

REENTRY &
COMPLETION
REPORT
W.D.W # 2

UIC-CL1-008



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July 23, 1999

JUL 28 1999

Environmental Bureau
Oil Conservation Division

Mr. Roger Anderson
New Mexico Oil Conservation Commission
2040 South Pacheco
Santa Fe, New Mexico 87505

RE: Reentry and Completion Report for Waste Disposal Well No. 2, Navajo Refining Company
Subsurface Project No. 70A4955

Dear Mr. Anderson:

On behalf of Navajo Refining Company (Navajo), Subsurface Technology, Inc. (Subsurface), formerly Envirocorp Services & Technology, Inc., respectfully requests your review and approval of the enclosed report documenting the reentry and completion of Navajo's Waste Disposal Well No. 2. This document includes regulatory correspondence, documentation, chronology of field activities, test/logging results, and as-built drawings obtained during the installation of the well.

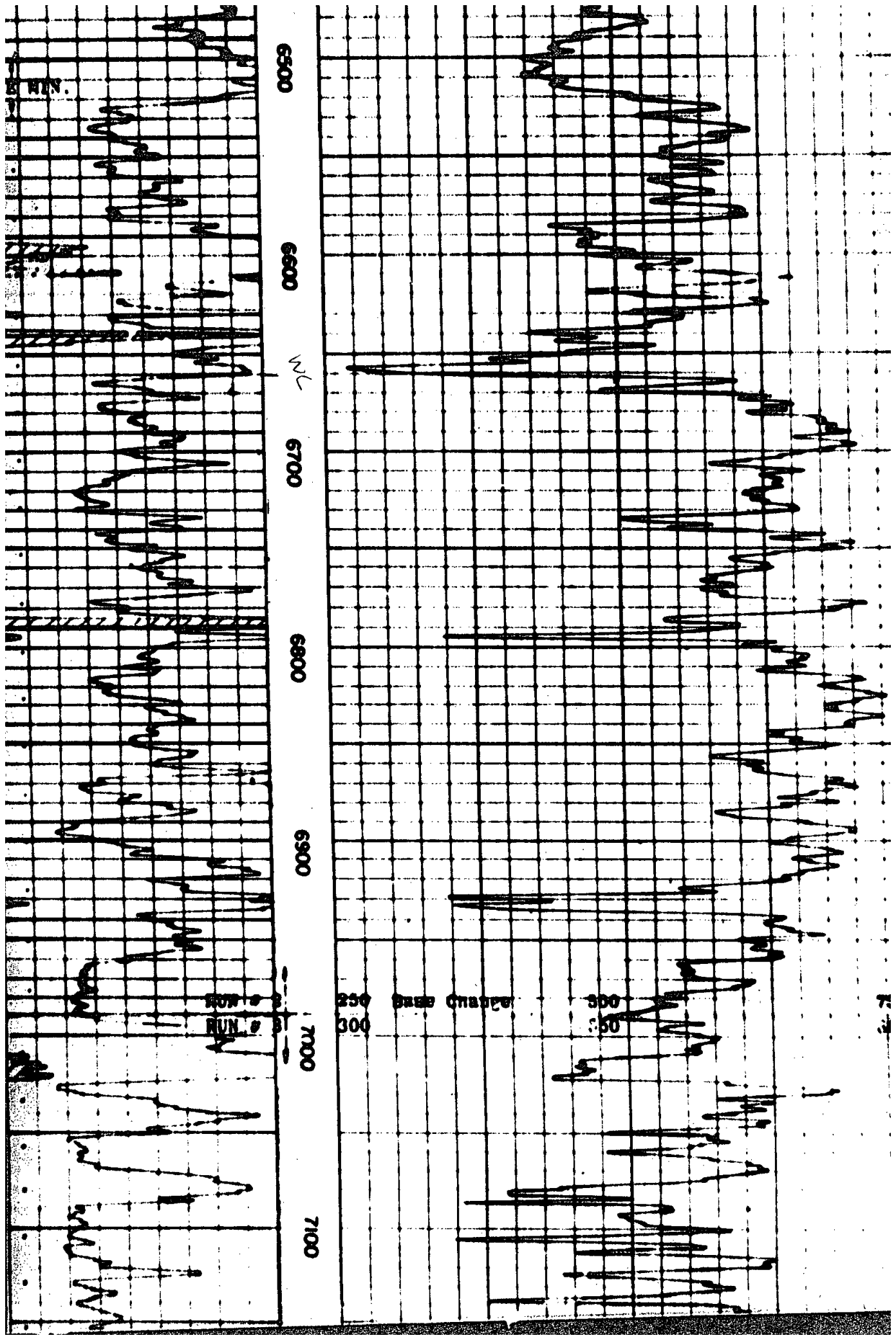
Should you have any questions or concerns, please contact Darrell Moore (Navajo) at 505-748-3311.

Sincerely,

Brian M. Rogers
Engineer

BMR
Enclosure

Anderson Let.doc





**REENTRY AND COMPLETION REPORT
WASTE DISPOSAL WELL NO. 2**

**NAVAJO REFINING COMPANY
ARTESIA, NEW MEXICO**

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JUL 28 1999
Environmental Bureau
Oil Conservation Division

Subsurface Project No. 70A4955

July 1999

Prepared By:

**SUBSURFACE TECHNOLOGY, INC.
Houston, Texas**

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EXECUTIVE SUMMARY

Navajo Refining Company (Navajo) contracted Subsurface Technology, Inc. (Subsurface), formerly Envirocorp Services & Technology, Inc., to prepare an application for permit to reenter a producing Class II well and conduct injection testing within the Wolfcamp, Cisco, and Canyon Formations. The Application for Permit to Drill or Deepen was submitted to the Department of the Interior, Bureau of Land Management (BLM), on April 13, 1999. A permit modification was submitted to the State of New Mexico Oil Conservation Commission (OCD) in April 1999.

The BLM granted approval for the reentry and testing by letter, dated April 27, 1999. The OCD granted approval for the reentry and testing on the wellbore by letter dated May 3, 1999. In April 1999, Navajo contracted Subsurface to prepare a detailed engineering plan to reenter, test and complete The Eastland Oil Company, Chukka Federal No. 2.

Under contract with Navajo, Subsurface commenced field operations on May 5, 1999. The existing location was cleared and a pad was constructed for the drilling and completion rigs. Initially a completion rig was moved in and rigged up. The existing well pumping equipment was removed and the perforations from 1446 feet to 1462 feet were squeezed with cement. A 7-7/8 inch bit was lowered into the wellbore to drill and wash to 1922 feet. The 8-5/8 inch surface casing was successfully pressure tested to 660 psi prior to drilling out the cement plug across the shoe. A cement bond log confirmed continuous cement with good bond behind the 8-5/8 inch surface casing. The completion rig was released and moved off site.

The top 10 feet of the 8-5/8 inch casing was replaced before the installation of the blowout preventer assembly. A lined reserve pit was constructed for the containment of drill cuttings and fluids. A rotary drilling rig was moved in and rigged up. The BLM and the OCD were notified, and verbally approved the commencement of reentry operations on May 13, 1999. A 7-7/8 inch bit was lowered into the wellbore to drill out cement plugs within the 8-5/8 inch surface casing.

EXECUTIVE SUMMARY (Continued)

The 7-7/8 inch bit was lowered into the open-hole portion of the wellbore and cement plugs were drilled out to a total reentry depth of 8992 feet. A fracture identification log, 4-arm caliper, and gamma-ray log were conducted within the open-hole portion of the wellbore.

The 5-1/2 inch protection casing was installed with cement circulated through the annular space from bottom to the surface using a two-stage pump and plug method on May 19, 1999. Good returns were observed at the surface while cementing. The rotary drilling equipment was released and moved off site.

A completion rig and blowout preventers were moved in and rigged up on May 24, 1999. A 4-3/4 inch bit was lowered into the wellbore to clean out and pressure test the 5-1/2 inch protection casing. On May 25, 1999, the 5-1/2 inch casing was successfully pressure tested to 1514 pounds per square inch gauge (psig) above the differential valve tool at 5785 feet. On May 26, 1999, the 5-1/2 inch casing was successfully pressure tested to 1504 psig from surface to the plugged-back total depth of 8770 feet.

The wellbore was displaced with a clean brine fluid and a baseline temperature and casing inspection surveys were performed. A cement bond log was performed over the length of the 5-1/2 inch protection casing. The injection interval (Cisco/Canyon Formations) was perforated from 7826 feet to 8399 feet at two jet shots per foot. A sample of the formation fluid was obtained for analysis and the lower injection interval was stimulated using 5000 gallons of 15% HCl acid and rock salt as a diverter.

The injection interval (L. Wolfcamp/Cisco Formations) was perforated from 7570 feet to 7736 feet at two jet shots per foot. A retrievable bridge plug and packer were set to isolate the newly perforated interval. A sample of the formation fluid was obtained for analysis and the perforations were stimulated using 5000 gallons of 15% HCl acid and rock salt as a diverter. The packer and bridge plug were removed from the wellbore in preparation for the pressure buildup portion of the falloff test.

On June 4, 1999 and June 5, 1999, an injection pressure buildup and falloff test was conducted. Upon completion of the falloff test a differential temperature log was conducted

EXECUTIVE SUMMARY (Continued)

from surface to a total depth of 8736 feet. A radioactive tracer log was conducted and the results obtained from the survey confirmed external mechanical integrity of the wellbore.

A 3-1/2 inch outside diameter (OD) injection tubing and packer were installed in the well to 7528 feet. An extended annular pressure test was performed to confirm stabilization within the well system. On June 8, 1999, an annular pressure test was performed in accordance with the requirements of the OCD. The OCD witnessed the annular pressure test that successfully confirmed internal mechanical integrity at a pressure of 753 psig.

Upon conclusion of the annular pressure test, all equipment was rigged down and moved out.

1.0 INTRODUCTION

Navajo reentered, tested and completed The Eastland Oil Company, Chukka Federal No. 2 wellbore for injection of plant waste effluent. The name of the new waste disposal well will be designated as Navajo Refining Company Waste Disposal Well No. 2 (WDW-2). The wellbore is located in Section 12, T18S, R27E, Unit Letter E, approximately 11 miles east-southeast of Artesia, in Eddy County, New Mexico. A Well Location and Acreage Dedication Plat of the well location is shown on Figure 1.0-1. The construction and testing of this well were performed in compliance with the provisions of the New Mexico Water Quality Control Commission Regulations (NMWQCCR), dated November 15, 1996, Subpart V, Section Nos. 5204 and 5205, and the United States Environmental Protection Agency Code of Federal Regulations, 40 CFR 146.12, Subpart B.

Subsurface was contracted by Navajo to reenter and test WDW-2. The construction and testing of this Non-Commercial Class I Nonhazardous Waste Disposal Well were permitted by the Department of the Interior, Bureau of Land Management (BLM), and the New Mexico Energy, Minerals, and Natural Resources Department, OCD by letters dated May 3, 1999 (Appendix 1.0-1) and April 27, 1999 (Appendix 1.0-2). All work associated with WDW-2 was completed in accordance with the provisions specified in the permit approved by the BLM and OCD.

The work for WDW-2 was designated as Subsurface's Project No. 70A4955. This report summarizes all work performed on WDW-2 and includes the filing of the necessary documents.

2.0 SUMMARY OF DAILY OPERATIONS

The original wellbore was designated as the Amoco Production Company, Diamond Federal Gas Com. Well No. 1, installed July 18, 1973. The OCD Sundry Notices and Reports on Wells are presented in Appendix 2.0-1. The wellbore was constructed with a 13-3/8 inch OD conductor casing set at 40 feet and cemented to surface. An 11 inch hole was drilled to a depth of 1995 feet. Open-hole logs were conducted to include resistivity, spontaneous potential, porosity, and gamma ray, as presented in Exhibits 2.0-1 and 2.0-2. An 8-5/8 inch surface casing was set at 1995 feet and cemented to surface. A 7-7/8 inch hole was drilled to a depth of 10,372 feet to test potentially productive hydrocarbon zones. Subsequently, the wellbore was abandoned on August 31, 1973.

On August 29, 1985, Fred Pool Drilling Inc. submitted an Application for Permit to Drill or Deepen to the BLM. The wellbore was reentered to 1912 feet and completed as a producing oil well with perforations from 1446 feet to 1462 feet, as noted in the Sundry Notices and Reports on Wells (Appendix 2.0-2). The name of the wellbore was changed to the Chukka Federal Well No. 2. Figure 2.0-1 is the plugged-back wellbore schematic.

The Chukka Federal Well No. 2 continued to operate as a producing oil well from September 1985 to May 5, 1999. The Operator changed from Fred Pool Drilling, Inc. to The Eastland Oil Company prior to purchase by Navajo Refining Company in April 1999.

Navajo Refining Company submitted and received approval for the reentry, testing, and completion of the Chukka Federal Well No. 2 from the BLM on April 27, 1999.

On Monday, May 3, 1999, OCD approved the Application for Permit to Drill or Deepen Navajo Refining Company's (Navajo) WDW-2, formerly the Chukka Federal No. 2 operated by The Eastland Oil Company.

The reentry, testing, and completion operations for WDW-2 are presented in this section. Details of certain operations are referenced in the text and included as figures, exhibits, tables, and appendices.

Figure 2.0-2 is the current wellbore schematic for WDW-2. Table 2.0-I contains the detailed tubular program for WDW-2.

2.1 Cement Squeeze the Perforations

From May 5, 1999 to May 8, 1999, Navajo initiated field operations. The existing pumping equipment, rods, and tubing were removed from the wellbore. The perforations from 1446 feet to 1462 feet were squeezed using 100 sacks of Class 'H' cement. Approximately 50 sacks of cement were displaced into the perforated interval. The cement was allowed to cure and drilled out to a total depth of 1922 feet (1911 feet below ground level).

2.2 8-5/8 Inch Mechanical Integrity Testing

On Sunday, May 9, 1999, the 8-5/8 inch surface casing, set from 1955 feet (KB) to surface, was pressure tested for internal mechanical integrity between 1922 feet (KB) and 30 feet (KB) using a packer set at 30 feet. The 8-5/8 inch surface casing was pressure tested to 660 pounds per square inch (psi) and monitored at the surface for one hour. The fluid used for testing was a clean fresh water fluid. A pressure loss of 1 psi (0.15%) was observed during the first 30 minutes of the test. A pressure loss of 2 psi (0.30%) was observed during the last 30 minutes of the test. The results from the pressure test confirmed internal mechanical integrity of the 8-5/8 inch surface casing from 1922 feet (KB) to 30 feet (KB).

On Sunday, May 9, 1999, Halliburton Logging Services completed a Cement Bond Log and Microseismogram (same as a variable density log), CBL/MSG, survey within the 8-5/8 inch casing from a wireline total depth of 1919 feet (KB) to the surface (Exhibit 2.2-1). The results from the survey indicate a continuous column of cement from 1922 feet to surface with good bonding characteristics. The cement behind the 8-5/8 inch casing will provide an effective hydraulic seal to

prevent the movement of groundwater fluids into the underground source of drinking water with a base at 473 feet.

The workover rig was rigged down. A letter requesting regulatory approval for the surface casing pressure test and CBL/MSG log was submitted to the OCD for review and approval (Exhibit 2.2-2).

From Monday, May 10, 1999 to Tuesday, May 11, 1999, the 8-5/8 inch riser was replaced and the reserve pit was excavated.

2.3 Preparation of the Drillsite

On May 12, 1999, a 6 millimeter, high density, polyethylene liner was installed in the reserve pit. The rathole and mouseholes were installed in accordance with Patterson Rig 47 specifications.

2.4 Mobilization of the Drilling Equipment

On May 13, 1999, Patterson moved in and rigged up the drilling rig. A rental wellhead was installed and the blowout prevention equipment was installed and tested in accordance with The United States Department of the Interior, Bureau of Land Management, Onshore Order No. 2 Specifications (Appendix 2.5-1).

2.5 Reentry Operations

On May 14, 1999, a 7-7/8 inch bit was lowered into the 8-5/8 inch casing to drill out the 100-foot cement plug from 1922 feet to 2093 feet. The drillpipe was washed into the wellbore to 2898 feet. A deviation survey at 2898 feet indicated ¼-degree inclination. The wellbore was washed out to 3830 feet. A deviation survey at 3838 feet indicated ¼-degree inclination. The wellbore was washed and reamed to 4783 feet. A deviation survey at 4783 feet indicated ½-degree inclination. The wellbore was washed and reamed to 5082 feet.

On May 15, 1999, the cement plug at 5450 feet was tagged. The blowout prevention equipment was successfully tested in accordance with Section III(A) of

the Conditions for Approval attached to the Application for Permit to Drill or Deepen, approved April 27, 1999. The BLM was notified by letter of the blowout prevention equipment pressure test results on May 17, 1999 (Appendix 2.5-1). The wellbore was washed and reamed to 6106 feet. A deviation survey at 6106 feet indicated an inclination of 3/4 degree. The wellbore was washed and reamed to 6500 feet. The mud weight was increased to 8.7 pounds per gallon (ppg).

On May 16, 1999, the wellbore was washed and reamed to 6633 feet. A deviation survey at 6633 feet indicated an inclination of 1/2 degree. The wellbore was washed and reamed to 7269 feet and the mud weight was increased to 8.9 ppg. At 7500 feet, a small amount of gas was circulated out of the wellbore and the mud weight was increased to 9.1 ppg. The wellbore was washed reamed to 8100 feet. There was no indication of a cement plug from 7435 feet to 7534 feet.

On May 17, 1999, the wellbore was washed and reamed to total depth at 8992 feet. The wellbore was circulated clean and a short trip to 1900 feet did not indicate tight spots, bridges, or excessive drag on the drillpipe. The drillpipe, drill collars, and bit were removed from the hole.

On May 18, 1999, Halliburton Logging Services performed a 4-arm caliper survey from 8901 feet to 1800 feet (Exhibit 2.5-1), and a fracture identification survey from 8900 feet to 4000 feet (Exhibit 2.5-2). Cement volumes were calculated using the 4-arm caliper survey with 20% excess.

The bit, drill collars, and drillpipe were lowered into the hole to tag 30 feet of fill. The wellbore was circulated clean and the drillpipe was pulled out of the hole and laid down.

2.6 Installation of the Protection Casing

On May 19, 1999, 119 joints of 5-1/2 inch, 17 lb/ft, L-80, LTC, new, seamless, Range 3 protection casing were installed in WDW-2 (Table 2.6-I). The Mill Test Report from the manufacturer is included in Appendix 2.6-1. The packoff float shoe was set at 8869 feet, float collar at 8788 feet, and DV tool at 5792 feet. The

BLM was notified of the cementing operations. Halliburton cemented the first stage using 20 barrels of fresh water, 12 barrels of Super Flush, 20 barrels of water, and 575 sacks of modified Class 'H' cement (yield = 1.71 ft³/sack at 13.0 ppg). The DV tool was opened and a total of 20 sacks of cement was displaced to the surface. A total of 18 hours was allotted to wait on cement to cure above 500 psi compressive strength.

On May 20, 1999, the second stage was successfully completed with 20 barrels of water, 12 barrels of Super Flush, 20 barrels of water, 300 sacks of Interfill 'C' (yield = 2.77 lb/sack at 11.7 ppg), and 695 sacks of modified 'H' cement (yield = 1.71 lb/sack at 13.0 ppg). The DV tool was closed with 3300 psi and a total of 150 sacks of cement was displaced to the reserve pit. Mr. J.D. Whitlock, representing the BLM, was on site and witnessed the second stage cementing operations. The cement was allowed to cure for 12 hours.

On May 21, 1999, the blowout preventers were removed and the rig was released. A Larkin Type 'R' 5-1/2 inch by 3-1/2 inch wellhead was installed. Ready-mix cement was used to stabilize the 5-1/2 inch casing and the location was cleaned up in preparation of completion operations.

From May 22, 1999 to May 23, 1999, preparations were performed prior to completion activities.

2.7 Testing and Completion Operations

On May 24, 1999, Key Energy Services, Inc. moved in and rigged up a completion rig, pump, tank, power swivel, and 2-7/8 inch EUE 8rd work string. A 6 inch manual blowout preventer was installed for pressure control. A piece of pipe was lost in the hole during rig-up operations.

On May 25, 1999, the lost piece of pipe was successfully washed over and retrieved from the wellbore. A 4-3/4 inch outside diameter rock bit and six 3-1/2 inch drill collars were lowered into the wellbore on the 2-7/8 inch work string. The well system was pressurized to 1514 psig and monitored for testing. A loss of 17

psi per 30 minutes was observed (-1.15%) during the pressure test. The DV tool was drilled out.

On May 26, 1999, the bit was lowered into the well to wash and drill to a total plugged-back depth of 8770 feet (Table 2.7-I). The wellbore was circulated clean, pressurized to 1584 psig, and monitored for testing. A loss of 16 psi per 30 minutes was observed (-1.01%) during the pressure test (Figure 2.7-1).

On May 27, 1999, a bit and scraper were lowered into the wellbore to 8569 feet. A total of 500 gallons of 15% HCl inhibited acid preceded displacement of 250 barrels of 8.7 ppg clean brine water. Fluid returns were circulated to the reserve pit.

On May 28, 1999, a differential temperature survey was conducted within the 5-1/2 inch protection casing from surface to 8769 feet. The well system was pressurized to 1000 psig and a cement bond survey, concurrent with a casing inspection survey, was conducted from 8769 feet to 100 feet.

2.8 Perforating and Testing the Cisco/Canyon Formations

On May 29, 1999, the wellbore was perforated within the injection interval at two jet shots per foot, 120 degree phasing, using retrievable casing guns. The selected intervals were determined from the Compensated Neutron-Formation Density Log, dated August 27, 1973, as follows: 7826-34 feet, 7858-80 feet, 7886-7904 feet, 7916-36 feet, 7944-64 feet, 7990-8042 feet, 8096-8116 feet, 8191-8201 feet, 8304-8319 feet, 8395-99 feet. This interval has been designated Zone 1. The wellbore fluid level dropped during the perforating operations.

On May 30, 1999, Zone 1 was swab tested and a formation fluid sample was retrieved for analysis. The results from the laboratory analysis on the Zone 1 formation fluid sample are presented in Appendix 2.8-1.

On May 31, 1999, the injection interval from 7820 feet to 8392 feet (Zone 1) was stimulated with 5000 gallons of inhibited 15% HCl acid. A total of 2300 pounds of

salt was used as diverter during the stimulation operations. A final test rate indicated WDW-2 can accept an 8.7 ppg brine water at 7 bpm on a vacuum.

2.9 Perforating and Testing the L. Wolfcamp/Cisco Formations

On June 1, 1999, the wellbore was perforated within the injection interval at two jet shots per foot, 120-degree phasing, using retrievable casing guns. The selected intervals were determined from the Compensated Neutron-Formation Density Log, dated August 27, 1973, as follows: 7570 feet to 7620 feet and 7676 feet to 7736 feet. This interval has been designated Zone 2. The wellbore fluid level remained at approximately 1300 feet during the perforating operations. A complete record of the perforated intervals is presented in Table 2.9-I.

On June 2, 1999, Zone 2 was swab tested and a formation fluid sample was retrieved for analysis. The results from the laboratory analysis on the Zone 2 formation fluid sample are presented in Appendix 2.8-1.

On June 3, 1999, the injection interval from 7570 feet to 7736 feet (Zone 2) was stimulated with 5000 gallons of inhibited 15% HCl acid. A total of 2300 pounds of salt was used as a diverter during the stimulation operations. A final test rate indicated WDW-2 can accept an 8.7 ppg brine water at 7 barrels per minute (bpm) on a vacuum.

2.10 Injectivity Testing

On June 4, 1999, an electric wireline unit was moved in and rigged up with a digital quartz surface readout and memory backup pressure gauge. Both gauges were run into the well to a depth of 7570 feet. The initial bottom-hole pressure was 2843.86 pounds per square inch absolute (psia) at 124°F. Injection of an 8.7 ppg brine water was initiated at 10 bpm on a vacuum and continued for 12.75 hours. The final injection pressure was 2939 psia at 88°F. Injection of brine was discontinued and the bottom-hole pressure falloff was monitored at the surface.

On June 5, 1999, the pressure falloff was discontinued and the tools were removed from the wellbore while making gradient stops at 6000 feet, 4500 feet, 3000 feet, 1500 feet, and at the surface. A differential temperature survey was performed from the surface to a wireline total depth of 8736 feet (top of fill). A radioactive tracer survey confirmed external mechanical integrity of the 5-1/2 inch protection casing and provided an injection profile across the perforated intervals.

2.11 Installation of the Injection Tubing and Packer

On June 6, 1999, a 5-1/2" x 3.5" Weatherford (Arrow) Model X-1 packer (Figure 2.11-1) was lowered into the wellbore on the 3-1/2 inch injection tubing (Table 2.11-I). The annulus was displaced with an 8.7 ppg corrosion inhibited brine water as packer fluid. The corrosion inhibitor was a Unichem TECHNI-HIB 370, as presented in the product information and Material Safety Data Sheets presented in Appendix 2.11-1. Mill test and inspection reports for the 3-1/2 inch injection tubing are presented in Appendix 2.11-2. The packer was set 7528 feet with 18,000 pounds of compression and the annulus was pressurized to 771 psig. The annular pressure was monitored for stabilization through June 7, 1999.

On June 8, 1999, an annulus pressure test was performed. The OCD elected to witness the test. The annulus was pressurized at 752 psig and monitored for 30 minutes. The final test pressure was 753 psig, an increase of 1 psi (0.13%), which is within the 10% allowed by the regulations. Upon the conclusion of the annulus pressure test the rig and ancillary equipment were rigged down and moved off site.

The installation of WDW-2 was completed on June 8, 1999. The wellhead was secured and the well remained shut in pending approval of the permit by the OCD.

2.12 Chronology of Field Activities

Appendix 2.12-1 is a Chronology of Field Activities from the Field Activity Reports.

3.0 MECHANICAL INTEGRITY TESTING

The demonstration of the mechanical integrity of WDW-2, required by NMWQCCR Subpart V, Section 5204(A) to (D) and Section 5205(A)(1)(a), included a casing inspection log of the 5-1/2 inch protection casing, pressure testing of the 5-1/2 inch protection casing, cement bond log of the 8-5/8 inch and 5-1/2 inch casings, a radioactive tracer survey, a differential temperature survey, and an annular pressure test. Results of these tests demonstrated that the well had internal and external mechanical integrity.

3.1 5-1/2 Inch Protection Casing Inspection Log

On May 28, 1999, Halliburton Logging Services conducted a casing inspection log from 8769 feet to the surface (Exhibit 3.1-1). A Circumferential Acoustic Scanning Tool was used to conduct the casing inspection survey. The data obtained from the survey may be used as a baseline for future comparison.

3.2 5-1/2 Inch Protection Casing Pressure Test

The protection casing was successfully pressure tested to 752 psig on June 8, 1999, for 30 minutes. A pressure gain of 1 psi was observed, as indicated on the pressure test chart shown on Figure 3.5-1.

3.3 Cement Bond Logging

A cement bond log was conducted within the 8-5/8 inch surface casing during the reentry operations from 1910 feet to the surface. Upon installation of the 5-1/2 inch protection casing, a cement bond log was conducted. A total of two strings of casing were successfully installed and cemented across the base of the underground source of drinking water (USDW).

3.3.1 8-5/8 inch Cement Bond Log

On May 9, 1999, a cement bond with variable density log was performed within the 9-5/8 protection casing from 1910 feet to the surface (Exhibit 2.2-1). The data obtained from the cement bond log confirmed a continuous column of cement with

good bonding characteristics behind the 8-5/8 protection casing from 1910 feet to 116 feet. The hydraulic coupling was lost above 116 feet and the tool would not respond. A letter of interpretation of the surface casing cement bond/variable density log is presented as Exhibit 2.2-2.

3.3.2 5-1/2 Inch Cement Bond Log

A cement bond with variable density log was conducted on the 5-1/2 inch protection casing on May 28, 1999 (Exhibit 3.3.2-1). As indicated on the log, a continuous column of cement extends from the base of the protection casing from a plugged-back depth of 8769 feet to the surface. Cement bonding was indicated to be sufficient for completion of the well. A letter of interpretation of the protection casing cement bond/variable density log is presented as Exhibit 3.3.2-2.

The adequacy of the cement above the top of the perforations was successfully confirmed in the subsequent radioactive tracer survey discussed in Section 3.4 and differential temperature survey discussed in section 3.6.

The results obtained from the cement bond and variable density logs conducted on the surface casing and the protection casing established that a continuous column of cement, with good compressive strength and cement bond, existed behind both casings. The installation of two casing strings across the base of the USDW, both of which demonstrate a continuous column of cement from surface to bottom, assures protection of the USDW.

3.4 Radioactive Tracer Survey

A radioactive tracer survey for WDW-2 was performed on June 5, 1999, following the reservoir evaluation testing operations and prior to the installation of the injection packer. The radioactive tracer survey consisted of running statistical checks, two baseline gamma ray surveys, and ejecting four slugs of radioactive material. Two (2) of the slug tests were stationary time-drive surveys and two were moving surveys. The radioactive tracer log, conducted June 5, 1999, is presented as Exhibit 3.4-1. An

injection profile analysis log is presented as Exhibit 3.4-2. All tests were conducted while injecting a nonhazardous brine water into the well.

The radioactive tracer tool was lowered into the well to tag the total depth at 8743 feet. A pre-survey baseline gamma ray log was conducted from 8743 feet to 7460 feet. A pre-survey statistical check was performed at 7550 feet (20 feet above the top perforation) for five minutes.

The moving surveys were conducted with the radioactive tracer tool initially positioned at 7460 feet (above the intended packer setting depth). The injection of a nonhazardous brine was initiated at a rate of 1/2 bpm. A slug of radioactive material was ejected and verified for intensity. The slug's downward movement was recorded by logging upward through the slug intermittently as it moved downward and dissipated into the perforated interval. This test was repeated at an injection rate of 1/2 bpm. The results obtained from the moving surveys determined that the ejected radioactive material was exiting into the permitted injection interval; therefore, mechanical integrity was confirmed between the intended packer setting depth and the top of the injection interval.

The injection of a nonhazardous brine was increased to 10 bpm. The radioactive tracer tool was positioned with the bottom detector at 7550 feet, which is 20 feet above the top of the top perforation, and a stationary time-drive survey was conducted. The tool remained stationary across the interval and the well was monitored for upward migration above 7550 feet for 15 minutes. This test was repeated and monitored for upward migration above 7550 feet for 15 minutes. No upward migration of radioactive material was observed during either survey.

A post-survey baseline gamma ray log was performed from 8727 feet to 7453 feet, with no residual radioactive material.

3.5 Annular Pressure Test

The official annular pressure test was conducted on June 8, 1999. The injection packer and tubing had been installed and the wellbore allowed to attain a thermal equilibrium.

A Barton circular chart recorder (Serial Number 0323), scaled from 0 psig to 1000 psig, was installed to monitor the annulus pressure. The OCD representative, Mr. Van Barton, was present to witness the annulus pressure test. At 0800 hours, the initial annulus pressure was 752 psig. At 0830 hours, the final annulus pressure was 753 psig. This represents a pressure gain of 1.00 psi in 30 minutes, which is within the limit of 10% in 15 minutes allowed by the OCD. An annulus pressure test chart is presented as Figure 3.5-1.

3.6 Differential Temperature Survey

A baseline differential temperature survey was performed on May 28, 1999 (Exhibit 3.6-1) following the cleanout of the 5-1/2 inch protection casing to 8770 feet. On June 5, 1999, a second differential temperature survey was performed following the reservoir evaluation testing, which included 12-hour injection of an 8.7 ppg brine water into the permitted injection interval (Exhibit 3.6-2).

As indicated on the May 28, 1999 baseline differential temperature log, the wellbore temperature increased steadily from 77.0 degrees at the surface to 154.0 degrees at 8769 feet. A temperature gradient of 0.01 degrees per foot was observed.

On June 5, 1999, a second differential temperature log was performed following the injection of brine water into the injection interval. A temperature gradient of .01 degrees per foot was observed from surface to the top perforation at 7570 feet. A significant cooling anomaly was observed within the perforated injection interval as temperatures cooled to 97.5 degrees. The data obtained from the differential temperature survey confirmed external mechanical integrity of the 5-1/2 inch protection casing and may be used for comparison during future surveys.

4.0 RESERVOIR EVALUATION

4.1 Bottom-Hole Pressure Testing

The bottom-hole pressure testing which was conducted on WDW-2, following the completion of the well, was designed to obtain the best estimate of permeability and transmissibility in the reservoir. The pressure testing on WDW-2 consisted of a static gradient survey and an injectivity/falloff test. Appendix 4.1-1 lists the time and pressure data recorded during the static gradient survey, injection period, and falloff period.

4.1.1 Static Gradient Survey and Bottom-Hole Pressure Analysis

On June 5, 1999, static gradient measurements were performed after conducting the injection/falloff test on WDW-2. Pressure data from the gradient stops made at the surface, 1500 feet, 3000 feet, 4500, 6000 feet, and 7570 feet are shown on Table 4.1.1-I. The gradient data are presented graphically as Figure 4.1.1-1. The static fluid gradient at 7570 feet was determined to be 0.429 psi per foot. The fluid level was at approximately 1292 feet.

4.1.2 Analysis of the Falloff Test

On June 4, 1999, a HP surface readout digital quartz pressure transducer with memory tool backup was positioned at 7570 feet in WDW-2 and allowed to stabilize for approximately 45 minutes. Injection into WDW-2 commenced at 0912 hours at an injection rate of 428.4 gallons per minute (gpm). WDW-2 was shut in at 2156 hours and the bottom-hole pressure and temperature were recorded for 7.2 hours.

The pressure data obtained during the falloff test were analyzed with the assistance of the commercially available pressure transient analysis software program "PanSystem2, Version 2.5". Appendix 4.1.2-1 contains the output from this software program. Figure 4.1.2-1 shows the pressure response recorded by the pressure tool from the time the tool was in place through the 7.2-hour shutin period. Figure 4.1.2-2 is a log-log diagnostic plot of the falloff data, showing change in pressure and pressure

derivative versus equivalent shutin time. The radial flow period is denoted on Figure 4.1.2-2.

The reservoir permeability was determined from the radial flow region of the superposition Horner plot (Figure 4.1.2-3). The radial flow regime begins at a Horner time of 16.9 and continues to 8.6. Figure 4.1.2-4 shows an expanded view of the superposition Horner plot. The slope of the radial flow period was determined to be 1.563604 psi per cycle.

An estimate of mobility-thickness, kh/μ , for the reservoir was determined from the following equation:

$$\frac{k h}{\mu} = 162.6 \frac{q B}{m}$$

where,

kh/μ = mobility-thickness, md-ft/cp

q = flow rate, barrels per day

μ = viscosity, centipoise

B = formation volume factor, reservoir vol/surface vol

m = slope of semi-log straight line, psi/cycle

Using an injection rate of 428.4 gpm (14,688 barrels per day) and the information previously mentioned results in a mobility-thickness of 1,527,413 md-ft/cp:

$$\begin{aligned} \frac{k h}{\mu} &= 162.6 \frac{(14,688)(1.0)}{1.563604} \\ &= 1,527,413 \text{ md-ft/cp} \end{aligned}$$

Multiplying this value by the viscosity, μ , results in transmissibility, kh :

$$\begin{aligned}
 kh &= \left(\frac{k h}{\mu} \right) \mu \\
 &= (1,527,413) (0.53) \\
 &= 809,529 \text{ m d - f t}
 \end{aligned}$$

And finally, permeability is determined by dividing transmissibility by the formation thickness. The formation thickness is 299 feet, which results in a permeability of 2707 md.

$$\begin{aligned}
 k &= \frac{(k h)}{h} \\
 &= \frac{809,529}{299} \\
 &= 2707 \text{ m d}
 \end{aligned}$$

The skin factor was determined from the following equation:

$$s = 1.151 \left[\frac{p_{wf} - p_{1 \text{ hr}}}{m_1} - \log \left(\frac{k_p}{\phi \mu c_i r_w^2} \right) + 3.23 \right]$$

where,

- s = formation skin damage at open perforations, dimensionless
- 1.151 = constant
- p_{wf} = flowing pressure immediately prior to shutin, psi
- $p_{1 \text{ hr}}$ = pressure determined by extrapolating the first radial flow semi-log line to a Δt of one hour, psi
- m_1 = slope of the first radial flow semi-log line, psi/cycle
- k_p = permeability of the formation opposite the open perforations, md
- ϕ = porosity of the injection interval, fraction

- μ $\approx$ viscosity of the fluid the pressure transient is traveling through, centipoise
 c_t $\approx$ total compressibility of the formation plus fluid, psi^{-1}
 r_w $\approx$ radius of the wellbore, feet
3.23 $\approx$ constant

The final flowing pressure, p_{wf} , was 2939.42 psia. The pressure determined by extrapolating the radial flow semi-log line to a Δt of one hour, $p_{1 \text{ hr}}$, was 2846.23 psi. The porosity of the injection interval, ϕ , is 0.10 and the total compressibility, c_t , is $8.4 \times 10^{-6} \text{ psi}^{-1}$. The wellbore radius, r_w , is 0.3281 feet. Using these values in addition to the previously determined parameters, m and k , results in a skin of 59.9:

$$s = 1.151 \left[\frac{2939.42 - 2846.23}{1.563604} - \log \left(\frac{2707}{(0.10)(0.53)(8.4 \times 10^{-6})(0.3281)^2} \right) + 3.23 \right]$$

$$= 59.9$$

The "Auto-Match" feature of PanSystem2 was used to improve upon the reservoir parameters. The final results of the auto-match are shown on Figures 4.1.2-5 through 4.1.2-7. These figures show the falloff data in cartesian, superposition Horner, and log-log formats with the simulated pressures overlaid.

5.0 REGULATORY COMPLIANCE

The construction of WDW-2 was performed in accordance with the regulatory considerations and standards specified in the approved modification to Discharge Plan UIC-CLI-008-1 dated April 27, 1999; the NMWQCCR, dated November 15, 1998, Subpart V, Section Nos. 5204 and 5205; and the United States Environmental Protection Agency 40 CFR 146.12.

5.1 Siting

Navajo reentered, tested, and completed a producing wellbore located in Section 12, T18S, R27E, Unit Letter E, approximately 11 miles east-southeast of Artesia, in Eddy County, New Mexico. The modification to Discharge Plan UIC-CLI-008-1 includes provisions for the location, depth of injection, and specific reentry and completion requirements. The Navajo WDW-2 will inject plant effluent into a formation which is beneath the lowermost formation containing, within one quarter of a mile of the wellbore, ground water having 10,000 mg/l total dissolved solids or less. A plat of the Navajo WDW-2 well location is shown on Figure 1.0-1.

5.2 Casing and Cementing

Installation and cementing of the casing were completed in accordance with NMWQCCR Subpart V, Section 5205(B)(2).

Table 2.0-I is the detailed tubular program for WDW-2. Table 5.2-I is the Cement Program for WDW-2.

An 11 inch surface hole was drilled to a depth of 1995 feet RKB. An 8-5/8 inch OD, 32 lb/ft, K-55 grade surface casing was installed to a depth of 1995 feet RKB and cemented in place using the pump and plug method. The intermediate casing was cemented with a lead slurry of 700 sacks of Class 'H' cement containing 2% gel. This was followed by a tail slurry of 100 sacks of Class 'H' neat cement. The cement was circulated to surface. A total of 800 sacks of cement was used and recorded on Form C-105 (Appendix 2.0-2).

A 7-7/8 inch hole was drilled to a total depth of 10,372 feet and then plugged back to 1912 feet. The producing interval (1446 feet to 1462 feet) was squeezed with cement and the abandoned 7-7/8 inch wellbore was reentered and cleaned out to 8992 feet RKB. A 5-1/2 inch OD, 17 lb/ft, L-80 grade protection casing was installed to a depth of 8869 feet RKB. A differential valve tool was positioned at a wireline measured depth of 5785 feet and the protection casing was cemented in two stages. The first stage, from 8869 feet to 5785 feet, consisted of 575 sacks of modified Class 'H' cement containing 0.4% CFR-3, 5 lb/sx Gilsonite, 0.5% Halad-344, and 3 lb/sx salt mixed at 13 ppg. The differential valve tool was opened and cement returns were observed at the surface. The well was circulated for approximately 18 hours prior to performing the second stage. The second stage, from 5785 feet to surface, consisted of two cement slurries. The lead slurry consisted of 300 sacks of Interfill C (35% Pozalin, 65% Class 'C' cement, and 6% gel). The tail slurry consisted of 695 sacks of a modified Class 'H' cement containing 0.4% CFR-3, 5 lb/sx Gilsonite, 0.5% Halad-344, and 3 lb/sx salt mixed at 13 ppg. The cement was circulated to the surface in excess of 150 sacks of cement returns. A total of 1570 sacks of cement were used to cement the protection casing in place. A CBL/VDL log was run on the protection casing and established a full column of annular cement from the bottom to the surface.

5.3 Tubing and Packer

Installation of the tubing and packer were conducted in accordance with NMWQCCR Subpart V, Section 5205(B)(3).

The WDW-2 injection tubing is a 3-1/2 inch OD, 9.2 lb/ft, J-55 NUE 10rd connection, carbon steel pipe. The injection tubing was connected directly into a Weatherford Completion Systems (Arrow) Model X-1 injection packer set at 7528 feet. The tubing was designed to withstand possible future corrosion due to the injected fluids and the maximum burst and collapse pressures and tensile stresses, which may be experienced during the operational life of the well. Table 2.0-I is the detailed tabular program for WDW-2. Figure 2.11-1 is a schematic of the Weatherford Completion Systems (Arrow) Model X-1 injection packer installed in WDW-2.

5.4 Description of the Logging Program and Tests in the Surface and Long-String Sections of WDW-2

5.4.1 Directional Surveys

Deviation checks were obtained during the reentry of WDW-2, which were in accordance with NMWQCCR Subpart V, Section 5205(A)(4)(a).

The deviation checks were conducted within the 7-7/8 inch open-hole interval below the 8-5/8 inch surface casing. Deviation checks were obtained during the reentry of WDW-2 at frequent intervals to determine the location of the borehole and to assure that vertical avenues for fluid movement, in the form of diverging holes, were not created.

Table 5.4.1-I contains the deviation survey data obtained by a Totco survey tool from the surface to 6633 feet RKB.

5.4.2 Logging Program

The logging program for WDW-2 was completed in accordance with the regulations specified in NMWQCCR Subpart V, Section 5205(A)(4)(b).

<u>TYPE OF LOG</u>	<u>TYPE OF HOLE LOGGED</u>	<u>INTERVAL (ft)</u>	<u>REFERENCE</u>
	<u>Surface Casing</u>		
Cement Bond Log Microseismogram Log (Variable Density) Gamma Ray	Cased Hole	0 to 1919	Exhibit 3.3.1-1

<u>TYPE OF LOG</u>	<u>TYPE OF HOLE LOGGED</u>	<u>INTERVAL (ft)</u>	<u>REFERENCE</u>
<u>Long-String Casing</u>			
Dual Laterolog	Open Hole	1997 to 10,370	Exhibit 2.0-1
Compensated Neutron Formation Density Gamma Ray Caliper	Open Hole	0 to 10,370	Exhibit 2.0-2
Circumferential Acoustic Scanning Log	Open Hole	4000 to 8900	Exhibit 2.5-2
Caliper Log Gamma Ray	Open Hole	1800 to 8900	Exhibit 2.5-1
Cement Bond Log Variable Density Log Circumferential Acoustic Scanning Log Gamma Ray	Cased Hole	100 to 8769	Exhibit 3.3.2-1
Casing Evaluation Log (Cast-V Pipe Inspection)	Cased Hole	0 to 8769	Exhibit 3.1-1
Temperature Log	Cased Hole	0 to 8769	Exhibit 3.6-1
Temperature Log	Cased Hole	0 to 8743	Exhibit 3.6-2

5.5 Mechanical Integrity Testing

The demonstration of the mechanical integrity of WDW-2, required by NMWQCCR Subpart V, Section 5204(A) to (D) and Section 5205(A)(1)(a), is discussed in detail in Section 3.0 of this report. The associated logs and interpretation of results obtained from the mechanical integrity tests are also included in Section 3.0 of this report.

