120		
1	1/11/78	7			103		
1	1/11/78	8			99		
1	1/11/78	9			99		
1	1/11/78	10			99		
1	1/11/78	11			98		
1	1/11/78	12			98		
1	1/11/78	13			98		
1	1/11/78	14			98		
1	1/13/78	1			140		
1	1/13/78	2			141		
1	1/13/78	3			140		
1	1/13/78	4			135		
1	1/13/78	5			130		
1	1/13/78	6			120		
1	1/13/78	7			102		
1	1/13/78	8			100		
1	1/13/78	9			110		
1	1/13/78	10			100		
1	1/13/78	11			99		
1	2/7/78	1			145		
1	2/7/78	2			145		
1	2/7/78	3			143		
1	2/7/78	4			140		
1	2/7/78	5			133		
1	2/7/78	6			120		
1	2/7/78	7			101		
1	2/7/78	8			95		
1	2/7/78	9			95		
1	2/7/78	10			95		
1	2/7/78	11			95		
1	2/7/78	12			95		
1	2/7/78	13			95		
1	2/7/78	14			95		
1	3/12/78	1			149		
1	3/12/78	2			149		
1	3/12/78	3			146		
1	3/12/78	4			142		
1	3/12/78	5			134		
1	3/12/78	6			119		
1	3/12/78	7			98		
1	3/12/78	8			91		
1	3/12/78	9			91		
1	3/12/78	10			91		
1	3/12/78	11			91		
1	3/12/78	12			91		
1	3/12/78	13			91		
1	3/12/78	14			91		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-107							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/11/78	1			145		
1	4/11/78	2			140		
1	4/11/78	3			137		
1	4/11/78	4			134		
1	4/11/78	5			125		
1	4/11/78	6			110		
1	4/11/78	7			90		
1	4/11/78	8			84		
1	4/11/78	9			83		
1	4/11/78	10			83		
1	4/11/78	11			83		
1	4/11/78	12			83		
1	4/11/78	13			83		
1	4/11/78	14			82		
1	6/3/78	1			140		
1	6/3/78	2			140		
1	6/3/78	3			136		
1	6/3/78	4			132		
1	6/3/78	5			125		
1	6/3/78	6			111		
1	6/3/78	7			108		
1	6/3/78	8			108		
1	6/3/78	9			108		
1	6/3/78	10			108		
1	6/3/78	11			108		
1	6/3/78	12			100		
1	6/3/78	13			98		
1	6/3/78	14			98		
1	7/13/78	1			133		
1	7/13/78	2			133		
1	7/13/78	3			129		
1	7/13/78	4			125		
1	7/13/78	5			117		
1	7/13/78	6			106		
1	7/13/78	7			103		
1	7/13/78	8			102		
1	7/13/78	9			102		
1	7/13/78	10			102		
1	7/13/78	11			101		
1	7/13/78	12			90		
1	7/13/78	13			89		
1	7/13/78	14			89		
1	8/11/78	1			134		
1	8/11/78	2			133		
1	8/11/78	3			130		
1	8/11/78	4			126		
1	8/11/78	5			120		
1	8/11/78	6			118		
1	8/11/78	7			115		
1	8/11/78	8			112		
1	8/11/78	9			112		
1	8/11/78	10			112		
1	8/11/78	11			112		
1	8/11/78	12			112		
1	8/11/78	13			112		
1	8/11/78	14			112		
1	10/10/78	1			140		
1	10/10/78	2			140		
1	10/10/78	3			135		
1	10/10/78	4			135		
1	10/10/78	5			125		
1	10/10/78	6			115		
1	10/10/78	7			105		
1	10/10/78	8			105		
1	10/10/78	9			105		
1	10/10/78	10			100		

-- Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-107							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/10/78	11			100		
1	10/10/78	12			100		
1	2/4/79	1			141		
1	2/4/79	2			141		
1	2/4/79	3			138		
1	2/4/79	4			134		
1	2/4/79	5			125		
1	2/4/79	6			111		
1	2/4/79	7			104		
1	2/4/79	8			103		
1	2/4/79	9			103		
1	2/4/79	10			103		
1	2/4/79	11			103		
1	2/4/79	12			93		
1	2/4/79	13			93		
1	2/4/79	14			92		
1	9/6/79	1			140		
1	9/6/79	2			140		
1	9/6/79	3			135		
1	9/6/79	4			132		
1	9/6/79	5			125		
1	9/6/79	6			112		
1	9/6/79	7			110		
1	9/6/79	8			110		
1	9/6/79	9			110		
1	9/6/79	10			110		
1	9/6/79	11			105		
1	9/6/79	12			105		
1	9/6/79	13			105		
1	9/6/79	14			105		
1	1/23/80	1			140		
1	1/23/80	2			140		
1	1/23/80	3			135		
1	1/23/80	4			135		
1	1/23/80	5			130		
1	1/23/80	6			125		
1	1/23/80	7			120		
1	1/23/80	8			120		
1	1/23/80	9			118		
1	1/23/80	10			118		
1	1/23/80	11			115		
1	1/23/80	12			110		
1	1/23/80	13			105		
1	1/23/80	14			105		
1	1/13/82	1			123		
1	1/13/82	2			125		
1	1/13/82	3			120		
1	1/13/82	4			118		
1	1/13/82	5			107		
1	1/13/82	6			95		
1	1/13/82	7			88		
1	1/13/82	8			88		
1	1/13/82	9			88		
1	1/13/82	10			89		
1	1/13/82	11			90		
1	1/13/82	12			90		
1	1/13/82	13			90		
1	5/29/82	1			121		
1	5/29/82	2			111		
1	5/29/82	3			117		
1	5/29/82	4			114		
1	5/29/82	5			104		
1	5/29/82	6			93		
1	5/29/82	7			88		
1	5/29/82	8			88		
1	5/29/82	9			88		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-107							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/29/82	10			89		
1	5/29/82	11			89		
1	5/29/82	12			89		
1	10/6/82	1			122		
1	10/6/82	2			122		
1	10/6/82	3			118		
1	10/6/82	4			116		
1	10/6/82	5			109		
1	10/6/82	6			100		
1	10/6/82	7			95		
1	10/6/82	8			95		
1	10/6/82	9			95		
1	10/6/82	10			95		
1	10/6/82	11			96		
1	10/6/82	12			96		
1	10/6/82	13			96		
1	10/6/82	14			96		
1	5/19/83	1			120		
1	5/19/83	2			119		
1	5/19/83	3			115		
1	5/19/83	4			111		
1	5/19/83	5			102		
1	5/19/83	6			91		
1	5/19/83	7			84		
1	5/19/83	8			84		
1	5/19/83	9			84		
1	5/19/83	10			84		
1	5/19/83	11			84		
1	5/19/83	12			84		
1	5/19/83	13			84		
1	5/19/83	14			84		
1	2/14/84	1			126		
1	2/14/84	2			125		
1	2/14/84	3			121		
1	2/14/84	4			114		
1	2/14/84	5			107		
1	2/14/84	6			86		
1	3/14/84	1			122		
1	3/14/84	2			122		
1	3/14/84	3			119		
1	3/14/84	4			112		
1	3/14/84	5			105		
1	3/14/84	6			84		
1	4/9/84	1			126		
1	4/9/84	2			125		
1	4/9/84	3			115		
1	4/9/84	4			115		
1	4/9/84	5			108		
1	4/9/84	6			88		
1	6/19/84	1			138.2		
1	6/19/84	2			134.6		
1	6/19/84	3			132.8		
1	6/19/84	4			132.8		
1	6/19/84	5			132.8		
1	6/19/84	6			132.8		
1	9/13/84	1			126		
1	9/13/84	2			124		
1	9/13/84	3			120		
1	9/13/84	4			117		
1	9/13/84	5			111		
1	9/13/84	6			97		
1	10/19/84	1			140		
1	10/19/84	2			137		
1	10/19/84	3			135		
1	10/19/84	4			132		
1	10/19/84	5			127		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-107							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/19/84	6			111		
1	4/2/85	1			121		
1	4/2/85	2			120		
1	4/2/85	3			118		
1	4/2/85	4			113		
1	4/2/85	5			106		
1	4/2/85	6			86		
1	5/2/85	1			113		
1	5/2/85	2			112		
1	5/2/85	3			109		
1	5/2/85	4			105		
1	5/2/85	5			98		
1	5/2/85	6			79		
1	7/2/85	1			115		
1	7/2/85	2			114		
1	7/2/85	3			112		
1	7/2/85	4			108		
1	7/2/85	5			102		
1	7/2/85	6			88		
1	12/4/85	1			101		
1	12/4/85	2			101		
1	12/4/85	3			98		
1	12/4/85	4			95		
1	12/4/85	5			89		
1	12/4/85	6			72		
1	1/6/86	1			83		
1	1/6/86	2			83		
1	1/6/86	3			83		
1	1/6/86	4			83		
1	1/6/86	5			83		
1	1/6/86	6			85		
1	1/7/86	1			67		
1	1/7/86	2			67		
1	1/7/86	3			67		
1	1/7/86	4			67		
1	1/7/86	5			67		
1	1/7/86	6			67		
1	7/7/86	1			96.5		
1	7/7/86	2			96.3		
1	7/7/86	3			98.4		
1	7/7/86	4			101.9		
1	7/7/86	5			108.1		
1	7/7/86	6			123.5		
1	11/27/86	1			117.4		
1	11/27/86	2			116.5		
1	11/27/86	3			113.9		
1	11/27/86	4			110.5		
1	11/27/86	5			104.8		
1	11/27/86	6			81		
1	12/22/86	1			118		
1	12/22/86	2			117		
1	12/22/86	3			114.4		
1	12/22/86	4			110.2		
1	12/22/86	5			103.6		
1	12/22/86	6			86.4		
1	1/2/87	1			117.2		
1	1/2/87	2			116		
1	1/2/87	3			113.3		
1	1/2/87	4			109.8		
1	1/2/87	5			103.6		
1	1/2/87	6			85.8		
1	2/2/87	1			118		
1	2/2/87	2			117		
1	2/2/87	3			114		
1	2/2/87	4			110		
1	2/2/87	5			103		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-107 THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/2/87	6			85		
1	3/2/87	1			117		
1	3/2/87	2			116		
1	3/2/87	3			113		
1	3/2/87	4			109		
1	3/2/87	5			102		
1	3/2/87	6			84		
1	4/6/87	1			119		
1	4/6/87	2			118		
1	4/6/87	3			116		
1	4/6/87	4			112		
1	4/6/87	5			105		
1	4/6/87	6			78		
1	4/11/87	1			117		
1	4/11/87	2			116		
1	4/11/87	3			113		
1	4/11/87	4			110		
1	4/11/87	5			104		
1	4/11/87	6			91		
1	5/3/87	1			115.6		
1	5/3/87	2			114.4		
1	5/3/87	3			111.4		
1	5/3/87	4			107.5		
1	5/3/87	5			100.7		
1	5/3/87	6			83.7		
1	7/6/87	1			115.5		
1	7/6/87	2			114.3		
1	7/6/87	3			111.4		
1	7/6/87	4			107.8		
1	7/6/87	5			102		
1	7/6/87	6			88.1		
1	8/4/87	1			114.4		
1	8/4/87	2			113.4		
1	8/4/87	3			110.5		
1	8/4/87	4			106.9		
1	8/4/87	5			101.4		
1	8/4/87	6			88.2		
1	10/5/87	1			114		
1	10/5/87	2			114		
1	10/5/87	3			112		
1	10/5/87	4			109		
1	10/5/87	5			104		
1	10/5/87	6			92		
1	12/8/87	1			117.7		
1	12/8/87	2			116.3		
1	12/8/87	3			113.8		
1	12/8/87	4			110.5		
1	12/8/87	5			104.8		
1	12/8/87	6			89.2		
1	1/4/88	1	1		117.8	Y	
1	1/4/88	2	1		116.6	N	
1	1/4/88	3	1		114	N	
1	1/4/88	4	1		110.5	N	
1	1/4/88	5	1		104.7	N	
1	1/4/88	6	1		87.3	N	
1	2/1/88	1	1		113	Y	
1	2/1/88	2	1		110	N	
1	2/1/88	3	1		109	N	
1	2/1/88	4	1		106	N	
1	2/1/88	5	1		103	N	
1	2/1/88	6	1		83	N	
1	3/8/88	2	1		122	Y	
1	3/8/88	4	1		113	N	
1	3/8/88	5	1		106	N	
1	3/8/88	6	1		90	N	
1	4/4/88	1	1		116	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-107							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/4/88	2	1		117	Y	
1	4/4/88	3	1		112	N	
1	4/4/88	4	1		108	N	
1	4/4/88	5	1		102	N	
1	4/4/88	6	1		86	N	
1	5/2/88	1	1		123	Y	
1	5/2/88	2	1		122	N	
1	5/2/88	3	1		120	N	
1	5/2/88	4	1		116	N	
1	5/2/88	5	1		110	N	
1	5/2/88	6	1		95	N	
1	5/4/88	1	1		118	Y	
1	5/4/88	2	1		117	N	
1	5/4/88	3	1		115	N	
1	5/4/88	4	1		111	N	
1	5/4/88	5	1		105	N	
1	5/4/88	6	1		89	N	
1	6/6/88	1	1		120	Y	
1	6/6/88	2	1		118	N	
1	6/6/88	3	1		118	N	
1	6/6/88	4	1		115	N	
1	6/6/88	5	1		112	N	
1	6/6/88	6	1		95	N	
1	7/4/88	1	1		120	Y	
1	7/4/88	2	1		119	N	
1	7/4/88	3	1		116	N	
1	7/4/88	4	1		112	N	
1	7/4/88	5	1		106	N	
1	7/4/88	6	1		86	N	
1	8/1/88	1	1		116	Y	
1	8/1/88	2	1		116	N	
1	8/1/88	3	1		113	N	
1	8/1/88	4	1		110	N	
1	8/1/88	5	1		106	N	
1	8/1/88	6	1		93	N	
1	9/5/88	1	1		114	Y	
1	9/5/88	2	1		113	N	
1	9/5/88	3	1		111	N	
1	9/5/88	4	1		108	N	
1	9/5/88	5	1		103	N	
1	9/5/88	6	1		90	N	
1	10/3/88	1	1		114	Y	
1	10/3/88	2	1		114	N	
1	10/3/88	3	1		111	N	
1	10/3/88	4	1		108	N	
1	10/3/88	5	1		103	N	
1	10/3/88	6	1		90	N	
1	11/7/88	1	1		114	Y	
1	11/7/88	2	1		114	N	
1	11/7/88	3	1		111	N	
1	11/7/88	4	1		109	N	
1	11/7/88	5	1		104	N	
1	11/7/88	6	1		91	N	
1	12/5/88	1	1			N	BAD READINGS
1	1/2/89	1	1			N	O/S
1	2/6/89	1	1		117.5	Y	
1	2/6/89	2	1		116.7	N	
1	2/6/89	3	1		114.1	N	
1	2/6/89	4	1		110.1	N	
1	2/6/89	5	1		103.1	N	
1	2/6/89	6	1		86.3	N	
1	3/6/89	1	1		139	Y	
1	3/6/89	2	1		139	N	
1	3/6/89	3	1		136	N	
1	3/6/89	4	1		132	N	
1	3/6/89	5	1		125	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-107							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/6/89	6	1		105	N	
1	1/4/91	1	1		108.9	Y	HH-99A-J #890523512-47
1	1/4/91	2	1		108.3	N	
1	1/4/91	3	1		106.2	N	
1	1/4/91	4	1		103	N	
1	1/4/91	5	1		97.5	N	
1	1/4/91	6	1		82	N	
1	11/13/91	1	1		108.4	Y	J-890423320-42
1	11/13/91	2	1		107.3	N	
1	11/13/91	3	1		105.3	N	
1	11/13/91	4	1		102.8	N	
1	11/13/91	5	1		98.9	N	
1	11/13/91	6	1		84.3	N	
1	1/1/92	1	1		113	Y	J-890523512-20
1	1/1/92	2	1		111.9	N	
1	1/1/92	3	1		109.9	N	
1	1/1/92	4	1		107.1	N	
1	1/1/92	5	1		102.3	N	
1	1/1/92	6	1		84.7	N	
1	7/2/92	1	1			N	O/S
1	11/4/92	1	1			N	#S&DA-92-488 NO RDGS SINCE JANUARY 1992
1	11/5/92	1	1		112	Y	J 817-13-20-019
1	11/5/92	2	1		111	N	
1	11/5/92	3	1		109	N	
1	11/5/92	4	1		106	N	
1	11/5/92	5	1		102	N	
1	11/5/92	6	1		87	N	
1	2/13/93	1	1		106.5	Y	J 910126143-42
1	2/13/93	2	1		105.3	N	
1	2/13/93	3	1		102	N	
1	2/13/93	4	1		96.1	N	
1	2/13/93	5	1		78	N	
1	2/13/93	6	1		78.3	N	
1	7/2/93	1	1		106.8	Y	J 890423320-42
1	7/2/93	2	1		104.6	N	
1	7/2/93	3	1		101.9	N	
1	7/2/93	4	1		98.7	N	
1	7/2/93	5	1		93.2	N	
1	7/2/93	6	1		80.1	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-108							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/20/74	1		50.56	123.01		raw data - assumed degree C
1	10/20/74	2		53.33	127.99		raw data - assumed degree C
1	10/20/74	3		56.67	134.006		raw data - assumed degree C
1	10/20/74	4		60.00	140		raw data - assumed degree C
1	10/20/74	5		62.78	145.004		raw data - assumed degree C
1	10/20/74	6		64.44	147.992		raw data - assumed degree C
1	10/20/74	7		65.00	149		raw data - assumed degree C
1	10/20/74	8		65.00	149		raw data - assumed degree C
1	10/20/74	9		63.33	145.994		raw data - assumed degree C
1	10/20/74	10		58.33	136.994		raw data - assumed degree C
1	10/20/74	11		53.89	129.002		raw data - assumed degree C
1	10/20/74	12		47.22	116.996		raw data - assumed degree C
1	12/2/74	1		51.67	125.006		raw data - assumed degree C
1	12/2/74	2		54.44	129.992		raw data - assumed degree C
1	12/2/74	3		57.78	136.004		raw data - assumed degree C
1	12/2/74	4		61.11	141.998		raw data - assumed degree C
1	12/2/74	5		63.33	145.994		raw data - assumed degree C
1	12/2/74	6		64.44	147.992		raw data - assumed degree C
1	12/2/74	7		65.00	149		raw data - assumed degree C
1	12/2/74	8		63.89	147.002		raw data - assumed degree C
1	12/2/74	9		60.56	141.008		raw data - assumed degree C
1	12/2/74	10		51.11	123.998		raw data - assumed degree C
1	12/2/74	11		40.56	105.008		raw data - assumed degree C
1	12/2/74	12		36.67	98.006		raw data - assumed degree C
1	11/3/75	1			129		
1	11/3/75	2			132		
1	11/3/75	3			131		
1	11/3/75	4			139		
1	11/3/75	5			140		
1	11/3/75	6			139		
1	11/3/75	7			136		
1	11/3/75	8			130		
1	11/3/75	9			126		
1	11/3/75	10			120		
1	11/3/75	11			110		
1	11/3/75	12			98		
1	2/4/76	1			149		
1	2/4/76	2			152		
1	2/4/76	3			156		
1	2/4/76	4			159		
1	2/4/76	5			160		
1	2/4/76	6			159		
1	2/4/76	7			156		
1	2/4/76	8			156		
1	2/4/76	9			146		
1	2/4/76	10			139		
1	2/4/76	11			128		
1	2/4/76	12			114		
1	3/5/76	1			126		
1	3/5/76	2			129		
1	3/5/76	3			132		
1	3/5/76	4			135		
1	3/5/76	5			136		
1	3/5/76	6			135		
1	3/5/76	7			131		
1	3/5/76	8			124		
1	3/5/76	9			120		
1	3/5/76	10			114		
1	3/5/76	11			103		
1	5/2/76	1			126		
1	5/2/76	2			130		
1	5/2/76	3			132		
1	5/2/76	4			135		
1	5/2/76	5			135		
1	5/2/76	6			134		
1	5/2/76	7			131		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-108							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/2/76	8			126		
1	5/2/76	9			120		
1	5/2/76	10			113		
1	5/2/76	11			103		
1	5/2/76	12			92		
1	6/1/76	1			124		
1	6/1/76	2			126		
1	6/1/76	3			130		
1	6/1/76	4			132		
1	6/1/76	5			134		
1	6/1/76	6			134		
1	6/1/76	7			130		
1	6/1/76	8			126		
1	6/1/76	9			120		
1	6/1/76	10			112		
1	6/1/76	11			103		
1	6/1/76	12			92		
1	6/1/76	13			88		
1	6/1/76	14			88		
1	7/1/76	1			115		
1	7/1/76	2			118		
1	7/1/76	3			121		
1	7/1/76	4			123		
1	7/1/76	5			123		
1	7/1/76	6			122		
1	7/1/76	7			118		
1	7/1/76	8			112		
1	7/1/76	9			111		
1	7/1/76	10			104		
1	7/1/76	11			95		
1	7/1/76	12			86		
1	8/3/76	1			122		
1	8/3/76	2			125		
1	8/3/76	3			130		
1	8/3/76	4			131		
1	8/3/76	5			131		
1	8/3/76	6			130		
1	8/3/76	7			126		
1	8/3/76	8			120		
1	8/3/76	9			120		
1	8/3/76	10			124		
1	8/3/76	11			106		
1	8/3/76	12			98		
1	9/3/76	1			124		
1	9/3/76	2			128		
1	9/3/76	3			130		
1	9/3/76	4			132		
1	9/3/76	5			132		
1	9/3/76	6			132		
1	9/3/76	7			128		
1	9/3/76	8			122		
1	9/3/76	9			122		
1	9/3/76	10			116		
1	9/3/76	11			109		
1	9/3/76	12			100		
1	10/3/76	1			126		
1	10/3/76	2			129		
1	10/3/76	3			113		
1	10/3/76	4			133		
1	10/3/76	5			134		
1	10/3/76	6			133		
1	10/3/76	7			130		
1	10/3/76	8			124		
1	10/3/76	9			123		
1	10/3/76	10			118		
1	10/3/76	11			111		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-108							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/3/76	12			103		
1	11/1/76	1			126		
1	11/1/76	2			130		
1	11/1/76	3			132		
1	11/1/76	4			134		
1	11/1/76	5			134		
1	11/1/76	6			134		
1	11/1/76	7			130		
1	11/1/76	8			124		
1	11/1/76	9			122		
1	11/1/76	10			119		
1	11/1/76	11			112		
1	11/1/76	12			100		
1	12/4/76	1			126		
1	12/4/76	2			128		
1	12/4/76	3			131		
1	12/4/76	4			133		
1	12/4/76	5			134		
1	12/4/76	6			132		
1	12/4/76	7			126		
1	12/4/76	8			118		
1	12/4/76	9			118		
1	12/4/76	10			117		
1	12/4/76	11			110		
1	12/4/76	12			100		
1	1/1/77	1			126		
1	1/1/77	2			128		
1	1/1/77	3			131		
1	1/1/77	4			133		
1	1/1/77	5			133		
1	1/1/77	6			131		
1	1/1/77	7			124		
1	1/1/77	8			114		
1	1/1/77	9			115		
1	1/1/77	10			114		
1	1/1/77	11			108		
1	1/1/77	12			97		
1	2/1/77	1			126		
1	2/1/77	2			128		
1	2/1/77	3			130		
1	2/1/77	4			132		
1	2/1/77	5			132		
1	2/1/77	6			128		
1	2/1/77	7			120		
1	2/1/77	8			110		
1	2/1/77	9			110		
1	2/1/77	10			110		
1	2/1/77	11			110		
1	2/1/77	12			104		
1	3/1/77	1			120		
1	3/1/77	2			123		
1	3/1/77	3			125		
1	3/1/77	4			127		
1	3/1/77	5			126		
1	3/1/77	6			123		
1	3/1/77	7			115		
1	3/1/77	8			104		
1	3/1/77	9			104		
1	3/1/77	10			104		
1	3/1/77	11			98		
1	3/1/77	12			88		
1	3/1/77	13			85		
1	3/1/77	14			85		
1	4/1/77	1			120		
1	4/1/77	2			123		
1	4/1/77	3			125		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-108							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/1/77	4			126		
1	4/1/77	5			125		
1	4/1/77	6			121		
1	4/1/77	7			114		
1	4/1/77	8			102		
1	4/1/77	9			102		
1	4/1/77	10			101		
1	4/1/77	11			96		
1	4/1/77	12			87		
1	5/1/77	1			120		
1	5/1/77	2			121		
1	5/1/77	3			125		
1	5/1/77	4			125		
1	5/1/77	5			125		
1	5/1/77	6			120		
1	5/1/77	7			114		
1	5/1/77	8					164-suspect data (difficult to read on orginal)
1	5/1/77	9					162-suspect data (difficult to read on orginal)
1	5/1/77	10					160-suspect data (difficult to read on orginal)
1	5/1/77	11			95		
1	5/1/77	12			90		
1	6/7/77	1			119		
1	6/7/77	2			120		
1	6/7/77	3			124		
1	6/7/77	4			124		
1	6/7/77	5			124		
1	6/7/77	6			120		
1	6/7/77	7			117		
1	6/7/77	8			100		
1	6/7/77	9			100		
1	6/7/77	10			100		
1	6/7/77	11			95		
1	6/7/77	12			90		
1	7/11/77	1			118		
1	7/11/77	2			120		
1	7/11/77	3			122		
1	7/11/77	4			122		
1	7/11/77	5			122		
1	7/11/77	6			118		
1	7/11/77	7			110		
1	7/11/77	8			100		
1	7/11/77	9			100		
1	7/11/77	10			100		
1	7/11/77	11			98		
1	7/11/77	12			92		
1	7/11/77	13			90		
1	7/11/77	14			90		
1	8/5/77	1			113		
1	8/5/77	2			115		
1	8/5/77	3			117		
1	8/5/77	4			118		
1	8/5/77	5			118		
1	8/5/77	6			115		
1	8/5/77	7			108		
1	8/5/77	8			97		
1	8/5/77	9			96		
1	8/5/77	10			95		
1	8/5/77	11			94		
1	9/5/77	1			120		
1	9/5/77	2			121		
1	9/5/77	3			122		
1	9/5/77	4			122		
1	9/5/77	5			122		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-108							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/5/77	6			123		
1	9/5/77	7			114		
1	9/5/77	8			103		
1	9/5/77	9			100		
1	9/5/77	10			100		
1	9/5/77	11			99		
1	9/5/77	12			98		
1	9/5/77	13			95		
1	9/5/77	14			94		
1	10/3/77	1			116		
1	10/3/77	2			118		
1	10/3/77	3			120		
1	10/3/77	4			121		
1	10/3/77	5			121		
1	10/3/77	6			118		
1	10/3/77	7			112		
1	10/3/77	8			102		
1	10/3/77	9			100		
1	10/3/77	10			100		
1	10/3/77	11			100		
1	10/3/77	12			95		
1	11/3/77	1			115		
1	11/3/77	2			119		
1	11/3/77	3			120		
1	11/3/77	4			120		
1	11/3/77	5			120		
1	11/3/77	6			118		
1	11/3/77	7			110		
1	11/3/77	8			105		
1	11/3/77	9			100		
1	11/3/77	10			100		
1	11/3/77	11			100		
1	11/3/77	12			94		
1	11/3/77	13			90		
1	11/3/77	14			90		
1	12/4/77	1			129		
1	12/4/77	2			131		
1	12/4/77	3			132		
1	12/4/77	4			134		
1	12/4/77	5			132		
1	12/4/77	6			129		
1	12/4/77	7			123		
1	12/4/77	8			113		
1	12/4/77	9			111		
1	12/4/77	10			112		
1	12/4/77	11			111		
1	12/4/77	12			102		
1	12/4/77	13			97		
1	12/4/77	14			97		
1	1/8/78	1			134		
1	1/8/78	2			136		
1	1/8/78	3			138		
1	1/8/78	4			139		
1	1/8/78	5			138		
1	1/8/78	6			135		
1	1/8/78	7			130		
1	1/8/78	8			123		
1	1/8/78	9			119		
1	1/8/78	10			118		
1	1/8/78	11			114		
1	1/8/78	12			107		
1	1/8/78	13			103		
1	1/8/78	14			103		
1	1/11/78	1			115		
1	1/11/78	2			117		
1	1/11/78	3			119		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-108							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/11/78	4			120		
1	1/11/78	5			120		
1	1/11/78	6			117		
1	1/11/78	7			112		
1	1/11/78	8			104		
1	1/11/78	9			101		
1	1/11/78	10			99		
1	1/11/78	11			91		
1	1/11/78	12			88		
1	1/11/78	13			86		
1	1/11/78	14			85		
1	1/13/78	1			115		
1	1/13/78	2			118		
1	1/13/78	3			120		
1	1/13/78	4			120		
1	1/13/78	5			120		
1	1/13/78	6			117		
1	1/13/78	7			113		
1	1/13/78	8			105		
1	1/13/78	9			106		
1	1/13/78	10			100		
1	1/13/78	11			95		
1	2/7/78	1			119		
1	2/7/78	2			121		
1	2/7/78	3			123		
1	2/7/78	4			124		
1	2/7/78	5			123		
1	2/7/78	6			121		
1	2/7/78	7			116		
1	2/7/78	8			116		
1	2/7/78	9			106		
1	2/7/78	10			103		
1	2/7/78	11			98		
1	2/7/78	12			96		
1	2/7/78	13			86		
1	2/7/78	14			86		
1	3/12/78	1			122		
1	3/12/78	2			124		
1	3/12/78	3			126		
1	3/12/78	4			127		
1	3/12/78	5			127		
1	3/12/78	6			125		
1	3/12/78	7			121		
1	3/12/78	8			115		
1	3/12/78	9			111		
1	3/12/78	10			108		
1	3/12/78	11			101		
1	3/12/78	12			92		
1	3/12/78	13			87		
1	3/12/78	14			87		
1	6/3/78	1			115		
1	6/3/78	2			115		
1	6/3/78	3			117		
1	6/3/78	4			120		
1	6/3/78	5			120		
1	6/3/78	6			118		
1	6/3/78	7			115		
1	6/3/78	8			110		
1	6/3/78	9			105		
1	6/3/78	10			100		
1	6/3/78	11			95		
1	6/3/78	12			86		
1	6/3/78	13			83		
1	6/3/78	14			83		
1	7/13/78	1			115		
1	7/13/78	2			118		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-108							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/13/78	3			120		
1	7/13/78	4			121		
1	7/13/78	5			121		
1	7/13/78	6			120		
1	7/13/78	7			117		
1	7/13/78	8			113		
1	7/13/78	9			109		
1	7/13/78	10			104		
1	7/13/78	11			98		
1	7/13/78	12			90		
1	7/13/78	13			88		
1	7/13/78	14			88		
1	8/11/78	1			109		
1	8/11/78	2			111		
1	8/11/78	3			111		
1	8/11/78	4			115		
1	8/11/78	5			115		
1	8/11/78	6			114		
1	8/11/78	7			111		
1	8/11/78	8			108		
1	8/11/78	9			105		
1	8/11/78	10			99		
1	8/11/78	11			93		
1	8/11/78	12			87		
1	8/11/78	13			84		
1	8/11/78	14			84		
1	10/10/78	1			115		
1	10/10/78	2			117		
1	10/10/78	3			117		
1	10/10/78	4			120		
1	10/10/78	5			120		
1	10/10/78	6			120		
1	10/10/78	7			117		
1	10/10/78	8			115		
1	10/10/78	9			110		
1	10/10/78	10			105		
1	10/10/78	11			100		
1	10/10/78	12			87		
1	2/4/79	1			111		
1	2/4/79	2			115		
1	2/4/79	3			115		
1	2/4/79	4			119		
1	2/4/79	5			119		
1	2/4/79	6			116		
1	2/4/79	7			116		
1	2/4/79	8			112		
1	2/4/79	9			106		
1	2/4/79	10			96		
1	2/4/79	11			82		
1	2/4/79	12			68		
1	2/4/79	13			68		
1	2/4/79	14			68		
1	4/11/79	1			114		
1	4/11/79	2			115		
1	4/11/79	3			116		
1	4/11/79	4			118		
1	4/11/79	5			120		
1	4/11/79	6			117		
1	4/11/79	7			114		
1	4/11/79	8			109		
1	4/11/79	9			105		
1	4/11/79	10			100		
1	4/11/79	11			93		
1	4/11/79	12			83		
1	4/11/79	13			79		
1	4/11/79	14			79		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-108							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/6/79	1			110		
1	9/6/79	2			112		
1	9/6/79	3			114		
1	9/6/79	4			115		
1	9/6/79	5			110		
1	9/6/79	6			106		
1	9/6/79	7			105		
1	9/6/79	8			100		
1	9/6/79	9			94		
1	9/6/79	10			94		
1	9/6/79	11			94		
1	9/6/79	12			94		
1	9/6/79	13			94		
1	9/6/79	14			94		
1	1/23/80	1			110		
1	1/23/80	2					80-suspect data-(low)
1	1/23/80	3			110		
1	1/23/80	4					160-suspect data-(high)
1	1/23/80	5					145-suspect data-(high)
1	1/23/80	6					190-suspect data-(high)
1	1/23/80	7			110		
1	1/23/80	9			95		
1	1/23/80	10			80		
1	1/23/80	12			100		
1	1/23/80	13			90		
1	1/23/80	14			120		
1	2/1/80	1			105		
1	2/1/80	2			110		
1	2/1/80	3			105		
1	2/1/80	4			100		
1	2/1/80	5			115		
1	2/1/80	7			115		
1	2/1/80	9			110		
1	2/1/80	10			80		
1	2/1/80	11			80		
1	2/1/80	12			110		
1	2/1/80	13					150-suspect data-(high)
1	2/1/80	14			125		
1	1/13/82	1			105		
1	1/13/82	5					65-suspect data-(low)
1	1/13/82	6			125		
1	1/13/82	7					190-suspect data-(high)
1	1/13/82	8					190-suspect data-(high)
1	1/13/82	9					195-suspect data-(high)
1	1/13/82	10					145-suspect data-(high)
1	1/13/82	11					150-suspect data (high)
1	1/13/82	12			70		
1	10/6/82	1			103		
1	10/6/82	6			102		
1	10/6/82	7			98		
1	10/6/82	8			93		
1	5/19/83	1			98		
1	5/19/83	3			99		
1	5/19/83	4			98		
1	5/19/83	5			97		
1	5/19/83	6			94		
1	5/19/83	7			88		
1	5/19/83	8			80		
1	5/19/83	9			73		
1	5/19/83	10			70		
1	5/19/83	11			70		
1	5/19/83	12			70		
1	5/19/83	13			70		
1	5/19/83	14			136		
1	1/3/84	7			94		
1	2/14/84	1			104		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-108							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/14/84	2			104		
1	2/14/84	3			104		
1	2/14/84	4			105		
1	2/14/84	5			104		
1	2/14/84	6			101		
1	2/14/84	7			95		
1	2/14/84	8			87		
1	2/14/84	9			78		
1	2/14/84	10			74		
1	2/14/84	11			74		
1	2/14/84	12			74		
1	2/14/84	13			74		
1	2/14/84	14			98		
1	12/13/85	1			96		
1	12/13/85	3			98		
1	12/13/85	4			98		
1	12/13/85	5			98		
1	12/13/85	6			96		
1	12/13/85	7			91		
1	12/13/85	8			84		
1	12/13/85	9			76		
1	12/13/85	10			74		
1	12/13/85	11			74		
1	12/13/85	12			74		
1	12/13/85	13			74		
1	1/17/86	1			96		
1	1/17/86	3			98		
1	1/17/86	4			98		
1	1/17/86	5			97		
1	1/17/86	6			95		
1	1/17/86	7			90		
1	1/17/86	8			82		
1	1/17/86	9			73		
1	1/17/86	10			70		
1	1/17/86	11			70		
1	1/17/86	12			70		
1	1/17/86	13			70		
1	4/18/86	1			96		
1	4/18/86	3			98		
1	4/18/86	4			97		
1	4/18/86	5			96		
1	4/18/86	6			93		
1	4/18/86	7			87		
1	4/18/86	8			79		
1	4/18/86	9			71		
1	4/18/86	10			69		
1	4/18/86	11			68		
1	4/18/86	12			68		
1	4/18/86	13			69		
1	9/12/86	1			95		
1	9/12/86	3			97		
1	9/12/86	4			97		
1	9/12/86	5			96		
1	9/12/86	6			94		
1	9/12/86	7			91		
1	9/12/86	8			87		
1	9/12/86	9			83		
1	9/12/86	10			82		
1	9/12/86	11			82		
1	9/12/86	12			82		
1	9/12/86	13			82		
1	9/12/86	14					10-suspect data (low)
1	10/10/86	1			96		
1	10/10/86	3			97		
1	10/10/86	4			97		
1	10/10/86	5			96		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-108							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/10/86	6			95		
1	10/10/86	7			92		
1	10/10/86	8			88		
1	10/10/86	9			83		
1	10/10/86	10			82		
1	10/10/86	11			82		
1	10/10/86	12			82		
1	10/10/86	13			82		
1	10/10/86	14					22-suspect data (low)
1	3/6/87	1			94		
1	3/6/87	3			93		
1	3/6/87	4			93		
1	3/6/87	5			92		
1	3/6/87	6			89		
1	3/6/87	7			84		
1	3/6/87	8			76		
1	3/6/87	9			67		
1	3/6/87	10			65		
1	3/6/87	11			65		
1	3/6/87	12			64		
1	3/6/87	13			65		
1	3/6/87	14					8-suspect data (low)
1	6/12/87	1			94		
1	6/12/87	3			92		
1	6/12/87	4			92		
1	6/12/87	5			90		
1	6/12/87	6			88		
1	6/12/87	7			84		
1	6/12/87	8			78		
1	6/12/87	9			73		
1	6/12/87	10			71		
1	6/12/87	11			71		
1	6/12/87	12			71		
1	6/12/87	13			71		
1	6/12/87	14					41-suspect data (low)
1	10/2/87	1			93		
1	10/2/87	3			93		
1	10/2/87	4			93		
1	10/2/87	5			91		
1	10/2/87	6			90		
1	10/2/87	7			88		
1	10/2/87	8			84		
1	10/2/87	9			80		
1	10/2/87	10			78		
1	10/2/87	11			78		
1	10/2/87	12			78		
1	10/2/87	13			78		
1	10/2/87	14					32-suspect data (low)
1	12/18/87	1			100		
1	12/18/87	3			101		
1	12/18/87	4			101		
1	12/18/87	5			101		
1	12/18/87	6			99		
1	12/18/87	7			95		
1	12/18/87	8			89		
1	12/18/87	9			81		
1	12/18/87	10			79		
1	12/18/87	11			79		
1	12/18/87	12			79		
1	12/18/87	13			79		
1	1/22/88	1			101		
1	1/22/88	3			102		
1	1/22/88	4			102		
1	1/22/88	5			101		
1	1/22/88	6			99		
1	1/22/88	7			94		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-108							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/22/88	8			87		
1	1/22/88	9			79		
1	1/22/88	10			76		
1	1/22/88	11			76		
1	1/22/88	12			76		
1	1/22/88	13			76		
1	2/5/88	1			101		
1	2/5/88	3			102		
1	2/5/88	4			101		
1	2/5/88	5			100		
1	2/5/88	6			98		
1	2/5/88	7			93		
1	2/5/88	8			86		
1	2/5/88	9			77		
1	2/5/88	10			75		
1	2/5/88	11			75		
1	2/5/88	12			75		
1	2/5/88	13			75		
1	2/5/88	14					5-suspect data (low)
1	1/4/91	1	1		87.2	N	HH-99A-J #890523512-47 TC #s 241112 O/S
1	1/4/91	2	1			N	O/S
1	1/4/91	3	1		88.1	Y	
1	1/4/91	4	1			Y	O/S
1	1/4/91	5	1		86.8	N	
1	1/4/91	6	1		85.7	N	
1	1/4/91	7	1		81.6	N	
1	1/4/91	8	1		75.2	N	
1	1/4/91	9	1		67.5	N	
1	1/4/91	10	1		64.8	N	
1	1/4/91	11	1			N	O/S
1	1/4/91	12	1			N	O/S
1	1/4/91	13	1		65.5	N	
1	11/13/91	1	1		82.2	N	J-890423320-42 TC #21516 O/S W/O#04529
1	11/13/91	3	1		86.2	Y	
1	11/13/91	4	1		86.2	N	
1	11/13/91	5	1		86.2	N	
1	11/13/91	6	1		85.9	N	
1	11/13/91	7	1		84	N	
1	11/13/91	8	1		81.9	N	
1	11/13/91	9	1		78.1	N	
1	11/13/91	10	1		72.9	N	
1	11/13/91	11	1		69.8	N	
1	11/13/91	12	1		71.5	N	
1	11/13/91	13	1		71.4	N	
1	11/13/91	14	1		71.6	N	
1	1/1/92	1	1		94	Y	J-890523512-20 TC #2-415-16 O/S
1	1/1/92	5	1		89.7	N	
1	1/1/92	6	1		87.6	N	
1	1/1/92	7	1		84.5	N	
1	1/1/92	8	1		79	N	
1	1/1/92	9	1		72.3	N	
1	1/1/92	10	1		69.5	N	
1	1/1/92	11	1		70.4	N	
1	1/1/92	12	1		70.3	N	
1	1/1/92	13	1		70.7	N	
1	1/1/92	14	1		64	N	
1	7/3/92	1	1		88	N	J 890423320-42
1	7/3/92	3	1		89	N	
1	7/3/92	4	1		91	Y	
1	7/3/92	5	1		87	N	
1	7/3/92	6	1		84	N	
1	7/3/92	7	1		81	N	
1	7/3/92	8	1		78	N	
1	7/3/92	9	1		75	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-108							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/3/92	10	1		72	N	
1	7/3/92	11	1		74	N	
1	7/3/92	12	1		74	N	
1	7/3/92	13	1		76	N	
1	1/3/93	1	1		87.3	N	J 910126143-29
1	1/3/93	3	1		88.8	N	
1	1/3/93	4	1		88.9	Y	
1	1/3/93	5	1		88.1	N	
1	1/3/93	6	1		86	N	
1	1/3/93	7	1		82.4	N	
1	1/3/93	8	1		76	N	
1	1/3/93	9	1		68.3	N	
1	1/3/93	10	1		65.8	N	
1	1/3/93	11	1		66	N	
1	1/3/93	12	1		66.1	N	
1	1/3/93	14	1		65.4	N	
1	2/13/93	1	1		86.8	N	J 910126143-42
1	2/13/93	3	1		88	N	
1	2/13/93	4	1		88.2	Y	
1	2/13/93	5	1		86.8	N	
1	2/13/93	6	1		84.1	N	
1	2/13/93	7	1		79.2	N	
1	2/13/93	8	1		72.3	N	
1	2/13/93	9	1		64.6	N	
1	2/13/93	10	1		62.2	N	
1	2/13/93	11	1		62.2	N	
1	2/13/93	12	1		62.2	N	
1	2/13/93	13	1		69.9	N	
1	2/13/93	14	1		59.3	N	
1	7/2/93	1	1		84.6	N	J 890423320-42
1	7/2/93	3	1		84.6	N	
1	7/2/93	4	1		85.8	Y	
1	7/2/93	5	1		83.3	N	
1	7/2/93	6	1		80.2	N	
1	7/2/93	7	1		76.2	N	
1	7/2/93	8	1		72.3	N	
1	7/2/93	9	1		67.9	N	
1	7/2/93	10	1		64.4	N	
1	7/2/93	11	1		65.8	N	
1	7/2/93	12	1		67.1	N	
1	7/2/93	13	1		49.9	N	
1	7/2/93	14	1		60.5	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-109							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/10/74	12			109		
1	2/10/74	12			104		
1	10/20/74	1		48.89	120.002		raw data - assumed degree C
1	10/20/74	2		52.78	127.004		raw data - assumed degree C
1	10/20/74	3		57.22	134.996		raw data - assumed degree C
1	10/20/74	4		61.11	141.998		raw data - assumed degree C
1	10/20/74	5		63.89	147.002		raw data - assumed degree C
1	10/20/74	6		65.56	150.008		raw data - assumed degree C
1	10/20/74	7		65.56	150.008		raw data - assumed degree C
1	10/20/74	8		64.44	147.992		raw data - assumed degree C
1	10/20/74	9		61.67	143.006		raw data - assumed degree C
1	10/20/74	10		58.89	138.002		raw data - assumed degree C
1	10/20/74	11		53.89	129.002		raw data - assumed degree C
1	10/20/74	12		47.22	116.996		raw data - assumed degree C
1	12/2/74	1		50	122		raw data - assumed degree C
1	12/2/74	2		53.89	129.002		raw data - assumed degree C
1	12/2/74	3		58.33	136.994		raw data - assumed degree C
1	12/2/74	4		62.22	143.996		raw data - assumed degree C
1	12/2/74	5		65	149		raw data - assumed degree C
1	12/2/74	6		65.56	150.008		raw data - assumed degree C
1	12/2/74	7		65.56	150.008		raw data - assumed degree C
1	12/2/74	8		63.33	145.994		raw data - assumed degree C
1	12/2/74	9		60	140		raw data - assumed degree C
1	12/2/74	10		56.67	134.006		raw data - assumed degree C
1	12/2/74	11		50	122		raw data - assumed degree C
1	12/2/74	12		42.22	107.996		raw data - assumed degree C
1	11/3/75	1			129		
1	11/3/75	2			134		
1	11/3/75	3			139		
1	11/3/75	4			143		
1	11/3/75	5			145		
1	11/3/75	6			145		
1	11/3/75	7			142		
1	11/3/75	8			136		
1	11/3/75	9			131		
1	11/3/75	10			126		
1	11/3/75	11			116		
1	11/3/75	12			103		
1	1/11/76	1			125		
1	1/11/76	2			130		
1	1/11/76	3			135		
1	1/11/76	4			138		
1	1/11/76	5			138		
1	1/11/76	6			138		
1	1/11/76	7			134		
1	1/11/76	8			127		
1	1/11/76	9			121		
1	1/11/76	10			120		
1	1/11/76	11			114		
1	1/11/76	12			102		
1	3/5/76	1			126		
1	3/5/76	2			130		
1	3/5/76	3			135		
1	3/5/76	4			139		
1	3/5/76	5			141		
1	3/5/76	6			140		
1	3/5/76	7			136		
1	3/5/76	8			130		
1	3/5/76	9			125		
1	3/5/76	10			119		
1	3/5/76	11			116		
1	3/5/76	12			102		
1	5/2/76	1			126		
1	5/2/76	2			131		
1	5/2/76	3			136		
1	5/2/76	4			139		
1	5/2/76	5			140		
1	5/2/76	6			139		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-109							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/2/76	7			136		
1	5/2/76	8			130		
1	5/2/76	9			123		
1	5/2/76	10			110		
1	5/2/76	11			105		
1	5/2/76	12			91		
1	6/1/76	1			124		
1	6/1/76	2			129		
1	6/1/76	3			134		
1	6/1/76	4			138		
1	6/1/76	5			139		
1	6/1/76	6			138		
1	6/1/76	7			134		
1	6/1/76	8			128		
1	6/1/76	9			120		
1	6/1/76	10			116		
1	6/1/76	11			106		
1	6/1/76	12			92		
1	6/1/76	13			88		
1	6/1/76	14			88		
1	7/1/76	1			119		
1	7/1/76	2			122		
1	7/1/76	3			128		
1	7/1/76	4			131		
1	7/1/76	5			132		
1	7/1/76	6			131		
1	7/1/76	7			117		
1	7/1/76	8			126		
1	7/1/76	9			114		
1	7/1/76	10			109		
1	7/1/76	11			100		
1	7/1/76	12			89		
1	8/3/76	1			124		
1	8/3/76	2			128		
1	8/3/76	3			133		
1	8/3/76	4			136		
1	8/3/76	5			137		
1	8/3/76	6			135		
1	8/3/76	7			132		
1	8/3/76	8			126		
1	8/3/76	9			119		
1	8/3/76	10			116		
1	8/3/76	11			107		
1	8/3/76	12			97		
1	9/2/76	1			125		
1	9/2/76	2			130		
1	9/2/76	3			134		
1	9/2/76	4			137		
1	9/2/76	5			138		
1	9/2/76	6			136		
1	9/2/76	7			132		
1	9/2/76	8			127		
1	9/2/76	9			120		
1	9/2/76	10			118		
1	9/2/76	11			110		
1	9/2/76	12			100		
1	10/3/76	1			122		
1	10/3/76	2			130		
1	10/3/76	3			134		
1	10/3/76	4			135		
1	10/3/76	5			138		
1	10/3/76	6			137		
1	10/3/76	7			133		
1	10/3/76	8			128		
1	10/3/76	9			122		
1	10/3/76	10			120		
1	10/3/76	11			112		
1	10/3/76	12			102		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-109							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/4/76	1			126		
1	12/4/76	2			130		
1	12/4/76	3			134		
1	12/4/76	4			136		
1	12/4/76	5			137		
1	12/4/76	6			136		
1	12/4/76	7			132		
1	12/4/76	8			126		
1	12/4/76	9			120		
1	12/4/76	10			118		
1	12/4/76	11			111		
1	12/4/76	12			100		
1	1/1/77	1			126		
1	1/1/77	2			130		
1	1/1/77	3			133		
1	1/1/77	4			136		
1	1/1/77	5			137		
1	1/1/77	6			135		
1	1/1/77	7			132		
1	1/1/77	8			125		
1	1/1/77	9			118		
1	1/1/77	10			118		
1	1/1/77	11			109		
1	1/1/77	12			98		
1	2/1/77	1			136		
1	2/1/77	2			130		
1	2/1/77	3			134		
1	2/1/77	4			136		
1	2/1/77	5			136		
1	2/1/77	6			134		
1	2/1/77	7			130		
1	2/1/77	8			124		
1	2/1/77	9			128		
1	2/1/77	10			108		
1	2/1/77	11			108		
1	2/1/77	12			108		
1	3/1/77	1			120		
1	3/1/77	2			124		
1	3/1/77	3			127		
1	3/1/77	4			130		
1	3/1/77	5			130		
1	3/1/77	6			128		
1	3/1/77	7			125		
1	3/1/77	8			118		
1	3/1/77	9			110		
1	3/1/77	10			109		
1	3/1/77	11			100		
1	3/1/77	12			88		
1	3/1/77	13			85		
1	3/1/77	14			85		
1	4/1/77	1			120		
1	4/1/77	2			124		
1	4/1/77	3			126		
1	4/1/77	4			130		
1	4/1/77	5			130		
1	4/1/77	6			129		
1	4/1/77	7			125		
1	4/1/77	8			116		
1	4/1/77	9			111		
1	4/1/77	10			110		
1	4/1/77	11			100		
1	4/1/77	12			87		
1	5/1/77	1			120		
1	5/1/77	2			124		
1	5/1/77	3			126		
1	5/1/77	4			129		
1	5/1/77	5			129		
1	5/1/77	6			117		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-109							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/1/77	7			125		
1	5/1/77	8			116		
1	5/1/77	9			110		
1	5/1/77	10			107		
1	5/1/77	11			100		
1	5/1/77	12			90		
1	6/7/77	1			119		
1	6/7/77	2			121		
1	6/7/77	3			125		
1	6/7/77	4			128		
1	6/7/77	5			128		
1	6/7/77	6			126		
1	6/7/77	7			122		
1	6/7/77	8			115		
1	6/7/77	9			108		
1	6/7/77	10			108		
1	6/7/77	11			100		
1	6/7/77	12			90		
1	7/11/77	1			118		
1	7/11/77	2			120		
1	7/11/77	3			125		
1	7/11/77	4			125		
1	7/11/77	5			125		
1	7/11/77	6			125		
1	7/11/77	7			122		
1	7/11/77	8			115		
1	7/11/77	9			107		
1	7/11/77	10			105		
1	7/11/77	11			100		
1	7/11/77	12			92		
1	7/11/77	13			90		
1	7/11/77	14			90		
1	8/5/77	1			113		
1	8/5/77	2			116		
1	8/5/77	3			120		
1	8/5/77	4			122		
1	8/5/77	5			122		
1	8/5/77	6			121		
1	8/5/77	7			117		
1	8/5/77	8			111		
1	8/5/77	9			105		
1	8/5/77	10			104		
1	8/5/77	11			94		
1	9/5/77	1			118		
1	9/5/77	2			120		
1	9/5/77	3			124		
1	9/5/77	4			126		
1	9/5/77	5			126		
1	9/5/77	6			125		
1	9/5/77	7			124		
1	9/5/77	8			125		
1	9/5/77	9			110		
1	9/5/77	10			109		
1	9/5/77	11			105		
1	9/5/77	12			97		
1	9/5/77	13			94		
1	9/5/77	14			92		
1	10/3/77	1			116		
1	10/3/77	2			120		
1	10/3/77	3			123		
1	10/3/77	4			125		
1	10/3/77	5			125		
1	10/3/77	6			124		
1	10/3/77	7			120		
1	10/3/77	8			115		
1	10/3/77	9			108		
1	10/3/77	10			107		
1	10/3/77	11			105		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-109							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/3/77	12			95		
1	11/3/77	1			116		
1	11/3/77	2			119		
1	11/3/77	3			123		
1	11/3/77	4			125		
1	11/3/77	5			125		
1	11/3/77	6			124		
1	11/3/77	7			120		
1	11/3/77	8			115		
1	11/3/77	9			109		
1	11/3/77	10			107		
1	11/3/77	11			104		
1	11/3/77	12			94		
1	11/3/77	13			90		
1	11/3/77	14			90		
1	12/4/77	1			125		
1	12/4/77	2			128		
1	12/4/77	3			131		
1	12/4/77	4			133		
1	12/4/77	5			133		
1	12/4/77	6			121		
1	12/4/77	7			117		
1	12/4/77	8			121		
1	12/4/77	9			115		
1	12/4/77	10			114		
1	12/4/77	11			108		
1	12/4/77	12			96		
1	12/4/77	13			91		
1	12/4/77	14			91		
1	1/8/78	1			135		
1	1/8/78	2			137		
1	1/8/78	3			141		
1	1/8/78	4			143		
1	1/8/78	6			141		
1	1/8/78	7			137		
1	1/8/78	8			132		
1	1/8/78	9			125		
1	1/8/78	10			123		
1	1/8/78	11			119		
1	1/8/78	12			107		
1	1/8/78	13			103		
1	1/8/78	14			103		
1	1/11/78	1			115		
1	1/11/78	2			118		
1	1/11/78	3			121		
1	1/11/78	4			124		
1	1/11/78	5			124		
1	1/11/78	6			122		
1	1/11/78	7			118		
1	1/11/78	8			113		
1	1/11/78	9			106		
1	1/11/78	10			104		
1	1/11/78	11			100		
1	1/11/78	12			88		
1	1/11/78	13			85		
1	1/11/78	14			85		
1	1/13/78	1			115		
1	1/13/78	2			120		
1	1/13/78	3			121		
1	1/13/78	4			125		
1	1/13/78	5			125		
1	1/13/78	6			123		
1	1/13/78	7			119		
1	1/13/78	8			114		
1	1/13/78	9			106		
1	1/13/78	10			104		
1	1/13/78	11			100		
1	2/7/78	1			119		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-109							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/7/78	2			122		
1	2/7/78	3			125		
1	2/7/78	4			127		
1	2/7/78	5			127		
1	2/7/78	6			125		
1	2/7/78	7			121		
1	2/7/78	8			116		
1	2/7/78	9			109		
1	2/7/78	10			107		
1	2/7/78	11			103		
1	2/7/78	12			91		
1	2/7/78	13			86		
1	2/7/78	14			86		
1	3/12/78	1			122		
1	3/12/78	2			125		
1	3/12/78	3			128		
1	3/12/78	4			130		
1	3/12/78	5			130		
1	3/12/78	6			128		
1	3/12/78	7			124		
1	3/12/78	8			119		
1	3/12/78	9			112		
1	3/12/78	10			110		
1	3/12/78	11			105		
1	3/12/78	12			91		
1	3/12/78	13			87		
1	3/12/78	14			87		
1	4/11/78	1			114		
1	4/11/78	2			116		
1	4/11/78	3			120		
1	4/11/78	4			121		
1	4/11/78	5			122		
1	4/11/78	6			120		
1	4/11/78	7			115		
1	4/11/78	8			110		
1	4/11/78	9			103		
1	4/11/78	10			100		
1	4/11/78	11			97		
1	4/11/78	12			83		
1	4/11/78	13			79		
1	4/11/78	14			79		
1	6/3/78	1			115		
1	6/3/78	2			117		
1	6/3/78	3			120		
1	6/3/78	4			122		
1	6/3/78	5			122		
1	6/3/78	6			120		
1	6/3/78	7			115		
1	6/3/78	8			110		
1	6/3/78	9			105		
1	6/3/78	10			100		
1	6/3/78	11			95		
1	6/3/78	12			85		
1	6/3/78	13			85		
1	6/3/78	14			85		
1	7/13/78	1			115		
1	7/13/78	2			115		
1	7/13/78	3			120		
1	7/13/78	4			123		
1	7/13/78	5			123		
1	7/13/78	6			120		
1	7/13/78	7			117		
1	7/13/78	8			114		
1	7/13/78	9			109		
1	7/13/78	10			105		
1	7/13/78	11			98		
1	7/13/78	12			90		
1	7/13/78	13			87		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-109							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/13/78	14			85		
1	10/10/78	1			117		
1	10/10/78	2			115		
1	10/10/78	3			120		
1	10/10/78	4			122		
1	10/10/78	5			122		
1	10/10/78	6			120		
1	10/10/78	7			117		
1	10/10/78	8			115		
1	10/10/78	9			107		
1	10/10/78	10			105		
1	10/10/78	11			99		
1	10/10/78	12			85		
1	2/4/79	1			110		
1	2/4/79	2			113		
1	2/4/79	3			115		
1	2/4/79	4			117		
1	2/4/79	5			118		
1	2/4/79	6			116		
1	2/4/79	7			113		
1	2/4/79	8			107		
1	2/4/79	9			98		
1	2/4/79	10			95		
1	2/4/79	11			83		
1	2/4/79	12			73		
1	2/4/79	13			73		
1	2/4/79	14			72		
1	8/11/79	1			108		
1	8/11/79	2			111		
1	8/11/79	3			114		
1	8/11/79	4			116		
1	8/11/79	5			116		
1	8/11/79	6			114		
1	8/11/79	7			111		
1	8/11/79	8			107		
1	8/11/79	9			102		
1	8/11/79	10			100		
1	8/11/79	11			95		
1	8/11/79	12			86		
1	8/11/79	13			84		
1	8/11/79	14			84		
1	9/6/79	1			106		
1	9/6/79	2			110		
1	9/6/79	3			112		
1	9/6/79	4			114		
1	9/6/79	5			114		
1	9/6/79	6			110		
1	9/6/79	7			106		
1	9/6/79	8			100		
1	9/6/79	9			90		
1	9/6/79	10			90		
1	9/6/79	11			90		
1	9/6/79	12			90		
1	9/6/79	13			90		
1	9/6/79	14			90		
1	1/23/80	1			105		
1	1/23/80	2			110		
1	1/23/80	3			115		
1	1/23/80	4			115		
1	1/23/80	5			115		
1	1/23/80	6			110		
1	1/23/80	7			105		
1	1/23/80	8			95		
1	1/23/80	9			80		
1	1/23/80	10			75		
1	1/23/80	11			80		
1	1/23/80	12			75		
1	1/23/80	13			75		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-109							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/23/80	14			80		
1	1/13/82	1			102		
1	1/13/82	2			120		
1	1/13/82	4			107		
1	1/13/82	5			100		
1	1/13/82	6			97		
1	1/13/82	7			90		
1	1/13/82	9			75		
1	1/13/82	10			75		
1	1/13/82	11			85		
1	1/13/82	12			75		
1	5/29/82	1			102		
1	5/29/82	4			101		
1	5/29/82	5			98		
1	5/29/82	6			94		
1	5/29/82	7			88		
1	5/29/82	9			75		
1	5/29/82	10			74		
1	5/29/82	11					129 - suspect data (high)
1	5/29/82	12			74		
1	10/6/82	1			100		
1	10/6/82	4			101		
1	10/6/82	5			99		
1	10/6/82	6			97		
1	10/6/82	7			93		
1	10/6/82	9			83		
1	10/6/82	10			82		
1	10/6/82	12			82		
1	10/6/82	14			82		
1	5/19/83	1			96		
1	5/19/83	2					187 - suspect data (high)
1	5/19/83	3			33		
1	5/19/83	4			94		
1	5/19/83	5			91		
1	5/19/83	6			88		
1	5/19/83	7			83		
1	5/19/83	9			70		
1	5/19/83	10			70		
1	5/19/83	11					132 - suspect data (high)
1	5/19/83	12			70		
1	5/19/83	14			70		
1	1/3/84	1			99		
1	1/3/84	4			99		
1	1/3/84	5			98		
1	1/3/84	6			97		
1	1/3/84	7			95		
1	1/3/84	9			74		
1	1/3/84	10			74		
1	1/3/84	11			74		
1	1/3/84	12			75		
1	2/13/84	1			98		
1	2/13/84	4			98		
1	2/13/84	5			96		
1	2/13/84	6			92		
1	2/13/84	7			87		
1	2/13/84	9			70		
1	2/13/84	10			69		
1	2/13/84	12			69		
1	2/13/84	14			67		
1	2/14/84	1			100		
1	2/14/84	4			101		
1	2/14/84	5			96		
1	2/14/84	6			95		
1	2/14/84	7			90		
1	2/14/84	9			72		
1	2/14/84	10			72		
1	2/14/84	12			72		
1	2/14/84	14			71		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-109							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/13/85	1			94		
1	12/13/85	4			95		
1	12/13/85	5			94		
1	12/13/85	6			91		
1	12/13/85	7			88		
1	12/13/85	9			72		
1	12/13/85	10			72		
1	12/13/85	12			72		
1	12/13/85	14			49		
1	1/17/86	1			95		
1	1/17/86	4			94		
1	1/17/86	5			93		
1	1/17/86	6			90		
1	1/17/86	7			86		
1	1/17/86	9			69		
1	1/17/86	10			69		
1	1/17/86	12			69		
1	1/17/86	14			60		
1	4/18/86	1			94		
1	4/18/86	4			92		
1	4/18/86	5			90		
1	4/18/86	6			86		
1	4/18/86	7			82		
1	4/18/86	9			67		
1	4/18/86	10			66		
1	4/18/86	12			66		
1	4/18/86	14			64		
1	9/12/86	1			94		
1	9/12/86	4			92		
1	9/12/86	5			91		
1	9/12/86	6			86		
1	9/12/86	7			88		
1	9/12/86	9			80		
1	9/12/86	10			74		
1	9/12/86	12			79		
1	9/12/86	14			77		
1	10/10/86	1			94		
1	10/10/86	4			92		
1	10/10/86	5			92		
1	10/10/86	6			86		
1	10/10/86	7			89		
1	10/10/86	9			80		
1	10/10/86	10			75		
1	10/10/86	12			79		
1	10/10/86	14			74		
1	3/6/87	1			90		
1	3/6/87	5			87		
1	3/6/87	6			69		
1	3/6/87	7			80		
1	3/6/87	9			65		
1	3/6/87	10			65		
1	3/6/87	12			64		
1	6/12/87	1			88		
1	6/12/87	4			87		
1	6/12/87	5			85		
1	6/12/87	6					43 - suspect data (low)
1	6/12/87	7			81		
1	6/12/87	9			71		
1	6/12/87	10			70		
1	6/12/87	12			70		
1	10/2/87	1			86		
1	10/2/87	4			89		
1	10/2/87	5			87		
1	10/2/87	6					36 - suspect data (low)
1	10/2/87	7			85		
1	10/2/87	9			78		
1	10/2/87	10			79		
1	10/2/87	11			13		13 - suspect data (low)

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-109							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/2/87	12			78		
1	12/18/87	1			96		
1	12/18/87	5			97		
1	12/18/87	6			74		
1	12/18/87	7			92		
1	12/18/87	9			80		
1	12/18/87	10			79		
1	12/18/87	11					153 - suspect data (high)
1	12/18/87	12			79		
1	1/22/88	1					170 - suspect data (high)
1	1/22/88	5			97		
1	1/22/88	6			77		
1	1/22/88	7			91		
1	1/22/88	9			77		
1	1/22/88	10			77		
1	1/22/88	11					212 - suspect data (high)
1	1/22/88	12			77		
1	2/4/88	1					172 - suspect data (high)
1	2/4/88	5			97		
1	2/4/88	6			77		
1	2/4/88	7			90		
1	2/4/88	9			76		
1	2/4/88	10			67		
1	2/4/88	11					205 - suspect data (high)
1	2/4/88	12			75		
1	1/4/91	7	1		77.9		B
1	1/4/91	9	1		63.9	N	
1	1/4/91	10	1		64.7	N	
1	1/4/91	12	1		65.1	N	
1	11/13/91	7	1		72.3	Y	TC #1-68-1013-16 O/S W/O #04529 TC #11 BAD DATA
1	11/13/91	12	1		64.2	N	
1	1/1/92	7	1		77.2	Y	J-890523512-20 TC #1-6813-16 O/S
1	1/1/92	12	1		65.5	N	
1	7/3/92	7	1		71	N	J 890423320-42
1	7/3/92	11	1		75.7	Y	
1	2/13/93	1	1		82.9	Y	J 910126143-42 TC#2-68-10 O/S
1	2/13/93	7	1		66.3	N	
1	2/13/93	11	1		55.3	N	
1	7/2/93	1	1			N	TCs 1-6 O/S

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994 and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
	4/23/74	1					88 - suspect data (low)
	4/23/74	2					84 - suspect data (low)
	4/23/74	3					77 - suspect data (low)
	4/23/74	4					70 - suspect data (low)
	4/23/74	5					68 - suspect data (low)
	4/23/74	6					68 - suspect data (low)
	4/23/74	7					68 - suspect data (low)
	4/23/74	8					68 - suspect data (low)
	4/23/74	9					68 - suspect data (low)
	4/23/74	10					68 - suspect data (low)
	4/23/74	11					68 - suspect data (low)
	4/23/74	12					68 - suspect data (low)
	4/24/74	1					87 - suspect data (low)
	4/24/74	2					84 - suspect data (low)
	4/24/74	3					76 - suspect data (low)
	4/24/74	4					74 - suspect data (low)
	4/24/74	5					70 - suspect data (low)
	4/24/74	6					70 - suspect data (low)
	4/24/74	7					70 - suspect data (low)
	4/24/74	8					69 - suspect data (low)
	4/24/74	9					68 - suspect data (low)
	4/24/74	10					68 - suspect data (low)
	4/24/74	11					68 - suspect data (low)
	4/24/74	12					68 - suspect data (low)
	5/5/74	3			127		
	5/5/74	10			97		
1	12/2/74	1		52.22	125.996		raw data - assumed degree C
1	12/2/74	2		55.56	132.008		raw data - assumed degree C
1	12/2/74	3		56.67	134.006		raw data - assumed degree C
1	12/2/74	4		58.33	136.994		raw data - assumed degree C
1	12/2/74	5		58.33	136.994		raw data - assumed degree C
1	12/2/74	6		58.33	136.994		raw data - assumed degree C
1	12/2/74	7		58.33	136.994		raw data - assumed degree C
1	12/2/74	8		58.33	136.994		raw data - assumed degree C
1	12/2/74	9		57.78	136.004		raw data - assumed degree C
1	12/2/74	10		55	131		raw data - assumed degree C
1	12/2/74	11		52.22	125.996		raw data - assumed degree C
1	12/2/74	12		52.22	125.996		raw data - assumed degree C
1	4/13/75	1			138		
1	4/13/75	2			142		
1	4/13/75	3			142		
1	4/13/75	4			141		
1	4/13/75	5			140		
1	4/13/75	6			138		
1	4/13/75	7			136		
1	4/13/75	8			136		
1	4/13/75	9			136		
1	4/13/75	10			136		
1	4/13/75	11			130		
1	4/13/75	12			114		
1	6/3/75	1			142		
1	6/3/75	2			145		
1	6/3/75	3			145		
1	6/3/75	4			145		
1	6/3/75	5			144		
1	6/3/75	6			142		
1	6/3/75	7			141		
1	6/3/75	8			138		
1	6/3/75	9			133		
1	6/3/75	10			130		
1	6/3/75	11			124		
1	6/3/75	12			107		
1	11/3/75	1			153		
1	11/3/75	2			158		
1	11/3/75	3			158		
1	11/3/75	4			154		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/3/75	5			150		
1	11/3/75	6			145		
1	11/3/75	7			138		
1	11/3/75	8			136		
1	11/3/75	9			136		
1	11/3/75	10			132		
1	11/3/75	11			115		
1	11/3/75	12			98		
1	2/4/76	1			182		
1	2/4/76	2			185		
1	2/4/76	3			185		
1	2/4/76	4			182		
1	2/4/76	5			178		
1	2/4/76	6			172		
1	2/4/76	7			166		
1	2/4/76	8			162		
1	2/4/76	9			161		
1	2/4/76	10			149		
1	2/4/76	11			130		
1	2/4/76	12			110		
1	3/5/76	1			155		
1	3/5/76	2			158		
1	3/5/76	3			158		
1	3/5/76	4			154		
1	3/5/76	5			149		
1	3/5/76	6			142		
1	3/5/76	7			134		
1	3/5/76	8			134		
1	3/5/76	9			133		
1	3/5/76	10			130		
1	3/5/76	11			106		
1	3/5/76	12			100		
1	5/2/76	1			157		
1	5/2/76	2			160		
1	5/2/76	3			160		
1	5/2/76	4			155		
1	5/2/76	5			149		
1	5/2/76	6			142		
1	5/2/76	7			135		
1	5/2/76	8			134		
1	5/2/76	9			133		
1	5/2/76	10			120		
1	5/2/76	11			103		
1	5/2/76	12			88		
1	6/1/76	1			158		
1	6/1/76	2			160		
1	6/1/76	3			158		
1	6/1/76	4			154		
1	6/1/76	5			148		
1	6/1/76	6			142		
1	6/1/76	7			134		
1	6/1/76	8			132		
1	6/1/76	9			129		
1	6/1/76	10			118		
1	6/1/76	11			104		
1	6/1/76	12			90		
1	6/1/76	13			88		
1	6/1/76	14			88		
1	7/1/76	1			151		
1	7/1/76	2			154		
1	7/1/76	3			153		
1	7/1/76	4			148		
1	7/1/76	5			142		
1	7/1/76	6			135		
1	7/1/76	7			128		
1	7/1/76	8			127		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/1/76	9			126		
1	7/1/76	10			115		
1	7/1/76	11			100		
1	7/1/76	12			88		
1	8/3/76	1			158		
1	8/3/76	2			160		
1	8/3/76	3			160		
1	8/3/76	4			154		
1	8/3/76	5			148		
1	8/3/76	6			142		
1	8/3/76	7			134		
1	8/3/76	8			133		
1	8/3/76	9			132		
1	8/3/76	10			121		
1	8/3/76	11			110		
1	8/3/76	12			98		
1	9/2/76	1			160		
1	9/2/76	2			162		
1	9/2/76	3			160		
1	9/2/76	4			156		
1	9/2/76	5			150		
1	9/2/76	6			142		
1	9/2/76	7			136		
1	9/2/76	8			134		
1	9/2/76	9			133		
1	9/2/76	10			128		
1	9/2/76	11			113		
1	9/2/76	12			102		
1	10/3/76	1			160		
1	10/3/76	2			164		
1	10/3/76	3			162		
1	10/3/76	4			156		
1	10/3/76	5			150		
1	10/3/76	6			143		
1	10/3/76	7			136		
1	10/3/76	8			136		
1	10/3/76	9			134		
1	10/3/76	10			126		
1	10/3/76	11			115		
1	10/3/76	12			103		
1	11/1/76	1			162		
1	11/1/76	2			165		
1	11/1/76	3			163		
1	11/1/76	4			158		
1	11/1/76	5			152		
1	11/1/76	6			144		
1	11/1/76	7			137		
1	11/1/76	8			137		
1	11/1/76	9			135		
1	11/1/76	10			126		
1	11/1/76	11			114		
1	11/1/76	12			100		
1	12/4/76	1			160		
1	12/4/76	2			164		
1	12/4/76	3			163		
1	12/4/76	4			158		
1	12/4/76	5			152		
1	12/4/76	6			144		
1	12/4/76	7			137		
1	12/4/76	8			137		
1	12/4/76	9			135		
1	12/4/76	10			126		
1	12/4/76	11			112		
1	12/4/76	12			97		
1	1/1/77	1			162		
1	1/1/77	2			165		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/1/77	3			163		
1	1/1/77	4			158		
1	1/1/77	5			152		
1	1/1/77	6			145		
1	1/1/77	7			137		
1	1/1/77	8			137		
1	1/1/77	9			134		
1	1/1/77	10			124		
1	1/1/77	11			116		
1	1/1/77	12			94		
1	2/1/77	1			162		
1	2/1/77	2			166		
1	2/1/77	3			164		
1	2/1/77	4			158		
1	2/1/77	5			152		
1	2/1/77	6			144		
1	2/1/77	7			136		
1	2/1/77	8			136		
1	2/1/77	9			132		
1	2/1/77	10			122		
1	2/1/77	11			108		
1	2/1/77	12			92		
1	3/1/77	1			157		
1	3/1/77	2			160		
1	3/1/77	3			158		
1	3/1/77	4			154		
1	3/1/77	5			147		
1	3/1/77	6			140		
1	3/1/77	7			133		
1	3/1/77	8			132		
1	3/1/77	9			128		
1	3/1/77	10			116		
1	3/1/77	11			101		
1	3/1/77	12			85		
1	3/1/77	13			84		
1	3/1/77	14			84		
1	4/1/77	1			157		
1	4/1/77	2			160		
1	4/1/77	3			160		
1	4/1/77	4			154		
1	4/1/77	5			149		
1	4/1/77	6			140		
1	4/1/77	7			131		
1	4/1/77	8			130		
1	4/1/77	9			127		
1	4/1/77	10			116		
1	4/1/77	11			101		
1	4/1/77	12			86		
1	5/1/77	1			157		
1	5/1/77	2			160		
1	5/1/77	3			159		
1	5/1/77	4			154		
1	5/1/77	5			148.		
1	5/1/77	6			139		
1	5/1/77	7			131		
1	5/1/77	8			126		
1	5/1/77	9			121		
1	5/1/77	10			116		
1	5/1/77	11			102		
1	5/1/77	12			89		
1	6/7/77	1			158		
1	6/7/77	2			160		
1	6/7/77	3			159		
1	6/7/77	4			155		
1	6/7/77	5			148		
1	6/7/77	6			140		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/7/77	7			131		
1	6/7/77	8			130		
1	6/7/77	9			127		
1	6/7/77	10			115		
1	6/7/77	11			103		
1	6/7/77	12			90		
1	7/11/77	1			153		
1	7/11/77	2			160		
1	7/11/77	3			158		
1	7/11/77	4			152		
1	7/11/77	5			145		
1	7/11/77	6			138		
1	7/11/77	7			130		
1	7/11/77	8			130		
1	7/11/77	9			128		
1	7/11/77	10			120		
1	7/11/77	11			105		
1	7/11/77	12			92		
1	7/11/77	13			92		
1	7/11/77	14			92		
1	8/5/77	1			153		
1	8/5/77	2			156		
1	8/5/77	3			155		
1	8/5/77	4			149		
1	8/5/77	5			141		
1	8/5/77	6			134		
1	8/5/77	7			126		
1	8/5/77	8			125		
1	8/5/77	9			124		
1	8/5/77	10			119		
1	8/5/77	11			106		
1	9/5/77	1			158		
1	9/5/77	2			161		
1	9/5/77	3			160		
1	9/5/77	4			154		
1	9/5/77	5			148		
1	9/5/77	6			138		
1	9/5/77	7			130		
1	9/5/77	8			128		
1	9/5/77	9			128		
1	9/5/77	10			125		
1	9/5/77	11			110		
1	9/5/77	12			96		
1	9/5/77	13			95		
1	9/5/77	14			95		
1	10/3/77	1			157		
1	10/3/77	2			160		
1	10/3/77	3			158		
1	10/3/77	4			152		
1	10/3/77	5			148		
1	10/3/77	6			140		
1	10/3/77	7			131		
1	10/3/77	8			128		
1	10/3/77	9			128		
1	10/3/77	10			120		
1	10/3/77	11			110		
1	10/3/77	12			95		
1	11/3/77	1			157		
1	11/3/77	2			160		
1	11/3/77	3			159		
1	11/3/77	4			152		
1	11/3/77	5			146		
1	11/3/77	6			140		
1	11/3/77	7			130		
1	11/3/77	8			129		
1	11/3/77	9			129		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/3/77	10			121		
1	11/3/77	11			106		
1	11/3/77	12			96		
1	11/3/77	13			88		
1	11/3/77	14			88		
1	12/4/77	1			162		
1	12/4/77	2			164		
1	12/4/77	3			162		
1	12/4/77	4			156		
1	12/4/77	5			149		
1	12/4/77	6			142		
1	12/4/77	7			132		
1	12/4/77	8			129		
1	12/4/77	9			128		
1	12/4/77	10			117		
1	12/4/77	11			101		
1	12/4/77	12			81		
1	12/4/77	13			79		
1	12/4/77	14			78		
1	1/8/78	1			177		
1	1/8/78	2			180		
1	1/8/78	3			178		
1	1/8/78	4			173		
1	1/8/78	5			167		
1	1/8/78	6			159		
1	1/8/78	7			150		
1	1/8/78	8			147		
1	1/8/78	9			145		
1	1/8/78	10			134		
1	1/8/78	11			120		
1	1/8/78	12			104		
1	1/8/78	13			102		
1	1/8/78	14			102		
1	1/11/78	1					116 - suspect data (low)
1	1/11/78	2					117 - suspect data (low)
1	1/11/78	3					116 - suspect data (low)
1	1/11/78	4					114 - suspect data (low)
1	1/11/78	5					111 - suspect data (low)
1	1/11/78	6					106 - suspect data (low)
1	1/11/78	7					100 - suspect data (low)
1	1/11/78	8					97 - suspect data (low)
1	1/11/78	9					95 - suspect data (low)
1	1/11/78	10					95 - suspect data (low)
1	1/11/78	11			95		
1	1/11/78	12			95		
1	1/11/78	13			95		
1	1/11/78	14			95		
1	1/13/78	1			156		
1	1/13/78	2			160		
1	1/13/78	3			158		
1	1/13/78	4			154		
1	1/13/78	5			156		
1	1/13/78	6			140		
1	1/13/78	7			130		
1	1/13/78	8			128		
1	1/13/78	9			115		
1	1/13/78	10			115		
1	1/13/78	11			100		
1	2/7/78	1			161		
1	2/7/78	2			164		
1	2/7/78	3			162		
1	2/7/78	4			156		
1	2/7/78	5			150		
1	2/7/78	6			142		
1	2/7/78	7			133		
1	2/7/78	8			131		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/7/78	9			127		
1	2/7/78	10			117		
1	2/7/78	11			102		
1	2/7/78	12			86		
1	2/7/78	13			84		
1	2/7/78	14			84		
1	3/12/78	1			164		
1	3/12/78	2			167		
1	3/12/78	3			166		
1	3/12/78	4			166		
1	3/12/78	5			154		
1	3/12/78	6			146		
1	3/12/78	7			136		
1	3/12/78	8			134		
1	3/12/78	9			130		
1	3/12/78	10			119		
1	3/12/78	11			104		
1	3/12/78	12			88		
1	3/12/78	13			86		
1	3/12/78	14			86		
1	4/6/78	1			157		
1	4/6/78	2			160		
1	4/6/78	3			158		
1	4/6/78	4			152		
1	4/6/78	5			146		
1	4/6/78	6			138		
1	4/6/78	7			127		
1	4/6/78	8			125		
1	4/6/78	9			121		
1	4/6/78	10			109		
1	4/6/78	11			95		
1	4/6/78	12			80		
1	4/6/78	13			78		
1	4/6/78	14			78		
1	4/11/78	1			157		
1	4/11/78	2			160		
1	4/11/78	3			157		
1	4/11/78	4			152		
1	4/11/78	5			146		
1	4/11/78	6			138		
1	4/11/78	7			127		
1	4/11/78	8			125		
1	4/11/78	9			120		
1	4/11/78	10			110		
1	4/11/78	11			97		
1	4/11/78	12			115		
1	4/11/78	13			80		
1	4/11/78	14			79		
1	6/1/78	1			158		
1	6/1/78	2			161		
1	6/1/78	3			158		
1	6/1/78	4			153		
1	6/1/78	5			146		
1	6/1/78	6			137		
1	6/1/78	7			128		
1	6/1/78	8			122		
1	6/1/78	9			118		
1	6/1/78	10			110		
1	6/1/78	11			98		
1	6/1/78	12			87		
1	6/1/78	13			85		
1	6/1/78	14			85		
1	6/3/78	1			157		
1	6/3/78	2			160		
1	6/3/78	3			158		
1	6/3/78	4			152		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/3/78	5			145		
1	6/3/78	6			137		
1	6/3/78	7			129		
1	6/3/78	8			122		
1	6/3/78	9			118		
1	6/3/78	10			110		
1	6/3/78	11			100		
1	6/3/78	12			87		
1	6/3/78	13			85		
1	6/3/78	14			85		
1	7/13/78	1			160		
1	7/13/78	2			163		
1	7/13/78	3			160		
1	7/13/78	4			155		
1	7/13/78	5			150		
1	7/13/78	6			143		
1	7/13/78	7			138		
1	7/13/78	8			125		
1	7/13/78	9			120		
1	7/13/78	10			113		
1	7/13/78	11			103		
1	7/13/78	12			93		
1	7/13/78	13			92		
1	7/13/78	14			92		
1	8/11/78	1			152		
1	8/11/78	2			155		
1	8/11/78	3			154		
1	8/11/78	4			149		
1	8/11/78	5			143		
1	8/11/78	6			136		
1	8/11/78	7			127		
1	8/11/78	8			118		
1	8/11/78	9			115		
1	8/11/78	10			108		
1	8/11/78	11			99		
1	8/11/78	12			91		
1	8/11/78	13			90		
1	8/11/78	14			90		
1	2/4/79	1			153		
1	2/4/79	2			155		
1	2/4/79	3			153		
1	2/4/79	4			148		
1	2/4/79	5			144		
1	2/4/79	6			134		
1	2/4/79	7			124		
1	2/4/79	8			115		
1	2/4/79	9			110		
1	2/4/79	10			100		
1	2/4/79	11			83		
1	2/4/79	12			76		
1	2/4/79	13			76		
1	2/4/79	14			76		
1	9/6/79	1			150		
1	9/6/79	2			150		
1	9/6/79	3			150		
1	9/6/79	4			144		
1	9/6/79	5			135		
1	9/6/79	6			126		
1	9/6/79	7			118		
1	9/6/79	8			105		
1	9/6/79	9			100		
1	9/6/79	10			98		
1	9/6/79	11			98		
1	9/6/79	12			96		
1	9/6/79	13			96		
1	9/6/79	14			96		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/23/80	1					90 - suspect data (low)
1	1/23/80	2					90 - suspect data (low)
1	1/23/80	3					90 - suspect data (low)
1	1/23/80	4					90 - suspect data (low)
1	1/23/80	5					90 - suspect data (low)
1	1/23/80	11					145 - suspect data (high)
1	1/23/80	12					145 - suspect data (high)
1	1/23/80	13					145 - suspect data (high)
1	1/23/80	14					145 - suspect data (high)
1	2/1/80	1			145		
1	2/1/80	2			143		
1	2/1/80	3			143		
1	2/1/80	4			137		
1	2/1/80	5			133		
1	2/1/80	6			125		
1	2/1/80	7			106		
1	2/1/80	8			85		
1	2/1/80	9			85		
1	2/1/80	10			85		
1	2/1/80	11			85		
1	2/1/80	12			85		
1	2/1/80	13			85		
1	2/1/80	14			85		
1	1/13/82	1			140		
1	1/13/82	2					85 - suspect data (low)
1	1/13/82	3			140		
1	1/13/82	4			135		
1	1/13/82	5			127		
1	1/13/82	6			118		
1	1/13/82	7			101		
1	1/13/82	8			85		
1	1/13/82	9			85		
1	1/13/82	10			83		
1	1/13/82	13			83		
1	1/13/82	14			83		
1	5/29/82	1			141		
1	5/29/82	3			137		
1	5/29/82	4			131		
1	5/29/82	5			125		
1	5/29/82	6			115		
1	5/29/82	7			100		
1	5/29/82	8			85		
1	5/29/82	9			84		
1	5/29/82	10			84		
1	5/29/82	11			84		
1	10/6/82	1			140		
1	10/6/82	2			140		
1	10/6/82	3			136		
1	10/6/82	4			130		
1	10/6/82	5			125		
1	10/6/82	6			119		
1	10/6/82	7			106		
1	10/6/82	8			93		
1	10/6/82	9			92		
1	10/6/82	10			92		
1	10/6/82	11			92		
1	10/6/82	13			92		
1	10/6/82	14			92		
1	5/19/83	1			136		
1	5/19/83	2			136		
1	5/19/83	3			132		
1	5/19/83	4			126		
1	5/19/83	5			120		
1	5/19/83	6			111		
1	5/19/83	7			97		
1	5/19/83	8			83		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/19/83	9			82		
1	5/19/83	10			81		
1	5/19/83	11			81		
1	5/19/83	12			81		
1	5/19/83	13			81		
1	5/19/83	14			81		
1	1/12/84	1			148		
1	1/12/84	2			142		
1	1/12/84	3			138		
1	1/12/84	4			116		
1	1/12/84	5			102		
1	1/12/84	6			105		
1	2/14/84	1			133		
1	2/14/84	2			132		
1	2/14/84	3			125		
1	2/14/84	4			118		
1	2/14/84	5			116		
1	2/14/84	6			76		
1	3/14/84	1			131		
1	3/14/84	2			131		
1	3/14/84	3			126		
1	3/14/84	4			118		
1	3/14/84	5			115		
1	3/14/84	6			76		
1	4/9/84	1			134		
1	4/9/84	2			134		
1	4/9/84	3			128		
1	4/9/84	4			121		
1	4/9/84	5			119		
1	4/9/84	6			80		
1	6/19/84	1					70 - suspect data (low)
1	6/19/84	2					53 - suspect data (low)
1	6/19/84	3					53 - suspect data (low)
1	6/19/84	4					53 - suspect data (low)
1	6/19/84	5					53 - suspect data (low)
1	6/19/84	6					53 - suspect data (low)
1	9/13/84	1			129		
1	9/13/84	2			130		
1	9/13/84	3			124		
1	9/13/84	4			119		
1	9/13/84	5			118		
1	9/13/84	6			91		
1	4/2/85	1			131		
1	4/2/85	2			132		
1	4/2/85	3			128		
1	4/2/85	4			119		
1	4/2/85	5			115		
1	4/2/85	6			79		
1	5/2/85	1			123		
1	5/2/85	2			124		
1	5/2/85	3			118		
1	5/2/85	4			109		
1	5/2/85	5			107		
1	5/2/85	6			73		
1	7/2/85	1			125		
1	7/2/85	2			126		
1	7/2/85	3			121		
1	7/2/85	4			113		
1	7/2/85	5			112		
1	7/2/85	6			83		
1	12/4/85	1			114		
1	12/4/85	2			115		
1	12/4/85	3			111		
1	12/4/85	4			102		
1	12/4/85	5			101		
1	12/4/85	6			67		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/6/86	1					84 - suspect data (low)
1	1/6/86	2					83 - suspect data (low)
1	1/6/86	3					84 - suspect data (low)
1	1/6/86	4					83 - suspect data (low)
1	1/6/86	5					83 - suspect data (low)
1	1/6/86	6					82 - suspect data (low)
1	1/7/86	1					68 - suspect data (low)
1	1/7/86	2					69 - suspect data (low)
1	1/7/86	3					67 - suspect data (low)
1	1/7/86	4					68 - suspect data (low)
1	1/7/86	5					67 - suspect data (low)
1	1/7/86	6					68 - suspect data (low)
1	7/8/86	1					89.4 - suspect data (low)
1	7/8/86	2					84 - suspect data (low)
1	7/8/86	3					88 - suspect data (low)
1	7/8/86	4					97.2 - suspect data (low)
1	7/8/86	5					98.3 - suspect data (low)
1	7/8/86	6					129 - suspect data (high)
1	11/27/86	1			129.2		
1	11/27/86	2			129.3		
1	11/27/86	3			126		
1	11/27/86	4			118.5		
1	11/27/86	5			115.6		
1	11/27/86	6			84.2		
1	12/22/86	1			129.1		
1	12/22/86	2			129.3		
1	12/22/86	3			125.6		
1	12/22/86	4			116.5		
1	12/22/86	5			115.1		
1	12/22/86	6			80.6		
1	1/2/87	1			129.1		
1	1/2/87	2			129.5		
1	1/2/87	3			125.4		
1	1/2/87	4			116.6		
1	1/2/87	5			115.5		
1	1/2/87	6			80.2		
1	2/2/87	1			130		
1	2/2/87	2			130		
1	2/2/87	3			125		
1	2/2/87	4			116		
1	2/2/87	5			115		
1	2/2/87	6			78		
1	3/2/87	1			129		
1	3/2/87	2			129		
1	3/2/87	3			125		
1	3/2/87	4			115		
1	3/2/87	5			114		
1	3/2/87	6			76		
1	4/6/87	1			130		
1	4/6/87	2			130		
1	4/6/87	3			126		
1	4/6/87	4			117		
1	4/6/87	5			115		
1	4/6/87	6			81		
1	4/11/87	1			128		
1	4/11/87	2			127		
1	4/11/87	3			123		
1	4/11/87	4			118		
1	4/11/87	5			116		
1	4/11/87	6			87		
1	5/3/87	1			127.8		
1	5/3/87	2			127.6		
1	5/3/87	3			123.2		
1	5/3/87	4			115		
1	5/3/87	5			113.8		
1	5/3/87	6			78		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/6/87	1			128.1		
1	7/6/87	2			127.5		
1	7/6/87	3			122.6		
1	7/6/87	4			115		
1	7/6/87	5			114		
1	7/6/87	6			84.4		
1	8/4/87	1			126.9		
1	8/4/87	2			126.4		
1	8/4/87	3			121.8		
1	8/4/87	4			114.3		
1	8/4/87	5			113		
1	8/4/87	6			85.1		
1	10/5/87	1			126		
1	10/5/87	2			125		
1	10/5/87	3			122		
1	10/5/87	4			116		
1	10/5/87	5			115		
1	10/5/87	6			89		
1	12/8/87	1			136.8		
1	12/8/87	2			135.8		
1	12/8/87	3			130.9		
1	12/8/87	4			126.2		
1	12/8/87	5			124.3		
1	12/8/87	6			91.8		
1	1/4/88	1	1		128.8	Y	
1	1/4/88	2	1		128	N	
1	1/4/88	3	1		124	N	
1	1/4/88	4	1		118	N	
1	1/4/88	5	1		116.4	N	
1	1/4/88	6	1		81.2	N	
1	2/1/88	1	1		124	Y	
1	2/1/88	2	1		123	N	
1	2/1/88	3	1		120	N	
1	2/1/88	4	1		115	N	
1	2/1/88	5	1		112	N	
1	2/1/88	6	1		78	N	
1	3/8/88	1	1		132	Y	
1	3/8/88	2	1		131	N	
1	3/8/88	3	1		126	N	
1	3/8/88	4	1		120	N	
1	3/8/88	5	1		119	N	
1	3/8/88	6	1		84	N	
1	4/4/88	1	1		126	Y	
1	4/4/88	2	1		125	N	
1	4/4/88	3	1		120	N	
1	4/4/88	4	1		114	N	
1	4/4/88	5	1		113	N	
1	4/4/88	6	1		79	N	
1	5/2/88	1	1		136	Y	
1	5/2/88	2	1		135	N	
1	5/2/88	3	1		130	N	
1	5/2/88	4	1		125	N	
1	5/2/88	5	1		123	N	
1	5/2/88	6	1		91	N	
1	6/6/88	1	1		135	Y	
1	6/6/88	2	1		134	N	
1	6/6/88	3	1		125	N	
1	6/6/88	4	1		120	N	
1	6/6/88	5	1		120	N	
1	6/6/88	6	1		91	N	
1	7/4/88	1	1		134	Y	
1	7/4/88	2	1		133	N	
1	7/4/88	3	1		127	N	
1	7/4/88	4	1		120	N	
1	7/4/88	5	1		118	N	
1	7/4/88	6	1		81	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	8/1/88	1	1		130	Y	
1	8/1/88	2	1		129	N	
1	8/1/88	3	1		124	N	
1	8/1/88	4	1		119	N	
1	8/1/88	5	1		118	N	
1	8/1/88	6	1		92	N	
1	9/5/88	1	1		126	Y	
1	9/5/88	2	1		125	N	
1	9/5/88	3	1		120	N	
1	9/5/88	4	1		114	N	
1	9/5/88	5	1		113	N	
1	9/5/88	6	1		88	N	
1	10/3/88	1	1		125	Y	
1	10/3/88	2	1		125	N	
1	10/3/88	3	1		121	N	
1	10/3/88	4	1		115	N	
1	10/3/88	5	1		113	N	
1	10/3/88	6	1		87	N	
1	11/7/88	1	1		124	N	
1	11/7/88	2	1		125	Y	
1	11/7/88	3	1		121	N	
1	11/7/88	4	1		116	N	
1	11/7/88	5	1		115	N	
1	11/7/88	6	1		88	N	
1	1/2/89	1	1			N	O/S
1	2/6/89	1	1		128.5	Y	
1	2/6/89	2	1		128.2	N	
1	2/6/89	3	1		123.8	N	
1	2/6/89	4	1		118.9	N	
1	2/6/89	5	1		116.3	N	
1	2/6/89	6	1		80	N	
1	3/6/89	1	1		151	Y	
1	3/6/89	2	1		151	N	
1	3/6/89	3	1		146	N	
1	3/6/89	4	1		139	N	
1	3/6/89	5	1		137	N	
1	3/6/89	6	1		96	N	
1	3/9/89	1	1		126.6	Y	
1	3/9/89	2	1		125.9	N	
1	3/9/89	3	1		120.9	N	
1	3/9/89	4	1		114.7	N	
1	3/9/89	5	1		113.2	N	
1	3/9/89	6	1		76.6	N	
1	1/4/91	1	1		118.5	Y	HH-99A-J #890523512-47
1	1/4/91	2	1		118	N	
1	1/4/91	3	1		114.3	N	
1	1/4/91	4	1		109.9	N	
1	1/4/91	5	1		106.7	N	
1	1/4/91	6	1		75	N	
1	9/14/91	1	1		120.4	N	J-890523512-20
1	9/14/91	2	1		120.7	Y	
1	9/14/91	3	1		117.4	N	
1	9/14/91	4	1		112.8	N	
1	9/14/91	5	1		110.9	N	
1	9/14/91	6	1		86	N	
1	11/13/91	1	1		116.8	Y	J-890423320-42
1	11/13/91	2	1		116.8	N	
1	11/13/91	3	1		112.8	N	
1	11/13/91	4	1		108.2	N	
1	11/13/91	5	1		107.3	N	
1	11/13/91	6	1		80.3	N	
1	1/1/92	1	1		121.5	Y	J-890523512-20
1	1/1/92	2	1		120.7	N	
1	1/1/92	3	1		116.4	N	
1	1/1/92	4	1		112.8	N	
1	1/1/92	5	1		111.5	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-110							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/1/92	6	1		79.1	N	
1	7/3/92	1	1			N	OUT OF SERVICE
1	9/18/92	1	1		117.7	N	J 890523512-47 RDGS TAKEN BY MISTAKE
1	9/18/92	2	1		118.7	Y	
1	9/18/92	3	1		115.2	N	
1	9/18/92	4	1		111.6	N	
1	9/18/92	5	1		109.9	N	
1	9/18/92	6	1		85.9	N	
1	11/5/92	1	1		120	Y	J 817-13-20-019
1	11/5/92	2	1		120	N	
1	11/5/92	3	1		117	N	
1	11/5/92	4	1		113	N	
1	11/5/92	5	1		109	N	
1	11/5/92	6	1		85	N	
1	2/13/93	1	1		117.4	Y	J 910126143-42
1	2/13/93	2	1		117.2	N	
1	2/13/93	3	1		113.8	N	
1	2/13/93	4	1		110	N	
1	2/13/93	5	1		105.7	N	
1	2/13/93	6	1		72.6	N	
1	7/2/93	1	1		115.9	Y	J 890423320-42
1	7/2/93	2	1		115.7	N	
1	7/2/93	3	1		110.8	N	
1	7/2/93	4	1		106	N	
1	7/2/93	5	1		104.7	N	
1	7/2/93	6	1		76.2	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994, Data Sheet TK-105-S to TK-110-S, and Archive box #121869.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/2/74	1		53.33	127.994		raw data - assumed degree C
1	12/2/74	2		55	131		raw data - assumed degree C
1	12/2/74	3		57.22	134.996		raw data - assumed degree C
1	12/2/74	4		59.44	138.992		raw data - assumed degree C
1	12/2/74	5		58.89	138.002		raw data - assumed degree C
1	12/2/74	6		58.33	136.994		raw data - assumed degree C
1	12/2/74	7		57.78	136.004		raw data - assumed degree C
1	12/2/74	8		57.78	136.004		raw data - assumed degree C
1	12/2/74	9		57.78	136.004		raw data - assumed degree C
1	12/2/74	10		56.67	134.006		raw data - assumed degree C
1	12/2/74	11		55	131		raw data - assumed degree C
1	12/2/74	12		50.56	123.008		raw data - assumed degree C
1	4/15/75	1			131		
1	4/15/75	2			133		
1	4/15/75	3			137		
1	4/15/75	4			142		
1	4/15/75	5			139		
1	4/15/75	6			129		
1	4/15/75	7			131		
1	4/15/75	8			129		
1	4/15/75	9			128		
1	4/15/75	10			127		
1	4/15/75	11			126		
1	4/15/75	12			119		
1	6/3/75	1			131		
1	6/3/75	2			133		
1	6/3/75	3			126		
1	6/3/75	4			140		
1	6/3/75	5			141		
1	6/3/75	6			140		
1	6/3/75	7			137		
1	6/3/75	8			133		
1	6/3/75	9			127		
1	6/3/75	10			127		
1	6/3/75	11			121		
1	6/3/75	12			104		
1	11/3/75	1			125		
1	11/3/75	2			107		
1	11/3/75	3			140		
1	11/3/75	4			145		
1	11/3/75	5			146		
1	11/3/75	6			144		
1	11/3/75	7			139		
1	11/3/75	8			133		
1	11/3/75	9			132		
1	11/3/75	10			130		
1	11/3/75	11			103		
1	11/3/75	12			104		
1	2/4/76	1			160		
1	2/4/76	2			161		
1	2/4/76	3			165		
1	2/4/76	4			169		
1	2/4/76	5			169		
1	2/4/76	6			166		
1	2/4/76	7			160		
1	2/4/76	8			152		
1	2/4/76	9			152		
1	2/4/76	10			152		
1	2/4/76	11			150		
1	2/4/76	12			128		
1	3/5/76	1			132		
1	3/5/76	2			133		
1	3/5/76	3			137		
1	3/5/76	4			146		
1	3/5/76	5			139		
1	3/5/76	6			136		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/5/76	7			136		
1	3/5/76	8			124		
1	3/5/76	9			124		
1	3/5/76	10			118		
1	3/5/76	11			95		
1	5/2/76	1			132		
1	5/2/76	2			133		
1	5/2/76	3			136		
1	5/2/76	4			138		
1	5/2/76	5			134		
1	5/2/76	6			129		
1	5/2/76	7			120		
1	5/2/76	8			121		
1	5/2/76	9			96		
1	5/2/76	10			92		
1	5/2/76	11			92		
1	5/2/76	12			92		
1	6/1/76	1			130		
1	6/1/76	2			132		
1	6/1/76	3			134		
1	6/1/76	4			134		
1	6/1/76	5			132		
1	6/1/76	6			136		
1	6/1/76	7			128		
1	6/1/76	8			126		
1	6/1/76	9			104		
1	6/1/76	10			92		
1	6/1/76	11			92		
1	6/1/76	12			92		
1	6/1/76	13			92		
1	6/1/76	14			92		
1	7/1/76	1			124		
1	7/1/76	2			125		
1	7/1/76	3			127		
1	7/1/76	4			128		
1	7/1/76	5			126		
1	7/1/76	6			124		
1	7/1/76	7			121		
1	7/1/76	8			119		
1	7/1/76	9			103		
1	7/1/76	10			89		
1	7/1/76	11			88		
1	7/1/76	12			88		
1	8/3/76	1			130		
1	8/3/76	2			131		
1	8/3/76	3			133		
1	8/3/76	4			134		
1	8/3/76	5			133		
1	8/3/76	6			130		
1	8/3/76	7			126		
1	8/3/76	8			124		
1	8/3/76	9			112		
1	8/3/76	10			98		
1	8/3/76	11			98		
1	8/3/76	12			98		
1	9/2/76	1			130		
1	9/2/76	2			132		
1	9/2/76	3			134		
1	9/2/76	4			135		
1	9/2/76	5			134		
1	9/2/76	6			131		
1	9/2/76	7			127		
1	9/2/76	8			124		
1	9/2/76	9			118		
1	9/2/76	10			101		
1	9/2/76	11			100		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111
THERMOCOUPLE DATA

TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/2/76	12			100		
1	10/3/76	1			131		
1	10/3/76	2			132		
1	10/3/76	3			135		
1	10/3/76	4			136		
1	10/3/76	5			135		
1	10/3/76	6			132		
1	10/3/76	7			127		
1	10/3/76	8			125		
1	10/3/76	9			119		
1	10/3/76	10			103		
1	10/3/76	11			102		
1	10/3/76	12			102		
1	11/1/76	1			132		
1	11/1/76	2			132		
1	11/1/76	3			136		
1	11/1/76	4			136		
1	11/1/76	5			134		
1	11/1/76	6			132		
1	11/1/76	7			128		
1	11/1/76	8			123		
1	11/1/76	9			118		
1	11/1/76	10			98		
1	11/1/76	11			98		
1	11/1/76	12			98		
1	12/4/76	1			131		
1	12/4/76	2			132		
1	12/4/76	3			134		
1	12/4/76	4			135		
1	12/4/76	5			134		
1	12/4/76	6			130		
1	12/4/76	7			126		
1	12/4/76	8			124		
1	12/4/76	9			107		
1	12/4/76	10			92		
1	12/4/76	11			92		
1	12/4/76	12			92		
1	1/1/77	1			131		
1	1/1/77	2			132		
1	1/1/77	3			134		
1	1/1/77	4			134		
1	1/1/77	5			131		
1	1/1/77	6			127		
1	1/1/77	7			118		
1	1/1/77	8			100		
1	1/1/77	9			90		
1	1/1/77	10			90		
1	1/1/77	11			90		
1	1/1/77	12			90		
1	2/1/77	1			136		
1	2/1/77	2			132		
1	2/1/77	3			132		
1	2/1/77	4			136		
1	2/1/77	5			124		
1	2/1/77	6			114		
1	2/1/77	7			108		
1	2/1/77	8			90		
1	2/1/77	9			88		
1	2/1/77	10			88		
1	2/1/77	11			88		
1	2/1/77	12			88		
1	4/1/77	1			124		
1	4/1/77	2			125		
1	4/1/77	3			125		
1	4/1/77	4			124		
1	4/1/77	5			118		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/1/77	6			110		
1	4/1/77	7			94		
1	4/1/77	8			86		
1	4/1/77	9			85		
1	4/1/77	10			83		
1	4/1/77	11			83		
1	4/1/77	12			83		
1	5/1/77	1			123		
1	5/1/77	2			124		
1	5/1/77	3			124		
1	5/1/77	4			122		
1	5/1/77	5			116		
1	5/1/77	6			107		
1	5/1/77	7			96		
1	5/1/77	8			84		
1	5/1/77	9			83		
1	5/1/77	10			83		
1	5/1/77	11			83		
1	5/1/77	12			83		
1	6/7/77	1			121		
1	6/7/77	2			122		
1	6/7/77	3			122		
1	6/7/77	4			120		
1	6/7/77	5			115		
1	6/7/77	6			105		
1	6/7/77	7			89		
1	6/7/77	8			85		
1	6/7/77	9			84		
1	6/7/77	10			84		
1	6/7/77	11			84		
1	6/7/77	12			84		
1	7/11/77	1			120		
1	7/11/77	2			120		
1	7/11/77	3			120		
1	7/11/77	4			117		
1	7/11/77	5			113		
1	7/11/77	6			105		
1	7/11/77	7			95		
1	7/11/77	8			93		
1	7/11/77	9			90		
1	7/11/77	10			90		
1	7/11/77	11			90		
1	7/11/77	12			90		
1	7/11/77	13			90		
1	7/11/77	14			90		
1	8/5/77	1			116		
1	8/5/77	2			116		
1	8/5/77	3			116		
1	8/5/77	4			113		
1	8/5/77	5			110		
1	8/5/77	6			106		
1	8/5/77	7			100		
1	8/5/77	8			97		
1	8/5/77	9			94		
1	8/5/77	10			93		
1	8/5/77	11			93		
1	9/5/77	1			118		
1	9/5/77	2			118		
1	9/5/77	3			118		
1	9/5/77	4			118		
1	9/5/77	5			115		
1	9/5/77	6			109		
1	9/5/77	7			100		
1	9/5/77	8			100		
1	9/5/77	9			95		
1	9/5/77	10			95		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/5/77	11			95		
1	9/5/77	12			95		
1	9/5/77	13			95		
1	9/5/77	14			95		
1	10/3/77	1			118		
1	10/3/77	2			119		
1	10/3/77	3			119		
1	10/3/77	4			118		
1	10/3/77	5			115		
1	10/3/77	6			110		
1	10/3/77	7			101		
1	10/3/77	8			97		
1	10/3/77	9			95		
1	10/3/77	10			95		
1	10/3/77	11			95		
1	10/3/77	12			95		
1	11/3/77	1			117		
1	11/3/77	2			117		
1	11/3/77	3			117		
1	11/3/77	4			117		
1	11/3/77	5			114		
1	11/3/77	6			109		
1	11/3/77	7			100		
1	11/3/77	8			95		
1	11/3/77	9			90		
1	11/3/77	10			90		
1	11/3/77	11			90		
1	11/3/77	12			90		
1	11/3/77	13			90		
1	11/3/77	14			90		
1	12/4/77	1			113		
1	12/4/77	2			113		
1	12/4/77	3			113		
1	12/4/77	4			111		
1	12/4/77	5			106		
1	12/4/77	6			98		
1	12/4/77	7			86		
1	12/4/77	8			77		
1	12/4/77	9			73		
1	12/4/77	10			71		
1	12/4/77	11			71		
1	12/4/77	12			68		
1	12/4/77	13			67		
1	12/4/77	14			66		
1	1/8/78	1					136 - suspect data (high)
1	1/8/78	2					137 - suspect data (high)
1	1/8/78	3					136 - suspect data (high)
1	1/8/78	4					134 - suspect data (high)
1	1/8/78	5					131 - suspect data (high)
1	1/8/78	6					126 - suspect data (high)
1	1/8/78	7					119 - suspect data (high)
1	1/8/78	8					116 - suspect data (high)
1	1/8/78	9					114 - suspect data (high)
1	1/8/78	10					114 - suspect data (high)
1	1/8/78	11					114 - suspect data (high)
1	1/8/78	12					114 - suspect data (high)
1	1/8/78	13					114 - suspect data (high)
1	1/8/78	14					114 - suspect data (high)
1	1/11/78	1			116		
1	1/11/78	2			117		
1	1/11/78	3			116		
1	1/11/78	4			114		
1	1/11/78	5			111		
1	1/11/78	6			106		
1	1/11/78	7			100		
1	1/11/78	8			97		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/11/78	9			95		
1	1/11/78	10			95		
1	1/11/78	11			95		
1	1/11/78	12			95		
1	1/11/78	13			95		
1	1/11/78	14			95		
1	1/13/78	1			117		
1	1/13/78	2			117		
1	1/13/78	3			117		
1	1/13/78	4			115		
1	1/13/78	5			110		
1	1/13/78	6			106		
1	1/13/78	7			101		
1	1/13/78	8			98		
1	1/13/78	9			95		
1	1/13/78	10			95		
1	1/13/78	11			96		
1	2/7/78	1			119		
1	2/7/78	2			120		
1	2/7/78	3			126		
1	2/7/78	4			118		
1	2/7/78	5			114		
1	2/7/78	6			111		
1	2/7/78	7			103		
1	2/7/78	8			98		
1	2/7/78	9			96		
1	2/7/78	10			96		
1	2/7/78	11			96		
1	2/7/78	12			95		
1	2/7/78	13			95		
1	2/7/78	14			95		
1	3/12/78	1			123		
1	3/12/78	2			113		
1	3/12/78	3			123		
1	3/12/78	4			121		
1	3/12/78	5			118		
1	3/12/78	6			119		
1	3/12/78	7			106		
1	3/12/78	8			98		
1	3/12/78	9			97		
1	3/12/78	10			95		
1	3/12/78	11			95		
1	3/12/78	12			95		
1	3/12/78	13			95		
1	3/12/78	14			95		
1	4/11/78	1			114		
1	4/11/78	2			114		
1	4/11/78	3			114		
1	4/11/78	4			113		
1	4/11/78	5			108		
1	4/11/78	6			103		
1	4/11/78	7			94		
1	4/11/78	8			87		
1	4/11/78	9			85		
1	4/11/78	10			84		
1	4/11/78	11			84		
1	4/11/78	12			84		
1	4/11/78	13			84		
1	4/11/78	14			84		
1	6/3/78	1			114		
1	6/3/78	2			115		
1	6/3/78	3			115		
1	6/3/78	4			112		
1	6/3/78	5			107		
1	6/3/78	6			100		
1	6/3/78	7			94		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/3/78	8			88		
1	6/3/78	9			87		
1	6/3/78	10			87		
1	6/3/78	11			87		
1	6/3/78	12			87		
1	6/3/78	13			87		
1	6/3/78	14			87		
1	7/13/78	1			115		
1	7/13/78	2			115		
1	7/13/78	3			115		
1	7/13/78	4			112		
1	7/13/78	5			108		
1	7/13/78	6			103		
1	7/13/78	7			96		
1	7/13/78	8			91		
1	7/13/78	9			91		
1	7/13/78	10			90		
1	7/13/78	11			90		
1	7/13/78	12			90		
1	7/13/78	13			90		
1	7/13/78	14			90		
1	8/11/78	1			108		
1	8/11/78	2			108		
1	8/11/78	3			108		
1	8/11/78	4			106		
1	8/11/78	5			102		
1	8/11/78	6			98		
1	8/11/78	7			92		
1	8/11/78	8			85		
1	8/11/78	9			85		
1	8/11/78	10			85		
1	8/11/78	11			84		
1	8/11/78	12			84		
1	8/11/78	13			84		
1	8/11/78	14			84		
1	2/4/79	1			106		
1	2/4/79	2			107		
1	2/4/79	3			107		
1	2/4/79	4			104		
1	2/4/79	5			100		
1	2/4/79	6			95		
1	2/4/79	7			86		
1	2/4/79	8			72		
1	2/4/79	9			70		
1	2/4/79	10			68		
1	2/4/79	11			68		
1	2/4/79	12			68		
1	2/4/79	13			68		
1	2/4/79	14			68		
1	9/6/79	1			108		
1	9/6/79	2			108		
1	9/6/79	3			108		
1	9/6/79	4			105		
1	9/6/79	5			100		
1	9/6/79	6			95		
1	9/6/79	7			90		
1	9/6/79	8			85		
1	9/6/79	9			85		
1	9/6/79	10			85		
1	9/6/79	11			85		
1	9/6/79	12			85		
1	9/6/79	13			85		
1	9/6/79	14			85		
1	1/23/80	1			105		
1	1/23/80	2			105		
1	1/23/80	3			105		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/23/80	4			105		
1	1/23/80	5			100		
1	1/23/80	6			95		
1	1/23/80	7			90		
1	1/23/80	8			80		
1	1/23/80	9			80		
1	1/23/80	10			75		
1	1/23/80	11			75		
1	1/23/80	12			75		
1	1/23/80	13			75		
1	1/23/80	14			75		
1	1/13/82	1			102		
1	1/13/82	2			102		
1	1/13/82	3			102		
1	1/13/82	4			100		
1	1/13/82	5			98		
1	1/13/82	6			93		
1	1/13/82	7			85		
1	1/13/82	8			80		
1	1/13/82	9			80		
1	1/13/82	10			80		
1	1/13/82	11			80		
1	1/13/82	12			78		
1	1/13/82	13			78		
1	5/29/82	1			101		
1	5/29/82	2			101		
1	5/29/82	3			101		
1	5/29/82	4			98		
1	5/29/82	5			94		
1	5/29/82	6			90		
1	5/29/82	7			83		
1	5/29/82	8			80		
1	5/29/82	9			79		
1	5/29/82	10			77		
1	5/29/82	11			77		
1	5/29/82	12			77		
1	10/6/82	1			100		
1	10/6/82	2			101		
1	10/6/82	3			101		
1	10/6/82	4			99		
1	10/6/82	5			96		
1	10/6/82	6			93		
1	10/6/82	7			89		
1	10/6/82	8			86		
1	10/6/82	9			85		
1	10/6/82	10			84		
1	10/6/82	11			84		
1	10/6/82	12			84		
1	10/6/82	13			84		
1	10/6/82	14			84		
1	5/19/83	1			100		
1	5/19/83	2			100		
1	5/19/83	3			99		
1	5/19/83	4			97		
1	5/19/83	5			93		
1	5/19/83	6			88		
1	5/19/83	7			82		
1	5/19/83	8			78		
1	5/19/83	9			77		
1	5/19/83	10			76		
1	5/19/83	11			76		
1	5/19/83	12			76		
1	5/19/83	13			73		
1	5/19/83	14			73		
1	1/4/84	1			102		
1	1/4/84	2			102		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/4/84	3			100		
1	1/4/84	4			101		
1	1/4/84	5			97		
1	1/4/84	6			95		
1	1/4/84	7			92		
1	1/4/84	8			85		
1	1/4/84	9			80		
1	1/4/84	10			80		
1	1/4/84	11			78		
1	1/4/84	12			78		
1	1/4/84	13			78		
1	1/4/84	14			78		
1	2/13/84	1			100		
1	2/13/84	2			101		
1	2/13/84	3			100		
1	2/13/84	4			98		
1	2/13/84	5			95		
1	2/13/84	6			90		
1	2/13/84	7			82		
1	2/13/84	8			77		
1	2/13/84	9			76		
1	2/13/84	10			75		
1	2/13/84	11			74		
1	2/13/84	12			74		
1	2/13/84	13			74		
1	2/13/84	14			74		
1	2/14/84	1			102		
1	2/14/84	2			102		
1	2/14/84	3			102		
1	2/14/84	4			102		
1	2/14/84	5			101		
1	2/14/84	6			97		
1	2/14/84	7			85		
1	2/14/84	8			75		
1	2/14/84	9			79		
1	2/14/84	10			77		
1	2/14/84	11			77		
1	2/14/84	12			77		
1	2/14/84	13			77		
1	2/14/84	14			77		
1	12/13/85	1			98		
1	12/13/85	2			98		
1	12/13/85	3			98		
1	12/13/85	4			97		
1	12/13/85	5			94		
1	12/13/85	6			90		
1	12/13/85	7			84		
1	12/13/85	8			79		
1	12/13/85	9			79		
1	12/13/85	10			77		
1	12/13/85	11			77		
1	12/13/85	12			77		
1	12/13/85	13			76		
1	12/13/85	14			75		
1	1/17/86	1			98		
1	1/17/86	2			98		
1	1/17/86	3			98		
1	1/17/86	4			97		
1	1/17/86	5			94		
1	1/17/86	6			89		
1	1/17/86	7			82		
1	1/17/86	8			77		
1	1/17/86	9			76		
1	1/17/86	10			75		
1	1/17/86	11			75		
1	1/17/86	12			75		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/17/86	13			73		
1	1/17/86	14			73		
1	4/18/86	1			98		
1	4/18/86	2			98		
1	4/18/86	3			97		
1	4/18/86	4			95		
1	4/18/86	5			92		
1	4/18/86	6			87		
1	4/18/86	7			79		
1	4/18/86	8			75		
1	4/18/86	9			74		
1	4/18/86	10			73		
1	4/18/86	11			73		
1	4/18/86	12			73		
1	4/18/86	13			72		
1	4/18/86	14			72		
1	9/12/86	1			98		
1	9/12/86	2			98		
1	9/12/86	3			97		
1	9/12/86	4			96		
1	9/12/86	5			93		
1	9/12/86	6			90		
1	9/12/86	7			84		
1	9/12/86	8			84		
1	9/12/86	9			84		
1	9/12/86	10			83		
1	9/12/86	11			83		
1	9/12/86	12			83		
1	9/12/86	13			82		
1	9/12/86	14			82		
1	10/10/86	1			98		
1	10/10/86	2			98		
1	10/10/86	3			98		
1	10/10/86	4			96		
1	10/10/86	5			94		
1	10/10/86	6			91		
1	10/10/86	7			87		
1	10/10/86	8			84		
1	10/10/86	9			84		
1	10/10/86	10			84		
1	10/10/86	11			84		
1	10/10/86	12			84		
1	10/10/86	13			82		
1	10/10/86	14			82		
1	3/6/87	1			96		
1	3/6/87	2			96		
1	3/6/87	3			96		
1	3/6/87	4			94		
1	3/6/87	5			91		
1	3/6/87	6			86		
1	3/6/87	7			79		
1	3/6/87	8			74		
1	3/6/87	9			74		
1	3/6/87	10			73		
1	3/6/87	11			73		
1	3/6/87	12			73		
1	3/6/87	13			72		
1	3/6/87	14			71		
1	6/12/87	1			96		
1	6/12/87	2			96		
1	6/12/87	3			96		
1	6/12/87	4			93		
1	6/12/87	5			90		
1	6/12/87	6			86		
1	6/12/87	7			81		
1	6/12/87	8			77		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/12/87	9			77		
1	6/12/87	10			77		
1	6/12/87	11			77		
1	6/12/87	12			77		
1	6/12/87	13			76		
1	6/12/87	14			76		
1	10/2/87	1			95		
1	10/2/87	2			95		
1	10/2/87	3			95		
1	10/2/87	4			94		
1	10/2/87	5			92		
1	10/2/87	6			89		
1	10/2/87	7			85		
1	10/2/87	8			83		
1	10/2/87	9			83		
1	10/2/87	10			82		
1	10/2/87	11			82		
1	10/2/87	12			82		
1	10/2/87	13			82		
1	10/2/87	14			82		
1	12/18/87	1			98		
1	12/18/87	2			99		
1	12/18/87	3			99		
1	12/18/87	4			98		
1	12/18/87	5			95		
1	12/18/87	6			92		
1	12/18/87	7			86		
1	12/18/87	8			83		
1	12/18/87	9			82		
1	12/18/87	10			80		
1	12/18/87	11			80		
1	12/18/87	12			80		
1	12/18/87	13			82		
1	12/18/87	14			82		
1	1/22/88	1			100		
1	1/22/88	2			100		
1	1/22/88	3			100		
1	1/22/88	4			99		
1	1/22/88	5			96		
1	1/22/88	6			92		
1	1/22/88	7			85		
1	1/22/88	8			81		
1	1/22/88	9			80		
1	1/22/88	10			79		
1	1/22/88	11			79		
1	1/22/88	12			79		
1	1/22/88	13			81		
1	1/22/88	14			81		
1	2/5/88	1			100		
1	2/5/88	2			100		
1	2/5/88	3			100		
1	2/5/88	4			99		
1	2/5/88	5			96		
1	2/5/88	6			92		
1	2/5/88	7			84		
1	2/5/88	8			80		
1	2/5/88	9			79		
1	2/5/88	10			78		
1	2/5/88	11			78		
1	2/5/88	12			78		
1	2/5/88	13			79		
1	2/5/88	14			79		
1	1/4/91	1			91.1		
1	1/4/91	2			91.6		
1	1/4/91	3			91.7		
1	1/4/91	4			90.5		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/4/91	5			88.3		
1	1/4/91	6			84.8		
1	1/4/91	7			78.4		
1	1/4/91	8			74.2		
1	1/4/91	9			73.9		
1	1/4/91	10			72.6		
1	1/4/91	11			72.5		
1	1/4/91	12			72.3		
1	1/4/91	13			72.3		
1	1/4/91	14			72.3		
1	2/9/91	1			91.9		
1	2/9/91	2			92.2		
1	2/9/91	3			92.1		
1	2/9/91	4			90.7		
1	2/9/91	5			88		
1	2/9/91	6			83.7		
1	2/9/91	7			76.8		
1	2/9/91	8			72.2		
1	2/9/91	9			71.5		
1	2/9/91	10			70.2		
1	2/9/91	11			70.1		
1	2/9/91	12			70.1		
1	2/9/91	13			70		
1	2/9/91	14			70		
1	2/17/91	1			91.7		
1	2/17/91	2			92.1		
1	2/17/91	3			92		
1	2/17/91	4			90.6		
1	2/17/91	5			87.8		
1	2/17/91	6			83.4		
1	2/17/91	7			76.7		
1	2/17/91	8			72		
1	2/17/91	9			71.5		
1	2/17/91	10			70.3		
1	2/17/91	11			70		
1	2/17/91	12			70		
1	2/17/91	13			69.9		
1	2/17/91	14			69.9		
1	2/24/91	1			95		
1	2/24/91	2			95		
1	2/24/91	3			95		
1	2/24/91	4			93		
1	2/24/91	5			91		
1	2/24/91	6			86		
1	2/24/91	7			79		
1	2/24/91	8			75		
1	2/24/91	9			74		
1	2/24/91	10			73		
1	2/24/91	11			73		
1	2/24/91	12			73		
1	2/24/91	13			73		
1	2/24/91	14			73		
1	3/3/91	1			96		
1	3/3/91	2			96		
1	3/3/91	3			96		
1	3/3/91	4			94		
1	3/3/91	5			91		
1	3/3/91	6			87		
1	3/3/91	7			80		
1	3/3/91	8			75		
1	3/3/91	9			75		
1	3/3/91	10			74		
1	3/3/91	11			74		
1	3/3/91	12			74		
1	3/3/91	13			74		
1	3/3/91	14			73		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/9/91	1			97		
1	3/9/91	2			97		
1	3/9/91	3			97		
1	3/9/91	4			95		
1	3/9/91	5			92		
1	3/9/91	6			88		
1	3/9/91	7			81		
1	3/9/91	8			76		
1	3/9/91	9			75		
1	3/9/91	10			75		
1	3/9/91	11			75		
1	3/9/91	12			75		
1	3/9/91	13			74		
1	3/9/91	14			74		
1	3/16/91	1			95		
1	3/16/91	1			93		
1	3/16/91	2			95		
1	3/16/91	2			91.4		
1	3/16/91	3			95		
1	3/16/91	3			91.4		
1	3/16/91	4			93		
1	3/16/91	4			89.7		
1	3/16/91	5			90		
1	3/16/91	5			86.6		
1	3/16/91	6			85		
1	3/16/91	6			82		
1	3/16/91	7			79		
1	3/16/91	7			75.5		
1	3/16/91	8			75		
1	3/16/91	8			70.9		
1	3/16/91	9			74		
1	3/16/91	9			70.2		
1	3/16/91	10			72		
1	3/16/91	10			68.9		
1	3/16/91	11			72		
1	3/16/91	11			68.7		
1	3/16/91	12			72		
1	3/16/91	12			68.9		
1	3/16/91	13			72		
1	3/16/91	13			68.8		
1	3/16/91	14			72		
1	3/16/91	14			68.7		
1	3/24/91	1			97		
1	3/24/91	2			97		
1	3/24/91	3			96		
1	3/24/91	4			95		
1	3/24/91	5			92		
1	3/24/91	6			88		
1	3/24/91	7			81		
1	3/24/91	8			77		
1	3/24/91	9			76		
1	3/24/91	10			75		
1	3/24/91	11			75		
1	3/24/91	12			74		
1	3/24/91	13			74		
1	3/24/91	14			74		
1	3/31/91	1			97		
1	3/31/91	2			96		
1	3/31/91	3			96		
1	3/31/91	4			94		
1	3/31/91	5			91		
1	3/31/91	6			86		
1	3/31/91	7			82		
1	3/31/91	8			75		
1	3/31/91	9	1		75	N	
1	3/31/91	10	1		73	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/31/91	11	1		73	N	
1	3/31/91	12	1		73	N	
1	3/31/91	13	1		73	N	
1	3/31/91	14	1		73	N	
1	4/6/91	1	1		97	Y	OMEGA 199
1	4/6/91	2	1		96	N	
1	4/6/91	3	1		95	N	
1	4/6/91	4	1		94	N	
1	4/6/91	5	1		91	N	
1	4/6/91	6	1		86	N	
1	4/6/91	7	1		80	N	
1	4/6/91	8	1		75	N	
1	4/6/91	9	1		75	N	
1	4/6/91	10	1		73	N	
1	4/6/91	11	1		73	N	
1	4/6/91	12	1		73	N	
1	4/6/91	13	1		73	N	
1	4/6/91	14	1		73	N	
1	4/14/91	1	1		97	Y	J-HH-99-A 89-0423320-11
1	4/14/91	2	1		96	N	
1	4/14/91	3	1		96	N	
1	4/14/91	4	1		94	N	
1	4/14/91	5	1		91	N	
1	4/14/91	6	1		86	N	
1	4/14/91	7	1		80	N	
1	4/14/91	8	1		76	N	
1	4/14/91	9	1		75	N	
1	4/14/91	10	1		74	N	
1	4/14/91	11	1		74	N	
1	4/14/91	12	1		73	N	
1	4/14/91	13	1		73	N	
1	4/14/91	14	1		73	N	
1	4/20/91	1	1		95	Y	J 8904233202-11
1	4/20/91	2	1		95	N	
1	4/20/91	3	1		94	N	
1	4/20/91	4	1		92	N	
1	4/20/91	5	1		89	N	
1	4/20/91	6	1		85	N	
1	4/20/91	7	1		79	N	
1	4/20/91	8	1		74	N	
1	4/20/91	9	1		74	N	
1	4/20/91	10	1		72	N	
1	4/20/91	11	1		72	N	
1	4/20/91	12	1		72	N	
1	4/20/91	13	1		72	N	
1	4/20/91	14	1		72	N	
1	4/27/91	1	1		96	Y	J
1	4/27/91	2	1		96	N	
1	4/27/91	3	1		95	N	
1	4/27/91	4	1		93	N	
1	4/27/91	5	1		90	N	
1	4/27/91	6	1		86	N	
1	4/27/91	7	1		80	N	
1	4/27/91	8	1		76	N	
1	4/27/91	9	1		75	N	
1	4/27/91	10	1		74	N	
1	4/27/91	11	1		73	N	
1	4/27/91	12	1		73	N	
1	4/27/91	13	1		73	N	
1	4/27/91	14	1		73	N	
1	5/4/91	1	1		95	Y	J HH-99A-J
1	5/4/91	2	1		95	N	
1	5/4/91	3	1		94	N	
1	5/4/91	4	1		92	N	
1	5/4/91	5	1		89	N	
1	5/4/91	6	1		85	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/4/91	7	1		79	N	
1	5/4/91	8	1		75	N	
1	5/4/91	9	1		75	N	
1	5/4/91	10	1		73	N	
1	5/4/91	11	1		73	N	
1	5/4/91	12	1		73	N	
1	5/4/91	13	1		73	N	
1	5/4/91	14	1		73	N	
1	5/12/91	1	1		95	Y	J 910126143-75
1	5/12/91	2	1		95	N	
1	5/12/91	3	1		95	N	
1	5/12/91	4	1		93	N	
1	5/12/91	5	1		90	N	
1	5/12/91	6	1		85	N	
1	5/12/91	7	1		80	N	
1	5/12/91	8	1		76	N	
1	5/12/91	9	1		75	N	
1	5/12/91	10	1		74	N	
1	5/12/91	11	1		74	N	
1	5/12/91	12	1		74	N	
1	5/12/91	13	1		74	N	
1	5/12/91	14	1		74	N	
1	5/19/91	1	1		95	Y	J Omega 99A
1	5/19/91	2	1		95	N	
1	5/19/91	3	1		94	N	
1	5/19/91	4	1		93	N	
1	5/19/91	5	1		89	N	
1	5/19/91	6	1		85	N	
1	5/19/91	7	1		80	N	
1	5/19/91	8	1		76	N	
1	5/19/91	9	1		75	N	
1	5/19/91	10	1		74	N	
1	5/19/91	11	1		74	N	
1	5/19/91	12	1		74	N	
1	5/19/91	13	1		74	N	
1	5/19/91	14	1		74	N	
1	5/24/91	1	1		95	Y	J Omega #199
1	5/24/91	2	1		95	N	
1	5/24/91	3	1		94	N	
1	5/24/91	4	1		92	N	
1	5/24/91	5	1		89	N	
1	5/24/91	6	1		85	N	
1	5/24/91	7	1		80	N	
1	5/24/91	8	1		76	N	
1	5/24/91	9	1		75	N	
1	5/24/91	10	1		74	N	
1	5/24/91	11	1		74	N	
1	5/24/91	12	1		74	N	
1	5/24/91	13	1		74	N	
1	5/24/91	14	1		74	N	
1	6/1/91	1	1		94	Y	J Omega Model #199
1	6/1/91	2	1		94	N	
1	6/1/91	3	1		93	N	
1	6/1/91	4	1		91	N	
1	6/1/91	5	1		88	N	
1	6/1/91	6	1		84	N	
1	6/1/91	7	1		79	N	
1	6/1/91	8	1		75	N	
1	6/1/91	9	1		75	N	
1	6/1/91	10	1		73	N	
1	6/1/91	11	1		74	N	
1	6/1/91	12	1		74	N	
1	6/1/91	13	1		74	N	
1	6/1/91	14	1		74	N	
1	6/9/91	1	1		92	N	J 890423320-11 TC#14o/s
1	6/9/91	2	1		92.1	Y	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/9/91	3	1		91.6	N	
1	6/9/91	4	1		89.7	N	
1	6/9/91	5	1		86.6	N	
1	6/9/91	6	1		82.6	N	
1	6/9/91	7	1		77.5	N	
1	6/9/91	8	1		73.9	N	
1	6/9/91	9	1		73.4	N	
1	6/9/91	10	1		72.2	N	
1	6/9/91	11	1		72.4	N	
1	6/9/91	12	1		72.3	N	
1	6/9/91	13	1		72.3	N	
1	6/16/91	1	1		94	Y	J 199 TC#1415o/s
1	6/16/91	2	1		94	N	
1	6/16/91	3	1		94	N	
1	6/16/91	4	1		92	N	
1	6/16/91	5	1		89	N	
1	6/16/91	6	1		85	N	
1	6/16/91	7	1		80	N	
1	6/16/91	8	1		77	N	
1	6/16/91	9	1		76	N	
1	6/16/91	10	1		75	N	
1	6/16/91	11	1		75	N	
1	6/16/91	12	1		75	N	
1	6/16/91	13	1		75	N	
1	6/16/91	14	1		75	N	
1	6/22/91	1	1		95	Y	J Omega 199
1	6/22/91	2	1		95	N	
1	6/22/91	3	1		94	N	
1	6/22/91	4	1		92	N	
1	6/22/91	5	1		89	N	
1	6/22/91	6	1		85	N	
1	6/22/91	7	1		80	N	
1	6/22/91	8	1		77	N	
1	6/22/91	9	1		77	N	
1	6/22/91	10	1		76	N	
1	6/22/91	11	1		76	N	
1	6/22/91	12	1		76	N	
1	6/22/91	13	1		76	N	
1	6/22/91	14	1		76	N	
1	6/29/91	1	1		93	Y	J 9101261438-75 TC#15NG
1	6/29/91	2	1		93	N	
1	6/29/91	3	1		92	N	
1	6/29/91	4	1		90	N	
1	6/29/91	5	1		88	N	
1	6/29/91	6	1		84	N	
1	6/29/91	7	1		79	N	
1	6/29/91	8	1		76	N	
1	6/29/91	9	1		75	N	
1	6/29/91	10	1		74	N	
1	6/29/91	11	1		74	N	
1	6/29/91	12	1		74	N	
1	6/29/91	13	1		74	N	
1	6/29/91	14	1		74	N	
1	7/7/91	1	1		93	Y	J 910126143-73
1	7/7/91	2	1		93	N	
1	7/7/91	3	1		93	N	
1	7/7/91	4	1		91	N	
1	7/7/91	5	1		88	N	
1	7/7/91	6	1		84	N	
1	7/7/91	7	1		80	N	
1	7/7/91	8	1		76	N	
1	7/7/91	9	1		76	N	
1	7/7/91	10	1		75	N	
1	7/7/91	11	1		75	N	
1	7/7/91	12	1		75	N	
1	7/7/91	13	1		75	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/7/91	14	1		75	N	
1	7/13/91	1	1		93	Y	Omega Eng199
1	7/13/91	2	1		93	N	
1	7/13/91	3	1		93	N	
1	7/13/91	4	1		91	N	
1	7/13/91	5	1		88	N	
1	7/13/91	6	1		84	N	
1	7/13/91	7	1		80	N	
1	7/13/91	8	1		77	N	
1	7/13/91	9	1		76	N	
1	7/13/91	10	1		76	N	
1	7/13/91	11	1		76	N	
1	7/13/91	12	1		76	N	
1	7/13/91	13	1		76	N	
1	7/13/91	14	1		76	N	
1	7/20/91	1	1		94	Y	J
1	7/20/91	2	1		93	N	
1	7/20/91	3	1		93	N	
1	7/20/91	4	1		91	N	
1	7/20/91	5	1		88	N	
1	7/20/91	6	1		84	N	
1	7/20/91	7	1		80	N	
1	7/20/91	8	1		77	N	
1	7/20/91	9	1		77	N	
1	7/20/91	10	1		76	N	
1	7/20/91	11	1		76	N	
1	7/20/91	12	1		76	N	
1	7/20/91	13	1		76	N	
1	7/20/91	14	1		76	N	
1	7/27/91	1	1		90.5	N	J 910126143-75
1	7/27/91	2	1		90.8	Y	
1	7/27/91	3	1		90.4	N	
1	7/27/91	4	1		88.6	N	
1	7/27/91	5	1		82.4	N	
1	7/27/91	6	1		78.3	N	
1	7/27/91	7	1		75.5	N	
1	7/27/91	8	1		74.9	N	
1	7/27/91	9	1		74.3	N	
1	7/27/91	10	1		74.2	N	
1	7/27/91	11	1		74.3	N	
1	7/27/91	12	1		74.3	N	
1	7/27/91	13	1		74.4	N	
1	8/3/91	1	1		93	Y	J 910126143-75
1	8/3/91	2	1		93	N	
1	8/3/91	3	1		93	N	
1	8/3/91	4	1		91	N	
1	8/3/91	5	1		88	N	
1	8/3/91	6	1		85	N	
1	8/3/91	7	1		81	N	
1	8/3/91	8	1		78	N	
1	8/3/91	9	1		78	N	
1	8/3/91	10	1		77	N	
1	8/3/91	11	1		77	N	
1	8/3/91	12	1		77	N	
1	8/3/91	13	1		77	N	
1	8/3/91	14	1		77	N	
1	8/11/91	1	1		93	Y	J 910126143-75
1	8/11/91	2	1		93	N	
1	8/11/91	3	1		93	N	
1	8/11/91	4	1		91	N	
1	8/11/91	5	1		88	N	
1	8/11/91	6	1		85	N	
1	8/11/91	7	1		81	N	
1	8/11/91	8	1		79	N	
1	8/11/91	9	1		78	N	
1	8/11/91	10	1		78	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111 THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	8/11/91	11	1		78	N	
1	8/11/91	12	1		78	N	
1	8/11/91	13	1		77	N	
1	8/11/91	14	1		78	N	
1	8/18/91	1	1		92	Y	J 910126143-75
1	8/18/91	2	1		92	N	
1	8/18/91	3	1		92	N	
1	8/18/91	4	1		90	N	
1	8/18/91	5	1		88	N	
1	8/18/91	6	1		84	N	
1	8/18/91	7	1		81	N	
1	8/18/91	8	1		78	N	
1	8/18/91	9	1		78	N	
1	8/18/91	10	1		77	N	
1	8/18/91	11	1		77	N	
1	8/18/91	12	1		78	N	
1	8/18/91	13	1		76	N	
1	8/18/91	14	1		77	N	
1	8/25/91	1	1		91	N	J HH-99A-J
1	8/25/91	2	1		93	Y	
1	8/25/91	3	1		93	Y	
1	8/25/91	4	1		91	N	
1	8/25/91	5	1		89	N	
1	8/25/91	6	1		86	N	
1	8/25/91	7	1		82	N	
1	8/25/91	8	1		80	N	
1	8/25/91	9	1		80	N	
1	8/25/91	10	1		79	N	
1	8/25/91	11	1		79	N	
1	8/25/91	12	1		79	N	
1	8/25/91	13	1		78	N	
1	8/25/91	14	1		79	N	
1	8/31/91	1	1		90.2	N	J-890523512-20
1	8/31/91	2	1		90.4	Y	
1	8/31/91	3	1		90.1	N	
1	8/31/91	4	1		88.6	N	
1	8/31/91	5	1		86.2	N	
1	8/31/91	6	1		83.3	N	
1	8/31/91	7	1		79.9	N	
1	8/31/91	8	1		77.4	N	
1	8/31/91	9	1		77.1	N	
1	8/31/91	10	1		76.7	N	
1	8/31/91	11	1		76.6	N	
1	8/31/91	12	1		76.7	N	
1	8/31/91	13	1		75.6	N	
1	8/31/91	14	1		76.8	N	
1	9/7/91	1	1		91.1	N	J-890523512-20
1	9/7/91	2	1		91.4	Y	
1	9/7/91	3	1		91.1	N	
1	9/7/91	4	1		89.6	N	
1	9/7/91	5	1		87.4	N	
1	9/7/91	6	1		84.6	N	
1	9/7/91	7	1		81.2	N	
1	9/7/91	8	1		78.8	N	
1	9/7/91	9	1		78.5	N	
1	9/7/91	10	1		78.1	N	
1	9/7/91	11	1		78.1	N	
1	9/7/91	12	1		78.1	N	
1	9/7/91	13	1		77	N	
1	9/7/91	14	1		78.1	N	
1	9/14/91	1	1		96	Y	J-890523512-20
1	9/14/91	2	1		95	N	
1	9/14/91	3	1		95	N	
1	9/14/91	4	1		93	N	
1	9/14/91	5	1		91	N	
1	9/14/91	6	1		88	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/14/91	7	1		85	N	
1	9/14/91	8	1		83	N	
1	9/14/91	9	1		82	N	
1	9/14/91	10	1		82	N	
1	9/14/91	11	1		82	N	
1	9/14/91	12	1		82	N	
1	9/14/91	13	1		82	N	
1	9/14/91	14	1		82	N	
1	9/21/91	1	1		92.2	N	J-HH-99A-J
1	9/21/91	2	1		92.5	Y	
1	9/21/91	3	1		92.2	N	
1	9/21/91	4	1		90.9	N	
1	9/21/91	5	1		88.7	N	
1	9/21/91	6	1		86	N	
1	9/21/91	7	1		82.8	N	
1	9/21/91	8	1		80.3	N	
1	9/21/91	9	1		80	N	
1	9/21/91	10	1		79.8	N	
1	9/21/91	11	1		79.7	N	
1	9/21/91	12	1		79.8	N	
1	9/21/91	13	1		79.7	N	
1	9/21/91	14	1		79.7	N	
1	9/28/91	1	1		93	Y	J-890523512-20
1	9/28/91	2	1		93	N	
1	9/28/91	3	1		92	N	
1	9/28/91	4	1		91	N	
1	9/28/91	5	1		89	N	
1	9/28/91	6	1		86	N	
1	9/28/91	7	1		83	N	
1	9/28/91	8	1		81	N	
1	9/28/91	9	1		81	N	
1	9/28/91	10	1		80	N	
1	9/28/91	11	1		80	N	
1	9/28/91	12	1		80	N	
1	9/28/91	13	1		80	N	
1	9/28/91	14	1		80	N	
1	10/5/91	1	1		94	N	J-890523518-20
1	10/5/91	2	1		95	Y	
1	10/5/91	3	1		94	N	
1	10/5/91	4	1		93	N	
1	10/5/91	5	1		91	N	
1	10/5/91	6	1		88	N	
1	10/5/91	7	1		85	N	
1	10/5/91	8	1		83	N	
1	10/5/91	9	1		82	N	
1	10/5/91	10	1		82	N	
1	10/5/91	11	1		82	N	
1	10/5/91	12	1		82	N	
1	10/5/91	13	1		82	N	
1	10/5/91	14	1		82	N	
1	10/11/91	1	1		95	Y	J-890523512-20
1	10/11/91	2	1		95	N	
1	10/11/91	3	1		95	N	
1	10/11/91	4	1		94	N	
1	10/11/91	5	1		92	N	
1	10/11/91	6	1		89	N	
1	10/11/91	7	1		86	N	
1	10/11/91	8	1		83	N	
1	10/11/91	9	1		83	N	
1	10/11/91	10	1		82	N	
1	10/11/91	11	1		82	N	
1	10/11/91	12	1		83	N	
1	10/11/91	13	1		82	N	
1	10/11/91	14	1		82	N	
1	10/20/91	1	1		93.1	N	J-890523512-20
1	10/20/91	2	1		93.5	Y	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/20/91	3	1		93.4	N	
1	10/20/91	4	1		92.2	N	
1	10/20/91	5	1		90.2	N	
1	10/20/91	6	1		87.7	N	
1	10/20/91	7	1		84.2	N	
1	10/20/91	8	1		81.4	N	
1	10/20/91	9	1		81.2	N	
1	10/20/91	10	1		80.6	N	
1	10/20/91	11	1		80.5	N	
1	10/20/91	12	1		80.7	N	
1	10/20/91	13	1		80.6	N	
1	10/20/91	14	1		80.5	N	
1	10/26/91	1	1		95	Y	J-890523512-20
1	10/26/91	2	1		95	N	
1	10/26/91	3	1		95	N	
1	10/26/91	4	1		94	N	
1	10/26/91	5	1		92	N	
1	10/26/91	6	1		89	N	
1	10/26/91	7	1		86	N	
1	10/26/91	8	1		83	N	
1	10/26/91	9	1		83	N	
1	10/26/91	10	1		82	N	
1	10/26/91	11	1		82	N	
1	10/26/91	12	1		82	N	
1	10/26/91	13	1		82	N	
1	10/26/91	14	1		82	N	
1	11/2/91	1	1		94.8	Y	J-890523512-80
1	11/2/91	2	1		94.9	N	
1	11/2/91	3	1		94.8	N	
1	11/2/91	4	1		93.7	N	
1	11/2/91	5	1		91.8	N	
1	11/2/91	6	1		89.1	N	
1	11/2/91	7	1		85.2	N	
1	11/2/91	8	1		82.2	N	
1	11/2/91	9	1		81.9	N	
1	11/2/91	10	1		81.1	N	
1	11/2/91	11	1		81.1	N	
1	11/2/91	12	1		81.1	N	
1	11/2/91	13	1		81.1	N	
1	11/2/91	14	1		81.1	N	
1	11/9/91	1	1		95	N	J-890523512-20
1	11/9/91	2	1		96	Y	
1	11/9/91	3	1		95	N	
1	11/9/91	4	1		95	N	
1	11/9/91	5	1		93	N	
1	11/9/91	6	1		90	N	
1	11/9/91	7	1		86	N	
1	11/9/91	8	1		83	N	
1	11/9/91	9	1		83	N	
1	11/9/91	10	1		82	N	
1	11/9/91	11	1		82	N	
1	11/9/91	12	1		82	N	
1	11/9/91	13	1		82	N	
1	11/9/91	14	1		82	N	
1	11/13/91	1	1		89.4	N	J-890423320-42 TC #1516 O/S W/O #04529
1	11/13/91	2	1		89.8	Y	
1	11/13/91	3	1		89.8	N	
1	11/13/91	4	1		88.8	N	
1	11/13/91	5	1		87.1	N	
1	11/13/91	6	1		84.6	N	
1	11/13/91	7	1		80.1	N	
1	11/13/91	8	1		77.1	N	
1	11/13/91	9	1		76.8	N	
1	11/13/91	10	1		75.7	N	
1	11/13/91	11	1		75.7	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/13/91	12	1		75.5	N	
1	11/13/91	13	1		75.6	N	
1	11/13/91	14	1		75.6	N	
1	11/15/91	1	1		90.4	N	J-817-13-55-008
1	11/15/91	2	1		90.7	Y	
1	11/15/91	3	1		90.6	N	
1	11/15/91	4	1		89.6	N	
1	11/15/91	5	1		87.9	N	
1	11/15/91	6	1		85.2	N	
1	11/15/91	7	1		80.7	N	
1	11/15/91	8	1		77.6	N	
1	11/15/91	9	1		77.4	N	
1	11/15/91	10	1		76.4	N	
1	11/15/91	11	1		76.4	N	
1	11/15/91	12	1		76.3	N	
1	11/15/91	13	1		76.3	N	
1	11/15/91	14	1		76.2	N	
1	11/23/91	1	1		89.7	N	J-890423320-42
1	11/23/91	2	1		90.1	Y	
1	11/23/91	3	1		90	N	
1	11/23/91	4	1		89.1	N	
1	11/23/91	5	1		87.3	N	
1	11/23/91	6	1		84.5	N	
1	11/23/91	7	1		79.8	N	
1	11/23/91	8	1		76.3	N	
1	11/23/91	9	1		76.1	N	
1	11/23/91	10	1		75.2	N	
1	11/23/91	11	1		75.2	N	
1	11/23/91	12	1		75.1	N	
1	11/23/91	13	1		75.1	N	
1	11/23/91	14	1		75	N	
1	12/1/91	1	1		96	Y	J-890523512-47
1	12/1/91	2	1		96	N	
1	12/1/91	3	1		96	N	
1	12/1/91	4	1		95	N	
1	12/1/91	5	1		93	N	
1	12/1/91	6	1		90	N	
1	12/1/91	7	1		85	N	
1	12/1/91	8	1		81	N	
1	12/1/91	9	1		81	N	
1	12/1/91	10	1		80	N	
1	12/1/91	11	1		80	N	
1	12/1/91	12	1		80	N	
1	12/1/91	13	1		80	N	
1	12/1/91	14	1		80	N	
1	12/8/91	1	1		95	N	J
1	12/8/91	2	1		96	Y	
1	12/8/91	3	1		96	N	
1	12/8/91	4	1		95	N	
1	12/8/91	5	1		93	N	
1	12/8/91	6	1		90	N	
1	12/8/91	7	1		85	N	
1	12/8/91	8	1		81	N	
1	12/8/91	9	1		81	N	
1	12/8/91	10	1		79	N	
1	12/8/91	11	1		79	N	
1	12/8/91	12	1		79	N	
1	12/8/91	13	1		79	N	
1	12/8/91	14	1		79	N	
1	12/14/91	1	1		97	Y	J-910126143-64
1	12/14/91	2	1		97	N	
1	12/14/91	3	1		97	N	
1	12/14/91	4	1		96	N	
1	12/14/91	5	1		93	N	
1	12/14/91	6	1		90	N	
1	12/14/91	7	1		85	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/14/91	8	1		81	N	
1	12/14/91	9	1		81	N	
1	12/14/91	10	1		80	N	
1	12/14/91	11	1		80	N	
1	12/14/91	12	1		80	N	
1	12/14/91	13	1		80	N	
1	12/14/91	14	1		80	N	
1	12/22/91	1	1		97	Y	J-TI-007
1	12/22/91	2	1		97	N	
1	12/22/91	3	1		97	N	
1	12/22/91	4	1		96	N	
1	12/22/91	5	1		94	N	
1	12/22/91	6	1		91	N	
1	12/22/91	7	1		85	N	
1	12/22/91	8	1		81	N	
1	12/22/91	9	1		81	N	
1	12/22/91	10	1		79	N	
1	12/22/91	11	1		79	N	
1	12/22/91	12	1		79	N	
1	12/22/91	13	1		79	N	
1	12/22/91	14	1		79	N	
1	12/28/91	1	1		96	Y	J-890523512-20
1	12/28/91	2	1		96	N	
1	12/28/91	3	1		96	N	
1	12/28/91	4	1		96	N	
1	12/28/91	5	1		93	N	
1	12/28/91	6	1		90	N	
1	12/28/91	7	1		84	N	
1	12/28/91	8	1		80	N	
1	12/28/91	9	1		80	N	
1	12/28/91	10	1		79	N	
1	12/28/91	11	1		78	N	
1	12/28/91	12	1		78	N	
1	12/28/91	13	1		78	N	
1	12/28/91	14	1		78	N	
1	1/5/92	1	1		97	Y	J-OMEGA 199
1	1/5/92	2	1		97	N	
1	1/5/92	3	1		97	N	
1	1/5/92	4	1		96	N	
1	1/5/92	5	1		94	N	
1	1/5/92	6	1		90	N	
1	1/5/92	7	1		84	N	
1	1/5/92	8	1		80	N	
1	1/5/92	9	1		80	N	
1	1/5/92	10	1		79	N	
1	1/5/92	11	1		79	N	
1	1/5/92	12	1		78	N	
1	1/5/92	13	1		78	N	
1	1/5/92	14	1		78	N	
1	1/13/92	1	1		96	Y	J Omega
1	1/13/92	2	1		96	N	
1	1/13/92	3	1		96	N	
1	1/13/92	4	1		95	N	
1	1/13/92	5	1		93	N	
1	1/13/92	6	1		89	N	
1	1/13/92	7	1		83	N	
1	1/13/92	8	1		79	N	
1	1/13/92	9	1		79	N	
1	1/13/92	10	1		77	N	
1	1/13/92	11	1		77	N	
1	1/13/92	12	1		77	N	
1	1/13/92	13	1		77	N	
1	1/13/92	14	1		77	N	
1	1/16/92	1	1		96	Y	J Omega 199
1	1/16/92	2	1		96	N	
1	1/16/92	3	1		96	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/16/92	4	1		95	N	
1	1/16/92	5	1		93	N	
1	1/16/92	6	1		89	N	
1	1/16/92	7	1		83	N	
1	1/16/92	8	1		79	N	
1	1/16/92	9	1		78	N	
1	1/16/92	10	1		77	N	
1	1/16/92	11	1		77	N	
1	1/16/92	12	1		77	N	
1	1/16/92	13	1		77	N	
1	1/16/92	14	1		77	N	
1	1/25/92	1	1		96	Y	
1	1/25/92	2	1		96	N	
1	1/25/92	3	1		96	N	
1	1/25/92	4	1		95	N	
1	1/25/92	5	1		92	N	
1	1/25/92	6	1		88	N	
1	1/25/92	7	1		82	N	
1	1/25/92	8	1		78	N	
1	1/25/92	9	1		77	N	
1	1/25/92	10	1		76	N	
1	1/25/92	11	1		76	N	
1	1/25/92	12	1		76	N	
1	1/25/92	13	1		76	N	
1	1/25/92	14	1		76	N	
1	1/28/92	1	1			N	ACCESS RESTRICTED 1/28 - 2/22 DUE TO BATTERY FUME INCIDENT
1	2/22/92	1	1			N	OUT OF SERVICE
1	3/1/92	1	1		97	Y	
1	3/1/92	2	1		97	N	
1	3/1/92	3	1		97	N	
1	3/1/92	4	1		95	N	
1	3/1/92	5	1		93	N	
1	3/1/92	6	1		89	N	
1	3/1/92	7	1		82	N	
1	3/1/92	8	1		78	N	
1	3/1/92	9	1		77	N	
1	3/1/92	10	1		75	N	
1	3/1/92	11	1		75	N	
1	3/1/92	12	1		75	N	
1	3/1/92	13	1		75	N	
1	3/1/92	14	1		75	N	
1	3/6/92	1	1		95	Y	J 910126143-50
1	3/6/92	2	1		95	N	
1	3/6/92	3	1		95	N	
1	3/6/92	4	1		93	N	
1	3/6/92	5	1		91	N	
1	3/6/92	6	1		86	N	
1	3/6/92	7	1		80	N	
1	3/6/92	8	1		76	N	
1	3/6/92	9	1		75	N	
1	3/6/92	10	1		74	N	
1	3/6/92	11	1		73	N	
1	3/6/92	12	1		73	N	
1	3/6/92	13	1		73	N	
1	3/6/92	14	1		73	N	
1	3/15/92	1	1		93	N	J-890523512-20
1	3/15/92	2	1		94	Y	
1	3/15/92	3	1		93	N	
1	3/15/92	4	1		92	N	
1	3/15/92	5	1		89	N	
1	3/15/92	6	1		85	N	
1	3/15/92	7	1		79	N	
1	3/15/92	8	1		74	N	
1	3/15/92	9	1		74	N	
1	3/15/92	10	1		72	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/15/92	11	1		72	N	
1	3/15/92	12	1		72	N	
1	3/15/92	13	1		72	N	
1	3/15/92	14	1		72	N	
1	3/22/92	1	1		94	N	J 890423320 TC #15-16 O/S
1	3/22/92	2	1		95	Y	
1	3/22/92	3	1		94	N	
1	3/22/92	4	1		92	N	
1	3/22/92	5	1		89	N	
1	3/22/92	6	1		85	N	
1	3/22/92	7	1		79	N	
1	3/22/92	8	1		75	N	
1	3/22/92	9	1		74	N	
1	3/22/92	10	1		73	N	
1	3/22/92	11	1		73	N	
1	3/22/92	12	1		73	N	
1	3/22/92	14	1		72	N	
1	3/29/92	1	1		95	N	J 199 OMEGA
1	3/29/92	2	1		96	Y	
1	3/29/92	3	1		95	N	
1	3/29/92	4	1		94	N	
1	3/29/92	5	1		91	N	
1	3/29/92	6	1		86	N	
1	3/29/92	7	1		81	N	
1	3/29/92	8	1		77	N	
1	3/29/92	9	1		76	N	
1	3/29/92	10	1		74	N	
1	3/29/92	11	1		74	N	
1	3/29/92	12	1		74	N	
1	3/29/92	13	1		74	N	
1	3/29/92	14	1		74	N	
1	4/4/92	1	1		93	N	J 890423320-42
1	4/4/92	2	1		93.4	Y	
1	4/4/92	3	1		93.1	N	
1	4/4/92	4	1		91.4	N	
1	4/4/92	5	1		88.3	N	
1	4/4/92	6	1		84.1	N	
1	4/4/92	7	1		78	N	
1	4/4/92	8	1		74	N	
1	4/4/92	9	1		73	N	
1	4/4/92	10	1		71.6	N	
1	4/4/92	11	1		71.5	N	
1	4/4/92	12	1		71.6	N	
1	4/4/92	13	1		71.4	N	
1	4/4/92	14	1		71.4	N	
1	4/12/92	1	1		93.6	N	J 900925741-79
1	4/12/92	2	1		94	Y	
1	4/12/92	3	1		93.6	N	
1	4/12/92	4	1		92	N	
1	4/12/92	5	1		88.9	N	
1	4/12/92	6	1		84.9	N	
1	4/12/92	7	1		78.7	N	
1	4/12/92	8	1		74.8	N	
1	4/12/92	9	1		74	N	
1	4/12/92	10	1		72.4	N	
1	4/12/92	11	1		72.3	N	
1	4/12/92	12	1		72.2	N	
1	4/12/92	13	1		72.2	N	
1	4/12/92	14	1		72.1	N	
1	4/18/92	1	1		86.7	Y	J 890423320 42
1	4/18/92	2	1		87.1	N	
1	4/18/92	3	1		86.2	N	
1	4/18/92	4	1		84.9	N	
1	4/18/92	5	1		82	N	
1	4/18/92	6	1		78	N	
1	4/18/92	7	1		72.2	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/18/92	8	1		68.4	N	
1	4/18/92	9	1		67.5	N	
1	4/18/92	10	1		66.2	N	
1	4/18/92	11	1		65.9	N	
1	4/18/92	12	1		65.5	N	
1	4/18/92	13	1		65.4	N	
1	4/18/92	14	1		65.2	N	
1	4/25/92	1	1		94	Y	J 890423320 42
1	4/25/92	2	1		94	N	
1	4/25/92	3	1		94	N	
1	4/25/92	4	1		92	N	
1	4/25/92	5	1		89	N	
1	4/25/92	6	1		85	N	
1	4/25/92	7	1		80	N	
1	4/25/92	8	1		76	N	
1	4/25/92	9	1		75	N	
1	4/25/92	10	1		73	N	
1	4/25/92	11	1		73	N	
1	4/25/92	12	1		73	N	
1	4/25/92	13	1		73	N	
1	4/25/92	14	1		73	N	
1	4/30/92	1	1		93	N	J 900925741-79
1	4/30/92	2	1		93.3	Y	
1	4/30/92	3	1		92.9	N	
1	4/30/92	4	1		91.2	N	
1	4/30/92	5	1		88.1	N	
1	4/30/92	6	1		84.1	N	
1	4/30/92	7	1		78.3	N	
1	4/30/92	8	1		74.7	N	
1	4/30/92	9	1		73.7	N	
1	4/30/92	10	1		72.2	N	
1	4/30/92	11	1		72.2	N	
1	4/30/92	12	1		72.2	N	
1	4/30/92	13	1		72.1	N	
1	4/30/92	14	1		72	N	
1	5/8/92	1	1		89.6	N	J 890423320-42
1	5/8/92	2	1		89.8	Y	
1	5/8/92	3	1		89.5	N	
1	5/8/92	4	1		87.8	N	
1	5/8/92	5	1		84.9	N	
1	5/8/92	6	1		81	N	
1	5/8/92	7	1		75.4	N	
1	5/8/92	8	1		71.8	N	
1	5/8/92	9	1		70.9	N	
1	5/8/92	10	1		69.7	N	
1	5/8/92	11	1		69.5	N	
1	5/8/92	12	1		69.5	N	
1	5/8/92	13	1		69.4	N	
1	5/8/92	14	1		69.3	N	
1	5/16/92	1	1		89.7	N	J 890423320-42
1	5/16/92	2	1		89.9	Y	
1	5/16/92	3	1		89.5	N	
1	5/16/92	4	1		87.8	N	
1	5/16/92	5	1		84.9	N	
1	5/16/92	6	1		80.9	N	
1	5/16/92	7	1		75.6	N	
1	5/16/92	8	1		72.2	N	
1	5/16/92	9	1		71.3	N	
1	5/16/92	10	1		70.1	N	
1	5/16/92	11	1		70	N	
1	5/16/92	12	1		70.1	N	
1	5/16/92	13	1		70.1	N	
1	5/16/92	14	1		70	N	
1	5/20/92	1	1		94	Y	J 89042330-42
1	5/20/92	2	1		94	N	
1	5/20/92	3	1		94	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/20/92	4	1		92	N	
1	5/20/92	5	1		89	N	
1	5/20/92	6	1		85	N	
1	5/20/92	7	1		80	N	
1	5/20/92	8	1		76	N	
1	5/20/92	9	1		75	N	
1	5/20/92	10	1		74	N	
1	5/20/92	11	1		74	N	
1	5/20/92	12	1		74	N	
1	5/20/92	13	1		74	N	
1	5/20/92	14	1		74	N	
1	5/30/92	1	1		91.5	N	J 900925741-79
1	5/30/92	2	1		91.7	Y	
1	5/30/92	3	1		91.2	N	
1	5/30/92	4	1		89.4	N	
1	5/30/92	5	1		86.4	N	
1	5/30/92	6	1		82.5	N	
1	5/30/92	7	1		77.6	N	
1	5/30/92	8	1		74.3	N	
1	5/30/92	9	1		73.5	N	
1	5/30/92	10	1		72.4	N	
1	5/30/92	11	1		72.3	N	
1	5/30/92	12	1		72.5	N	
1	5/30/92	13	1		72.3	N	
1	5/30/92	14	1		72.3	N	
1	6/8/92	1	1		88.2	N	J 890423320-42
1	6/8/92	2	1		88.5	Y	
1	6/8/92	3	1		88	N	
1	6/8/92	4	1		86.3	N	
1	6/8/92	5	1		83.5	N	
1	6/8/92	6	1		79.7	N	
1	6/8/92	7	1		75	N	
1	6/8/92	8	1		72	N	
1	6/8/92	9	1		70.9	N	
1	6/8/92	10	1		70.1	N	
1	6/8/92	11	1		70	N	
1	6/8/92	12	1		70.2	N	
1	6/8/92	13	1		70.1	N	
1	6/8/92	14	1		70.2	N	
1	6/13/92	1	1		92.7	N	J 900925741-79
1	6/13/92	2	1		92.9	Y	
1	6/13/92	3	1		92.5	N	
1	6/13/92	4	1		90.7	N	
1	6/13/92	5	1		87.9	N	
1	6/13/92	6	1		84.3	N	
1	6/13/92	7	1		79.6	N	
1	6/13/92	8	1		76.5	N	
1	6/13/92	9	1		75.7	N	
1	6/13/92	10	1		74.8	N	
1	6/13/92	11	1		74.8	N	
1	6/13/92	12	1		74.8	N	
1	6/13/92	13	1		74.8	N	
1	6/13/92	14	1		74.7	N	
1	6/19/92	1	1		87.6	N	J 890423320-42 6-92
1	6/19/92	2	1		88	Y	
1	6/19/92	3	1		87.6	N	
1	6/19/92	4	1		85.9	N	
1	6/19/92	5	1		83.2	N	
1	6/19/92	6	1		79.6	N	
1	6/19/92	7	1		75.2	N	
1	6/19/92	8	1		72.2	N	
1	6/19/92	9	1		71.7	N	
1	6/19/92	10	1		70.8	N	
1	6/19/92	11	1		70.7	N	
1	6/19/92	12	1		70.9	N	
1	6/19/92	13	1		70.8	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/19/92	14	1		70.9	N	
1	6/29/92	1	1		91	N	J TK102-890423320-42
1	6/29/92	2	1		92	Y	
1	6/29/92	3	1		91	N	
1	6/29/92	4	1		90	N	
1	6/29/92	5	1		87	N	
1	6/29/92	6	1		84	N	
1	6/29/92	7	1		79	N	
1	6/29/92	8	1		76	N	
1	6/29/92	9	1		76	N	
1	6/29/92	10	1		75	N	
1	6/29/92	11	1		75	N	
1	6/29/92	12	1		75	N	
1	6/29/92	13	1		75	N	
1	6/29/92	14	1		75	N	
1	7/8/92	1	1		88	N	J 890523512-47
1	7/8/92	2	1		88.1	Y	
1	7/8/92	3	1		87.9	N	
1	7/8/92	4	1		86	N	
1	7/8/92	5	1		83.4	N	
1	7/8/92	6	1		80.1	N	
1	7/8/92	7	1		76.2	N	
1	7/8/92	8	1		73.7	N	
1	7/8/92	9	1		73	N	
1	7/8/92	10	1		72.3	N	
1	7/8/92	11	1		72.3	N	
1	7/8/92	12	1		72.3	N	
1	7/8/92	13	1		72.3	N	
1	7/8/92	14	1		72.3	N	
1	7/16/92	1	1		87.9	N	J 890523512-42
1	7/16/92	2	1		88	Y	
1	7/16/92	3	1		87.8	N	
1	7/16/92	4	1		86	N	
1	7/16/92	5	1		83.5	N	
1	7/16/92	6	1		80.2	N	
1	7/16/92	7	1		76.6	N	
1	7/16/92	8	1		74.1	N	
1	7/16/92	9	1		73.4	N	
1	7/16/92	10	1		72.7	N	
1	7/16/92	11	1		72.6	N	
1	7/16/92	12	1		72.8	N	
1	7/16/92	13	1		72.7	N	
1	7/16/92	14	1		72.7	N	
1	7/24/92	1	1		87.8	N	J 890523512-47
1	7/24/92	2	1		88	Y	
1	7/24/92	3	1		87.7	N	
1	7/24/92	4	1		86.1	N	
1	7/24/92	5	1		83.7	N	
1	7/24/92	6	1		80.6	N	
1	7/24/92	7	1		77.1	N	
1	7/24/92	8	1		74.6	N	
1	7/24/92	9	1		74	N	
1	7/24/92	10	1		73.2	N	
1	7/24/92	11	1		73.2	N	
1	7/24/92	12	1		73.2	N	
1	7/24/92	13	1		73.2	N	
1	7/24/92	14	1		73.2	N	
1	7/30/92	1	1		86.1	N	J 890523512-47
1	7/30/92	2	1		86	N	
1	7/30/92	3	1		85.8	Y	
1	7/30/92	4	1		85.8	N	
1	7/30/92	5	1		85.5	N	
1	7/30/92	6	1		84.7	N	
1	7/30/92	7	1		81.2	N	
1	7/30/92	8	1		83.7	N	
1	7/30/92	9	1		77.6	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111 THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/30/92	10	1		74.4	N	
1	7/30/92	11	1		71.8	N	
1	7/30/92	12	1		70.1	N	
1	7/30/92	13	1		69.6	N	
1	7/30/92	14	1		69.5	N	
1	8/6/92	1	1		90.8	N	J 890523512-47
1	8/6/92	2	1		91.2	Y	
1	8/6/92	3	1		90.8	N	
1	8/6/92	4	1		89.4	N	
1	8/6/92	5	1		87.2	N	
1	8/6/92	6	1		84.4	N	
1	8/6/92	7	1		80.8	N	
1	8/6/92	8	1		78.6	N	
1	8/6/92	9	1		77.9	N	
1	8/6/92	10	1		77.4	N	
1	8/6/92	11	1		77.3	N	
1	8/6/92	12	1		77.3	N	
1	8/6/92	13	1		77.4	N	
1	8/6/92	14	1		77.4	N	
1	8/16/92	1	1		89.8	N	J 910126143-29
1	8/16/92	2	1		90.1	Y	
1	8/16/92	3	1		89.7	N	
1	8/16/92	4	1		88.3	N	
1	8/16/92	5	1		86.1	N	
1	8/16/92	6	1		83.2	N	
1	8/16/92	7	1		80	N	
1	8/16/92	8	1		77.9	N	
1	8/16/92	9	1		77.2	N	
1	8/16/92	10	1		76.6	N	
1	8/16/92	11	1		76.5	N	
1	8/16/92	12	1		76.7	N	
1	8/16/92	13	1		76.6	N	
1	8/16/92	14	1		76.7	N	
1	8/21/92	1	1		90.5	N	J 890523512-47
1	8/21/92	2	1		90.8	Y	
1	8/21/92	3	1		90.5	N	
1	8/21/92	4	1		89.3	N	
1	8/21/92	5	1		87.2	N	
1	8/21/92	6	1		84.6	N	
1	8/21/92	7	1		81.5	N	
1	8/21/92	8	1		79.2	N	
1	8/21/92	9	1		78.4	N	
1	8/21/92	10	1		78	N	
1	8/21/92	11	1		77.9	N	
1	8/21/92	12	1		79	N	
1	8/21/92	13	1		78	N	
1	8/21/92	14	1		78	N	
1	9/3/92	1	1		90.8	N	J 890523512-47
1	9/3/92	2	1		91.2	Y	
1	9/3/92	3	1		91	N	
1	9/3/92	4	1		89.7	N	
1	9/3/92	5	1		87.7	N	
1	9/3/92	6	1		85	N	
1	9/3/92	7	1		82.1	N	
1	9/3/92	8	1		80	N	
1	9/3/92	9	1		79.3	N	
1	9/3/92	10	1		78.7	N	
1	9/3/92	11	1		78.7	N	
1	9/3/92	12	1		78.9	N	
1	9/3/92	13	1		78.8	N	
1	9/3/92	14	1		78.8	N	
1	9/9/92	1	1		93	Y	J 910126143-29
1	9/9/92	2	1		93	N	
1	9/9/92	3	1		93	N	
1	9/9/92	4	1		92	N	
1	9/9/92	5	1		90	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/9/92	6	1		87	N	
1	9/9/92	7	1		85	N	
1	9/9/92	8	1		82	N	
1	9/9/92	9	1		82	N	
1	9/9/92	10	1		81	N	
1	9/9/92	11	1		81	N	
1	9/9/92	12	1		81	N	
1	9/9/92	13	1		81	N	
1	9/9/92	14	1		81	N	
1	9/18/92	1	1		91.1	N	J 890523512-47
1	9/18/92	2	1		91.4	Y	
1	9/18/92	3	1		91.3	N	
1	9/18/92	4	1		90.1	N	
1	9/18/92	5	1		88.1	N	
1	9/18/92	6	1		85.7	N	
1	9/18/92	7	1		82.7	N	
1	9/18/92	8	1		80.1	N	
1	9/18/92	9	1		79.9	N	
1	9/18/92	10	1		79.3	N	
1	9/18/92	11	1		79.2	N	
1	9/18/92	12	1		79.3	N	
1	9/18/92	13	1		79.1	N	
1	9/18/92	14	1		79.1	N	
1	9/25/92	1	1		90.7	N	J 910126143-42
1	9/25/92	2	1		91	Y	
1	9/25/92	3	1		90.8	N	
1	9/25/92	4	1		89.7	N	
1	9/25/92	5	1		87.9	N	
1	9/25/92	6	1		85.3	N	
1	9/25/92	7	1		82.2	N	
1	9/25/92	8	1		79.5	N	
1	9/25/92	9	1		79.3	N	
1	9/25/92	10	1		78.7	N	
1	9/25/92	11	1		78.7	N	
1	9/25/92	12	1		78.8	N	
1	9/25/92	13	1		78.7	N	
1	9/25/92	14	1		78.6	N	
1	10/1/92	1	1		90.6	N	J 890523512-47
1	10/1/92	2	1		90.9	Y	
1	10/1/92	3	1		90.9	N	
1	10/1/92	4	1		89.8	N	
1	10/1/92	5	1		87.9	N	
1	10/1/92	6	1		85.5	N	
1	10/1/92	7	1		82.4	N	
1	10/1/92	8	1		79.6	N	
1	10/1/92	9	1		79.5	N	
1	10/1/92	10	1		79	N	
1	10/1/92	11	1		78.8	N	
1	10/1/92	12	1		79.1	N	
1	10/1/92	13	1		78.9	N	
1	10/1/92	14	1		78.9	N	
1	10/8/92	1	1		94	Y	J 890523512-47
1	10/8/92	2	1		94	N	
1	10/8/92	3	1		94	N	
1	10/8/92	4	1		93	N	
1	10/8/92	5	1		92	N	
1	10/8/92	6	1		87.2	N	
1	10/8/92	7	1		86	N	
1	10/8/92	8	1		83	N	
1	10/8/92	9	1		83	N	
1	10/8/92	10	1		82	N	
1	10/8/92	11	1		82	N	
1	10/8/92	12	1		82	N	
1	10/8/92	13	1		82	N	
1	10/8/92	14	1		82	N	
1	10/15/92	1	1		90.8	N	J 910126143-50

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/15/92	2	1		91.4	Y	
1	10/15/92	3	1		91.3	N	
1	10/15/92	4	1		90.3	N	
1	10/15/92	5	1		88.5	N	
1	10/15/92	6	1		86	N	
1	10/15/92	7	1		82.5	N	
1	10/15/92	8	1		79.6	N	
1	10/15/92	9	1		79.4	N	
1	10/15/92	10	1		78.8	N	
1	10/15/92	11	1		78.8	N	
1	10/15/92	12	1		78.9	N	
1	10/15/92	13	1		78.7	N	
1	10/15/92	14	1		78.6	N	
1	10/22/92	1	1		91	N	J 890523512-47
1	10/22/92	2	1		91.4	Y	
1	10/22/92	3	1		91.4	N	
1	10/22/92	4	1		90.4	N	
1	10/22/92	5	1		88.6	N	
1	10/22/92	6	1		86.1	N	
1	10/22/92	7	1		82.3	N	
1	10/22/92	8	1		79.6	N	
1	10/22/92	9	1		79.4	N	
1	10/22/92	10	1		78.7	N	
1	10/22/92	11	1		78.6	N	
1	10/22/92	12	1		78.7	N	
1	10/22/92	13	1		78.6	N	
1	10/22/92	14	1		78.5	N	
1	10/30/92	1	1		90.9	N	J 910126143-50
1	10/30/92	2	1		91.4	Y	
1	10/30/92	3	1		91.3	N	
1	10/30/92	4	1		90.5	N	
1	10/30/92	5	1		88.7	N	
1	10/30/92	6	1		86	N	
1	10/30/92	7	1		82	N	
1	10/30/92	8	1		79.1	N	
1	10/30/92	9	1		78.9	N	
1	10/30/92	10	1		78	N	
1	10/30/92	11	1		77.9	N	
1	10/30/92	12	1		78.1	N	
1	10/30/92	13	1		77.9	N	
1	10/30/92	14	1		77.8	N	
1	11/7/92	1	1		91.5	N	J 817-13-20-019293
1	11/7/92	2	1		91.8	N	
1	11/7/92	3	1		92	Y	
1	11/7/92	4	1		91.1	N	
1	11/7/92	5	1		89.4	N	
1	11/7/92	6	1		86.8	N	
1	11/7/92	7	1		82.5	N	
1	11/7/92	8	1		79.6	N	
1	11/7/92	9	1		79	N	
1	11/7/92	10	1		78	N	
1	11/7/92	11	1		77.9	N	
1	11/7/92	12	1		78	N	
1	11/7/92	13	1		77.9	N	
1	11/7/92	14	1		77.8	N	
1	11/13/92	1	1		92.2	N	J 910126143-50
1	11/13/92	2	1		92.6	N	
1	11/13/92	3	1		92.8	Y	
1	11/13/92	4	1		92.1	N	
1	11/13/92	5	1		90.3	N	
1	11/13/92	6	1		87.8	N	
1	11/13/92	7	1		83.3	N	
1	11/13/92	8	1		80.1	N	
1	11/13/92	9	1		79.7	N	
1	11/13/92	10	1		78.4	N	
1	11/13/92	11	1		78.3	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/13/92	12	1		78.2	N	
1	11/13/92	13	1		78.2	N	
1	11/13/92	14	1		78.3	N	
1	11/19/92	1	1		92.9	N	J 817-13-20-019
1	11/19/92	2	1		93.1	N	
1	11/19/92	3	1		93.3	Y	
1	11/19/92	4	1		92.4	N	
1	11/19/92	5	1		90.7	N	
1	11/19/92	6	1		88.1	N	
1	11/19/92	7	1		83.5	N	
1	11/19/92	8	1		80	N	
1	11/19/92	9	1		79.8	N	
1	11/19/92	10	1		78.6	N	
1	11/19/92	11	1		78.5	N	
1	11/19/92	12	1		78.4	N	
1	11/19/92	13	1		78.2	N	
1	11/19/92	14	1		78	N	
1	11/25/92	1	1		92.6	N	J 910126143-50
1	11/25/92	2	1		92.7	N	
1	11/25/92	3	1		93.1	Y	
1	11/25/92	4	1		92.2	N	
1	11/25/92	5	1		90.4	N	
1	11/25/92	6	1		87.7	N	
1	11/25/92	7	1		82.8	N	
1	11/25/92	8	1		79.5	N	
1	11/25/92	9	1		79	N	
1	11/25/92	10	1		77.8	N	
1	11/25/92	11	1		77.8	N	
1	11/25/92	12	1		77.8	N	
1	11/25/92	13	1		77.7	N	
1	11/25/92	14	1		77.5	N	
1	12/3/92	1	1		92.2	N	J 910126143-32
1	12/3/92	2	1		92.8	N	
1	12/3/92	3	1		92.9	Y	
1	12/3/92	4	1		92	N	
1	12/3/92	5	1		90.1	N	
1	12/3/92	6	1		86.8	N	
1	12/3/92	7	1		82.2	N	
1	12/3/92	8	1		78.7	N	
1	12/3/92	9	1		78	N	
1	12/3/92	10	1		76.7	N	
1	12/3/92	11	1		76.6	N	
1	12/3/92	12	1		76.7	N	
1	12/3/92	13	1		76.5	N	
1	12/3/92	14	1		76.4	N	
1	12/11/92	1	1		93.1	N	J 910126143-32
1	12/11/92	2	1		93.6	N	
1	12/11/92	3	1		93.7	Y	
1	12/11/92	4	1		92.8	N	
1	12/11/92	5	1		90.9	N	
1	12/11/92	6	1		87.9	N	
1	12/11/92	7	1		82.5	N	
1	12/11/92	8	1		78.6	N	
1	12/11/92	9	1		78.4	N	
1	12/11/92	10	1		77	N	
1	12/11/92	11	1		76.8	N	
1	12/11/92	12	1		76.8	N	
1	12/11/92	13	1		76.6	N	
1	12/11/92	14	1		76.5	N	
1	12/17/92	1	1		93.4	N	J 91012614332
1	12/17/92	2	1		93.8	N	
1	12/17/92	3	1		93.9	Y	
1	12/17/92	4	1		93	N	
1	12/17/92	5	1		91.1	N	
1	12/17/92	7	1		82.2	N	
1	12/17/92	8	1		78	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/17/92	9	1		77.9	N	
1	12/17/92	10	1		76.6	N	
1	12/17/92	11	1		76.5	N	
1	12/17/92	12	1		76.6	N	
1	12/17/92	13	1		76.4	N	
1	12/17/92	14	1		76.2	N	
1	12/28/92	1	1		96	N	J 910126143-32
1	12/28/92	2	1		96.3	N	
1	12/28/92	3	1		96.4	Y	
1	12/28/92	4	1		95.6	N	
1	12/28/92	5	1		93.5	N	
1	12/28/92	6	1		90	N	
1	12/28/92	7	1		83.8	N	
1	12/28/92	8	1		79.6	N	
1	12/28/92	9	1		79.4	N	
1	12/28/92	10	1		78	N	
1	12/28/92	11	1		77.9	N	
1	12/28/92	12	1		77.9	N	
1	12/28/92	13	1		77.7	N	
1	12/28/92	14	1		77.6	N	
1	12/30/92	1	1		93.8	N	J 91012614332
1	12/30/92	2	1		94.2	N	
1	12/30/92	3	1		94.3	N	
1	12/30/92	4	1		94.5	Y	
1	12/30/92	5	1		91.5	N	
1	12/30/92	6	1		88	N	
1	12/30/92	7	1		81.6	N	
1	12/30/92	8	1		77.4	N	
1	12/30/92	9	1		77.1	N	
1	12/30/92	10	1		75.8	N	
1	12/30/92	11	1		75.8	N	
1	12/30/92	12	1		75.6	N	
1	12/30/92	13	1		75.5	N	
1	12/30/92	14	1		75.4	N	
1	1/7/93	1	1		93.5	N	J 910126143-29
1	1/7/93	2	1		93.8	Y	
1	1/7/93	3	1		93.8	N	
1	1/7/93	4	1		92.8	N	
1	1/7/93	5	1		90.7	N	
1	1/7/93	7	1		80.3	N	
1	1/7/93	8	1		76.1	N	
1	1/7/93	9	1		75.6	N	
1	1/7/93	10	1		74.4	N	
1	1/7/93	11	1		74.3	N	
1	1/7/93	12	1		74.3	N	
1	1/7/93	13	1		74.1	N	
1	1/7/93	14	1		73.9	N	
1	1/16/93	1	1		94.2	N	J 910126143-32
1	1/16/93	2	1		94.6	N	
1	1/16/93	3	1		94.7	Y	
1	1/16/93	4	1		93.7	N	
1	1/16/93	5	1		91.4	N	
1	1/16/93	6	1		87.6	N	
1	1/16/93	7	1		80.8	N	
1	1/16/93	8	1		76.5	N	
1	1/16/93	9	1		75.8	N	
1	1/16/93	10	1		74.4	N	
1	1/16/93	11	1		74.3	N	
1	1/16/93	12	1		74.2	N	
1	1/16/93	13	1		74.1	N	
1	1/16/93	14	1		74	N	
1	1/23/93	1	1		93.3	N	J 91012614329
1	1/23/93	2	1		93.3	N	
1	1/23/93	3	1		93.7	N	
1	1/23/93	4	1		92.8	N	
1	1/23/93	5	1		90.4	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111 THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/23/93	6	1		96.4	Y	
1	1/23/93	7	1		79.6	N	
1	1/23/93	8	1		75.2	N	
1	1/23/93	9	1		74.4	N	
1	1/23/93	10	1		72.7	N	
1	1/23/93	11	1		72.6	N	
1	1/23/93	12	1		72.5	N	
1	1/23/93	13	1		72.5	N	
1	1/23/93	14	1		72.3	N	
1	1/29/93	1	1		92.7	N	J 910126143-29
1	1/29/93	2	1		93	N	
1	1/29/93	3	1		93.1	Y	
1	1/29/93	4	1		91.9	N	
1	1/29/93	5	1		89.5	N	
1	1/29/93	6	1		85.6	N	
1	1/29/93	7	1		78.6	N	
1	1/29/93	8	1		74.3	N	
1	1/29/93	9	1		73.4	N	
1	1/29/93	10	1		71.7	N	
1	1/29/93	11	1		71.7	N	
1	1/29/93	12	1		71.5	N	
1	1/29/93	13	1		71.5	N	
1	1/29/93	14	1		71.4	N	
1	2/5/93	1	1		92.9	N	J 910126143-32
1	2/5/93	2	1		93.4	Y	
1	2/5/93	3	1		93.4	N	
1	2/5/93	4	1		92.2	N	
1	2/5/93	5	1		89.6	N	
1	2/5/93	7	1		78.6	N	
1	2/5/93	8	1		74.3	N	
1	2/5/93	9	1		73.4	N	
1	2/5/93	10	1		71.5	N	
1	2/5/93	11	1		71.5	N	
1	2/5/93	12	1		71.4	N	
1	2/5/93	13	1		71.4	N	
1	2/5/93	14	1		71.3	N	
1	2/13/93	1	1		91.6	N	J 91026143-42
1	2/13/93	2	1		92	Y	
1	2/13/93	3	1		91.9	N	
1	2/13/93	4	1		90.5	N	
1	2/13/93	5	1		87.9	N	
1	2/13/93	7	1		76.8	N	
1	2/13/93	8	1		72.6	N	
1	2/13/93	9	1		71.5	N	
1	2/13/93	10	1		69.6	N	
1	2/13/93	11	1		69.5	N	
1	2/13/93	12	1		69.4	N	
1	2/13/93	13	1		69.4	N	
1	2/13/93	14	1		69.2	N	
1	2/18/93	1	1		92.5	N	J 910126143-29
1	2/18/93	2	1		92.6	N	
1	2/18/93	3	1		92.8	Y	
1	2/18/93	4	1		91.7	N	
1	2/18/93	5	1		89.1	N	
1	2/18/93	6	1		84.8	N	
1	2/18/93	7	1		77.9	N	
1	2/18/93	8	1		73.4	N	
1	2/18/93	9	1		72.3	N	
1	2/18/93	10	1		70.4	N	
1	2/18/93	11	1		70.2	N	
1	2/18/93	12	1		70.1	N	
1	2/18/93	13	1		70	N	
1	2/18/93	14	1		69.9	N	
1	2/25/93	1	1		93.4	N	J 817-13-55-008
1	2/25/93	2	1		93.8	Y	
1	2/25/93	3	1		93.7	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/25/93	4	1		92.3	N	
1	2/25/93	5	1		89.5	N	
1	2/25/93	6	1		85.3	N	
1	2/25/93	7	1		78.1	N	
1	2/25/93	8	1		73.3	N	
1	2/25/93	9	1		73	N	
1	2/25/93	10	1		71.4	N	
1	2/25/93	11	1		71.4	N	
1	2/25/93	12	1		71.2	N	
1	2/25/93	13	1		71.1	N	
1	2/25/93	14	1		71	N	
1	3/4/93	1	1		92.5	N	J 910126143-66
1	3/4/93	2	1		92.9	Y	
1	3/4/93	3	1		92.8	N	
1	3/4/93	4	1		91.4	N	
1	3/4/93	5	1		88.5	N	
1	3/4/93	6	1		84.3	N	
1	3/4/93	7	1		77	N	
1	3/4/93	8	1		72.1	N	
1	3/4/93	9	1		71.3	N	
1	3/4/93	10	1		70	N	
1	3/4/93	11	1		70	N	
1	3/4/93	12	1		69.9	N	
1	3/4/93	13	1		69.8	N	
1	3/4/93	14	1		69.8	N	
1	3/11/93	1	1		92	N	J 910126143-66
1	3/11/93	2	1		92.5	Y	
1	3/11/93	3	1		92.3	N	
1	3/11/93	4	1		90.9	N	
1	3/11/93	5	1		88	N	
1	3/11/93	6	1		83.6	N	
1	3/11/93	7	1		76.4	N	
1	3/11/93	8	1		71.6	N	
1	3/11/93	9	1		70.8	N	
1	3/11/93	10	1		69.3	N	
1	3/11/93	11	1		69.2	N	
1	3/11/93	12	1		69.1	N	
1	3/11/93	13	1		69	N	
1	3/11/93	14	1		68.9	N	
1	3/19/93	1	1		93	Y	J 910126143-66
1	3/19/93	2	1		93	N	
1	3/19/93	3	1		93	N	
1	3/19/93	4	1		91	N	
1	3/19/93	5	1		88	N	
1	3/19/93	6	1		84	N	
1	3/19/93	7	1		77	N	
1	3/19/93	8	1		72	N	
1	3/19/93	9	1		71	N	
1	3/19/93	10	1		70	N	
1	3/19/93	11	1		70	N	
1	3/19/93	13	1		70	N	
1	3/19/93	14	1		70	N	
1	3/27/93	1	1		90	Y	J 91612614360
1	3/27/93	2	1		89.1	N	
1	3/27/93	3	1		89.7	N	
1	3/27/93	4	1		88	N	
1	3/27/93	5	1		85.5	N	
1	3/27/93	6	1		80.6	N	
1	3/27/93	7	1		73.4	N	
1	3/27/93	8	1		68.9	N	
1	3/27/93	9	1		68.3	N	
1	3/27/93	10	1		67.2	N	
1	3/27/93	11	1		66.9	N	
1	3/27/93	12	1		66.9	N	
1	3/27/93	13	1		66.9	N	
1	3/27/93	14	1		66.9	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/1/93	1	1		89.5	N	J 8904-23320-42
1	4/1/93	2	1		89.7	Y	
1	4/1/93	3	1		89.5	N	
1	4/1/93	4	1		87.9	N	
1	4/1/93	5	1		87.8	N	
1	4/1/93	6	1		80.3	N	
1	4/1/93	7	1		73.3	N	
1	4/1/93	8	1		68.5	N	
1	4/1/93	9	1		67.9	N	
1	4/1/93	10	1		66.4	N	
1	4/1/93	11	1		66.3	N	
1	4/1/93	12	1		66.2	N	
1	4/1/93	13	1		66.2	N	
1	4/1/93	14	1		66.2	N	
1	4/8/93	1	1		90.6	N	J 0126143-14
1	4/8/93	2	1		90.9	Y	
1	4/8/93	3	1		90.6	N	
1	4/8/93	4	1		88.9	N	
1	4/8/93	5	1		85.9	N	
1	4/8/93	6	1		81.4	N	
1	4/8/93	7	1		74.5	N	
1	4/8/93	8	1		69.9	N	
1	4/8/93	9	1		69.2	N	
1	4/8/93	10	1		67.7	N	
1	4/8/93	11	1		67.6	N	
1	4/8/93	12	1		67.6	N	
1	4/8/93	13	1		67.5	N	
1	4/8/93	14	1		67.5	N	
1	4/15/93	1	1		93	Y	J 910126143-66
1	4/15/93	2	1		93	N	
1	4/15/93	3	1		93	N	
1	4/15/93	4	1		91	N	
1	4/15/93	5	1		88	N	
1	4/15/93	7	1		76	N	
1	4/15/93	8	1		72	N	
1	4/15/93	9	1		71	N	
1	4/15/93	10	1		70	N	
1	4/15/93	11	1		69	N	
1	4/15/93	12	1		69	N	
1	4/15/93	13	1		69	N	
1	4/15/93	14	1		69	N	
1	4/21/93	1	1		91.2	N	J 910126143-66
1	4/21/93	2	1		91.5	Y	
1	4/21/93	3	1		91	N	
1	4/21/93	4	1		89.2	N	
1	4/21/93	5	1		86	N	
1	4/21/93	6	1		81.6	N	
1	4/21/93	7	1		74.9	N	
1	4/21/93	8	1		70.6	N	
1	4/21/93	9	1		69.8	N	
1	4/21/93	10	1		68.4	N	
1	4/21/93	11	1		68.3	N	
1	4/21/93	12	1		68.3	N	
1	4/21/93	13	1		68.3	N	
1	4/21/93	14	1		68.2	N	
1	4/23/93	1	1		92	N	J 910126143-66
1	4/23/93	2	1		92.3	Y	
1	4/23/93	3	1		91.9	N	
1	4/23/93	4	1		90.1	N	
1	4/23/93	5	1		87	N	
1	4/23/93	6	1		82.5	N	
1	4/23/93	7	1		75.8	N	
1	4/23/93	8	1		71.6	N	
1	4/23/93	9	1		70.7	N	
1	4/23/93	10	1		69.2	N	
1	4/23/93	11	1		69.2	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/23/93	12	1		69	N	
1	4/23/93	13	1		69	N	
1	4/23/93	14	1		68.9	N	
1	4/29/93	1	1		91.9	Y	J 910126143-66
1	4/29/93	2	1		92.1	N	
1	4/29/93	3	1		91.8	N	
1	4/29/93	4	1		89.8	N	
1	4/29/93	5	1		86.6	N	
1	4/29/93	6	1		82.1	N	
1	4/29/93	7	1		75.7	N	
1	4/29/93	8	1		71.6	N	
1	4/29/93	9	1		70.8	N	
1	4/29/93	10	1		69.3	N	
1	4/29/93	11	1		69.2	N	
1	4/29/93	12	1		69.2	N	
1	4/29/93	13	1		69.1	N	
1	4/29/93	14	1		69	N	
1	5/6/93	1	1		91.6	N	J TI-042 TC 6 O/S
1	5/6/93	2	1		91.8	Y	
1	5/6/93	3	1		91.4	N	
1	5/6/93	4	1		89.5	N	
1	5/6/93	5	1		86.6	N	
1	5/6/93	7	1		75.5	N	
1	5/6/93	8	1		71.6	N	
1	5/6/93	9	1		70.6	N	
1	5/6/93	10	1		69.2	N	
1	5/6/93	11	1		69.1	N	
1	5/6/93	12	1		69	N	
1	5/6/93	13	1		69	N	
1	5/6/93	14	1		68.9	N	
1	5/13/93	1	1		92	Y	OMEGA 15436
1	5/13/93	2	1		92	N	
1	5/13/93	3	1		92	N	
1	5/13/93	4	1		90	N	
1	5/13/93	6	1		82	N	
1	5/13/93	7	1		76	N	
1	5/13/93	8	1		72	N	
1	5/13/93	9	1		71	N	
1	5/13/93	10	1		70	N	
1	5/13/93	11	1		70	N	
1	5/13/93	12	1		70	N	
1	5/13/93	13	1		70	N	
1	5/13/93	14	1		70	N	
1	5/20/93	1	1		90.7	N	J 910126143-66 TC 5 OS
1	5/20/93	2	1		90.9	Y	
1	5/20/93	3	1		90.5	N	
1	5/20/93	4	1		88.5	N	
1	5/20/93	6	1		81	N	
1	5/20/93	7	1		75.1	N	
1	5/20/93	8	1		71.4	N	
1	5/20/93	9	1		70.5	N	
1	5/20/93	10	1		69.3	N	
1	5/20/93	11	1		69.2	N	
1	5/20/93	12	1		69.3	N	
1	5/20/93	13	1		69.2	N	
1	5/20/93	14	1		69.2	N	
1	5/27/93	1	1		88.7	N	J 890432320-42 TC 5 O/S
1	5/27/93	2	1		88.9	Y	
1	5/27/93	3	1		88.4	N	
1	5/27/93	4	1		86.5	N	
1	5/27/93	6	1		79	N	
1	5/27/93	7	1		73.3	N	
1	5/27/93	8	1		69.7	N	
1	5/27/93	9	1		69	N	
1	5/27/93	10	1		67.9	N	
1	5/27/93	11	1		67.8	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/27/93	12	1		67.9	N	
1	5/27/93	13	1		67.8	N	
1	5/27/93	14	1		67.8	N	
1	6/3/93	1	1		91	Y	J 817-13-20-019
1	6/3/93	2	1		91	N	
1	6/3/93	3	1		91	N	
1	6/3/93	4	1		89	N	
1	6/3/93	5	1		86	N	
1	6/3/93	6	1		78	N	
1	6/3/93	7	1		76	N	
1	6/3/93	8	1		73	N	
1	6/3/93	9	1		72	N	
1	6/3/93	10	1		71	N	
1	6/3/93	11	1		71	N	
1	6/3/93	12	1		71	N	
1	6/3/93	13	1		71	N	
1	6/3/93	14	1		71	N	
1	6/10/93	1	1		90.8	N	J 910126143-32
1	6/10/93	2	1		91	Y	
1	6/10/93	3	1		90.5	N	
1	6/10/93	4	1		85.8	N	
1	6/10/93	5	1		63.6	N	
1	6/10/93	6	1		81.1	N	
1	6/10/93	7	1		75.8	N	
1	6/10/93	8	1		72.4	N	
1	6/10/93	9	1		71.5	N	
1	6/10/93	10	1		70.6	N	
1	6/10/93	11	1		70.5	N	
1	6/10/93	12	1		70.6	N	
1	6/10/93	13	1		70.5	N	
1	6/10/93	14	1		70.5	N	
1	6/18/93	1	1		90.1	N	J
1	6/18/93	2	1		90.3	N	
1	6/18/93	3	1		89.8	N	
1	6/18/93	4	1		87.8	N	
1	6/18/93	5	1		84.6	N	
1	6/18/93	6	1		80.5	N	
1	6/18/93	7	1		75.6	N	
1	6/18/93	8	1		72.1	N	
1	6/18/93	9	1		72.5	N	
1	6/18/93	10	1		70.6	N	
1	6/18/93	11	1		70.5	N	
1	6/18/93	12	1		70.7	N	
1	6/18/93	13	1		70.6	N	
1	6/18/93	14	1		70.6	N	
1	6/27/93	1	1		91.2	N	J 910126143-32 TC 5 O/S
1	6/27/93	2	1		91.4	Y	
1	6/27/93	3	1		90.8	N	
1	6/27/93	4	1		88.8	N	
1	6/27/93	6	1		82	N	
1	6/27/93	7	1		77.1	N	
1	6/27/93	8	1		73.8	N	
1	6/27/93	9	1		73.1	N	
1	6/27/93	10	1		72.3	N	
1	6/27/93	11	1		72.2	N	
1	6/27/93	12	1		72.3	N	
1	6/27/93	13	1		72.3	N	
1	6/27/93	14	1		72.3	N	
1	7/1/93	1	1		88.7	N	j 890423320-42 TC 51516 O/S
1	7/1/93	2	1		88.9	Y	
1	7/1/93	3	1		88.4	N	
1	7/1/93	4	1		86.6	N	
1	7/1/93	6	1		80	N	
1	7/1/93	7	1		75.3	N	
1	7/1/93	8	1		72.2	N	
1	7/1/93	9	1		71.6	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/1/93	10	1		70.7	N	
1	7/1/93	11	1		70.6	N	
1	7/1/93	12	1		70.7	N	
1	7/1/93	13	1		70.7	N	
1	7/1/93	14	1		70.7	N	
1	7/8/93	1	1		88.5	N	J 890423320-42 TC 56 O/S
1	7/8/93	2	1		88.7	Y	
1	7/8/93	3	1		88.2	N	
1	7/8/93	4	1		86.3	N	
1	7/8/93	7	1		75.3	N	
1	7/8/93	8	1		72.3	N	
1	7/8/93	9	1		71.7	N	
1	7/8/93	10	1		70.9	N	
1	7/8/93	11	1		70.9	N	
1	7/8/93	12	1		71.1	N	
1	7/8/93	13	1		71.1	N	
1	7/8/93	14	1		71.1	N	
1	7/16/93	1	1		88.4	N	TYPE J 890423320-42
1	7/16/93	2	1		88.6	Y	
1	7/16/93	3	1		88.1	N	
1	7/16/93	4	1		86.2	N	
1	7/16/93	5	1		83.5	N	
1	7/16/93	6	1		80	N	
1	7/16/93	7	1		75.7	N	
1	7/16/93	8	1		72.7	N	
1	7/16/93	9	1		72.1	N	
1	7/16/93	10	1		71.5	N	
1	7/16/93	11	1		71.5	N	
1	7/16/93	12	1		71.6	N	
1	7/16/93	13	1		71.5	N	
1	7/16/93	14	1		71.6	N	
1	7/22/93	1	1		89.4	N	J 0126143-14 TC-56 O/S
1	7/22/93	2	1		89.6	Y	
1	7/22/93	3	1		89.1	N	
1	7/22/93	4	1		87.4	N	
1	7/22/93	7	1		77.1	N	
1	7/22/93	8	1		74.3	N	
1	7/22/93	9	1		73.4	N	
1	7/22/93	10	1		72.8	N	
1	7/22/93	11	1		72.8	N	
1	7/22/93	12	1		72.9	N	
1	7/22/93	13	1		72.9	N	
1	7/22/93	14	1		73	N	
1	7/29/93	1	1		89.8	N	J 910126143-14 TC# 12 & 16 O/S
1	7/29/93	2	1		90	Y	
1	7/29/93	3	1		89.6	N	
1	7/29/93	4	1		87.9	N	
1	7/29/93	7	1		78	N	
1	7/29/93	8	1		75.3	N	
1	7/29/93	9	1		74.4	N	
1	7/29/93	10	1		73.8	N	
1	7/29/93	11	1		73.8	N	
1	7/29/93	12	1		73.8	N	
1	7/29/93	13	1		73.8	N	
1	7/29/93	14	1		73.8	N	
1	8/5/93	1	1		88.1	N	J 890423320-42
1	8/5/93	2	1		88.4	Y	
1	8/5/93	3	1		88	N	
1	8/5/93	4	1		86.3	N	
1	8/5/93	5	1		83.7	N	
1	8/5/93	6	1		80.4	N	
1	8/5/93	7	1		76.8	N	
1	8/5/93	8	1		74	N	
1	8/5/93	9	1		73.2	N	
1	8/5/93	10	1		72.6	N	
1	8/5/93	11	1		72.5	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	8/5/93	12	1		72.7	N	
1	8/5/93	13	1		72.6	N	
1	8/5/93	14	1		72.7	N	
1	8/19/93	1	1		91.2	N	J 910126143-66
1	8/19/93	2	1		91.5	Y	
1	8/19/93	3	1		91	N	
1	8/19/93	4	1		89.3	N	
1	8/19/93	5	1		86.7	N	
1	8/19/93	6	1		83.7	N	
1	8/19/93	7	1		80.2	N	
1	8/19/93	8	1		77.7	N	
1	8/19/93	9	1		76.6	N	
1	8/19/93	10	1		76	N	
1	8/19/93	11	1		75.9	N	
1	8/19/93	12	1		76.2	N	
1	8/19/93	13	1		76.1	N	
1	8/19/93	14	1		76.2	N	
1	8/27/93	1	1		92.3	N	J 910126143-66 TC 5&6 O/S
1	8/27/93	2	1		92.5	Y	
1	8/27/93	3	1		92.1	N	
1	8/27/93	4	1		90.5	N	
1	8/27/93	7	1		82	N	
1	8/27/93	8	1		79.4	N	
1	8/27/93	9	1		78.4	N	
1	8/27/93	10	1		77.9	N	
1	8/27/93	11	1		77.9	N	
1	8/27/93	12	1		77.8	N	
1	8/27/93	13	1		77.9	N	
1	8/27/93	14	1		77.9	N	
1	9/3/93	1	1		91.2	N	J 910126143-66 TC 51516 O/S
1	9/3/93	2	1		91.6	Y	
1	9/3/93	3	1		91.2	N	
1	9/3/93	4	1		89.6	N	
1	9/3/93	6	1		84.6	N	
1	9/3/93	7	1		81.5	N	
1	9/3/93	8	1		78.8	N	
1	9/3/93	9	1		77.8	N	
1	9/3/93	10	1		77.3	N	
1	9/3/93	11	1		77.2	N	
1	9/3/93	12	1		77.4	N	
1	9/3/93	13	1		77.3	N	
1	9/3/93	14	1		77.6	N	
1	9/12/93	1	1		92.7	N	J TI-042 TC 51516 O/S
1	9/12/93	2	1		93	Y	
1	9/12/93	3	1		92.7	N	
1	9/12/93	4	1		91.4	N	
1	9/12/93	6	1		86.6	N	
1	9/12/93	7	1		83.4	N	
1	9/12/93	8	1		80.8	N	
1	9/12/93	9	1		79.5	N	
1	9/12/93	10	1		79.1	N	
1	9/12/93	11	1		79	N	
1	9/12/93	12	1		79	N	
1	9/12/93	13	1		79	N	
1	9/12/93	14	1		79	N	
1	9/20/93	1	1		89.1	N	J 910126143-50
1	9/20/93	2	1		89.3	Y	
1	9/20/93	3	1		89.1	N	
1	9/20/93	4	1		87.8	N	
1	9/20/93	5	1		85.7	N	
1	9/20/93	6	1		83.3	N	
1	9/20/93	7	1		80.6	N	
1	9/20/93	8	1		78	N	
1	9/20/93	9	1		76.9	N	
1	9/20/93	10	1		76.4	N	
1	9/20/93	11	1		76.3	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/20/93	12	1		76.3	N	
1	9/20/93	13	1		76.2	N	
1	9/20/93	14	1		76.1	N	
1	9/27/93	1	2		89.3	N	HDAT TC 56 O/S
1	9/27/93	1	1		89.5	N	J 890423320-42 TC 11 O/S
1	9/27/93	2	2		89.5	Y	
1	9/27/93	2	1		89.6	Y	
1	9/27/93	3	2		89.2	N	
1	9/27/93	3	1		89.3	N	
1	9/27/93	4	2		88	N	
1	9/27/93	4	1		88.2	N	
1	9/27/93	5	1		86.3	N	
1	9/27/93	6	1		84.2	N	
1	9/27/93	7	2		80.7	N	
1	9/27/93	7	1		81.1	N	
1	9/27/93	8	2		77.9	N	
1	9/27/93	8	1		78.1	N	
1	9/27/93	9	2		77	N	
1	9/27/93	9	1		77.4	N	
1	9/27/93	10	2		76.5	N	
1	9/27/93	10	1		76.8	N	
1	9/27/93	11	2		76.3	N	
1	9/27/93	12	2		76.4	N	
1	9/27/93	12	1		76.7	N	
1	9/27/93	13	2		76.4	N	
1	9/27/93	13	1		76.7	N	
1	9/27/93	14	2		76.4	N	
1	9/27/93	14	1		76.7	N	
1	10/5/93	1	1		90.2	N	J 910126143-48 TC 56111516 O/S
1	10/5/93	2	1		90.4	Y	
1	10/5/93	3	1		90.2	N	
1	10/5/93	4	1		88.9	N	
1	10/5/93	7	1		81.7	N	
1	10/5/93	8	1		78.5	N	
1	10/5/93	9	1		77.8	N	
1	10/5/93	10	1		77.3	N	
1	10/5/93	12	1		77.2	N	
1	10/5/93	13	1		77.2	N	
1	10/5/93	14	1		77.2	N	
1	10/12/93	1	1		90.8	N	J 910126143-48
1	10/12/93	2	1		91.1	Y	
1	10/12/93	3	1		90.8	N	
1	10/12/93	4	1		89.7	N	
1	10/12/93	5	1		87.9	N	
1	10/12/93	6	1		85.7	N	
1	10/12/93	7	1		82.6	N	
1	10/12/93	8	1		79.2	N	
1	10/12/93	9	1		78.5	N	
1	10/12/93	10	1		78	N	
1	10/12/93	11	1		77.9	N	
1	10/12/93	12	1		77.9	N	
1	10/12/93	13	1		77.9	N	
1	10/12/93	14	1		77.9	N	
1	10/18/93	1	1		89.8	N	J 910126143-14
1	10/18/93	2	1		90.1	Y	
1	10/18/93	3	1		90	N	
1	10/18/93	4	1		88.9	N	
1	10/18/93	5	1		87.1	N	
1	10/18/93	6	1		84.8	N	
1	10/18/93	7	1		81.9	N	
1	10/18/93	8	1		78.4	N	
1	10/18/93	9	1		77.9	N	
1	10/18/93	10	1		77.3	N	
1	10/18/93	11	1		77.3	N	
1	10/18/93	12	1		77.4	N	
1	10/18/93	13	1		77.2	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/18/93	14	1		77.1	N	
1	10/27/93	1	1		91.2	N	J 91012614348
1	10/27/93	2	1		91.5	Y	
1	10/27/93	3	1		91.4	N	
1	10/27/93	4	1		90.4	N	
1	10/27/93	5	1		88.6	N	
1	10/27/93	6	1		86.4	N	
1	10/27/93	7	1		82.7	N	
1	10/27/93	8	1		79.5	N	
1	10/27/93	9	1		79	N	
1	10/27/93	10	1		78.3	N	
1	10/27/93	11	1		78.2	N	
1	10/27/93	12	1		78.2	N	
1	10/27/93	13	1		78.1	N	
1	10/27/93	14	1		78	N	
1	11/1/93	1	1		90.9	N	J 910126143-29
1	11/1/93	2	1		91.3	Y	
1	11/1/93	3	1		91.2	N	
1	11/1/93	4	1		90.3	N	
1	11/1/93	5	1		88.5	N	
1	11/1/93	6	1		86.2	N	
1	11/1/93	7	1		82.5	N	
1	11/1/93	8	1		79.2	N	
1	11/1/93	9	1		78.7	N	
1	11/1/93	10	1		78	N	
1	11/1/93	11	1		77.9	N	
1	11/1/93	12	1		77.9	N	
1	11/1/93	13	1		77.8	N	
1	11/1/93	14	1		77.8	N	
1	11/8/93	1	1		91.6	N	J 910126143-29 TC 1516 O/S
1	11/8/93	2	1		91.9	Y	
1	11/8/93	3	1		91.8	N	
1	11/8/93	4	1		90.9	N	
1	11/8/93	5	1		89.2	N	
1	11/8/93	6	1		86.8	N	
1	11/8/93	7	1		82.8	N	
1	11/8/93	8	1		79.4	N	
1	11/8/93	9	1		78.9	N	
1	11/8/93	10	1		78.1	N	
1	11/8/93	11	1		78.1	N	
1	11/8/93	12	1		77.9	N	
1	11/8/93	13	1		77.9	N	
1	11/8/93	14	1		77.8	N	
1	11/17/93	1	1		92.2	Y	J TI-041 TC 2 O/S
1	11/17/93	3	1		91.9	N	
1	11/17/93	4	1		90.9	N	
1	11/17/93	5	1		89.2	N	
1	11/17/93	6	1		86.7	N	
1	11/17/93	7	1		82.4	N	
1	11/17/93	8	1		78.7	N	
1	11/17/93	9	1		78.4	N	
1	11/17/93	10	1		77.6	N	
1	11/17/93	11	1		77.6	N	
1	11/17/93	12	1		77.5	N	
1	11/17/93	13	1		77.4	N	
1	11/17/93	14	1		77.3	N	
1	11/23/93	1	1		91.9	N	J 910126143-29
1	11/23/93	2	1		92.2	Y	
1	11/23/93	3	1		92.1	N	
1	11/23/93	4	1		91.3	N	
1	11/23/93	5	1		89.5	N	
1	11/23/93	6	1		87	N	
1	11/23/93	7	1		82.4	N	
1	11/23/93	8	1		78.3	N	
1	11/23/93	9	1		78.2	N	
1	11/23/93	10	1		77.3	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/23/93	11	1		77.3	N	
1	11/23/93	12	1		77.2	N	
1	11/23/93	13	1		77.1	N	
1	11/23/93	14	1		76.9	N	
1	11/29/93	1	2		91.7	N	J 910126143-29
1	11/29/93	1	1		92.2	N	J 910126143-29
1	11/29/93	2	2		92	N	
1	11/29/93	2	1		92.5	Y	
1	11/29/93	3	2		92.1	Y	
1	11/29/93	3	1		92.5	N	
1	11/29/93	4	2		91.2	N	
1	11/29/93	4	1		91.7	N	
1	11/29/93	5	2		89.3	N	
1	11/29/93	5	1		89.9	N	
1	11/29/93	6	2		86.7	N	
1	11/29/93	6	1		87.3	N	
1	11/29/93	7	2		82	N	
1	11/29/93	7	1		82.6	N	
1	11/29/93	8	2		77.9	N	
1	11/29/93	8	1		78.4	N	
1	11/29/93	9	2		77.7	N	
1	11/29/93	9	1		78.2	N	
1	11/29/93	10	2		76.6	N	
1	11/29/93	10	1		77.3	N	
1	11/29/93	11	2		76.6	N	
1	11/29/93	11	1		77.2	N	
1	11/29/93	12	2		76.5	N	
1	11/29/93	12	1		77.1	N	
1	11/29/93	13	2		76.4	N	
1	11/29/93	13	1		77	N	
1	11/29/93	14	2		76.2	N	
1	11/29/93	14	1		76.8	N	
1	12/7/93	1	1		92	N	J 910126143-29
1	12/7/93	2	1		92.3	N	
1	12/7/93	3	1		92.4	Y	
1	12/7/93	4	1		91.6	N	
1	12/7/93	5	1		89.7	N	
1	12/7/93	6	1		87	N	
1	12/7/93	7	1		81.9	N	
1	12/7/93	8	1		77.7	N	
1	12/7/93	9	1		77.5	N	
1	12/7/93	10	1		76.3	N	
1	12/7/93	11	1		76.2	N	
1	12/7/93	12	1		76.1	N	
1	12/7/93	13	1		76	N	
1	12/7/93	14	1		75.9	N	
1	12/14/93	1	1		92.7	N	J 910126143-29 TC 1516 O/S
1	12/14/93	2	1		93.1	Y	
1	12/14/93	3	1		93.1	N	
1	12/14/93	4	1		92.2	N	
1	12/14/93	5	1		90.4	N	
1	12/14/93	6	1		87.5	N	
1	12/14/93	7	1		82.1	N	
1	12/14/93	8	1		78	N	
1	12/14/93	9	1		77.6	N	
1	12/14/93	10	1		76.2	N	
1	12/14/93	11	1		76.1	N	
1	12/14/93	12	1		76	N	
1	12/14/93	13	1		75.9	N	
1	12/14/93	14	1		75.8	N	
1	12/20/93	1	1		91.8	N	J 910126143-29 TC 1516 O/S
1	12/20/93	1	2		92.4	N	J 910126143-29
1	12/20/93	2	1		92.1	Y	
1	12/20/93	2	2		92.7	N	
1	12/20/93	3	1		92	N	
1	12/20/93	3	2		92.8	Y	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-111							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/20/93	4	1		91.2	N	
1	12/20/93	4	2		91.9	N	
1	12/20/93	5	1		89.2	N	
1	12/20/93	5	2		89.9	N	
1	12/20/93	6	1		86.1	N	
1	12/20/93	6	2		86.8	N	
1	12/20/93	7	1		80.5	N	
1	12/20/93	7	2		81.4	N	
1	12/20/93	8	1		76.4	N	
1	12/20/93	8	2		77.3	N	
1	12/20/93	9	1		76.2	N	
1	12/20/93	9	2		76.9	N	
1	12/20/93	10	1		74.8	N	
1	12/20/93	10	2		75.5	N	
1	12/20/93	11	1		74.7	N	
1	12/20/93	11	2		75.4	N	
1	12/20/93	12	1		74.6	N	
1	12/20/93	12	2		75.3	N	
1	12/20/93	13	1		74.5	N	
1	12/20/93	13	2		75.2	N	
1	12/20/93	14	1		74.4	N	
1	12/20/93	14	2		75.1	N	
1	12/27/93	1	1		91.9	N	J 910126143-29 TC 1516 O/S
1	12/27/93	2	1		92.2	N	
1	12/27/93	3	1		92.3	Y	
1	12/27/93	4	1		91.4	N	
1	12/27/93	5	1		89.4	N	
1	12/27/93	6	1		86.2	N	
1	12/27/93	7	1		80.2	N	
1	12/27/93	8	1		76	N	
1	12/27/93	9	1		75.7	N	
1	12/27/93	10	1		74.5	N	
1	12/27/93	11	1		74.5	N	
1	12/27/93	12	1		74.3	N	
1	12/27/93	13	1		74.3	N	
1	12/27/93	14	1		74.1	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/20/74	1		47.78	118.004		raw data - assumed degree C
1	10/20/74	2		50.56	123.008		raw data - assumed degree C
1	10/20/74	4		57.78	136.004		raw data - assumed degree C
1	10/20/74	5		61.67	143.006		raw data - assumed degree C
1	10/20/74	6		63.33	145.994		raw data - assumed degree C
1	10/20/74	7		63.89	147.002		raw data - assumed degree C
1	10/20/74	8		63.33	145.994		raw data - assumed degree C
1	10/20/74	9		62.78	145.004		raw data - assumed degree C
1	10/20/74	10		61.67	143.006		raw data - assumed degree C
1	10/20/74	11		56.67	134.006		raw data - assumed degree C
1	10/20/74	12		46.67	116.006		raw data - assumed degree C
1	12/2/74	1		48.89	120.002		raw data - assumed degree C
1	12/2/74	2		52.22	125.996		raw data - assumed degree C
1	12/2/74	3		55.56	132.008		raw data - assumed degree C
1	12/2/74	4		58.89	138.002		raw data - assumed degree C
1	12/2/74	5		62.22	143.996		raw data - assumed degree C
1	12/2/74	6		63.89	147.002		raw data - assumed degree C
1	12/2/74	7		64.44	147.992		raw data - assumed degree C
1	12/2/74	8		63.33	145.994		raw data - assumed degree C
1	12/2/74	9		63.33	145.994		raw data - assumed degree C
1	12/2/74	10		60	140		raw data - assumed degree C
1	12/2/74	11		52.78	127.004		raw data - assumed degree C
1	12/2/74	12		43.89	111.002		raw data - assumed degree C
1	6/3/75	1			120		
1	6/3/75	2			125		
1	6/3/75	4			136		
1	6/3/75	5			140		
1	6/3/75	6			141		
1	6/3/75	7			139		
1	6/3/75	8			135		
1	6/3/75	9			135		
1	6/3/75	10			133		
1	6/3/75	11			113		
1	6/3/75	12			98		
1	11/3/75	1			124		
1	11/3/75	2			125		
1	11/3/75	4			138		
1	11/3/75	5			140		
1	11/3/75	6			140		
1	11/3/75	8			132		
1	11/3/75	9			126		
1	11/3/75	10			120		
1	11/3/75	11			110		
1	11/3/75	12			100		
1	2/4/76	1					155 - suspect data (high)
1	2/4/76	2					163 - suspect data (high)
1	2/4/76	4					166 - suspect data (high)
1	2/4/76	5					166 - suspect data (high)
1	2/4/76	6					161 - suspect data (high)
1	2/4/76	8					155 - suspect data (high)
1	2/4/76	9					146 - suspect data (high)
1	2/4/76	10					131 - suspect data (high)
1	2/4/76	11					119 - suspect data (high)
1	2/4/76	12					119 - suspect data (high)
1	3/5/76	1			122		
1	3/5/76	2			126		
1	3/5/76	4			134		
1	3/5/76	5			136		
1	3/5/76	6			137		
1	3/5/76	8			131		
1	3/5/76	9			125		
1	3/5/76	10			115		
1	3/5/76	11			101		
1	3/5/76	12			91		
1	5/2/76	1			121		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y = MAX TEMP	COMMENTS
1	5/2/76	2			124		
1	5/2/76	4			133		
1	5/2/76	5			135		
1	5/2/76	6			135		
1	5/2/76	8			130		
1	5/2/76	9			123		
1	5/2/76	10			114		
1	5/2/76	11			100		
1	5/2/76	12			89		
1	6/1/76	1			120		
1	6/1/76	2			124		
1	6/1/76	4			132		
1	6/1/76	5			134		
1	6/1/76	6			134		
1	6/1/76	7					189 - suspect data (high)
1	6/1/76	8			128		
1	6/1/76	9			120		
1	6/1/76	10			112		
1	6/1/76	11			100		
1	6/1/76	12			89		
1	6/1/76	13			86		
1	6/1/76	14			86		
1	7/1/76	1			112		
1	7/1/76	2			115		
1	7/1/76	4			123		
1	7/1/76	5			125		
1	7/1/76	6			126		
1	7/1/76	8			120		
1	7/1/76	9			114		
1	7/1/76	10			104		
1	7/1/76	11			93		
1	7/1/76	12			84		
1	8/3/76	1			118		
1	8/3/76	2			122		
1	8/3/76	4			130		
1	8/3/76	5			132		
1	8/3/76	6			132		
1	8/3/76	8			126		
1	8/3/76	9			120		
1	8/3/76	10			112		
1	8/3/76	11			102		
1	8/3/76	12			94		
1	9/2/76	1			119		
1	9/2/76	2			123		
1	9/2/76	4			130		
1	9/2/76	5			132		
1	9/2/76	6			132		
1	9/2/76	8			126		
1	9/2/76	9			120		
1	9/2/76	10			114		
1	9/2/76	11			104		
1	9/2/76	12			96		
1	10/3/76	1			121		
1	10/3/76	2			125		
1	10/3/76	4			132		
1	10/3/76	5			133		
1	10/3/76	6			134		
1	10/3/76	8			128		
1	10/3/76	9			122		
1	10/3/76	10			115		
1	10/3/76	11			107		
1	10/3/76	12			99		
1	11/1/76	1			112		
1	11/1/76	2			126		
1	11/1/76	4			132		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/1/76	5			134		
1	11/1/76	6			134		
1	11/1/76	7					200 - suspect data (high)
1	11/1/76	8			128		
1	11/1/76	9			122		
1	11/1/76	10			118		
1	11/1/76	11			106		
1	11/1/76	12			98		
1	12/4/76	1			122		
1	12/4/76	2			125		
1	12/4/76	4			122		
1	12/4/76	5			123		
1	12/4/76	6			123		
1	12/4/76	8			128		
1	12/4/76	9			123		
1	12/4/76	10			116		
1	12/4/76	11			106		
1	12/4/76	12			96		
1	1/1/77	1			122		
1	1/1/77	2			124		
1	1/1/77	4			131		
1	1/1/77	5			133		
1	1/1/77	6			133		
1	1/1/77	7					200 - suspect data (high)
1	1/1/77	8			128		
1	1/1/77	9			121		
1	1/1/77	10			115		
1	1/1/77	11			104		
1	1/1/77	12			94		
1	2/1/77	1			120		
1	2/1/77	2			124		
1	2/1/77	4			132		
1	2/1/77	5			132		
1	2/1/77	6			134		
1	2/1/77	7			132		
1	2/1/77	9			126		
1	2/1/77	10			120		
1	2/1/77	11			112		
1	2/1/77	12			112		
1	4/1/77	1			115		
1	4/1/77	2			117		
1	4/1/77	4			125		
1	4/1/77	5			126		
1	4/1/77	6			126		
1	4/1/77	8			120		
1	4/1/77	9			116		
1	4/1/77	10			106		
1	4/1/77	11			95		
1	4/1/77	12			83		
1	5/1/77	1			115		
1	5/1/77	2			117		
1	5/1/77	4			125		
1	5/1/77	5			126		
1	5/1/77	6			127		
1	5/1/77	8			113		
1	5/1/77	9			115		
1	5/1/77	10			105		
1	5/1/77	11			95		
1	5/1/77	12			85		
1	6/7/77	1			113		
1	6/7/77	2			116		
1	6/7/77	4			124		
1	6/7/77	5			125		
1	6/7/77	6			125		
1	6/7/77	8			117		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/7/77	9			113		
1	6/7/77	10			105		
1	6/7/77	11			96		
1	6/7/77	12			85		
1	7/11/77	1			110		
1	7/11/77	2			115		
1	7/11/77	3			116		
1	7/11/77	4			120		
1	7/11/77	5			122		
1	7/11/77	6			122		
1	7/11/77	8			115		
1	7/11/77	9			113		
1	7/11/77	10			105		
1	7/11/77	11			100		
1	7/11/77	12			88		
1	7/11/77	14			85		
1	8/5/77	1			108		
1	8/5/77	2			112		
1	8/5/77	4			115		
1	8/5/77	5			118		
1	8/5/77	6			119		
1	8/5/77	8			113		
1	8/5/77	9			110		
1	8/5/77	10			103		
1	8/5/77	11			96		
1	9/5/77	1			111		
1	9/5/77	2			115		
1	9/5/77	4			121		
1	9/5/77	5			122		
1	9/5/77	6			123		
1	9/5/77	8			116		
1	9/5/77	9			114		
1	9/5/77	10			107		
1	9/5/77	11			100		
1	9/5/77	12			96		
1	9/5/77	14			89		
1	10/3/77	1			111		
1	10/3/77	2			115		
1	10/3/77	4			120		
1	10/3/77	5			122		
1	10/3/77	6			122		
1	10/3/77	8			118		
1	10/3/77	9			115		
1	10/3/77	10			108		
1	10/3/77	11			100		
1	10/3/77	12			92		
1	11/3/77	1			112		
1	11/3/77	2			115		
1	11/3/77	4			120		
1	11/3/77	5			122		
1	11/3/77	6			122		
1	11/3/77	8			117		
1	11/3/77	9			113		
1	11/3/77	10			112		
1	11/3/77	11			100		
1	11/3/77	12			88		
1	11/3/77	14			85		
1	1/8/78	1					132 - suspect data (high)
1	1/8/78	2					134 - suspect data (high)
1	1/8/78	4					139 - suspect data (high)
1	1/8/78	5					141 - suspect data (high)
1	1/8/78	6					141 - suspect data (high)
1	1/8/78	9					132 - suspect data (high)
1	1/8/78	10					124 - suspect data (high)
1	1/8/78	11					114 - suspect data (high)

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/8/78	12					101 - suspect data (high)
1	1/8/78	14					97 - suspect data (high)
1	1/11/78	1			111		
1	1/11/78	2			114		
1	1/11/78	4			117		
1	1/11/78	5			120		
1	1/11/78	6			120		
1	1/11/78	9			112		
1	1/11/78	10			105		
1	1/11/78	11			96		
1	1/11/78	12			83		
1	1/11/78	14			78		
1	1/13/78	1			111		
1	1/13/78	2			115		
1	1/13/78	4			120		
1	1/13/78	5			121		
1	1/13/78	6			121		
1	1/13/78	9			113		
1	1/13/78	10			105		
1	1/13/78	11			95		
1	1/13/78	12			95		
1	1/13/78	13			95		
1	1/13/78	14			95		
1	2/7/78	1			114		
1	2/7/78	2			114		
1	2/7/78	4			122		
1	2/7/78	5			124		
1	2/7/78	6			124		
1	2/7/78	9			114		
1	2/7/78	10			107		
1	2/7/78	12			83		
1	2/7/78	14			79		
1	3/12/78	1			118		
1	3/12/78	2			121		
1	3/12/78	4			125		
1	3/12/78	5			128		
1	3/12/78	6			128		
1	3/12/78	9			118		
1	3/12/78	10			110		
1	3/12/78	12			85		
1	3/12/78	14			81		
1	4/11/78	1			110		
1	4/11/78	2			113		
1	4/11/78	4			118		
1	4/11/78	5			120		
1	4/11/78	6			120		
1	4/11/78	9			107		
1	4/11/78	10			100		
1	4/11/78	12			77		
1	4/11/78	14			75		
1	6/3/78	1			110		
1	6/3/78	2			113		
1	6/3/78	4			118		
1	6/3/78	5			120		
1	6/3/78	6			120		
1	6/3/78	9			108		
1	6/3/78	10			100		
1	6/3/78	12			81		
1	6/3/78	14			77		
1	7/13/78	1			110		
1	7/13/78	2			113		
1	7/13/78	4			118		
1	7/13/78	5			120		
1	7/13/78	6			120		
1	7/13/78	9			108		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/13/78	10			101		
1	8/11/78	1			104		
1	8/11/78	2			107		
1	8/11/78	4			112		
1	8/11/78	5			113		
1	8/11/78	6			113		
1	8/11/78	9			101		
1	8/11/78	10			97		
1	2/4/79	1			102		
1	2/4/79	2			104		
1	2/4/79	4			110		
1	2/4/79	5			110		
1	2/4/79	6			100		
1	2/4/79	9			98		
1	2/4/79	10			87		
1	2/4/79	14			63		
1	9/6/79	1			105		
1	9/6/79	2			106		
1	9/6/79	4			110		
1	9/6/79	5			110		
1	9/6/79	6			110		
1	9/6/79	9			95		
1	9/6/79	10			90		
1	9/6/79	14			90		
1	1/23/80	1			105		
1	1/23/80	2			110		
1	1/23/80	4			115		
1	1/23/80	5			115		
1	1/23/80	6			115		
1	1/23/80	9			85		
1	1/23/80	10			80		
1	1/23/80	14			75		
1	10/6/81	1			93		
1	10/6/81	2			94		
1	10/6/81	4			95		
1	10/6/81	6			95		
1	10/6/81	9			81		
1	10/6/81	10			80		
1	10/6/81	14			45		
1	1/13/82	1			95		
1	1/13/82	2			97		
1	1/13/82	3					185 - suspect data (high)
1	1/13/82	4			97		
1	1/13/82	6			85		
1	1/13/82	7			75		
1	1/13/82	9			75		
1	1/13/82	10			70		
1	5/29/82	1			94		
1	5/29/82	2			95		
1	5/29/82	4			95		
1	5/29/82	6			90		
1	5/29/82	9			74		
1	5/29/82	10			71		
1	5/19/83	1			89		
1	5/19/83	2			90		
1	5/19/83	4			90		
1	5/19/83	6			85		
1	5/19/83	9			48		
1	5/19/83	10			65		
1	5/19/83	13					142 - suspect data (high)
1	5/19/83	14					34 - suspect data (low)
1	1/3/84	1			94		
1	1/3/84	4			95		
1	1/3/84	6					163 - suspect data (high)
1	1/3/84	10			75		

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112 THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	2/13/84	3			94		
1	2/13/84	10			69		
1	2/13/84	13			45		
1	2/13/84	14			80		
1	2/14/84	1			90		
1	2/14/84	5			92		
1	2/14/84	10			68		
1	2/14/84	14			70		
1	12/18/87	1			92		
1	12/18/87	10			76		
1	1/22/88	1			93		
1	1/22/88	10			73		
1	5/2/88	1			93		
1	5/2/88	10			72		
1	2/24/91	1	1			N	J O/S Letter written to OPS
1	3/3/91	1	1			N	No data received
1	3/23/91	4	1		86.5	Y	
1	3/23/91	6	1		84.2	N	
1	3/23/91	7	1		81.8	N	
1	3/23/91	8	1		75.1	N	
1	3/23/91	9	1		66.9	N	
1	3/23/91	10	1		77.5	N	
1	3/23/91	11	1		77.5	N	
1	3/23/91	12	1		64.4	N	
1	3/31/91	1	1			N	No readings -requested retest or remedial action
1	4/1/91	4	1		88.5	Y	
1	4/1/91	6	1		86.4	N	
1	4/1/91	7	1		83.4	N	
1	4/1/91	8	1		76.4	N	
1	4/1/91	9	1		68.1	N	
1	4/1/91	10	1		65.7	N	
1	4/1/91	11	1		66.4	N	
1	4/1/91	12	1		65.5	N	
1	4/11/91	4	1		83.9	Y	
1	4/11/91	6	1		81.2	N	
1	4/11/91	7	1		79.1	N	
1	4/11/91	8	1		72.9	N	
1	4/11/91	9	1		64.9	N	
1	4/11/91	10	1		62.7	N	
1	4/11/91	11	1		62.5	N	
1	4/11/91	12	1		72.1	N	
1	4/18/91	4	1		92	Y	
1	4/18/91	6	1		82.4	N	
1	4/18/91	7	1		79.9	N	
1	4/18/91	8	1		73.5	N	
1	4/18/91	9	1		66.1	N	
1	4/18/91	10	1		63.7	N	
1	4/18/91	11	1		64.1	N	
1	4/18/91	12	1		64.4	N	
1	4/26/91	3	1		60.4	N	J Omni-Cal-8A-110
1	4/26/91	4	1		84	Y	
1	4/26/91	6	1		82.5	N	
1	4/26/91	7	1		78.6	N	
1	4/26/91	8	1		73.3	N	
1	4/26/91	9	1		65.9	N	
1	4/26/91	10	1		63.8	N	
1	4/26/91	11	1		64.2	N	
1	4/26/91	12	1		64.4	N	
1	5/2/91	3	1		63.5	N	J 128904240-5 Rechecked
1	5/2/91	4	1		86.4	Y	
1	5/2/91	6	1		84.1	N	
1	5/2/91	7	1		81.9	N	
1	5/2/91	8	1		76.1	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/2/91	9	1		68.4	N	
1	5/2/91	10	1		66	N	
1	5/2/91	11	1		65.6	N	
1	5/2/91	12	1		65.9	N	
1	5/9/91	4	1		83.5	Y	
1	5/9/91	6	1		81.2	N	
1	5/9/91	7	1		79.1	N	
1	5/9/91	8	1		73.2	N	
1	5/9/91	9	1		66.4	N	
1	5/9/91	10	1		64.9	N	
1	5/9/91	11	1		64.7	N	
1	5/9/91	12	1		65	N	
1	5/16/91	3	1		65.3	N	J 128-9042405 TC #5 Bad data
1	5/16/91	4	1		85.1	Y	
1	5/16/91	6	1		83.2	N	
1	5/16/91	7	1		80.6	N	
1	5/16/91	8	1		74.8	N	
1	5/16/91	9	1		68	N	
1	5/16/91	10	1		66	N	
1	5/16/91	11	1		66	N	
1	5/16/91	12	1		66	N	
1	5/23/91	4	1		83.5	Y	
1	5/23/91	6	1		80.9	N	
1	5/23/91	7	1		78.5	N	
1	5/23/91	8	1		73.4	N	
1	5/23/91	9	1		66.8	N	
1	5/23/91	10	1		64.5	N	
1	5/23/91	11	1		64.6	N	
1	5/23/91	12	1		64.5	N	
1	5/30/91	3	1		63.2	N	J SN-128904240-5
1	5/30/91	4	1		83.7	Y	
1	5/30/91	6	1		81.7	N	
1	5/30/91	7	1		79	N	
1	5/30/91	8	1		73.6	N	
1	5/30/91	9	1		67.4	N	
1	5/30/91	10	1		65.5	N	
1	5/30/91	11	1		65.5	N	
1	5/30/91	12	1		65.5	N	
1	6/6/91	4	1		83.3	Y	
1	6/6/91	6	1		81.3	N	
1	6/6/91	7	1		79.5	N	
1	6/6/91	8	1		74.1	N	
1	6/6/91	9	1		68	N	
1	6/6/91	10	1		66.3	N	
1	6/6/91	11	1		74.1	N	
1	6/6/91	12	1		66.3	N	
1	6/9/91	4	1		81.4	Y	
1	6/9/91	7	1		77.3	N	
1	6/9/91	8	1		73.6	N	
1	6/9/91	9	1		67	N	
1	6/9/91	10	1		64.6	N	
1	6/9/91	11	1		64.2	N	
1	6/9/91	12	1		66.7	N	
1	6/20/91	3	1		68.8	N	J Omega Omni-Cal TCs #125 Bad Data
1	6/20/91	4	1		91	Y	
1	6/20/91	6	1		88.4	N	
1	6/20/91	7	1		88.3	N	
1	6/20/91	8	1		79.9	N	
1	6/20/91	9	1		74.1	N	
1	6/20/91	10	1		73.1	N	
1	6/20/91	11	1		73.4	N	
1	6/20/91	12	1		74	N	
1	6/27/91	3	1		63.2	N	J 128-9042405 TC#125 Bad data
1	6/27/91	4	1		83.1	Y	
1	6/27/91	6	1		81.1	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112 THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/27/91	7	1		78.8	N	
1	6/27/91	8	1		73.9	N	
1	6/27/91	9	1		68.4	N	
1	6/27/91	10	1		67	N	
1	6/27/91	11	1		67	N	
1	6/27/91	12	1		66.9	N	
1	7/3/91	3	1		63.5	N	J 128-9042212 TC#125Bad data
1	7/3/91	4	1		87	Y	
1	7/3/91	6	1		81.1	N	
1	7/3/91	7	1		78.9	N	
1	7/3/91	8	1		74.4	N	
1	7/3/91	9	1		73.9	N	
1	7/3/91	10	1		71.3	N	
1	7/3/91	11	1		71.5	N	
1	7/3/91	12	1		67.8	N	
1	7/3/91	14	1		53.5	N	
1	7/7/91	3	1		66	N	J 910126143-73
1	7/7/91	4	1		83	Y	
1	7/7/91	7	1		79	N	
1	7/7/91	8	1		76	N	
1	7/7/91	9	1		71	N	
1	7/7/91	10	1		70	N	
1	7/7/91	11	1		68	N	
1	7/7/91	12	1		71	N	
1	7/11/91	3	1		65.5	N	J 128-904 2212 TC#12LO TC#6Bad data
1	7/11/91	4	1		84.2	Y	
1	7/16/91	3	1		65.9	N	J 817-13-55-008 TC#513Bad data 12 Lo
1	7/16/91	4	1		85.5	Y	
1	7/16/91	6	1		83.5	N	
1	7/16/91	7	1		85	N	
1	7/16/91	8	1		77.4	N	
1	7/16/91	9	1		72.5	N	
1	7/16/91	10	1		71.3	N	
1	7/16/91	11	1		71.4	N	
1	7/16/91	12	1		71.4	N	
1	7/16/91	14	1		57.4	N	
1	7/25/91	3	1		63	N	TC#12513o/s
1	7/25/91	4	1		83.1	Y	
1	7/25/91	6	1		81.7	N	
1	7/25/91	7	1		79.9	N	
1	7/25/91	8	1		76	N	
1	7/25/91	9	1		71.7	N	
1	7/25/91	10	1		70.7	N	
1	7/25/91	11	1		70.8	N	
1	7/25/91	12	1		70.9	N	
1	7/25/91	14	1		57.3	N	
1	8/8/91	3	1		61.4	N	J 128-9042405 TC#5 Bad Data
1	8/8/91	4	1		82.5	N	
1	8/8/91	6	1		81.5	N	
1	8/8/91	7	1		91.9	Y	
1	8/8/91	8	1		76.7	N	
1	8/8/91	9	1		72.8	N	
1	8/8/91	10	1		72	N	
1	8/8/91	11	1		72.1	N	
1	8/8/91	12	1		72.5	N	
1	8/8/91	14	1		59.6	N	
1	8/15/91	3	1		61.9	N	J 128904240-S
1	8/15/91	6	1		82.3	N	
1	8/15/91	7	1		81	N	
1	8/15/91	8	1		86	Y	
1	8/15/91	9	1		74.2	N	
1	8/15/91	10	1		73.5	N	
1	8/15/91	11	1		73.3	N	
1	8/15/91	12	1		73.5	N	
1	8/15/91	14	1		60.4	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	8/18/91	4	1		82	N	J 910126143-75
1	8/18/91	7	1		90	Y	
1	8/18/91	8	1		78	N	
1	8/18/91	9	1		74	N	
1	8/18/91	10	1		74	N	
1	8/18/91	11	1		72	N	
1	8/18/91	12	1		76	N	
1	8/22/91	1	1			N	J omega 128-9042405 LOW
1	8/22/91	2	1			N	LOW
1	8/22/91	3	1		60.9	N	J omega 128-9042405
1	8/22/91	4	1		82.8	Y	
1	8/22/91	6	1		81.6	N	
1	8/22/91	7	1		80.4	N	
1	8/25/91	1	1			N	J HH-99A-J O/S
1	8/25/91	2	1			N	O/S
1	8/25/91	3	1		64	N	
1	8/25/91	4	1		83	Y	
1	8/25/91	5	1			N	O/S
1	8/25/91	6	1			N	O/S
1	8/25/91	7	1		82	N	
1	8/25/91	8	1		80	N	
1	8/25/91	9	1		76	N	
1	8/25/91	10	1		76	N	
1	8/25/91	11	1		74	N	
1	8/25/91	12	1		78	N	
1	8/25/91	13	1			N	O/S
1	8/25/91	14	1			N	O/S
1	8/29/91	3	1		63.5	N	J-Omega 128-9042405
1	8/29/91	4	1		85.3	Y	
1	8/29/91	6	1		84.1	N	
1	8/29/91	7	1		83.1	N	
1	8/29/91	8	1		80.1	N	
1	8/29/91	9	1		76.8	N	
1	8/29/91	10	1		75.9	N	
1	8/29/91	11	1		75.9	N	
1	8/29/91	12	1		75.8	N	
1	8/29/91	14	1		62.4	N	
1	9/5/91	4	1		82.9	Y	
1	9/5/91	6	1		82.1	N	
1	9/5/91	7	1		81.3	N	
1	9/5/91	8	1		78.9	N	
1	9/5/91	9	1		75	N	
1	9/5/91	10	1		74	N	
1	9/5/91	11	1		74	N	
1	9/5/91	12	1		73.8	N	
1	9/12/91	4	1		83.7	N	
1	9/12/91	6	1		83.5	Y	
1	9/12/91	7	1		82.6	N	
1	9/12/91	8	1		79.9	N	
1	9/12/91	9	1		76.8	N	
1	9/12/91	10	1		76	N	
1	9/12/91	11	1		76.4	N	
1	9/12/91	12	1		76.6	N	
1	9/12/91	14	1		63.4	N	
1	9/19/91	4	1		89.9	Y	
1	9/19/91	6	1		83.5	N	
1	9/19/91	7	1		82.8	N	
1	9/19/91	8	1		80.3	N	
1	9/19/91	9	1		77.2	N	
1	9/19/91	10	1		76.6	N	
1	9/19/91	11	1		76	N	
1	9/19/91	12	1		76.1	N	
1	9/19/91	14	1		62.1	N	
1	9/26/91	4	1		85	Y	
1	9/26/91	6	1		84.1	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/26/91	7	1		83.6	N	
1	9/26/91	8	1		81	N	
1	9/26/91	9	1		79.1	N	
1	9/26/91	10	1		76.9	N	
1	9/26/91	11	1		77.1	N	
1	9/26/91	12	1		77.4	N	
1	9/26/91	14	1		62.8	N	
1	9/28/91	1	1			N	No Reading
1	10/7/91	4	1		84	Y	
1	10/7/91	6	1		83.6	N	
1	10/7/91	7	1		83	N	
1	10/7/91	8	1		80.5	N	
1	10/7/91	9	1		77.1	N	
1	10/7/91	10	1		76.1	N	
1	10/7/91	11	1		80.5	N	
1	10/7/91	12	1		76.6	N	
1	10/7/91	14	1		62.6	N	
1	10/10/91	3	1		59.9	N	J-817-13-35-008
1	10/10/91	4	1		82.9	N	
1	10/10/91	6	1		82	Y	
1	10/10/91	7	1		81.6	N	
1	10/10/91	8	1		79.2	N	
1	10/10/91	9	1		75.9	N	
1	10/10/91	10	1		78.9	N	
1	10/10/91	11	1		79	N	
1	10/10/91	12	1		79.2	N	
1	10/10/91	14	1		65	N	
1	10/17/91	4	1		85.5	Y	
1	10/17/91	6	1		84.9	N	
1	10/17/91	7	1		84.5	N	
1	10/17/91	8	1		82	N	
1	10/17/91	9	1		78.2	N	
1	10/17/91	10	1		77	N	
1	10/17/91	11	1		77.6	N	
1	10/17/91	12	1		77.9	N	
1	10/17/91	14	1		65.5	N	
1	10/26/91	3	1		63.6	N	J-817-13-55-008 TC #5 Bad Data
1	10/26/91	4	1		85.9	Y	
1	10/26/91	6	1		85.1	N	
1	10/26/91	7	1		84.6	N	
1	10/26/91	8	1		82	N	
1	10/26/91	9	1		78.1	N	
1	10/26/91	10	1		77.4	N	
1	10/26/91	11	1		76.9	N	
1	10/26/91	12	1		77.1	N	
1	10/26/91	14	1		63.2	N	
1	10/31/91	3	1		65	N	TC #5 Bad Data TC #713 Open
1	10/31/91	4	1		87.7	N	
1	10/31/91	6	1		87.8	Y	
1	10/31/91	8	1		84.3	N	
1	10/31/91	9	1		80.2	N	
1	10/31/91	10	1		79.1	N	
1	10/31/91	11	1		79.4	N	
1	10/31/91	12	1		79.2	N	
1	10/31/91	14	1		66	N	
1	11/9/91	4	1		87.6	Y	
1	11/9/91	6	1		87.5	N	
1	11/9/91	7	1		86.1	N	
1	11/9/91	8	1		82.8	N	
1	11/9/91	9	1		77.8	N	
1	11/9/91	10	1		76.5	N	
1	11/9/91	11	1		76.2	N	
1	11/9/91	12	1		76.5	N	
1	11/9/91	14	1		53.6	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112 THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/13/91	4	1		80.8	Y	TC #1-35-613-16 O/S W/O #04529 J-890423320-42
1	11/13/91	7	1		80.3	N	
1	11/13/91	8	1		77.6	N	
1	11/13/91	9	1		72.2	N	
1	11/13/91	10	1		70.4	N	
1	11/13/91	11	1		70	N	
1	11/13/91	12	1		71.8	N	
1	11/15/91	4	2		81.7	Y	
1	11/15/91	4	1		88	N	
1	11/15/91	6	1		88.5	Y	
1	11/15/91	7	2		81.1	N	
1	11/15/91	7	1		86.8	N	
1	11/15/91	8	2		78.1	N	
1	11/15/91	8	1		83.1	N	
1	11/15/91	9	2		72.6	N	
1	11/15/91	9	1		78	N	
1	11/15/91	10	2		70.7	N	
1	11/15/91	10	1		76.5	N	
1	11/15/91	11	2		70.4	N	
1	11/15/91	11	1		76.5	N	
1	11/15/91	12	2		72	N	
1	11/15/91	12	1		76.3	N	
1	11/21/91	4	1		89.4	Y	
1	11/21/91	6	1		88.7	N	
1	11/21/91	7	1		87.4	N	
1	11/21/91	8	1		83.6	N	
1	11/21/91	9	1		78	N	
1	11/21/91	10	1		76.4	N	
1	11/21/91	11	1		76.3	N	
1	11/21/91	12	1		76.5	N	
1	11/21/91	14	1		52.7	N	
1	11/27/91	4	1		91.8	Y	
1	11/27/91	6	1		90.2	N	
1	11/27/91	7	1		89.9	N	
1	11/27/91	8	1		85.5	N	
1	11/27/91	9	1		79.6	N	
1	11/27/91	10	1		78.1	N	
1	11/27/91	11	1		78	N	
1	11/27/91	12	1		77.9	N	
1	11/27/91	14	1		60.1	N	
1	12/5/91	4	1		87.6	Y	
1	12/5/91	6	1		87.6	N	
1	12/5/91	7	1		86	N	
1	12/5/91	8	1		81.5	N	
1	12/5/91	9	1		75.4	N	
1	12/5/91	10	1		73.6	N	
1	12/5/91	11	1		73.6	N	
1	12/5/91	12	1		73.5	N	
1	12/5/91	14	1		58	N	
1	12/13/91	4	1		83.9	N	
1	12/13/91	6	1		84.5	Y	
1	12/13/91	7	1		82.7	N	
1	12/13/91	8	1		78.6	N	
1	12/13/91	9	1		72.5	N	
1	12/13/91	10	1		70.1	N	
1	12/13/91	11	1		70.2	N	
1	12/13/91	12	1		70.8	N	
1	12/13/91	14	1		53.9	N	
1	12/19/91	4	1		89.4	Y	
1	12/19/91	6	1		88.9	N	
1	12/19/91	7	1		86.7	N	
1	12/19/91	8	1		81.9	N	
1	12/19/91	9	1		74.9	N	
1	12/19/91	10	1		73	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/19/91	11	1		76.5	N	
1	12/19/91	12	1		76.5	N	
1	12/19/91	14	1		58	N	
1	12/26/91	4	1		89.2	N	
1	12/26/91	6	1		89.3	Y	
1	12/26/91	7	1		87.2	N	
1	12/26/91	8	1		81.8	N	
1	12/26/91	9	1		74.4	N	
1	12/26/91	10	1		72.5	N	
1	12/26/91	11	1		72.8	N	
1	12/26/91	12	1		73	N	
1	12/26/91	14	1		57.7	N	
1	1/2/92	4	1		89	Y	J 8171355 008 TC #1-35 O/S
1	1/2/92	6	1		85	N	
1	1/2/92	7	1		83	N	
1	1/2/92	8	1		77	N	
1	1/9/92	4	1		88.9	Y	
1	1/9/92	6	1		88	N	
1	1/9/92	7	1		85.6	N	
1	1/9/92	8	1		79.9	N	
1	1/9/92	9	1		72.2	N	
1	1/9/92	10	1		70	N	
1	1/9/92	11	1		70.3	N	
1	1/9/92	12	1		70	N	
1	1/9/92	14	1		57.5	N	
11	1/9/92	1	4		57.5	N	
11	1/9/92	1	0		70	N	
11	1/9/92	1	2		70	N	
11	1/9/92	1	1		70.3	N	
11	1/9/92	4	1		88.9	Y	J-817-13-55-008
11	1/9/92	5	1			N	Out of service
11	1/9/92	6	1		88	N	
11	1/9/92	7	1		85.6	N	
11	1/9/92	8	1		79.9	N	
11	1/9/92	9	1		72.2	N	
1	1/16/92	1	1			N	No Data on 1/16/92 data sheet. Called shift office 1/21/92.
1	1/17/92	4	1		87.7	Y	
1	1/17/92	6	1		87	N	
1	1/17/92	7	1		84.5	N	
1	1/17/92	8	1		78.5	N	
1	1/17/92	9	1		70.6	N	
1	1/17/92	10	1		68.4	N	
1	1/17/92	11	1		68.2	N	
1	1/17/92	12	1		68.2	N	
1	1/17/92	14	1		52.5	N	
1	1/23/92	4	1		86.1	Y	
1	1/23/92	6	1		85.4	N	
1	1/23/92	7	1		82.9	N	
1	1/23/92	8	1		76.7	N	
1	1/23/92	9	1		68.6	N	
1	1/23/92	10	1		66.1	N	
1	1/23/92	11	1		66.1	N	
1	1/23/92	12	1		66.4	N	
1	1/23/92	14	1		50.4	N	
1	1/28/92	1	1			N	ACCESS RESTRICTED 1/28 - 2/22 DUE TO BATTERY FUME INCIDENT
1	3/8/92	1	1			N	o/s J 890423320-42
1	3/9/92	4	1		84.3	Y	
1	3/9/92	7	1		81.1	N	
1	3/9/92	8	1		75	N	
1	3/9/92	9	1		65.5	N	
1	3/9/92	10	1		63.2	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/9/92	11	1		63.3	N	
1	3/9/92	12	1		64.5	N	
1	3/12/92	4	1		76	Y	
1	3/12/92	6	1		75	N	
1	3/12/92	7	1		73	N	
1	3/12/92	8	1		67	N	
1	3/12/92	9	1		58	N	
1	3/12/92	10	1		56	N	
1	3/12/92	11	1		57	N	
1	3/12/92	12	1		58	N	
1	3/19/92	4	1		87	N	
1	3/19/92	6	1		83	N	
1	3/19/92	7	1		82	N	
1	3/19/92	8	1		76	N	
1	3/19/92	9	1		68	N	
1	3/19/92	10	1		66	N	
1	3/19/92	11	1		66	N	
1	3/19/92	12	1		68	N	
1	3/19/92	14	1		50	N	
1	3/26/92	6	1		92	Y	
1	3/26/92	7	1		90	N	
1	3/26/92	8	1		84	N	
1	3/26/92	9	1		76	N	
1	3/26/92	10	1		74	N	
1	3/26/92	11	1		74	N	
1	3/26/92	12	1		74	N	
1	3/26/92	14	1		56	N	
1	3/27/92	4	1		91	Y	
1	4/4/92	4	1		81.9	Y	J 890423320-42
1	4/4/92	7	1		78.1	N	
1	4/4/92	8	1		73.5	N	
1	4/4/92	9	1		65	N	
1	4/4/92	10	1		62.8	N	
1	4/4/92	11	1		62.5	N	
1	4/4/92	12	1		64	N	
1	4/9/92	4	1		88.5	Y	
1	4/9/92	6	1		82.1	N	
1	4/9/92	7	1		80.6	N	
1	4/9/92	8	1		75.4	N	
1	4/9/92	9	1		68.1	N	
1	4/9/92	10	1		66	N	
1	4/9/92	11	1		66	N	
1	4/9/92	12	1		65.9	N	
1	4/16/92	4	1		84	Y	
1	4/16/92	6	1		81	N	
1	4/16/92	7	1		79	N	
1	4/16/92	8	1		74	N	
1	4/16/92	9	1		67	N	
1	4/16/92	10	1		65	N	
1	4/16/92	11	1		65	N	
1	4/16/92	12	1		65	N	
1	4/23/92	4	1		77	Y	J 8171355010
1	4/23/92	6	1		74	N	
1	4/23/92	7	1		72	N	
1	4/23/92	8	1		66	N	
1	4/23/92	9	1		60	N	
1	4/23/92	10	1		59	N	
1	4/23/92	11	1		61	N	
1	4/23/92	12	1		63	N	
1	4/30/92	4	1		88	Y	
1	4/30/92	6	1		87	N	
1	4/30/92	7	1		85	N	
1	4/30/92	8	1		73	N	
1	4/30/92	9	1		73	N	
1	4/30/92	10	1		72	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/30/92	11	1		72	N	
1	4/30/92	12	1		75	N	
1	4/30/92	14	1		54	N	
1	5/7/92	4	1		81.9	Y	J 8171355008 TC #35 BAD DATA
1	5/7/92	6	1		80.3	N	
1	5/7/92	7	1		77.8	N	
1	5/7/92	8	1		72	N	
1	5/7/92	9	1		65.2	N	
1	5/7/92	10	1		63.5	N	
1	5/7/92	11	1		63.5	N	
1	5/7/92	12	1		64.2	N	
1	5/15/92	4	1		83	N	
1	5/15/92	6	1		80	Y	
1	5/15/92	7	1		78	N	
1	5/15/92	8	1		72	N	
1	5/15/92	9	1		66	N	
1	5/15/92	10	1		64	N	
1	5/15/92	11	1		64	N	
1	5/15/92	12	1		63	N	
1	5/26/92	4	1		77.5	Y	
1	5/26/92	7	1		76	N	
1	5/26/92	8	1		71.5	N	
1	5/26/92	9	1		64.2	N	
1	5/26/92	10	1		62.2	N	
1	5/26/92	11	1		61.7	N	
1	5/26/92	12	1		63.8	N	
1	5/28/92	4	1		71	N	
1	5/28/92	6	1		80	N	
1	5/28/92	7	1		82	Y	
1	5/28/92	8	1		75	N	
1	5/28/92	9	1		67	N	
1	5/28/92	10	1		69	N	
1	5/28/92	11	1		69	N	
1	5/28/92	12	1		69	N	
1	6/4/92	4	1		72	Y	J 8171320019 TC#14 BAD DATA
1	6/4/92	6	1		72	N	
1	6/4/92	7	1		71	N	
1	6/4/92	8	1		66	N	
1	6/4/92	9	1		61	N	
1	6/4/92	10	1		59	N	
1	6/4/92	11	1		61	N	
1	6/4/92	12	1		61	N	
1	6/11/92	1	1		78	N	J NO-817-13-20-019 TC #67814
1	6/11/92	2	1		80	Y	
1	6/11/92	3	1		79	N	
1	6/11/92	4	1		78	N	
1	6/11/92	5	1		78	N	
1	6/11/92	9	1		65	N	
1	6/11/92	10	1		64	N	
1	6/11/92	11	1		65	N	
1	6/11/92	12	1		65	N	
1	6/11/92	13	1		66	N	
1	6/19/92	1	1		78	Y	J 817-13-20-019 TC# 14 BAD
1	6/19/92	2	1		75	N	
1	6/19/92	3	1		75	N	
1	6/19/92	4	1		75	N	
1	6/19/92	5	1		74	N	
1	6/19/92	6	1		73	N	
1	6/19/92	7	1		72	N	
1	6/19/92	8	1		69	N	
1	6/19/92	9	1		64	N	
1	6/19/92	10	1		63	N	
1	6/19/92	11	1		63	N	
1	6/19/92	12	1		64	N	
1	6/19/92	13	1		65	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y = MAX TEMP	COMMENTS
1	6/19/92	14	1		47	N	
1	7/1/92	1	1		78	N	J C19950
1	7/1/92	2	1		79	Y	
1	7/1/92	3	1		79	N	
1	7/1/92	4	1		79	N	
1	7/1/92	5	1		78	N	
1	7/1/92	6	1		78	N	
1	7/1/92	7	1		76	N	
1	7/1/92	8	1		72	N	
1	7/1/92	9	1		68	N	
1	7/1/92	10	1		68	N	
1	7/1/92	11	1		67	N	
1	7/1/92	12	1		67	N	
1	7/1/92	13	1		67	N	
1	7/13/92	1	1		78	N	J 817-13-20-019
1	7/13/92	2	1		79	N	
1	7/13/92	3	1		79	Y	
1	7/13/92	4	1		79	N	
1	7/13/92	5	1		78	N	
1	7/13/92	6	1		78	N	
1	7/13/92	7	1		76	N	
1	7/13/92	8	1		72	N	
1	7/13/92	9	1		68	N	
1	7/13/92	10	1		68	N	
1	7/13/92	11	1		67	N	
1	7/13/92	12	1		67	N	
1	7/13/92	13	1		67	N	
1	7/13/92	14	1		68	N	
1	7/16/92	1	1		79	N	J 817-13-20-019
1	7/16/92	2	1		80	Y	
1	7/16/92	3	1		80	N	
1	7/16/92	4	1		80	N	
1	7/16/92	5	1		80	N	
1	7/16/92	6	1		79	N	
1	7/16/92	7	1		77	N	
1	7/16/92	8	1		74	N	
1	7/16/92	9	1		70	N	
1	7/16/92	10	1		69	N	
1	7/16/92	11	1		69	N	
1	7/16/92	12	1		69	N	
1	7/16/92	13	1		69	N	
1	7/16/92	14	1		70	N	
1	7/23/92	1	1		81	Y	
1	7/23/92	2	1		82	N	
1	7/23/92	3	1		83	N	
1	7/23/92	4	1		83	Y	
1	7/23/92	5	1		82	N	
1	7/23/92	6	1		82	N	
1	7/23/92	7	1		81	N	
1	7/23/92	8	1		78	N	
1	7/23/92	9	1		74	N	
1	7/23/92	10	1		73	N	
1	7/23/92	11	1		73	N	
1	7/23/92	12	1		73	N	
1	7/23/92	13	1		73	N	
1	7/23/92	14	1		54	N	
1	7/30/92	1	1		81	Y	J 813-13-55-008
1	7/30/92	2	1		80.1	N	
1	7/30/92	3	1		80	N	
1	7/30/92	4	1		80.3	N	
1	7/30/92	5	1		81	N	
1	7/30/92	6	1		80.3	N	
1	7/30/92	7	1		80	N	
1	7/30/92	8	1		77.4	N	
1	7/30/92	9	1		75	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	7/30/92	10	1		73.1	N	
1	7/30/92	11	1		73.2	N	
1	7/30/92	12	1		70.5	N	
1	7/30/92	13	1		71.4	N	
1	7/30/92	14	1		72	N	
1	8/7/92	4	1		83.9	Y	
1	8/7/92	6	1		83	N	
1	8/7/92	7	1		81.5	N	
1	8/7/92	8	1		78.4	N	
1	8/7/92	9	1		75.1	N	
1	8/7/92	10	1		74.2	N	
1	8/7/92	11	1		74.1	N	
1	8/7/92	12	1		74.1	N	
1	8/7/92	14	1		54.6	N	
1	8/13/92	1	1		80.4	N	J 817-13-55-008
1	8/13/92	2	1		81.5	N	
1	8/13/92	3	1		81.9	N	
1	8/13/92	4	1		82.4	Y	
1	8/13/92	5	1		81.5	N	
1	8/13/92	6	1		82	N	
1	8/13/92	7	1		80.5	N	
1	8/13/92	8	1		77.6	N	
1	8/13/92	9	1		74.5	N	
1	8/13/92	10	1		73.5	N	
1	8/13/92	11	1		77.8	N	
1	8/13/92	12	1		73.7	N	
1	8/13/92	13	1		74.1	N	
1	8/13/92	14	1		74.3	N	
1	8/20/92	1	1		77.5	N	J 817-13-55-008
1	8/20/92	2	1		80.7	N	
1	8/20/92	3	1		80.9	N	
1	8/20/92	4	1		85.6	Y	
1	8/20/92	5	1		81	N	
1	8/20/92	6	1		80.6	N	
1	8/20/92	7	1		79.4	N	
1	8/20/92	8	1		76.6	N	
1	8/20/92	9	1		77.9	N	
1	8/20/92	10	1		72.8	N	
1	8/20/92	11	1		72.8	N	
1	8/20/92	12	1		79.5	N	
1	8/20/92	13	1		73.7	N	
1	8/20/92	14	1		73.9	N	
1	9/3/92	1	1		81.9	N	J 890523512-47
1	9/3/92	2	1		82.4	Y	
1	9/3/92	3	1		82.1	N	
1	9/3/92	4	1		81.9	N	
1	9/3/92	5	1		81.5	N	
1	9/3/92	6	1		81	N	
1	9/3/92	7	1		80.5	N	
1	9/3/92	8	1		78	N	
1	9/3/92	10	1		74.3	N	
1	9/3/92	11	1		74.8	N	
1	9/3/92	12	1		75.1	N	
1	9/3/92	13	1		75.6	N	
1	9/3/92	14	1		75.9	N	
1	9/9/92	1	1		79	N	J 910126143-29
1	9/9/92	2	1		80	N	
1	9/9/92	3	1		81	Y	
1	9/9/92	4	1		81	N	
1	9/9/92	5	1		80	N	
1	9/9/92	6	1		80	N	
1	9/9/92	7	1		79	N	
1	9/9/92	8	1		72	N	
1	9/9/92	9	1		74	N	
1	9/9/92	10	1		73	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/9/92	11	1		73	N	
1	9/9/92	12	1		74	N	
1	9/9/92	13	1		73	N	
1	9/9/92	14	1		73	N	
1	9/15/92	1	1		84	N	
1	9/15/92	2	1		85	Y	
1	9/15/92	3	1		85	N	
1	9/15/92	4	1		85	N	
1	9/15/92	5	1		85	N	
1	9/15/92	6	1		85	N	
1	9/15/92	7	1		84	N	
1	9/15/92	8	1		81	N	
1	9/15/92	9	1		78	N	
1	9/15/92	10	1		77	N	
1	9/15/92	11	1		77	N	
1	9/15/92	12	1		77	N	
1	9/15/92	13	1		77	N	
1	9/15/92	14	1		77	N	
1	10/1/92	1	1		81	N	J 890523512-47
1	10/1/92	2	1		80	N	
1	10/1/92	3	1		81	N	
1	10/1/92	4	1		81	Y	
1	10/1/92	5	1		81	N	
1	10/1/92	6	1		81	N	
1	10/1/92	7	1		80	N	
1	10/1/92	8	1		77	N	
1	10/1/92	9	1		74	N	
1	10/1/92	10	1		73	N	
1	10/1/92	11	1		73	N	
1	10/1/92	12	1		73	N	
1	10/1/92	13	1		73	N	
1	10/1/92	14	1		73	N	
1	10/8/92	1	1		83	Y	
1	10/8/92	2	1		82	N	
1	10/8/92	3	1		83	N	
1	10/8/92	4	1		82	N	
1	10/8/92	5	1		83	N	
1	10/8/92	6	1		83	N	
1	10/8/92	7	1		82	N	
1	10/8/92	8	1		80	N	
1	10/8/92	9	1		80	N	
1	10/8/92	10	1		76	N	
1	10/8/92	11	1		76	N	
1	10/8/92	12	1		75	N	
1	10/8/92	13	1		75	N	
1	10/8/92	14	1		74	N	RETESTED
1	10/15/92	1	1		81	N	J 817-13-20-019
1	10/15/92	2	1		82	N	
1	10/15/92	3	1		83	N	
1	10/15/92	4	1		84	Y	
1	10/15/92	5	1		84	N	
1	10/15/92	6	1		83	N	
1	10/15/92	7	1		83	N	
1	10/15/92	8	1		80	N	
1	10/15/92	9	1		76	N	
1	10/15/92	10	1		75	N	
1	10/15/92	11	1		74	N	
1	10/15/92	12	1		74	N	
1	10/15/92	13	1		75	N	
1	10/15/92	14	1		74	N	
1	10/22/92	1	1		85	N	J 817-13-20-019
1	10/22/92	2	1		86	N	
1	10/22/92	3	1		86	N	
1	10/22/92	4	1		87	Y	
1	10/22/92	5	1		86	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	10/22/92	6	1		86	N	
1	10/22/92	7	1		85	N	
1	10/22/92	8	1		82	N	
1	10/22/92	9	1		78	N	
1	10/22/92	10	1		77	N	
1	10/22/92	11	1		77	N	
1	10/22/92	12	1		77	N	
1	10/22/92	13	1		77	N	
1	10/22/92	14	1		76	N	
1	10/29/92	1	1		84	N	J 819-20-13-019
1	10/29/92	2	1		86	N	
1	10/29/92	3	1		86	N	
1	10/29/92	4	1		85	N	
1	10/29/92	5	1		86	N	
1	10/29/92	6	1		84	N	
1	10/29/92	7	1		84	N	
1	10/29/92	8	1		85	N	
1	10/29/92	9	1		84	N	
1	10/29/92	10	1		86	N	
1	10/29/92	11	1		87	N	
1	10/29/92	13	1		77	N	
1	10/29/92	14	1		86	N	
1	11/5/92	1	1		85	N	J 817-13-20-019
1	11/5/92	2	1		86	N	
1	11/5/92	3	1		85	N	
1	11/5/92	4	1		86	N	
1	11/5/92	5	1		86	N	
1	11/5/92	6	1		89	Y	
1	11/5/92	7	1		84	N	
1	11/5/92	8	1		81	N	
1	11/5/92	9	1		76	N	
1	11/5/92	10	1		75	N	
1	11/5/92	11	1		75	N	
1	11/5/92	12	1		75	N	
1	11/5/92	13	1		75	N	
1	11/5/92	14	1		75	N	
1	11/7/92	1	1		85	N	J 817-13-20-019293
1	11/7/92	2	1		86	N	
1	11/7/92	4	1		88	Y	
1	11/7/92	6	1		87	N	
1	11/7/92	7	1		85	N	
1	11/7/92	8	1		82	N	
1	11/7/92	9	1		77	N	
1	11/7/92	10	1		76	N	
1	11/7/92	11	1		76	N	
1	11/7/92	12	1		76	N	
1	11/12/92	1	1		88	N	817-13-20-019
1	11/12/92	2	1		88	N	
1	11/12/92	3	1		89	Y	
1	11/12/92	4	1		88	N	
1	11/12/92	5	1		89	N	
1	11/12/92	6	1		88	N	
1	11/12/92	7	1		85	N	
1	11/12/92	8	1		83	N	
1	11/12/92	9	1		79	N	
1	11/12/92	10	1		79	N	
1	11/12/92	11	1		78	N	
1	11/12/92	12	1		78	N	
1	11/12/92	13	1		78	N	
1	11/12/92	14	1		78	N	
1	11/24/92	1	1		83	N	J 817-13-20-019
1	11/24/92	2	1		84	N	
1	11/24/92	3	1		85	Y	
1	11/24/92	4	1		85	N	
1	11/24/92	6	1		85	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/24/92	7	1		84	N	
1	11/24/92	8	1		80	N	
1	11/24/92	9	1		74	N	
1	11/24/92	10	1		72	N	
1	11/24/92	11	1		73	N	
1	11/24/92	12	1		73	N	
1	11/24/92	13	1		73	N	
1	11/24/92	14	1		72	N	
1	12/3/92	1	1		85	N	817-13-20-019
1	12/3/92	2	1		86	N	
1	12/3/92	3	1		87	Y	
1	12/3/92	4	1		87	Y	
1	12/3/92	5	1		86	N	
1	12/3/92	6	1		87	N	
1	12/3/92	7	1		85	N	
1	12/3/92	8	1		80	N	
1	12/3/92	9	1		74	N	
1	12/3/92	10	1		72	N	
1	12/3/92	11	1		72	N	
1	12/3/92	12	1		72	N	
1	12/3/92	13	1		72	N	
1	12/3/92	14	1		71	N	
1	12/10/92	1	1		89	N	817-13-20-019
1	12/10/92	2	1		90	Y	
1	12/10/92	3	1		90	N	
1	12/10/92	4	1		90	N	
1	12/10/92	5	1		89	N	
1	12/10/92	6	1		89	N	
1	12/10/92	7	1		88	N	
1	12/10/92	8	1		83	N	
1	12/10/92	9	1		76	N	
1	12/10/92	10	1		78	N	
1	12/10/92	11	1		75	N	
1	12/10/92	12	1		75	N	
1	12/10/92	13	1		74	N	
1	12/10/92	14	1		73	N	
1	12/14/92	1	1			N	DISCREP#S&DA-92-503 NO RDGS SINCE 11/24/92
1	12/17/92	1	1		85	N	817-13-20-019
1	12/17/92	2	1		86	N	
1	12/17/92	3	1		87	Y	
1	12/17/92	4	1		87	N	
1	12/17/92	5	1		86	N	
1	12/17/92	6	1		87	N	
1	12/17/92	7	1		87	N	
1	12/17/92	8	1		81	N	
1	12/17/92	9	1		75	N	
1	12/17/92	10	1		73	N	
1	12/17/92	11	1		73	N	
1	12/17/92	12	1		73	N	
1	12/17/92	13	1		73	N	
1	12/17/92	14	1		71	N	
1	12/22/92	1	1		86	N	J 817-13-20-019
1	12/22/92	2	1		87	N	
1	12/22/92	3	1		88	Y	
1	12/22/92	4	1		88	N	
1	12/22/92	5	1		86	N	
1	12/22/92	6	1		85	N	
1	12/22/92	7	1		84	N	
1	12/22/92	8	1		80	N	
1	12/22/92	9	1		73	N	
1	12/22/92	10	1		71	N	
1	12/22/92	11	1		70	N	
1	12/22/92	12	1		70	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	12/22/92	13	1		70	N	
1	12/22/92	14	1		70	N	
1	12/30/92	1	1		88	N	
1	12/30/92	2	1		89	N	
1	12/30/92	3	1		90	Y	
1	12/30/92	4	1		89	N	
1	12/30/92	5	1		88	N	
1	12/30/92	6	1		86	N	
1	12/30/92	7	1		85	N	
1	12/30/92	8	1		81	N	
1	12/30/92	9	1		73	N	
1	12/30/92	10	1		71	N	
1	12/30/92	11	1		71	N	
1	12/30/92	12	1		70	N	
1	12/30/92	13	1		70	N	
1	12/30/92	14	1		70	N	
1	1/7/93	1	1		87	N	817-13-20-019
1	1/7/93	2	1		88	Y	
1	1/7/93	3	1		88	N	
1	1/7/93	4	1		88	N	
1	1/7/93	5	1		86	N	
1	1/7/93	6	1		85	N	
1	1/7/93	7	1		82	N	
1	1/7/93	8	1		77	N	
1	1/7/93	9	1		68	N	
1	1/7/93	10	1		66	N	
1	1/7/93	11	1		71	N	
1	1/7/93	12	1		71	N	
1	1/7/93	13	1		66	N	
1	1/7/93	14	1		66	N	
1	1/16/93	1	1		86	N	J 817-13-20-019
1	1/16/93	2	1		86	N	
1	1/16/93	3	1		87	Y	
1	1/16/93	4	1		86	N	
1	1/16/93	5	1		84	N	
1	1/16/93	6	1		83	N	
1	1/16/93	7	1		82	N	
1	1/16/93	8	1		76	N	
1	1/16/93	9	1		69	N	
1	1/16/93	10	1		66	N	
1	1/16/93	11	1		68	N	
1	1/16/93	12	1		67	N	
1	1/16/93	13	1		68	N	
1	1/16/93	14	1		67	N	
1	1/21/93	1	1		84	Y	817-13-20-019
1	1/21/93	2	1		84	N	
1	1/21/93	3	1		84	N	
1	1/21/93	4	1		84	N	
1	1/21/93	5	1		82	N	
1	1/21/93	6	1		81	N	
1	1/21/93	7	1		80	N	
1	1/21/93	8	1		75	N	
1	1/21/93	9	1		67	N	
1	1/21/93	10	1		65	N	
1	1/21/93	11	1		65	N	
1	1/21/93	12	1		65	N	
1	1/21/93	13	1		65	N	
1	1/21/93	14	1		65	N	
1	1/28/93	1	1		80	N	817-13-20-019
1	1/28/93	2	1		81	Y	
1	1/28/93	3	1		81	Y	
1	1/28/93	4	1		80	N	
1	1/28/93	5	1		79	N	
1	1/28/93	6	1		78	N	
1	1/28/93	7	1		77	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	1/28/93	8	1		72	N	
1	1/28/93	9	1		65	N	
1	1/28/93	10	1		64	N	
1	1/28/93	11	1		64	N	
1	1/28/93	12	1		63	N	
1	1/28/93	13	1		63	N	
1	1/28/93	14	1		63	N	
1	2/3/93	1	1		84	N	817-13-20-019
1	2/3/93	2	1		86	Y	
1	2/3/93	3	1		86	N	
1	2/3/93	4	1		85	N	
1	2/3/93	5	1		84	N	
1	2/3/93	6	1		84	N	
1	2/3/93	7	1		82	N	
1	2/3/93	8	1		76	N	
1	2/3/93	9	1		68	N	
1	2/3/93	10	1		65	N	
1	2/3/93	11	1		64	N	
1	2/3/93	12	1		64	N	
1	2/3/93	13	1		64	N	
1	2/3/93	14	1		64	N	
1	2/25/93	1	1		85.9	Y	J 817-13-55-008
1	2/25/93	2	1		85.6	N	
1	2/25/93	3	1		86.1	N	
1	2/25/93	4	1		85.6	N	
1	2/25/93	5	1		83.5	N	
1	2/25/93	6	1		83	N	
1	2/25/93	7	1		81	N	
1	2/25/93	8	1		74.5	N	
1	2/25/93	9	1		66	N	
1	2/25/93	10	1		63.4	N	
1	2/25/93	11	1		63.3	N	
1	2/25/93	12	1		63.7	N	
1	2/25/93	13	1		63.6	N	
1	2/25/93	14	1		63.6	N	
1	3/4/93	1	1		82	N	OMEGA 817-13-20-019
1	3/4/93	2	1		85	Y	
1	3/4/93	3	1		85	N	
1	3/4/93	4	1		83	N	
1	3/4/93	5	1		77	N	
1	3/4/93	6	1		83	N	
1	3/4/93	7	1		81	N	
1	3/4/93	8	1		74	N	
1	3/4/93	9	1		65	N	
1	3/4/93	10	1		62	N	
1	3/4/93	11	1		63	N	
1	3/4/93	12	1		63	N	
1	3/4/93	13	1		66	N	
1	3/4/93	14	1		61	N	
1	3/11/93	1	1		84	N	J 817-13-20-019
1	3/11/93	2	1		85	Y	
1	3/11/93	3	1		85	N	
1	3/11/93	4	1		85	N	
1	3/11/93	5	1		84	N	
1	3/11/93	6	1		84	N	
1	3/11/93	7	1		81	N	
1	3/11/93	8	1		74	N	
1	3/11/93	9	1		65	N	
1	3/11/93	10	1		62	N	
1	3/11/93	11	1		63	N	
1	3/11/93	12	1		62	N	
1	3/11/93	13	1		62	N	
1	3/11/93	14	1		62	N	
1	3/18/93	1	1		83	N	817-13-20-019
1	3/18/93	2	1		83	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	3/18/93	3	1		84	Y	
1	3/18/93	4	1		83	N	
1	3/18/93	5	1		82	N	
1	3/18/93	6	1		81	N	
1	3/18/93	7	1		77	N	
1	3/18/93	8	1		70	N	
1	3/18/93	9	1		61	N	
1	3/18/93	10	1		58	N	
1	3/18/93	11	1		60	N	
1	3/18/93	12	1		59	N	
1	3/18/93	13	1		60	N	
1	3/18/93	14	1		61	N	
1	3/25/93	1	1		86	Y	J 817-13-20-019
1	3/25/93	2	1		86	N	
1	3/25/93	3	1		86	N	
1	3/25/93	4	1		86	N	
1	3/25/93	5	1		84	N	
1	3/25/93	6	1		84	N	
1	3/25/93	7	1		78	N	
1	3/25/93	8	1		72	N	
1	3/25/93	9	1		63	N	
1	3/25/93	10	1		60	N	
1	3/25/93	11	1		60	N	
1	3/25/93	12	1		54	N	
1	3/25/93	13	1		55	N	
1	3/25/93	14	1		60	N	
1	4/1/93	1	1		85	N	TYPE J
1	4/1/93	2	1		85	N	
1	4/1/93	3	1		86	Y	
1	4/1/93	4	1		85	N	
1	4/1/93	5	1		83	N	
1	4/1/93	6	1		82	N	
1	4/1/93	7	1		79	N	
1	4/1/93	8	1		73	N	
1	4/1/93	9	1		64	N	
1	4/1/93	10	1		62	N	
1	4/1/93	11	1		62	N	
1	4/1/93	12	1		62	N	
1	4/1/93	13	1		61	N	
1	4/1/93	14	1		61	N	
1	4/8/93	1	1		84	N	J 817-13-20-019
1	4/8/93	2	1		84	N	
1	4/8/93	3	1		85	Y	
1	4/8/93	4	1		84	N	
1	4/8/93	5	1		83	N	
1	4/8/93	6	1		82	N	
1	4/8/93	7	1		79	N	
1	4/8/93	8	1		72	N	
1	4/8/93	9	1		64	N	
1	4/8/93	10	1		62	N	
1	4/8/93	11	1		61	N	
1	4/8/93	12	1		61	N	
1	4/8/93	13	1		61	N	
1	4/8/93	14	1		61	N	
1	4/15/93	1	1		83	N	J 910126143-66
1	4/15/93	2	1		84	Y	
1	4/15/93	4	1		84	N	
1	4/15/93	6	1		81	N	
1	4/15/93	7	1		78	N	
1	4/15/93	8	1		71	N	
1	4/15/93	9	1		64	N	
1	4/15/93	10	1		61	N	
1	4/15/93	11	1		61	N	
1	4/15/93	12	1		61	N	
1	4/15/93	14	1		61	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	4/22/93	1	1		78	Y	TYPE J 817-13-20-019
1	4/22/93	2	1		78	N	
1	4/22/93	3	1		78	N	
1	4/22/93	4	1		78	N	
1	4/22/93	5	1		76	N	
1	4/22/93	6	1		75	N	
1	4/22/93	7	1		72	N	
1	4/22/93	8	1		65	N	
1	4/22/93	9	1		56	N	
1	4/22/93	10	1		54	N	
1	4/22/93	11	1		54	N	
1	4/22/93	12	1		54	N	
1	4/22/93	13	1		54	N	
1	4/22/93	14	1		54	N	
1	4/29/93	1	1		81	Y	J 8971320019
1	4/29/93	2	1		82	N	
1	4/29/93	3	1		83	Y	
1	4/29/93	4	1		82	N	
1	4/29/93	5	1		81	N	
1	4/29/93	6	1		79	N	
1	4/29/93	7	1		77	N	
1	4/29/93	8	1		70	N	
1	4/29/93	9	1		63	N	
1	4/29/93	10	1		60	N	
1	4/29/93	11	1		60	N	
1	4/29/93	12	1		60	N	
1	4/29/93	13	1		60	N	
1	4/29/93	14	1		61	N	
1	5/6/93	1	1		82	N	
1	5/6/93	2	1		83	N	
1	5/6/93	3	1		84	Y	
1	5/6/93	4	1		83	N	
1	5/6/93	5	1		82	N	
1	5/6/93	6	1		81	N	
1	5/6/93	7	1		77	N	
1	5/6/93	8	1		71	N	
1	5/6/93	9	1		64	N	
1	5/6/93	10	1		62	N	
1	5/6/93	11	1		62	N	
1	5/6/93	12	1		61	N	
1	5/6/93	13	1		61	N	
1	5/6/93	14	1		61	N	
1	5/13/93	1	1		81	N	J 817-13-20-019
1	5/13/93	2	1		82	Y	
1	5/13/93	3	1		82	N	
1	5/13/93	4	1		81	N	
1	5/13/93	5	1		80	N	
1	5/13/93	6	1		79	N	
1	5/13/93	7	1		76	N	
1	5/13/93	8	1		70	N	
1	5/13/93	9	1		59	N	
1	5/13/93	10	1		57	N	
1	5/13/93	11	1		57	N	
1	5/13/93	12	1		57	N	
1	5/13/93	13	1		57	N	
1	5/13/93	14	1		58	N	
1	5/20/93	1	1		81	N	J 910126143-66
1	5/20/93	2	1		82	Y	
1	5/20/93	3	1		82	N	
1	5/20/93	4	1		80	N	
1	5/20/93	5	1		80	N	
1	5/20/93	6	1		77	N	
1	5/20/93	7	1		74	N	
1	5/20/93	8	1		68	N	
1	5/20/93	9	1		62	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	5/20/93	10	1		61	N	
1	5/20/93	11	1		62	N	
1	5/20/93	12	1		62	N	
1	5/20/93	13	1		60	N	
1	5/20/93	14	1		61	N	
1	5/28/93	1	1		87	Y	J 817-13-20-019 REQ. RECHECK
1	5/28/93	2	1		82	N	
1	5/28/93	3	1		82	N	
1	5/28/93	4	1		80	N	
1	5/28/93	5	1		80	N	
1	5/28/93	6	1		77	N	
1	5/28/93	7	1		77	N	
1	5/28/93	8	1		68	N	
1	6/3/93	1	1		83	N	J 817-13-20-019
1	6/3/93	2	1		84	Y	
1	6/3/93	3	1		84	N	
1	6/3/93	4	1		83	N	
1	6/3/93	5	1		82	N	
1	6/3/93	6	1		81	N	
1	6/3/93	7	1		78	N	
1	6/3/93	8	1		73	N	
1	6/3/93	9	1		66	N	
1	6/3/93	10	1		65	N	
1	6/3/93	11	1		65	N	
1	6/3/93	12	1		65	N	
1	6/3/93	13	1		60	N	
1	6/3/93	14	1		61	N	
1	6/10/93	1	1		84	Y	J 910126143-32
1	6/10/93	2	1		83	N	
1	6/10/93	3	1		84	N	
1	6/10/93	4	1		83	N	
1	6/10/93	5	1		82	N	
1	6/10/93	6	1		80	N	
1	6/10/93	7	1		77	N	
1	6/10/93	8	1		73	N	
1	6/10/93	9	1		67	N	
1	6/10/93	10	1		65	N	
1	6/10/93	11	1		66	N	
1	6/10/93	12	1		66	N	
1	6/10/93	13	1		65	N	
1	6/10/93	14	1		65	N	
1	6/17/93	1	1		81	N	817-13-20-019
1	6/17/93	2	1		82	Y	
1	6/17/93	3	1		81	N	
1	6/17/93	4	1		78	N	
1	6/17/93	5	1		79	N	
1	6/17/93	6	1		78	N	
1	6/17/93	7	1		76	N	
1	6/17/93	8	1		72	N	
1	6/17/93	9	1		66	N	
1	6/17/93	10	1		65	N	
1	6/17/93	11	1		64	N	
1	6/17/93	12	1		65	N	
1	6/17/93	13	1		64	N	
1	6/17/93	14	1		61	N	
1	6/24/93	1	1		81	N	J 817-13-20-019
1	6/24/93	2	1		82	Y	
1	6/24/93	3	1		82	N	
1	6/24/93	4	1		82	N	
1	6/24/93	5	1		80	N	
1	6/24/93	6	1		80	N	
1	6/24/93	7	1		77	N	
1	6/24/93	8	1		74	N	
1	6/24/93	9	1		67	N	
1	6/24/93	10	1		66	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	6/24/93	11	1		66	N	
1	6/24/93	12	1		66	N	
1	6/24/93	13	1		65	N	
1	6/24/93	14	1		64	N	
1	7/8/93	4	1		76.6	Y	
1	7/8/93	7	1		74.3	N	
1	7/8/93	8	1		72	N	
1	7/8/93	10	1		62.1	N	
1	7/8/93	11	1		62.8	N	
1	7/8/93	12	1		64.9	N	
1	7/16/93	1	1		73	N	J 817-13-55-001
1	7/16/93	2	1		72	N	
1	7/16/93	3	1		72	N	
1	7/16/93	4	1		72	N	
1	7/16/93	5	1		73	N	
1	7/16/93	6	1		75	N	
1	7/16/93	7	1		77	N	
1	7/16/93	8	1		81	N	
1	7/16/93	9	1		86	N	
1	7/16/93	10	1		88	Y	
1	7/16/93	11	1		88	N	
1	7/16/93	13	1		88	N	
1	7/16/93	14	1		88	N	
1	7/22/93	1	1		82.4	N	J 817-013-55-009
1	7/22/93	2	1		83	N	
1	7/22/93	3	1		83.3	Y	
1	7/22/93	4	1		83	N	
1	7/22/93	5	1		76.9	N	
1	7/22/93	6	1		79.5	N	
1	7/22/93	7	1		79.1	N	
1	7/22/93	8	1		75.1	N	
1	7/22/93	9	1		70.5	N	
1	7/22/93	10	1		69.4	N	
1	7/22/93	11	1		63.5	N	
1	7/22/93	12	1		69.5	N	
1	7/22/93	13	1		65	N	
1	7/22/93	14	1		71.6	N	
1	7/29/93	1	1			N	J 910126143-14 TC# 1, 2, 5, 6, & 13-16
1	8/5/93	1	1		80	N	J 890423320-42
1	8/5/93	2	1		80	N	
1	8/5/93	3	1		81	Y	
1	8/5/93	4	1		81	N	
1	8/5/93	5	1		80	N	
1	8/5/93	6	1		79	N	
1	8/5/93	7	1		78	N	
1	8/5/93	8	1		74	N	
1	8/5/93	9	1		70	N	
1	8/5/93	10	1		69	N	
1	8/5/93	11	1		69	N	
1	8/5/93	12	1		69	N	
1	8/5/93	13	1		69	N	
1	8/5/93	14	1		69	N	
1	8/19/93	3	1		67.7	N	J 910126143-66 TC 1,2,5,6,13&14 O/S
1	8/19/93	4	1		79.2	N	
1	8/19/93	7	1		79.4	Y	
1	8/19/93	8	1		76.9	N	
1	8/19/93	9	1		72.1	N	
1	8/19/93	10	1		69	N	
1	8/19/93	11	1		69.1	N	
1	8/19/93	12	1		71.5	N	
1	8/27/93	1	1		79.6	N	J 817-13-55-009
1	8/27/93	2	1		80	N	
1	8/27/93	3	1		80.5	N	
1	8/27/93	4	1		83.6	Y	
1	8/27/93	5	1		82.9	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	8/27/93	6	1		81.9	N	
1	8/27/93	7	1		80.6	N	
1	8/27/93	8	1		77.6	N	
1	8/27/93	9	1		74.1	N	
1	8/27/93	10	1		73.2	N	
1	8/27/93	11	1		73.2	N	
1	8/27/93	12	1		73.4	N	
1	8/27/93	13	1		73.3	N	
1	9/3/93	1	1		82.3	N	J 817-67-11-004
1	9/3/93	2	1		83.2	N	
1	9/3/93	3	1		83.7	Y	
1	9/3/93	4	1		83.5	N	
1	9/3/93	5	1		82.9	N	
1	9/3/93	6	1		81.9	N	
1	9/3/93	7	1		80.9	N	
1	9/3/93	8	1		78	N	
1	9/3/93	9	1		75.3	N	
1	9/3/93	10	1		73.8	N	
1	9/3/93	11	1		73.8	N	
1	9/3/93	12	1		73.7	N	
1	9/3/93	13	1		74	N	
1	9/3/93	14	1		74.1	N	
1	9/9/93	1	1		80.5	N	J 817-67-11-004
1	9/9/93	2	1		80.2	N	
1	9/9/93	3	1		80.5	N	
1	9/9/93	4	1		81.5	Y	
1	9/9/93	5	1		79.9	N	
1	9/9/93	6	1		80.6	N	
1	9/9/93	7	1		79	N	
1	9/9/93	8	1		76.5	N	
1	9/9/93	9	1		73.2	N	
1	9/9/93	10	1		72.4	N	
1	9/9/93	11	1		72.6	N	
1	9/9/93	12	1		72.5	N	
1	9/9/93	13	1		72.2	N	
1	9/14/93	1	1		81.7	N	817-67-11-004
1	9/14/93	2	1		82.9	N	
1	9/14/93	3	1		83.6	Y	
1	9/14/93	4	1		83.3	N	
1	9/14/93	5	1		82.7	N	
1	9/14/93	6	1		81.6	N	
1	9/14/93	7	1		80.7	N	
1	9/14/93	8	1		79.1	N	
1	9/14/93	9	1		75.2	N	
1	9/14/93	10	1		73.7	N	
1	9/14/93	11	1		73.9	N	
1	9/14/93	12	1		73.9	N	
1	9/14/93	13	1		74.1	N	
1	9/14/93	14	1		74.2	N	
1	9/16/93	1	1		81.7	N	J 817-67-11-004
1	9/16/93	2	1		82.9	N	
1	9/16/93	3	1		83.6	Y	
1	9/16/93	4	1		83.3	N	
1	9/16/93	5	1		82.7	N	
1	9/16/93	6	1		81.6	N	
1	9/16/93	7	1		80.7	N	
1	9/16/93	8	1		79.1	N	
1	9/16/93	9	1		75.2	N	
1	9/16/93	10	1		73.7	N	
1	9/16/93	11	1		73.9	N	
1	9/16/93	12	1		73.9	N	
1	9/16/93	13	1		74.1	N	
1	9/16/93	14	1		74.2	N	
1	9/20/93	1	1		84.7	N	J 817-67-11-004
1	9/20/93	2	1		85.1	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	9/20/93	3	1		85.4	Y	
1	9/20/93	4	1		85.2	N	
1	9/20/93	5	1		84.2	N	
1	9/20/93	6	1		83.1	N	
1	9/20/93	7	1		82.6	N	
1	9/20/93	8	1		79.5	N	
1	9/27/93	1	1		82.4	N	817-13-20-019
1	9/27/93	2	1		81.6	N	
1	9/27/93	3	1		81.7	N	
1	9/27/93	4	1		81.8	N	
1	9/27/93	5	1		81.1	N	
1	9/27/93	6	1		83	Y	
1	9/27/93	7	1		80.2	N	
1	9/27/93	8	1		78.1	N	
1	10/4/93	1	1		83	N	817-67-11-004
1	10/4/93	2	1		82.9	N	
1	10/4/93	3	1		83.4	N	
1	10/4/93	4	1		83.6	Y	
1	10/4/93	5	1		79.1	N	
1	10/4/93	6	1		75.7	N	
1	10/4/93	7	1		74.9	N	
1	10/4/93	8	1		74.8	N	~~J 910126143-48 TC 1,2,5,6,13,14,15,16 O/S~~
1	10/5/93	3	1		66.3	N	
1	10/5/93	4	1		79.2	N	
1	10/5/93	7	1		79.7	Y	
1	10/5/93	8	1		78.1	N	
1	10/5/93	9	1		73.7	N	
1	10/5/93	10	1		71.4	N	
1	10/5/93	11	1		71.2	N	
1	10/5/93	12	1		72.7	N	
1	10/11/93	1	1		82.9	N	817-67-11-004
1	10/11/93	2	1		83.4	N	
1	10/11/93	3	1		83.6	N	
1	10/11/93	4	1		83.7	Y	
1	10/11/93	5	1		80	N	
1	10/11/93	6	1		76.2	N	
1	10/11/93	7	1		75.2	N	
1	10/11/93	8	1		75.1	N	
1	10/12/93	1	1			N	J 910126143-48 TC 1,2,5,6,13,14 O/S BAD DATA
1	10/18/93	1	1		83.2	Y	817-67-11-004
1	10/18/93	2	1		82.9	N	
1	10/18/93	3	1		83.1	N	
1	10/18/93	4	1		83	N	
1	10/18/93	5	1		79.1	N	
1	10/18/93	6	1		75.2	N	
1	10/18/93	7	1		74.9	N	
1	10/18/93	8	1		74.5	N	
1	10/25/93	1	1		83.2	Y	817-67-11-004
1	10/25/93	2	1		81.9	N	
1	10/25/93	3	1		82.7	N	
1	10/25/93	4	1		82.9	N	
1	10/25/93	5	1		79.3	N	
1	10/25/93	6	1		76	N	
1	10/25/93	7	1		75.1	N	
1	10/25/93	8	1		74.7	N	
1	11/1/93	1	1		53.8	N	53.8 - suspect data (low), J 910126143-29
1	11/1/93	2	1			N	52.7 - suspect data (low)
1	11/1/93	3	1			N	52.1 - suspect data (low)
1	11/1/93	4	1			N	51.6 - suspect data (low)
1	11/1/93	5	1			N	52.2 - suspect data (low)
1	11/1/93	6	1			N	53.1 - suspect data (low)
1	11/1/93	7	1			N	53.6 - suspect data (low)
1	11/1/93	8	1			N	56 - suspect data (low)

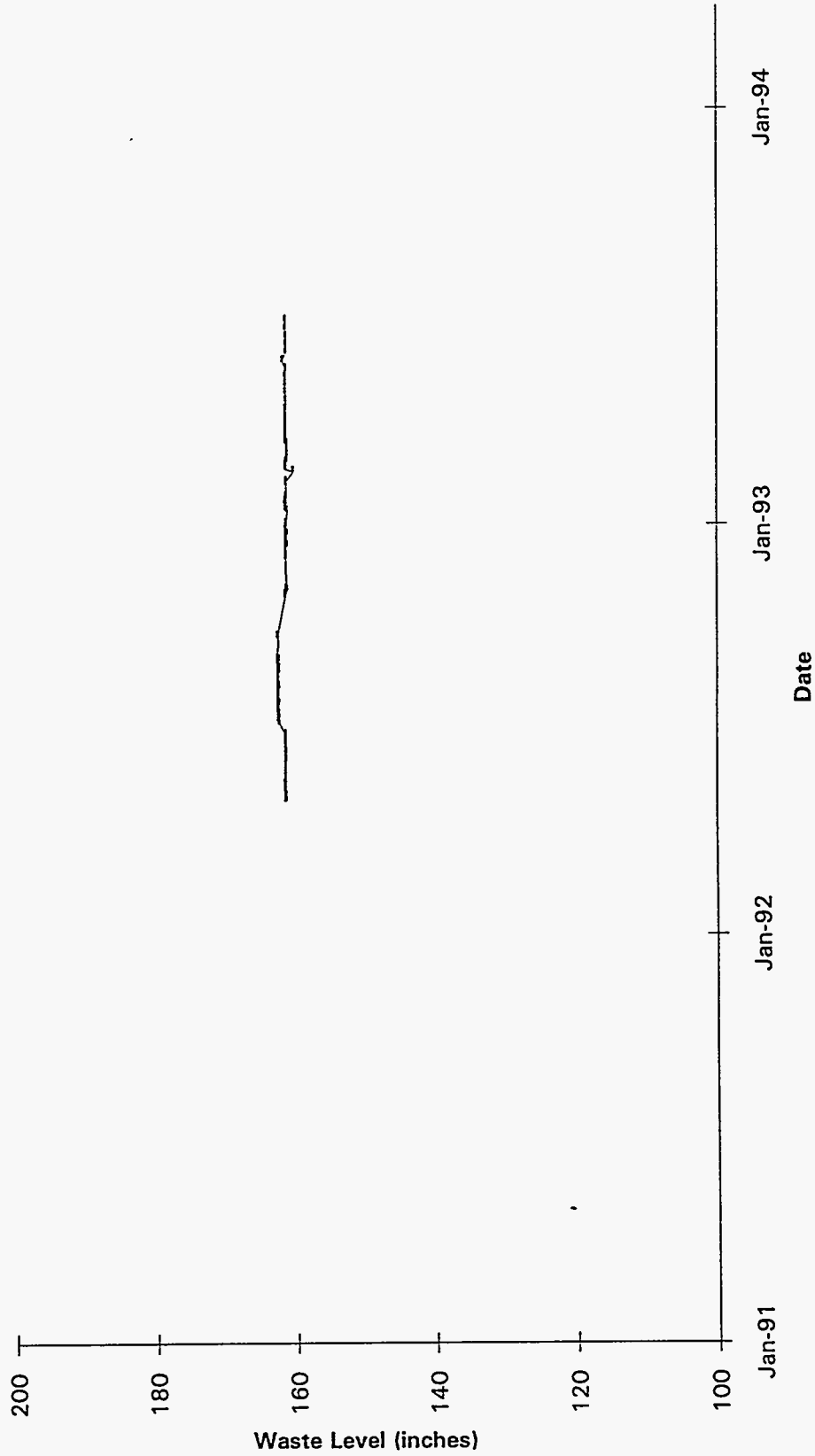
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/1/93	9	1			N	60.2 - suspect data (low)
1	11/1/93	11	1			N	60.8 - suspect data (low)
1	11/1/93	12	1			N	60.9 - suspect data (low)
1	11/1/93	13	1			N	60.9 - suspect data (low)
1	11/1/93	14	1			N	61 - suspect data (low)
1	11/8/93	1	2		80	N	817-67-11-004
1	11/8/93	1	1			N	~~J 910126143-29 TC 2,3,5,6,13,14,15,16 O/S~~
1	11/8/93	2	2		80.6	N	
1	11/8/93	3	1		68.7	N	
1	11/8/93	3	2		81.2	N	
1	11/8/93	4	2		81.4	Y	
1	11/8/93	4	1		82.3	Y	
1	11/8/93	5	2		80.9	N	
1	11/8/93	6	2		79.8	N	
1	11/8/93	7	2		78.8	N	
1	11/8/93	7	1		81.7	N	
1	11/8/93	8	2		75.9	N	
1	11/8/93	8	1		79.6	N	
1	11/8/93	9	2		71.9	N	
1	11/8/93	9	1		74.5	N	
1	11/8/93	10	2		70.7	N	
1	11/8/93	10	1		72.3	N	
1	11/8/93	11	2		70.9	N	
1	11/8/93	11	1		72.2	N	
1	11/8/93	12	2		71	N	
1	11/8/93	12	1		72.9	N	
1	11/8/93	13	2		70.8	N	
1	11/8/93	14	2		70.6	N	
1	11/15/93	1	1		86.5	Y	817-67-11-004
1	11/15/93	2	1		84.6	N	
1	11/15/93	3	1		85.3	N	
1	11/15/93	4	1		85.4	N	
1	11/15/93	5	1		84.9	N	
1	11/15/93	6	1		84.1	N	
1	11/15/93	7	1		80.1	N	
1	11/15/93	8	1		75.3	N	
1	11/15/93	9	1		73.8	N	
1	11/15/93	10	1		73.8	N	
1	11/15/93	11	1		73.8	N	
1	11/15/93	12	1		73.7	N	
1	11/15/93	13	1		73.8	N	
1	11/15/93	14	1		73.8	N	
1	11/17/93	3	1		69.4	N	J TI-041 TC 1256 O/S
1	11/17/93	4	1		82.7	Y	
1	11/17/93	7	1		81.8	N	
1	11/17/93	8	1		79.3	N	
1	11/17/93	9	1		73.8	N	
1	11/17/93	10	1		71.9	N	
1	11/17/93	11	1		71.6	N	
1	11/17/93	12	1		72	N	
1	11/23/93	3	1		69.6	N	J 910126143-29 TC 1256 O/S
1	11/23/93	4	1		83	Y	
1	11/23/93	7	1		82	N	
1	11/23/93	8	1		79.2	N	
1	11/23/93	9	1		73.4	N	
1	11/23/93	10	1		71.5	N	
1	11/23/93	11	1		71.1	N	
1	11/23/93	12	1		71.6	N	
1	11/29/93	1	1		87	Y	J-910126143-29
1	11/29/93	1	2		87	Y	
1	11/29/93	2	1		85	N	
1	11/29/93	2	2		85	N	
1	11/29/93	3	1		84.8	N	
1	11/29/93	3	2		84.8	N	
1	11/29/93	4	1		84.7	N	

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.