5.6 Pressure Tests Conducted on WDW-2

The 8-5/8 inch and 5-1/2 inch casing strings were tested for internal mechanical integrity using a liquid medium. These tests were conducted in accordance with NMWQCCR Subpart V, Section 5204(A) and (B)(1)(a).

On May 9, 1999, the 8-5/8 inch intermediate casing was successfully pressure tested to 635 psig for 30 minutes using an 8.3 ppg freshwater mud system. A pressure loss of 1 psi was observed during the test period, which is below the 10% tolerance allowed by the OCD.

The 5-1/2 inch protection casing was successfully pressure tested to 752 psig on June 8, 1999 for 30 minutes using an 8.7 ppg brine water system. A pressure gain of one psi was observed, as indicated on the pressure test chart shown on Figure 3.5-1.

5.7 Physical and Chemical Characteristics of the Formation Fluids

In accordance with NMWQCCR Subpart V, Section 5205(A)(3)(h), an analysis describing the physical and chemical characteristics of the formation fluids, extracted from the L. Wolfcamp, Cisco, and Canyon Formations, is presented as Appendix 2.8-1.

The well materials used to construct WDW-2 were compatible with fluids with which the materials may be expected to come into contact. Well materials would be deemed to have compatibility as long as the materials used in the construction of the well meet or exceed standards developed for such materials by the American Petroleum Institute (API), The American Society for Testing Materials (ASTM), or comparable standards acceptable to the NMWQCCR.

5.8 Regulatory Witnessing

In accordance with NMWQCCR Subpart V, Section 5205(A)(5), notification prior to commencement of the reentry, cementing and casing, well logging, and mechanical integrity tests was communicated with the BLM, Carlsbad, New Mexico and the OCD, Artesia, New Mexico offices. The BLM and the OCD had an opportunity to

witness all installation, logging, and testing as required in the Application for Permit to Drill or Deepen and in NMWQCCR Section 5205(A)(5).

6.0 CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME: Darrell Moore

TITLE: Environmental Mgr. for Water & Waste

SIGNATURE: Darrell Moore

DATE: 7/23/99

TABLES

TABLE 2.0-I**DETAILED TUBULAR PROGRAM, WDW-2**

TYPE	DEPTH¹	DESCRIPTION
Surface Casing	0 feet to 1995 feet	8-5/8 inch outside diameter, 0.352 inch wall, 32 lb/ft, K-55
Protection Casing	0 feet to 8869 feet	5-1/2 inch outside diameter, 0.304 inch wall, 17 lb/ft, L-80, LTC
Injection Tubing	0 feet to 7528 feet	3-1/2 inch outside diameter, 0.254 inch wall, 9.20 lb/ft, J-55, NUE 10rd
Packer	Set at 7528 feet	Weatherford Completion Tools (Arrow) Model X-1 Retrievable Packer, 5-1/2 inch x 2-7/8 inch, minimum inside diameter = 2.4375 inches, carbon steel

¹ All depths are relative to the Kelly Bushing.

TABLE 2.6-1

NAVAJO REFINING COMPANY, WDW-2

5-1/2", 17 lb/ft, L-80 PROTECTION CASING TALLEY
PROTECTORS OFF - 5/17/99

TD = 8992 FEET 5/17/99

JT #	LENGTH	BOTTOM	TOP
Fit Shoe	2.40		8889
1	38.84	8889	8887
2	39.60	8828	8788
Fit Collar	0.96	8788	8787
3	41.57	8787	8746
4	41.10	8746	8704
5	41.80	8704	8663
6	41.32	8663	8621
7	41.37	8621	8580
8	40.00	8580	8540
9	40.50	8540	8499
10	39.36	8499	8460
11	40.25	8460	8420
12	39.60	8420	8380
13	40.95	8380	8339
14	41.23	8339	8298
15	40.48	8298	8258
16	39.84	8258	8218
17	41.30	8218	8176
18	40.86	8176	8136
19	40.56	8136	8095
20	40.24	8095	8055
21	39.60	8055	8015
22	39.60	8015	7976
23	39.13	7976	7936
24	38.02	7936	7896
25	39.92	7896	7856
26	41.17	7856	7817
27	40.44	7817	7777
28	41.27	7777	7736
29	39.76	7736	7696
30	41.25	7696	7655
31	39.16	7655	7615
32	40.37	7615	7575
33	40.78	7575	7534
34	38.12	7534	7496
35	41.47	7496	7455
36	39.76	7455	7415
37	40.61	7415	7374
38	41.54	7374	7333
39	39.21	7333	7294
40	41.23	7294	7252
41	39.63	7252	7213
42	40.87	7213	7172
43	40.56	7172	7131
44	41.17	7131	7090
45	41.13	7090	7049
46	41.88	7049	7007
47	40.43	7007	6967
48	40.88	6967	6926
49	38.70	6926	6887
50	39.78	6887	6847
51	39.75	6847	6808
52	41.08	6808	6766
53	40.18	6766	6726
54	41.10	6726	6685
55	40.45	6685	6645
56	41.50	6645	6603
57	40.40	6603	6563
58	41.78	6563	6521

JT #	LENGTH	BOTTOM	TOP
59	39.91	6521	6481
60	38.78	6481	6442
61	41.57	6442	6401
62	39.71	6401	6361
63	39.44	6361	6322
64	40.34	6322	6281
65	41.77	6281	6240
66	41.26	6240	6198
67	42.00	6198	6156
68	40.03	6156	6116
69	39.26	6116	6077
70	40.14	6077	6037
71	41.28	6037	5996
72	39.30	5996	5956
73	41.05	5956	5915
74	41.00	5915	5874
75	40.60	5874	5834
76	41.85	5834	5792
DV Tool	2.20	5792	5790
77	37.88	5790	5752
78	41.07	5752	5711
79	40.92	5711	5670
80	41.24	5670	5629
81	39.61	5629	5589
82	41.35	5589	5548
83	38.73	5548	5509
84	40.84	5509	5468
85	40.05	5468	5428
86	40.62	5428	5387
87	39.51	5387	5348
88	40.91	5348	5307
89	39.85	5307	5267
90	40.60	5267	5226
91	41.45	5226	5185
92	40.42	5185	5145
93	40.91	5145	5104
94	40.90	5104	5063
95	41.11	5063	5022
96	40.33	5022	4981
97	40.51	4981	4941
98	41.35	4941	4899
99	40.63	4899	4859
100	41.00	4859	4818
101	40.17	4818	4778
102	38.75	4778	4739
103	40.47	4739	4698
104	41.78	4698	4657
105	40.41	4657	4616
106	39.24	4616	4577
107	40.85	4577	4536
108	41.12	4536	4495
109	41.74	4495	4453
110	40.84	4453	4412
111	40.83	4412	4372
112	41.70	4372	4330
113	40.81	4330	4289
114	40.72	4289	4248
115	41.10	4248	4207
116	41.10	4207	4166
117	41.10	4166	4125

Shoe to 2347.81 FEET

58

TOTAL PIPE FOOTAGE = 8873.81 FEET

Joint #

to

59 2395.99 FEET

117

NAVAJO REFINING COMPANY, WDW-2

JT #	LENGTH	BOTTOM	TOP
118	41.13	4125	4084
119	41.17	4084	4043
120	40.92	4043	4002
121	40.38	4002	3961
122	41.90	3961	3920
123	39.07	3920	3881
124	41.00	3881	3840
125	38.86	3840	3801
126	40.48	3801	3760
127	41.23	3760	3719
128	41.68	3719	3677
129	40.60	3677	3637
130	41.10	3637	3596
131	41.60	3596	3554
132	41.92	3554	3512
133	39.06	3512	3473
134	38.35	3473	3435
135	41.08	3435	3394
136	40.60	3394	3353
137	41.33	3353	3312
138	40.75	3312	3271
139	38.48	3271	3232
140	40.10	3232	3192
141	41.28	3192	3151
142	41.24	3151	3110
143	41.10	3110	3069
144	41.25	3069	3027
145	38.94	3027	2988
146	41.30	2988	2947
147	40.54	2947	2907
148	38.88	2907	2868
149	41.24	2868	2827
150	41.10	2827	2785
151	41.08	2785	2744
152	40.95	2744	2703
153	39.72	2703	2664
154	41.25	2664	2622
155	41.13	2622	2581
156	39.75	2581	2542
157	41.15	2542	2500
158	39.88	2500	2461
159	41.11	2461	2419
160	41.32	2419	2378
161	41.30	2378	2337
162	38.30	2337	2298
163	39.92	2298	2259
164	40.32	2259	2218
165	40.79	2218	2177
166	41.25	2177	2136
167	38.74	2136	2097
168	41.22	2097	2056
169	40.39	2056	2016
170	38.37	2016	1977
171	40.93	1977	1937
172	40.78	1937	1896
173	40.50	1896	1855
174	41.43	1855	1814
175	40.63	1814	1773
176	40.47	1773	1733
177	41.80	1733	1691

118 2434.14 FEET
177

Joint #
to

JT #	LENGTH	BOTTOM	TOP
178	39.38	1691	1652
179	40.40	1652	1611
180	41.41	1611	1570
181	40.60	1570	1529
182	40.40	1529	1489
183	38.78	1489	1450
184	41.10	1450	1409
185	41.50	1409	1367
186	41.25	1367	1326
187	40.70	1326	1285
188	39.57	1285	1246
189	40.35	1246	1206
190	41.42	1206	1164
191	41.27	1164	1123
192	41.05	1123	1082
193	41.80	1082	1040
194	41.24	1040	999
195	38.88	999	960
196	38.17	960	922
197	40.81	922	881
198	41.16	881	840
199	41.26	840	798
200	39.91	798	759
201	41.32	759	717
202	40.55	717	677
203	40.80	677	636
204	38.32	636	598
205	41.10	598	556
206	39.06	556	517
207	39.65	517	478
208	40.28	478	437
209	40.82	437	397
210	41.45	397	355
211	41.26	355	314
212	41.89	314	272
213	38.07	272	234
214	38.46	234	196
215	40.83	196	155
216	38.87	155	116
217	40.97	116	75
218	39.86	75	35
219	39.90	35	-5
220	out	39.66	-5
221	out	41.10	-5
222	out	40.70	-5
223	out	40.51	-5
224		-5	-5
225		-5	-5
226		-5	-5
227		-5	-5
228		-5	-5
229		-5	-5
230		-5	-5
231		-5	-5
232		-5	-5
233		-5	-5
234		-5	-5
235		-5	-5
236		-5	-5
237		-5	-5

178 1695.87 FEET
237

Joint #
to

TABLE 2.7-I
PLUGGED-BACK RECORD

DATE	PLUGGED-BACK DEPTH¹ (feet)	DESCRIPTION OF WORK
5/26/99	8770	Top of Cement. Did not drill out float collar.

¹ All depths are relative to the Kelly Bushing.

TABLE 2.9-I
PERFORATION RECORD

DATE	ZONE	DEPTH INTERVALS¹ (feet)	SHOT DENSITY (shots/foot)	NO. OF HOLES
6/1/99	L. Wolfcamp	7570 to 7620	2	100
6/1/99	Cisco	7676 to 7736	2	120
5/29/99	Cisco	7826 to 7834	2	16
5/29/99	Cisco	7858 to 7880	2	44
5/29/99	Cisco	7886 to 7904	2	36
5/29/99	Cisco	7916 to 7936	2	40
5/29/99	Cisco	7944 to 7964	2	40
5/29/99	Cisco	7990 to 8042	2	104
5/29/99	Cisco	8096 to 8116	2	40
5/29/99	Cisco	8191 to 8201	2	20
5/29/99	Canyon	8304 to 8319	2	30
5/29/99	Cisco	8395 to 8399	2	8
			Total	598

¹ All depths are relative to the Kelly Bushing.

TABLE 2.11-I

NAVAJO REFINING COMPANY, WDW-2

3-1/2", 9.20 lb/ft, J-55, SMLS, NUE 10rd. (NEW) TALLY
 PROTECTORS OFF - 6/5/99 PACKER @ 7528'

JT #	LENGTH	BOTTOM	TOP
Packer	7.80	Packer	7528 7520
1	30.43	Tubing	7520 7490
2	32.87	Tubing	7490 7457
3	31.54	Tubing	7457 7425
4	31.50	Tubing	7425 7394
5	31.48	Tubing	7394 7362
6	31.28	Tubing	7362 7331
7	31.53	Tubing	7331 7300
8	31.50	Tubing	7300 7268
9	31.55	Tubing	7268 7237
10	31.49	Tubing	7237 7205
11	31.54	Tubing	7205 7173
12	31.53	Tubing	7173 7142
13	30.78	Tubing	7142 7111
14	32.34	Tubing	7111 7079
15	31.56	Tubing	7079 7047
16	31.56	Tubing	7047 7016
17	31.52	Tubing	7016 6984
18	30.52	Tubing	6984 6954
19	31.55	Tubing	6954 6922
20	29.01	Tubing	6922 6893
21	30.72	Tubing	6893 6862
22	31.53	Tubing	6862 6831
23	31.54	Tubing	6831 6799
24	31.24	Tubing	6799 6768
25	31.53	Tubing	6768 6737
26	29.23	Tubing	6737 6707
27	31.51	Tubing	6707 6676
28	31.29	Tubing	6676 6645
29	30.22	Tubing	6645 6614
30	31.28	Tubing	6614 6583
31	31.56	Tubing	6583 6551
32	31.52	Tubing	6551 6520
33	31.48	Tubing	6520 6488
34	30.86	Tubing	6488 6456
35	31.50	Tubing	6456 6426
36	31.80	Tubing	6426 6394
37	31.57	Tubing	6394 6363
38	31.02	Tubing	6363 6332
39	31.52	Tubing	6332 6300
40	32.93	Tubing	6300 6267
41	31.55	Tubing	6267 6236
42	33.18	Tubing	6236 6203
43	31.51	Tubing	6203 6171
44	31.54	Tubing	6171 6139
45	31.54	Tubing	6139 6108
46	32.53	Tubing	6108 6075
47	31.55	Tubing	6075 6044
48	31.35	Tubing	6044 6012
49	31.53	Tubing	6012 5981
50	30.00	Tubing	5981 5951
51	31.52	Tubing	5951 5919
52	31.50	Tubing	5919 5888
53	31.51	Tubing	5888 5856
54	31.55	Tubing	5856 5825
55	31.54	Tubing	5825 5793
56	31.50	Tubing	5793 5762
57	31.56	Tubing	5762 5730
58	31.57	Tubing	5730 5699
59	32.40	Tubing	5699 5666
60	32.23	Tubing	5666 5634

JT #	LENGTH	BOTTOM	TOP
61	32.03	Tubing	5634 5602
62	31.52	Tubing	5602 5571
63	31.91	Tubing	5571 5539
64	29.75	Tubing	5539 5509
65	31.52	Tubing	5509 5477
66	31.53	Tubing	5477 5446
67	31.51	Tubing	5446 5414
68	32.57	Tubing	5414 5382
69	31.53	Tubing	5382 5350
70	31.54	Tubing	5350 5319
71	31.51	Tubing	5319 5287
72	30.12	Tubing	5287 5257
73	32.00	Tubing	5257 5225
74	31.53	Tubing	5225 5194
75	31.60	Tubing	5194 5162
76	31.52	Tubing	5162 5130
77	31.50	Tubing	5130 5099
78	31.55	Tubing	5099 5067
79	30.18	Tubing	5067 5037
80	30.91	Tubing	5037 5006
81	31.52	Tubing	5006 4975
82	29.56	Tubing	4975 4945
83	31.54	Tubing	4945 4914
84	31.51	Tubing	4914 4882
85	31.50	Tubing	4882 4851
86	31.54	Tubing	4851 4819
87	31.86	Tubing	4819 4787
88	33.17	Tubing	4787 4754
89	31.51	Tubing	4754 4723
90	31.36	Tubing	4723 4691
91	31.88	Tubing	4691 4659
92	31.46	Tubing	4659 4628
93	30.16	Tubing	4628 4596
94	31.53	Tubing	4596 4566
95	31.51	Tubing	4566 4535
96	32.10	Tubing	4535 4503
97	33.73	Tubing	4503 4469
98	33.53	Tubing	4469 4435
99	31.54	Tubing	4435 4404
100	31.53	Tubing	4404 4372
101	29.25	Tubing	4372 4343
102	31.52	Tubing	4343 4311
103	31.54	Tubing	4311 4280
104	31.50	Tubing	4280 4248
105	31.55	Tubing	4248 4217
106	32.17	Tubing	4217 4185
107	31.28	Tubing	4185 4153
108	31.50	Tubing	4153 4122
109	29.92	Tubing	4122 4092
110	31.52	Tubing	4092 4060
111	30.82	Tubing	4060 4030
112	31.53	Tubing	4030 3998
113	31.56	Tubing	3998 3967
114	28.90	Tubing	3967 3938
115	31.53	Tubing	3938 3906
116	31.57	Tubing	3906 3875
117	31.55	Tubing	3875 3843
118	31.51	Tubing	3843 3811
119	31.52	Tubing	3811 3780
120	31.47	Tubing	3780 3749
121	31.05	Tubing	3749 3717

Pkr-#60 1893.89 FEET

JT 61-121 = 1916.63 FEET
 TOTAL PIPE FOOTAGE = 3810.52 FEET

26-Jun-99DATE

NAVAJO REFINING COMPANY, WDW-2

JT #	LENGTH		BOTTOM	TOP
122	31.54	Tubing	3717	3686
123	31.55	Tubing	3686	3654
124	29.72	Tubing	3654	3625
125	33.87	Tubing	3625	3591
126	31.51	Tubing	3591	3559
127	33.30	Tubing	3559	3526
128	32.75	Tubing	3526	3493
129	30.50	Tubing	3493	3463
130	31.21	Tubing	3463	3432
131	31.53	Tubing	3432	3400
132	31.50	Tubing	3400	3368
133	31.51	Tubing	3368	3337
134	31.37	Tubing	3337	3306
135	29.77	Tubing	3306	3276
136	31.52	Tubing	3276	3244
137	31.40	Tubing	3244	3213
138	29.37	Tubing	3213	3184
139	29.12	Tubing	3184	3154
140	31.50	Tubing	3154	3123
141	31.36	Tubing	3123	3092
142	31.52	Tubing	3092	3060
143	31.51	Tubing	3060	3029
144	31.46	Tubing	3029	2997
145	28.76	Tubing	2997	2968
146	31.50	Tubing	2968	2937
147	31.26	Tubing	2937	2906
148	31.56	Tubing	2906	2874
149	32.63	Tubing	2874	2841
150	31.67	Tubing	2841	2810
151	30.72	Tubing	2810	2779
152	31.50	Tubing	2779	2747
153	31.51	Tubing	2747	2716
154	32.53	Tubing	2716	2683
155	32.87	Tubing	2683	2651
156	33.40	Tubing	2651	2617
157	31.52	Tubing	2617	2586
158	31.52	Tubing	2586	2554
159	29.78	Tubing	2554	2524
160	31.32	Tubing	2524	2493
161	33.54	Tubing	2493	2459
162	33.00	Tubing	2459	2426
163	31.55	Tubing	2426	2395
164	31.56	Tubing	2395	2363
165	31.53	Tubing	2363	2332
166	32.45	Tubing	2332	2299
167	31.62	Tubing	2299	2268
168	30.33	Tubing	2268	2237
169	31.53	Tubing	2237	2206
170	33.72	Tubing	2206	2172
171	32.60	Tubing	2172	2140
172	33.12	Tubing	2140	2108
173	31.49	Tubing	2108	2075
174	33.62	Tubing	2075	2041
175	27.90	Tubing	2041	2013
176	31.56	Tubing	2013	1982
177	31.32	Tubing	1982	1951
178	30.53	Tubing	1951	1920
179	31.52	Tubing	1920	1889
180	31.60	Tubing	1889	1857
181	30.43	Tubing	1857	1827
182	31.59	Tubing	1827	1795

JT 122-182 = 1922.53 FEET
68-128 IN HOLE = 5739.05 FEET

JT #	LENGTH		BOTTOM	TOP
183	29.18	Tubing	1795	1766
184	31.48	Tubing	1766	1734
185	33.17	Tubing	1734	1701
186	30.29	Tubing	1701	1671
187	33.10	Tubing	1671	1638
188	28.57	Tubing	1638	1609
189	31.49	Tubing	1609	1578
190	31.59	Tubing	1578	1546
191	31.23	Tubing	1546	1515
192	31.50	Tubing	1515	1483
193	31.51	Tubing	1483	1452
194	33.04	Tubing	1452	1419
195	32.75	Tubing	1419	1386
196	31.54	Tubing	1386	1354
197	31.50	Tubing	1354	1323
198	30.27	Tubing	1323	1293
199	31.57	Tubing	1293	1261
200	31.50	Tubing	1261	1230
201	29.33	Tubing	1230	1200
202	31.49	Tubing	1200	1169
203	31.53	Tubing	1169	1137
204	31.46	Tubing	1137	1106
205	32.80	Tubing	1106	1073
206	29.50	Tubing	1073	1044
207	31.40	Tubing	1044	1012
208	31.19	Tubing	1012	981
209	30.65	Tubing	981	950
210	31.50	Tubing	950	919
211	31.38	Tubing	919	887
212	31.51	Tubing	887	856
213	29.37	Tubing	856	827
214	31.53	Tubing	827	795
215	30.00	Tubing	795	765
216	33.00	Tubing	765	732
217	31.36	Tubing	732	701
218	31.30	Tubing	701	669
219	26.52	Tubing	669	643
220	30.19	Tubing	643	613
221	31.51	Tubing	613	581
222	31.56	Tubing	581	550
223	31.53	Tubing	550	518
224	33.20	Tubing	518	485
225	31.26	Tubing	485	454
226	28.92	Tubing	454	425
227	31.66	Tubing	425	393
228	31.57	Tubing	393	361
229	33.74	Tubing	361	328
230	32.71	Tubing	328	295
231	31.27	Tubing	295	264
232	31.56	Tubing	264	232
233	30.18	Tubing	232	202
234	31.50	Tubing	202	170
235	31.51	Tubing	170	139
236	31.51	Tubing	139	107
237	31.22	Tubing	107	76
238	33.67	Tubing	76	43
239	31.56	Tubing	43	11
	13.00	RKB	11	-2

JT 183-197 = 1796.93 FEET
183-197 IN HOLE = 7529.98 FEET

Company: Navajo Refining Company
Well No.: Waste Disposal Well No. 2
Location: Artesia
State: New Mexico
Date: June 5, 1999

STATIC GRADIENT SURVEY

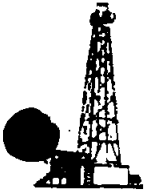
DEPTH	PRESSURE	GRADIENT
(feet)	(psia)	(psi/ft)
0	14.7	
1500	113.55	0.066
3000	788.43	0.45
4500	1463.42	0.45
6000	2138.98	0.45
7570	2813.28	0.429

Note: Fluid Level Observed at approximately 1292 feet

TABLE 5.2-I

CEMENTING PROGRAM FOR WDW-2

Type Casing	Casing Size (inches)	Hole Size (inches)	Depth (feet)	Cementing Detail
Surface	8-5/8	11	1995	Single stage, cemented to surface. Lead Slurry: 700 sacks Class 'H' + 2% gel Tail slurry: 100 sacks Class 'H' 200 sacks cement returns to surface
Protection	5-1/2	7-7/8	8869	Two stage, DV tool at 5785 feet Stage 1: 575 sacks modified Class 'H' + 0.4% CFR-3 + 5 lb/sx Gilsonite + 0.5% Halad-344 + 3 lb/sx salt mixed at 13.0 ppg Caliper volume plus 20% excess, circulated 20 sacks cement to surface. Stage 2 (lead): 300 sacks Interfill C (35:65:6) mixed at 11.7 ppg Stage 2 (tail): 695 sacks modified Class 'H' + 0.5% Halad - 344 + 0.1% HR-7 + 0.4% CFR-3 + 3 lb/sx Gilsonite + 1 lb/sx salt mixed at 13.0 ppg Caliper volume plus 20% excess, circulated 150 sacks cement to surface



Patterson Drilling Company

410 N. Loraine Street -- (915) 682-9401
Midland, Texas 79701

TABLE 5.4.1-I

RECEIVED

JUN 04 1999

June 2, 1999

SUBSURFACE TECHNOLOGY, INC.

Drilling Department
Subsurface Construction Corporation
7020 Port West, Ste 100
Houston, TX 77024

RE: Inclination Report
Navajo WDW-2
Sec 12; T-18-S; R-27-E

Gentlemen:

The following is an inclination survey on the above referenced well located in Eddy County, New Mexico:

2898' - 0.25
3838' - 0.25
4783' - 0.50
6106' - 0.75
6633' - 0.50

Sincerely,

Rebecca Edwards

Rebecca A. Edwards
Administrative Assistant

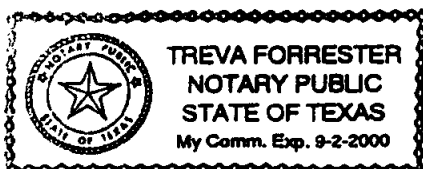
STATE OF TEXAS)
COUNTY OF MIDLAND)

The foregoing was acknowledged before me this 2nd day of June, 1999 by Rebecca A. Edwards.

MY COMMISSION EXPIRES:

Treva Forrester

NOTARY PUBLIC



FIGURES

District I
1625 N. French Dr., Hobbs, NM 88240

District II
811 South First, Artesia, NM 88210

District III
1000 R/o Brunos Rd., Aztec, NM 87410

District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised March 17, 1999

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-20894		Pool Code	Pool Name Lower Wolfcamp-Cisco-Canyon Injection Zone
Property Code	Property Name WDW-2		Well Number
OCRID No.	Operator Name Navajo Refining Company		Elevation 3607' GR

¹⁰ Surface Location

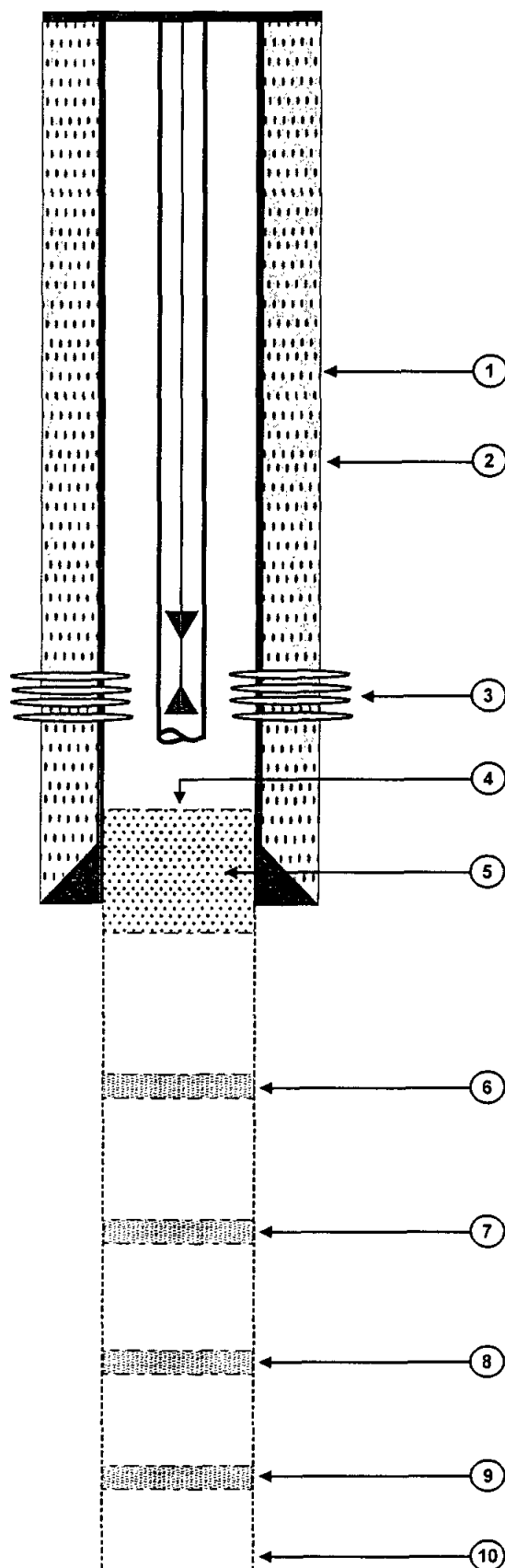
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	12	18S	27E		1980	North	660	West	Eddy

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres		¹³ Joins or In/Out		¹⁴ Consolidation Code		¹⁵ Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

					¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.
					Signature <u>David Moore</u> Printed Name <u>David Moore</u> Title <u>Env. Mgr. for Water & Waste</u> Date <u>4/21/99</u>
					¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.
					Date of Survey Signature and Seal of Professional Surveyor Well is active. Location was not re-surveyed by Navajo. Certificate Number



Total Depth: 10,372'

BELOW GROUND DETAIL

All depths are referenced to the kelly bushing elevation of 13 feet. The surface elevation is 3610 feet.

1. Base of the USDW at 473'.

2. Casing: 8-5/8", 32 lb/ft, set at 1995' in an 11" hole. Cemented to surface with 800 sacks of cement.

3. Perforations: 1446' - 1462'.

4. PBTD: 1912'.

5. Cement Plug: 40 sacks from 1912' to 2045'.

6. Cement Plug: 50 sacks from 3620' to 3720'.

7. Cement Plug: 40 sacks from 5456' to 5556'.

8. Cement Plug: 50 sacks from 7435' to 7535'.

9. Cement Plug: 45 sacks from 9675' to 9775'.

10. Hole Size: 7-7/8".

SUBSURFACE

HOUSTON, TX.
SOUTH BEND, IN.
BATON ROUGE, LA.

FIGURE 2.0-1
THE EASTLAND OIL COMPANY
PLUGGED-BACK WELLBORE CONFIGURATION
CHUKKA FEDERAL No. 2

Date: 07/02/99	Checked By: B.R.	Job No.: 70A4955
Drawn By: LKM	Approved By: B.R.	File: WDW2B.DS4

BELOW GROUND DETAIL

All depths are referenced to the kelly bushing elevation of 13 feet. Surface elevation is 3610 feet.

1. Base of the USDW at 473'.

2. Casing: 8-5/8", 32 lb/ft, set at 1995' in an 11" hole. Cemented to surface with 800 sacks of cement.

3. Injection Tubing: 3-1/2", 9.2 lb/ft, J-55, smis, NUE 10 rd. set at 7528'.

4. DV Tool: at 5785'.

5. Annulus Fluid: 8.7 ppg brinewater mixed with Unichem Techni-Hib 370 corrosion inhibitor.

6. Protection Casing: 5-1/2", 17 lb/ft, L-80, LT&C; 8869' to the surface and set in a 7-7/8" hole. Casing cemented in two stages as follows:

First Stage: 575 sacks of modified Class "H" with 0.4% CFR-3, 5 lb/sk Gilsonite, 0.5% Halad-344, and 3 lb/sk salt. Mixed at 13.0 ppg. Opened DV tool at 5785' and circulated 20 sacks to surface.

Second Stage: Lead slurry: 300 sacks of Interfill "C" (35:65:6) mixed at 11.7 ppg. Tail slurry: 695 sacks modified Class "H" with 0.4% CFR-3, 5 lb/sk Gilsonite, 0.5% Halad-344, and 3 lb/sk salt mixed at 13.0 ppg. Circulated 150 sacks to surface. Top out with 10 yards of ready mix.

7. Packer: 5-1/2" x 2-7/8" Weatherford Completion Tools (Arrow) Model X-1 retrievable packer set at 7528'. Minimum ID is 2.4375". Wireline re-entry guide is on bottom. To release: turn 1/4 turn to the right and pick up.

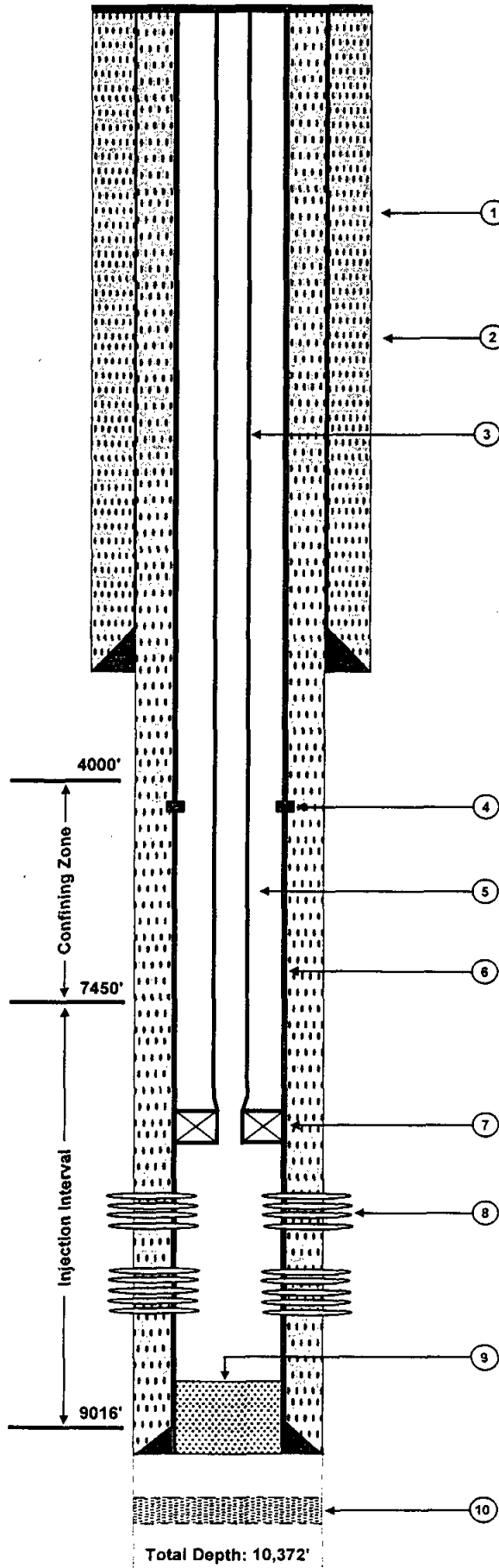
8. Perforations (2 spf):

Zone 1: 7570' - 7620'; 7676' - 7736'.

Zone 2: 7826' - 7834'; 7858' - 7880'; 7886' - 7904'; 7916' - 7936'; 7944' - 7964'; 7990' - 8042'; 8096' - 8116'; 8191' - 8201'; 8304' - 8319'; 8395' - 8399'.

9. PBTD: 8770'

10. Cement Plug: 45 sacks from 9675' to 9775'.



SUBSURFACE

HOUSTON, TX.
SOUTH BEND, IN.
BATON ROUGE, LA.

FIGURE 2.0-2
NAVAJO REFINING COMPANY
WDW-2
ARTESIA, NEW MEXICO

Date: 07/02/99 Checked By: B.R. Job No.: 70A4955
Drawn By: LKM Approved By: B.R. File: WDW2C.DS4

FIGURE 2.7-1

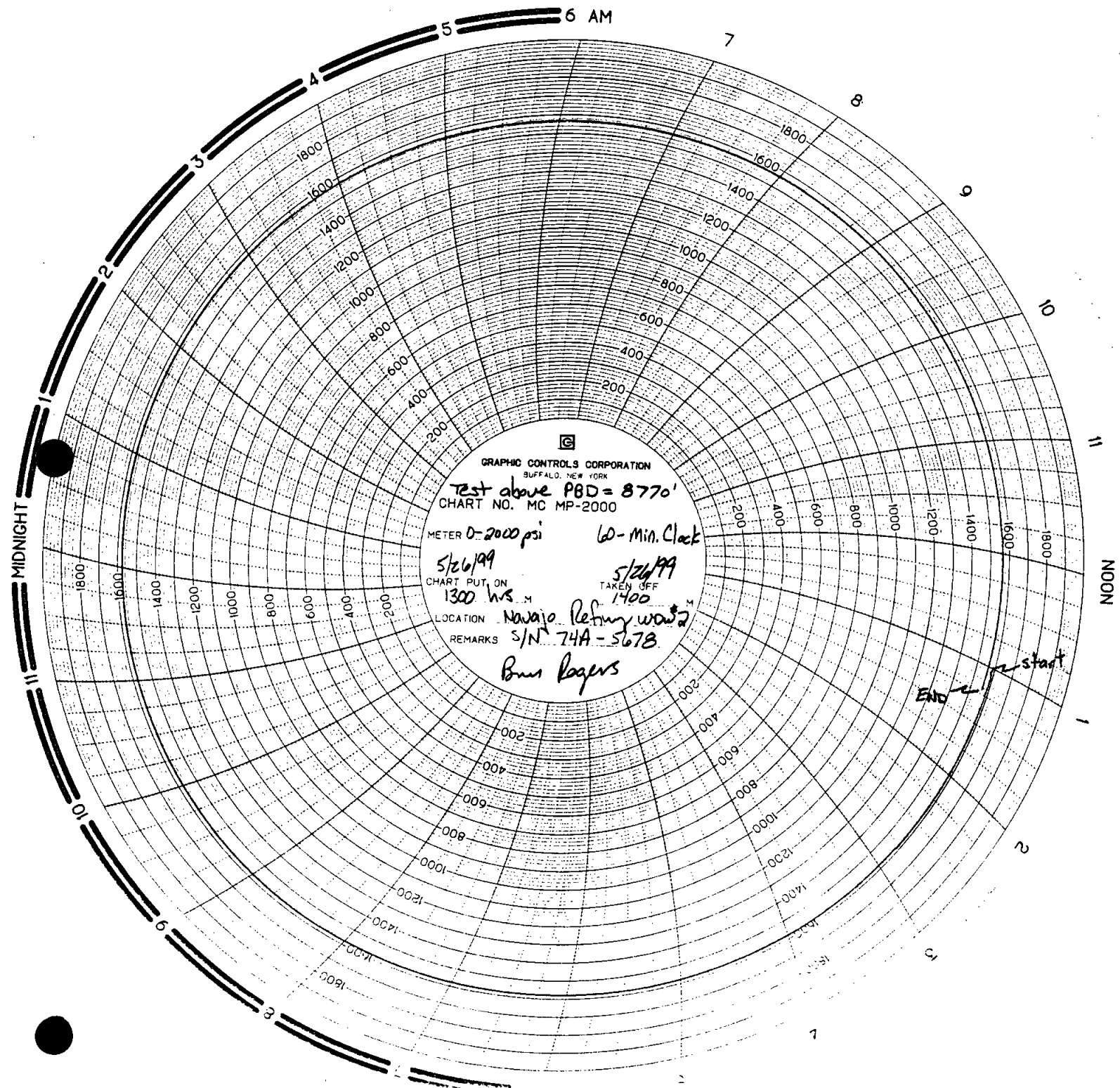


FIGURE 2.11-1

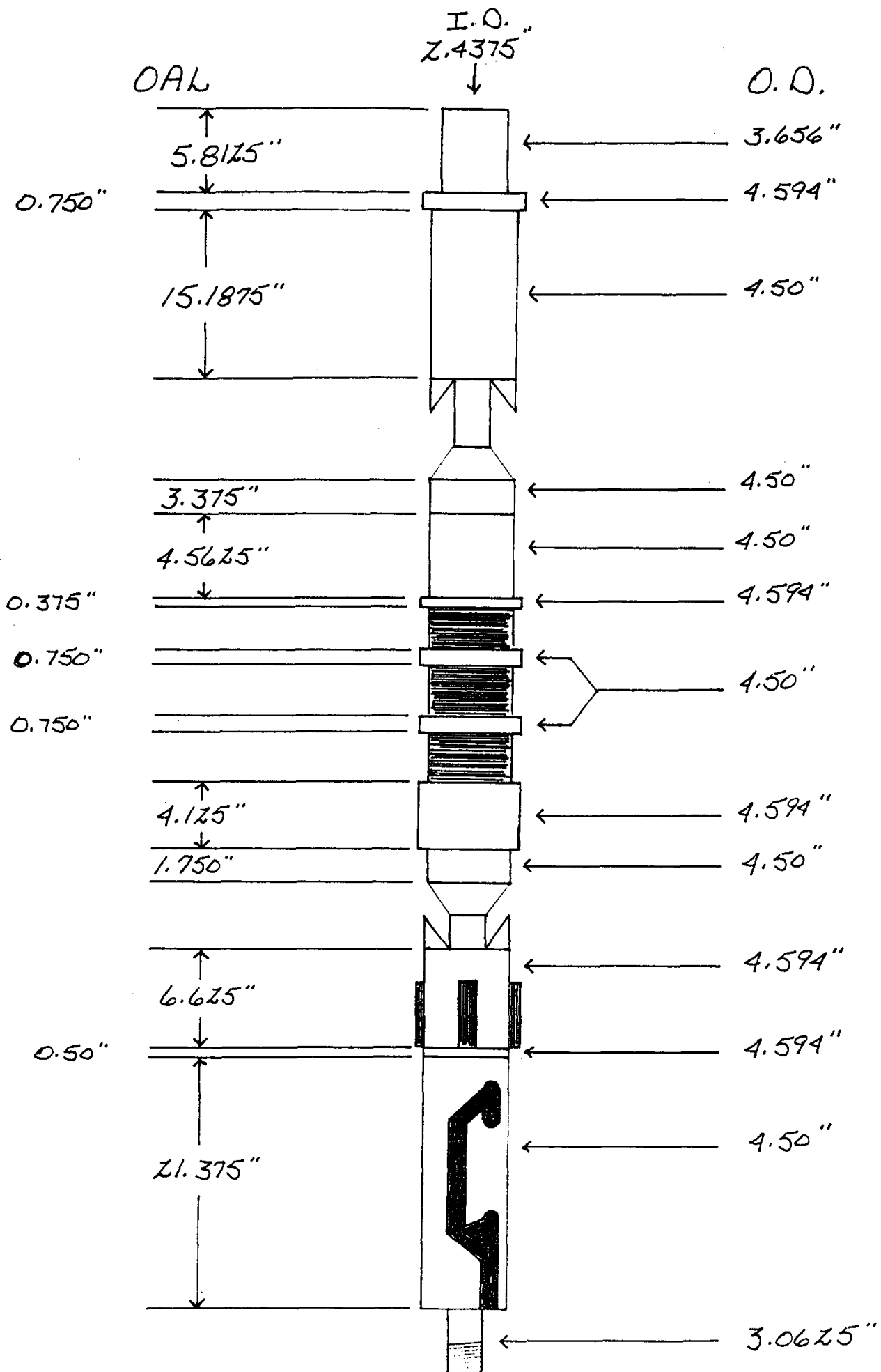
WELL PROFILE		OPERATOR <u>Envirocorp Inc.</u>		SIZE	WEIGHT	
COMPANY REP. <u>BRAIN ROGERS</u>		CASING	<u>5 1/2"</u>	<u>170"</u>		
WELL # <u>NAVAJO WOL #2</u>		LINER				
FIELD <u>Chalk Bluff</u>		TUBING	LONG STRING	<u>3 1/2"</u>	<u>9.6"</u>	
COUNTY <u>Edly</u>			SHORT STRING		<u>1-55 NU 100</u>	
STATE <u>NEW MEXICO</u>		TYPE COMPLETION FLUID IN CASING				
DATE		TUBING WT ON	LONG STRING	SHORT STRING		
☒ New Completion ☐ Workover			<u>18,000 #</u>			
ITEM	LENGTH	FROM	TO	DESCRIPTION	OD	ID
	<u>10.0'</u>	<u>+10'</u>	<u>G.W.</u>	<u>KB Correction</u>		
	<u>7509.38'</u>	<u>G.W.</u>	<u>7519.38'</u>	<u>3 1/2" NU Tbg. 1-55</u> <u>(2.39 lbs. IN HOLE)</u>	<u>3.50"</u>	<u>2.996"</u>
	<u>0.50'</u>	<u>7519.38'</u>	<u>7519.88'</u>	<u>3 1/2" NU Box X 2 1/8" PIN X-ONE</u>	<u>4.120"</u>	<u>2.968"</u>
	<u>6.88'</u>	<u>7519.88'</u>	<u>7526.76'</u>	<u>5 1/2" X 2 1/8" Arrow set I-X Packer</u>	<u>4.599"</u>	<u>2.9375"</u>
	<u>0.12'</u>	<u>7526.76'</u>	<u>7527.18'</u>	<u>WIDELINE Re-Entry Guide</u>	<u>4.50"</u>	<u>3.0"</u>
	<u>16.6'</u>	<u>7570'</u>	<u>7736'</u>	<u>PERFORATIONS</u>		
	<u>573'</u>	<u>7826'</u>	<u>8399'</u>	<u>PERFORATIONS</u>		