TANK 241-S-112							
THERMOCOUPLE DATA							
TREE #	DATE	THERMO #	TREE SET #	TEMP C	TEMP F	Y=MAX TEMP	COMMENTS
1	11/29/93	4	2		84.7	N	
1	11/29/93	5	1		84.7	N	
1	11/29/93	5	2		84.7	N	
1	11/29/93	6	1		84.6	N	
1	11/29/93	6	2		84.7	N	
1	11/29/93	7	1		80	N	
1	11/29/93	7	2		80.1	N	
1	11/29/93	8	1		74.9	N	
1	11/29/93	8	2		74.9	N	
1	12/7/93	3	1		70.3	N	J 910126143-29 TC 1,2,5,6,13,14 O/S
1	12/7/93	4	1		83.4	Y	
1	12/7/93	7	1		82.3	N	
1	12/7/93	8	1		78.7	N	
1	12/7/93	9	1		72	N	
1	12/7/93	10	1		69.6	N	
1	12/7/93	11	1		69.5	N	
1	12/7/93	12	1		69.8	N	
1	12/14/93	3	1		71.5	N	J 910126143-29 TC 1,2,5,6,13,14,15,16 O/S
1	12/14/93	4	1		83.9	Y	
1	12/14/93	7	1		82.5	N	
1	12/14/93	8	1		78.8	N	
1	12/14/93	9	1		71.8	N	
1	12/14/93	10	1		69.4	N	
1	12/14/93	11	1		69.1	N	
1	12/14/93	12	1		69.4	N	
1	12/20/93	1	1		86.5	N	J 817-67-11-004
1	12/20/93	1	2			N	~~J 910126143-29 TC 1,2,5,6,13,14,15,16 O/S~~
1	12/20/93	1	3			N	J910126143-29 TC 1,2,5,6,13,14 O/S
1	12/20/93	2	1		86.8	N	
1	12/20/93	3	3		70.5	N	
1	12/20/93	3	2		70.6	N	
1	12/20/93	3	1		87.5	Y	
1	12/20/93	4	2		83.1	Y	
1	12/20/93	4	3		83.8	Y	
1	12/20/93	4	1		87.5	N	
1	12/20/93	5	1		87.1	N	
1	12/20/93	6	1		86.2	N	
1	12/20/93	7	2		81.6	N	
1	12/20/93	7	3		82.2	N	
1	12/20/93	7	1		84.5	N	
1	12/20/93	8	2		77.5	N	
1	12/20/93	8	3		78.3	N	
1	12/20/93	8	1		80.2	N	
1	12/20/93	9	2		70.2	N	
1	12/20/93	9	3		71.1	N	
1	12/20/93	10	2		67.7	N	
1	12/20/93	10	3		68.4	N	
1	12/20/93	11	2		67.5	N	
1	12/20/93	11	3		68.2	N	
1	12/20/93	12	2		67.8	N	
1	12/20/93	12	3		68.5	N	
1	12/27/93	1	1		86.3	N	INST TECH
1	12/27/93	2	1		87.3	N	
1	12/27/93	3	1		88.1	Y	
1	12/27/93	4	1		88.1	N	
1	12/27/93	5	1		87.9	N	
1	12/27/93	6	1		86.9	N	
1	12/27/93	7	1		85.1	N	
1	12/27/93	8	1		80.5	N	

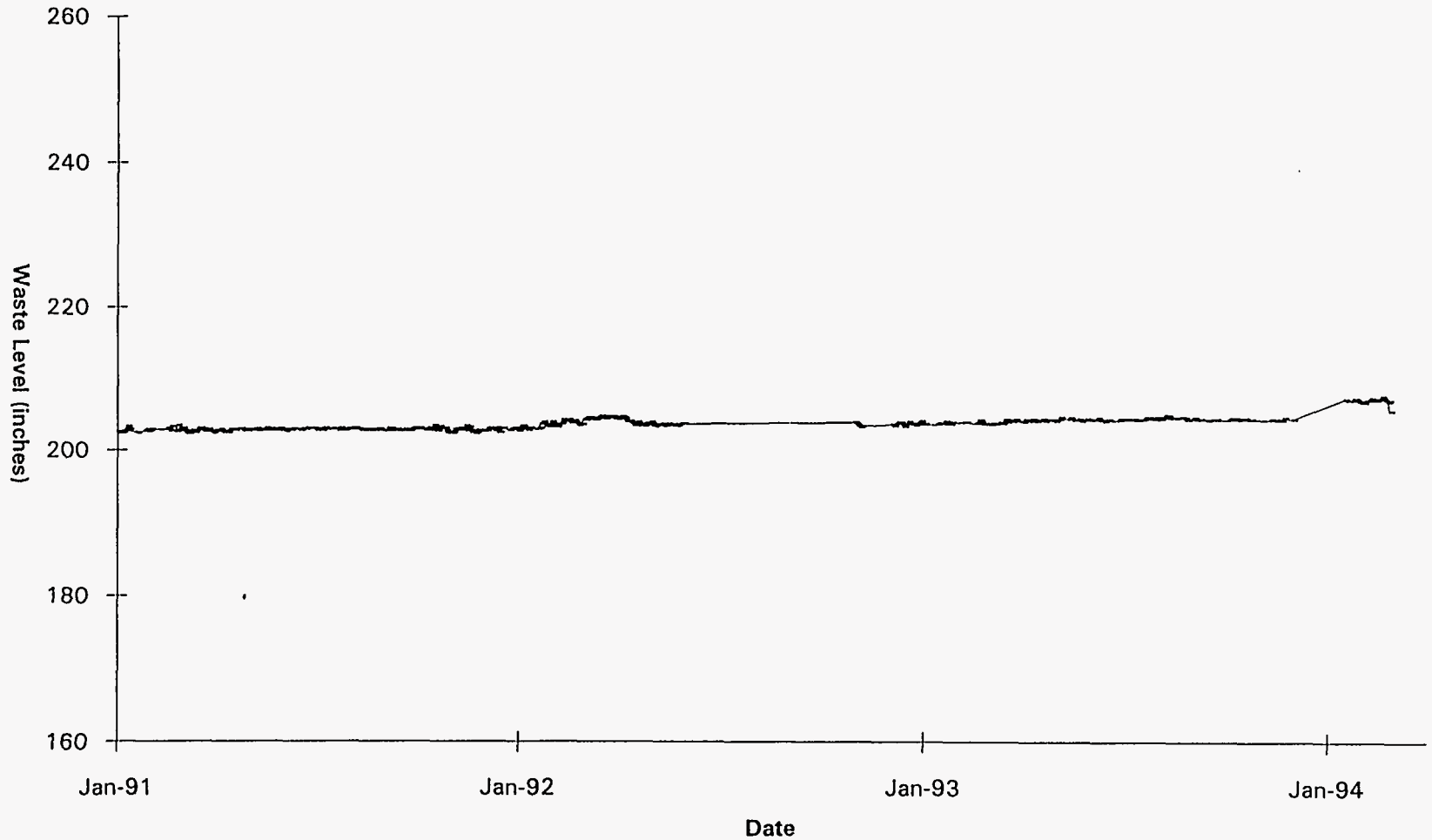
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 24, 1994.



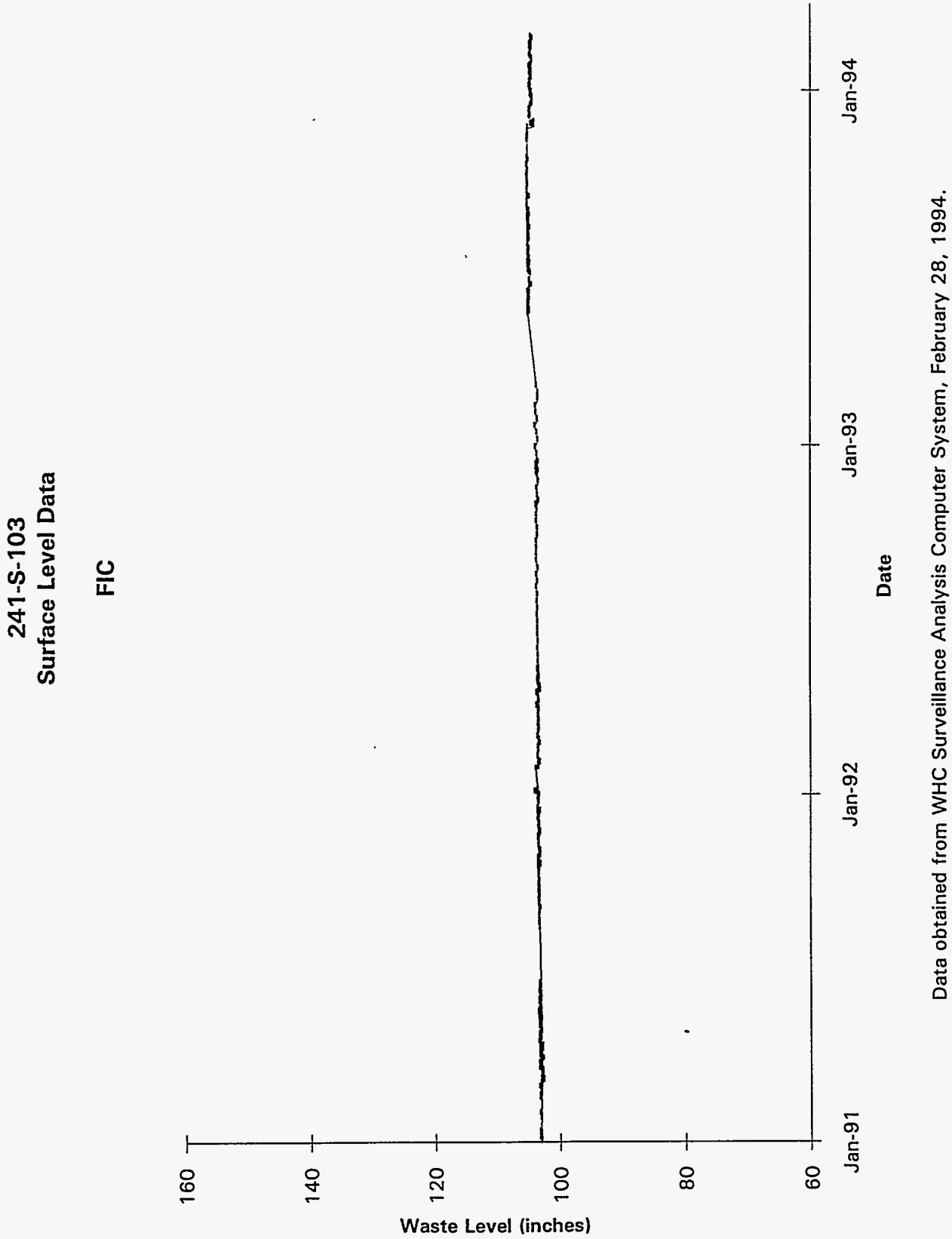
Data obtained from WHC Surveillance Analysis Computer System, February 28, 1994.

241-S-102
Surface Level Data

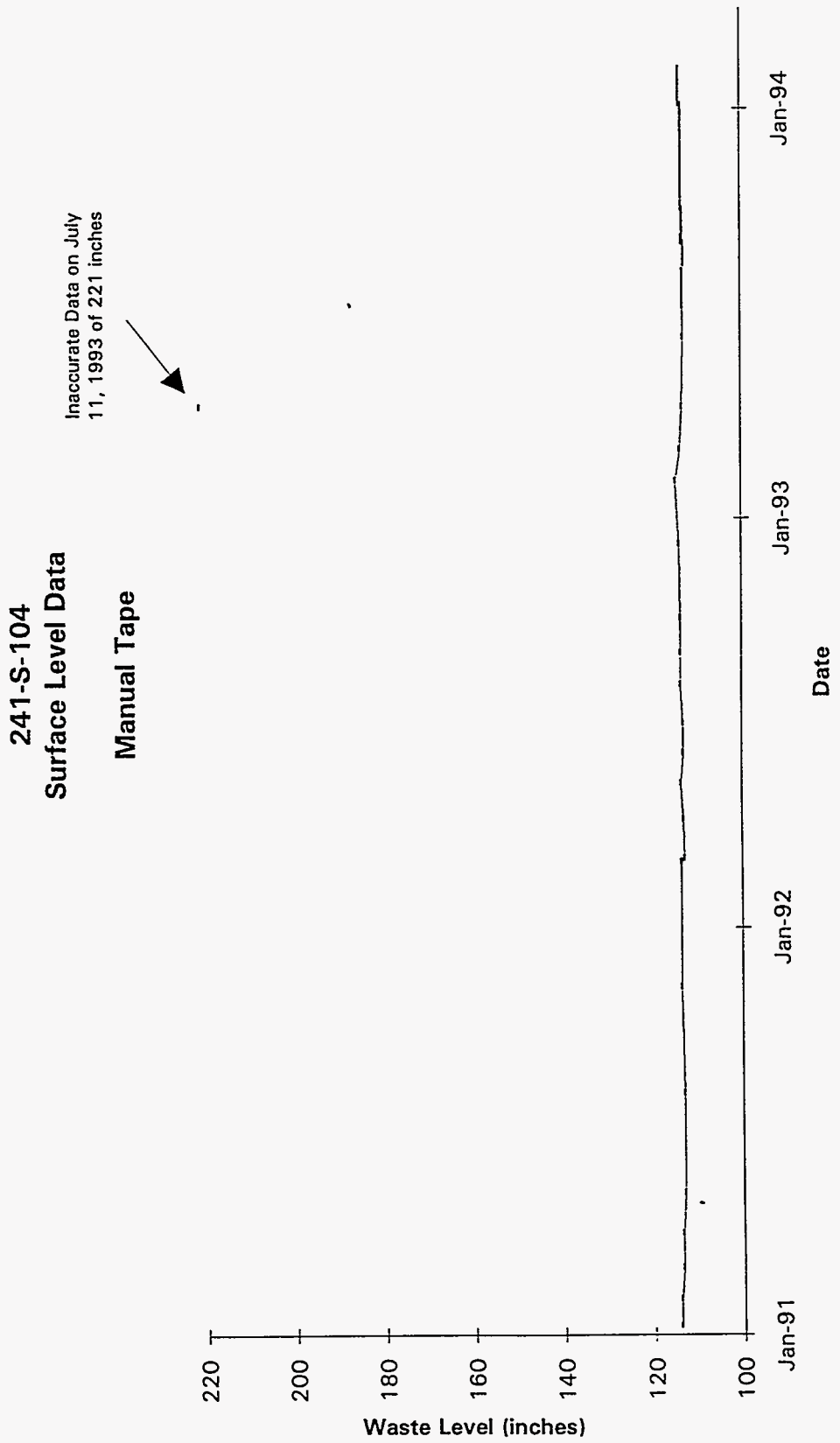
FIC



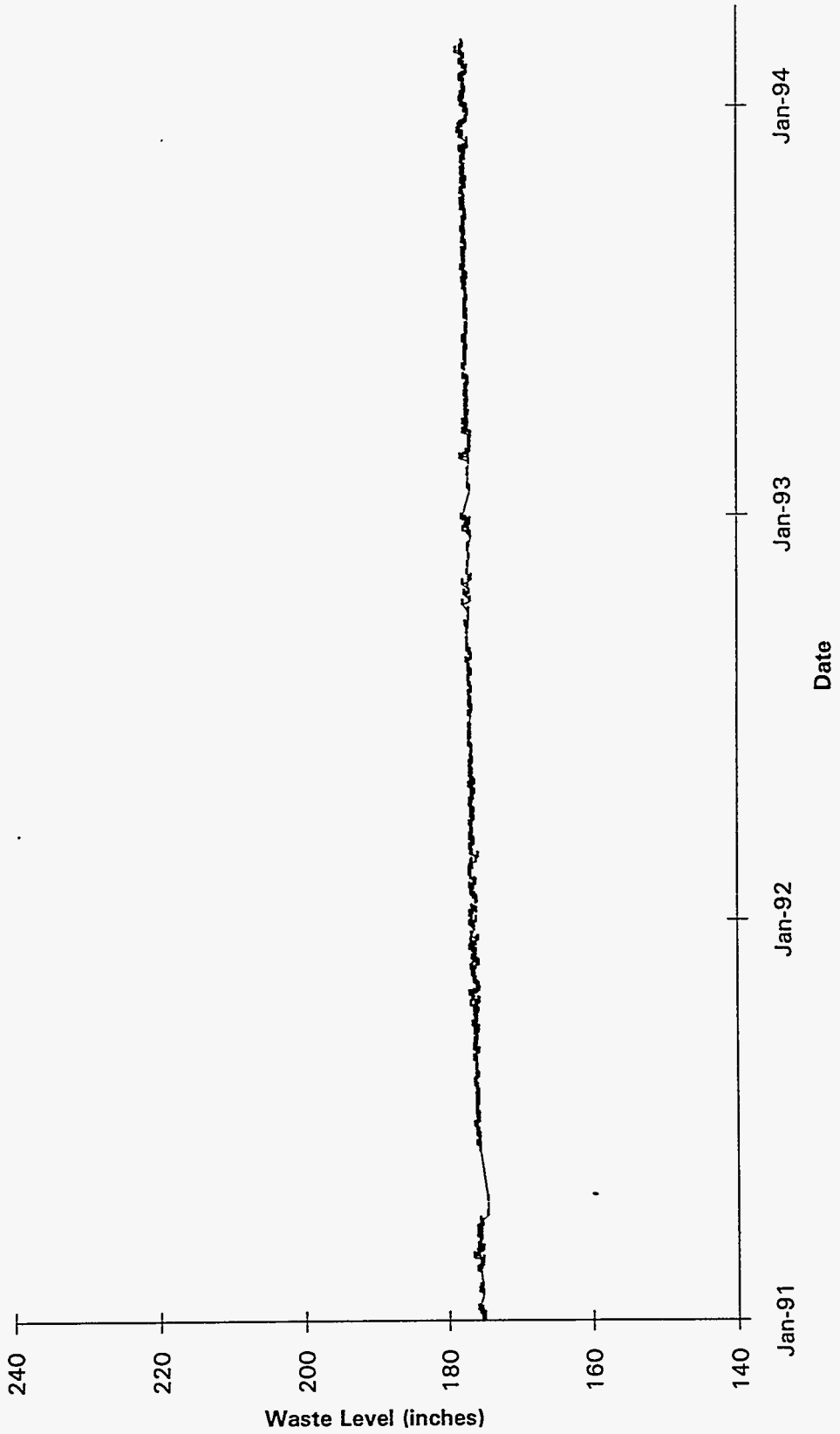
Data obtained from WHC Surveillance Analysis Computer System, February 28, 1994.



Data obtained from WHC Surveillance Analysis Computer System, February 28, 1994.



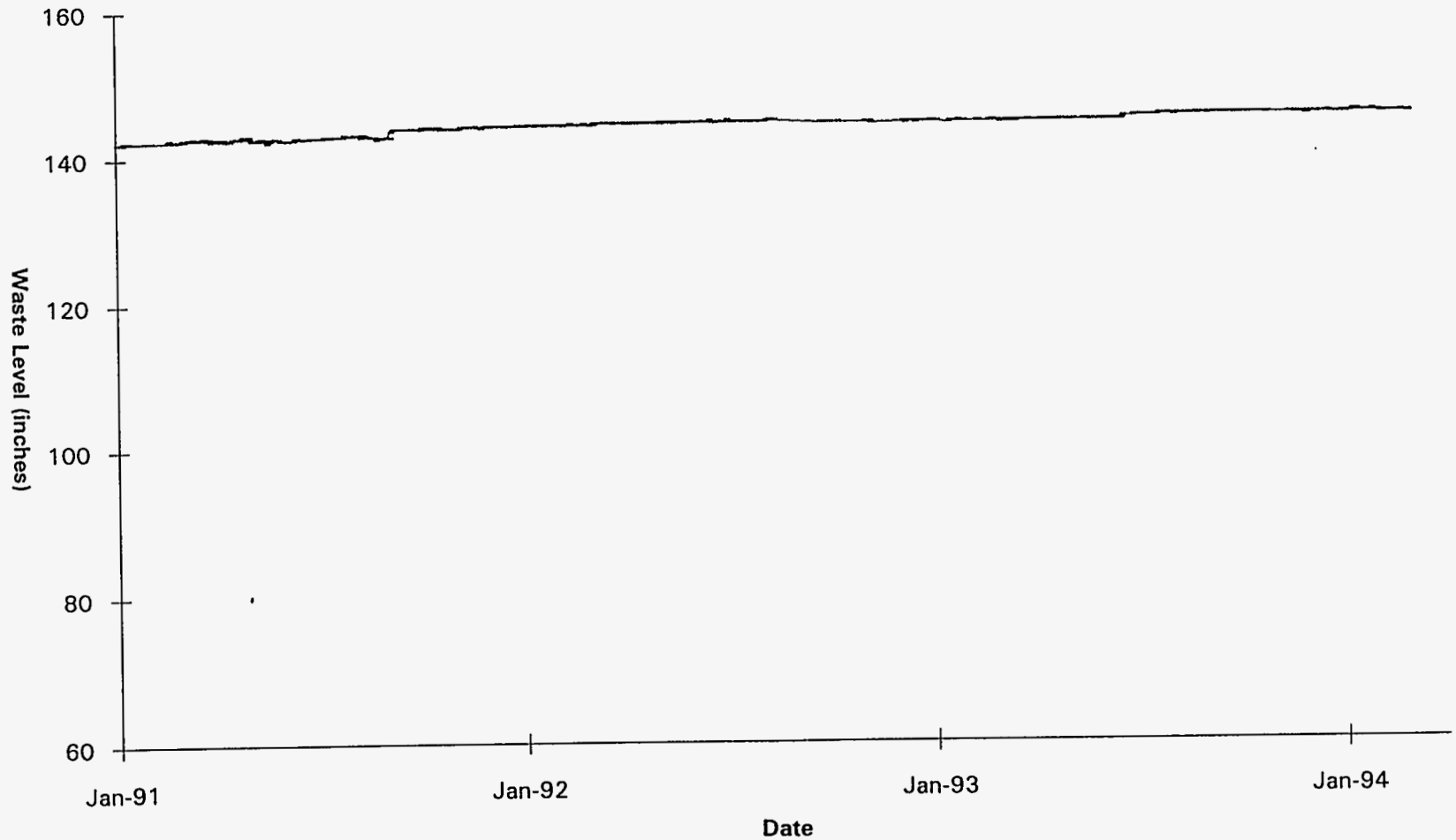
Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.



Data obtained from WHC Surveillance Analysis Computer System, February 28, 1994.

241-S-107
Surface Level Data

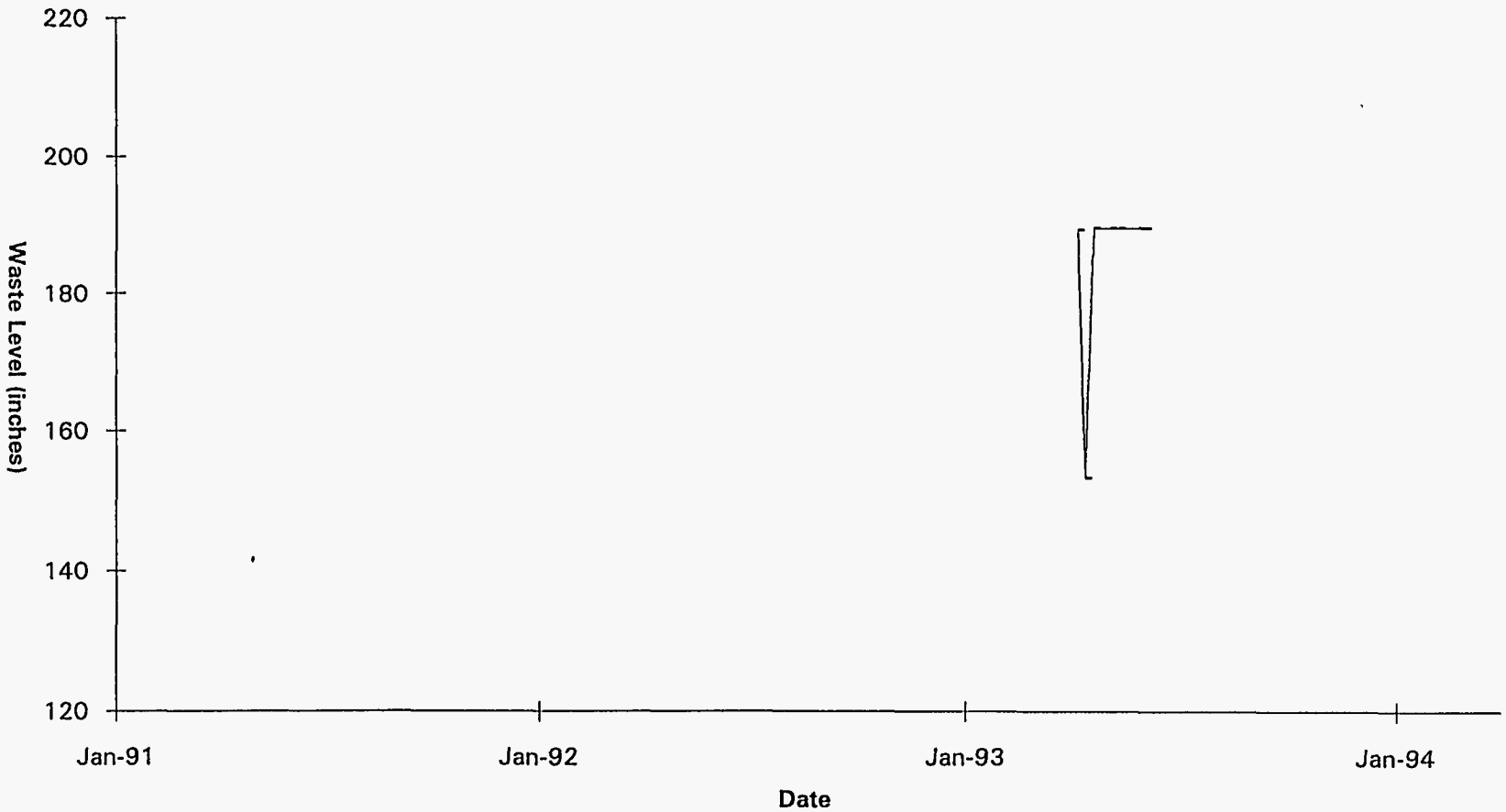
FIC



Data obtained from WHC Surveillance Analysis Computer System, February 28, 1994.

241-S-108
Surface Level Data

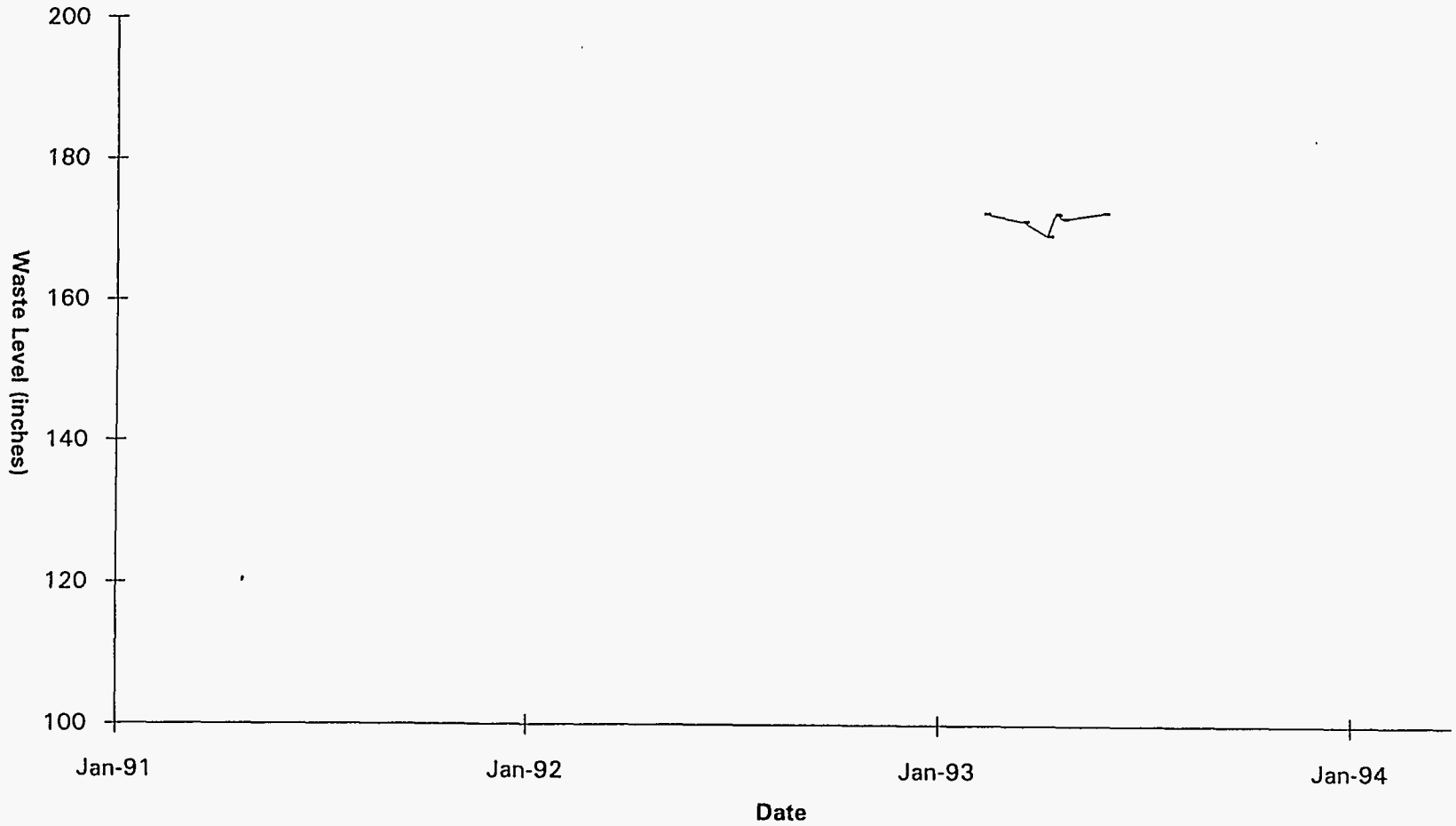
Manual Tape
(this tank has an FIC set in the intrusion mode)



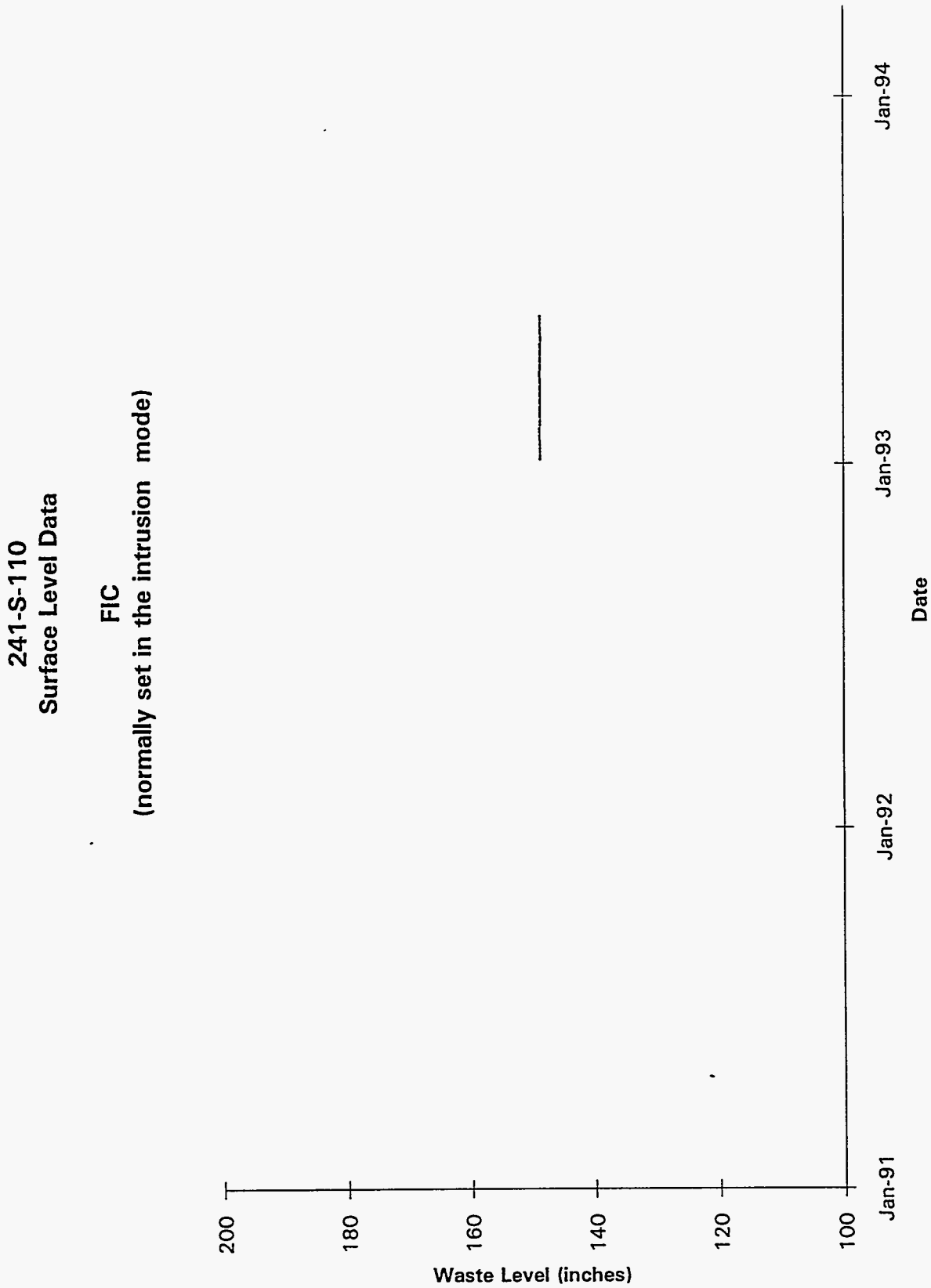
Data obtained from WHC Surveillance Analysis Computer System, February 28, 1994.

241-S-109
Surface Level Data

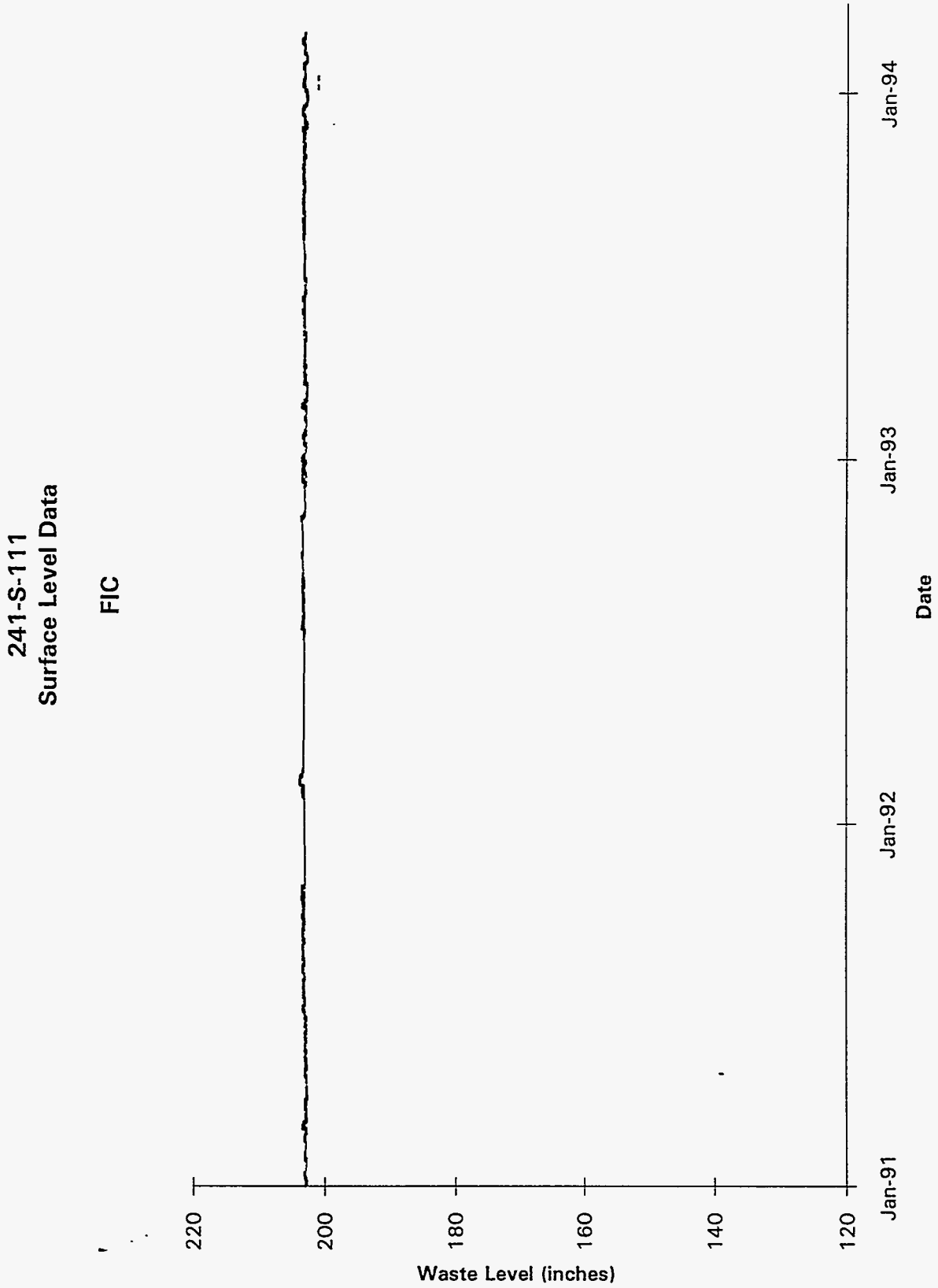
FIC
(normally set in the intrusion mode)



Data obtained from WHC Surveillance Analysis Computer System, February 28, 1994.



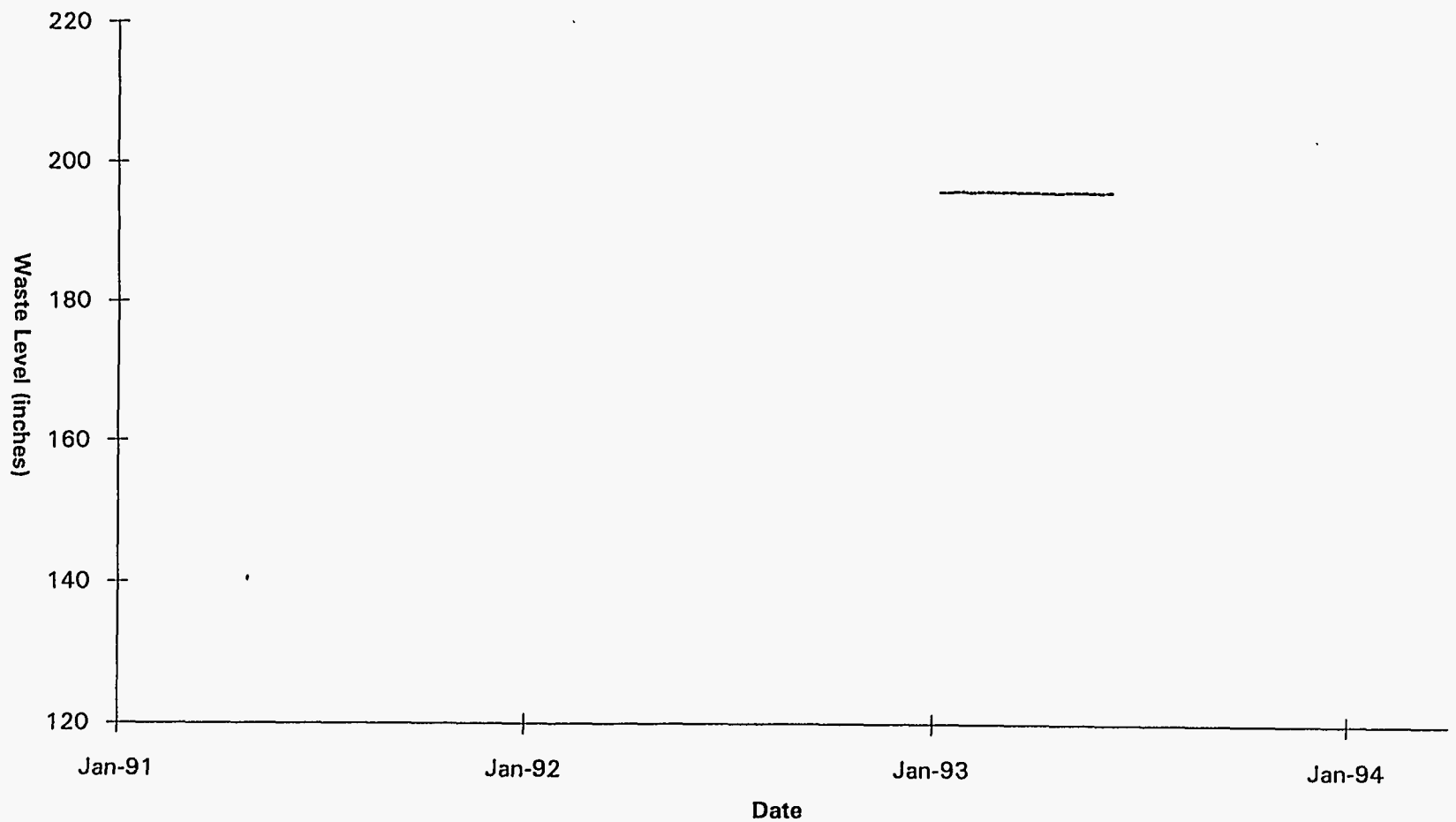
Data obtained from WHC Surveillance Analysis Computer System, February 28, 1994.



Data obtained from WHC Surveillance Analysis Computer System, February 28, 1994.

241-S-112
Surface Level Data

FIC
(normally set in the intrusion mode)



Data obtained from WHC Surveillance Analysis Computer System, February 28, 1994.

Surface Level Data					
FIC					
Year	Month	Day	Hour	Minute	Surface Level
92	4	30	7	3	161.3
92	5	1	7	3	161.2
92	5	2	7	3	161.3
92	5	3	7	3	161.2
92	5	4	7	3	161.2
92	5	5	7	4	161.3
92	5	6	7	3	161.3
92	5	7	7	4	161.3
92	5	8	7	3	161.3
92	5	9	7	4	161.3
92	5	10	7	4	161.4
92	5	11	7	3	161.4
92	5	12	7	3	161.4
92	5	13	7	3	161.3
92	5	14	7	3	161.4
92	5	15	7	3	161.4
92	5	16	7	3	161.3
92	5	17	7	2	161.3
92	5	18	7	3	161.3
92	5	19	7	3	161.3
92	5	20	7	3	161.3
92	5	21	7	3	161.3
92	5	22	7	2	161.3
92	5	23	7	3	161.3
92	5	24	7	3	161.3
92	5	25	7	3	161.3
92	5	27	7	3	161.3
92	5	28	7	2	161.3
92	5	29	7	2	161.3
92	5	30	7	3	161.3
92	5	31	7	3	161.3
92	6	1	7	3	161.3
92	6	2	7	3	161.3
92	6	3	7	3	161.3
92	6	4	7	3	161.3
92	6	5	7	2	161.2
92	6	6	7	3	161.3
92	6	7	7	3	161.3
92	6	8	7	3	161.3
92	6	9	7	3	161.3
92	6	10	7	3	161.3
92	6	11	7	3	161.3
92	6	12	7	5	161.2
92	6	13	7	5	161.3
92	6	15	7	3	161.3
92	6	16	7	3	161.3

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	6	17	7	3	161.3
92	6	18	7	3	161.3
92	6	19	7	2	161.3
92	6	20	7	2	161.3
92	6	21	7	3	161.3
92	6	22	7	3	161.3
92	6	23	7	3	161.3
92	6	24	7	3	161.3
92	6	25	7	3	161.3
92	6	26	7	2	161.3
92	6	27	7	3	161.3
92	6	28	6	6	161.3
92	7	8	7	6	162.2
92	7	9	7	6	162.2
92	7	10	7	6	162.2
92	7	11	7	6	162.3
92	7	12	7	6	162.3
92	7	13	7	6	162.3
92	7	14	7	6	162.2
92	7	15	7	6	162.2
92	7	16	7	6	162.2
92	7	17	7	6	162.3
92	7	18	7	6	162.3
92	7	19	7	6	162.3
92	7	20	7	6	162.3
92	7	21	7	5	162.3
92	7	22	7	6	162.3
92	7	24	7	5	162.3
92	7	25	7	6	162.2
92	7	26	7	6	162.3
92	7	27	7	5	162.3
92	7	28	7	6	162.3
92	7	29	7	6	162.3
92	7	30	7	6	162.3
92	7	31	7	5	162.3
92	8	1	7	6	162.3
92	8	2	6	6	162.3
92	8	3	7	6	162.3
92	8	4	7	6	162.3
92	8	5	7	5	162.3
92	8	6	7	5	162.3
92	8	7	7	5	162.3
92	8	8	7	6	162.3
92	8	9	7	6	162.2
92	8	10	7	5	162.2
92	8	11	7	6	162.3
92	8	12	7	6	162.3
92	8	13	7	6	162.3

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	8	14	7	6	162.3
92	8	15	7	6	162.3
92	8	16	7	6	162.3
92	8	17	7	6	162.3
92	8	18	7	6	162.3
92	8	19	7	6	162.3
92	8	20	7	6	162.3
92	8	21	7	5	162.3
92	8	22	7	4	162.3
92	8	23	7	4	162.2
92	8	24	7	4	162.2
92	8	25	7	4	162.2
92	8	26	7	3	162.2
92	8	27	7	4	162.3
92	8	28	7	2	162.3
92	8	29	7	2	162.3
92	8	30	7	2	162.3
92	8	31	7	2	162.4
92	9	1	7	2	162.3
92	9	2	7	2	162.2
92	9	3	7	4	162.4
92	9	22	7	3	162.3
92	9	23	7	3	162.4
92	10	29	7	3	161.3
92	10	30	7	3	161.3
92	10	31	7	3	161.2
92	11	1	7	3	161.1
92	11	2	7	3	161.1
92	11	3	7	3	161
92	11	4	7	3	161.1
92	12	2	6	3	161.2
92	12	3	6	3	161.1
92	12	4	7	3	161.1
92	12	6	7	2	161.2
92	12	7	7	3	161.2
92	12	8	7	3	161.2
92	12	9	7	3	161.2
92	12	10	7	3	161.2
92	12	11	7	3	161.2
92	12	13	7	4	161
92	12	14	7	3	161.1
92	12	15	7	3	161.1
92	12	16	7	4	161.1
92	12	17	7	3	161.2
92	12	18	7	3	161.1
92	12	19	7	3	161.1
92	12	20	7	4	161.2
92	12	21	7	4	161.1

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	12	23	7	4	161
92	12	24	7	3	161.2
92	12	25	7	3	161.2
92	12	26	7	3	161.2
92	12	27	7	3	161.2
92	12	28	7	3	161.2
92	12	30	7	3	161.1
92	12	31	7	3	161.1
93	1	1	7	4	161.1
93	1	12	7	6	161
93	1	13	7	6	161.1
93	1	14	7	3	161.2
93	1	15	7	3	161.1
93	1	17	7	2	161.1
93	1	18	7	2	161.1
93	1	19	7	2	161.2
93	1	20	7	2	161.3
93	1	21	7	2	161.1
93	1	22	7	4	161.2
93	1	23	7	3	161.1
93	1	24	7	3	161.1
93	1	25	6	3	161.1
93	2	5	6	4	161.1
93	2	6	2	3	161.1
93	2	7	7	3	161.1
93	2	16	6	3	160.1
93	2	18	7	3	161.1
93	2	19	7	2	161.2
93	2	20	7	3	161.2
93	2	21	7	4	161.2
93	2	22	7	4	161.1
93	2	23	7	3	161.1
93	2	24	7	4	161.1
93	2	25	7	3	161
93	2	26	7	3	161
93	2	27	7	4	161
93	2	28	7	3	161
93	3	1	7	3	161
93	3	2	7	4	161
93	3	3	7	3	161
93	3	4	7	4	161
93	3	5	7	4	161
93	3	6	7	3	161
93	3	9	7	4	161
93	3	10	7	5	161
93	3	11	7	4	161
93	3	12	7	4	161
93	3	13	7	3	161.1

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	3	14	7	4	161.2
93	3	15	7	3	161.2
93	3	16	7	4	161.1
93	3	17	7	3	161.1
93	3	18	7	4	161.2
93	3	19	7	3	161.1
93	3	20	7	4	161.1
93	3	21	7	4	161.1
93	3	22	7	3	161.1
93	3	23	7	3	161.2
93	3	24	7	4	161.1
93	3	25	7	3	161.1
93	3	26	7	3	161.2
93	3	27	7	3	161.2
93	3	28	7	3	161.1
93	3	29	6	3	161.1
93	3	30	7	3	161.1
93	3	31	7	3	161.1
93	4	1	7	3	161.2
93	4	2	7	6	161.2
93	4	3	7	6	161.2
93	4	4	7	5	161.1
93	4	5	7	6	161.2
93	4	10	7	5	161.2
93	4	11	7	6	161.2
93	4	12	7	6	161.1
93	4	12	10	3	161.1
93	4	19	10	3	161.1
93	4	26	10	3	161.2
93	5	3	10	5	161.2
93	5	10	10	5	161.2
93	5	17	10	5	161.1
93	5	24	10	5	161.6
93	6	1	10	6	161.1
93	6	7	10	6	161.1
93	6	14	10	6	161.15
93	6	21	10	6	161.2
93	6	28	10	6	161.2

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Surface Level Data					
FIC					
Year	Month	Day	Hour	Minute	Surface Level
91	1	1	7	3	202.5
91	1	2	7	2	202.3
91	1	3	7	3	202.3
91	1	4	7	2	202.5
91	1	5	7	2	202.5
91	1	6	7	2	202.4
91	1	7	7	2	202.6
91	1	8	7	3	202.6
91	1	9	7	2	202.7
91	1	10	7	2	203.2
91	1	11	7	3	202.6
91	1	12	7	2	202.8
91	1	19	7	3	202.4
91	1	26	7	3	202.6
91	1	27	7	3	202.7
91	1	28	7	10	202.8
91	1	29	7	2	202.5
91	1	30	7	10	202.7
91	1	31	7	2	202.7
91	2	1	7	2	202.8
91	2	15	7	3	202.8
91	2	16	7	2	203
91	2	17	7	2	202.8
91	2	18	6	2	202.6
91	2	19	7	2	203.2
91	2	20	7	3	202.6
91	2	21	7	2	202.6
91	2	22	7	2	202.7
91	2	23	7	2	202.6
91	2	24	7	3	202.5
91	2	25	7	3	203.4
91	2	26	6	2	202.6
91	2	27	7	2	202.9
91	2	28	7	2	203
91	3	1	7	2	202.8
91	3	2	7	2	203
91	3	3	4	3	202.6
91	3	4	7	3	202.7
91	3	5	7	3	202.4
91	3	6	7	2	202.3
91	3	7	7	2	202.2
91	3	8	7	2	202.2
91	3	9	7	2	202.5
91	3	10	7	2	202.6
91	3	11	7	2	202.7
91	3	12	7	3	202.6

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	3	13	7	3	202.4
91	3	14	7	3	202.6
91	3	15	7	3	202.7
91	3	16	7	3	202.9
91	3	17	7	2	203
91	3	18	7	3	203
91	3	19	7	3	202.8
91	3	20	7	2	202.9
91	3	21	7	3	202.6
91	3	22	7	2	202.5
91	3	23	7	3	202.5
91	3	24	7	3	202.7
91	3	25	7	3	202.8
91	3	26	7	3	202.7
91	3	27	7	3	202.6
91	3	28	7	3	202.5
91	3	29	7	3	202.3
91	3	30	7	3	202.4
91	3	31	7	3	202.6
91	4	1	7	3	202.7
91	4	2	7	3	202.6
91	4	3	7	3	202.5
91	4	4	7	3	202.7
91	4	5	7	3	202.8
91	4	6	7	3	202.6
91	4	7	7	3	202.6
91	4	8	7	4	202.4
91	4	9	7	3	202.6
91	4	10	7	3	202.6
91	4	11	7	3	202.4
91	4	12	7	3	202.4
91	4	13	7	4	202.6
91	4	14	7	3	202.8
91	4	15	7	3	202.8
91	4	16	7	10	202.8
91	4	17	7	3	202.7
91	4	18	7	6	202.7
91	4	19	7	5	202.7
91	4	20	7	6	202.8
91	4	21	7	5	202.8
91	4	22	7	6	202.8
91	4	23	7	6	202.9
91	4	24	7	5	202.9
91	4	25	7	5	202.8
91	4	26	3	5	202.7
91	4	27	7	5	202.6
91	4	28	7	6	202.6
91	4	29	7	5	202.6

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	4	30	7	6	202.6
91	5	1	6	6	202.8
91	5	2	7	5	202.8
91	5	3	7	6	202.8
91	5	4	7	5	202.7
91	5	5	7	5	202.7
91	5	6	7	5	202.7
91	5	7	7	5	202.8
91	5	8	7	5	202.9
91	5	9	7	5	202.7
91	5	10	7	5	202.6
91	5	11	7	5	202.7
91	5	12	7	5	202.8
91	5	13	7	5	202.8
91	5	14	7	5	202.8
91	5	15	7	5	202.7
91	5	16	7	6	202.8
91	5	17	7	6	203
91	5	18	7	6	202.9
91	5	19	7	5	202.9
91	5	20	7	6	202.7
91	5	21	7	6	202.9
91	5	23	7	5	202.7
91	5	24	7	5	202.8
91	5	25	7	5	202.7
91	5	26	7	5	202.7
91	5	27	7	5	202.7
91	5	28	7	5	202.7
91	5	29	7	5	202.9
91	5	30	7	5	202.9
91	5	31	7	5	202.6
91	6	1	7	5	202.6
91	6	2	7	5	202.8
91	6	3	7	5	202.7
91	6	4	7	5	202.5
91	6	5	7	5	202.7
91	6	6	7	6	202.7
91	6	7	7	5	202.8
91	6	8	7	5	202.8
91	6	9	7	5	202.7
91	6	10	7	6	202.8
91	6	11	7	5	202.9
91	6	12	7	4	202.8
91	6	13	7	5	202.8
91	6	14	7	5	202.8
91	6	15	7	5	202.8
91	6	16	7	5	202.8
91	6	17	7	5	202.7

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	6	18	7	5	202.7
91	6	20	7	5	202.9
91	6	21	7	6	202.8
91	6	22	7	5	202.8
91	6	23	7	5	202.9
91	6	24	7	5	203
91	6	25	7	6	203
91	6	26	7	3	203
91	6	27	7	2	203
91	6	28	7	3	203
91	6	29	7	2	203
91	7	2	7	6	202.7
91	7	3	7	6	202.9
91	7	4	7	10	202.8
91	7	5	7	6	202.9
91	7	6	7	6	202.8
91	7	7	7	10	202.7
91	7	8	7	6	202.8
91	7	9	7	6	203
91	7	10	6	6	202.9
91	7	11	7	6	202.8
91	7	12	7	6	202.8
91	7	13	7	6	202.9
91	7	14	7	6	202.8
91	7	15	7	6	202.9
91	7	16	7	6	202.8
91	7	17	7	5	202.8
91	7	18	7	5	202.8
91	7	19	7	5	202.9
91	7	21	7	5	202.8
91	7	22	7	5	202.7
91	7	23	7	5	202.8
91	7	24	7	5	203
91	7	26	7	2	202.8
91	7	27	7	2	202.7
91	7	28	7	2	202.7
91	7	29	7	2	202.8
91	7	30	7	2	202.8
91	7	31	7	2	202.9
91	8	1	7	2	202.9
91	8	2	7	2	202.8
91	8	3	7	2	202.9
91	8	4	7	2	203
91	8	5	7	2	203
91	8	6	7	2	203
91	8	7	7	6	202.9
91	8	8	7	6	202.8
91	8	9	7	4	202.9

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	8	10	7	4	202.8
91	8	11	7	4	202.7
91	8	12	7	4	202.7
91	8	13	7	4	202.7
91	8	14	7	4	202.7
91	8	15	7	3	202.8
91	8	17	7	2	202.7
91	8	18	7	3	202.8
91	8	19	7	2	202.8
91	8	20	7	4	202.7
91	8	21	7	3	202.7
91	8	22	7	3	202.7
91	8	23	7	2	202.8
91	8	24	7	2	202.8
91	8	25	7	2	202.7
91	8	26	7	3	202.7
91	8	27	7	3	202.9
91	8	28	7	3	202.8
91	8	29	7	2	202.7
91	8	30	7	10	202.7
91	8	31	7	2	202.7
91	9	1	7	2	202.7
91	9	2	7	2	202.6
91	9	3	7	2	202.6
91	9	4	7	3	202.6
91	9	5	7	2	203
91	9	6	7	2	203
91	9	7	7	2	203
91	9	8	7	2	202.7
91	9	9	7	3	202.6
91	9	10	7	2	202.8
91	9	11	7	3	202.8
91	9	12	7	2	202.8
91	9	13	7	2	202.8
91	9	14	7	3	202.7
91	9	15	7	2	202.6
91	9	16	7	3	202.7
91	9	17	7	3	202.7
91	9	18	7	3	202.7
91	9	19	7	3	202.7
91	9	20	7	2	202.8
91	9	21	7	2	202.7
91	9	22	7	3	202.6
91	9	23	7	3	202.6
91	9	24	7	2	202.6
91	9	25	7	3	202.7
91	9	26	7	3	202.8
91	9	27	7	2	202.9

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	9	28	7	2	203
91	9	29	7	3	202.9
91	9	30	7	3	202.8
91	10	1	7	2	203
91	10	2	7	2	203
91	10	3	7	2	203
91	10	4	7	3	202.8
91	10	6	6	2	202.8
91	10	7	6	2	202.8
91	10	8	7	2	202.7
91	10	9	7	2	202.7
91	10	10	7	2	202.7
91	10	11	7	2	202.9
91	10	12	7	2	203
91	10	13	7	3	202.7
91	10	14	7	2	202.8
91	10	15	7	2	203
91	10	16	7	3	203.4
91	10	17	7	5	202.8
91	10	18	7	6	202.6
91	10	19	7	6	202.6
91	10	20	7	2	202.8
91	10	21	7	2	203.2
91	10	22	7	3	203
91	10	23	7	2	202.8
91	10	24	7	2	202.9
91	10	25	7	3	202.9
91	10	26	7	3	203
91	10	27	7	2	202.7
91	10	28	7	2	202.4
91	10	29	7	3	202.5
91	10	30	7	3	202.3
91	10	31	7	3	202.5
91	11	1	7	2	202.5
91	11	2	7	3	202.3
91	11	3	7	3	202.4
91	11	4	7	2	202.8
91	11	5	7	3	202.8
91	11	6	7	3	202.9
91	11	7	7	2	202.7
91	11	8	7	3	202.9
91	11	9	7	2	203
91	11	10	7	3	202.7
91	11	11	7	10	202.8
91	11	12	7	3	203
91	11	13	7	3	203
91	11	14	7	3	203.3
91	11	15	7	3	202.6

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	11	16	7	3	202.9
91	11	17	7	2	203.1
91	11	18	7	3	202.7
91	11	19	7	3	202.4
91	11	20	7	3	202.6
91	11	21	7	2	202.4
91	11	22	7	3	202.2
91	11	23	7	2	202.3
91	11	24	7	3	202.4
91	11	25	7	3	202.7
91	11	27	7	3	202.7
91	11	28	7	3	202.6
91	11	29	7	3	202.6
91	11	30	7	3	202.5
91	12	1	7	3	202.6
91	12	2	7	3	202.7
91	12	3	7	3	202.6
91	12	4	7	3	202.9
91	12	5	7	3	202.9
91	12	6	7	4	203
91	12	7	7	3	202.9
91	12	8	7	3	202.8
91	12	9	7	3	202.8
91	12	10	7	3	202.6
91	12	11	7	2	202.9
91	12	12	7	3	203
91	12	13	6	6	202.5
91	12	14	7	2	202.4
91	12	15	7	2	202.4
91	12	18	7	3	202.9
91	12	24	7	3	202.7
91	12	25	7	3	202.8
91	12	26	7	3	202.8
91	12	27	7	3	202.9
91	12	28	7	2	203
91	12	29	7	3	202.9
91	12	30	7	3	202.9
91	12	31	7	3	202.7
92	1	1	7	3	202.6
92	1	2	7	2	202.9
92	1	3	7	4	203.1
92	1	4	7	3	203.3
92	1	5	7	3	203.2
92	1	6	7	3	203
92	1	7	7	4	202.8
92	1	9	7	3	202.7
92	1	10	7	4	202.9
92	1	11	7	4	203

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	1	17	7	4	202.8
92	1	18	7	4	202.8
92	1	19	7	3	202.9
92	1	20	7	3	203
92	1	21	7	3	203.6
92	1	22	7	6	203.5
92	1	23	7	3	203.8
92	1	24	7	2	203.5
92	1	25	7	3	203.5
92	1	26	7	10	203.2
92	1	27	7	2	203.3
92	1	28	7	3	203.4
92	1	29	7	3	203.1
92	1	30	7	3	203.4
92	1	31	7	3	203.8
92	2	1	7	2	203.5
92	2	2	7	3	203.5
92	2	3	7	3	203.2
92	2	4	7	3	203.1
92	2	5	7	2	203.2
92	2	8	7	4	203.5
92	2	9	7	3	203.6
92	2	10	7	4	204.1
92	2	11	7	3	203.9
92	2	12	7	3	204
92	2	13	7	3	204
92	2	14	7	3	204
92	2	15	7	3	204.1
92	2	16	7	3	204
92	2	17	7	3	203.7
92	2	18	7	3	203.9
92	2	19	7	3	204
92	2	20	7	3	204
92	2	21	7	3	203.8
92	2	22	7	3	203.7
92	2	23	7	3	203.5
92	2	24	7	3	203.4
92	2	27	0	3	203.5
92	2	29	7	3	204.1
92	3	1	7	3	204.3
92	3	2	7	3	204.1
92	3	3	7	4	204.4
92	3	4	7	4	204.3
92	3	5	7	3	204.4
92	3	6	7	3	204.4
92	3	7	7	2	204.4
92	3	8	7	2	204.2
92	3	9	7	2	204.1

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	3	10	6	3	204.1
92	3	11	7	3	204.2
92	3	12	7	3	204.3
92	3	13	7	3	204.4
92	3	14	7	3	204.5
92	3	15	7	6	204.7
92	3	16	7	3	204.7
92	3	17	7	3	204.6
92	3	18	7	3	204.4
92	3	19	7	3	204.3
92	3	20	7	2	204.3
92	3	21	7	3	204.5
92	3	22	7	2	204.6
92	3	23	7	2	204.6
92	3	24	7	2	204.4
92	3	25	7	3	204.4
92	3	26	7	3	204.6
92	3	27	7	2	204.6
92	3	28	7	3	204.3
92	3	29	7	3	204.3
92	3	30	7	3	204.4
92	3	31	7	3	204.2
92	4	1	7	3	204.3
92	4	2	7	3	204.5
92	4	3	7	3	204.6
92	4	4	7	3	204.5
92	4	5	7	3	204.4
92	4	6	7	3	204.3
92	4	7	7	3	204
92	4	8	7	10	203.9
92	4	9	7	3	204
92	4	10	7	3	204
92	4	11	7	3	203.8
92	4	12	7	4	203.7
92	4	13	7	3	203.8
92	4	14	7	3	203.4
92	4	15	7	2	203.7
92	4	16	7	3	203.8
92	4	17	7	3	203.8
92	4	18	7	2	203.4
92	4	19	7	2	203.3
92	4	20	7	3	203.5
92	4	21	7	3	203.6
92	4	22	7	2	203.6
92	4	23	7	3	203.3
92	4	24	7	3	203.4
92	4	25	7	4	203.5
92	4	26	7	3	203.7

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	4	27	7	4	203.5
92	4	28	7	3	203.5
92	4	29	7	3	203.8
92	4	30	7	3	203.7
92	5	1	7	3	203.3
92	5	2	7	3	203.2
92	5	3	7	3	203.3
92	5	4	7	3	203.4
92	5	5	7	4	203.5
92	5	6	7	3	203.5
92	5	7	7	4	203.5
92	5	8	7	3	203.5
92	5	9	7	4	203.4
92	5	10	7	4	203.6
92	5	11	7	3	203.4
92	5	12	7	3	203.3
92	5	13	7	3	203.4
92	5	14	7	3	203.5
92	5	15	7	3	203.6
92	5	16	7	3	203.4
92	5	17	7	2	203.5
92	5	18	7	3	203.5
92	5	19	7	3	203.5
92	5	20	7	3	203.5
92	5	21	7	3	203.3
92	5	22	7	2	203.3
92	5	23	7	3	203.4
92	5	24	7	3	203.4
92	5	25	7	3	203.5
92	5	27	7	3	203.6
92	5	28	7	2	203.6
92	5	29	7	2	203.6
92	10	29	7	3	203.8
92	10	30	7	3	203.7
92	10	31	7	3	203.5
92	11	1	7	3	203.4
92	11	2	7	3	203.3
92	11	3	7	3	203.1
92	11	4	7	3	203.3
92	12	2	6	3	203.5
92	12	3	6	3	203.4
92	12	4	7	3	203.3
92	12	6	7	2	203.6
92	12	7	7	3	203.7
92	12	8	7	3	203.8
92	12	9	7	3	203.6
92	12	10	7	3	203.8
92	12	11	7	3	203.6

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	12	13	7	4	203.2
92	12	14	7	3	203.5
92	12	15	7	3	203.5
92	12	16	7	4	203.5
92	12	17	7	3	203.9
92	12	18	7	3	203.6
92	12	19	7	3	203.5
92	12	20	7	4	203.7
92	12	21	7	4	203.7
92	12	23	7	4	203.4
92	12	24	7	3	203.5
92	12	25	7	3	203.5
92	12	26	7	3	203.7
92	12	27	7	3	203.8
92	12	28	7	3	204
92	12	30	7	3	203.6
92	12	31	7	3	203.5
93	1	1	7	4	203.6
93	1	12	7	6	203.5
93	1	13	7	6	203.6
93	1	14	7	3	203.7
93	1	15	7	3	203.6
93	1	17	7	2	203.6
93	1	18	7	2	203.7
93	1	19	7	2	203.8
93	1	20	7	2	204
93	1	21	7	2	203.7
93	1	22	7	4	203.9
93	1	23	7	3	203.6
93	1	24	6	3	203.6
93	1	25	6	3	203.8
93	2	5	6	4	203.8
93	2	6	2	3	203.8
93	2	7	7	3	203.8
93	2	16	6	3	203.7
93	2	18	7	3	203.8
93	2	19	7	2	204.1
93	2	20	7	3	204.1
93	2	21	7	4	203.9
93	2	22	7	4	203.6
93	2	23	7	3	203.7
93	2	24	7	4	203.7
93	2	25	7	3	203.6
93	2	26	7	3	203.5
93	2	27	7	4	203.5
93	2	28	7	3	203.5
93	3	1	7	3	203.6
93	3	2	7	4	203.5

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	3	3	7	3	203.7
93	3	4	7	4	203.6
93	3	5	7	4	203.6
93	3	6	7	3	203.6
93	3	9	7	4	203.7
93	3	10	7	5	203.8
93	3	11	7	4	203.6
93	3	12	7	4	203.6
93	3	13	7	3	203.8
93	3	14	7	4	204.1
93	3	15	7	3	204.2
93	3	16	7	4	203.8
93	3	17	7	3	204
93	3	18	7	4	204.1
93	3	19	7	3	203.9
93	3	20	7	4	204
93	3	21	7	4	203.9
93	3	22	7	3	204
93	3	23	7	3	204.2
93	3	24	7	4	204.1
93	3	25	7	3	204
93	3	26	7	3	204
93	3	27	7	3	204
93	3	28	7	3	204
93	3	29	6	3	204
93	3	30	7	3	204
93	3	31	7	3	203.9
93	4	1	7	3	204.2
93	4	2	7	6	204.1
93	4	3	7	6	204.1
93	4	4	7	5	204.2
93	4	5	7	6	204.2
93	4	6	7	6	204.1
93	4	7	7	6	204
93	4	8	7	6	204.3
93	4	9	7	6	204.2
93	4	10	7	5	204.2
93	4	11	7	6	204.1
93	4	12	6	6	204
93	4	14	7	6	204.1
93	4	16	7	6	204.1
93	4	17	7	5	204.3
93	4	18	7	6	204.2
93	4	19	7	6	204
93	4	23	7	6	204.2
93	4	24	2	6	204.2
93	4	25	7	6	204.1
93	4	26	7	6	204.1

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	4	29	6	2	204
93	4	30	7	6	204.2
93	5	1	7	5	204.2
93	5	2	7	6	204.2
93	5	3	7	6	204.5
93	5	11	7	6	204.3
93	5	12	2	6	204.4
93	5	15	7	6	204.1
93	5	16	7	5	204.1
93	5	17	7	3	204.1
93	5	18	7	3	204.2
93	5	19	7	3	204.2
93	5	20	7	3	204.3
93	5	21	7	2	204.2
93	5	22	7	3	204
93	5	23	7	4	204.1
93	5	24	7	3	204.1
93	5	25	7	3	204.2
93	5	26	7	3	204.2
93	5	27	7	3	204.3
93	5	28	7	3	204.2
93	5	29	7	5	204.1
93	5	30	7	5	204.1
93	5	31	7	6	204.3
93	6	1	7	6	204.2
93	6	2	7	6	204.2
93	6	3	7	6	204.2
93	6	4	7	6	204.3
93	6	5	7	6	204.3
93	6	6	7	5	204.4
93	6	7	7	5	204.2
93	6	8	7	5	204.1
93	6	9	7	5	204.2
93	6	10	7	4	204.1
93	6	11	7	5	204.2
93	6	12	7	5	204
93	6	13	7	4	204.1
93	6	14	7	5	204.2
93	6	15	7	5	204.2
93	6	16	7	5	204.1
93	6	25	7	3	204.1
93	6	26	7	3	204.3
93	6	27	7	4	204.3
93	6	28	7	3	204.2
93	6	29	7	4	204.2
93	6	30	6	3	204.2
93	7	1	6	6	204.2
93	7	2	7	6	204.3

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	7	3	7	3	204.3
93	7	4	7	4	204.2
93	7	5	7	3	204.2
93	7	6	7	3	204.2
93	7	7	7	4	204.2
93	7	8	7	4	204.2
93	7	9	7	5	204.3
93	7	10	7	3	204.1
93	7	11	7	3	204.1
93	7	12	7	2	204.1
93	7	13	7	3	204.1
93	7	14	7	6	204.2
93	7	15	7	6	204.2
93	7	16	7	6	204.2
93	7	17	7	7	204.2
93	7	18	7	6	204.3
93	7	19	7	3	204.4
93	7	20	7	3	204.5
93	7	21	7	3	204.4
93	7	22	7	3	204.5
93	7	23	6	2	204.4
93	7	24	7	3	204.3
93	7	25	7	4	204.3
93	7	26	7	3	204.3
93	7	27	4	3	204.4
93	7	28	7	4	204.5
93	7	29	7	3	204.3
93	7	30	7	3	204.2
93	7	31	7	3	204.5
93	8	1	7	3	204.3
93	8	2	7	6	204.3
93	8	3	7	3	204.4
93	8	4	7	3	204.6
93	8	5	7	4	204.5
93	8	6	15	4	204.8
93	8	8	7	4	204.8
93	8	9	6	4	204.6
93	8	10	7	4	204.5
93	8	11	6	3	204.4
93	8	12	7	4	204.4
93	8	13	7	4	204.4
93	8	14	7	3	204.4
93	8	15	7	4	204.5
93	8	16	4	4	204.5
93	8	20	7	4	204.6
93	8	21	7	4	204.5
93	8	22	7	4	204.5
93	8	23	7	4	204.5

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	8	24	7	4	204.3
93	8	25	7	4	204.2
93	8	26	7	4	204.2
93	8	27	7	5	204.3
93	8	28	6	3	204.3
93	8	29	7	3	204.3
93	8	30	7	4	204.3
93	8	31	7	4	204.4
93	9	1	7	4	204.5
93	9	2	7	4	204.3
93	9	3	7	4	204.2
93	9	4	7	4	204.3
93	9	5	7	4	204.3
93	9	6	7	4	204.3
93	9	12	7	4	204.2
93	9	13	7	4	204.1
93	9	16	7	4	204.2
93	9	18	7	4	204.3
93	9	20	7	4	204.3
93	9	21	7	4	204.2
93	10	2	7	5	204.2
93	10	3	7	6	204.3
93	10	4	7	6	204.4
93	10	5	6	6	204.4
93	10	6	6	6	204.4
93	10	8	6	4	204.2
93	10	9	7	3	204.3
93	10	10	7	10	204.2
93	10	11	7	3	204.4
93	10	12	7	4	204.3
93	10	13	7	3	204.3
93	10	14	7	4	204.4
93	10	15	7	4	204.4
93	10	16	6	3	204.4
93	10	17	7	3	204.4
93	10	18	7	4	204.3
93	10	19	3	4	204.3
93	10	20	7	3	204.2
93	10	21	7	4	204.3
93	10	22	6	4	204.3
93	11	9	6	4	204.2
93	11	10	7	4	204.3
93	11	11	6	3	204.3
93	11	12	6	4	204.3
93	11	13	0	4	204.3
93	11	14	2	4	204.1
93	11	15	5	4	204.3
93	11	18	1	3	204.3

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	11	19	15	4	204.1
93	11	21	7	4	204.5
93	11	29	4	4	204.3
94	1	15	7	10	207.1
94	1	16	7	7	207
94	1	17	7	7	207
94	1	18	7	7	207
94	1	19	7	7	207
94	1	20	7	7	207
94	1	21	7	7	207
94	1	22	7	8	207
94	1	23	7	7	207.2
94	1	24	7	8	207.2
94	1	25	7	7	207.1
94	1	26	7	6	207
94	1	27	7	10	206.9
94	1	28	7	7	206.8
94	1	29	7	7	206.8
94	1	30	7	6	206.7
94	1	31	7	7	206.7
94	2	1	7	6	206.7
94	2	2	7	7	206.9
94	2	3	7	7	207
94	2	4	7	7	207
94	2	5	7	7	207
94	2	6	7	7	207.1
94	2	7	7	6	207.3
94	2	8	7	7	207
94	2	9	7	4	207.2
94	2	10	7	4	207.1
94	2	11	7	6	207.1
94	2	12	7	3	207
94	2	13	7	4	207.2
94	2	14	7	4	207.1
94	2	15	7	4	207.2
94	2	16	7	3	207.3
94	2	17	7	4	207.5
94	2	18	7	6	207.3
94	2	19	7	6	207.1
94	2	20	7	7	207
94	2	21	7	6	207
94	2	22	7	5	206.8
94	2	23	7	6	207
94	2	24	7	6	205.5

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Surface Level Data					
FIC					
Year	Month	Day	Hour	Minute	Surface Level
91	1	1	7	3	103
91	1	2	7	2	103
91	1	3	7	3	102.9
91	1	4	7	2	103
91	1	5	7	2	103.1
91	1	6	7	2	103
91	1	7	7	2	103
91	1	8	7	3	103
91	1	9	7	2	103.1
91	1	10	7	2	103.1
91	1	11	7	3	103
91	1	12	7	2	103.1
91	1	26	7	3	103
91	1	27	7	3	103
91	1	28	7	10	103
91	1	29	7	2	103
91	1	30	7	10	103
91	1	31	7	2	103.1
91	2	1	7	2	103
91	2	15	7	3	103
91	2	16	7	2	103.1
91	2	17	7	2	103.1
91	2	18	7	3	103.1
91	2	19	7	2	103.1
91	2	20	7	3	102.9
91	2	21	7	2	102.9
91	2	22	7	2	103
91	2	23	7	2	103
91	2	24	7	3	102.9
91	2	25	7	3	102.9
91	2	26	7	3	103
91	2	27	7	2	103.1
91	2	28	7	2	103.2
91	3	2	7	2	102.8
91	3	3	7	3	102.9
91	3	4	7	3	103
91	3	5	7	3	102.8
91	3	6	7	2	102.6
91	3	7	7	2	102.5
91	3	8	7	2	102.5
91	3	9	7	2	102.9
91	3	10	7	2	102.8
91	3	11	7	2	102.7
91	3	12	7	3	102.7
91	3	13	7	3	102.7
91	3	14	7	3	102.8

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	3	15	7	3	102.7
91	3	16	7	3	102.9
91	3	17	7	2	102.7
91	3	18	7	3	102.8
91	3	19	7	3	103.2
91	3	20	7	2	103
91	3	21	7	3	102.9
91	3	22	7	2	103
91	3	23	7	3	102.8
91	3	24	7	3	102.9
91	3	25	7	3	103.2
91	3	26	7	3	103
91	3	27	7	3	102.8
91	3	28	7	3	102.8
91	3	29	7	3	102.7
91	3	30	7	3	102.6
91	3	31	7	3	103
91	4	1	7	3	103.1
91	4	2	7	3	102.8
91	4	3	7	3	102.9
91	4	4	7	3	103.1
91	4	5	7	3	103.1
91	4	6	7	3	102.8
91	4	7	7	3	103
91	4	8	7	4	102.7
91	4	9	7	3	103.1
91	4	10	7	3	102.8
91	4	11	7	3	102.7
91	4	12	7	3	102.7
91	4	13	7	4	103
91	4	14	7	3	103.1
91	4	15	7	3	103.1
91	4	16	7	10	103.3
91	4	17	7	3	103.1
91	4	18	7	6	103.1
91	4	19	7	5	103
91	4	20	7	6	102.9
91	4	21	7	5	103.1
91	4	22	7	6	103.1
91	4	23	7	6	103.2
91	4	24	7	5	103.2
91	4	25	7	5	103.1
91	4	26	3	5	102.9
91	4	27	7	5	102.8
91	4	28	7	6	102.8
91	4	29	7	5	103
91	4	30	7	6	103
91	5	1	6	6	103

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	5	2	7	5	103.2
91	5	3	7	6	103
91	5	4	7	5	102.9
91	5	5	7	5	103
91	5	6	7	5	103
91	5	7	7	5	103.2
91	5	8	7	5	103
91	5	9	7	5	103.1
91	5	10	7	5	102.8
91	5	11	7	5	103.2
91	5	12	7	5	103.3
91	5	13	7	5	103.1
91	5	14	7	5	103
91	5	15	7	5	103.1
91	5	16	7	6	102.9
91	5	17	7	6	103.4
91	5	18	7	6	103.1
91	5	19	7	5	103.3
91	5	20	7	6	102.9
91	5	21	7	6	103.1
91	5	22	7	5	103
91	5	23	7	5	103.1
91	5	24	7	5	103
91	5	25	7	5	103
91	5	26	7	5	103
91	5	27	7	5	103.2
91	5	28	7	5	103
91	5	29	7	5	103.2
91	5	30	7	5	103.2
91	5	31	7	5	102.9
91	6	1	7	5	103
91	6	2	7	5	103.1
91	6	3	7	5	103.1
91	6	4	7	5	102.9
91	6	5	7	5	102.9
91	6	6	7	6	102.9
91	6	7	7	5	103.1
91	6	8	7	5	103.2
91	6	9	7	5	103.1
91	6	10	7	6	103.1
91	6	11	7	5	103.1
91	6	12	7	4	103
91	6	13	7	5	103
91	6	14	7	5	103
91	6	15	7	5	103.1
91	6	16	7	5	103.1
91	6	17	7	5	103
91	8	13	7	4	103.1

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	8	14	7	4	103.1
91	8	15	7	3	103.1
91	8	17	7	2	103.1
91	8	18	7	3	103.2
91	8	19	7	2	103.2
91	8	20	7	4	103.1
91	8	21	7	3	103.2
91	8	22	7	3	103.2
91	8	23	7	2	103.2
91	8	24	7	2	103.2
91	8	25	7	2	103.2
91	8	26	7	3	103.2
91	8	27	7	3	103.2
91	8	28	7	3	103.2
91	8	29	7	2	103.1
91	8	30	7	10	103.1
91	8	31	7	2	103.2
91	9	1	7	2	103.1
91	9	2	7	2	103.1
91	9	3	7	2	103
91	9	4	7	3	103.1
91	9	5	7	2	103.2
91	9	6	7	2	103.2
91	9	7	7	2	103.3
91	9	8	7	2	103.2
91	9	9	7	3	103.1
91	9	10	7	2	103.3
91	9	11	7	3	103.2
91	9	12	7	2	103.2
91	9	13	7	2	103.3
91	9	14	7	3	103.2
91	9	15	7	2	103.1
91	9	16	7	3	103.2
91	9	17	7	3	103.1
91	9	18	7	3	103.2
91	9	19	7	3	103.2
91	9	20	7	2	103.3
91	9	21	7	2	103.2
91	9	22	7	3	103.1
91	9	23	7	3	103.1
91	9	24	7	2	103.1
91	9	25	7	3	103.2
91	9	26	7	3	103.3
91	9	27	7	2	103.3
91	9	28	7	2	103.3
91	9	29	7	3	103.2
91	9	30	7	3	103.1
91	10	1	7	2	103.2

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	10	2	7	2	103.2
91	10	3	7	2	103.2
91	10	4	7	3	103.2
91	10	6	6	2	103.2
91	10	7	6	2	103.3
91	10	8	7	2	103.2
91	10	9	7	2	103.2
91	10	10	7	2	103.2
91	10	11	7	2	103.3
91	10	12	7	2	103.3
91	10	13	7	3	103.2
91	10	14	7	2	103.1
91	10	15	7	2	103.3
91	10	16	7	3	103.4
91	10	17	7	5	103.1
91	10	18	7	6	102.9
91	10	19	7	6	102.9
91	10	20	7	2	103
91	10	21	7	2	103.4
91	10	22	7	3	103.2
91	10	23	7	2	103.2
91	10	24	7	2	103.2
91	10	25	7	3	103.3
91	10	26	7	3	103.4
91	10	27	7	2	103.2
91	10	28	7	2	103
91	10	29	7	3	103.1
91	10	30	7	3	103
91	10	31	7	3	103.1
91	11	1	7	2	103
91	11	2	7	3	103
91	11	3	7	3	103
91	11	4	7	2	103.1
91	11	5	7	3	103.2
91	11	6	7	3	103.2
91	11	7	7	2	103.2
91	11	8	7	3	103.3
91	11	9	7	2	103.2
91	11	10	7	3	103.2
91	11	11	7	10	103.3
91	11	12	7	3	103.3
91	11	13	7	3	103.3
91	11	14	7	3	103.3
91	11	15	7	3	103.2
91	11	16	7	3	103.4
91	11	17	7	2	103.4
91	11	18	7	3	103.3
91	11	19	7	3	103.1

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	11	20	7	3	103.2
91	11	21	7	2	103
91	11	22	7	3	103
91	11	23	7	2	103
91	11	24	7	3	103.2
91	11	25	7	3	103.2
91	11	27	7	3	103.3
91	11	28	7	3	103.1
91	11	29	7	3	103.1
91	11	30	7	3	103.1
91	12	1	7	3	103.1
91	12	2	7	3	103.2
91	12	3	7	3	103.2
91	12	4	7	3	103.3
91	12	5	7	3	103.3
91	12	6	7	4	103.4
91	12	7	7	3	103.3
91	12	8	7	3	103.2
91	12	9	7	3	103.2
91	12	10	7	3	103.1
91	12	11	7	2	103.3
91	12	12	7	3	103.4
91	12	13	6	6	103.1
91	12	14	7	2	103
91	12	15	7	2	103
91	12	18	7	3	103.4
91	12	24	7	3	103.2
91	12	25	7	3	103.3
91	12	26	7	3	103.2
91	12	27	7	3	103.3
91	12	28	7	2	103.4
91	12	29	7	3	103.3
91	12	30	7	3	103.3
91	12	31	7	3	103.1
92	1	1	7	3	103.2
92	1	2	7	2	103.4
92	1	3	7	4	103.7
92	1	4	7	3	103.8
92	1	5	7	3	103.4
92	1	6	7	3	103.4
92	1	28	7	3	103.7
92	1	29	7	3	103.2
92	1	30	7	3	103.3
92	1	31	7	3	103.3
92	2	1	7	2	103.3
92	2	2	7	3	103.1
92	2	3	7	3	103
92	2	4	7	3	103

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	2	5	7	2	103.2
92	2	8	7	4	103.3
92	2	9	7	3	103.3
92	2	10	7	4	103.4
92	2	11	7	3	103.3
92	2	12	7	3	103.3
92	2	13	7	3	103.3
92	2	14	7	3	103.3
92	2	15	7	3	103.3
92	2	16	7	3	103.2
92	2	17	7	3	103.2
92	2	18	7	3	103.2
92	2	19	7	3	103.3
92	2	20	7	3	103.2
92	2	21	7	3	103.2
92	2	22	7	3	103.1
92	2	23	7	3	103
92	2	24	7	3	103.1
92	2	27	0	3	103.1
92	2	29	7	3	103.3
92	3	1	7	3	103.4
92	3	2	7	3	103.3
92	3	3	7	4	103.3
92	3	4	7	4	103.3
92	3	5	7	3	103.3
92	3	6	7	3	103.3
92	3	7	7	2	103.2
92	3	8	7	2	103.2
92	3	9	7	2	103.1
92	3	10	6	3	103.1
92	3	11	7	3	103.1
92	3	12	7	3	103.2
92	3	13	7	3	103.2
92	3	14	7	3	103.3
92	3	15	7	6	103.3
92	3	16	7	3	103.3
92	3	17	7	3	103.2
92	3	18	7	3	103.1
92	3	19	7	3	103.1
92	3	20	7	2	103.2
92	3	21	7	3	103.2
92	3	22	7	2	103.3
92	3	23	7	2	103.3
92	3	24	7	2	103.2
92	3	25	7	3	103.2
92	3	26	7	3	103.3
92	3	27	7	2	103.3
92	3	28	7	3	103.2

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	3	29	7	3	103.1
92	3	30	7	3	103.2
92	3	31	7	3	103.1
92	4	1	7	3	103.3
92	4	2	7	3	103.5
92	4	3	7	3	103.5
92	4	4	7	3	103.2
92	4	5	7	3	103.3
92	4	6	7	3	103.2
92	4	7	7	3	103.1
92	4	8	7	10	103.2
92	4	9	7	3	103.3
92	4	10	7	3	103.3
92	4	11	7	3	103.2
92	4	12	7	4	103.3
92	4	13	7	3	103.3
92	4	14	7	3	103.2
92	4	15	7	2	103.5
92	4	16	7	3	103.5
92	4	17	7	3	103.2
92	4	18	7	2	103
92	4	19	7	2	102.9
92	4	20	7	3	103.2
92	4	21	7	3	103.2
92	4	22	7	2	103.2
92	4	23	7	3	103
92	4	24	7	3	103.1
92	4	25	7	4	103.2
92	4	26	7	3	103.3
92	4	27	7	4	103.2
92	4	28	7	3	103.2
92	4	29	7	3	103.4
92	4	30	7	3	103.4
92	5	1	7	3	103.1
92	5	2	7	3	103.1
92	5	3	7	3	103.1
92	5	4	7	3	103.2
92	5	4	10	3	103.2
92	5	5	7	4	103.3
92	5	6	7	3	103.3
92	5	7	7	4	103.3
92	5	8	7	3	103.3
92	5	9	7	4	103.2
92	5	10	7	4	103.4
92	5	11	7	3	103.2
92	5	11	10	3	103.4
92	5	18	10	3	103.3
92	5	25	10	3	103.3

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	6	1	10	6	103.4
92	6	8	10	6	103.25
92	6	15	10	6	103.4
92	6	22	10	6	103.4
92	6	29	10	6	103.4
92	7	6	10	6	103.43
92	7	13	10	6	103.4
92	7	20	10	6	103.45
92	7	27	10	6	103.4
92	8	4	10	6	103.5
92	8	10	10	6	103.35
92	8	17	10	6	103.5
92	8	24	10	6	103.3
92	9	1	10	2	103.5
92	9	8	10	2	103.55
92	9	14	10	2	103.55
92	9	21	10	2	103.5
92	9	28	10	2	103.4
92	10	5	10	3	103.4
92	10	12	10	3	103.55
92	10	19	10	3	103.5
92	10	26	10	3	103.45
92	10	29	7	3	103.6
92	10	30	7	3	103.6
92	10	31	7	3	103.4
92	11	1	7	3	103.3
92	11	2	7	3	103.3
92	11	3	7	3	103.1
92	11	4	7	3	103.3
92	11	9	10	3	103.4
92	11	16	10	3	103.45
92	11	23	10	3	103.2
92	11	30	10	3	103.4
92	12	2	6	3	103.5
92	12	3	6	3	103.3
92	12	4	7	3	103.2
92	12	6	7	2	103.4
92	12	7	7	3	103.6
92	12	8	7	3	103.6
92	12	9	7	3	103.4
92	12	10	7	3	103.6
92	12	11	7	3	103.5
92	12	13	7	4	103.2
92	12	14	7	3	103.4
92	12	21	10	3	103.45
92	12	28	10	3	103.65
93	1	5	10	3	103.3
93	1	12	10	3	103.45

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	1	19	10	3	103.75
93	1	25	10	3	103.4
93	1	26	10	3	103.4
93	2	1	10	3	103.6
93	2	8	10	3	103.65
93	2	16	10	3	103.3
93	2	22	10	3	103.25
93	3	1	10	3	103.55
93	5	14	10	6	104.8
93	5	15	10	6	104.9
93	5	16	11	6	104.6
93	5	17	11	6	104.8
93	5	18	7	3	104.6
93	5	20	7	3	104.9
93	5	21	5	2	104.7
93	5	22	7	3	104.8
93	5	23	7	4	104.8
93	5	24	7	3	104.8
93	5	25	7	3	104.9
93	5	26	7	3	104.7
93	5	27	7	3	104.9
93	5	28	7	3	104.8
93	5	29	7	5	104.7
93	5	30	7	5	104.6
93	5	31	7	6	104.7
93	6	1	7	6	104.8
93	6	2	7	6	104.6
93	6	3	7	6	104.8
93	6	4	7	6	104.7
93	6	5	7	6	104.7
93	6	6	7	5	104.9
93	6	7	7	5	104.6
93	6	8	7	5	104.7
93	6	9	7	5	104.6
93	6	10	7	4	104.6
93	6	11	7	5	104.6
93	6	12	7	5	104.6
93	6	13	7	4	104.3
93	6	14	7	5	104.6
93	6	15	7	5	104.6
93	6	16	7	5	104.6
93	6	17	7	5	104.6
93	6	18	7	6	104.6
93	6	25	7	3	104.4
93	6	26	7	3	104.7
93	6	27	7	4	104.5
93	6	28	7	3	104.8
93	6	29	7	4	104.8

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	6	30	6	3	104.7
93	7	1	7	6	104.6
93	7	2	7	6	104.8
93	7	3	7	3	104.9
93	7	4	7	4	104.9
93	7	5	7	3	104.5
93	7	6	7	3	104.6
93	7	7	7	4	104.9
93	7	8	7	4	104.7
93	7	9	7	5	104.8
93	7	10	7	3	104.8
93	7	11	7	3	104.6
93	7	12	7	2	104.8
93	7	13	7	3	104.8
93	7	14	7	6	104.7
93	7	15	7	6	104.8
93	7	16	7	6	104.9
93	7	17	7	7	104.9
93	7	18	7	6	104.7
93	7	19	7	3	104.8
93	7	20	7	3	104.7
93	7	21	7	3	104.7
93	7	22	7	3	104.8
93	7	23	7	3	104.8
93	7	24	7	3	104.8
93	7	25	7	4	104.9
93	7	26	7	3	104.8
93	7	27	7	3	104.9
93	7	28	7	4	104.9
93	7	29	7	3	104.8
93	7	30	7	3	104.7
93	7	31	7	3	104.6
93	8	1	7	3	104.7
93	8	2	7	6	104.6
93	8	3	7	3	104.9
93	8	4	7	3	104.9
93	8	5	7	4	104.7
93	8	6	7	4	104.9
93	8	8	7	4	104.9
93	8	9	7	4	104.8
93	8	10	7	4	104.7
93	8	11	7	4	104.5
93	8	12	7	4	104.7
93	8	13	7	4	104.7
93	8	14	7	3	104.9
93	8	15	7	4	104.7
93	8	16	7	4	104.9
93	8	17	7	4	104.8

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	8	18	7	3	104.8
93	8	19	7	4	104.7
93	8	20	7	4	105
93	8	21	7	4	104.9
93	8	22	7	4	104.9
93	8	23	7	4	105
93	8	24	7	4	104.6
93	8	25	7	4	104.8
93	8	26	7	4	104.8
93	8	27	7	5	104.9
93	8	28	7	4	104.7
93	8	29	7	3	104.7
93	8	30	7	4	104.9
93	8	31	7	4	105
93	9	1	7	4	105
93	9	2	7	4	105
93	9	3	7	4	105
93	9	4	7	4	105
93	9	5	7	4	105
93	9	6	7	4	105
93	9	7	7	4	105
93	9	8	7	4	105
93	9	9	7	4	105
93	9	10	7	4	105
93	9	11	7	4	105
93	9	12	7	4	104.6
93	9	13	7	4	104.8
93	9	14	7	4	105
93	9	15	7	4	105
93	9	16	7	4	105
93	9	17	7	4	105
93	9	18	7	4	105
93	9	19	7	4	105
93	9	20	7	4	105
93	9	21	7	4	105
93	9	22	7	4	104.9
93	9	23	7	4	104.9
93	9	24	7	4	105
93	9	25	7	4	105
93	9	26	7	4	104.9
93	9	27	7	4	105
93	9	28	7	4	105
93	9	29	7	4	105
93	9	30	7	3	105
93	10	1	7	6	105
93	10	2	7	5	105
93	10	3	7	6	105
93	10	4	7	6	105

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	10	5	7	6	105.1
93	10	6	7	6	105
93	10	7	7	5	105
93	10	8	7	4	104.9
93	10	9	7	3	104.9
93	10	10	7	10	105
93	10	11	7	3	105
93	10	12	7	4	105
93	10	13	7	3	105
93	10	14	7	4	105
93	10	15	7	4	105.1
93	10	16	7	4	105
93	10	17	7	3	105
93	10	18	7	4	105
93	10	19	7	4	105
93	10	20	7	3	104.8
93	10	21	7	4	105
93	10	22	7	4	105
93	11	9	7	3	105
93	11	10	7	4	105
93	11	11	7	4	105.1
93	11	12	7	4	104.9
93	11	13	7	4	105
93	11	14	7	3	104.9
93	11	15	7	4	105
93	11	16	7	3	105
93	11	17	7	4	105
93	11	18	7	4	105
93	11	22	15	4	104.9
93	11	24	7	4	103.9
93	11	25	7	4	104.4
93	11	26	7	4	104.3
93	11	27	7	4	103.9
93	11	28	7	3	103.9
93	12	3	15	4	104.5
93	12	4	7	5	104.7
93	12	5	7	4	104.4
93	12	6	7	5	104.5
93	12	7	7	4	104.7
93	12	8	7	6	104.7
93	12	9	7	4	104.5
93	12	10	7	10	104.7
93	12	11	7	6	104.7
93	12	12	7	6	104.5
93	12	13	7	6	104.4
93	12	14	7	6	104.4
93	12	15	7	6	104.4
93	12	16	7	6	104.2

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	12	17	7	5	104.2
93	12	18	7	6	104.1
93	12	19	7	6	104.2
93	12	20	7	6	104.3
93	12	21	7	6	104.2
93	12	22	7	5	104.3
93	12	23	7	10	104.1
93	12	24	7	6	104.2
93	12	25	7	6	104.4
93	12	26	7	6	104.5
93	12	27	7	6	104.5
93	12	28	6	6	104.4
93	12	29	7	6	104.3
93	12	30	0	5	104.4
93	12	31	7	6	104.5
94	1	1	7	6	104.6
94	1	2	7	6	104.4
94	1	3	7	7	104.6
94	1	4	7	7	104.7
94	1	5	7	6	104.6
94	1	6	7	6	104.4
94	1	7	7	7	104.5
94	1	8	7	6	104.6
94	1	9	7	6	104.6
94	1	10	7	7	104.5
94	1	11	7	7	104.4
94	1	12	7	6	104.3
94	1	13	7	10	104.4
94	1	14	7	6	104.4
94	1	15	7	10	104.4
94	1	16	7	7	104.4
94	1	17	7	7	104.6
94	1	18	7	7	104.3
94	1	19	7	7	104.5
94	1	20	7	7	104.6
94	1	21	7	7	104.3
94	1	22	7	8	104.6
94	1	23	7	7	104.6
94	1	24	7	8	104.7
94	1	25	7	7	104.5
94	1	26	7	6	104.4
94	1	27	7	10	104.3
94	1	28	7	7	104.3
94	1	29	7	7	104.2
94	1	30	7	6	104.2
94	1	31	7	7	104.3
94	2	1	7	6	104.2
94	2	2	7	7	104.3

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
94	2	3	7	7	104.4
94	2	4	7	7	104.4
94	2	5	7	7	104.6
94	2	6	7	7	104.4
94	2	7	7	6	104.5
94	2	8	7	7	104.4
94	2	9	7	4	104.4
94	2	10	7	4	104.4
94	2	11	7	6	104.5
94	2	12	7	3	104.3
94	2	13	7	4	104.6
94	2	14	7	4	104.3
94	2	15	7	4	104.6
94	2	16	7	3	104.6
94	2	17	7	4	104.5
94	2	18	7	6	104.4
94	2	19	7	6	104.3
94	2	20	7	7	104.3
94	2	21	7	6	104.2
94	2	22	7	5	104.1
94	2	23	7	6	104.3
94	2	24	7	6	104.4

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Surface Level Data					
Manual Tape					
Year	Month	Day	Hour	Minute	Surface Level
91	1	8	13	28	114
91	2	1	14	17	114
91	3	1	14	46	113.5
91	4	1	15	0	113.5
91	5	7	14	42	113
91	8	5	18	12	113
91	11	8	7	49	113.5
92	2	28	15	51	113.5
92	3	2	15	47	112.75
92	4	6	17	30	113
92	5	8	20	26	113.5
92	6	4	17	45	113
92	7	1	15	19	113
92	8	4	21	41	113.5
92	9	1	15	46	113.5
92	10	2	15	34	113.5
92	12	7	22	7	113.75
93	2	1	15	22	114.5
93	3	1	15	18	113.5
93	4	8	3	11	*221
93	4	8	4	18	113
93	6	9	9	35	112.75
93	7	7	19	29	112.75
93	7	11	7	4	112.75
93	7	12	7	4	112.75
93	7	13	7	4	112.75
93	7	14	7	4	112.75
93	7	15	7	4	112.75
93	7	16	7	4	112.75
93	7	17	7	4	112.75
93	7	18	7	4	112.75
93	7	19	7	4	112.75
93	7	20	7	4	112.75
93	7	21	7	4	112.75
93	7	22	7	4	112.75
93	7	23	7	4	112.75
93	7	24	7	4	112.75
93	7	25	7	4	112.75
93	7	26	7	4	112.75
93	7	27	7	4	112.75
93	7	28	7	4	112.75
93	7	29	7	4	112.75
93	7	30	7	4	112.75
93	7	31	7	4	112.75
93	8	1	7	4	112.75
93	8	2	7	4	112.75

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
93	8	3	7	4	112.75
93	8	4	7	4	112.75
93	8	5	7	4	112.75
93	8	6	7	4	112.75
93	8	7	7	4	112.75
93	8	14	9	41	112.5
93	8	17	7	4	112.5
93	8	18	7	4	112.5
93	8	19	7	4	112.5
93	8	20	7	4	112.5
93	8	21	7	4	112.5
93	8	22	7	4	112.5
93	8	23	7	4	112.5
93	8	24	7	4	112.5
93	8	25	7	4	112.5
93	8	26	7	4	112.5
93	8	27	7	4	112.5
93	8	28	7	4	112.5
93	8	29	7	4	112.5
93	8	30	7	4	112.5
93	8	31	7	4	112.5
93	9	1	7	4	112.5
93	9	2	7	4	113
93	9	3	7	4	113
93	9	4	7	4	113
93	9	5	7	4	113
93	9	6	7	4	113
93	9	7	7	4	112.75
93	9	8	7	4	112.75
93	9	9	7	4	112.75
93	9	10	7	4	112.75
93	9	11	7	4	112.75
93	9	12	7	4	112.75
93	9	13	7	4	112.75
93	9	14	7	4	112.75
93	9	15	7	4	112.75
93	9	16	7	4	112.75
93	9	17	7	4	112.75
93	9	18	7	4	112.75
93	9	19	7	4	112.75
93	9	20	7	4	112.75
93	9	21	7	4	112.75
93	9	22	7	4	112.75
93	9	23	7	4	112.75
93	9	24	7	4	112.75
93	9	25	7	4	112.75
93	9	26	7	4	112.75
93	9	27	7	4	112.75

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
93	9	28	7	4	112.75
93	9	29	7	4	112.75
93	9	30	7	4	112.75
93	10	1	7	4	112.75
93	10	2	20	58	113
93	10	3	7	4	113
93	10	4	7	4	113
93	10	5	7	4	113
93	10	6	7	4	113
93	10	13	7	4	113
93	10	14	7	4	113
93	10	15	7	4	113
93	10	16	7	4	113
93	10	17	7	4	113
93	10	18	7	4	113
93	10	19	7	4	113
93	10	20	7	4	113
93	10	21	7	4	113
93	10	22	7	4	113
93	10	23	7	4	113
93	10	24	7	4	113
93	10	25	7	4	113
93	10	26	7	4	113
93	10	27	7	4	113
93	10	28	7	4	113
93	10	29	7	4	113
93	10	30	7	4	113
93	10	31	7	4	113
93	11	1	7	4	113
93	11	2	7	4	113
93	11	3	7	4	113
93	11	4	7	4	113
93	11	5	7	4	113
93	11	6	7	4	113
93	11	7	7	4	113
93	11	8	7	4	113
93	11	9	7	4	113
93	11	10	7	4	113
93	11	11	7	4	113
93	11	12	7	4	113
93	11	13	7	4	113
93	11	14	7	4	113
93	11	15	7	4	113
93	11	16	7	4	113
93	11	17	7	4	113
93	11	18	7	4	113
93	11	19	7	4	113
93	11	20	7	4	113

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
93	11	21	7	4	113
93	11	22	7	4	113
93	11	23	7	4	113
93	11	24	7	4	113
93	11	25	7	4	113
93	11	26	7	4	113
93	11	27	7	4	113
93	11	28	7	4	113
93	11	29	7	4	113
93	11	30	7	4	113
93	12	1	7	4	113
93	12	2	7	4	113
93	12	3	7	4	113
93	12	4	7	4	113
93	12	5	7	4	113
93	12	6	7	4	113
93	12	7	7	4	113
93	12	8	7	4	113
93	12	13	7	4	113
93	12	14	7	4	113
93	12	15	7	4	113
93	12	16	7	4	113
93	12	17	7	4	113
93	12	18	7	4	113
93	12	19	7	4	113
93	12	20	7	4	113
93	12	21	7	4	113
93	12	22	7	4	113
93	12	23	7	4	113
93	12	24	7	4	113
93	12	25	7	4	113
93	12	26	7	4	113
93	12	27	7	4	113
93	12	28	7	4	113
93	12	29	7	4	113
93	12	30	7	4	113
93	12	31	7	4	113
94	1	1	7	4	113
94	1	2	7	4	113
94	1	3	15	26	113.5
94	1	4	7	4	113.5
94	1	5	7	4	113.5
94	1	6	7	4	113.5
94	1	7	7	4	113.5
94	1	8	7	4	113.5
94	1	9	7	4	113.5
94	1	10	7	4	113.5
94	1	11	7	4	113.5

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
94	1	12	7	4	113.5
94	1	13	7	4	113.5
94	1	14	7	4	113.5
94	1	15	7	4	113.5
94	1	16	7	4	113.5
94	1	17	7	4	113.5
94	1	18	7	4	113.5
94	1	19	7	4	113.5
94	1	20	7	4	113.5
94	1	21	7	4	113.5
94	1	22	7	4	113.5
94	1	23	7	4	113.5
94	1	24	7	4	113.5
94	1	25	7	4	113.5
94	1	26	7	4	113.5
94	1	27	7	4	113.5
94	1	28	7	4	113.5
94	1	29	7	4	113.5
94	1	30	7	4	113.5
94	1	31	7	4	113.5
94	2	1	7	4	113.5
94	2	2	7	4	113.5
94	2	3	7	4	113.5

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Surface Level Data					
FIC					
Year	Month	Day	Hour	Minute	Surface Level
91	1	1	7	3	175.3
91	1	2	7	2	175
91	1	3	7	3	175
91	1	4	7	2	175.2
91	1	5	7	2	175.2
91	1	6	7	2	175
91	1	7	7	2	175.4
91	1	8	7	3	175.3
91	1	9	7	2	175.6
91	1	10	7	2	175.5
91	1	11	7	3	175.4
91	1	12	7	2	175.8
91	1	26	7	3	175.2
91	1	27	7	3	175.4
91	1	28	7	10	175.7
91	1	29	7	2	175.3
91	1	30	7	10	175.5
91	1	31	7	2	175.5
91	2	1	7	2	175.3
91	2	15	7	3	175.5
91	2	16	7	2	175.9
91	2	17	7	2	175.7
91	2	18	7	3	175.4
91	2	19	7	2	175.5
91	2	20	7	3	175.4
91	2	21	7	2	175.2
91	2	22	7	2	175.5
91	2	23	7	2	175.3
91	2	24	7	3	175.1
91	2	25	7	3	175.1
91	2	26	7	3	175.2
91	2	27	7	2	175.7
91	2	28	7	2	176.3
91	3	1	7	2	176.4
91	3	2	7	2	176
91	3	3	7	3	175.8
91	3	4	7	3	176
91	3	5	7	3	175.7
91	3	6	7	2	175.4
91	3	7	7	2	175.2
91	3	8	7	2	175.1
91	3	9	7	2	175.6
91	3	10	7	2	175.8
91	3	11	7	2	175.6
91	3	12	7	3	175.6
91	3	13	7	3	175.5

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	3	14	7	3	175.5
91	3	15	7	3	175.5
91	3	16	7	3	175.6
91	3	17	7	2	175.4
91	3	18	7	3	175.5
91	3	19	7	3	175.8
91	3	20	7	2	175.9
91	3	21	7	3	175.8
91	3	22	7	2	175.6
91	3	23	7	3	175.4
91	3	24	7	3	175.7
91	3	25	7	3	175.9
91	3	26	7	3	175.8
91	3	27	7	3	175.6
91	3	28	7	3	175.4
91	3	29	7	3	175.2
91	3	30	7	3	175.2
91	3	31	7	3	175.3
91	4	1	7	3	175.5
91	4	2	4	3	175.5
91	4	8	7	4	174.5
91	4	22	7	6	174.5
91	6	6	7	6	175.5
91	6	7	7	5	175.5
91	6	8	7	5	175.5
91	6	9	7	5	175.6
91	6	10	7	6	175.5
91	6	11	7	5	175.9
91	6	12	7	4	175.7
91	6	13	7	5	175.7
91	6	14	7	5	175.6
91	6	15	7	5	175.7
91	6	16	7	5	175.7
91	6	17	7	5	175.5
91	6	18	7	5	175.5
91	6	19	7	5	175.8
91	6	20	7	5	175.9
91	6	21	7	6	175.7
91	6	22	7	5	175.7
91	6	23	7	5	175.8
91	6	24	7	5	175.9
91	6	25	7	6	176
91	6	26	7	3	176
91	6	27	7	2	176
91	6	28	7	3	176.2
91	6	29	7	2	176
91	7	2	7	6	175.6
91	7	3	7	6	175.6

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	7	4	7	10	175.7
91	7	5	7	6	175.9
91	7	6	7	6	175.9
91	7	7	7	10	175.6
91	7	8	7	6	175.8
91	7	9	7	6	176
91	7	10	6	6	176
91	7	11	7	6	175.8
91	7	12	7	6	175.8
91	7	13	7	6	176
91	7	14	7	6	175.8
91	7	15	7	6	176
91	7	16	7	6	175.9
91	7	17	7	5	175.8
91	7	18	7	5	175.7
91	7	19	7	5	175.9
91	7	20	7	5	176
91	7	21	7	5	175.9
91	7	22	7	5	175.7
91	7	23	7	5	175.8
91	7	24	7	5	176
91	7	25	7	1	176
91	7	26	7	2	175.8
91	7	27	7	2	175.7
91	7	28	7	2	175.7
91	7	29	7	2	175.8
91	7	30	7	2	175.8
91	7	31	7	2	175.9
91	8	1	7	2	176
91	8	2	7	2	175.8
91	8	3	7	2	176
91	8	4	7	2	176.1
91	8	5	7	2	176.2
91	8	6	7	2	176.2
91	8	7	7	6	176.1
91	8	8	7	6	176
91	8	9	7	4	176
91	8	10	7	4	176
91	8	11	7	4	175.8
91	8	12	7	4	175.7
91	8	13	7	4	175.8
91	8	14	7	4	175.9
91	8	15	7	3	176
91	8	17	7	2	175.9
91	8	18	7	3	176
91	8	19	7	2	176
91	8	20	7	4	176
91	8	21	7	3	176

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	8	22	7	3	175.9
91	8	23	7	2	176
91	8	24	7	2	176
91	8	25	7	2	176
91	8	26	7	3	175.9
91	8	27	7	3	176.3
91	8	28	7	3	176.3
91	8	29	7	2	176
91	8	30	7	10	176
91	8	31	7	2	176
91	9	1	7	2	176
91	9	2	7	2	175.8
91	9	3	7	2	175.6
91	9	4	7	3	175.7
91	9	5	7	2	176
91	9	6	7	2	176.3
91	9	7	7	2	176.3
91	9	8	7	2	176
91	9	9	7	3	175.9
91	9	10	7	2	176
91	9	11	7	3	176
91	9	12	7	2	176
91	9	13	7	2	176.2
91	9	14	7	3	176
91	9	15	7	2	175.8
91	9	16	7	3	175.8
91	9	17	7	3	175.8
91	9	18	7	3	175.8
91	9	19	7	3	176
91	9	20	7	2	176.2
91	9	21	7	2	176
91	9	22	7	3	175.7
91	9	23	7	3	175.7
91	9	24	7	2	175.6
91	9	25	7	3	175.9
91	9	26	7	3	176.2
91	9	27	7	2	176.3
91	9	28	7	2	176.4
91	9	29	7	3	176.1
91	9	30	7	3	175.8
91	10	1	7	2	176.1
91	10	2	7	2	176
91	10	3	7	2	176.1
91	10	4	7	3	175.8
91	10	6	6	2	176.1
91	10	7	6	2	176.2
91	10	8	7	2	176
91	10	9	7	2	175.8

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	10	10	7	2	175.7
91	10	11	7	2	176
91	10	12	7	2	176.3
91	10	13	7	3	176
91	10	14	7	2	175.8
91	10	15	7	2	176.1
91	10	16	7	3	176.7
91	10	17	7	5	176
91	10	18	7	6	175.6
91	10	19	7	6	175.5
91	10	20	7	2	175.7
91	10	21	7	2	176.5
91	10	22	7	3	176.4
91	10	23	7	2	176.2
91	10	24	7	2	176.2
91	10	25	7	3	176.5
91	10	26	7	3	176.8
91	10	27	7	2	176.3
91	10	28	7	2	175.8
91	10	29	7	3	175.9
91	10	30	7	3	175.5
91	10	31	7	3	175.7
91	11	1	7	2	175.7
91	11	2	7	3	175.6
91	11	3	7	3	175.7
91	11	4	7	2	175.9
91	11	5	7	3	176
91	11	6	7	3	176.2
91	11	7	7	2	176
91	11	8	7	3	176.3
91	11	9	7	2	176.2
91	11	10	7	3	176.1
91	11	11	7	10	176.1
91	11	12	7	3	176.4
91	11	13	7	3	176.5
91	11	14	7	3	176.5
91	11	15	7	3	176.1
91	11	16	7	3	176.3
91	11	18	7	3	176.7
91	11	19	7	3	176
91	11	20	7	3	176.4
91	11	21	7	2	176
91	11	22	7	3	175.6
91	11	23	7	2	175.6
91	11	24	7	3	175.8
91	11	25	7	3	176.3
91	11	27	7	3	176.5
91	11	28	7	3	176

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	11	29	7	3	176.1
91	11	30	7	3	176
91	12	1	7	3	176
91	12	2	7	3	176.3
91	12	3	7	3	176
91	12	4	7	3	176.5
91	12	5	7	3	176.5
91	12	6	7	4	176.8
91	12	7	7	3	176.7
91	12	8	7	3	176.3
91	12	9	7	3	176.3
91	12	10	7	3	176
91	12	11	7	2	176.6
91	12	12	7	3	176.7
91	12	13	6	6	176
91	12	14	7	2	175.8
91	12	15	7	2	175.7
91	12	18	7	3	176.6
91	12	24	7	3	176.2
91	12	25	7	3	176.3
91	12	26	7	3	176.4
91	12	27	7	3	176.5
91	12	28	7	2	176.8
91	12	29	7	3	176.7
91	12	30	7	3	176.6
91	12	31	7	3	176
92	1	1	7	3	176
92	1	2	7	2	176.5
92	1	3	7	4	176.6
92	1	5	7	3	176.8
92	1	6	7	3	176.8
92	1	7	7	4	176.4
92	1	9	7	3	175.9
92	1	10	7	4	176.2
92	1	11	7	4	176.5
92	1	17	7	4	176
92	1	18	7	4	175.8
92	1	19	7	3	175.9
92	1	20	7	3	176
92	1	21	7	3	176.3
92	1	22	7	6	176.1
92	1	23	7	3	176.4
92	1	24	7	2	176.6
92	1	25	7	3	176.7
92	1	26	7	10	176.4
92	1	27	7	2	176.5
92	1	28	7	3	176.7
92	1	29	7	3	176.3

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	1	30	7	3	176.4
92	1	31	7	3	176.8
92	2	2	7	3	176.3
92	2	3	7	3	176
92	2	4	7	3	176
92	2	5	7	2	176.2
92	2	8	7	4	176.7
92	2	9	7	3	176.7
92	2	11	7	3	176.9
92	2	12	7	3	176.7
92	2	14	7	3	176.9
92	2	16	7	3	176.8
92	2	17	7	3	176.4
92	2	18	7	3	176.5
92	2	19	7	3	176.7
92	2	20	7	3	176.7
92	2	21	7	3	176.6
92	2	22	7	3	176.5
92	2	23	7	3	176
92	2	24	7	3	176
92	2	27	0	3	175.7
92	2	29	7	3	176.4
92	3	1	7	3	176.7
92	3	2	7	3	176.5
92	3	3	7	4	176.7
92	3	4	7	4	176.6
92	3	5	7	3	176.8
92	3	6	7	3	176.8
92	3	7	7	2	176.6
92	3	8	7	2	176.5
92	3	9	7	2	176.3
92	3	10	6	3	176.2
92	3	11	7	3	176.3
92	3	12	7	3	176.3
92	3	13	7	3	176.5
92	3	14	7	3	176.8
92	3	15	7	6	176.8
92	3	17	7	3	176.7
92	3	18	7	3	176.5
92	3	19	7	3	176.5
92	3	20	7	2	176.4
92	3	21	7	3	176.6
92	3	22	7	2	176.6
92	3	23	7	2	176.7
92	3	24	7	2	176.5
92	3	25	7	3	176.5
92	3	26	7	3	176.6
92	3	27	7	2	176.8

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	3	28	7	3	176.5
92	3	29	7	3	176.4
92	3	30	7	3	176.4
92	3	31	7	3	176.3
92	4	1	7	3	176.2
92	4	2	7	3	176.5
92	4	3	7	3	176.7
92	4	4	7	3	176.7
92	4	5	7	3	176.6
92	4	6	7	3	176.4
92	4	7	7	3	176.2
92	4	8	7	10	176.3
92	4	9	7	3	176.6
92	4	10	7	3	176.7
92	4	11	7	3	176.6
92	4	12	7	4	176.7
92	4	13	7	3	176.8
92	4	14	7	3	176.5
92	4	15	7	2	176.6
92	4	16	7	3	176.8
92	4	18	7	2	176.6
92	4	19	7	2	176.3
92	4	20	7	3	176.4
92	4	21	7	3	176.5
92	4	22	7	2	176.6
92	4	23	7	3	176.3
92	4	24	7	3	176.1
92	4	25	7	4	176.3
92	4	26	7	3	176.6
92	4	27	7	4	176.6
92	4	28	7	3	176.4
92	4	29	7	3	176.7
92	4	30	7	3	176.9
92	5	1	7	3	176.4
92	5	2	7	3	176.2
92	5	3	7	3	176.1
92	5	4	7	3	176.3
92	5	5	7	4	176.6
92	5	6	7	3	176.7
92	5	7	7	4	176.7
92	5	8	7	3	176.6
92	5	9	7	4	176.5
92	5	10	7	4	176.8
92	5	11	7	3	176.6
92	5	12	7	3	176.4
92	5	13	7	3	176.4
92	5	14	7	3	176.6
92	5	15	7	3	176.8