ARROWTM
COMPLETION SYSTEMS
AN EVI OIL TOOLS DIVISION

PREPARED BY M. Johnson OFFICE Artesia PHONE 748-1391

REMARKS:
3 1/2" X 3 1/2" EU COMBINATION COUPLING @ SURFACE



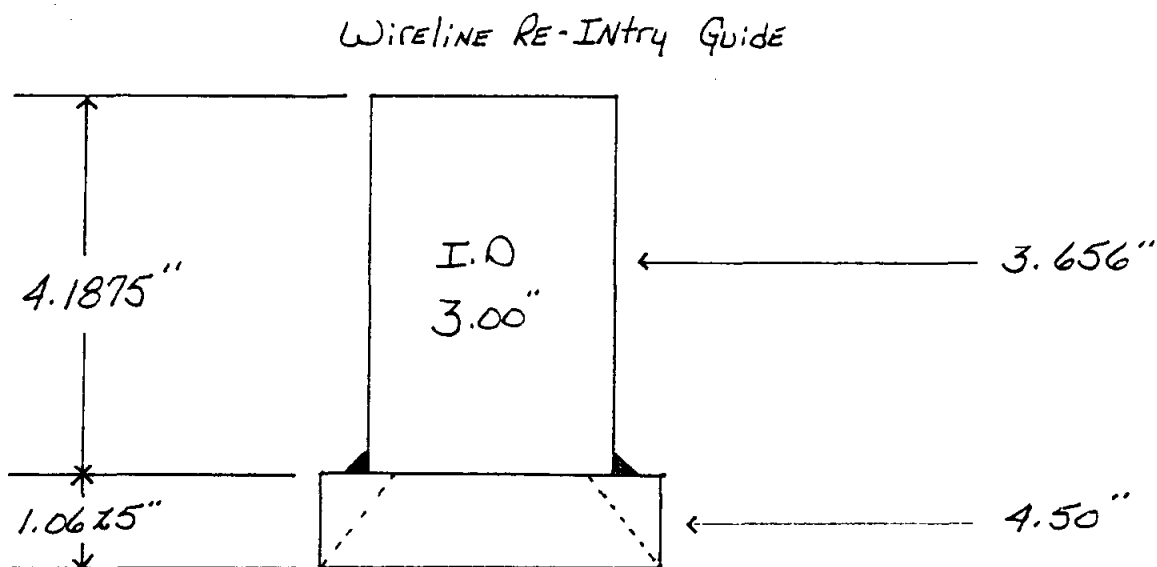
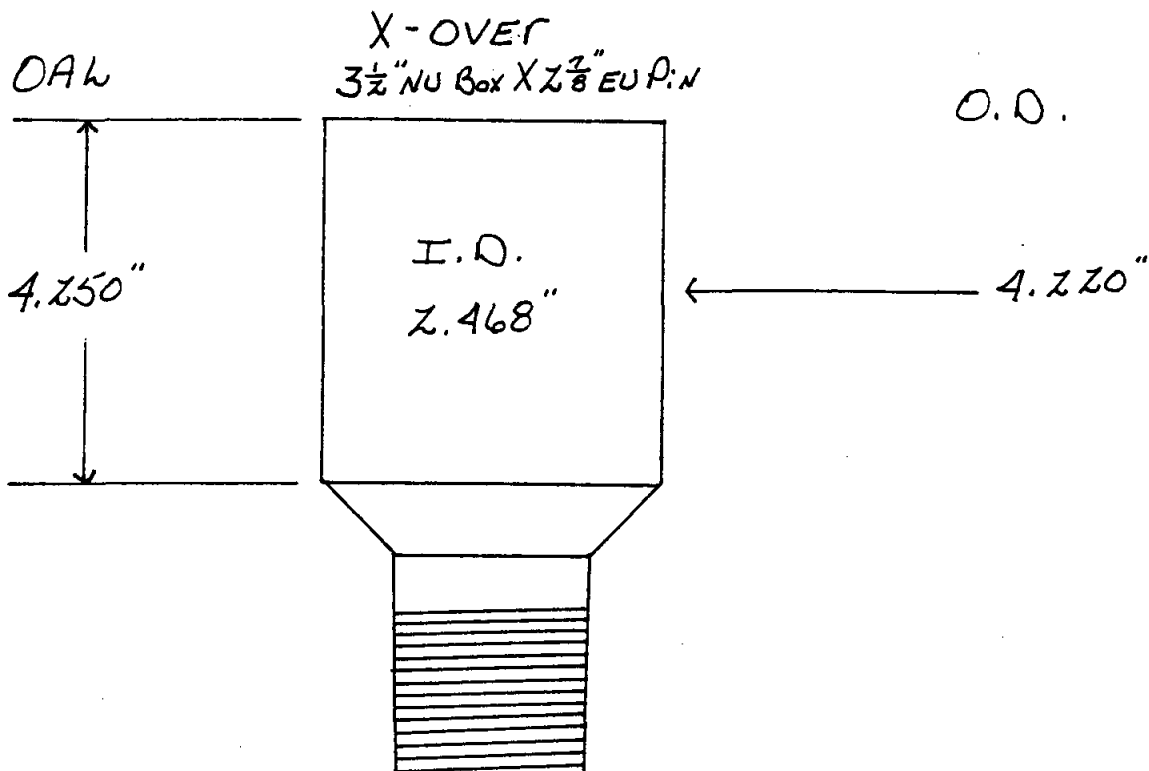
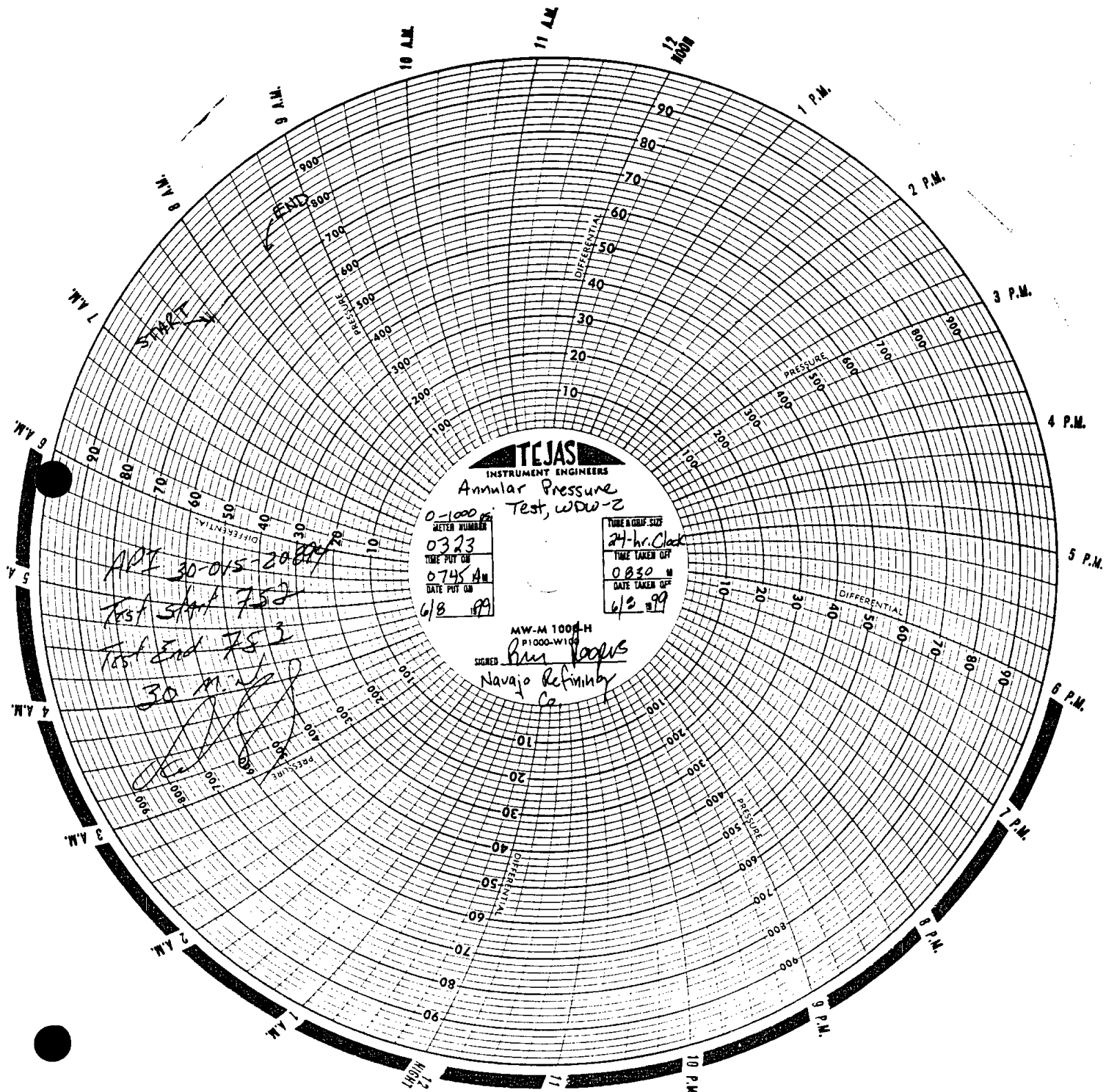


FIGURE 3.5-1



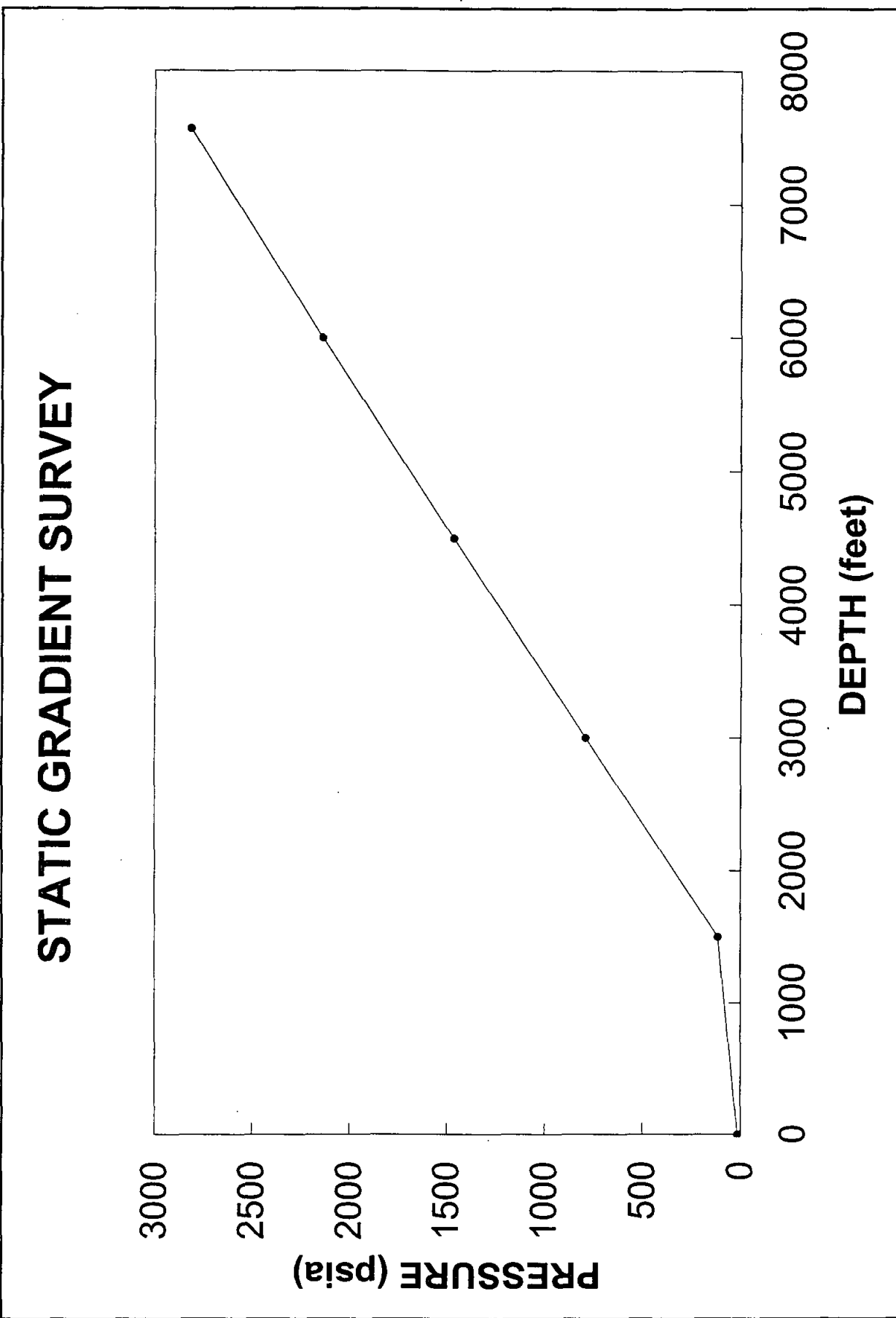


FIGURE 4.1.1-1

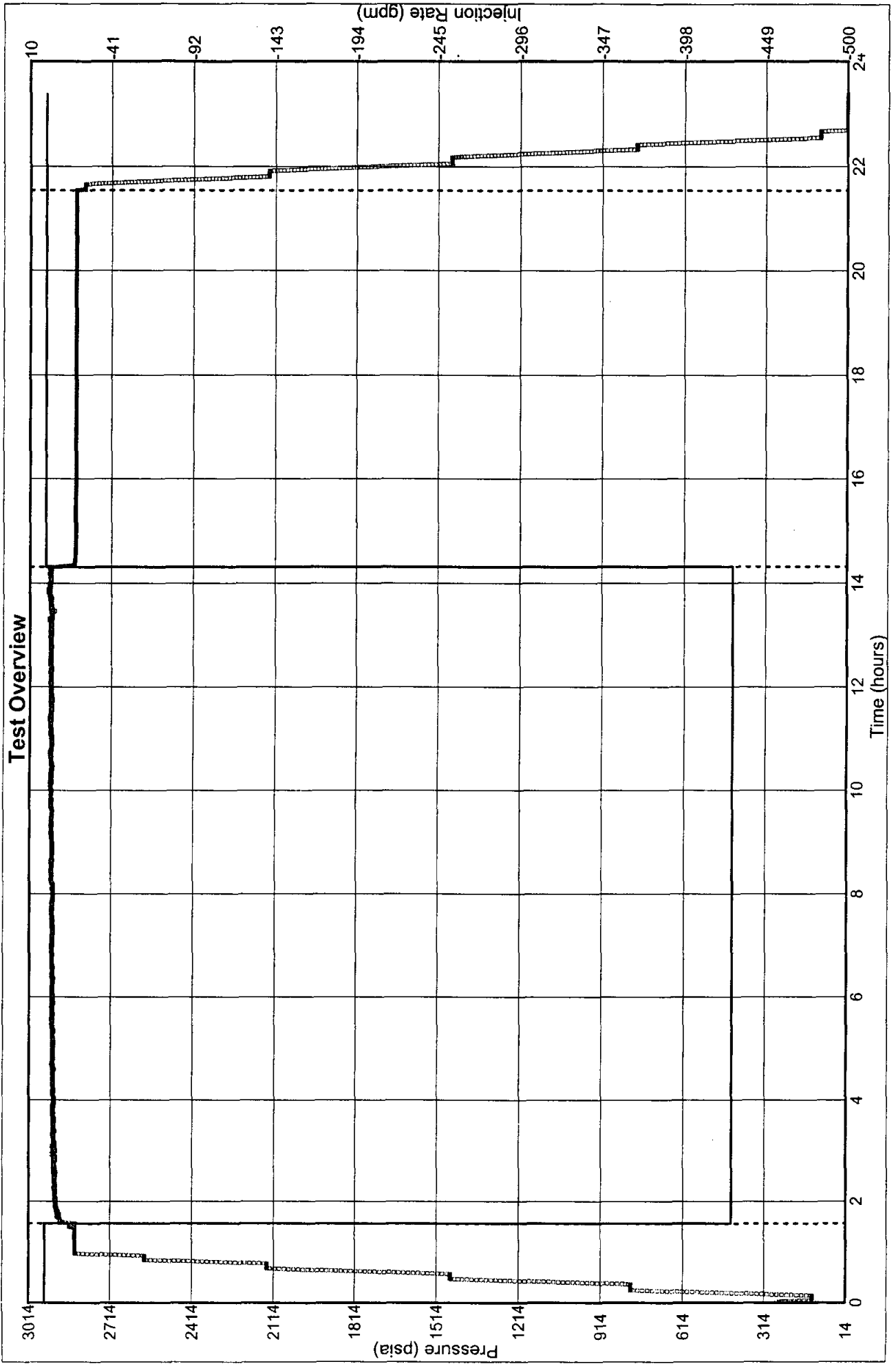


FIGURE 4.1.2-1

Log-Log Plot

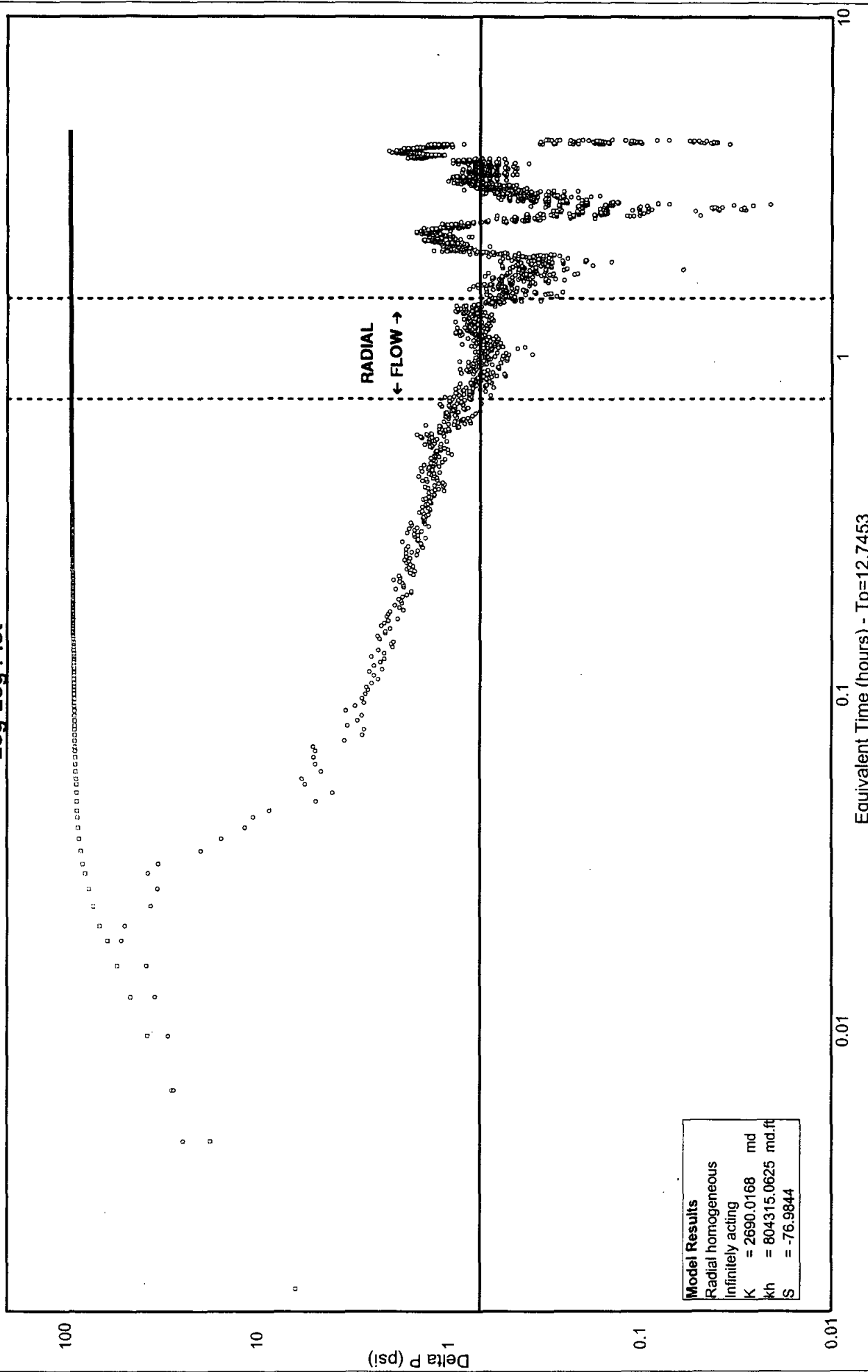
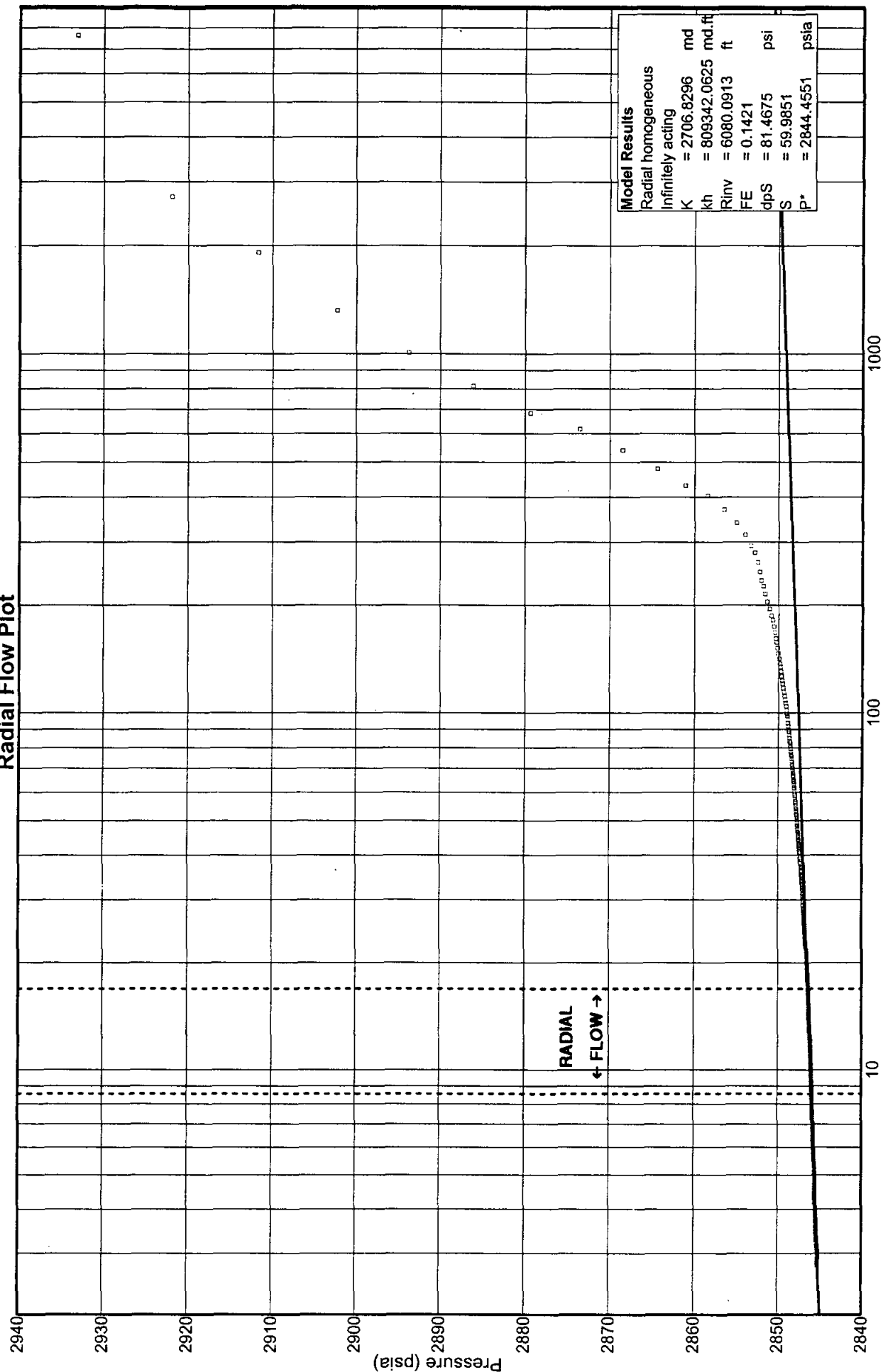


FIGURE 4.1.2-2

Radial Flow Plot



Horner Time Function - $T_p=12.7453$

FIGURE 4.1.2-3

Radial Flow Plot

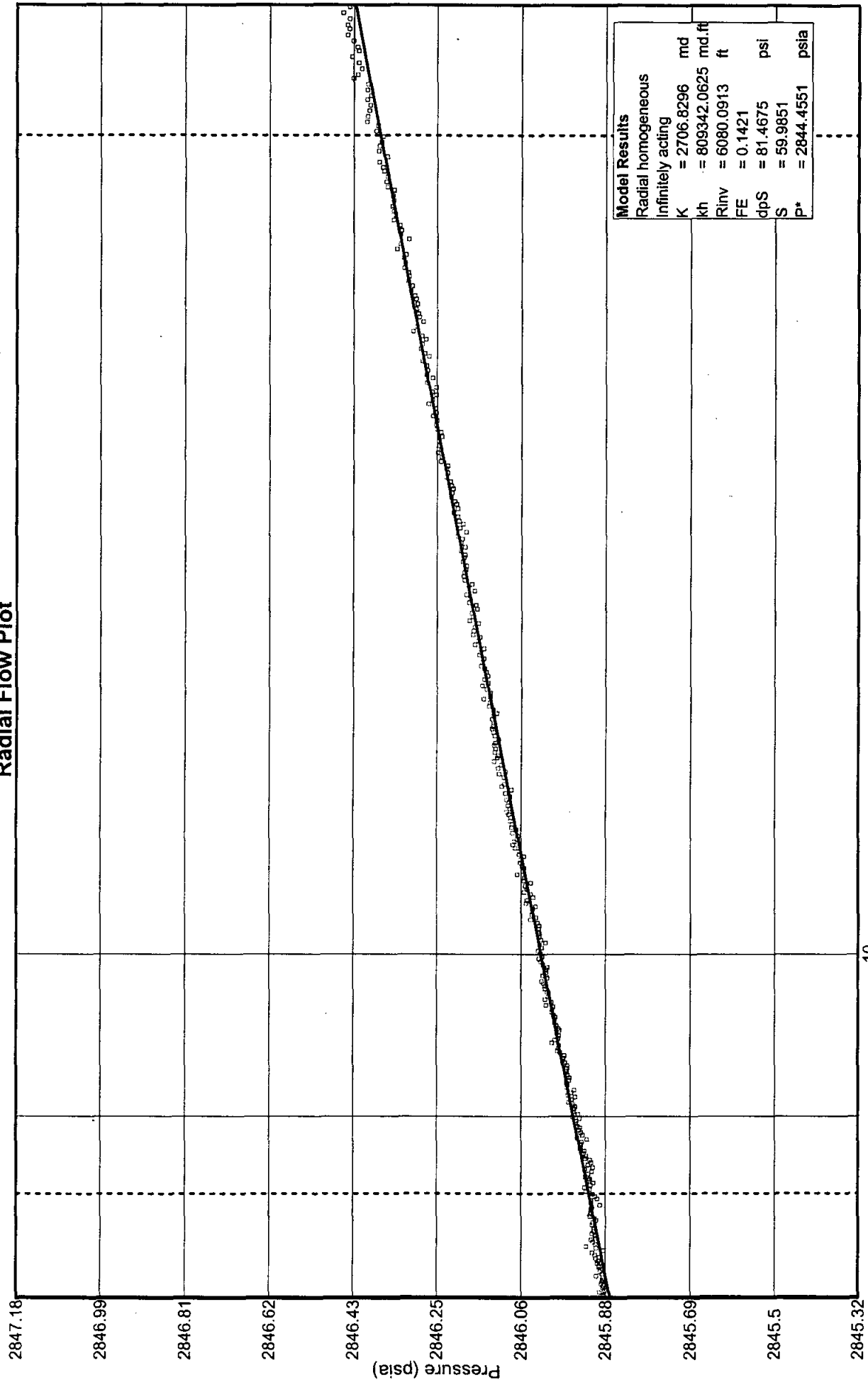


FIGURE 4.1.2-4

Cartesian Plot

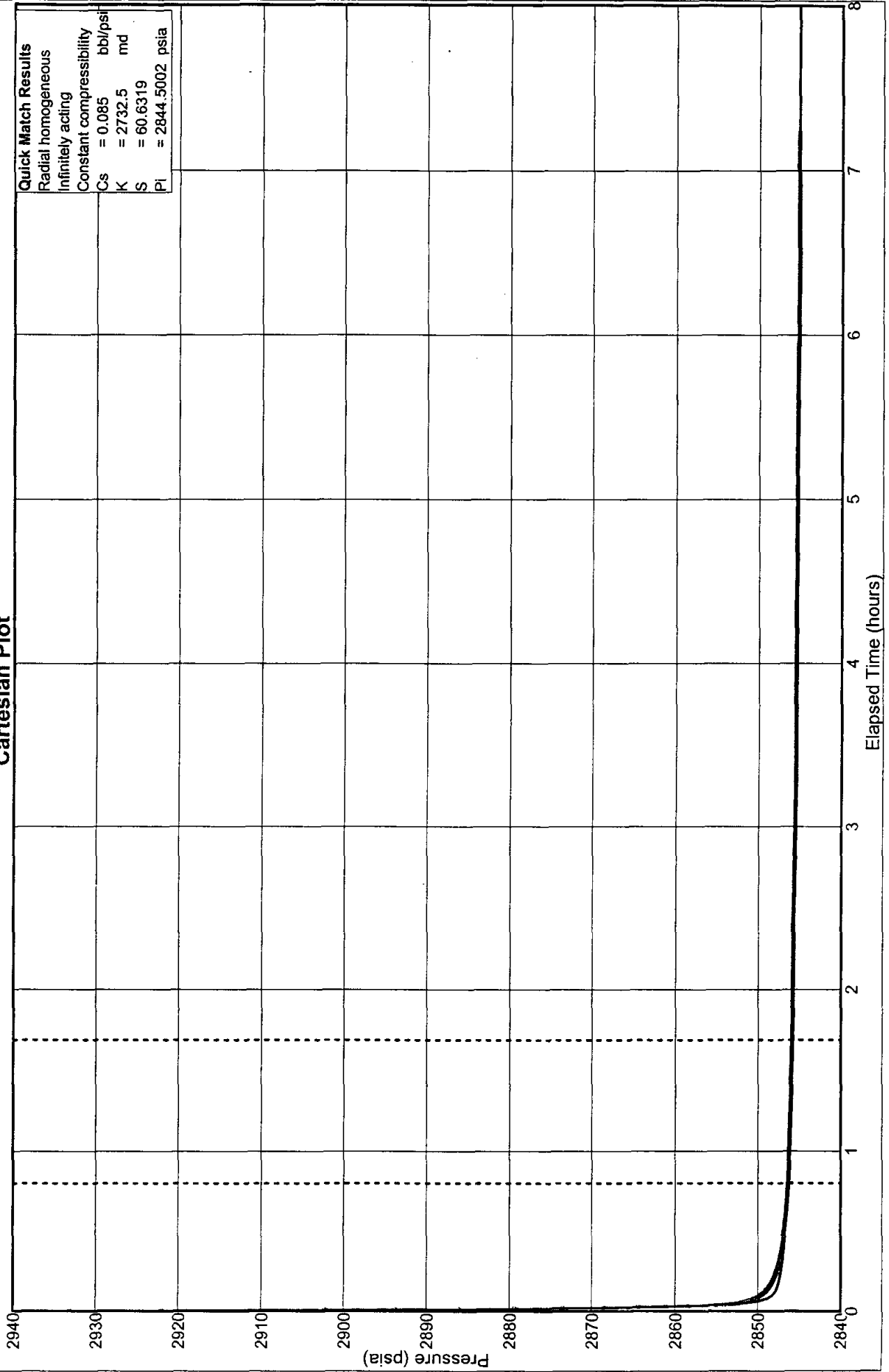


FIGURE 4.1.2-5

Radial Flow Plot

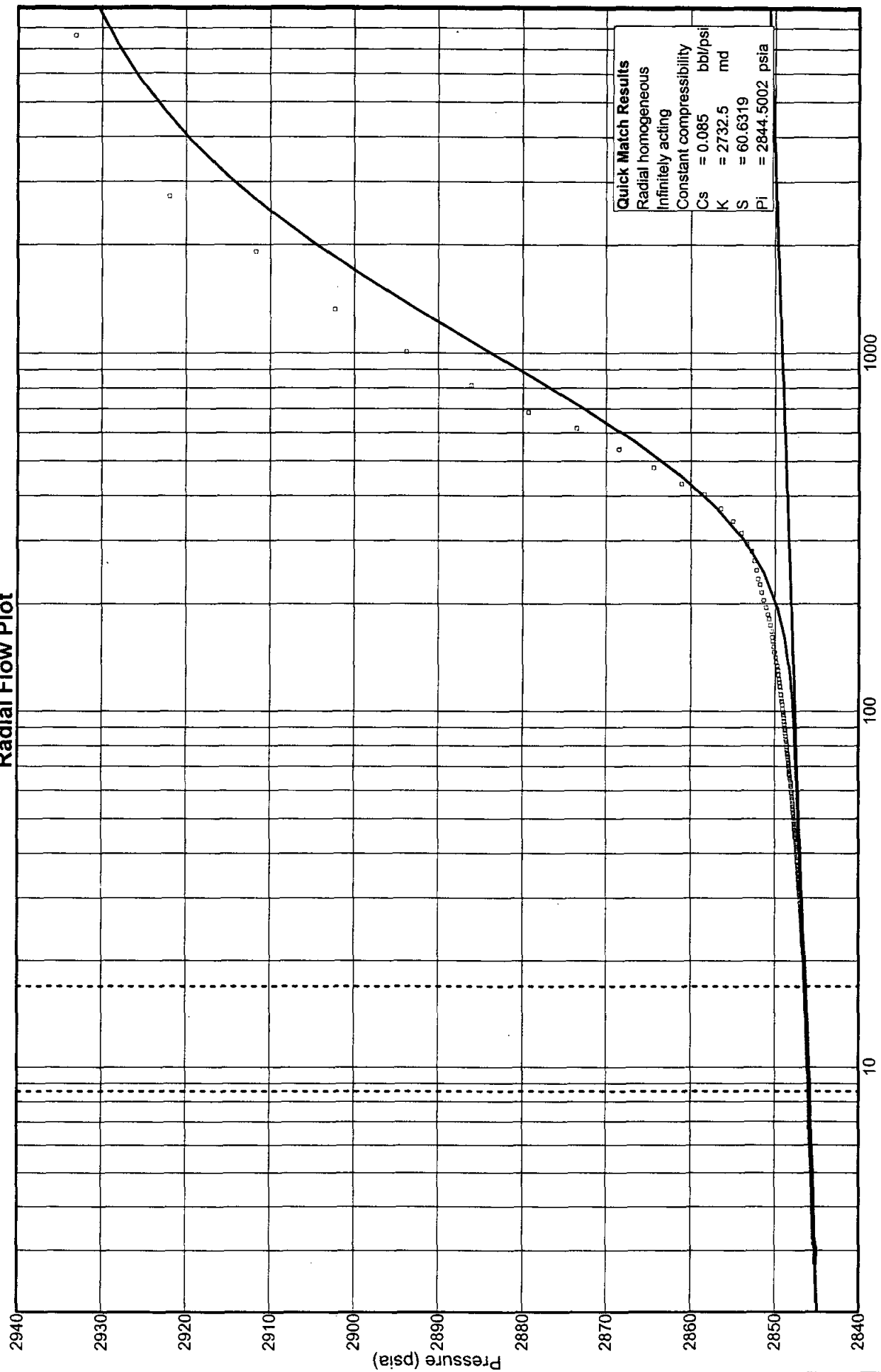


FIGURE 4.1.2-6

Log-Log Plot

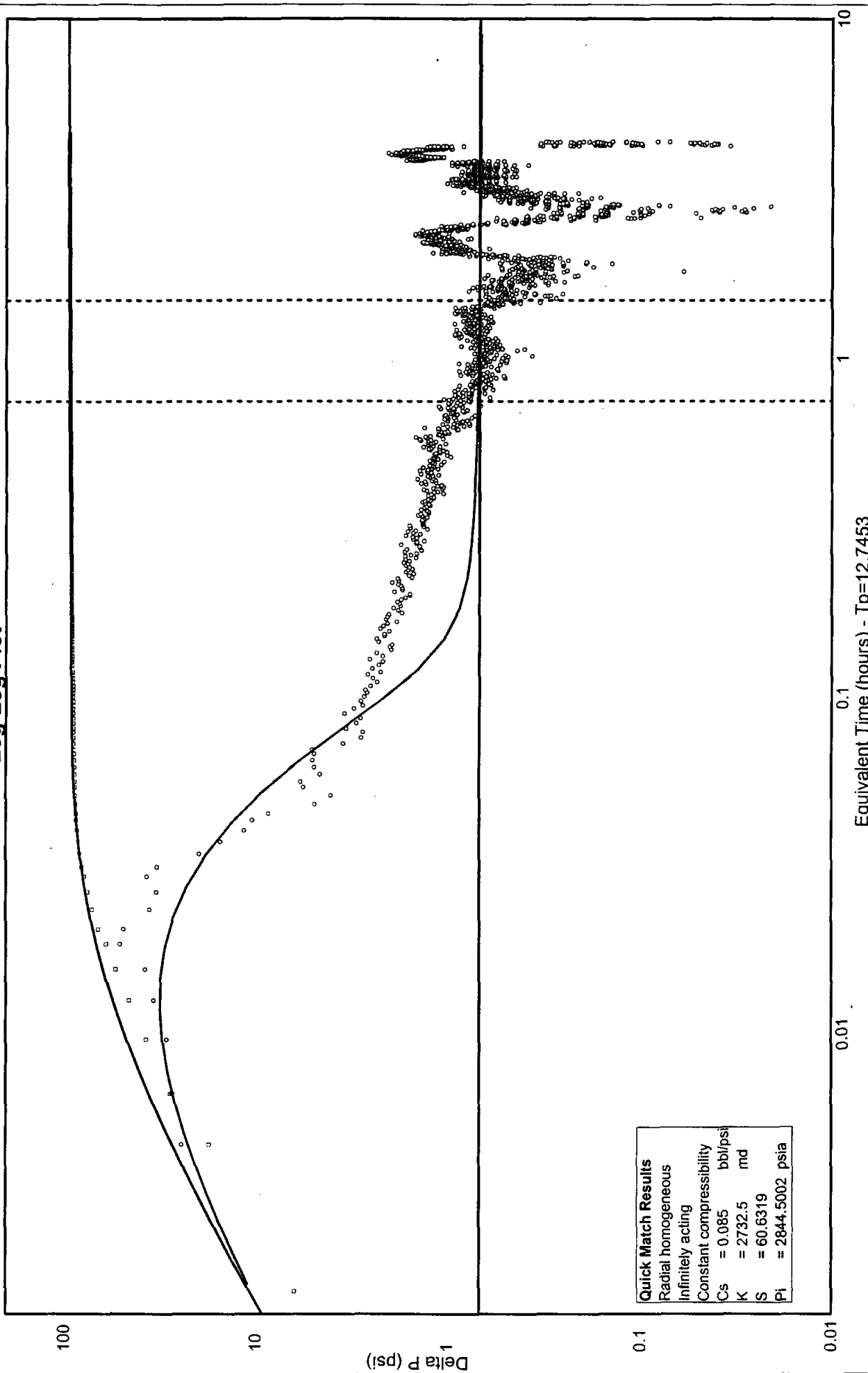


FIGURE 4.1.2-7

APPENDICES

APPENDIX 1.0-1

**APPROVAL LETTER FROM THE NEW MEXICO WATER QUALITY
CONTROL COMMISSION, DATED MAY 3, 1999**

Subsurface Technology, Inc.

District I

1625 N. Pynch Dr., Hobbs, NM 88240

District II

811 South First, Artesia, NM 88210

District III

1000 N. Briscoe Rd., Aztec, NM 87410

District IV

2040 South Pacheco, Santa Fe, NM 87305

State of New Mexico
Energy, Minerals & Natural Resources

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505

Form C-101

Revised March 12, 1999

Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

Operator Name and Address: Navajo Refining Company Post Office Box 159 Artesia, New Mexico 88211		OCD Number: API Number: 30-015-20894
Property Code: WDW	Property Name: WDW	Well No.: 2

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	12	18S	27E		1980	North	660	West	Eddy

Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Proposed Pool 1 Lower Wolfcamp-Cisco-Canyon Injection Zone					Proposed Pool 2				

Work Type Code	Well Type Code	Cable/Rotary	Lease Type Code	Ground Level Elevation
E-Reentry	Class I Injection	R	Federal	3607' GR, 3623' KB
Multiple	Proposed Depth	Formation	Contractor	Spud Date
No	9200'	Strawn		5/15/99

Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11"	8-5/8"	32 lb/ft	1995 feet	800	Surface
7-7/8"	5-1/2"	17 lb/ft	9200 feet	Caliper vol. +20%	Surface

²⁰ Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Proposed Reentry of The Eastland Oil Company (originally Fred Pool Drilling, Inc.) Chukka Federal No. 2 (PSTD 1912 feet, September 10, 1985) formerly Amoco Production Company Diamond Federal Gas Com. No. 1 (OTD 10,372 feet, P&A August 31, 1973). The well currently produces oil and gas from perforations from 1446 feet to 1462 feet (Penrose.)

Navajo will squeeze the perforations from 1446 feet to 1462 feet, drill out cement plugs, and clean out the well to 9200 feet, set 5-1/2 inch casing at 9200 feet and cement to the surface, perforate porous intervals in the Lower Wolfcamp, Cisco, and Canyon Formations between 7270 feet and 9200 feet, and conducted injectivity tests.

Attached are the Well Location Plat and Drilling Program.

²¹ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Darrell Moore</i> Printed name: <i>Darrell Moore</i> Title: <i>Env. Mgr. for Water & Waste</i> Date: <i>4/21/99</i>		OIL CONSERVATION DIVISION Approved by: <i>Sign at bottom BDO</i> Title: <i>District Supervisor</i> Approval Date: <i>5-3-99</i> Expiration Date: <i>5-3-00</i> Conditions of Approval: Attached ☐	
Phone: <i>505-746-3311</i>			

APPENDIX 1.0-2

**APPROVAL LETTERS FROM THE DEPARTMENT OF THE INTERIOR,
BUREAU OF LAND MANAGEMENT, DATED APRIL 27, 1999**

Subsurface Technology, Inc.

(July 1992)

**UNITED STATES
DEPARTMENT OF THE INTERIORS
BUREAU OF LAND MANAGEMENT**

(Use instructions on
page 246)OMB NO. 1004-0136
Expires February 28, 1995**APPLICATION FOR PERMIT TO DRILL OR DEEPEN**

1a. TYPE OF WORK DRILL ☐ DEEPEN ☐ Reenter		1. LEASE DESIGNATION AND SERIAL NO. NM 6852	
2. TYPE OF WELL Oil Well ☐ Gas Well ☐ Other ☐ Class I Waste Disposal Well ☐ Simple Well ☐ Multiple Well ☒		2. IF DRILL, ALLOCATION OF THIS WELL	
3. NAME OF OPERATOR Navajo Refining Company		3. SURVEY AGREEMENT NAME	
4. ADDRESS AND TELEPHONE NO. Post Office Box 159, Artesia, New Mexico 88211		4. SURVEY AGREEMENT WELL NO. WDW-2	
5. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.) At surface 1980' FNL and 660' FWL Unit Letter B At proposed prod. zone		5. APPLICANT 30-015-20894	
6. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE 11 air miles east-southeast of Artesia		6. FNL AND FWL OF WELLS L. Wolfcamp-Cisco-Canyon Injection zone	
7. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also in survey orig. well log, if any)		7. SEC. T. R. N. OR S.E. AND SURVEY OR AREA 12-T18S-R27E	
8. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, CILLING, COMPLETION, OR OTHER FOR, ON THIS TRACT, FT.		8. COUNTY OF FINDER Eddy	
9. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, CILLING, COMPLETION, OR OTHER FOR, ON THIS TRACT, FT.		9. STATE NM	
10. NO. OF ACRES IN LEASE 1106819		10. NO. OF ACRES ADJACENT TO THIS WELL	
11. PROPOSED DEPTH 9200'		11. ROTARY OR CABLE TOOLS Rotary	
12. ELEVATIONS (Show whether BP, RT, OR GR.) 3607' GR, 3623' KB		12. APPROX. DATE WHEN WELL WILL START May 1, 1999	

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	CASE SIZE OF CASING	WEIGHT FOR FOOT	CUTTING DEPTH	QUANTITY OF CEMENT
11"	8-5/8"	32 lb/ft	1995'	800 cu circulated
7-7/8"	5-1/2"	17 lb/ft	9200'	Caliper volume + 20% excess

Proposed reentry of the Eastland Oil Company (originally Fred Pool Drilling, Inc.) Chukka Federal No. 2 (PBD 1912 feet, September 10, 1985) formerly Amoco Production Company Diamond Federal Gas Com. No. 1 (OTD 10,372 feet, P&A August 31, 1973). The well currently produces oil and gas from perforations from 1446 feet to 1462 feet (Penrose).

Navajo will squeeze the perforations from 1446 feet to 1462 feet, drill out cement plugs and clean out the well to 9200 feet, set 5-1/2 inch casing at 9200 feet and cement to the surface, perforate porous intervals in the Lower Wolfcamp, Cisco, and Canyon Formations between 7270 feet and 9200 feet, and conduct injectivity tests.

Attached are the Well Location Plat, Drilling Program, and Surface Use Plan.

**SUBJECT TO
LIKE APPROVAL
BY STATE AND RIGHT OF WAY APPROVAL**

**APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS**

4 ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present production and casing and perforation depths. Give blowout prevention program, if any. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout prevention program, if any.

SIGNED

David M. Moore

TITLE

Env. Mgr.

DATE

4/15/99

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

Application approved does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon
CONDITIONS OF APPROVAL, IF ANY:

(ORIG. SGD.) DAVID R. GLASS

PETROLEUM ENGINEER

APR 27 1999

APPROVED BY

TITLE

DATE

*See Instructions On Reverse Side

18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false statement or fraudulent statements or representations as to any matter within its jurisdiction.

CONDITIONS OF APPROVAL - DRILLING

Operator's Name: Navajo Refining Company Well No. 2 - WDW
Location: 1980' FNL & 660' FWL sec. 12, T. 18 S., R. 27 E.
Lease: NM-6852

I. DRILLING OPERATIONS REQUIREMENTS: [Deepening]

1. The Bureau of Land Management (BLM) is to be notified at (505) 887-6544 in sufficient time for a representative to witness:

A. Cementing casing: 5-1/2 inch

2. Unless the injection casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

II. CASING:

1. Minimum required fill of cement behind the 5-1/2 inch injection casing is sufficient to circulate to the surface.

III. PRESSURE CONTROL:

1. Before drilling into the 100 foot 8-5/8 inch surface casing shoe cement plug at approximately 1912 feet, the blowout preventer assembly shall consist of a minimum of One Annular Preventer, Two Ram-Type Preventers, and a Kelly Cock/Stabbing Valve

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 3000 psi.

3. After drilling into the 100 foot 8-5/8 inch surface casing shoe cement plug at approximately 1912 feet and before drilling into the 100 foot Abo cement plug at approximately 5450 feet, the BOPE shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

A. The results of the test will be reported to the BLM Carlsbad Resource Area office at 620 East Greene Street, Carlsbad, New Mexico 88220-6292.

B. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.

C. Testing must be done in a safe workman like manner. Hard line connections shall be required.

April 13, 1999

Mr. Darryl Moore
Navajo Refining Company
Post Office Box 159
Artesia, New Mexico 88211

RE: Transmittal of BLM Application Permit to Drill Navajo's Proposed WDW-2
Subsurface Project No. 60A4937

Dear Mr. Moore:

This letter transmits 10 copies of the final version of the Application for Permit to Drill Navajo Refining Company's (Navajo) Proposed WDW-2 (the application package) prepared by Subsurface Technology, Inc. (Subsurface), formerly Envirocorp Services & Technology, Inc. The purpose of the document is to gain approval for Navajo to reenter, test, and complete an existing well located on federal lands. The well to be reentered is the Fred Pool Drilling, Inc., Chukka Federal No. 2 well, which is currently being operated by The Eastland Oil Company. Subsurface believes that the application package is in its final form and is ready for submittal by Navajo to the Bureau of Land Management (BLM).

Prior to submittal of the application package, a representative of Navajo should sign one original of each the following pages of the document:

BLM Form 3160-3: Application for Permit to Drill
OCD Form C-102: Well Location and Acreage Dedication Plat
Certification: Surface Use Plan Item No. 14 (page 4 of Surface Use Plan)

After signing the original, Navajo should make 11 copies of each signed original, insert them into the copies of the application package, remove the unsigned forms, and distribute the original and copies of the application package as follows:

- Three (3) copies to: Mr. David Glass
Bureau of Land Management
Roswell Field Office
2909 West Second Street
Roswell, New Mexico 88201

April 13, 1999

Mr. David Glass
Bureau of Land Management
Roswell Field Office
2909 West Second Street
Roswell, New Mexico 88201

RE: Application for Permit to Drill for Navajo Refining Company's Proposed WDW-2

Dear Mr. Glass:

Enclosed please find three copies of the referenced application package. The application package consists of the following documents:

Application for Permit to Drill
Well Location and Acreage Dedication Plat
Drilling Program
Surface Use Plan

Please notify me at (505) 748-3311 of additional requirements.

Sincerely,

Darrell Moore

c (3 copies): Mr. Wayne Price
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

April 13, 1999

Mr. Wayne Price
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

RE: Application for Permit to Drill for Navajo Refining Company's Proposed WDW-2

Dear Mr. Price:

Enclosed please find three copies of the referenced permit application package that was submitted today to the Bureau of Land Management (BLM) for a well on federal land. The application package consists of the following documents:

Application for Permit to Drill (BLM Form 3160-3)
Well Location and Acreage Dedication Plat (OCD Form C-102)
Drilling Program
Surface Use Plan

Please notify me at (505) 748-3311 of any additional information that may be required to obtain approval from the OCD for this project.

For your information, Navajo is considering converting proposed WDW-2 to a Class I well for the disposal of exempt and nonexempt nonhazardous oilfield waste that is generated exclusively by Navajo at its refinery in Artesia. A request for modification of Discharge Plan UIC-CLI-008-1 to provide information about the proposed project and to change the location of proposed WDW-2 will be submitted to OCD at the end of April 1999.

Sincerely,

Darrell Moore

c (3 copies): Mr. David Glass
Bureau of Land Management
Roswell Field Office
2909 West Second Street
Roswell, New Mexico 88201

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK DRILL ☐ DEEPEN ☐ Reenter			5. LEASE DESIGNATION AND SERIAL NO. NM 6852		
b. TYPE OF WELL OIL WELL ☐ GAS WELL ☐ OTHER ☐ Class I Waste Disposal Well ☐ SINGLE ZONE ☐ MULTIPLE ZONE ☒			6. IF INDIAN, ALLOTTEE OR TRIBE NAME		
2. NAME OF OPERATOR Navajo Refining Company			7. UNIT AGREEMENT NAME		
3. ADDRESS AND TELEPHONE NO. Post Office Box 159, Artesia, New Mexico 88211			8. FARMOR LEASE NAME, WELL NO. WDW-2		
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.) At surface 1980' FNL and 660' FWL Unit Letter E At proposed prod. zone			9. API WELL NO. 30-015-20894		
4. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 11 air miles east-southeast of Artesia			10. FIELD AND POOL, OR WILDCAT L. Wolfcamp-Cisco-Canyon Injection Zone		
5. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)			11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA 12-T18S-R27E		
5. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.			12. COUNTY OR PARISH Eddy		
6. ELEVATIONS (Show whether DF, RT, GR, etc.) 3607' GR, 3623' KB			13. STATE NM		
16. NO. OF ACRES IN LEASE			17. NO. OF ACRES ASSIGNED TO THIS WELL		
19. PROPOSED DEPTH 9200'			20. ROTARY OR CABLE TOOLS Rotary		
22. APPROX. DATE WORK WILL START* May 1, 1999					

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
11"	8-5/8"	32 lb/ft	1995'	800 sx circulated
7-7/8"	5-1/2"	17 lb/ft	9200'	Caliper volume + 20% excess

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Navajo will squeeze the perforations from 1446 feet to 1462 feet, drill out cement plugs and clean out the well to 9200 feet, set 5-1/2 inch casing at 9200 feet and cement to the surface, perforate porous intervals in the Lower Wolfcamp, Cisco, and Canyon Formations between 7270 feet and 9200 feet, and conduct injectivity tests.

Attached are the Well Location Plat, Drilling Program, and Surface Use Plan.

BOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or in directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

SIGNED _____ TITLE _____ DATE _____

This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

INDICATE APPROVAL IF ANY:

PROVED BY _____ TITLE _____ DATE _____

*See Instructions On Reverse Side

18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

DRILLING PROGRAM

FOR NAVAJO REFINING COMPANY'S PROPOSED WDW-2 1980' FNL, 660' FWL of 12-T18S-R27E Eddy County, New Mexico

1. Obtain all permits and approvals for the reentry, testing and completion of a currently existing well. Construct the lined reserve pits, dig out the cellar, and install a mousehole and rathole.
2. Move in and rig up a workover unit. Remove the pumping equipment and pull the tubing out of the well after tagging the plugged-back total depth (PBSD).
3. Squeeze the perforations from 1446 feet to 1462 feet with 100 sacks of Class "H" cement. Allow the cement to cure.
4. Drill out the cement to PBSD, circulate the well clean, and pressure test the squeezed perforations at 500 psig for 30 minutes.

Drilling Fluid

- a. Freshwater-based gel chemical fluid.
 - b. Density range: 8.6 ppg to 9.5 ppg. Requirement for weighting material is not anticipated.
 - c. Viscosity range: 35 sec/qt to 45 sec/qt.
 - d. Pit volumes to be monitored visually.
5. Conduct a CBL/VDL survey from 1912 feet to the surface. Submit the results of the pressure test and CBL/VDL survey to the OCD and the BLM for their review and approval prior to mobilizing the drilling rig.
 6. After receiving approval from the OCD and the BLM to continue the reentry, prepare the location for the selected drilling rig.
 7. Move in and rig up the rotary drilling rig and install the blowout preventers (BOPs).

BOP Minimum Requirements

- a. 11-inch, 3000-psi working pressure double-hydraulic BOP.
- b. 11-inch, 3000-psi working pressure annular BOP.
- c. 3-inch, 3000-psi working pressure manual choke manifold.

A schematic of the BOP stack is included as Exhibit A.

8. Drill out the following cement plugs and conduct deviation surveys every 1000 feet or on trips:
 - a. 1912 feet to 2045 feet, 40 sacks
 - b. 3620 feet to 3720 feet, 50 sacks
 - c. 5456 feet to 5556 feet, 40 sacks
 - d. 7435 feet to 7535 feet, 50 sacks

Estimated Tops of Geologic Formations

San Andres	2005'	Lower Wolfcamp	7270'
Yeso	4210'	Cisco	7645'
Abo	5506'	Canyon	8390'
Wolfcamp	6728'	Strawn	8894'

No fresh water or hydrocarbons are expected to be encountered.

Expected Bottom-Hole Pressure and Hazards

The expected bottom-hole pressure is 3500 psia at the total depth of 9200 feet. The bottom-hole pressure was determined from the pressure measured in Navajo's WDW-1, or 2928 psia, at 7924 feet. Navajo's WDW-1 is completed in the same interval proposed for WDW-2 and is located 11,000 feet northeast of WDW-2 in 31-T17S-R28E. The average specific gravity of the fluid between 7924 feet and 9200 feet is expected to be 1.034, which is the specific gravity of the fluid swabbed from the interval between 8220 feet and 8476 feet in WDW-1. The expected bottom-hole pressure at 9200 feet in proposed WDW-2 is calculated below:

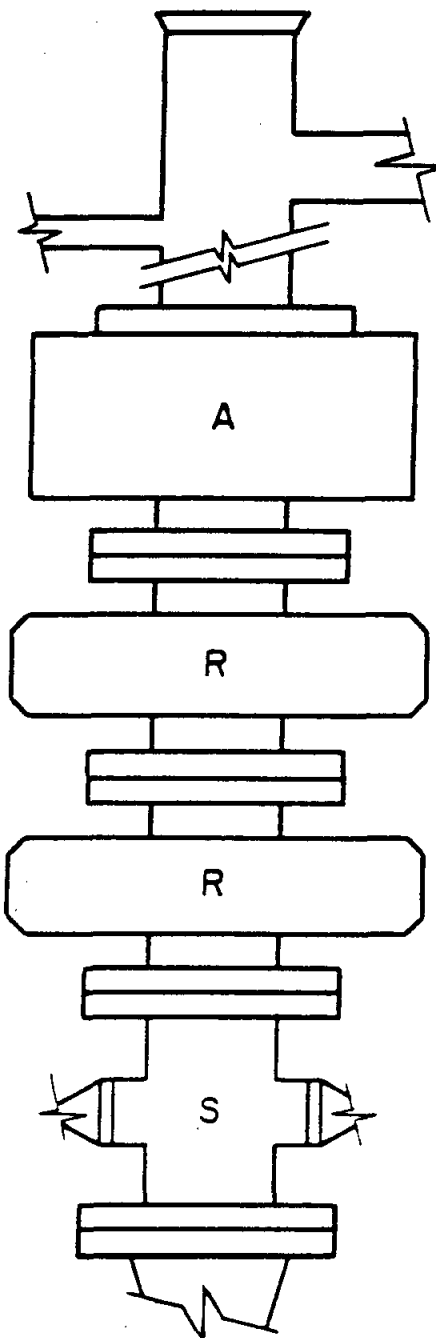
$$\begin{aligned}\text{BHP (9200 feet)} &= 2928 \text{ psia} + (9200 \text{ feet} - 7924 \text{ feet}) \times 0.433 \text{ psi/ft} \times 1.034 \\ &= 3500 \text{ psia}\end{aligned}$$

No abnormal pressures or temperatures or other hazards are expected while drilling or testing the well. Hydrogen sulfide monitoring equipment will be set up prior to swabbing operations.

9. Clean the well out to a depth of 9200 feet and circulate and condition the hole for logging. Make a wiper trip to the base of the 8-5/8 inch surface casing while strapping the drillpipe.
10. Conduct a formation microimager (FMI) survey with gamma ray from the well's total depth to 4000 feet. Continue the four-arm caliper survey to the 8-5/8 inch casing shoe. Process the FMI for fracture identification over the lower 200 feet of the confining zone and zones of interest in the injection zone, if warranted.
11. Spot a gelled pill at 9200 feet and lay down the drillpipe.
12. Run the 5-1/2 inch, 17-lb/ft, J-55, LT&C casing with a packoff shoe and float collar to 9200 feet. Install a "DV" tool at approximately 5800 feet. Run centralizers at approximately 120-foot intervals.
13. Cement the 5-1/2 inch casing in place. Use a minimum of 20% excess cement as calculated from the caliper log. Circulate cement to the surface and allow to cure.

Cement Program

- a. Stage 1 Cement (total depth to 5800 feet): Lightweight Class H with fly ash, gel, friction reducer, and salt mixed with fresh water.
 - b. Stage 2 Lead Cement (5200 feet to the surface): Lightweight Class C with gel and bridging agents mixed with fresh water.
 - c. Stage 2 Tail Cement (5800 feet to 5200 feet): Class C mixed with fresh water.
14. Clean out the mud pits and release the drilling rig 12 hours after cementing the 5-1/2 inch casing in place.
 15. Stabilize the 5-1/2 inch casing at the surface using ready-mix cement.



A = ANNULAR-TYPE BLOWOUT PREVENTER
11-inch throughbore, 3000-psi working pressure

R = RAM-TYPE BLOWOUT PREVENTER
11-inch throughbore, 3000-psi working pressure

S = DRILLING SPOOL WITH SIDE OUTLET CONNECTIONS
FOR CHOKE AND KILL LINES

MANUAL CHOKE MANIFOLD
3-inch throughbore, 3000-psi working pressure

Source: API RP 53: Recommended Practices for
Blowout Prevention Equipment Systems

ENVIROCORP		HOUSTON, TX. SOUTH BEND, IN. BATON ROUGE, LA.
ENVIROCORP SERVICES & TECHNOLOGY, INC.		
EXHIBIT A		
BLOWOUT PREVENTER STACK AND MINIMUM REQUIREMENTS		
DATE: 4/7/98	CHECKED BY: JDB	JOB NO:
DRAWN BY: ALN	APPROVED BY:	DWG. NO:

SURFACE USE PLAN

NAVAJO REFINING COMPANY PROPOSED WDW-2 1980' FSL, 660' FWL of 12-T18S-R27E EDDY COUNTY, NEW MEXICO

1. Existing Roads: Existing roads that lead to the proposed drillsite are shown on Exhibit A.
2. Access Roads To Be Constructed: No new access road is proposed.
3. Location of Existing Wells: Existing wells within one mile of proposed WDW-2 are shown on Exhibit B.
4. Location of Proposed Facilities If Well Is Completed: The well will be shut in after completion and testing.
5. Location and Type of Water Supply: Water for reentry, testing, and completion operations will be purchased from a commercial water hauler.
6. Source of Construction Materials: Materials required for construction of the site will be taken from a state-owned pit.
7. Methods of Handling Waste Disposal:
 - A. Drill cuttings will be disposed of in the drilling pits.
 - B. Drilling fluids will be allowed to evaporate in the drilling pits until the pits are dry.
 - C. Water produced during tests will be disposed of in the drilling pits.
 - D. Trash, waste paper, garbage, and junk will be buried in a trash pit and covered with a minimum of 24 inches of dirt. All waste material will be contained to prevent scattering by the wind. Location of the trash pit is shown on Exhibit C.

- E. All trash and debris will be buried or removed from the wellsite after finishing drilling and/or completion operations.

8. Ancillary Facilities: None anticipated.

9. Wellsite Layout:

- A. The wellsite will be surveyed, and a 400' x 400' area will be staked and flagged.
- B. The dimensions and relative location of the drill pad, mud pit, and trash pit, with respect to the wellbore, are shown on Exhibit C.
- C. Existing topsoil to a depth of 6 inches will be lifted and stockpiled at the northeastern (uphill) end of the well pad. The stockpiled topsoil will be located uphill to avoid mixing with subsurface materials.
- D. The well pad will be surfaced with material found in place.
- E. The pits for mud and cuttings will be lined with 6-mil plastic.

10. Plans for Restoration of Surface:

- A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. Pits will be filled and the location cleaned of all trash and junk.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. After abandonment, all equipment, trash, and junk will be removed and the location cleaned.
- D. The stockpiled topsoil will be spread over the surface of the location.

11. Surface Ownership: U.S. Department of Interior, Bureau of Land Management.

12. Archaeological Survey: An archaeological survey of the drill pad was submitted to the BLM on July 31, 1985, on behalf of Fred Pool Drilling Company. An archeological survey was conducted by Navajo Refining Company and will be submitted by Navajo under separate cover.
13. Operator's Representatives: Representatives responsible for assuring compliance with the approved Surface Use Plan:

Mr. Darrell Moore
Navajo Refining Company
Post Office Box 159
Artesia, New Mexico 88211
505/748-3311

Mr. Jim Bundy
Subsurface Technology, Inc.
7020 Portwest Drive, Suite 100
Houston, Texas 77024
713/880-4640

Exhibits

- A. Topographic Map
- B. Oil and Gas Map
- C. Sketch of Well Pad

14. Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions that exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Navajo Refining Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

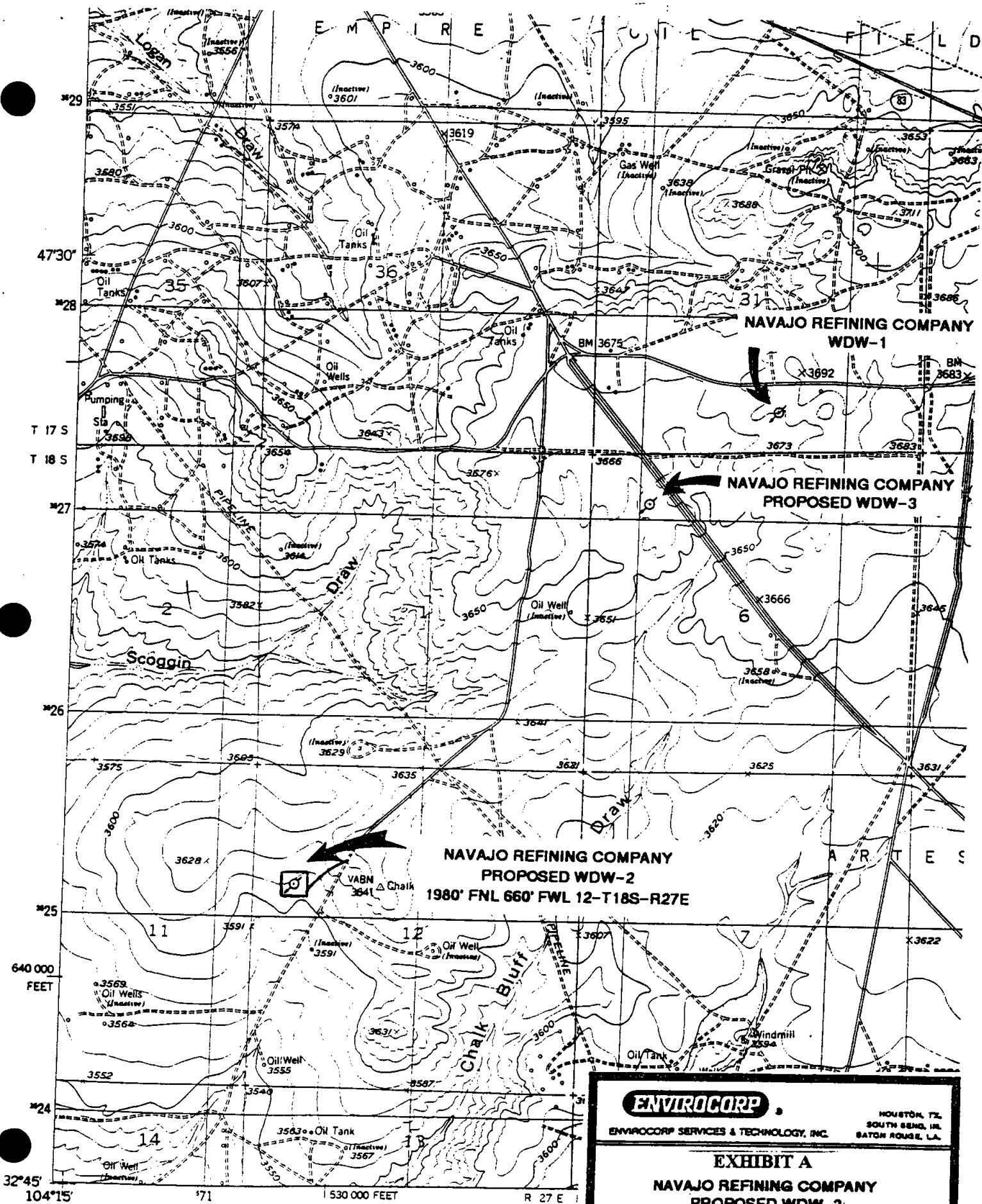
Date

Signature

Name

Title

Navajo Refining Company
Company



ENVIROCORP

ENVIROCORP SERVICES & TECHNOLOGY, INC.

HOUSTON, TX
SOUTH BEND, IN
BATON ROUGE, LA

EXHIBIT A

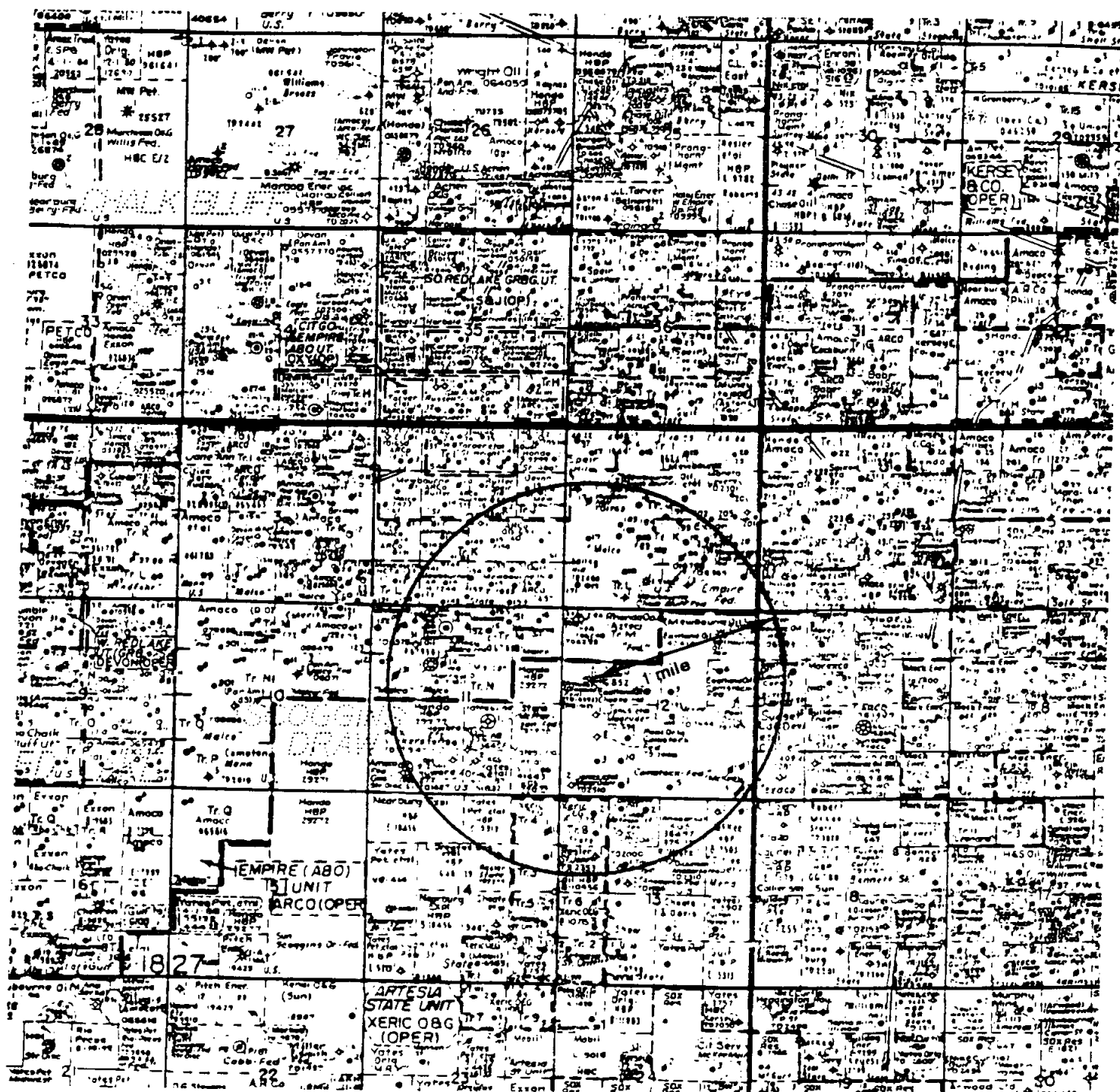
NAVajo REFINING COMPANY

PROPOSED WDW-2

1980' FNL 660' FWL 12-T18S-R27E

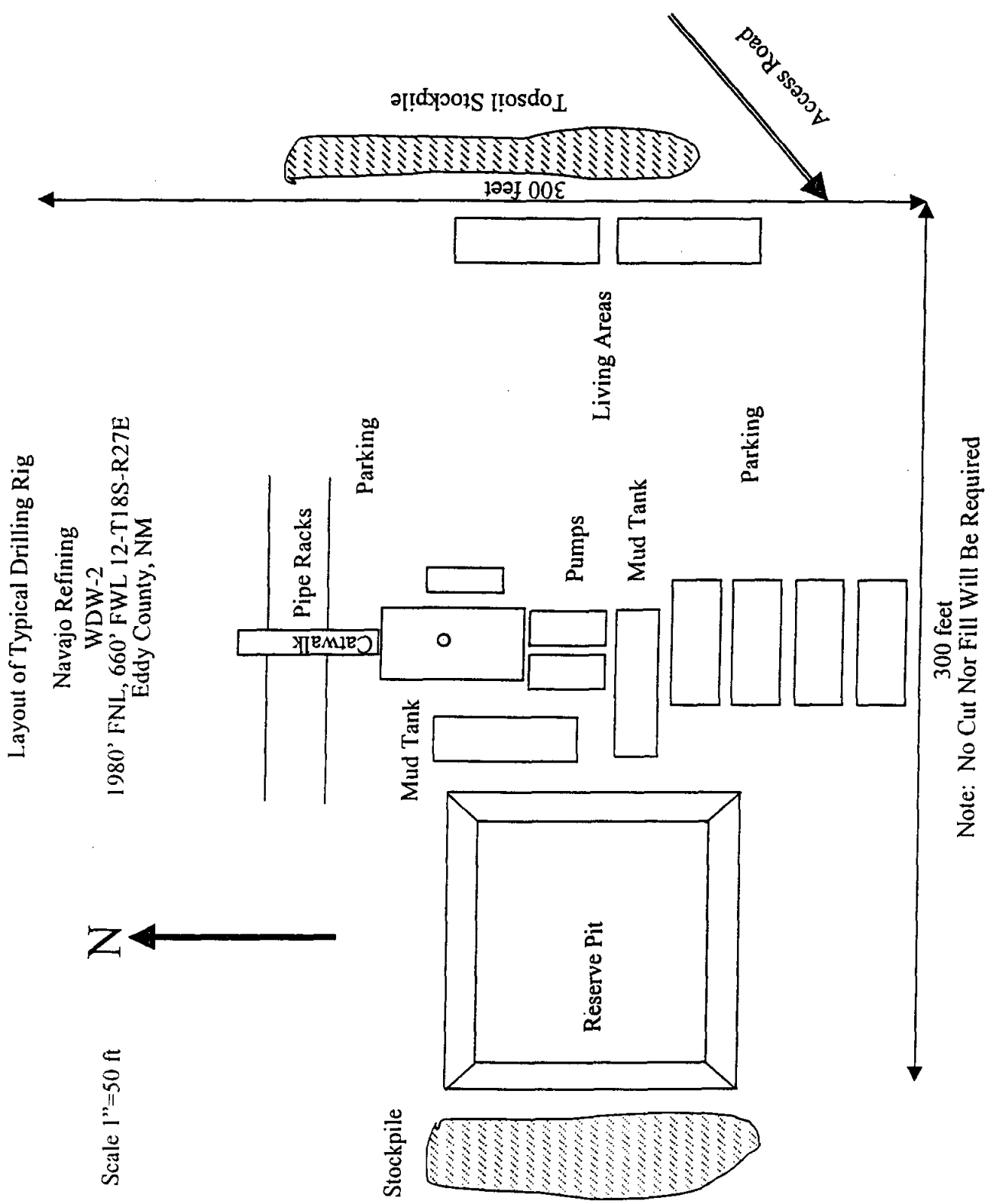
EDDY COUNTY, NM

DATE:	CHECKED BY:	JOB NO:
DRAWN BY:	APPROVED BY:	DWG. NO:



Map courtesy of Midland Map Company

ENVIROCORP		HOUSTON, TX	
ENVIROCORP SERVICES & TECHNOLOGY, INC.		SOUTH BEND, IN	
		BATON ROUGE, LA	
EXHIBIT B			
WELLS WITHIN 1 MILE OF			
NAVAJO REFINING COMPANY'S			
PROPOSED WDW-2			
1980' FNL, 660' FWL 12-T18S-R27E			
DATE: 4/7/99	CHECKED BY:	JOB NO:	
DRAWN BY: NLN	APPROVED BY:	IDWG. NO:	



APPENDIX 2.0-1

**ORIGINAL WELL INSTALLATION SUNDRY
NOTICES AND REPORTS ON WELLS**

Subsurface Technology, Inc.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

N. M. O. C. C. COPY
SUBMIT IN TRIP
(Other instructions on reverse side)

APPENDIX 2.0-1

NM- 6852

6. IF INDIAN, ALLEGED OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT" for such proposals.)

1. NAME OF OPERATOR ☐ WELL ☐ GAS WELL ☐ OTHER DRILLING

Ameco Production Company

3. ADDRESS OF OPERATOR

BOX 68, HOBBS, N. M. 88240

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

See also space 17 below.)

At surface

1980 FNL x 660 FWL SEC. 12 (UNIT E, SE 1/4 NW 1/4)

14. PERMIT NO.

15. ELEVATIONS (Show whether DP, RT, OR, etc.)

3607' GL

3623' R.D.B.

7. UNIT AGREEMENT NAME

DIAMOND FED. GAS CDM

8. FARM OR LEASE NAME

9. WELL NO.

10. FIELD AND UNIT, OR WILDCAT

SCOGGIN DRAW - MORROW

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

12-18-27-NM PM

12. COUNTY OR PARISH 13. STATE

EDDY

N.M.

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF

PULL OR ALTER CASING

WATER SHUT-OFF

REPAIRING WELL

FRACTURE TREAT

MULTIPLE COMPLETE

FRACTURE TREATMENT

ALTERING CASING

SHOOT OR ACIDIZE

ABANDON*

SHOOTING OR ACIDIZING

ABANDONMENT*

REPAIR WELL

CHANGE PLANS

(Other)

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Delta Drilg Co. spudded 11" hole 3: PM 7-18-73.

On 7-22-73, 8 7/8" OD 32" BR K-55 Casing was set

@ 1955 w/ 7005x Incor 2% Gel + 100 ps meat. Circ. 200 Sr.

Test w/ 18 hours. tested casing w/ 500 ps. for 30 min.

Test O.K.

Reduced hole to 7 7/8" @ 1955' and resumed drilling.

RECEIVED

JUL 24 1973

U. S. GEOLOGICAL SURVEY
ALBUQUERQUE, NEW MEXICO

18. I hereby certify that the foregoing is true and correct

SIGNED

E. E. Yorkum

TITLE

ADMINISTRATIVE ASSISTANT

DATE

JUL 23 1973

APPROVED

APPROVAL IF ANY:

TITLE

DATE

4-115GS-ABT

1-01V

1-305 P

1-12KV

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other in-
structions on
reverse side)Form approved.
Bulket Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

TYPE OF WELL:

OIL

☐

GAS

☐DRY ☒

Other

b. TYPE OF COMPLETION:

NEW

☐

WORK

☐

DEEP-

☐

PLUG

☐

DIFF.

☐

RECEIVED

Other

2. NAME OF OPERATOR

Amoco Production Company

SEP 24 1973

3. ADDRESS OF OPERATOR

BOX 68, HOBBS, N. M. 88240

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)

At surface

1980 FNL X 660 FWL Sec 12. (Unit E, SE 1/4 NW 1/4)

At top prod. interval reported below

At total depth

14. PERMIT NO.

DATE ISSUED

15. DATE SPUDDED

7-18-73

16. DATE T.D. REACHED

8-27-73

17. DATE COMPL. (Ready to prod.)

P & A

18. ELEVATIONS (DF, RKB, RT, OR, ETC.)*

3623' RDB

19. ELEV. Casinghead

-

20. TOTAL DEPTH, MD & TVD

10,372

21. PLUG, BACK T.D., MD & TVD

P & A

22. IF MULTIPLE COMPL.,
HOW MANY*23. INTERVALS
DRILLED BY

ROTARY TOOLS

CABLE TOOLS

10-TD

24. PRODUCING INTERVAL(S). OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

NONE

25. WAS DIRECTIONAL
SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

GR-N - DUAL IND LLL

27. WAS WELL CORED

No

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 7/8	32#	1955	11"	800 SX	NONE

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

30. TUBING RECORD

31. PERFORATION RECORD (Interval, size and number)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.* PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
DATE OF TEST		HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BSL.	GAS—MCF.	WATER—BSL.
FLOW. TUBING PRESS.		CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BSL.	GAS—MCF.	WATER—BSL.	LOW GRAVITY-API (CORR.)
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)							

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

TITLE ADMINISTRATIVE ASSISTANT

DATE

9-10-73

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ORIGINAL COPY
SUBMIT IN TRIP
(Other instructions
reverse side)

TR-1

FORM 10-70 (Rev. 12-11-72)
5. LEASE DESIGNATION AND SERIAL NO.
NM-8802
6. IF INDIAN, ALLOTTEE, OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals.)

1. NAME OF OPERATOR
Amoco Production Company
2. ADDRESS OF OPERATOR
BOX 68, HOSES, N. M. 88240
3. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface
1980 FNLX 660 FWL Sec. 12 (Unit E, SE 1/4 NW 1/4)
14. PERMIT NO.
15. ELEVATIONS (Show whether DF, RT, OR, etc.)
3623 R.D.B.

7. UNIT ACREAGE (Cont. 1000)
DIAMOND FEECHER CO.
8. FARM OR RANCH NAME

9. WELL NO.
1
10. FIELD AND FOOT OR WILDCAT
SCOGGIN DRAIN MUDROW
11. SEC., T., R., S., TLEK, AND
SURVEY OR AREA
12-18-22 N.M.P.M.
12. COUNTY OR PARISH 13. STATE
EDDY N.M.

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

WATER SHUT-OFF
FRACTURE TREAT
SHOOT OR ACIDIZE
REPAIR WELL
(Other)

PULL OR ALTER CASING
MULTIPLE COMPLETE
ABANDON*
CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF
FRACTURE TREATMENT
SHOOTING OR ACIDIZING
(Other)

REPAIRING WELL
ALTERING CASING
ABANDONMENT*

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

* Drilled to a TD of 10,372' without encountering oil or gas. Logs and evaluations confirmed Dry Hole.
* Propose to P+ A as follows: Cement Plugs - Class 14
INTERVAL LENGTH FORMATION 5x CEMENT

9775-9675	100'	Mudrow	45
7535-7435	100'	GISCO	50
5556-5456	100'	ABO	40
3720-3620	100'	YESO	50
2045-1945	100'	8 3/8" CSA 1995	40
Surface	10-20'	Fract P+ A marker	105x

All intervals to be filled w/ Arty mud.
Location to be cleaned & levelled.

RECEIVED
SEP-4-1973
U. S. GEOLOGICAL SURVEY
ARTESIA, N.M. MEXICO

* Pursuant to Mr. Leon Bukmans verbal approval 8-25-73.

I hereby certify that the foregoing is true and correct

SIGNED

TITLE AREA ENGINEER

DATE AUG 21 1973

(This space for Federal or State office use)

APPROVED BY
CONDITIONS OF APPROVAL TO AND:

TITLE

DATE

+ 4 USGS-Aet

1-21V

1-22V

1-22V

SEP 11 1973

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TRIPE
(Other instructions
verse side)Form Approved
Bureau No. 42-R1424

5. LEASE DESIGNATION AND SERIAL NO.

NM-6852

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

DIAMOND FED. GAS COM

8. FARM OR LEASE NAME

9. WELL NO.

10. FIELD AND POOL, OR WILDCAT

SCOGGIN DRAW-MORROW

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

12-18-27 NMPM

12. COUNTY OR PARISH

EDDY

13. STATE
NMSUNDRY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)OIL WELL ☐ GAS WELL ☐ OTHER ☐

DRY HOLE

2. NAME OF OPERATOR
Amoco Production Company

SEP - 5 1974

3. ADDRESS OF OPERATOR

BOX 68, HOBBS, N. M. 88240

O. C. C.

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

1980' FNLY 660' FWL Sec. 12 (UNIT E, SE 1/4 NW 1/4)

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

3623' R.D. B.

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any
proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertain-
ing to this work.) *

Physical abandonment of well concluded 8-31-73.
Plugged and abandoned as follows:

SX CEMENT	INTERVAL	LENGTH	FORMATION
45	9775-9765	100'	MORROW
50	7535-7435	100'	CUOCO
40	5556-5456	100'	ABO
50	3720-3620	100'	YESO
40	2045-1945	878' CSA	1995' - circ.
10	Surface & erected P-A marker.		

all intervals filled w/ mud.

Location to be cleaned & leveled.

RECEIVED
SEP - 5 1973

18. I hereby certify that the foregoing is true and correct

SIGNED

ADMINISTRATIVE ASSISTANT

DATE SEP 5 1973

(This space for Federal or State office use)

APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

*See Instructions on Reverse Side

4- USGS AET
1- DIV
1- SUSP
1- REV

APPENDIX 2.0-2

PLUG-BACK SUNDRY NOTICES AND REPORTS ON WELLS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPENDIX 2.0-2

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

B. TYPE OF WELL

OIL
WELL ☒GAS
WELL ☐OTHER *Re-entry*SINGLE
ZONE ☒MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Fred Pool Drilling, Inc.

3. ADDRESS OF OPERATOR

P. O. Box 1393, Roswell, N.M. 88201

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

1980' FNL & 660' FWL

At proposed prod. zone

(Unit E)

(SW $\frac{1}{4}$ NW $\frac{1}{4}$)

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

11 air miles east-southeast of Artesia, N.M.

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drig. unit line, if any)

660'

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

1650'

16. NO. OF ACRES IN LEASE

160

19. PROPOSED DEPTH

1945'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

3607 GR

22. APPROX. DATE WORK WILL START*

8-31-85

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
4 1/4"	8 5/8"	32#	2000	Circ.
12 1/4" pipe				

This is a re-entry of Diamond Fed. Gas Com #1 plugged and abandoned 8-31-73.