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	5	16	7	3	176.6
92	5	17	7	2	176.6
92	5	18	7	3	176.8
92	5	19	7	3	176.8
92	5	20	7	3	176.8
92	5	21	7	3	176.5
92	5	22	7	2	176.4
92	5	23	7	3	176.4
92	5	24	6	2	176.5
92	5	25	7	3	176.7
92	5	27	7	3	176.6
92	5	28	7	2	176.6
92	5	29	7	2	176.6
92	5	30	7	3	176.6
92	5	31	7	3	176.5
92	6	1	7	3	176.5
92	6	2	7	3	176.6
92	6	3	7	3	176.5
92	6	4	7	3	176.6
92	6	5	7	2	176.7
92	6	6	7	3	176.9
92	6	8	7	3	176.8
92	6	10	7	3	176.8
92	6	11	7	3	176.9
92	6	12	7	5	176.9
92	6	13	7	5	176.7
92	6	15	7	3	176.8
92	6	16	7	3	176.9
92	6	17	7	3	176.7
92	6	18	7	3	176.7
92	6	19	7	2	176.7
92	6	20	7	2	176.8
92	6	21	7	3	176.7
92	6	22	7	3	176.7
92	6	23	7	3	176.9
92	7	3	7	6	176.7
92	7	4	7	6	176.9
92	7	5	7	6	176.7
92	7	6	7	6	176.6
92	7	7	7	6	176.5
92	7	8	7	6	176.5
92	7	9	7	6	176.4
92	7	10	7	6	176.5
92	7	11	7	6	176.8
92	7	12	7	6	176.8
92	7	13	7	6	176.9
92	7	14	7	6	176.8
92	7	15	7	6	176.6

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	7	16	7	6	176.6
92	7	17	7	6	176.7
92	7	18	7	6	176.8
92	7	19	7	6	176.8
92	7	20	7	6	176.8
92	7	21	7	5	176.8
92	7	22	7	6	176.9
92	7	24	7	5	176.6
92	7	25	7	6	176.5
92	7	26	7	6	176.6
92	7	27	7	5	176.7
92	7	28	7	6	176.7
92	7	29	7	6	176.7
92	7	30	7	6	176.8
92	7	31	7	5	176.9
92	8	2	6	6	176.8
92	8	3	7	6	176.9
92	8	4	7	6	177
92	8	5	7	5	176.9
92	8	6	7	5	176.9
92	8	8	7	6	176.8
92	8	9	7	6	176.6
92	8	10	7	5	176.5
92	8	11	7	6	176.6
92	8	12	7	6	176.8
92	8	13	7	6	177
92	8	14	7	6	176.9
92	8	15	7	6	176.8
92	8	16	7	6	176.9
92	8	17	7	6	177
92	8	18	7	6	177
92	8	19	7	6	177
92	8	20	7	6	177
92	8	21	7	5	177.2
92	8	23	7	4	176.7
92	8	24	7	4	176.5
92	8	25	7	4	176.5
92	8	26	7	3	176.6
92	8	27	7	4	176.7
92	8	28	7	2	176.8
92	8	29	7	2	176.7
92	8	30	7	2	176.9
92	8	31	7	2	177.1
92	9	1	7	2	177
92	9	2	7	2	177
92	9	3	7	4	177.1
92	9	8	7	4	177.1
92	9	16	7	4	177.1

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	9	21	7	4	177
92	9	22	7	3	177.2
92	9	23	7	3	177.4
92	9	28	10	2	176.9
92	10	5	10	3	176.9
92	10	12	10	3	177.65
92	10	15	10	3	176.65
92	10	19	10	3	177.1
92	10	21	10	3	177.45
92	10	22	10	3	176.85
92	10	26	10	3	177
92	10	30	10	3	177.7
92	11	2	7	3	176.8
92	11	3	7	3	176.5
92	11	4	4	3	176.5
92	11	9	4	3	177.05
92	11	16	4	3	177
92	11	23	4	3	176.8
92	11	30	4	3	176.95
92	12	2	6	3	177
92	12	3	6	3	176.8
92	12	12	12	4	176.6
92	12	13	7	4	176.6
92	12	14	7	3	176.8
92	12	15	7	3	177
92	12	16	7	4	176.8
92	12	17	7	3	177.6
92	12	18	7	3	177
92	12	19	7	3	176.8
92	12	20	7	4	177.4
92	12	21	7	4	177.2
92	12	23	7	4	176.7
92	12	24	7	3	176.8
92	12	25	7	3	176.7
92	12	26	7	3	177.2
92	12	27	7	3	177.5
92	12	28	7	3	177.8
93	1	23	7	3	176.7
93	1	24	7	3	176.8
93	1	25	6	3	177
93	2	5	6	4	177
93	2	6	2	3	177
93	2	7	7	3	177
93	2	16	6	3	176.8
93	2	18	7	3	176.8
93	2	19	7	2	177.6
93	2	20	7	3	178
93	2	21	7	4	177.5

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	2	22	7	4	177
93	2	23	7	3	176.9
93	2	24	7	4	177.1
93	2	25	7	3	176.8
93	2	26	7	3	176.7
93	2	27	7	4	176.6
93	2	28	7	3	176.6
93	3	1	7	3	176.7
93	3	2	7	4	176.7
93	3	3	7	3	176.8
93	3	4	7	4	176.7
93	3	5	7	4	176.7
93	3	6	7	3	176.6
93	3	9	7	4	176.8
93	3	10	7	5	176.7
93	3	11	7	4	176.6
93	3	12	7	4	176.5
93	3	13	7	3	176.7
93	3	14	7	4	177.2
93	3	15	7	3	177.6
93	3	16	7	4	177
93	3	17	7	3	177.1
93	3	18	7	4	177.4
93	3	19	7	3	177
93	3	20	7	4	177
93	3	21	7	4	176.9
93	3	22	7	3	177.2
93	3	23	7	3	177.6
93	3	24	7	4	177.2
93	3	25	7	3	177
93	3	26	7	3	177.1
93	3	27	7	3	177.3
93	3	29	6	3	177.1
93	3	30	7	3	177
93	3	31	7	3	176.8
93	4	1	7	3	177.3
93	4	2	7	6	177.1
93	4	3	7	6	177.2
93	4	4	7	5	177.1
93	4	5	7	6	177.2
93	4	6	7	6	177.2
93	4	7	7	6	177
93	4	8	7	6	177.3
93	4	9	7	6	177.3
93	4	10	7	5	177.3
93	4	11	7	6	177.1
93	4	12	7	6	176.9
93	4	13	7	6	177.1

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	4	14	7	6	177.1
93	4	15	7	3	177.1
93	4	16	7	6	177
93	4	17	7	5	177.3
93	4	18	7	6	177.4
93	4	19	7	6	177
93	4	22	7	6	177.2
93	4	23	7	6	177.1
93	4	24	7	5	177.3
93	4	25	7	6	177
93	4	26	7	6	177.1
93	4	27	7	6	176.9
93	4	28	7	3	176.8
93	4	29	7	3	176.8
93	4	30	7	6	176.9
93	5	1	7	5	176.9
93	5	2	7	6	177.1
93	5	3	7	6	177.5
93	5	11	7	6	177.4
93	5	12	2	6	177.6
93	5	15	7	6	177.1
93	5	16	7	5	177.3
93	5	17	7	3	177.2
93	5	18	7	3	177.3
93	5	19	7	3	177.4
93	5	20	7	3	177.4
93	5	21	7	2	177.4
93	5	22	7	3	177.1
93	5	23	7	4	177.1
93	5	24	7	3	177.1
93	5	25	7	3	177.2
93	5	26	7	3	177.3
93	5	27	7	3	177.4
93	5	28	7	3	177.4
93	5	29	7	5	177
93	5	30	7	5	177.1
93	5	31	7	6	177.4
93	6	1	7	6	177.4
93	6	2	7	6	177.1
93	6	3	7	6	177.2
93	6	4	7	6	177.4
93	6	5	7	6	177.6
93	6	6	7	5	177.6
93	6	7	7	5	177.5
93	6	8	7	5	177.1
93	6	9	7	5	177.2
93	6	10	7	4	177.1
93	6	11	7	5	177.2

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	6	12	7	5	177
93	6	13	7	4	177
93	6	14	7	5	177.1
93	6	15	7	5	177.2
93	6	16	7	5	177.1
93	6	17	7	5	177
93	6	18	7	6	177.1
93	6	25	7	3	177
93	6	26	7	3	177.3
93	6	27	7	4	177.4
93	6	28	7	3	177.4
93	6	29	7	4	177.2
93	6	30	6	3	177
93	7	1	7	6	177.2
93	7	2	7	6	177.4
93	7	3	7	3	177.4
93	7	4	7	4	177.4
93	7	5	7	3	177.3
93	7	6	7	3	177.1
93	7	7	7	4	177.2
93	7	8	7	4	177.3
93	7	9	7	5	177.4
93	7	10	7	3	177.2
93	7	11	7	3	177.2
93	7	12	7	2	177
93	7	13	7	3	177.1
93	7	14	7	6	177.2
93	7	16	7	6	177.2
93	7	17	7	7	177.2
93	7	18	7	6	177.1
93	7	19	7	3	177.2
93	7	20	7	3	177.3
93	7	21	7	3	177.3
93	7	22	7	3	177.5
93	7	23	7	3	177.5
93	7	24	7	3	177.3
93	7	25	7	4	177.1
93	7	26	7	3	177.2
93	7	27	7	3	177.3
93	7	28	7	4	177.7
93	7	29	7	3	177.5
93	7	30	7	3	177.1
93	7	31	7	3	177
93	8	1	7	3	177
93	8	2	7	6	177.1
93	8	3	7	3	177.3
93	8	4	7	3	177.5
93	8	5	7	4	177.4

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	8	6	7	4	177.5
93	8	8	7	4	177.8
93	8	9	7	4	177.5
93	8	10	7	4	177.3
93	8	11	7	4	177.3
93	8	12	7	4	177.3
93	8	13	7	4	177.5
93	8	14	7	3	177.5
93	8	15	7	4	177.6
93	8	16	7	4	177.6
93	8	17	7	4	177.3
93	8	18	7	3	177.3
93	8	19	7	4	177.5
93	8	20	7	4	177.7
93	8	21	7	4	177.5
93	8	22	7	4	177.4
93	8	23	7	4	177.7
93	8	24	7	4	177.3
93	8	25	7	4	177.2
93	8	26	7	4	177.1
93	8	27	7	5	177.1
93	8	28	7	4	177.3
93	8	29	7	3	177.2
93	8	30	7	4	177.2
93	8	31	7	4	177.4
93	9	1	7	4	177.7
93	9	2	7	4	177.5
93	9	3	7	4	177.4
93	9	4	7	4	177.5
93	9	5	7	4	177.6
93	9	6	7	4	177.6
93	9	7	7	4	177.4
93	9	8	7	4	177.3
93	9	9	7	4	177.5
93	9	10	7	4	177.7
93	9	11	7	4	177.8
93	9	12	7	4	177.6
93	9	13	7	4	177.4
93	9	14	7	4	177.6
93	9	15	7	4	177.6
93	9	16	7	4	177.4
93	9	17	7	4	177.5
93	9	18	7	4	177.5
93	9	19	7	4	177.6
93	9	20	7	4	177.6
93	9	21	7	4	177.3
93	9	22	7	4	177.1
93	9	23	7	4	177.3

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	9	24	7	4	177.3
93	9	25	7	4	177.4
93	9	26	7	4	177.2
93	9	27	7	4	177.3
93	9	28	7	4	177.3
93	9	29	7	4	177.4
93	9	30	7	3	177.8
93	10	1	7	6	177.6
93	10	2	7	5	177.4
93	10	3	7	6	177.4
93	10	4	7	6	177.6
93	10	5	7	6	177.9
93	10	6	7	6	177.9
93	10	7	7	5	177.6
93	10	8	7	4	177.4
93	10	9	7	3	177.4
93	10	10	7	10	177.5
93	10	11	7	3	177.6
93	10	12	7	4	177.5
93	10	13	7	3	177.6
93	10	14	7	4	177.7
93	10	15	7	4	177.9
93	10	16	7	4	177.8
93	10	17	7	3	177.7
93	10	18	7	4	177.6
93	10	19	7	4	177.5
93	10	20	7	3	177.2
93	10	21	7	4	177.4
93	10	22	7	4	177.5
93	10	23	7	4	177.6
93	10	24	7	4	177.8
93	10	25	7	4	177.4
93	10	26	7	4	177.1
93	10	27	7	4	177.4
93	10	28	7	4	177.7
93	10	29	7	4	177.6
93	10	30	7	4	177.5
93	10	31	7	4	177.8
93	11	1	7	3	177.6
93	11	2	7	3	177.4
93	11	3	7	3	177.8
93	11	4	7	3	177.7
93	11	5	7	3	177.4
93	11	6	7	3	177.35
93	11	7	7	3	177.6
93	11	8	7	3	177.6
93	11	9	7	3	177.6
93	11	10	7	4	177.6

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	11	11	7	4	177.8
93	11	12	7	4	177.8
93	11	13	7	4	177.8
93	11	14	7	3	177.3
93	11	15	7	4	177.6
93	11	16	7	3	177.7
93	11	17	7	4	177.7
93	11	18	7	4	177.6
93	11	19	7	4	177.2
93	11	19	7	4	177.2
93	11	20	7	4	177.4
93	11	20	7	4	177.3
93	11	21	7	4	177.9
93	11	21	7	4	177.7
93	11	22	7	4	178
93	11	22	7	4	177.9
93	11	23	7	4	177.4
93	11	23	7	4	177.5
93	11	24	7	4	177
93	11	24	7	4	177.1
93	11	25	7	4	176.9
93	11	25	7	4	177
93	11	26	7	4	176.9
93	11	26	7	4	176.9
93	11	27	7	4	177
93	11	29	7	4	177
93	12	3	15	4	177.6
93	12	4	7	5	178
93	12	5	7	4	177.5
93	12	6	7	5	177.6
93	12	7	7	4	177.9
93	12	8	7	6	178.3
93	12	9	7	4	178.1
93	12	10	7	10	178
93	12	11	7	6	178.1
93	12	12	7	6	178.1
93	12	13	7	6	177.6
93	12	14	7	6	177.9
93	12	15	7	6	177.6
93	12	16	7	6	177.3
93	12	17	7	5	177.2
93	12	18	7	6	177
93	12	19	7	6	177.1
93	12	20	7	6	177
93	12	21	7	6	177
93	12	22	7	5	177
93	12	23	7	10	176.9
93	12	24	7	6	176.8

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	12	25	7	6	176.9
93	12	26	7	6	177.3
93	12	27	7	6	177.4
93	12	28	6	6	177.2
93	12	29	7	6	177
93	12	30	0	5	177.1
93	12	31	7	6	177.6
94	1	1	7	6	177.8
94	1	2	7	6	177.5
94	1	3	7	7	177.5
94	1	4	7	7	177.8
94	1	5	7	6	178
94	1	6	7	6	177.6
94	1	7	7	7	177.4
94	1	8	7	6	177.7
94	1	9	7	6	177.8
94	1	10	7	7	177.6
94	1	11	7	7	177.6
94	1	12	7	6	177.3
94	1	13	7	10	177.2
94	1	14	7	6	177.4
94	1	15	7	10	177.6
94	1	16	7	7	177.4
94	1	17	7	7	177.4
94	1	18	7	7	177.5
94	1	19	7	7	177.6
94	1	20	7	7	177.4
94	1	21	7	7	177.4
94	1	22	7	8	177.5
94	1	23	7	7	177.9
94	1	24	7	8	178
94	1	25	7	7	177.9
94	1	26	7	6	177.7
94	1	27	7	10	177.5
94	1	28	7	7	177.2
94	1	29	7	7	177.1
94	1	30	7	6	177
94	1	31	7	7	177
94	2	1	7	6	177
94	2	2	7	7	177
94	2	3	7	7	177.5
94	2	4	7	7	177.4
94	2	5	7	7	177.4
94	2	6	7	7	177.7
94	2	7	7	6	178
94	2	8	7	7	177.7
94	2	9	7	4	177.7
94	2	10	7	4	177.7

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
94	2	11	7	6	177.6
94	2	12	7	3	177.4
94	2	13	7	4	177.7
94	2	14	7	4	177.7
94	2	15	7	4	177.8
94	2	16	7	3	178
94	2	17	7	4	178.5
94	2	18	7	6	178.4
94	2	19	7	6	178
94	2	20	7	7	177.8
94	2	21	7	6	177.7
94	2	22	7	5	177.5
94	2	23	7	6	177.7
94	2	24	7	6	177.7

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Surface Level Data					
FIC					
Year	Month	Day	Hour	Minute	Surface Level
91	1	1	7	3	142.1
91	1	2	7	2	142.1
91	1	3	7	3	142.1
91	1	4	7	2	142.1
91	1	5	7	2	142.1
91	1	6	7	2	142.1
91	1	7	7	2	142.2
91	1	8	7	3	142.2
91	1	9	7	2	142.2
91	1	10	7	2	142.2
91	1	11	7	3	142.2
91	1	12	7	2	142.2
91	1	26	7	3	142.2
91	1	27	7	3	142.2
91	1	28	7	10	142.2
91	1	29	7	2	142.2
91	1	30	7	10	142.2
91	1	31	7	2	142.2
91	2	1	7	2	142.2
91	2	15	7	3	142.3
91	2	16	7	2	142.4
91	2	17	7	2	142.5
91	2	18	7	3	142.3
91	2	19	7	2	142.4
91	2	20	7	3	142.4
91	2	21	7	2	142.3
91	2	22	7	2	142.4
91	2	23	7	2	142.3
91	2	24	7	3	142.3
91	2	25	7	3	142.3
91	2	26	7	3	142.4
91	2	27	7	2	142.4
91	2	28	7	2	142.4
91	3	1	7	2	142.5
91	3	2	7	2	142.5
91	3	3	7	3	142.4
91	3	4	7	3	142.5
91	3	5	7	3	142.5
91	3	6	7	2	142.6
91	3	7	7	2	142.5
91	3	8	7	2	142.5
91	3	9	7	2	142.6
91	3	10	7	2	142.7
91	3	11	7	2	142.7
91	3	12	7	3	142.6
91	3	13	7	3	142.6

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	3	14	7	3	142.5
91	3	15	7	3	142.5
91	3	16	7	3	142.6
91	3	17	7	2	142.6
91	3	18	7	3	142.7
91	3	19	7	3	142.7
91	3	20	7	2	142.8
91	3	21	7	3	142.8
91	3	22	7	2	142.5
91	3	23	7	3	142.5
91	3	24	7	3	142.6
91	3	25	7	3	142.7
91	3	26	7	3	142.3
91	3	27	7	3	142.5
91	3	28	7	3	142.5
91	3	29	7	3	142.6
91	3	30	7	3	142.6
91	3	31	7	3	142.6
91	4	1	7	3	142.4
91	4	2	7	3	142.4
91	4	3	7	3	142.4
91	4	4	7	3	142.5
91	4	5	7	3	142.6
91	4	6	7	3	142.6
91	4	7	7	3	142.6
91	4	8	7	4	142.3
91	4	9	7	3	142.4
91	4	10	7	3	142.4
91	4	11	7	3	142.4
91	4	12	7	3	142.4
91	4	13	7	4	142.4
91	4	14	7	3	142.5
91	4	15	7	3	142.6
91	4	16	7	10	142.6
91	4	17	7	3	142.6
91	4	18	7	6	142.7
91	4	19	7	5	142.7
91	4	20	7	6	142.6
91	4	21	7	5	142.6
91	4	22	7	6	142.6
91	4	23	7	6	142.8
91	4	24	7	5	142.9
91	4	25	7	5	142.9
91	4	26	3	5	142.8
91	4	27	7	5	142.7
91	4	28	7	6	142.8
91	4	29	7	5	142.8
91	4	30	7	6	142.9

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	5	1	6	6	142.5
91	5	2	7	5	142.4
91	5	3	7	6	142.4
91	5	4	7	5	142.4
91	5	5	7	5	142.4
91	5	6	7	5	142.4
91	5	7	7	5	142.4
91	5	8	7	5	142.5
91	5	9	7	5	142.5
91	5	10	7	5	142.6
91	5	11	7	5	142.6
91	5	12	7	5	142.4
91	5	13	7	5	142.5
91	5	14	7	5	142.5
91	5	15	7	5	142.4
91	5	16	7	6	142.1
91	5	17	7	6	142.3
91	5	18	7	6	142.3
91	5	19	7	5	142.4
91	5	20	7	6	142.5
91	5	21	7	6	142.5
91	5	22	7	5	142.6
91	5	23	7	5	142.6
91	5	24	7	5	142.5
91	5	25	7	5	142.5
91	5	26	7	5	142.5
91	5	27	7	5	142.4
91	5	28	7	5	142.4
91	5	29	7	5	142.4
91	5	30	7	5	142.4
91	5	31	7	5	142.4
91	6	1	7	5	142.4
91	6	2	7	5	142.3
91	6	3	7	5	142.4
91	6	4	7	5	142.3
91	6	5	7	5	142.4
91	6	6	7	6	142.4
91	6	7	7	5	142.4
91	6	8	7	5	142.4
91	6	9	7	5	142.4
91	6	10	7	6	142.6
91	6	11	7	5	142.7
91	6	12	7	4	142.7
91	6	13	7	5	142.5
91	6	14	7	5	142.5
91	6	15	7	5	142.5
91	6	16	7	5	142.5
91	6	17	7	5	142.5

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	6	18	7	5	142.5
91	6	19	7	5	142.5
91	6	20	7	5	142.5
91	6	21	7	6	142.5
91	6	22	7	5	142.5
91	6	23	7	5	142.6
91	6	24	7	5	142.6
91	6	25	7	6	142.6
91	6	26	7	3	142.6
91	6	27	7	2	142.6
91	6	28	7	3	142.6
91	6	29	7	2	142.6
91	7	2	7	6	142.6
91	7	3	7	6	142.6
91	7	4	7	10	142.6
91	7	5	7	6	142.7
91	7	6	7	6	142.8
91	7	7	7	10	142.7
91	7	8	7	6	142.7
91	7	9	7	6	142.8
91	7	10	6	6	142.8
91	7	11	7	6	142.7
91	7	12	7	6	142.7
91	7	13	7	6	142.8
91	7	14	7	6	142.8
91	7	15	7	6	142.8
91	7	16	7	6	142.8
91	7	17	7	5	142.8
91	7	18	7	5	142.8
91	7	19	7	5	142.8
91	7	20	7	5	142.8
91	7	21	7	5	142.8
91	7	22	7	5	142.8
91	7	23	7	5	142.8
91	7	24	7	5	143
91	7	25	7	1	142.9
91	7	26	7	2	142.9
91	7	27	7	2	142.9
91	7	28	7	2	142.9
91	7	29	7	2	142.9
91	7	30	7	2	142.9
91	7	31	7	2	142.9
91	8	1	7	2	142.9
91	8	2	7	2	143
91	8	3	7	2	143
91	8	4	7	2	143
91	8	5	7	2	143
91	8	6	7	2	143

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	8	7	7	6	143
91	8	8	7	6	142.7
91	8	9	7	4	142.9
91	8	10	7	4	143
91	8	11	7	4	142.9
91	8	12	7	4	142.9
91	8	13	7	4	142.8
91	8	14	7	4	142.8
91	8	15	7	3	142.8
91	8	17	7	2	142.7
91	8	18	7	3	142.7
91	8	19	7	2	142.7
91	8	20	7	4	142.7
91	8	21	7	3	142.7
91	8	22	7	3	142.4
91	8	23	7	2	142.5
91	8	24	7	2	142.5
91	8	25	7	2	142.5
91	8	26	7	3	142.5
91	8	27	7	3	142.6
91	8	28	7	3	142.6
91	8	29	7	2	142.6
91	8	30	7	10	142.6
91	8	31	7	2	142.7
91	9	1	7	2	142.6
91	9	2	7	2	142.6
91	9	3	7	2	142.6
91	9	4	7	3	143.5
91	9	5	7	2	143.7
91	9	6	7	2	143.7
91	9	7	7	2	143.8
91	9	8	7	2	143.8
91	9	9	7	3	143.8
91	9	10	7	2	143.8
91	9	11	7	3	143.8
91	9	12	7	2	143.8
91	9	13	7	2	143.8
91	9	14	7	3	143.8
91	9	15	7	2	143.8
91	9	16	7	3	143.8
91	9	17	7	3	143.8
91	9	18	7	3	143.8
91	9	19	7	3	143.8
91	9	20	7	2	143.8
91	9	21	7	2	143.8
91	9	22	7	3	143.8
91	9	23	7	3	143.8
91	9	24	7	2	143.8

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	9	25	7	3	143.8
91	9	26	7	3	143.8
91	9	27	7	2	143.8
91	9	28	7	2	143.8
91	9	29	7	3	143.8
91	9	30	7	3	143.7
91	10	1	7	2	143.9
91	10	2	7	2	143.9
91	10	3	7	2	143.9
91	10	4	7	3	143.8
91	10	6	6	2	143.9
91	10	7	6	2	143.9
91	10	8	7	2	143.9
91	10	9	7	2	143.8
91	10	10	7	2	143.8
91	10	11	7	2	143.9
91	10	12	7	2	143.9
91	10	13	7	3	143.9
91	10	14	7	2	143.8
91	10	15	7	2	143.9
91	10	16	7	3	143.9
91	10	17	7	5	143.7
91	10	18	7	6	143.7
91	10	19	7	6	143.7
91	10	20	7	2	143.7
91	10	21	7	2	143.8
91	10	23	7	2	143.8
91	10	24	7	2	143.8
91	10	25	7	3	143.8
91	10	26	7	3	143.8
91	10	27	7	2	143.8
91	10	28	7	2	143.7
91	10	29	7	3	143.7
91	10	30	7	3	143.7
91	10	31	7	3	143.7
91	11	1	7	2	143.7
91	11	2	7	3	143.7
91	11	3	7	3	143.8
91	11	4	7	2	143.8
91	11	5	7	3	143.9
91	11	6	7	3	143.9
91	11	7	7	2	143.9
91	11	8	7	3	143.9
91	11	9	7	2	143.9
91	11	10	7	3	143.9
91	11	11	7	10	143.9
91	11	12	7	3	143.9
91	11	13	7	3	143.9

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
91	11	14	7	3	143.9
91	11	15	7	3	143.9
91	11	16	7	3	143.9
91	11	17	7	2	144
91	11	18	7	3	143.9
91	11	19	7	3	143.9
91	11	20	7	3	143.9
91	11	21	7	2	143.9
91	11	22	7	3	143.8
91	11	23	7	2	143.8
91	11	24	7	3	143.9
91	11	25	7	3	143.9
91	11	27	7	3	144
91	11	28	7	3	143.9
91	11	29	7	3	144
91	11	30	7	3	143.9
91	12	1	7	3	144
91	12	2	7	3	144
91	12	3	7	3	144
91	12	4	7	3	144
91	12	5	7	3	144
91	12	6	7	4	144
91	12	7	7	3	144
91	12	8	7	3	144
91	12	9	7	3	144
91	12	10	7	3	144
91	12	11	7	2	144
91	12	12	7	3	144
91	12	13	6	6	144
91	12	14	7	2	143.9
91	12	15	7	2	144
91	12	18	7	3	144
91	12	24	7	3	144
91	12	25	7	3	144.1
91	12	26	7	3	144.1
91	12	27	7	3	144.1
91	12	28	7	2	144.1
91	12	29	7	3	144
91	12	30	7	3	144
91	12	31	7	3	144
92	1	1	7	3	144
92	1	2	7	2	144.1
92	1	3	7	4	144.1
92	1	4	7	3	144.1
92	1	5	7	3	144.1
92	1	6	7	3	144.1
92	1	7	7	4	144.1
92	1	9	7	3	144

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	1	10	7	4	144.1
92	1	11	7	4	144.1
92	1	17	7	4	144.1
92	1	18	7	4	144
92	1	19	7	3	144.1
92	1	20	7	3	144.1
92	1	21	7	3	144.1
92	1	22	7	6	144.1
92	1	23	7	3	144.1
92	1	24	7	2	144.1
92	1	25	7	3	144.1
92	1	26	7	10	144.1
92	1	27	7	2	144.1
92	1	28	7	3	144.1
92	1	29	7	3	144.1
92	1	30	7	3	144.1
92	1	31	7	3	144.1
92	2	1	7	2	144.1
92	2	2	7	3	144.1
92	2	3	7	3	144
92	2	4	7	3	144
92	2	5	7	2	144.1
92	2	8	7	4	144.1
92	2	9	7	3	144.1
92	2	10	7	4	144.2
92	2	11	7	3	144.1
92	2	12	7	3	144.1
92	2	13	7	3	144.1
92	2	14	7	3	144.1
92	2	15	7	3	144.1
92	2	16	7	3	144.1
92	2	17	7	3	144.1
92	2	18	7	3	144.1
92	2	19	7	3	144.1
92	2	20	7	3	144.1
92	2	21	7	3	144.1
92	2	22	6	3	144.2
92	2	23	7	3	144.1
92	2	24	7	3	144.1
92	2	27	0	3	144
92	2	29	7	3	144.1
92	3	1	7	3	144.2
92	3	2	7	3	144.1
92	3	3	7	4	144.3
92	3	4	7	4	144.3
92	3	5	7	3	144.3
92	3	6	7	3	144.3
92	3	7	7	2	144.3

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	3	8	7	2	144.3
92	3	9	7	2	144.3
92	3	10	6	3	144.3
92	3	11	7	3	144.3
92	3	12	7	3	144.3
92	3	13	7	3	144.3
92	3	14	7	3	144.3
92	3	15	7	6	144.3
92	3	16	7	3	144.3
92	3	17	7	3	144.3
92	3	18	7	3	144.3
92	3	19	7	3	144.2
92	3	20	7	2	144.3
92	3	21	7	3	144.3
92	3	22	7	2	144.3
92	3	23	6	3	144.3
92	3	24	7	2	144.3
92	3	25	7	3	144.3
92	3	26	7	3	144.3
92	3	27	7	2	144.3
92	3	28	7	3	144.3
92	3	29	7	3	144.2
92	3	30	7	3	144.3
92	3	31	6	3	144.2
92	4	1	7	3	144.2
92	4	2	7	3	144.3
92	4	3	7	3	144.3
92	4	4	7	3	144.3
92	4	5	7	3	144.3
92	4	6	7	3	144.2
92	4	7	7	3	144.2
92	4	8	7	10	144.2
92	4	9	7	3	144.3
92	4	10	7	3	144.3
92	4	11	7	3	144.3
92	4	12	7	4	144.3
92	4	13	7	3	144.3
92	4	14	4	3	144.3
92	4	15	6	3	144.3
92	4	16	7	3	144.3
92	4	17	7	3	144.3
92	4	18	7	2	144.3
92	4	19	7	2	144.3
92	4	20	7	3	144.3
92	4	21	7	3	144.3
92	4	22	7	2	144.3
92	4	23	7	3	144.3
92	4	24	7	3	144.3

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	4	25	7	4	144.3
92	4	26	7	3	144.3
92	4	27	7	4	144.2
92	4	28	7	3	144.3
92	4	29	7	3	144.4
92	4	30	7	3	144.4
92	5	1	7	3	144.2
92	5	2	7	3	144.3
92	5	3	7	3	144.3
92	5	4	7	3	144.3
92	5	5	7	4	144.3
92	5	6	7	3	144.4
92	5	7	7	4	144.3
92	5	8	7	3	144.4
92	5	9	4	4	144.4
92	5	10	7	4	144.4
92	5	11	4	4	144.4
92	5	12	7	3	144.2
92	5	13	7	3	144.4
92	5	14	7	3	144.3
92	5	15	7	3	144.4
92	5	16	6	3	144.4
92	5	17	6	3	144.4
92	5	18	7	3	144.4
92	5	19	7	3	144.4
92	5	20	7	3	144.4
92	5	21	7	3	144.3
92	5	22	7	2	144.3
92	5	23	7	3	144.3
92	5	24	7	3	144.3
92	5	25	7	3	144.4
92	5	27	7	3	144.4
92	5	28	7	2	144.4
92	5	29	7	2	144.4
92	5	30	7	3	144.4
92	5	31	6	3	144.4
92	6	1	7	3	144.4
92	6	2	7	3	144.4
92	6	3	7	3	144.4
92	6	4	7	3	144.4
92	6	5	7	2	144.4
92	6	6	7	3	144.4
92	6	7	7	3	144.4
92	6	8	7	3	144.4
92	6	9	7	3	144.4
92	6	10	7	3	144.4
92	6	11	7	3	144.4
92	6	12	7	5	144.4

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	6	13	6	5	144.5
92	6	15	7	3	144.3
92	6	16	7	3	144.3
92	6	17	7	3	144.3
92	6	18	7	3	144.3
92	6	19	7	2	144.4
92	6	20	7	2	144.4
92	6	21	7	3	144.4
92	6	22	7	3	144.4
92	6	23	7	3	144.4
92	6	24	6	3	144.4
92	6	25	7	3	144.4
92	6	26	6	3	144.4
92	6	27	7	3	144.4
92	6	28	5	6	144.4
92	6	29	5	6	144.6
92	6	30	7	6	144.4
92	7	3	7	6	144.4
92	7	4	7	6	144.4
92	7	5	7	6	144.4
92	7	6	6	6	144.4
92	7	7	7	6	144.4
92	7	8	7	6	144.4
92	7	9	7	6	144.4
92	7	10	7	6	144.4
92	7	11	7	6	144.4
92	7	12	7	6	144.4
92	7	13	7	6	144.4
92	7	14	5	6	144.4
92	7	15	7	6	144.4
92	7	16	7	6	144.4
92	7	17	7	6	144.4
92	7	18	7	6	144.4
92	7	19	7	6	144.4
92	7	20	7	6	144.4
92	7	21	7	5	144.4
92	7	22	7	6	144.4
92	7	24	7	5	144.4
92	7	25	7	6	144.4
92	7	26	7	6	144.4
92	7	27	6	5	144.4
92	7	28	6	6	144.4
92	7	29	7	6	144.4
92	7	30	7	6	144.4
92	7	31	7	5	144.4
92	8	1	7	6	144.4
92	8	2	6	6	144.5
92	8	3	7	6	144.5

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
92	8	4	7	6	144.5
92	8	5	6	6	144.6
92	8	6	6	6	144.6
92	8	7	7	5	144.6
92	8	8	7	6	144.5
92	8	9	7	6	144.5
92	8	10	7	5	144.5
92	9	19	10	3	144.2
92	9	21	10	3	144.2
92	9	22	7	3	144.2
92	9	23	7	3	144.2
92	9	24	7	3	144.2
92	9	25	7	3	144.2
92	9	28	10	3	144.2
92	10	5	10	3	144.2
92	10	29	7	3	144.2
92	10	30	7	3	144.2
92	10	31	7	3	144.2
92	11	1	7	3	144.2
92	11	2	7	3	144.2
92	11	3	7	3	144.1
92	11	4	7	3	144.1
92	12	2	6	3	144.2
92	12	3	6	3	144.2
92	12	4	7	3	144.1
92	12	6	7	2	144.2
92	12	7	7	3	144.2
92	12	8	7	3	144.2
92	12	9	7	3	144.2
92	12	10	7	3	144.2
92	12	11	7	3	144.2
92	12	13	7	4	144.1
92	12	14	7	3	144.2
92	12	15	7	3	144.2
92	12	16	7	4	144.2
92	12	17	7	3	144.2
92	12	18	7	3	144.2
92	12	19	7	3	144.2
92	12	20	7	4	144.2
92	12	21	7	4	144.2
92	12	23	7	4	144.2
92	12	24	7	3	144.2
92	12	25	7	3	144.2
92	12	26	7	3	144.3
92	12	27	7	3	144.3
92	12	28	7	3	144.3
92	12	30	7	3	144.2
92	12	31	7	3	144.2

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	1	1	7	4	144.2
93	1	12	7	6	144.1
93	1	13	7	6	144.2
93	1	14	7	3	144.2
93	1	15	7	3	144.2
93	1	17	7	2	144.2
93	1	18	7	2	144.2
93	1	19	7	2	144.2
93	1	20	7	2	144.3
93	1	21	7	2	144.2
93	1	22	7	4	144.2
93	1	23	7	3	144.2
93	1	24	7	3	144.2
93	1	25	6	3	144.2
93	2	5	6	4	144.2
93	2	6	2	3	144.2
93	2	7	7	3	144.2
93	2	16	6	3	144.2
93	2	18	7	3	144.2
93	2	19	7	2	144.3
93	2	20	7	3	144.3
93	2	21	7	4	144.2
93	2	22	7	4	144.2
93	2	23	7	3	144.2
93	2	24	7	4	144.2
93	2	25	7	3	144.2
93	2	26	7	3	144.1
93	2	27	7	4	144.1
93	2	28	7	3	144.1
93	3	1	7	3	144.1
93	3	2	7	4	144.1
93	3	3	7	3	144.2
93	3	4	7	4	144.1
93	3	5	7	4	144.1
93	3	6	7	3	144.1
93	3	9	7	4	144.2
93	3	10	7	5	144.2
93	3	11	7	4	144.2
93	3	12	7	4	144.1
93	3	13	7	3	144.2
93	3	14	7	4	144.2
93	3	15	7	3	144.2
93	3	16	7	4	144.2
93	3	17	7	3	144.2
93	3	18	7	4	144.2
93	3	19	7	3	144.2
93	3	20	7	4	144.2
93	3	21	7	4	144.2

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	3	22	7	3	144.2
93	3	23	7	3	144.3
93	3	24	7	4	144.2
93	3	25	7	3	144.2
93	3	26	7	3	144.2
93	3	27	7	3	144.2
93	3	28	7	3	144.2
93	3	29	6	3	144.2
93	3	30	7	3	144.2
93	3	31	7	3	144.2
93	4	1	7	3	144.2
93	4	2	7	6	144.2
93	4	3	7	6	144.2
93	4	4	7	5	144.3
93	4	5	7	6	144.3
93	4	6	7	6	144.3
93	4	7	7	6	144.2
93	4	8	7	6	144.3
93	4	9	7	6	144.3
93	4	10	7	5	144.3
93	4	11	7	6	144.3
93	4	12	7	6	144.2
93	4	13	7	6	144.3
93	4	14	7	6	144.2
93	4	15	7	3	144.3
93	4	16	7	6	144.3
93	4	17	7	5	144.3
93	4	18	7	6	144.3
93	4	19	7	6	144.2
93	4	22	7	6	144.3
93	4	23	7	6	144.3
93	4	24	7	5	144.3
93	4	25	7	6	144.3
93	4	26	7	6	144.3
93	4	27	7	6	144.2
93	4	28	7	3	144.2
93	4	29	7	3	144.2
93	4	30	7	6	144.2
93	5	1	7	5	144.2
93	5	2	7	6	144.3
93	5	3	7	6	144.3
93	5	11	7	6	144.3
93	5	12	2	6	144.3
93	5	15	7	6	144.3
93	5	16	7	5	144.3
93	5	17	7	3	144.2
93	5	18	7	3	144.2
93	5	19	7	3	144.3

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	5	20	7	3	144.2
93	5	21	7	2	144.2
93	5	22	7	3	144.2
93	5	23	7	4	144.2
93	5	24	7	3	144.2
93	5	25	7	3	144.2
93	5	26	7	3	144.3
93	5	27	7	3	144.3
93	5	28	7	3	144.2
93	5	29	7	5	144.2
93	5	30	7	5	144.2
93	5	31	7	6	144.3
93	6	1	7	6	144.3
93	6	2	7	6	144.3
93	6	3	7	6	144.3
93	6	4	7	6	144.2
93	6	5	7	6	144.3
93	6	6	7	5	144.3
93	6	7	7	5	144.3
93	6	8	7	5	144.2
93	6	9	7	5	144.3
93	6	10	7	4	144.2
93	6	11	7	5	144.3
93	6	12	7	5	144.2
93	6	13	7	4	144.2
93	6	14	7	5	144.3
93	6	15	7	5	144.3
93	6	16	7	5	144.6
93	6	25	7	3	144.7
93	6	26	7	3	144.8
93	6	27	7	4	144.8
93	6	28	7	3	144.8
93	6	29	7	4	144.8
93	6	30	6	3	144.8
93	7	1	7	6	144.8
93	7	2	7	6	144.8
93	7	3	7	3	144.8
93	7	4	7	4	144.8
93	7	5	7	3	144.8
93	7	6	7	3	144.8
93	7	7	7	4	144.8
93	7	8	7	4	144.8
93	7	9	7	5	144.8
93	7	10	7	3	144.8
93	7	11	7	3	144.8
93	7	12	7	2	144.8
93	7	13	7	3	144.8
93	7	14	7	6	144.8

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	7	15	7	6	144.8
93	7	16	7	6	144.8
93	7	17	7	7	144.8
93	7	18	7	6	144.9
93	7	19	7	3	144.9
93	7	20	7	3	144.9
93	7	21	7	3	144.9
93	7	22	7	3	144.9
93	7	23	7	3	144.9
93	7	24	7	3	144.9
93	7	25	7	4	144.9
93	7	26	7	3	144.9
93	7	27	7	3	144.9
93	7	28	7	4	144.9
93	7	29	7	3	144.9
93	7	30	7	3	144.9
93	7	31	7	3	144.8
93	8	1	7	3	144.8
93	8	2	7	6	144.9
93	8	3	7	3	144.9
93	8	4	7	3	144.9
93	8	5	7	4	144.9
93	8	6	7	4	144.9
93	8	8	7	4	144.9
93	8	9	7	4	144.9
93	8	10	7	4	144.9
93	8	11	7	4	144.9
93	8	12	7	4	144.9
93	8	13	7	4	144.9
93	8	14	7	3	144.9
93	8	15	7	4	144.9
93	8	16	7	4	144.9
93	8	17	7	4	144.9
93	8	18	7	3	144.9
93	8	19	7	4	145
93	8	20	7	4	145
93	8	21	7	4	145
93	8	22	7	4	145
93	8	23	7	4	145
93	8	24	7	4	144.9
93	8	25	7	4	144.9
93	8	26	7	4	144.9
93	8	27	7	5	144.9
93	8	28	7	4	145
93	8	29	7	3	144.9
93	8	30	7	4	144.9
93	8	31	7	4	145
93	9	1	7	4	145

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	9	2	7	4	145
93	9	3	7	4	145
93	9	4	7	4	145
93	9	5	7	4	145
93	9	6	7	4	145
93	9	7	7	4	145
93	9	8	7	4	145
93	9	9	7	4	145
93	9	10	7	4	145
93	9	11	7	4	145
93	9	12	7	4	145
93	9	13	7	4	145
93	9	14	7	4	145
93	9	15	7	4	145
93	9	16	7	4	145
93	9	17	7	4	145
93	9	18	7	4	145
93	9	19	7	4	145
93	9	20	7	4	145
93	9	21	7	4	145
93	9	22	7	4	144.9
93	9	23	7	4	145
93	9	24	7	4	145
93	9	25	7	4	145
93	9	26	7	4	144.9
93	9	27	7	4	145
93	9	28	7	4	145
93	9	29	7	4	145
93	9	30	7	3	145
93	10	1	7	6	145
93	10	2	7	5	145
93	10	3	7	6	145
93	10	4	7	6	145
93	10	5	7	6	145
93	10	6	7	6	145
93	10	7	7	5	145
93	10	8	7	4	145
93	10	9	7	3	145
93	10	10	7	10	145
93	10	11	7	3	145
93	10	12	7	4	145
93	10	13	7	3	145
93	10	14	7	4	145
93	10	15	7	4	145
93	10	16	7	4	145
93	10	17	7	3	145
93	10	18	7	4	145
93	10	19	7	4	145

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	10	20	7	3	144.9
93	10	21	7	4	145
93	10	22	7	4	145
93	11	9	7	3	145
93	11	10	7	4	145
93	11	11	7	4	145
93	11	12	7	4	145
93	11	13	7	4	145
93	11	14	7	3	144.9
93	11	15	7	4	145
93	11	16	7	3	145
93	11	17	7	4	145
93	11	18	7	4	144.9
93	11	19	7	4	144.9
93	11	20	7	4	144.9
93	11	21	7	4	145
93	11	22	7	4	145
93	11	23	7	4	144.9
93	11	24	7	4	144.8
93	11	25	7	4	144.8
93	11	26	7	4	144.8
93	11	27	7	4	144.9
93	11	28	7	3	144.9
93	11	29	7	4	145
93	11	30	7	3	145
93	12	3	15	4	145
93	12	4	7	5	145
93	12	5	7	4	144.9
93	12	6	7	5	145
93	12	7	7	4	145
93	12	8	7	6	145
93	12	9	7	4	145
93	12	10	7	10	145
93	12	11	7	6	145
93	12	12	7	6	145
93	12	13	7	6	145
93	12	14	7	6	145.1
93	12	15	7	6	145
93	12	16	7	6	145
93	12	17	7	5	144.9
93	12	18	7	6	144.9
93	12	19	7	6	144.9
93	12	20	7	6	144.9
93	12	21	7	6	144.9
93	12	22	7	5	144.9
93	12	23	7	10	144.9
93	12	24	7	6	144.9
93	12	25	7	6	144.9

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
93	12	26	7	6	145
93	12	27	7	6	145
93	12	28	6	6	144.9
93	12	29	7	6	144.9
93	12	30	0	5	144.9
93	12	31	7	6	145
94	1	1	7	6	145
94	1	2	7	6	145
94	1	3	7	7	145
94	1	4	7	7	145.1
94	1	5	7	6	145.2
94	1	6	7	6	145.1
94	1	7	7	7	145.1
94	1	8	7	6	145.1
94	1	9	7	6	145.2
94	1	10	7	7	145.1
94	1	11	7	7	145.1
94	1	12	7	6	145.1
94	1	13	7	10	145.1
94	1	14	7	6	145.1
94	1	15	7	10	145.1
94	1	16	7	7	145.1
94	1	17	7	7	145.1
94	1	18	7	7	145.1
94	1	19	7	7	145.1
94	1	20	7	7	145.1
94	1	21	7	7	145.1
94	1	22	7	8	145.1
94	1	23	7	7	145.2
94	1	24	7	8	145.1
94	1	25	7	7	145.1
94	1	26	7	6	145.1
94	1	27	7	10	145.1
94	1	28	7	7	145.1
94	1	29	7	7	145
94	1	30	7	6	144.9
94	1	31	7	7	144.9
94	2	1	7	6	144.9
94	2	2	7	7	145
94	2	3	7	7	145
94	2	4	7	7	145
94	2	5	7	7	145
94	2	6	7	7	145
94	2	7	7	6	145
94	2	8	7	7	145
94	2	9	7	4	145
94	2	10	7	4	145
94	2	11	7	6	145

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Year	Month	Day	Hour	Minute	Surface Level
94	2	12	7	3	145
94	2	13	7	4	145
94	2	14	7	4	145
94	2	15	7	4	145
94	2	16	7	3	145
94	2	17	7	4	145.1
94	2	18	7	6	145
94	2	19	7	6	145
94	2	20	7	7	145
94	2	21	7	6	145
94	2	22	7	5	144.9
94	2	23	7	6	145
94	2	24	7	6	144.9

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Surface Level Data					
Manual Tape					
Year	Month	Day	Hour	Minute	Surface Level
93	4	5	10	3	189.25
93	4	12	10	3	153.25
93	4	19	10	3	189.5
93	5	3	10	5	189.5
93	5	10	10	5	189.5
93	5	27	10	5	189.5
93	6	1	10	6	189.5

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Surface Level Data					
FIC					
Year	Month	Day	Hour	Minute	Surface Level
93	2	8	10	4	172.5
93	3	15	10	3	171.4
93	4	5	10	3	169.3
93	4	12	10	3	172.4
93	4	19	10	3	171.8
93	5	24	10	5	172.6

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

Surface Level Data					
FIC					
Year	Month	Day	Hour	Minute	Surface Level
91	1	1	7	3	202.9
91	1	2	7	2	202.8
91	1	3	7	3	202.7
91	1	4	7	2	202.8
91	1	5	7	2	202.8
91	1	6	7	2	202.8
91	1	7	7	2	202.9
91	1	8	7	3	202.9
91	1	9	7	2	203
91	1	10	7	2	203
91	1	11	7	3	203
91	1	12	7	2	203.1
91	1	26	7	3	202.8
91	1	27	7	3	202.9
91	1	28	7	10	203
91	1	29	7	2	202.9
91	1	30	7	10	203
91	1	31	7	2	203
91	2	1	7	2	203
91	2	15	7	3	202.9
91	2	16	7	2	203.1
91	2	17	7	2	203.1
91	2	18	7	3	203
91	2	19	7	2	203
91	2	21	7	2	202.9
91	2	23	7	2	202.8
91	2	24	7	3	202.8
91	2	25	7	3	202.8
91	2	26	7	3	202.8
91	2	27	7	2	203
91	2	28	7	2	203.3
91	3	1	7	2	203.4
91	3	2	7	2	203.2
91	3	3	7	3	203.1
91	3	4	7	3	203.2
91	3	5	7	3	203.1
91	3	6	7	2	202.9
91	3	7	7	2	202.8
91	3	8	7	2	202.7
91	3	9	7	2	202.8
91	3	10	7	2	202.9
91	3	11	7	2	202.8
91	3	12	7	3	202.9
91	3	13	7	3	202.8
91	3	14	7	3	202.8
91	3	15	7	3	202.8

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
91	3	16	7	3	202.8
91	3	17	7	2	202.8
91	3	18	7	3	202.8
91	3	19	7	3	202.9
91	3	20	7	2	203
91	3	21	7	3	203
91	3	22	7	2	202.9
91	3	23	7	3	202.8
91	3	24	7	3	202.9
91	3	26	7	3	203
91	3	27	7	3	202.9
91	3	28	7	3	202.8
91	3	29	7	3	202.7
91	3	30	7	3	202.6
91	3	31	7	3	202.7
91	4	1	7	3	202.8
91	4	2	7	3	202.8
91	4	3	7	3	202.7
91	4	4	7	3	202.7
91	4	5	7	3	202.8
91	4	6	7	3	202.8
91	4	7	7	3	202.8
91	4	8	7	4	202.7
91	4	16	7	10	202.8
91	4	17	7	3	202.8
91	4	18	7	6	202.8
91	4	19	7	5	202.8
91	4	20	7	6	202.8
91	4	21	7	5	202.9
91	4	22	7	6	202.9
91	4	23	7	6	203
91	4	24	7	5	203
91	4	25	7	5	203
91	4	26	3	5	203
91	4	27	7	5	202.9
91	4	28	7	6	202.8
91	4	29	7	5	202.7
91	4	30	7	6	202.7
91	5	1	6	6	202.8
91	5	2	7	5	202.9
91	5	3	7	6	202.9
91	5	4	7	5	202.8
91	5	5	7	5	202.8
91	5	6	7	5	202.8
91	5	7	7	5	202.8
91	5	8	7	5	203
91	5	9	7	5	202.9
91	5	10	7	5	202.9

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
91	5	11	7	5	202.9
91	5	12	7	5	202.9
91	5	13	7	5	202.9
91	5	14	7	5	202.9
91	5	15	7	5	202.8
91	5	16	7	6	202.9
91	5	17	7	6	203
91	5	18	7	6	203
91	5	19	7	5	203
91	5	20	7	6	202.9
91	5	21	7	6	203
91	5	22	7	5	202.9
91	5	23	7	5	202.9
91	5	24	7	5	202.9
91	5	25	7	5	202.9
91	5	26	7	5	202.8
91	5	27	7	5	202.8
91	5	28	7	5	202.9
91	5	29	7	5	203
91	5	30	7	5	203
91	5	31	7	5	203
91	6	1	7	5	202.9
91	6	2	7	5	203
91	6	3	7	5	202.9
91	6	4	7	5	202.8
91	6	5	7	5	202.8
91	6	6	0	10	202.8
91	6	10	7	6	202.8
91	6	11	7	5	203
91	6	12	7	4	202.9
91	6	13	7	5	202.9
91	6	14	7	5	202.9
91	6	15	7	5	202.9
91	6	17	7	5	202.8
91	6	18	7	5	202.8
91	6	19	7	5	203
91	6	20	2	6	203
91	6	22	7	5	203
91	6	23	7	5	203
91	6	24	7	5	203.1
91	6	25	7	6	203.1
91	6	26	7	3	203.2
91	6	27	7	2	203.2
91	6	28	7	3	203.3
91	6	29	7	2	203.2
91	7	2	7	6	203
91	7	3	7	6	203
91	7	4	7	10	203

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
91	7	5	7	6	203.1
91	7	6	7	6	203.1
91	7	7	7	10	203
91	7	8	7	6	203.1
91	7	9	7	6	203.1
91	7	10	6	6	203.2
91	7	11	7	6	203.1
91	7	12	7	6	203.1
91	7	13	7	6	203.1
91	7	14	7	6	203.1
91	7	15	7	6	203.2
91	7	16	7	6	203.1
91	7	17	7	5	203.1
91	7	18	7	5	203.1
91	7	19	7	5	203.1
91	7	20	7	5	203.2
91	7	21	7	5	203.2
91	7	22	7	5	203.1
91	7	23	7	5	203.1
91	7	24	7	5	203.2
91	7	25	7	1	203.2
91	7	26	7	2	203.1
91	7	27	7	2	203.1
91	7	28	7	2	203
91	7	29	7	2	203.1
91	7	30	7	2	203.1
91	7	31	7	2	203.1
91	8	4	7	2	203.2
91	8	5	7	2	203.3
91	8	6	7	2	203.3
91	8	7	7	6	203.3
91	8	8	7	6	203.3
91	8	9	7	4	203.2
91	8	10	7	4	203.2
91	8	11	7	4	203.1
91	8	12	7	4	203.1
91	8	13	7	4	203.1
91	8	14	7	4	203.1
91	8	15	7	3	203.1
91	8	17	7	2	203.3
91	8	18	7	3	203.2
91	8	19	7	2	203.2
91	8	20	7	4	203.2
91	8	21	7	3	203.2
91	8	22	7	3	203.2
91	8	23	7	2	203.2
91	8	24	7	2	203.2
91	8	25	7	2	203.2

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
91	8	26	7	3	203.2
91	8	27	7	3	203.3
91	8	28	7	3	203.3
91	8	29	7	2	203.2
91	8	30	7	10	203.2
91	8	31	7	2	203.2
91	9	1	7	2	203.2
91	9	2	7	2	203.1
91	9	3	7	2	203
91	9	4	7	3	203
91	9	5	7	2	203.2
91	9	6	7	2	203.3
91	9	7	7	2	203.3
91	9	8	7	2	203.2
91	9	9	7	3	203.2
91	9	10	7	2	203.2
91	9	11	7	3	203.2
91	9	12	7	2	203.2
91	9	13	7	2	203.3
91	9	14	7	3	203.3
91	9	15	7	2	203.2
91	9	16	7	3	203.1
91	9	17	7	3	203.1
91	9	18	7	3	203.1
91	9	19	7	3	203.2
91	9	20	7	2	203.2
91	9	21	7	2	203.2
91	9	22	7	3	203
91	9	23	7	3	203
91	9	24	7	2	203
91	9	25	7	3	203.1
91	9	26	7	3	203.2
91	9	27	7	2	203.3
91	9	28	7	2	203.4
91	9	29	7	3	203.2
91	9	30	7	3	203.1
91	10	1	7	2	203.2
91	10	2	7	2	203.1
91	10	3	7	2	203.2
91	10	4	7	3	203.1
91	10	6	6	2	203.2
91	10	7	6	2	203.2
91	10	8	7	2	203.1
91	10	9	7	2	203.1
91	10	10	7	2	203
91	10	11	7	2	203.1
91	10	12	7	2	203.3
91	10	13	7	3	203.1

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
91	10	14	7	2	203.1
91	10	15	7	2	203.2
91	10	16	7	3	203.5
91	10	17	7	5	203.2
91	10	18	7	6	203
91	10	20	7	2	203
91	10	21	7	2	203.4
91	10	22	7	3	203.4
91	10	23	7	2	203.3
91	10	24	6	3	203.3
91	10	25	7	3	203.4
91	10	27	4	3	203.4
91	10	28	10	2	203
92	1	26	7	10	203.1
92	1	27	7	2	203.1
92	1	27	10	2	203.1
92	1	28	7	3	203.3
92	1	29	7	3	203.1
92	1	30	7	3	203.1
92	1	31	7	3	203.3
92	2	1	7	2	203.4
92	2	2	7	3	203.3
92	2	3	7	3	203.1
92	2	3	10	2	203.1
92	2	4	7	3	203.1
92	2	5	7	2	203.2
92	2	8	7	4	203.6
92	2	9	7	3	203.7
92	2	10	7	4	203.8
92	2	10	10	2	203.8
92	2	11	7	3	203.7
92	2	12	7	3	203.6
92	2	13	7	3	203.7
92	2	14	7	3	203.6
92	2	15	7	3	203.6
92	2	16	7	3	203.4
92	2	17	7	3	203.3
92	2	17	10	2	203.3
92	2	18	7	3	203.3
92	2	19	7	3	203.3
92	2	21	7	3	203.2
92	7	3	7	6	203.1
92	7	4	7	6	203.1
92	7	5	7	6	203.1
92	7	6	7	6	203
92	7	6	10	2	203
92	7	7	7	6	203
92	7	8	7	6	203

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
92	7	9	7	6	202.9
92	7	10	7	6	203
92	7	11	7	6	203.1
92	7	12	7	6	203.1
92	7	13	7	6	203.4
92	7	13	10	2	203.4
92	7	14	7	6	203.3
92	7	15	7	6	203.2
92	7	16	7	6	203.2
92	7	17	7	6	203.3
92	7	18	7	6	203.1
92	7	19	7	6	203.1
92	7	20	7	6	203.1
92	7	20	10	2	203.1
92	7	21	7	5	203.1
92	7	22	7	6	203.2
92	7	24	7	5	203
92	7	25	7	6	203
92	7	26	7	6	203
92	7	27	7	5	203.1
92	7	27	10	2	203.1
92	7	28	7	6	203.1
92	7	29	7	6	203.1
92	7	30	7	6	203.1
92	7	31	7	5	203.2
92	8	1	7	6	203.2
92	8	2	6	6	203.1
92	8	3	7	6	203.2
92	8	3	10	2	203.2
92	8	4	7	6	203.2
92	8	5	7	5	203.2
92	8	6	7	5	203.2
92	8	7	7	5	203.2
92	8	8	7	6	203.1
92	8	9	7	6	203
92	8	10	7	5	203.1
92	8	10	10	2	203.1
92	8	11	7	6	203.1
92	8	12	7	6	203.2
92	8	13	7	6	203.2
92	8	14	7	6	203.2
92	8	15	7	6	203.1
92	8	16	7	6	203.2
92	8	17	7	6	203.2
92	8	17	10	2	203.2
92	8	18	7	6	203.2
92	8	19	7	6	203.3
92	8	20	7	6	203.2

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
92	8	21	7	5	203.3
92	8	22	7	4	203.3
92	8	23	7	4	203.1
92	8	24	7	4	203
92	8	24	10	2	203.2
92	8	25	7	4	203
92	8	26	7	3	203
92	8	27	7	4	203
92	8	28	7	2	203.1
92	8	29	7	2	203.3
92	8	30	7	2	203.1
92	8	31	7	2	203.2
92	9	1	7	2	203.2
92	9	2	7	2	203.2
92	9	3	7	4	203.2
92	9	22	7	3	203.3
92	9	23	7	3	203.4
92	9	24	7	3	203.4
92	9	25	7	3	203.2
92	10	29	7	3	203.4
92	10	30	7	3	203.5
92	10	31	7	3	203.3
92	11	1	7	3	203.1
92	11	2	7	3	203.1
92	11	3	7	3	202.9
92	11	4	7	3	202.9
92	12	2	6	3	203
92	12	3	6	3	202.9
92	12	4	7	3	202.8
92	12	6	7	2	203
92	12	7	7	3	203.2
92	12	8	7	3	203.3
92	12	9	7	3	203.3
92	12	10	7	3	203.3
92	12	11	7	3	203.3
92	12	13	7	4	202.8
92	12	15	7	3	203
92	12	16	7	4	202.9
92	12	17	7	3	203.3
92	12	18	7	3	203.1
92	12	19	7	3	203
92	12	20	7	4	203.2
92	12	21	7	4	203.2
92	12	23	7	4	202.9
92	12	24	7	3	202.9
92	12	25	7	3	202.8
92	12	26	7	3	203.1
92	12	27	7	3	203.2

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
92	12	28	7	3	203.4
92	12	30	7	3	203.2
92	12	31	7	3	203
93	1	1	7	4	203
93	1	12	7	6	202.8
93	1	13	7	6	203
93	1	14	7	3	203.1
93	1	15	7	3	203
93	1	17	7	2	203
93	1	18	7	2	203
93	1	19	7	2	203
93	1	20	7	2	203.2
93	1	21	7	2	203.1
93	1	22	7	4	203.1
93	1	23	7	3	202.8
93	1	24	7	3	202.8
93	1	25	6	3	202.9
93	2	5	6	4	202.8
93	2	6	2	3	202.8
93	2	7	7	3	202.9
93	2	16	6	3	202.8
93	2	18	7	3	202.8
93	2	19	7	2	203.2
93	2	20	7	3	203.4
93	2	21	7	4	203.2
93	2	22	7	4	203
93	2	23	7	3	202.9
93	2	24	7	4	203
93	2	25	7	3	202.8
93	2	26	7	3	202.7
93	2	27	7	4	202.6
93	2	28	7	3	202.6
93	3	1	7	3	202.6
93	3	2	7	4	202.6
93	3	3	7	3	202.7
93	3	4	7	4	202.6
93	3	5	7	4	202.6
93	3	6	7	3	202.6
93	3	9	7	4	202.6
93	3	10	7	5	202.6
93	3	11	7	4	202.6
93	3	12	7	4	202.5
93	3	13	7	3	202.6
93	3	14	7	4	202.8
93	3	15	7	3	203.1
93	3	16	7	4	202.9
93	3	17	7	3	202.9
93	3	18	7	4	203

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
93	3	19	7	3	202.8
93	3	20	7	4	202.9
93	3	21	7	4	202.8
93	3	22	7	3	202.9
93	3	23	7	3	203.1
93	3	24	7	4	203
93	3	25	7	3	202.9
93	3	26	7	3	203
93	3	27	7	3	203
93	3	28	7	3	203
93	3	29	6	3	203
93	3	30	7	3	202.9
93	3	31	7	3	202.8
93	4	1	7	3	203.1
93	4	2	7	6	203
93	4	3	7	6	203
93	4	4	7	5	203
93	4	5	7	6	203
93	4	6	7	6	203
93	4	7	7	6	202.9
93	4	8	7	6	203
93	4	9	7	6	203
93	4	10	7	5	203
93	4	11	7	6	203
93	4	12	7	6	202.9
93	4	13	7	6	202.9
93	4	14	7	6	202.9
93	4	15	7	3	203
93	4	16	7	6	203
93	4	17	7	5	203
93	4	18	7	6	203
93	4	19	7	6	202.9
93	4	22	7	6	202.9
93	4	23	7	6	203
93	4	24	7	5	203
93	4	25	7	6	203
93	4	27	7	6	202.8
93	4	28	7	3	202.8
93	4	29	7	3	202.8
93	4	30	7	6	202.8
93	5	1	7	5	202.8
93	5	2	7	6	202.8
93	5	3	7	6	203.1
93	5	11	7	6	203
93	5	12	2	6	203.1
93	5	15	7	6	203
93	5	16	7	5	203
93	5	17	7	3	203

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
93	5	18	7	3	203
93	5	19	7	3	203
93	5	20	7	3	203.1
93	5	21	7	2	203
93	5	22	7	3	203
93	5	23	7	4	203.1
93	5	24	7	3	203.2
93	5	25	7	3	203.3
93	5	26	7	3	203
93	5	27	7	3	203.1
93	5	28	7	3	203.1
93	5	29	7	5	203
93	5	31	7	6	203.1
93	6	1	7	6	203.1
93	6	2	7	6	203.1
93	6	3	7	6	203
93	6	4	7	6	203.1
93	6	5	7	6	203.1
93	6	6	7	5	203.3
93	6	7	7	5	203.2
93	6	8	7	5	203
93	6	9	7	5	203
93	6	10	7	4	202.9
93	6	11	7	5	203
93	6	13	7	4	202.8
93	6	14	7	5	202.9
93	6	16	7	5	202.9
93	6	17	7	5	202.9
93	6	18	7	6	202.9
93	6	25	7	3	202.8
93	6	26	7	3	203
93	6	27	7	4	203
93	6	28	7	3	203.1
93	6	29	7	4	203
93	6	30	6	3	203
93	7	1	7	6	203
93	7	2	7	6	203.1
93	7	3	7	3	203.1
93	7	4	7	4	203.1
93	7	5	7	3	203
93	7	6	7	3	203
93	7	7	7	4	203
93	7	8	7	4	203
93	7	9	7	5	203.1
93	7	10	7	3	203
93	7	11	7	3	203
93	7	12	7	2	203
93	7	13	7	3	203

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
93	7	14	7	6	203
93	7	15	7	6	203
93	7	16	7	6	203
93	7	17	7	7	203
93	7	18	16	6	202.9
93	7	19	7	3	203
93	8	6	15	4	203.2
93	8	6	16	4	203.1
93	8	7	16	4	203.25
93	8	8	7	4	203.2
93	8	9	7	4	203.1
93	8	10	7	4	203.1
93	8	11	7	4	203
93	8	12	7	4	203
93	8	13	7	4	203.1
93	8	14	7	3	203.2
93	8	15	7	4	203.2
93	8	16	7	4	203.2
93	8	17	7	4	203.1
93	8	18	7	3	203
93	8	19	7	4	203.1
93	8	20	7	4	203.2
93	8	21	7	4	203.2
93	8	22	7	4	203.1
93	8	23	7	4	203.3
93	8	24	7	4	203.1
93	8	25	7	4	203
93	8	26	7	4	203
93	8	27	7	5	203
93	8	28	7	4	203
93	8	29	7	3	203
93	8	30	7	4	203
93	8	31	7	4	203.1
93	9	1	7	4	203.2
93	9	2	7	4	203.1
93	9	2	16	4	203.1
93	9	3	7	4	203.1
93	9	3	16	4	203.1
93	9	4	7	4	203.1
93	9	4	16	4	203.1
93	9	5	7	4	203.2
93	9	5	16	4	203.2
93	9	6	7	4	203.2
93	9	6	16	4	203.2
93	9	7	7	4	203.1
93	9	7	16	4	203.15
93	9	8	7	4	203.1
93	9	8	16	4	203.1

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
93	9	9	7	4	203.2
93	9	9	16	4	203.2
93	9	10	7	4	203.3
93	9	10	16	4	203.2
93	9	11	7	4	203.3
93	9	11	16	4	203.3
93	9	12	7	4	203.2
93	9	12	16	4	203.3
93	9	13	7	4	203.1
93	9	13	16	4	203.2
93	9	14	7	4	203.2
93	9	14	16	4	203.2
93	9	15	7	4	203.2
93	9	15	16	4	203.2
93	9	16	7	4	203.1
93	9	16	16	4	203.2
93	9	17	7	4	203.1
93	9	17	16	4	203.2
93	9	18	7	4	203.2
93	9	18	16	4	203.2
93	9	19	7	4	203.2
93	9	19	16	4	203.2
93	9	20	7	4	203.2
93	9	20	16	4	203.2
93	9	21	7	4	203.1
93	9	21	16	4	203.1
93	9	22	7	4	203
93	9	22	16	4	203
93	9	23	7	4	203
93	9	23	16	4	203
93	9	24	7	4	203
93	9	24	16	4	203.1
93	9	25	7	4	203.1
93	9	25	16	4	203.1
93	9	26	7	4	203
93	9	26	16	4	203
93	9	27	7	4	203
93	9	27	16	4	203
93	9	28	7	4	203
93	9	28	16	4	203.1
93	9	29	7	4	203.1
93	9	29	16	4	203
93	9	30	7	3	203.2
93	10	1	7	6	203.2
93	10	2	7	5	203.1
93	10	3	7	6	203.1
93	10	4	7	6	203.2
93	10	5	7	6	203.3

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
93	10	6	7	6	203.3
93	10	7	7	5	203.2
93	10	8	7	4	203.1
93	10	9	7	3	203.1
93	10	10	7	10	203.1
93	10	11	7	3	203.2
93	10	12	7	4	203.1
93	10	13	7	3	203.1
93	10	14	7	4	203.2
93	10	15	7	4	203.3
93	10	16	7	4	203.3
93	10	17	7	3	203.2
93	10	18	7	4	203.1
93	10	19	7	4	203.1
93	10	20	7	3	203
93	10	21	7	4	203
93	10	22	7	4	203.1
93	10	23	16	4	203.15
93	10	24	16	4	203.2
93	10	25	16	4	203
93	10	26	16	4	202.85
93	10	27	16	4	203
93	10	28	16	4	203.1
93	10	29	16	4	203.1
93	10	30	16	4	203.05
93	10	31	16	4	203.2
93	11	1	16	3	203.1
93	11	2	16	3	203
93	11	3	16	3	203.2
93	11	4	16	3	203.1
93	11	5	16	3	203
93	11	6	16	3	202.95
93	11	8	16	3	203.1
93	11	9	7	3	203.1
93	11	10	7	4	203.1
93	11	11	7	4	203.2
93	11	12	7	4	203.2
93	11	13	7	4	203.2
93	11	14	7	3	203
93	11	15	7	4	203.1
93	11	16	7	3	203.1
93	11	17	7	4	203.2
93	11	17	16	4	203.2
93	11	18	7	4	203.1
93	11	19	7	4	202.9
93	11	19	16	4	202.9
93	11	20	7	4	203
93	11	20	16	4	203

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
93	11	21	7	4	203.3
93	11	21	16	4	203.2
93	11	22	7	4	203.3
93	11	22	16	4	203.4
93	11	23	7	4	203
93	11	23	16	4	203.1
93	11	24	7	4	202.7
93	11	24	16	4	202.8
93	11	25	7	4	202.6
93	11	25	16	4	202.7
93	11	26	7	4	202.6
93	11	26	16	4	202.6
93	11	27	7	4	202.7
93	11	28	7	3	202.8
93	11	29	7	4	203.1
93	11	30	7	3	203.1
93	12	1	16	4	203.1
93	12	2	16	4	202.9
93	12	3	16	4	202.9
93	12	5	7	4	203
93	12	6	7	5	203.1
93	12	7	7	4	203.2
93	12	8	7	6	203.4
93	12	9	7	4	203.3
93	12	10	7	10	203.3
93	12	11	7	6	203.4
93	12	12	7	6	203.3
93	12	13	7	6	203.1
93	12	14	7	6	203.2
93	12	15	7	6	203
93	12	16	7	6	202.9
93	12	17	7	5	202.8
93	12	18	7	6	202.7
93	12	19	7	6	202.7
93	12	20	7	6	202.7
93	12	21	7	6	202.6
93	12	22	7	5	202.6
93	12	23	7	10	202.5
93	12	24	7	6	202.5
93	12	25	7	6	202.6
93	12	26	7	6	202.8
93	12	27	7	6	202.8
93	12	28	6	6	202.7
93	12	29	7	6	202.6
93	12	30	0	5	202.7
93	12	31	16	6	202.9
94	1	1	7	6	203
94	1	2	7	6	202.9

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

Year	Month	Day	Hour	Minute	Surface Level
94	1	3	7	7	*200.9
94	1	4	7	7	203.1
94	1	5	7	6	203.3
94	1	6	7	6	203.1
94	1	7	7	7	203
94	1	8	7	6	203.1
94	1	9	7	6	203.2
94	1	10	7	7	203.1
94	1	11	7	7	203.1
94	1	12	7	6	*200.9
94	1	13	7	10	202.9
94	1	14	7	6	202.9
94	1	15	7	10	203
94	1	16	7	7	203
94	1	17	7	7	203
94	1	18	7	7	203
94	1	19	7	7	203
94	1	20	6	7	203
94	1	21	7	7	203
94	1	22	7	8	203
94	1	23	7	7	203.2
94	1	24	7	8	203.2
94	1	25	7	7	203.2
94	1	26	7	6	203.1
94	1	27	7	10	202.9
94	1	28	7	7	202.8
94	1	29	7	7	202.7
94	1	30	7	6	202.6
94	1	31	7	7	202.6
94	2	1	7	6	202.6
94	2	2	7	7	202.7
94	2	3	7	7	202.8
94	2	4	7	7	202.8
94	2	5	7	7	202.8
94	2	6	7	7	203
94	2	7	7	6	203.1
94	2	8	7	7	203
94	2	9	7	4	203
94	2	10	7	4	203
94	2	11	7	6	203
94	2	12	7	3	202.9
94	2	13	7	4	203
94	2	14	7	4	203
94	2	15	7	4	203.1
94	2	16	7	3	203.2
94	2	17	7	4	203.4
94	2	18	7	6	203.4
94	2	19	7	6	203.2

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

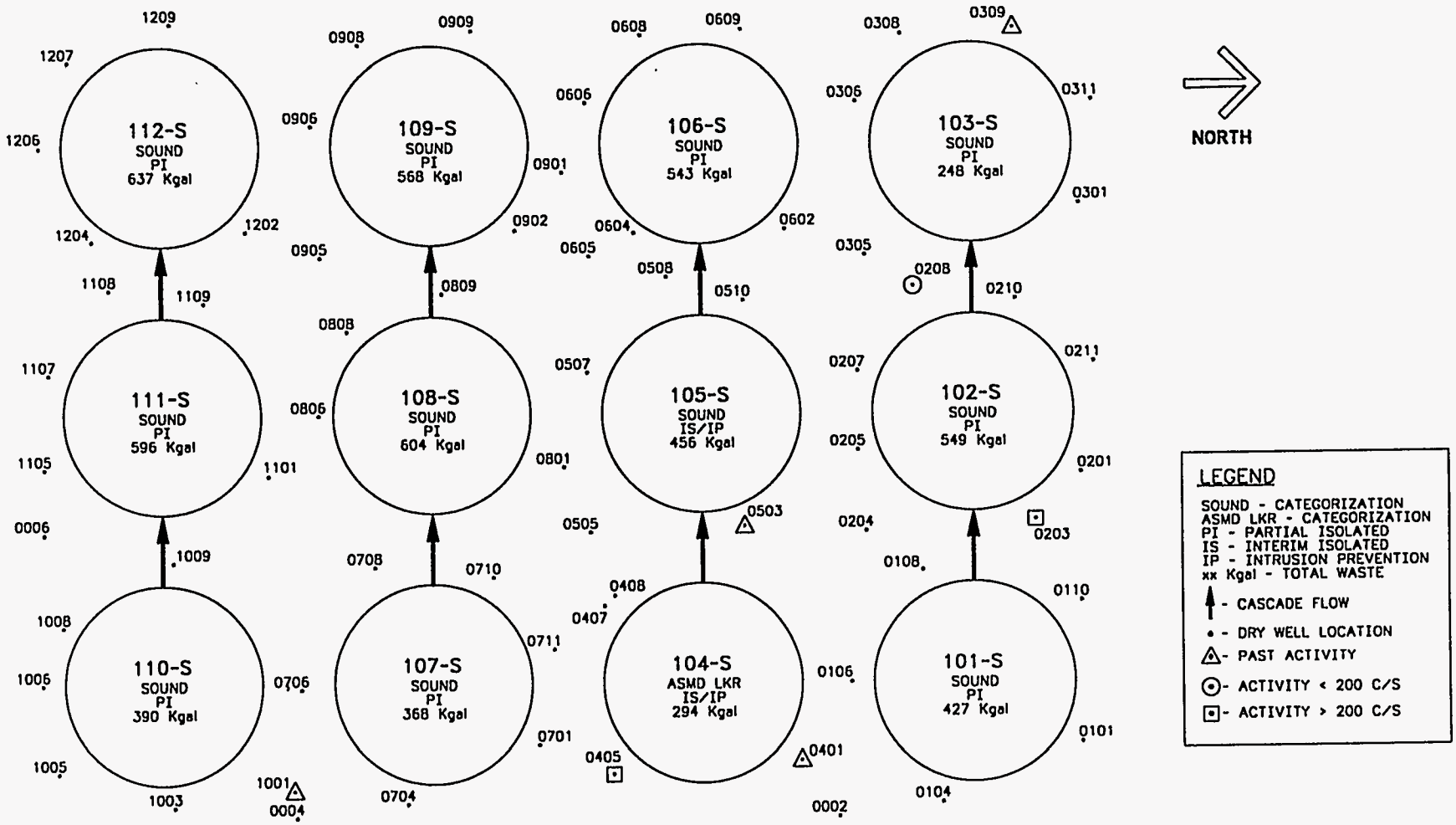
Year	Month	Day	Hour	Minute	Surface Level
94	2	20	7	7	203.1
94	2	21	7	6	203
94	2	22	7	5	202.9
94	2	23	7	6	203
94	2	24	7	6	202.9

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.

*Inaccurate Data

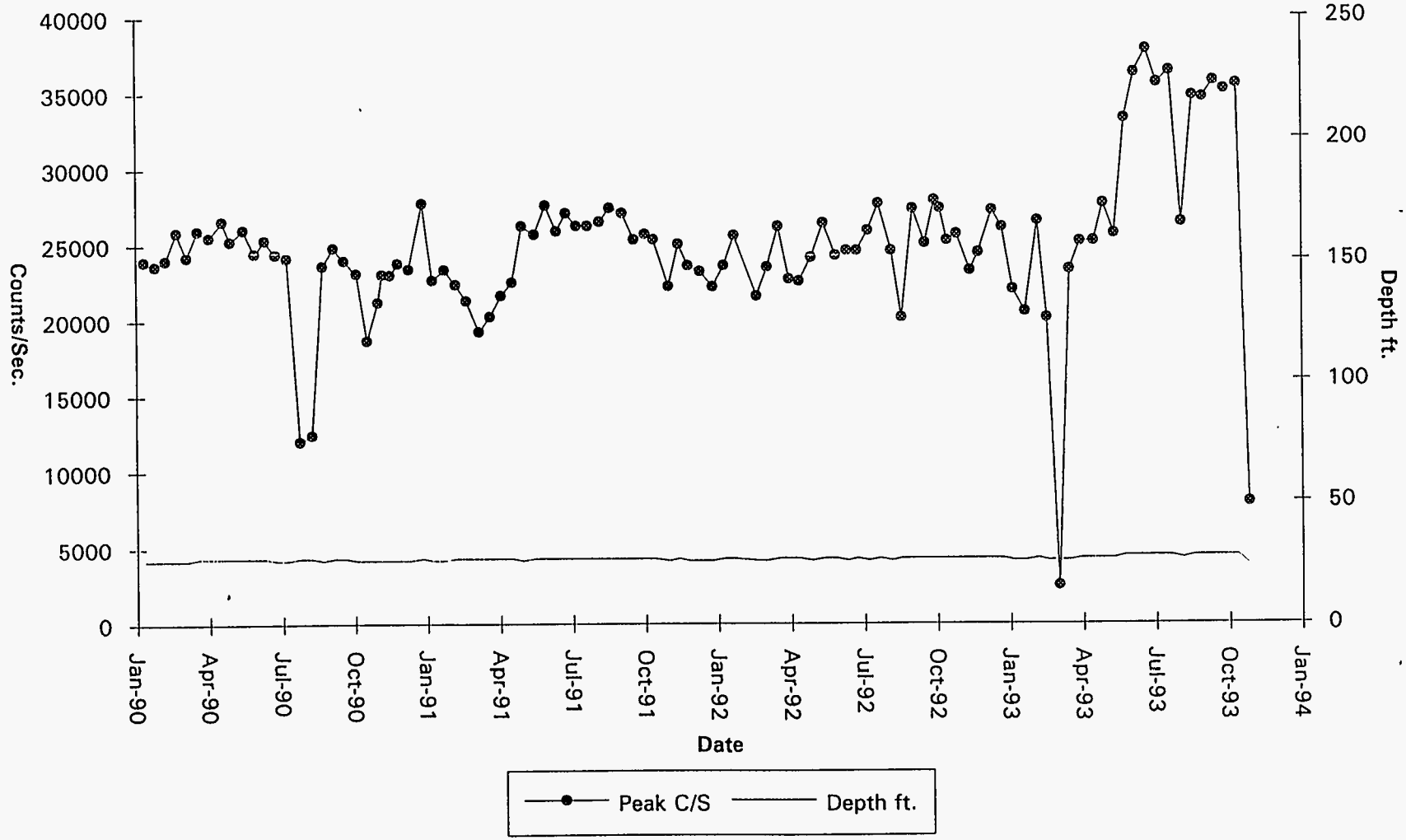
Surface Level Data					
FIC					
Year	Month	Day	Hour	Minute	Surface Level
93	1	5	10	4	195.8
93	1	12	10	4	195.8
93	1	18	10	4	195.85
93	1	25	10	4	195.85
93	2	1	10	4	195.8
93	2	8	10	4	195.9
93	2	16	10	4	195.85
93	2	22	10	4	195.8
93	3	1	10	3	195.8
93	3	8	10	3	195.9
93	3	15	10	3	195.8
93	3	22	10	3	195.8
93	3	29	10	3	195.8
93	4	5	10	3	195.7
93	4	12	10	3	195.7
93	4	19	10	3	195.7
93	4	26	10	3	195.8
93	5	3	10	5	195.8
93	5	10	10	5	195.8
93	5	17	10	5	195.7
93	5	24	10	5	195.7
93	6	1	10	6	195.8

Data obtained from WHC Surveillance Analysis Computer System (SACS), February 28, 1994.


112-S
SOUND
PI
637 Kgal
109-S
SOUND
PI
568 Kgal
106-S
SOUND
PI
543 Kgal
103-S
SOUND
PI
248 Kgal
111-S
SOUND
PI
596 Kgal
108-S
SOUND
PI
604 Kgal
105-S
SOUND
IS/IP
456 Kgal
102-S
SOUND
PI
549 Kgal
110-S
SOUND
PI
390 Kgal
107-S
SOUND
PI
368 Kgal
104-S
ASMD LKR
IS/IP
294 Kgal
101-S
SOUND
PI
427 Kgal
NORTH
LEGEND
SOUND - CATEGORIZATION
ASMD LKR - CATEGORIZATION
PI - PARTIAL ISOLATED
IS - INTERIM ISOLATED
IP - INTRUSION PREVENTION
xx Kgal - TOTAL WASTE
- CASCADE FLOW
- DRY WELL LOCATION
- PAST ACTIVITY
- ACTIVITY < 200 C/S
- ACTIVITY > 200 C/S

241-S FARM

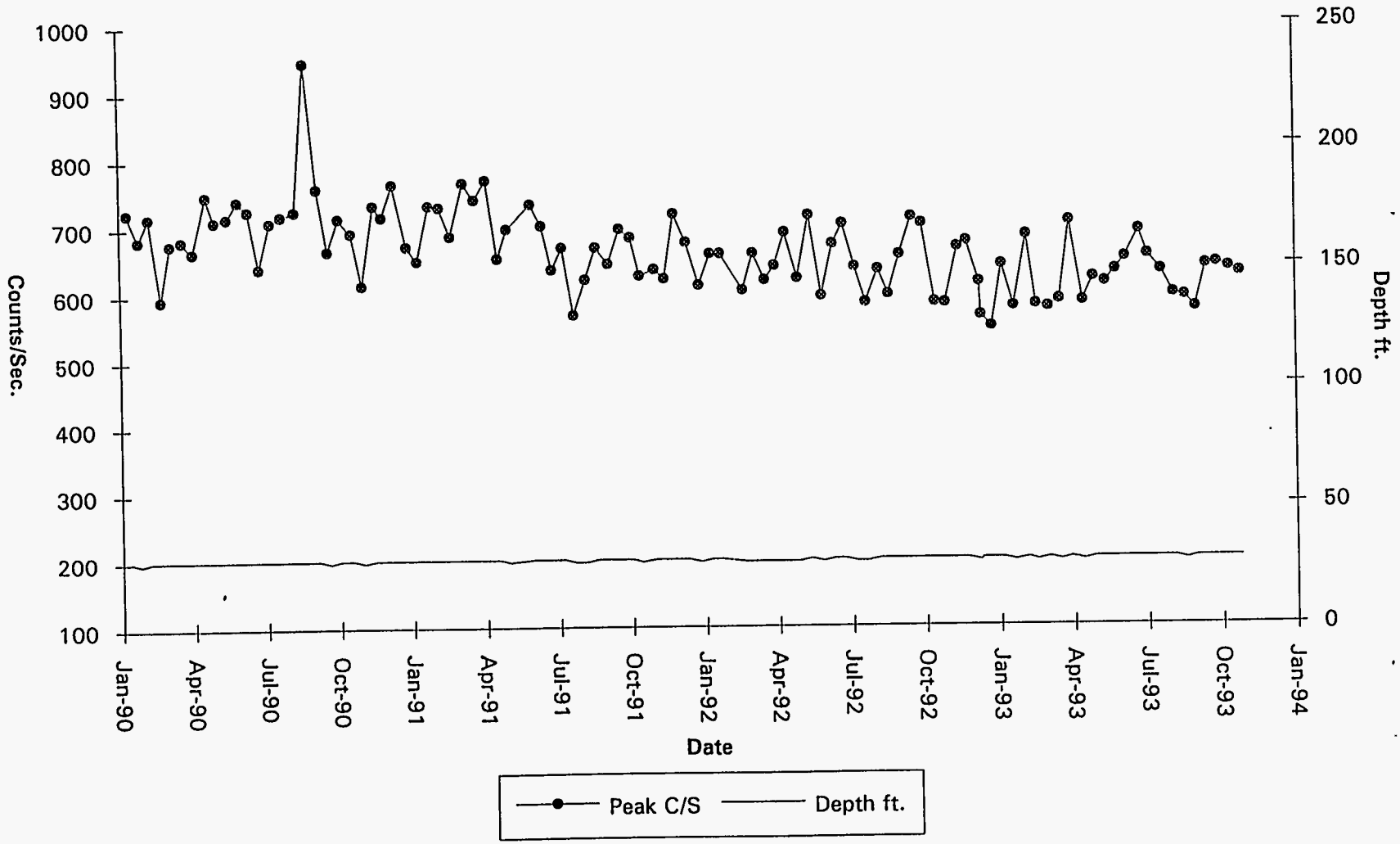
241-S-102 Drywell Activity
Well #40-02-03 Well Depth 100'
GM # 1 Probe



Data obtained from WHC Surveillance Data Acquisition (SDA), January 26, 1994.

Graph not to scale with others.

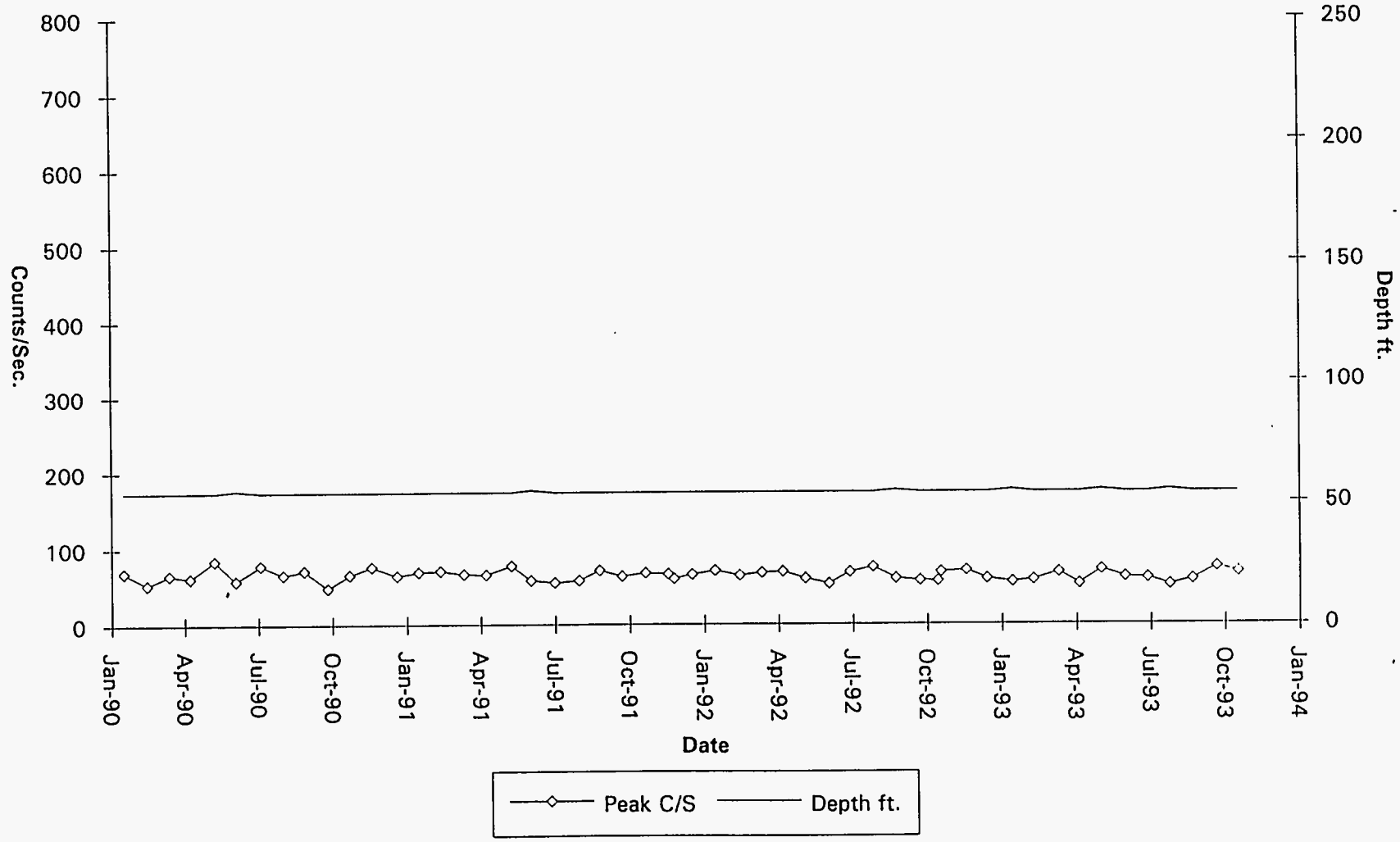
241-S-102 Drywell Activity
Well #40-02-03 Well Depth 100'
GM # 2 Probe



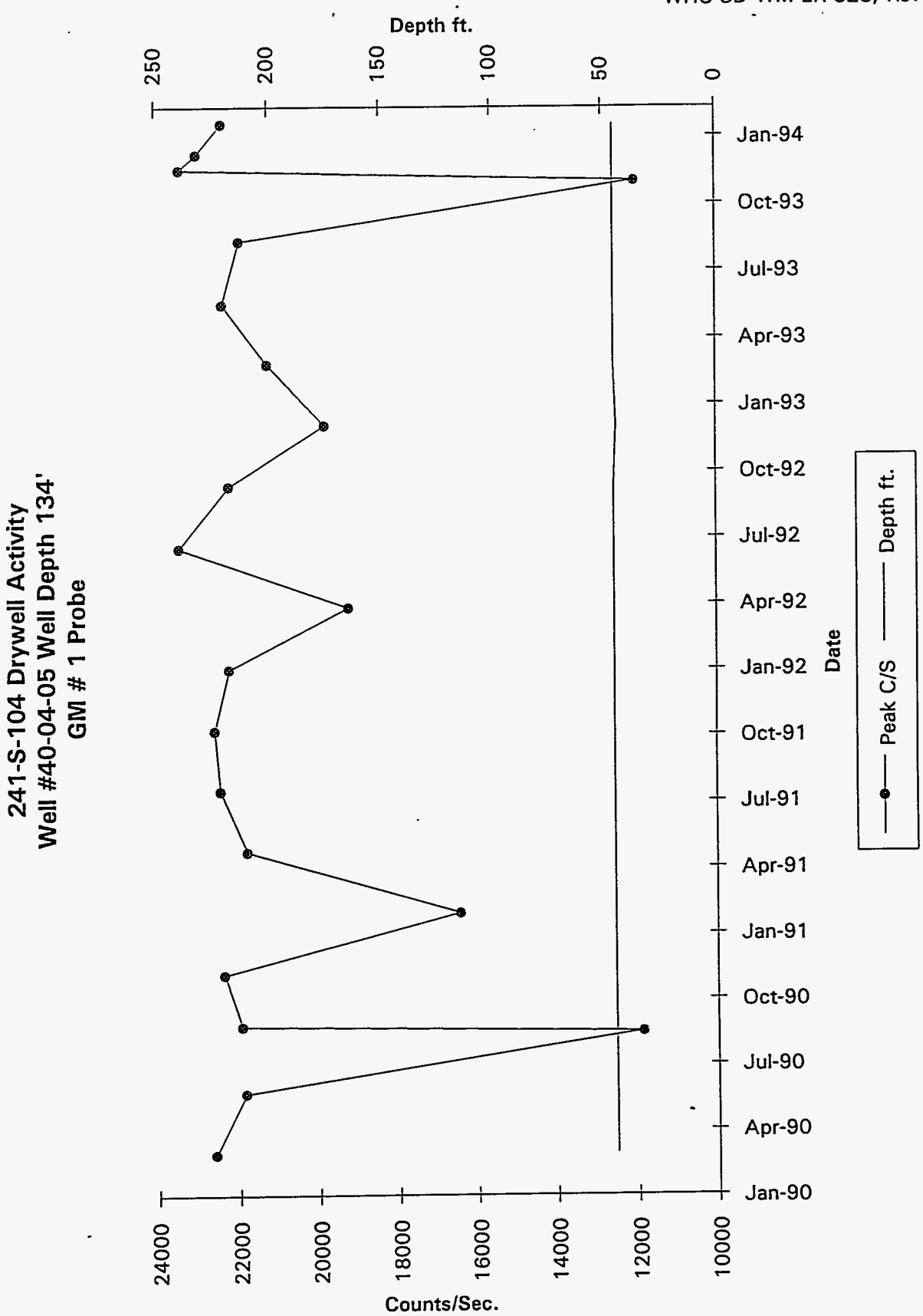
Data obtained from WHC Surveillance Data Acquisition (SDA), January 26, 1994.

Graph not to scale with others.

241-S-102 Drywell Activity
Well #40-02-08 Well Depth 100'
Scintillation Probe



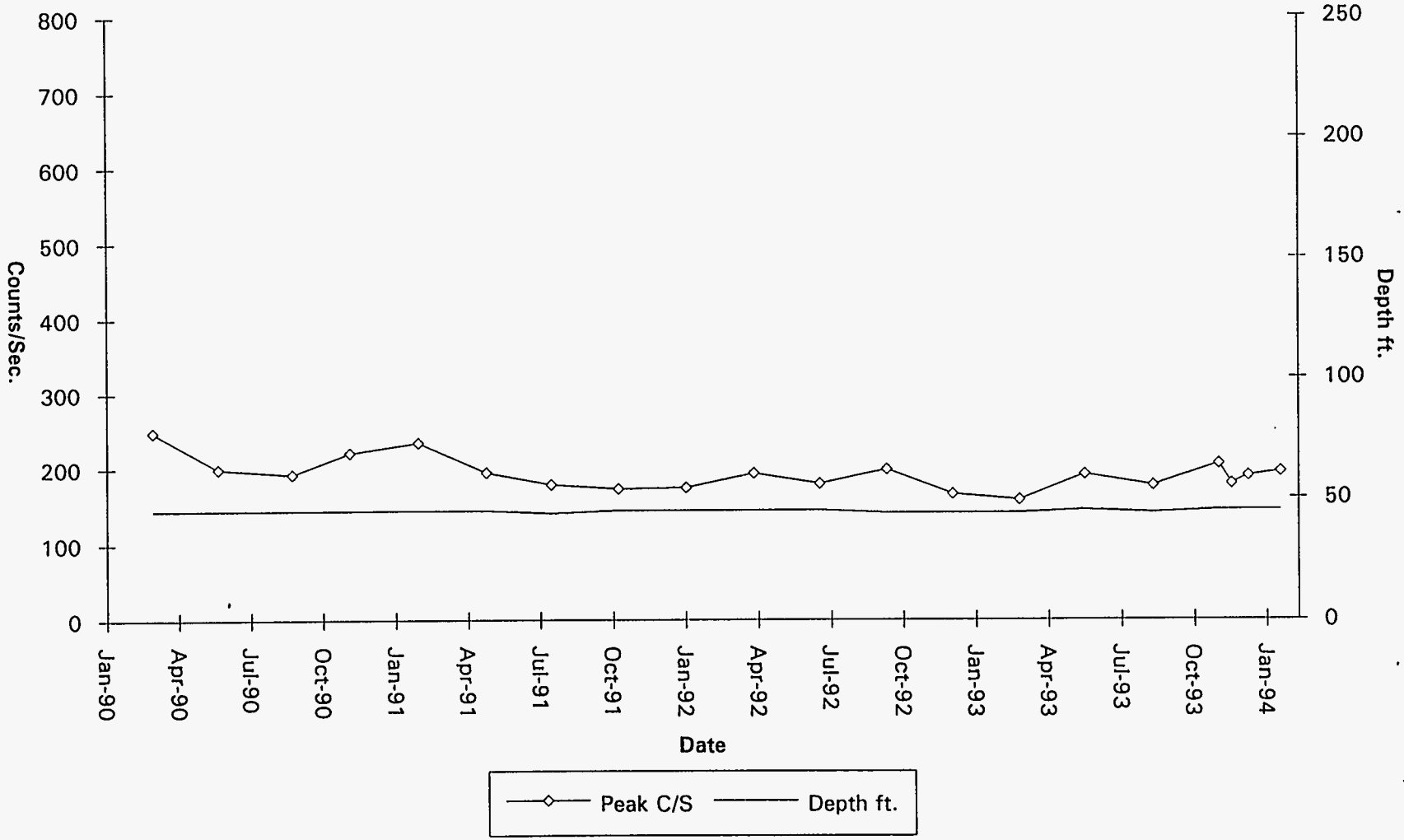
Data obtained from WHC Surveillance Data Acquisition (SDA), January 26, 1994.



Data obtained from WHC Surveillance Data Acquisition (SDA), January 26, 1994.

Graph not to scale with others.

241-S-104 Drywell Activity
Well #40-04-05 Well Depth 134'
GM # 2 Probe



Data obtained from WHC Surveillance Data Acquisition (SDA), January 26, 1994.

241-S-102 DRYWELL ACTIVITY						
WELL #40-02-03 WELL DEPTH 100'						
GM # 1 PROBE						
Date	Peak C/S	Depth ft.		Date	Peak C/S	Depth ft.
1/11/90	23907	26		6/26/91	27037	27
1/25/90	23615	26		7/9/91	26204	27
2/7/90	23991	26		7/23/91	26235	27
2/21/90	25818	26		8/7/91	26484	27
3/6/90	24203	26		8/20/91	27396	27
3/20/90	25938	27		9/5/91	27046	27
4/3/90	25470	27		9/19/91	25327	27
4/20/90	26581	27		10/3/91	25661	27
4/30/90	25226	27		10/14/91	25322	27
5/16/90	26010	27		11/1/91	22208	26
5/30/90	24440	27		11/14/91	25006	27
6/12/90	25321	27		11/26/91	23563	26
6/25/90	24388	26		12/11/91	23179	26
7/9/90	24135	26		*12/27/91	23349	26
*7/23/90	6822	28		12/27/91	22183	26
*7/24/90	6413	30		*1/9/92	23568	26
7/25/90	11998	27		1/10/92	23559	27
8/9/90	12411	27		1/23/92	25554	27
*8/21/90	12193	27		2/20/92	21571	26
8/23/90	23611	26		3/4/92	23461	26
9/6/90	24789	27		3/18/92	26129	27
9/19/90	23949	27		3/31/92	22689	27
*10/3/90	18312	26		4/13/92	22518	27
10/5/90	23090	26		4/28/92	24080	26
*10/18/90	17908	26		5/13/92	26342	27
10/18/90	18655	26		*5/28/92	24249	26
11/1/90	21174	26		5/28/92	24251	27
11/6/90	23028	26		6/11/92	24552	26
11/16/90	22989	26		6/24/92	24543	27
11/26/90	23756	26		7/8/92	25872	26
12/10/90	23375	26		7/21/92	27634	27
12/27/90	27700	27		8/6/92	24542	26
1/9/91	22646	26		8/18/92	20132	27
1/24/91	23316	26		9/2/92	27302	27
*2/6/91	2356	31		9/17/92	25026	27
2/7/91	22345	27		9/29/92	27851	27
2/20/91	21276	27		*10/5/92	23034	26
3/8/91	19220	27		10/6/92	27333	27
3/22/91	20245	27		10/15/92	25210	27
4/5/91	21638	27		10/27/92	25624	27
4/19/91	22493	27		11/12/92	23228	27
5/1/91	26230	26		11/23/92	24413	27
5/17/91	25673	27		*12/8/92	19407	26
5/31/91	27558	27		12/10/92	27176	27
6/14/91	25872	27		*12/23/92	26232	27

Data obtained from WHC Surveillance Data Acquisition (SDA), January 26, 1994.

*Suspect Data

Date	Peak C/S	Depth ft.		Date	Peak C/S	Depth ft.
12/23/92	26064	27				
1/5/93	21984	26				
1/20/93	20519	26				
2/5/93	26492	27				
2/16/93	20103	26				
3/3/93	2478	26				
3/17/93	23307	26				
3/30/93	25123	27				
4/16/93	25177	27				
4/28/93	27641	27				
5/12/93	25676	27				
*5/24/93	606	28				
*5/25/93	32931	28				
5/25/93	33279	28				
6/7/93	36288	28				
6/22/93	37828	28				
7/5/93	35620	28				
7/21/93	36400	28				
8/5/93	26382	27				
8/19/93	34754	28				
9/1/93	34657	28				
9/15/93	35722	28				
9/28/93	35179	28				
10/13/93	35515	28				
*10/26/93	7245	30				
10/27/93	7881	24				

Data obtained from WHC Surveillance Data Acquisition (SDA), January 26, 1994.

*Suspect Data

241-S-102 DRYWELL ACTIVITY						
WELL #40-02-03 WELL DEPTH 100'						
GM # 2 PROBE						
Date	Peak C/S	Depth ft.		Date	Peak C/S	Depth ft.
1/11/90	723	28		9/19/91	695	28
1/25/90	682	27		10/3/91	683	28
2/7/90	716	28		10/14/91	626	27
2/21/90	593	28		11/1/91	635	28
3/6/90	676	28		11/14/91	621	28
3/20/90	681	28		11/26/91	717	28
*4/3/90	709	28		12/11/91	675	28
4/3/90	664	28		*12/27/91	686	28
4/20/90	748	28		12/27/91	611	27
4/30/90	710	28		*1/9/92	659	28
5/16/90	715	28		1/10/92	658	28
5/30/90	740	28		1/23/92	658	28
6/12/90	725	28		2/20/92	603	27
6/25/90	640	28		3/4/92	658	27
7/9/90	708	28		3/18/92	618	27
7/23/90	717	28		3/31/92	639	27
8/9/90	724	28		4/13/92	688	27
*8/21/90	0	95		4/28/92	620	27
8/23/90	945	28		5/13/92	713	28
9/6/90	758	28		5/28/92	594	27
9/19/90	665	27		6/11/92	671	28
10/3/90	713	28		6/24/92	701	28
10/19/90	691	28		7/8/92	637	27
11/1/90	613	27		7/21/92	584	27
11/16/90	732	28		8/6/92	633	28
11/26/90	715	28		8/18/92	595	28
12/10/90	763	28		9/2/92	655	28
12/27/90	671	28		9/17/92	710	28
1/9/91	649	28		9/29/92	701	28
1/24/91	731	28		10/15/92	584	28
2/6/91	729	28		10/27/92	582	28
2/20/91	686	28		11/12/92	666	28
3/8/91	765	28		11/23/92	674	28
3/22/91	740	28		12/8/92	613	27
4/5/91	769	28		12/10/92	563	28
4/19/91	652	28		12/23/92	546	28
5/1/91	696	27		1/5/93	639	28
5/31/91	733	28		1/20/93	577	27
6/14/91	701	28		2/5/93	683	28
6/26/91	635	28		2/16/93	579	27
7/9/91	668	28		3/3/93	575	28
7/23/91	567	27		3/17/93	586	27
8/7/91	620	27		3/30/93	703	28
8/20/91	668	28		4/15/93	584	27
9/5/91	644	28		4/28/93	619	28

Data obtained from WHC Surveillance Data Acquisition (SDA), January 26, 1994.

*Suspect Data

Date	Peak C/S	Depth ft.		Date	Peak C/S	.Depth ft.
5/12/93	612	28				
*5/24/93	675	28				
*5/25/93	644	28				
5/25/93	630	28				
6/7/93	648	28				
6/24/93	689	28				
7/5/93	652	28				
7/21/93	629	28				
8/5/93	594	28				
8/19/93	590	27				
9/1/93	573	28				
9/15/93	637	28				
9/28/93	639	28				
10/13/93	633	28				
10/26/93	625	28				

Data obtained from WHC Surveillance Data Acquisition (SDA), January 26, 1994.

*Suspect Data

241-S-102 DRYWELL ACTIVITY						
WELL #40-02-08 WELL DEPTH 100'						
SCINTILLATION PROBE						
Date	Peak C/S	Depth ft.		Date	Peak C/S	Depth ft.
1/16/90	69	54		4/6/93	52	54
2/14/90	53	54		5/3/93	71	55
3/14/90	65	54		*5/31/93	338	85
4/9/90	61	54		6/1/93	61	54
5/9/90	84	54		6/29/93	60	54
6/5/90	58	55		7/26/93	51	55
7/5/90	78	54		8/23/93	58	54
8/2/90	65	54		9/22/93	74	54
8/28/90	71	54		10/18/93	67	54
9/26/90	48	54				
10/23/90	65	54				
11/19/90	76	54				
12/20/90	64	54				
1/16/91	69	54				
2/12/91	70	54				
3/13/91	66	54				
4/9/91	65	54				
5/10/91	77	54				
6/3/91	58	55				
7/2/91	55	54				
8/1/91	58	54				
8/26/91	71	54				
9/23/91	63	54				
10/22/91	67	54				
11/19/91	66	54				
11/26/91	60	54				
12/18/91	65	54				
1/15/92	70	54				
2/14/92	64	54				
3/12/92	67	54				
4/7/92	69	54				
*5/4/92	62	54				
5/5/92	60	54				
6/3/92	53	54				
6/29/92	68	54				
7/27/92	75	54				
8/24/92	60	55				
9/23/92	57	54				
10/15/92	56	54				
10/19/92	68	54				
11/19/92	70	54				
12/14/92	59	54				
1/14/93	55	55				
2/9/93	58	54				
3/12/93	67	54				

Data obtained from WHC Surveillance Data Acquisition (SDA), January 26, 1994.

*Suspect Data

241-S-104 DRYWELL ACTIVITY						
WELL #40-04-05 WELL DEPTH 134'						
GM # 1 PROBE						
Date	Peak C/S	Depth ft.		Date	Peak C/S	Depth ft.
2/28/90	22596	45				
5/23/90	21839	45				
*8/17/90	11761	45				
8/17/90	11866	45				
*8/22/90	11414	45				
8/24/90	21916	45				
11/5/90	22349	45				
1/30/91	16414	45				
4/24/91	21762	45				
7/17/91	22423	45				
10/9/91	22556	45				
1/2/92	22190	45				
3/27/92	19205	45				
6/18/92	23418	45				
9/11/92	22181	45				
12/3/92	19785	44				
2/25/93	21217	45				
5/18/93	22329	45				
8/12/93	21894	45				
11/2/93	11997	45				
11/18/93	23379	45				
12/9/93	22950	45				
1/19/94	22323	45				

Data obtained from WHC Surveillance Data Acquisition (SDA), January 26, 1994.

*Suspect Data

241-S-104 DRYWELL ACTIVITY						
WELL #40-04-05 WELL DEPTH 134'						
GM # 2 PROBE						
Date	Peak C/S	Depth ft.		Date	Peak C/S	Depth ft.
2/28/90	248	45				
5/22/90	199	45				
*8/17/90	0	132				
*8/17/90	2	53				
*8/22/90	3	73				
8/24/90	192	45				
11/5/90	221	45				
1/30/91	234	45				
*4/24/91	230	44				
*4/25/91	209	45				
4/26/91	194	45				
7/17/91	178	44				
10/9/91	173	45				
1/2/92	174	45				
*3/27/92	178	45				
3/27/92	193	45				
6/18/92	179	45				
9/11/92	198	44				
12/3/92	165	44				
2/25/93	157	44				
*5/18/93	185	45				
5/18/93	191	45				
8/12/93	176	44				
11/2/93	205	45				
11/18/93	178	45				
12/9/93	189	45				
1/19/94	194	45				

Data obtained from WHC Surveillance Data Acquisition (SDA), January 26, 1994.

*Suspect Data

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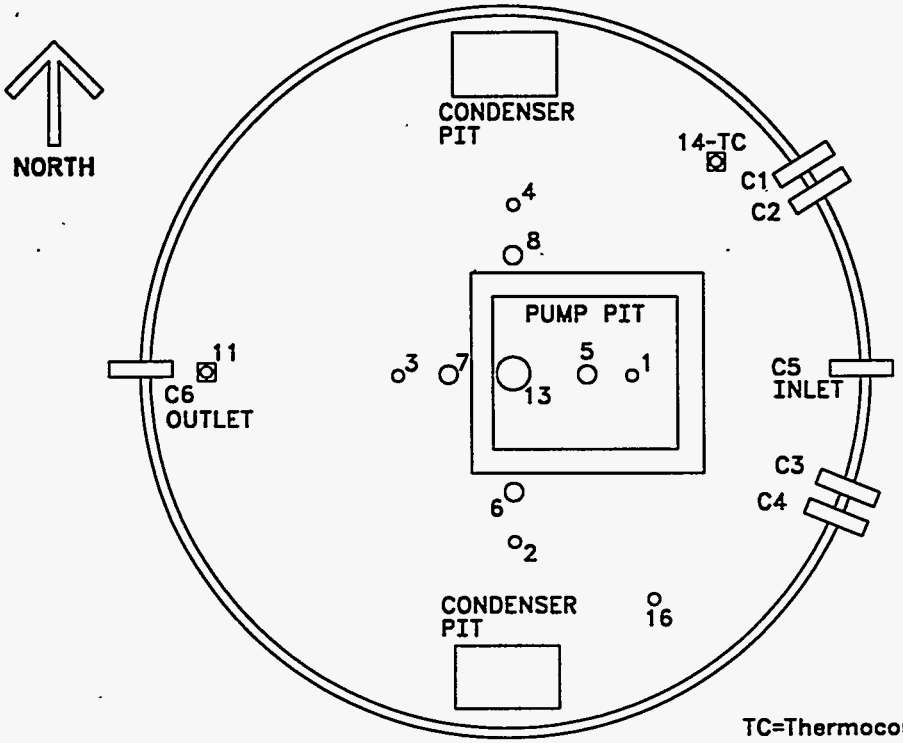
241-S-101		
NO.	DIA.	DESCRIPTION AND COMMENTS
1	4"	(CONN NOZZLE) PUMP PIT DRAIN
2	4"	FLANGE WITH SPOOL PIECE/LOW, BM
3	4"	FIC INTRUSION MODE
4	4"	FLANGE
5	12"	SALTWELL SCREEN AND PUMP
6	12"	PLUG/OBSV PORT
7	12"	FLANGE
8	12"	PLUG
11	4"	SMP
13	42"	(SLURRY DISTRIBUTION)
14	4"	TEMPERATURE PROBE, MANUAL B-221
16	4"	BM, BREATHER FILTER, G-1 HOUSING

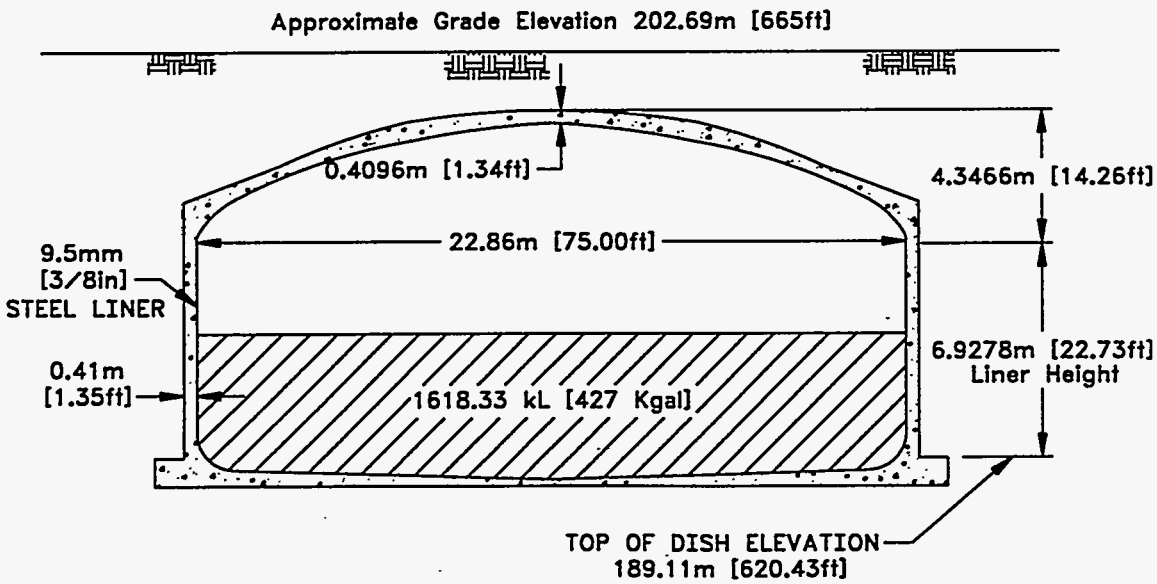
241-S-101

3,790,000 Liters
[758,000 Gallons]



TC=Thermocouple
Ref: WHC-SD-RE-TI-053, Rev. 8
WHC-SD-WM-TI-553, Rev. 0
H-2-73181, Rev. 4

TANK RISER LOCATION

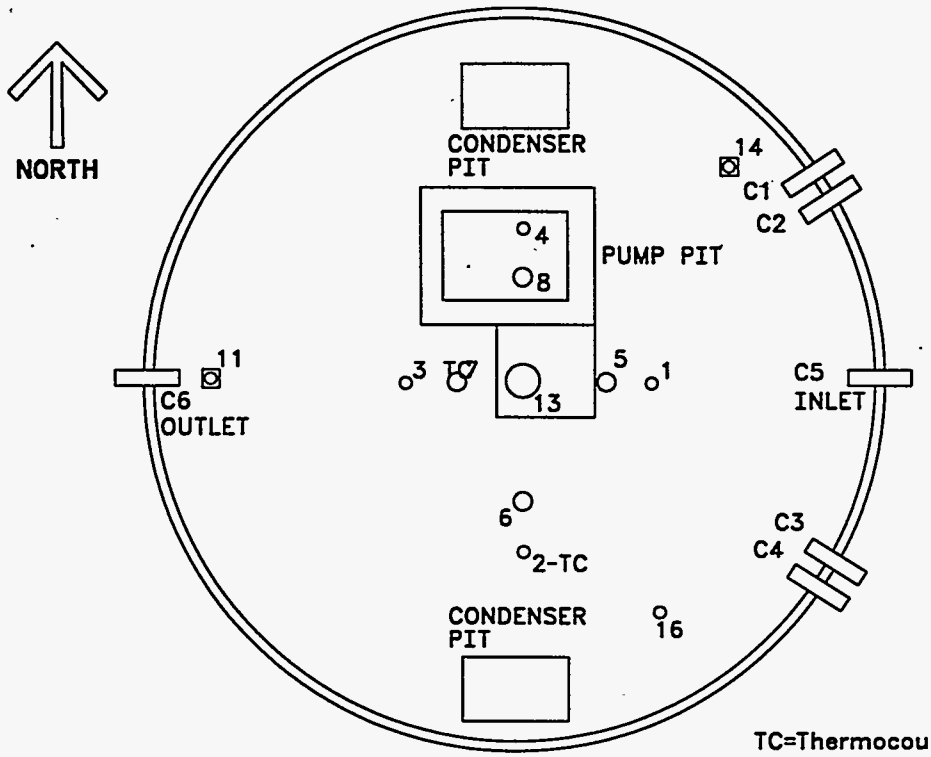


Ref: H-2-1783, Rev. 3
Ref: H-2-46293, Rev. 3

241-S-102		
NO.	DIA.	DESCRIPTION AND COMMENTS
1	4"	BREATHER FILTER, G-1 HOUSING
2	4"	FIC, BM INTRUSION MODE
3	4"	TEMPERATURE PROBE, MANUAL B-221
4	4"	PIT DRAIN WC
5	12"	FLANGE/B-436 LOW, BM
6	12"	FLANGE
7	12"	FLANGE/B-222 OBSV PORT
8	12"	PUMP MOUNT WC
11	4"	SMP
13	42"	SALTWELL SCREEN AND PUMP
14	4"	SMP
16	4"	SMP, BM

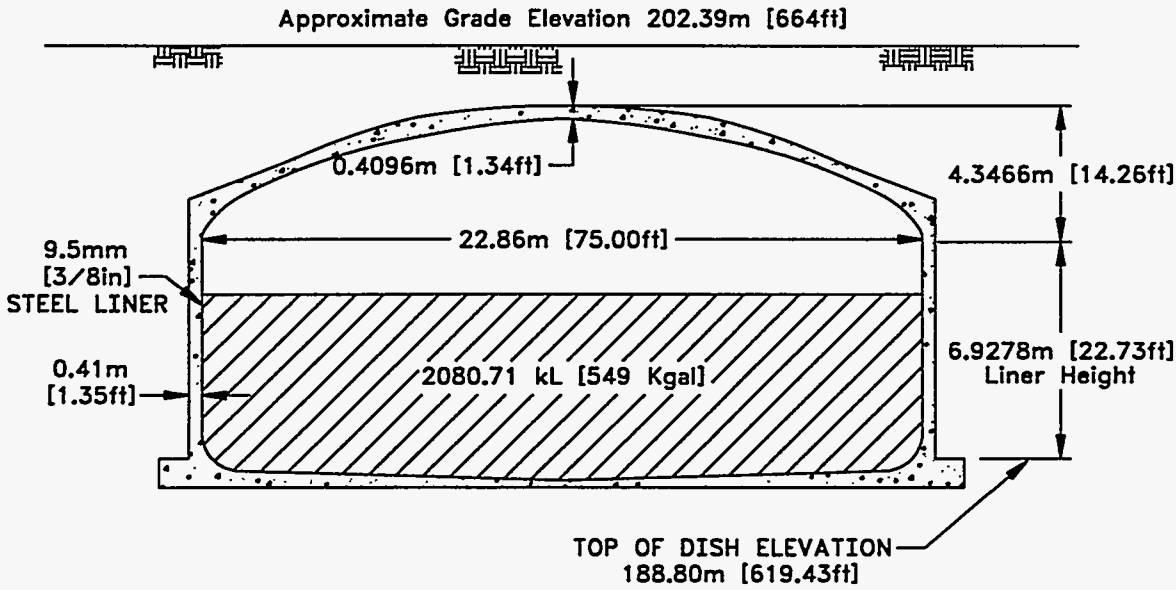
241-S-102

3,790,000 Liters
[758,000 Gallons]



TC=Thermocouple
Ref: WHC-SD-RE-TI-053, Rev. 8
WHC-SD-WM-TI-553, Rev. 0
H-2-73182, Rev. 4

TANK RISER LOCATION

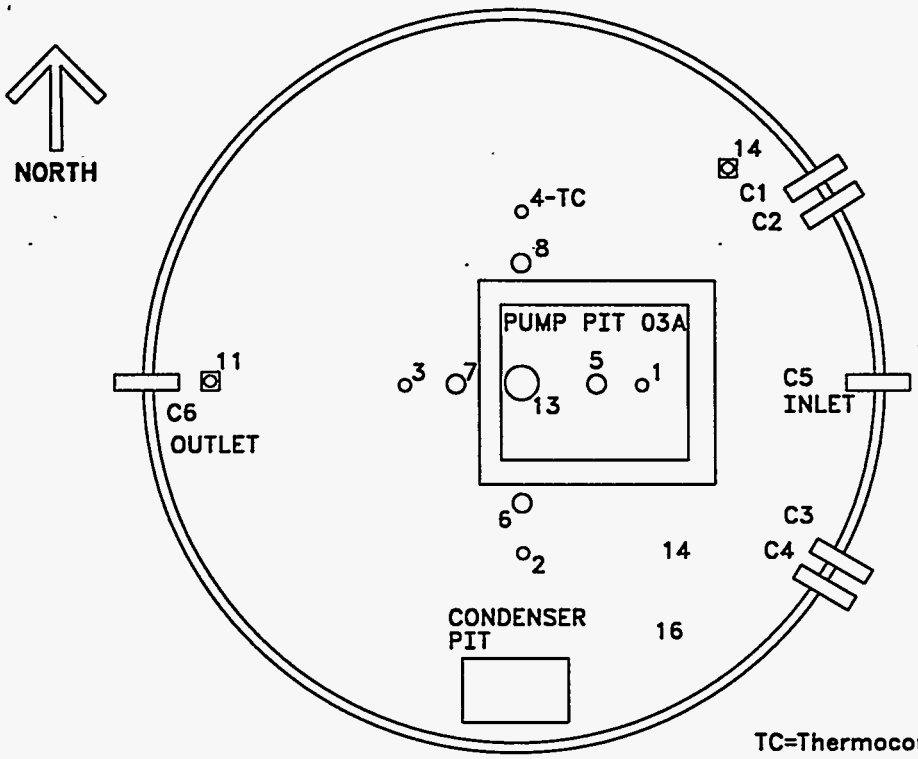


Ref: H-2-1783, Rev. 3
Ref: H-2-46293, Rev. 3

241-S-103		
NO.	DIA.	DESCRIPTION AND COMMENTS
1	4"	(CONN NOZZLE) PUMP PIT DRAIN
2	4"	FLANGE/B-436 LOW, BM
3	4"	FIC INTRUSION MODE
4	4"	TEMPERATURE PROBE, MANUAL B-221
5	12"	SALTWELL SCREEN AND PUMP
6	12"	CONCRETE PLUG-LB
7	12"	FLANGE
8	12"	OBSV PORT
11	4"	SMP
13	42"	SLURRY DISTRIBUTOR
14	4"	BREATHER FILTER, G-1 HOUSING
16	4"	SMP, BM

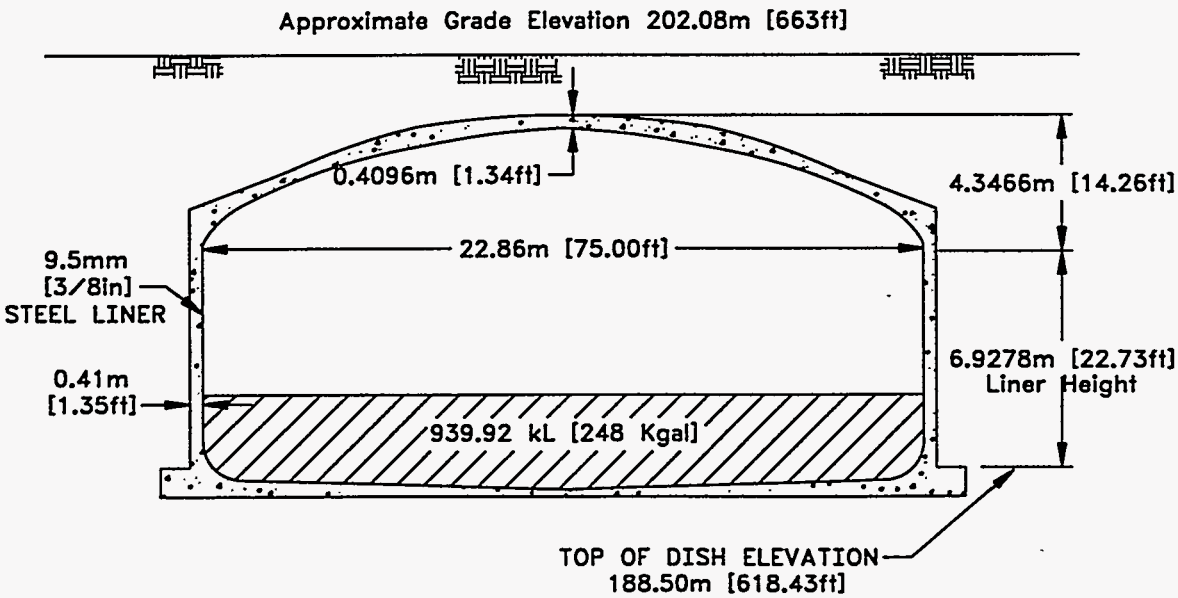
241-S-103

3,790,000 Liters
[758,000 Gallons]



TC=Thermocouple
Ref: WHC-SD-RE-TI-053, Rev. 8
WHC-SD-WM-TI-553, Rev. 0
H-2-73183, Rev. 4

TANK RISER LOCATION

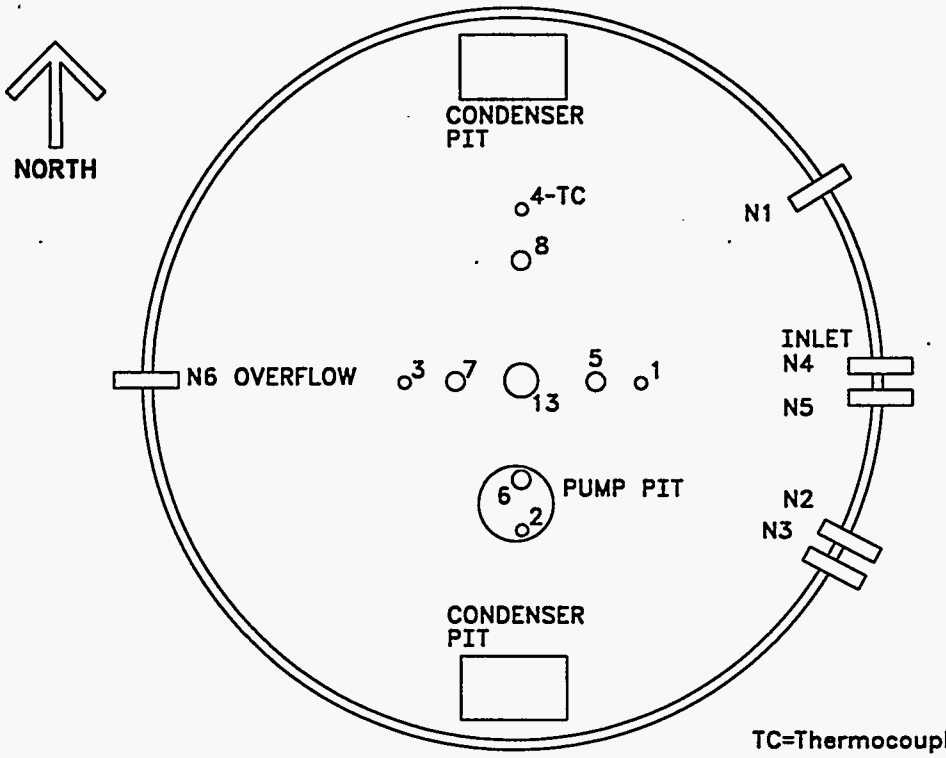


Ref: H-2-1783, Rev. 3
Ref: H-2-46293, Rev. 3

241-S-104		
NO.	DIA.	DESCRIPTION AND COMMENTS
1	4"	FLANGE
2	4"	FLANGE, BM
3	4"	BREATHER FILTER
4	4"	TEMPERATURE PROBE, INOPERATIVE
5	12"	LIQUID LEVEL REEL, BM
6	12"	SALTWELL SCREEN AND PUMP
7	12"	OBSV PORT, BM
8	12"	FLANGE WITH LEAD
13	42"	BG

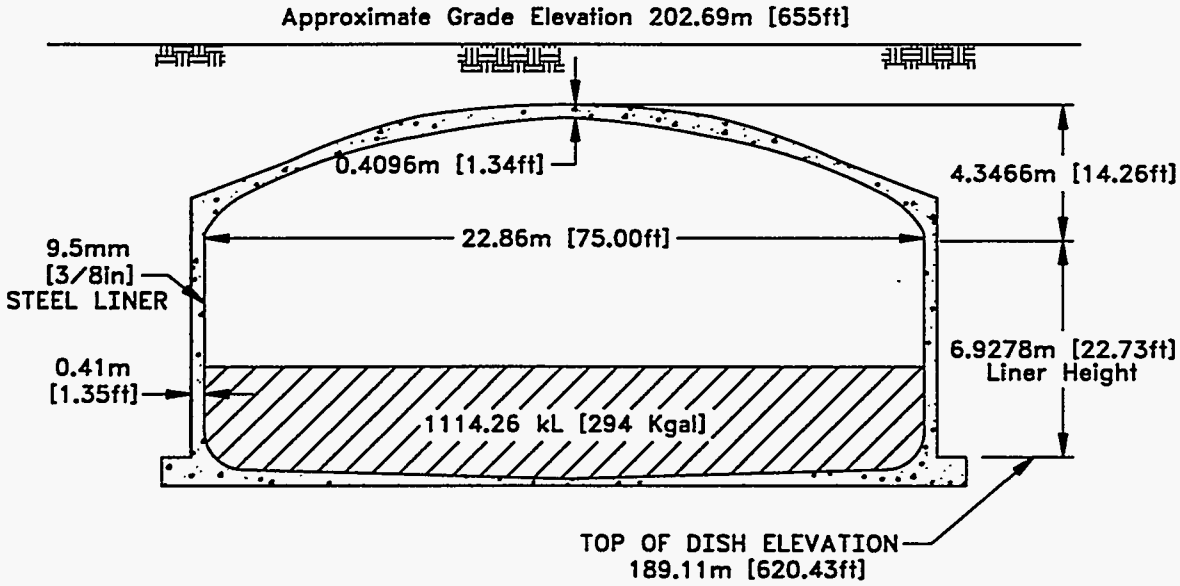
241-S-104

3,790,000 Liters
[758,000 Gallons]



TC=Thermocouple
Ref: WHC-SD-RE-TI-053, Rev. 8
WHC-SD-WM-TI-553, Rev. 0
H-2-73180, Rev. 4

TANK RISER LOCATION

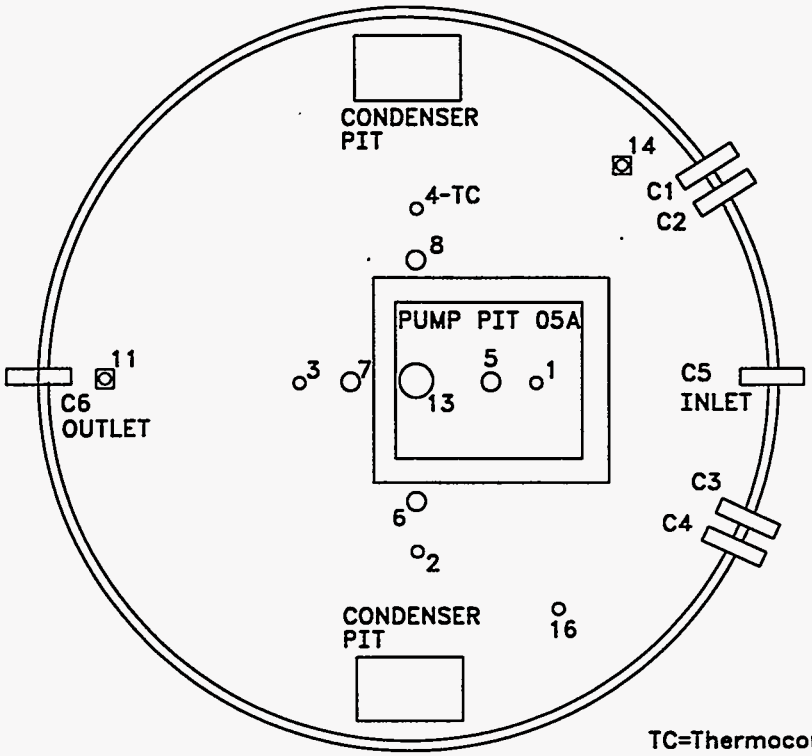


Ref; H-2-1783, Rev. 3
Ref; H-2-46293, Rev. 3

241-S-105		
NO.	DIA.	DESCRIPTION AND COMMENTS
1	4"	(CONN NOZZLE) PUMP PIT DRAIN
2	4"	FLANGE, BM
3	4"	FIC INTRUSION MODE
4	4"	TEMPERATURE PROBE, TO CASS
5	12"	SALTWELL SCREEN AND PUMP
6	12"	FLANGE WITH LIFTING BALE
7	12"	FLANGE
8	12"	FLANGE/B-222 OBSV PORT
11	4"	SMP
13	42"	SLURRY DISTRIBUTOR
14	4"	SMP/B-436 LOW
16	4"	BM, BREATHER FILTER, G-1 HOUSING

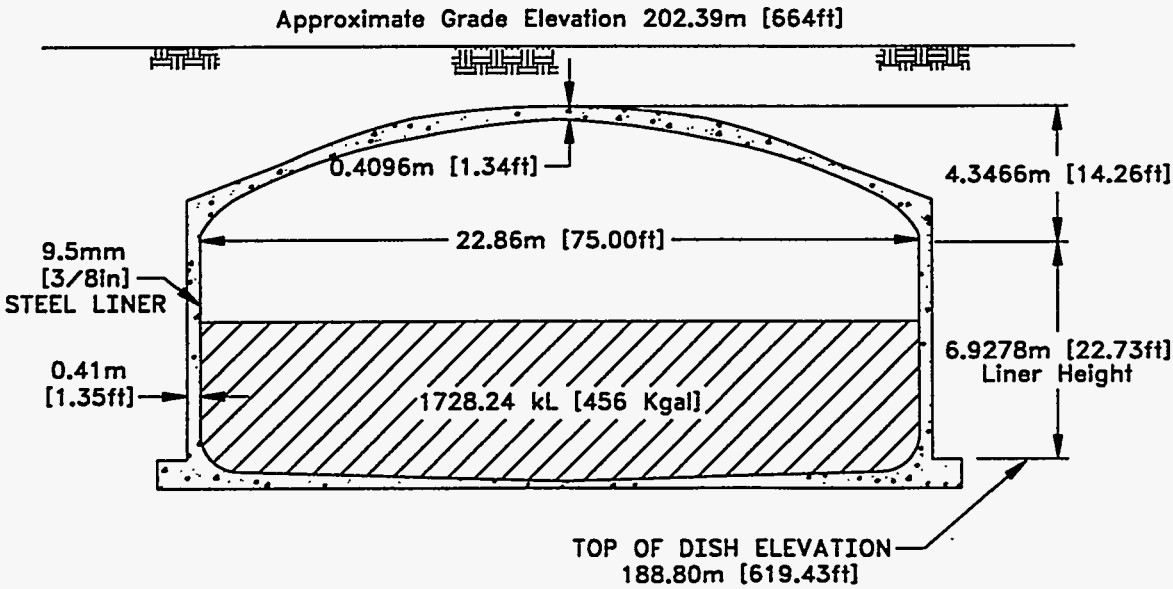
241-S-105

3,790,000 Liters
[758,000 Gallons]



TC=Thermocouple
Ref: WHC-SD-RE-TI-053, Rev. 8
WHC-SD-WM-TI-553, Rev. 0
H-2-73184, Rev. 3

TANK RISER LOCATION



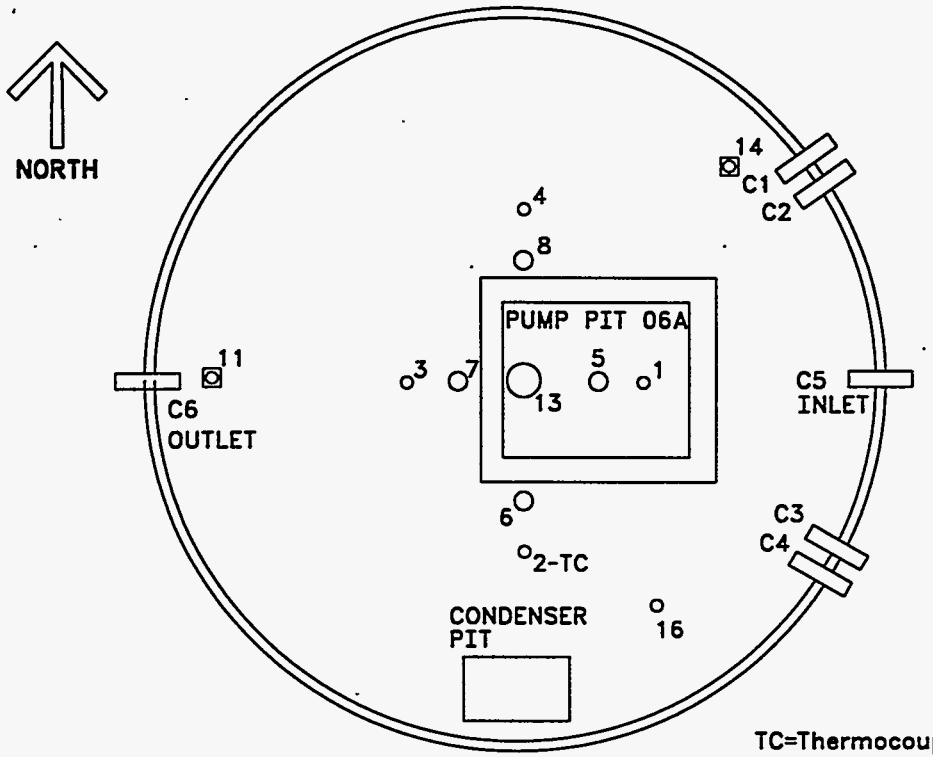
Ref: H-2-1783, Rev. 3
Ref: H-2-46293, Rev. 3

241-S-106		
NO.	DIA.	DESCRIPTION AND COMMENTS
1	4"	(CONN NOZZLE) PUMP PIT DRAIN
2	4"	TEMPERATURE PROBE, TO CASS, BM
3	4"	FIC - INTRUSION MODE
4	4"	FLANGE/B-436 LOW
5	12"	SALTWELL SCREEN AND PUMP
6	12"	FLANGE - INLET NOZZLE IN RISER, FOAMED
7	12"	FLANGE
8	12"	OBSV PORT
11	4"	FLANGE/SMP
13	42"	SLURRY DISTRIBUTOR
14	4"	FLANGE/SMP
16	4"	BM, BREATHER FILTER, G-1 HOUSING