OTO: 10,372

- Attached are:
- 1) Well location & acreage dedication plat
 - 2) Supplemental drilling data
 - 3) Surface use plan
 - 4) Designation of operator
 - 5) Original approved application by Amoco Production Co. for Diamond Federal Gas Com #1

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

TITLE

President

DATE

8-16-85

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

8-29-85

CONDITIONS OF APPROVAL, IF ANY:

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL CONDITIONS

*See Instructions On Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.

NM 6852

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Chukka Federal

9. WELL NO.

2

10. FIELD AND POOL OR WILDCAT

Artesia Oil Pool

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec.12-T 18S- R 27E

OIL WELL ☒ GAS WELL ☐ OTHER ☐

2. NAME OF OPERATOR

FRED POOL DRILLING, INC.

3. ADDRESS OF OPERATOR

P.O. Box 1393 Roswell, N.M. 88201

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)

At surface

1980 DNL 660 FWL
Unit E SW $\frac{1}{4}$ NW $\frac{1}{4}$

14. PERMIT NO.

15. ELEVATIONS (Show whether OF, RT, GR, etc.)

3607 GR

12. COUNTY OR PARISH

Eddy

13. STATE

NM

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

PULL OR ALTER CASING

FRACTURE TREAT

MULTIPLE COMPLETE

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

(Other)

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

REPAIRING WELL

FRACTURE TREATMENT

ALTERING CASING

SHOOTING OR ACIDIZING

ABANDONMENT*

(Other)

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

9-5-85: Drilled cement out of surface from 0-30 ft.
Stringers of cement to 50 ft.
Tagged No. 2 plug at 1912 ft. Pulled tubing back to 1804 ft.; circulated hole with fresh water.
Preparing to log and perforate well.

18. I hereby certify that the foregoing is true and correct

SIGNED

Santa Pool

TITLE

Clerk

DATE 9-6-85

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

SEP 10 1985

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Form approved.
Budget Bureau No. 42-R1424.
5. LEASE DESIGNATION AND SERIAL NO.
NM 6852
6. IF INDIAN, ALLOTTEE OR TRIBE NAME
7. UNIT AGREEMENT NAME
8. FARM OR LEASE NAME
Chukka Federal
9. WELL NO.
2
10. FIELD AND POOL, OR WILDCAT
Artesia Oil Pool
11. SEC. T. R. M., OR BLE. AND
SURVEY OR AREA
Sec, 12-T18S-R27E
12. COUNTY OR PARISH
Eddy
13. STATE
NM,

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals.)

OIL WELL ☒ GAS WELL ☐ OTHER ☐ re-entry SEP 13 1985

2. NAME OF OPERATOR
Fred Pool Drilling, Inc.

3. ADDRESS OF OPERATOR
P.O. Box 1393 Roswell, N.M. 88201

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface
1980 FNL 660 FWL Unit E
SW $\frac{1}{2}$ NW $\frac{1}{2}$

14. PERMIT NO.
3001520894

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
3607 GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐ PULL OR ALTER CASING ☐
FRACTURE TREAT ☐ MULTIPLE COMPLETE ☐
SHOOT OR ACIDIZE ☐ ABANDON* ☐
REPAIR WELL ☐ CHANGE PLANS ☐
(Other) ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐ REPAIRING WELL ☐
FRACTURE TREATMENT ☐ ALTERING CASING ☐
SHOOTING OR ACIDIZING ☒ ABANDONMENT* ☐
(Other) ☐

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

September 8, 1985

Perforations: 1446-56 ft. and 1459-62
14 shots.

Acidized with 1000 gallons NE 15%; and 30,000
gallons Versagel; 30,000# 20/40 sand and
12,000 # 10/20 sand.

Pumping well back to test.

18. I hereby certify that the foregoing is true and correct

SIGNED Fred Pool

TITLE Vice - president

DATE 9-11-85

(This space for Federal or State office use)

APPROVED BY ACCEPTED FOR RECORD
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____

DATE _____

SEP 16 1985

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.2.

5. LEASE DESIGNATION AND SERIAL NO.

NM 6852

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Chukka Federal

9. WELL NO.

2

10. FIELD AND POOL OR WILDCAT

Artesia Oil Pool

11. SEC., T. R., M., OR BLOCK AND SURVEY
OR AREA

Sec. 12-T18S-R27E

12. COUNTY OR
PARISH
Eddy13. STATE
NM

15. DATE SPUNDED 8-30-85 16. DATE T.D. REACHED 9-6-85 17. DATE COMPL. (Ready to prod.) 9-10-85 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 3607 GR 19. ELEV. CASINGHEAD 3607 GR

20. TOTAL DEPTH, MD & TVD 1912 ft. 21. PLUG, BACK T.D., MD & TVD 1912 ft. 22. IF MULTIPLE COMPL. HOW MANY* 23. INTERVALS DRILLED BY 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 1446-1462 ft. Penrose 25. WAS DIRECTIONAL SURVEY MADE No

26. TYPE ELECTRIC AND OTHER LOGS RUN Compensated Neutron 27. WAS WELL CORED no

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8	32#	2000	11"	circulated	0

29. LINER RECORD					30. TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 3/8	1804 ft.	

31. PERFORATION RECORD (Interval, size and number)

1446-56 ft.
1459-62 ft. 14 holes

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
1446-56	1000 gal. NE 15%, 30,000
1459-62	gal. Versagel; 30,000 #
	20/40 sand; 12,000# 10/20 sand.

33. PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
9-12-85		Pumping				Producing	
DATE OF TEST	HOURS TESTED	CHOKED SIZE	PROD. FOR TEST PERIOD	OIL—BDL.	GAS—MCF.	WATER—BDL.	GAS-OIL RATIO
9-12-85	24	none		31	TSTM	0	
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BDL.	GAS—MCF.	WATER—BDL.	OIL GRAVITY-API (CORR.)	
40#	40#		31	TSTM	20	35	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

vented

TEST WITNESSED BY

Fred Pool, Jr.

35. LIST OF ATTACHMENTS

Compensated Neutron log, mailed 9-10-85

hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

TITLE Vice President

DATE 9-13-85

APPENDIX 2.5-1

LETTER TO BUREAU OF LAND MANAGEMENT, DATED MAY 17, 1999

Subsurface Technology, Inc.

TELEPHONE
(505) 748-3311

SYLINK
62905278



REFINING COMPANY

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159

RECEIVED

FAX

(505) 746-6410 ACCTG
(505) 746-6155 EXEC
(505) 748-9077 ENGR
(505) 746-4438 P / L

May 17, 1999

MAY 19 1999

SUBSURFACE TECHNOLOGY, INC.

Mr. James A. Amos
Supervisor Petroleum Engineer Technician
United States Department of the Interior
Bureau of Land Management
620 E. Greene Street
Carlsbad, New Mexico 88220-6292

RE: Pressure Control Test Results, Navajo Refining Company,
WDW-2, Sec12-T18S-R27E

Dear Mr. Amos:

Navajo Refining Company (Navajo) has successfully completed pressure testing the Blow Out Prevention Equipment (BOPE) during the re-entry of WDW-2 (formerly The Eastland Oil Company's Chukka Federal No. 2). Two BOPE tests were performed in compliance with the United States Department of the Interior, Bureau of Land Management, 43 CFR Part 3160. The first test was successfully completed May 13, 1999, upon the initial installation of the BOPE. The second test was successfully completed on May 15, 1999, after drilling into the 100 foot 8-5/8 inch surface casing shoe cement plug at 1912 feet and before drilling into the 100 foot Abo cement plug at approximately 5456 feet. The pressure control test results satisfy Section III(3)(A) of the Conditions of Approval attached to the Application for Permit to Drill or Deepen, approved April 27, 1999.

Third-party representatives were contracted to witness and perform all BOPE testing in accordance with the requirements of Bureau of Land Management, Onshore Oil and Gas Order No. 2, Section III(A), dated December 19, 1988. Testing was performed by Scarbrough, Inc. of Hobbs, New Mexico and witnessed by Don Wilson (Scarbrough, Inc.), Brian Rogers (Subsurface Construction Corporation as general contractor), and Paul Noseff (Patterson Drilling Company). A test plug was utilized to isolate the BOPE from the open-hole wellbore.

Should you have any questions or concerns please feel free to call me at (505)748-3311.

Sincerely yours,
NAVAJO REFINING COMPANY

Darrell Moore

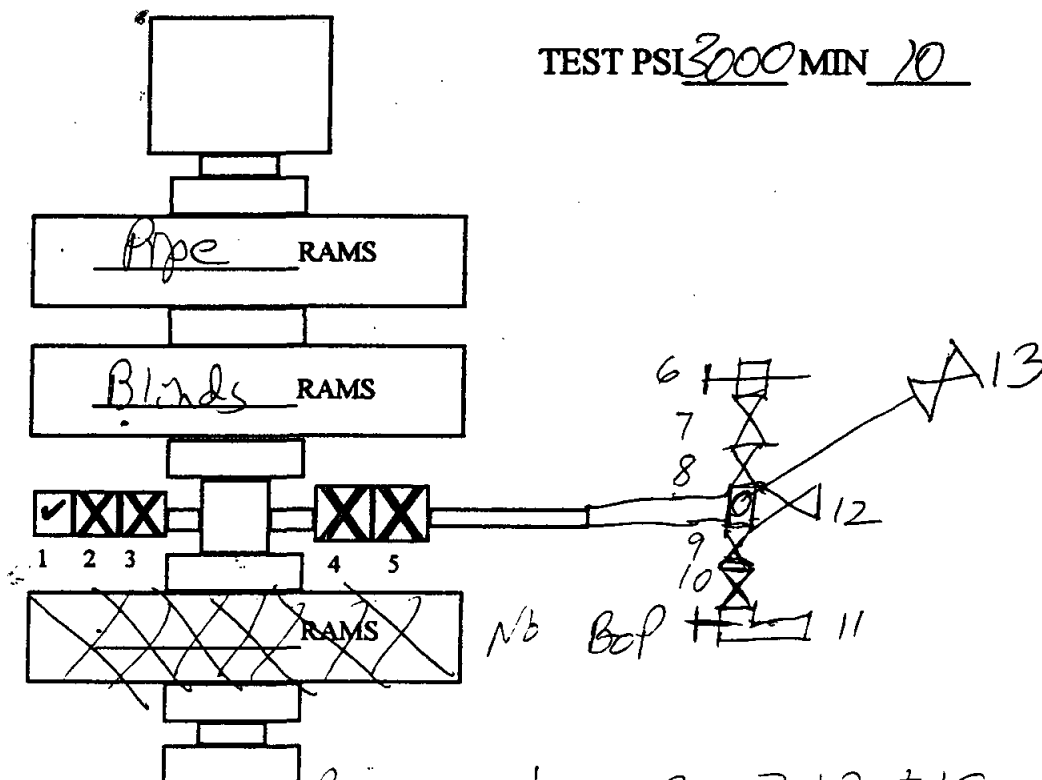
Darrell Moore
Environmental Manager for Water and Waste

c: Brian Rogers
Subsurface Construction Company
7020 Portwest, Suite 100
Houston, Texas 77084

SCARBROUGH, INC.

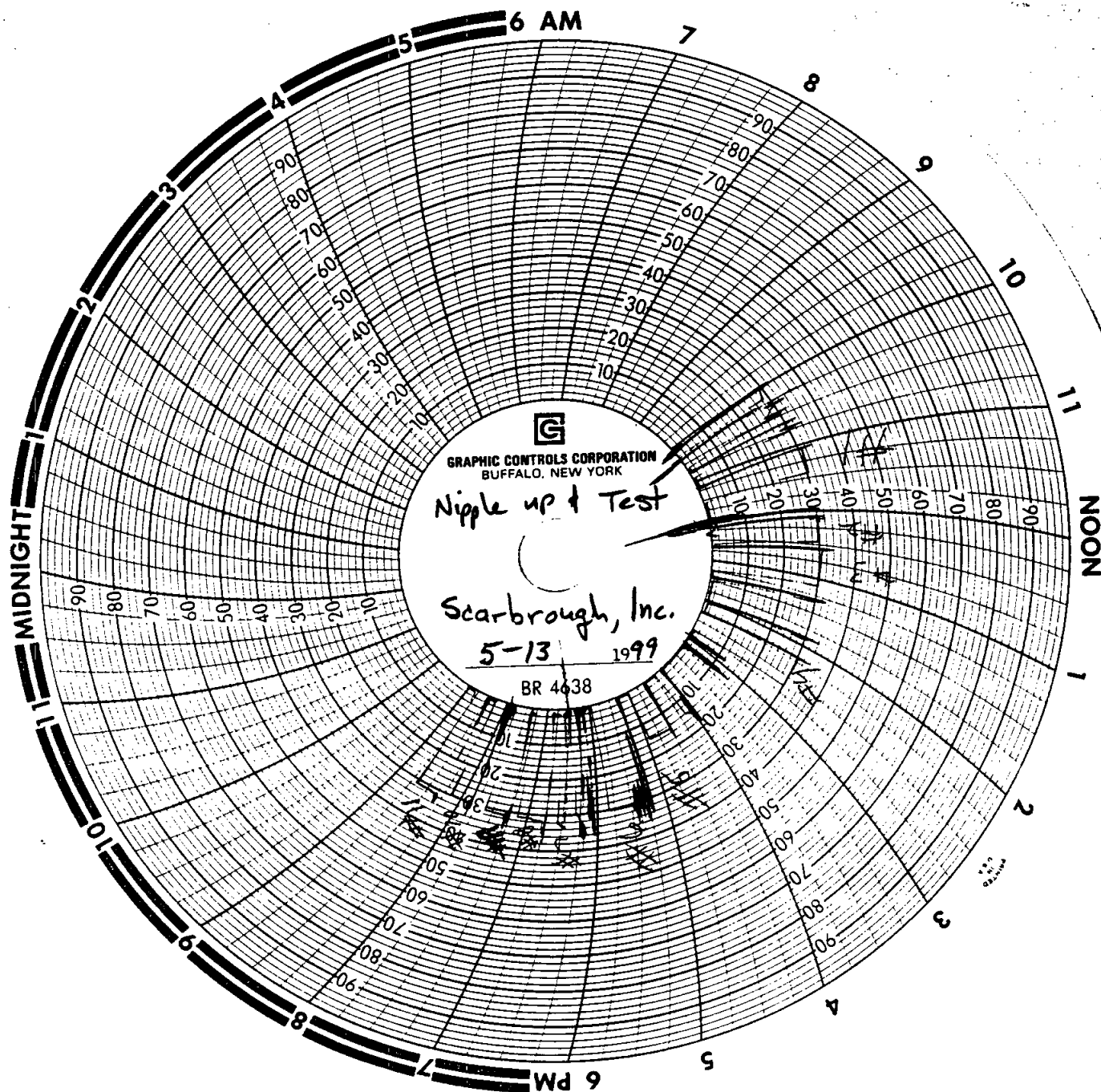
COMPANY: Subsurface Technology DATE: 5-14-99
 LEASE: NAVAJO WDW #2 DRILLING RIG: Patterson 47
 TYPE PLUG: 1 1/2" ULFCO SIZE: 11" DRILL PIPE: 4 1/2" X 14'

TEST PSI 3000 MIN 10



- TEST #1 Test Blind Rams + valves 2, 7, 12 & 10 Fix Leak Between valves 4 & 5
- #2 Test Pipe Rams + valves 3 & 8 & 12
- #3 Test Pipe Rams + 3 & 5 valves
- #4 Test Pipes + valves 3 & 4 Leak on Spool Between Valve #3 ReTest
- #5 Hydr. 1 1500# 10m;
- #6 Blinds with choke 6 & 13 & valves 2 & 12 Choke #11 Needs Rebuilt & sk. valve Needs Replaced
- #7 Test Dart Valve (No test)
- #8 Test Floor Valve
- #9 Test Lower Kelly Valve
- #10 Test Upper Kelly Valve
- #11 Test Dart Valve
- #12 Accumulator Test close Blinds Pipe & Hydr. 11 1700# on unit after test 500# Above Precharge

Tested well on 8 5/8 starting head 1500#



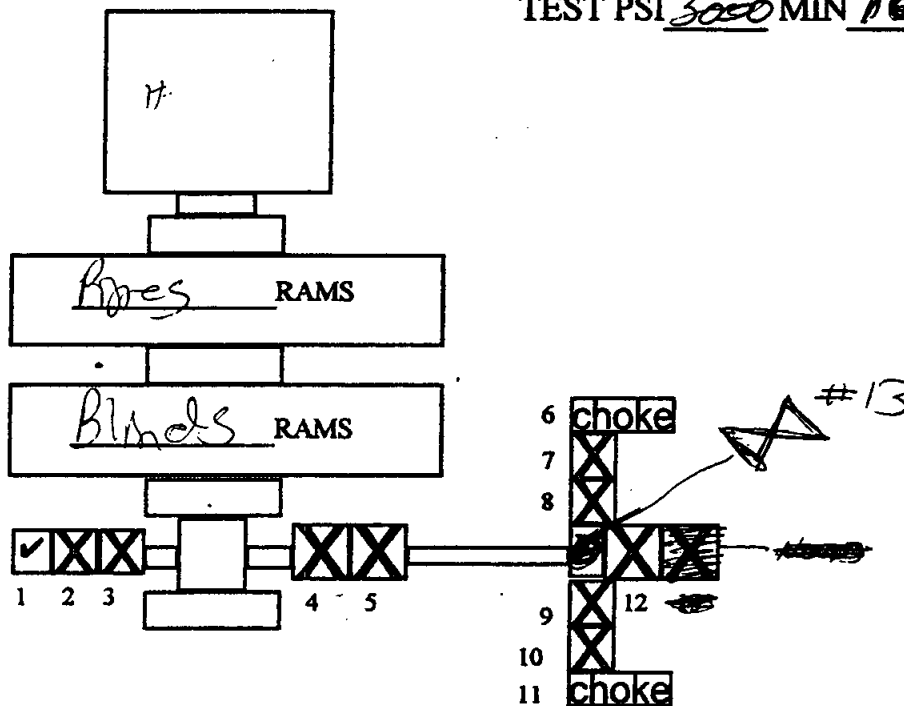
SCARBROUGH, INC.

COMPANY: Subsurface Technology DATE: 5-15-99

LEASE: Navajo wov #2 DRILLING RIG: Patterson Rig 47

TYPE PLUG: Cufco SIZE: 11" DRILL PIPE: 4 1/2" XH

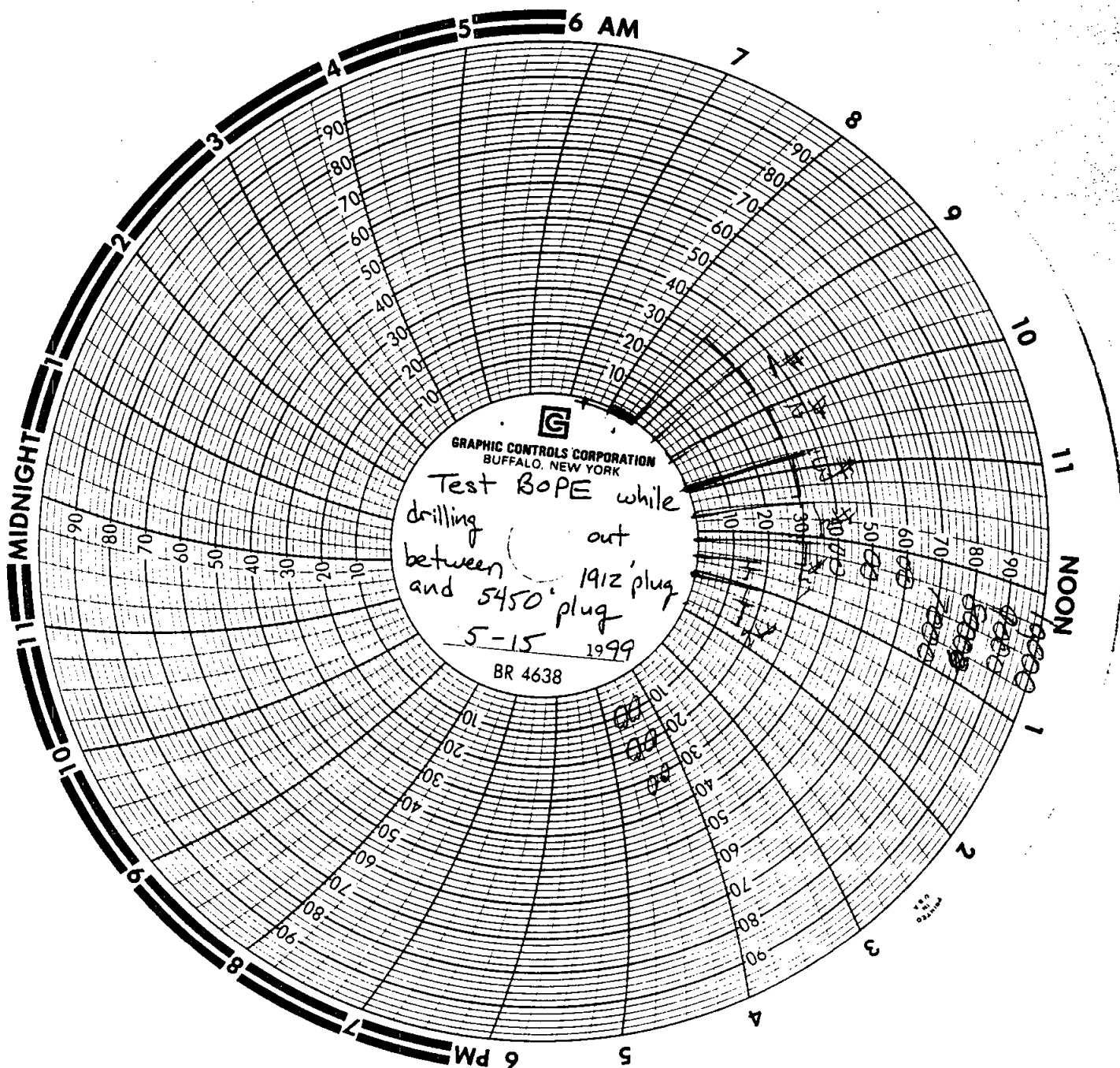
TEST PSI 3000 MIN 10



TEST#1 Test Blind Rams & valves 6 & 11 & 12
 Test#2 Test Blinds with valves 2, 7 & 10 w/ Ball removed }
 Test#3 Pipe Rams valves 8, 13, 9 & 3 (From check valve #1)
 Test#4 Pipe Rams check valve #1 & valve #5
 Test#5 Pipe Rams & valves 1 & 4
 Test#6 Test Annular to 1500#

Tested By BLM Requirements
 by Don Wilson Scarbrough Eq. Inc.

Don Wilson



APPENDIX 2.6-1

LONG-STRING CASING, MILL TEST REPORT

Subsurface Technology, Inc.

APPENDIX 2.8-1

FORMATION FLUID ANALYSIS

Subsurface Technology, Inc.

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
4725 Ripley Avenue, Suite A

Lubbock, Texas 79424 806•378•1296 806•794•1296 FAX 806•794•1298
El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

July 14, 1999

Receiving Date: 06/15/99

Sample Type: Water

Project No: N/A

Project Location: Artesia, NM

ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

Sampling Date: 06/14/99
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: N/A

SAMPLES RAN AT ROOM TEMPERATURE.

TA#	FIELD CODE	pH (s.u.)	FLUORIDE (mg/L)	CHLORIDE (mg/L)	NO3-N (mg/L)	SO4 (mg/L)	ALKALINITY (mg/L as CaCO3)			SPECIFIC GRAVITY (g/mL)	TSS (mg/L)
							CO3	HC03	TOTAL		
T126544	Formation Fluid 7570-7730	7.0	9.7	---	<10	2,500	0	1110	1110	1.0082	130
T126545	Formation Fluid 7826-8399	7.2	9.7	---	<10	2,000	0	1210	1210	1.0249	35
T126546	Plant Wastewater	6.4	74	630	<10	570	---	---	---	1.0067	69
T126547	7570-7730 2:1	7.1	32	---	<10	1,700	44	676	720	1.0041	80
T126548	7570-7730 1:1	7.4	35	---	<10	1,400	144	348	492	0.9873	94
T126549	7570-7730 1:2	7.4	49	2,500	<10	1,100	104	164	268	0.9802	84
T126550	7826-8399 2:1	7.4	28	---	<10	1,500	0	782	782	1.0210	50
T126551	7826-8399 1:1	7.4	35	---	<10	1,300	0	618	618	1.0047	36
T126552	7826-8399 1:2	7.6	46	---	<10	990	80	288	368	1.0060	63
ICV		7.1	2.45	11.95	4.65	12.78				---	---
CCV		7.1	2.44	13.18	4.65	13.80				---	---
PREP DATE		6/15/99	6/16/99	6/16/99	6/16/99	6/16/99				6/22/99	6/18/99
ANALYSIS DATE		6/15/99	6/16/99	6/16/99	6/16/99	6/16/99				6/22/99	6/18/99
RPD		0	5	0	1	0				0	16
% Extraction Accuracy		---	100	95	91	102				---	---
% Instrument Accuracy		100	98	96	93	102				---	---
REPORTING LIMIT		---	0.1	0.5	0.2	0.5				---	1.0

METHODS: EPA 150.1, 300.0, 310.1, ASTM D 854-92, 160.2

CHEMIST: pH: BP FLUORIDE/CHLORIDE/NO3-N/SO4: JS ALKALINITY: MD TSS: RS

FLUORIDE SPIKE: 12.5 mg/L FLUORIDE.

CHLORIDE SPIKE: 62.5 mg/L CHLORIDE.

NO3-N SPIKE: 25 mg/L NO3-N.

SO4 SPIKE: 62.5 mg/L SO4

FLUORIDE CV: 2.5 mg/L FLUORIDE.

CHLORIDE CV: 12.5 mg/L CHLORIDE.

NO3-N CV: 5.0 mg/L NO3-N

SO4 CV: 12.5 mg/L SO4

Director, Dr. Blair Leftwich

Date

7-14-99



6701 Aberdeen Avenue, Suite 9
4725 Ripley Avenue, Suite A

Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944

E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

July 14, 1999

Receiving Date: 06/15/99

Sample Type: Water

Project No.: N/A

Project Location: Artesia, NM

Sampling Date: 06/14/99

Sample Condition: Intact & Cool

Sample Received by: VW

Project Name: N/A

SAMPLES RUN AFTER BEING HEATED TO 130 F.

TA#	FIELD CODE	pH (s.u.)	FLUORIDE (mg/L)	CHLORIDE (mg/L)	NO3-N (mg/L)	SO4 (mg/L)	ALKALINITY (mg/L as CaCO3)			SPECIFIC GRAVITY (g/mL)	TSS (mg/L)
							CO3	HC03	TOTAL		
T126544	Formation Fluid 7570-7730	7.7	9.8	5,200	<10	1,900	28	518	546	1.0104	510
T126545	Formation Fluid 7826-8399	7.8	8.7	11,000	<10	1,600	32	602	634	1.0244	340
T126546	Plant Wastewater	6.6	77	450	<10	470	0	40	40	1.0017	64
T126547	7570-7730 2:1	8.3	28	3,800	---	1,600	16	212	228	1.0087	390
T126548	7570-7730 1:1	8.3	---	---	---	---	0	66	66	1.0041	400
T126549	7570-7730 1:2	8.4	---	---	---	---	24	232	256	1.0022	330
T126550	7826-8399 2:1	8.5	---	---	---	---	44	322	366	1.0134	78
T126551	7826-8399 1:1	8.2	---	---	---	---	48	258	306	1.0064	160
T126552	7826-8399 1:2	8.8	---	---	---	---	108	212	320	1.0065	68
ICV		7.0	2.41	11.52	4.71	11.99		2,320		---	---
CCV		7.1	2.40	11.51	4.67	11.98		2,320		---	---
PREP DATE		6/24/99	7/2/99	7/2/99	6/24/99	7/2/99		6/28/99		6/28/99	6/25/99
ANALYSIS DATE		6/24/99	7/2/99	7/2/99	6/24/99	7/2/99		6/28/99		6/28/99	6/25/99
RPD		0	0	0	1	1		18		1	3
% Extraction Accuracy		---	94	92	99	94		---		---	---
% Instrument Accuracy		100	96	92	94	96		97		---	---
REPORTING LIMIT		---	0.1	0.5	0.2	0.5		4		---	1.0

METHODS: EPA 150.1, 300.0, 310.1, ASTM D 854-92, 160.2
CHEMIST: pH: BP FLUORIDE/CHLORIDE/NO3-N/SO4: JS ALKALINITY: MD TSS: RS
FLUORIDE SPIKE: 125 mg/L FLUORIDE.
CHLORIDE SPIKE: 625 mg/L CHLORIDE.
NO3-N SPIKE: 250 mg/L NO3-N.
SO4 SPIKE: 625 mg/L SO4

72

7-14-99

Director, Dr. Blair Leftwich

Date

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
4725 Ripley Avenue, Suite A

Lubbock, Texas 79424 800•378•1296
El Paso, Texas 79922 888•588•3443
E-Mail: lab@traceanalysis.com

806•794•1296 FAX 806•794•1298
915•585•3443 FAX 915•585•4944

ANALYTICAL RESULTS FOR NAVAJO REFINING

Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

July 14, 1999
Receiving Date: 06/15/99
Sample Type: Water
Project No: N/A
Project Location: Artesia, NM

Sampling Date: 06/14/99
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: N/A

SAMPLES RAN AT ROOM TEMPERATURE.

TA#	FIELD CODE	TDS (mg/L)	SPECIFIC CONDUCTANCE (uMHOs/cm)
T126544	Formation Fluid 7570-7730	---	23,000
T126545	Formation Fluid 7826-8399	---	43,000
T126546	Plant Wastewater	1,400	2,800
T126547	7570-7730 2:1	9,100	14,000
T126548	7570-7730 1:1	7,400	11,000
T126549	7570-7730 1:2	5,600	8,200
T126550	7826-8399 2:1	14,000	30,000
T126551	7826-8399 1:1	12,000	---
T126552	7826-8399 1:2	8,900	---
ICV		1,010	1,272
CCV		1,103	1,315
PREP DATE		6/17/99	6/17/99
ANALYSIS DATE		6/17/99	6/17/99
RPD		1	0
% Extraction Accuracy		---	---
% Instrument Accuracy		101	90
REPORTING LIMIT		---	11

METHODS: EPA 120.1, 160.1
CHEMIST: SPECIFIC CONDUCTANCE/TDS: MD


Director, Dr. Blair Leftwich

7-14-99
Date

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
4725 Ripley Avenue, Suite A

Lubbock, Texas 79424
El Paso, Texas 79922

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FAX 806•794•1298
FAX 915•585•4944

E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR NAVAJO REFINING CO.

July 16, 1999

Receiving Date: 06/15/99

Sample Type: Water

Project No: N/A

Project Location: Artesia, NM WDW-2

Project Name: N/A

Attention: Darrel Moore

501 E. Main

Artesia, NM 88210

Prep Date: 07/08/99

Analysis Date: 07/08/99

Sampling Date: 06/14/99

Sample Condition: I & C

Sample Received by: VW

Samples ran after being heated to 130 F.

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T126544	Formation Fluid 7570-7730	57.1	127	306	3,110
T126545	Formation Fluid 7826-8399	141	114	269	8,000
T126546	Plant Wastewater	21	34	21	484
T126547	7570-7730 2:1	56	122	325	2,780
T126548	7570-7730 1:1	48	96	219	2,210
T126549	7570-7730 1:2	38	74	146	1,562
T126550	7826-8399 2:1	122	105	271	6,455
T126551	7826-8399 1:1	92	82	179	4,837
T126552	7826-8399 1:2	68	67	165	3,465
ICV		20.9	20.4	20.3	21.1
CCV		21.2	20.6	20.3	21.2
Reporting Limit		0.50	0.50	0.50	0.50
RPD		1	1	0	4
% Extraction Accuracy		110	99	101	108
% Instrument Accuracy		105	102	102	105

METHODS: EPA SW 846-6010B, 3005A

CHEMIST: RR

TOTAL SPIKE: 1000 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

TOTAL CV: 20 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

Director, Dr. Blair Leftwich

7-16-99

Date

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
4725 Ripley Avenue, Suite A

Lubbock, Texas 79424 800•378•1296
El Paso, Texas 79922 888•588•3443
E-Mail: lab@traceanalysis.com

806•794•1296 FAX 806•794•1298
915•585•3443 FAX 915•585•4944

ANALYTICAL RESULTS FOR NAVAJO REFINING CO.

July 16, 1999

Receiving Date: 06/15/99

Sample Type: Water

Project No: N/A

Project Location: Artesia, NM WDW-2

Project Name: N/A

Attention: Darrel Moore

501 E. Main

Artesia, NM 88210

Prep Date: 06/18/99

Analysis Date: 06/23/99

Sampling Date: 06/14/99

Sample Condition: I & C

Sample Received by: VW

Samples ran at room temperature.

TA#	Field Code	POTASSIUM (mg/L)	MAGNESIUM (mg/L)	CALCIUM (mg/L)	SODIUM (mg/L)
T126544	Formation Fluid 7570-7730	92	159	763	3,269
T126545	Formation Fluid 7826-8399	235	128	609	8,074
T126546	Plant Wastewater	18	31	21	424
T126547	7570-7730 2:1	69	118	467	2,533
T126548	7570-7730 1:1	54	94	385	1,929
T126549	7570-7730 1:2	44	76	277	1,388
T126550	7826-8399 2:1	156	96	408	5,997
T126551	7826-8399 1:1	123	81	325	4,602
T126552	7826-8399 1:2	83	65	218	3,117
ICV		19.5	19.7	19.9	19.9
CCV		19.7	19.5	20.0	19.8
Reporting Limit		0.50	0.50	0.50	0.50
RPD		2	1	0	2*
% Extraction Accuracy		116	95	106	106*
% Instrument Accuracy		98	98	99	99

*Used LCS/LCSD for EA/RPD due to required dilutions.

METHODS: EPA SW 846-6010B, 3005A

CHEMIST: RR

TOTAL SPIKE: 1000 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.

TOTAL CV: 20 mg/L POTASSIUM, MAGNESIUM, CALCIUM, SODIUM.


Director, Dr. Blair Leftwich

7-16-99
Date

69 RICHMOND AVENUE, SUITE 100, HOUSTON, TEXAS 77042
P.O. BOX 741905, HOUSTON, TEXAS 77274

TEL: (713) 789-5591
FAX: (713) 789-5593

CLIENT:	Trace Analysis, Inc.	REQUESTED BY:	Ms. Melissa Lopez
SAMPLE:		REPORT DATE:	June 28, 1999
LABORATORY NO:	15195	PURCHASE ORDER NO:	Pending

TEST **RESULTS**

<u>Lab No.</u>	<u>Sample ID.</u>	<u>Viscosity, Kinematics @ 25 °C, ASTM D445, cSt</u>	<u>Viscosity, Kinematics @ 25 °C, ASTM D445, cSt (After Heated to 130 °F for 16 hrs.)</u>
15196-01	126544	1.56	1.73
15196-02	126545	1.45	1.58
15196-03	126546	1.52	1.69
15196-04	126547	1.61	1.82
15196-05	126548	1.49	1.65
15196-06	126549	1.53	1.70
15196-07	126550	1.59	1.75
15196-09	126551	1.63	1.74
15196-09	126552	1.58	1.79
15196-09 (Duplicate)	126552 (Duplicate)	1.57	1.76

Respectfully submitted



Nader M. Sorurbakhsh, P.E.
Laboratory Director

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
4725 Ripley Avenue, Suite A

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E-Mail: lab@traceanalysis.com

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915•585•3443 FAX 915•585•4944

ANALYTICAL RESULTS FOR NAVAJO REFINING

Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

July 14, 1999
Receiving Date: 06/15/99
Sample Type: Water
Project No: N/A
Project Location: Artesia, NM

Sampling Date: 06/14/99
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: N/A

SAMPLES RAN AT ROOM TEMPERATURE.

TA#	FIELD CODE	TDS (mg/L)
T126544	Formation Fluid 7570-7730	13,000
T126545	Formation Fluid 7826-8399	20,000
ICV		988
CCV		985
PREP DATE		6/16/99
ANALYSIS DATE		6/16/99
RPD		2
% Extraction Accuracy		---
% Instrument Accuracy		99
REPORTING LIMIT		10
METHODS: EPA 160.1		
CHEMIST: TDS: MD		



Director, Dr. Blair Leftwich

7-14-99

Date

TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR NAVAJO REFINING

Attention: Darrell Moore

501 E. Main
Artesia, NM 88210

July 14, 1999

Receiving Date: 06/15/99

Sample Type: Water

Project No: N/A

Project Location: Artesia, NM

Sampling Date: 06/14/99

Sample Condition: Intact & Cool

Sample Received by: VW

Project Name: N/A

SAMPLES RAN AT ROOM TEMPERATURE.

TA#	FIELD CODE	SPECIFIC CONDUCTANCE (uMHOs/cm)
T126551	7826-8399 1:1	21,000
T126552	7826-8399 1:2	16,000
ICV		1,315
CCV		1,274
PREP DATE		6/17/99
ANALYSIS DATE		6/17/99
RPD		2
% Extraction Accuracy		---
% Instrument Accuracy		93
REPORTING LIMIT		11

METHODS: EPA SM 2510 B

CHEMIST: SPECIFIC CONDUCTANCE: JS



Director, Dr. Blair Leftwich

7-14-99

Date

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ANALYTICAL RESULTS FOR NAVAJO REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

July 14, 1999

Receiving Date: 06/15/99

Sample Type: Water

Project No: N/A

Project Location: Artesia, NM

Sampling Date: 06/14/99

Sample Condition: Intact & Cool

Sample Received by: VW

Project Name: N/A

SAMPLES RAN AFTER BEING HEATED TO 130 F.

TA#	FIELD CODE	SPECIFIC CONDUCTANCE (uMHOs/cm)	TDS (mg/L)
T126544	Formation Fluid 7570-7730	19,000	5,300
T126545	Formation Fluid 7826-8399	40,000	29,000
T126546	Plant Wastewater	2,900	1,500
T126547	7570-7730 2:1	13,000	9,100
T126548	7570-7730 1:1	10,000	7,200
T126549	7570-7730 1:2	7,900	5,200
T126550	7826-8399 2:1	30,000	19,000
T126551	7826-8399 1:1	21,000	16,000
T126552	7826-8399 1:2	15,000	9,700
ICV		1,279	999
CCV		1,332	1,005
PREP DATE		6/14/99	6/24/99
ANALYSIS DATE		6/24/99	6/24/99
RPD		1	1
% Extraction Accuracy		---	---
% Instrument Accuracy		90	100
REPORTING LIMIT		---	10

METHODS: EPA 120.1, 160.1

CHEMIST: SPECIFIC CONDUCTANCE/TDS: MD

Director, Dr. Blair Leftwich

7-14-99

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

July 14, 1999

Receiving Date: 06/15/99

Sample Type: Water

Project No: N/A

Project Location: Artesia, NM

Sampling Date: 06/14/99

Sample Condition: Intact & Cool

Sample Received by: VW

Project Name: N/A

SAMPLES RAN AT ROOM TEMPERATURE.

TA#	FIELD CODE	ALKALINITY (mg/L as CaCo3)		
		CO3	HC03	TOTAL
T126546	Plant Wastewater	0	54	54

ICV
CCV

2280
2100

PREP DATE
ANALYSIS DATE

6/17/99
6/17/99

RPD
% Extraction Accuracy
% Instrument Accuracy

12

REPORTING LIMIT

4

METHODS: EPA 310.1
CHEMIST: TDS: MD



Director, Dr. Blair Leftwich

7-14-99

Date

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ANALYTICAL RESULTS FOR NAVAJO REFINING

Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

Sampling Date: 06/14/99
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: N/A

July 14, 1999
Receiving Date: 06/15/99
Sample Type: Water
Project No: N/A
Project Location: Artesia, NM

SAMPLES RAN AT ROOM TEMPERATURE

TA#	FIELD CODE	CHLORIDE '(mg/L)
T126544	Formation Fluid 7570-7730	6,200
T126545	Formation Fluid 7826-8399	15,000
T126547	7570-7730 2:1	4,100
T126548	7570-7730 1:1	3,200
T126550	7826-8399 2:1	9,500
T126551	7826-8399 1:1	7,400
T126552	7826-8399 1:2	4,900
ICV		13.78
CCV		13.81
PREP DATE		6/17/99
ANALYSIS DATE		6/17/99
RPD		1
% Extraction Accuracy		106
% Instrument Accuracy		110
REPORTING LIMIT		0.5

METHODS: EPA 300.0
CHEMIST: CHLORIDE: JS

CHLORIDE SPIKE: 62.5 mg/L CHLORIDE.
CHLORIDE CV: 12.5 mg/L CHLORIDE.


Director, Dr. Blair Leftwich

7-14-99
Date

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ANALYTICAL RESULTS FOR

NAVAJO REFINING

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

July 14, 1999

Receiving Date: 06/15/99

Sample Type: Water

Project No: N/A

Project Location: Artesia, NM

Sampling Date: 06/14/99

Sample Condition: Intact & Cool

Sample Received by: VW

Project Name: N/A

SAMPLES RAN AFTER BEING HEATED TO 130 F.

TA#	FIELD CODE	FLUORIDE (mg/L)	CHLORIDE (mg/L)	NO3-N (mg/L)	SO4 (mg/L)
T126548	7570-7730 1:1	24	2,900	---	1,300
T126549	7570-7730 1:2	25	2,300	---	1,100
T126550	7826-8399 2:1	29	9,200	<10	1,400
T126551	7826-8399 1:1	32	7,000	<10	1,200
T126552	7826-8399 1:2	52	4,700	<10	940
ICV		2.40	11.51	4.70	11.98
CCV		2.44	11.46	4.72	11.80
PREP DATE		7/2/99	7/2/99	6/24/99	7/2/99
ANALYSIS DATE		7/2/99	7/2/99	6/24/99	7/2/99
RPD		1	0	0	0
% Extraction Accuracy		91	87	100	98
% Instrument Accuracy		96	92	94	96
REPORTING LIMIT		0.1	0.5	0.2	0.5

METHODS: EPA 300.0

CHEMIST: FLUORIDE/CHLORIDE/NO3-N/SO4: JS

FLUORIDE SPIKE: 125 mg/L FLUORIDE.

CHLORIDE SPIKE: 625 mg/L CHLORIDE.

NO3-N SPIKE: 2500 mg/L NO3-N.

SO4 SPIKE: 625 mg/L SO4

FLUORIDE CV: 2.5 mg/L FLUORIDE.

CHLORIDE CV: 12.5 mg/L CHLORIDE.

NO3-N CV: 5.0 mg/L NO3-N

SO4 CV: 12.5 mg/L SO4


Director, Dr. Blair Leftwich

7-14-99
Date

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ANALYTICAL RESULTS FOR NAVAJO REFINING

Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

July 14, 1999

Receiving Date: 06/15/99

Sample Type: Water

Project No: N/A

Project Location: Artesia, NM

Sampling Date: 06/14/99

Sample Condition: Intact & Cool

Sample Received by: VW

Project Name: N/A

SAMPLES RAN AFTER BEING HEATED TO 130 F.

TA#	FIELD CODE	NO3-N (mg/L)
T126547	7570-7730 2:1	<10
T126548	7570-7730 1:1	<10
T126549	7570-7730 1:2	<10

ICV	4.67
CCV	4.70

PREP DATE	6/24/99
ANALYSIS DATE	6/24/99

RPD	0
% Extraction Accuracy	98
% Instrument Accuracy	93

REPORTING LIMIT	0.2
-----------------	-----

METHODS: EPA 300.0
CHEMIST: NO3-N: JS
NO3-N SPIKE: 250 mg/L NO3-N.
NO3-N CV: 5.0 mg/L NO3-N



Director, Dr. Blair Leftwich

7-14-99

Date

ANALYSIS REQUEST (Circle or Specify Method No.)												
MTBE 8021B/602												
BTEX 8021B/602												
TPH 418.1/TX1005												
PAH 8270C												
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7												
TCLP Metals Ag As Ba Cd Cr Pb Se Hg												
TCLP Volatiles												
TCLP Semi Volatiles												
TCLP Pesticides												
RCI												
GC-MS Vol. 8260B/624												
GC/MS Semi. Vol. 8270C/625												
PCB's 8082/608												
Pesticides 8081A/608												
BOD, TSS, pH												
Turn Around Time if different from standard												
Hold												

LAB USE ONLY

Intact Y / N

Headspace Y / N

Temp 23 °

Log-In Review

REMARKS:

Caution: May contain H₂S

7/16

Carrier # 7edex 254 564 594

Company Name: Navajo Refining Co		Phone #:											
Address: (Street, City, Zip)		Fax #:											
Contact Person: Darrell Moore		Project Name:											
Invoice to: (If different from above)		Project Location: Artesia NM WDW-2											
Project #:		Sampler Signature: Darrell Moore											
LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING	
				WATER	SOIL	AIR	SLUDGE	HCL	HNO3	ICE	NONE	DATE	TIME
126544	Formation Fluid 7570-7730	5		X				X				6/14/99	9:00
45	" 7826-8399	5		X				X				"	10:00
46	Plant Wastewater	6		X				X				"	10:20
47	7570-7730 2:1												
48	1:1												
49	1:2												
50	7826-8399 2:1												
51	1:1												
52	1:2												
Relinquished by:		Date:	Time:	Received by:	Date:	Time:							
1 Darrell Moore		6/14/99	16:20										
Relinquished by:		Date:	Time:	Received by:	Date:	Time:							
Relinquished by:		Date:	Time:	Received at Laboratory by:	Date:	Time:							
				Jill Umacher	6-15-99								

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

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July 7, 1999

Receiving Date: 6/30/99

Sample Type: Water

Project No: Artesia, NM

ANALYTICAL RESULTS FOR

NAVAJO REFINING CO.

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

Project Location: Artesia, NM

Sample Received by: VW

Client Name: N/A

Project Name: N/A

TA#	FIELD CODE	FLUORIDE (mg/L)	CHLORIDE (mg/L)	NO3-N (mg/L)	SO4 (mg/L)	HC03 (mg/L as CaCO3)	C03	TOTAL ALKALINITY (CaCO3)
T127428	R.O. REJECT-QLTY	3.9	380	3.7	2,200	630	0	630
ICV		2.46	11.64	4.76	12.33	240	1960	2,200
CCV		2.42	11.63	4.73	12.17	0	2160	2,240
RPD		0	0	1	1	1	1	0
% Extraction Accuracy		92	93	90	100	---	---	---
% Instrument Accuracy		98	93	95	99	92	92	92
REPORTING LIMIT		0.1	0.5	0.2	0.5	4	0	4
PREP DATE		6/30/99	6/30/99	6/30/99	6/30/99	7/1/99	7/1/99	7/1/99
ANALYSIS DATE		6/30/99	6/30/99	6/30/99	6/30/99	7/1/99	7/1/99	7/1/99

METHODS: EPA 300.0, 310.1.

CHEMIST: FLUORIDE/CHLORIDE: JS ALKALINITY: MD

FLUORIDE SPIKE: 25 mg/L FLUORIDE, FLUORIDE CV: 2.5 mg/L FLUORIDE.

CHLORIDE SPIKE: 125 mg/L CHLORIDE CHLORIDE CV: 12.5 mg/L CHLORIDE.

NO3-N SPIKE: 50 mg/L NO3-N

SO4 SPIKE: 125 mg/L SO4

NO3-N CV: 5.0 mg/L NO3-N

SO4 CV: 12.5 mg/L SO4

7-7-99

Director: Dr. David L. Smith

Date

TRACE ANALYSIS, INC.

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ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

July 13, 1999

Receiving Date: 06/30/99

Sample Type: Water

Sample Number: N/A

Project Location: Artesia, NM

Sampling Date: 6/29/99

Sample Condition: I & C

Sample Received by: VW

Project Name: N/A

TA#	FIELD CODE	Na (mg/L)	K (mg/L)	Mg (mg/L)	Ca (mg/L)
T127428*	RO Reject Qtrly	233	6.9	233	746
ICV		20.3	20.1	19.8	20.0
CCV		20.8	20.7	19.7	19.6
Reporting Limit		5.0	2.0	5.0	5.0
RPD		1	2	1	2**
% Extraction Accuracy		95	106	91	103**
% Instrument Accuracy		102	102	98	99
Prep Date		7/7/99	7/7/99	7/7/99	7/7/99
Analysis Date		7/8/99	7/8/99	7/8/99	7/8/99

*This sample was re-ran.

**Used LCS/LCSD for EA/RPD for Ca due to high conc. in sample.

METHODS: EPA 200.7

CHEMIST: RR

SPIKE CONC.: 100 mg/L

CV CONC.: 20 mg/L



Director, Dr. Blair Leftwich

7-13-99

DATE

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ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

July 13, 1999

Receiving Date: 06/30/99

Sample Type: Water

Sample Number: N/A

Project Location: Artesia, NM

Sampling Date: 6/29/99

Sample Condition: I & C

Sample Received by: VW

Project Name: N/A

TA#	FIELD CODE	Be (mg/L)
T127428*	'RO Reject Qtrly	<0.005
ICV		1.08
CCV		1.09
Reporting Limit		0.005
RPD		2
% Extraction Accuracy		88
% Instrument Accuracy		108
Prep Date		6/28/99
Analysis Date		7/12/99

***This sample was re-ran.**

METHODS: EPA 200.7

CHEMIST: RR

SPIKE CONC.: 1.0 mg/L

CV CONC.: 1.0 mg/L



Director, Dr. Blair Leftwich

7-13-99

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ANALYTICAL RESULTS FOR
NAVAJO REFINING CO.
Attention: Darrell Moore
501 E. Main
Artesia, NM 88210

July 13, 1999
Receiving Date: 06/30/99
Sample Type: Water
Sample Number: N/A
Project Location: Artesia, NM

Sampling Date: 6/29/99
Sample Condition: I & C
Sample Received by: VW
Project Name: N/A

TA#	FIELD CODE	Hg (mg/L)
T127428	'RO Reject Qtrly	<0.0002
ICV		0.0012
CCV		0.0011
Reporting Limit		0.0002
RPD		15
% Extraction Accuracy		91
% Instrument Accuracy		115
Prep Date		6/30/99
Analysis Date		6/30/99

METHODS: EPA 245.2
CHEMIST: BP

SPIKE CONC.: 0.0010 mg/L
CV CONC.: 0.0010 mg/L

BP

Director, Dr. Blair Leftwich

7-13-99

DATE

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E-Mail: lab@traceanalysis.com
ANALYTICAL RESULTS FOR

NAVAJO REFINING CO.

Attention: Darrell Moore

501 E. Main

Artesia, NM 88210

July 13, 1999

Receiving Date: 6/30/99

Sample Type: Water

Project No: N/A

Project Location: Artesia, NM

Project Name: N/A

Sampling Date: 6/29/99

Sample Condition: Intact & Cool

Sample Received By: VW

Field Code: R.O. Reject-Qlty

TA#	Al (mg/L)	As (mg/L)	Ba (mg/L)	B (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	Cu (mg/L)	Fe (mg/L)	Pb (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	Se (mg/L)	Ag (mg/L)	U (mg/L)	V (mg/L)	Zn (mg/L)
T127428*	<0.05	<0.10	<0.10	<0.50	<0.01	<0.05	<0.05	<0.10	<0.10	<0.005	<0.10	<0.10	<0.10	<0.01	<0.005	<5.0	<0.10	<0.10
ICV	1.00	1.01	1.03	1.02	1.03	1.02	1.02	0.99	1.02	1.02	1.03	1.02	1.00	1.00	0.197	1.00	1.00	1.01
CCV	1.07	1.09	1.09	1.01	1.09	1.08	1.09	1.06	1.08	1.09	1.08	1.09	1.08	1.08	0.211	1.07	1.06	1.07
RL	0.05	0.10	0.10	0.50	0.010	0.05	0.05	0.10	0.10	0.005	0.10	0.10	0.10	0.01	0.005	5.0	0.10	0.10
RPD	10	6	7	10	7	8	8	11	8	4	8	8	6	4	10	6	8	9
% EA	96	94	96	101	91	94	92	96	95	87	94	94	89	91	125	91	94	94
% IA	103	105	106	106	106	15	105	102	102	102	105	105	104	104	102	103	103	104
Prep	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99	7/9/99
Analysis	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99	7/12/99

*This sample was re-ran.

CHEMIST: Al, As, Ba, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Mo, Ni, Se, Ag, U, V, Zn, Se, Cd, Cr, Pb, Ag, Ba, Be, B, Co, Cu, Fe, Mn, Mo, Ni, U, V, Zn: RR

METHODS: EPA 200.7

METALS SPIKE: 0.20 mg/L Ag 1.0 mg/L As, Se, Cd, Cr, Pb, Ba, Be, B, Co, Cu, Fe, Mn, Mo, Ni, U, V, Zn, Al 100 mg/L Na, K, Mg, Ca 0.0010 mg/L Hg

METALS CV: 0.20 mg/L Ag 1.0 mg/L As, Se, Cd, Cr, Pb, Ba, Be, B, Co, Cu, Fe, Mn, Mo, Ni, U, V, Zn, Al 20 mg/L Na, K, Mg, Ca 0.0010 mg/L Hg

Director, Dr. Blair Leftwich

7-13-99

Date

APPENDIX 2.11-1

PACKER FLUID CORROSION INHIBITOR

Subsurface Technology, Inc.

TECHNI-HIB™ 370

UNICHEM

A Division of BJ Services Company

**PRODUCT BULLETIN****DESCRIPTION:**

TECHNI-HIB 370 is a cationic blend of water soluble, film forming corrosion inhibitors, formulated for use in water, and water/oil systems.

USES:

TECHNI-HIB 370 is recommended for the inhibition of corrosion caused by carbon dioxide, hydrogen sulfide and bacterial deposits. TECHNI-HIB 370 has been developed for use in water floods, brine disposal operations, producing oil wells with a high water-to-oil ratio and gas transmission lines. TECHNI-HIB 370 also has excellent solubility and dispersibility for use under static conditions such as packer fluids.

APPLICATION:

1. TECHNI-HIB 370 should be fed continuously with a chemical injector for all surface applications.
2. For gas transmission lines, TECHNI-HIB 370 should be injected with a spray nozzle or atomizer. The use concentration is normally 10-60 ppm. Gas transmission lines will require ½ pint to 1 quart per 1 MM cubic feet of gas.
3. Optimum treatment is determined by monitoring with corrosion coupons, electronic instruments, or iron/ manganese counts.
4. For use as a packer fluid inhibitor, TECHNI-HIB 370 should be mixed with fresh water or brine at a rate of 1/4% to 1% of the fluid volume.

TYPICAL PROPERTIES:

Specific Gravity @ 60°F	0.96
Pounds Per Gallon @ 60°F	7.97
Pour Point	-5°F
Flash Point	98°F
pH	6-7
SOLUBILITIES:	
Fresh Water	Soluble
2% Brine	Soluble
15% Brine	Dispersible
Crude Oil	Insoluble
Appearance	Clear Amber Liquid

HANDLING:

WARNING! FLAMMABLE. Keep away from heat, sparks, and open flame. Keep container closed when not in use. Do not breathe vapors, use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Refer to Material Safety Data Sheet for additional information and first aid.

PACKAGING:

TECHNI-HIB 370 is sold in 55-gallon drums and bulk.

3/92

Product Name: TECHN-I-HIB 370

Section: 01 PRODUCT IDENTIFICATION

UNICHEM	Emergency Telephone	505-393-7751
A DIVISION OF BJ SERVICES CO.	Previous Version Date	9/21/93
707 N. LEECH	Date Prepared	10/01/96
HOBBS, NM 88241-1499	Version: 0000005	

Product Name: TECHN-I-HIB 370

Trade Name: Corrosion Inhibitor

Chemical Description:
Proprietary blend of cationic compounds

Section: 02 HAZARDOUS INGREDIENTS

<u>Component Name</u>	<u>CAS#</u>	<u>% Range</u>
isopropyl alcohol	00067-63-0	< 25%
methanol	00067-56-1	< 5%

Section: 03 PHYSICAL DATA

Freezing Point: 2 Deg.F.
Boiling Point, 760 mm Hg: appx 190 Deg.F
Specific Gravity(H₂O=1) : 0.956 Solubility in water: Complete
Appearance and Odor: Clear amber liquid; pungent odor.

Section: 04 FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method): 98 Deg.F TCC

Extinguishing Media

CO₂, dry chemical, water spray or fog, or foam. Use water to keep containers cool. Isolate "fuel" supply from fire. Contain fire fighting liquids for proper disposal.

Special Fire Fighting Procedures

Do not enter confined fire space without proper personal protective equipment including NIOSH approved self-contained breathing apparatus with full facepiece operated in the positive pressure demand mode. Do not inject a solid stream of water or foam into hot, burning pools; this may cause splattering and increase fire intensity. Evacuate personnel to a safe area. Keep unnecessary people away.

Unusual Fire and Explosion Hazards

This material is volatile and readily gives off vapors that may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electrical motors, static discharge, or other

Product Name: TECHNIB 370

Section: 04 FIRE AND EXPLOSION HAZARD DATA CONTINUED

ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Containers may explode from internal pressure if confined to fire. Keep containers cool. Keep unnecessary people away.

Section: 05 HEALTH HAZARD DATA

Effects of Overexposure

Eye Contact: the liquid is irritating to the eyes and produces intense stinging and burning. If not promptly removed, may cause eye damage.

Skin Contact: repeated or prolonged contact with the skin may cause irritation and dermatitis.

Inhalation: vapors may cause irritation of the eyes, nose, and throat. Prolonged exposures may cause nausea, headache, dizziness, unconsciousness, cardiac depression, optic complications and death.

Ingestion: can cause burning of the gastrointestinal tract, nausea, vomiting, bleeding, CNS depression, hemolysis, blindness and pulmonary damage. Can be fatal.

Chronic Exposure: For methanol, chronic poisoning from repeated exposure has been manifested by conjunctivitis, headache, giddiness, sleeplessness, gastric disturbances and failure of vision.

Emergency and First Aid Procedures

SKIN

Wash with soap and water. Remove contaminated clothing and launder contaminated clothing before reuse. Get medical attention if redness or irritation develops.

EYES

Flush eyes immediately with large amounts of water for at least 15 minutes. Lift lower and upper lids occasionally. Get medical attention.

INHALATION

Remove victim to fresh air. Give artificial respiration if not breathing. If breathing is difficult, administer oxygen. Keep person warm, quiet and get medical attention.

INGESTION

Call a physician immediately. Give victim a glass of water. Do NOT induce vomiting unless instructed by a physician or poison control center. Never give anything by mouth to an unconscious person.

Section: 06 REACTIVITY DATA

Product Name: TECHN1-H1B 370

Section: 06 REACTIVITY DATA

CONTINUED

Stability -- Conditions to Avoid

None known.

Incompatibility (Materials to Avoid)

Avoid contact with strong oxidizing agents, strong alkalis, and strong mineral acids.

Hazardous Decomposition Products

Thermal decomposition or combustion may produce smoke, carbon monoxide and carbon dioxide.

Hazardous Polymerization May Occur (Y=Yes/N=No): N

Hazardous Polymerization -- Conditions to Avoid

None

Section: 07 SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled

Eliminate sources of ignition. Persons not wearing suitable personal protective equipment should be excluded from area of spill until clean-up has been completed. Shut off source of spill if possible to do so without hazard. Prevent material from entering sewers or watercourses. Provide adequate ventilation. Contain spilled materials with sand or earth. Recover undamaged and minimally contaminated material for reuse or reclamation. Place all collected material and spill absorbents into DOT approved containers.

Advise authorities. If this product is an EPA hazardous substance (see Section 10), notify the U.S. EPA and/or the National Response Center. Additional notification pursuant to SARA Section 302/304 (40 CFR 355) may also be required.

Waste Disposal Method

Treatment, storage, transportation and disposal must be in accordance with EPA or State regulations under authority of the Resource Conservation and Recovery Act (40 CFR 260-271).

Section: 08 SPECIAL PROTECTIVE INFORMATION

Respiratory Protection

If workplace exposure limit(s) of product or any component is exceeded, an NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure organic vapor type) under specified conditions. Engineering or administrative controls should be implemented to reduce exposure.

Ventilation

Product Name: TECHNIB 370

Section: 08 SPECIAL PROTECTIVE INFORMATION CONTINUED

The use of mechanical dilution ventilation is recommended whenever this product is used in confined spaces, is heated above ambient temperatures or is agitated. When applicable, sufficient local ventilation should be provided to maintain employee exposures below safe working limits (TWA's).

Protective Gloves

Neoprene, nitrile, polyvinyl alcohol (PVA), polyvinyl chloride (PVC)

Eye Protection

Chemical splash goggles or face shield in compliance with OSHA regulations is advised; however OSHA regulations also permits safety glasses under certain conditions. The use of contact lenses is not recommended.

Other Protective Equipment

Eye wash and safety shower

Section: 09 SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing

Avoid contact with eyes, skin or clothing. Avoid breathing vapors or mist. Keep away from heat, sparks, and open flames and never use a cutting torch on or near container (even empty) or explosion may result. Vapors may travel to areas away from the work site and ignite.

Other Precautions

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Do not transfer to improperly marked container. Do not use pressure to empty container. Do not cut, heat, weld, or expose containers to flame or other sources of ignition. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. Containers should be grounded and bonded to receiving container(s) when being emptied. Containers should not be washed out and used for other purposes.

FOR INDUSTRIAL USE ONLY

Section: 10 REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III

Section 302/304-Extremely Hazardous Substances (40 CFR 355)

SARA requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311

Product Name: TECHN-11B 370

Section: 10 REGULATORY INFORMATION

CONTINUED

and 312). These values are subject to change and the regulations should be consulted to verify current statutory requirements.

Components present in this product at a level which could require reporting under the statute are:

Component NameRQTPO% Range

NONE

Section 311/312 Chemical Inventory Reporting Requirements (40 CFR 370)

The Superfund Amendments and Reauthorization Act (SARA) may require submission of reports (chemical list, MSDS, Tier I & Tier II) to the State Emergency Response Commission, Local Emergency Response Committee and the local fire department. The SARA physical and health hazards related to this product are:

☒ Acute Health Hazard
☒ Chronic Health Hazard

☐ Sudden Release of Pressure
☐ Reactive

☒ Fire

Section 313-List of Toxic Chemicals (40 CFR 372)

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40 CFR 372). This information should be included in all MSDSs that are copied and distributed for this material.

Component NameCAS #% Range

methanol

00067-56-1 < 5%

CERCLA, 40 CFR 261 AND 302

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center 1-800-424-8802 of any release of a Hazardous Substances equal to or greater than the reportable quantities (RQs) listed in 40CFR 302.4. Values are given in pounds for the component and not the mixture, if applicable. (These values are subject to change and the regulations should be consulted to verify current statutory levels.)

Component NameCAS #CERCLA RQ

methanol

00067-56-1 5000

OSHA Exposure LimitsComponent Name

isopropyl alcohol

TWA ppm: 400.0 TWA MG/M3: 980.0 STEL ppm: 500.0 STEL MG/M3: 1225.0

methanol

TWA ppm: 200.0 TWA MG/M3: 260.0 STEL ppm: 250.0 STEL MG/M3: 325.0 Skin: X

National Fire Protection Agency2 Health3 Fire0 Reactive Other

APPENDIX 2.11-2

INJECTION TUBING, MILL TEST, AND INSPECTION REPORTS

Subsurface Technology, Inc.



CERTIFICATE No 783.537
PAGE No 01 OF 05

QUALITY CERTIFICATE EN-10204/3.1.B MILL TEST CERTIFICATE/REPORT

CLIENTE TUBOS REUNIDOS AMERICA, INC.
CUSTOMER

REF. CLIENTE 11915
ORDER NO. 1

REF. FABRICA 986928
WORKS NO.

ITEM NO. 001
ITEM NO.

MATERIAL (NORMA) J55
MATERIAL (SPECIFICATION)

SEGUN API 5CT T8G USA(UF)
ACCORDING TO

EDICION 95
EDITION

PRODUCTO SEAMLESS TUBE HOT FINISHED
ARTICLE

PROCESO DE FUSION E.F.
MELTING PROCESS

DESIGNACION DE LA CALIDAD
GRADE NO.

PUNZON DEL INSPECTOR
INSPECTOR'S STAMP

DISTINTIVO
MARKING

COND. IMPUESTAS
REQUIREMENTS

DIMENSIONES 3.1/2" OD X 0.254" LONGITUD 32.000 / 33.000 PESO BRUTO 119.102
DIMENSIONS LENGTH IN FEET GROSS WEIGHT IN KGS

TUBOS 882 PIES 28.772,96 PESO NETO 118.877
TUBES FEET NET WEIGHT IN KGS

CONTROL VISUAL Y DIMENSIONAL 100% O.K. PRUEBA HIDRAULICA 3000 PSI
VISUAL INSPECTION AND DIMENSIONAL CHECK HYDROSTATIC TEST

ENSAYOS : TENSION;
TEST :

ENSAYO DE CORRIENTES INDUCIDAS -
EDDY CURRENT TEST

TRATAMIENTO TERMICO
HEAT TREATMENT

ENSAYO DE ULTRASONIDOS 100 % O.K.
ULTRASONIC TEST

ENSAYO ATAQUE ACIDO -
ETCHING TEST

DISPERSION DE FLUJO 100 % O.K.
FLUX LEAKAGE TEST

ENSAYO DE MEZCLA 100 % O.K.
MIX TEST

RESULTADOS DE LA INSPECCION: SE HAN CUMPLIDO LAS CONDICIONES IMPUESTAS.
RESULT OF THE INSPECTION: THE SPECIFIED REQUIREMENTS WERE COMPLIED.

ALBARANES 80003578;80003581;80003584;80003596;80003613;80003618

AMURRIO, 16th NOVEMBER 1998

TUBOS REUNIDOS, S.A.
CONTROL DE CALIDAD
AMURRIO - ALAVA

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CERTIFICATE No 783.537
PAGE No 03 OF 05

QUALITY CERTIFICATE EN-10204/3.1.B MILL TEST CERTIFICATE/REPORT

RESULTADOS DE LOS ENSAYOS / TEST RESULTS

SPECIMEN	L T	o	DIMENSIONS INCHES	YIELD POINT	TENSILE STRENGTH	ELONGATION	IMPACT TEST	RETRACTION	HARDNESS
CONDICIONES IMPUESTAS REQUIREMENTS				55,000 80,000 psi	75,000 psi	18 %			
1	L		0.762 x 0.291	78,700	106,650	21			
2	L		0.768 x 0.291	78,800	108,072	22			
3	L		0.768 x 0.295	78,700	106,650	20			
4	L		0.768 x 0.291	79,340	105,228	22			
5	L		0.768 x 0.291	78,450	106,650	22			

Renato



CERTIFICATE No 783.537
PAGE No 04 OF 05

QUALITY CERTIFICATE EN-10204/3.1.8 MILL TEST CERTIFICATE/REPORT

CHEMICAL COMPOSITION

ANALISIS QUIMICO

ANALYSE CHIMIQUE

COLADA NO. HEAT NO.	C	Mn	Si	P	S	Cr	Ni	Mo	Cu	Al	Sn	V
------------------------	---	----	----	---	---	----	----	----	----	----	----	---

ANALISIS DE COLADA / LADLE ANALYSIS

C. IMPUESTAS REQUIREMENTS	0.350	1.900	0.430	0.020	0.010		0.250	0.750	0.350			
56770	.260	1.280	.300	.016	.001	.100	.140	.180	.260	.040	.013	.006
57526	.250	1.300	.300	.014	.001	.070	.120	.160	.300	.030	.013	.006

ANALISIS DE PRODUCTO / PRODUCT ANALYSIS

C. IMPUESTAS REQUIREMENTS	0.350	1.900	0.450	0.020	0.010		0.250	0.750	0.350			
56770	.260	1.280	.300	.016	.001	.100	.150	.180	.260	.038	.036	.006
56770	.260	1.280	.310	.016	.001	.100	.150	.180	.270	.038	.036	.006
57526	.250	1.300	.310	.014	.001	.070	.120	.160	.300	.030	.038	.005
57526	.250	1.300	.310	.014	.001	.080	.120	.160	.300	.030	.038	.006

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CERTIFICATE No 783.537
PAGE No 05 OF 05

QUALITY CERTIFICATE EN-10204/3.1.8 MILL TEST CERTIFICATE/REPORT

ENCLOSED

- * THE MATERIAL COVERED BY THIS CERTIFICATE MEETS THE REQUIREMENTS OF THE
API SPECIFICATION 5CT
- * LONGITUDINAL SPECIMENS FOR TENSILE TESTS

THE MATERIAL COVERED BY THIS CERTIFICATE IS ABLE TO REACH, AFTER HEAT TREATMENT
THE MECHANICAL REQUIREMENTS OF N-80, L-80 & P-110 GRADES.

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Tejas Tubular Processing, Inc.


 PROCESSOR
 LICENSED
 SPS: SCT

PIPE INSPECTION REPORT

 CUSTOMER: C+R
 RELEASE NO: _____

 LOCATION: TEJAS TUBULAR
 WO#: 207132

 DATE: 5-31-99
 P.O. #: 1758

MATERIAL INSPECTED

 SIZE: 3 1/2 WEIGHT: 8.81 GRADE: LS RANGE: 2 TYPE: Line WALL: 2.54
 CONNECTION: PE DRIFT DIAMETER: 2.877 MANUFACTURER: N/A

TYPE OF INSPECTION AND TEST PERFORMED

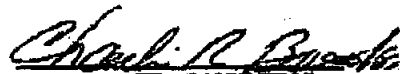
 TEJASCAN IV: _____ HARDNESS TEST: _____
 DRIFT FULL LENGTH: _____ FULL LENGTH MAG PARTICLE: _____
 MAGNETIC PARTICLE COUPLINGS: _____ VISUAL THREADS: _____
 VISUAL TUBE: _____ API THREAD GAUGE: _____ RING & PLUG: _____
 U.T. SCAN ENDS: _____ HYDROSTATIC TEST: _____ SPECIAL END AREA: _____

OTHER

 STENCIL: / COLOR CODE: _____ REMOVE & REPLACE PROTECTORS: _____
 API MODIFIED THREAD COMPOUND: _____

SUMMARY OF RESULTS

<u>71</u>	Lengths inspected and found to be free of defects exceeding 12.5% and painted white.
<u>0</u>	Lengths inspected and found to have defects exceeding 12.5% and painted red.
_____	Lengths inspected and found to have defects on the upsets.
_____	Lengths inspected and found to be no drifts and painted with double green bands.
_____	Lengths inspected and found to have thread damage and painted red at defective end.
_____	Tube inspected: _____ Uninspected: _____
<u>71</u>	Total Joints _____ Inspected Per API Spec <u>5ET</u>
_____	And Customer Spec _____
_____	Comments: _____


 CHIEF INSPECTOR



Tejas Tubular Processing, Inc.



PIPE INSPECTION REPORT

CUSTOMER: C&R
RELEASE NO: _____

LOCATION: TEJAS TUBULAR
WO#: 007332

DATE: 5/24/99
P.O.#: _____

MATERIAL INSPECTED

SIZE: 3 1/2 WEIGHT: 8.81 GRADE: 15 RANGE: 2 TYPE: Tubing WALL: 2.54
CONNECTION: PE DRIFT DIAMETER: 2.867 MANUFACTURER: N/A

TYPE OF INSPECTION AND TEST PERFORMED

TEJASCAN IV: ☒ HARDNESS TEST: _____
DRIFT FULL LENGTH: _____ FULL LENGTH MAG PARTICLE: _____
MAGNETIC PARTICLE COUPLINGS: _____ VISUAL THREADS: 1
VISUAL TUBE: ☒ API THREAD GAUGE: _____ RING & PLUG: _____
U.T. SCAN ENDS: _____ HYDROSTATIC TEST: _____ SPECIAL END AREA: ☒

OTHER

STENCIL: ☒ COLOR CODE: _____ REMOVE & REPLACE PROTECTORS: _____
API MODIFIED THREAD COMPOUND: _____

SUMMARY OF RESULTS

168 Lengths inspected and found to be free of defects exceeding 12.5% and painted white.
1 Lengths inspected and found to have defects exceeding 12.5% and painted red.
_____ Lengths inspected and found to have defects on the upsets.
_____ Lengths inspected and found to be no drifts and painted with double green bands.
_____ Lengths inspected and found to have thread damage and painted red at defective end.
_____ Tube inspected: _____ Uninspected: _____
169 Total Joints _____ Inspected Per API Spec SCT
_____ And Customer Spec ☒
Comments: _____

Charlie R. Brooks
CHIEF INSPECTOR

APPENDIX 2.12-1

CHRONOLOGY OF FIELD ACTIVITIES

Subsurface Technology, Inc.

APPENDIX 2.12-1

CHRONOLOGY OF FIELD ACTIVITIES

Wednesday, May 5, 1999

On Tuesday, May 4, 1999, the New Mexico Oil Conservation Department verbally approved the permit application for the reentry, test, and completion of the Fred Pool Drilling, Inc., Chukka Federal No. 2 wellbore, formerly operated by The Eastland Oil Company.

Jabo Construction Company completed the location preparation to include a 6' x 6' x 6' cellar, scraping the location, adding three-inches of caliche, and repairing the road to the site. T & C Anchors pull tested the existing anchors. Key Energy Services moved in and rigged up a workover unit, reverse unit, and pipe racks. Removed the pumping equipment and pulled the rods and tubing out of the well. Existing tubing appeared thin and not recommended for current use. C & H Pipe Rentals delivered and offloaded 65 joints of 2-7/8 inch, EUE 8rd., 6.5-lb/ft, N-80 work string. T & C delivered Tank No. 901. Jim's Water Service offloaded 610 barrels of fresh water into the rig tank and Tank No. 901. 1600 hours, shut down for the night.

Thursday, May 6, 1999

Brian Rogers arrived on site. 0730 hours, made up a saw-tooth collar on 2-7/8 inch work string and ran in the hole to tag total depth. Total depth at 1806.6 feet. Pulled out of the hole. 1100 hours, made up an Arrow Type 32-A retrievable packer (tension set) with one joint of tailpipe. Went in the hole with 19 stands. (38 joints) to set the packer at 1210 feet. End of tubing was at 1240 feet. Loaded the backside with fresh water. Observed a small leak between the 8-5/8 inch surface casing and the 13-3/8 inch conductor. 1230 hours, nipped up to the tubing and pumped into perforations 3.73 bpm at 300 psi. No leak observed at the surface. Stopped pumping after 30 barrels. Well on vacuum. 1230 hours to 1400 hours, tested the annulus between the 2-7/8 inch tubing and the 8-5/8 inch casing out of the hole to 10 feet below the wellhead. Annulus still leaking. 1400 hours to 1600 hours, excavated the conductor and annular spaces. Observed a small hole in 8-5/8 inch casing, soft cement between 8-5/8 inch and 13-3/8 inch casings (chippable) and 12-inch riser of 13-3/8 inch conductor. Welded patches to the holes.

APPENDIX 2.12-1 (Continued)

Friday, May 7, 1999

Brian Rogers arrived on site. 0800 hours, went in the hole to set an Arrow Type 32-A packer at 1210 feet (end of tubing at 1240 feet) with 60,000 pounds of tension. Loaded the hole with 45 barrels of fresh water and pressurized to 250 psi. Monitored the tubing annulus during cement squeeze operations. 0830 hours, moved in and rigged up Halliburton. Loaded tubing with seven barrels of fresh water. Shut down. Slow leakoff from 300 psi on tubing. 0900 hours, mixed 50 sacks of lead cement using premium cement, plus 4% Halad-9, followed by 50 sacks tail cement using premium cement, plus 2% CaCl_2 . Pumped the cement at one bpm at 382 psi. Displaced the cement at 0.25 bpm at 730 psi with 11 barrels of fresh water (60 feet below the end of tubing). Held and monitored the pressure for 1.5 hours to prevent flowback and allow the cement time to thicken. 1200 hours, released the pressure on tubing and did not observed flowback. Pulled out of the hole and laid down six joints. Reverse circulated 20 barrels of fresh water to the rig tank. Set the packer at 1024 feet and squeezed the cement with 300 psi overnight. Shut down for the night.

Saturday, May 8, 1999

Brian Rogers arrived on site. 0700 hours, opened the tubing with the packer set at 1024 feet. Well was on vacuum. Annular pressure was 0 psi. Pulled out of the hole to set the packer at 38 feet and pressurize the tubing to 635 psi. Monitored the tubing pressure for one hour (see Table 1). Test No. 1, ΔP was -34 psi/30 minutes; Test No. 2, ΔP was -30 psi/30 minutes. 0900 hours, pulled out of the hole and laid down the packer. 0900 hours to 1100 hours, made up a Smith 7-7/8 inch FDS (Serial No. LP0931) mill tooth bit, bit sub, six 4-9/16 OD DC, crossover sub (bottom-hole assembly was 198.15 feet) and washed in the hole to tag contaminated cement at 1246 feet. 1200 hours to 1520 hours, drilled the cement to break out at 1494 feet (bottom perforation recorded at 1462 feet). Continued to wash sand and old cement to 1922 feet (KB) 1911 (GL). No apparent loss of returns or drop in the pit level. Circulated the wellbore for 30 minutes (six bottoms-up). Pulled out of the hole with 12 stands, leaving the bit at 1202 feet. Closed the blowout preventer and shut down for the night.

APPENDIX 2.12-1 (Continued)

Test No. 1 – Test 8-5/8 inch casing between the packer at 38 feet (KB) and top of the cement at 1290 feet:

Time (hours)	Pressure (psig)	ΔP (psi)
0755	635	--
0800	628	-7
0805	619	-8
0810	612	-7
0815	605	-7
0820	600	-5
0825	598	-2
		-34 psi/30 minutes (-5.35%)

Test No. 2 - Continuance of Test No. 1

Time (hours)	Pressure (psig)	ΔP (psi)
0825	598	--
0830	592	-6
0835	588	-4
0840	582	-6
0845	577	-5
0850	570	-7
0855	568	-2
		-30 psi/30 minutes (-5.02%)

Sunday, May 9, 1999

Brian Rogers arrived on site. 0720 hours, opened the well and observed a slight vacuum. Went in the hole with tubing, DC, and bit to tag total depth at 1922 feet (KB). Circulated the hole with clean fresh water. 0810 hours, pulled out of the hole. Laid down the tubing, DC, and the bit. Moved in and rigged up Halliburton. 1020 hours, went in the hole with GR/CBL/MSG tools and tagged total depth at 1919 feet. Conducted a CBL/MSG survey from 1912 feet to the surface. Repeated the upper 200 feet with 252 psig at the surface. 1215 hours, rigged down Halliburton. 1245 hours, went in the hole

APPENDIX 2.12-1 (Continued)

with an Arrow Type 32A tension packer to set at 30 feet (KB) with 34,000 pounds. Pressure tested 8-5/8 inch casing 30 feet to 1922 feet for Test No. 3, was -1 psi/30 minutes; Test No. 4 was -2 psi/30 minutes (See Table No. 2). Released the packer and pulled out of the hole. Laid down the packer. Released the rig at 1500 hours.

Test No. 3 – 8-5/8 inch surface casing after squeezing perforations 1442 feet to 1462 feet between 30 feet (KB) and 1922 feet (KB)

Time (hours)	Pressure (psig)	ΔP (psi)
1303	660	--
1308	660	0
1313	660	0
1318	660	0
1323	660	0
1328	659	-1
1333	659	0
		-1 psi/30 minutes

Test No. 4 – Continuance of Test No. 3

Time (hours)	Pressure (psig)	ΔP (psi)
1333	659	--
1338	659	0
1343	659	0
1348	658	-1
1353	658	0
1358	657	-1
1303	657	0
		-2 psi/30 minutes

Monday, May 10, 1999

Brian Rogers arrived on site. 0700 hours, rigged down and moved out Key Services' rig and ancillary equipment. Excavated collar to expose the conductor pipe. Cut the conductor two feet below the existing top of the pipe. Cleared away the cement and gravel to expose 8-5/8 inch surface casing. Cut 8-5/8 inch pipe and installed a slip collar

APPENDIX 2.12-1 (Continued)

and new 8-5/8 inch, 32 lb/ft x 6-foot riser as a replacement. Returned 17 feet of 8-5/8 inch pipe to Toolpushers Supply. Installed the lower part of the cellar and backfilled with caliche. Jabo Rowland Construction completed the 110' x 110' horseshoe reserve pit.

Tuesday, May 11, 1999

Brian Rogers arrived on site. 0800 hours, finished boarding cellar and backfilled with caliche. Installed a fence around the reserve pit.

Wednesday, May 12, 1999

Brian Rogers arrived on site. 0700 hours, installed a 6-mil HDPE liner in the reserve pit. Used fresh water to hold down the plastic in the reserve pit. Frank's Rat Hole Service installed a rathole and mousehole for Patterson Rig No. 47.

Thursday, May 13, 1999

Brian Rogers arrived on site. Moved in and rigged up Patterson Rig No. 47 substructure, derrick, mud tanks, blowout preventers, pumps, drillpipe, and ancillary equipment. Nova Mud delivered 20 sacks of caustic, 20 sacks of sodium bicarbonate, 48 sacks of starch, and 137 sacks of saltwater clay gel. Jim's Water Service loaded the freshwater tanks and mud pits. I & W welded on a rental 8-5/8 inch SOW x 11 inch, 5000-psi flange with two 2-inch outlets (one bullplugged and the second with 2-inch, 3M valve). 1700 hours, rigged up and ready to spud.

Friday, May 14, 1999

Brian Rogers arrived on site. 0000 hours, Scarbrough tested the blowout preventers, choke, manifold, slip-on wellhead, accumulator, and ancillary blowout preventer equipment. 0700 hours, picked up nine drill collars, bit sub, and Smith 7-7/8 inch bit (Serial No. LP-0931) dressed with 13-13-14. Total bottom-hole assembly was 278.38 feet. Went in the hole with 52 joints of 4-1/2 inch, 16.60 lb/ft, XH drillpipe to tag the top of the cement at 1922 feet. Drilled the cement 1922 feet to 2097 feet. Circulated the hole clean. Continued in the hole to tag a bridge at 2898 feet. Worked through the bridge. Swept the hole and spotted a gelled pill at 2898 feet. Conducted a survey at 2898 feet =

APPENDIX 2.12-1 (Continued)

1/4°. Continued in the hole to tag top of cement at 3623 feet. Drilled cement from 3623 feet to 3763 feet. Continued to wash in the hole to 3830 feet.

Joe Konicki traveled from Houston, Texas to Artesia, New Mexico. Met with Brian Rogers at the rig (Patterson No. 47). Finished the survey at 3790 feet = 1/4°. Continued washing and reaming. No drag. No fill. Mud 8.5 ppg, 31 viscosity. 2200 hours, depth was 4176 feet, mud weight 8.3 ppg, viscosity = 32 seconds. 0400 hours, ran sweep. Depth at 4832 feet; mud weight 8.3 ppg, viscosity = 32 seconds. Conducted a survey. Good returns. No drag on connections. Wireline broke while pulling survey out of the hole. Recovered wireline and survey instrument (1/2° survey). Washed and reamed to 5082 feet.

Saturday, May 15, 1999

Brian Rogers arrived on site. Continued to wash in the hole to tag the top of cement at 5450 feet. Circulated bottoms-up for 30 minutes. Mud weight was 8.6 ppg, 36 viscosity, pH was 12, Cl was 12,000 ppm. Started pulling out of the hole. 1100 hours to 1200 hours, shut down to repair the rig. 1200 hours, pulled out of the hole. 1330 hours, Scarbrough tested the blowout preventer equipment, choke manifold, and accumulator to 3000 psi in accordance with the Bureau of Land Management 43 CFR 3160, dated December 19, 1988, Onshore Oil and Gas Order No. 2.

Joe Konicki arrived on site. Finished back into the hole. Drilled the cement plug from 5450 feet to 5568 feet. No indication of gas. Washed and reamed to 5781 feet. Gas cut mud with a small gas kick. Raised the mud weight from 8.3 ppg to 8.5 ppg. No drag on connections. Survey at 6106 feet = 3/4°. Trace of gas after the survey. Reamed and washed to 6500 feet. Mud weight at 8.5+ ppg. Small gas kick while washing down.

Sunday, May 16, 1999

Brian Rogers arrived on site. Circulated the gas cut mud to the surface. Raised the mud weight from 8.5 ppg to 8.7 ppg by adding 260 barrels of 10.3-ppg brine to the system. No drag on connections. Continued to wash and ream to 6633 feet. Survey at 6633 feet was 1/2°. Continued to wash and ream. No gas cut observed. Mud weight was 8.7 ppg.

APPENDIX 2.12-1 (Continued)

Continued to wash and ream to 6775 feet (mud weight 8.6 ppg), small gas kick. Added brine to increase the mud weight to 8.8+ ppg. Continued to wash and ream in the hole to 7269 feet. Mud weight was 8.9+. No drag observed on connections.

Joe Konicki arrived on site. Continued to wash to 7500 feet. Circulated the gas out 2-1/2 hours. No surface indications of cement plug. 8.9 ppg in and 8.9 ppg out before adding brine. Before 9.1 ppg in and 9.1 ppg out after adding brine. Continued to wash and ream to 7600 feet. Pumped 20-barrel sweep. Washed and reamed to 8100 feet.

Monday, May 17, 1999

Brian Rogers arrived on site. Survey at 8148 feet indicated no picture. Tool broke. Mud weight in 9.2 ppg, mud weight out 9.2 ppg, viscosity at 29. No gas. Continued to wash and ream in the hole. Received delivery of 223 joints of 5-1/2 inch, 17 lb/ft, L-80, New, LTC, SMLS, R3. Pipe inspected for FLD (4.767 inch), WET SEA, EMI, BOL-2000 on April 30, 1999. Tallied pipe (threads off) for a total length of 9030.22 feet. 1530 hours, washed and reamed to **total depth at 8992 feet**. Circulated sweep to clean hole. 1700 hours, started short trip to 1900 feet.

Joe Konicki arrived on site. Finished short trip. Ran sweep. No indication of gas. Ran second sweep. Mud weight 9 ppg in and out. 0000 hours, started trip out for logs. Too much wind to strap out. 0230 hours, pulled out of the hole. 0530 hours, Halliburton arrived. 0630 hours, rigged up and started going into the hole.

Tuesday, May 18, 1999

Brian Rogers arrived on site. Conducted a four-arm caliper survey from 8901 feet to 1800 feet. Pulled gamma ray to the surface. Performed a fracture identification survey with gamma ray from 8600 feet to 4000 feet. Calculated the cement volume from the four-arm caliper log and added 20% excess cement.

Joe Konicki arrived on site. Finished running Cast V and caliper to 8901 feet. Started in the hole with drill collars. Cut the drilling line. Finished in the hole. Had 30 feet of fill. Pumped sweep. Circulated for two hours. 0245 hours, started pulling drillpipe out of the

APPENDIX 2.12-1 (Continued)

hole, laying down. Set up cement bin and off-loaded first stage cement. Drifted 5-1/2 inch casing on the racks.