241-S-106

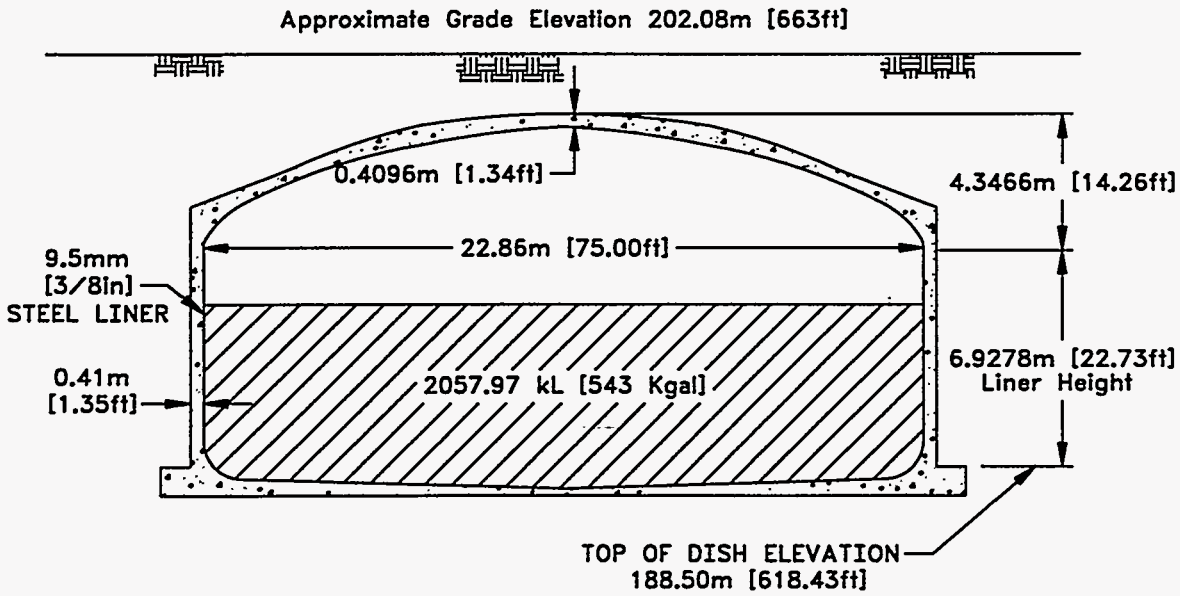
3,790,000 Liters

[758,000 Gallons]



TC=Thermocouple
Ref: WHC-SD-RE-TI-053, Rev. 8
WHC-SD-WM-TI-553, Rev. 0
H-2-73185, Rev. 4

TANK RISER LOCATION

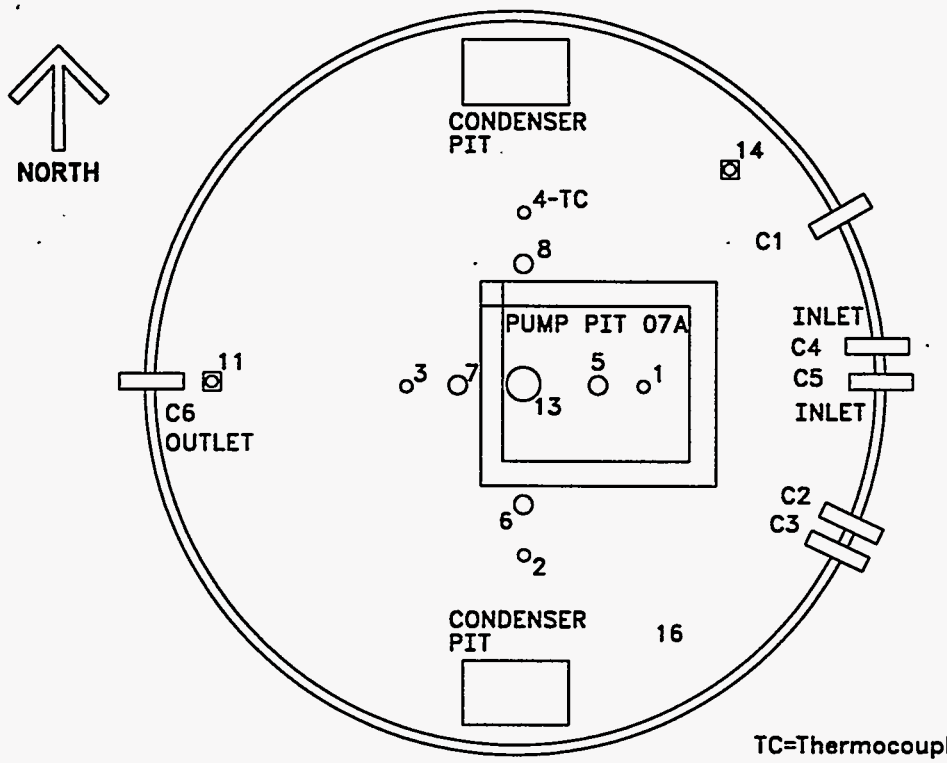


Ref: H-2-1783, Rev. 3
Ref: H-2-46293, Rev. 3

241-S-107		
NO.	DIA.	DESCRIPTION AND COMMENTS
1	4"	(CONN NOZZLE) PUMP PIT DRAIN
2	4"	FLANGE WITH SPOOL PIECE, BM
3	4"	FIC - INTRUSION MODE
4	4"	TEMPERATURE PROBE, MANUAL B-221
5	12"	SALTWELL SCREEN AND PUMP
6	12"	FLANGE/B-222 OBSV PORT
7	12"	FLANGE
8	12"	BG
11	4"	FLANGE/SMP
13	42"	(SLURRY DISTRIBUTOR)
14	4"	FLANGE/SMP
16	4"	BM, BREATHER FILTER, G-1 HOUSING

241-S-107

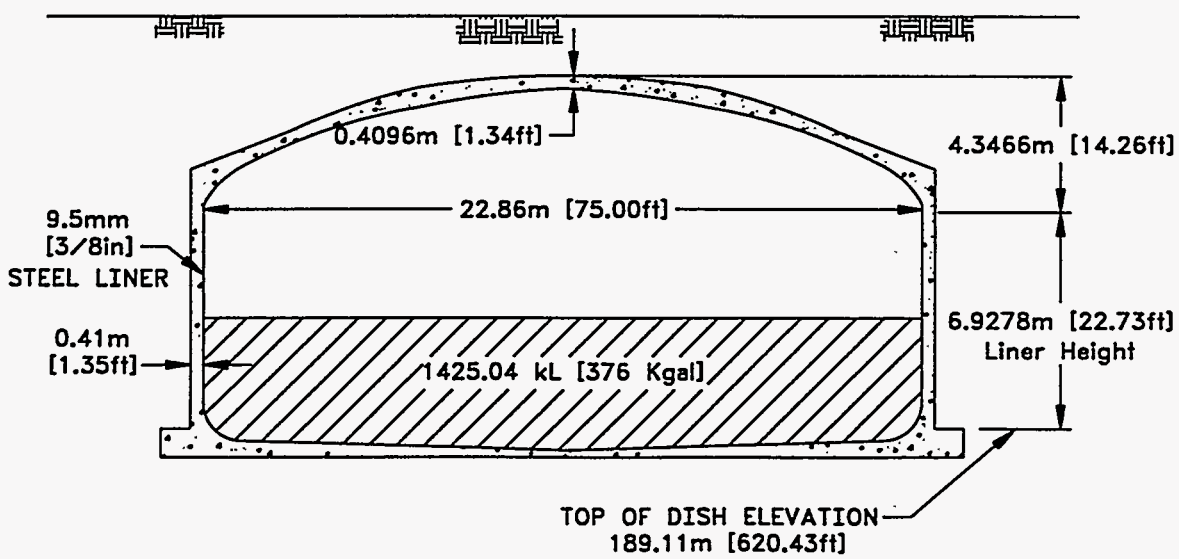
3,790,000 Liters
[758,000 Gallons]



TC=Thermocouple
Ref: WHC-SD-RE-TI-053, Rev. 8
WHC-SD-WM-TI-553, Rev. 0
H-2-73186, Rev. 4

TANK RISER LOCATION

Approximate Grade Elevation 202.69m [665ft]

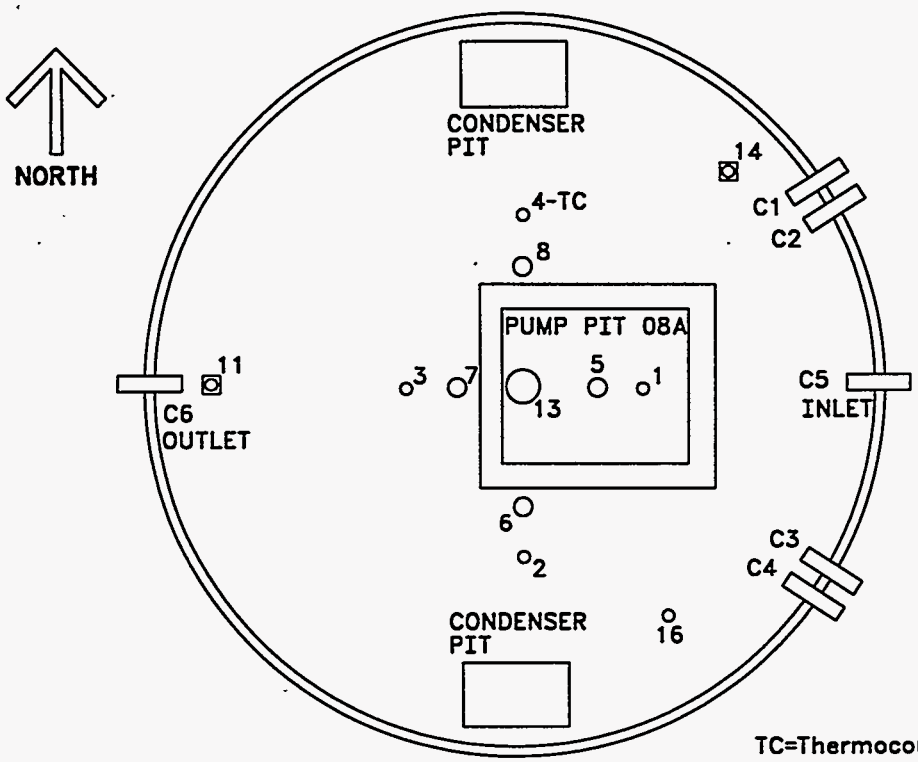


Ref: H-2-1783, Rev. 3
Ref: H-2-46293, Rev. 3

241-S-108		
NO.	DIA.	DESCRIPTION AND COMMENTS
1	4"	(CONN NOZZLE) PUMP PIT DRAIN
2	4"	LIQUID LEVEL REEL, BM
3	4"	FIC
4	4"	TEMPERATURE PROBE, TO CASS
5	12"	SALTWELL SCREEN AND PUMP
6	12"	FLANGE
7	12"	FLANGE WITH LIFTING BALE/B-222 OBSV PORT
8	12"	LEAD ENCASEMENT
11	4"	SMP
13	42"	(SLURRY DISTRIBUTOR)
14	4"	BREATHER FILTER, G-1 HOUSING
16	4"	LOW, BM

241-S-108

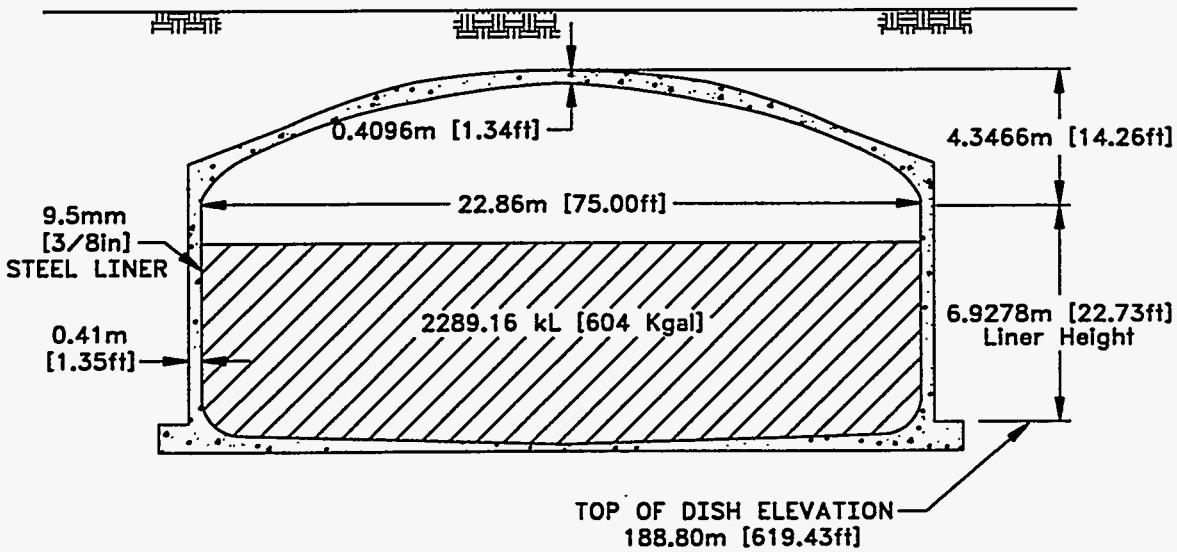
3,970,000 Liters
[758,000 Gallons]



TC=Thermocouple
Ref: WHC-SD-RE-TI-053, Rev. 8
WHC-SD-WM-TI-553, Rev. 0
H-2-73187, Rev. 4

TANK RISER LOCATION

Approximate Grade Elevation 202.39m [664ft]

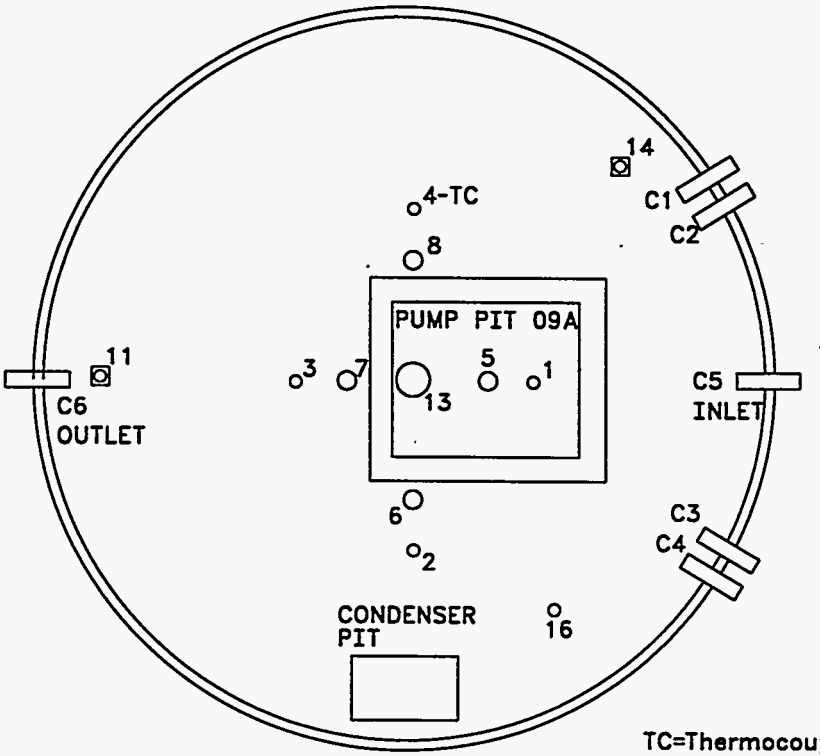


Ref: H-2-1783, Rev. 3
Ref: H-2-46293, Rev. 3

241-S-109		
NO.	DIA.	DESCRIPTION AND COMMENTS
1	4"	(CONN NOZZLE) PUMP PIT DRAIN
2	4"	BREATHER FILTER, G-1 HOUSING
3	4"	FIC
4	4"	TEMPERATURE PROBE, TO CASS
5	12"	SALTWELL SCREEN AND PUMP
6	12"	OBSV PORT
7	12"	FLANGE
8	12"	LOW/B-436 LOW
11	4"	FLANGE/SMP
13	42"	SLURRY DISTRIBUTOR
14	4"	FLANGE/SMP
16	4"	FLANGE/SMP, BM

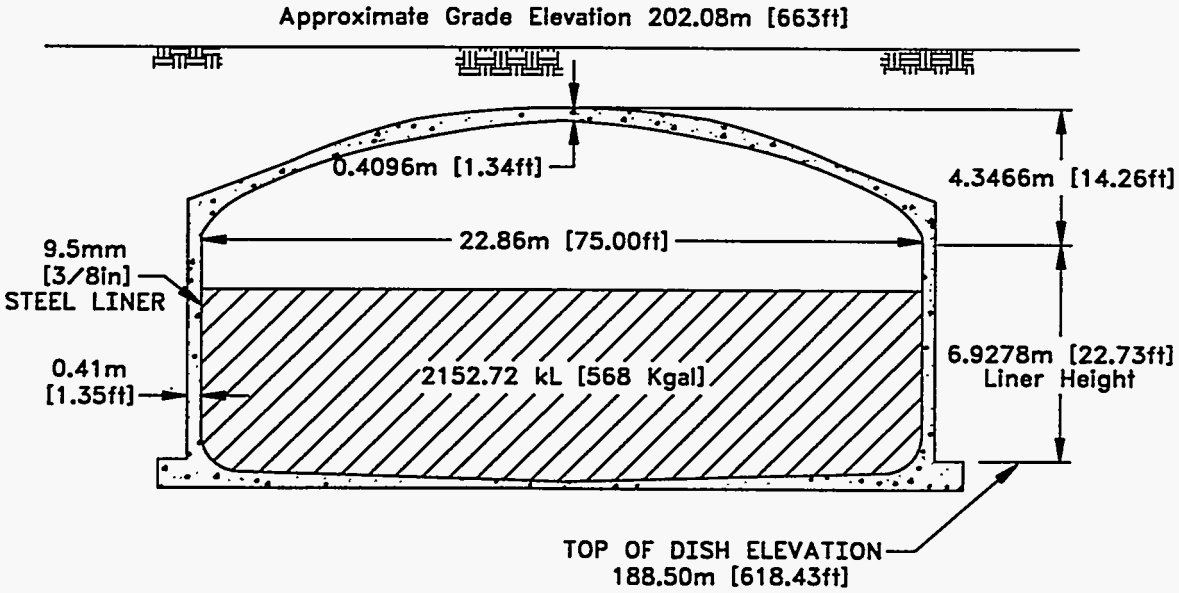
241-S-109

3,970,000 Liters
[758,000 Gallons]



TC=Thermocouple
Ref: WHC-SD-RE-TI-053, Rev. 8
WHC-SD-WM-TI-553, Rev. 0
H-2-73188, Rev. 4

TANK RISER LOCATION

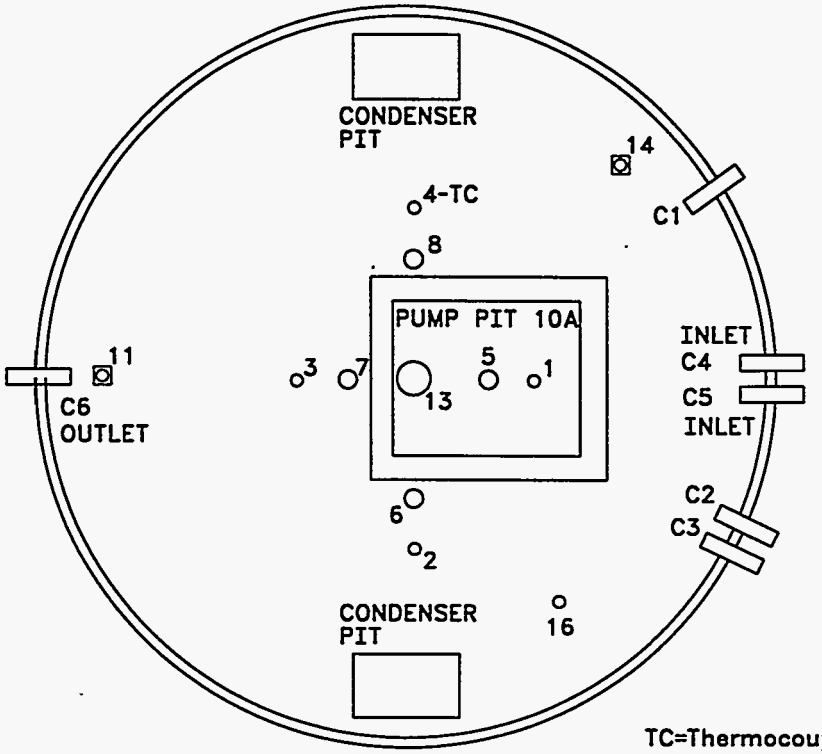


Ref: H-2-1783, Rev. 3
Ref: H-2-46293, Rev. 3

241-S-110		
NO.	DIA.	DESCRIPTION AND COMMENTS
1	4"	(CONN NOZZLE) PUMP PIT DRAIN
2	4"	FLANGE/B-436 LOW, BM
3	4"	FIC
4	4"	TEMPERATURE PROBE, MANUAL B-221
5	12"	SALTWELL SCREEN AND PUMP
6	12"	FLANGE
7	12"	OBSV PORT
8	12"	FLANGE W/2" CAPS
11	4"	SMP
13	42"	SLURRY DISTRIBUTOR
14	4"	SMP
16	4"	BM, BREATHER FILTER, G-1 HOUSING

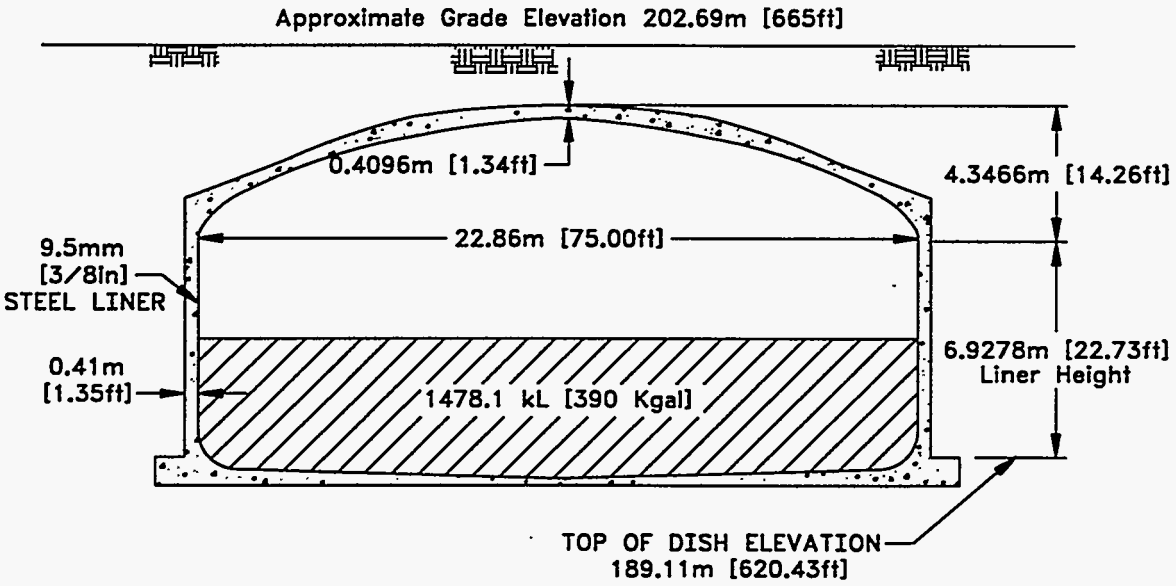
241-S-110

3,970,000 Liters
[758,000 Gallons]



TC=Thermocouple
Ref: WHC-SD-RE-TI-053, Rev. 8
WHC-SD-WM-TI-553, Rev. 0
H-2-73189, Rev. 3

TANK RISER LOCATION

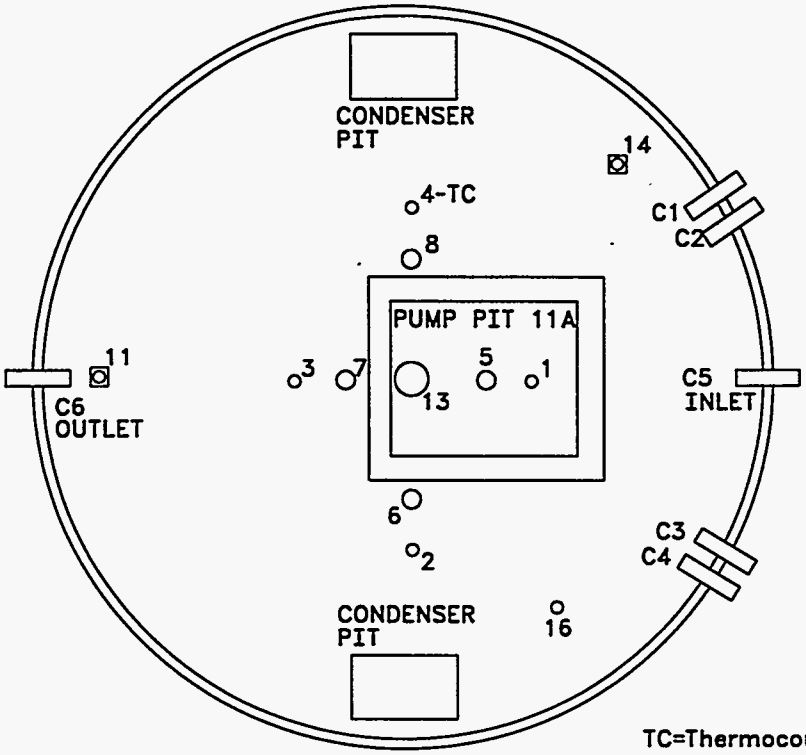


Ref: H-2-1783, Rev. 3
Ref: H-2-46293, Rev. 3

241-S-111		
NO.	DIA.	DESCRIPTION AND COMMENTS
1	4"	(CONN NOZZLE) PUMP PIT DRAIN
2	4"	FIC, BM
3	4"	FIC
4	4"	TEMPERATURE PROBE, TO CASS
5	12"	SALTWELL SCREEN AND PUMP
6	12"	FLANGE
7	12"	FLANGE WITH TUBING
8	12"	FLANGE WITH LIFTING BALE/B-222 OBSV PORT
11	4"	FLANGE WITH TUBING
13	42"	SLURRY DISTRIBUTOR
14	4"	BREATHER FILTER, G-1 HOUSING
16	4"	SMP/B-436 LOW, BM

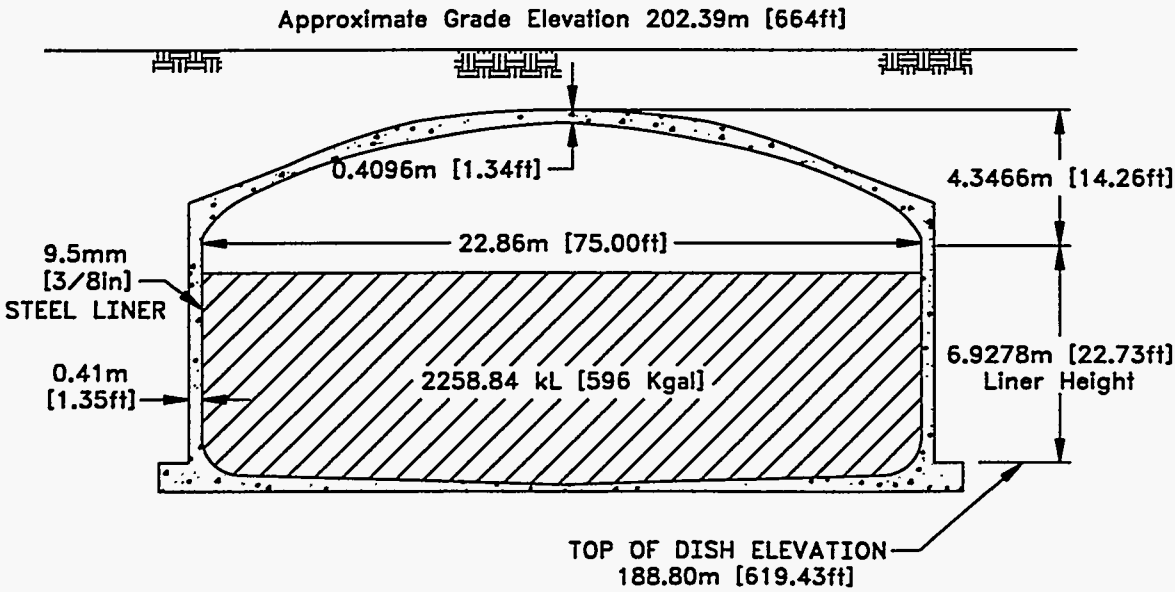
241-S-111

3,970,000 Liters
[758,000 Gallons]



TC=Thermocouple
Ref: WHC-SD-RE-TI-053, Rev. 8
WHC-SD-WM-TI-553, Rev. 0
H-2-73190, Rev. 4

TANK RISER LOCATION

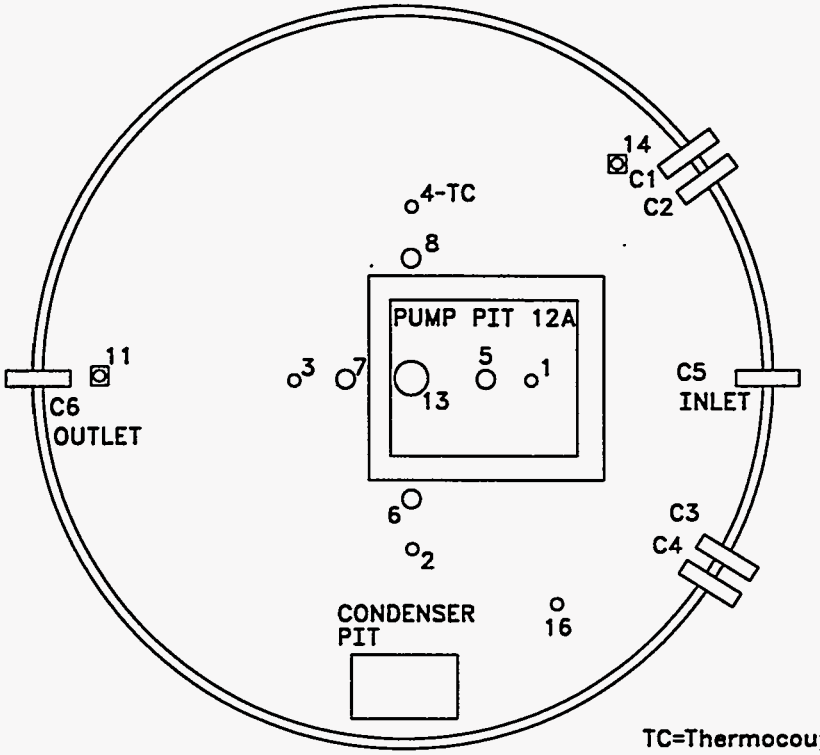


Ref; H-2-1783, Rev. 3
Ref; H-2-46293, Rev. 3

241-S-112		
NO.	DIA.	DESCRIPTION AND COMMENTS
1	4"	(CONN NOZZLE) PUMP PIT DRAIN
2	4"	FLANGE, BM
3	4"	FIC
4	4"	TEMPERATURE PROBE, TO CASS
5	12"	SALTWELL SCREEN AND PUMP
6	12"	OBSV PORT
7	12"	FLANGE
8	12"	B-436 LOW
11	4"	FLANGE/SMP
13	42"	SLURRY DISTRIBUTOR
14	4"	BREATHER FILTER, G-1 HOUSING
16	4"	FLANGE/SMP, BM

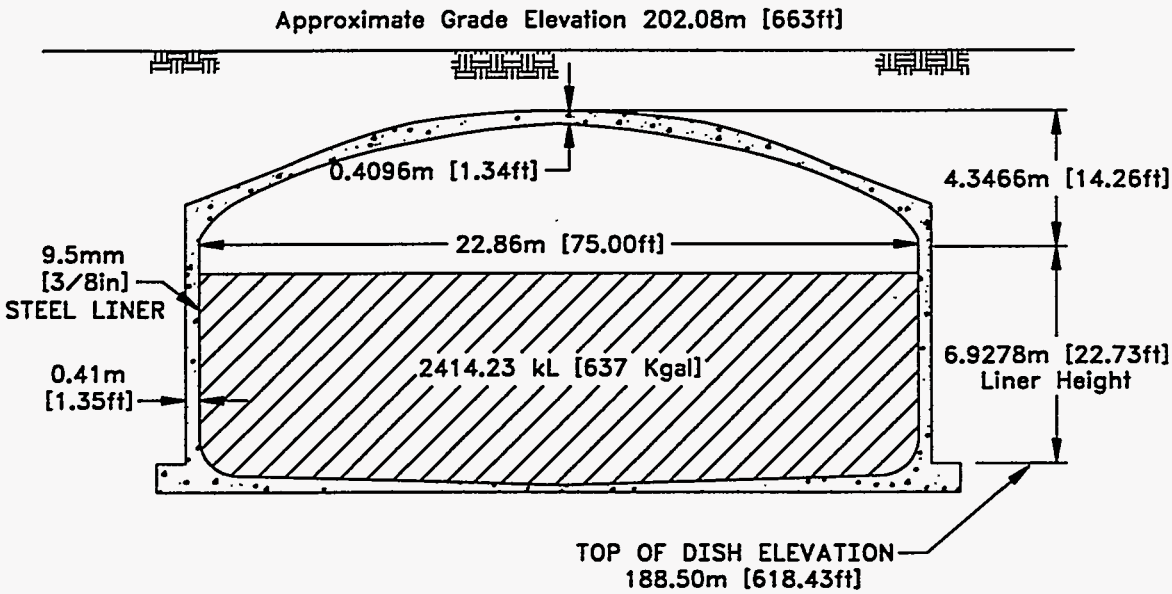
241-S-112

3,970,000 Liters
[758,000 Gallons]



TC=Thermocouple
Ref: WHC-SD-RE-TI-053, Rev. 8
WHC-SD-WM-TI-553, Rev. 0
H-2-73191, Rev. 4

TANK RISER LOCATION



Ref: H-2-1783, Rev. 3
Ref: H-2-46293, Rev. 3

WASTE TANK 101-S		
Characterization of S-Waste Tank		
September 21, 1971		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
SpGr	1.412	
Chemical Analysis		
CO3	0.011	M
NO3	3.82	M
NO2	0.642	M
TAD	3.62	M
Al	1.41	M
Na	9.01	M
Radiological Analysis		
137 Cs	155	uCi/ml
The above analyses appear normal except sample 101-S. From the data and parameters gained in the three S tank sample evaporation runs, the results of 101-S appears to be similar in physical and chemical properties of a tank that has been 50-60 volume		
percent reduced. Of specific interest is the high amount of nitrated (0.64M) which may yield a clue in helping to establish the history of this tank.		

WASTE TANK 101-S		
Analysis of Tank Farm Samples		
December 20, 1974		
Sample: T-8084 Received 9/13/74		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Milky yellow. No Solids. 250 mRad/hr		
pH	14	
SpG	1.205	
Water	81.90	%
Chemical Analysis		
OH	0.415	M
Al	0.333	M
Na	2.9	M
NO2	0.197	M
NO3	1.53	M
SO4	8.78E-03	M
PO4	9.34E-02	M
F	3.55E-03	M
CO3	0.111	M
Radiological Analysis		
Pu	<4.43E-06	gm/gal
GEA 134 Cs	2.18E+03	uCi/gal
GEA 137 Cs	4.05E+05	uCi/gal
89,90 Sr	4.09E+02	uCi/gal

WASTE TANK 101-S		
Analysis of Tank 101-S ("as received")		
July 16, 1975		
Sample Received: June 4, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
The sample had a consistency of soft mud and was dark brown in color.		
Bulk Density	1.52	
Particle Density	1.91	
H2O	37.4	%
Chemical Analysis		
Al	4.75	moles/l
Fe	0.08	moles/l
NO2	<0.2	moles/l
NO3	9.08	moles/l
PO4	0.08	moles/l
Mg	0.05	moles/l
Mn	0.08	moles/l
Radiological Analysis		
Pu	5.97E-03	g/l
89+90 Sr	1.01E+06	uCi/l
89+90 Sr	7.21E-03	watts/l
137 Cs	2.95E+05	uCi/l
137 Cs	1.42E-03	watts/l

WASTE TANK 101-S		
Analysis of Tank Farm Samples		
December 5, 1975		
Received: November 19, 1975		
Sample: T-9715		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellow, Black. Suspended Solids. 2 Rad.		
pH	13.6	
SpG	1.51	@64.5 Deg. C
Water	42.82	%
Chemical Analysis		
OH	3.60	M
Al	1.82	M
CO3	0.318	M
NO2	2.22	M
NO3	4.68	M
NH4	1.94E-02	M
Radiological Analysis		
GEA: 134 Cs	8.21E+03	uCi/gal
GEA: 137 Cs	2.44E+06	uCi/gal
103 Ru	<1.27E-03	uCi/gal

Waste Tank 102-S		
Characterization Analysis of Waste Tanks		
September 21, 1971		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
SpG	1.317	
TAD	2.15	
Chemical Analysis		
CO3	0.064	M
NO3	5.92	M
NO2	0.126	M
Al	0.24	M
Na	8.48	M
Radiological Analysis		
Cs-137	124	uCi/ml

Waste Tank 102-S		
Analysis and Identification of Solids		
November 27, 1973		
Sample Date: November 5,1973		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
SpG	1.2297	
Chemical Analysis		
Na	5.09	M
Al	0.23	M
NO2	0.118	M
NO3	4.25	M
OH	1.22	M
PO4	NA	M
CO3	0.019	M
SO4	0.00988	M
F	0.00154	M

Waste Tank 102-S		
Analysis and Identification of Solids		
November 27, 1973		
Sample Date: November 16,1973		
Sample #459		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
SpG	1.29	
Chemical Analysis		
Bi (3+)	<0.005	M
Na (+)	7.18	M
AlO2 (-)	0.367	M
OH (-)	1.51	M
NO3 (-)	3.05	M
NO2 (-)	0.088	M
CO3 (2-)	0.06	M
SO4 (2-)	0.012	M
F (-)	0.005	M
PO4 (3-)	0.112	M
Radiological Analysis		
Sr-89,90	4.3E+01	uCi/gal
Cs-137	4.0E+05	uCi/gal
Cs-134	2.8E+02	uCi/gal
Co-60	N.D.	uCi/gal
Pu-239	6.2E-05	gm/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
December 7, 1973		
FEED SAMPLE T-459 Received: Nov. 16, 1973		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OT: Yellow; 27% Solids; 100mrad/hr		
pH	11.9 @ 40*C	
SpG	1.2927	
Chemical Analysis		
Na	7.18 M R.R. 7.63	M
SO4	1.16E-02	M
Al	0.367	M
NO2	0.088	M
F	5.10E-03	M
CO3	0.06	M
Cl	Method being developed	
OH	1.51	M
NO3	3.05	M
PO4	0.112	M
Bi	<4.85E-03	M
Radiological Analysis		
Pu	1.63E-05	g/L
GEA 134 Cs	72.88	uCi/L
GEA 137 Cs	1.06E+05	uCi/L
89,90 Sr	11.31	uCi/L

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
December 18, 1973		
FEED SAMPLE T-9488 Received, Oct. 5, 1973		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OT: Clear, Yellow; No Solids; 450mR		
pH	11.4	
SpG	1.2297	
Chemical Analysis		
Na	5.43	M
SO4	9.88E-03	M
Al	0.23	M
NO2	0.118	M
F	1.54E-03	M
CO3	0.019	M
OH	1.22	M
NO3	4.25	M
PO4	<3.77E-04	M
Radiological Analysis		
Pu	1.29E-06	g/L
GEA 137 Cs	9.86E+04	uCi/L
89,90 Sr	1.99	uCi/L

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
January 25, 1974		
SAMPLE T-1746		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Clear, Yellow; 1000 mRad/hr		
Appearance - 90% Solids at Room Temperature		
pH	10.5	
SpG	1.4081	
Water	59.39	%
Radiological Analysis		
GEA 137 Cs	1.98E+05	uCi/L

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
February 11, 1974		
SAMPLE T-2164		
Physical Data		
Vis-OT: No solids, 400 mR/hr		
Appearance - Yellow, clear		
pH	11.6	
SpG	1.303	
Water	60.24	%
Radiological Analysis		
GEA 134 Cs	6.16E+02	uCi/L
GEA 137 Cs	1.62E+05	uCi/L

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
February 22, 1974		
SAMPLE T-2359		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OT: Clear, Yellow, 1000 mR/hr		
Appearance - No solids		
pH	11.8	
SpG	1.3868	
Water	57.99	%
Radiological		
GEA 134 Cs	3.80E+02	uCi/l
GEA 137 Cs	2.29E+05	uCi/l

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
February 25, 1974		
SAMPLE T-2520		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OT: Clear, 300 mR/hr		
Appearance - Yellow, No solids		
pH	11.6	
SpG	1.3315	
Water	64.38	%
Radiological Analysis		
GEA 134 Cs	3.07E+02	uCi/L
GEA 137 Cs	1.69E+05	uCi/L

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
March 7, 1974		
SAMPLE T-2759		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OT: 200 mR/hr		
Appearance - Yellow, 85% solids at room temperature		
pH	10.9	
SpG	1.310 at 49*C	
Water	62.77	%
Radiological Analysis		
GEA 134 Cs	9.01E+02	uCi/gal
GEA 137 Cs	4.81E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
March 25, 1974		
SAMPLE T-3005		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Clear, Yellow, 100 mR/hr		
pH	12.1	
SpG	1.204	
Water	76.99	%
Radiological Analysis		
GEA 134 Cs	1.31E+03	uCi/gal
GEA 137 Cs	4.62E+05	uCi/gal
GEA 106 RuRh	2.78E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
March 25, 1974		
SAMPLE T-3145		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Clear, Yellow, 200 mR/hr		
Appearance: ~1% crystals on bottom		
pH	12.2	
SpG	1.3463	
Water	59.06	%
Radiological Analysis		
GEA 137 Cs	8.25E+05	uCi/gal
GEA 60 Co	1.62E+03	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
April 17, 1974		
SAMPLE T-3370		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Clear, Yellow, 50% solids 1500 mrad/hr		
pH	10.8	
SpG	1.500	
Water	52.75	%
Radiological Analysis		
GEA 134 Cs	5.83E+03	uCi/gal
GEA 137 Cs	2.16E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
May 13, 1974		
FEED SAMPLE T-3601		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellow; 50% Solids; 500mrad/hr		
pH	12.4	
SpG	1.2839	
Water	53.48	%
Chemical Analysis		
OH	4.52	M
Al	0.62	M
NO2	0.69	M
Na	6.66	M
NO3	2.51	M
SO4	5.32E-02	M
PO4	3.87E-02	M
F	1.11E-02	M
CO3	0.259	M
NH4	1.92E-02	M
Radiological Analysis		
Pu	1.43E-05	g/L
GEA 134 Cs	3.66E+03	uCi/L
GEA 137 Cs	9.58E+05	uCi/L

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
May 22, 1974		
SAMPLE T-4372		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark Amber; No solids at room temp; 700mrad/hr		
pH	11.7	
SpG	1.400	
Water	53.48	%
Radiological Analysis		
GEA 134 Cs	4.31E+03	uCi/gal
GEA 137 Cs	1.18E+06	uCi/gal
GEA 106 RuRh	4.01E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
May 24, 1974		
SAMPLE T-4103		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark Amber; No solids; 500mrad/hr		
pH	12.3	
SpG	1.2704	
Water	71.27	%
Radiological Analysis		
GEA 134 Cs	6.09E+03	uCi/gal
GEA 137 Cs	7.87E+05	uCi/gal
GEA 106 RuRh	5.64E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
June 7, 1974		
SAMPLE T-4652		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark Amber; No solids; 280 mrad/hr		
pH	11.8	
SpG	1.4564	
Water	55.29	%
Radiological Analysis		
GEA 134 Cs	4.35E+03	uCi/gal
GEA 137 Cs	1.18E+06	uCi/gal
GEA 106 RuRh	2.86E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
June 7, 1974		
SAMPLE T-5030		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Amber; Trace of solids; 500 mrad/hr		
pH	12.1	
SpG	1.3284	
Water	59.32	%
Radiological Analysis		
GEA 134 Cs	8.55E+03	uCi/gal
GEA 137 Cs	8.18E+05	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
June 17, 1974		
Feed Sample T-3770		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellow; <1% Solids; 375 mrad/hr		
pH	12.6	
SpG	1.315	
Water	55.20	%
Chemical Analysis		
OH	2.78	M
Al	0.671	M
Na	6.92	M
NO2	0.958	M
NO3	2.56	M
SO4	4.20E-02	M
PO4	1.89E-02	M
F	5.36E-03	M
CO3	0.176	M
Radiological Analysis		
Pu	6.92E-06	g/L
GEA 134 Cs	7.68E+02	uCi/gal
GEA 137 Cs	5.45E+05	uCi/gal
GEA 60 CO	4.66E+02	uCi/gal
GEA 106 RuRh	3.85E+04	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
June 19, 1974		
Sample: T-5468		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Clear, Yellow; ~ 5% solids; 1 rad at 4"		
pH	12.3	
SpG	1.2258	
Water	91.45	%
Radiological Analysis		
GEA 134 Cs	4.28E+03	uCi/gal
GEA 137 Cs	4.47E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
June 28, 1974		
SAMPLE T-5232		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Amber; No solids; 1.5 rad		
pH	11.6	
SpG	1.5027	
Water	53	%
Radiological Analysis		
GEA 134 Cs	6.09E+03	uCi/gal
GEA 137 Cs	1.60E+06	uCi/gal
GEA 106 RuRh	3.50E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
July 2, 1974		
SAMPLE T-5775		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; <5% solids; 1500 mrad/hr		
pH	11.9	
SpG	1.0450	
Water	65.83	%
Radiological Analysis		
GEA 134 Cs	2.02E+03	uCi/gal
GEA 137 Cs	2.18E+05	uCi/gal
GEA 106 RuRh	4.24E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
July 3, 1974		
SAMPLE T-5458		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; <5% solids; 1 rad		
pH	11.0	
SpG	1.4923	
Water	48	%
Radiological Analysis		
GEA 134 Cs	6.28E+04	uCi/gal
GEA 137 Cs	1.67E+06	uCi/gal
GEA 106 RuRh	3.07E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
September 16, 1974		
FEED SAMPLE T-6006		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Greenish brown; <5% Solids; 1500 mrad/hr		
pH	13.2	
SpG	1.256	
Water	69.46	%
Chemical Analysis		
OH	1.53	M
Al	0.501	M
Na	6.13	M
NO2	0.87	M
NO3	1.60	M
SO4	3.94E-02	M
PO4	8.99E-03	M
F	1.33E-02	M
CO3	0.175	M
Pu	2.93E-05	g/gal
Radiological Analysis		
GEA 134 Cs	9.99E+02	uCi/gal
GEA 137 Cs	2.03E+05	uCi/gal
GEA 106 RuRh	6.06E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
September 17, 1974		
SAMPLE T-6622		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Murky green; <5% solids; 1.5 rad		
pH	11.5	
SpG	1.4856	
Water	47.63	%
Radiological Analysis		
GEA 134 Cs	1.81E+04	uCi/gal
GEA 137 Cs	2.07E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 14, 1974		
SAMPLE T-6214		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Brown; <5% solids; 3 rad		
pH	11.5	
SpG	1.4005	
Water	92.89	%
Radiological Analysis		
GEA 134 Cs	1.12E+04	uCi/gal
GEA 137 Cs	1.54E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 14, 1974		
SAMPLE T-6416		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Amber, brown, cloudy; <5% solids; 2500 mRad/hr		
pH	11.6	
SpG	1.3780	
Water	49.05	%
Radiological Analysis		
GEA: 134 Cs	5.45E+03	uCi/gal
GEA: 137 Cs	1.36E+06	uCi/gal
GEA: 106 RuRh	4.05E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 14, 1974		
SAMPLE T-7300		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellow, cloudy; Unknown amount of solids; 1 Rad		
pH	11.7	
SpG	1.3360	
Water	60.46	%
Radiological Analysis		
GEA 134 Cs	7.34E+03	uCi/gal
GEA 137 Cs	1.11E+06	uCi/gal
GEA 125 Sb	3.52E+03	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 14, 1974		
SAMPLE T-7439		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green, yellow, clear; No solids; 550 mRad/hr		
pH	11.95	
SpG	1.4450	
Water	59.75	%
Radiological Analysis		
GEA 134 Cs	1.01E+04	uCi/gal
GEA 137 Cs	1.64E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 21, 1974		
SAMPLE T-6761		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green brown; <5% Solids; 300 mRad/hr		
pH	>12.8	
SpG	1.4669	
Water	49.82	%
Chemical Analysis		
OH	3.65	M
Al	1.34E+00	M
Na	12.51	M
NO2	1.89	M
NO3	3.29E+00	M
SO4	Sample slurped	
PO4	3.34E-02	M
F	4.10E-03	M
CO3	1.03E-02	M
Radiological Analysis		
Pu	Sample slurped	
GEA 134 Cs	1.80E+04	uCi/gal
GEA 137 Cs	2.05E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 21, 1974		
SAMPLE T-7805		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark green; 75% Solids; 2 Rads		
pH	13.2	
SpG	1.5311	
Water	63.92	%
Radiological Analysis		
GEA 134 Cs	9.61E+03	uCi/gal
GEA 137 Cs	1.81E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 21, 1974		
SAMPLE T-8077		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Murky green; ~25% Solids; 1.4 Rads		
pH	14	
SpG	1.5357	
Water	47.48	%
Radiological Analysis		
GEA 134 Cs	8.93E+03	uCi/gal
GEA 137 Cs	2.15E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 21, 1974		
SAMPLE T-8199		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellow; No Solids; 300 mRad/hr		
pH	9.8	
SpG	1.321	
Water	59.49	%
Radiological Analysis		
GEA 134 Cs	6.47E+03	uCi/gal
GEA 137 Cs	1.26E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 23, 1974		
SAMPLE T-9007		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Cloudy green; 5% Solids; 1.3 Rad/hr		
pH	14.0	
SpG	1.4866	
Water	54.56	%
Radiological Analysis		
GEA 134 Cs	4.35E+03	uCi/gal
GEA 137 Cs	7.68E+05	uCi/gal
GEA 125 Sb	2.04E+03	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 25, 1974		
SAMPLE T-8929		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Cloudy green; 5% Solids; 1.5 Rad/hr		
pH	14.0	
SpG	1.5197	
Water	50.02	%
Radiological Analysis		
GEA 134 Cs	4.84E+03	uCi/gal
GEA 137 Cs	8.59E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 29, 1974		
FEED SAMPLE T-8779		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Cloudy yellow; 25% solids; 0.70 Rad/hr		
pH	10.1	
SpG	1.3691	
Water	44.50	%
Radiological Analysis		
GEA 134 Cs	8.86E+03	uCi/gal
GEA 137 Cs	1.67E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
November 1, 1974		
FEED SAMPLE T-8339		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Brown; 5% solids; 270 mRad/hr		
pH	13.8	
SpG	1.3638	
Water	66.95	%
Radiological Analysis		
GEA 134 Cs	5.83E+03	uCi/gal
GEA 137 Cs	1.07E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
November 1, 1974		
FEED SAMPLE T-8604		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Cloudy yellow; <10% solids; 1 Rad/hr		
pH	13.8	
SpG	1.484	
Water	43.65	%
Radiological Analysis		
GEA 134 Cs	1.04E+04	uCi/gal
GEA 137 Cs	1.88E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
November 4, 1974		
FEED SAMPLE T-7562		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green, cloudy; Suspended solids; 500 mRad/hr		
pH	12.0	
SpG	1.4345	
Water	45.91	%
Radiological Analysis		
GEA 134 Cs	1.12E+04	uCi/gal
GEA 137 Cs	1.80E+06	uCi/gal
GEA 60 Co	4.54E+03	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
November 19, 1974		
Sample T-9103		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; 1% solids; 1.5 Rad/hr		
pH	13.8	
SpG	1.407	
Water	57.83	%
Radiological Analysis		
GEA 134 Cs	7.19E+03	uCi/gal
GEA 137 Cs	1.45E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
November 19, 1974		
SAMPLE T-9601		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark green; 30% solids; 1 Rad/hr		
pH	13.1	
SpG	1.4554	
Water	54.89	%
Radiological Analysis		
GEA 134 Cs	7.04E+03	uCi/gal
GEA 137 Cs	1.54E+06	uCi/gal
GEA 60 Co	1.16E+03	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
November 26, 1974		
SAMPLE T-9706		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; 50% solids; 1.5 Rad/hr		
pH	13.5	
SpG	1.5142	
Water	49.76	%
Radiological Analysis		
GEA 134 Cs	9.31E+03	uCi/gal
GEA 137 Cs	1.79E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
December 4, 1974		
SAMPLE T-8416		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; <10% solids; 1 Rad/hr		
pH	13.3	
SpG	1.4327	
Water	57.98	%
Radiological Analysis		
GEA 134 Cs	3.45E+04	uCi/gal
GEA 137 Cs	5.83E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
December 26, 1974		
SAMPLE T-423 Received, Dec. 6, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; 50% crystal solids; 1.5 Rad/hr		
pH	14.0	
SpG	1.4272	
Water	58.15	%
Chemical Analysis		
Al	1.14	M
Radiological Analysis		
GEA 134 Cs	6.09E+03	uCi/gal
GEA 137 Cs	1.40E+06	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
January 6, 1975		
Sample T-534 Received, Dec. 10, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green cloudy; 1 Rad/hr		
pH	14.0	
SpG	1.2582	
Water	69.40	%
Chemical Analysis		
Al	0.611	M
Radiological Analysis		
GEA 134 Cs	4.58E+03	uCi/gal
GEA 137 Cs	8.33E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
January 6, 1975		
SAMPLE T-632 Received: Dec. 16, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; <1% solids; 1.5 Rad/hr		
pH	14.0	
SpG	1.3476	
Water	58.28	%
Radiological Analysis		
GEA 134 Cs	5.83E+04	uCi/gal
GEA 137 Cs	1.20E+06	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
December 17, 1974		
SampleT-8008		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; 50% solids; 2.5 Rads		
pH	14	
SpG	1.4202	
Water	52.45	%
Chemical Analysis		
OH	2.89	M
Al	1.28	M
Na	11.61	M
NO2	1.39	M
NO3	3.24	M
PO4	0.11	M
F	1.05E-02	M
CO3	0.157	M
K	3.18E-02	M
Radiological Analysis		
Pu	< 5.34E-06	g/gal
GEA 134 Cs	7.66E+03	uCi/gal
GEA 137 Cs	1.38E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
February 3, 1975		
SAMPLE T-1299 Received: January 1, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; 75% solids; 1.2 Rad/hr		
pH	13.2	
SpG	1.4224	
Water	48.12	%
Chemical Analysis		
Al	1.13	M
Radiological Analysis		
GEA 134 Cs	9.01E+03	uCi/gal
GEA 137 Cs	1.73E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 20, 1975		
SAMPLE T-1091 Received: January 2, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green, cloudy; No solids; 1 rad/hr		
pH	14.0	
SpG	1.580	
Water	51.68	%
Chemical Analysis		
OH	2.63	M
Al	1.13	M
Na	9.93	M
NO2	1.87	M
NO3	3.64	M
SO4	cancelled	
PO4	5.68E-02	M
F	1.34E-02	M
CO3	0.257	M
Radiological Analysis		
Pu	2.40E-05	g/gal
GEA 134 Cs	1.53E+04	uCi/gal
GEA 137 Cs	2.69E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
January 6, 1975		
SAMPLE T-841		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellow; No solids		
pH	14.0	
SpG	1.4346	
Water	51.45	%
Chemical Analysis		
Al	1.3	M
Radiological Analysis		
GEA 134 Cs	2.13E+04	uCi/gal
GEA 137 Cs	3.75E+05	uCi/gal
GEA 60 Co	1.56E+04	uCi/gal
GEA 125 Sb	1.52E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
January 20, 1975		
SAMPLE T-1231		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellow, cloudy; No solids; 1 Rad/hr		
pH	14.0	
SpG	1.4586	
Water	52.28	%
Chemical Analysis		
Al	0.498	M
Radiological Analysis		
GEA 134 Cs	7.95E+03	uCi/gal
GEA 137 Cs	1.36E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
January 22, 1975		
SAMPLE T-933		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; No solids; 1.3 Rad/hr		
pH	14.0	
SpG	1.6515	
Water	51.10	%
Chemical Analysis		
Al	1.29	M
Radiological Analysis		
GEA 134 Cs	8.02E+03	uCi/gal
GEA 137 Cs	1.60E+06	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
April 23, 1975		
Samples T-2278 Received: February 24, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; No solids; 800 mRad/hr		
pH	13.3	
SpG	1.1914	
Water	75.70	%
Chemical Analysis		
OH	1.058	M
Al	0.447	M
Na	5.21	M
NO2	0.611	M
NO3	1.79	M
PO4	3.26E-02	M
F	5.56E-03	M
CO3	0.14	M
Radiological Analysis		
Pu	5.06E-05	g/gal
Sr-89,90	2.02E+04	uCi/gal
GEA 134 Cs	2.55E+03	uCi/gal
GEA 137 Cs	6.36E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
March 26, 1975		
SAMPLE T-2415 Received: March 3, 1975		
Physical Data		
Vis-OTR: Light brown; 1% brown solids; 1 Rad/hr		
pH	13.3	
SpG	1.4004	
Water	55.90	%
Chemical Analysis		
Al	0.884	M
Radiological Analysis		
GEA 134 Cs	5.94E+03	uCi/gal
GEA 137 Cs	1.17E+06	uCi/gal
GEA 125 Sb	3.86E+03	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
April 11, 1975		
SAMPLE T-2617 Received: March 10, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Black; 2 Rad/hr		
pH	13.5	
SpG	1.32 @60*C	
Water	54.52	%
Chemical Analysis		
Al	0.589	M
Radiological Analysis		
GEA 134 Cs	6.06E+03	uCi/gal
GEA 137 Cs	1.38E+06	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
April 1, 1975		
SAMPLE T-2768 Received: March 17, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Black; 10% Suspended solids; 1.2 Rad/hr		
pH	12.7	
SpG	1.34 @60*C	
Water	52.26	%
Chemical Analysis		
Al	1.08	M
Radiological Analysis		
GEA 134 Cs	7.00E+03	uCi/gal
GEA 137 Cs	1.50E+06	uCi/gal
GEA 125 Sb	1.08E+03	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
April 23, 1975		
SAMPLE T-3109	Received: March 28, 1975	
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Brown, cloudy; 600 mrad/hr on contact		
pH	12.8	
SpG	1.36 @60*C	
Water	50.71	%
Chemical Analysis		
Al	0.978	M
Radiological Analysis		
GEA 134 Cs	7.50E+03	uCi/gal
GEA 137 Cs	1.77E+06	uCi/gal
GEA 125 Sb	3.54E+03	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
April 1, 1975		
SAMPLE T-1369		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; 2% solids; 1.2 Rad/hr		
pH	13.2	
SpG	1.34 @60*C	
Water	54.34	%
Chemical Analysis		
Al	1.23	M
Radiological Analysis		
GEA 134 Cs	9.00E+02	uCi/gal
GEA 137 Cs	1.70E+06	uCi/gal
GEA 125 Sb	2.84E+03	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
August 20, 1975		
Sample T-3259 Received: April 2, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Greenish-brown; Suspended solids; 1 rad/hr		
pH	13	
SpG	1.24 @ 78*C	
Water	64.93	%
Chemical Analysis		
Al	0.579	M
OH	1.87	M
NO2	1.01	M
NO3	2.99	M
Radiological Analysis		
GEA 134 Cs	4.63E+04	uCi/gal
GEA 137 Cs	1.18E+06	uCi/gal
Sr-89,90	2.52E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
April 30, 1975		
SAMPLE T-3328 Received, April 4, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark Geen; Suspended solids; 2.5 rad/hr		
pH	13.0	
SpG	1.34 @60*C	
Water	53.47	%
Chemical Analysis		
Al	1.12E-02	M
OH	2.69	M
NO2	3.2	M
NO3	3.52	M
Radiological Analysis		
GEA 134 Cs	6.78E+03	uCi/gal
GEA 137 Cs	1.64E+06	uCi/gal
Sr-89,90	2.70E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
July 8, 1975		
SAMPLE T-3478	Received:April 10, 1975	
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Black; <5% solids; 2 rad/hr @ 2"		
pH	12.8	
SpG	1.38 @62*C	
Water	53.46	%
Chemical Analysis		
Al	0.818	M
OH	2.84	M
NO2	1.43	M
NO3	3.19	M
Radiological Analysis		
GEA 134 Cs	8.48E+03	uCi/gal
GEA 137 Cs	1.85E+06	uCi/gal
GEA 125 Sb	4.53E+04	uCi/gal
Sr-89,90	7.30E+04	uCi/gal

Waste Tank 102-S		
Analysis of 102-S Top Layer		
April 17, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Appearance:The top layer was made up of coarse black crystals.		
Bulk Density	1.3	g/cc
Particle Density	1.74	g/cc
Chemical Analysis		
H2O	45.00	%
NaNO2	<0.1	%
NaNO3	20.80	%
Na3PO4	29.90	%
SiO2	1.70	%
Fe2O3	0.20	%
Al2O3	5.50	%
TOTAL	102.90	%
Radiological Analysis		
Pu	5.20E-07	g/g
Pu	4.00E-04	g/l
Sr-89,90	19.20	uCi/g
Sr-89,90	1.50E+04	uCi/L
Cs-137	17.30	uCi/g
Cs-137	1.30E+04	uCi/L

Waste Tank 102-S		
Analysis of 102-S Bottom Layer		
April 17, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Bulk Density	1.5	g/cc
Particle Density	2.09	g/cc
Chemical Analysis		
H2O	10.00	%
NaNO2	0.10	%
NaNO3	(Note 1)	%
Na3PO4	1.00	%
SiO2	0.70	%
Fe2O3	1.40	%
Al2O3	87.00	%
TOTAL	100.20	%
Radiological Analysis		
Pu	7.50E-07	g/g
Pu	4.90E-04	g/l
Sr-89,90	0.50	uCi/g
Sr-89,90	3.30E+02	uCi/L
Cs-137	6.60	uCi/g
Cs-137	4.30E+03	uCi/L

NOTE 1: The nitrate analysis of the sample was impossibly high (520 percent NaNO3). It is assumed that the sample was contaminated during preparation. However, based on the material balance calculation, we feel that the nitrate content of the salt is essentially zero.

Waste Tank 102-S		
Analysis of Tank Farm Samples		
August 20, 1975		
Sample T-3639 Received: April 17, 1975		
Physical Data		
Vis-OTR: Dark green; 10% solids; 2.5 rad/hr @ 2"		
pH	12.8	
SpG	1.32 @ 69*C	
Water	54.53	%
Chemical Analysis		
Al	0.742	M
OH	2.32	M
NO2	1.12	M
NO3	5.17	M
Radiological Analysis		
GEA 134 Cs	1.14E+04	uCi/gal
GEA 137 Cs	2.92E+06	uCi/gal
Sr-89,90	5.58E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF 102-S TOP LAYER		
April 29, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Appearance: Coarse black crystals		
Bulk Density	1.3	g/cc
Particle Density	1.74	g/cc
Chemical Analysis		
H2O	45.0	%
NaNO2	0.1	%
NaNO3	20.8	%
Na3PO4	29.9	%
SiO2	1.7	%
Fe2O3	0.2	%
Al2O3	5.5	%
TOTAL	102.9	%
Radiological Analysis		
Pu	5.20E-07	g/g
Pu	4.00E-04	g/l
Sr-89,90	1.92E+01	uCi/g
Sr-89,90	1.5E+0.4	uCi/l
Cs-137	1.73E+01	uCi/g
Cs-137	1.30E+04	uCi/L

Waste Tank 102-S		
Analysis of 102-S Bottom Layer		
April 29, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Appearance: Fine yellow crystals		
Bulk Density	1.52	g/cc
Particle Density	2.09	g/cc
Chemical Analysis		
H2O	10.0	%
NaNO2	0.10	%
NaNO3	(Note 1)	%
Na3PO4	1.0	%
SiO2	0.7	%
Fe2O3	1.4	%
Al2O3	87.0	%
TOTAL	100.2	%
Radiological Analysis		
Pu	7.50E-07	g/g
Pu	4.90E-04	g/L
Sr-89,90	0.50	uCi/g
Sr-89,90	3.3E+-02	uCi/L
Cs-137	6.60E+00	uCi/g
Cs-137	4.30E+03	uCi/L
NOTE 1: The nitrate analysis of the sample was impossibly high (520 percent NaNO3). It is assumed that the sample was contaminated during preparation. However, based on the material balance calculation, we feel that the nitrate content of the salt is essentially zero.		

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
May 13, 1975		
SAMPLE T-4028	Received, April 29, 1975	
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Clear, geen; No solids; 600 mrad/hr		
pH	13.0	
SpG	1.2538	
Water	70.04	%
Chemical Analysis		
Al	0.448	M
OH	1.16	M
NO2	0.818	M
NO3	1.61	M
Radiological Analysis		
GEA 134 Cs	4.84E+03	uCi/gal
GEA 137 Cs	9.24E+05	uCi/gal
Sr-89,90	2.71E+04	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
August 22, 1975		
Sample T-4104 Received: May 2, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; 25% solids; 90 mrad/hr		
pH	11.7	
SpG	Insufficient sample	
Water	62.55	%
Chemical Analysis		
Al	0.818	M
OH	1.58	M
NO2	1	M
NO3	2.65	M
Radiological Analysis		
GEA 60 Co	<7.22E+02	uCi/gal
GEA 125 Sb	1.12E+03	uCi/gal
GEA 95 ZrNB	<1.57E+03	uCi/gal
GEA 144 CePr	<4.59E+04	uCi/gal
GEA 134 Cs	1.42E+05	uCi/gal
GEA 137 Cs	3.00E+03	uCi/gal
GEA 154 Eu	<1.60E+03	uCi/gal
Sr-89,90	9.56E+04	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
August 22, 1975		
Sample T-4240 Received: May 8, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Light green; <1% solids; 1 rad/hr		
pH	12.7	
SpG	1.3612	
Water	54.37	%
Chemical Analysis		
Al	0.812	M
OH	1.52	M
NO2	0.792	M
NO3	3.63	M
Radiological Analysis		
GEA 134 Cs	5.06E+03	uCi/gal
GEA 137 Cs	9.12E+05	uCi/gal
Sr-89,90	3.36E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
July 8, 1975		
SAMPLE T-4388 Received, May 13, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green, clear; No solids; 200 mrad/hr		
SpG	1.369	
Water	52.76	%
Chemical Analysis		
Al	0.747	M
OH	1.66	M
NO2	0.929	M
NO3	3.74	M
CO3	0.316	M
Radiological Analysis		
GEA 134 Cs	5.07E+03	uCi/gal
GEA 137 Cs	9.63E+05	uCi/gal
GEA 125 Sb	1.13E+03	uCi/gal

Waste Tank 102-S		
ANALYSIS OF ALKALINE WASTE SOLUTIONS		
May 20, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Density	1.3	g/ml at 75*C
Chemical Analysis		
H2O	41.6	%
NaAlO2	0.97	M
NaAlO2	6.0	%
NaNO2	1.09	M
NaNO2	5.6	%
NaNO3	3.78	M
NaNO3	24.1	%
NaOH	2.02	M
NaOH	6.1	%
Na2CO3	0.2	M
Na2CO3	1.6	%
Na3PO4	0.06	M
Na3PO4	0.7	%
Na2SiO3	0.003	M
Na2SiO3	<0.1	%
NaF	0.006	%
NaF	<0.1	%
TOTAL	85.9	%
Radiological Analysis		
Cs-137	3.61E+05	uCi/L
Cs-134	1.05E+03	uCi/L
Sb-125	2.97E+03	uCi/L
Pu-239,240	3.27E+00	uCi/L
Pu-238	0.19	uCi/L
Np-237	0.05	uCi/L
Am-241	9.10	uCi/L

Waste Tank 102-S	
FILTERABLE ACTIVITY IN ALKALINE WASTE SOLUTIONS	
uCi/L UNFILTERED SOLUTION	
May 20, 1975	
Radiological Analysis	
Am-241	2.11E+03
Ce-144	2.07E+04
Eu-154	6.60E+03
Eu-155	2.23E+04
Cs-134	5.24E+02
Cs-137	1.34E+04
Co-57	---
Co-60	1.78E+03
Rh-106	8.45E+03
Zr-95	3.09E+02
Sb-125	2.61E+03

Waste Tank 102-S		
Analysis of Tank Farm Samples		
August 22, 1975		
Sample: T-4823 Received: May 27, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark green; Nondeterminable solids; 100 mrad/hr		
SpG	1.34 @ 30*C	
Water	56.73	%
Chemical Analysis		
Al	1.09	M
OH	2.24	M
NO2	1.44	M
NO3	2.92	M
CO3	0.263	M
Radiological Analysis		
GEA 134 Cs	1.94E+04	uCi/gal
GEA 137 Cs	3.26E+06	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
August 1, 1975		
Received, June 13, 1975		
Sample-5137		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark green; Solids unknown; 1 rad @ 2"		
pH	12.9	
SpG	1.41 @ 21*C	
Water	44.49	%
Chemical Analysis		
Al	1.11	M
OH	2.32	M
NO2	1.73	M
NO3	3.68	M
CO3	0.325	M
Radiological Analysis		
GEA 134 Cs	1.34E+04	uCi/gal
GEA 137 Cs	2.06E+06	uCi/gal
Sr-89,90	3.91E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
July 28, 1975		
Received, June 20, 1975		
Sample:T-5514		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Greenish black; Solids undetermined; 1.5 rad/hr		
SpG	1.5202	
Water	47.00	%
Chemical Analysis		
Al	0.553 - Rerun 0.812	M
OH	4.29	M
NO2	2.38	M
NO3	2.63	M
CO3	0.223	M
Radiological Analysis		
GEA 134 Cs	1.44E+04	uCi/gal
GEA 137 Cs	2.88E+06	uCi/gal
Sr-89,90	1.20E+05	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
July 31, 1975		
Received, July 2, 1975		
Sample T-5792		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; 25% solids; 50 mrad/hr @ 4"		
pH	13.5	
SpG	Insufficient sample	
Water	60.31	%
Chemical Analysis		
Al	1.00	M
OH	1.74	M
NO2	1.15	M
NO3	2.92	M
Radiological Analysis		
GEA 134 Cs	6.61E+03	uCi/gal
GEA 137 Cs	1.14E+06	uCi/gal
Sr-89,90	4.02E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
September 23, 1975		
SAMPLE T-5859 Received: July 7, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; 100% solids; 500 mrad/hr @ 4"		
pH	13.5	
SpG	1.370 @ 21*C	
Water	48.41	%
Chemical Analysis		
Al	1.03	M
OH	1.89	M
NO2	0.988	M
NO3	3.9	M
Radiological Analysis		
GEA 134 Cs	6.82E+03	uCi/gal
GEA 137 Cs	1.31E+06	uCi/gal
Sr-89,90	6.26E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
July 31, 1975		
Received: July 9, 1975		
Sample T-5964		
COMPONENT	LAB VAUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; Suspended solids; 1600 mrad/hr		
pH	13.5	
SpG	1.35 @ 44*C	
Water	45.69	%
Chemical Analysis		
Al	0.898	M
OH	1.57	M
NO2	1.36	M
NO3	4.2	M
Radiological Analysis		
GEA 134 Cs	6.72E+03	uCi/gal
GEA 137 Cs	1.36E+06	uCi/gal
Sr-89,90	3.58E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
December 11, 1975		
SAMPLE T-6042 Received: July 14, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark green; ~5% solids; 1500 mrad/hr		
pH	12.7	
SpG	1.340 @ 21*C	
Water	57.99	%
Chemical Analysis		
OH	1.31	M
Al	0.842	M
Na	8.48	M
NO2	1.34	M
NO3	3.5	M
SO4	Sample slurped	
PO4	4.64E-02	M
Cl	8.61E-02	M
F	9.85E-04	M
CO3	0.466	M
Radiological Analysis		
Pu	3.02E-04	g/gal
GEA 134 Cs	6.28E+03	uCi/gal
GEA 137 Cs	1.11E+06	uCi/gal
Sr-89,90	4.70E+04	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
July 31, 1975		
Received, July 18, 1975		
Sample T-6226		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark green; ~25% solids; 500 mrad/hr		
pH	13.4	
SpG	1.31 @ 21*C	
Water	41.14	%
Chemical Analysis		
Al	0.837	M
OH	1.72	M
NO2	1.4	M
NO3	3.1	M
Radiological Analysis		
GEA 134 Cs	6.96E+03	uCi/gal
GEA 137 Cs	1.41E+06	uCi/gal
Sr-89,90	4.24E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
September 23, 1975		
SAMPLE T-6453 Received: July 25, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Brown; No solids; 800 mrad/hr		
pH	12.7	
SpG	1.2861	
Water	63.50	%
Chemical Analysis		
Al	0.514	M
OH	1.07	M
NO2	1.21	M
NO3	1.98	M
Radiological Analysis		
GEA 134 Cs	2.74E+03	uCi/gal
GEA 137 Cs	7.89E+05	uCi/gal
GEA 106 RuRh	1.32E+05	uCi/gal
GEA 154 Eu	1.21E+03	uCi/gal
Sr-89,90	3.82E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
November 13, 1975		
SAMPLE T-6806 Received: August 5, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; 80% solids; 800 mrad/hr		
pH	13.3	
SpG	1.320 @ 54*C	
Water	54.07	%
Chemical Analysis		
OH	1.98	M
Al	0.826	M
NO2	1.52	M
NO3	3.3	M
Radiological Analysis		
GEA 134 Cs	2.85E+03	uCi/gal
GEA 137 Cs	7.04E+05	uCi/gal
Sr-89,90	8.27E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
September 19, 1975		
SAMPLE T-7092 Received: August 15, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; 1% solids; 3 rad/hr		
pH	12.9	
SpG	1.513	
Water	53.16	%
Chemical Analysis		
Al	1.91	M
OH	2.98	M
NO2	1.9	M
NO3	4.29	M
Radiological Analysis		
GEA 134 Cs	1.29E+04	uCi/gal
GEA 137 Cs	2.17E+06	uCi/gal
Sr-89,90	5.05E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
September 22, 1975		
SAMPLE T-7218 Received: August 19, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; No solids; 700 mrad/hr		
pH	12.5	
SpG	1.3662	
Water	69.40	%
Chemical Analysis		
Al	0.754	M
OH	1.78	M
NO2	1.96	M
NO3	3.33	M
Radiological Analysis		
GEA 134 Cs	8.63E+03	uCi/gal
GEA 137 Cs	1.50E+06	uCi/gal
Sr-89,90	4.73E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
September 19, 1975		
SAMPLE T-7340 Received: August 25, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; No solids; 2.5 rad/hr		
pH	12.5	
SpG	1.395	
Water	74.13	%
Chemical Analysis		
Al	1.11	M
OH	2.18	M
NO2	1.59	M
NO3	3.4	M
Radiological Analysis		
GEA 60 Co	5.62E+02	uCi/gal
GEA 134 Cs	8.44E+03	uCi/gal
GEA 137 Cs	1.67E+06	uCi/gal
GEA 154 Eu	9.39E+02	uCi/gal
Sr-89,90	4.66E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
September 19, 1975		
SAMPLE T-7627 Received: September 2, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Light brown; No solids; 500 mrad/hr		
pH	12.0	
SpG	1.1716	
Water	79.37	%
Chemical Analysis		
Al	0.278	M
OH	0.488	M
NO2	0.556	M
NO3	1.4	M
Radiological Analysis		
GEA 60 Co	4.08E+02	uCi/gal
GEA 134 Cs	2.33E+03	uCi/gal
GEA 137 Cs	4.61E+05	uCi/gal
Sr-89,90	1.84E+04	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
October 20, 1975		
Sample T-7703 Received: September 3, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Brown; No solids; 1200 mrad/hr		
pH	12.2	
SpG	1.3308	
Water	42.38	%
Chemical Analysis		
OH	1.79	M
Al	0.958	M
Na	7.79	M
NO2	1.82	M
NO3	2.96	M
SO4	cancelled	
PO4	2.92E-02	M
Cl	0.11	M
F	2.02E-03	M
CO3	0.463	M
Radiological Analysis		
Pu	3.03E-04	g/gal
GEA 60 Co	6.64E+02	uCi/gal
GEA 134 Cs	9.69E+03	uCi/gal
GEA 137 Cs	1.47E+06	uCi/gal
Sr-89,90	4.01E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
March 16, 1976		
SAMPLE T-7748 Received: September 8, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; ~1% solids; 1.5 mRads/hr		
pH	13.2	
SpG	1.2748	
Water	68.08	%
Chemical Analysis		
OH	1.21	M
Al	0.565	M
Na	5.21	M
NO2	1.27	M
NO3	2.76	M
PO4	4.85E-02	M
Cl	8.63E-02	M
F	3.54E-03	M
CO3	0.0138	M
Radiological Analysis		
Pu	1.51E-04	g/gal
GEA 60 Co	1.55E+03	uCi/gal
GEA 125 Sb	3.56E+03	uCi/gal
GEA 134 Cs	5.84E+03	uCi/gal
GEA 137 Cs	1.08E+06	uCi/gal
Sr-89,90	2.44E+04	uCi/gal

Waste Tank 102-S		
Analysis of Tank Farm Samples		
September 19, 1975		
Sample: T-4963		
Physical Data		
Vis-OTR: Black; Solids unknown; 2 rad/hr		
pH	10.0	
SpG	1.4 @ 100*C	
Water	50.44	%
Chemical Analysis		
Al	1.07	M
OH	2.34	M
NO2	1.82	M
NO3	2.98	M
CO3	0.258	M
Radiological Analysis		
GEA 60 Co	2.85E+03	uCi/gal
GEA 125 Sb	9.26E+03	uCi/gal
GEA 134 Cs	1.67E+04	uCi/gal
GEA 137 Cs	3.43E+06	uCi/gal
GEA 154 Eu	4.10E+03	uCi/gal
Sr-89,90	1.02E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
October 20, 1975		
SAMPLE T-8350 Received: September 29, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; No solids; 1200 mrad/hr		
pH	12.2	
SpG	1.346	
Water	77.24	%
Chemical Analysis		
OH	1.66	M
Al	1.02	M
NO2	1.41	M
NO3	2.66	M
Radiological Analysis		
GEA 125 Sb	1.87E+04	uCi/gal
GEA 134 Cs	7.53E+03	uCi/gal
GEA 137 Cs	1.39E+06	uCi/gal
Sr-89,90	6.85E+03	uCi/gal

Waste Tank 102-S		
Aanlysis of Tank Farm Samples		
October 20, 1975		
Sample T-8446 Received: September 30, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; No solids; 1 rad		
pH	13.0	
SpG	1.398	
Chemical Analysis		
Al	1.09	M
OH	1.94	M
NO2	1.79	M
NO3	2.92	M
Radiological Analysis		
GEA 134 Cs	7.95E+03	uCi/gal
GEA 137 Cs	1.64E+06	uCi/gal
Sr-89,90	3.38E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
December 3, 1975		
SAMPLE T-8634 Received: October 7, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Green; 10% solids; 1500 mrad/hr		
pH	12.7	
SpG	1.190 @ 59*C	
Water	76.82	%
Chemical Analysis		
OH	0.97	M
Al	0.444	M
Na	7.6	M
NO2	0.596	M
NO3	1.99	M
SO4	Cancelled	
PO4	9.08E-02	M
Cl	5.04E-02	M
F	9.72E-05	M
CO3	0.115	M
Radiological Analysis		
Pu	2.42E-04	g/gal
GEA 134 Cs	2.70E+03	uCi/gal
GEA 137 Cs	7.06E+05	uCi/gal
Sr-89,90	1.35E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
January 8, 1976		
SAMPLE T-8706 (Received, October 10, 1975)		
COMPONENT	LAB UNIT	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; 3 phase; 2 rad		
pH	13.3	
SpG	1.38 @ 72*C	
Water	56.12	%
Chemical Analysis		
OH	1.7	M
Al	0.923	M
NO2	3.48	M
NO3	4.29	M
Radiological Analysis		
GEA 134 Cs	5.02E+03	uCi/gal
GEA 137 Cs	1.25E+06	uCi/gal
Sr-89,90	2.41E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
January 19, 1976		
SAMPLE T-8864 Received, October 15, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellow; 80% solids; 1600 mrad/hr		
pH	13.2	
SpG	1.436	
Water	46.82	%
Chemical Analysis		
OH	2.62	M
Al	1.4	M
NO2	1.47	M
NO3	4.91	M
CO3	0.38	M
Radiological Analysis		
GEA 134 Cs	1.09E+04	uCi/gal
GEA 137 Cs	2.00E+06	uCi/gal
GEA 125 Sb	6.85E+03	uCi/gal
Sr-89,90	4.25E+05	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
November 6, 1975		
SAMPLE T-9049 Received: October 21, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Brown; >75% solids; 1800 mrad/hr		
pH	13.7	
SpG	1.480 @ 61*C	
Water	65.00	%
Chemical Analysis		
OH	3.02	M
Al	1.64	M
NO2	2.58	M
NO3	4.4	M
Radiological Analysis		
GEA 134 Cs	1.36E+04	uCi/gal
GEA 137 Cs	3.19E+06	uCi/gal
Sr-89,90	5.56E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
February 12, 1976		
SAMPLE T-9394 Received: November 3, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; No solids; 700 mrad/hr		
pH	12.8	
SpG	1.326	
Water	58.62	%
Chemical Analysis		
OH	1.57	M
Al	0.823	M
Na	7.5	M
NO2	1.77	M
NO3	2.92	M
PO4	1.77E-02	M
Cl	9.04E-02	M
F	4.19E-05	M
CO3	0.468	M
Radiological Analysis		
Pu	1.17E-04	g/gal
GEA 134 Cs	5.62E+03	uCi/gal
GEA 137 Cs	1.44E+06	uCi/gal
Sr-89,90	3.53E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
November 21, 1975		
SAMPLE T-9515 Received: November 5, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; Suspended solids; 1500 mrad/hr		
pH	13.5	
SpG	1.410 @ 52*C	
Water	54.80	%
Chemical Analysis		
OH	2	M
Al	1.06	M
NO2	5.14	M
NO3	6.44	M
Radiological Analysis		
GEA 134 Cs	6.40E+03	uCi/gal
GEA 137 Cs	1.82E+06	uCi/gal
Sr-89,90	3.64E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
November 18, 1975		
SAMPLE T-9697 Received: November 11, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; Suspended solids; 700 mrad/hr		
pH	14.0	
SpG	1.420 @ 50.5*C	
Water	50.34	%
Chemical Analysis		
OH	2.42	M
Al	1.17	M
NO2	5.44	M
NO3	7.64	M
NH4	1.70E-02	M
CO3	0.181	M
Radiological Analysis		
GEA 134 Cs	7.18E+03	uCi/gal
GEA 137 Cs	2.01E+06	uCi/gal
GEA 103 RuRh	<3.64E+03	uCi/gal
Sr-89,90	9.92E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
January 21, 1976		
SAMPLE T-9952 Received: November 19, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; Suspended solids; 1700 mrad/hr		
pH	13.5	
SpG	1.290 @ 61*C	
Water	68.4	%
Chemical Analysis		
OH	1.2	M
Al	0.55	M
NO2	2.2	M
NO3	3.44	M
Cu	<1.73E-04	M
Pb	1.69E-04	M
Hg	7.24E-04	M
Radiological Analysis		
GEA 134 Cs	4.63E+03	uCi/gal
GEA 137 Cs	9.69E+05	uCi/gal
Sr-89,90	2.57E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
December 3, 1975		
SAMPLE T-37	Received: November 21, 1975	
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Greenish brown; No OTR		
pH	13.6	
SpG	1.28 @ 57*C	
Water	65.84	%
Chemical Analysis		
OH	1.59	M
Al	0.626	M
NO2	1.68	M
NO3	2.6	M
NH4	1.40E-02	M
Radiological Analysis		
GEA 134 Cs	3.63E+03	uCi/gal
GEA 137 Cs	1.04E+06	uCi/gal
GEA 103 Ru	<1.56E+04	uCi/gal
Sr-89,90	2.58E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
December 3, 1975		
SAMPLE T-119 Received: November 24, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown, cruddy; 2300 mrad/hr		
pH	11.4	
SpG	1.44 @ 26*C	
Water	48.22	%
Chemical Analysis		
OH	2.2	M
Al	1.13	M
NO2	2.72	M
NO3	5.1	M
NH4	4.46E-02	M
Radiological Analysis		
GEA 134 Cs	7.64E+03	uCi/gal
GEA 137 Cs	1.85E+06	uCi/gal
GEA 103 Ru	<2.77E+04	uCi/gal
Sr-89,90	4.20E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
December 11, 1975		
SAMPLE T-378 Received: December 5, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; ~25% Suspended solids; 1200 mrad/hr		
pH	13.5	
SpG	1.390 @ 52*C	
Water	53.74	%
Chemical Analysis		
OH	1.66	M
Al	0.99	M
NO2	2	M
NO3	4.4	M
Radiological Analysis		
GEA 134 Cs	7.34E+03	uCi/gal
GEA 137 Cs	1.42E+06	uCi/gal
Sr-89,90	3.27E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
December 15, 1975		
SAMPLE T-506 Received: December 9, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark green; ~25% solids; 600 mrad/hr		
pH	11.7	
SpG	1.430 @ 58*C	
Water	49.23	%
Chemical Analysis		
OH	1.8	M
Al	0.914	M
NO2	2.22	M
NO3	4.44	M
Radiological Analysis		
GEA 134 Cs	1.02E+04	uCi/gal
GEA 137 Cs	1.74E+06	uCi/gal
Sr-89,90	3.41E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
March 16, 1976		
SAMPLE T-1018 Received: December 28, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark brown; Suspended solids; 1.5 Rad/hr		
pH	13.0	
SpG	1.4 @ 55*C	
Water	50.12	%
Chemical Analysis		
OH	2.22	M
Al	1.54	M
Na	11.34	M
Cu	8.18E-05	M
Pb	3.02E-04	M
Hg	2.46E-03	M
NO2	2.06	M
NO3	4.88	M
PO4	6.78E-02	M
SO4	9.30E-02	M
Cl	0.157	M
F	1.50E-03	M
CO3	0.43	M
Radiological Analysis		
Pu	4.84E-06	g/gal
GEA 134 Cs	9.22E+03	uCi/gal
GEA 137 Cs	2.16E+06	uCi/gal
Sr-89,90	3.49E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
January 19, 1976		
SAMPLE T-1193 Received, January 5, 1976		
Physical Data		
Vis-OTR: Dark brown; Suspended solids; 1800 mrad/hr		
pH	13.7	
SpG	1.40 @ 67*C	
Water	50.32	%
Chemical Analysis		
OH	2.06	M
Al	1.21	M
NO2	2.26	M
NO3	4.94	M
Radiological Analysis		
GEA 134 Cs	8.80E+03	uCi/gal
GEA 137 Cs	1.91E+06	uCi/gal
Sr-89,90	2.99E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
January 15, 1976		
Received, January 7, 1976		
Sample T-1330		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark green; Suspended solids; 1800 mrad/hr		
pH	14.0	
SpG	1.38 @ 59*C	
Water	59.48	%
Chemical Analysis		
OH	1.53	M
Al	0.982	M
NO2	1.7	M
NO3	4.3	M
Radiological Analysis		
GEA 134 Cs	5.84E+03	uCi/gal
GEA 137 Cs	1.42E+06	uCi/gal
Sr-89,90	7.03E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
February 13, 1976		
SAMPLE T-1683 Received: January 20, 1976		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Dark green; Suspended solids; 2 rad		
pH	13.0	
SpG	1.39 @ 60*C	
Water	54.86	%
Chemical Analysis		
OH	1.33	M
Al	0.978	M
Na	8.1	M
NO2	1.75	M
NO3	3.9	M
PO4	1.04E-01	M
Cl	0.154	M
F	2.42E-03	M
CO3	0.442	M
Cu	<9.6E-05	M
Hg	2.22E-03	M
Pb	2.32E-04	M
Radiological Analysis		
Pu	5.22E-04	gm/gal
GEA 134 Cs	6.32E+03	uCi/gal
GEA 137 Cs	1.56E+06	uCi/gal
Sr-89,90	2.32E+04	uCi/gal

Waste Tank 102-S		
ANALYSIS OF TANK FARM SAMPLES		
April 27, 1976		
SAMPLE T-2395 (Received, February 17, 1976)		
Physical Data		
Vis-OTR: Dark brown; No solids; 1500 mrad/hr		
pH	13.2	
SpG	1.250	
Water	66.58	%
Chemical Analysis		
OH	0.773	M
Al	0.453	M
Na	5.03	M
Cu	1.51E-04	M
Pb	5.17E-04	M
Hg	8.04E-04	M
NO2	0.531	M
NO3	2.42	M
PO4	4.70E-02	M
SO4	Unable to run	
Cl	6.02E-02	M
F	9.38E-03	M
CO3	0.238	M
Radiological Analysis		
Pu	3.33E-03	g/gal
GEA 60 Co	2.36E+03	uCi/gal
GEA 144 Ce	1.86E+04	uCi/gal
GEA 155 Eu	1.46E+04	uCi/gal
GEA 134 Cs	2.77E+03	uCi/gal
GEA 137 Cs	8.19E+05	uCi/gal
Sr-89,90	1.97E+05	uCi/gal

Waste Tank 102-S			
CUSTOMER WASTE ANALYSIS			
April 5, 1979			
COMPONENT	LAB VALUE	LAB VALUE (RERUN)	LAB UNIT
Physical Data			
Notes: Light green color, ~10% settled solids, solids dissolved at 60*C			
Density	1.257		
TOC	10.60	13	gm/L
Water	61.74		%
Chemical Analysis			
NO3 (-)	2.04	1.65	M
NO2 (-)	1.55		M
SO4 (2-)	0.27		M
PO4 (3-)	0.12		M
Al (3+)	IS**	0.51	M
OH (-)	IS	0.49	M
CO3 (2-)	0.62	0.56	M
Radiological Analysis			
Cs-137	2.63E+05		uCi/l
Cs-134	4.07E+02		uCi/l
Co-60	4.17E+02		uCi/l
* Total Organic Carbon			
** Insufficient Sample			

Waste Tank 102-S		
COMPOSITION OF TANK 102-S WASTE LIQUOR SAMPLES		
March 28, 1980		
SAMPLE T-8101		
COMPONENT	MOLARITY	WT. PERCENT
Physical Data		
TOC	- - -	- - -
SpG	1.4018	
Chemical Analysis		
NaAlO2	1.77*	10.35
NaOH	4.04*	11.53
NaNO3	2.19	13.28
NaNO2	2.64	12.99
Na3PO4*12H2O	0.0502	1.36
Na2SO4	0.0042	0.04
Na2CO3*H2O	0.137	1.21
H2O	48.25	48.25
TOTAL		99.01
Radiological Analysis		
Pu (g/L)	8.23E-06	- - -
U (g/L)	3.23E-04	- - -
*These values are rerun averages.		
Initial values were: Al = 0.930 M		
OH- = 4.87 M		

Waste Tank 103-S		
Characterization of S-103 Waste Tank		
September 21, 1971		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
SpGr	1.279	
TAD	1.86	
Chemical Analysis		
CO3	0.02	
NO3	4.8	
NO2	0.086	
AL	0.28	
Na	8.57	
Radiological Analysis		
137 Cs	104	uCi/ml

Waste Tank S-103		
242-S Feed Sample		
December 7, 1973		
Sample: T-9490 Received: October 5, 1973		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Clear, yellow, 600 mR		
pH	11	
SpG	1.3517	
Chemical Analysis		
OH	1.96	M
Al	1.22	M
Na	8.68	M
NO2	0.852	M
NO3	4.36	M
SO4	8.78E-03	M
PO4	<3.77E-04	M
F	2.07E-03	M
CO3	0.042	M
Radiological Analysis		
Pu	4.93E-07	g/l
GEA: 137 Cs	1.61E+05	uCi/l
89,90 Sr	11.24	uCi/l

Waste Tank S-103		
242 S Feed Samples		
January 21, 1974		
Sample: T-736		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR	Clear, yellow, 200 mRad/hr.	
pH	11.8	
SpG	1.0742	
Water	86.59	%
Chemical Analysis		
OH	0.523	M
Al	0.122	M
Na	1.89	M
NO2	0.067	M
NO3	1.31	M
SO4	6.12E-03	M
PO4	<3.77E-04	M
F	5.26E-04	M
CO3	0.011	M
Radiological Analysis		
Pu	9.51E-07	g/l
GEA: 137 Cs	8.42E+04	uCi/l
89,90 Sr	Not Requested	

Waste Tank S-103		
Analysis of Tank Farm Sample		
December 6, 1974		
Sample: T-8009		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR	Clear, yellow, no solids. 1000 mRad/hr.	
pH	<14.5	
SpG	1.235	
Water	77.55	%
Chemical Analysis		
OH	1.18	M
Al	0.471	M
Na	3.84	M
NO2	0.579	M
NO3	1.43	M
SO4	1.21E-02	M
PO4	3.44E-02	M
F	4.27E-03	M
CO3	6.73E-02	M
Radiological Analysis		
Pu	<6.21E-06	gm/gal
GEA 134 Cs	2.88E+03	uCi/gal
GEA 137 Cs	6.74E+05	uCi/gal
GEA 106 RuRh	1.21E+05	uCi/gal
89,90 Sr	9.08E+02	uCi/gal

Waste Tank 104-S		
Analysis of Tank Farm Samples		
August 12, 1974		
SAMPLE #: T-4184		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
VIS-OTR: Yellow, 10% Solids. 100 mrad/hr		
pH	>12.6	
SpG	1.4456	
H2O	56.14	%
Chemical Analysis		
OH	2.23	M
Al	0.485	M
Na	13.82	M
NO2	1.10	M
NO3	5.07	M
SO4	2.78E-02	M
PO4	1.08E-04	M
F	7.53E-03	M
CO3	7.55E-02	M
Radiological Analysis		
Pu	<_2.41E-01	g/l
137Cs	5.98E+05	uCi/gal

Waste Tank 104-S		
Analysis of Tank S-104 Sludge		
February 24, 1976		
Received: January 9, 1976		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
The consistency of the sample was like a stiff dough or putty with a tendency to be sticky, being grayish in color		
Bulk Density	1.21	g/cc
Particle Density	2.45	g/cc
H2O	30.3	%
Chemical Analysis		
Al	3.2	moles/L
Fe	0.06	moles/L
Si	0.3	moles/L
NO3	13.2	moles/L
Mg	0.01	moles/L
Mn	0.02	moles/L
PO4	<0.01	moles/L
Ca	0.09	moles/L
Ba	<0.09	moles/L
Radiological Analysis		
Pu	4.46E-03	g/l
89+90Sr	0.38	Ci/L
89+90Sr	2.55E-03	watts/L
137 Cs	0.11	Ci/L
137 Cs	5.23E-04	watts/L

Waste Tank S-105		
Characterization of S-105 Waste Tank		
September 21, 1971		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
SpGr	1.272	
TAD	2.02	
Chemical Analysis		
CO3	0.064	
NO3	3.15	
NO2	0.137	
Al	0.2	
Na	5.86	
Radiological Analysis		
137 Cs	- -	uCi/ml

Waste Tank S-105		
242-S-Feed Sample		
December 7, 1973		
Sample: T-9491 Received: October 5, 1973		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Clear, yellow, 450 mR		
pH	11.6	
SpG	1.25	
Chemical Analysis		
OH	1.24	M
Al	0.211	M
Na	9.56	M
NO2	0.112	M
NO3	4.46	M
SO4	1.13E-02	M
PO4	<3.77E-04	M
F	2.12E-03	M
CO3	0.034	M
Radiological Analysis		
Pu	6.34E-07	g/l
GEA: 137 Cs	8.64E+04	uCi/l

Waste Tank S-105		
242-S-Feed Sample		
January 21, 1974		
Sample: T-737		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Clear, yellow, 10% crystal, 1,200 mR/hr		
pH	11.5	
SpG	1.4833	
H2O	48.9	%
Chemical Analysis		
OH	2.83	M
Al	0.578	M
Na	9.14	M
NO2	0.37	M
NO3	6.24	M
SO4	2.65E-02	M
PO4	<7.84E-04	M
F	6.03E-03	M
CO3	0.037	M
Radiological Analysis		
Pu	2.98E-06	g/l
GEA: 137 Cs	2.02E+05	uCi/l

Waste Tank S-105		
Analysis of Liquids from Tank S-105		
March 13, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Solid	15.8	Wt%
Liquid	84.2	Wt%
Density	1.46	
H2O	51.8	%
Chemical Analysis		
NaAlO2	1.69	M
NaAlO2	9.5	%
NaNO2	0.99	M
NaNO2	4.7	%
NaNO3	1.95	M
NaNO3	11.3	%
NaOH	6.46	M
NaOH	17.7	%
Na2CO3	0.073	M
Na2CO3	0.5	%
Na2SO4	0.021	M
Na2SO4	0.2	%
Na3PO4	0.029	M
Na3PO4	0.3	%
Total	96	%
Radiological Analysis		
137 Cs	0.097	uCi/l

Waste Tank S-105		
Analysis of Solid from Tank S-105		
March 13, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
H2O	13.1	%
Chemical Analysis		
NaAlO2	1.8	%
NaNO2	1.1	%
NaNO3	78.6	%
NaOH	3.6	%
Na2CO3	0	%
Na2SO4	0	%
Na3PO4	0	%
Total	98.2	%
Radiological Analysis		
137 Cs	56.3	uCi/g

Waste Tank S-105		
Salt Cake Sample		
August 21, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical data		
Vis-OTR	Coarse yellow crystals, very dry in appearance.	
As Received Density	1.26	
Wet Density	1.78	
NPH Density	2.52	
Chemical Analysis		
H2O	3.4	%
NaAlO2	1.34E-03	M
NaAlO2	0.11	%
NaNO2	3.73E-03	M
NaNO2	0.26	%
NaOH	1.26E-02	M
NaOH	0.5	%
Na2CO3	2.36E-02	M
Na2CO3	2.54	%
NaNO3	1.16	M
NaNO3	100.3	%
Total	107.1	%
Radiological Analysis		
137 Cs	8.76E+02	uCi/l
137 Cs	8.9	uCi/g
125 Sb	2.2	uCi/l
125 Sb	0.02	uCi/g

Waste Tank S-105			
Solidified Salt Wastes			
September 5, 1974			
Date Sampled: March 1974			
COMPONENT	LAB VALUE		LAB UNIT
	Solid	Liquid	
Physical Data			
Density		1.462	
Chemical Analysis			
H2O	13.1	51.8	
NaAlO2	1.8	9.5	
NaNO2	1.1	4.7	
NaNO3	78.6	11.3	
NaOH	3.6	17.7	
Na2CO3		0.5	
Radiological Analysis			
137 Cs	56.3	9.70E+04	uCi/g

Waste Tank S-105		
Solidified Salt Wastes		
September 5, 1974		
Date Sample:July 26, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Bulb Density	1.261	
Particle Density	2.521	
Chemical Analysis		
H2O	3.4	%
NaAlO2	0.1	%
NaNO2	0.3	%
NaNO3	100.3	%
NaOH	0.5	%
Na2CO3	2.5	%
Radiological Analysis		
137 Cs	8.9	uCi/g

Waste Tank S-105		
Recent Supernatant Liquor Analyses		
August 27, 1974		
Sample Date: September 3, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Density	1.462	
Heat Generation	0.05	
Chemical Analysis		
NaAlO2	51.8	
NaNO3	9.5	
NaNO2	4.7	
NaOH	11.3	
Na3PO4	17.7	
Na2CO3	0.5	
Radiological Analysis		
137 Cs	0.1	Ci/L

WASTE TANK S-106		
Characterization Analyses of Waste Tanks		
September 21,1971		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
SpG	1.268	
TAD	1.88	M
Chemical Analysis		
CO3	0.011	M
NO3	4.4	M
NO2	0.166	M
Al	0.17	M
Na	5.07	M
Radiological Analysis		
137 Cs	87.9	uCi/ml

WASTE TANK S-106		
Analysis of 106-S Salt		
September 21,1971		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Bulk Density	1.27	g/cc
H20	4.2	%
Chemical Analysis		
NaAlO2	0.6	%
NaNO2	<0.1	%
NaNO3	90.1	%
NaOH	1	%
Na2CO3	4.1	%
Na3PO4	- -	%
TOTAL	100	%
Radiological Analysis		
137 Cs	17.2	uCi/g
89+90 Sr	- -	uCi/g

WASTE TANK S-106		
Analysis of 106-S Mother Liquor		
September 21,1971		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Density	1.429	g/cc
H20	55	%
Chemical Analysis		
NaAlO2	1.56	M
NaAlO2	8.9	%
NaNO2	0.66	M
NaNO2	3.2	%
NaNO3	2.49	M
NaNO3	14.8	%
NaOH	5.33	M
NaOH	14.9	%
Na2CO3	0.01	M
Na2CO3	1.0	%
TOTAL	97.8	%
Radiological Analysis		
137 Cs	3.39E+05	uCi/l

Waste Tank 106-S		
242-S FEED SAMPLES T-9492		
December 7, 1973		
Received: October 5,1973		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-TOR : Clear, yellow, 400 mR		
SpG	1.2262	
pH	11.6	
Chemical Analysis		
Na	8.32	M
SO4	1.10E-02	M
Al	0.195	M
NO2	0.165	M
F	1.79E-03	M
CO3	0.074	M
OH	1.28	M
NO3	4.16	M
PO4	<3.77E-04	M
Radiological Analysis		
GEA 137 Cs	7.98E+04	uCi/L
89+90 Sr	1.05E+00	uCi/L
Pu	1.74E-06	g/l

Waste Tank 106-S		
242-S Feed Samples		
January 21, 1974		
Sample: T-738		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR : Clear, yellow, 10% Solids, 500 mRAD/Hr.@2"		
pH	10.7	
SpG	1.49125	
H2O	49.6	%
Chemical Analysis		
Na	10.94	M
SO4	1.51E-02	M
Al	0.758	M
NO2	0.296	M
F	2.55E-03	M
CO3	0.037	M
OH	2.86	M
NO3	5.66	M
PO4	<7.87E-04	M
Pu	4.28E-06	g/l
Radiological Analysis		
GEA 137 Cs	2.17E+05	uCi/L
89+90 Sr	Not Requested	uCi/L

Waste Tank 106-S		
ANALYSIS OF 106-S TANK SOLIDS		
August 21, 1974		
Physical Data		
The sample has large yellow crystals at the top and coarse crystals at the bottom.		
Densities of Solids		
As Received Density	1.27	
Wet Density	1.80	
NPH Density	2.28	
Dry Density	0.635	
Chemical Analysis		
NaAlO2	9.61E-03	M
NaAlO2	0.6	%
NaNO2	5.49E-03	M
NaNO2	0.05	%
NaNO3	1.36	M
NaNO3	90.1	%
NaOH	3.26E-02	M
NaOH	1.0	%
Na2CO3	5.00E-02	M
Na2CO3	4.1	%
H2O	4.2	%
	100.05	%
Radiological Analysis		
GEA 137 Cs	2.21E+03	uCi/l
GEA 137 Cs	17.2	uCi/g

Waste Tank 106-S		
ANALYSIS OF 106-S TANK SUPERNATANT		
August 21, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Density	1.429	
Chemical Analysis		
NaAlO2	1.56	M
NaAlO2	8.9	%
NaOH	5.33	M
NaOH	14.9	%
NaNO2	0.656	M
NaNO2	3.2	%
Na2CO3	1.36E-02	M
Na2CO3	1.0	%
NaNO3	2.49	M
NaNO3	14.8	%
H2O	55.0	%
Total	98.0	%
Radiological Analysis		
GEA 137 Cs	3.39E+01	uCi/l
GEA 134 Cs	9.11E+01	uCi/l

Waste Tank 106-S		
ANALYSIS OF TANK FARM SAMPLES		
October 14, 1974		
SAMPLE: T -5469		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR : Clear, light green. No solids. 20 mRad/hr		
SpG	1.0004	
Water	81.21	%
pH	11.42	-
Chemical Analysis		
OH	3.00E-02	M
Al	1.36E-03	M
Na	0.107	M
NO2	2.61E-03	M
NO3	1.85E-02	M
SO4	8.79E-04	M
PO4	4.05E-04	M
F	3.71E-04	M
CO3	7.73E-03	M
Pu	<4.43E-06	gm/gal
Radiological Analysis		
GEA 137 Cs	8.78E+03	uCi/gal

Waste Tank 106-S		
ANALYSIS OF TANK FARM SAMPLES		
December 16, 1974		
SAMPLE: T-8035		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-ORT : Clear yellow, 50% solids. 2 Rads.		
pH	14	-
SpG	1.5414	
Water	46.62	%
Chemical Analysis		
OH	5.20	M
Al	1.45	M
Na	14.20	M
NO2	1.02	M
NO3	2.90	M
SO4	Cancelled by R. L. Walser	
PO4	5.10E-02	M
F	7.49E-04	M
CO3	0.145	-
K	2.77E-02	M
Pu	1.90E-05	g/gal
Radiological Analysis		
GEA 137 Cs	1.44E+06	uCi/gal
GEA 134 Cs	3.94E+02	uCi/gal
89,90 Sr	78.80	uCi/gal

Waste Tank 106-S		
Analysis of 106-S Tank Solids		
July 23, 1975		
Received: June 4, 1975		
Physical Data		
The salt solids were very fine and the salt crystals were yellow		
Bulk Density	1.59	g/cc
H2O	29.1	%
Chemical Analysis		
NaAlO2	4.7	%
NaOH	6.2	%
NaNO2	4.5	%
NaNO3	39.5	%
Na2CO3	10.1	%
Na3PO4	2.4	%
Al2O3	0.1	%
FeOOH	0.2	%
Total Wt% Recovery	96.80	%
Pu	2.71E-05	g/g
Radiological Analysis		
137 Cs	200	uCi/g
89+90 Sr	0.69	uCi/g

Waste Tank 106-S		
Analysis of 106-S Supernatant liquid		
July 23, 1975		
Received: June 4, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Density	1.45	
H2O	50.0	%
Chemical Analysis		
NaNO2	1.78	M
NaNO2	8.5	%
NaAlO2	1.85	M
NaAlO2	10.5	%
NaNO3	2.42	M
NaNO3	14.2	%
NaOH	4.44	M
NaOH	12.2	%
Na2CO3	0.27	M
Na2CO3	1.9	%
Na3PO4	0.028	M
Na3PO4	0.3	%
Total Wt% Recovery	98.3	%
Pu	1.17E-06	g/l
Radiological Analysis		
137 Cs	5.29E+05	uCi/L
89+90 Sr	1.22E+03	uCi/L
134 Cs	2.02E+03	uCi/L

Waste Tank 107-S		
107-S Tank Analyses		
November 27, 1973		
Sample Date: November 6, 1973		
Sample Number: 178		
COMPONENT	LAB VALUE	LAB UNIT
Chemical Analysis		
Bi (3+)	0.005	M
Na+	3.36	M
AlO2-	0.087	M
OH-	0.186	M
NO3-	1.47	M
NO2-	0.03	M
CO3 (2-)	0.095	M
SO4 (2-)	0.03	M
F-	0.01	M
PO4 (3-)	0.384	M
239 Pu	8.10E-05	gm/gal
Radiological Analysis		
89-90 Sr	7.5	uCi/gal
137 Cs	1.00E+05	uCi/gal
134 Cs	8.20E+01	uCi/gal
60 Co	2.50E-02	uCi/gal

Waste Tank 107-S		
107-S Tank Analyses		
November 27, 1973		
Sample Date: November 17, 1973		
Sample Number: 476		
COMPONENT	LAB VALUE	LAB UNIT
Chemical Analysis		
Bi (3+)	<0.005	M
Na+	3.39	M
AlO2-	0.091	M
OH-	0.292	M
NO3-	1.73	M
NO2-	0.024	M
CO3 (2-)	0.099	M
SO4 (2-)	0.022	M
F-	0.01	M
PO4 (3)	0.53	M
239 Pu	1.07E-06	gm/gal
Radiological Analysis		
89-90 Sr	4.40E+01	uCi/gal
137 Cs	8.60E+04	uCi/gal
134 Cs	1.50E+02	uCi/gal
60 Co	1.90E+02	uCi/gal

Waste Tank S-107		
242-S-Feed Samples (Supernate)T-178		
December 7, 1973		
Date Sample: November 6, 1973		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellow, 50% crystals, 180 mR/hr		
pH	12.2	
SpG	1.1071	
Chemical Analysis		
Na	2.55	M
SO4	2.96E-02	M
Al	0.105	M
NO2	2.70E-02	M
Fe	2.26E-04	M
CO3	9.40E-02	M
OH	0.186	M
NO3	1.72	M
Pu	1.43E-05	g/l
Radiological Analysis		
GEA: 137	3.11E+04	uCi/l
GEA: 134 Cs	31.86	uCi/l
GEA: 60 Co	37.97	uCi/l
89+90 Sr	6.156	uCi/l

Waste Tank S-107		
242-S-Feed Samples (Total Sample) D-4111		
Sample # T-178		
December 7, 1973		
Date Sample: November 6, 1973		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
SpG	1.1398	
Chemical Analysis		
Na	3.36	M
SO4	2.98E-02	M
Al	8.71E-02	M
NO2	3.00E-02	M
F	9.92E-03	M
CO3	9.50E-02	M
NO3	1.47	M
Pu	2.14E-05	g/l
Radiological Analysis		
GEA: 137	2.61E+04	uCi/l
GEA: 134 Cs	21.66	uCi/l
GEA: 60 Co	65.44	uCi/l
89+90 Sr	1.98	uCi/l

Waste Tank 107-S		
242-S Feed Sample T-476		
December 7, 1973		
Received: November 16, 1973		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellow crystals, 75% solids, 100 mR/hr		
pH	11.9@40*C	
SpG	1.1592	
Chemical Analysis		
Na	3.39	M
SO4	2.18E-02	M
Al	9.07E-02	M
NO2	0.024	M
F	1.03E-02	M
CO3	0.099 R.R. 0.090	M
Cl	Method being developed	M
OH	0.292	M
NO3	1.73	M
PO4	0.53	M
Bi	<4.98E-03	M
Pu	2.82E-05	g/l
Radiological Analysis		
GEA: 134 Cs	40.58	uCi/l
GEA: 137 Cs	2.28E+04	uCi/l
GEA: 60 Co	50.05	uCi/l

Waste Tank S-107		
Analysis of Tank Farm Samples		
December 17, 1974		
Sample: T-8078		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellow, No solids, 150 mRad/hr		
pH	14	
SpG	1.201	
H2O	76.65	%
Chemical Analysis		
OH	101	M
Al	0.297	M
Na	3.72	M
NO2	0.323	M
NO3	1.82	M
SO4	3.14E-02	M
PO4	0.106	M
F	8.36E-03	M
CO3	0.168	M
Pu	1.78E-05	g/gal
Radiological Analysis		
GEA: 134 Cs	3.35E+03	uCi/gal
GEA: 137 Cs	4.81E+05	uCi/gal
GEA: 125 Sb	1.34E+02	uCi/gal
GEA: 60 Co	54.54	uCi/gal
89,90 Sr	6.253E+03	uCi/gal

Waste Tank S-107		
Analysis of Sludge from Tank 107-S		
February 14, 1975		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
The sludge sample was an a mixture composed primarily of grayish-brown large granular crystals		
Wet Density	1.48	
Dry Density	0.78	
H2O	47.3	
Chemical Analysis		
Al	0.753	moles/l
NO2	0.013	moles/l
NO3	6.59	moles/l
PO4	2.63	moles/l
Fe	0.41	moles/l
Pu	7.20E-02	g/l
Radiological Analysis		
89+90 Sr	4.84E+04	Ci/l
137 Cs	4.19E+04	Ci/l

Waste Tank S-107			
107-S Analyses			
July 10, 1978			
	Feed	Concentrate*	
COMPONENT	LAB VALUE		LAB UNIT
Chemical Analysis			
Al	1.59	2.74	M
OH	1.52	2.6	M
NO2	2.58	2.35	M
NO3	3.36	2.92	M
CO3	0.19	0.18	M
TOC		22	g/l
Radiological Analysis			
89+90 Sr	8.19E+03	7.15E+03	uCi/l
* 35% Reduction			

Waste Tank S-107		
Tank S-107 Analysis		
September 7, 1978		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
H2O	53.7	%
Density	1.208	gm/ml
Chemical Analysis		
PO4	0.04	M
CO3	0.24	M
NO3	2	M
NO2	1.9	M
Na	7.46	M
OH-	1.18	M
Al	1.06	M
TOC	11.8	M
Radiological Analysis		
137 Cs	2.26E+05	uCi/l

Waste Tank S-107		
107-S Salt Well Sample 4251		
October 16, 1979		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
SpG	1.525	
H2O	52	%
Chemical Analysis		
Na	10.4	M
Al	1.206	M
OH-	4.02	M
CO3	0.15	M
PO4	0.035	M
NO3	2.62	M
NO2	2.02	M
SO4	9.00E-04	M
TOC	4.0	gm/l
Radiological Analysis		
137 Cs	4.12E+05	uCi/l

Waste Tank S-107				
Composition of Tank 107-S Waste				
September 22, 1980				
	One Foot Above Sludge		One Foot Below Surface	
COMPONENT	MOLARITY	WT%	MOLARITY	WT%
Physical Data				
SpG	1.431		1.108	
H2O		41.65		55.94
Chemical Analysis				
Al	1.212	6.95	0.924	6.84
OH	2.058	5.75	1.521	5.49
NO2	2.043	9.85	1.311	8.16
NO3	3.27	19.42	2.454	18.83
PO4	0.1116	1.28	0.077	1.14
CO3	0.276	2.04	0.285	2.73
TOC	9.0	1.87	8.28	2.22
Total		88.81		101.35

WASTE TANK S-108		
Characterization Analyses of Waste Tanks		
September 24, 1965		
Received: March 15, 1965		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
pH	12	
Liquid	7.51E+05	gal
Sludge	1.10E+04	gal
Sp. Gr.	1.296	g/cc
Chemical Analysis		
Free NaOH	1.53	N
CO3(2-)	41	g/l
AlO2	4.7	g/l
Cl-	3.14	g/l
Na+	158	g/l
NO3-	284	g/l
CN -	>100	ppm
Radiological Analysis		
Zr-Nb 95	N.D.	uC/l
Ru-Rh 106	N.D.	uC/l
Sb-125	N.D.	uC/l
Cs-134	N.D.	uC/l
Cs-137	9.80E+04	uC/l

WASTE TANK S-108		
Characterization Analyses of Waste Tanks		
September 21, 1971		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Sp. Gr.	1.291	g/cc
TAD	2.16	M
Chemical Analysis		
CO3	0.25	M
NO3	3.61	M
NO2	0.108	M
Al	0.3	M
Na	6.54	M

WASTE TANK S-108		
242-S Feed Samples		
December 7, 1973		
Received: October 5, 1973		
Sample: T-9493		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Clear, Yellow, 420 mR		
pH	11.5	
Sp. Gr.	1.2455	
Chemical Analysis		
Na	8.14	M
SO4	8.28 E-03	M
Al	0.224	M
NO2	0.127	M
F	2.55 E-03	M
CO3	0.129	M
OH	1.43	M
NO3	4.46	M
PO4	< 3.77E-04	M
Radiological Analysis		
Pu	7.63E-07	g/L
GEA : Cs-137	8.76E+04	uCi/L
Sr-89,90	1.22	uCi/L

WASTE TANK S-108		
Analysis of Supernatant Liquids		
July 8, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Density	1.513	
Chemical Analysis		
H2O	60.1	%
NaAlO2	1.55	M
NaAlO2	8.4	%
NaNO2	1.94	M
NaNO2	8.8	%
NaNO3	2.6	M
NaNO3	14.6	%
NaOH	5.08	M
NaOH	13.4	%
Total	105.3	%
Radiological Analysis		
Cs-137	4.58E+05	uCi/l

WASTE TANK S-108			
Analysis of Solid Phase			
July 8, 1974			
Sample taken: June 25, 1974			
COMPONENT	LAB VALUE (TOP)	LAB VALUE (BOTTOM)	LAB UNIT
Physical Data			
Damp Density	1.495	1.393	
Dry Density	1.136	1.222	
H2O	24.0	11.5	%
Chemical Analysis			
NaAlO2	5.4	1.8	%
NaNO2	4.6	1.9	%
NaNO3		68.1	%
NaOH	6.3	3.6	%
NaCO3		6.5	%
Fe2O3	2.0		%
Al2O3	<0.3		%
Radiological Analysis			
Pu-239	1.87 E-08	1.60 E-08	g/g
Sr-89,90	3.15 E-04	0.684	uCi/g
Cs-137	1.74 E-02	4.4	uCi/g
Cs-134		0.4	uCi/g
Sb-125	0.46		uCi/g
Ru-106, Rh-106	3.95E+03		uCi/g

Waste Tank 109-S		
242-Feed Sample		
December 18, 1973		
Received: October 5, 1973		
Sample : T-9494		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR:	Clear, yellow, 350 mR	
SpG	1.249	
H2O	66.34	%
pH	11.5	
Chemical Analysis		
OH	1.81	M
Al	0.174	M
Na	5.46	M
NO2	0.158	M
NO3	4.35	M
SO4	9.80E-03	M
PO4	<3.77E-04	M
F	2.26E-03	M
CO3	0.024	M
Radiological Analysis		
Pu	2.29E-06	g/l
GEA: 137 Cs	8.44E+04	uCi/l
89,90 Sr	1.712	uCi/l

Waste Tank S-109		
Analyses of Salt Samples		
September 3, 1974		
Received: August 19, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Bulk Density	1.1	g/cc
H2O	9.2	%
Chemical Analysis		
NaAlO2	1.1	%
NaNO2	<0.1	%
NaNO3	86.1	%
NaOH	2.3	%
Na2CO3	2.7	%
Total	101.4	%
Radiological Analysis		
Cs 137	56	uCi/L
89+90 Sr	2.08	uCi/L

Waste Tank S-109		
Analysis of Tank Farm Samples		
September 16, 1974		
Sample: T-4544		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR	Yellow, 35% solids, 1500 mRad/hr	
pH	>13.1	
SpG	1.7607	
H2O	44.14	%
Chemical Analysis		
OH	5.57	M
Al	1.19	M
Na	10.45	M
NO2	1.76	M
NO3	4.82	M
SO4	2.76E-02	M
PO4	0.146	M
F	1.88E-02	M
CO3	0.146	M
Radiological Analysis		
Pu	9.56E-06	g/l
GEA: Cs-134	6.32E+03	uCi/gal
GEA: Cs-137	1.88E+06	uCi/gal

Waste Tank S-109		
Analysis of Tank Farm Sample		
November 19, 1974		
Sample: T-8121		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR	Green, 25% solids, 450 mRad/hr	
pH	14	
SpG	1.6717	
Chemical Analysis		
OH	5.07	M
K	5.44E-02	M
Radiological Analysis		
Cs-134	1.64E+04	uCi/l
Cs-137	2.86E+06	uCi/l

Waste Tank S-109		
Analysis of Tank S-109		
December 8, 1976		
Received: October 29, 1976		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Yellowish, coarse granular crystals		
Bulk Density	1.27	g/cc
Particle Density	2.38	g/cc
H2O	10.6	%
Chemical Analysis		
AlO2	1.3	%
CO3	4.2	%
Fe	0.3	%
OH	0.3	%
NO2	1.4	%
NO3	53.5	%
Mn	0.003	%
Mg	0.02	%
Ca	0.08	%
Cr	0.1	%
Si	0.1	%
Na	35	%
PO4	0.01	%
SO4	0.9	%
Radiological Analysis		
Pu	0.654	ug/g
Cs-137	71.8	uCi/g
89,90 Sr	14.6	uCi/g

Waste Tank S-110		
Characterization Analyses of Waste Tanks*		
September 21, 1971		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Sp. Gr	1.269	
Chemical Analysis		
CO3	0.12	M
NO3	3.4	M
NO2	0.084	M
TAD	1.93	M
Al	0.3	M
Na	6.5	M
Radiological Analysis		
137-Cs	66	uCi/ml
* Ran in laboratory vacuum evaporator		

Waste Tank S-110		
Analysis of Tank S-110 Sludge Sample		
September 25, 1974		
Received: August 9, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
The top layer was dark brown color and represented about 10 volume percent of the total sample		
Wet Density	1.7	
Dry Density	1.09	
H2O	45	%
Chemical Analysis		
Al	8.02	moles/l
Fe	0.28	moles/l
Radiological Analysis		
Pu	1.04E-02	g/l
Cs-137	1.86E+05	uCi/l
89,90 Sr	5.95E+05	uCi/l

Waste Tank S-110		
Analysis of Tank S-110 Sludge Sample		
September 25, 1974		
Received: August 9, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
The bottoms layer was gray in color, with hard large white chunks throughout the sample and represented about 90 volume percent of the sample		
Wet Density	1.53	
Dry Density	0.841	
H2O	45	%
Chemical Analysis		
Al	12.1	moles/l
Fe	0.24	moles/l
Radiological Analysis		
Pu	1.54E-02	g/l
Cs-137	9.45E+04	uC/l
89,90 Sr	1.09E+06	uC/l

Waste Tank S-110		
Analysis of Tank Farm Samples		
December 17, 1974		
Sample: T-8042		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR	Dark Green, 50% solids, 3.5 Rads supernate	
pH	14	
SpG	1.536	
Water	45.37	%
Chemical Analysis		
OH	3.19	M
Al	1.48	M
Na	11.82	M
NO2	1.65	M
NO3	3.72	M
SO4	Cancelled by R.L.Walser	
PO4	6.36E-02	M
F	3.95E-03	M
CO3	0.203	M
Pu	2.18E-05	g/gal
Radiological Analysis		
GEA: 134 Cs	1.08E+04	uCi/gal
GEA: 137 Cs	2.00E+06	uCi/gal
89,90 Sr	2.57E+03	uCi/gal

Waste Tank 110-S		
Analysis of Tank S-110 Sludge Sample		
January 7, 1975		
Received: October 22, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Radiological Analysis		
Pu	6.29E-04	g/l
Cs-137	8.10E+05	uCi/L
Cs-134	4.57E+03	uCi/l
89,90 Sr	5.43E+05	uCi/l

Waste Tank S-110			
Analysis of Salt from Tank 110-S			
June 20, 1975			
Received: April 23, 1975			
COMPONENT	LAB VALUE (SALT)	LAB VALUE (SALT FUSION)	LAB UNIT
Physical Data			
The salt was yellow			
Bulk Density	1.9		
Parcticle Density	1.73		
Chemical Analysis			
H2O		19.3	Wt%
NaOH	0.115	3.2	Wt%
NaNO2	6.39E-02	3.1	Wt%
NaNO3	0.805	57.8	Wt%
NaAlO2	4.27E-02	2.5	Wt%
Na2CO3	6.82E-02	2.9	Wt%
Na2PO4	2.76E-02	<3.2	Wt%
Fe	1.44E-03	0.2	Wt%
Al	3.08E-02	1.8	Wt%
Mn	6.80E-04	0.05	Wt%
Si	2.00E-03	0.15	Wt%
Na	2.51E-02	1.6	Wt%
Cr	6.58E-04	0.1	Wt%
Total Wt% Recovery		96	Wt%
Radiological Analysis			
Pu	9.11E-09		g/g
Cs-137	108.8		uCi/g
89,90 Sr	81.1		uCi/g

Waste Tank 111-S		
Characterization Analyses of Waste Tanks		
September 21,1971		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
SpG	1.219	
TAD	1.92	M
Chemical Analysis		
CO3	0.025	M
NO3	3.40	M
NO2	0.30	M
Al	0.49	M
Na	8.40	M
Radiological Analysis		
137 Cs	51.6	uCi/ml

Waste Tank 111-S		
Analysis of 111-S Sludge		
May 29,1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
The sample was gray in color		
Damp Density	1.348	g/cc
Dry Density	1.21	g/cc
Chemical Analysis		
H2O	9.46	%
NaAlO2	0.22	%
NaOH	1.22	%
NaNO2	0.09	%
NaNO3	3.38	%
Na2CO3	1.01	%
Na2SO4	0.02	%
Na3PO4	0.03	%
Fe2O3	0.14	%
Al2O3	59.76	%
SiO2	0.48	%
Radiological Analysis		
89+90 Sr	2.87	uCi/g
137 Cs	7.29	uCi/g
239 Pu	<0.2	ug/g

Waste Tank 111-S		
Analysis of 111-S Sludge		
August 21.1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
The 111-S salts are grayish in color		
Wet Density	1.704	
Dry Density	0.497	
Chemical Analysis		
H2O	18.4	%
NaAlO2	2.31E-02	M
NaAlO2	2.3	%
NaNO2	3.21E-02	M
NaNO2	2.7	%
NaNO3	0.679	M
NaNO3	69.9	%
Na2CO3	8.45E-02	M
Na2CO3	10.8	%
NaOH	0.137	M
NaOH	6.6	%
Total	110.7	%
Radiological Analysis		
89+90 Sr	6.22E+02	uCi/l
GEA 137 Cs	7.92E+03	uCi/l
89+90 Sr	7.54	uCi/g
137 Cs	96	uCi/g

Waste Tank 111-S		
Analysis of 111-S Sludge		
August 21,1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Density	1.414	
Chemical Analysis		
H2O	54.40	%
NaAlO2	1.34	M
NaAlO3	7.80	%
NaNO2	1.65	M
NaNO3	8.10	%
NaOH	3.80	M
NaOH	10.70	%
NaNO3	2.90	M
NaNO4	17.40	%
Total	98.40	%
Radiological Analysis		
GEA 137 Cs	4.47E+05	uCi/l
GEA 134 Cs	3.04E+03	uCi/l

Waste Tank 111-S		
Analysis of Tank Farm Samples		
December 16, 1974		
Sample: T-8141		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellowish green. 100% solids. 500 mRad/hr		
pH	>13.4	
SpG	1.7953	
Water	34.29	%
Chemical Analysis		
OH	5.16	M
Al	1.34	M
Na	23.84	M
NO2	2.761	M
NO3	4.91	M
SO4	Cancelled by R. L. Walser	
PO4	4.52E-02	M
F	5.10E-03	M
CO3	0.293	M
Radiological Analysis		
Pu	3.44E-05	gm/gal
GEA 134 Cs	1.13E+04	uCi/gal
GEA 137 Cs	2.93E+06	uCi/gal
GEA 60 Co	7.12E+02	uCi/gal
89,90 Sr	2.33E+06	uCi/gal

Waste Tank 111-S		
Analysis of Tank 111-S Salt		
February 28, 1977		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
The sample were damp, fine crystals, being dark green in color		
Bulk Density	1.41	g/cc
Particle Density	1.5	g/cc
Chemical Analysis		
H2O	37.6	%
Al	2.6	%
CO3	8.5	%
OH	0.4	%
Fe	0.1	%
NO2	2.3	%
NO3	34.0	%
Cr	0.5	%
Si	0.02	%
Na	21.0	%
PO4	0.08	%
SO4	0.3	%
Material Balance	107.4	%
Radiological Analysis		
Pu	1.10E-07	uCi/g
89+90 Sr	13.0	uCi/g
137 Cs	129.0	uCi/g

Waste Tank 111-S			
Chemical and Physical Analysis (content & percent) for Tank 111-S			
August 25, 1978			
Sample #1001-C			
	WATER SOLUBLE	ACID (KOH FUSION)	
COMPONENT	LAB VALUE	LAB VALUE	LAB UNIT
Physical Data			
The salt were yellowish green in color, with variable crystal sizes.			
Bulk Density	1.27		
Particle Density	1.34		
Percent Water	10.7		
Chemical Analysis			
Al	0.6	0.06	%
Cl	0.1		%
Cd	<0.0002	0.003	%
Fe		0.02	%
F	0.02		%
CO3	5.0		%
OH	1.0		%
Hg	0.004		%
Na	26.2		%
NO2	0.9		%
NO3	51.4	<0.3	%
PO4	0.3	0.20	%
SO4	1.5	<0.5	%
CrO4	0.5		%
SiO2	0.03	1.3	%
Total Organic Carbon	1.29		g/l
Material Balance	99.8		%
Radiological Analysis			
U		2.47E-05	g/g
239 Pu	3.60E-10	6.42E-08	g/g
241 Am	1.02E-10		g/g
89+90 Sr	1.03	14.3	uCi/g
137 Cs	72.1	0.3	uCi/g
134 Cs	0.1		uCi/g
106 Ru		0.608	uCi/g
60 Co		0.056	uCi/g
125 Sb		0.007	uCi/g
154 Eu		0.150	uCi/g
155 Eu		0.307	uCi/g

Waste Tank 111-S			
Chemical and Physical Analysis (content & percent) for Tank 111-S			
August 25, 1978			
Sample #1003-C and 1004-C			
	WATER SOLUBLE	ACID (KOH FUSION)	
COMPONENT	LAB VALUE	LAB VALUE	LAB UNIT
Physical Data			
Bulk Density	1.86		g/cc
Particle Density	2.09		g/cc
Percent Water	17.4		%
Chemical Analysis			
Al	1.3	0.09	%
Cl	0.005		%
Bi	0.001		%
Cd	<0.0003		%
Fe	0.0006	0.03	%
F	0.03		%
CO3	5.0		%
OH	1.8		%
Hg	0.03		%
K	0.06		%
Mn	0.009		%
Na	23.0		%
NO2	3.0		%
NO3	53.0	0.3	%
PO4	1.3	0.20	%
SO4	2.7	<0.4	%
CrO4	0.8		%
SiO2	0.06	1.3	%
Total Organic Carbon	2.38		M
Material Balance	108.4		%
Radiological Analysis			
U		2.83E-05	g/g
239 Pu	2.12E-08	9.82E-08	g/g
241 Am	4.03E-11	2.03E-09	g/g
89+90 Sr	1.20	15.2	uCi/g
137 Cs	180.0	2.4	uCi/g
134 Cs			uCi/g
155 Eu		0.26	uCi/g

Waste Tank 111-S			
Chemical and Physical Analysis (Content & Percent) for Tank 111-S			
August 25, 1978			
Sample #1009-C			
	WATER SOLUBLE	ACID (KOH FUSION)	
COMPONENT	LAB VALUE	LAB VALUE	LAB UNIT
Physical Data			
Bulk Density	1.44		g/cc
Particle Density	1.56		g/cc
Percent Water	18.1		%
Chemical Analysis			
Al	1.0	1.60	%
Cl	0.005		%
Bi	<0.04		%
Cd	0.0005		%
Fe	0.001	0.06	%
CO3	12.0		%
OH	0.6		%
Hg	0.03		%
K	0.05		%
Mn	<0.001		%
Na	28.4		%
NO2	2.1		%
NO3	40.6	0.08	%
PO4	1.2	0.02	%
SO4	3.0	0.04	%
CrO4	0.6		%
SiO2	0.01	0.2	%
Total Organic Carbon	2.80		M
Material Balance	110.0		%
Radiological Analysis			
U		3.51E-06	g/g
239 Pu	4.25E-09	1.68E-07	g/g
241 Am	4.23E-11	8.10E-10	g/g
89+90 Sr	1.71	17.3	uCi/g
137 Cs	109.0	0.6	uCi/g
106 Ru	1.16		uCi/g

Waste Tank 111-S		
Analysis Supernatant Tank 111-S		
August 25, 1978		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Density	1.5	g/cc
% H2O	46	%
Chemical Analysis		
NaAlO2	1.5	M
NaAlO2	8.0	%
Ca	1.94E-04	M
Ca	0.0004	%
Cd	1.54E-04	M
Cd	0.001	%
Hg	1.41E-03	M
Hg	0.02	%
K	6.38E-02	M
K	0.2	%
Mn	9.28E-05	M
Mn	0.0003	%
Fe	1.85E-03	M
Fe	0.02	%
Na2CO3	8.20E-02	M
Na2CO3	0.4	%
NaOH	3.68	M
NaOH	9.8	%
Na	11.00	M
Na	16.9	%
NaNO2	1.820	M
NaNO2	8.3	%
NaNO3	1.950	M
NaNO3	11.0	%
Na2SO4	3.18E-02	M
Na2SO4	0.3	%
NaPO4	8.74E-02	M
NaPO4	1.0	%
SiO2	8.02E-03	M
SiO2	0.04	%
TOC*	6.0	g/L
Radiological Analysis		
239 Pu	1.08E-05	g/l
89+90 Sr	2.04E+04	uCi/l
137 Cs	6.82E+05	uCi/l
134 Cs	9.82E+02	uCi/l
*TOC = Total Organic Carbon		

Waste Tank 111-S		
Analysis Supernatant Tank 111-S		
August 25, 1978		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Density	1.46	g/cc
% H2O	44.6	%
Chemical Analysis		
NaAlO2	1.88	M
NaAlO2	10.60	%
Ca	3.70E-04	M
Ca	0.001	%
Cd	1.62E-04	M
Cd	0.001	%
Hg	1.53E-03	M
Hg	0.02	%
K	4.21E-02	M
K	0.1	%
Mn	1.13E-04	M
Mn	0.0004	%
Fe	<6.0E-04	M
Fe	<0.004	%
Na2CO3	0.21	M
Na2CO3	1.5	%
NaOH	3.77	M
NaOH	10.33	%
Na	9.6	M
Na	15.11	%
NaNO2	1.74	M
NaNO2	8.20	%
NaNO3	0.75	M
NaNO3	4.40	%
Na3PO4	3.46E-02	M
Na3PO4	0.4	%
Na2SO4	0.011	M
Na2SO4	0.1	%
SiO2	4.58E-03	M
SiO2	0.02	%
Pb	3.44E-04	M
Pb	0.005	%
TOC*	6.2	g/l
Radiological Analysis		
Pu	8.95E-06	g/l
89+90 Sr	2.51E+03	uCi/l
137 Cs	4.68E+05	uCi/l
*TOC = Total Organic Carbon		

Waste Tank 112-S		
Characterization of S Waste Tanks		
September 21, 1971		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
SpG	1.262	
Chemical Analysis		
CO3	0.073	M
NO3	3.5	M
NO2	0.17	M
Al	0.4	M
Na	5.87	M
Radiological Analysis		
137 Cs	57.9	uCi/ml

Waste Tank 112-S		
242-S Feed Sample		
January 7, 1974		
Sample: T-181		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR Clear, yellow, no solids 200 mR		
pH	12.2	
SpG	1.1739	
Water	66.74	%
Chemical Analysis		
Na	4.95	M
SO4	1.60E-02	M
Al	0.348	M
NO2	0.118	M
Fe	<9.65E-05	M
CO3	0.014	M
OH	1.26	M
NO3	2.83	M
PO4	<3.77E-04	M
F	2.95E-03	M
Pu	2.46E-06	g/l
Radiological Analysis		
GEA 137 Cs	5.83E+04	uCi/ml
90 Sr	16.15	uCi/l

Waste Tank 112-S			
Analysis of 112-S Supernatant Liquids			
July 8, 1974			
Received: May 10-11, 1974			
COMPONENT	LAB VALUE	LAB VALUE	LAB UNIT
Physical Data			
Density	1.501		
H2O		58.3	%
Chemical Analysis			
NaAlO2	1.19 M	6.5	%
NaNO2	2.02 M	9.3	%
NaNO3	2.5 M*	14.2	%
NaOH	5.72 M	15.2	%
Total		103.5	%
Radiological Analysis			
137 Cs	1.14E+05		uCi/l
*The analyzed nitrate value was unexplainable high by a factor of 2, fo the result shown here is an estimated value rather than an analyzed value.			

Waste Tank 112-S		
Analysis of Tank Farm Samples		
December 9, 1974		
Sample T-8122		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Vis-OTR: Yellowish green,50% solids. 110 mRad/hr		
pH	13.7	
SpG	1.5909	
Chemical Analysis		
OH	4.54	M
CO3	0.293	M
Radiological Analysis		
GEA 134 Cs	8.29E+03	uCi/gal
GEA 137 Cs	1.75E+06	uCi/gal

Waste Tank 112-S		
Analysis of Salt from 112-S		
December 10, 1974		
COMPONENT	LAB VALUE	LAB UNIT
Physical Data		
Bulk Density	1.304	g/cc
Particle Density	1.918	g/cc
Chemical Analysis		
H2O	15.8	%
NaAlO2	2.5	%
Al2O3	0.1	%
NaNO2	3.1	%
NaNO3	58.7	%
NaOH	4.4	%
Na2CO3	14.6	%
Na3PO4	0.8	%
Total	100	%
Radiological Analysis		
137 Cs	10.1	uCi/g
89 90 Sr	0.67	uCi/g
239 Pu	<1.00E-08	g/g

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Atlantic Richfield Hanford Company

00347

S101.1

Date: September 21, 1971

To: J. O. Skoorud

From: D. A. Puryear

Subject: CHARACTERIZATION OF S, U, AND SX WASTE TANKS

Sampling and analyses of S, U and SX waste tanks to identify feed material for the 242-S vacuum evaporator is progressing. To date three one liter samples from the S Farm tanks have been processed through the laboratory vacuum evaporator. In addition ten S Farm tanks and six U Farm tanks have been sampled and submitted for characterization analyses. The results are shown in the following table.

Characterization Analyses of Waste Tanks

Tk.No.	SpGr	Visc. 50 °C	CO_3	NO_3	NO_2	TAD	Al	Na	^{137}Cs µCi/ml
101-S	1.412	2.23	.011	3.32	.642	3.62	1.41	9.01	155
102-S	1.317	1.12	.064	5.92	.126	2.15	.24	8.48	124
103-S	1.279	.95	.020	4.80	.086	1.86	.28	8.57	104
105-S	1.272	1.05	.064	3.15	.137	2.02	.20	5.86	---
106-S	1.268	.94	.011	4.40	.166	1.88	.17	5.07	87.9
108-S	1.291	1.10	.25	3.61	.108	2.16	.30	6.54	---
109-S	1.272	1.00	.04	3.06	.096	1.88	.211	4.52	---
110-S*	1.269	1.15	.12	3.4	.084	1.93	.30	6.50	66.0
111-S*	1.219	.96	.025	3.4	.30	1.92	.49	8.40	51.6
112-S*	1.262	.92	.073	3.5	.17	1.98	.40	5.87	57.9
108-U	--	--	.036	---	.231	--	.25	4.59	---
111-U	--	--	.066	---	.097	--	.12	4.93	---
102-U									
103-U									
105-U									
106-U									

* Ran in laboratory vacuum evaporator.

The above analyses appear normal except sample 101-S. From the data and parameters gained in the three S tank sample evaporation runs, the results of 101-S appears to be similar in physical and chemical properties of a tank that has been 50 - 60 volume percent reduced. Of specific interest is the high amount of nitrate (0.64M) which may yield a clue in helping to establish the history of this tank.

J. O. Skolrud
Page 2
September 21, 1971

If there are any questions please call me on 2-7478.