Wednesday, May 19, 1999

Brian Rogers arrived on site. Finished laying down drillpipe and drill collars. Moved in and rigged up Bull Rogers' casing crew. Picked up a 5-1/2 inch, 17-lb/ft, L-80 joint and made up a Gemoco packoff shoe. Thread lock to bottom of Joint No. 1. Ran and thread locked two joints, float collar at 8788 feet and differential valve tool at 5792 feet. All equipment was thread locked to the pipe. Torque turned and monitored each connection. Ran a total of 119 joints of 5-1/2 inch, 17-lb/ft, L-80, New, LTC, R3, SMLS to set packoff shoe at 8869 feet. Circulated one casing volume and rigged up Halliburton. Cemented 5-1/2 inch casing with 20 barrels of fresh water, 12 barrels of super flush, 20 barrels of fresh water, and 575 sacks (174 barrels) of modified Class H + 0.5% Halad – 344 + 0.4% CFR-3 + 3 lb/sack salt + 5 lb/sack Gilsonite (yield = 1.71 ft³/sack). Displaced with 207 barrels (80 barrels of fresh water + 127 barrels of mud.) Did not bump plug. Floats were holding. Dropped dart and opened the differential valve tool at 850 psi. Circulated 6.1 barrels (20 sacks) of cement to the surface. Good returns throughout.

Joe Konicki arrived on site. Circulated well while preparing for the second stage of cementing.

Thursday, May 20, 1999

Brian Rogers arrived on site. Circulated through the differential valve tool for 14 hours. 0910 hours, Halliburton pumped 20 barrels of fresh water, 12 barrels of super flush, and 20 barrels of fresh water. 0917 hours, mixed (148 barrels) 300 sacks Interfill C (lead slurry) at 2.77 ft³/sack, 11.7 ppg, followed by 212 barrels (695 sacks). Modified Class H + 0.5% Halad – 344 + 0.4% CFR – 3 + 3 lb/sack salt + 5 lb/sack Gilsonite (yield = 1.71 ft³/sack) at 13.0 ppg. Released the closing plug and displaced with 134 barrels of fresh water. Landed the closing plug and closed the differential valve tool with 3300 psi. Checked the flowback. Okay. Tool closed. Circulated 150 sacks (74 barrels) to the surface. Mr. J. D. "Duncan" Whitlock, BLM representative, witnessed the cement job

APPENDIX 2.12-1 (Continued)

and cement to the surface. Verbally approved removing the drilling rig. Cleared the mud pits. Inspected six drill collars. Waited on cement.

Joe Konicki arrived on site. Waited 12 hours for cement (second stage) to set. Nippled down the blowout preventer. Cut off the 5-1/2 inch (21.70 feet) casing. Cut off 8-5/8 inch rental wellhead. Welded on 5-1/2 inch Larkin Swedge x Type "R" x 3-1/2" head. 0100 hours, released Patterson's Rig No. 47. Continued rigging down.

Friday, May 21, 1999

Brian Rogers arrived on site. Stacked Patterson's Rig No. 47 around the outside of the well pad. I & W provided a backhoe to smooth the location and clear the collar of mud/fill. Stabilized the 5-1/2 inch casing with 10 yards of ready-mix cement with excess used for the cellar. Contacted contractors for completion work.

Joe Konicki traveled from Artesia, New Mexico to Houston, Texas.

Saturday, May 22, 1999

Brian Rogers arrived on site. Welded a plate between the 8-5/8" x 5-1/2" casings. Coordinated the field activities and materials for completion.

Sunday, May 23, 1999

Brian Rogers arrived on site. Coordinated the completion activities, perforation intervals, zonal stimulation, and rig equipment.

Monday, May 24, 1999

Brian Rogers arrived on site. Moved in and rigged up Key Energy Services' completion rig, pump (200 PAH 8" x 4-1/2"), 110-barrel tank, power swivel, and work string (285 joints, 2-7/8", 6.50-lb/ft, N-80, EUE 8rd). Floor hand dropped a 2" OD x 4' pipe in the hole during the rigup. Made up a 4-9/16" OD x 2-1/2" ID cut lip overshot with 2-3/8" Bowen grapple. Washed in the hole with 184 joints of 2-7/8 inch workstring to 5740 feet. Worked the pipe to attempt to engage fish. Pulled out of the hole. Unsuccessful. Shut down for the night.

APPENDIX 2.12-1 (Continued)

Tuesday, May 25, 1999

Brian Rogers arrived on site. 0700 hours, made up a shoe joint with finger basket, 6-foot extension, and crossover and went in the hole with 183 joints to tag the top of the fish at 5740 feet. Washed down and drilled firm cement to 5750 feet (10 feet). Pulled out of the hole. Successfully retrieved the fish. 1200 hours, started rig time. Made up a 4-3/4 inch OD rock bit, bit sub, six 3-1/2 inch OD DC, top sub (total bottom-hole assembly was 180.31 feet) and went in the hole with 176 joints of tubing, plus single to 5727 feet. Loaded the hole with water and closed the well in. Pressure tested the well system above the differential valve tool at 5792 feet, as shown below in Test Nos. 5 and 6. Washed in the hole to tag the top of cement at 5750 feet. Drilled out the cement and differential valve tool plugs. Secured the well and shut down for the night.

Pressure Test No. 5 above the differential valve tool at 5792 feet. Bottom of the work string was at 5727 feet.

Time (hours)	Pressure (psig)	ΔP (psi)
1440	1514	--
1445	1509	-5
1450	1500	-9
1455	1496	-4
1500	1490	-5
1505	1485	-5
1510	1482	-3
Total		-31 psi/30 minutes = -2.05% per 30 minutes

Pressure Test No. 6 above the differential valve tool at 5792 feet. Bottom of the work string was at 5727 feet.

Time (hours)	Pressure (psig)	ΔP (psi)
1510	1482	--
1515	1478	-5
1520	1476	-2
1525	1473	-3

APPENDIX 2.12-1 (Continued)

1530	1470	-3
1535	1468	-2
1540	1466	-2
Total		-17 psi/30 minutes = -1.15% per 30 minutes

Note: Monitored the well system pressures using an Adalet digital pressure gauge (Catalog No. XIHFGCXZ-54967) with an Iniex Certificate Rating No. EX88B103703U. Pressure Range was 0 to 2000 psig.

Wednesday, May 26, 1999

Brian Rogers arrived on site. Washed in the hole from 5795 feet to plugged-back total depth (PBDT) at 8770 feet. Circulated the well clean. Picked up to set bottom of the bit at 8761 feet. Pressure tested the well system above the top of the float collar (8787 feet) from 8770 feet to the surface, as shown in Test Nos. 7 and 8 (see tables below). Monitored the well system pressures using an Adalet digital gauge and chart recorder (0 psi to 2000 psi). Pulled out of the hole with the tubing (274 joints, six DC and bit).

Pressure Test No. 7 above PBDT at 8770 feet. Bottom of the work string at 8761 feet.

Time (hours)	Pressure (psig)	ΔP (psi)
1300	1584	--
1305	1581	-3
1310	1578	-3
1315	1576	-2
1320	1573	-3
1325	1571	-2
1330	1568	-3
Total		-16 psi/30 minutes = -1.01% per 30 minutes

APPENDIX 2.12-1 (Continued)

Pressure Test No. 8 above PBTD at 8770 feet. Bottom of the work string at 8761 feet.

Time (hours)	Pressure (psig)	ΔP (psi)
1330	1568	--
1335	1566	-2
1340	1563	-3
1345	1560	-3
1350	1557	-3
1355	1555	-2
1400	1552	-3
Total		-16 psi/30 minutes = -1.02% per 30 minutes

Note: Monitored the well system with an Adalet digital pressure gauge (Catalog No. XIHFGCXZ-54967) with an Iniex Certificate Rating No. EX88B103703U. Pressure range was 0 psig to 2000 psig.

Thursday, May 27, 1999

Brian Rogers arrived on site. Made up a bit and scraper (BHA was 7.67 feet) and went in the hole with 274 joints to 8569 feet. Moved in and rigged up Halliburton's pump truck and circulated the wellbore with 20 barrels of 8.7-ppg brine, 12 barrels of 15% HCl (inhibited), followed by 250 barrels of clean 8.7-ppg brine. Pulled out of the hole with the tubing and laid down the bit and scraper.

Friday, May 28, 1999

Brian Rogers arrived on site. Moved in and rigged up Halliburton with a differential temperature tool, casing inspection tool (CAST V), and a Cement Bond Log tool (CBL/MSG). Installed a packoff and flange on the six-inch 900 series top of the blowout preventer. Conducted a differential temperature survey from the surface to the WLTD of 8769 feet. Fluid was static since 1300 hours, May 27, 1999 (approximately 18 hours). Performed a Cement Bond Log from 8730 feet to 100 feet. Cement Bond Log performed with 1000 psi applied to the well system. Conducted a casing inspection survey from 8730 feet to the surface.

APPENDIX 2.12-1 (Continued)

Saturday, May 29, 1999

Brian Rogers arrived on site. Moved in and rigged up Halliburton with 11 four-inch retrievable cased-hole perforating guns. Perforated selected intervals as determined from the Compensated Neutron Formation Density Log dated August 27, 1973. Correlated perforating depths using the Cast-V, Cement Bond Log Cement Evaluation Log, dated May 28, 1999. The fluid level dropped during perforating operations.

Perforated Zone 1: 7826 feet to 8399 feet, two jspf at 120° phasing.

Run No.	CNL/FDC 08/27/73	ΔL (ft)	Cast V-CBL 05/28/99	All Shots Filled (Y/N)	Fluid Level (ft)
11	7820-7828	+6	7826-7834	Y	600
11	7852-7854	+6	7858-7860	--	--
10	7854-7874	+6	7860-7880	Y	530
9	7880-7898	+6	7886-7904	Y	450
8	7910-7930	+6	7916-7936	Y	375
7	7938-7958	+6	7944-7964	Y	270
6	7984-7996	+6	7990-8002	Y	250
5	7996-8016	+6	8002-8022	Y	150
4	8016-8036	+6	8022-8042	Y	100
3	8090-8110	+6	8096-8116	Y	100
1	8184-8194	+7	8191-8201	Y	Full
2	8295-8310	+9	8304-8319	Y	Full
1	8388-8392	+7	8395-8399	Y	Full

Sunday, May 30, 1999

Brian Rogers arrived on site. Picked up and went in the hole with 10 stands and single (655.62 feet), Arrow HD packer (6.46 feet), seating nipple (1.1 feet) and 247 joints of 2-7/8 inch work string (7757.37 feet) to set the end of the tubing below the bottom perforation (8399 feet) at 8428 feet. The packer element was at 7770 feet. Rigged up the swab line and went into the hole to tag fluid level at ± 1200 feet. Swab tested the perforated interval and recovered two tubing volumes of fluid. Retained samples of the formation water for analysis. A total of 130 barrels of fluid was recovered. Shut down for the night.

APPENDIX 2.12-1 (Continued)

Monday, May 31, 1999

Brian Rogers arrived on site. Moved in and rigged up Halliburton. Performed a pre-stimulation injection test. Pumped 8.7-ppg brine water at two bpm, pressure increased from 0 to +1581 psig. Shut down. Well on vacuum. Spotted 12 barrels of 15% HCl across perforations from 7826 feet to 8399 feet. Pulled out of the hole. Laid down 12 joints to set the end of tubing at 7772 feet. Stage 1: 30 barrels 15% HCl (inhibited) + 12 barrels of gelled salt for block at 500 pounds; Stage 2: 30 barrels of 15% HCl + 48 barrels of 8.7 ppg brine + 12 barrels of gelled salt for block at 800 pounds; Stage 3: 30 barrels of 15% HCl + 37 barrels of 8.7 ppg brine + 12 barrels of gelled salt for block at 1000 pounds; Stage 4: 25 barrels of 15% HCl + 34 barrels of 8.7 ppg brine for displacement at seven bpm and 1725 psig. Allowed acid to soak for one hour. Performed a Step-Rate Test (see table below). Shut down. Well was on vacuum. Pulled out of the hole with 124 stands and laid down the packer. Shut down for the night.

Rate (bpm)	Volume Pumped (barrels)	Pressure (psig)	Friction Pressure (psig)	Pump-In Pressure (psig)
2	35	31	242	-211 (vacuum)
4	25	140	864	-724 (vacuum)
7	25	1831	2414	-583 (vacuum)

Note: Friction pressure based on 10-ppg brine pumped down 2-7/8 inch tubing to 7900 feet.

Maximum Allowable Pump-In Pressure:

$$7826 \text{ feet} \times 0.2 \text{ psi/ft} = 1565 \text{ psig (excludes friction)}$$

Tuesday, June 1, 1999

Brian Rogers arrived on site. Moved in and rigged up Halliburton with six four-inch retrievable casing perforating guns. Perforated selected intervals as determined from the compensated Neutron Formation Density Log dated August 27, 1973. Correlated perforating depths using the Cast-V, Cement Bond Log Cement Evaluation Log, dated May 28, 1999 (see table below). T&C Tanks continued to move in and rig up test tanks. JWS loaded with an 8.7 ppg brine.

APPENDIX 2.12-1 (Continued)

Perforated Zone 2: 7570 feet to 7736 feet, two jspf at 120° phasing.

Run No.	CNL/FDC 08/27/73	ΔL (ft)	Cast-V, CBL 05/28/99	All Shots Fired (Y/N)
1	7710 to 7730	+6	7716 to 7736	Y
2	7690 to 7710	+6	7696 to 7716	Y
3	7670 to 7690	+6	7676 to 7696	Y
4	7594 to 7614	+6	7600 to 7620	Y
5	7580 to 7594	+6	7586 to 7600	Y
6	7564 to 7580	+6	7570 to 7586	Y

Fluid level remained at 1350 feet while perforating.

Wednesday, June 2, 1999

Brian Rogers arrived on site. Picked up and went in the hole with an Arrow "TS" RBP, Retrieving Tool, Arrow HD Packer, and 248 joints with a seating nipple. Set the bottom of the TS RBP at 7782 feet. Top at 7775 feet. Laid down one joint to set HD packer at 7743 feet. Pressure tested between the packers to 500 psi. Tested okay. Made up a single and pulled out of the hole with four stands to set HD packer at 7514 feet. The packer element was at 7517 feet. Rigged up a swab line and went into the hole to tag the fluid level at ± 1200 feet. Swab tested the perforated interval and recovered two tubing volumes of fluid. Retained samples of the formation water for analysis. A total of 110 barrels of fluid was recovered. Shut down for the night. T & C Tank delivered two tanks for a total of (16) 500-barrel tanks manifolded together. Jim's Water Service loaded tanks with 8.7 ppg brine.

Thursday, June 3, 1999

Brian Rogers arrived on site. Moved in and rigged up Halliburton and performed a pre-stimulation injection test. Pumped 8.7 ppg brine water at 2 bpm. Pressure increased from 0 psi to +2400 psi. Shut down. Well on vacuum. Went in the hole with three stands and circulated 8.7 ppg brine to the reserve pit. Spotted four barrels of 15% HCl across the perforations. Shut down. Well on vacuum. Pulled out of the hole with three stands and set the packer at 7520 feet. Stage No. 1: pumped 29.5 barrels of 15% HCl (inhibited) + 12 barrels of gelled salt for block at 500 pounds; Stage No. 2: pumped 29.5 barrels of 15% HCl + 12 barrels 8.7 ppg brine spacer + 23 barrels of gelled salt for block

APPENDIX 2.12-1 (Continued)

at 800 pounds; Stage No. 3: pumped 29.5 barrels of 15% HCl + 32 barrels of 8.7-ppg brine spacer + 31 barrels of gelled salt for block at 1000 pounds; Stage No. 4: pumped 30 barrels of 15% HCl + 62 barrels of 8.7 ppg brine as flush. Shut down. The well went on a vacuum. Waited one hour to allow the acid to soak. Post-acid Step-Rate Test: pumped 4 bpm, 25 barrels, at 160 psi; pumped 6.8 bpm, 25 barrels, 1630 psi. Shut down. The well went on a vacuum. Retrieved RBP (washed down one foot) and pulled out of the hole. Laid down 2-7/8 work string and all packers. Shut down for the night.

Friday, June 4, 1999

Brian Rogers arrived on site. 0600 hours, moved in and rigged up Holmes Wireline with a Hewlett Packard digital quartz surface readout Model No. 2813 (Serial No. 310FT) 0 to 11,000 psi and a Z. I. Probe, Level II, MRO, Serial No. S10, 0 to 10,000 psi. Went in the hole making gradient stops at 1500 feet, 3000 feet, 4500 feet, 6000 feet, and 7570 feet (top perforation). Allowed the tool to stabilize for 20 minutes for an initial bottom-hole pressure (2843.86 psi at 124°F). 0908 hours, pressure tested the lines to 1000 psi. Tested okay. 0912 hours, started injection of 8.7 ppg brine water at 10 bpm at 10 psi and maintained a constant rate through 2156 hours. Pumped a total of 7814 barrels of brine water. Final bottom-hole pressure was 2939 psi at 88°F. 2156 hours, shut down the pumps and closed the valves at the wellhead. Monitored the pressure falloff.

Saturday, June 5, 1999

Brian Rogers arrived on site. Final static bottom-hole pressure was 2844 psi. Pulled out of the hole making gradient stops at 6000 feet, 4500 feet, 3000 feet, 1500 feet, and at the surface. Rigged down the pressure tools and rigged up the differential temperature, casing collar locator, and radioactive tracer tool string configured with a detector on top, ejector in the middle and detector on bottom. Correlated logging depths to the Cast V, Cement Bond Log dated May 28, 1999. Conducted a differential temperature survey from the surface to 8736 feet (top of fill). Performed a pre-survey baseline log, flow rate was 0 bpm, 8736 feet to 7470 feet. Made a statistical check at 7550 feet. Chase-down survey from 7470 feet for flow profile at ½ bpm. Well on vacuum. Repeated. Conducted a 15-minute stationary survey at 7550 feet, while pumping 10 bpm. No upward flow. Repeated. Shut down the fluid pumps. Flow rate was 0 bpm. Conducted

APPENDIX 2.12-1 (Continued)

a post-survey base line log. Pulled out of the hole. Rigged down Halliburton and Holmes Wireline. Released all (16) 500-barrel tanks. Crockett Trucking provided a forklift and transportation services to return the 2-7/8 inch work string, deliver and offload 3-1/2 inch tubing.

Sunday, June 6, 1999

Brian Rogers arrived on site. Moved in and rigged up Bull Rogers' tongs and handling equipment. Picked up an Arrow Model X-1 (5-1/2" x 2-7/8", 14- to 20-pound, gauge ring 4.594 inches) retrievable packer (minimum ID = 2.4375 inches) with a wireline reentry guide on bottom and a crossover 2-7/8" x 3-1/2" NUE 10rd box on top. Total length was 7.80 feet. Went in the hole with 239 joints of 3-1/2 inch, 9.2 lb/ft, J-55, R-2, SMLS, NUE 10rd tubing. Torque turned and monitored each connection. Set the packer at 7528 feet and loaded the annulus with 8.7-pgg corrosion inhibited brine water. Set the packer with 17,000 pounds of compression. The top collar was changed out to a 3-1/2" NUE 10rd box x 3-1/2" EUE 8rd box. Wood Group delivered and installed the tree assembly which was comprised of a 3-1/2" EUE 8rd x 6" nipple, 3-1/16 inch Barton Gate valve, 3-1/2 inch EUE 8rd tee, tapped bull plug and a crossover to a 2 inch ball valve. Left the annulus open to purge air and allow for thermal stabilization.

Monday, June 7, 1999

Brian Rogers arrived on site. Moved in and rigged up Jim's Water Service's pressure truck and chart recorder. Pressurized the annulus to 771 psi and monitored the well overnight. Notified the OCD of the test to begin at 0800 hours on Tuesday, June 8, 1999. Notified the BLM of the test.

Tom Ball traveled from Lafayette, Louisiana to Artesia, New Mexico.

Tuesday, June 8, 1999

Brian Rogers traveled from Artesia, New Mexico to Houston, Texas.

Tom Ball conducted an official annular pressure test on WDW-2. Monitored pressures with a circular chart recorder (Serial No. 0323, 0 to 1000 psi, 24-hour clock). 0800

APPENDIX 2.12-1 (Continued)

hours, started the annular pressure test at 752 psi. 0815 hours, pressure was at 753 psi. 0830 hours, ended the annular pressure test at 753 psi. Mr. Van Barton of the OCD witnessed and approved the annular pressure test. Rigged down and moved out the rig. Released other suppliers.

Wednesday, June 9, 1999

Tom Ball returned the remaining on-site equipment. Traveled from Artesia, New Mexico to Lafayette, Louisiana.

APPENDIX 4.1-1

**BOTTOM-HOLE PRESSURE FIELD DATA RECORDED
DURING THE INJECTIVITY/FALLOFF TEST FOR WDW-2**

Subsurface Technology, Inc.

ENVIROCORP SERVICES
AND TECHNOLOGY, INC.HOUSTON, TX. • SOUTH BEND, IN.
BATON ROUGE, LA.

Subsurface Technology, Inc.

PanSystem Version 2.5

Well Test Analysis Report

Report File:

WDW2A.PAN

Analysis Date:

6/29/1999

Company	Navajo Refining Company
Location	Artesia, New Mexico
Well	WDW-2
Test Type	Injection/Falloff
Test Date	June 4 - 5, 1999
Gauge Type/Serial Number	Z.I. Probe/S10
Gauge Depth	7570 Feet
Injection Interval	7450 Feet - 9016 Feet
Completion Type	Perforated: 7570 - 7736 Feet; 7826 - 8399 Feet
Top of Fill	8736 Feet
Time Since Last Stabilizat	N/A
Analyst	LKM
Subsurface Project No.	70A4955



ENVIROCORP SERVICES
AND TECHNOLOGY, INC.

HOUSTON, TX - SOUTH BEND, IN
BATON ROUGE, LA

Subsurface Technology, Inc.

PanSystem Version 2.5

Well Test Analysis Report

Report File:

WDW2A.PAN

Analysis Date:

6/29/1999

MEMORY Data Files

Time Hours	Pressure #1 psia	Temperature #1 deg F
0.00000	119.7900	76.5180
0.00300	138.5410	76.6710
0.00600	156.3940	76.7250
0.00800	174.4080	76.7930
0.01100	192.5670	76.8780
0.01400	210.7660	76.9480
0.01700	229.1750	76.9870
0.01900	247.6900	77.1010
0.02200	266.2340	77.2020
0.02500	264.3720	77.3170
0.02800	256.3760	77.4270
0.03100	248.3960	77.5450
0.03300	234.6450	77.6500
0.03600	228.7620	77.7610
0.03900	217.3780	77.8550
0.04200	200.6110	77.9740
0.04400	182.5650	78.0760
0.04700	164.6440	78.1750
0.05000	146.8180	78.2710
0.05300	137.5060	78.3540
0.05600	137.4990	78.4330
0.05800	137.4330	78.5050
0.06100	137.3720	78.5660
0.06400	137.3650	78.6240
0.06700	137.3520	78.6780
0.06900	137.3650	78.7080
0.07200	137.3900	78.7660
0.07500	137.3710	78.8110
0.07800	137.3730	78.8540
0.08100	137.3590	78.8880
0.08300	137.3440	78.9120
0.08600	137.3470	78.9460
0.08900	137.3390	78.9940
0.09200	137.3340	79.0110
0.09400	137.3250	79.0300
0.09700	137.3260	79.0520
0.10000	137.3280	79.0830
0.10300	137.3200	79.1290
0.10600	137.3210	79.1530
0.10800	137.3070	79.1780
0.11100	137.2970	79.2050
0.11400	137.3210	79.2250

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
0.11700	137.2940	79.2430
0.11900	137.2850	79.2660
0.12200	137.3020	79.2820
0.12500	137.3030	79.3040
0.12800	137.2880	79.3200
0.13100	137.3000	79.3360
0.13300	137.2960	79.3580
0.13600	137.2700	79.3710
0.13900	137.2710	79.3890
0.14200	137.2770	79.4010
0.14400	137.2230	79.4160
0.14700	140.9900	79.4280
0.15000	156.9130	79.4390
0.15300	174.8580	79.4480
0.15600	193.0220	79.4570
0.15800	211.1870	79.4730
0.16100	229.3920	79.4800
0.16400	247.6480	79.4800
0.16700	265.9130	79.5220
0.16900	284.1790	79.5610
0.17200	302.5380	79.5970
0.17500	320.8690	79.6440
0.17800	339.2570	79.6950
0.18100	357.6360	79.7290
0.18300	376.1090	79.7590
0.18600	394.5080	79.7970
0.18900	412.9990	79.9160
0.19200	431.4370	79.9770
0.19400	449.8410	80.0690
0.19700	468.2360	80.1180
0.20000	486.4320	80.2130
0.20300	504.7080	80.3080
0.20600	523.0670	80.4110
0.20800	541.4580	80.5390
0.21100	559.9160	80.6540
0.21400	578.2260	80.7300
0.21700	596.6480	80.8840
0.21900	614.9420	81.0180
0.22200	633.1930	81.0910
0.22500	651.5910	81.2460
0.22800	669.9090	81.3720
0.23100	688.1870	81.4800



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MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
0.23300	706.5590	81.6480
0.23600	724.9330	81.8170
0.23900	743.2770	81.9660
0.24200	761.4650	82.1120
0.24400	779.7040	82.1970
0.24700	797.3550	82.3690
0.25000	805.7450	82.4860
0.25300	804.9630	82.6360
0.25600	805.0700	82.7850
0.25800	805.1830	82.9440
0.26100	805.2030	83.1000
0.26400	805.1980	83.2460
0.26700	805.2290	83.4030
0.26900	805.2320	83.5470
0.27200	805.2770	83.6940
0.27500	805.2360	83.8310
0.27800	805.2580	83.9640
0.28100	805.2790	84.0970
0.28300	805.2250	84.2250
0.28600	805.2320	84.3480
0.28900	805.2620	84.4720
0.29200	805.2750	84.5890
0.29400	805.2550	84.6990
0.29700	805.2950	84.8080
0.30000	805.3170	84.9420
0.30300	805.3250	85.0150
0.30600	805.3280	85.1250
0.30800	805.3130	85.2420
0.31100	805.2890	85.3230
0.31400	805.3170	85.4060
0.31700	805.2710	85.4870
0.31900	805.2720	85.5550
0.32200	805.3250	85.6560
0.32500	805.3030	85.7260
0.32800	805.2900	85.8130
0.33100	805.3070	85.8830
0.33300	805.3020	85.9530
0.33600	805.3310	86.0130
0.33900	805.3140	86.0770
0.34200	805.3140	86.1280
0.34400	805.2830	86.1870
0.34700	805.2860	86.2470

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
0.35000	805.2890	86.3080
0.35300	805.3570	86.3670
0.35600	805.3370	86.4210
0.35800	805.2870	86.4720
0.36100	805.2540	86.5150
0.36400	805.2880	86.5670
0.36700	805.3210	86.6100
0.36900	812.0140	86.7240
0.37200	823.7190	86.7700
0.37500	835.9220	86.7960
0.37800	853.8000	86.8280
0.38100	871.5730	86.9020
0.38300	889.3510	86.9410
0.38600	907.1690	86.9900
0.38900	924.9040	87.0420
0.39200	942.8440	87.0930
0.39400	960.7540	87.1590
0.39700	978.4460	87.2170
0.40000	996.2450	87.2650
0.40300	1014.0010	87.3460
0.40600	1031.7600	87.4170
0.40800	1049.4879	87.4890
0.41100	1067.1880	87.5620
0.41400	1084.9240	87.6650
0.41700	1102.6370	87.7260
0.41900	1120.2930	87.7870
0.42200	1138.1610	87.9640
0.42500	1155.8989	88.0680
0.42800	1173.6169	88.1870
0.43100	1191.2870	88.2910
0.43300	1208.5730	88.3800
0.43600	1226.1709	88.5450
0.43900	1243.6429	88.6710
0.44200	1261.2739	88.8150
0.44400	1278.7760	88.9390
0.44700	1296.4840	89.0920
0.45000	1313.9690	89.2310
0.45300	1331.4430	89.3820
0.45600	1349.0210	89.5260
0.45800	1366.4070	89.6670
0.46100	1383.9299	89.8180
0.46400	1401.3030	89.9020



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MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
0.46700	1418.8750	90.1130
0.46900	1434.0199	90.2950
0.47200	1447.6680	90.4460
0.47500	1461.3419	90.6030
0.47800	1464.2040	90.7360
0.48100	1464.3540	90.8940
0.48300	1464.3340	91.0740
0.48600	1464.4850	91.2470
0.48900	1464.4819	91.4340
0.49200	1464.5120	91.6030
0.49400	1464.4960	91.7620
0.49700	1464.4929	91.9360
0.50000	1464.5229	92.1110
0.50300	1464.6239	92.2820
0.50600	1464.6189	92.4240
0.50800	1464.6370	92.5750
0.51100	1464.6420	92.7140
0.51400	1464.7190	92.8560
0.51700	1464.6790	92.9890
0.51900	1464.7500	93.1150
0.52200	1464.7100	93.2430
0.52500	1464.6969	93.3580
0.52800	1464.7679	93.4740
0.53100	1464.7159	93.5850
0.53300	1464.6930	93.6930
0.53600	1464.7679	93.7990
0.53900	1464.7880	93.8980
0.54200	1464.7190	93.9970
0.54400	1464.7729	94.0910
0.54700	1464.7150	94.1770
0.55000	1464.6799	94.2660
0.55300	1464.7820	94.3520
0.55600	1464.7729	94.4330
0.55800	1464.7770	94.5120
0.56100	1464.7290	94.5880
0.56400	1464.7550	94.6630
0.56700	1464.7679	94.7300
0.56900	1464.7090	94.8020
0.57200	1464.7729	94.8690
0.57500	1475.0280	94.9260
0.57800	1492.5649	94.9910
0.58100	1510.1060	95.0380

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
0.58300	1527.8209	95.1120
0.58600	1545.4259	95.1780
0.58900	1563.0530	95.2430
0.59200	1580.8049	95.3010
0.59400	1598.5449	95.3760
0.59700	1616.3080	95.4610
0.60000	1633.9509	95.5360
0.60300	1651.6709	95.6170
0.60600	1669.1599	95.7060
0.60800	1686.9850	95.8080
0.61100	1704.6689	95.9180
0.61400	1722.3600	95.9770
0.61700	1740.1090	96.1180
0.61900	1757.6689	96.2330
0.62200	1775.2760	96.3090
0.62500	1793.0360	96.4780
0.62800	1810.8870	96.5890
0.63100	1828.7469	96.7660
0.63300	1846.5370	96.8770
0.63600	1864.3629	97.0390
0.63900	1882.1389	97.1400
0.64200	1899.6990	97.3270
0.64400	1917.0940	97.4950
0.64700	1934.6489	97.6550
0.65000	1952.1980	97.8550
0.65300	1969.7000	98.0350
0.65600	1987.3099	98.2490
0.65800	2004.7839	98.4400
0.66100	2022.3070	98.6320
0.66400	2039.9249	98.8920
0.66700	2057.3091	99.0970
0.66900	2074.7290	99.3180
0.67200	2092.2061	99.5540
0.67500	2109.7271	99.7990
0.67800	2127.4060	100.0400
0.68100	2138.3831	100.3100
0.68300	2138.2339	100.5550
0.68600	2138.3411	100.8120
0.68900	2138.5710	101.0700
0.69200	2138.6270	101.3090
0.69400	2138.6750	101.5360
0.69700	2138.6619	101.7770

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
0.70000	2138.6990	102.0180
0.70300	2138.6970	102.2540
0.70600	2138.6980	102.4840
0.70800	2138.7449	102.7200
0.71100	2138.7759	102.9420
0.71400	2138.8240	103.1490
0.71700	2138.7520	103.3450
0.71900	2138.8589	103.5610
0.72200	2138.8569	103.7440
0.72500	2138.9399	103.9550
0.72800	2138.8831	104.1260
0.73100	2138.9229	104.3200
0.73300	2139.0059	104.5040
0.73600	2139.0291	104.6710
0.73900	2138.9561	104.8060
0.74200	2138.9758	104.9830
0.74400	2139.0610	105.1380
0.74700	2139.0210	105.2780
0.75000	2139.0479	105.4040
0.75300	2139.0898	105.5430
0.75600	2139.0859	105.6790
0.75800	2139.0789	105.8050
0.76100	2139.0779	105.9260
0.76400	2139.1479	106.0500
0.76700	2139.0850	106.1640
0.76900	2139.0920	106.2750
0.77200	2139.1379	106.3780
0.77500	2139.1189	106.4790
0.77800	2139.1479	106.5760
0.78100	2149.8320	106.5880
0.78300	2167.3530	106.6890
0.78600	2184.8459	106.7680
0.78900	2202.4490	106.9120
0.79200	2219.8110	107.0080
0.79400	2237.2500	107.1100
0.79700	2254.6169	107.2200
0.80000	2271.9661	107.3250
0.80300	2289.3679	107.4470
0.80600	2306.7358	107.5710
0.80800	2323.8330	107.6470
0.81100	2340.9709	107.7960
0.81400	2358.1021	107.9600

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
0.81700	2375.2629	108.1170
0.81900	2392.5369	108.2700
0.82200	2409.8499	108.4640
0.82500	2427.0190	108.6060
0.82800	2444.2419	108.7830
0.83100	2461.4639	108.9680
0.83300	2478.6628	109.1680
0.83600	2495.8679	109.3680
0.83900	2513.0979	109.5690
0.84200	2530.3020	109.7870
0.84400	2547.5430	110.0070
0.84700	2564.7729	110.2300
0.85000	2581.1208	110.4660
0.85300	2587.3450	110.6960
0.85600	2587.5120	110.9370
0.85800	2587.6089	111.1750
0.86100	2587.7390	111.4110
0.86400	2587.8650	111.6430
0.86700	2587.9561	111.8750
0.86900	2588.0100	112.1040
0.87200	2588.0449	112.3200
0.87500	2587.8879	112.4960
0.87800	2587.8459	112.7030
0.88100	2587.8840	112.9100
0.88300	2587.9451	113.1100
0.88600	2587.9470	113.3020
0.88900	2587.9849	113.4860
0.89200	2588.0229	113.6700
0.89400	2588.0300	113.8460
0.89700	2588.0039	113.9990
0.90000	2588.0510	114.1720
0.90300	2587.9451	114.2980
0.90600	2588.0520	114.4800
0.90800	2587.9438	114.5930
0.91100	2587.9680	114.7330
0.91400	2587.9800	114.8770
0.91700	2588.0830	115.0410
0.91900	2588.1169	115.1850
0.92200	2588.1460	115.3130
0.92500	2588.1221	115.4260
0.92800	2588.1179	115.5450
0.93100	2588.0640	115.6320

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
0.93300	2587.9990	115.7140
0.93600	2594.1470	115.8300
0.93900	2611.1121	115.9090
0.94200	2628.1851	116.0380
0.94400	2645.0229	116.1270
0.94700	2661.9290	116.2290
0.95000	2678.7200	116.3300
0.95300	2695.6509	116.4400
0.95600	2712.5979	116.5550
0.95800	2729.5979	116.6850
0.96100	2746.7000	116.8120
0.96400	2763.8430	116.9620
0.96700	2780.8730	117.0990
0.96900	2797.9470	117.2520
0.97200	2814.9629	117.4120
0.97500	2830.8840	117.5970
0.97800	2841.6589	117.7570
0.98100	2845.2520	117.9360
0.98300	2845.3340	118.1320
0.98600	2845.4370	118.3260
0.98900	2845.5510	118.5260
0.99200	2845.6660	118.7240
0.99400	2845.7061	118.9200
0.99700	2845.7239	119.1130
1.00000	2845.7258	119.3000
1.00300	2845.7329	119.4890
1.00600	2845.7258	119.6710
1.00800	2845.7219	119.8470
1.01100	2845.7358	120.0220
1.01400	2845.7319	120.1910
1.01700	2845.7520	120.3530
1.01900	2845.7371	120.5100
1.02200	2845.7349	120.6610
1.02500	2845.7439	120.8100
1.02800	2845.7419	120.9560
1.03100	2845.7449	121.0950
1.03300	2845.7329	121.2260
1.03600	2845.7258	121.3570
1.03900	2845.7190	121.4820
1.04200	2845.7190	121.6020
1.04400	2845.7109	121.7170
1.04700	2845.5820	121.7970

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
1.05000	2845.5588	121.9050
1.05300	2845.5701	122.0110
1.05600	2845.5701	122.1150
1.05800	2845.5759	122.2160
1.06100	2845.5649	122.3100
1.06400	2845.5649	122.4050
1.06700	2845.5559	122.4930
1.06900	2845.5669	122.5830
1.07200	2845.5798	122.6700
1.07500	2845.5811	122.7520
1.07800	2845.5649	122.8280
1.08100	2845.5669	122.9040
1.08300	2845.5701	122.9810
1.08600	2845.5649	123.0460
1.08900	2845.5620	123.1160
1.09200	2845.5530	123.1810
1.09400	2845.5439	123.2440
1.09700	2845.5391	123.3010
1.10000	2845.5359	123.3610
1.10300	2845.5220	123.4170
1.10600	2845.5068	123.4690
1.10800	2845.5269	123.5260
1.11100	2845.5190	123.5750
1.11400	2845.5049	123.6240
1.11700	2845.4849	123.6690
1.11900	2845.5000	123.7170
1.12200	2845.4810	123.7590
1.12500	2845.4890	123.8040
1.12800	2845.5149	123.8560
1.13100	2845.4958	123.8940
1.13300	2845.4880	123.9310
1.13600	2845.4858	123.9710
1.13900	2845.4790	124.0050
1.14200	2845.4871	124.0430
1.14400	2845.5090	124.0840
1.14700	2845.5068	124.1190
1.15000	2845.5491	124.1640
1.15300	2845.5701	124.2000
1.15600	2845.5520	124.2270
1.15800	2845.5330	124.2500
1.16100	2845.5378	124.2820
1.16400	2845.5469	124.3130



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Time Hours	Pressure #1 psia	Temperature #1 deg F
1.16700	2845.5520	124.3400
1.16900	2845.5391	124.3620
1.17200	2845.5320	124.3850
1.17500	2845.5300	124.4100
1.17800	2845.5239	124.4300
1.18100	2845.5120	124.4520
1.18300	2845.5210	124.4750
1.18600	2845.5090	124.4970
1.18900	2845.5190	124.5130
1.19200	2845.4890	124.5310
1.19400	2845.5000	124.5520
1.19700	2845.4990	124.5690
1.20000	2845.5029	124.5900
1.20300	2845.5090	124.6060
1.20600	2845.4900	124.6210
1.20800	2845.4890	124.6350
1.21100	2845.3140	124.6030
1.21400	2845.2910	124.6100
1.21700	2845.2949	124.6240
1.21900	2845.2891	124.6390
1.22200	2845.3000	124.6510
1.22500	2845.3049	124.6660
1.22800	2845.3040	124.6800
1.23100	2845.2979	124.6910
1.23300	2845.3140	124.7070
1.23600	2845.3350	124.7250
1.23900	2845.3350	124.7360
1.24200	2845.3240	124.7450
1.24400	2845.2720	124.7410
1.24700	2845.2830	124.7560
1.25000	2845.2659	124.7590
1.25300	2845.2820	124.7740
1.25600	2845.2581	124.7810
1.25800	2845.2859	124.7970
1.26100	2845.2581	124.7970
1.26400	2845.3079	124.8220
1.26700	2845.3298	124.8350
1.26900	2845.3459	124.8490
1.27200	2845.3398	124.8530
1.27500	2845.3179	124.8570
1.27800	2845.2429	124.8420
1.28100	2845.2148	124.8420

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
1.28300	2845.2429	124.8600
1.28600	2845.2649	124.8710
1.28900	2845.2700	124.8800
1.29200	2845.2749	124.8870
1.29400	2845.2349	124.8840
1.29700	2845.2019	124.8760
1.30000	2845.2119	124.8870
1.30300	2845.2290	124.8980
1.30600	2845.1951	124.8940
1.30800	2845.1660	124.8940
1.31100	2845.1550	124.8940
1.31400	2845.1709	124.9050
1.31700	2845.1489	124.9050
1.31900	2845.1431	124.9050
1.32200	2845.1431	124.9120
1.32500	2845.1479	124.9210
1.32800	2845.1819	124.9290
1.33100	2845.1650	124.9320
1.33300	2845.1750	124.9360
1.33600	2845.1519	124.9360
1.33900	2845.1519	124.9390
1.34200	2845.1580	124.9470
1.34400	2845.1460	124.9470
1.34700	2845.1750	124.9610
1.35000	2845.2029	124.9700
1.35300	2845.1628	124.9630
1.35600	2845.1970	124.9740
1.35800	2845.1799	124.9770
1.36100	2845.1108	124.9610
1.36400	2845.0999	124.9570
1.36700	2845.0769	124.9570
1.36900	2845.0830	124.9610
1.37200	2845.0769	124.9630
1.37500	2845.1780	124.9950
1.37800	2845.1609	124.9920
1.38100	2845.1108	124.9840
1.38300	2845.0710	124.9740
1.38600	2845.0769	124.9770
1.38900	2845.1780	125.0080
1.39200	2845.1599	125.0060
1.39400	2845.0479	124.9770
1.39700	2845.0540	124.9810



ENVIROCORP SERVICES
AND TECHNOLOGY, INC.

HOUSTON, TX · SOUTH BEND, IN
BATON ROUGE, LA

Subsurface Technology, Inc.