DLP:dh

cc: GL Borsheim
JS Buckingham
ME Campbell
DJ Larkin
File
LB
Process Aids (5)

Date: December 20, 1974

5101.2

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8084 101-S Received 9/13/74

Vis-OTR: Milky yellow. No solids. 250 mRad/hr

pH: 14

SpG: 1.205

OH: 0.415 M

Al: 0.333 M

Na: 2.90 M

NO_2: 0.197 M

NO_3: 1.53 M

Pu: $< 4.43 \times 10^{-6}$ gm/gal

SO_4: 8.78×10^{-3} M

PO_4: 9.34×10^{-2} M

F: 3.55×10^{-3} M

CO_3: 0.111 M

GEA: ^{134}Cs - 2.18×10^{3} µCi/gal
^{137}Cs - 4.05×10^{5} µCi/gal

$^{89,90}Sr$: 4.09×10^{2} µCi/gal

Water: 81.90%

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

TCRC-4

Date: July 16, 1975

To: W. R. Christensen

From: J. E. Horton JE Horton

Subject: ANALYSIS AND CHARACTERIZATION OF SLUDGE FROM TANK 101-S

Chemical Technology Laboratory (CTL) received a sample of sludge from Tank 101-S on June 4, 1975. The sample had a consistency of soft mud and was dark brown in color.

The calculated heat generation rate for the 101-S sludge, based on $^{89+90}Sr$ and ^{137}Cs content, was 8.63×10^{-3} watts/liter sludge.

Sludge analyses were made by fusing 1.78 milliliters of "as received" sludge with KOH, dissolving the melt with concentrated HCl, and diluting to a volume of 350 milliliters with water. Analyses are shown in Table I.

Please call if you have any questions regarding this work.

JEH:ms

Att.

cc: H Babad
JS Buckingham
RG Geier
DC Lini
NC Rodewald
RE Van der Cook
WJ Van Slyke
RL Walser
JC Womack
Process Aids (7)
CTL-123
File (2)
LB

5101.3

TABLE I

ANALYSIS OF TANK 101-S ("as received")

Bulk Density	1.52		
Particle Density	1.91		
H_2O			37.4
Al	4.75	moles/ℓ	
Fe	0.08	moles/ℓ	
NO_2	<0.2	moles/ℓ	
NO_3	9.08	moles/ℓ	
PO_4	0.08	moles/ℓ	
Mg	0.05	moles/ℓ	
Mn	0.08	moles/ℓ	
Pu	5.97×10^{-3}	g/ℓ	
$^{89+90}Sr$	1.01×10^{6}	μCi/ℓ	7.21×10^{-3} watts/ℓ
^{137}Cs	2.95×10^{5}	μCi/ℓ	1.42×10^{-3} watts/ℓ

TC RC - S

Atlantic Richfield Hanford Company

Date: December 5, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R.E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-9715 Tank: 101-S S101.4
Received: November 19, 1975

Vis-OTR: Yellow, black Suspended solids 2 rad

pH: 13.6

SpG: 1.51 @ 64.5°C

OH: 3.60 M

Al: 1.82 M

CO_3: 0.318 M

NO_2: 2.22 M

NO_3: 4.68 M

GEA: ^{134}Cs - 8.21×10^{3} µCi/gal
^{137}Cs - 2.44×10^{6} µCi/gal
^{103}Ru - $<1.27 \times 10^{3}$ µCi/gal

NH_4: 1.94×10^{-2} M

Water: 42.82%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

54-6000-030 (10-68)

Atlantic Richfield Hanford Company

00347

Date: September 21, 1971

To: J. O. Skjarud

From: D. A. Puryear

Subject: CHARACTERIZATION OF S, U, AND SX WASTE TANKS

Sampling and analyses of S, U and SX waste tanks to identify feed material for the 242-S vacuum evaporator is progressing. To date three one liter samples from the S Farm tanks have been processed through the laboratory vacuum evaporator. In addition ten S Farm tanks and six U Farm tanks have been sampled and submitted for characterization analyses. The results are shown in the following table.

S.02.1

Characterization Analyses of Waste Tanks

Tk.No.	SpGr	Visc. 50 °C	CO_3	NO_3	NO_2	TAD	Al	Na	^{137}Cs µCi/ml
101-S	1.412	2.23	.011	3.32	.642	3.62	1.41	9.01	155
102-S	1.317	1.12	.064	5.92	.126	2.15	.24	8.48	124
103-S	1.279	.95	.020	4.80	.086	1.86	.28	8.57	104
105-S	1.272	1.05	.064	3.15	.137	2.02	.20	5.86	---
106-S	1.268	.94	.011	4.40	.166	1.88	.17	5.07	87.9
108-S	1.291	1.10	.25	3.61	.108	2.16	.30	6.54	---
109-S	1.272	1.00	.04	3.06	.096	1.88	.211	4.52	---
110-S*	1.269	1.15	.12	3.4	.084	1.93	.30	6.50	66.0
111-S*	1.219	.96	.025	3.4	.30	1.92	.49	8.40	51.6
112-S*	1.262	.92	.073	3.5	.17	1.98	.40	5.87	57.9
108-U	--	--	.096	---	.231	--	.25	4.59	---
111-U	--	--	.066	---	.097	--	.12	4.93	---
102-U									
103-U									
105-U									
106-U									

* Ran in laboratory vacuum evaporator.

The above analyses appear normal except sample 101-S. From the data and parameters gained in the three S tank sample evaporation runs, the results of 101-S appears to be similar in physical and chemical properties of a tank that has been 50 - 60 volume percent reduced. Of specific interest is the high amount of nitrate (0.64M) which may yield a clue in helping to establish the history of this tank.

J. O. Skolrud
Page 2
September 21, 1971

If there are any questions please call me on 2-7478.

DLP:dh

cc: GL Borsheim
JS Buckingham
ME Campbell
DJ Larkin
File
LB
Process Aids (5)

DTL

Atlantic Richfield Hanford Company

S-107

Date: November 27, 1973

To: G. L. Borsheim

From: D. A. Puryear

Subject: ANALYSIS AND IDENTIFICATION OF SOLIDS IN TK 107 AND 102-S

Reference: D. A. Puryear, Phosphate Solidification of Caustic Process Solution Waste, ARH-SA-120 May 1972.

Samples from Tank 107 and 102-S were referred to CTL for identification of solids which plugged a jumper line from Tank 107-S to 102-S. The temperature of the tanks are 90 °F and the samples were liquid when taken. However, the sample from TK 107-S was about 50 percent crystalline when received by CTL.

Analysis of the original sample from TK 107-S showed a phosphate molarity of 0.384 and a water content of 81 weight percent. From the reference above on phosphate solidification of waste, experience was gained that shows phosphates are only partially soluable in caustic solution because they form a solid solution of the formulas $7(Na_3PO_4 \cdot 12\ H_2O)NaOH$ or $5(Na_3PO_4 \cdot 12H_2O)NaOH$ at a sodium to phosphate mole ratio of 3.12 and 3.21 respectively. Tank 107-S has by analysis an available sodium to phosphate mole ratio of 4.36. The high percentage of water attributes to the crystals being in solution at 90 °F. Tests on solids formation as a function of cooling showed that crystallization began to occur at 89.6 °F and was near maximum solidification at 82.4 F.

Table I below shows the chemical analyses of tank 107 and 102-S. The first column is the original analysis of the analytical laboratory as designated in ARH-1601. The second column shows the analysis of the same sample after it was melted and diluted 1:1 with water. All answers have been calculated to the original sample. The third column is a resample of tank 107 taken on 11/16/73. Sample preparation of the resample in the laboratory was made as a 1:1 dilution after melting the sample.

G. L. Borsheim
Page 2
November 27, 1973

Table I

S102.2

Constituent	107-S 11-6 Supernatant Liquid	107-S 11-6 1:1 dil after Melting	107-S 11-16	102-S 11-5	102-S 11-16
Sp. Gr.	1.107	1.1398	1.1592	1.2297	1.2927
Na	2.55	3.36	3.39	5.09	7.18
Al	.105	.0871	.0907	.230	.367
NO_2	.027	.03	.024	.118	.088
NO_3	1.72	1.47	1.73	4.25	3.05
OH	.186			1.22	1.51
PO_4	NA	.384	.530	NA	.112
CO_3	.094	.095	.099	.019	.06
SO_4		.0298	.0218	.00988	.0116
F	.000226	.0099	.0103	.00154	.0051

Column four is the chemical composition of tank 102 prior to 242-S start-up and is really not related to the plugged line whereas column five is a sample of tank 102 after it received some transfer from tank 107 prior to the jumper line plug up.

All the results shown in Table 1 appear to be realistic. The important discrepancies can be explained. For example the specific gravity of column 1 appears light as does the sodium result. The lower specific gravity and sodium result is the result of analyzing the supernatant liquid. By melting the samples and obtaining a homogeneous solution the total of the sample is accounted for.

A plot of solids formation as a function of temperature is shown in Figure 1 for tank 107-S, 102-S and a 2:1 blend of 107-S with 102-S. Solidification begins at 32°, 18°, and 30°C respectively for the three solutions.

DAP:jf

cc: JS Buckingham
MH Campbell
WR Christensen
HH Hopkins
RL Walser

DJL

SAMPLE ANALYSES

TANKS 107-S AND 102-S

SIC2.3

Tank	107-S	107-S	102-S
Date Sampled	11/6/73	11/17/73	11/16/73
Sample Number	178	476	459
Specific Gravity	1.14	1.16	1.29
DTA	No Exotherm	No Exotherm	No Exotherm
Radioisotopes			
$^{89-90}Sr$ μCi/gal	7.5	4.4×10^{1}	4.3×10^{1}
^{137}Cs μCi/gal	1.0×10^{5}	8.6×10^{4}	4.0×10^{5}
^{134}Cs μCi/gal	8.2×10^{1}	1.5×10^{2}	2.8×10^{2}
^{60}Co μCi/gal	2.5×10^{2}	1.9×10^{2}	N.D.
^{239}Pu gm/gal	8.1×10^{-5}	10.7×10^{-5}	5.2×10^{-5}
Chemical			
Bi^{+++} M	0.005	0.005	0.005
Na^{+} M	3.36	3.39	7.18
AlO_2^{-} M	0.087	0.091	0.367
OH^{-} M	0.186	0.292	1.51
NO_3^{-} M	1.47	1.73	3.05
NO_2^{-} M	0.030	0.024	0.088
$CO_3^{=}$ M	0.095	0.099	0.06
$SO_4^{=}$ M	0.030	0.022	0.012
F^{-} M	0.010	0.010	0.005
Cl^{-} M			
$PO_4^{\equiv}$ M	0.384	0.53	0.112

FREEZING POINT DATA

Approximate Volume Percent Solids vs. Temperature - °C

107-S °F	107-S °C	107-S v/o Solids	2 Parts 107-S with 1 Part 102-S °C	2 Parts 107-S with 1 Part 102-S v/o Solids	102-S °C	102-S v/o Solids
89.6	32	Solids appear	28	7	18	Solids appear
86	30	25	26	15	16	~ 100%
82.4	28	50	24	17.5		
73.4	23	80	22	23		
			20	35		
			18	67		
			16	~100		

GLB
11/27/73

TCRL-5

3102.4

Date: December 7, 1973

To: R. L. Walser

From: W. H. Sant

Subject: 242-S FEED SAMPLE T-459 (11/16/73) 102-S

Vis-OT	Yellow, 27% solids, 100 mR/hour
pH	11.9 @ 40° C
SpG	1.2927
DTA	No Exotherm
Pu	1.63×10^{-5} g/l
Na	7.18 M R.R.7.63 M
SO_4	1.16×10^{-2} M
Al	0.367 M
NO_2	0.088 M
F	5.10×10^{-3} M
CO_3	0.060 M
Cl	Method being developed
OH	1.51 M
GEA	^{134}Cs - 72.88 μCi/l ^{137}Cs - 1.06×10^5 μCi/l
NO_3	3.05 M

30% Reduction 33.8% % Solids - 1.79%
50% Reduction 53.8% % Solids - 93.9%

$^{89\ 90}Sr$ - 11.31 μCi/l

PO_4	0.112 M
Bi	$<4.85 \times 10^{-3}$ M

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

Analyses of 107-S and 102-S samples show that the 107-S material was very close to its freezing point even while in TK-107-S. Specific gravity determinations indicate the 107-S material was less concentrated than the 242-S feed in 102-S and this is confirmed by the chemical analyses which show lesser concentrations of all major cations and anions with the exception of phosphate ion. The high phosphate ion in 107-S presumably originated in N Reactor flushes where phosphoric acid is one of the major decontaminating agents. The freezing point data for the two to one blend of 107-S to 102-S (the approximate volume ratio below the 242-S feed recirculation line in the "problem" riser) and the individual solution freezing point curves indicate that there was no reaction between the solutions that promoted solids formation.

High phosphate ion concentrations in caustic solutions are known to produce high freezing point trisodium orthophosphate hydrates - indeed, this is the basic chemical reaction for the phosphoric acid solidification prototype. The 107-S solution approached the stoichiometric ratio of phosphate ion to available sodium ion planned for the solidification flowsheet (1 to 3.2) and only the high percentage of water (approximately 81 weight percent v.s. approximately 50 weight percent for the solidification process) prevented 107-S from solidifying. The 107-S tank bulk temperature (ca. 91°F) was high enough to prevent freezing, although the solution was essentially saturated, as was the heat traced line from 107-S to 102-S. However, when the solution contacted the cold (50-60°F?) riser, crystallization probably began immediately.

TERC-6

Atlantic Richfield Hanford Company

S102.5

Date: December 18, 1973

To: R. L. Walser

From: W. H. Sant

Subject: 242-S FEED SAMPLES T-9488 (10/5/73) 102-S

Vis-OTR	Clear, yellow, no solids, 450 mR
pH	11.4
SpG	1.2297
DTA	No Exotherm
Pu	1.29×10^{-6} g/l / 1229 μ = 1.0×10^{-9}
Na	5.43 M
SO_4	9.88×10^{-3} M
Al	0.230 M
NO_2	0.118 M
F	1.54×10^{-3} M
CO_3	0.019 M
Cl	
OH	1.22 M
GEA	^{137}Cs - 9.86×10^{4} μCi/l
NO_3	4.25 M
30% Reduction - 31.25%	% Solids - 0.909%
50% Reduction - 50.0%	% Solids - 11.25%
$^{89\ 90}Sr$	1.99 μCi/l
PO_4	$<3.77 \times 10^{-4}$ M

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

(SIC 2.6)

Date: January 25, 1974

To: R. L. Walser

From: W. H. Sant

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T 1746 102-S

VIS-OTR	Clear, yellow	1,000 mRad/hr
Appearance	90% solids at room temperature	
pH	10.5	
SpG	1.4081	
GEA	^{137}Cs - 1.98×10^5 μCi/l	
% Water	59.39	
30% Reduction - 27.5	% Solids - 5.17	
50% Reduction - 51.25	% Solids - 88.46 *	

Cooling Curve	25° C	No solids for 45 minutes
	20° C	<10% solids for 45 minutes
	15° C	~30% solids for 45 minutes
	10° C	~90% solids for 60 minutes

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

54-6000-030 (10-68)

TC RC-7

5102.7

Date: February 11, 1974

To: R. L. Walser

From: W. H. Sant

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T 2164 102-S

VIS-OT	No solids, 400 mR/hr.
Appearance	Yellow, clear
pH	11.6
SpG	1.3030
GEA	^{134}Cs - 6.16×10^2 µCi/l ^{137}Cs - 1.62×10^5 µCi/l
% Water	60.24%

30% Reduction - 26.25 % Solids - 2.71
50% Reduction - 51.25 % Solids - 70.51

Cooling Curve -	Room temp.	No Solids
	10° C	No Solids
	5° C	No Solids

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

54-6000-030 (10-68)
AEC RL RICHLAND WASH

TC RC-8

S102.8

Date: February 22, 1974

To: R. L. Walser

From: W. H. Sant

Subject: ANALYSIS OF TANK FARM SAMPLES

Sample: T-2359 102-S

VIS-OT: Clear, Yellow 1000 mr/hr.

Appearance: No solids

pH: 11.8

SpG: 1.3868

GEA: ^{134}Cs - $3.8x \times 10^{2}$ µCi/l
^{137}Cs - 2.29×10^{5} µCi/l

% Water: 57.99

Cooling Curve: No solids at room temperature. 10°C for 45 min. no solids. 5°C for 60 min. no solids.

30% Reduction: 27.5 % solids - 19.83
50% Reduction: 50 % solids - 93.75

WHS:jd

cc: WR Christensen
GW Reddick Jr.
WH Sant

54-6000-030 (10-68)
AEC #1 RICHLAND WASH

TCRC-9

5.02.9

Date: February 25, 1974

To: R. L. Walser

From: W. H. Sant

Subject: ANALYSIS OF TANK FARM SAMPLES

Sample: T 2520 102-S

VIS-OT: Clear 300 mrad/hr.

Appear: Yellow No solids

SPG: 1.3315

30% Reduction - 27.5 % Solids - 3.96
50% Reduction - 51.25 % Solids -75.64

% Water: 64.38

Cooling curve: No solids at room temperature. 10°C for 45 min. no solids. 5°C for 60 min. no solids.

pH: 11.6

GEA: ^{134}Cs - 3.07×10^{2} µCi/l
^{137}Cs - 1.69×10^{5} µCi/l

WHS:jd

cc: WR Christensen
GW Reddick Jr.
WH Sant

54-6000-030 (10-68)
AEC RL RICHLAND WASH

T-RC-10

Atlantic Richfield Hanford Company

S102.1D

Date: March 7, 1974

To: R. L. Walser

From: W. H. Sant

Subject: ANALYSIS OF TANK FARM SAMPLES

Sample: T2759 102-S

Vis-OT: 200 mrads/hr.

Appearance: Yellow 85% solids at room temperature

pH: 10.9

SpG: 1.310 at 49°C

GEA: ^{134}Cs - 9.01×10^{2} µCi/gal
^{137}Cs - 4.81×10^{5} µCi/gal

Water: 62.77%

30% Reduction - 27.5 Solids - 2.76%
50% Reduction - 50.0 Solids - 71.25%

Cooling Curve: 85% solids at room temperature
50°C for 45 min. Trace of solids
45°C for 60 min. 2% solids
40°C for 45 min. 5% solids
35°C for 15 min. ~40% solids
30°C for 45 min. 100% solids

WHS:jd

cc: WR Christensen
GW Reddick, Jr.
WH Sant

54-6000-030 (10-68)
AEC RL RICHLAND WASH

TCRC-11

Sec 2.11

Date: March 25, 1974

To: R. L. Walser

From: R. E. Wheeler RE Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-3005 TANK 102-S

VIS-OTR: Clear, Yellow 100 mrad/hr.

pH: 12.1

SpG: 1.204

GEA: ^{134}Cs - 1.31×10^{3} µCi/gal
^{137}Cs - 4.62×10^{5} µCi/gal
$^{106}RuRh$ - 2.78×10^{5} µCi/gal

Water: 76.99%

Cooling Curve: ~1% solids at room temperature.
30°C Clear, no solids for 45 min.
20°C Clear, no solids for 45 min.
15°C Clear, no solids for 45 min.
10°C Clear, no solids for 45 min.
5°C Clear, no solids for 45 min.

30% Reduction - 27.5 Solids - 1.38%
50% Reduction-51.25 Solids - 23.59%

REW:jd

cc: LG Johnson (2)
RE Wheeler

54-6000-030 (10-68)
AEC RL RICHLAND WASH

TCRC-12

Sec 2.12

Date: March 25, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-3145 TANK 102-S

VIS-OTR: Yellow, clear 200 mrad/hr.

Appear: ~1% crystals on bottom

pH: 12.2

SpG: 1.3463

30% Reduction - 26.25 Solids - 2.88%
50% Reduction - 51.25 Solids - 91.02%

Water: 59.06%

Cooling Curve: 25°C - No solids.
20°C for 45 min. Trace of solids.
15°C for 45 min. 20% solids.
10°C for 45 min. 60% solids.
5°C for 60 min. 100% solids.

GEA: $^{137}_{60}Cs$ - 8.25×10^{5} μCi/gal
Co - 1.62×10 μCi/gal

REW:jd

cc: LG Johnson (2)
RE Wheeler

54-6000-030 (10-68)
AEC AL RICHLAND WASH

TCRC-15

(5182.13)

Date: April 17, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-3370 102-S

VIS-OTR: Clear, Yellow, 50% solids. 1,500 mrad/hr

pH: 10.8

DTA: No Exotherm

GEA: ^{134}Cs - 5.83×10^3 µCi/gal
^{137}Cs - 2.16×10^6 µCi/gal

SpG: 1.500

Water - 52.75%

Cooling Curve: 100% solids when cooling curve was started at room temperature.
35°C for 45 min. No solids.
30°C for 45 min. No solids.
25°C for 60 min. 60% solids.
20°C for 10 min. 100% solids.

REW:jd

cc: LG Johnson (2)
RE Wheeler

TCRC-13

S102.14

Date: May 13, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE T-3601 102-S

Vis-OTR: Yellow, 50% solids. 500 mrad/hr

pH: 12.4

SpG: 1.2839

OH: 4.52 M

Al: 0.620 M

NO_2: 0.690 M

Na: 6.66 M

NO_3: 2.51 M

Pu: 1.43×10^{-5} g/l

DTA: No Exotherm

SO_4: 5.32×10^{-2} M

PO_4: 3.87×10^{-2} M

F: 1.11×10^{-2} M

CO_3: 0.259 M

GEA: ^{134}Cs - 3.66×10^{3} μCi/gal
^{137}Cs - 9.58×10^{5} μCi/gal

30% Reduction - 26.25 Solids - 2.03%
50% Reduction - 51.25 Solids - 19.74%

Water: 58.31%

NH_4: 1.92×10^{-2} M

Cooling curve: 50% Solids at room temperature.
25°C for 45 min. Trace of Solids.
20°C for 45 min. 5% solids.
15°C for 45 min. 15% solids.
10°C for 45 min. 20° solids.
5°C for 45 min. 50% solids.

REW:jd

cc: LG Johnson (2)
RE Wheeler

TCRC-16

S102.15

Date: May 22, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-4372 102-S

Vis-OTR: Dark Amber. No solids at room temp. 700 mrad/hr

pH: 11.7

SpG: 1.400

GEA: ^{134}Cs - 4.31×10^3 µCi/gal
^{137}Cs - 1.18×10^6 µCi/gal
$^{106}RuRh$ - 4.01×10^5 µCi/gal

Water: 53.48%

30% Reduction - 31.25 Solids - 12.73
50% Reduction - 51.25 Solids - 89.74

Cooling Curve: 25° C for 45 min. No solids.
20° C for 45 min. No solids.
15° C for 60 min. Trace of Solids.
10° C for 45 min. 50% solids.
5° C for 45 min. 90% solids.

REW:jd

cc: LG Johnson (2)
RE Wheeler

TCRC-17

5102.16

Date: May 24, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-4103 102-S

Vis-OTR: Dark amber. No solids. 500 mrad/hr

pH: 12.3

SpG: 1.2704

GEA: ^{134}Cs - 6.09×10^3 µCi/gal
^{137}Cs - 7.87×10^5 µCi/gal
$^{106}RuRh$ - 5.64×10^5 µCi/gal

Water: 71.27%

30% Reduction - 28.75 Solids - 0.526%
50% Reduction - 51.25 Solids - 13.97%

Cooling Curve: 25°C for 45 min. No solids.
20°C for 45 min. No solids.
15°C for 45 min. No solids.
10°C for 60 min. No solids.
5°C for 45 min. No solids.

REW:jd

cc: LG Johnson (2)
RE Wheeler

TCRC-18

S102.17

Date: June 7, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-4652 102-S

Vis-OTR: Dark Amber. No solids. 280 mrad/hr

pH: 11.8

SpG: 1.4564

GEA: ^{134}Cs - 4.35×10^3 µCi/gal
^{137}Cs - 1.18×10^6 µCi/gal
$^{106}RuRh$ - 2.86×10^5 µCi/gal

Water: 55.29%

30% Reduction - 30 Solids - 22.14%
50% Reduction - 51.25 Solids - 68.97%

Cooling Curve:

35°C for 45 min.	No solids.
30°C for 45 min.	No solids.
25°C for 60 min.	About 2% salts.
20°C for 45 min.	About 2% salts.
15°C for 45 min.	About 2% salts.
10°C for 45 min.	About 2% salts.
5°C for 45 min.	About 2% salts.

REW:jd

cc: LG Johnson (2)
RE Wheeler

TCRC-19

5.02.18

Date: June 7, 1974

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE; T-5030 102-S

Vis-OTR: Amber. Trace of solids. 500 mrad/hr.

pH: 12.1

SpG: 1.3284

GEA: ^{134}Cs - 8.55×10^3 µCi/gal
^{137}Cs - 8.18×10^5 µCi/gal

Water: 59.32%

30% Reduction - 28.75 Solids - 1.75%
50% Reduction - 50.0 Solids - 18.25%

Cooling Curve: 25°C for 45 min. No solids.
20°C for 45 min. No solids.
15°C for 45 min. No solids.
10°C for 45 min. No solids.
5°C for 45 min. No solids.

< 1% solids setting over night.

REW:jd

cc: LG Johnson (2)
RE Wheeler

TCRC-14

102.

Date: June 17, 1974

To: R. L. Walser

ORIGINAL SIGNED BY

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-3770 102-S

Vis-OTR: Yellow, <1% solids. 375 mrad/hr

pH: 12.6

SpG: 1.315

OH: 2.78 M

Al: 0.671 M

Na: 6.92 M

NO_2: 0.958 M

NO_3: 2.56 M

Pu: 6.92×10^{-6} g/l

DTA: No exotherm

SO_4: 4.20×10^{-2} M

PO_4: 1.89×10^{-2} M

F: 5.36×10^{-3} M

CO_3: 0.176 M

GEA: ^{134}Cs - 7.68×10^{2} µCi/gal
^{137}Cs - 5.45×10^{5} µCi/gal
^{60}Co - 4.66×10^{2} µCi/gal
$^{106}RuRh$ - 3.85 × 10^{4} µCi/gal

Water: 55.20%

Cooling Curve: 20°C for 45 min. No solids.
15°C for 45 min. No solids.
10°C for 45 min. Trace of solids.
5°C for 30 min. ~3% solids or salts.

30% Reduction - 36.25 Solids - 2.03%
50% Reduction - 51.25 Solids - 15.00%

cc: LG Johnson
RE Wheeler

REW:jd

TCRC-25

S102.2D

Date: June 19, 1974

To: R. L. Walser
ORIGINAL SIGNED BY
From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-5468 102-S

Vis-OTR: Clear, yellow. ~5% solids. 1 rad at 4"

pH: 12.3

SpG: 1.2258

GEA: ^{134}Cs - 4.28×10^3 µCi/gal
^{137}Cs - 4.47×10^5 µCi/gal

Water: 91.45%

30% Reduction - 27.5 Solids - 0.172%
50% Reduction - 50 Solids - 1%

Cooling Curve: 20°C for 45 min. No solids.
15°C for 45 min. No solids.
10°C for 45 min. No solids.
5°C for 50 min. No solids.

REW:jd

cc: LG Johnson (2)
RE Wheeler

SICC.2#

Date: June 28, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-5232 102-S

Vis-OTR: Amber. No solids. 1.5 rad

pH: 11.6

SpG: 1.5027

GEA: ^{134}Cs - 6.09×10^3 µCi/gal
^{137}Cs - 1.60×10^6 µCi/gal
$^{106}RuRh$ - 3.50×10^5 µCi/gal

Water: 53%

30% Reduction - 27.5 Solids - 7.41%
50% Reduction - 50.0 Solids - 38.75%

Cooling Curve:
35°C for 60 min. No solids.
30°C for 45 min. No solids.
25°C for 45 min. No solids.
20°C for 45 min. About 10% solids.
15°C for 45 min. About 90% solids.
10°C for 60 min. About 90% solids.
5°C for 60 min. About 90% solids.

REW:jd

cc: LG Johnson (2)
RE Wheeler

TCRC-22

Atlantic Richfield Hanford Company

S102.22

Date: July 2, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: 5775 102-S

Vis-OTR: Dark brown, < 5% solids. 1500 mrad/hr

pH: 11.9

SpG: 1.045 ?

GEA: ^{134}Cs - 2.02×10^3 µCi/gal
^{137}Cs - 2.18×10^5 µCi/gal
$^{106}RuRh$ - 4.24×10^5 µCi/gal

Should have been good feed!

Water: 65.83%

30% Reduction: 27.5 Solids: 1.55%
50% Reduction: 50.0 Solids: 14.0%

Cooling Curve: 25°C for 45 min. No solids.
20°C for 45 min. No solids.
15°C for 60 min. No solids.
10°C for 45 min. No solids.
5°C for 45 min. No solids.

REW:jd

54-6000-030 (10-68)
AEC AL RICHLAND WASH

TCRC-23

S102.23

Date: July 3, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-5458 102-S

Vis-OTR: Green. < 5% solids. 1 rad

pH: 11.0

SpG: 1.4923

GEA: ^{134}Cs - 6.28×10^4 µCi/gal
^{137}Cs - 1.67×10^6 µCi/gal
$^{106}RuRh$ - 3.07×10^5 µCi/gal

Water: 48%

30% Reduction - 26.25 Solids - 4.24%
50% Reduction - 50.0 Solids - 92.5%

Cooling Curve:

55°C	for 45 min.	11% solids.
50°C	for 45 min.	13% solids.
45°C	for 45 min.	16% solids.
40°C	for 60 min.	17% solids.
35°C	for 60 min.	18% solids.
30°C	for 45 min.	22% solids.
25°C	for 45 min.	31% solids.
20°C	for 60 min.	32% solids.
15°C	for 90 min.	33% solids.
10°C	for 45 min.	38% solids.
5°C	for 60 min.	49% solids.

REW:jd

cc: LG Johnson (2)
RE Wheeler

TCRC-27

S102.24

Date: September 16, 1974

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-6006 102-S

Vis-OTR: Greenish brown. <5% solids, 1500 mrad/hr

pH: 13.2

SpG: 1.256

OH: 1.53 M

Al: 0.501 M

Na: 6.13 M

NO_2: 0.870 M

NO_3: 1.60 M

Pu: 2.93×10^{-5} gm/gal

DTA: No Exotherm

SO_4: 3.94×10^{-2} M

PO_4: 8.99×10^{-3} M

F: 1.33×10^{-2} M

CO_3: 0.175 M

GEA: ^{134}Cs - 9.99×10^{2} µCi/gal
^{137}Cs - 2.03×10^{5} µCi/gal
$^{106}RuRh$ - 6.06×10^{4} µCi/gal

Water: 69.46%

Cooling curve: 25°C for 45 min. No solids.
20°C for 45 min. No solids.
15°C for 60 min. No solids.
10°C for 45 min. No solids.
5°C for 45 min. No solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler

54-6000-030 (10-68)
AEC #1 RICHLAND WASH

T-22-25

Atlantic Richfield Hanford Company

5102.25

Date: September 17, 1974

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-6622 102-S

Vis-OTR: Murky green. <5% solids. 1.5 rad

pH: 11.5

SpG: 1.4856

GEA: ^{134}Cs - 1.81×10^4 µCi/gal
^{137}Cs - 2.07×10^6 µCi/gal

Water: 47.63%

30% Reduction - 30% Solids - 1.25%
50% Reduction - 50% Solids - 98.75%

Cooling Curve: 50°C for 45 min. <1% solids.
45°C for 45 min. <1% Solids.
40°C for 45 min. <1% solids.
35°C for 45 min. <1% solids.
30°C for 48 min. <1% solids.
25°C for 45 min. <1% solids.
20°C for 45 min. <1% solids.
15°C for 45 min. <1% solids.
10°C for 60 min. <1% solids.
5°C for 45 min. <1% solids.
Room temperature 17 hrs. - 50% solids

REW:jd

cc: JS Buckingham
LG Johnson
WR Christensen

54-6000-030 (10-68)
ARC-RL RICHLAND WASH

TCRC-29

5102.28

Date: October 14, 1974

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-6214 102-S

Vis-OTR: Brown. < 5% solids. 3 Rad.

pH: 11.5

SpG: 1.4005

GEA: ^{134}Cs - 1.12×10^4 µCi/gal
^{137}Cs - 1.54×10^6 µCi/gal

Water: 92.89%

Cooling Curve:

35°C for 60 min.	No solids.
30°C for 45 min.	No solids.
25°C for 45 min.	< 1% solids.
20°C for 45 min.	< 1% solids.
15°C for 45 min.	< 1% solids.
10°C for 45 min.	< 1% solids.
5°C for 45 min.	< 1% solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
JC Womack

54-6000-030 (10-68)
SEC-01 RICHLAND WASH

TCRC-30

SIC-27

Date: October 14, 1974

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-6416 102-S

Vis-OTR: Amber, brown, cloudy. < 5% solids. 2500 mRad/hr.

pH: 11.6

SpG: 1.378

GEA: ^{134}Cs - 5.45×10^{3} µCi/gal
^{137}Cs - 1.36×10^{6} µCi/gal
$^{106}RuRh$ - 4.05×10^{5} µCi/gal

Water: 49.05%

Cooling Curve:

45°C	for 45 min.	No solids.
40°C	for 75 min.	No solids.
35°C	for 45 min.	No solids.
30°C	for 45 min.	< 1% solids.
25°C	for 45 min.	< 1% solids.
20°C	for 45 min.	5% solids.
15°C	for 45 min.	5.5%
10°C	for 45 min.	6.0%
5°C	for 60 min.	6.5%

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
JC Womack

54-6000-030 (10-68)
AEC PL RICHLAND WASH

TCRC-31

Atlantic Richfield Hanford Company

WHC-SD-WM-ER-323, Rev. 0

S102.28

Date: October 14, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-7300 102-S

Vis-OTR: Yellow, cloudy. Unknown amount of solids. 1 Rad.

pH: 11.7

SpG: 1.336

GEA: ^{134}Cs - 7.34×10^3 µCi/gal
^{137}Cs - 1.11×10^6 µCi/gal
^{125}Sb - 3.52×10^3 µCi/gal

Water: 60.46%

Cooling Curve: 25°C for 30 min. No solids.
20°C for 60 min. No solids.
15°C for 45 min. No solids.
10°C for 45 min. No solids.
5°C for 90 min. No solids.

REW:jd

cc: JS Buckingham
WR Christensen
JC Womack

54-6000-030 (10-68)
AEC-RL RICHLAND WASH.

TCRC-32

Atlantic Richfield Hanford Company

(S102.DN 29

Date: October 14, 1974

To: R. L. Walser

From: R. E. Wheeler RWheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-7439 102-S

Vis-OTR: Green, yellow, clear. No solids. 550 mRad/hr

pH: 11.95

SpG: 1.445

GEA: ^{134}Cs - 1.01×10^4 µCi/gal
^{137}Cs - 1.64×10^6 µCi/gal

Water: 59.75%

Cooling Curve: 25°C for 45 min. No solids.
20°C for 45 min. No solids.
15°C for 40 min. No solids.
10°C for 45 min. No solids.
5°C for 45 min. No solids.

REW:jd

cc: JS Buckingham
WR Christensen
JC Womack

54-6000-030 (10-68)
AEC-RL RICHLAND WASH

TCRC - 33

Atlantic Richfield Hanford Company

WHC-SD-WM-ER-323, Rev. 0

S102.30

Date: October 21, 1974

To: R. L. Walser

From: R. E. Wheeler RE Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-6761 102-S

Vis-OTR: Green brown. <5% solids. 300 mRad/hr

pH: > 12.8

SpG: 1.4669

OH: 3.65 M

Al: 1.34 M

Na: 12.51

NO_2: 1.89 M

NO_3: 3.29 M

Pu: Sample slurped.

DTA: No exotherm

SO_4: Sample slurped.

PO_4: 3.34×10^{-2} M

F: 4.10×10^{-3} M

CO_3: 1.03×10^{-2} M

GEA: ^{134}Cs - 1.80×10^{4} µCi/gal
^{137}Cs - 2.05×10^{6} µCi/gal

Water: 49.82%

Cooling Curve:

45°C	for 45 min.	< 1% solids.
40°C	for 60 min.	< 1% solids.
35°C	for 45 min.	2% solids.
30°C	for 45 min.	5% solids.
25°C	for 18 hours.	Sample jelled.
20°C	for 60 min.	Sample jelled.
15°C	for 45 min.	Sample jelled.
10°C	for 45 min.	Sample jelled.
5°C	for 60 min.	Sample jelled.
Set over weekend		85% solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
JC Womack

54-6000-030 (10-68)
AEC-RL RICHLAND WASH

TCRC-34

$102.35

Date: October 21, 1974

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-7805 102-S

Vis-OTR: Dark Green. 75% solids. 2 Rads.

pH: 13.2

SpG: 1.5311

GEA: ^{134}Cs - 9.61×10^{3} µCi/gal
^{137}Cs - 1.81×10^{5} µCi/gal

Water: 63.92%

Cooling Curve:

40°C for 60 min.	Cloudy
35°C for 90 min.	Suspended solids.
30°C for 45 min.	Suspended solids.
25°C for 45 min.	Suspended solids.
20°C for 45 min.	Suspended solids.
15°C for 45 min.	Suspended solids.
10°C for 45 min.	Suspended solids.
5°C for 65 min.	Suspended solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
JC Womack

54-6000-030 (10-68)
AEC RL RICHLAND WASH

TCRC-35

Atlantic Richfield Hanford Company

S102.32

Date: October 21, 1974

To: R. L. Walser

From: R. E. Wheeler R.E.Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8077 102-S

Vis-OTR: Murky green. ~25% solids. 1.4 Rads.

pH: 14

SpG: 1.5357

GEA: ^{134}Cs - 8.93×10^{3} µCi/gal
^{137}Cs - 2.15×10^{6} µCi/gal

Water: 47.48%

Cooling Curve:

40°C for 45 min.	< 1% solids.
35°C for 130 min.	< 1% solids.
30°C for 60 min.	3% solids.
25°C for 45 min.	3% solids.
Set over night - room temp.	3% solids
20°C for 75 min.	3% solids.
15°C for 45 min.	3% solids.
10°C for 45 min.	3% solids.
5°C for 45 min.	3% solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
JC Womack

54-6000-030 (10-68)
AEC #1 RICHLAND WASH

TCRC-36

Atlantic Richfield Hanford Company

WHC-SD-WM-ER-323, Rev. 0

S102.33

Date: October 21, 1974

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8199 102-S

Vis-OTR: Yellow. No solids. 300 mRad/hr

pH: 9.8

SpG: 1.321

GEA: ^{134}Cs - 6.47×10^{3} μCi/gal
^{137}Cs - 1.26×10^{6} μCi/gal

Water: 59.49%

Cooling Curve:
40°C for 45 min. No solids.
35°C for 45 min. No solids.
30°C for 75 min. No solids.
25°C for 45 min. No solids.
20°C for 45 min. No solids.
15°C for 45 min. No solids.
10°C for 16 hrs., 15 min. Suspended Solids.
5°C for 45 min. Suspended Solids.

REW:jd

cc: JS Buckingham
WR Christensen
JC Womack
RE Wheeler

54-6000-030 (10-68)
AEC RL RICHLAND WASH

TCRC-37

S102.34

Date: October 23, 1974

To: R. L. Walser

From: R. E. Wheeler, R.E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-9007 102-S

Vis-OTR: Cloudy green. 5% solids. 1.3 Rad/hr.

pH: 14.0

SpG: 1.4866

GEA: ^{134}Cs - 4.35×10^3 µCi/gal
^{137}Cs - 7.68×10^5 µCi/gal
^{125}Sb - 2.04×10^3 µCi/gal

Water: 54.56%

Cooling Curve:

35°C	for 45 min.	No solids.
30°C	for 60 min.	No solids.
25°C	for 45 min.	No solids.
20°C	for 45 min.	No solids.
15°C	for 45 min.	Suspended solids.
10°C	for 45 min.	Suspended solids.
5°C	for 45 min.	Suspended solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
JC Womack

54-6000-030 (10-68)
AEC AL RICHLAND WASH

TCRC-38

Atlantic Richfield Hanford Company

5102.38

Date: October 25, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8929 102-S

Vis-OTR: Cloudy green. 5% solids. 1.5 Rad/hr

pH: 14.0

SpG: 1.5197

GEA: ^{134}Cs - 4.84×10^{3} µCi/gal
^{137}Cs - 8.59×10^{5} µCi/gal

Water: 50.02%

Cooling Curve:

40°C	for 60 min.	No solids.
35°C	for 45 min.	No solids.
30°C	for 60 min.	No solids.
25°C	for 45 min.	No solids.
20°C	for 45 min.	No solids.
15°C	for 45 min.	No solids.
10°C	for 45 min.	No solids.
5°C	for 45 min.	Suspended solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
JC Womack

54-6000-030 (10-68)
ARC OF RICHLAND WASH.

TCRC-39

Atlantic Richfield Hanford Company

5182.38

Date: October 29, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8779 102-S

Vis-OTR: Cloudy yellow. 25% solids. 0.70 Rad/hr.

pH: 10.1

SpG: 1.3691

GEA: ^{134}Cs - 8.86×10^{3} µCi/gal
^{137}Cs - 1.67×10^{6} µCi/gal

Water: 44.50%

Cooling Curve:

35°C for 60 min.	Clear, no solids.
30°C for 45 min.	No solids.
25°C for 45 min.	No solids.
20°C for 45 min.	No solids.
15°C for 45 min.	No solids.
10°C for 45 min.	< 5% solids.
5°C for 65 min.	< 5% solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
JC Womack

54-6000-030 (10-68)
ARC-PL RICHLAND WASH

TCRC-4D

5102.37

Date: November 1, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8339 102-S

Vis-OTR: Brown. 5% solids. 270 mRad/hr

pH: 13.8

SpG: 1.3638

GEA: ^{134}Cs - 5.83×10^{3} µCi/gal
^{137}Cs - 1.07×10^{6} µCi/gal

Water: 66.95%

Cooling Curve:
40°C for 90 min. No solids.
35°C for 45 min. No solids.
30°C for 45 min. No solids.
25°C for 45 min. No solids.
20°C for 45 min. No solids.
15°C for 45 min. No solids.
10°C for 45 min. No solids.
5°C for 45 min. No solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
JC Womack

54-6000-030 (10-68)
AEC-RL RICHLAND WASH

TCRC-41

Atlantic Richfield Hanford Company

Sic 2.38

Date: November 1, 1974

To: R. L. Walser

From: R. E. Wheeler R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8604 102-S

Vis-OTR: Cloudy yellow. < 10% solids. 1 Rad/hr

pH: 13.8

SpG: 1.484

GEA: ^{134}Cs - 1.04×10^4 µCi/gal
^{137}Cs - 1.88×10^6 µCi/gal

Water: 43.65%

Cooling Curve:
40°C for 45 min. No solids.
35°C for 45 min. No solids.
30°C for 75 min. No solids.
25°C for 45 min. No solids.
20°C for 45 min. No solids.
15°C for 45 min. No solids.
10°C for 16 hrs., 15 min. Suspended solids.
5°C for 45 min. Suspended solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
JC Womack

54-6000-030 (10-68)
AEC-RL RICHLAND WASH

TCRC-42

Atlantic Richfield Hanford Company

5102.39

Date: November 4, 1974

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-7562 102-S

Vis-OTR: Green, cloudy. Suspended solids. 500 mRad/hr

pH: 12.0

SpG: 1.4345

GEA: ^{134}Cs - 1.12×10^4 µCi/gal
^{137}Cs - 1.80×10^6 µCi/gal
^{60}Co - 4.54×10^3 µCi/gal

Water: 45.91%

Cooling Curve:

40°C	for 60 min.	Suspended solids.
35°C	for 60 min.	3% solids suspended.
30°C	for 45 min.	3% solids suspended.
25°C	for 45 min.	4% solids suspended.
20°C	for 45 min.	4% solids suspended.
15°C	for 45 min.	4% solids suspended.
10°C	for 45 min.	8% solids suspended.
5°C	for 45 min.	10% solids suspended.

REW:jd

54-6000-030 (10-68)
AEC-RL RICHLAND WASH

TCRC-43

Atlantic Richfield Hanford Company

Size .40

Date: November 19, 1974

To: R. L. Walser

From: R. E. Wheeler R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-9103 102-S

Vis-OTR: Green. 1% solids. 1.5 Rad/hr

pH: 13.8

SpG: 1.407

GEA: ^{134}Cs - 7.19×10^3 µCi/gal
^{137}Cs - 1.45×10^6 µCi/gal

Water: 57.83%

Cooling Curve: 25°C for 45 min. No solids.
20°C for 45 min. No solids.
15°C for 45 min. No solids.
10°C for 45 min. No solids.
5°C for 45 min. No solids.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

54-6000-030 (10-68)
AEC-RL RICHLAND WASH

TCRC-44

S102.4B

Date: November 19, 1974

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-9601 102-S

Vis-OTR: Dark green. 30% solids. 1 Rad/hr

pH: 13.1

SpG: 1.4554

GEA: ^{134}Cs - 7.04×10^{3} µCi/gal
^{137}Cs - 1.54×10^{6} µCi/gal
^{60}Co - 1.16×10^{3} µCi/gal

Water: 54.89%

Cooling Curve: 40°C for 45 min. (cloudy) 1% solids.
35°C for 45 min. 1% solids.
30°C for 45 min. 1% solids.
25°C for 60 min. 1% solids.
20°C for 45 min. 1% solids suspended.
15°C for 45 min. 1% solids suspended.
10°C for 45 min. 2% solids suspended.
5°C for 45 min. 3% solids suspended.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

54-6000-030 (10-68)
AEC RL RICHLAND WASH

TCRC-45

(5102.48

Date: November 26, 1974

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-9706 102-S

Vis-OTR: Green. 50% solids. 1.5 Rad/hr

pH: 13.5

SpG: 1.5142

GEA: ^{134}Cs - 9.31×10^{3} µCi/gal
^{137}Cs - 1.79×10^{6} µCi/gal

Water: 49.76%

Cooling Curve:

40°C for 45 min.	No solids.
35°C for 45 min.	No solids.
30°C for 45 min.	No solids.
25°C for 45 min.	No solids.
20°C for 45 min.	Suspended solids.
15°C for 60 min.	Suspended solids.
10°C for 45 min.	Suspended solids.
5°C for 45 min.	Suspended solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
JC Womack

54-6000-030 (10-68)
AEC-RL RICHLAND WASH

TCRC-46

5102.43

Date: December 4, 1974

To: R. L. Walser

From: R. E. Wheeler RE Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8416 102-S

Vis-OTR: Green. < 10% solids. 1 Rad/hr

pH: 13.3

SpG: 1.4327

GEA: ^{134}Cs - 3.45×10^4 µCi/gal
^{137}Cs - 5.83×10^6 µCi/gal

Water: 57.98%

Cooling Curve:

40°C	for 90 min.	No solids.
35°C	for 75 min.	No solids.
30°C	for 60 min.	No solids.
25°C	for 45 min.	No solids.
20°C	for 17 hrs.	No solids.
15°C	for 45 min.	No solids.
10°C	for 45 min.	No solids.
5°C	for 45 min.	No solids.

REW:jd

cc: JS Buckingham
WR Christenser
RM Ginestet
RE Wheeler
JC Womack

54-6000-030 (10-68)
AEC #1 RICHLAND WASH

TCRC- 45

(S102.45)

Date: December 26, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-423 102-S Rec. 12/6/74

Vis-OTR: Green. 50% crystal solids. 1.5 Rad/hr

pH: 14.0

SpG: 1.4272

GEA: ^{134}Cs - 6.09×10^{3} µCi/gal
^{137}Cs - 1.40×10^{5} µCi/gal

Al: 1.14 M

Water: 58.15%

Cooling Curve: 40°C for 45 min. Cloudy (no solids)
35°C for 60 min. 2% solids.
30°C for 45 min. 2% solids.
25°C for 45 min. 2% solids.
20°C for 45 min. 2% solids.
15°C for 45 min. 2% solids.
10°C for 45 min. 2% solids.
5°C for 45 min. 2% solids.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

54-6000-030 (10-68)
ARC-RL RICHLAND WASH

TCRC-49

(5102.48)

Date: January 6, 1975

To: R. L. Walser

From: R. E. Wheeler R.E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-534 102-S Received on 12/10/74

Vis-OTR: Green cloudy. 1 Rad/hr

pH: 14

SpG: 1.2582

Al: 0.611 M

GEA: ^{134}Cs - 4.58×10^{3} µCi/gal
^{137}Cs - 8.33×10^{5} µCi/gal

Water: 69.40%

Cooling Curve: 25°C for 45 min. No solids.
20°C for 45 min. No solids.
15°C for 45 min. No solids.
10°C for 45 min. No solids.
5°C for 45 min. No solids.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

TCRC-5D

(5102.4F

Date: January 6, 1975

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-632 102-S Received 12/16/74

Vis-OTR: Green. <1% solids. 1.5 Rad/hr

pH: 14

SpG: 1.3476

GEA: ^{134}Cs - 5.83×10^4 µCi/gal
^{137}Cs - 1.20×10^6 µCi/gal

Water: 58.28%

Cooling Curve: 25°C for 45 min. No solids.
20°C for 45 min. No solids.
15°C for 75 min. No solids.
10°C for 45 min. No solids.
5°C for 45 min. No solids.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

TCRC-47

5102.46

Date: December 17, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8008 102-S

Vis-OTR: Green. 50% solids. 2.5 Rads

pH: 14

SpG: 1.4202

OH: 2.89 M

Al: 1.28 M

Na: 11.61 M

NO_2: 1.39 M

NO_3: 3.24 M

Pu: $< 5.34 \times 10^{-6}$ gm/gal

SO_4: Cancelled by R. L. Walser

PO_4: 0.110 M

F: 1.05×10^{-2} M

CO_3: 0.157 M

GEA: ^{134}Cs - 7.66×10^{3} µCi/gal
^{137}Cs - 1.38×10^{6} µCi/gal

Water: 52.45%

K: 3.18×10^{-2} M

Cooling Curve:

40°C for 45 min.	No solids.
35°C for 60 min.	No solids.
30°C for 45 min.	No solids.
25°C for 45 min.	1% solids.
20°C for 45 min.	Suspended Solids.
20°C for 17 hrs.	Suspended Solids.
15°C for 60 min.	Suspended Solids.
10°C for 45 min.	Suspended Solids.
5°C for 45 min.	Suspended Solids.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
LG Johnson
RE Wheeler
JC Womack

TC RC-54

S102.5B

Date: February 3, 1975

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: 1299 102-S Received 1/7/75

Vis-OTR: Green. 75% solids. 1.2 Rad/hr

pH: 13.2

SpG: 1.4224

GEA: ^{134}Cs - 9.01×10^{3} µCi/gal
^{137}Cs - 1.73×10^{5} µCi/gal

Water: 48.12%

Al: 1.13 M

Cooling Curve:
40°C for 45 min. Suspended solids.
35°C for 60 min. Suspended solids.
30°C for 60 min. Suspended solids.
25°C for 45 min. Suspended solids, and 20% solids.
20°C for 60 min. Suspended solids, and 20% solids.
15°C for 16.5 hrs. Suspended solids, and 20% Solids.
10°C for 45 min. Suspended solids, and 20% solids.
5°C for 45 min. Suspended solids, and 20% solids.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

54-6000-030 (10-68)
AEC-HL RICHLAND WASH

5102.88

Date: October 20, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-1091 Tank: 102-S
Received: January 2, 1975

Vis-OTR: Green, cloudy No solids 1 rad/hr

pH: 14.0

SpG: 1.580

OH: 2.63 M

Al: 1.13 M

Na: 9.93 M

NO_2: 1.87 M

NO_3: 3.64 M

Pu: 2.40×10^{-5} g/gal

D.T.A.: No exotherm below 200°C

SO_4: Cancelled

PO_4: 5.68×10^{-2} M

F: 1.34×10^{-2} M

CO_3: 0.257 M

GEA: ^{134}Cs - 1.53×10^{4} μCi/gal
^{137}Cs - 2.69×10^{5} μCi/gal

Water: 51.68 %

Cooling Curve:

	40°C for 60 min.	No solids.
	35°C for 45 min.	No solids.
	30°C for 60 min.	No solids.
	25°C for 45 min.	No solids.
	20°C for 45 min.	No solids.

R. L. Walser
Page 2
October 20, 1975

Cooling Curve:	15°C for 45 min.	Suspended solids.
	10°C for 45 min.	Suspended solids.
	5°C for 45 min.	Suspended solids.

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

54-6000-031 (10-68)
ARC-01 RICHLAND, WASH.

T-20-5

Atlantic Richfield Hanford Company

5102.58

Date: January 6, 1975

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-841 102-S

Vis-OTR: Yellow. No solids.

pH: 14

SpG: 1.4346

Al: 1.30 M

GEA: ^{134}Cs - 2.13×10^{4} µCi/gal
^{137}Cs - 3.75×10^{5} µCi/gal
^{60}Co - 1.56×10^{5} µCi/gal
^{125}Sb - 1.52×10^{5} µCi/gal

Water: 51.45%

Cooling Curve: 25°C for 60 min. No solids.
20°C for 45 min. No solids.
15°C for 60 min. No solids.
10°C for 45 min. No solids.
5°C for 60 min. No solids.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

TCRC-52

S102.59

Date: January 20, 1975

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-1231 102-S

Vis-OTR: Yellow. cloudy. (No solids) 1 Rad/hr

pH: 14.0

SpG: 1.4586

GEA: ^{134}Cs - 7.95×10^{3} µCi/gal
^{137}Cs - 1.36×10^{6} µCi/gal

Al: 0.498 M

Water: 52.28%

Cooling Curve:
40°C for 45 min. No solids.
35°C for 45 min. No solids.
30°C for 60 min. No solids.
25°C for 60 min. No solids.
20°C for 45 min. No solids.
15°C for 45 min. No solids.
10°C for 45 min. No solids.
5°C for 60 min. No solids.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

TCRC-53

S102.50

Date: January 22, 1975

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-933 102-S

Vis-OTR: Green. No solids. 1.3 Rad/hr Received 12/30/74

pH: 14.0

SpG: 1.6515

GEA: ^{134}Cs - 8.02×10^{3} µCi/gal
^{137}Cs - 1.60×10^{6} µCi/gal

Water: 51.10%

Al: 1.29 M

Cooling Curve:

25°C	for 60 min.	No solids.
20°C	for 45 min.	Suspended solids.
15°C	for 60 min.	Suspended solids.
10°C	for 45 min.	Suspended solids.
5°C	for 60 min.	Suspended solids.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

S102.58

Date: April 23, 1975

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-2278 102-S
Received February 24, 1975

Vis-OTR: Green No solids 800 mrad/hr

pH: 13.3

SpG: 1.1914

OH: 1.058 M

Pu: 5.06×10^{-5} g/gal

$^{89,90}Sr$: 2.02×10^{4} µCi/gal

D.T.A.: No Exotherm below 200°C

Na: 5.21 M

Al: 0.447 M

NO_2: 0.611 M

NO_3: 1.79 M

Po_4: 3.26×10^{-2} M

F: 5.56×10^{-3} M

Co_3: 0.140 M

GEA: ^{134}Cs - 2.55×10^{3} µCi/gal
^{137}Cs - 6.36×10^{5} µCi/gal

Water: 75.70%

Cooling Curve: 25°C for 60 min. No solids
20°C for 60 min. No solids
15°C for 60 min. No solids
10°C for 60 min. No solids
5°C for 60 min. No solids

REW:Vmk

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler
LB

54-6000-030 (10-68)
AEC-RL RICHLAND WASH

TCRC-55

5102.52

Date: March 26, 1975

To: R. G. Geier
R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLE
SAMPLE: T-2415 102-S
RECEIVED MARCH 3, 1975

Vis-OTR Light Brown 1% Brown Solids 1 Rad/hr
SpG: 1.4004

Ph: 13.3

Al: 0.884M

GEA: ^{134}CS - 5.94×10^3 μCi/gal
^{137}CS - 1.17×10^6 μCi/gal
^{125}Sb - 3.86×10^3 μCi/gal

Water: 55.90%

Cooling Curve: 25°C for 45 min. No solids
20°C for 45 min. No solids
15°C for 45 min. No solids
10°C for 45 min. No solids
5°C for 45 min. No solids

REW:vmk

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

54-6000-030 (10-68)
AEC-RL RICHLAND WASH

TCRC-59

Atlantic Richfield Hanford Company

(3182.55

Date: April 11, 1975

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-2617 102-S Received 3-10-75

Vis-OTR: Black 2 Rad/Hr

pH: 13.5

SpG: 1.32 @ 60°C

GEA: ^{134}Cs - 6.06×10^3 μCi/gal
^{137}Cs- 1.38×10^6 μCi/gal

Al: 0.589 M

Water: 54.52%

Cooling Curve: Sample opaque, unable to determine solids formation.

REW:vmk

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler
LB

54-6000-030 (10-68)
AEC-GL RICHLAND, WASH

TCRC- 58

Atlantic Richfield Hanford Company

(5102.5)

Date: April 1, 1975

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLE
SAMPLE: T-2768 102-S Received 3-17-75

Vis-OTR: Black. 10% Suspended Solids. 1.2 Rad/hr

Ph: 12.7

SpG: 1.34 @ 60°C

Al: 1.08M

GEA: ^{134}Cs - 7.0×10^3 µCi/gal
^{137}Cs - 1.50×10^6 µCi/gal
^{60}Co - 1.08×10^3 µCi/gal

Water: 52.26%

Cooling Curve:

40°C	45 Min.	Suspended Solids
35°C	45 Min.	Suspended Solids
30°C	45 Min.	Suspended Solids
25°C	90 Min.	Suspended Solids
20°C	45 Min.	Suspended Solids
15°C	45 Min.	Suspended Solids
10°C	45 Min.	Suspended Solids
5°C	45 Min.	Suspended Solids

REW:vmk

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

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~~For Sgi~~

54-6000-030 (10-68)
AEC OF RICHLAND WASH

Atlantic Richfield Hanford Company

5102.5T

Date: April 23, 1975

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-3109 102-S
Received March 28, 1975

Vis-OTR: Brown, cloudy 600 mrad/hr on contact

pH: 12.8

SpG: 1.36 @ 60°C

Al: 0.978 M

GEA ^{134}Cs: 7.50×10^3 µCi/gal

^{137}Cs: 1.77×10^6 µCi/gal

^{125}Sb: 3.54×10^3 µCi/gal

Water: 50.71%

REW:vmk

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler
LB

54-6000-030 (10-68)
AEC-RL RICHLAND WASH

TCRC-57

15102.53

Date: April 1, 1975

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-1369 102-S

Vis-OTR: Green 2% solids 1.2 Rad/hr

Ph: 13.2

SpG: 1.34 @ 60°C

Al: 1.23 M

GEA: ^{134}Cs - 9.0×10^{2} µCi/gal
^{137}Cs - 1.70×10^{6} µCi/gal
^{125}Sb - 2.84×10^{3} µCi/gal

Water: 54.34%

Cooling Curve:
40°C for 45 Min. No Solids
35°C for 60 Min. No Solids
30°C for 60 Min. No Solids
25°C for 45 Min. No Solids
20°C for 60 Min. No Solids
15°C for 16 1/2 hrs. Suspended solids
10°C for 45 Min. Suspended solids
5°C for 45 Min. Suspended solids

REW:vmk

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

5102.75

Date: August 20, 1975

To: R. L. Walser

From: L. R. Perez, 2-2449 LRP

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-3259 Tank: 102-S
Received: April 2, 1975

Vis-OTR: Greenish-brown Suspended solids 1 rad/hr

Ph: 13.0

OH: 1.87 M

SpG: 1.24 @ 78°C

NO_2: 1.01 M

NO_3: 2.99 M

Al: 0.579 M

GEA: ^{134}Cs - 4.63×10^4 µCi/gal
^{137}Cs - 1.18×10^5 µCi/gal

$^{89,90}Sr$: 2.52×10^4 µCi/gal

Water: 64.93%

LRP:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

5102.62

Date: April 30, 1975

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-3328 102-S
Received April 4, 1975

Vis-OTR: Dark Green Suspended solids 2.5 rad/hr

pH: 13.0

SpG: 1.34 @ 60°C

Al: 1.12×10^{-2} M

OH: 2.69 M

NO_2: 3.20 M

NO_3: 3.52 M

GEA: ^{134}Cs - 6.78×10^3 uCi/gal

^{137}Cs - 1.64×10^6 uCi/gal

$^{89,90}Sr$: 2.70×10^4 uCi/gal

Water: 53.47%

REW:ew

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler
LB

T-2C-67

5102.68

Date: July 8, 1975

To: R. L. Walser

From: R. E. Wheeler RE Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-3478 Tank: 102-S
Received April 10, 1975

Vis-OTR: Black < 5% solids 2 rad/hr. @ 2"

SpG: 1.38 @ 62° C

Ph: 12.8

OH: 2.84 M

Al: 0.818 M

GEA:
$^{134}_{137}Cs$ - 8.48×10^{3} µCi/gal
^{125}Cs - 1.85×10^{6} µCi/gal
Sb - 4.53×10^{4} µCi/gal

Water: 53.46%

$^{89,90}Sr$: 7.30×10^{4} µCi/gal

NO_2: 1.43 M

NO_3: 3.19 M

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

54-6000-030 (10-68)

TCRC#160

Date: April 17, 1975

To: W. R. Christensen

From: J. E. Horton
J. S. Buckingham

Subject: ANALYSIS OF SOLIDS FROM 241-S-102

References: (1) Letter, August 31, 1974, G. T. Dukelow to M. D. Alford, et al., "Status of Underground Storage Tanks"

(2) Letter, February 28, 1975, G. T. Dukelow to M. D. Alford, et al., "Status of Underground Storage Tanks"

Tank 241-S-102 is used as a feed tank for the 242-S Evaporator-Crystallizer. Data in the reference letters show that the level of solids in Tank 241-S-102 is increasing. A sample of the solids was taken in an attempt to determine whether they were salts precipitating from supersaturated recycle solutions or something else.

The solids sample was composed of two layers, about 50 percent each. The top layer was made up of coarse black crystals. The top layer dissolved in water. Analyses showed it to be a mixture of sodium nitrate and sodium phosphate. Only a small portion of the lower (heavier) layer was soluble in water. Analyses showed it to be primarily an aluminum compound. The aluminum compound is presumed to be Al_2O_3. Details of the laboratory work are discussed below.

Weighed portions of the two layers were leached with water. The water insoluble fraction was then leached with concentrated HCl. The two portions were combined, diluted to 50 milliliters, and analyzed. Any solids not soluble in water and HCl were fused with KOH, the melt dissolved with HCl,

W. R. Christensen
Page 2
April 17, 1975

and diluted to a known volume. The analyses of the two layers are shown below, reported as weight percent. Metallic ions are reported as the oxide. Nitrate, nitrite, and phosphate are reported as the sodium salt. Plutonium, strontium, and cesium analyses are shown as grams or microcuries per gram of damp "as received" solid and grams or microcuries per liter of "as received" solid.

Please call us if you have any questions regarding this work.

JEH:JSB:ms

cc: H Babad
DR Frazier
RG Geier
NC Rodewald
RE Van der Cook
RL Walser
Process Aids (7)
CTL File - 111
File (2)
LB

5102.58

TABLE I

ANALYSIS OF 102-S TOP LAYER

Bulk Density	1.30 g/cc	
Particle Density	1.74 g/cc	
H_2O	45.0%	
$NaNO_2$	<0.1%	
$NaNO_3$	20.8%	
Na_3PO_4	29.9%	
SiO_2	1.7%	
Fe_2O_3	0.2%	
Al_2O_3	5.5%	
TOTAL	102.9%	
Pu	5.2×10^{-7} g/g	(4.0×10^{-4} g/ℓ)
$^{89+90}Sr$	19.2 μCi/g	(1.5×10^{4} μCi/ℓ)
^{137}Cs	17.3 μCi/g	(1.3×10^{4} μCi/ℓ)

S102.59

TABLE II

ANALYSIS OF 102-S BOTTOM LAYER

Bulk Density	1.52 g/cc	
Particle Density	2.09 g/cc	
H_2O	10.0%	
$NaNO_2$	0.1%	
$NaNO_3$	(Note 1)	
Na_3PO_4	1.0%	
SiO_2	0.7%	
Fe_2O_3	1.4%	
Al_2O_3	87.0%	
TOTAL	100.2%	
Pu	7.5×10^{-7} g/g	(4.9×10^{-4} g/ℓ)
$^{89+90}Sr$	0.5 μCi/g	(3.3×10^{2} μCi/ℓ)
^{137}Cs	6.6 μCi/g	(4.3×10^{3} μCi/ℓ)

NOTE 1: The nitrate analysis of the sample was impossibly high (520 percent $NaNO_3$). It is assumed that the sample was contaminated during preparation. However, based on the material balance calculation, we feel that the nitrate content of the salt is essentially zero.

(5102.74)

Date: August 20, 1975

To: R. L. Walser

From: L. R. Perez, 2-2449 LRP

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-3639 Tank: 102-S
Received: April 17, 1975

Vis-OTR: Dark green 10% solids 2.5 rad/hr @ 2"

Ph: 12.8

SpG: 1.32 @ 69°C

Al: 0.742 M

OH: 2.32 M

NO_2: 1.12 M

NO_3: 5.17 M

GEA: ^{134}Cs - 1.14×10^4 µCi/gal
^{137}Cs - 2.92×10^6 µCi/gal

$^{89,90}Sr$: 5.58×10^4 µCi/gal

Water: 54.53%

LRP:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

54-6000-030 (10-68)

H Babad
JS Buckingham
WR Christensen
RG Geier
DG Harlow
JE Horton (2)
RC Roal
JC Womack
CTL Office
File

Circulate:

CTL Exempt

File:

CTL-122
CTL-111

To: D. C. Lini From: J. E. Horton

WASTE SOLUTION SOLIDIFICATION
BY VOLUME REDUCTION
[ACHIEVEMENT REPORT FOR PERIOD
ENDING APRIL 29, 1975]

Budget Number:

E-52204

Contributors:

J. E. Horton
J. S. Buckingham

ABSTRACT

Tank 241-S-102 is used as a feed tank for the 242-S Evaporator-Crystallizer. A sample of 102-S solids was analyzed to determine if the precipitating salts resulted from supersaturated recycle solutions.

The solids sample was composed of equal quantities of two layers. The top layer dissolved in water. Analyses showed it to be a mixture of sodium nitrate and sodium phosphate. Only a small portion of the lower (heavier) layer was water soluble. Analyses showed it to be primarily an aluminum compound, presumably Al_2O_3.

DISCUSSION

Tank Farm Assistance Summary

The top layer from 102-S tank was made up of coarse black crystals and the bottom layer was fine yellow crystals. Weighed portions of the two layers were leached with water. The water insoluble fraction was then leached with concentrated HCl. The two portions were combined, diluted to 50 milliliters and analyzed. Solids not soluble in water and HCl were fused with KOH, the melt dissolved with HCl, and diluted to a known volume. The analyses of the two layers are shown below, reported as weight percent. Metallic ions are reported as the oxide. Nitrate, nitrite, and phosphate are reported as the sodium salt. Plutonium, strontium, and cesium analyses are shown as grams or microcuries per gram of damp "as received" solids and grams or microcuries per liter of "as received" solids. Analyses of the laboratory work are shown in Tables I and II.

S102.60

TABLE I

ANALYSIS OF 102-S TOP LAYER

Bulk Density	1.30 g/cc	
Particle Density	1.74 g/cc	
H_2O	45.0%	
$NaNO_2$	0.1%	
$NaNO_3$	20.8%	
Na_3PO_4	29.9%	
SiO_2	1.7%	
Fe_2O_3	0.2%	
Al_2O_3	5.5%	
TOTAL	102.9%	
Pu	5.2×10^{-7} g/g	$(4.0 \times 10^{-4}$ g/ℓ)
$^{89+90}Sr$	19.2 μci/g	$(1.5 \times 10^{4}$ μci/ℓ)
^{137}Cs	17.3 μci/g	$(1.3 \times 10^{4}$ μci/ℓ)

S102.4B

TABLE II

ANALYSIS OF 102-S BOTTOM LAYER

Bulk Density	1.52 g/cc
Particle Density	2.09 g/cc
H_2O	10.0%
$NaNO_2$	0.1%
$NaNO_3$	(NOTE 1)
Na_3PO_4	1.0%
SiO_2	0.7%
Fe_2O_3	1.4%
Al_2O_3	87.0%
TOTAL	100.2%

Pu	7.5×10^{-7} g/g	(4.9×10^{-4} g/ℓ)
$^{89+90}Sr$	0.5 µci/g	(3.3×10^{2} µci/ℓ)
^{137}Cs	6.6 µci/g	(4.3×10^{3} µci/ℓ)

NOTE: The nitrate analysis of the sample was impossibly high (520 percent $NaNO_3$). It is assumed that the sample was contaminated during preparation. However, based on the material balance calculation, we feel that the nitrate content of the salt is essentially zero.

5102.63

Date: May 13, 1975

To: R. L. Walser

From: R. E. Wheeler R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-4028 102-S
Received April 29, 1975

Vis-OTR: Clear, green, no solids 600 mrad/hr

pH: 13.0

SpG: 1.2538

OH: 1.16 M

Al: 0.448 M

NO_2: 0.818 M

NO_3: 1.61 M

GEA: ^{134}Cs - 4.84×10^3 µCi/gal
^{137}Cs - 9.24×10^5 µCi/gal

Water: 70.04%

$^{89,90}Sr$: 2.71×10^4 µCi/gal

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

54-6000-030 (10-68)
ARC OF RICHLAND WASH

5102.75

Date: August 22, 1975

To: R. L. Walser

From: L. R. Perez, 2-2449 LRP

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-4104 Tank: 102-S
Received: May 2, 1975

Vis-OTR: Green 25 % solids 90 mrad/hr

Ph: 11.70

SpG: Insufficient sample

OH: 1.58 M

Al: 0.818 M

NO_2: 1.0 M

NO_3: 2.65 M

$^{89,90}Sr$: 9.56×10^4 µCi/gal

GEA:

$^{60}_{125}Co$	- <	7.22×10^2_3 µCi/gal
^{95}Sb	-	$1.12 \times 10_3$ µCi/gal
$^{144}ZrNB$	- <	$1.57 \times 10_4$ µCi/gal
$^{134}CePr$	- <	$4.59 \times 10_3$ µCi/gal
^{137}Cs	-	$1.42 \times 10_5$ µCi/gal
^{154}Cs	-	$3.0 \times 10_3$ µCi/gal
Eu	- <	1.60×10 µCi/gal

Water: 62.55 %

LRP:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

5102.78

Date: August 22, 1975

To: R. L. Walser

From: L. R. Perez, 2-2449

Subject: ANALYSIS OF TANK FARM SAMPES
Sample: T-4240 Tank: 102-S
Received: May 8, 1975

Vis-OTR: Light green < 1% Solids 1 rad/hr

Ph: 12.7

SpG: 1.3612

OH: 1.52 M

Al: 0.812 M

NO_2: 0.792 M

NO_3: 3.63 M

$^{89,90}Sr$: 3.36×10^4 µCi/gal

GEA: ^{134}Cs - 5.06×10^3 µCi/gal
^{137}Cs - 9.12×10^5 µCi/gal

Water: 54.37 %

Cooling Curve:

30°C	for 45 min.	No solids
25°C	for 45 min.	No solids
20°C	for 45 min.	No solids
15°C	for 45 min.	No solids
10°C	for 45 min.	No solids
5°C	for 45 min.	No solids

LRP:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

S102.6 T

Date: July 8, 1975

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-4388 Tank: 102-S
Received May 13, 1975

Vis-OTR: Green, clear No solids 200 mrad/hr.

SpG: 1.369

OH: 1.66 M

Al: 0.747 M

NO_2: 0.929 M

NO_3: 3.74 M

Co_3: 0.316 M

GEA: ^{125}Sb - 1.13×10^{3} µCi/gal
^{134}Cs - 5.07×10^{5} µCi/gal
^{137}Cs - 9.63×10 µCi/gal

Water: 52.76%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

Date: May 20, 1975

To: W. P. Metz

From: J. S. Buckingham

Subject: ANALYSES OF TANK FARM LIQUID SAMPLES

Reference: Letter, May 16, 1975, W. I. Winters to J. S. Buckingham, "Preliminary Report on Actinide Analyses of Samples from Hanford Waste Tanks"

Methods for determining actinide concentrations in alkaline waste solutions are being developed. The reference letter reports the actinide analysis of liquid samples from six waste tanks. In addition to the actinide analyses, other analyses have been made on the samples and are reported in this letter.

The analyses showed that all of the samples contained soluble ^{239}Pu, greater than maximum permissible concentration in water (MPC_w) for a controlled zone. Soluble ^{237}Np was near or below MPC_w for a controlled zone. The two samples from East area's BX Tank Farm showed soluble ^{241}Am to be near or below MPC_w for a controlled zone. Soluble ^{241}Am was above MPC_w for the samples from S and TX Tank Farms. In addition, the analyses showed greater than 99 curi percent of the ^{241}Am in the samples from S and TX Tank Farms were insoluble and could be removed by filtering through a 0.25 μm filter. Details of the analyses are discussed on the following pages.

W. P. Metz
Page 2
May 20, 1975

PROCEDURE

Solids had precipitated from all of the samples by the time they had arrived in the laboratory. The samples were heated to redissolve the precipitated solids before aliquots were taken. All of the precipitated solids redissolved between 60 and 85° C except for the solids in the sample from 109-BX which contained about 20 settled volume percent insoluble solids. The 109-BX sample was slurried and aliquots were taken of the slurry. The 109-BX slurry was treated in the same manner as the clear solutions from the other samples.

Except for the sample from 109-BX, when the solids had redissolved, 50 milliliters of the solution were immediately diluted with 50 milliliters of water. A second aliquot was taken at the same temperature for density and percent water.

The diluted samples were filtered through a 0.25 μm Solvinent® (trade name, Millipore Corporation) filter. Analyses were made on the filtered solution. Analytical results shown in Table I are based on the undiluted heated solution.

The filters were washed with four 25 milliliter portions of 0.05M NaOH. The washed filter was analyzed by counting on a lithium drifted germanium detector [Ge(Li)]. The material on the filters is insoluble solids. The gamma energy analyses, reported in Table II, are based on the amount of insoluble (filterable) solids per liter of undiluted heated solution.

W. P. Metz
Page 3
May 20, 1975

DISCUSSION

The MPC_w for soluble actinides of interest in a controlled zone are shown in Table II. There are undoubtedly insoluble plutonium solids on the filters, but with the other activity present on the filter, the detection limit for ^{239}Pu would be in the 10^7 µCi/ℓ range. W. I. Winters is going to look at analytical techniques for analyzing the insoluble material.

It is interesting to note that americium is associated only with S and TX samples. Waste from 234-5 building americium recovery process is processed through the 242-T Evaporator which accounts for the high americium analyses in the TX samples.

Other than ^{137}Cs, most of the gamma activity in the waste is associated with insoluble solids. Cesium found on the filter may be due to small aluminosilicate solids such as cancrinite which trap cesium.

The sample from 109-BX contained so many insoluble solids it was not possible to count the filter on the Ge(Li) detector. The appearance of the solids was similar to sludge in that they were reddish-brown and very flocculant.

Please call me if you have any questions regarding this work.

JSB:ms

Att. (3)

cc: H Babad
WR Christensen
JE Hammelman
NL Harms
SJ Johnson
DC Lini
RC Roal
NC Rodewald
WW Schulz
RE Van der Cook
RL Walser
WI Winters
Process Aids (7)
File
LB

S102.6H

TABLE I

ANALYSIS OF ALKALINE WASTE SOLUTIONS

	102-S		111-S		109-BX		110-BX		109-TX		118-TX	
Density, g/ml at °C	1.333 75		1.484 85		1.311 85		1.414 63		1.485 65		1.375 65	
H_2O		41.6%		54.6%				52.5%		59.7%		45.6%
$NaAlO_2$	0.97M	6.0%	1.69M	9.3%	0.005M	<0.1%	1.90M	11.0%	1.48M	8.2%	1.19M	7.1%
$NaNO_2$	1.09M	5.6%	2.14M	10.0%	1.33M	7.0%	1.47M	7.2%	2.63M	12.2%	1.71M	8.6%
$NaNO_3$	3.78M	24.1%	4.30M	24.6%	4.50M	29.2%	3.74M	22.5%	5.76M	33.0%	4.16M	25.7%
NaOH	2.02M	6.1%	3.82M	10.3%	<0.01M	<0.1%	3.28M	9.3%	2.32M	6.2%	4.28M	12.5%
Na_2CO_3	0.20M	1.6%	0.22M	1.6%	0.29M	2.3%	0.23M	1.7%	0.26M	1.9%	0.23M	1.8%
Na_3PO_4	0.06M	0.7%	0.05M	0.6%	0.18M	2.2%	0.01M	0.1%	0.10M	1.1%	0.07M	0.8%
Na_2SiO_3	0.003M	<0.1%	0.007M	<0.1%	0.005M	<0.1%	0.008M	<0.1%	0.004M	<0.1%	0.002M	<0.1%
NaF	0.006M	<0.1%	0.010M	<0.1%	<0.001M	<0.1%	0.046M	0.1%	0.009M	<0.1%	0.008M	<0.1%
TOTAL		85.9%		110.0%				104.4%		122.5%		102.5%
^{137}Cs	3.61×10^5	μCi/ℓ	6.33×10^5	μCi/ℓ	4.32×10^4	μCi/ℓ	3.45×10^5	μCi/ℓ	5.19×10^6	μCi/ℓ	3.67×10^5	μCi/ℓ
^{134}Cs	1.05×10^3	μCi/ℓ	2.07×10^4	μCi/ℓ	-		1.28×10^3	μCi/ℓ	-		1.43×10^3	μ
^{125}Sb	2.97×10^3	μCi/ℓ	1.01×10^4	μCi/ℓ	-		-		-		4.93×10^3	μ
$^{239+240}Pu$	3.27	μCi/ℓ	0.50	μCi/ℓ	4.14	μCi/ℓ	0.14	μCi/ℓ	0.205	μCi/ℓ	3.21	μ
^{238}Pu	0.19	μCi/ℓ	0.05	μCi/ℓ	0.17	μCi/ℓ	0.01	μCi/ℓ	0.045	μCi/ℓ	0.36	μ
^{237}Np	0.05	μCi/ℓ	0.015	μCi/ℓ	0.01	μCi/ℓ	0.005	μCi/ℓ	0.02	μCi/ℓ	0.03	μ
^{241}Am	9.1	μCi/ℓ	4.07	μCi/ℓ	0.01	μCi/ℓ	0.06	μCi/ℓ	1.48	μCi/ℓ	129.5	μ

5102.65

TABLE II

FILTERABLE ACTIVITY IN ALKALINE WASTE SOLUTIONS
µCi/ℓ UNFILTERED SOLUTION

	102-S	111-S	110-BX	109-TX	118-TX
^{241}Am	2.11×10^3	4.92×10^3	-	6.61×10^3	8.65×10^4
^{144}Ce	2.07×10^4	5.51×10^4	-	8.05×10^3	8.02×10^3
^{154}Eu	6.60×10^3	1.21×10^4	-	1.41×10^3	4.56×10^2
^{155}Eu	2.23×10^4	3.99×10^4	3.01×10^2	4.62×10^3	1.49×10^3
^{134}Cs	5.24×10^2	9.93×10^2	-	32.4	79.6
^{137}Cs	1.34×10^5	8.95×10^4	1.23×10^3	4.30×10^3	1.14×10^4
^{57}Co	-	-	39.8	-	-
^{60}Co	1.78×10^3	7.40×10^3	2.25×10^3	4.10×10^2	1.78×10^2
^{106}Rh	8.45×10^3	5.57×10^5	3.28×10^2	3.25×10^3	-
^{95}Zr	3.09×10^2	5.68×10^3	-	71.3	22.4
^{125}Sb	2.61×10^3	1.87×10^4	-	1.22×10^3	-

TABLE III

SOLUBLE MPC_w FOR CONTROLLED AREA

	µCi/ℓ
^{239}Pu	0.1
^{240}Pu	0.1
^{238}Pu	0.1
^{237}Np	0.09
^{241}Am	0.1

5102.79

Date: August 22, 1975

To: R. L. Walser

From: L. R. Perez, 2-2449 LRP

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-4823 Tank: 102-S
Received: May 27, 1975

Vis-OTR: Dark green Nondeterminable solids 100 mrad/hr

SpG: 1.34 @ 30°C

OH: 2.24 M

Al: 1.09 M

NO_2: 1.44 M

NO_3: 2.92 M

CO_3: 0.263 M

GEA: ^{134}Cs - 1.94×10^4 µCi/gal
^{137}Cs - 3.26×10^5 µCi/gal

Water: 56.73%

LRP:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

5102.72

Date: August 1, 1975

To: R. L. Walser

From: R. E. Wheeler R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-5137 Tank: 102-S
Received: June 13, 1975

Vis-OTR: Dark green Solids unknown 1 rad @ 2"

Ph: 12.9

SpG: 1.41 @ 21°C

OH: 2.32 M

Al: 1.11 M

NO_2: 1.73 M

NO_3: 3.68 M

$^{89,90}Sr$: 3.91×10^4 µCi/gal

CO_3: 0.325 M

GEA: ^{134}Cs - 1.34×10^4 µCi/gal
^{137}Cs - 2.06×10^6 µCi/gal

Water: 44.49%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

5102.68

Date: July 28, 1975

To: R. L. Walser

From: R. E. Wheeler R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-5514 Tank: 102-S
Received: June 20, 1975

Supernatant

Vis-OTR: Greenish-black Solids undetermined 1.5 rad/hr

SpG: 1.5202

OH: 4.29 M

Al: 0.553 M - Rerun: 0.812 M

NO_2: 2.38 M

NO_3: 2.63 M

Co_3: 0.223 M

GEA: ^{134}Cs - 1.44×10^4 μCi/gal
^{137}Cs - 2.88×10^6 μCi/gal

$^{89,90}Sr$: 1.20×10^5 μCi/gal

Water: 47.0%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

5102.7B

Date: July 31, 1975

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-5792 Tank: 102-S
Received: July 2, 1975

Vis-OTR: Dark brown 25% Solids 50 mrad/hr @ 4"

Ph: 13.50

SpG: Insufficient sample

OH: 1.74 M

Al: 1.0 M

NO_2: 1.15 M

NO_3: 2.92 M

$^{89,90}Sr$: 4.02×10^4 µCi/gal

GEA: ^{134}Cs - 6.61×10^3 µCi/gal
^{137}Cs - 1.14×10^5 µCi/gal

Water: 60.31%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

5102.83

Date: September 23, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-5859 Tank: 102-S
Received: July 7, 1975

Vis-OTR: Dark brown 100 % Solids 500 mrad/hr @ 4"

pH: 13.50

SpG: 1.370 @ 21°C

OH: 1.89 M

Al: 1.03 M

NO_2: 0.988 M

NO_3: 3.90 M

$^{89,90}Sr$: 6.26×10^4 µCi/gal

GEA: ^{134}Cs - 6.82×10^3 µCi/gal
^{137}Cs - 1.31×10^6 µCi/gal

Water: 48.41 %

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

5102.69

Date: July 31, 1975

To: R. L. Walser

From: R. E. Wheeler RE Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-5964 Tank: 102-S
Received: July 9, 1975

Vis-OTR: Dark brown Suspended solids 1600 mrad/hr

Ph: 13.5

SpG: 1.35 @ 44°C

OH: 1.57 M

Al: 0.898 M

NO_2: 1.36 M

NO_3: 4.20 M

GEA: ^{134}Cs - 6.72×10^{3} µCi/gal
^{137}Cs - 1.36×10^{6} µCi/gal

$^{89,90}Sr$: 3.58×10^{4} µCi/gal

Water: 45.69%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

T-22 - 95

Atlantic Richfield Hanford Company

5102.98

Date: December 11, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-6042 Tank: 102-S
Received: July 14, 1975

Vis-OTR: Dark green ~5% Solids 1500 mrad/hr

pH: 12.7

SpG: 1.340 @ 21°C

OH: 1.31 M

Al: 0.842 M

Na: 8.48 M

NO_2: 1.34 M

NO_3: 3.50 M

Pu: 3.02×10^{-4} g/gal

D.T.A.: No exotherm below 200°C

SO_4: Sample slurped

PO_4: 4.64×10^{-2} M

F: 9.85×10^{-4} M

CO_3: 0.466 M

GEA: ^{134}Cs - 6.28×10^{3} µCi/gal
^{137}Cs - 1.11×10^{6} µCi/gal

$^{89,90}Sr$: 4.70×10^{4} µCi/gal

Water: 57.99 %

Cl: 8.61×10^{-2} M

Cooling Curve: 30°C for 155 min. < 1% Solids.
25°C for 49 min. < 1% Solids.
20°C for 45 min. < 1% Solids.

54-6000-030 (10-68)

Atlantic Richfield Hanford Company

R. L. Walser
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December 11, 1975

Cooling Curve: 15°C for 60 min. < 1% Solids.
10°C for 45 min. < 1% Solids.
5°C for 45 min. < 1% Solids.

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

54-6000-031 (10-68)
ARF RL RICHLAND, WASH

5102.70

Date: July 31, 1975

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-6226 Tank: 102-S
Received: July 18, 1975

Vis-OTR: Dark green ~25% Solids 500 mrad/hr

Ph: 13.4

OH: 1.72 M

SpG: 1.31° @ 21°C

Al: 0.837 M

NO_2: 1.40 M

NO_3: 3.10 M

$^{89,90}Sr$: 4.24×10^4 µCi/gal

GEA: ^{134}Cs - 6.96×10^3 µCi/gal

^{137}Cs - 1.41×10^6 µCi/gal

Water: 41.14%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
JC Womack
RE Wheeler

54-6000-030 (10-68)

5102.84

Date: September 23, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-6453 Tank: 102-S
Received: July 25, 1975

Vis-OTR: Brown No solids 800 mrad/hr

pH: 12.7

SpG: 1.2861

OH: 1.07 M

Al: 0.514 M

NO_2: 1.21 M

NO_3: 1.98 M

$^{89,90}Sr$: 3.82×10^4 µCi/gal

GEA:
^{134}Cs - 2.74×10^3 µCi/gal
^{137}Cs - 7.89×10^5 µCi/gal
$^{106}RuRh$ - 1.32×10^5 µCi/gal
^{154}Eu - 1.21×10^3 µCi/gal

Water: 63.5 %

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

5102.90

Date: November 13, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-6806 Tank: 102-S
Received: August 5, 1975

Vis-OTR: Dark brown 80% Solids 800 mrad/hr

pH: 13.3

SpG: 1.320 @ 54°C

OH: 1.98 M

Al: 0.826 M

NO_2: 1.52 M

NO_3: 3.30 M

$^{89,90}Sr$: 8.27×10^4 µCi/gal

GEA: ^{134}Cs - 2.85×10^3 µCi/gal
^{137}Cs - 7.04×10^5 µCi/gal

Water: 54.07%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

5102.89

Date: September 19, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-7092 Tank: 102-S
Received: August 15, 1975

Vis-OTR: Dark brown 1 % Solids 3 rad/hr

pH: 12.90

SpG: 1.5130

OH: 2.98 M

Al: 1.91 M

NO_2: 1.90 M

NO_3: 4.29 M

$^{89,90}Sr$: 5.05×10^4 μCi/gal

GEA: ^{134}Cs = 1.29×10^4 μCi/gal
^{137}Cs = 2.17×10^6 μCi/gal

Water: 53.16 %

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

5102.82

Date: September 22, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2499 R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-7218 Tank: 102-S
Received: August 19, 1975

Vis-OTR: Dark brown No solids 700 mrad/hr

pH: 12.5

SpG: 1.3662

OH: 1.78 M

Al: 0.754 M

NO_2: 1.96 M

NO_3: 3.33 M

$^{89,90}Sr$: 4.73×10^4 µCi/gal

GEA: ^{134}Cs - 8.63×10^3 µCi/gal
^{137}Cs - 1.50×10^6 µCi/gal

Water: 69.40 %

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

S102.88

Date: September 19, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R W Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-7340 Tank: 102-S
Received: August 25, 1975

Vis-OTR: Dark brown No solids 2.5 rad/hr

pH: 12.5

SpG: 1.395

OH: 2.18 M

Al: 1.11 M

NO_2: 1.59 M

NO_3: 3.40 M

$^{89,90}Sr$: 4.66×10^4 µCi/gal

GEA: ^{134}Cs - 8.44×10^3 µCi/gal
^{137}Cs - 1.67×10^6 µCi/gal
^{60}Co - 5.62×10^2 µCi/gal
^{154}Eu - 9.39×10^2 µCi/gal

Water: 74.13 %

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

(5102.8B)

Date: September 19, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 RWheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-7627 Tank: 102-S
Received: September 2, 1975

Vis-OTR: Light brown No solids 500 mrad/hr

pH: 12.0

SpG: 1.1716

OH: 0.488 M

Al: 0.278 M

NO_2: 0.556 M

NO_3: 1.40 M

$^{89,90}Sr$: 1.84×10^4 µCi/gal

GEA: ^{134}Cs - 2.33×10^3 µCi/gal
^{137}Cs - 4.61×10^5 µCi/gal
^{60}Co - 4.08×10^2 µCi/gal

Water: 79.37 %

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

T-12-L-35

Atlantic Richfield Hanford Company

(5102.87)

Date: October 20, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-7703 Tank: 102-S
Received: September 3, 1975

Vis-OTR: Brown No solids 1200 mrad/hr

pH: 12.2

SpG: 1.3308

OH: 1.79 M

Al: 0.958

Na: 7.79 M

NO_2: 1.82 M

NO_3: 2.96 M

Pu: 3.03×10^{-4} g/gal

D.T.A.: No exotherm below 200°C - exotherm @ 235°C

SO_4: Cancelled

PO_4: 2.92×10^{-2} M

Cl: 0.110 M

F: 2.02×10^{-3} M

CO_3: 0.463 M

GEA: ^{60}Co - 6.64×10^{2} µCi/gal
^{134}Cs - 9.69×10^{3} µCi/gal
^{137}Cs - 1.47×10^{6} µCi/gal

$^{89,90}Sr$: 4.01×10^{4} µCi/gal

Water: 42.38 %

54-6000-030 (10-68)

R. L. Walser
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Cooling Curve:	35°C for 45 min.	No solids.
	30°C for 45 min.	No solids.
	25°C for 45 min.	No solids.
	20°C for 45 min.	No solids.
	15°C for 45 min.	No solids.
	10°C for 45 min.	No solids.
	5°C for 45 min.	No solids.

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

54-6000-031 (10-68)
ARC-RL RICHLAND WASH.

Atlantic Richfield Hanford Company

T.C. - 110

WHC-SD-WM-ER-323, Rev. 0

Date: 3-16-76

To: R. L. WALSER

5102.106

From: R. E. Wilcox

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE No. T 2278 TANK: 102-S
RECEIVED: 9-8-75

VIS-OTR: GREEN, ~1% solids 1.5 mRads/hr

pH	13.2	CO_3	0.139 M	Al	0.565 M
SpG	1.2948	PO_4	4.35×10^{-2} M	Na	5.21 M
% Water	69.09 M	SO_4		Cu	
OH	1.21 M	Cl	3.63×10^{-2} M	Pb	
NO_3	2.76 M	F	3.54×10^{-1} M	Hg	
NO_2	1.27 M				

Pu 1.51×10^{-4} g/gal

GEA:

^{134}Cs	5.84×10^{3} uCi/gal		$^{90,90}Sr$	2.44×10^{7} uCi/gal
^{137}Cs	1.09×10^{6} uCi/gal		^{125}Sb	3.56×10^{3} uCi/gal
^{60}Co	1.55×10^{3} uCi/gal		$^{106}RuRh$	uCi/gal
			$^{144}CePr$	uCi/gal

Cooling Curve:

35° for 35 minutes	—
30° for 35 minutes	—
25° for 35 minutes	—
20° for 35 minutes	no solids
15° for 35 minutes	" "
10° for 35 minutes	" "
5° for 35 minutes	" "

DTA: No EXOTherm below 200 °C

5102.78

Date: September 19, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-4963 Tank: 102-S
Received: June 2, 1975

Vis-OTR: Black Solids unknown 2 rad/hr

pH: 10.0

SpG: 1.4 @ 100°C

OH: 2.34 M

Al: 1.07 M

NO_2: 1.82 M

NO_3: 2.98 M

$^{89,90}Sr$: 1.02×10^5 µCi/gal

CO_3: 0.258 M

GEA:
^{60}Co - 2.85×10^3 µCi/gal
^{125}Sb - 9.26×10^3 µCi/gal
^{134}Cs - 1.67×10^4 µCi/gal
^{137}Cs - 3.43×10^6 µCi/gal
^{154}Eu - 4.10×10^3 µCi/gal

Water: 50.44 %

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

54-6000-030 (10-68)

5102.88

Date: October 20, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-8350 Tank: 102-S
Received: September 29, 1975

Vis-OTR: Green No solids 1200 mrad/hr

pH: 12.2

SpG: 1.346

OH: 1.66 M

Al: 1.02 M

NO_2: 1.41 M

NO_3: 2.66 M

D.T.A.: No exotherm below 200°C, exotherm @ 240°C

GEA: ^{125}Sb - 1.87×10^4 µCi/gal
^{134}Cs - 7.53×10^3 µCi/gal
^{137}Cs - 1.39×10^6 µCi/gal

$^{89,90}Sr$: 6.85×10^3 µCi/gal

Water: 77.24 %

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

5102.85

Dated: October 20, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 RWheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-8446 Tank: 102-S
Received: September 30, 1975

Vis-OTR: Dark brown No solids 1 rad

pH: 13.0

SpG: 1.398

OH: 1.94 M

Al: 1.085 M

NO_2: 1.79 M

NO_3: 2.92 M

GEA: ^{134}Cs - 7.95×10^3 µCi/gal
^{137}Cs - 1.64×10^6 µCi/gal

$^{89,90}Sr$: 3.38×10^4 µCi/gal

REW:ew

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

T-102-95

5102.95

Date: December 3, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-8634 Tank: 102-S
Received: October 7, 1975

Vis-OTR: Green 10% Solids 1500 mrad/hr

pH: 12.7

SpG: 1.190 @ 59°C

OH: 0.970 M

Al: 0.444 M

Na: 7.60 M

NO_2: 0.596 M

NO_3: 1.99 M

Pu: 2.42×10^{-4} gm/gal

D.T.A.: Non-exotherm

SO_4: Cancelled

PO_4: 9.08×10^{-2} M

Cl: 5.04×10^{-2} M

F: 9.72×10^{-5} M

CO_3: 0.115 M

GEA: ^{134}Cs - 2.70×10^{3} μCi/gal
^{137}Cs - 7.06×10^{5} μCi/gal

$^{89,90}Sr$: 1.35×10^{4} μCi/gal

Water: 76.82 %

54-6000-030 (10-68)

R. L. Walser
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Cooling Curve:	35°C for 35 min.	No solids.
	30°C for 35 min.	No solids.
	25°C for 35 min.	No solids.
	20°C for 35 min.	No solids.
	15°C for 35 min.	No solids.
	10°C for 35 min.	No solids.
	5°C for 35 min.	No solids.

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

54-6000-031 (10-68)
ARC-RL RICHLAND, WASH.

5102.PSI

Date: January 8, 1976

To: R. L. Walser

From: R. E. Wheeler, 2-2449 RWheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-8706 Tank: 102-S
Received: October 10, 1975

Vis-OTR: Dark brown 3 phase 2 rad

pH: 13.3

SpG: 1.38 @ 72°C

OH: 1.70 M

Al: 0.923 M

NO_2: 3.48 M

NO_3: 4.29 M

$^{89,90}Sr$: 2.41×10^5 µCi/gal

GEA: ^{134}Cs - 5.02×10^3 µCi/gal
^{137}Cs - 1.25×10^6 µCi/gal

Water: 56.12%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

5102.10B

Date: January 19, 1976

To: R. L. Walser

From: R. E. Wheeler, 2-2449

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-8864 Tank: 102-S
Received: October 15, 1975

Vis-OTR: Yellow 80% solids 1600 mrad/hr

pH: 13.2

SpG: 1.436

OH: 2.62 M

Al: 1.40 M

NO_2: 1.47 M

NO_3: 4.91 M

$^{89,90}Sr$: 4.25×10^5 µCi/gal

GEA: ^{134}Cs - 1.09×10^4 µCi/gal
^{137}Cs - 2.0×10^6 µCi/gal
^{125}Sb - 6.85×10^3 µCi/gal

Co_3: 0.380 M

Water: 46.82%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

5102.89

Date: November 6, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-9049 Tank: 102-S
Received: October 21, 1975

Vis-OTR: Brown > 75% Solids 1800 mrad/hr

pH: 13.7

SpG: 1.480 @ 61% C

OH: 3.02 M

Al: 1.64 M

NO_2: 2.58 M

NO_3: 4.40 M

$^{89,90}Sr$: 5.56×10^4 µCi/gal

GEA: ^{134}Cs - 1.36×10^4 µCi/gal
^{137}Cs - 3.19×10^6 µCi/gal

Water: 65%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

5102.104

Date: February 12, 1976

To: R. L. Walser

From: R. E. Wheeler, 2-2449

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-9394 Tank: 102-S
Received: November 3, 1976

Vis-OTR: Dark brown No solids 700 mrad/hr

pH: 12.8

SpG: 1.326

OH: 1.57 M

Al: 0.823 M

Na: 7.50 M

NO_2: 1.77 M

NO_3: 2.92 M

Pu: 1.17×10^{-4} g/gal

D.T.A.: No exotherm below 200°C, exotherm @ 250°C

PO_4: 1.77×10^{-2} M

CL: 9.04×10^{-2} M

F: 4.19×10^{-5} M

CO_3: 0.468 M

GEA: ^{134}Cs - 5.62×10^{3} µCi/gal
^{137}Cs - 1.44×10^{6} µCi/gal

$^{89,90}Sr$: 3.53×10^{4} µCi/gal

Water: 58.62%

R. L. Walser
Page 2
February 12, 1976

Cooling Curve:	35°C for 35 min.	No solids.
	30°C for 35 min.	No solids.
	25°C for 35 min.	No solids.
	20°C for 35 min.	No solids.
	15°C for 35 min.	No solids.
	10°C for 35 min.	No solids.
	5°C for 35 min.	No solids.

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

5102.92

Date: November 21, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-9515 Tank: 102-S
Received: November 5, 1975

Vis-OTR: Dark Brown Suspended Solids 1500 mrad/hr

pH: 13.5

SpG: 1.410 @ 52°C

OH: 2.00 M

Al: 1.06 M

NO_2: 5.14 M

NO_3: 6.44 M

$^{89,90}Sr$: 3.64×10^4 µCi/gal

GEA: ^{134}Cs - 6.40×10^3 µCi/gal
^{137}Cs - 1.82×10^5 µCi/gal

Water: 54.8%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

Atlantic Richfield Hanford Company

5102.9B

Date: November 18, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-9697 Tank: 102-S
Received: November 11, 1975

Vis-OTR: Dark brown Suspended solids 700 mrad/hr

pH: 14.0

SpG: 1.420 @ 50.5°C

OH: 2.42 M

Al: 1.17 M

NO_2: 5.44 M

NO_3: 7.64 M

$^{89,90}Sr$: 9.92×10^4 µCi/gal

GEA: ^{134}Cs - 7.18×10^3 µCi/gal
^{137}Cs - 2.01×10^6 µCi/gal
$^{103}RuRh$ -<3.64×10^3 µCi/gal

Water: 50.34%

NH_4: 1.70×10^{-2} M

CO_3: 0.181 M

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

54-6000-030 (10-68)

5102.105

Date: January 21, 1976

To: R. L. Walser

From: R. E. Wheeler, 2-2449

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-9952 Tank: 102-S
Received: November 19, 1975

Vis-OTR: Dark brown Suspended solids 1700 mrad/hr

pH: 13.5

SpG: 1.290 @ 61°C

OH: 1.20 M

Al: 0.550 M

NO_2: 2.20 M

NO_3: 3.44 M

$^{89,90}Sr$: 2.57×10^4 µCi/gal

GEA: ^{134}Cs - 4.63×10^3 µCi/gal
^{137}Cs - 9.69×10^5 µCi/gal

Water: 68.40%

Cu: $< 1.73 \times 10^{-4}$ M

Pb: 1.69×10^{-4} M

Hg: 7.24×10^{-4} M

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

S102.95

Date: December 3, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-37 Tank: 102-S
Received: November 21, 1975

Vis-OTR: Greenish brown No OTR

pH: 13.6

SpG: 1.28 @ 57°C

OH: 1.59 M

Al: 0.626 M

NO_2: 1.68 M

NO_3: 2.60 M

$^{89,90}Sr$: 2.58×10^4 µCi/gal

GEA: ^{134}Cs - 3.63×10^3 µCi/gal
^{137}Cs - 1.04×10^6 µCi/gal
^{103}Ru - $<1.56 \times 10^4$ µCi/gal

Water: 65.84%

NH_4: 1.40×10^{-2} M

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

(5102.98

Date: December 3, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449 RWheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-119 Tank: 102-S
Received: November 24, 1975

Vis-OTR: Dark brown, cruddy 2300 mrad/hr

pH: 11.4

SpG: 1.44 @ 26°C

OH: 2.20 M

Al: 1.13 M

NO_2: 2.72 M

NO_3: 5.10 M

$^{89,90}Sr$: 4.20×10^4 µCi/gal

GEA: ^{134}Cs - 7.64×10^3 µCi/gal
^{137}Cs - 1.85×10^6 µCi/gal
^{103}Ru - $<2.77 \times 10^4$ µCi/gal

Water: 48.22 %

NH_4: 4.46×10^{-2} M

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

(5102.97 ✓

Date: December 11, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-378 Tank: 102-S
Received: December 5, 1975

Vis-OTR: Dark brown ~25% Suspended Solids 1200 mrad/hr

pH: 13.5

SpG: 1.390 @ 52°C

OH: 1.66 M

Al: 0.990 M

NO_2: 2.0 M

NO_3: 4.40 M

$^{89,90}Sr$: 3.27×10^4 µCi/gal

GEA: ^{134}Cs - 7.34×10^3 µCi/gal
^{137}Cs - 1.42×10^6 µCi/gal

Water: 53.74 %

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

5102.1

Date: December 15, 1975

To: R. L. Walser

From: R. E. Wheeler, 2-2449

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-506 Tank: 102-S
Received: December 9, 1975

Vis-OTR: Dark green ~ 25% solids 600 mrad/hr

pH: 11.7

SpG: 1.430 @ 58°C

OH: 1.80 M

Al: 0.914 M

NO_2: 2.22 M

NO_3: 4.44 M

$^{89,90}Sr$: 3.41×10^4 µCi/gal

GEA: ^{134}Cs - 1.02×10^4 µCi/gal
^{137}Cs - 1.74×10^5 µCi/gal

Water: 49.23 %

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

T-B-10.

Atlantic Richfield Hanford Company

WHC-SD-WM-ER-323, Rev. 0

Date: 3-16-76

To: R. L. WALSER

From: R. C. Wheeler

S102.107

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE No. T 1018 TANK: 102-S
RECEIVED: 12-28-75

VIS-OTR: DARK BROWN, Suspended solids, 1.5 RAD/hr

pH	13		CO_3	0.43	M	Al	1.54 M
SpG	1.4 @ 55°C		PO_4	6.38×10^{-2}	M	Na	11.34 M
% Water	50.12 %		SO_4	4.3×10^{-2}	M	Cu	8.18×10^{-5} M
OH	2.22	M	Cl	0.157	M	Pb	3.02×10^{-4} M
NO_3	4.84	M	F	1.5×10^{-3}	M	Hg	2.46×10^{-3} M
NO_2	2.06	M					

Pu 4.84×10^{-6} g/gal

$^{89,90}Sr$ 3.49×10^{4} µCi/gal

GEA:

^{134}Cs	9.22×10^{3} µCi/gal		^{125}Sb	µCi/gal
^{137}Cs	2.16×10^{6} µCi/gal		$^{106}RuRh$	µCi/gal
^{60}Co	µCi/gal		$^{144}CePr$	µCi/gal

Cooling Curve:
35° for 35 minutes Suspended solids
30° for 35 minutes
25° for 35 minutes
20° for 35 minutes
15° for 35 minutes
10° for 35 minutes
5° for 35 minutes

DTA: No Exotherms below 200°C, Exotherm at 250°C

34-5000-030 (10-88)

5102.102

Date: January 19, 1976

To: R. L. Walser

From: R. E. Wheeler, 2-2449

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-1193 Tank: 102-S
Received: January 5, 1976

Vis-OTR: Dark brown Suspended solids 1800 mrad/hr

pH: 13.7

SpG: 1.40 @ 67°C

OH: 2.06 M

Al: 1.21 M

NO_2: 2.26 M

NO_3: 4.94 M

$^{89,90}Sr$: 2.99×10^4 µCi/gal

GEA: ^{134}Cs - 8.80×10^3 µCi/gal
^{137}Cs - 1.91×10^6 µCi/gal

Water: 50.32%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

5102.103

Date: January 15, 1976

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-1330 Tank: 102-S
Received: January 7, 1976

Vis-OTR: Dark green Suspended solids 1800 mrad/hr

pH: 14.0

SpG: 1.38 @ 59°C

OH: 1.53 M

Al: 0.982 M

NO_2: 1.70 M

NO_3: 4.30 M

$^{89,90}Sr$: 7.03×10^4 µCi/gal

GEA: ^{134}Cs - 5.84×10^3 µCi/gal
^{137}Cs - 1.42×10^6 µCi/gal

Water: 59.48%

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

Atlantic Richfield Hanford Company

5102.105

Date: February 13, 1976

To: R. L. Walser

From: R. E. Wheeler, 2-2449 R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
Sample: T-1683 Tank: 102-S
Received: January 20, 1976

Vis-OTR: Dark green Suspended solids 2 rad

pH: 13.0

SpG: 1.39 @ 60°C

OH: 1.33 M

Al: 0.978 M

Na: 8.10 M

NO_2: 1.75 M

NO_3: 3.90 M

Pu: 5.22×10^{-4} gm/gal

D.T.A.: No exotherm below 200°C, exotherm @ 245°C

PO_4: 0.104 M

Cl: 0.154 M

F: 2.42×10^{-3} M

CO_3: 0.442 M

Cu: $< 9.6 \times 10^{-5}$ M

Hg: 2.22×10^{-3} M

Pb: 2.32×10^{-4} M

GEA: ^{134}Cs - 6.32×10^{3} μCi/gal
^{137}Cs - 1.56×10^{5} μCi/gal

$^{89,90}Sr$: 2.32×10^{4} μCi/gal

54-6000-030 (10-68)

R. L. Walser
Page 2
February 13, 1976

Water: 54.86%

Cooling Curve: Suspended solids

REW:eyw

cc: JS Buckingham
WR Christensen
RM Ginestet
KE Nelson
JC Womack

54-6000-031 (10-68)
ARC-RL RICHLAND, WASH.

Date: 4-27-76

S102.108

To: R. L. WALSER

From: Supervisor, Analytical Services

Subject: ANALYSES OF TANK FARM SAMPLE
Sample No: T2395 Tank: 102-S Received: 2-17-76

VIS-OTR: DARK BROWN No Solids 1500 mrad/Hr

pH 13.2 CO_3 0.238 M Al 0.453 M

SpG 1.250 PO_4 4.70×10^{-2} M Na 5.03 M

$\%H_2O$ 66.58 SO_4 UNable To RUN M Cu 1.51×10^{-4} M

OH 0.793 M Cl 6.02×10^{-2} M Pb 5.17×10^{-4} M

NO_3 2.42 M F 9.38×10^{-3} M Hg 8.04×10^{-4} M

NO_2 0.531 M

Pu 3.33×10^{-3} gm/gal $^{89,90}Sr$ 1.97×10^{5} µCi/gal

GEA: ^{137}Cs 8.19×10^{5} µCi/gal $^{106}RuRh$ — µCi/gal

^{134}Cs 2.77×10^{3} µCi/gal ^{154}Eu — µCi/gal

^{60}Co 2.36×10^{3} µCi/gal ^{155}Eu 1.46×10^{4} µCi/gal

^{144}Ce 1.86×10^{4} µCi/gal ^{125}Sb — µCi/gal

^{144}Pr — µCi/gal

COOLING CURVE:

35°	25	minutes	No Solids
30°		minutes	
25°		minutes	
20°		minutes	
15°		minutes	
10°		minutes	
5°		minutes	

DTA: No Exotherm below 200°C
Exotherm @ 233°C + 315°C

TERC-112

Internal Letter

Rocl

WHC-SD-WM-ER-323, Rev. 0

Date. April 5, 1979

No. 65120-79-062 J

TO (Name, Organization, Mail Stop, Address)
- K. G. Carothers
- Process Engineering
- 2750-E, 200 East

FROM (Name, Organization, Mail Stop, Address)
- G. E. Brown
- Chemical Sciences Group
- 222-S, 200 West
- 2-1571

Subject. Tank 102-S Customer Waste Analyses

This letter reports results from Analytical Laboratory on a customer waste sample from Tank 102-S, received on January 31. The sample was a light green solution with about 10 percent settled solids. The solids all dissolved when the sample was heated to 60° C. The table below lists the results.

S102.109

Analysis	Results	Rerun Results
NO_3^-	2.04 M	1.65 M
NO_2^-	1.55 M	
SO_4^{2-}	.27 M	
PO_4^{3-}	.12 M	
Al^{+3}	IS**	.51 M
OH^-	IS	.49 M
CO_3^{2-}	.62 M	.56 M
TOC*	10.6 gm/l	13.0 gm/l
Density	1.257	
% H_2O	61.74	
Cs^{137}	2.63×10^5 μCi/l	
Cs^{134}	4.07×10^2 μCi/l	
CO^{60}	4.17×10^2 μCi/l	

Please contact me if you need further information.

Glenda E. Brown

G. E. Brown, Chemist
Waste Chemistry Unit

GEB:jkr

Information: D. R. Jorgenson
F. M. Jungfleisch
T. A. Lane
R. A. Zinsli
File: KF55E

* Total Organic Carbon
** Insufficient Sample

TCRC-117

Internal Letter

Rockwell International

401

DATE March 28, 1980

65453-080-118

TO

H. J. Eding
Systems Engineering
2750E, A-227

M. T. Jansky
Separations Process Development Uni
MO-037, 200 West
2-1571

SUBJ Hot Boildown of Tank 102-S Liquor

In response to a request, a hot boildown of Tank 102-S liquor was done. The waste was a product of the second partial neutralization (PN) campaign. The main purpose of this boildown was to see if double shell slurry (DSS) could be made from 102-S liquor.

The boiling temperature and pressure data were gathered as a function of waste volume reduction (WVR) and are shown in Table I. Viscosity data were not obtained due to the presence of solids in the original sample as well as in the product. The "hot" cone viscometer is not useable for mixtures.

The following observations were noted during the boildown. The sample, when placed in the boildown flask, separated into four phases:

a) jelled crust

b) jelled liquid phase

c) layer of suspended solids

d) settled solids

The sample foamed at 40 torr and the boiling point. The foam remained throughout the boildown. The sample behaved as uncomplexed waste.

The product after 40% WVR was in three phases:

a) solid crust

b) viscous middle phase

c) white settled solids (≈17% by volume)

To obtain a uniform mixture for analysis, the sample was reheated (at 80 torr) to dissolve the solids. Some solids dissolved, aliquots of the liquor transferred to centrifuge cones, and centrifuged. After centrifugation, the aliquots were 100% solids, with no gel phase present. A portion was submitted to Analytical Laboratories for analyses. A second portion was warmed to 80°C to dissolve solids, allowed to sit to settle insoluble solids by gravity, and the liquid phase decanted and submitted for analysis. The low water content of the supernatant liquor, as shown in Table III, is unreal, and makes calculations of weight percent in "dry"

H. J. Eding
Page 2
March 28, 1980

solids impossible. This, in turn, will not allow any conclusions concerning DSS to be reached. The analyses of the received sample are shown in Table II. The analyses of the product solids and supernatant are shown in Table III.

Future boildowns will be conducted such that the product solids and supernatant will be separated at temperature. This will alleviate the problems encountered here.

Please call if you have any questions regarding this work.

M. T. Jansky
Advanced Chemist

MTJ:naj

Information:
R. B. Bendixsen
D. E. Bowers
L. C. Brown
J. S. Buckingham
G. T. Dukelow
D. L. Herting
T. A. Lane
R. D. Prosser
T. B. Veneziano
~~Process~~ Aids (8)
File Code: KF55E

H. J. Eding
Page 3
March 28, 1980

TABLE I

Temperature and Pressure at Boiling versus WVR for Tank 102-S

Percent WVR	Temperature (°C/°F)	Pressure (Torr)
0	51.6/125.0	40
	58.4/137.2	60
	64.6/148.2	80
10	54.6/130.2	40
	62.2/144.0	60
	68.2/154.6	80
20	58.2/136.8	40
	66.0/151.0	60
	73.0/163.4	80
30	64.6/148.2	40
	71.8/161.4	60
	77.8/172.0	80
40	75.8/168.4	40
	80.8/177.0	60
	88.2/190.8	80

H. J. Eding
Page 4
March 28, 1980

S102.112.

TABLE II

Composition of Tank 102-S Waste Liquor Samples, Sample #T-9101

Component	Molarity	Wt. Percent
$NaAlO_2$	1.77*	10.35
NAOH	4.04*	11.53
$NANO_3$	2.19	13.28
$NaNO_2$	2.64	12.99
$Na_3PO_4.12H_2O$	0.0502	1.36
Na_2SO_4	0.0042	0.04
$Na_2CO_3.H_2O$	0.137	1.21
TOC	--	--
Pu (g/L)	8.23×10^{-6}	--
U (g/L)	3.23×10^{-4}	--
H_2O	48.25	48.25
Total		99.01
SpG.	1.4018	

*These values are rerun averages.
Initial valves were: Al = 0.930M
OH^- = 4.87 M

H. J. Eding
Page 5
March 28, 1980

TABLE III ~~5102-113~~

Composition of Boildown Products from Tank 102-S

Component	Product Supernatant Molarity	Product Supernatant Wt Percent	Product Solids Wt.% in wet solids
$NaAlO_2$	0.50	2.87	13.65
NaOH	0.30	2.24	11.05
$NaNO_3$	0.808	4.80	19.43
$NaNO_2$	0.5996	2.99	16.76
$Na_3PO_4.12H_2O$	0.0346	0.92	2.13
Na_2SO_4	0.0048	0.05	0.13
$Na_2CO_3.H_2O$	0.045	0.390	2.11
TOC	--	--	--
U (g/L)	1.30×10^{-4}	9.1×10^{-6}	4.39×10^{-8}
H_2O	--	25.32	24.3
Total		39.48	89.6
Sp.G	1.43		

TCRC-1

Atlantic Richfield Hanford Company

00347

5103.4

Date: September 21, 1971

To: J. O. Skoglund

From: D. A. Puryear

Subject: CHARACTERIZATION OF S, U, AND SX WASTE TANKS

Sampling and analyses of S, U and SX waste tanks to identify feed material for the 242-S vacuum evaporator is progressing. To date three one liter samples from the S Farm tanks have been processed through the laboratory vacuum evaporator. In addition ten S Farm tanks and six U Farm tanks have been sampled and submitted for characterization analyses. The results are shown in the following table.

Characterization Analyses of Waste Tanks

Tk.No.	SpGr	Visc. 50 °C	CO_3	NO_3	NO_2	TAD	Al	Na	^{137}Cs µCi/ml
101-S	1.412	2.23	.011	3.82	.642	3.62	1.41	9.01	155
102-S	1.317	1.12	.064	5.92	.126	2.15	.24	8.48	124
103-S	1.279	.95	.020	4.80	.086	1.86	.28	8.57	104
105-S	1.272	1.05	.064	3.15	.137	2.02	.20	5.86	---
106-S	1.268	.94	.011	4.40	.166	1.88	.17	5.07	87.9
108-S	1.291	1.10	.25	3.61	.108	2.16	.30	6.54	---
109-S	1.272	1.00	.04	3.06	.096	1.88	.211	4.52	---
110-S*	1.269	1.15	.12	3.4	.084	1.93	.30	6.50	66.0
111-S*	1.219	.96	.025	3.4	.30	1.92	.49	8.40	51.6
112-S*	1.262	.92	.073	3.5	.17	1.98	.40	5.87	57.9
108-U	--	--	.036	---	.231	--	.25	4.59	---
111-U	--	--	.066	---	.097	--	.12	4.93	---
102-U									
103-U									
105-U									
106-U									

* Ran in laboratory vacuum evaporator.

The above analyses appear normal except sample 101-S. From the data and parameters gained in the three S tank sample evaporation runs, the results of 101-S appears to be similar in physical and chemical properties of a tank that has been 50 - 60 volume percent reduced. Of specific interest is the high amount of nitrate (0.64M) which may yield a clue in helping to establish the history of this tank.

J. O. Skolrud
Page 2
September 21, 1971

If there are any questions please call me on 2-7478.

DLP:dh

cc: GL Borsheim
JS Buckingham
ME Campbell
DJ Larkin
File
LB
Process Aids (5)

54-6000-031 (10-68)

TCRC-2

Date: December 7, 1973

To: R. L. Walser

From: W. H. Sant

Subject: 242-S FEED SAMPLES T-9490 (10/05/73) 103-S

Vis-OTR	Clear, yellow, 600 mR
pH	11.0
SpG	1.3517
DTA	No Exotherm
Pu	4.93×10^{-7} g/l
Na	8.68 M
SO_4	8.78×10^{-3} M
Al	1.22 M
NO_2	0.852 M
F	2.07×10^{-3} M
CO_3	0.042 M
Cl	
OH	1.96 M
GEA	^{137}Cs - 1.61×10^{5} μCi/l
NO_3	4.36 M

30% reduction - 28.8% % Solids - 20.18%
50% reduction - 52.5% % Solids - 75.0%

$^{89\ 90}Sr$	11.24 μCi/l
PO_4	$<3.77 \times 10^{-4}$ M

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

Date: January 21, 1974

To: R. L. Walser

From: W. H. Sant

Subject: 242-S FEED SAMPLES NUMBER T- 736
SAMPLE POINT 103-S

Vis-OTR	Clear, yellow, 0% solids, 200 mRAD/hr.
pH	11.8
SpG	1.0742
DTA	No Exotherm
Pu	9.51×10^{-7} g/l
Na	1.89 M
SO_4	6.12×10^{-3} M
Al	0.122 M
NO_2	0.067 M
F	5.26×10^{-4} M
CO_3	0.011 M
Cl	
OH	0.523 M
GEA	^{137}Cs - 8.42×10^{4} μCi/l ^{134}Cs
NO_3	1.31 M

30% Reduction - 27.5 % Solids - 0.690

50% Reduction - 50 % Solids - 1.25

$^{89-90}Sr$	Not Requested
PO_4	$<3.77 \times 10^{-4}$ M
% H_2O	86.59

Cooling Curve - 15° C No solids

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

Date: December 6, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8009 103-S

Vis-OTR: Clear, yellow, no solids. 1000 mRad/hr

pH: < 14.5

SpG: 1.235

Al: 0.471 M

Na: 3.84 M

NO_2: 0.579 M

NO_3: 1.43 M

Pu: $< 6.21 \times 10^{-6}$ gm/gal

SO_4: 1.21×10^{-2} M

PO_4: 3.44×10^{-2} M

F: 4.27×10^{-3} M

CO_3: 6.73×10^{-2} M

GEA: ^{134}Cs - 2.88×10^{3} μCi/gal
^{137}Cs - 6.74×10^{5} μCi/gal
$^{106}RuRh$ - 1.21×10^{5} μCi/gal

Water: 77.55%

$^{89,90}Sr$: 9.08×10^{2} μCi/gal

Cooling Curve: 30°C for 45 min. No solids.
25°C for 45 min. No solids.
20°C for 60 min. No solids.
15°C for 45 min. No solids.
10°C for 45 min. No solids.
5°C for 45 min. No solids.

OH: 1.18 M

REW:jd

cc: JS Buckingham
MR Christensen
RM Ernestet
PE Wheeler
JC Womack

24-6000-030 (10-68)
GPO RICHLAND WASH

TCRC-L

Atlantic Richfield Hanford Company

S-1071

Date: August 12, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-4184 104-S

Vis-OTR: Yellow, 10% solids. 100 mrad/hr

pH: > 12.6

SpG: 1.4456

OH: 2.23 M

Al: 0.485 M

Na: 13.82

NO_2: 1.10 M

NO_3: 5.07 M

Pu: $\leq 2.41 \times 10^{-}$ g/l

DTA: No Exotherm

SO_4: 2.78×10^{-2} M

PO_4: 1.08×10^{-4} M

F: 7.53×10^{-3} M

CO_3: 7.55×10^{-2} M

GEA: ^{137}Cs - 5.98×10^{5} µCi/gal

Water: 56.14%

Cooling Curve:

25°C	for 45 min.	No solids.
20°C	for 45 min.	No solids.
15°C	for 45 min.	No solids.
10°C	for 60 min.	Trace of solids.
5°C	for 45 min.	~1% solids.

30% Reduction - 28.75 Solids - 47.37%
50% Reduction - 50.0 Solids - 98.75%

REW:jd

cc: JS Buckingham
LG Johnson
RE Wheeler

54-6000-030 (10-68)
ATLANTIC RICHLAND WASH

Date: February 24, 1976

To: W. R. Christensen

From: J. E. Horton - 2-2529

Subject: CHARACTERIZATION AND ANALYSIS OF TANK 104-S SLUDGE

We received a sample from Tank 104-S on January 9, 1976. The consistency of the sample was like a stiff dough or putty with a tendency to be sticky, being grayish in color.

The calculated heat generation rate due to $^{89+90}Sr$ and ^{137}Cs was 3.07×10^{-3} watts/liter sludge.

Sludge analyses were made by fusing 2.5 milliliters of "as received" centrifuged sludge with KOH, dissolving the melt with con HCl and diluting to a volume of 290 milliliters with water. Laboratory results are shown in Table I.

If you have any questions, please call me.

JEH:ms

cc: H Babad
JS Buckingham
RG Geier
SS Koegler
DC Lini
WP Metz
RE Van der Cook
RL Walser
Process Aids (7)
CTL-123
File
LB

64-6000-030 (10-68)

TABLE I

ANALYSIS OF 104-S TANK SLUDGE

Bulk Density	1.21 g/cc			
Particle Density	2.45 g/cc			
$\%H_2O$		30.3		
Al		3.2	moles/ℓ	
Fe		0.06	moles/ℓ	
Si		0.3	moles/ℓ	
NO_3		13.2	moles/ℓ	
Mg		0.01	moles/ℓ	
Mn		0.02	moles/ℓ	
PO_4		<0.01	moles/ℓ	
Ca		0.09	moles/ℓ	
Ba		<0.09	moles/ℓ	
Pu		4.46×10^{-3}	g/ℓ	
$^{89+90}Sr$		0.38	Ci/ℓ	2.55×10^{-3} watts/ℓ
^{137}Cs		0.11	Ci/ℓ	5.23×10^{-4} watts/ℓ

Atlantic Richfield Hanford Company

00347

Date: September 21, 1971

To: J. O. Skogrud

From: D. A. Puryear

Subject: CHARACTERIZATION OF S, U, AND SX WASTE TANKS

Sampling and analyses of S, U and SX waste tanks to identify feed material for the 242-S vacuum evaporator is progressing. To date three one liter samples from the S Farm tanks have been processed through the laboratory vacuum evaporator. In addition ten S Farm tanks and six U Farm tanks have been sampled and submitted for characterization analyses. The results are shown in the following table.

Characterization Analyses of Waste Tanks

Tk.No.	SpGr	Visc. 50 °C	CO_3	NO_3	NO_2	TAD	Al	Na	^{137}Cs µCi/ml
101-S	1.412	2.23	.011	3.82	.642	3.62	1.41	9.01	155
102-S	1.317	1.12	.064	5.92	.126	2.15	.24	8.48	124
103-S	1.279	.95	.020	4.80	.086	1.86	.28	8.57	104
105-S	1.272	1.05	.064	3.15	.137	2.02	.20	5.86	---
106-S	1.268	.94	.011	4.40	.166	1.88	.17	5.07	87.9
108-S	1.291	1.10	.25	3.61	.108	2.16	.30	6.54	---
109-S	1.272	1.00	.04	3.06	.096	1.88	.211	4.52	---
110-S*	1.269	1.15	.12	3.4	.084	1.93	.30	6.50	66.0
111-S*	1.219	.96	.025	3.4	.30	1.92	.49	8.40	51.6
112-S*	1.262	.92	.073	3.5	.17	1.98	.40	5.87	57.9
108-U	--	--	.036	---	.231	--	.25	4.59	---
111-U	--	--	.066	---	.097	--	.12	4.93	---
102-U									
103-U									
105-U									
106-U									

* Ran in laboratory vacuum evaporator.

The above analyses appear normal except sample 101-S. From the data and parameters gained in the three S tank sample evaporation runs, the results of 101-S appears to be similar in physical and chemical properties of a tank that has been 50 - 60 volume percent reduced. Of specific interest is the high amount of nitrate (0.64M) which may yield a clue in helping to establish the history of this tank.

J. O. Skolrud
Page 2
September 21, 1971

If there are any questions please call me on 2-7478.

DLP:dh

cc: GL Borsheim
JS Buckingham
ME Campbell
DJ Larkin
File
LB
Process Aids (5)

54-6000-031 (10-68)
RECYCL PREPLACE PAGE

TCRC-3

Date: December 7, 1973

To: R. L. Walser

From: W. H. Sant

Subject: 242-S FEED SAMPLES T-9491 (10/05/73) 105-S

Vis-CTR	Clear, Yellow, 450 mR
pH	11.6
SpG	1.2500
DTA	No Exotherm
Pu	6.34×10^{-7} g/l
Na	9.56 M
SO_4	1.13×10^{-2} M
Al	0.211 M
NO_2	0.112 M
F	2.12×10^{-3} M
CO_3	0.034 M
Cl	
OH	1.24 M
GEA	^{137}Cs 8.64×10^{4} μCi/l
NO_3	4.46 M

30% reduction - 27.5% % Solids - 0.862%

50% reduction - 50% % Solids - 13.8%

$^{89\ 90}Sr$ - 3.55 μCi/l

PO_4 $<3.77 \times 10^{-4}$ M

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

54-6000-030 (10-68)

TCRC-4

Date: January 21, 1974

To: R. L. Walser

From: W. H. Sant

Subject: 242-S FEED SAMPLES NUMBER T-737
SAMPLE POINT 105-S

Vis-OTR	Clear, yellow, 10% crystal 1,200 mRAD/hr.
pH	11.5
SpG	1.4833
DTA	No Exotherm
Pu	2.98×10^{-6} g/l
Na	9.14 M
SO_4	2.65×10^{-2} M
Al	0.578 M
NO_2	0.370 M
F	6.03×10^{-3} M
CO_3	0.037 M
Cl	
OH	2.83 M
GEA	^{137}Cs - 2.02×10^{5} μCi/l
	^{134}Cs
NO_3	6.24 M

30% Reduction - 26.25 % Solids - 41.52

50% Reduction - 51.25 % Solids - 98.72

$^{89-90}Sr$	Not Requested
PO_4	$<7.84 \times 10^{-4}$ M
% H_2O	48.9

Cooling Curve - 20° C No solids, 10° C 15% solids

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

54-6000-030 (10-65)

TCRC -6

Date: March 13, 1974

To: M. H. Campbell

From: J. S. Buckingham JSBuckingham

Subject: ANALYSES OF SAMPLES FROM 242-S SLURRY RECEIVING TANKS

The first phase in the program to reduce the volume of residual, non-processable waste liquors was to analyze samples from three 242-S slurry receiving tanks. The three tanks sampled were 105-S, 106-S and 108-S.

The "as received" samples contained 14 to 16 weight percent solids at room temperature. The volume percent solids was around 10 to 12 percent. Analysis of the solid phase from the 105-S sample indicated that it was essentially damp sodium nitrate. Analyses of the mother liquors showed that the water content ranged from 52 to 55 weight percent and the caustic content ranged from 15 to 18 weight percent. The concentration of other components in the waste are discussed in detail below. The curie percent cesium in the solid and mother liquor from 105-S was 14 and 86 percent respectively.

Solids were separated from mother liquors in the "as received" samples by vacuum filtering through M porosity glass frits. Interstitial liquid was removed by pulling water saturated air through the solids for about ten minutes after visible liquid had been removed. The liquid phases were analyzed and the results are shown in Table I. The weight percent of solids and liquids in the "as received" samples are also shown in Table I.

The solids separated from the Tank 105-S sample were analyzed. The results are shown in Table II.

The distribution of ^{137}Cs between the liquid and solid phases from the 105-S sample was calculated based on analyses in Tables I and II. The results are shown below.

Solid	56.3 μCi/g x 0.158 =	8.90 μCi	= 14 percent
Liquid	64.1 μCi/g x 0.842 =	53.97 μCi	= 86 percent

Please call me if you have any questions regarding this work.

JSB:jf

Att.

cc: w/Att.

CH Delegard	WP Metz	AE Smith
RD Fox	DA Puryear	Process Aids (5)
NL Harms	RC Roal	Extra (5)
JP McKnight	WC Schmidt	LB
	HP Shaw	File

Table I

ANALYSIS OF LIQUIDS FROM TANKS 105-S, 106-S, AND 108-S

	105-S		106-S		108-S	
Wt.% solid	15.8		13.6		15.9	
Wt.% liquid	84.2		86.4		84.1	
Liquid Analysis						
density	1.462		1.441		1.429	
H_2O		51.8%		55.4%		55.2%
$NaAlO_2$	1.69M	9.5%	1.26M	7.3%	1.04M	6.0%
$NaNO_2$	0.99M	4.7%	0.76M	3.6%	1.14M	5.5%
$NaNO_3$	1.95M	11.3%	2.32M	13.7%	2.30M	13.7%
NaOH	6.46M	17.7%	5.14M	14.3%	5.16M	14.5%
Na_2CO_3	0.073M	0.5%	0.065M	0.5%	0.095M	0.7%
Na_2SO_4	0.021M	0.2%	0.028M	0.3%	0.049M	0.5%
Na_3PO_4	0.029M	0.3%	0.011M	0.1%	0.016M	0.2%
Total		96.0%		95.2%		96.3%
^{137}Cs, Ci/l	0.097		0.356		0.344	

Table II

ANALYSIS OF SOLID FROM TANK 105-S SAMPLE

H_2O	13.1%
$NaAlO_2$	1.8%
$NaNO_2$	1.1%
$NaNO_3$	78.6%
NaOH	3.6%
Na_2CO_3	0.0%
Na_2SO_4	0.0%
Na_3PO_4	0.0%
Total	98.2%
^{137}Cs	56.3 μCi/g

DRAFT

J. E. Horton
August 21, 1974

Achievement Report

SUMMARIES

- Salt cake samples from tanks 105-S, 106-S, and 111-S.
- Thermal conductivities of 105-S salt.

J. E. Horton
August 21, 1974

TANK FARM ASSISTANCE

Samples of the salt cakes in tanks 105-S, 106-S, and 111-S were taken. These tanks are slurry receiving tanks for the 242-S evaporator. Solids in tanks 105-S, 106-S, and 111-S are primarily sodium nitrate. Details of laboratory work are discussed below. Analysis of the solids and mother liquors are shown below.

The 105-S salt sample is composed of coarse yellow crystals. The yellow crystals are very dry in appearance. A weighed amount of 105-S solids was dissolved in H_2O and made to a volume of 25 ml. Analysis are shown in Table I.

TABLE I

$NaAlO_2$	1.34×10^{-3} M	0.11%
$NaNO_2$	3.73×10^{-3} M	0.26%
Na_2CO_3	2.36×10^{-2} MM	2.54%
$NaNO_2$	1.16 M	100.3%
NaOH	1.26×10^{-2} M	0.5%
H_2O		3.4%
		107.1%

GEA		
^{137}Cs	8.76×10^2 µCi/ℓ	8.9 µCi/g
^{125}Sb	2.20 µCi/ℓ	0.02 µCi/g

As Received Density	1.26
Wet Density	1.78
NPH Density	2.52

J. E. Horton
August 21, 1974

HYGROSCOPICITY

The 105-S salt sample showed no deliquesce after 21 days of testing. Percent gain after 21 days was 11.1 percent. This test was made in air saturated with water vapor at 23 - 25 °C.

Thermal conductivity measurements of 105-S salts were made. Table II reflects the data.

TABLE II

THERMAL CONDUCTIVITIES OF 105-S SOLIDS
(DATA BY D. G. BOUSE)

As Received	21.8 °C	0.251 BTU/hr/ft^2/°F
Held Overnight	62.1 °C	0.247 "
Dried Overnight	80.0 °C	0.235 "
Overnight	114.9 °C	0.216 "
Over Weekend	156.0 °C	0.205 "

The 106-S salt sample has large yellow crystals at the top and coarse crystals at the bottom. A weighed amount of 106-S solids was dissolved in H O and made to a volume of 25 ml. Laboratory analysis of 106-S solids are shown on the following page.

DRAFT

TABLE III

ANALYSIS OF 106-S TANK SOLIDS

	$NaAlO_2$	9.61×10^{-3} M	0.6%
	$NaNO_2$	5.49×10^{-3} M	0.05%
	$NaNO_3$	1.36 M	90.1%
	NaOH	3.26×10^{-2} M	1.0%
	Na_2CO_3	5.0×10^{-2} M	4.1%
	H_2O		4.2%
			100.05%
GEA	^{137}Cs	2.21×10^{3} µCi/ℓ	17.2 µCi/g

Densities of Solids

As Received Density	1.27
Wet Density	1.80
NPH Density	2.28
Dry Density	0.635

TABLE IV

ANALYSIS OF 106-S SUPERNATANT

$NaAlO_2$	1.56 M	8.9%
NaOH	5.33 M	14.9%
$NaNO_2$	0.656 M	3.2%
Na_2CO_3	1.36×10^{-2} M	1.0%
$NaNO_3$	2.49 M	14.8%
H_2O		55.0%
		98.0%

Density 1.429

GEA

^{137}Cs	3.39×10 µCi/ℓ
^{134}Cs	9.11×10 µCi/ℓ

Hygroscopicities of 106-S Salts

The 106-S salt sample shows no deliquescence after 14 days of testing. Percent gain in 14 days of testing was 11.4 percent. This test was made in air saturated with water vapor at 23 - 25 °C.

The 111-S salts are a grayish in color and very sticky. Laboratory work was done on both the supernatant and solid. A portion was dissolved in water and sent to laboratory for analysis.

TABLE V

ANALYSIS OF 111-S SALTS

H_2O		18.4%
$NaAlO_2$	2.31×10^{-2} M	2.3%
$NaNO_2$	3.21×10^{-2} M	2.7%
$NaNO_3$	0.679	69.9%
Na_2CO_3	8.45×10^{-2} M	10.8%
NaOH	0.137M	6.6
Total %		110.7%
$^{89+90}Sr$	6.22×10^2 µCi/ℓ	7.54 µCi/g
GEA ^{137}Cs	7.92×10^3 µCi/ℓ	96.0 µCi/g
Wet Density	1.704	
Dry Density	0.497	

DRAFT

TABLE VI

ANALYSIS OF 111-S SUPERNATANT

$NaAlO_2$	1.34M	7.8%
$NaNO_2$	1.65M	8.1%
NaOH	3.80M	10.7%
$NaNO_3$	2.90M	17.4%
H_2O		54.4%
Total %		98.4%
Density	1.414	
GEA		
^{137}Cs	4.47×10^5 µCi/ℓ	
^{134}Cs	3.04×10^3 µCi/ℓ	

Hygroscopicities of 111-S Salts

The solids from 111-S tank are hygroscopic, absorbing enough water to become deliquescent in six days. The salt had increased 21.6 percent in weight when it deliquesced. This test was made in air saturated with water at 23 - 25 °C.

Laboratory work on sludge samples 104-A, 102-AX, and 110-S are not yet completed, and will be reported at a later date.

TCRC-11

Atlantic Richfield Hanford Company

105-5

Date: September 5, 1974

To:

G. S. Barney	W. E. Ogren
M. H. Campbell	D. A. Puryear
C. H. Delegard	R. C. Roal
N. L. Harms	V. L. Schuelein
R. E. Isaacson	W. W. Schulz
M. J. Kupfer	A. E. Smith
W. P. Metz	D. M. Strachan

From: H. Babad/J. S. Buckingham
ORIGINAL SIGNED BY H. BABAD
ORIGINAL SIGNED BY J. S. BUCKINGHAM

Subject: ANALYSES OF SOLIDIFIED SALT WASTES AND ASSOCIATED MOTHER LIQUORS

A number of samples of solidified salt wastes have been analyzed and reported in monthly reports and technical letters. We thought it would be convenient and useful to accumulate these data on a simple form. Data for salt samples produced by the 242-S evaporator are included here along with notes discussing the analytical methods used.

The notes will be issued only once--the table will be updated weekly for current samples. Analyses of older samples will be added as time permits.

You should be cautioned that the data presented in this informal report may at times be of a preliminary nature. Please use discretion in using these data.

HB:JSB:e

Att.

Tank No.	105-S	106-S	108-S			
Date Sampled	3/74	3/74	3/74			
Source of material	242-S					
Solid						
Bulk Density[1]	–					
Partical Density[1]	–					
H_2O, % [2]	18.1					
$NaAlO_2$, [3]	1.8					
$NaNO_2$, % [3]	1.1					
$NaNO_3$, % [3]	78.6					
NaOH, % [3]	26					
Na_2CO_3, % [3]	0.0					
Na_2SO_4, % [3]	0.0					
Na_3PO_4, % [3]	0.0					
^{137}Cs, uCi/g [3]	56.3	34.6	76.0			
^{90}Sr, µCi/g [3]	–					
^{239}Pu, g/g [3]	–					
Hardness, Kg/cm^2 [4]						
Thermal Conductivity[5]						
50 °C						
100 °C damp						
100 °C dry						
Heat Generation[6]						
Calculated µ watts/g						
Calorimeter						
% Liquid[7]	84.2 wt%	86.4 wt%	84.1 wt%			
Permeability[8]						
Hygroscopicity[10]						
Deliquescenced						
Liquid[9]						
Density, g/cc	1.462	1.441	1.429			
H_2O, %	51.8	55.4	55.2			
$NaAlO_2$, %	9.5	7.3	6.0			
$NaNO_2$, %	4.7	3.6	5.5			
$NaNO_3$, %	11.3	13.7	13.7			
NaOH, %	17.7	14.2	14.5			
Na_2CO_3, %	0.5	0.5	0.7			
^{137}Cs, uCi/l	9.7×10^4	3.52×10^5	3.44×10^5			
^{90}Sr, uCi/l						

ank No.	108-S	108-S	105-S	1,		
Date Sampled	6/25/74	6/27/74	7/26/74	8/2/74	8/9/74	8/19/74
ource of material	242-S	242-S	242-S Intertidal liquor being pumped	242-S	242-S	242-S
	Top layer	Bottom				
olid Bulk Density[1]	1.495	1.393	1.261	1.704	1.275	1.10
Partical Density[1]			2.521		2.282	
H_2O, % [2]	240	115	3.4	18.4	4.2	9.2
$NaAlO_2$, [3]	5.4	1.8	0.1	2.3	0.6	1.1
$NaNO_2$, % [3]	4.6	1.9	0.3	2.7	<0.1	<0.1
$NaNO_3$, % [3]	46.3	68.1	100.3	69.9	90.1	86.1
NaOH, % [3]	6.3	3.6	0.5	6.6	1.0	2.3
Na_2CO_3, % [3]	13.1	6.5	25	10.8	4.1	2.7
Na_2SO_4, % [3]	—	—	—	—		
Na_3PO_4, % [3]	—	—	—	1.2		
^{137}Cs, µCi/g [3]	1.74×10^{-2}	75	8.9	9.6	17.2	56.0
^{90}Sr, µCi/g [3]	3.44×10^{-4}	0.68		7.54		2.08
^{239}Pu, g/g [3]	1.87×10^{-8}	1.60×10^{-8}				
Hardness, Kg/cm^2 [4]						
Thermal Conductivity[5]						
50 °C		0.50				
100 °C damp		0.33				
100 °C dry		0.28				
Heat Generation[6]						
Calculated µ watts/g		0.36				
Calorimeter						
% Liquid[7]						
Permeability[8]						
Hygroscopicity[10]	38%	24%	11%	—	13%	
Deliquescenced	11 days	12 days	NO	6 days	25 days	
Liquid[9]						
Density, g/cc		1.514		1.414	1.429	
H_2O, %		41.2		54.4	55.0	
$NaAlO_2$, %		8.1		7.8	8.9	
$NaNO_2$, %		9.5		8.1	3.2	
$NaNO_3$, %		23.5		17.4	14.8	
NaOH, %		19.9		10.7	14.9	
Na_2CO_3, %		2.2			1.0	
^{137}Cs, µCi/ℓ		5.88×10^{-5}		4.47×10^{-5}	3.39×10^{-5}	
^{90}Sr, µCi/ℓ						
^{239}Pu, g/ℓ		1.63×10^{-5}				

NOTES

Samples of solidified salt waste will, in general, be received as a damp salt. All tests and measurements will be made on the sample as received. However, if free (pourable or drainable) liquid is observed on the sample, the solid and liquid phases will be separated by vacuum filtration using an "M" porosity fritted glass funnel. Air will be pulled through the crystals until no more liquid is observed dripping into the flask, then for ten minutes longer. A pad of moistened cheese cloth placed over the top of the filter will prevent the solid phase from drying out.

In those samples that are extremely slow filtering, phase separation may be made using a Millipore® pressure filter equipped with a plunger. Phase separations should be made at 25 to 28 psig.

1. Bulk density is determined by weighing one to three grams in a graduated 15 ml centrifuge cone. Add exactly 3 ml n-paraffin hydrocarbon (NPH) to wash crystals into the cone. Centrifuge in a clinical centrifuge at high speed for 15 minutes to pack solid in cone. Note volume of solid and volume of solid plus NPH.

$$\text{Bulk density} = \frac{\text{wt. of solid}}{\text{volume of solid}}$$

$$\text{Particle density} = \frac{\text{wt. of solid}}{(\text{volume of solid} + \text{NPH}) - 3}$$

2. Percent water is determined by drying a weighed portion of the sample in a vacuum oven at 100 °C/252 mm Hg, absolute, to constant weight.

3. Chemical and radiochemical analyses will be made by dissolving about a five gram weighed portion of the solid phase in 20 milliliters of hot water, cooling and diluting to 25 milliliters. If greater than one percent of the salt is insoluble in water, remove the water soluble fraction and dissolve the water insolubles with 6N HCl. Any remaining acid insoluble fraction will be fuzed with KOH.

   The water soluble fraction will be analyzed for aluminum by atomic absorption. Aluminum in the water soluble fraction is assumed to be as $NaAlO_2$. Sodium

nitrite in the water soluble fraction is determined by a colorometric procedure. Sodium nitrate is measured using a nitrate specific ion electrode. Sodium hydroxide is determined by titrating the sample with standard acid to the first pH break which occurs around pH 10.5. Sulfate is determined by reduction to sulfide and measuring the concentration with a sulfide specific ion electrode. Phosphate is determined spectrophotometrically. Carbonates are determined by acidifying the solution releasing CO_2 which is absorbed on Ascarite®.

4. Hardness is determined with a Pocket Penetrometer Model CL-700 made by Soiltest, Inc., Chicago, Illinois. As much as possible hardness should be made on an undisturbed sample.

5. Thermal conductivity tests will be made at 50 °C and at 100 °C. A second measurement at 100 °C will be made after the sample has been allowed to dry. Thermal conductivity is reported in BTU/hr/ft^2/°F.

6. Heat generation can be calculated from the fission product content of the sample and also directly by measuring it in the microcalorimeter.

7. Percent liquid is determined by pressing a portion of the "as received" sample in a Millipore® pressure

filter at 25-28 psig. If the sample is a slurry, the percent liquid of the wet cake will be calculated on the vacuum drained sample unless otherwise noted.

8. A method for permeability of salt cake has not been developed as yet. It is being developed.

9. On those samples that have "free liquid" removed by vacuum draining or by pressure filtering, the separated liquid will be analyzed. Analytical methods are the same as with the water soluble solid fraction. Results will be reported in weight percent rather than molarity.

10. Hygroscopicity is reported as the weight percent increase of a salt placed in a cabinet with relative humidity of 70 to 80 percent and temperature of 22 to 25 °C for 21 days. If during that period of time free "flowable" liquid is observed on the sample, the sample is considered to have deliquesced.

TCRC-9

Atlantic Richfield Hanford Company

WHC-SD-WM-ER-323, Rev. 0

RCW
Reproduction
WEOgren

Date: August 27, 1974

To: R. L. Walser

WR Christensen

From: W. R. Christensen

Subject: SLUDGE SAMPLING STATUS

Reference: Letter, August 9, 1974, W. R. Christensen to R. L. Walser, same subject

Sludge sampling was temporarily suspended to allow CTL laboratory personnel to complete processing of existing samples and to clean out the hot cell prior to receiving additional sludge samples. Hot cell work will resume on August 29, 1974. Sludge samples obtained since August 1, 1974 are listed in Table I.

Calibration of the calorimetry apparatus is expected to be completed in the near future and heat generation rates based on calorimetric data are expected to be available during the week of September 2, 1974.

Although no progress has been made to date, the development of a laboratory procedure to provide "melting point" data should be vigorously pursued since melting characteristics are a critical consideration in the safe storage of evaporator salt cake. It is recognized that the salt cake probably does not have a discrete melting point, however the temperature at which free liquid first forms is of primary interest in terms of salt cake storage.

Thermal conductivity data for tank 241-S-105 salt cake are listed in Table II. The low (0.251 Btu/hr.ft^2 ^{o}F/ft) thermal conductivity observed at ambient temperature is significant since this sample represents salt cake drained by salt well pumping. These results confirm that the large reduction of thermal conductivity observed on previous samples was primarily due to evaporation of moisture rather than the temperature rise alone, and that a significant reduction in salt cake thermal conductivity will occur when the liquid cover and interstitial liquors are removed from the salt cake.

AUG 28 1974

R. L. Walser
Page 2
August 27, 1974

Additional equipment has been set up to allow thermal conductivity analyses of soil samples to be performed concurrently with sludge and salt cake samples. Analyses are to be performed on eleven composite samples representing typical 241-SX farm soils. Initial runs at ambient temperature have begun.

Development of vapor pressure versus temperature data for 242-S salt cake is progressing satisfactorily as are the analyses of the sludge and salt cake chemical composition.

Those letters, issued since August 9, 1974, that relate to the sludge characterization program, are listed below.

August 15, 1974, W. R. Christensen to J. A. Teal, "Tank Farm Sludge Samples", providing an updated sample priority list.

August 16, 1974, N. L. Harms to R. L. Walser, "Laboratory Sludge Characterization", stating that no samples will be loaded into hot cell until existing samples are taken care of and hot cell is cleaned out, and requesting improved procedural assurance that the sample cask is properly decontaminated.

WRC:j

Att. (2)

cc: WR Christensen
CD Compton, AEC-RL
DG Harlow
NL Harms
GC Oberg
RC Roal
RM Smithers
CP Sutter
JA Teal
JC Womack
LB

TABLE I

Sludge Sample Summary

(since 8-1-74)

Tank	Date Obtained	Date Requested	Comments
106-S	8-1-74	7-23-74	Good sample
102-AX	8-7-74	10-4-73	Good sample
110-S	8-9-74	6-4-74	Good sample
103-SX	8-14-74	3-22-74	No solids - will require resample
109-S	8-20-74	8-15-74	Good sample - full core
101-SX	8-23-74	3-22-74	Still in cask

TABLE II

Heat Generation/Thermal Conductivity Data

Tank	$^{89-90}Sr$ Ci/ft^3	^{137}Cs Ci/ft^3	Heat Generation Btu/hr ft^3	Thermal conductivity Value Btu/hr ft^2 °F/ft	Temperature °F
111-S	.110	2.78×10^{-7}	.00598	---	---
105-S	---	---	---	---	---
102-SX (Top)	38.8	12.8	1.11	---	---
102-SX (Bottom)	22.6	6.29	.628	---	---
104-SX (Top)	3.5×10^{-4}	3.0	.049	---	---
104-SX (Bottom)	71.6	3.65	1.72	.645	---
				.338	235
				.313	335
108-S (Top)	1.01×10^{-5}	5.60×10^{-4}	---	---	---
108-S (Bottom)	.024	1.52	.062	.547	77
				.279	221
				.272	316
107-S	18.5	16.0	.262	.448	77
				.540	226
				.183	275
				.087	394
110-U	26.2	1.62	.635	---	---
105-S	-	0.317	.005	.251	71
				.235	176
				.216	239
				.205	313
110-S	30.9	2.7	.76	-	-

RECENT SUPERNATANT LIQUOR ANALYSES

	108 S	112 S	108 S	106 S	111 S	105 S	106 S	108 S	108 S	111 S
Sample Date	5/10/74	5/11/74	6/30/74					3/74	6/25/74	8/2/74
Date Analyses Reported	7/8/74	7/8/74	7/22/74	8/23/74	8/23/74	9/3/74	9/5/74	9/5/74	9/5/74	9/5/74
Analyses, Weight Percent										
Water	60.1	58.3	41.2	55.0	54.4	51.8	55.4	55.2	41.2	54.4
Sodium Aluminate $NaAlO_2$	8.4	6.5	8.1	8.9	7.8	9.5	7.3	6.0	8.1	7.8
Sodium Nitrite $NaNO_2$	8.8	9.3	9.5	3.2	8.1	4.7	3.6	5.5	9.5	8.1
Sodium Nitrate $NaNO_3$	14.6	14.2	23.5	14.8	17.4	11.3	13.7	13.7	23.5	17.4
Sodium Hydroxide $NaOH$	13.4	15.2	19.9	14.9	10.7	17.7	14.3	14.5	19.9	10.7
Sodim Phosphate Na_3PO_4			0.5							
Sodim Carbonate Na_2CO_3			2.2	1.0		0.5	0.5	0.7	2.2	
^{137}Cs, Ci/L	0.4	0.1	0.6	0.3	0.4	0.1	0.4	0.3	0.6	0.4
Heat Generation, BTU/Hr. - Cu. Ft.	0.2	0.05	0.3	0.15	0.2	0.05	0.2	0.15	0.3	0.2
Density	1.513	1.501	1.495	1.429	1.414	1.462	1.441	1.429	1.514	1.414

	106 S	103 AX	102 S	103 BX
Sample Date	8/9/74	--	3/3/75	3/17/75
Date Analyses Reported	9/5/74	10/14/74	3/26/75	3/27/75
Analyses, Weight Percent				
Water	55.0	81.2	55.9	81.9
Sodium Aluminate	8.9	0.2		
Sodium Nitrite	3.2	8.1		
Sodium Nitrate	14.8	1.0		
Sodium Hydroxide	14.9	2.7		
Sodium Phosphate		0.2		
Sodium Carbonate	1.0	3.6		
Sodium Sulphate		2.4		
^{137}Cs, Ci/L	0.3	2.2	1.2	0.6
Heat Generation, BTU/Hr. - Cu. Ft.	0.15	1.0	0.6	0.3
Density	1.429	1.157	1.400	1.037

RECENT WASTE TANK SLUDGE ANALYSES

	110 U Sludge	104 A Sludge	102 AX Sludge	110 S Sludge	104 AX Sludge	103 AX Sludge	102 SX Sludge	107 U Sludge	107 S Sludge	110 S Sludge
Date Analyses Reported	8/27/74	9/4/74	9/25/74	9/74	10/14/74	11/12/74	11/26/74	1/20/75	2/4/75	2/4/75
Analyses, Weight Percent										
Water	44.3	42.3	42.5	45.0	44.2	---	18.6	50.0	47.3	
Sodium							29.6			
Silicon	1	1.4	2.2			0.5	36.2			
Aluminum	13	4.6		18.5	1.3	1.9				
Iron		17.0	9.1	0.8	23.2	7.2	14.7			
Magnesium		0.2	0.1			1.1				
Calcium		1.0	0.5			0.5				
Barium		0.1								
Manganese		2.4	0.8							
Sulphate	1						0.6			
Phosphate	4						0.3	20.3	16.8	
Nitrate								15.0	27.3	
Carbonate										
Analyses, Ci/L										
$^{89+90}Sr$	0.9	44	9	1	93	22	1	0.1	0.04	0.5
^{137}Cs	0.06	1	1	0.1	2	3	5			0.8
Wet Density, g/cc.	1.50	1.64	1.57	1.55	1.61	---	1.85	1.14	1.48	1.14
Heat Generation Rate, BTU/Hr.-Cu. Ft.	0.6	29	6	0.7	62	16	0.9	--	--	0.7

TCRC-2

SICO-1

00347

Atlantic Richfield Hanford Company

Date: September 21, 1971

To: J. O. Skogrud

From: D. A. Puryear

Subject: CHARACTERIZATION OF S, U, AND SX WASTE TANKS

Sampling and analyses of S, U and SX waste tanks to identify feed material for the 242-S vacuum evaporator is progressing. To date three one liter samples from the S Farm tanks have been processed through the laboratory vacuum evaporator. In addition ten S Farm tanks and six U Farm tanks have been sampled and submitted for characterization analyses. The results are shown in the following table.

Characterization Analyses of Waste Tanks

Tk.No.	SpGr	Visc. 50 °C	CO_3	NO_3	NO_2	TAD	Al	Na	^{137}Cs µCi/ml
101-S	1.412	2.23	.011	3.82	.642	3.62	1.41	9.01	155
102-S	1.317	1.12	.064	5.92	.126	2.15	.24	8.48	124
103-S	1.279	.95	.020	4.80	.086	1.86	.28	8.57	104
105-S	1.272	1.05	.064	3.15	.137	2.02	.20	5.86	---
106-S	1.268	.94	.011	4.40	.166	1.88	.17	5.07	87.9
108-S	1.291	1.10	.25	3.61	.108	2.16	.30	6.54	---
109-S	1.272	1.00	.04	3.06	.096	1.88	.211	4.52	---
110-S*	1.269	1.15	.12	3.4	.084	1.93	.30	6.50	66.0
111-S*	1.219	.96	.025	3.4	.30	1.92	.49	8.40	51.6
112-S*	1.262	.92	.073	3.5	.17	1.98	.40	5.87	57.9
108-U	--	--	.036	---	.231	--	.25	4.59	---
111-U	--	--	.066	---	.097	--	.12	4.93	---
102-U									
103-U									
105-U									
106-U									

* Ran in laboratory vacuum evaporator.

The above analyses appear normal except sample 101-S. From the data and parameters gained in the three S tank sample evaporation runs, the results of 101-S appears to be similar in physical and chemical properties of a tank that has been 50 - 60 volume percent reduced. Of specific interest is the high amount of nitrate (0.64M) which may yield a clue in helping to establish the history of this tank.

TABLE I

ANALYSIS OF 105-S, 106-S, AND 111-S SALT

	105-S	106-S	111-S
Bulk density, g/cc	1.26	1.27	1.70
H_2O, %	3.4	4.2	18.4
$NaAlO_2$, %	0.1	0.6	2.3
$NaNO_2$, %	0.3	<0.1	2.7
$NaNO_3$, %	100.3	90.1	69.9
NaOH, %	0.5	1.0	6.6
Na_2CO_3, %	2.5	4.1	10.8
Na_3PO_4, %	--	--	1.2
Total, %	107.1	100.0	110.7
^{137}Cs, µCi/g	8.9	17.2	9.5
$^{89+90}Sr$, µCi/g		--	7.54

1.7 saturated
1.4 more realistic

TABLE II

ANALYSES OF 106-S AND 111-S MOTHER LIQUOR

	106-S		111-S	
Density	1.429 g/cc		1.414 g/cc	
H_2O		55.0%		54.4%
$NaAlO_2$	1.56M	8.9%	1.34M	7.8%
$NaNO_2$	0.66M	3.2%	1.65M	8.1%
$NaNO_3$	2.49M	14.8%	2.90M	17.4%
NaOH	5.33M	14.9%	3.80M	10.7%
Na_2CO_3	0.01M	1.0%		
Total		97.8%		98.4%
^{137}Cs	3.39×10^5 µCi/ℓ		4.47×10^5 µCi/ℓ	

Date: December 7, 1973

To: R. L. Walser

From: W. H. Sant

Subject: 242-S FEED SAMPLES T-9492 (10/5/73) 106-S

Vis-TOR	Clear, yellow, 400 mR
pH	11.6
SpG	1.2262
DTA	No Exotherm
Pu	1.74×10^{-6} g/l
Na	8.32 M
SO_4	1.10×10^{-2} M
Al	0.195 M
NO_2	0.165 M
F	1.79×10^{-3} M
CO_3	0.074 M
Cl	
OH	1.28 M
GEA	^{137}Cs - 7.98×10^{4} μCi/l
NO_3	4.16 M

30% reduction - 28.8 % Solids - 0.526%
50% reduction - 53.8 % Solids - 63.51%

$^{89\ 90}Sr$	1.05 μCi/l
PO_4	$<3.77 \times 10^{-4}$ M

%H_2O 65.54

Cooling Curve

No solid ≈ @ 5°C for 25 min

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

TCRC - 4

Date: January 21, 1974

To: R. L. Walser

From: W. H. Sant

Subject: 242-S FEED SAMPLES NUMBER T- 738
SAMPLE POINT 106-S

Vis-OTR	Clear, yellow, 10% solids, 500 mRAD/Hr. @ 2"
pH	10.7
SpG	1.49125
DTA	No Exotherm
Pu	4.28×10^{-6} g/l
Na	10.94 M
SO_4	1.51×10^{-2} M
Al	0.758 M
NO_2	0.296 M
F	2.55×10^{-3} M
CO_3	0.037 M
Cl	
OH	2.86 M
GEA	^{137}Cs - 2.17×10^5 μCi/l
	^{134}Cs
NO_3	5.66 M

30% Reduction - 27.5 % Solids - 54.31

50% Reduction - 51.25 % Solids - 97.95

$^{89-90}Sr$	Not Requested
PO_4	$<7.87 \times 10^{-4}$ M
% H_2O	49.6

Cooling Curve - 30° C No solids, 15° C <1% solids

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

TCRL-6

DRAFT

J. E. Horton
August 21, 1974

Achievement Report

SUMMARIES

- Salt cake samples from tanks 105-S, 106-S, and 111-S.
- Thermal conductivities of 105-S salt.

DRAFT

J. E. Horton
August 21, 1974

TANK FARM ASSISTANCE

Samples of the salt cakes in tanks 105-S, 106-S, and 111-S were taken. These tanks are slurry receiving tanks for the 242-S evaporator. Solids in tanks 105-S, 106-S, and 111-S are primarily sodium nitrate. Details of laboratory work are discussed below. Analysis of the solids and mother liquors are shown below.

The 105-S salt sample is composed of coarse yellow crystals. The yellow crystals are very dry in appearance. A weighed amount of 105-S solids was dissolved in H_2O and made to a volume of 25 ml. Analysis are shown in Table I.

TABLE I

$NaAlO_2$	1.34×10^{-3} M	0.11%
$NaNO_2$	3.73×10^{-3} M	0.26%
Na_2CO_3	2.36×10^{-2} MM	2.54%
$NaNO_2$	1.16M	100.3%
NaOH	1.26×10^{-2} M	0.5%
H_2O		3.4%
		107.1%

GEA		
^{137}Cs	8.76×10^{2} µCi/ℓ	8.9 µCi/g
^{125}Sb	2.20 µCi/ℓ	0.02 µCi/g

As Received Density	1.26
Wet Density	1.78
NPH Density	2.52

DRAFT

J. E. Horton
August 21, 1974

HYGROSCOPICITY

The 105-S salt sample showed no deliquesce after 21 days of testing. Percent gain after 21 days was 11.1 percent. This test was made in air saturated with water vapor at 23 - 25 °C.

Thermal conductivity measurements of 105-S salts were made. Table II reflects the data.

TABLE II

THERMAL CONDUCTIVITIES OF 105-S SOLIDS
(DATA BY D. G. BOUSE)

As Received	21.8 °C	0.251 BTU/hr/ft^2/°F
Held Overnight	62.1 °C	0.247 "
Dried Overnight	80.0 °C	0.235 "
Overnight	114.9 °C	0.216 "
Over Weekend	156.0 °C	0.205 "

The 106-S salt sample has large yellow crystals at the top and coarse crystals at the bottom. A weighed amount of 106-S solids was dissolved in H O and made to a volume of 25 ml. Laboratory analysis of 106-S solids are shown on the following page.

DRAFT

TABLE III

ANALYSIS OF 106-S TANK SOLIDS

S106.6

	$NaAlO_2$	9.61×10^{-3} M	0.6%
	$NaNO_2$	5.49×10^{-3} M	0.05%
	$NaNO_3$	1.36 M	90.1%
	NaOH	3.26×10^{-2} M	1.0%
	Na_2CO_3	5.0×10^{-2} M	4.1%
	H_2O		4.2%
			100.05%
GEA	^{137}Cs	2.21×10^{3} µCi/ℓ	17.2 µCi/g

Densities of Solids

As Received Density	1.27
Wet Density	1.80
NPH Density	2.28
Dry Density	0.635

TABLE IV

ANALYSIS OF 106-S SUPERNATANT

S106.7

$NaAlO_2$	1.56 M	8.9%
NaOH	5.33 M	14.9%
$NaNO_2$	0.656 M	3.2%
Na_2CO_3	1.36×10^{-2} M	1.0%
$NaNO_3$	2.49 M	14.8%
H_2O		55.0%
		98.0%

Density 1.429

GEA

^{137}Cs	3.39 x 10	µCi/ℓ
^{134}Cs	9.11 x 10	µCi/ℓ

DRAFT

Hygroscopicities of 106-S Salts

The 106-S salt sample shows no deliquescence after 14 days of testing. Percent gain in 14 days of testing was 11.4 percent. This test was made in air saturated with water vapor at 23 - 25 °C.

The 111-S salts are a grayish in color and very sticky. Laboratory work was done on both the supernatant and solid. A portion was dissolved in water and sent to laboratory for analysis.

TABLE V

ANALYSIS OF 111-S SALTS

H_2O		18.4%
$NaAlO_2$	2.31×10^{-2} M	2.3%
$NaNO_2$	3.21×10^{-2} M	2.7%
$NaNO_3$	0.679	69.9%
Na_2CO_3	8.45×10^{-2} M	10.8%
NaOH	0.137 M	5.6
Total %		110.7%
$^{89+90}Sr$	6.22×10^2 µCi/ℓ	7.54 µCi/g
GEA ^{137}Cs	7.92×10^3 µCi/ℓ	96.0 µCi/g
Wet Density	1.704	
Dry Density	0.497	

DRAFT

TABLE VI

ANALYSIS OF 111-S SUPERNATANT

$NaAlO_2$	1.34M	7.8%
$NaNO_2$	1.65M	8.1%
NaOH	3.80M	10.7%
$NaNO_3$	2.90M	17.4%
H_2O		54.4%
Total %		98.4%
Density	1.414	
GEA		
^{137}Cs	4.47×10^5 µCi/ℓ	
^{134}Cs	3.04×10^3 µCi/ℓ	

Hygroscopicities of 111-S Salts

The solids from 111-S tank are hygroscopic, absorbing enough water to become deliquescent in six days. The salt had increased 21.6 percent in weight when it deliquesced. This test was made in air saturated with water at 23 - 25 °C.

Laboratory work on sludge samples 104-A, 102-AX, and 110-S are not yet completed, and will be reported at a later date.

Date: October 14, 1974

To: R. L. Walser

From: R. E. Wheeler R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-5469 106-S

Vis-OTR: Clear, light green. No solids. 20 mRad/hr

pH: 11.42

SpG: 1.0004

OH: 3.0×10^{-2} M

Al: 1.36×10^{-3} M

Na: 0.107 M

NO_2: 2.61×10^{-3} M

NO_3: 1.85×10^{-2} M

Pu: $< 4.43 \times 10^{-6}$ gm/gal

DTA: No Exotherm

SO_4: 8.79×10^{-4} M

PO_4: 4.05×10^{-4} M

F: 3.71×10^{-4} M

CO_3: 7.73×10^{-3} M

GEA: ^{137}Cs - 8.78×10^{3} µCi/gal

Water: 81.21%

Cooling Curve: 20°C for 45 min. No solids.
15°C for 45 min. No solids.
10°C for 45 min. No solids.
5°C for 45 min. No solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
JC Womack

54-6000-030 (10-68)

TCRC-15

S106.9

Date: December 16, 1974

To: R. L. Walser

From: R. E. Wheeler R E Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8035 106-S

Vis-OTR: Clear yellow, 50% solids. 2 Rads.

pH: 14

SpG: 1.5414

OH: 5.20 M

Al: 1.45 M

Na: 14.20 M

NO_2: 1.02 M

NO_3: 2.90 M

Pu: 1.90×10^{-5} g/gal

SO_4: Cancelled by R. L. Walser

Po_4: 5.10×10^{-2} M

F: 7.49×10^{-4} M

CO_3: 0.145

GEA: ^{134}Cs - 3.94×10^{2} µCi/gal
^{137}Cs - 1.44×10^{5} µCi/gal

$^{89,90}Sr$: 78.80 µCi/gal

Water: 46.62%

K: 2.77×10^{-2} M

Cooling Curve:

40°C	for 90 min.	No solids.
35°C	for 75 min.	No solids.
30°C	for 60 min.	No solids.
25°C	for 45 min.	No solids.
20°C	for 17 hrs.	3% solids suspended.
15°C	for 45 min.	3% solids suspended.
10°C	for 45 min.	3% solids suspended.
5°C	for 45 min.	3% solids suspended.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
LG Johnson
RE Wheeler
JC Womack

Date: July 23, 1975

To: W. R. Christensen

From: J. E. Horton JEHorton

Subject: ANALYSIS OF SALT AND LIQUID SAMPLE FROM 106-S TANK

A sample was received on June 4, 1975 from Tank 106-S. Sample 106-S contained a liquid phase and a solid phase. Separation was made by centrifuging at high speed for 20 minutes. The salt solids were very fine with a tendency to float even after a 20 minute centrifuging. The salt crystals were yellow in color.

The analyses indicate that the 106-S solid is essentially a mixture of sodium nitrate and sodium carbonate. Details of the analyses are discussed in Tables I and II.

Analyses were made by weighing 2.03265 grams and dissolving it in water to a volume of 50 milliliters. The remaining insoluble solids were dissolved in con. HCl and diluted to a volume of 10 milliliters with water. About 95 percent of the solids were water soluble.

Please call me if you have any questions.

JEH:ms

cc: GK Allen
H Babad
JS Buckingham
RJ Cain
DC Lini
NC Rodewald
RJ Thompson
RE Van der Cook
RL Walser
JC Womack
Process Aids (7)
CTL-123
File

TABLE I

ANALYSIS OF 106-S TANK SOLIDS

S106.10 S

Bulk Density	1.59 g/cc	
	%H_2O	29.1%
	$NaAlO_2$	4.7%
	NaOH	6.2%
	$NaNO_2$	4.5%
	$NaNO_3$	39.5%
	Na_2CO_3	10.1%
	Na_3PO_4	2.4%
	Al_2O_3	0.1%
	FeOOH	0.2%
	Pu	2.71×10^{-5} g/g
	$^{89+90}Sr$	0.69 µCi/g
	^{137}Cs	200. µCi/g
Total Wt% Recovery		96.8%

TABLE II

ANALYSIS OF 106-S SUPERNATANT LIQUID

S106.11

Density	1.45	
	%H_2O	50.0%
	$NaNO_2$	1.78M 8.5%
	$NaAlO_2$	1.85M 10.5%
	$NaNO_3$	2.42M 14.2%
	NaOH	4.44M 12.2%
	Na_2CO_3	0.270M 1.9%
	Na_3PO_4	0.028M 0.3%
	Pu	1.17×10^{-6} g/ℓ
	$^{89+90}Sr$	1.22×10^{3} µCi/ℓ
	^{137}Cs	5.29×10^{5} µCi/ℓ
	^{134}Cs	2.02×10^{3} µCi/ℓ
Total Wt% Recovery		98.3%

TCR-2

Atlantic Richfield Hanford Company

S-107

Date: November 27, 1973

To: G. L. Borsheim

From: D. A. Puryear

Subject: ANALYSIS AND IDENTIFICATION OF SOLIDS IN TK 107 AND 102-S

Reference: D. A. Puryear, Phosphate Solidification of Caustic Process Solution Waste, ARH-SA-120 May 1972.

Samples from Tank 107 and 102-S were referred to CTL for identification of solids which plugged a jumper line from Tank 107-S to 102-S. The temperature of the tanks are 90 °F and the samples were liquid when taken. However, the sample from TK 107-S was about 50 percent crystalline when received by CTL.

Analysis of the original sample from TK 107-S showed a phosphate molarity of 0.384 and a water content of 81 weight percent. From the reference above on phosphate solidification of waste, experience was gained that shows phosphates are only partially soluable in caustic solution because they form a solid solution of the formulas $7(Na_3PO_4 \cdot 12\ H_2O)NaOH$ or $5(Na_3PO_4 \cdot 12H_2O)NaOH$ at a sodium to phosphate mole ratio of 3.12 and 3.21 respectively. Tank 107-S has by analysis an available sodium to phosphate mole ratio of 4.36. The high percentage of water attributes to the crystals being in solution at 90 °F. Tests on solids formation as a function of cooling showed that crystallization began to occur at 89.6 °F and was near maximum solidification at 82.4 °F.

Table I below shows the chemical analyses of tank 107 and 102-S. The first column is the original analysis of the analytical laboratory as designated in ARH-1601. The second column shows the analysis of the same sample after it was melted and diluted 1:1 with water. All answers have been calculated to the original sample. The third column is a resample of tank 107 taken on 11/16/73. Sample preparation of the resample in the laboratory was made as a 1:1 dilution after melting the sample.

G. L. Borsheim
Page 2
November 27, 1973

Table I

Constituent	107-S 11-6 Supernatant Liquid	107-S 11-6 1:1 dil after Melting	107-S 11-16	102-S 11-5	102-S 11-16
Sp. Gr.	1.107	1.1398	1.1592	1.2297	1.2927
Na	2.55	3.36	3.39	5.09	7.18
Al	.105	.0871	.0907	.230	.367
NO_2	.027	.03	.024	.118	.088
NO_3	1.72	1.47	1.73	4.25	3.05
OH	.186			1.22	1.51
PO_4	NA	.384	.530	NA	.112
CO_3	.094	.095	.099	.019	.06
SO_4		.0298	.0218	.00988	.0116
F	.000226	.0099	.0103	.00154	.0051

Column four is the chemical composition of tank 102 prior to 242-S start-up and is really not related to the plugged line whereas column five is a sample of tank 102 after it received some transfer from tank 107 prior to the jumper line plug up.

All the results shown in Table 1 appear to be realistic. The important discrepancies can be explained. For example the specific gravity of column 1 appears light as does the sodium result. The lower specific gravity and sodium result is the result of analyzing the supernatant liquid. By melting the samples and obtaining a homogeneous solution the total of the sample is accounted for.

A plot of solids formation as a function of temperature is shown in Figure 1 for tank 107-S, 102-S and a 2:1 blend of 107-S with 102-S. Solidification begins at 32°, 18°, and 30°C respectively for the three solutions.

DAP:jf

cc: JS Buckingham
MH Campbell
WR Christensen
HH Hopkins
RL Walser

54-6000-031 (10-68)

DJL

SAMPLE ANALYSES

TANKS 107-S AND 102-S

Tank	107-S (S107-21)	107-S (S107-3)	102-S
Date Sampled	11/6/73	11/17/73	11/16/73
Sample Number	178	476	459
Specific Gravity	1.14	1.16	1.29
DTA	No Exotherm	No Exotherm	No Exotherm
Radioisotopes			
$^{89-90}Sr$ μCi/gal	7.5	4.4×10^{1}	4.3×10^{1}
^{137}Cs μCi/gal	1.0×10^{5}	8.6×10^{4}	4.0×10^{5}
^{134}Cs μCi/gal	8.2×10^{1}	1.5×10^{2}	2.8×10^{2}
^{60}Co μCi/gal	2.5×10^{2}	1.9×10^{2}	N.D.
^{239}Pu gm/gal	8.1×10^{-5}	10.7×10^{-5}	5.2×10^{-5}
Chemical			
Bi^{+++} M	~0.005	~0.005	~0.005
Na^{+} M	3.36	3.39	7.18
AlO_2^{-} M	0.087	0.091	0.367
OH^{-} M	0.186	0.292	1.51
NO_3^{-} M	1.47	1.73	3.05
NO_2^{-} M	0.030	0.024	0.088
$CO_3^{=}$ M	0.095	0.099	0.06
$SO_4^{=}$ M	0.030	0.022	0.012
F^{-} M	0.010	0.010	0.005
Cl^{-} M			
$PO_4^{\equiv}$ M	0.384	0.53	0.112

FREEZING POINT DATA

Approximate Volume Percent Solids vs. Temperature - °C

107-S °F	107-S °C	107-S v/o Solids	2 Parts 107-S with 1 Part 102-S °C	2 Parts 107-S with 1 Part 102-S v/o Solids	102-S °C	102-S v/o Solids
89.6	32	Solids appear	28	7	18	Solids appear
86	30	25	26	15	16	~ 100%
82.4	28	50	24	17.5		
73.4	23	80	22	23		
			20	35		
			18	67		
			16	~100		

GL3

Analyses of 107-S and 102-S samples show that the 107-S material was very close to its freezing point even while in TK-107-S. Specific gravity determinations indicate the 107-S material was less concentrated than the 242-S feed in 102-S and this is confirmed by the chemical analyses which show lesser concentrations of all major cations and anions with the exception of phosphate ion. The high phosphate ion in 107-S presumably originated in N Reactor flushes where phosphoric acid is one of the major decontaminating agents. The freezing point data for the two to one blend of 107-S to 102-S (the approximate volume ratio below the 242-S feed recirculation line in the "problem" riser) and the individual solution freezing point curves indicate that there was no reaction between the solutions that promoted solids formation.

High phosphate ion concentrations in caustic solutions are known to produce high freezing point trisodium orthophosphate hydrates - indeed, this is the basic chemical reaction for the phosphoric acid solidification prototype. The 107-S solution approached the stoichiometric ratio of phosphate ion to available sodium ion planned for the solidification flowsheet (1 to 3.2) and only the high percentage of water (approximately 81 weight percent v.s. approximately 50 weight percent for the solidification process) prevented 107-S from solidifying. The 107-S tank bulk temperature (ca. 91°F) was high enough to prevent freezing, although the solution was essentially saturated, as was the heat traced line from 107-S to 102-S. However, when the solution contacted the cold (50-60°F?) riser, crystallization probably began immediately.

Date: December 7, 1973

To: R. L. Walser

From: W. H. Sant

Subject: 242-S FEED SAMPLES T-178 (11/6/73) 107-S EVAPORATOR

	5107.4 Supernate	5107.5 Total Sample (D-4111)
Vis-OT	Yellow, 50% crystals, 180 mR/hr	
pH	12.2	
SpG	1.1071	1.1398
DTA	No Exotherm	
Pu	1.43×10^{-5} g/l	2.14×10^{-5} g/l
Na	2.55 M	3.36 M
SO_4	2.96×10^{-2} M	2.98×10^{-2} M
Al	0.105 M	8.71×10^{-2} M
NO_2	2.7×10^{-2} M	3.0×10^{-2} M
Fe	2.26×10^{-4} M	
F		9.92×10^{-3} M
CO_3	9.4×10^{-2} M	9.5×10^{-2} M
Cl	Method being developed	
OH	0.186 M	
GEA	^{137}Cs 3.11×10^4 µCi/l ^{134}Cs 31.86 µCi/l ^{60}Co 37.97 µCi/l	2.61×10^4 µCi/l 21.66 µCi/l 65.44 µCi/l
NO_3	1.72 M	1.47 M
Boildown:		
	26.2 reduction, Solids 0.169%	28.8% reduction, Solids 65.8%
	52.5% reduction, Solids 3.42%	51.2% reduction, Solids 98.7%
$^{89\ 90}Sr$	6.156 µCi/l	1.98 µCi/l
PO_4		0.384 M
Bi		$<4.79 \times 10^{-3}$ M

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

Date: December 7, 1973

To: R. L. Walser

From: W. H. Sant

Subject: 242-S FEED SAMPLE T476 (11/16/73) 107-S

Vis-OTR yellow crystals 75 percent solids 100 mR/hr

pH	11.9 @ 40° C
SpG	1.1592
DTA	No Exotherm
Pu	2.82×10^{-5} g/l
Na	3.39 M
SO_4	2.18×10^{-2} M
Al	9.07×10^{-2} M
NO_2	0.024 M
F	1.03×10^{-2} M
CO_3	0.099 M R.R.--0.090 M
Cl	Method being developed
OH	0.292 M
GEA	^{134}Cs - 40.58 µCi/l ^{137}Cs - 2.28×10^{4} µCi/l ^{60}Co - 50.05 µCi/l
NO_3	1.73 M

30% Reduction - 27.5% % Solids - 0.862%

50% Reduction - 50% % Solids - 53.8%

$^{89\ 90}Sr$ - 11.74 µCi/l

PO_4	0.530 M
Bi	$<4.98 \times 10^{-3}$ M

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

T-RC-21

S107.6

Date: December 17, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8078 107-S

Vis-OTR: Yellow. No solids. 150 mRad/hr

pH: 14

SpG: 1.201

OH: 1.01 M

Al: 0.297 M

Na: 3.72 M

NO_2: 0.323 M

NO_3: 1.82 M

Pu: 1.78×10^{-5} gm/gal

SO_4: 3.14×10^{-2} M

PO_4: 0.106 M

F: 8.36×10^{-3} M

CO_3: 0.168 M

GEA: ^{134}Cs - 3.35×10^{3} µCi/gal
^{137}Cs - 4.81×10^{5} µCi/gal
^{125}Sb - 1.34×10^{2} µCi/gal
^{60}Co - 54.54 µCi/gal

$^{89,90}Sr$: 6.253×10^{3} µCi/gal

Water: 76.65%

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

Date: February 14, 1975

To: W. R. Christensen

From: J. E. Horton

Subject: ANALYSIS OF SLUDGE FROM TANK 107-S

We received a sample of 107-S tank sludge on July 1, 1974. The sludge sample was a mixture composed primarily of grayish-brown large granular crystals.

The calculated heat generation rate for the 107-S sludge, based on $^{89+90}Sr$ and ^{137}Cs content was 5.30×10^{-4} watts/liter.

Sludge analyses were made by fusing 1.05 milliliters of damp "as received" sludge with KOH, dissolving the melt in concentrated HCL, and diluting to 200 milliliters with water. Analyses shown in Table I are reported in liters of damp "as received" sludge.

Thermal conductivities of 107-S sludge, as reported by D. G. Bouse, are shown in Table II.

Please call if you have questions regarding this work.

JEH:ms

Att.

cc: H Babad
JS Buckingham
RG Geier
NL Harms
NC Rodewald
RL Walser
Process Aids (7)
CTL-123
File
LB

5107-7

TABLE I

ANALYSIS OF 107-S TANK

Wet Density	1.48		
Dry Density	0.78		
% H_2O			47.3
Al	0.753	moles/ℓ	
NO_2	0.013	moles/ℓ	
NO_3	6.59	moles/ℓ	
PO_4	2.63	moles/ℓ	
Fe	0.41	moles/ℓ	
Pu	7.20×10^{-2}	g/ℓ	
$^{89+90}Sr$	4.34×10^{4}	μCi/ℓ	3.29×10^{-4} watts/ℓ
^{137}Cs	4.19×10^{4}	μCi/ℓ	2.01×10^{-4} watts/ℓ

TABLE II

THERMAL CONDUCTIVITIES OF 107-S SLUDGE
(Data by D. G. Bouse)

	Temp. °/C	TC w/m °C
As Received	24.9	0.775
40 Hours at	101.0	0.934
22 Hours at	135.0	0.317
Overnight at	201.0	0.144
Over Weekend at	24.8	0.151

Internal Letter

Rock... ...ternational

Date. July 10, 1978

No: 60120-78-056 J

TO: (Name, Organization, Internal Address)
J. O. Honeyman
Process Engineering
2750-E Bldg., 200 East

FROM: (Name, Organization, Internal Address, Phone)
T. A. Lane
Chemical Sciences Group
222-S Bldg., 200 West
2-1571

Subject: Crosscountry Transfer of 103/107-S Material

Ref: Letter, June 21, 1978, T. A. Lane to J. O. Honeyman, same subject

In the reference letter we suggested concentrating the 103/107-S material 60 percent. However, laboratory simulations using synthetic waste (Table I) indicated that 35 percent volume reduction at 40 torr could be achieved without nucleation. A dilution of this material could be made and not cause Gibbsite($Al_2O_3 \cdot 3H_2O$) precipitation. See Table II for the boildown data.

The concentrated synthetic was diluted 10-70 volume percent. The 10 percent dilution formed $NaNO_3$ crystals at 50°C(122°F). None of the other dilutions formed solids at 22°C after four days. Aluminum and hydroxide analyses were made on each dilution (Table III) and the results plotted on the phase diagram, figure 1. As you can see the results are a random scatter instead of the expected straight line. I feel this is caused by the analytical method used.

Because of variations in the 103/107-S analyses it was decided to do a "hot" boildown on actual 107-S material. A new sample was taken and analyzed. Analytical results are in Table IV. The boildown was made at 40 torr. The temperature of the actual material was 1°C higher than the synthetic at each percent reduction. Nucleation occurred at approximately 30 percent reduction. The slurry was removed at 35 percent reduction and dilutions of 10, 20, and 50 percent were made. Analysis indicates the actual reduction was 42 percent based on aluminum. See Table III. These results are plotted on the phase diagram, figure 2. The 10 percent dilution solidified at 50°C. No analysis of the solid was made. However, they redissolved in additional water, therefore, I believe they were $NaNO_3$. The 20 percent dilution had about 10 percent solids at 22°C(72°F). These solids also dissolved in additional water. The 50 percent dilution appeared to thicken slightly but formed no solids. Additional dilution of this portion to 75 percent at 22°C caused solids to form. The solids volume was about five percent of the total diluted volume. The solids analysis has not been completed yet, but I suspect the solid is gibbsite.

Analysis of the condensate showed it had 0.065 g/ℓ of total organic carbon. The condensate strontium analysis was 7.93×10^{-2} μCi/ℓ.

J. O. Honeyman
Page 2
July 10, 1978

I recommend this material be reduced 35 volume percent at 40 torr prior to dilution and transfer to East Area. I also recommend the transfer and dilution be simultaneous. The possibility of gibbsite formation after dilution can not be ruled out if the solution is allowed to stand.

If you have any question about this work please give me a call.

T. A. Lane
Chemist
Waste Chemistry Unit

TAL:rm

Attachments (4)

Information:

G. E. Brown
J. S. Buckingham
R. J. Cain
K. G. Carothers
G. T. Dukelów
F. M. Jungfleisch
D. L. Merrick
G. Olsen
M. J. Smith
Process Aids (7)

TABLE I

SYNTHETIC WASTE COMPOSITION

Al	1.54M
OH	1.39M
NO_2	2.51M
NO_3	2.44M
CO_3	0.24M
TOC*	16.0g/ℓ

*Total Organic Carbon

TABLE II

SYNTHETIC BOILDOWN DATA

	40 Torr		60 Torr		80 Torr	
Volume Reduction (%)	Boiling Point (°C)	Viscosity* (centipoise)	Boiling Point (°C)	Viscosity* (centipoise)	Boiling Point (°C)	Viscosity* (centipoise)
initial	45		53		58	
10			55		60	
20	50		58		63	
25	52				64	
30	53		62		66	
35	55		63		68	
40	57	1240	66		69	
45			67		72	
50			69	<100	77	
55					81	<200
Volume % Reduction at Nucleation @ 100 RPM	37%		35%		32.5%	

TABLE III

DILUTION ALUMINUM AND HYDROXIDE ANALYSIS

% Dilution Original Feed	Al 1.54M	OH 1.39M
10	2.01	2.13
20	1.48	2.18
30	1.56	1.86
40	1.01	1.83
50	1.24	1.91
60	0.979	0.917
70	0.05	0.08

TABLE IV S107.0

107-S ANALYSES

	Feed	Concentrate (35% Reduction)
Al	1.59M	2.74M
OH	1.52M	2.60M
NO_2	2.58M	2.35M
NO_3	3.36M	2.92M
CO_3	0.19M	0.18M
TOC		22 g/ℓ
$^{89+90}Sr$	$8.19 \times 10^3 \mu Ci/\ell$	$7.15 \times 10^3 \mu Ci/\ell$

September 7, 1978

60120-78-091 J

TO:
. K. G. Carothers
. Process Engineering
. 2750-E, 200 East Area

FROM:
. G. E. Brown
. Chemical Sciences Group
. 222-S, 200 West Area
. 2-1571

. Analysis of 107-S Cross-Site Transfer Material

During the recent cross-site transfer, line pluggage occurred. A sample of the cross-site feed material, taken from Tank 107-S, was gelatinous at room temperature (22-25° C). The material did not separate into obvious solid and liquid phases. Because of the gelatinous nature of the material, we decided that viscosity vs. temperature curves would be more meaningful than the usual cooling curves of percent solids vs. temperature.

The laboratory data show that a dilution of 60 percent (4 ml sample + 6 ml H_2O) is necessary before the material remains completely liquid at 2° C. The 40 percent dilution (6 ml sample + 4 ml H_2O) is liquid at 15° C (nominal ground temperature), but is solid at 10° C. The undiluted sample solidified between 30 and 35° C. Details of the laboratory work, including the chemical analysis, are discussed below.

Dip sample 3148, taken from the 150-inch level of Tank 107-S, is very viscous at room temperature. The material resembles cloudy, thickened gelatin and no obvious crystalline solids can be seen. At 45° C, the sample is a slightly cloudy liquid with the consistency of water. Table 1 lists the chemical analysis of the material. The analysis is similar to others for Tank 107-S, with nothing unusual that would explain the gelatinous character.

Ordinarily, a cooling curve of percent solids vs. temperature would give the necessary information. The cooling curve is useless in this case, since the material gradually thickens without settling. Because of this, the sample and three dilutions were characterized with viscosity vs. temperature measurements. Table 2 summarizes this data. A Brookfield plate and cone microviscometer with a controlled temperature bath was used for all viscosity measurements. As indicated in Table 2, the original sample thickened between 35 and 29° C. The 20 percent dilution (8 ml sample + 2 ml H_2O) solidified between 20 and 15° C; and the 40 percent dilution, between 15 and 10° C. The 60 percent dilution remained liquid at 2° C.

9:

K. G. Carothers
Page 2
September 7, 1978

If needed, a synthetic of the Table 1 composition will be used to continue tests of boildown and viscosity-cooling behavior. X-ray diffraction analysis of sample 3148 is also planned. Please contact me if you need further information.

Glenda E. Brown

G. E. Brown
Chemist

GEB:klm

Attachment

Information:

J. S. Buckingham
G. T. Dukelow
D. G. Harlow
J. O. Honeyman
T. A. Lane
D. L. Merrick
G. A. Olsen
D. J. Washenfelder
R. A. Zinsli
Process Aids (7)

S107.9

TABLE 1

TANK 107-S ANALYSIS

PO_4	.04 M		Al	1.06	M
CO_3	.24 M		TOC	11.8	gm/l
NO_3	2.00 M		^{137}Cs	2.26×10^5	µCi/l
NO_2	1.90 M		% H_2O	53.7 %	
Na	7.46 M		Density	1.208	gm/ml
OH^-	1.18 M		[illegible]	[illegible]	

H_2O	[illegible]
[illegible]	0.5%
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

186

Rockwell

Date: October 16, 1978

No. 60120-78-106 J

TO: G. A. Olsen
Process Engineering
2750-E, 200 East

FROM: G. E. Brown
Chemical Sciences Group
222-S, 200 West
2-1571

Ref 37

Subject: 107-S Salt Well Sample 4251

Ref: Letter, September 7, 1978, G. E. Brown to K. G. Carothers, "Analysis of 107-S Cross-site Transfer Material."

The waste material from Tank 107-S that caused the recent cross-site transfer line pluggage has been moved to Tank 102-SY. Concern over interactions between the heel of 107-S waste and salt well wastes being pumped into Tank 107-S prompted several experiments. The work requested of Chemical Sciences Group included complete chemical analysis, dilution, and viscosity-cooling curves. This letter reports the results of those experiments.

Sample 4251, a cloudy, green liquid from the salt well pumping, was received by Chemical Sciences Group. A dilution was analyzed by Analytical Laboratory. Those results are listed in Table 1.

Sample 4251 was heated to 55°C, and then an aliquot was mixed with an equal volume of sample 3148 (the cross-site transfer material mentioned in the reference letter) also heated to 55°C. No solids formed while the mixture was hot. At room temperature (22°C), the mixture had solidified into a gelatinous mass closely resembling sample 3148. The Brookfield plate and cone viscometer was used for a viscosity vs. cooling curve of the mixture of samples 3148 and 4251. Table 2 summarizes the viscosity data. The crystallization point was between 29.5 and 24.5°C, and no large increase in viscosity was noted until this point had been reached.

Please contact me if you need further information.

G. E. Brown

G. E. Brown
Chemist

GEB:bn

Att.

Information:
J. S. Buckingham
K. G. Carothers
G. T. Dukelow
F. M. Jungfleisch
C. A. Peterson
D. J. Washenfelder
R. A. Zinsli

TABLE 1
Analysis of Sample 4251

Na	10.4M	NO_3	2.62M
Al	1.206M	NO_2	2.02M
OH^-	4.02M	SO_4	9×10^{-4}M
CO_3	0.15M	SpG	1.525
PO_4	0.035M	$\%H_2O$	52%
TOC	4.0gm/ℓ	Cs^{137}	$4.12 \times 10^5 \mu Ci/\ell$

TABLE 2
Viscosity vs. Temperature Data

Temperature (°C)	Shear Rate (Sec^{-1})	Viscosity (centipoise)
40.5	1.2	11.1
	12	5.6
	120	6.6
35	1.2	12.8
	12	8.3
	120	8.3
29.5	1.2	13.0
	12	19.6
	120	10.4
24.5	1.2	>1916
	12	>191
	120	>19

Internal Letter

Rockwell International

Date: September 22, 1980

No: 65453-80-270

TO: (Name, Organization, Internal Address)
- D. E. Bowers
- Plant Engineering
- 2750E/A100/200 East

FROM: (Name, Organization, Internal Address, Phone)
- M. T. Jansky
- Separations Process Development Uni-
- 222-S/MO-037/200 West
- 3-1571

Subject: Viscosity/Cooling Curves for Tank 107S Waste

Viscosity versus temperature data was obtained for waste from Tank 107S. The waste was 242-S evaporator product scheduled for cross-site transfer. Two samples were taken; one from one foot above the sludge layer in the tank and the other from one foot below the surface of the waste. Both samples contained solids. The samples were analyzed, and the results are shown in Table I. Viscosity versus temperature data for the waste samples are shown in Table II and Table III. Laboratory details are discussed below.

Aliquots of each sample were submitted to Analytical Laboratories. The data are shown in Table I. Various dilutions were made on aliquots of the waste sample and placed in a Brookfield LVT cup and cone microviscometer. Viscosity versus temperature data were taken, and are shown in Tables II and III.

Please call if you have any questions or comments regarding this work.

M. T. Jansky
Advanced Chemist

MTJ/naj

Attachments

Distribution:
L. C. Brown
J. S. Buckingham
H. J. Eding
L. A. Gale
D. L. Herting
T. A. Lane
D. A. Reynolds
M. C. Teats
T. B. Veneziano
File Code: KF55E
Process Aids: (8)
Letterbook

TABLE I

Composition of Tank 107S Waste

Component	Sample: One Foot Above Sludge		Sample: One Foot Below Surface	
	Molarity	Wt.%	Molarity	Wt.%
Al	1.212	6.95	0.924	6.84
OH	2.058	5.75	1.521	5.49
NO_2	2.043	9.85	1.311	8.16
NO_3	3.27	19.42	2.454	18.83
PO_4	0.1116	1.28	0.077	1.14
CO_3	0.276	2.04	.285	2.73
TOC	9.00	1.87	8.28	2.22
$\%H_2O$		41.65		55.94
SpG	1.431	———	1.108	———
TOTAL		88.81		101.35

TABLE II

Viscosity Versus Temperature of Tank 107S Sample

One Foot Above Sludge

Temperature(°C)	Viscosity (Centipoise) at RPM					Dilution[a]
	60	30	12	6	3	
50	14	17	28	42	70	0/100
40	17	20	30	40	65	
30	>19	27	49	69	119	
25	>19	>38	67	96	139	
17	2	*	*	*	*	60/40
12	1	1	*	*	*	
6.5	2	2	2	*	*	
10	7	10	13	15	21	40/60
5	12	12	15	18	**	

[a]water: waste liquor

*not measured

**too low to measure

TABLE III

Viscosity Versus Temperature for Tank 107S Sample

One Foot Below Surface*

Temperature (°C)	Viscosity (centipoise) at RPM				
	60	30	12	6	3
51	4	5	5	4	**
40	7	7	6	9	**
30	8	9	8	8	**
20	11	11	11	12	15
10	14	14	16	18	18
4	18	18	19	19	19

*No dilution

**Too low to measure

TCRC-1

September 24, 1965

To: S. J. Beard

From: W. L. Godfrey

242-T EVAPORATOR FEED

The results of analyses of the prospective 242-T Evaporator feed supply are attached. Some tanks, notably 118-TX, have received additional waste since that time and the analyses shown are no longer valid, although they should still be indicative of the composition.

Cyanide has been detected in only four tanks and they have been eliminated from consideration as feedstock.

WLG:jas

cc: DJ Brown
JR Cartmell
CB Foster
WA Haney
GR Kiel
RJ Kofoed - DA Dodd
RW McCullugh
EG Shdo
JJ Shefcik
ML Short
RE Tomlinson
AJ Waligura
RA Yoder
WL Godfrey
LB

TANK 108-S STATUS

Liquid, Gal.	Sludge, Gal.	Sp. Gr. (g/cc)
751×10^3	11×10^3	1.296

Chemical Analyses

Free NaOH	1.53N
$CO_3^{=}$ (g/l)	41.0
AlO_2 (g/l)	4.70
F^- (g/l)	
Cl^- (g/l)	3.14
Na^+ (g/l)	158
NO_3^- (g/l)	284
pH	12.0
CN^-	>100 ppm

Gamma Scan

Zr-Nb^{95} (uc/l)	N.D.
Ru-Rh^{106} (uc/l)	N.D.
Sb-125 (uc/l)	N.D.
Cs-134 (uc/l)	N.D.
Cs-137 (uc/l)	9.8×10^4

Boil-Down Studies

Percent Boil-Down	0	45	50	60	70
Boiling Point (°C)	100	118	125	128	130
Percent Solids -					
at boiling point	clr	1	10	50	90
at room temperature	clr	15	50	90	100

3-15-65

TCRC-2

Atlantic Richfield Hanford Company

00347

Date: September 21, 1971

To: J. O. Skoorud

From: D. A. Puryear

Subject: CHARACTERIZATION OF S, U, AND SX WASTE TANKS

Sampling and analyses of S, U and SX waste tanks to identify feed material for the 242-S vacuum evaporator is progressing. To date three one liter samples from the S Farm tanks have been processed through the laboratory vacuum evaporator. In addition ten S Farm tanks and six U Farm tanks have been sampled and submitted for characterization analyses. The results are shown in the following table.

Characterization Analyses of Waste Tanks

Tk.No.	SpGr	Visc. 50 °C	CO_3	NO_3	NO_2	TAD	Al	Na	^{137}Cs µCi/ml
101-S	1.412	2.23	.011	3.32	.642	3.62	1.41	9.01	155
102-S	1.317	1.12	.064	5.92	.126	2.15	.24	8.48	124
103-S	1.279	.95	.020	4.80	.086	1.86	.28	8.57	104
105-S	1.272	1.05	.064	3.15	.137	2.02	.20	5.86	---
106-S	1.268	.94	.011	4.40	.166	1.88	.17	5.07	87.9
108-S	1.291	1.10	.25	3.61	.108	2.16	.30	6.54	---
109-S	1.272	1.00	.04	3.06	.096	1.88	.211	4.52	---
110-S*	1.269	1.15	.12	3.4	.084	1.93	.30	6.50	66.0
111-S*	1.219	.96	.025	3.4	.30	1.92	.49	8.40	51.6
112-S*	1.262	.92	.073	3.5	.17	1.98	.40	5.87	57.9
108-U	--	--	.036	---	.231	--	.25	4.59	---
111-U	--	--	.066	---	.097	--	.12	4.93	---
102-U									
103-U									
105-U									
106-U									

* Ran in laboratory vacuum evaporator.

The above analyses appear normal except sample 101-S. From the data and parameters gained in the three S tank sample evaporation runs, the results of 101-S appears to be similar in physical and chemical properties of a tank that has been 50 - 60 volume percent reduced. Of specific interest is the high amount of nitrate (0.64M) which may yield a clue in helping to establish the history of this tank.

J. O. Skolrud
Page 2
September 21, 1971

If there are any questions please call me on 2-7478.

DLP:dh

cc: GL Borsheim
JS Buckingham
ME Campbell
DJ Larkin
File
LB
Process Aids (5)

Date: December 7, 1973

To: R. L. Walser

From: W. H. Sant *W. H. Sant*

Subject: 242-S FEED SAMPLES T-9493 (10/5/73) 108-S

Vis-OTR	Clear, yellow, 420 mR
pH	11.5
SpG	1.2455
DTA	No Exotherm
Pu	7.63×10^{-7} g/l
Na	8.14 M
SO_4	8.28×10^{-3} M
Al	0.224 M
NO_2	0.127 M
F	2.55×10^{-3} M
CO_3	0.129 M
Cl	
OH	1.43 M
GEA	^{137}Cs - 8.76×10^{4} μCi/l
NO_3	4.46 M

30% Reduction - 27.5% % Solids - 0.690%
50% Reduction - 51.25% % Solids - 52.56%

$^{89\ 90}Sr$ - 1.22 μCi/l

PO_4 $<3.77 \times 10^{-4}$ M

% H_2O 63.56

cooling curve 5% for 45 min no solids

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

TCRC-6
108-S 112-S

Date: July 8, 1974

To: W. R. Christensen

From: J. S. Buckingham ORIGINAL SIGNED BY J. S. BUCKINGHAM

Subject: ANALYSIS OF SUPERNATANT LIQUIDS FROM 242-S SLURRY RECEIVING TANKS

There was some concern that the waste being evaporated in the 242-S evaporator-crystallizer may be approaching terminal concentration. Samples of supernatant liquid from 242-S slurry receiving tanks 108-S and 112-S were sampled May 10 and 11 for analyses.

Because the samples solidified on standing, Process Control Laboratories could not run the analysis. Chemical Technology Laboratory was able to analyze the samples and the results indicate that the waste is not yet at terminal concentration. The results of the analyses are shown below.

The solidified samples were heated to between 80 and 90 °C in a water bath. A magnetic stir bar was placed in the sample to help in redissolving the sample. For chemical analyses, a 5 milliliter aliquot of the hot slurry sample was immediately diluted with 5 milliliters of water and chemical analyses run on the dilution. Densities and percent waters were run on separate aliquots of the hot slurry.

Please call me if you have any questions regarding this work.

JSB:jf

Att.

cc: w/Att.
H Babad
DG Harlow
NL Harms
WP Metz
RC Roal
RL Walser
Process Aids (7)

TABLE I

ANALYSIS OF 108-S AND 112-S SUPERNATANT LIQUIDS

	108-S		112-S	
Density	1.513		1.501	
H_2O		60.1%		58.3%
$NaAlO_2$	1.55M	8.4%	1.19M	6.5%
$NaNO_2$	1.94M	8.8%	2.02M	9.3%
$NaNO_3$	2.60M	14.6%	2.5M*	14.2%
NaOH	5.08M	13.4%	5.72M	15.2%
Total		105.3%		103.5%
^{137}Cs	4.58×10^5 µCi/l		1.14×10^5 µCi/l	

*The analyzed nitrate value was unexplainably high by a factor of 2; so the result shown here is an estimated value rather than an analyzed value.

TCRC-7

DRAFT

J. S. Buckingham
July 8, 1974

Achievement Report

TANK FARM ASSISTANCE

Analysis of Pilot Evaporator Samples

A series of runs was made in the pilot vacuum evaporator-crystallizer in which the temperature of the concentrate was allowed to reach various levels. The higher temperatures indicated a greater degree of evaporation of the waste solution. The physical and chemical properties of the feed and product materials are discussed in detail in ARH-LD-101, "Chemical and Physical Characteristics of Salt Cakes and Associated Mother Liquors Produced by the Pilot Vacuum Evaporator-Crystallizer as a Function of Operating Temperature," June 1974 by J. S. Buckingham. The data are summarizied here.

Solids produced at 49 °C operating temperature were primarily sodium nitrate. The solids were slightly hygroscopic but not deliquescent. The mother liquor associated with the solids was 10.86M NaOH (28.4 percent).

Solids produced at 60 °C operating temperature were hygroscopic, absorbing enough water to become deliquescent in 19 days. The composition of the solid phase was 23.8 percent $NaAlO_2$, 16.8 percent $NaNO_2$, 38.4 percent $NaNO_3$ and 20.3 percent NaOH (water free basis). The

composition of the mother liquor associated with the solids was 0.38M $NaAlO_2$, 2.66M $NaNO_2$, 2.56M $NaNO_3$ and 15.2M NaOH.

Solids produced at higher operating temperatures were also hygroscopic absorbing enough water to become deliquescent in less than eight days.

As expected, the sodium hydroxide concentration in the mother liquors increased with increased operating temperatures. The concentration of $NaAlO_2$, $NaNO_2$, and $NaNO_3$ in the mother liquors remained fairly constant with increased operating temperatures. In the solid phases the concentration of sodium hydroxide increased and the concentration of sodium nitrate decreased as operating temperature increased. The concentration of sodium nitrite and sodium aluminate were fairly constant at temperatures above 60 °C.

The weight percent liquid in slurries evaporated to various temperatures, then cooled to 50 °C ranged from 93 percent for slurries evaporated to 49 °C to 29 percent for slurries evaporated to 82 °C.

DRAFT

J. S. Buckingham
July 8, 1974

Definition of Terminal Liquid

Terminal waste liquor is now defined as mother liquor associated with a solid phase that is not deliquescent; that is, a solid phase that will not absorb enough moisture from the atmosphere to become liquid. Based on data from ARH-LD-101 the composition of terminal liquor is estimated to be 40 percent H_2O, 0.5M $NaAlO_2$, 2.5M $NaNO_2$, 2.5M $NaNO_3$, and 12M NaOH.

DRAFT

J. S. Buckingham
July 8, 1974

Analysis of Supernatant Liquid (Mother Liquor) From Tanks 108-S and 112-S

There has been some concern that the waste being evaporated in the 242-S evaporator may be approaching terminal concentration. Samples of supernatant liquid from 242-S slurry receiving tanks 108-S and 112-S were sampled May 10 and 11 for analysis. The results are shown below.

	108-S		112-S	
Density	1.513		1.501	
^{137}Cs	4.58×10^5 µCi/l		1.14×10^5 µCi/l	
H_2O		60.1%		58.3%
$NaAlO_2$	1.55M	8.4%	1.19M	6.5%
$NaNO_2$	1.94M	8.8%	2.02M	9.3%
$NaNO_3$	2.60M	14.6%	2.5M*	14.2%
NaOH	5.08M	13.4%	5.72M	15.2%
Total		105.3%		103.5%

*Estimated

Based on the above analyses, liquid from the 242-S evaporator was not yet at terminal concentration as of May 11.

DRAFT

J. S. Buckingham
July 8, 1974

Analysis of Solid Phase From TK 108-S

A sample was taken of the solids in Tank 108-S June 25, 1974. The sample contained two layers of solid. The bottom layer was composed of rather coarse yellow crystals while the upper layer appeared to be a soft sludge. Analyses are not yet complete, but those finished to date are shown below.

TK 108-S Solid

	Top	Bottom
Damp density	1.495	1.393
Dry density	1.136	1.222
H_2O	24.0%	11.5%
$NaAlO_2$	5.4%	1.8%
$NaNO_2$	4.6%	1.9%
$NaNO_3$		68.1%
NaOH	6.3%	3.6%
Na_2CO_3		6.5%
Fe_2O_3	2.0%	
Al_2O_3	<0.3%	
^{239}Pu	1.87×10^{-8} g/g	1.60×10^{-8} g/g
$^{89+90}Sr$	3.15×10^{-4} µCi/g	0.684 µCi/g
^{137}Cs	1.74×10^{-2} µCi/g	<4.4 µCi/g
^{134}Cs		0.40 µCi/g
^{125}Sb	0.46 µCi/g	
$^{106}Ru^{106}Rh$	3.95×10^{3} µCi/g	

Thermal conductivity of the lower solid is being run. A sample of supernatant liquid from 108-S tank was taken June 30, but has not been analyzed.

TCRL-3

S109.1

Date: December 18, 1973

To: R. L. Walser

From: W. H. Sant

Subject: 242-S FEED SAMPLES T-9494 (10/5/73) 109-S

Vis-OTR	Clear, yellow, 350 mR
pH	11.5
SpG.	1.2490
DTA	No Exotherm
Pu	2.29×10^{-6} g/l
Na	5.46 M
SO_4	9.80×10^{-3} M
Al	0.174 M
NO_2	0.158 M
F	2.26×10^{-3} M
CO_3	0.024 M
Cl	
OH	1.81 M
GEA	^{137}Cs - 8.44×10^{4} μCi/l
NO_3	4.35 M

30% Reduction - 28.8% % Solids - 0.526%

50% Reduction - 52.5% % Solids - 67.1%

$^{89\ 90}Sr$	1.712 μCi/l
PO_4	$<3.77 \times 10^{-4}$ M

WHS:bp

cc: WR Christensen
GW Reddick, Jr.
WH Sant

5°C 45 min no solids
% water 66.34

% H_2O

TCRC-13

December 1976

JS Buckingham
DA Dodd
RG Geier
DC Harlow
JE Horton
DC Lini
RL Walser
RA Watrous
WI Winters
CTL Office File

Circulate CTL
Exempt

File
CTL 503

To: D. C. Lini

From: J. E. Horton

ENGINEERING ASSISTANCE WASTE CONCENTRATION

Budget Number:
KW217

Contributors:
J. E. Horton
E. L. Richards

ABSTRACT

Work has been completed on Tanks 109-S and 103-SX. Analysis indicated Tanks 109-S and 103-SX salts were a mix ture of sodium nitrate, associated with interstitial mother liquor. These are the first samples received from Tanks 103-SX and 109-S after receiving salt slurry from 242-S evaporator process.

PROGRESS DURING REPORTING PERIOD

Samples were received in September and October from Tanks 109-S and 103-SX. Analyses were made by weighing a known amount of solids from each tank and diluting them with water and acid. Laboratory results are reported in Tables I and II.

PLANS FOR NEXT REPORTING PERIOD

Report and evaluate any Tank Farm samples received.

CONCLUSIONS

We have completed or have in progress, all samples received from the Tank Farms.

REFERENCES

1. Letter, December 8, 1976, J. E. Horton to W. R. Christiansen, "Analysis of Salts from Tank 109-S"
2. Letter, December 8, 1976, J. E. Horton to W. R. Christiansen, "Analysis of Tank 103-SX salts"

TABLE I

ANALYSIS OF TANK 103-SX - SALTS

Bulk density	0.84 g/cc
Particle density	2.24 g/cc
H_2O	15.0%
ALO_2	1.7%
NO_2	2.1%
NO_3	51.1%
CO_3	6.3%
OH	< 0.009%
Na	27.8%
Fe	0.2%
PO_4	0.3%
SO_4	0.5%
Ca	0.1%
Cr	0.002%
Mg	0.02%
Mn	0.04%
Si	0.3%
Ni	0.004%
Pu	0.446 ug/g
$^{89+90}Sr$	38.0 uci/g
^{137}Cs	95.0 uci/g

TABLE II

ANALYSIS OF TANK 109-S - SALTS

Bulk Density	1.27 g/cc
Particle density	2.38 g/cc
H_2O	10.6%
AL	1.3%
CO_3	4.2%
Fe	0.3%
OH	0.3%
NO_2	1.4%
NO_3	53.5%
MN	0.003%
Mg	0.02%
Ca	0.08%
Cr	0.1%
Si	0.1%
Na	35.0%
PO_4	0.01%
SO_4	0.9%
Pu	0.654 ug/g
$^{89+90}Sr$	14.6 uci/g
^{137}Cs	71.8 uci/g

JCRL-10

Atlantic Richfield Hanford Company

WHC-SD-WM-ER-323, Rev. 0

S1U1

Date: September 16, 1974

To: R. L. Walser

From: R. E. Wheeler R Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-4544 109-S

Vis-OTR: Yellow, 35% solids, 1500 mrad/hr

pH: >13.1

SpG: 1.7607

OH: 5.57 M

Al: 1.19 M

Na: 10.45 M

NO_2: 1.76 M

NO_3: 4.82 M

Pu: 9.56×10^{-6} g/l

DTA: No Exotherm below 200°C

SO_4: 2.76×10^{-2} M

PO_4: 0.146 M

F: 1.88×10^{-2} M

CO_3: 0.146 M

GEA: ^{134}Cs - 6.32×10^{3} μCi/gal
^{137}Cs - 1.88×10^{6} μCi/gal

Water: 44.14%

Cooling Curve: About 35% solids at room temperature. About 5% solids after heating to 100°C for 60 minutes.

45°C for 60 min. 2% solids
40°C for 45 min. 2% solids
35°C for 45 min. 2% solids
30°C for 45 min. 3% solids.
25°C for 60 min. 3% solids.
20°C for 45 min. 3% solids.
15°C for 45 min. 4% solids.
10°C for 45 min. 4% solids.
5°C for 45 min. 4% solids.

REW:jd

cc: JS Buckingham
WR Christensen
RE Wheeler
WP Metz

TCRC-12

5109.4

Date: November 19, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8121 109-S

Vis-OTR: Green. 25% solids 450 mRad/hr

pH: 14.0

SpG: 1.6717

OH: 5.07 M

DTA: No exotherms below 200°C

GEA: ^{134}Cs - 1.64×10^{4} µCi/gal
^{137}Cs - 2.86×10^{6} µCi/gal

K: 5.44×10^{-2} M

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

TLRL-14

Date: December 8, 1976

To: W. R. Christensen

From: J. E. Horton - 2-2529

Subject: ANALYSIS OF SALTS FROM TANK 109-S

A sample was received from Tank 109-S on October 29, 1976. Solids from Tank 109-S were coarse granular crystals, yellowish in color, being about 85 to 90 percent water soluble. This is the first sample taken from Tank 109-S after receiving salt slurry waste from 242-S evaporator process.

Analyses indicated 109-S salts to be sodium nitrate associated with interstitial mother liquor. Analyses were made by weighing 4.7666 grams of solids, dissolving in water and diluting to a known volume. The fraction not soluble in water was dissolved in concentrated HCl, and diluted with water to a known volume. The results of the laboratory work are reported in Table I (attached).

Please call me if you have any questions regarding this work.

JEH:jf

Att.

cc: w/att.
JS Buckingham
RG Geier
SS Koegler
DC Lini
JE Mirabella
WE Ogren
RL Walser
Process Aids (7)
File
LB

54-6000-030 (10-68)

→ 107.5

TABLE I

ANALYSIS OF TANK 109-S SALTS

Bulk density	1.27 g/cc
Particle density	2.38 g/cc
H_2O	10.6%
AlO_2	1.3%
CO_3	4.2%
Fe	0.3%
OH	0.3%
NO_2	1.4%
NO_3	53.5%
Mn	0.003%
Mg	0.02%
Ca	0.08%
Cr	0.1%
Si	0.1%
Na	35.0%
PO_4	0.01%
SO_4	0.9%
Pu	0.654 µg/g
$^{89+90}Sr$	14.6 µCi/g
^{137}Cs	71.8 µCi/g

TIRC-2

Atlantic Richfield Hanford Company

00347

Date: September 21, 1971

To: J. O. Skoorud

From: D. A. Puryear

Subject: CHARACTERIZATION OF S, U, AND SX WASTE TANKS

Sampling and analyses of S, U and SX waste tanks to identify feed material for the 242-S vacuum evaporator is progressing. To date three one liter samples from the S Farm tanks have been processed through the laboratory vacuum evaporator. In addition ten S Farm tanks and six U Farm tanks have been sampled and submitted for characterization analyses. The results are shown in the following table.

Characterization Analyses of Waste Tanks

Tk.No.	SpGr	Visc. 50 °C	CO_3	NO_3	NO_2	TAD	Al	Na	^{137}Cs µCi/ml
101-S	1.412	2.23	.011	3.32	.642	3.62	1.41	9.01	155
102-S	1.317	1.12	.064	5.92	.126	2.15	.24	8.48	124
103-S	1.279	.95	.020	4.80	.086	1.86	.28	8.57	104
105-S	1.272	1.05	.064	3.15	.137	2.02	.20	5.86	---
106-S	1.268	.94	.011	4.40	.166	1.88	.17	5.07	87.9
108-S	1.291	1.10	.25	3.61	.108	2.16	.30	6.54	---
109-S	1.272	1.00	.04	3.06	.096	1.88	.211	4.52	---
110-S*	1.269	1.15	.12	3.4	.084	1.93	.30	6.50	66.0
111-S*	1.219	.96	.025	3.4	.30	1.92	.49	8.40	51.6
112-S*	1.262	.92	.073	3.5	.17	1.98	.40	5.87	57.9
108-U	--	--	.036	---	.231	--	.25	4.59	---
111-U	--	--	.065	---	.097	--	.12	4.93	---
102-U									
103-U									
105-U,									
106-U									

* Ran in laboratory vacuum evaporator.

The above analyses appear normal except sample 101-S. From the data and parameters gained in the three S tank sample evaporation runs, the results of 101-S appears to be similar in physical and chemical properties of a tank that has been 50 - 60 volume percent reduced. Of specific interest is the high amount of nitrate (0.64M) which may yield a clue in helping to establish the history of this tank.

J. O. Skolrud
Page 2
September 21, 1971

If there are any questions please call me on 2-7478.

DLP:dh

cc: GL Borsheim
JS Buckingham
ME Campbell
DJ Larkin
File
LB
Process Aids (5)

T-R-13

out 74-42

Date: September 25, 1974

To: W. R. Christensen

From: J. E. Horton

Subject: ANALYSIS OF SLUDGE SAMPLE FROM TANK 110-S

We received a sample of sludge from Tank 110-S on August 9, 1974. The 110-S sludge sample was composed of two layers. The top layer being a soft dark brown color, and represented about 10 volume percent of the total sample. The bottom layer was gray in color, with hard large white chunks throughout the sample. The bottom layer represented about 90 volume percent of the sample.

Sludge analyses were made by fusing 2.0 milliliters of the top layer of sludge with KOH, dissolving the melt in concentrated HCl, and diluting with H_2O to a volume of 270 milliliters. Three milliliters of the bottom layer were fused with KOH, and the melt was dissolved in concentrated HCl and brought up to a volume of 210 milliliters. The analysis in the tables below are reported in liters of damp, as-received, sludge.

Please call me if you have any questions.

JEH:jf

Att. (1)

cc: w/att.
H Babad
JS Buckingham
DG Harlow
NL Harms
RL Walser
Process Aids (7)

TANK FARM ASSISTANCE
Analysis of Tank 110-S Sludge Sample

Sludge sample 110-S was composed of two layers, the top layer representing about 10 volume percent of the total sample, the bottom layer represented about 90 volume percent of the sample received. Tank 110-S is a possible receiving tank for waste from the 242-S Evaporator. Analysis reported in the tables below are reported in liters of damp, as received, sludge.

S 110.1

TABLE I

TOP LAYER

Wet Density	1.70	
Dry Density	1.09	
% H_2O	45.0	
Al	8.02 moles/ℓ	
Fe	0.28 moles/ℓ	
Pu	1.04×10^{-2} g/ℓ	
$^{89+90}Sr$	5.95×10^{5} µc/ℓ	4.04×10^{-3} watts/ℓ
^{137}Cs	1.86×10^{5} µc/ℓ	8.93×10^{-3} watts/ℓ

TABLE II

BOTTOM LAYER

S 110.2

Wet Density	1.53	
Dry Density	0.841	
% H_2O	45.0	
Fe	0.24 moles/ℓ	
Al	12.1 moles/ℓ	
Pu	1.54×10^{-2} g/ℓ	
$^{89+90}Sr$	1.09×10^{6} µc/ℓ	7.41×10^{-3} watts/ℓ
^{137}Cs	9.45×10^{4} µc/ℓ	4.5×10^{-4} watts/ℓ

TCRC-g

Date: December 17, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8042 110-S

Vis-OTR: Dark Green. 50% solids. 3.5 Rads supernate.

- pH: 14
- SpG: 1.536
- OH: 3.19 M
- Al: 1.48 M
- Na: 11.82 M
- NO_2: 1.65 M
- NO_3: 3.72 M
- Pu: 2.18×10^{-5} g/gal
- SO_4: Cancelled by R. L. Walser
- PO_4: 6.36×10^{-2} M
- F: 3.95×10^{-3} M
- CO_3: 0.203 M
- GEA: ^{134}Cs - 1.08×10^{4} µCi/gal
  ^{137}Cs - 2.0×10^{6} µCi/gal
- $^{89,90}Sr$: 2.568×10^{3} µCi/gal
- Water: 45.37%

Cooling Curve:

40°C for 45 min.	No solids.
35°C for 60 min.	No solids.
30°C for 45 min.	No solids.
25°C for 45 min.	No solids.
20°C for 45 min.	Suspended Solids.
15°C for 45 min.	Suspended solids.
10°C for 45 min.	Suspended solids.
5°C for 45 min.	3% solids suspended.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
LG Johnson
RE Wheeler
JC Womack

S 110.

TCRC-9

LET

Date: January 7, 1975

To: W. R. Christensen

From: J. E. Horton JEHorton

Subject: ANALYSIS OF TANK 110-S SLUDGE SAMPLE

Reference: Letter, September 25, 1974, W. R. Christensen, "Analysis of Sludge Sample From Tank 110-S"

A sample of sludge from Tank 110-S was received in the Chemical Technology Laboratory on October 22, 1974. ~~This was the second sample taken from Tank 110-S and was expected to be a salt sample. There was no salt present with the sample received.~~ S 110.4

The 110-S Tank sample was analyzed by fusing 1.5 milliliters of damp "as received" sludge with KOH, dissolving the melt with concentrated hydrochloric acid, and diluting to 255 milliliters with water. Details of the laboratory work are reported below.

Please call me if you have any questions on this work.

ANALYSIS OF 110-S SLUDGE

Pu	6.29×10^{-4} g/ℓ	
$^{89+90}Sr$	5.43×10^{5} μc/ℓ	3.69×10^{-4} watts/ℓ
^{137}Cs	8.10×10^{5} μc/ℓ	3.89×10^{-3} watts/ℓ
^{134}Cs	4.57×10^{3} μc/ℓ	

.41 BTU/hr/ft³

JEH:ms

cc: H Babad
JS Buckingham
DG Harlow
NL Harms
RE Van der Cook
RL Walser
Process Aids (7)
CTL File - 111
- 122
File
LB

R-0621

54-6000-030 (10-68)
AEC-RL RICHLAND WASH.

Date: June 20, 1975

To: W. R. Christensen

From: J. E. Horton
C. H. Hunter

Subject: ANALYSIS OF 110-S TANK SALT LAYER

References: (1) Letter, September 25, 1974, J. E. Horton to W. R. Christensen, "Analysis of Sludge from Tank 110-S"

(2) Letter, January 7, 1975, J. E. Horton to W. R. Christensen, "Analysis of Tank 110-S Sludge Sample"

Chemical Technology Laboratory (CTL) received a sample from Tank 110-S on April 23, 1975. This is the third sample taken from the 110-S Tank. Analyses of the first two samples, which were sludge, are discussed in the two reference letters.

The current sample had a small amount of salt on top of the sludge. This amounted to about three to four percent of the total sample received. The salt was yellow in color.

The analyses indicate that the salt in 110-S is essentially sodium nitrate dampened with entrained mother liquor. Details of the analyses are discussed on the following page.

W. R. Christensen
Page 2
June 20, 1975

Analysis of the salt portion was made by weighing out 3.56750 grams and dissolving it in water. The remaining insoluble solids were fused with KOH, the melt dissolved in con HCl, and diluted to a volume of 100 milliliters. The analyses are reported in Tables I and II. Please call me if you have any questions.

JEH:CHH:ms

cc: H Babad
JS Buckingham
RG Geier
DC Lini
ND Rodewald
RE Van der Cook
WJ Van Slyke
RL Walser
JC Womack
Process Aids (7)
File (2)
CTL - 111
- 123
LB

S110,2

TABLE I

ANALYSIS OF SALT FROM TANK 110-S

		Wt%
Bulk Density	1.90	
Particle Density	1.73	
$\%H_2O$		19.3
NaOH	0.115M	3.2
$NaNO_2$	6.39×10^{-2}M	3.1
$NaNO_3$	0.805M	57.8
$NaAlO_2$	4.27×10^{-2}M	2.5
Na_2CO_3	6.82×10^{-2}M	2.9
Na_2PO_4	2.76×10^{-2}M	<3.2
Pu	9.11×10^{-9} g/g	
$^{89+90}Sr$	81.1 μCi/g	
^{137}Cs	108.8 μCi/g	

TABLE II

ANALYSIS OF UNDISSOLVED SOLID (FUSION) SALT

		Wt%
Fe	1.44×10^{-3}M	0.2
Al	3.08×10^{-2}M	1.8
Mn	6.80×10^{-4}M	0.05 ×
Si	2.0×10^{-3}M	0.15
Na	2.51×10^{-2}M	1.6
Cr	6.58×10^{-4}M	0.1 ×
Total Wt% Recovery		96.0

T-026-5

Atlantic Richfield Hanford Company

00347

Date: September 21, 1971

To: J. O. Skogrud

From: D. A. Puryear

Subject: CHARACTERIZATION OF S, U, AND SX WASTE TANKS

S111.1

Sampling and analyses of S, U and SX waste tanks to identify feed material for the 242-S vacuum evaporator is progressing. To date three one liter samples from the S Farm tanks have been processed through the laboratory vacuum evaporator. In addition ten S Farm tanks and six U Farm tanks have been sampled and submitted for characterization analyses. The results are shown in the following table.

Characterization Analyses of Waste Tanks

Tk.No.	SpGr	Visc. 50 °C	CO_3	NO_3	NO_2	TAD	Al	Na	^{137}Cs µCi/ml
101-S	1.412	2.23	.011	3.32	.642	3.62	1.41	9.01	155
102-S	1.317	1.12	.064	5.92	.126	2.15	.24	8.48	124
103-S	1.279	.95	.020	4.80	.086	1.86	.28	8.57	104
105-S	1.272	1.05	.064	3.15	.137	2.02	.20	5.86	---
106-S	1.263	.94	.011	4.40	.166	1.88	.17	5.07	87.9
108-S	1.291	1.10	.25	3.61	.108	2.16	.30	6.54	---
109-S	1.272	1.00	.04	3.06	.096	1.88	.211	4.52	---
110-S*	1.269	1.15	.12	3.4	.084	1.93	.30	6.50	66.0
111-S*	1.219	.96	.025	3.4	.30	1.92	.49	8.40	51.6
112-S*	1.262	.92	.073	3.5	.17	1.98	.40	5.87	57.9
108-U	--	--	.086	---	.231	--	.25	4.59	---
111-U	--	--	.066	---	.097	--	.12	4.93	---
102-U									
103-U									
105-U									
106-U									

* Ran in laboratory vacuum evaporator.

The above analyses appear normal except sample 101-S. From the data and parameters gained in the three S tank sample evaporation runs, the results of 101-S appears to be similar in physical and chemical properties of a tank that has been 50 - 60 volume percent reduced. Of specific interest is the high amount of nitrate (0.64M) which may yield a clue in helping to establish the history of this tank.

J. O. Skolrud
Page 2
September 21, 1971

If there are any questions please call me on 2-7478.

DLP:dh

cc: GL Borsheim
JS Buckingham
ME Campbell
DJ Larkin
File
LB
Process Aids (5)

TCRC-28

New

Atlantic Richfield Hanford Company

Date: May 29, 1974

To: W. R. Christensen

From: J. S. Buckingham JS Buckingham

Subject: ANALYSIS OF SLUDGE SAMPLE FROM TANK 111-S

Reference: Letter, March 25, 1974, W. R. Christensen to M. H. Campbell, "S and SX Farm Sludge Samples"

A sample of sludge from tank 111-S has been analyzed in the laboratory. The sample was gray in color more nearly resembling an aluminum compound rather than the dark brown color usually associated with iron compounds. Chemical analyses showed that the sample was greater than 60 percent Al_2O_3 confirming the suspected high aluminum content.

I suspect that as Tank 111-S aged, a layer of hydrated aluminum oxide precipitated and formed on top of the iron hydroxide sludge layer. When the sludge sample was taken, the hard aluminum oxide filled the sludge sample tube preventing the softer iron hydroxide sludge from entering the tube. The results of the analyses, discussed in detail below, are representative of the sample but in all probability do not represent what is in the entire sludge layer. The low fission product content and heat generation rate of the sample also indicates that the sample is not representative of the entire sludge layer.

Damp or wet density of the sludge was measured at 1.348 g/cc. Dry, particle density (NPH density) was 1.21 g/cc. The analysis of the sludge is shown in Table I.

Thermal conductivity and differential thermal analyses of the sludge have not yet been made.

About 76 percent of the weight of the sludge can be accounted for by the analyses assuming the compounds listed in Table I are in the sludge. The ratio of anions to cations in the water soluble fraction was 1.22 indicating that the analyses are reasonable. I suspect that if any analysis is low, it is aluminum.

W. R. Christensen
Page 2
May 29, 1974

I recommend that another attempt be made to get a more representative sample of the sludge layer in this tank before it be considered as a receiver tank for salt cake.

JSB:kh

Enc.

cc: MH Campbell
DG Harlow
NL Harms
JE Horton
WP Metz
RC Roal
NC Rodewald
WW Schulz
RE Van der Cook
RL Walser
JC Womack
Process Aids - 7
File
LB

54-6000-031 (10-68)

S111.2

Table I

Analysis of 111-S Sludge

Damp density	1.348 g/cc
Dry density	1.21 g/cc
Analysis	
H_2O	9.46 %
$NaAlO_2$	0.22 %
NaOH	1.22 %
$NaNO_2$	0.09 %
$NaNO_3$	3.38 %
Na_2CO_3	1.01 %
Na_2SO_4	0.02 %
Na_3PO_4	0.03 %
Fe_2O_3	0.14 %
Al_2O_3	59.76 %
SiO_2	0.48 %
$^{89+90}Sr$	2.87 µCi/g
^{137}Cs	7.29 µCi/g
^{239}Pu	<0.2 µg/g
Heat generation	12 µwatts/g

DRAFT

J. E. Horton
August 21, 1974

Achievement Report

SUMMARIES

- Salt cake samples from tanks 105-S, 106-S, and 111-S.
- Thermal conductivities of 105-S salt.

DRAFT

J. E. Horton
August 21, 1974

TANK FARM ASSISTANCE

Samples of the salt cakes in tanks 105-S, 106-S, and 111-S were taken. These tanks are slurry receiving tanks for the 242-S evaporator. Solids in tanks 105-S, 106-S, and 111-S are primarily sodium nitrate. Details of laboratory work are discussed below. Analysis of the solids and mother liquors are shown below.

The 105-S salt sample is composed of coarse yellow crystals. The yellow crystals are very dry in appearance. A weighed amount of 105-S solids was dissolved in H_2O and made to a volume of 25 ml. Analysis are shown in Table I.

TABLE I

$NaAlO_2$	1.34×10^{-3} M	0.11%
$NaNO_2$	3.73×10^{-3} M	0.26%
Na_2CO_3	2.36×10^{-2} MM	2.54%
$NaNO_2$	1.16M	100.3%
NaOH	1.26×10^{-2} M	0.5%
H_2O		3.4%
		107.1%

GEA		
^{137}Cs	8.76×10^{2} µCi/ℓ	8.9 µCi/g
^{125}Sb	2.20 µCi/ℓ	0.02 µCi/g

As Received Density	1.26
Wet Density	1.78
NPH Density	2.52

DRAFT

J. E. Horton
August 21, 1974

HYGROSCOPICITY

The 105-S salt sample showed no deliquesce after 21 days of testing. Percent gain after 21 days was 11.1 percent. This test was made in air saturated with water vapor at 23 - 25 °C.

Thermal conductivity measurements of 105-S salts were made. Table II reflects the data.

TABLE II

THERMAL CONDUCTIVITIES OF 105-S SOLIDS
(DATA BY D. G. BOUSE)

As Received	21.8 °C	0.251 BTU/hr/ft^2/°F
Held Overnight	62.1 °C	0.247 "
Dried Overnight	80.0 °C	0.235 "
Overnight	114.9 °C	0.216 "
Over Weekend	156.0 °C	0.205 "

The 106-S salt sample has large yellow crystals at the top and coarse crystals at the bottom. A weighed amount of 106-S solids was dissolved in H O and made to a volume of 25 ml. Laboratory analysis of 106-S solids are shown on the following page.

DRAFT

TABLE III

ANALYSIS OF 106-S TANK SOLIDS

	$NaAlO_2$	9.61×10^{-3} M	0.6%
	$NaNO_2$	5.49×10^{-3} M	0.05%
	$NaNO_3$	1.36 M	90.1%
	NaOH	3.26×10^{-2} M	1.0%
	Na_2CO_3	5.0×10^{-2} M	4.1%
	H_2O		4.2%
			100.05%
GEA	^{137}Cs	2.21×10^{3} µCi/ℓ	17.2 µCi/g

Densities of Solids

As Received Density	1.27
Wet Density	1.80
NPH Density	2.28
Dry Density	0.635

TABLE IV

ANALYSIS OF 106-S SUPERNATANT

$NaAlO_2$	1.56 M	8.9%
NaOH	5.33 M	14.9%
$NaNO_2$	0.656 M	3.2%
Na_2CO_3	1.36×10^{-2} M	1.0%
$NaNO_3$	2.49 M	14.8%
H_2O		55.0%
		98.0%

Density 1.429

GEA

^{137}Cs	3.39 x 10 µCi/ℓ
^{134}Cs	9.11 x 10 µCi/ℓ

DRAFT

Hygroscopicities of 106-S Salts

The 106-S salt sample shows no deliquescence after 14 days of testing. Percent gain in 14 days of testing was 11.4 percent. This test was made in air saturated with water vapor at 23 - 25 °C.

The 111-S salts are a grayish in color and very sticky. Laboratory work was done on both the supernatant and solid. A portion was dissolved in water and sent to laboratory for analysis.

S111.3

TABLE V

ANALYSIS OF 111-S SALTS

H_2O		18.4%
$NaAlO_2$	2.31×10^{-2} M	2.3%
$NaNO_2$	3.21×10^{-2} M	2.7%
$NaNO_3$	0.679	69.9%
Na_2CO_3	8.45×10^{-2} M	10.8%
NaOH	0.137 M	6.6
Total %		110.7%
$^{89+90}Sr$	6.22×10^2 µCi/ℓ	7.54 µCi/g
GEA ^{137}Cs	7.92×10^3 µCi/ℓ	96.0 µCi/g
Wet Density	1.704	
Dry Density	0.497	

DRAFT

S111.4

TABLE VI

ANALYSIS OF 111-S SUPERNATANT

$NaAlO_2$	1.34M	7.8%
$NaNO_2$	1.65M	8.1%
NaOH	3.80M	10.7%
$NaNO_3$	2.90M	17.4%
H_2O		54.4%
Total %		98.4%
Density	1.414	
GEA		
^{137}Cs	4.47×10^5 µCi/ℓ	
^{134}Cs	3.04×10^3 µCi/ℓ	

Hygroscopicities of 111-S Salts

The solids from 111-S tank are hygroscopic, absorbing enough water to become deliquescent in six days. The salt had increased 21.6 percent in weight when it deliquesced. This test was made in air saturated with water at 23 - 25 °C.

Laboratory work on sludge samples 104-A, 102-AX, and 110-S are not yet completed, and will be reported at a later date.

NO TCRC#22

Date: December 16, 1974

To: R. L. Walser

From: R. E. Wheeler R M Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8141 111-S

S111.6

Vis-OTR: Yellowish green. 100% solids. 500 mRad/hr

pH: > 13.4

SpG: 1.7953

OH: 5.16 M

Al: 1.34 M

Na: 23.84 M

NO_2: 2.761 M

NO_3: 4.91 M

Pu: 3.44×10^{-5} gm/gal

SO_4: Cancelled by R. L. Walser

PO_4: 4.52×10^{-2} M

F: 5.10×10^{-3} M

CO_3: 0.293 M

GEA: ^{134}Cs - 1.13×10^{4} µCi/gal
^{137}Cs - 2.93×10^{6} µCi/gal
^{60}Co - 7.12×10^{2} µCi/gal

$^{89,90}Sr$: 2.33×10^{6} µCi/gal

Water: 34.29%

Cooling Curve:
40°C for 45 min. 10% solids.
35°C for 45 min. 10% solids.
30°C for 45 min. 15% solids.
25°C for 45 min. 18% solids.
20°C for 60 min. 20% solids.
15°C for 45 min. 20% solids.
10°C for 45 min. 25% solids.
5°C for 120 min. 30% solids.

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

Date: February 28, 1977

To: W. R. Christensen

From: J. E. Horton - 2-2529 JEHorton

Subject: ANALYSIS OF TANK 111-S SALTS

We received a sample from Tank 111-S on December 27, 1976. The salts as received were damp, fine crystals, being dark green in color. Analysis indicated the salts from Tank 111-S are essentially sodium nitrate with lesser amounts of CO_3, Al, OH, etc.

Analyses were made by weighing 6.6645 grams of solids, dissolving them with water, and diluting them to a known volume. Insoluble solids in water were dissolved in concentrated HCl and diluted to a known volume. The solids were about 90 percent water soluble. Analyses are reported in Table I.

If you have any questions regarding this work, please call me.

JEH:ms

cc: JS Buckingham
RG Geier
DC Lini
DH Miyasaki
JE Mirabella
DA Turner
RL Walser
M Weems
Process Aids (7)
File
LB

S111.7

TABLE I

ANALYSIS OF TANK 111-S SALT

Bulk Density	1.41g/cc	
Particle Density	1.50g/cc	
H_2O	37.6 %	
Al	2.6 %	
CO_3	8.5 %	
OH	0.4 %	
Fe	0.1 %	
NO_2	2.3 %	
NO_3	34.0 %	
Cr	0.5 %	
Si	0.02%	
Na	21.0 %	
PO_4	0.08%	
SO_4	0.3 %	
Pu	1.10×10^{-7}	µCi/g
$^{89+90}Sr$	13.0	µCi/g
^{137}Cs	129.0	µCi/g
Material Balance	107.4 %	

Internal Letter 111-S
TCRC-28 Salt

Rock

August 25, 1978

8012

WHC-SD-WM-ER-323, Rev. 0

TO

G. K. Allen
Process Engineering
2750-E, 200 East Area

FROM

J. E. Horton
Chemical Sciences Group
222-S, 200 West Area
2-2529

SUBJECT: Chemical and Physical Analysis of Core Segments from Tank 111-S

Ref: Letter, February 28, 1977, J. E. Horton to W. R. Christensen, "Analysis of Tank 111-S Salts."

Chemical Sciences Group received eight core segments from Tank 111-S between February 2, 1978, and June 27, 1978. Segments 1002-C, 1003-C, and 1006-C were empty, segments 1001-C contained 43.2 CM, 1000-3 25.4 CM, 1004-C 25.4 CM, 1007-C 7.6 CM and 1009-C 43.2 CM of salt cake.

Total salt cake retrieved from Tank 111-S was 144.8 CM. Core 1009-C also contained 87 milliliters of supernatant liquid. Core segment 1007-C contained drilling sediment and was not a representative sample. It was not analyzed. Core segments 1003-C and 1004-C were blended for chemical analysis. The salts as received were yellowish green in color, with variable crystal sizes. The analytical data shows that they differ in sodium and sodium nitrate. The major constituent is sodium nitrate. Lesser amounts of NO_2^-, $CO_3^=$, $SO_4^=$, $PO_4^{\equiv}$ were seen. I believe the variation in bulk densities is due to differences in percent water. All core segments were approximately 95 percent water soluble. There were no unusual or unique differences seen in appearance of core segment received.

The high radiation reading of 1-5 rads forced us to use the hot cell for breakdown on all core segments from Tank 111-S.

Analytical data reported in this letter were obtained by the analytical methods described in document ARH-CD-571. Chemical and physical data are reported in Tables I through V.

In December 1976, a surface sample was taken from this tank (Reference). Analytical data obtained at that time are in good agreement with the data reported here.

If you have any questions please call me.

JEHorton

J. E. Horton
Specialist

JEH:klm

Information:
J. S. Buckingham
G. W. Grimes
F. M. Jungfleisch
W. W. Schulz
D. M. Strachan
File (7)
Attachments

TABLE 1A

CHEMICAL AND PHYSICAL ANALYSIS+ (CONTENT & PERCENT)
FOR TANK 111-S SAMPLE # 1001-C

Components	Water Soluble		Acid (KOH Fusion)	
Al	0.6	%	0.06	%
Cl	0.1	%		%
Bi		%		%
Cd	< 0.0002	%	0.003	%
Fe		%	0.02	%
F	0.02	%		%
CO_3	5.0	%		%
OH	1.0	%		%
Hg	0.004	%		%
K		%		%
Mn		%		%
Na	26.2	%		%
NO_2	0.9	%		%
NO_3	51.4	%	< 0.3	%
PO_4	0.3	%	0.2	%
SO_4	1.5	%	< 0.5	%
CrO_4	0.5	%		%
SiO_2	0.03	%	1.3	%
Total Organic Carbon	1.29	g/l		
U			2.47×10^{-5}	g/g
^{239}Pu	3.60×10^{-12}	g/g	6.42×10^{-8}	g/g
^{241}Am	1.02×10^{-11}	g/g		g/g
$^{89+90}Sr$	1.03	µCi/g	14.3	µCi/g
^{137}Cs	72.1	µCi/g	0.3	µCi/g
^{134}Cs	0.1	µCi/g		
^{106}Ru			0.608	µCi/g
^{60}Co			0.056	µCi/g
^{125}Sb			0.007	µCi/g
^{154}Eu			0.150	µCi/g
^{155}Eu			0.307	µCi/g
Material Balance	99.8	%		

Physical Properties

Bulk Density	1.27	g/cc
Particle Density	1.34	g/cc
Percent Water	10.7	%
DTA	No Exotherms-Endotherm at 103° C and 285° C	
Calculated Heat Content	5.74×10^{-4}	Watts/liter/content of $^{89+90}Sr$ and ^{137}Cs
Sample Size (Core Length)	43.2	(cm) or m
Hardness	26.0	kg/cm^2
Vapor Pressure	8.9	mm Hg at 24.6 ° C
Drainable Liquid	12.6	% at 28 PSI

TABLE 18

PARTICLE SIZE DISTRIBUTION+
SAMPLE 1001-C 111-S TANK

Particle Size µm	Average Dia. µm	Weight Percent	Cumulative Wt. Percent
5-10	8.25	0.2	
10-15	12.98	0.3	99.9
15-20	17.85	1.2	98.9
20-25	22.8	10.5	97.7
25-30	27.7	3.2	87.2
30-35	32.7	9.5	84.0
35-40	37.7	3.6	74.5
40-45	42.7	8.7	70.9
45-50	47.6	1.5	62.2
50-55	52.6	1.2	60.7
55-60	57.6	0.3	59.5
60-65	62.6	12.6	59.2
65-70	67.6	0.4	46.6
70-75	72.6	8.5	46.2
75-80	77.6	0.5	37.7
80-90	85.3	1.1	37.2
100-110	105.2	0.3	36.1
110-120	115.2	1.0	35.3
120-130	125.2	0.6	34.3
130-140	135.2	0	
140-150	145.2	0	
> 150		33.7	33.7

+Particles size 5 to 150 µm were run on the HIAC Counter and > 150 µm were mechanically sieved.

TABLE IIA

CHEMICAL AND PHYSICAL ANALYSIS+ (CONTENT & PERCENT)
FOR TANK 111-S SAMPLE # 1003-C and 1004-C

Components	Water Soluble		Acid (KOH Fusion)	
Al	1.3	%	0.09	%
Cl	0.005	%		%
Bi	0.001	%		%
Cd	< 0.0003	%		%
Fe	0.0006	%	0.03	%
F	0.03	%		%
CO_3	5.0	%		%
OH	1.8	%		%
Hg	0.03	%		%
K	0.06	%		%
Mn	0.009	%		%
Na	23.0	%		%
NO_2	3.0	%		%
NO_3	53.0	%	0.3	%
PO_4	1.3	%	0.2	%
SO_4	2.7	%	< 0.4	%
CrO_4	0.8	%		%
SiO_2	0.06	%	1.3	%
Total Organic Carbon	2.38	M		
U			2.83×10^{-5}	g/g
^{239}Pu	2.12×10^{-4}	g/g	9.82×10^{-5}	g/g
^{241}Am	4.03×10^{-11}	g/g	2.03×10^{-9}	g/g
$^{89+90}Sr$	1.2	µCi/g	15.20	µCi/g
^{137}Cs	180.0	µCi/g	2.40	µCi/g
^{134}Cs		µCi/g		µCi/g
^{106}Ru				µCi/g
^{60}Co				µCi/g
^{125}Sb				µCi/g
^{154}Eu				µCi/g
^{155}Eu			0.26	µCi/g
Material Balance	108.4	%		

Physical Properties

Bulk Density	1.86	g/cc
Particle Density	2.09	g/cc
Percent Water	17.4	%
DTA	No Exotherms-Endotherms at 110° C and 285° C	
Calculated Heat Content	1.34^{-5}	Watts/liter/content of $^{89+90}Sr$ and ^{137}Cs
Sample Size (Core Length)	50.8	cm or m
Hardness		kg/cm^2
Vapor Pressure	8	mm Hg at 25.6 ° C
Drainable Liquid		% at ____ PSI

TABLE IIB

PARTICLE SIZE DISTRIBUTION+
SAMPLE 1003-1004 111-S Tank

Particle Size µm	Average Dia. µm	Weight Percent	Cumulative Wt. Percent
5-10	8.25	1.9	100.0
10-15	12.98	1.9	98.1
15-20	17.85	2.9	96.2
20-25	22.8	4.8	93.3
25-30	27.7	7.0	88.5
30-35	32.7	3.3	81.5
35-40	37.7	3.0	78.2
40-45	42.7	3.1	75.2
45-50	47.6	1.8	72.1
50-55	52.6	1.1	70.3
55-60	57.6	3.4	69.2
60-65	62.6	2.5	65.8
65-70	67.6	2.1	63.3
70-75	72.6	3.5	61.2
75-80	77.6	0.4	57.7
80-90	85.3	0.7	57.3
100-110	105.2		
110-120	115.2		
120-130	125.2		
130-140	135.2		
140-150	145.2		
> 150		56.5	

+Particles size 5 to 150 µm were run on the HIAC Counter and > 150 µm were mechanically sieved.

TABLE IIIA

CHEMICAL AND PHYSICAL ANALYSIS+ (CONTENT
FOR TANK 111-S SAMPLE # 1099-C

Components	Water Soluble		Acid (KOH Fusion)	
Al	1.0	%	1.6	%
Cl	0.005	%		%
Bi	< 0.04	%		%
Cd	0.0005	%		%
Fe	0.001	%	0.06	%
F		%		%
CO_3	12.0	%		%
OH	0.6	%		%
Hg	0.05	%		%
K	0.05	%		%
Mn	< 0.001	%		%
Na	28.4	%		%
NO_2	2.1	%		%
NO_3	40.6	%	0.08	%
PO_4	1.2	%	0.02	%
SO_4	3.0	%	0.04	%
CrO_4	0.6	%		%
SiO_2	0.01	%	0.2	%
Total Organic Carbon	2.80	M		
U			3.51×10^{-5}	g/g
^{239}Pu	4.25×10^{-7}	g/g	1.68×10^{-7}	g/g
^{241}Am	4.23×10^{-11}	g/g	8.10×10^{-10}	g/g
$^{89+90}Sr$	1.71	µCi/g	17.3	µCi/g
^{137}Cs	109.0	µCi/g	0.60	µCi/g
^{134}Cs		µCi/g		
^{106}Rh	1.16	µCi/g		µCi/g
^{60}Co				µCi/g
^{125}Sb				µCi/g
^{154}Eu				µCi/l
^{155}Eu				µCi/l
Material Balance	110.0	%		

Physical Properties

Bulk Density	1.44	g/cc
Particle Density	1.56	g/cc
Percent Water	18.1	%
DTA	No Exotherms-Endotherms at 105° C and 280° C	
Calculated Heat Content	9.49×10^{-4}	Watts/liter/content of $^{89+90}Sr$ and ^{137}Cs
Sample Size (Core Length)	43.19	cm or m
Hardness		kg/cm^2
Vapor Pressure	8.3	mm Hg at 26.3 ° C
Drainable Liquid		% at PSI

TABLE IIIB

PARTICLE SIZE DISTRIBUTION+
SAMPLE 1009-C 111-S TANK

Particle Size µm	Average Dia. µm	Weight Percent	Cumulative Wt. Percent
5-10	8.25	9.3	100.0
10-15	12.98	14.0	90.7
15-20	17.85	3.8	76.7
20-25	22.8	3.5	72.9
25-30	27.7	1.4	69.4
30-35	32.7	1.5	68.0
35-40	37.7	1.1	66.5
40-45	42.7	1.3	65.4
45-50	47.6	0.4	63.6
50-55	52.6	1.0	63.2
55-60	57.6	0.4	62.2
60-65	62.6	0.2	61.8
65-70	67.6	0.3	61.6
70-75	72.6	0.4	61.3
75-80	77.6	0.7	60.9
80-90	85.3		
100-110	105.2		
110-120	115.2		
120-130	125.2		
130-140	135.2		
140-150	145.2		
> 150		60.2	60.2

+Particles size 5 to 150 µm were run on the HIAC Counter and > 150 µm were mechanically sieved.

TABLE IV

ANALYSIS SUPERNATANT TANK 111-S

Density: 1.50 g/cc
% H_2O: 46.0%

$NaAlO_2$	1.5	M	8.0	wt%
Ca	1.94^{-4}	M	0.0004	wt%
Cd	1.54^{-4}	M	0.001	wt%
Hg	1.41^{-3}	M	0.02	wt%
K	6.38^{-2}	M	0.2	wt%
Mn	9.28^{-5}	M	0.0003	wt%
Fe	1.85^{-3}	M	0.02	wt%
Na_2CO_3	8.20^{-2}	M	0.4	wt%
NaOH	3.68	M	9.8	wt%
Na	11.0	M	16.9	wt%
$NaNO_2$	1.82	M	8.3	wt%
$NaNO_3$	1.95	M	11.0	wt%
Na_2SO_4	3.18^{-2}	M	0.3	wt%
Na_3PO_4	8.74^{-2}	M	1.0	wt%
SiO_2	8.02^{-3}	M	0.04	wt%
TOC*	6.0 g/l			
^{239}Pu	1.08×10^{-5} g/l			
$^{89+90}Sr$	2.04×10^{4} µCi/l			
^{137}Cs	6.82×10^{5} µCi/l			
^{134}Cs	9.82×10^{2} µCi/l			

64.4 %

*TOC = Total Organic Carbon

TABLE V

ANALYSIS OF SUPERNATANT RECEIVED WITH CORE 1009-C

Density: 1.46 g/cc
% H_2O: 44.6

$NaAlO_2$	1.88	M	10.6	%
Ca	3.70×10^{-4}	M	0.001	%
Cd	1.62×10^{-4}	M	0.001	%
Hg	1.53×10^{-3}	M	0.02	%
K	4.21×10^{-2}	M	0.1	%
Mn	1.13×10^{-4}	M	0.0004	%
Fe	$< 6.0 \times 10^{-4}$	M	< 0.004	%
Na_2CO_3	0.21	M	1.5	%
NaOH	3.77	M	10.33	%
Na	9.60	M	15.11	%
$NaNO_2$	1.74	M	8.2	%
$NaNO_3$	0.75	M	4.4	%
Na_3PO_4	3.46×10^{-2}	M	0.4	%
Na_2SO_4	0.011	M	0.1	%
SiO_2	4.53×10^{-3}	M	0.02	%
Pb	3.44×10^{-4}	M	0.005	%
TOC*	5.2 g/l	[illegible]		
Pu	8.95×10^{-6}	g/l		
$^{89} + ^{90}Sr$	2.51×10^{3}	μCi/l		
^{137}Cs	4.68×10^{5}	μCi/l		

*TOC = Total Organic Carbon

TCRC-2

Atlantic Richfield Hanford Company

00347

5112.1

Date: September 21, 1971

To: J. O. Skjerud

From: D. A. Puryear

Subject: CHARACTERIZATION OF S, U, AND SX WASTE TANKS

Sampling and analyses of S, U and SX waste tanks to identify feed material for the 242-S vacuum evaporator is progressing. To date three one liter samples from the S Farm tanks have been processed through the laboratory vacuum evaporator. In addition ten S Farm tanks and six U Farm tanks have been sampled and submitted for characterization analyses. The results are shown in the following table.

Characterization Analyses of Waste Tanks

Tk.No.	SpGr	Visc. 50 °C	CO_3	NO_3	NO_2	TAD	Al	Na	^{137}Cs µCi/ml
101-S	1.412	2.23	.011	3.82	.642	3.62	1.41	9.01	155
102-S	1.317	1.12	.064	5.92	.126	2.15	.24	8.48	124
103-S	1.279	.95	.020	4.80	.086	1.86	.28	8.57	104
105-S	1.272	1.05	.064	3.15	.137	2.02	.20	5.86	---
106-S	1.268	.94	.011	4.40	.166	1.88	.17	5.07	87.9
108-S	1.291	1.10	.25	3.61	.108	2.16	.30	6.54	---
109-S	1.272	1.00	.04	3.06	.096	1.88	.211	4.52	---
110-S*	1.269	1.15	.12	3.4	.084	1.93	.30	6.50	66.0
111-S*	1.219	.96	.025	3.4	.30	1.92	.49	8.40	51.6
112-S*	1.262	.92	.073	3.5	.17	1.98	.40	5.87	57.9
108-U	--	--	.036	---	.231	--	.25	4.59	---
111-U	--	--	.066	---	.097	--	.12	4.93	---
102-U									
103-U									
105-U,									
106-U									

* Ran in laboratory vacuum evaporator.

The above analyses appear normal except sample 101-S. From the data and parameters gained in the three S tank sample evaporation runs, the results of 101-S appears to be similar in physical and chemical properties of a tank that has been 50 - 60 volume percent reduced. Of specific interest is the high amount of nitrate (0.64M) which may yield a clue in helping to establish the history of this tank.

TCRC-1

00342

Date: July 20, 1971

To: J. O. Skolrud

From: D. A. Puryear ORIGINAL SIGNED BY D. A. PURYEAR

Subject: ANALYSIS OF TANKS 110-S, 111-S AND 112-S

References: Letter, October 15, 1970, J. O. Skolrud - G. C. Coore to J. S. Buckingham, "Characterization of ETS Feed and Bottoms Tank Material"

Samples from waste tanks 110-S, 111-S, and 112-S have been analyzed and evaporated in the laboratory vacuum evaporator. Sufficient data has been obtained to complete the evaporation phase of the experiment. This data is being compiled in a separate report on vacuum evaporation and will be issued soon. The analysis on the original solution of these three tanks are shown in the following table.

Table 1

Analysis of Laboratory Evaporator Feed

	Vis. 650°C	Sp. Gr.	Sp. Gr. temp.	Cs µc/ml	CO_3	NO_3	NO_2	Fl	Cl	Al	H_2
110-S	1.15	1.267		65	.120	3.4	.083		1.93	.23	6.5
111-S	.96	1.219		51.6	.025	3.4	.3		1.92	—	8.4
112-S	—	—		57.9	.073	3.5	.17		1.98	—	5.87

A sample from tank 108-S has been submitted for analysis. To continue the analysis of Sr, Cs and U from tanks 2 will require only one 250 ml sample from each tank. These samples can be handled at the rate of two per week until all tanks have been sampled.

If I can be of further help please call me on 2-7478.

DAP:ch

cc: JS Buckingham
MI Campbell
GC Coore
File
DA
Process Aids

J. O. Skolrud
Page 2
September 21, 1971

If there are any questions please call me on 2-7478.

DLP:dh

cc: GL Borsheim
JS Buckingham
MH Campbell
DJ Larkin
File
LB
Process Aids (5)

TCRC-3

Atomic Energy Co

(5112.2)

Date: January 7, 1974

To: R. L. Nelson

From: W. W. Saint

Subject: 242-S FEED SAMPLES T-181 112-S

Vis-GTR	Clear, yellow, no solids 200 mR
pH	12.2
SpG	1.1739
DTA	No Exotherm
Pu	2.46×10^{-6} g/l
Na	4.95 M
SO_4	1.60×10^{-2} M
Al	0.343 M
NO_2	0.118 M
Fe	$<0.65 \times 10^{-5}$ M
CO_3	0.014 M
Cl	
OH	1.26 M
GEA	^{137}Cs - 5.83×10^{4} µCi/l
% Water	66.74
NO_3	2.33 M

30% Reduction - 26.25 % Solids - 0.3397

50% Reduction - 50 % Solids - 1.255

^{90}Sr 16.15 µCi/l

PO_4 $<3.77 \times 10^{-4}$ M

F - 2.95×10^{-3} M

Cooling Curve - 5° C No Solids

[illegible]

[illegible]

[illegible]

W. W. Saint

TCRC-6

108-S 112-S out

Date: July 8, 1974

To: W. R. Christensen

From: J. S. Buckingham ORIGINAL SIGNED BY J. S. BUCKINGHAM

Subject: ANALYSIS OF SUPERNATANT LIQUIDS FROM 242-S SLURRY RECEIVING TANKS

There was some concern that the waste being evaporated in the 242-S evaporator-crystallizer may be approaching terminal concentration. Samples of supernatant liquid from 242-S slurry receiving tanks 108-S and 112-S were sampled May 10 and 11 for analyses.

Because the samples solidified on standing, Process Control Laboratories could not run the analysis. Chemical Technology Laboratory was able to analyze the samples and the results indicate that the waste is not yet at terminal concentration. The results of the analyses are shown below.

The solidified samples were heated to between 80 and 90 °C in a water bath. A magnetic stir bar was placed in the sample to help in redissolving the sample. For chemical analyses, a 5 milliliter aliquot of the hot slurry sample was immediately diluted with 5 milliliters of water and chemical analyses run on the dilution. Densities and percent waters were run on separate aliquots of the hot slurry.

Please call me if you have any questions regarding this work.

JSB:jf

Att.

cc: w/Att.
H Babad
DG Harlow
NL Harms
WP Metz
RC Roal
RL Walser
Process Aids (7)

TABLE I

ANALYSIS OF 108-S AND 112-S SUPERNATANT LIQUIDS

	108-S		112-S	
Density	1.513		1.501	
H_2O		60.1%		58.3%
$NaAlO_{22}$	1.55M	8.4%	1.19M	6.5%
$NaNO_2$	1.94M	8.8%	2.02M	9.3%
$NaNO_3$	2.60M	14.6%	2.5M*	14.2%
NaOH	5.08M	13.4%	5.72M	15.2%
Total		105.3%		103.5%
^{137}Cs	4.58×10^5 µCi/l		1.14×10^5 µCi/l	

*The analyzed nitrate value was unexplainably high by a factor of 2; so the result shown here is an estimated value rather than an analyzed value.

TCRC-8

Date: December 9, 1974

To: R. L. Walser

From: R. E. Wheeler

Subject: ANALYSIS OF TANK FARM SAMPLES
SAMPLE: T-8122 112-S

Vis-OTR: Yellowish green, 50% solids. 110 mRad/hr

pH: 13.7

SpG: 1.5909

OH: 4.54 M

DTA: No exotherm.

CO_3: 0.293 M

GEA: ^{134}Cs - 8.29×10^3 µCi/gal
^{137}Cs - 1.75×10^6 µCi/gal

REW:jd

cc: JS Buckingham
WR Christensen
RM Ginestet
RE Wheeler
JC Womack

54-6000-030 (10-68)

TCRC-9

--: H Babad (3)
GS Barney
JS Buckingham (3)
CH Delegard
JS Garfield
JE Horton
MJ Kupfer
WP Metz
WE Ogren
DA Puryear
RC Roal
VL Schuelein
WW Schulz
DM Strachan
WJ Van Slyke
CTL Office
File

Circulate:

CTL Exempt

File:

CTL-114
CTL-122
CTL-503

To: N. L. Harms From: J. S. Buckingham

LIQUID WASTE CHARACTERIZATION AND SOLIDIFICATION STUDIES [ACHIEVEMENT REPORT FOR PERIOD ENDING DECEMBER 10, 1974]

Budget Number:

E-52204
E-54201

Contributors:

L. L. Curfman
C. H. Hunter
J. S. Buckingham

ABSTRACT

A sample of salt from 242-S slurry receiving tank, 112-S, was composed primarily of a mixture of sodium nitrate and sodium carbonate. The sodium hydroxide content of the damp salt was high enough to cause the salt to deliquesce in about 13 days when placed in an atmosphere of 70 percent relative humidity at 23° C. The ^{137}Cs content of the salt was 10 μc/g. The $^{89+90}Sr$ content was 0.67 μc/g. The ^{239}Pu content was $<1 \times 10^{-8}$ g/g.

Solids found plugging the 242-S evaporator's reboiler steam condensate trap were not completely identified, but are suspected of being valve packing. No chemicals or cleaning agents were found that would completely dissolve the solid.

A sample of solids from Tank 101-SX, the concentrate receiver for the now shut down Redox concentrator, was found to be primarily sodium nitrate. The ^{137}Cs and $^{89+90}Sr$ content was 24.8 and 0.23 μc/ℓ, respectively. The ^{239}Pu content was $<8 \times 10^{-9}$.

Zelon in the 242-S process condensate ion exchanger had degraded in November. Fifty-three volume percent of the material passed through a 70 mesh screen. The residual fission product content of the eluted Zeolon was 0.16 and 0.38 μc/g $^{89+90}Sr$ and ^{137}Cs, respectively.

NEEDS AND OBJECTIVES

Liquid waste solutions are converted to salt cakes by evaporation. Evaporation is accomplished in a vacuum evaporator-crystallizer operated at approximately 41 torr. The waste is concentrated to 20 to 40 volume percent settled solids slurry, then transferred to underground storage tanks where solids can settle and additional solids form through cooling. Supernatant liquid is pumped from the tank, blended with fresh, dilute waste, and recycled to the evaporator. When the tank is filled with solids (salts), interstitial liquor is removed by means of a salt well.

Though specifications have not been set for salt cakes, it is felt that among other things the cake should contain no drainable liquor; that is, liquid that could drain into

the soil should the integrity of the underground tank be breached. No drainable liquid also means that the salts should not pick up enough moisture from the atmosphere to deliquesce.

DISCUSSION

Analysis of Salt from 242-S Evaporator

A sample of salt from 242-S slurry receiving Tank 112-S was analyzed. The results are shown in Table I.

5112.5

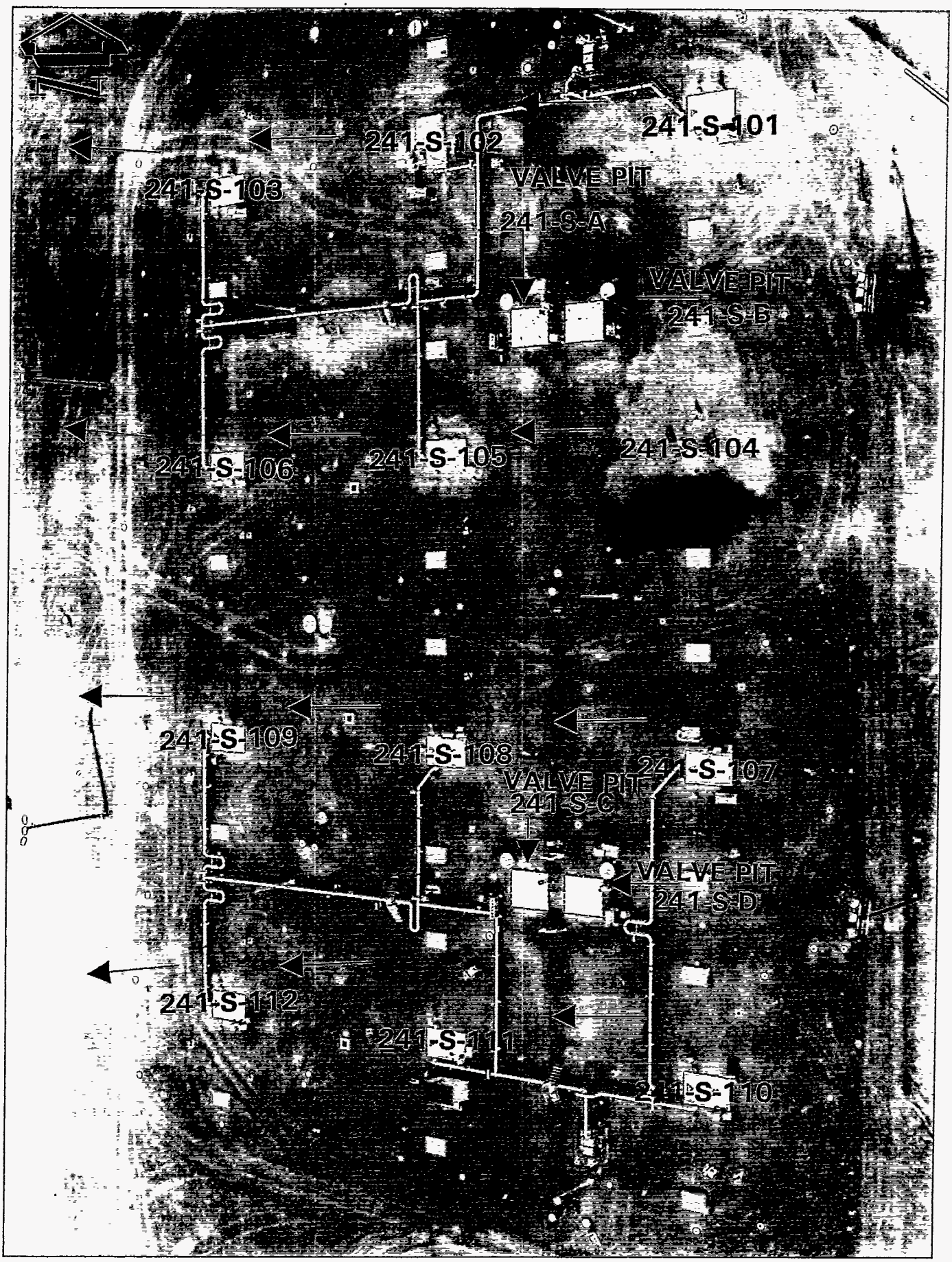
TABLE I

ANALYSIS OF SALT FROM TANK 112-S

Bulk density, g/cc	1.304
Particle density, g/cc	1.918
H_2O, %	15.8
$NaAlO_2$, %	2.5
Al_2O_3, %	0.1
$NaNO_2$, %	3.1
$NaNO_3$, %	58.7
NaOH, %	4.4
Na_2CO_3, %	14.6
Na_3PO_4, %	0.8
TOTAL	100.0
^{137}Cs, µc/g	10.1
$^{89\ 90}Sr$, µc/g	0.67
^{239}Pu, g/g	$<1 \times 10^{-8}$

The salt deliquesced in about 13 days on gaining about 10 weight percent water when placed in an atmosphere of 70 percent relative humidity at 23° C.

S TANK FARM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241-S-107
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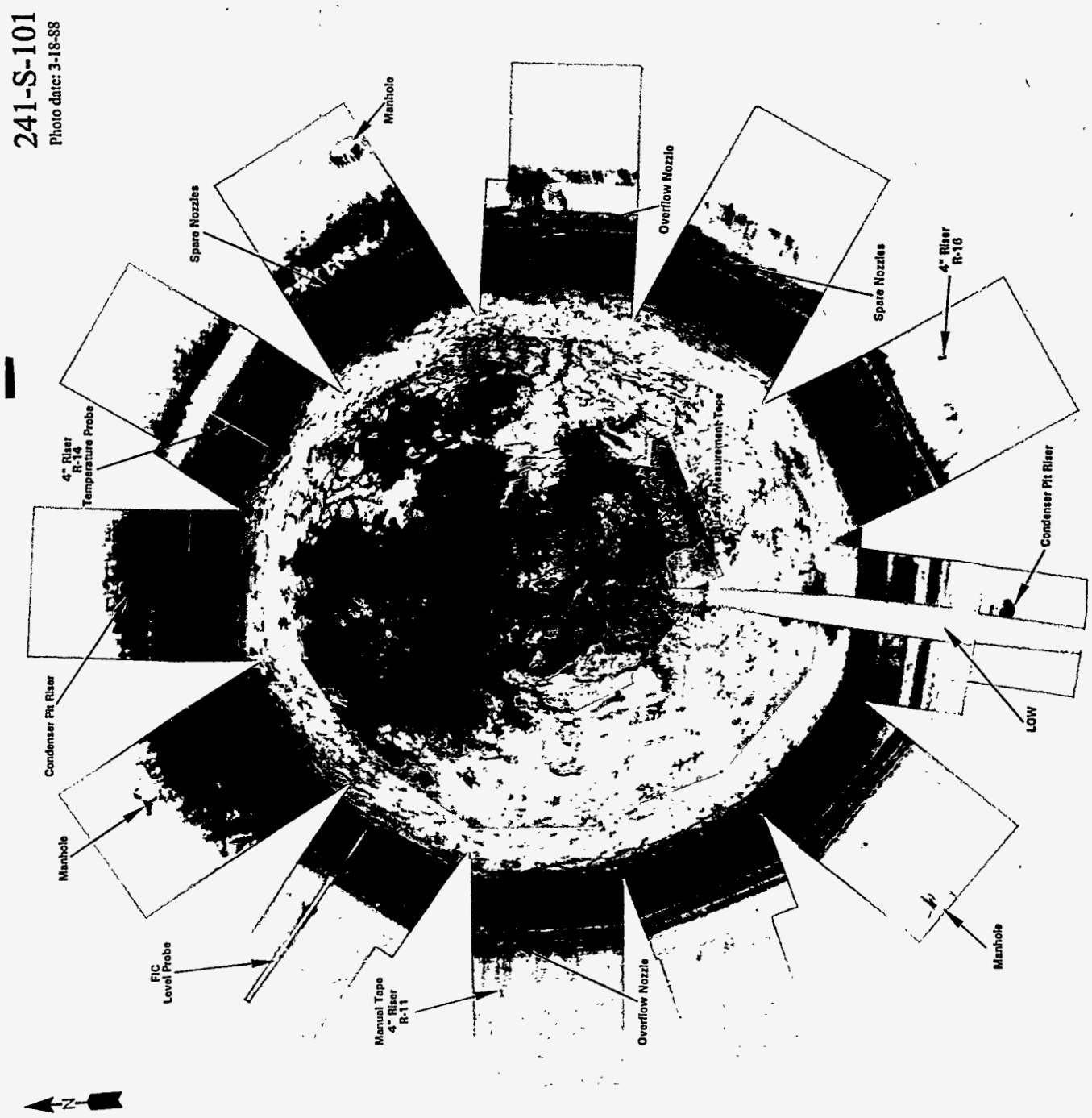
241-S-112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Level Measurement Tape
Condenser Pit Riser
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LOW
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FIC
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R-11
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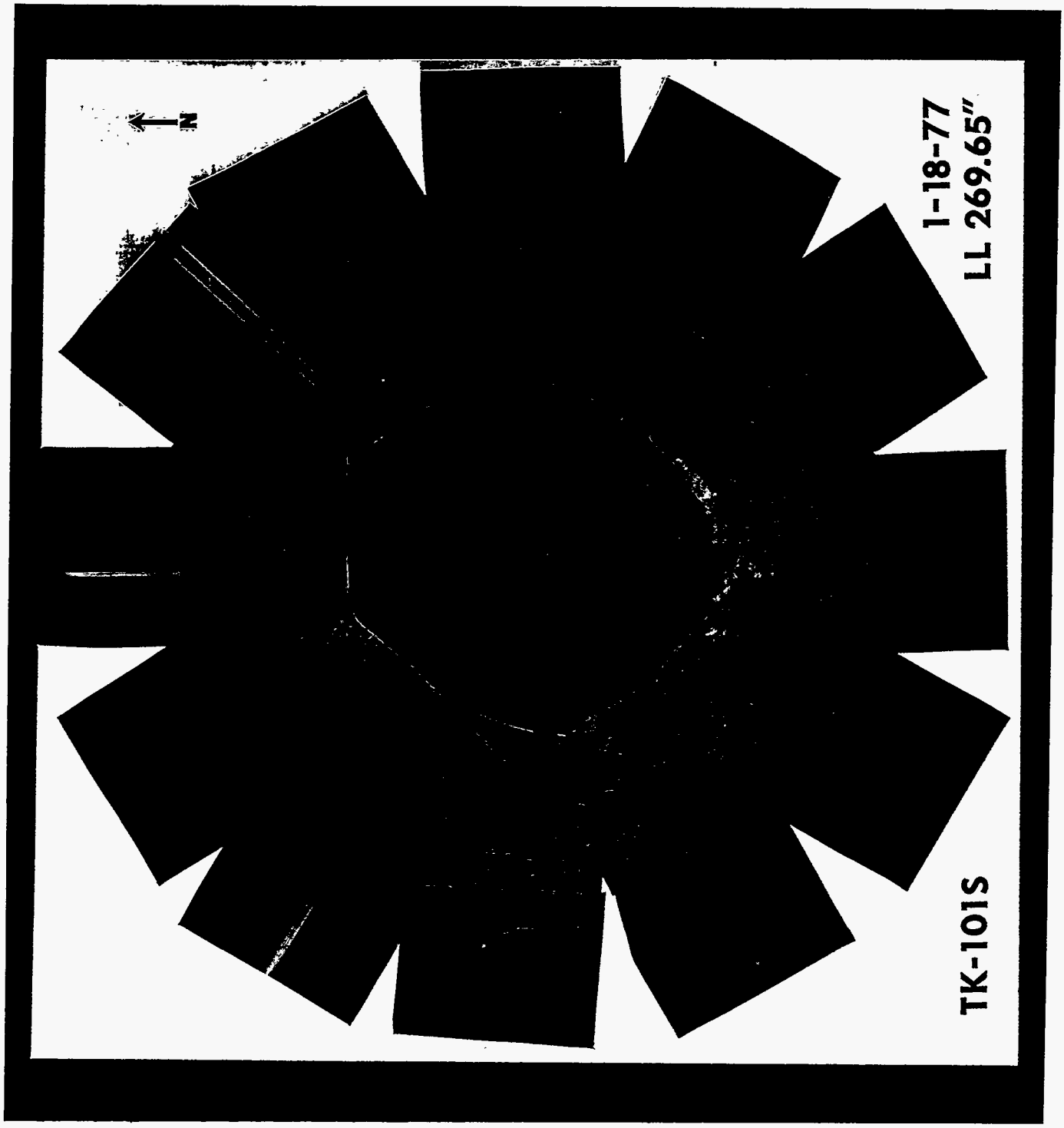
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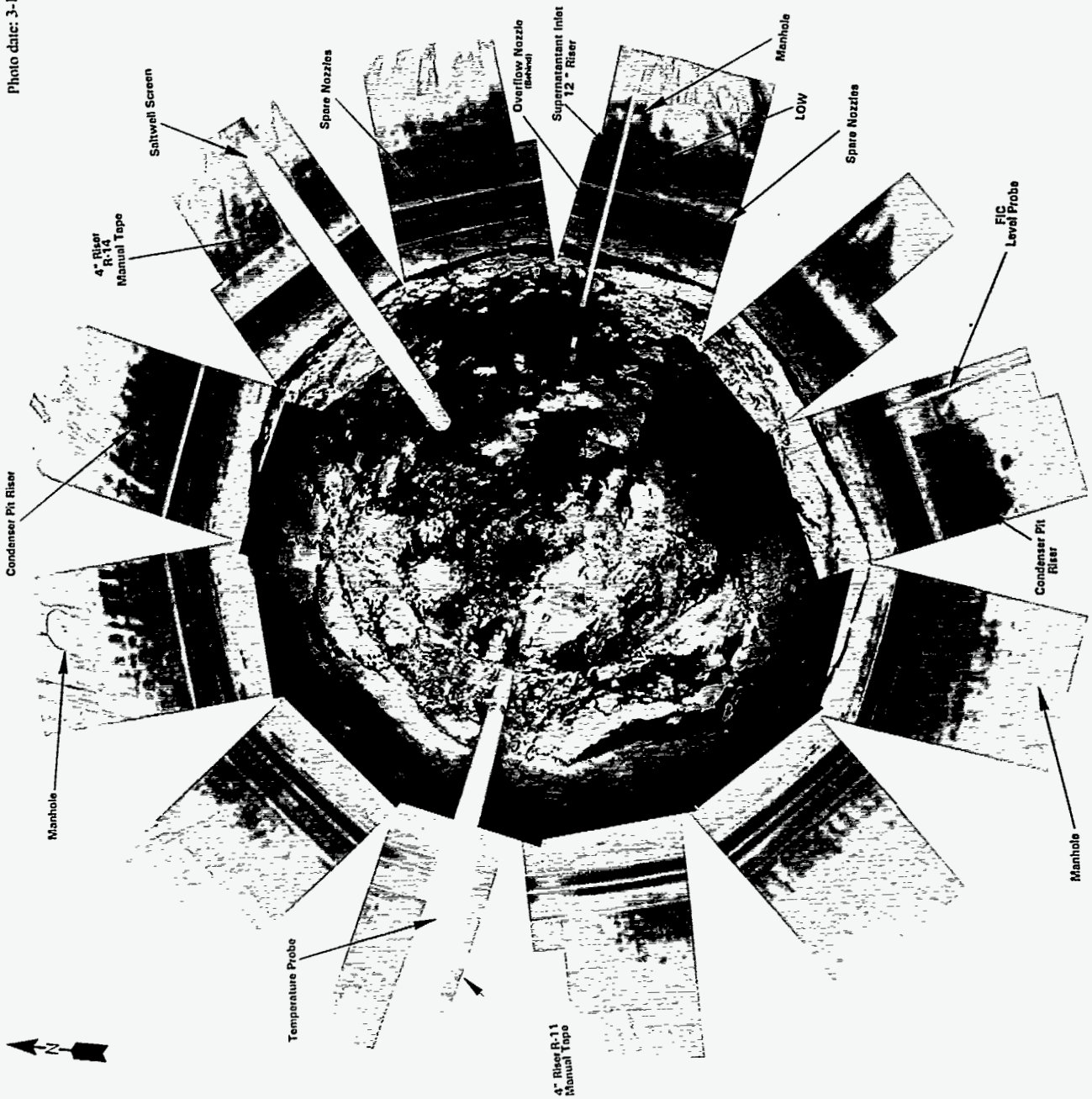

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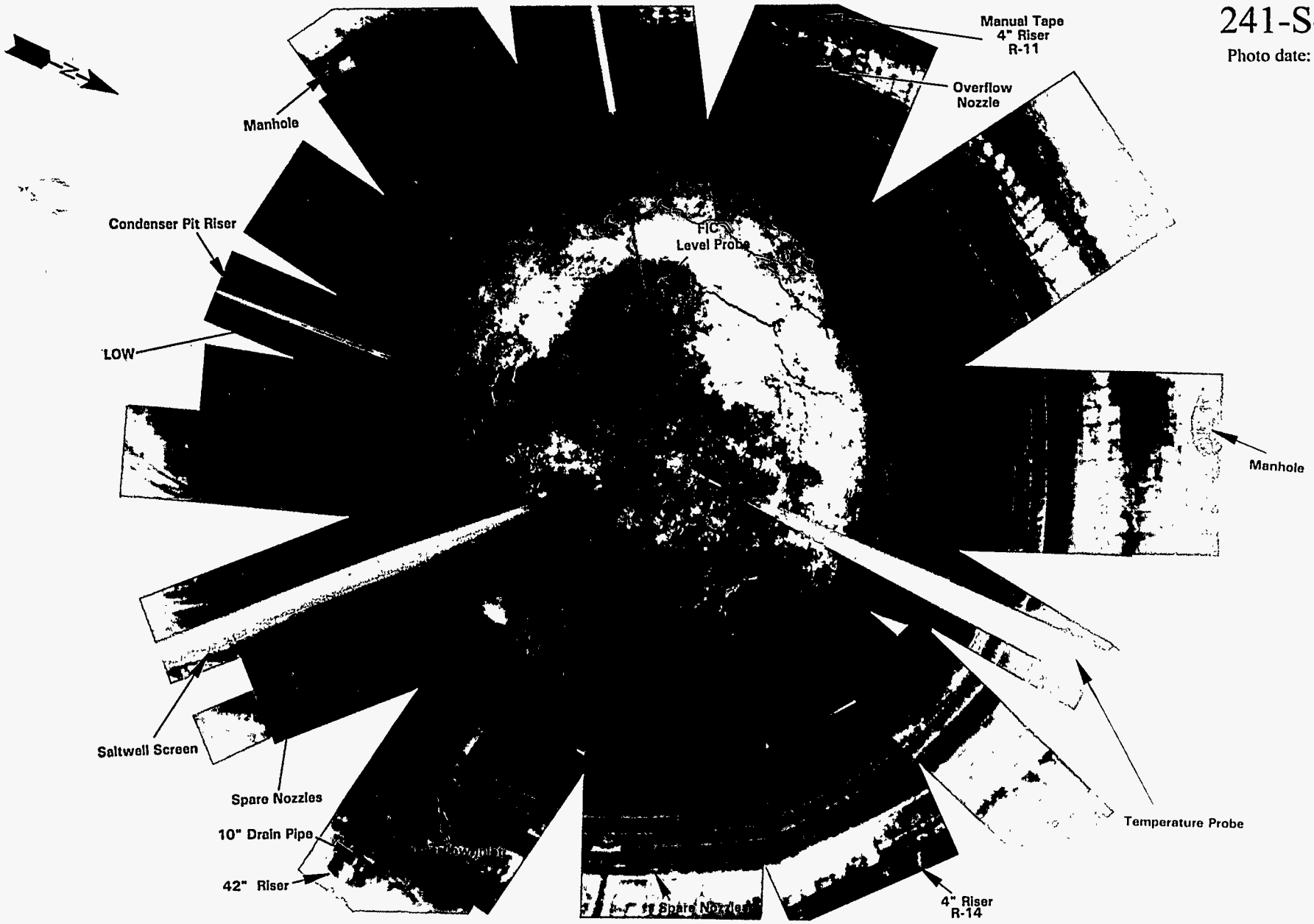

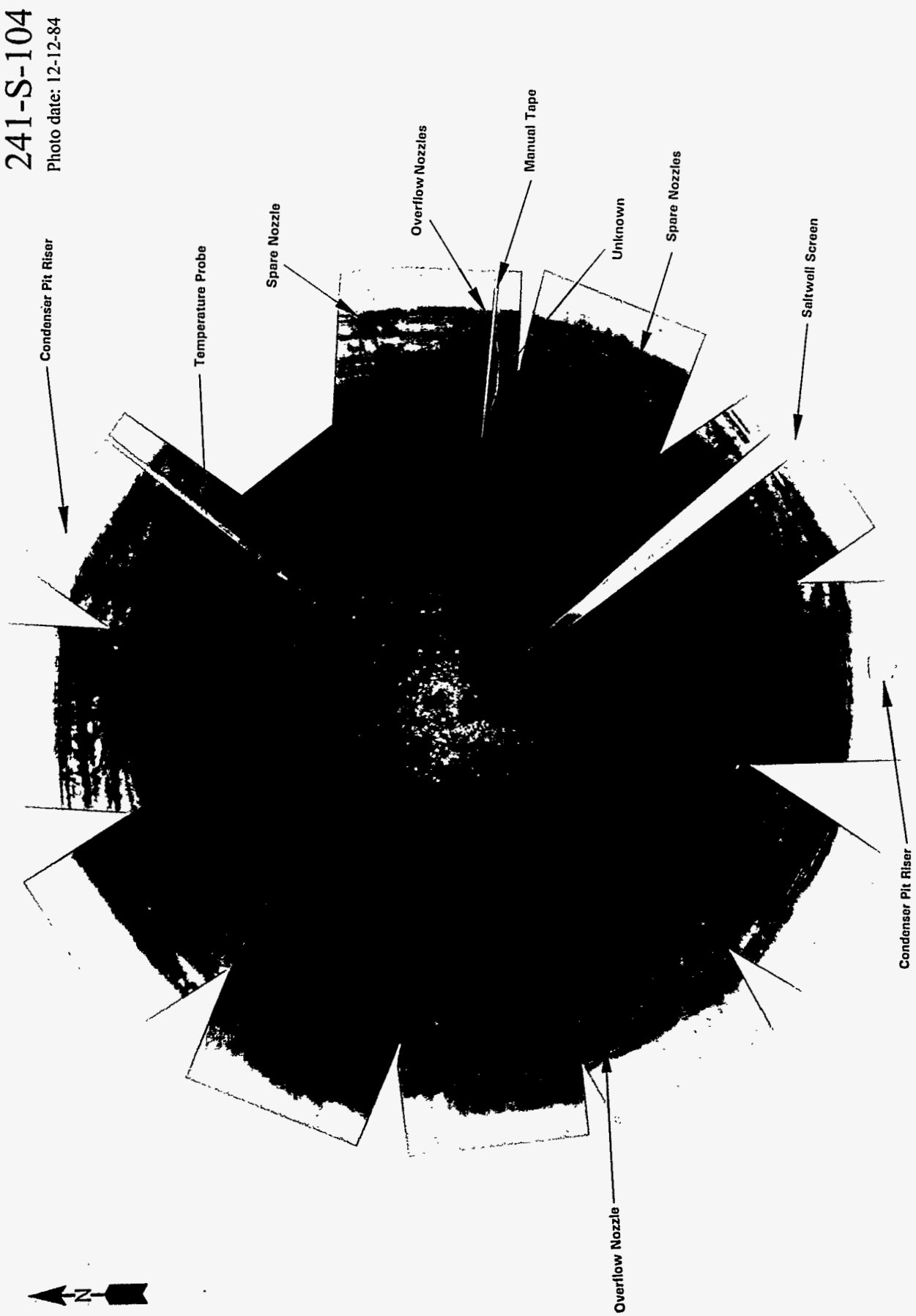
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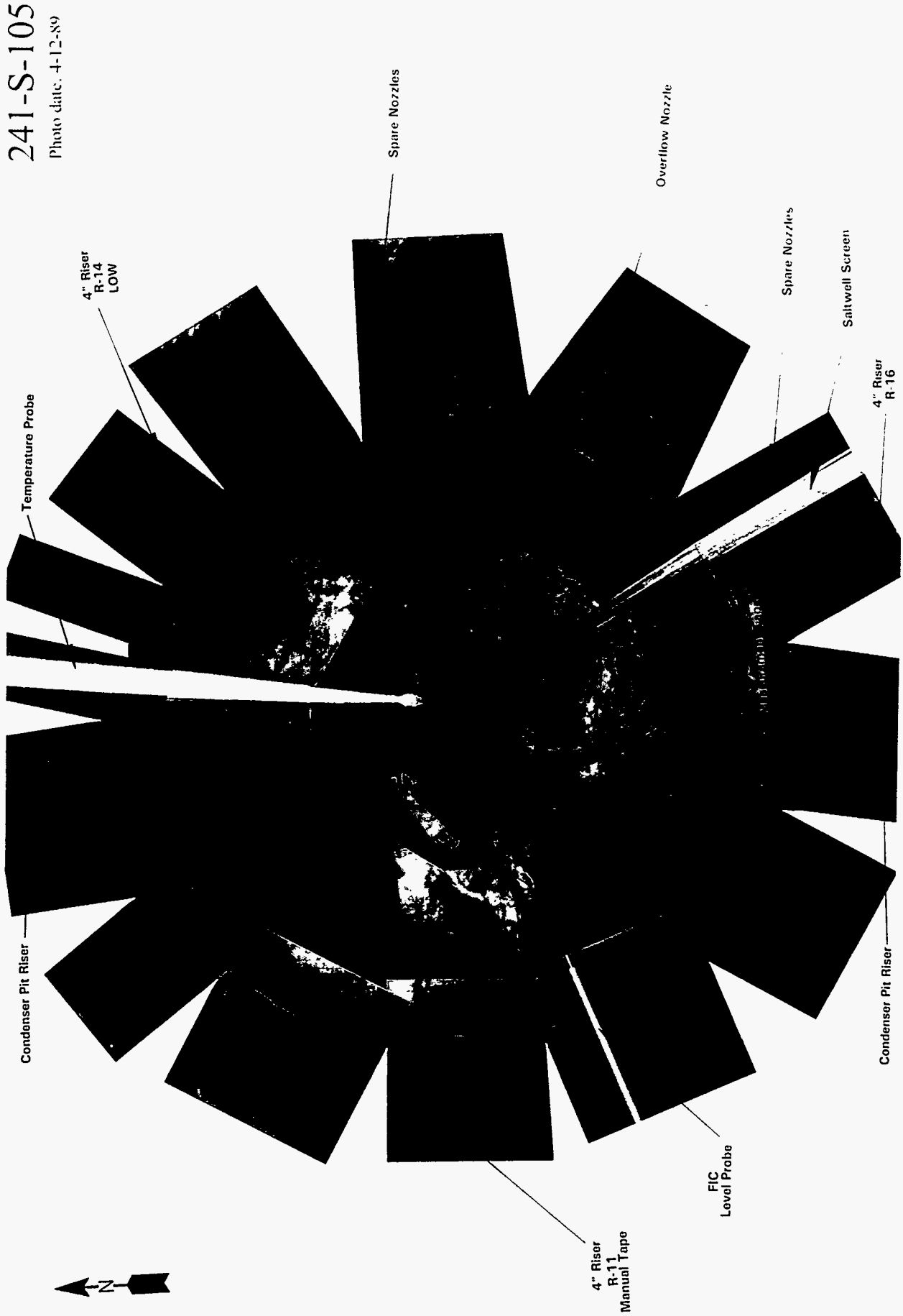
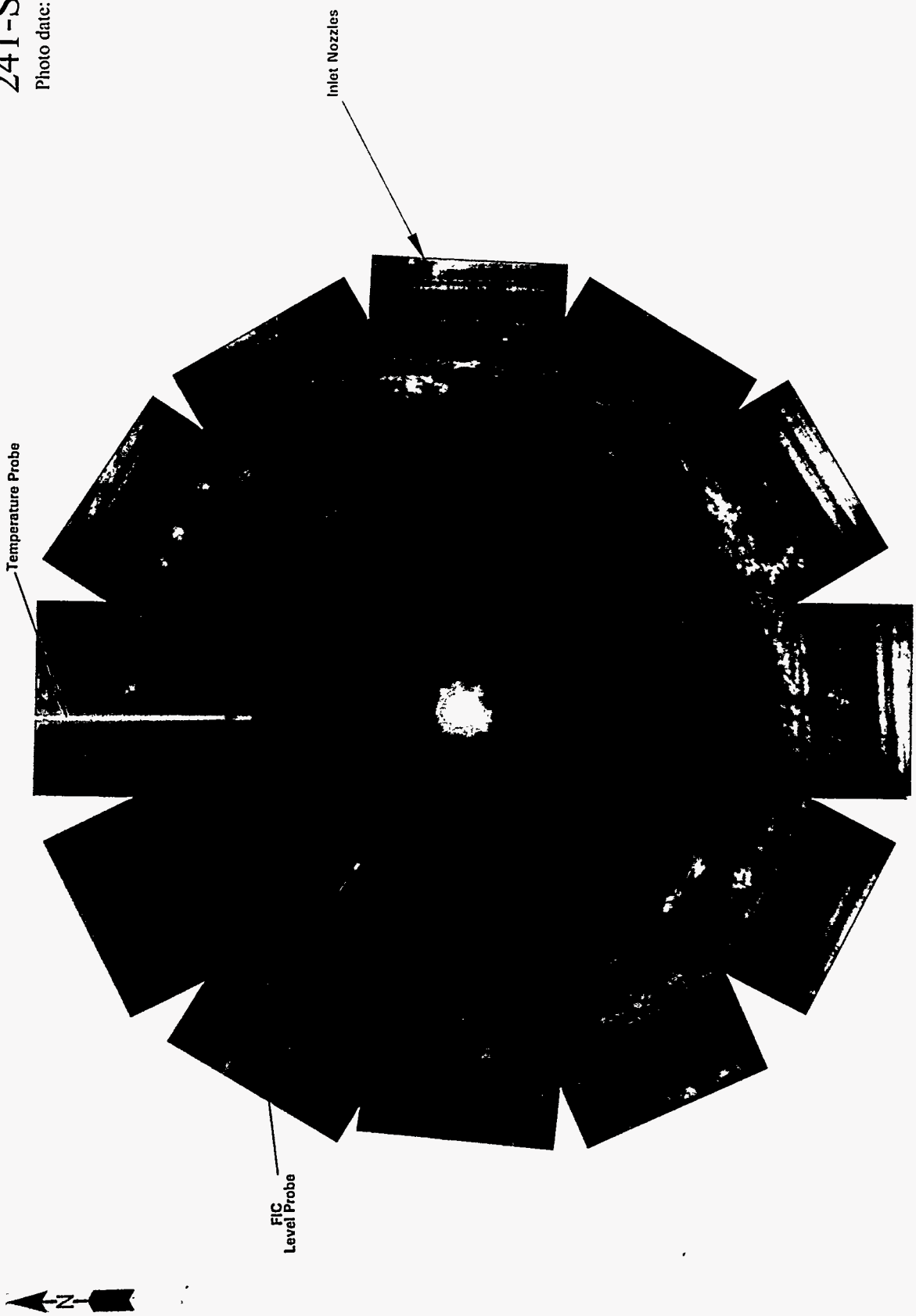
Photo date: 12-12-84
Condenser Pit Riser
Temperature Probe
Spare Nozzle
Overflow Nozzles
Manual Tape
Unknown
Spare Nozzles
Saltwell Screen
Condenser Pit Riser
Overflow Nozzle
Z

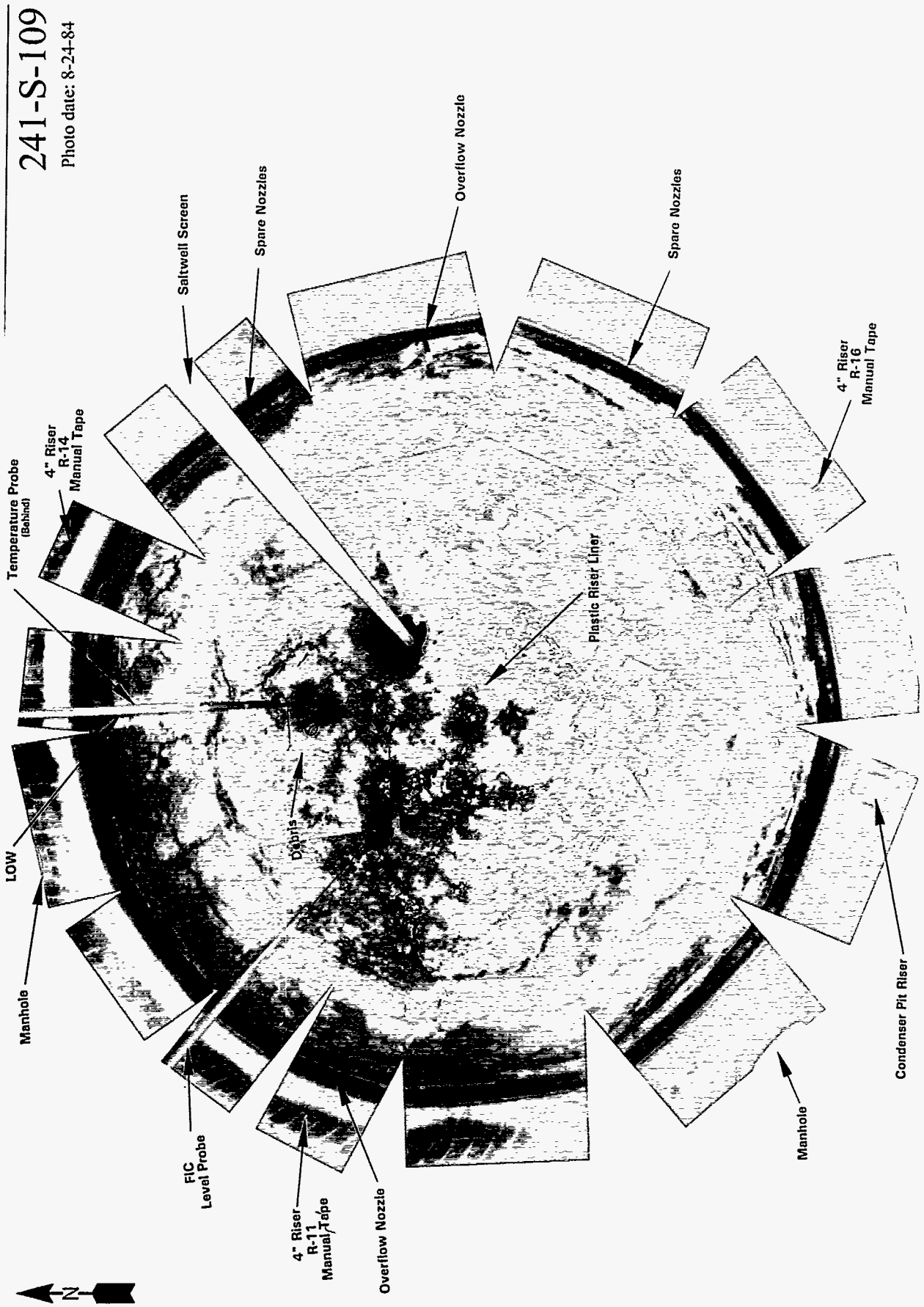

241-S-105
Photo date: 4-12-89
Temperature Probe
4" Riser
R-14
LOW
Spare Nozzles
Overflow Nozzle
Spare Nozzles
Saltwell Screen
4" Riser
R-16
Condenser Pit Riser
Condenser Pit Riser
FIC
Level Probe
4" Riser
R-11
Manual Tape
N

241-S-106
Photo date: 3-17-89
Manhole
FIC
Level Probe
Manual Tape
4" Riser R-11
Overflow Nozzle
LOW
Manual Tape
4" Riser R-16
Saltwell Screen
Spare Nozzles
Manhole
Overflow Nozzle
Spare Nozzles
Manual Tape
4" Riser R-14
N

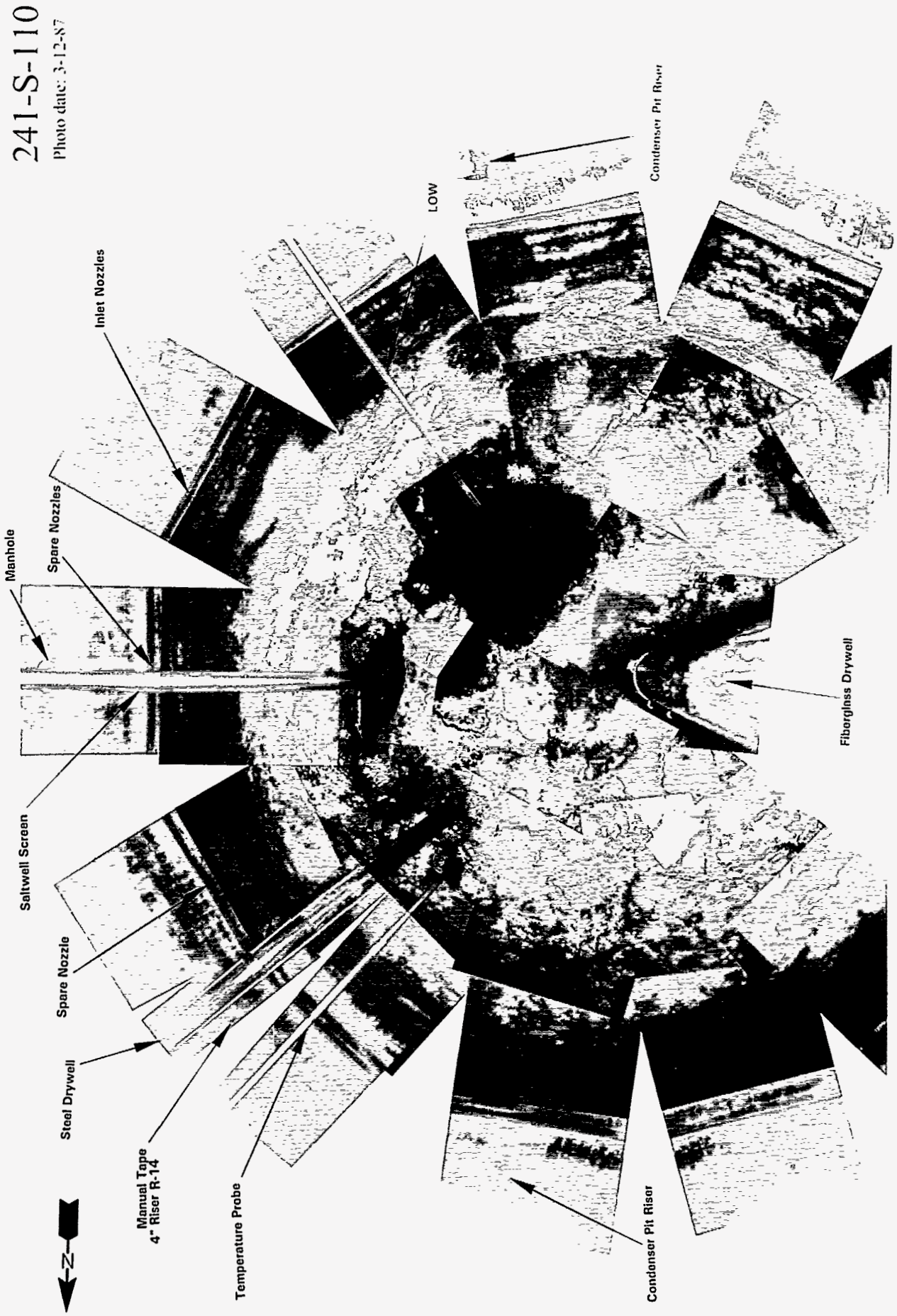
241-S-107
Photo date: 3-12-87

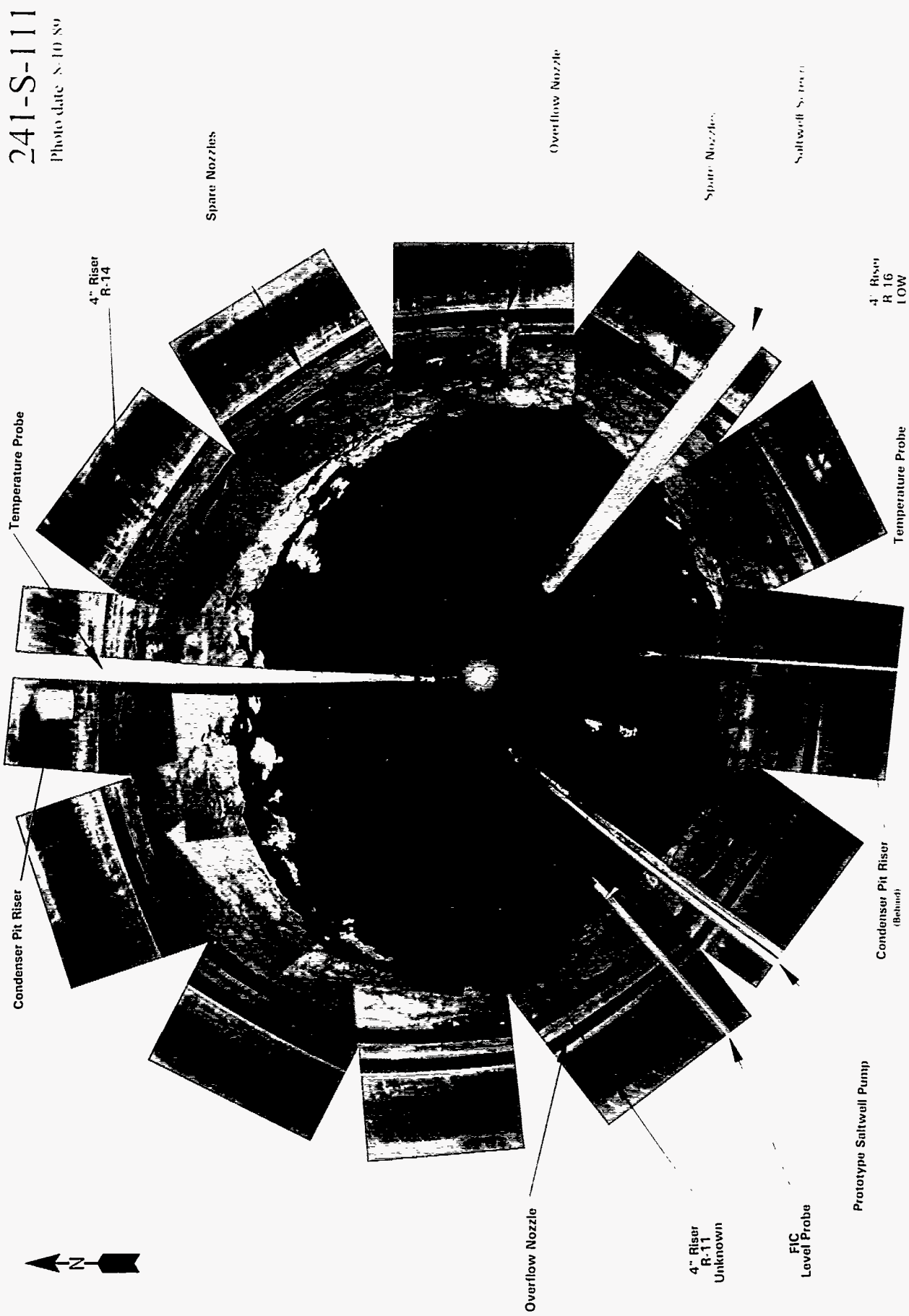


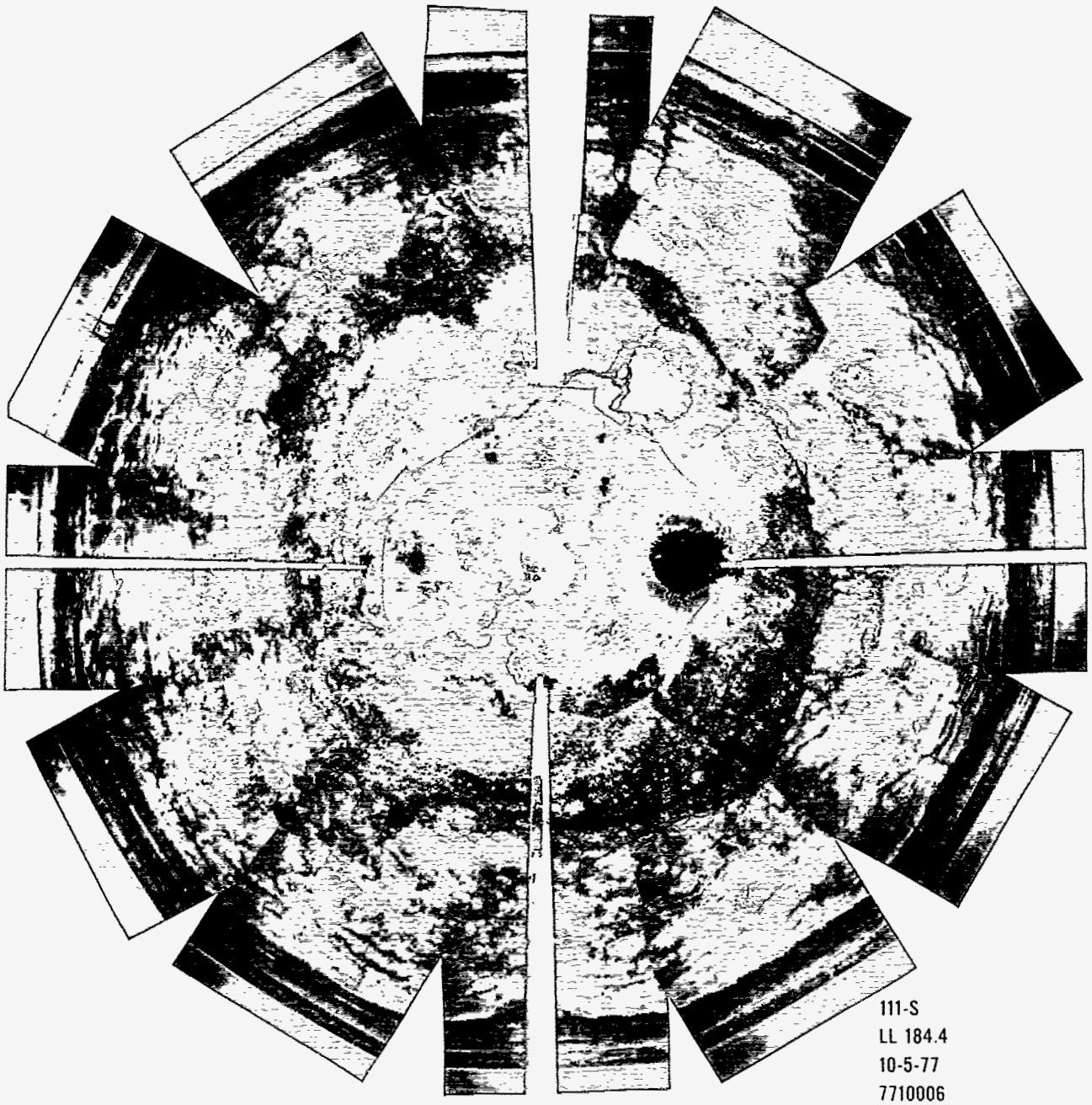
241-S-108
Photo date 3-12-87
Temperature Probe
4" Riser R 14
Corrosion Probe
Spare Nozzles
Saltwell Screen
Manhol
Spare Nozzles
4" Riser R-16 LOW
Manual Tape
Condenser Pit Riser
Condenser Pit Riser
Manhole
Manhole
4" Riser R-11
FIC Level Probe

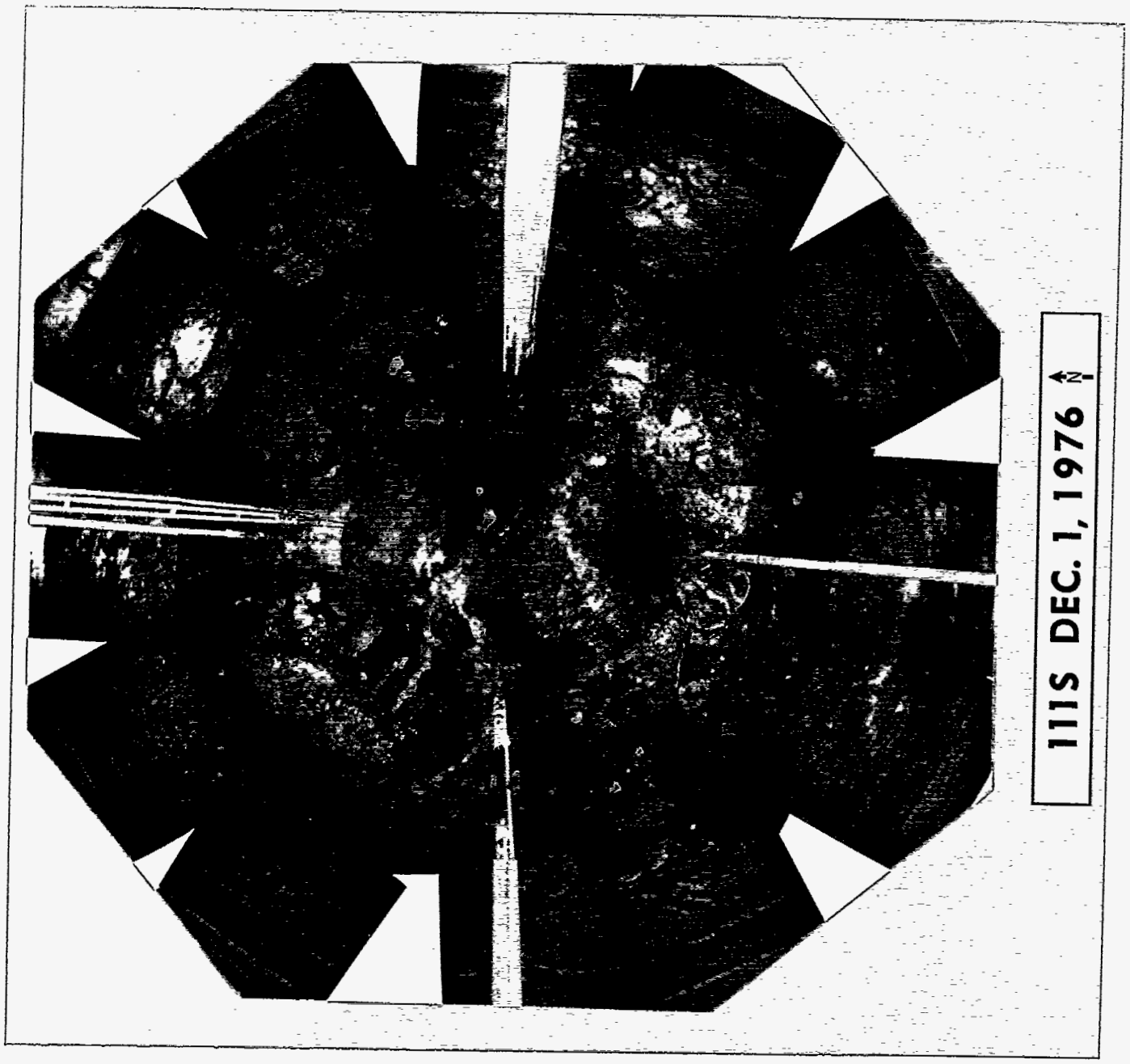

241-S-109
Photo date: 8-24-84
Saltwell Screen
Spare Nozzles
Overflow Nozzle
Spare Nozzles
4" Riser
R-16
Manual Tape
Temperature Probe
(Behind)
4" Riser
R-14
Manual Tape
Plastic Riser Liner
LOW
Debris
Manhole
Condenser Pit Riser
FIC
Level Probe
4" Riser
R-11
Manual Tape
Overflow Nozzle
Manhole
N

109-S
SALT CAKE SURFACE
5/17/79

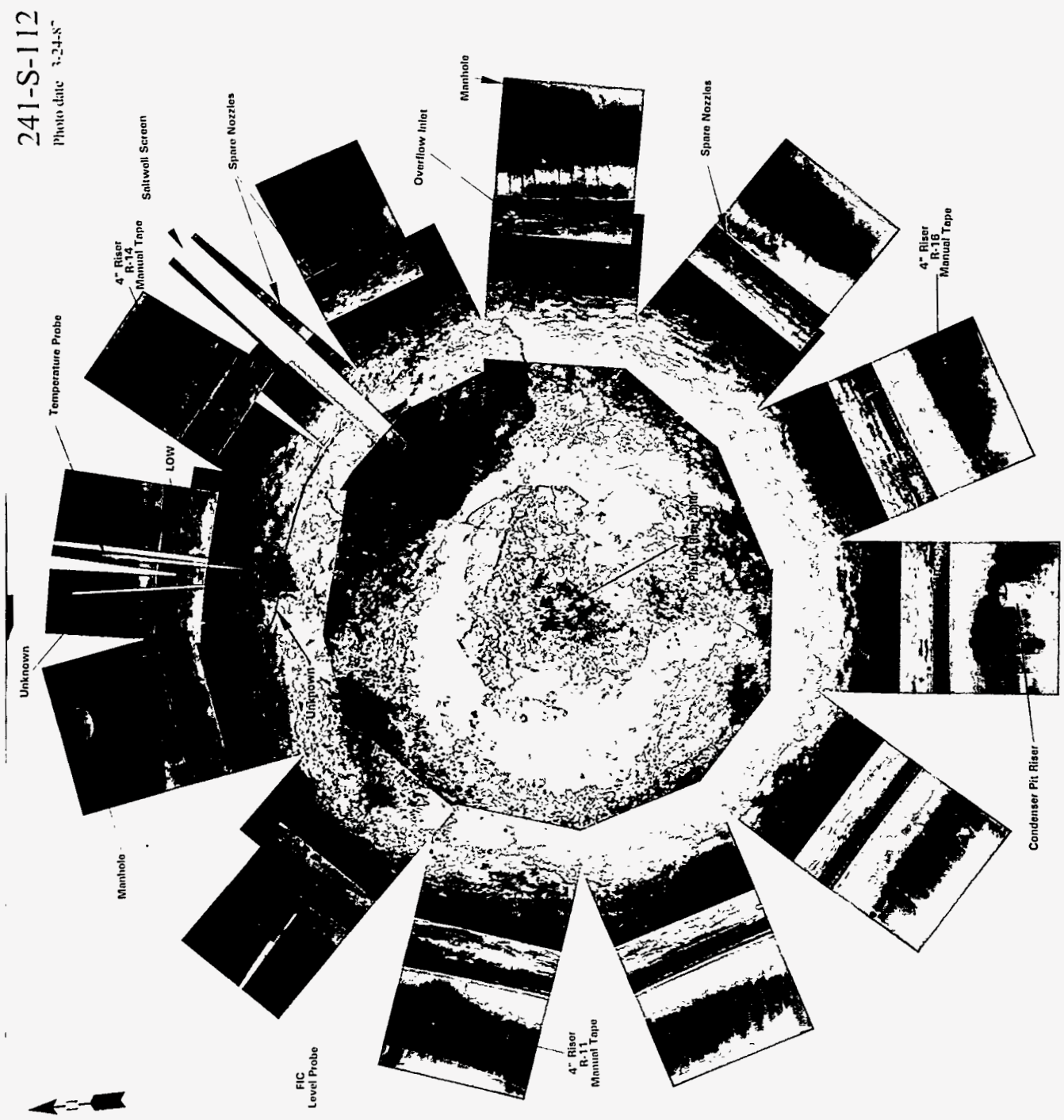

241-S-110
Photo date: 3-12-87
Manhole
Spare Nozzles
Inlet Nozzles
LOW
Condenser Pit Riser
Saltwell Screen
Spare Nozzle
Steel Drywell
Manual Tape
4" Riser R-14
Temperature Probe
N
Condenser Pit Riser
Fiberglass Drywell

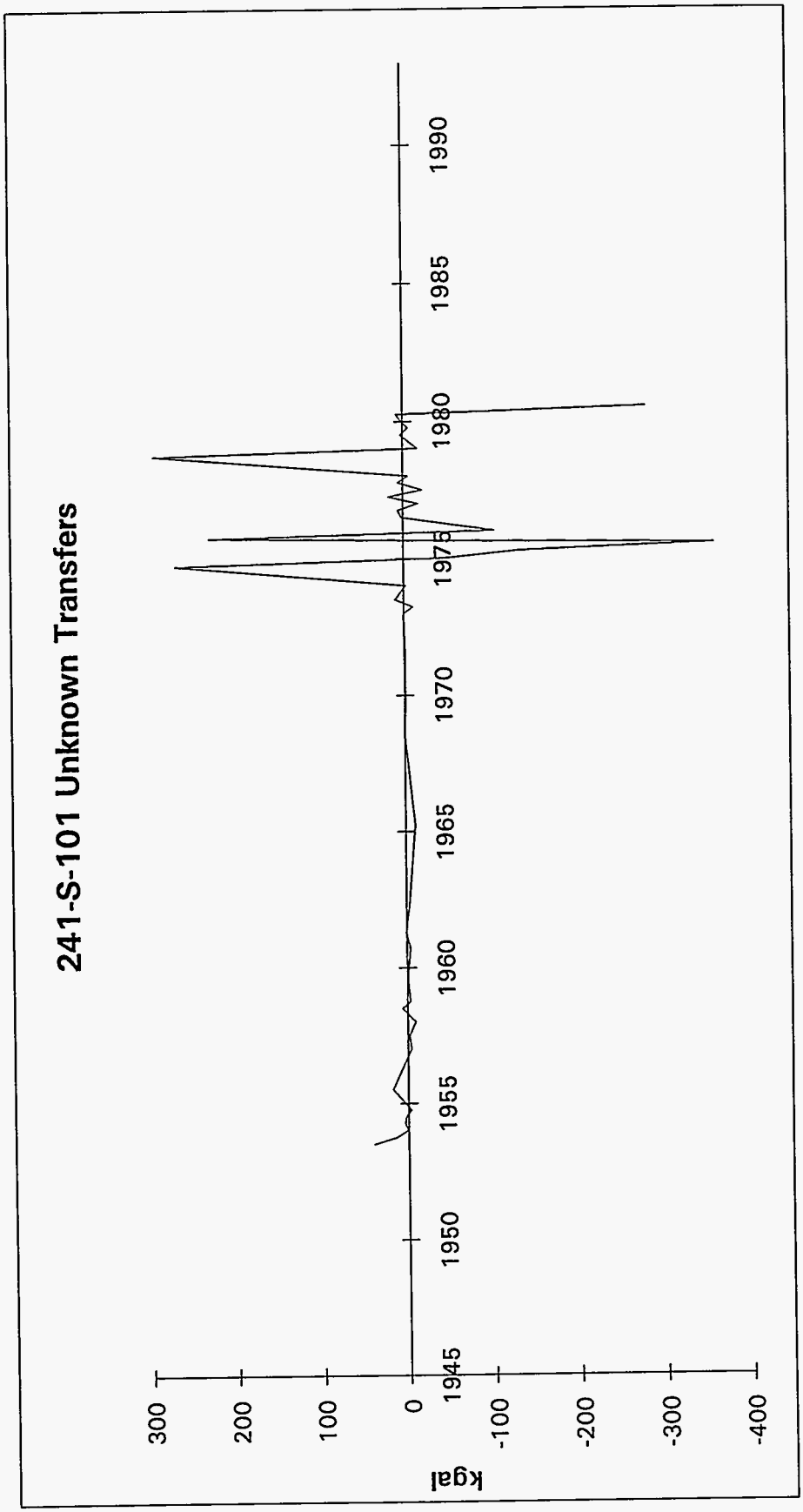

241-S-111
Spare Nozzles
Overflow Nozzle
4" Riser
R-14
Temperature Probe
Condenser Pit Riser
Temperature Probe
Condenser Pit Riser
(Behind)
Prototype Saltwell Pump
FIC
Level Probe
4" Riser
R-11
Unknown
Overflow Nozzle
N


111-S
LL 184.4
10-5-77
7710006

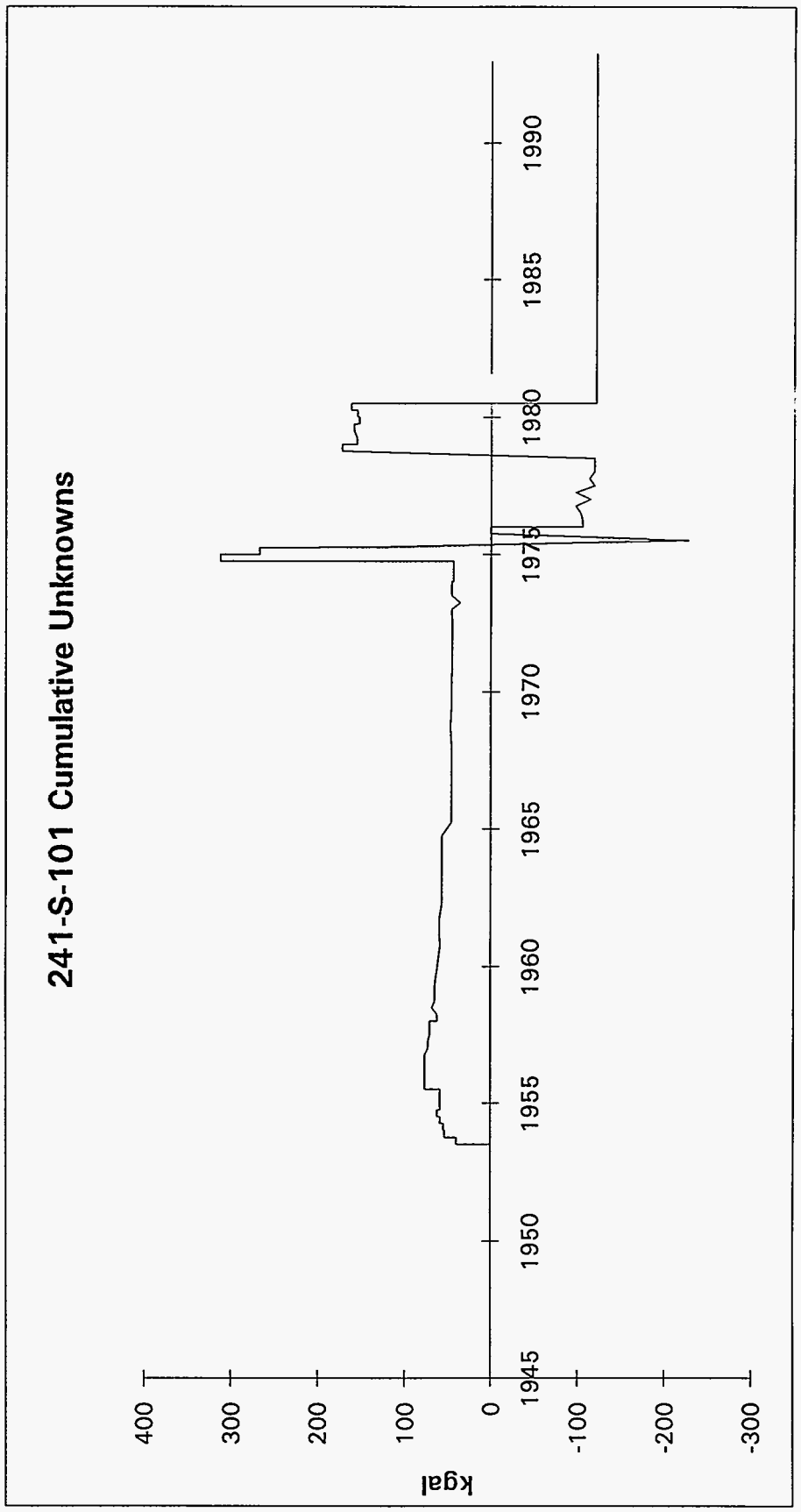

111S DEC. 1, 1976
N

111S SEPT. 9, 1975
N

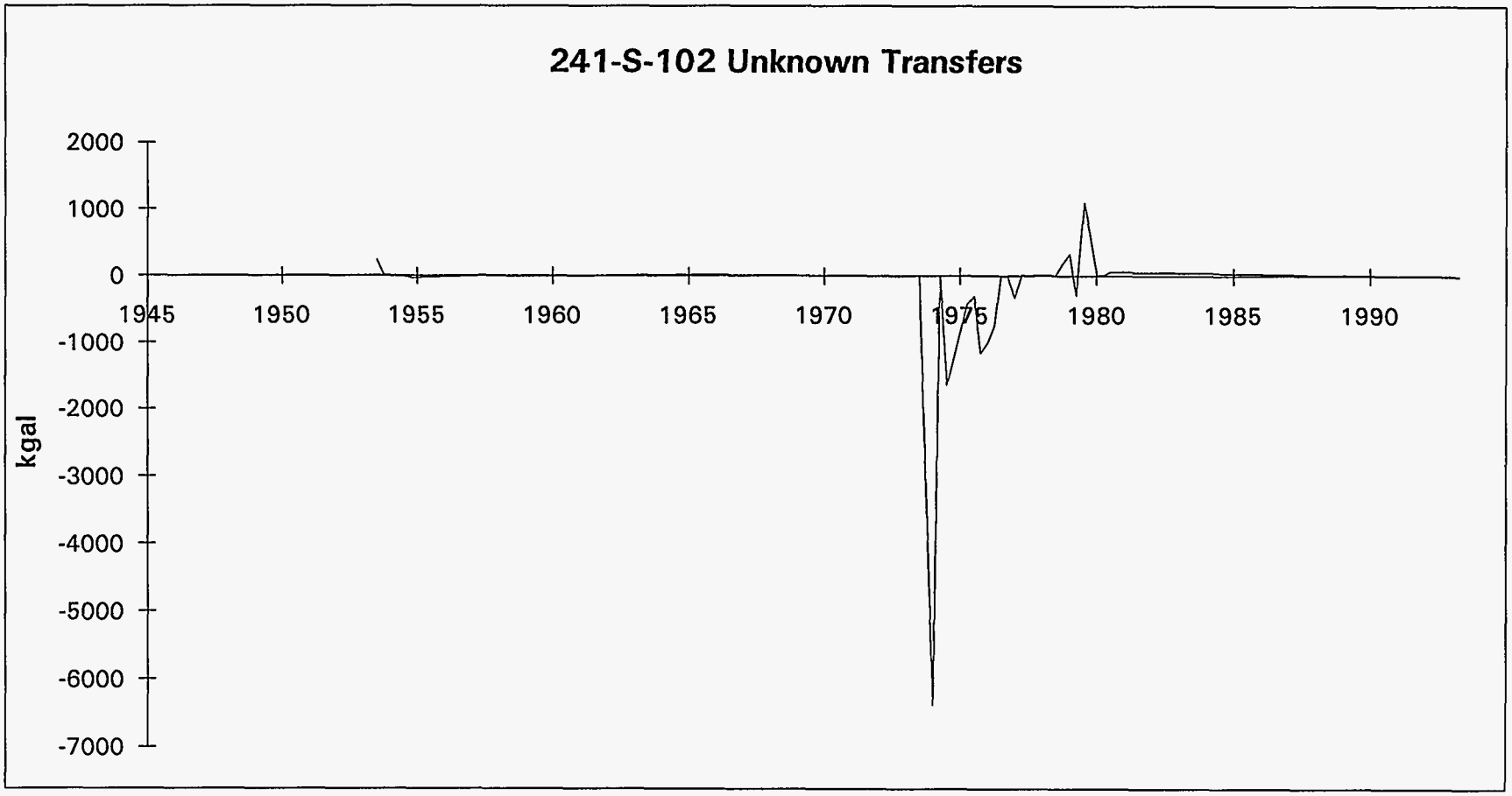

241-S-112
Photo date 3-24-87
Temperature Probe
Unknown
Manhole
4" Riser
R-14
Manual Tape
Saltwell Screen
LOW
Spare Nozzles
Unknown
FIC
Level Probe
Overflow Inlet
Manhole
4" Riser
R-11
Manual Tape
Spare Nozzles
4" Riser
R-18
Manual Tape
Condenser Pit Riser



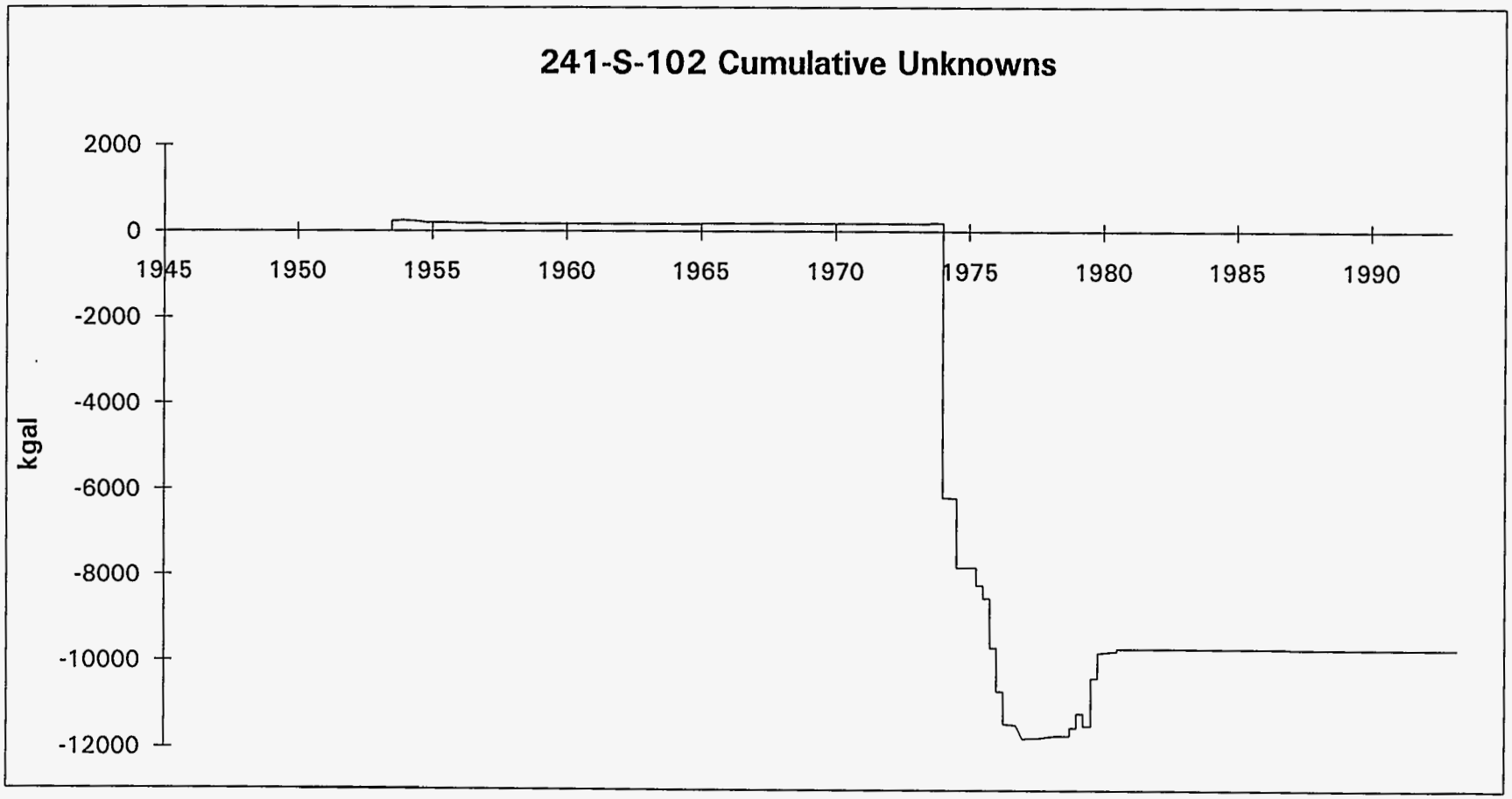
Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



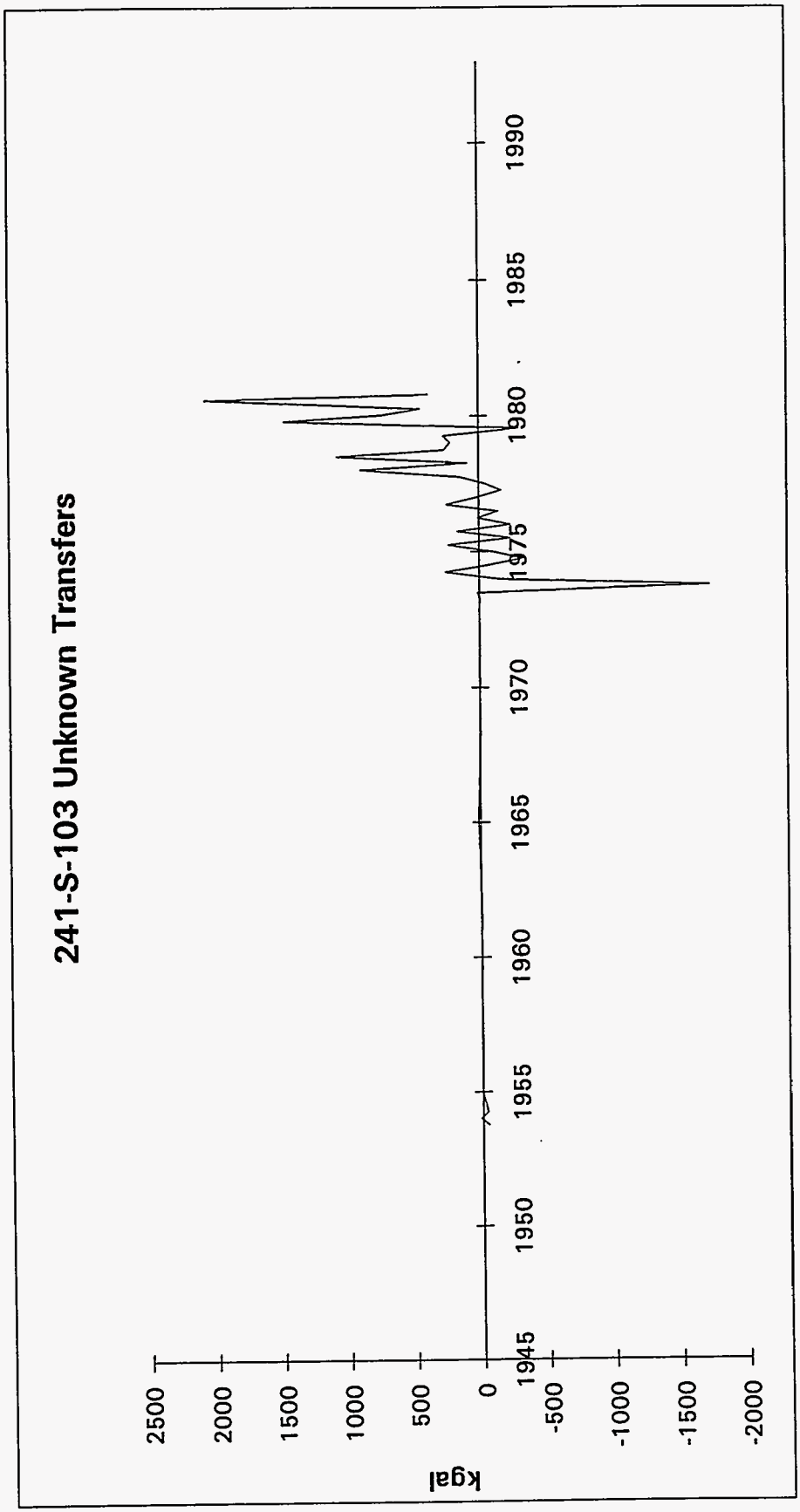
Derived from LANL Waste Status and Tran ion Record Summary V2.0b (Agnew 1994)



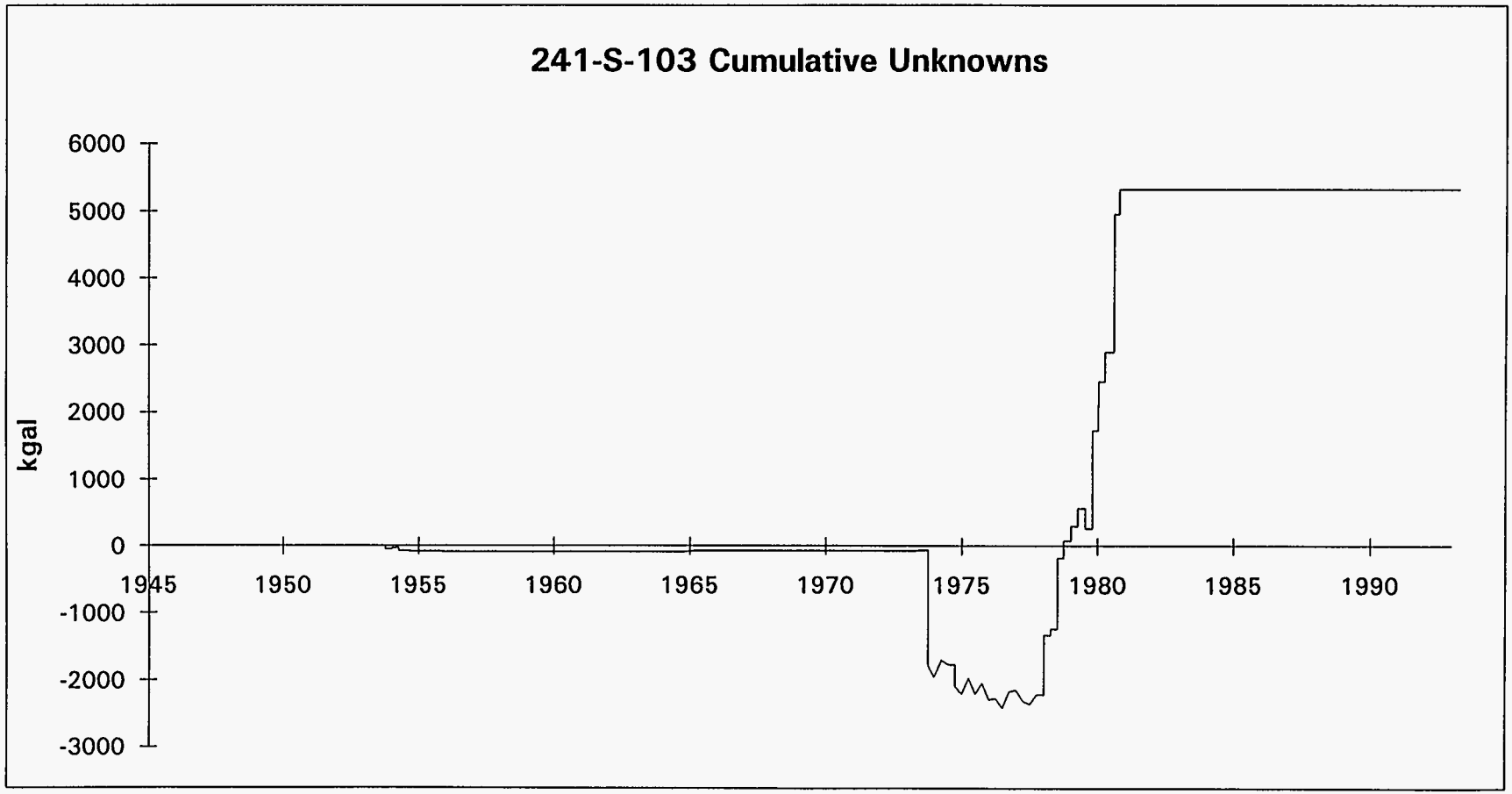
Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



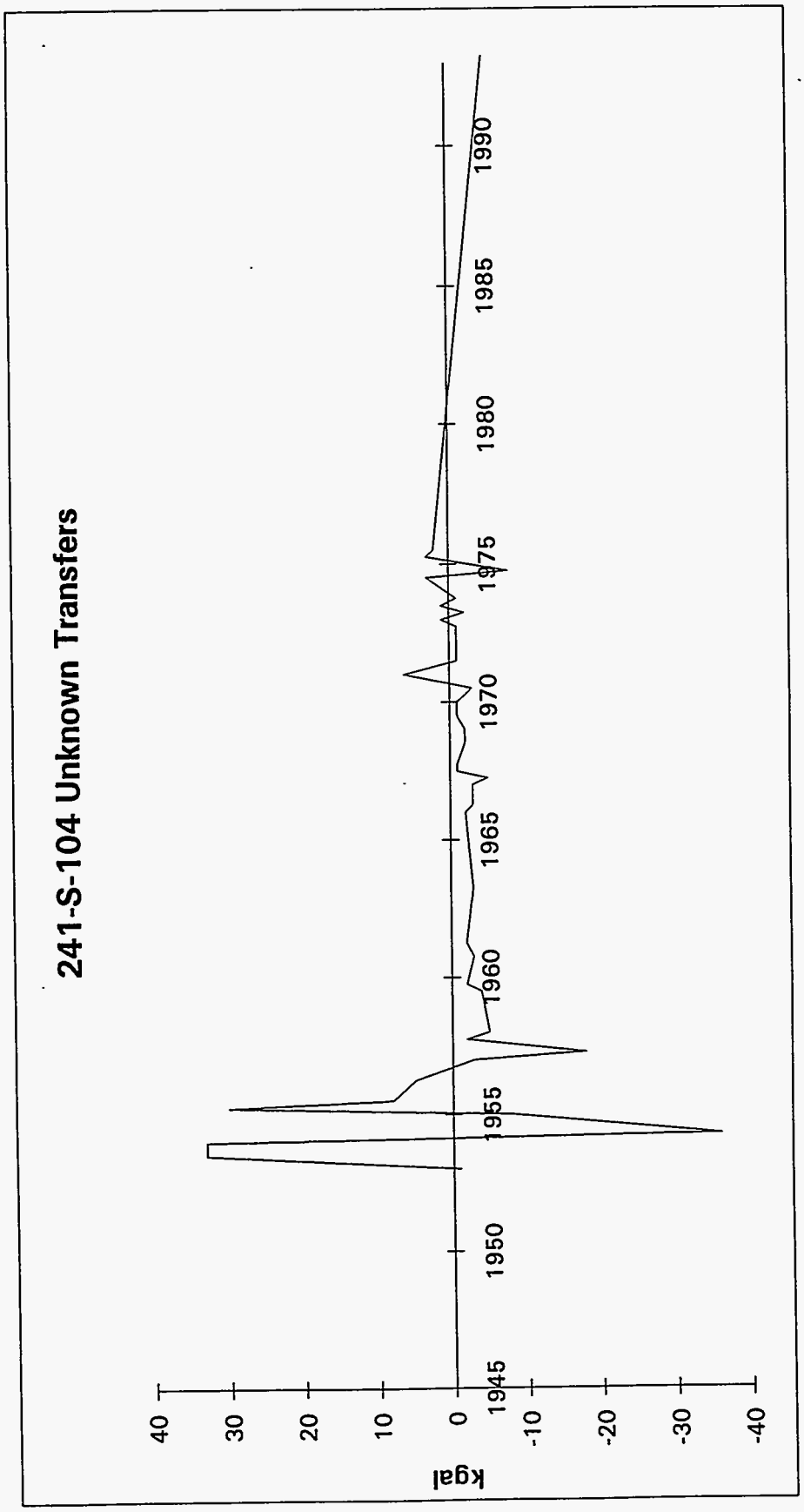
Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



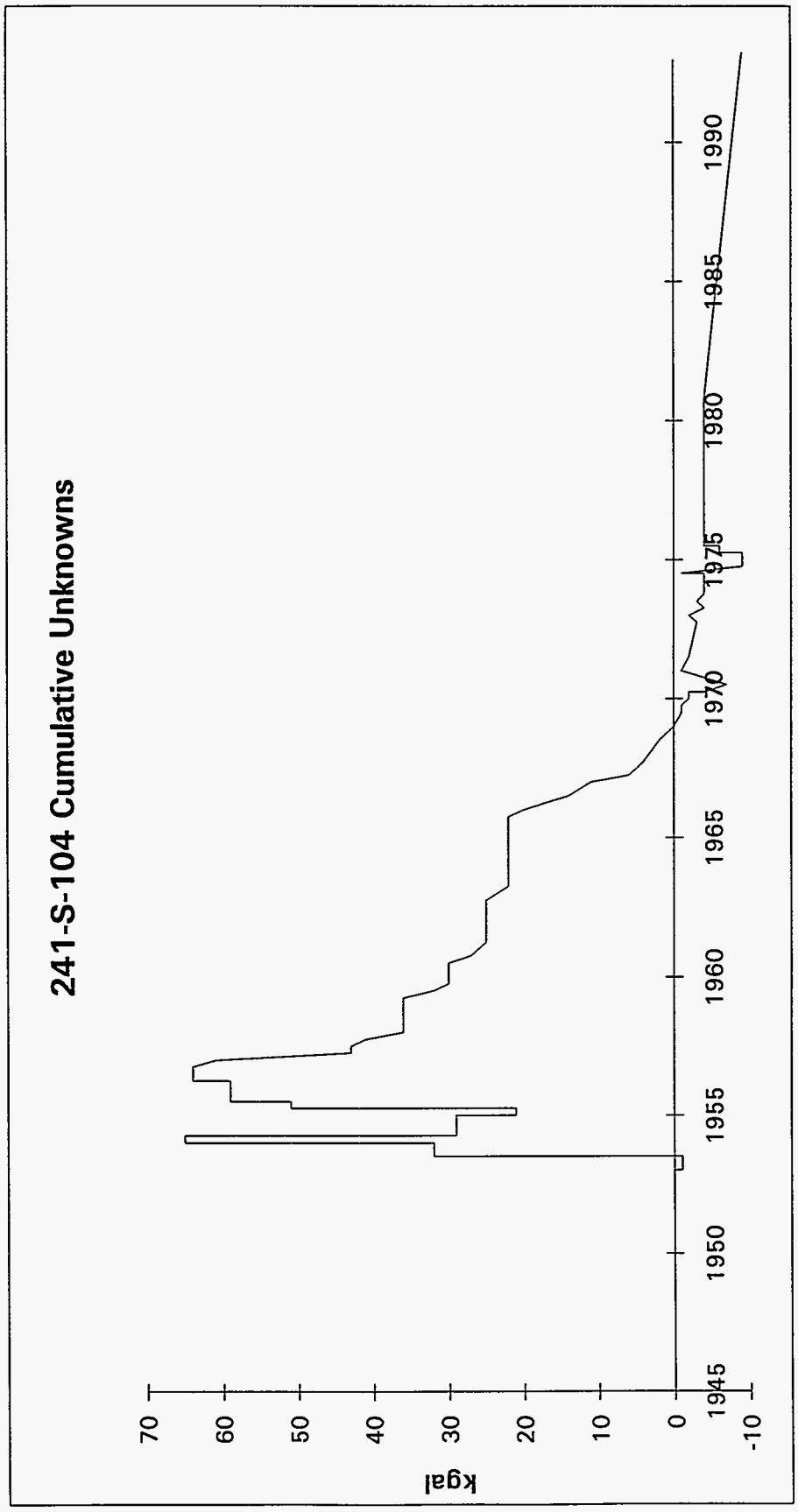
Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



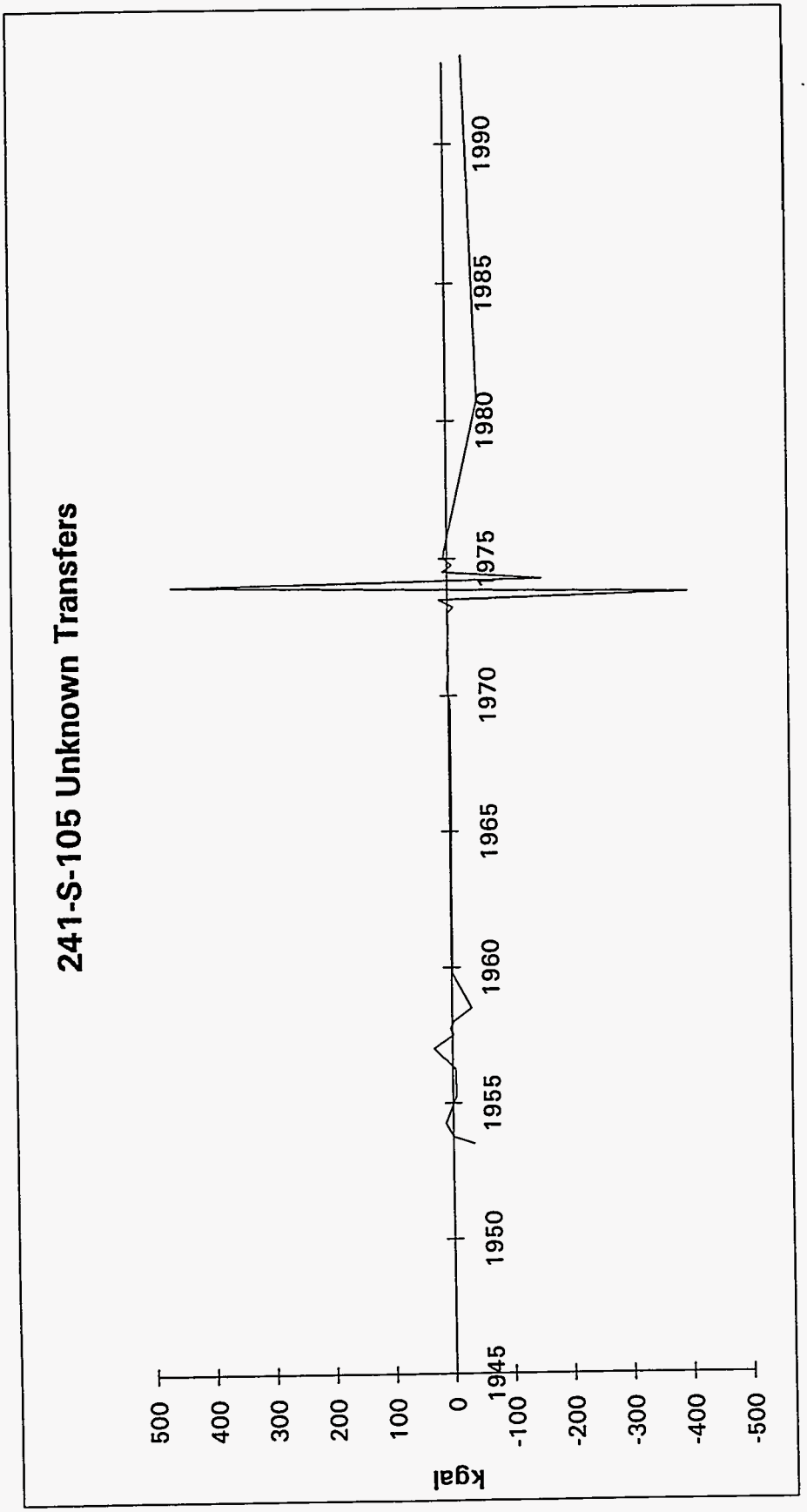
Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



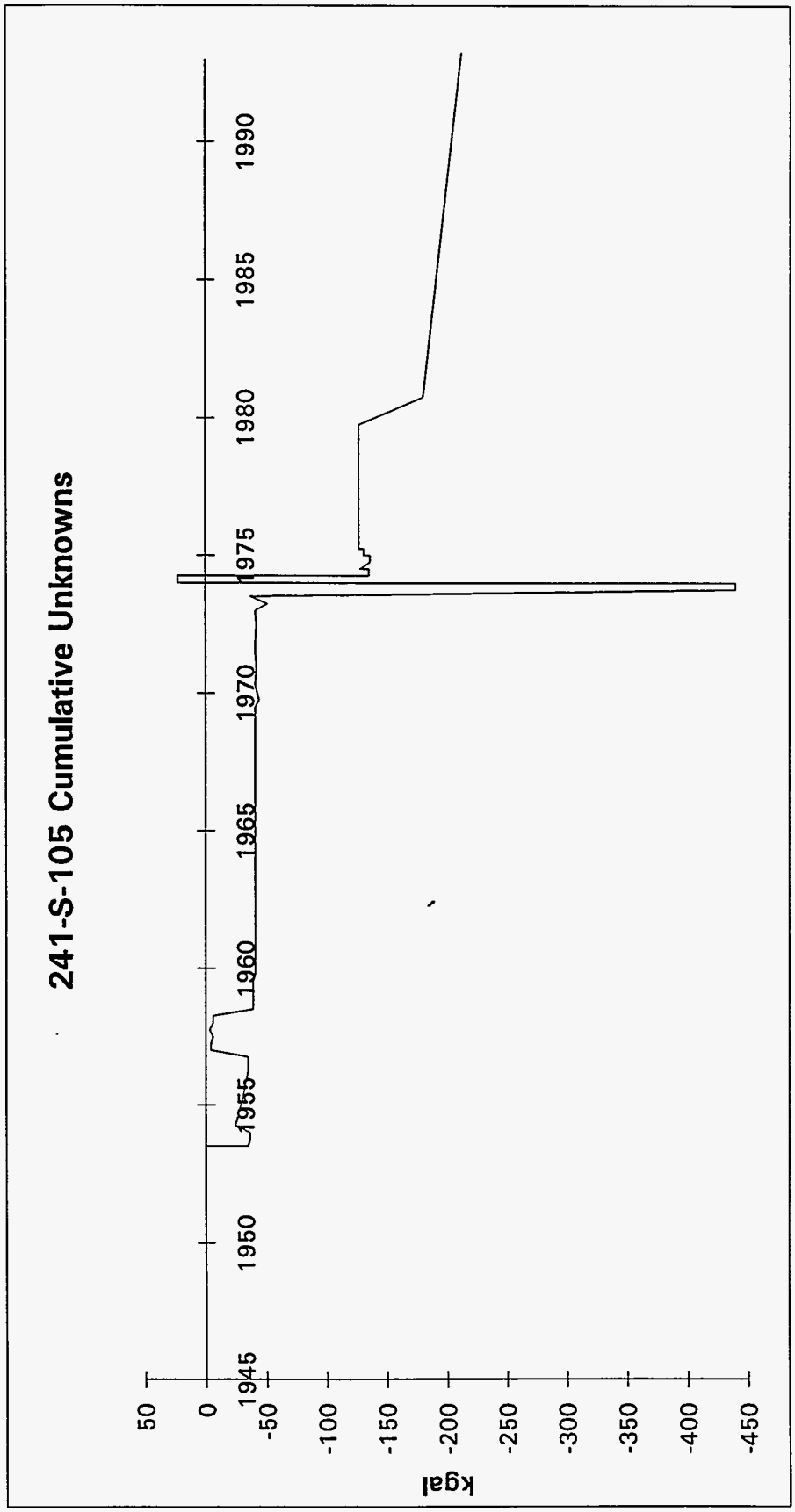
Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



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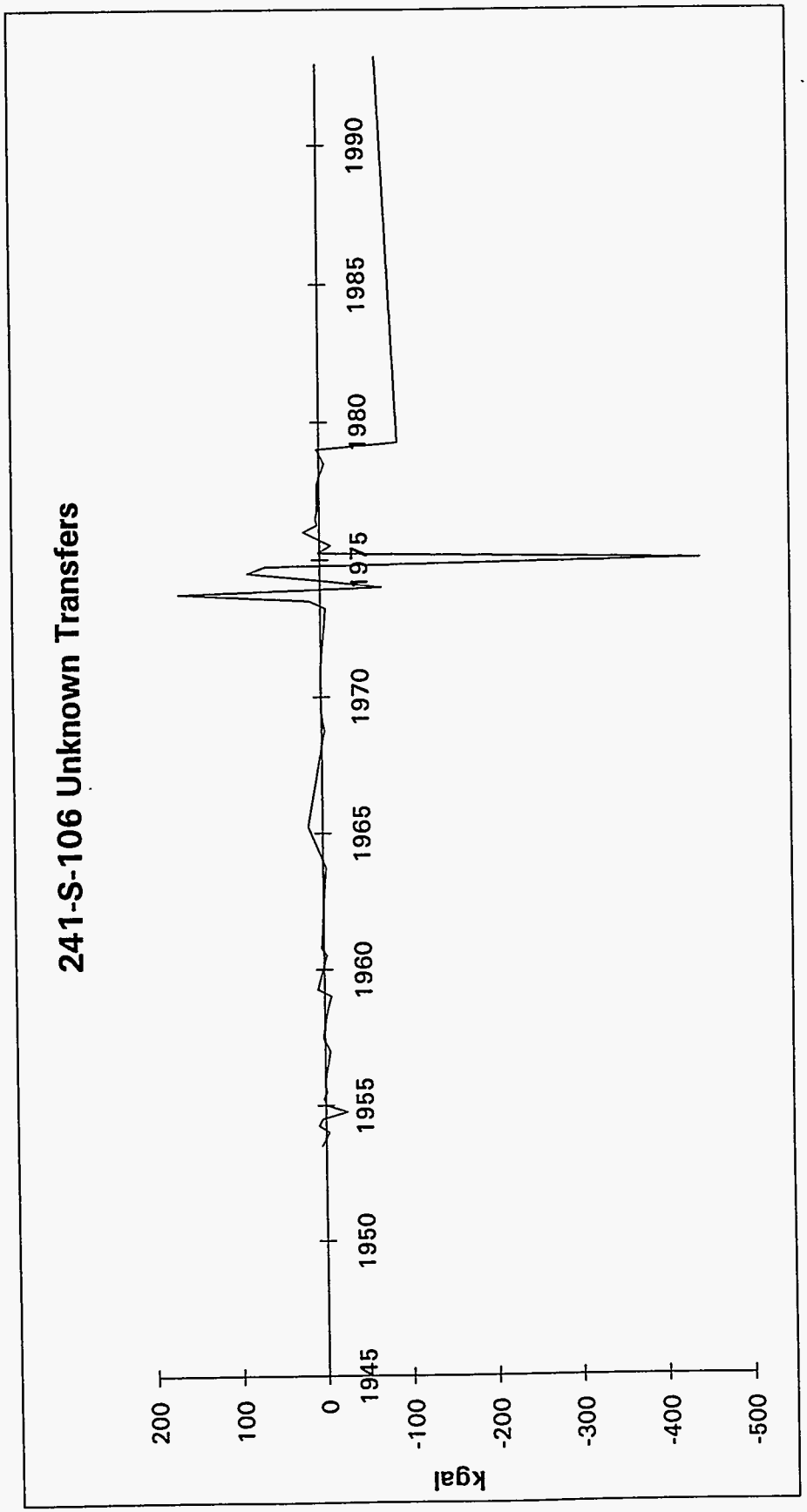
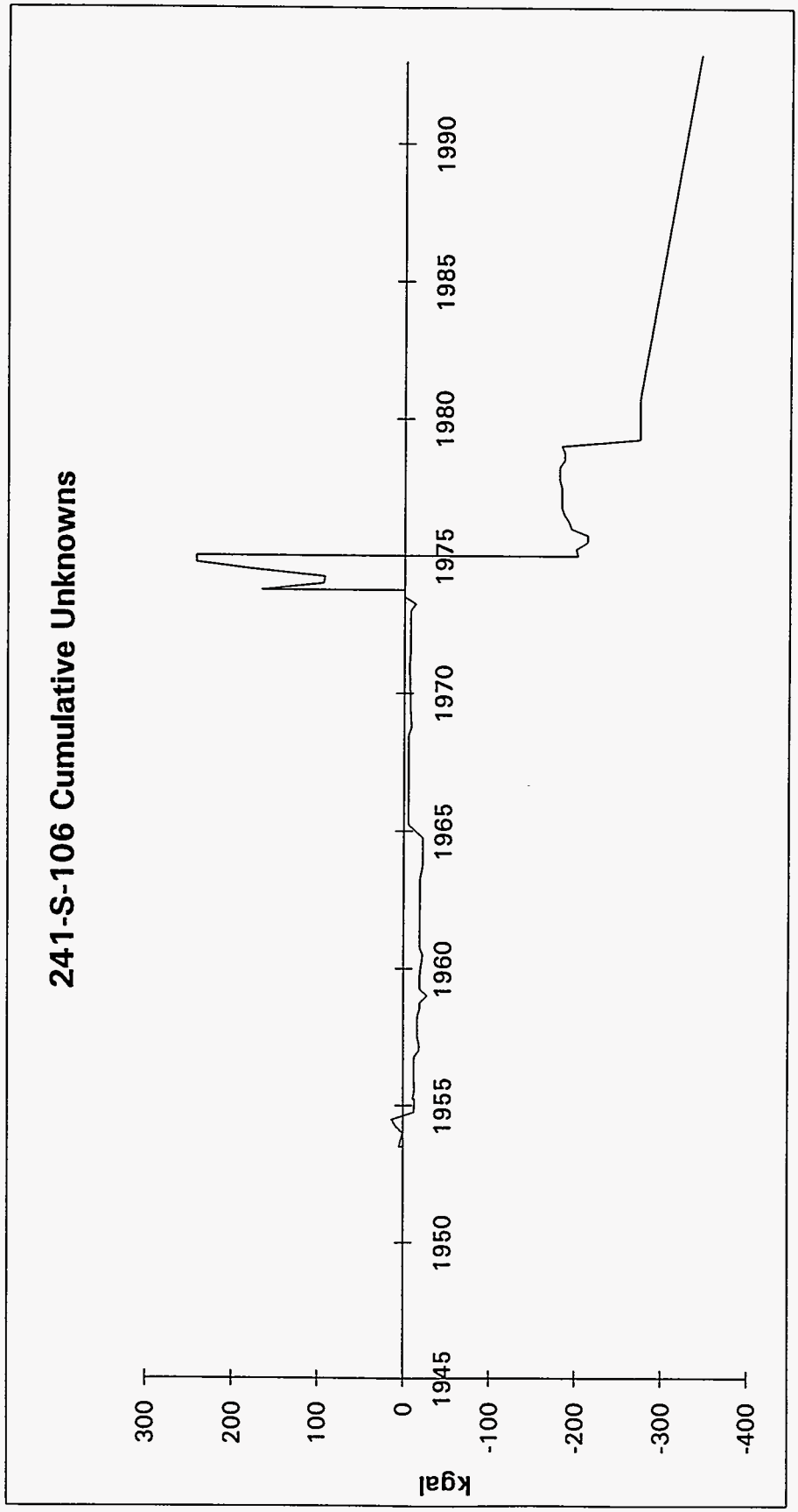


Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



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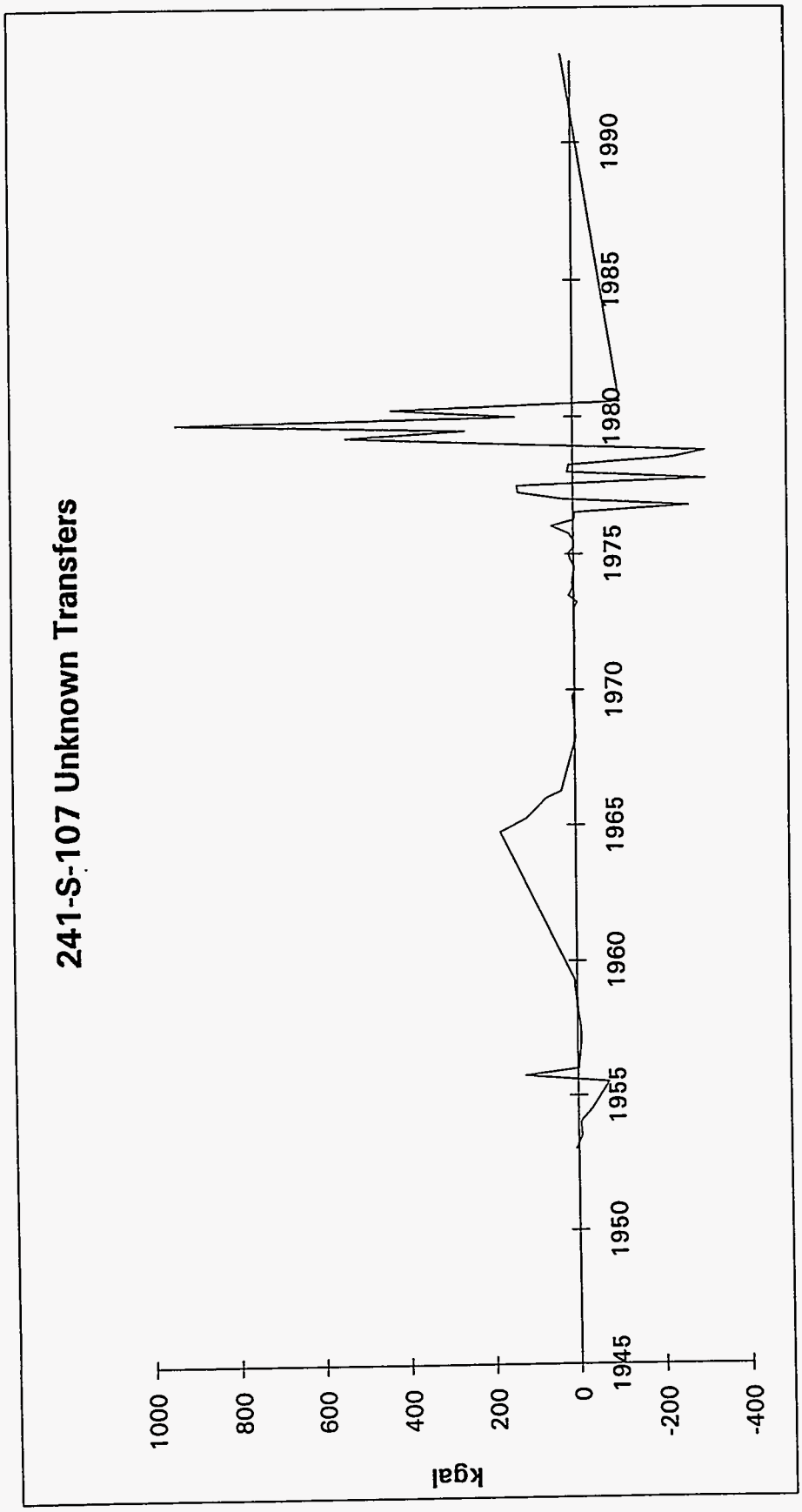

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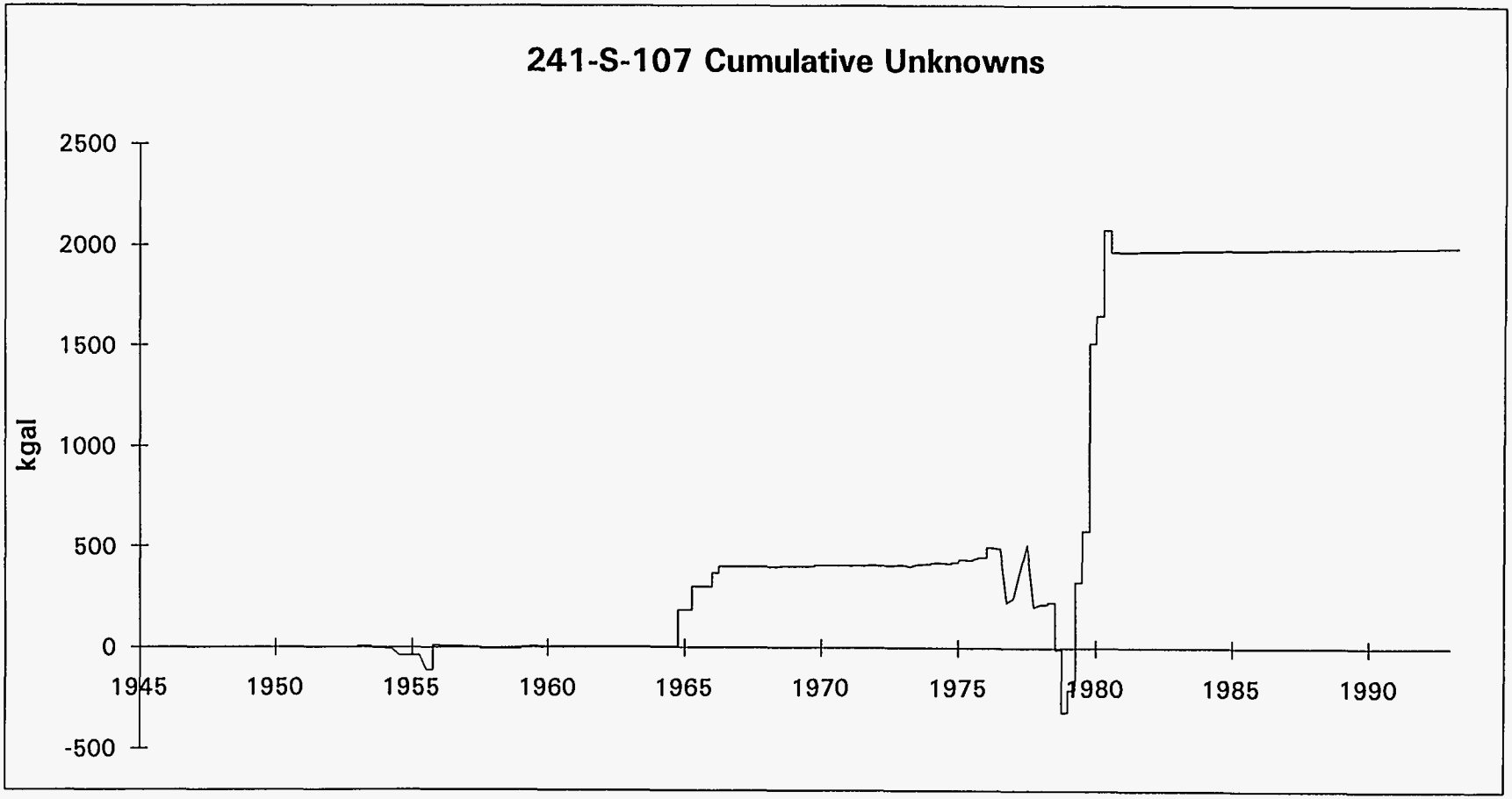

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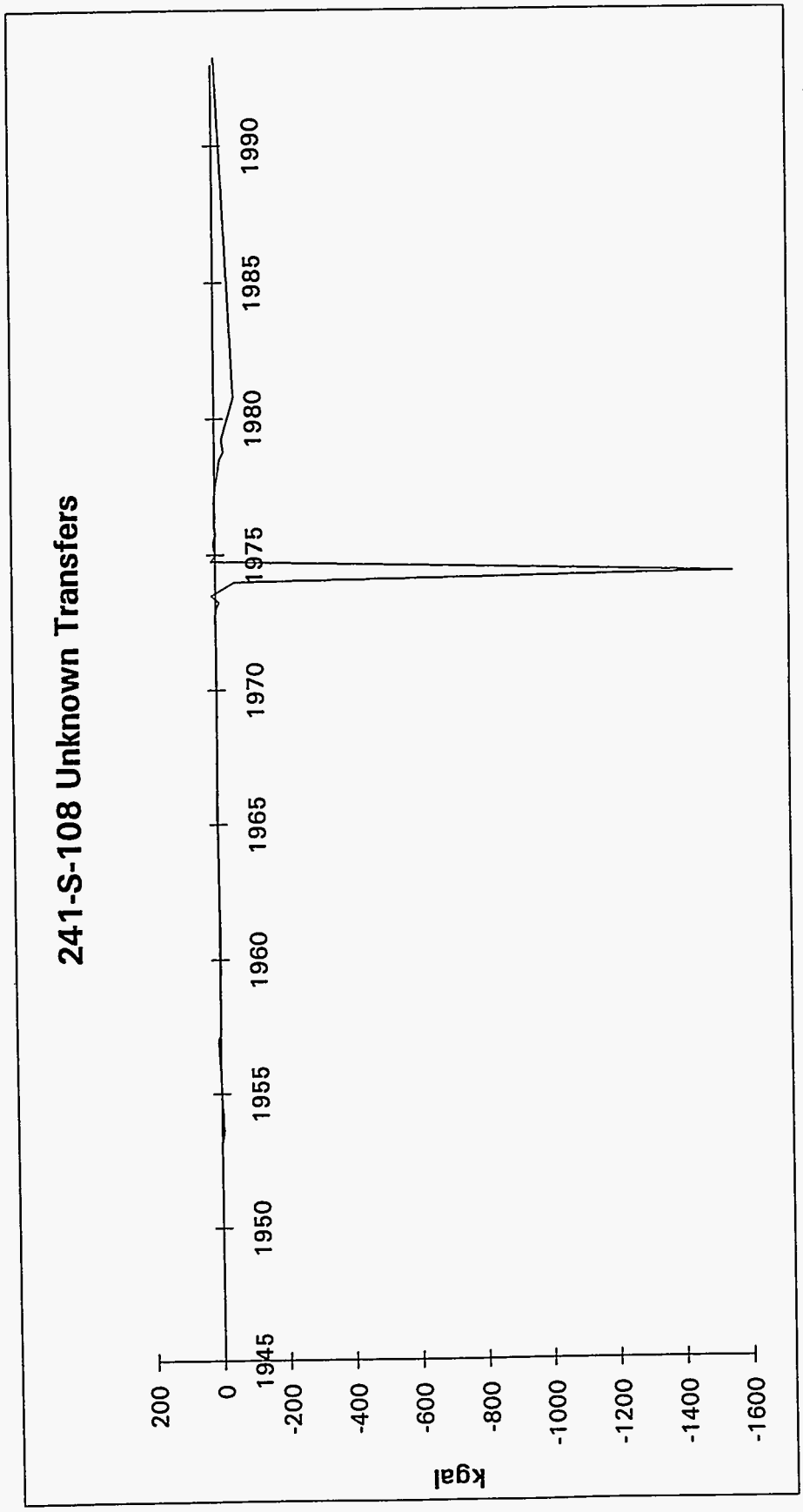

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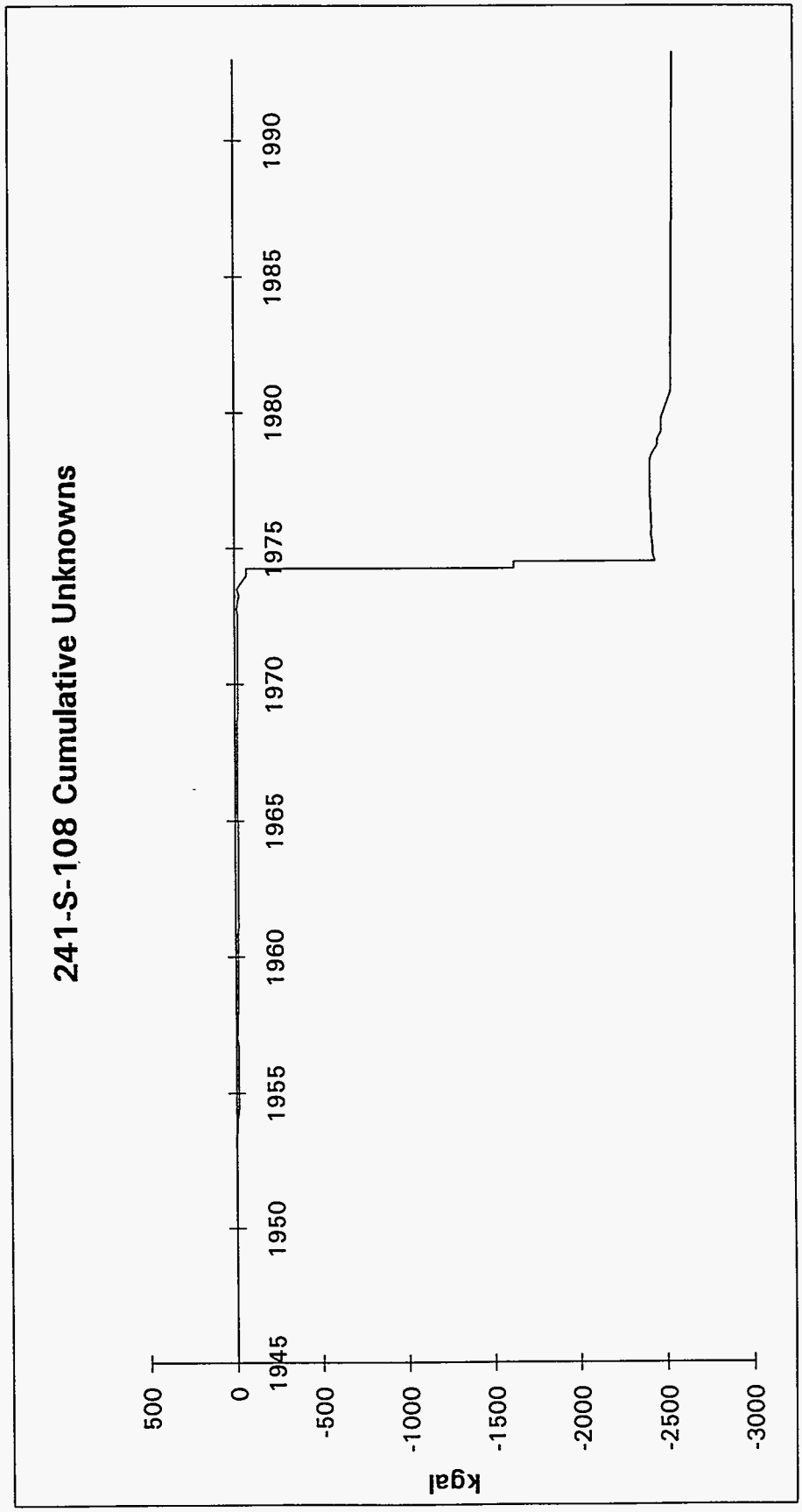
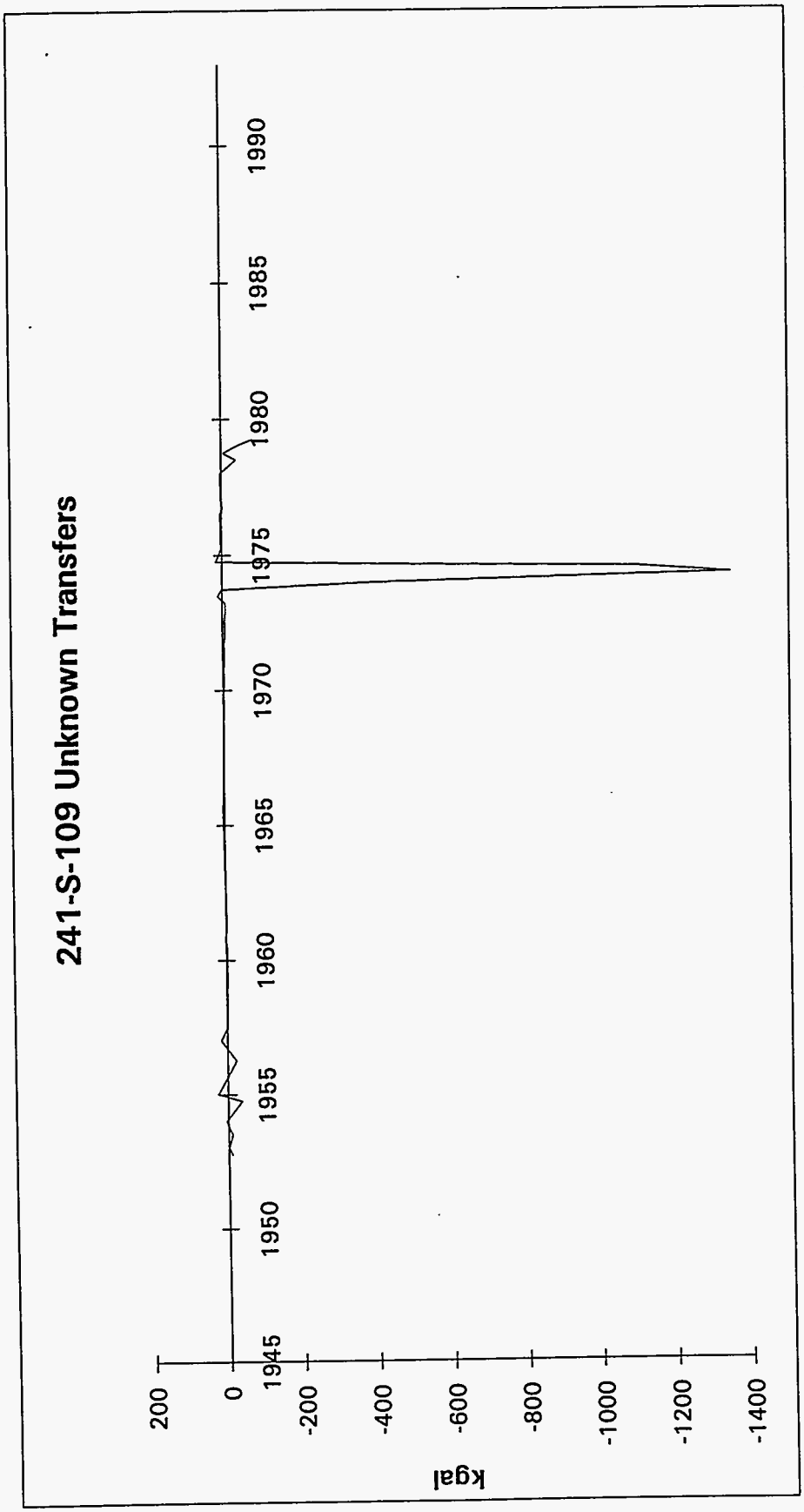


Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



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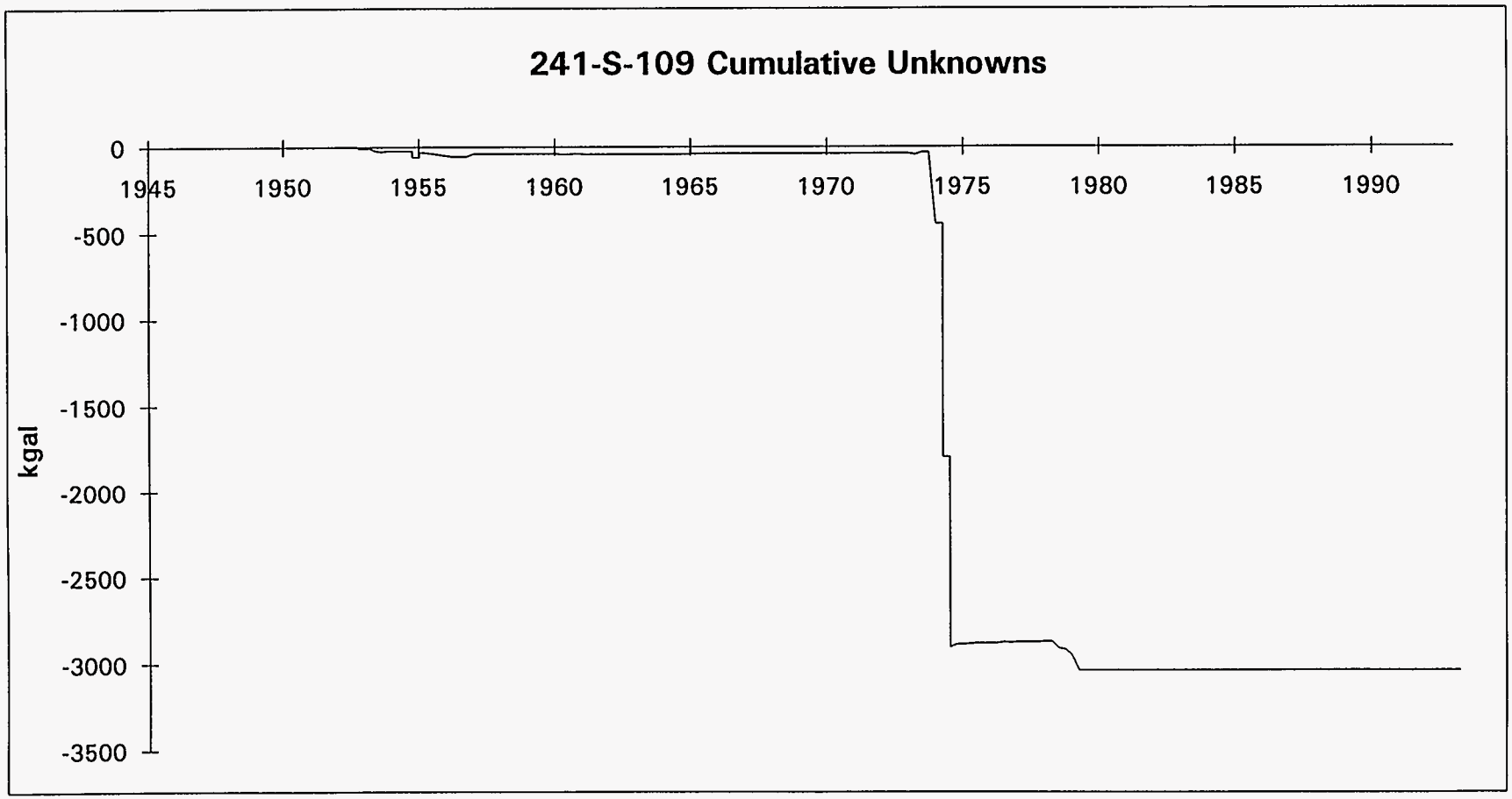

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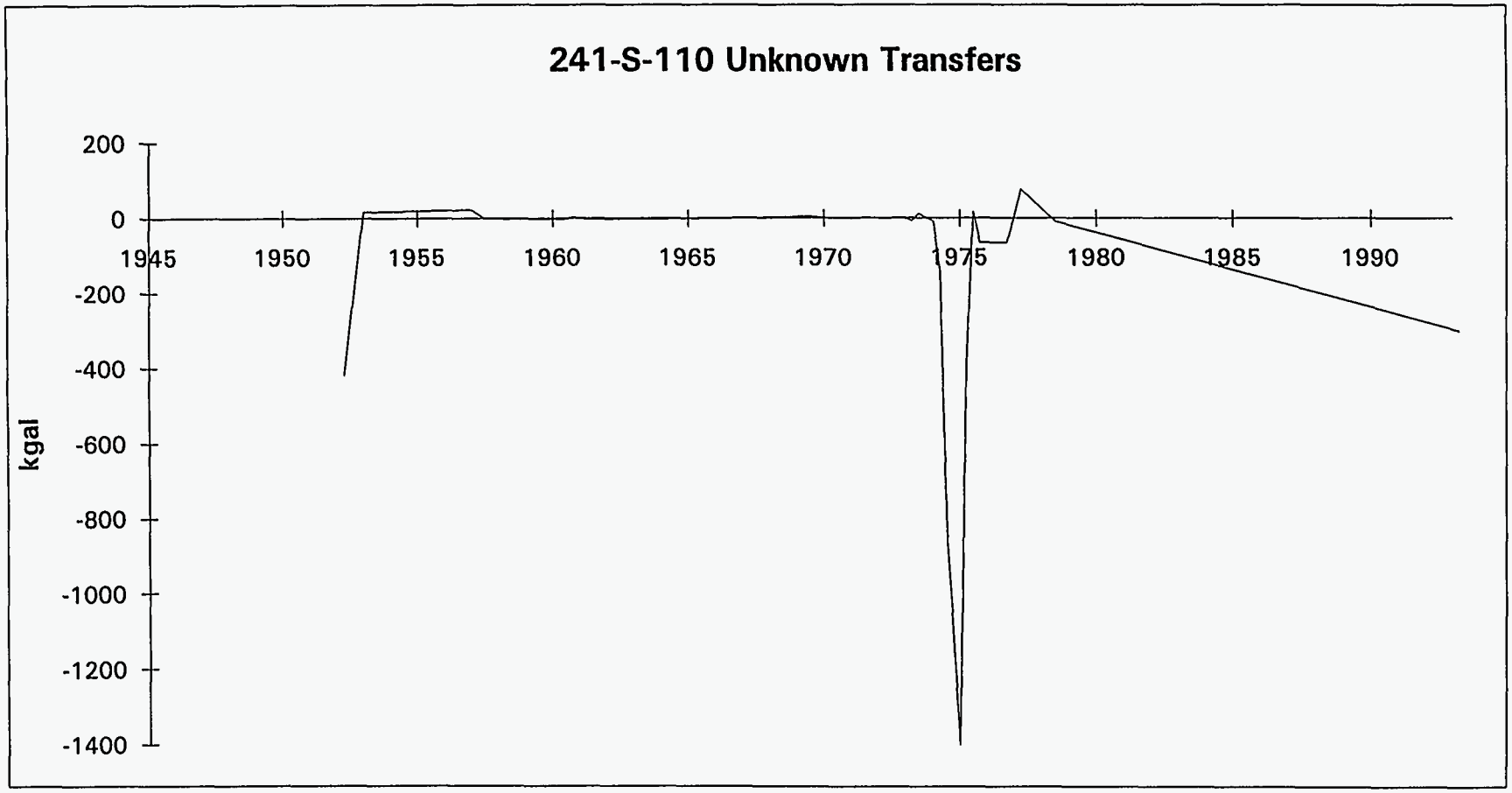
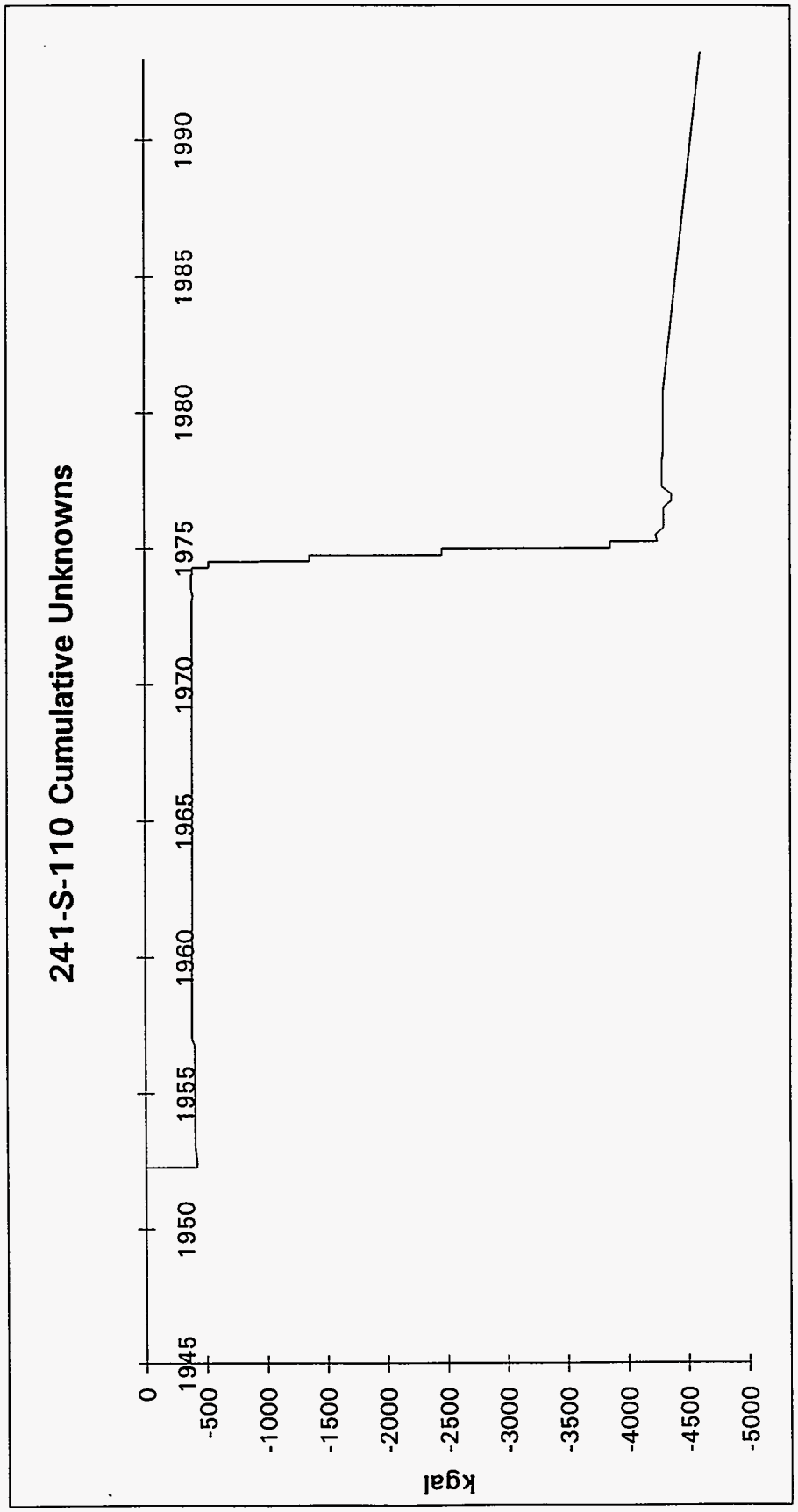
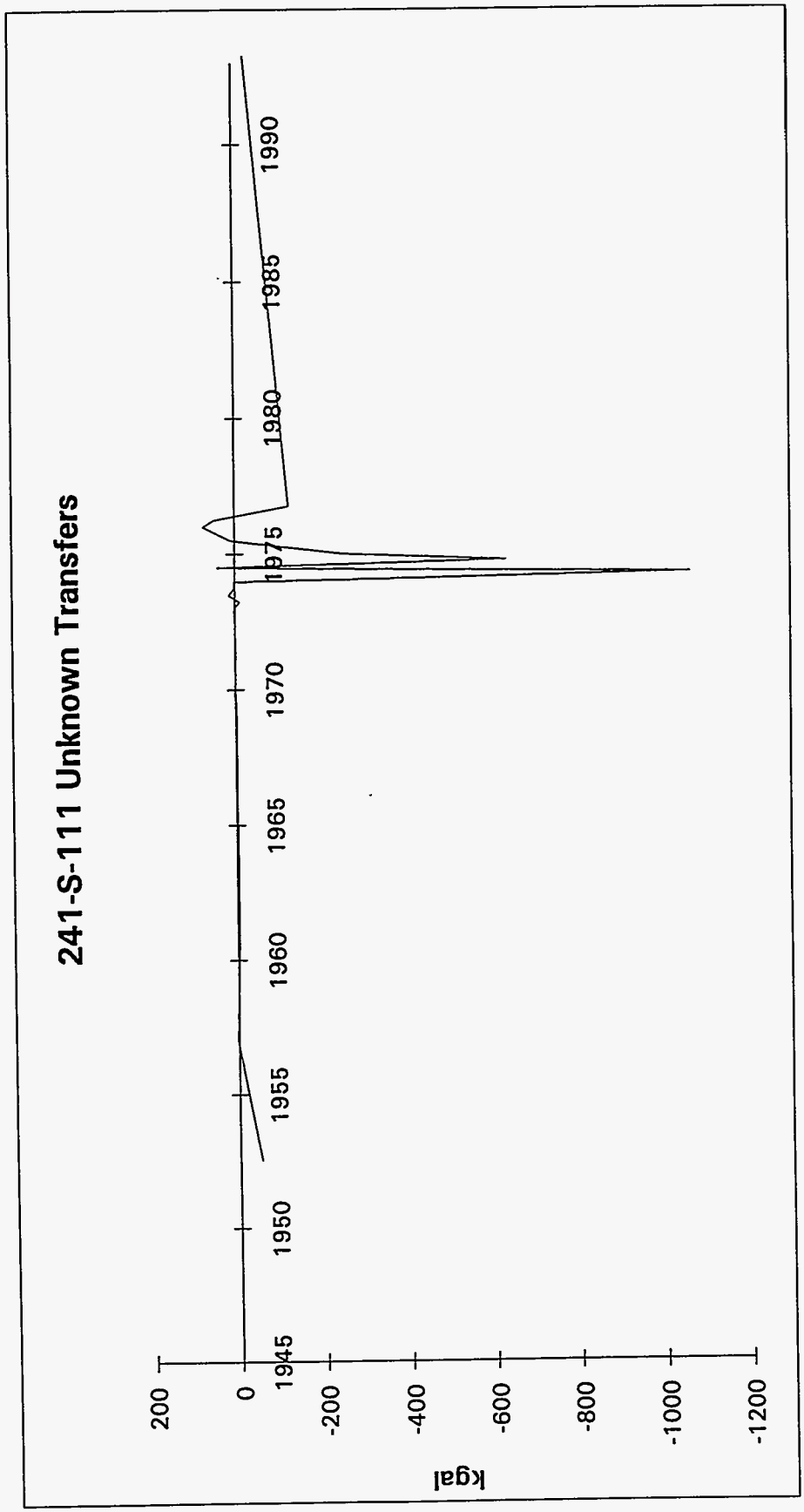


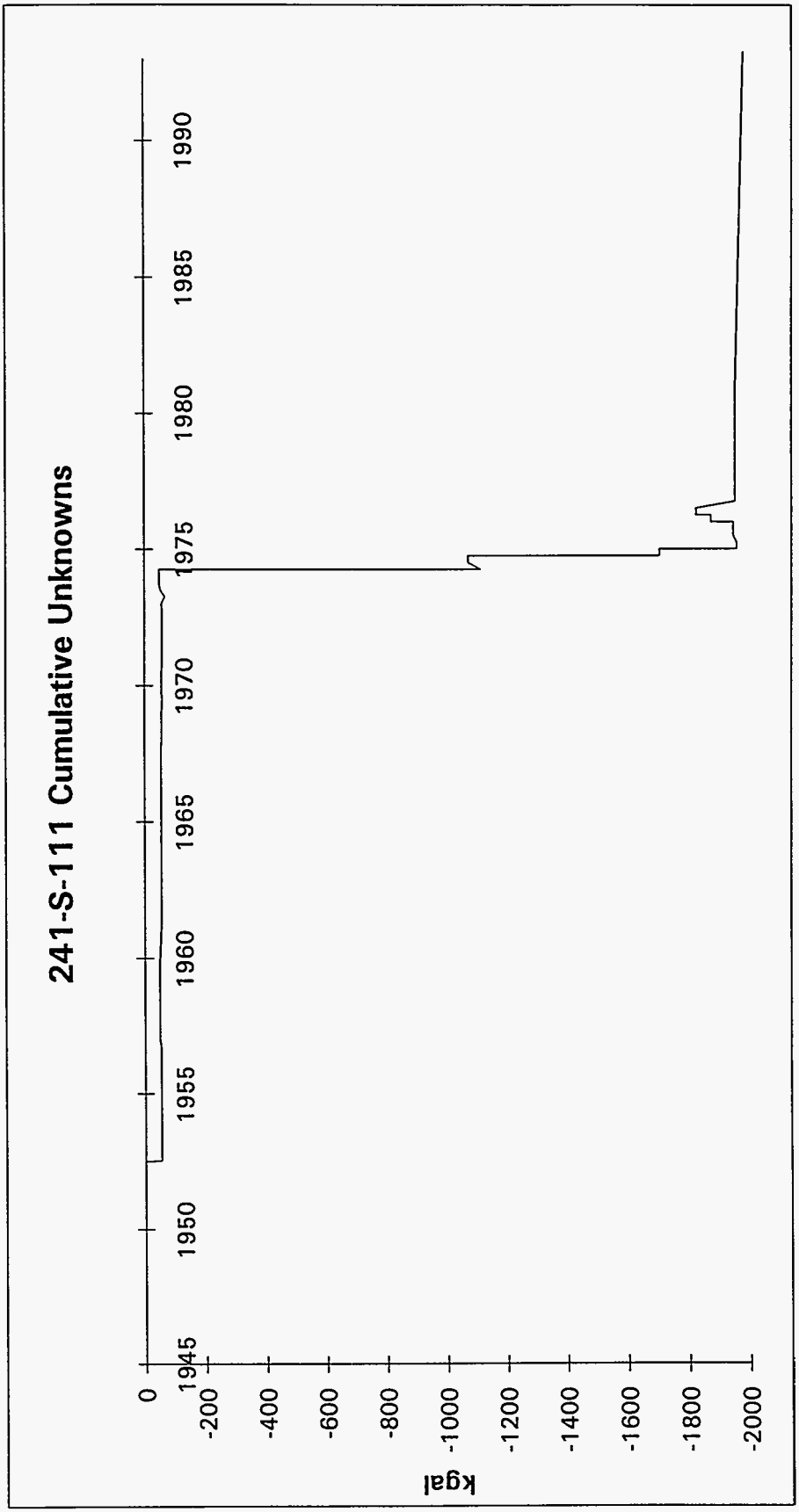
Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



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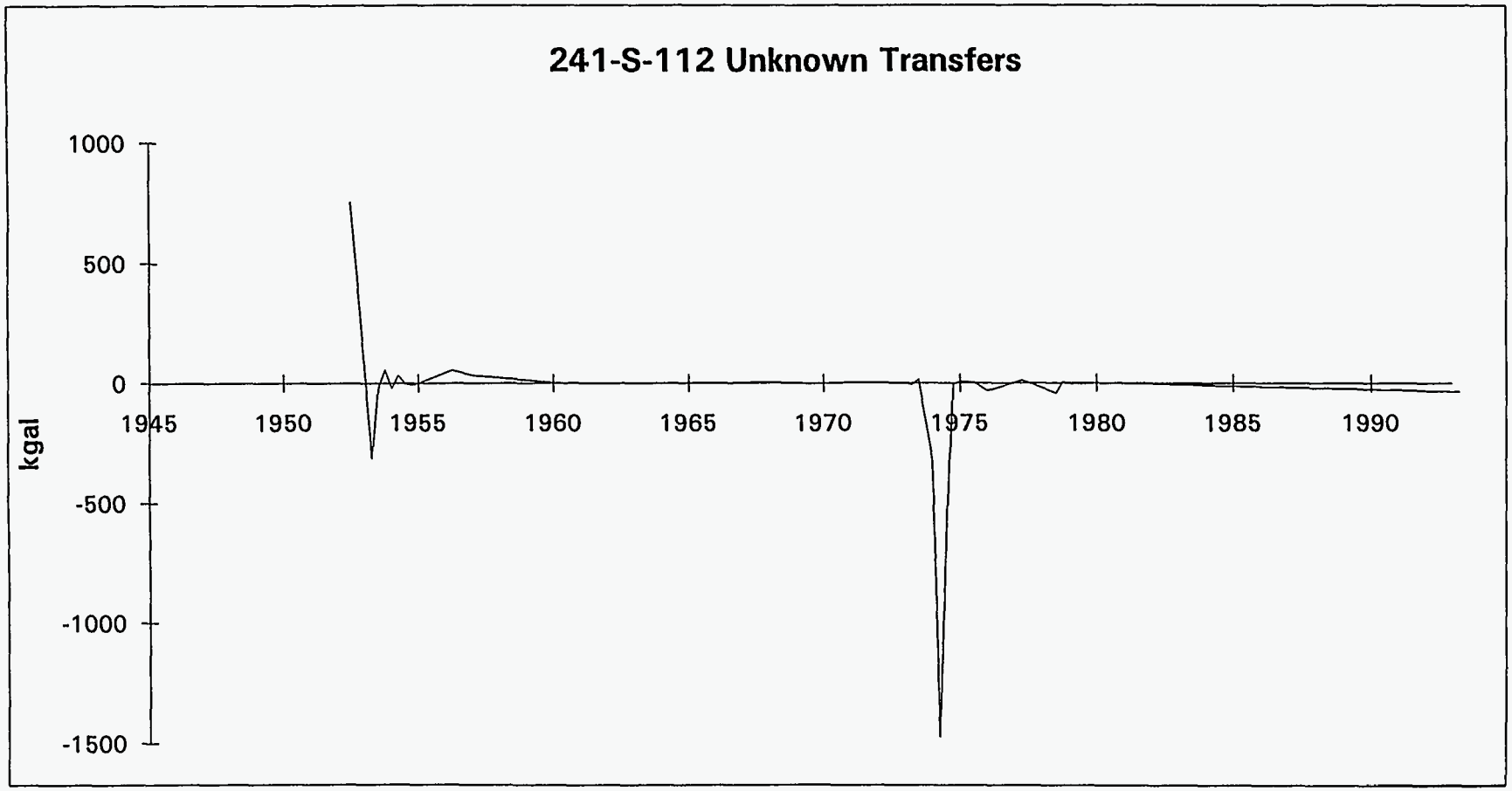

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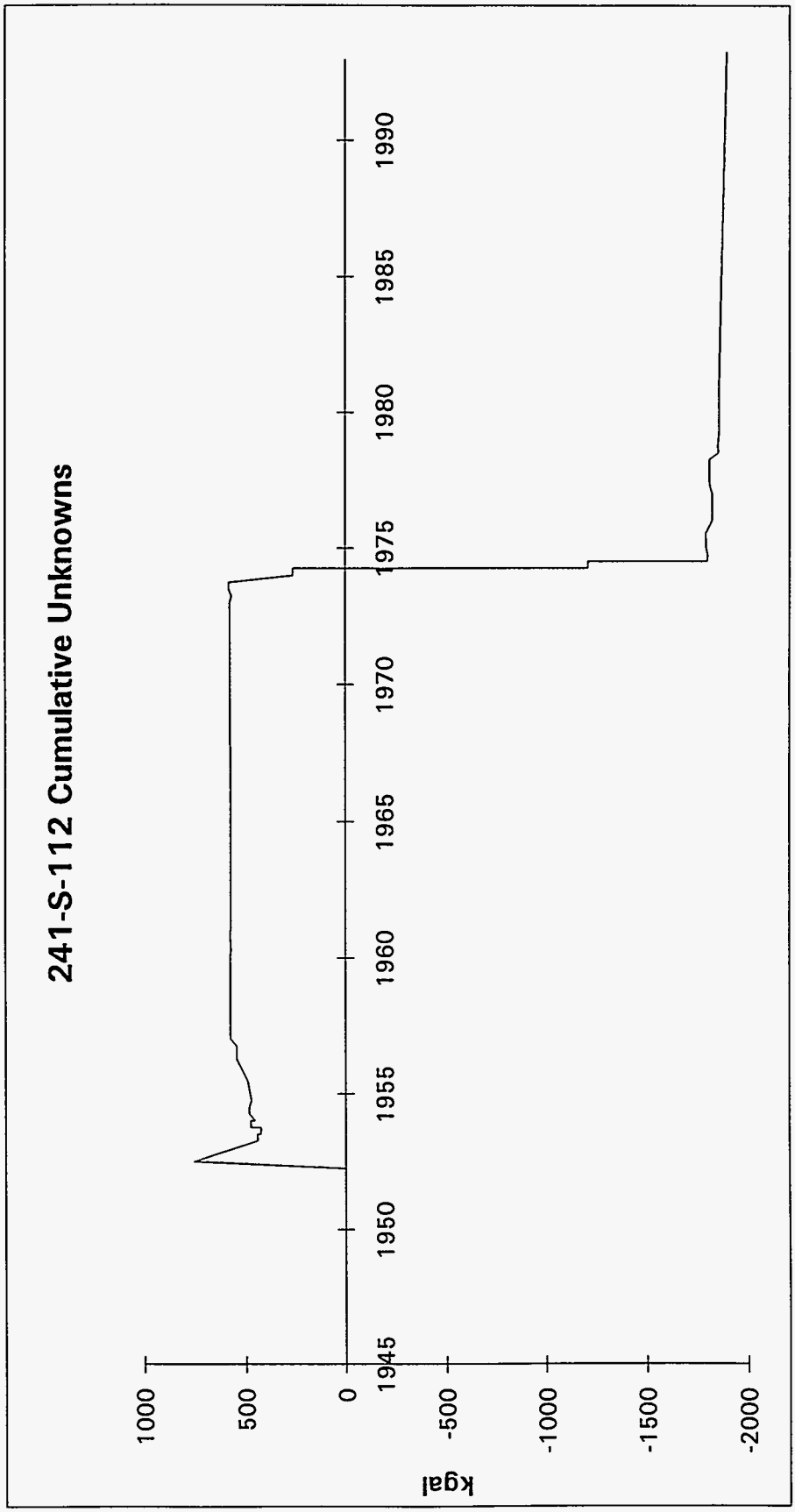
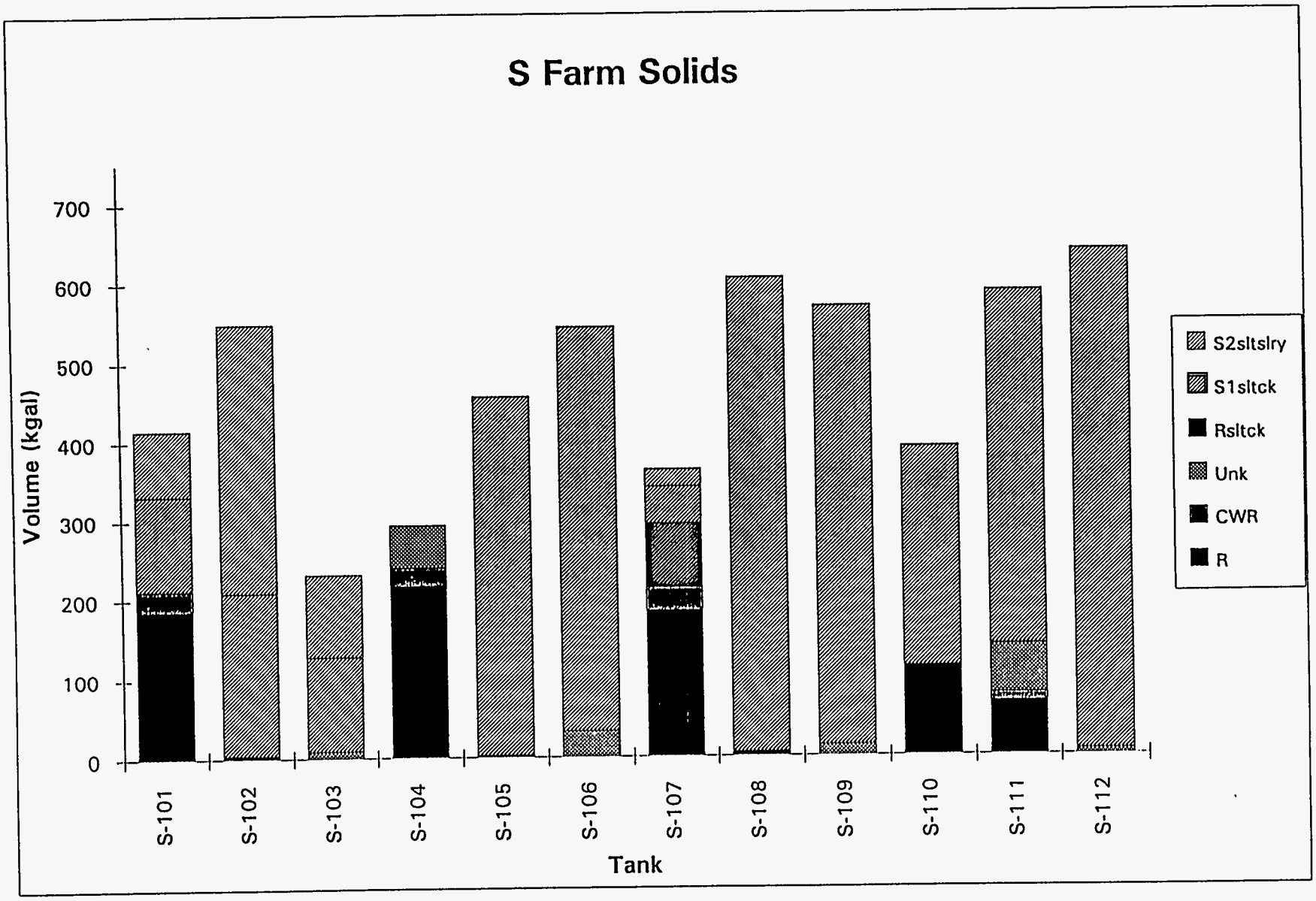


Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)



Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)

Tank	Year	Qtr	Meas. Solids	Solids Change	Predicted Layer	Layer Type	Waste Volume (K Gal)
S-101	1954	1		171	171	R	1924
	1954	1		2	2	CWRI	21
	1954	1		2	2	R	23
	1954	2		11	11	CWRI	131
	1954	2		12	12	R	135
	1955	3		16	13	CWRI	197
	1969	4	211	-3			
	1974	1	244				
	1975	2	332	121	121	S1Sltck	
	1980	4	415	83	83	S2Sltslry	
	1993	2	415				
S-102	1969	3	5				
	1970	4	4	4	4	R	
	1973	4	51				
	1974	3	103				
	1974	4	145				
	1975	4	200				
	1977	1	208	204	204	S1Sltck	
	1979	4	510				
	1980	3	555	347			
	1993	2	549	-6	341	S2Sltslry	
S-103	1954	2	0				
	1966	4	5				
	1969	4	9	9	9	Unk	
	1978	2	120				
	1978	3	167				
	1978	4	128	119	119	S1Sltck	
	1979	4	153				
	1980	4	231		103	S2Sltslry	
	1993	2	231	103			

Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)

Tank	Year	Qtr	Meas. Solids	Solids Change	Predicted Layer	Layer Type	Waste Volume (K Gal)
S-104	1953	1	0				
	1953	1		2	2	CWRI	22
	1953	1		19	19	R	212
	1953	1		3	3	CWRI	39
	1953	1		42	42	R	469
	1953	2		3	3	CWRI	35
	1953	2		38	38	R	423
	1953	2		3	3	CWRI	34
	1953	2		36	36	R	409
	1953	2		2	2	CWRI	23
	1953	2		25	25	R	277
	1953	3		3	3	CWRI	40
	1953	3		23	23	R	258
	1954	2		15	15	R	163
	1954	2			1	CWRI	8
	1954	2		17	17	R	186
	1955	3		7	7	CWRI	83
	1969	4	241	2	2	UNK	
	1975	1	299	58			
	1993	2	293	-6	52	UNK	
S-105	1953	2	0				
	1969	4	2	2	2	R	
	1973	4	249				
	1974	1	549	547			
	1980	4	488				
	1993	2	456	-93	454	S1Sltck	

Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)

Tank	Year	Qtr	Meas. Solids	Solids Change	Predicted Layer	Layer Type	Waste Volume (K Gal)
S-106	1953	2	0				
	1965	2	13	13	13	UNK	
	1969	4	32	19	19	UNK	
	1973	4	384				
	1974	1	436				
	1974	4	557				
	1975	1	607				
	1975	3	673	641			
	1977	2	582				
	1980	4	612				
	1993	2	543	-130	511	S1sltck	
S-107	1953	1	0	185	182	R	2080
	1953	1		-3			
	1953	2					
	1960	4		89	12	CWRI	1108
	1962	4		19		CWRII	433
	1963	4		10		CWRIII	230
	1964	4		16		CWRIV	361
				-122			
	1965	2	194				
	1967	1		18	18	CWRV	763
	1969	4	285				
	1970	2	293	81	81	Rsltck	923
	1971	3					
	1974	2	343	50			
	1974	3	282				
	1974	4	343				
	1980	3	340	-3	47	S1sltck	
	1993	2	362	22	22	S2sltslry	

Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)

Tank	Year	Qtr	Meas. Solids	Solids Change	Predicted Layer	Layer Type	Waste Volume (K Gal)
S-108	1952	4	0				
	1965	2	4				
	1969	4	5	5	5	R	
	1974	1	373				
	1974	2	585				
	1974	3	702				
	1974	4	706				
	1977	1	670				
	1979	4	612				
	1993	2	604	599	599	S1Sltck	
S-109	1953	2	0				
	1965	2	7				
	1971	3	13	13	13	UNK	
	1974	1	263				
	1974	2	488				
	1974	3	653				
	1977	1	568	555	555	S1sltck	
	1993	2	568				
S-110	1952	3		176		R	1983
	1953	3		12		CWR	152
	1954	1	0				
	1954	1		3		R	39
	1965	2	106				
	1969	4	113	-78	113	R	
	1974	1	131				
	1974	4	255				
	1975	1	414				
	1975	3	755	642			
	1975	4	689				
	1977	1	475	-280			
	1979	1	692	217			
	1993	2	390	-302	277	S1sltck	

Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)

Tank	Year	Qtr	Meas. Solids	Solids Change	Predicted Layer	Layer Type	Waste Volume (K Gal)
S-111	1952	3	0				
	1965	2	144		63	R	
	1969	4	139	139	12	CWRI	
	1974	2	334		3	R	
	1974	3	502		61	UNK	
	1974	4	563				
	1975	1	596				
	1975	3	750				
	1976	4	623				
	1993	2	586	447	447	S1sltck	
S-112	1957	1	0				
	1965	2	4		1	UNK	
	1971	3	6	6	5	UNK	
	1974	1	367				
	1974	2	598				
	1974	3	686				
	1974	4	673				
	1975	1	714				
	1976	2	706				
	1977	1	673				
	1980	2	672				
	1993	2	637	631	631	S1sltck	

Derived from LANL Waste Status and Transaction Record Summary V2.0b (Agnew 1994)