PanSystem Version 2.5

Well Test Analysis Report

Report File:

WDW2A.PAN

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MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
1.40000	2845.0420	124.9810
1.40300	2845.0469	124.9840
1.40600	2845.0520	124.9880
1.40800	2845.0469	124.9880
1.41100	2845.0520	124.9920
1.41400	2845.0579	124.9950
1.41700	2845.1079	125.0110
1.41900	2845.1030	125.0110
1.42200	2845.0911	125.0110
1.42500	2845.0969	125.0110
1.42800	2845.0510	125.0060
1.43100	2845.0510	125.0080
1.43300	2845.0510	125.0080
1.43600	2845.0339	125.0060
1.43900	2845.0059	125.0020
1.44200	2845.1350	125.0440
1.44400	2845.1960	125.0640
1.44700	2845.2129	125.0670
1.45000	2845.2009	125.0670
1.45300	2845.2009	125.0710
1.45600	2845.2009	125.0710
1.45800	2845.2009	125.0710
1.46100	2845.1838	125.0710
1.46400	2845.1670	125.0670
1.46700	2845.1499	125.0640
1.46900	2845.0989	125.0510
1.47200	2845.1050	125.0550
1.47500	2845.0439	125.0290
1.47800	2845.1580	125.0330
1.48100	2845.4790	125.0290
1.48300	2846.0520	125.0220
1.48600	2847.0129	125.0150
1.48900	2848.5520	125.0110
1.49200	2850.3931	125.0150
1.49400	2852.1528	125.0400
1.49700	2854.2239	125.0510
1.50000	2857.4548	125.0470
1.50300	2860.4060	125.0670
1.50600	2862.2249	125.0640
1.50800	2863.5200	125.0420
1.51100	2864.6370	125.0040
1.51400	2863.3000	124.9700

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
1.51700	2860.1040	124.9360
1.51900	2857.3660	124.8980
1.52200	2855.1150	124.8490
1.52500	2853.1660	124.8040
1.52800	2851.5220	124.7490
1.53100	2850.4160	124.6890
1.53300	2849.6990	124.6240
1.53600	2848.7300	124.5560
1.53900	2847.8479	124.4860
1.54200	2846.8159	124.4170
1.54400	2846.2029	124.3360
1.54700	2846.0701	124.2640
1.55000	2845.8579	124.1890
1.55300	2845.4089	124.1190
1.55600	2845.0010	124.0660
1.55800	2844.5979	124.0090
1.56100	2844.2148	123.9350
1.56400	2843.9949	123.8590
1.56700	2844.1130	123.7910
1.57200	2847.0850	123.6760
1.57800	2864.4009	123.5440
1.58300	2878.7439	123.4530
1.58900	2887.2991	123.3210
1.59400	2890.1208	123.1450
1.60000	2893.7568	122.9880
1.60600	2894.8130	122.7580
1.61100	2897.0378	122.4730
1.61700	2897.9910	122.2110
1.62200	2898.6838	121.8740
1.62800	2899.6340	121.4800
1.63300	2900.2759	121.0680
1.63900	2899.6360	120.6360
1.64400	2899.1729	120.1860
1.65000	2899.8931	119.6940
1.65600	2900.6599	119.1690
1.66100	2901.9128	118.6380
1.66700	2902.5269	118.0780
1.67200	2902.2190	117.4950
1.67800	2901.8599	116.8950
1.68300	2903.4451	116.2740
1.68900	2904.8679	115.6390
1.69400	2906.9958	114.9940

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
1.70000	2908.8369	114.3340
1.70600	2907.5479	113.6730
1.71100	2908.0049	113.0090
1.71700	2908.4280	112.3410
1.72200	2910.1340	111.6770
1.72800	2910.6499	111.0090
1.73300	2902.5850	110.3490
1.73900	2901.0549	109.6900
1.74400	2904.5999	109.0420
1.75000	2903.1741	108.4100
1.75600	2909.0090	107.7870
1.76100	2905.5601	107.1790
1.76700	2904.8679	106.5720
1.77200	2906.3721	105.9800
1.77800	2909.7930	105.3950
1.78300	2906.8389	104.8120
1.78900	2907.5859	104.2430
1.79400	2906.3760	103.6810
1.80000	2911.5139	103.1290
1.80600	2906.6470	102.5710
1.81100	2908.8120	102.0510
1.81700	2910.9829	101.5210
1.82200	2909.4150	100.9990
1.82800	2910.2219	100.4810
1.83300	2912.8330	99.9750
1.83900	2911.5630	99.4730
1.84400	2910.4871	98.9800
1.85000	2911.5911	98.4870
1.85600	2911.1650	98.0010
1.86100	2912.0779	97.5270
1.86700	2910.9250	97.0540
1.87200	2913.1838	96.5910
1.87800	2914.7720	96.1300
1.88300	2915.3760	95.6770
1.88900	2912.3850	95.2290
1.89400	2915.7400	94.7840
1.90000	2915.0850	94.3540
1.90600	2916.0139	93.9360
1.91100	2913.4958	93.5260
1.91700	2916.5969	93.1370
1.92200	2913.8650	92.7700
1.92800	2913.8179	92.4210

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
1.93300	2916.4949	92.0800
1.93900	2914.8259	91.7600
1.94400	2915.5349	91.4500
1.95000	2916.5688	91.1660
1.95600	2915.8770	90.8920
1.96100	2913.3220	90.6390
1.96700	2916.0239	90.3940
1.97200	2914.1499	90.1740
1.97800	2915.8010	89.9690
1.98300	2916.4370	89.7820
1.98900	2918.0510	89.6040
1.99400	2917.2690	89.4510
2.00000	2918.0979	89.3100
2.00600	2913.9871	89.1840
2.01100	2917.3040	89.0690
2.01700	2916.9790	88.9770
2.02200	2915.7449	88.8910
2.02800	2916.8708	88.8210
2.03300	2916.7109	88.7520
2.03900	2919.4009	88.7000
2.04400	2916.0439	88.6530
2.05000	2915.9780	88.6100
2.05600	2916.7839	88.5740
2.06100	2914.5430	88.5470
2.06700	2918.1389	88.5250
2.07200	2916.7659	88.5070
2.07800	2916.8389	88.4950
2.08300	2916.7329	88.4860
2.08900	2917.5291	88.4750
2.09400	2919.2139	88.4710
2.10000	2917.2820	88.4710
2.10600	2918.0320	88.4710
2.11100	2918.4590	88.4710
2.11700	2917.0798	88.4710
2.12200	2917.2949	88.4820
2.12800	2918.9399	88.4910
2.13300	2919.4141	88.5020
2.13900	2918.5459	88.5110
2.14400	2919.2659	88.5220
2.15000	2919.1599	88.5340
2.15600	2918.8630	88.5470
2.16100	2918.1699	88.5610



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MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
2.16700	2919.1919	88.5740
2.17200	2916.9351	88.5870
2.17800	2916.2659	88.6050
2.18300	2917.4260	88.6210
2.18900	2917.7739	88.6370
2.19400	2918.2759	88.6500
2.20000	2918.6008	88.6730
2.20600	2918.2869	88.6890
2.21100	2919.9399	88.7050
2.21700	2917.1140	88.7250
2.22200	2919.3799	88.7410
2.22800	2919.0859	88.7680
2.23300	2919.4590	88.7880
2.23900	2920.3379	88.8010
2.24400	2921.0569	88.8280
2.25000	2918.5269	88.8480
2.25600	2919.6951	88.8750
2.26100	2917.4338	88.8980
2.26700	2918.5459	88.9200
2.27200	2923.0010	88.9470
2.27800	2917.3540	88.9660
2.28300	2918.4780	88.9930
2.28900	2919.7209	89.0130
2.29400	2918.4639	89.0420
2.30000	2919.3188	89.0650
2.30600	2918.8159	89.0890
2.31100	2919.1790	89.1160
2.31700	2916.7969	89.1410
2.32200	2918.7229	89.1680
2.32800	2919.2991	89.1930
2.33300	2917.0269	89.2200
2.33900	2918.9409	89.2470
2.34400	2919.3330	89.2760
2.35000	2918.3140	89.2990
2.35600	2918.3779	89.3320
2.36100	2918.6040	89.3590
2.36700	2920.6279	89.3890
2.37200	2918.2258	89.4220
2.37800	2918.7610	89.4540
2.38300	2921.3240	89.4870
2.38900	2921.6130	89.5210
2.39400	2919.1509	89.5600

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
2.40000	2920.2019	89.5930
2.40600	2922.1250	89.6290
2.41100	2919.7061	89.6650
2.41700	2921.1919	89.7040
2.42200	2920.5710	89.7420
2.42800	2920.9929	89.7820
2.43300	2919.8909	89.8230
2.43900	2918.0000	89.8660
2.44400	2919.3540	89.9020
2.45000	2919.9189	89.9460
2.45600	2920.9829	89.9890
2.46100	2921.5369	90.0280
2.46700	2921.4128	90.0750
2.47200	2919.2690	90.1180
2.47800	2920.8330	90.1600
2.48300	2921.3220	90.2030
2.48900	2917.9260	90.2430
2.49400	2919.7271	90.2890
2.50000	2920.4639	90.3340
2.50600	2919.3779	90.3810
2.51100	2920.6399	90.4210
2.51700	2920.0659	90.4710
2.52200	2920.8860	90.5160
2.52800	2919.7639	90.5700
2.53300	2921.3359	90.6190
2.53900	2923.8899	90.6660
2.54400	2922.2559	90.7110
2.55000	2922.4839	90.7610
2.55600	2922.4219	90.7970
2.56100	2921.3589	90.8640
2.56700	2922.7510	90.9120
2.57200	2916.3230	90.9630
2.57800	2921.6140	91.0080
2.58300	2918.9290	91.0540
2.58900	2924.5610	91.1030
2.59400	2922.2190	91.1530
2.60000	2918.1870	91.1970
2.60600	2919.8640	91.2420
2.61100	2921.4099	91.2920
2.61700	2921.5330	91.3350
2.62200	2925.4370	91.3710
2.62800	2919.0830	91.4000

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
2.63300	2923.1541	91.4400
2.63900	2917.5269	91.4590
2.64400	2920.5278	91.4790
2.65000	2922.8220	91.4700
2.65600	2917.9729	91.4830
2.66100	2923.1960	91.4700
2.66700	2920.3799	91.4430
2.67200	2919.1470	91.4160
2.67800	2921.4109	91.3570
2.68300	2922.5579	91.3120
2.68900	2920.0349	91.2450
2.69400	2921.7009	91.1700
2.70000	2923.9009	91.0800
2.70600	2921.6309	90.9950
2.71100	2919.9849	90.9000
2.71700	2918.7000	90.7970
2.72200	2920.6589	90.6910
2.72800	2919.0869	90.5830
2.73300	2920.7910	90.4710
2.73900	2923.0320	90.3580
2.74400	2922.2100	90.2390
2.75000	2922.1670	90.1240
2.75600	2920.5610	90.0090
2.76100	2922.3909	89.9010
2.76700	2918.7070	89.7840
2.77200	2919.2930	89.6790
2.77800	2919.6479	89.5730
2.78300	2921.7310	89.4740
2.78900	2922.3069	89.3710
2.79400	2918.6580	89.2720
2.80000	2922.6318	89.1810
2.80600	2922.4910	89.0850
2.81100	2920.0830	88.9930
2.81700	2915.7039	88.9200
2.82200	2919.9619	88.8280
2.82800	2922.0701	88.7450
2.83300	2918.2581	88.6800
2.83900	2922.8030	88.5870
2.84400	2919.9849	88.5110
2.85000	2916.7161	88.4620
2.85600	2917.2439	88.3890
2.86100	2919.1760	88.3290

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
2.86700	2917.3040	88.2880
2.87200	2918.3149	88.2640
2.87800	2915.5410	88.2210
2.88300	2921.9690	88.1780
2.88900	2923.6309	88.1310
2.89400	2921.2019	88.0920
2.90000	2924.1470	88.0590
2.90600	2922.2930	88.0200
2.91100	2921.8188	87.9910
2.91700	2923.7380	87.9640
2.92200	2921.3508	87.9330
2.92800	2929.1260	87.9080
2.93300	2921.6370	87.8770
2.93900	2924.6318	87.8540
2.94400	2920.2920	87.8410
2.95000	2924.1099	87.8250
2.95600	2919.6431	87.8090
2.96100	2921.7048	87.7890
2.96700	2921.4709	87.7770
2.97200	2919.6331	87.7730
2.97800	2918.4971	87.7590
2.98300	2926.0479	87.6760
2.98900	2917.6350	87.7190
2.99400	2915.7729	87.7140
3.00000	2919.1609	87.7260
3.00600	2921.7659	87.7140
3.01100	2922.9470	87.7140
3.01700	2918.9929	87.7100
3.02200	2917.5669	87.7330
3.02800	2920.0659	87.7370
3.03300	2926.2148	87.7420
3.03900	2920.0730	87.7420
3.04400	2917.3589	87.7530
3.05000	2926.6909	87.7660
3.05600	2921.2190	87.7730
3.06100	2922.1318	87.7890
3.06700	2920.9719	87.8130
3.07200	2917.1418	87.8220
3.07800	2917.8499	87.8360
3.08300	2919.9780	87.8360
3.08900	2927.2759	87.8810
3.09400	2921.8931	87.9010



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MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
3.10000	2925.1079	87.9130
3.10600	2922.4729	87.9370
3.11100	2920.7219	87.9570
3.11700	2920.7910	87.9870
3.12200	2923.8440	88.0110
3.12800	2918.5659	88.0360
3.13300	2920.6199	88.0630
3.13900	2921.5400	88.0900
3.14400	2917.4180	88.1190
3.15000	2921.4160	88.1350
3.15600	2921.6030	88.1780
3.16100	2921.9729	88.2100
3.16700	2923.2949	88.2450
3.17200	2919.2061	88.2770
3.17800	2920.5989	88.3090
3.18300	2921.2759	88.3470
3.18900	2923.7979	88.3830
3.19400	2922.6809	88.4190
3.20000	2921.4500	88.4620
3.20600	2923.0930	88.5020
3.21100	2922.2991	88.5420
3.21700	2922.2170	88.5810
3.22200	2921.5500	88.6260
3.22800	2923.5100	88.6660
3.23300	2922.1528	88.7090
3.23900	2923.0469	88.7560
3.24400	2923.5911	88.8010
3.25000	2923.5149	88.8440
3.25600	2923.1780	88.8940
3.26100	2921.6519	88.9390
3.26700	2924.2559	88.9900
3.27200	2923.7419	89.0330
3.27800	2924.1289	89.0850
3.28300	2924.0750	89.1280
3.28900	2921.6899	89.1810
3.29400	2924.8799	89.2240
3.30000	2924.0320	89.2720
3.30600	2924.3569	89.3160
3.31100	2925.6169	89.3750
3.31700	2925.1299	89.4180
3.32200	2927.3708	89.4740
3.32800	2926.2439	89.5170

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
3.33300	2923.2510	89.5600
3.33900	2924.2500	89.6040
3.34400	2923.1589	89.6430
3.35000	2924.8210	89.6650
3.35600	2923.1760	89.7040
3.36100	2922.6819	89.7220
3.36700	2923.4050	89.7390
3.37200	2923.6670	89.7350
3.37800	2919.5110	89.7350
3.38300	2918.4919	89.7190
3.38900	2921.5688	89.7030
3.39400	2922.6121	89.6680
3.40000	2920.6509	89.6320
3.40600	2923.5049	89.5860
3.41100	2919.9250	89.5410
3.41700	2922.5740	89.4870
3.42200	2925.1108	89.4250
3.42800	2920.9529	89.3710
3.43300	2922.0701	89.3070
3.43900	2922.3860	89.2440
3.44400	2924.0400	89.1810
3.45000	2922.2639	89.1180
3.45600	2922.6960	89.0530
3.46100	2922.6189	88.9930
3.46700	2922.8540	88.9300
3.47200	2922.3279	88.8710
3.47800	2922.8159	88.8120
3.48300	2922.8169	88.7560
3.48900	2924.3201	88.7020
3.49400	2924.6379	88.6460
3.50000	2923.8289	88.5940
3.50600	2923.3999	88.5430
3.51100	2923.5449	88.4950
3.51700	2921.9849	88.4550
3.52200	2922.9910	88.4080
3.52800	2924.1499	88.3690
3.53300	2925.7429	88.3290
3.53900	2924.4971	88.2970
3.54400	2922.8721	88.2610
3.55000	2922.4141	88.2250
3.55600	2924.7739	88.1910
3.56100	2924.1589	88.1650



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MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
3.56700	2924.1838	88.1350
3.57200	2921.8469	88.1110
3.57800	2922.3599	88.0860
3.58300	2923.8870	88.0660
3.58900	2922.6060	88.0430
3.59400	2920.2529	88.0230
3.60000	2922.5730	88.0030
3.60600	2926.5559	87.9870
3.61100	2924.0898	87.9730
3.61700	2923.3149	87.9570
3.62200	2923.8311	87.9440
3.62800	2922.5750	87.9310
3.63300	2922.6370	87.9170
3.63900	2921.0039	87.9080
3.64400	2925.5620	87.8940
3.65000	2924.2300	87.8850
3.65600	2924.1360	87.8810
3.66100	2924.0029	87.8740
3.66700	2923.7161	87.8650
3.67200	2924.0320	87.8610
3.67800	2923.9648	87.8540
3.68300	2923.4561	87.8520
3.68900	2924.3640	87.8520
3.69400	2926.0139	87.8490
3.70000	2927.2390	87.8450
3.70600	2924.4600	87.8450
3.71100	2925.1938	87.8490
3.71700	2923.8210	87.8490
3.72200	2925.0679	87.8490
3.72800	2923.8989	87.8520
3.73300	2925.8020	87.8540
3.73900	2926.1770	87.8610
3.74400	2926.0300	87.8650
3.75000	2928.4600	87.8720
3.75600	2925.3879	87.8770
3.76100	2926.4561	87.8850
3.76700	2925.8521	87.8940
3.77200	2926.1560	87.9040
3.77800	2925.1130	87.9130
3.78300	2925.8770	87.9240
3.78900	2929.2429	87.9330
3.79400	2926.0920	87.9510

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
3.80000	2925.7070	87.9640
3.80600	2927.4290	87.9760
3.81100	2925.1030	87.9930
3.81700	2928.6399	88.0070
3.82200	2928.4749	88.0230
3.82800	2926.7139	88.0430
3.83300	2929.4600	88.0660
3.83900	2928.0869	88.0830
3.84400	2927.1909	88.1060
3.85000	2927.3560	88.1280
3.85600	2927.3311	88.1550
3.86100	2924.6221	88.1740
3.86700	2924.7930	88.2010
3.87200	2925.2839	88.2300
3.87800	2926.4399	88.2570
3.88300	2923.7769	88.2840
3.88900	2928.1199	88.3170
3.89400	2924.9810	88.3440
3.90000	2927.1689	88.3800
3.90600	2924.5640	88.4160
3.91100	2924.0811	88.4520
3.91700	2924.5159	88.4840
3.92200	2924.9160	88.5240
3.92800	2925.0969	88.5670
3.93300	2923.8210	88.6030
3.93900	2922.0820	88.6500
3.94400	2924.7979	88.6930
3.95000	2922.7029	88.7400
3.95600	2922.8789	88.7810
3.96100	2923.6479	88.8280
3.96700	2923.3599	88.8760
3.97200	2922.3499	88.9270
3.97800	2925.3640	88.9750
3.98300	2924.4409	89.0260
3.98900	2924.4060	89.0740
3.99400	2922.2891	89.1280
4.00000	2921.9019	89.1770
4.00600	2923.8899	89.2330
4.01100	2922.8369	89.2870
4.01700	2923.3279	89.3390
4.02200	2922.6550	89.3860
4.02800	2923.2500	89.4340



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Time Hours	Pressure #1 psia	Temperature #1 deg F
4.03300	2925.3931	89.4740
4.03900	2922.6021	89.5100
4.04400	2922.2639	89.5370
4.05000	2924.4629	89.5640
4.05600	2925.8088	89.5730
4.06100	2926.1951	89.5800
4.06700	2924.8840	89.5730
4.07200	2923.6240	89.5600
4.07800	2924.1160	89.5330
4.08300	2922.8088	89.5050
4.08900	2923.6099	89.4670
4.09400	2924.0898	89.4220
4.10000	2923.9880	89.3680
4.10600	2922.9639	89.3120
4.11100	2923.5181	89.2530
4.11700	2923.5630	89.1970
4.12200	2924.0320	89.1320
4.12800	2927.6240	89.0690
4.13300	2924.4619	89.0020
4.13900	2925.1250	88.9430
4.14400	2924.0989	88.8760
4.15000	2922.8540	88.8120
4.15600	2924.5740	88.7520
4.16100	2926.6870	88.6930
4.16700	2924.8210	88.6370
4.17200	2924.6960	88.5810
4.17800	2922.8369	88.5270
4.18300	2924.7439	88.4790
4.18900	2921.8508	88.4250
4.19400	2922.5759	88.3760
4.20000	2924.5959	88.3360
4.20600	2925.7380	88.2930
4.21100	2925.2620	88.2540
4.21700	2925.2300	88.2140
4.22200	2925.3289	88.1820
4.22800	2925.9771	88.1470
4.23300	2923.7639	88.1190
4.23900	2923.5000	88.0900
4.24400	2926.0669	88.0590
4.25000	2925.0229	88.0390
4.25600	2925.0930	88.0160
4.26100	2923.3809	88.0000

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
4.26700	2923.1851	87.9800
4.27200	2923.9729	87.9640
4.27800	2925.3521	87.9480
4.28300	2925.9939	87.9330
4.28900	2924.8860	87.9210
4.29400	2923.6309	87.9130
4.30000	2925.9749	87.9040
4.30600	2928.5330	87.8970
4.31100	2927.1099	87.8940
4.31700	2925.0039	87.8940
4.32200	2925.9771	87.8920
4.32800	2925.1130	87.8920
4.33300	2925.6770	87.8940
4.33900	2925.9338	87.8940
4.34400	2924.4241	87.8940
4.35000	2923.8970	87.9040
4.35600	2925.0029	87.9120
4.36100	2924.1069	87.9130
4.36700	2924.4880	87.9240
4.37200	2925.1680	87.9310
4.37800	2926.3799	87.9440
4.38300	2924.6221	87.9570
4.38900	2924.5540	87.9640
4.39400	2925.2090	87.9840
4.40000	2926.6069	87.9960
4.40600	2927.3340	88.0110
4.41100	2924.5549	88.0300
4.41700	2926.2061	88.0470
4.42200	2925.7739	88.0660
4.42800	2926.5068	88.0860
4.43300	2926.3159	88.1060
4.43900	2923.5469	88.1260
4.44400	2925.6819	88.1470
4.45000	2926.4219	88.1710
4.45600	2924.8589	88.1980
4.46100	2925.8589	88.2180
4.46700	2925.1060	88.2450
4.47200	2925.2070	88.2730
4.47800	2923.6108	88.2970
4.48300	2925.9790	88.3290
4.48900	2923.9839	88.3600
4.49400	2924.8660	88.3850



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Time Hours	Pressure #1 psia	Temperature #1 deg F
4.50000	2927.8818	88.4230
4.50600	2924.4629	88.4480
4.51100	2925.9280	88.4820
4.51700	2925.6960	88.5150
4.52200	2923.6309	88.5510
4.52800	2926.8589	88.5830
4.53300	2923.5129	88.6210
4.53900	2927.2300	88.6570
4.54400	2924.7429	88.6930
4.55000	2925.8989	88.7320
4.55600	2926.5020	88.7720
4.56100	2924.8250	88.8080
4.56700	2927.9729	88.8480
4.57200	2926.0400	88.8870
4.57800	2926.0579	88.9300
4.58300	2926.3040	88.9660
4.58900	2925.7129	89.0100
4.59400	2921.7800	89.0490
4.60000	2926.3870	89.0890
4.60600	2924.8479	89.1320
4.61100	2923.5669	89.1730
4.61700	2924.6030	89.2130
4.62200	2924.7410	89.2560
4.62800	2926.7629	89.2960
4.63300	2927.3550	89.3390
4.63900	2926.7319	89.3820
4.64400	2924.3088	89.4220
4.65000	2924.5300	89.4650
4.65600	2926.4758	89.5060
4.66100	2930.3669	89.5460
4.66700	2926.2371	89.5930
4.67200	2926.7820	89.6400
4.67800	2930.1418	89.6790
4.68300	2927.6790	89.7280
4.68900	2926.1221	89.7710
4.69400	2927.2310	89.8140
4.70000	2927.3379	89.8660
4.70600	2931.1660	89.9060
4.71100	2926.6008	89.9560
4.71700	2926.5220	90.0050
4.72200	2930.8450	90.0480
4.72800	2928.3320	90.1000

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
4.73300	2927.1050	90.1510
4.73900	2927.8279	90.2030
4.74400	2927.1960	90.2550
4.75000	2927.4780	90.3020
4.75600	2927.9639	90.3540
4.76100	2927.1199	90.3970
4.76700	2928.8389	90.4410
4.77200	2928.5020	90.4690
4.77800	2927.9180	90.5000
4.78300	2928.1741	90.5160
4.78900	2926.9529	90.5290
4.79400	2927.9128	90.5230
4.80000	2928.5439	90.5040
4.80600	2924.2039	90.4890
4.81100	2927.8279	90.4530
4.81700	2927.4990	90.4170
4.82200	2927.3540	90.3700
4.82800	2928.8420	90.3150
4.83300	2926.0229	90.2590
4.83900	2925.3430	90.1990
4.84400	2928.7791	90.1330
4.85000	2925.6819	90.0610
4.85600	2925.6199	89.9980
4.86100	2925.6189	89.9330
4.86700	2928.1370	89.8590
4.87200	2927.7949	89.7940
4.87800	2927.1619	89.7240
4.88300	2925.0830	89.6630
4.88900	2928.7219	89.6000
4.89400	2927.8860	89.5330
4.90000	2928.9329	89.4700
4.90600	2927.1150	89.4180
4.91100	2927.6021	89.3590
4.91700	2927.7839	89.3070
4.92200	2927.2458	89.2600
4.92800	2926.7659	89.2090
4.93300	2925.5239	89.1610
4.93900	2928.7939	89.1140
4.94400	2927.0129	89.0740
4.95000	2926.9060	89.0420
4.95600	2926.9500	89.0060
4.96100	2927.1331	88.9740



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Time Hours	Pressure #1 psia	Temperature #1 deg F
4.96700	2925.9080	88.9430
4.97200	2926.4180	88.9070
4.97800	2926.9429	88.8840
4.98300	2925.4800	88.8600
4.98900	2924.7339	88.8370
4.99400	2926.9790	88.8170
5.00000	2926.1929	88.8040
5.00600	2927.5449	88.7850
5.01100	2925.1208	88.7720
5.01700	2925.4470	88.7610
5.02200	2925.6260	88.7560
5.02800	2926.0520	88.7490
5.03300	2926.3010	88.7410
5.03900	2925.5999	88.7380
5.04400	2924.5139	88.7360
5.05000	2925.6660	88.7410
5.05600	2924.5940	88.7410
5.06100	2925.4329	88.7490
5.06700	2927.4280	88.7580
5.07200	2925.4370	88.7650
5.07800	2929.6008	88.7760
5.08300	2929.3201	88.7880
5.08900	2928.4990	88.8040
5.09400	2926.2749	88.8240
5.10000	2926.8040	88.8370
5.10600	2926.4319	88.8570
5.11100	2925.6599	88.8760
5.11700	2926.9099	88.9030
5.12200	2926.6799	88.9230
5.12800	2924.6609	88.9500
5.13300	2926.6289	88.9740
5.13900	2926.0769	88.9990
5.14400	2926.4189	89.0290
5.15000	2925.0530	89.0580
5.15600	2925.0229	89.0890
5.16100	2924.8230	89.1180
5.16700	2927.2319	89.1540
5.17200	2925.1418	89.1840
5.17800	2926.8289	89.2200
5.18300	2926.5330	89.2560
5.18900	2925.9219	89.2890
5.19400	2926.1089	89.3280

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
5.20000	2926.4929	89.3680
5.20600	2926.6680	89.4070
5.21100	2926.7930	89.4450
5.21700	2927.8030	89.4870
5.22200	2928.8999	89.5330
5.22800	2929.2529	89.5770
5.23300	2928.5798	89.6200
5.23900	2928.7690	89.6680
5.24400	2928.6008	89.7150
5.25000	2928.7729	89.7580
5.25600	2928.2039	89.8070
5.26100	2928.6360	89.8590
5.26700	2927.7520	89.9130
5.27200	2927.7039	89.9580
5.27800	2928.1409	90.0090
5.28300	2928.3589	90.0610
5.28900	2929.4419	90.1110
5.29400	2927.4380	90.1600
5.30000	2928.8020	90.2120
5.30600	2927.3840	90.2620
5.31100	2928.6851	90.3220
5.31700	2925.9539	90.3700
5.32200	2927.6980	90.4240
5.32800	2927.8879	90.4770
5.33300	2925.5210	90.5270
5.33900	2928.2739	90.5790
5.34400	2923.8049	90.6350
5.35000	2927.1479	90.6910
5.35600	2926.3721	90.7450
5.36100	2928.2029	90.7930
5.36700	2926.6389	90.8530
5.37200	2929.0649	90.9090
5.37800	2928.2690	90.9680
5.38300	2928.0588	91.0240
5.38900	2929.3608	91.0800
5.39400	2930.3250	91.1340
5.40000	2928.1970	91.1980
5.40600	2927.8569	91.2610
5.41100	2927.9561	91.3210
5.41700	2930.1729	91.3870
5.42200	2931.3940	91.4500
5.42800	2928.5659	91.5150

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
5.43300	2932.7129	91.5850
5.43900	2928.5291	91.6570
5.44400	2929.2959	91.7260
5.45000	2929.1750	91.8030
5.45600	2928.2549	91.8750
5.46100	2929.8809	91.9440
5.46700	2929.4180	92.0010
5.47200	2930.6780	92.0590
5.47800	2928.1938	92.1060
5.48300	2929.2959	92.1360
5.48900	2928.1140	92.1560
5.49400	2928.2590	92.1610
5.50000	2928.3398	92.1560
5.50600	2929.7900	92.1290
5.51100	2928.7349	92.0930
5.51700	2927.4548	92.0410
5.52200	2928.2849	91.9810
5.52800	2927.3020	91.9080
5.53300	2930.0769	91.8230
5.53900	2929.8369	91.7330
5.54400	2930.0010	91.6340
5.55000	2926.1309	91.5310
5.55600	2930.4858	91.4270
5.56100	2928.7778	91.3140
5.56700	2927.6079	91.1980
5.57200	2930.3411	91.0900
5.57800	2931.2700	90.9770
5.58300	2930.4910	90.8650
5.58900	2929.7410	90.7570
5.59400	2930.9338	90.6480
5.60000	2929.4270	90.5400
5.60600	2929.7930	90.4370
5.61100	2928.2820	90.3340
5.61700	2927.3169	90.2350
5.62200	2930.4670	90.1470
5.62800	2928.1489	90.0550
5.63300	2927.7949	89.9690
5.63900	2928.8250	89.8860
5.64400	2928.1770	89.8070
5.65000	2927.3999	89.7310
5.65600	2928.0649	89.6610
5.66100	2928.8789	89.5930

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
5.66700	2925.0349	89.5300
5.67200	2930.6160	89.4700
5.67800	2927.6389	89.4150
5.68300	2930.6340	89.3620
5.68900	2929.8850	89.3120
5.69400	2929.1809	89.2670
5.70000	2929.5630	89.2200
5.70600	2928.1050	89.1810
5.71100	2930.1609	89.1450
5.71700	2929.7180	89.1090
5.72200	2929.4080	89.0780
5.72800	2927.9028	89.0490
5.73300	2929.2429	89.0190
5.73900	2929.5210	88.9950
5.74400	2927.9971	88.9740
5.75000	2927.8220	88.9540
5.75600	2930.2710	88.9360
5.76100	2930.0701	88.9200
5.76700	2928.2749	88.9070
5.77200	2931.3831	88.8960
5.77800	2929.1599	88.8840
5.78300	2928.9409	88.8760
5.78900	2927.1541	88.8750
5.79400	2927.1741	88.8670
5.80000	2931.2419	88.8640
5.80600	2929.2610	88.8670
5.81100	2928.5310	88.8640
5.81700	2927.5300	88.8670
5.82200	2931.0139	88.8710
5.82800	2928.3330	88.8760
5.83300	2927.2390	88.8870
5.83900	2927.7400	88.8940
5.84400	2931.0339	88.9030
5.85000	2927.0339	88.9140
5.85600	2929.0911	88.9270
5.86100	2925.9561	88.9390
5.86700	2925.4739	88.9560
5.87200	2925.0830	88.9700
5.87800	2925.5750	88.9860
5.88300	2924.5940	89.0060
5.88900	2926.7090	89.0260
5.89400	2929.9141	89.0490



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Time Hours	Pressure #1 psia	Temperature #1 deg F
5.90000	2927.4709	89.0690
5.90600	2926.8870	89.0940
5.91100	2926.5220	89.1210
5.91700	2927.8640	89.1410
5.92200	2927.0720	89.1680
5.92800	2929.8069	89.1900
5.93300	2927.5811	89.2240
5.93900	2926.1628	89.2490
5.94400	2930.5430	89.2760
5.95000	2930.2620	89.3070
5.95600	2926.7690	89.3390
5.96100	2928.8279	89.3710
5.96700	2927.1609	89.4070
5.97200	2928.9729	89.4420
5.97800	2929.4219	89.4780
5.98300	2928.9709	89.5140
5.98900	2928.8608	89.5500
5.99400	2928.6580	89.5860
6.00000	2930.4338	89.6250
6.00600	2930.1980	89.6610
6.01100	2927.9500	89.6990
6.01700	2928.4619	89.7440
6.02200	2926.9749	89.7800
6.02800	2929.2100	89.8300
6.03300	2925.9910	89.8700
6.03900	2930.0020	89.9170
6.04400	2927.3879	89.9620
6.05000	2926.6221	90.0090
6.05600	2927.5879	90.0520
6.06100	2928.5940	90.0970
6.06700	2930.8169	90.1400
6.07200	2927.2810	90.1900
6.07800	2929.1970	90.2320
6.08300	2927.6108	90.2890
6.08900	2930.3240	90.3340
6.09400	2927.4299	90.3880
6.10000	2928.0029	90.4370
6.10600	2930.8398	90.4930
6.11100	2931.0330	90.5490
6.11700	2926.8269	90.6060
6.12200	2928.7629	90.6580
6.12800	2931.2839	90.7180

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
6.13300	2929.5320	90.7770
6.13900	2929.6489	90.8400
6.14400	2929.8589	90.9010
6.15000	2927.9060	90.9680
6.15600	2927.9180	91.0270
6.16100	2930.3110	91.0990
6.16700	2929.2070	91.1590
6.17200	2930.8669	91.2220
6.17800	2930.4890	91.2810
6.18300	2931.4170	91.3330
6.18900	2930.4070	91.3800
6.19400	2930.4480	91.4110
6.20000	2929.5820	91.4360
6.20600	2928.8550	91.4470
6.21100	2929.3269	91.4500
6.21700	2928.2429	91.4400
6.22200	2929.8469	91.4200
6.22800	2928.3489	91.3870
6.23300	2927.7769	91.3480
6.23900	2927.8169	91.2940
6.24400	2929.6409	91.2380
6.25000	2928.0688	91.1750
6.25600	2927.8840	91.1030
6.26100	2926.9019	91.0310
6.26700	2927.1660	90.9520
6.27200	2929.1250	90.8690
6.27800	2926.7358	90.7900
6.28300	2928.6089	90.7140
6.28900	2928.6619	90.6280
6.29400	2926.6240	90.5490
6.30000	2926.1670	90.4640
6.30600	2929.2080	90.3880
6.31100	2929.1030	90.3090
6.31700	2928.9290	90.2350
6.32200	2927.4590	90.1560
6.32800	2927.3740	90.0880
6.33300	2927.8030	90.0160
6.33900	2928.0149	89.9530
6.34400	2930.2280	89.8830
6.35000	2926.6628	89.8230
6.35600	2927.7859	89.7600
6.36100	2925.2590	89.7040



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MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
6.36700	2927.7891	89.6520
6.37200	2928.5688	89.6000
6.37800	2929.1689	89.5530
6.38300	2930.7339	89.5030
6.38900	2929.6489	89.4630
6.39400	2929.2910	89.4220
6.40000	2928.2620	89.3860
6.40600	2930.5049	89.3520
6.41100	2928.7800	89.3190
6.41700	2933.0049	89.2800
6.42200	2929.1021	89.2560
6.42800	2928.5588	89.2330
6.43300	2928.8918	89.2090
6.43900	2930.0750	89.1900
6.44400	2928.4270	89.1730
6.45000	2928.7991	89.1540
6.45600	2928.3010	89.1370
6.46100	2928.6929	89.1280
6.46700	2931.1069	89.1210
6.47200	2929.3750	89.1180
6.47800	2929.7290	89.1090
6.48300	2929.1418	89.1090
6.48900	2929.2891	89.1050
6.49400	2929.9580	89.1050
6.50000	2929.1440	89.1100
6.50600	2930.1350	89.1140
6.51100	2928.9060	89.1250
6.51700	2928.1519	89.1300
6.52200	2929.2568	89.1450
6.52800	2928.4810	89.1540
6.53300	2928.5239	89.1680
6.53900	2928.4958	89.1840
6.54400	2929.9839	89.1970
6.55000	2928.0889	89.2200
6.55600	2927.0750	89.2360
6.56100	2930.4290	89.2600
6.56700	2930.0081	89.2830
6.57200	2932.0039	89.3050
6.57800	2930.7061	89.3280
6.58300	2929.1189	89.3550
6.58900	2929.8440	89.3790
6.59400	2932.5649	89.4070

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
6.60000	2932.7419	89.4340
6.60600	2929.2649	89.4630
6.61100	2931.7000	89.4900
6.61700	2929.9600	89.5210
6.62200	2930.2690	89.5460
6.62800	2931.9719	89.5800
6.63300	2929.7239	89.6130
6.63900	2931.2410	89.6450
6.64400	2930.3069	89.6790
6.65000	2931.3250	89.7120
6.65600	2932.2830	89.7440
6.66100	2931.1250	89.7780
6.66700	2931.6179	89.8140
6.67200	2929.7480	89.8540
6.67800	2931.5229	89.8860
6.68300	2929.7300	89.9220
6.68900	2931.1550	89.9620
6.69400	2930.4971	90.0010
6.70000	2932.8169	90.0370
6.70600	2931.9590	90.0840
6.71100	2932.0300	90.1240
6.71700	2931.8608	90.1670
6.72200	2932.6799	90.2100
6.72800	2929.9480	90.2500
6.73300	2931.6069	90.2950
6.73900	2932.6560	90.3380
6.74400	2933.3669	90.3850
6.75000	2931.8809	90.4300
6.75600	2930.5840	90.4800
6.76100	2931.4199	90.5250
6.76700	2932.0869	90.5720
6.77200	2932.4849	90.6220
6.77800	2931.5620	90.6750
6.78300	2930.0449	90.7270
6.78900	2930.8169	90.7770
6.79400	2931.8311	90.8290
6.80000	2929.9580	90.8820
6.80600	2930.5500	90.9390
6.81100	2931.6299	90.9880
6.81700	2929.5889	91.0350
6.82200	2930.4250	91.0760
6.82800	2928.7659	91.1140



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MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
6.83300	2932.1340	91.1390
6.83900	2932.9958	91.1550
6.84400	2932.4490	91.1620
6.85000	2932.6741	91.1620
6.85600	2929.4680	91.1500
6.86100	2930.0369	91.1230
6.86700	2930.2510	91.0990
6.87200	2931.9360	91.0600
6.87800	2931.6309	91.0150
6.88300	2930.4780	90.9590
6.88900	2929.7109	90.9010
6.89400	2930.7900	90.8370
6.90000	2930.3599	90.7700
6.90600	2928.6970	90.6980
6.91100	2931.7319	90.6190
6.91700	2930.9319	90.5450
6.92200	2931.8330	90.4690
6.92800	2931.4600	90.3940
6.93300	2930.4070	90.3180
6.93900	2930.5149	90.2390
6.94400	2928.8379	90.1670
6.95000	2929.3101	90.0910
6.95600	2931.0168	90.0180
6.96100	2931.6169	89.9490
6.96700	2932.2129	89.8860
6.97200	2931.7668	89.8200
6.97800	2932.1780	89.7580
6.98300	2930.5259	89.6990
6.98900	2930.6460	89.6400
6.99400	2931.7180	89.5890
7.00000	2931.1089	89.5330
7.00600	2927.8508	89.4850
7.01100	2929.3179	89.4380
7.01700	2929.6379	89.3880
7.02200	2930.3169	89.3460
7.02800	2926.8079	89.3030
7.03300	2930.3560	89.2720
7.03900	2928.6299	89.2330
7.04400	2929.7939	89.2040
7.05000	2930.3440	89.1730
7.05600	2930.2280	89.1480
7.06100	2930.1809	89.1210

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
7.06700	2930.8088	89.0940
7.07200	2928.5410	89.0740
7.07800	2927.5181	89.0580
7.08300	2929.9451	89.0420
7.08900	2927.9949	89.0220
7.09400	2927.8879	89.0130
7.10000	2928.2080	88.9990
7.10600	2928.5269	88.9900
7.11100	2930.6021	88.9790
7.11700	2927.5269	88.9740
7.12200	2929.9680	88.9700
7.12800	2929.7000	88.9660
7.13300	2927.3330	88.9630
7.13900	2929.4739	88.9630
7.14400	2927.6670	88.9660
7.15000	2929.4370	88.9660
7.15600	2929.4709	88.9720
7.16100	2929.0190	88.9830
7.16700	2928.1719	88.9860
7.17200	2928.3879	88.9950
7.17800	2928.2161	89.0100
7.18300	2930.5579	89.0190
7.18900	2928.8369	89.0350
7.19400	2928.5129	89.0510
7.20000	2928.5278	89.0690
7.20600	2927.8440	89.0890
7.21100	2926.4958	89.1090
7.21700	2926.6570	89.1340
7.22200	2927.4739	89.1570
7.22800	2926.8669	89.1810
7.23300	2925.6379	89.2090
7.23900	2927.5679	89.2360
7.24400	2927.3789	89.2670
7.25000	2927.7820	89.2960
7.25600	2926.3669	89.3280
7.26100	2929.5750	89.3590
7.26700	2929.6780	89.3950
7.27200	2926.7830	89.4270
7.27800	2928.5579	89.4650
7.28300	2928.2900	89.5050
7.28900	2928.2129	89.5440
7.29400	2926.0139	89.5800

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
7.30000	2929.0220	89.6320
7.30600	2928.1299	89.6790
7.31100	2928.6760	89.7240
7.31700	2925.8530	89.7670
7.32200	2927.5769	89.8180
7.32800	2926.6909	89.8660
7.33300	2926.4309	89.9130
7.33900	2928.3201	89.9650
7.34400	2925.9990	90.0160
7.35000	2927.0959	90.0770
7.35600	2931.1250	90.1270
7.36100	2927.1860	90.1830
7.36700	2929.9719	90.2390
7.37200	2931.3831	90.2950
7.37800	2929.2649	90.3540
7.38300	2928.5359	90.4140
7.38900	2927.8489	90.4690
7.39400	2928.8430	90.5320
7.40000	2929.0129	90.5920
7.40600	2928.9050	90.6550
7.41100	2929.5220	90.7230
7.41700	2926.8931	90.7810
7.42200	2927.2180	90.8420
7.42800	2930.7400	90.9090
7.43300	2930.2910	90.9720
7.43900	2928.7991	91.0380
7.44400	2928.3979	91.0980
7.45000	2926.6108	91.1700
7.45600	2930.4429	91.2340
7.46100	2930.3411	91.3050
7.46700	2930.2009	91.3710
7.47200	2928.0830	91.4400
7.47800	2930.1589	91.5120
7.48300	2927.9409	91.5820
7.48900	2930.4958	91.6540
7.49400	2932.0850	91.7330
7.50000	2930.3650	91.8120
7.50600	2930.1060	91.8880
7.51100	2929.9199	91.9670
7.51700	2931.3860	92.0530
7.52200	2932.0701	92.1380
7.52800	2930.8389	92.2170

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
7.53300	2930.1208	92.3040
7.53900	2928.7910	92.3860
7.54400	2930.2539	92.4660
7.55000	2929.5789	92.5450
7.55600	2930.4438	92.6100
7.56100	2929.4500	92.6670
7.56700	2931.0769	92.7230
7.57200	2931.6870	92.7610
7.57800	2931.4199	92.7910
7.58300	2932.4810	92.8110
7.58900	2932.8469	92.8240
7.59400	2930.4019	92.8180
7.60000	2931.4949	92.8080
7.60600	2930.1641	92.7910
7.61100	2931.2258	92.7640
7.61700	2930.6509	92.7360
7.62200	2932.9519	92.6920
7.62800	2930.9648	92.6470
7.63300	2931.8660	92.5970
7.63900	2933.1560	92.5480
7.64400	2931.8979	92.4980
7.65000	2930.5969	92.4330
7.65600	2930.3169	92.3760
7.66100	2931.0110	92.3200
7.66700	2931.4470	92.2480
7.67200	2932.5081	92.1920
7.67800	2934.2979	92.1420
7.68300	2930.8311	92.0770
7.68900	2929.3030	92.0210
7.69400	2931.5798	91.9670
7.70000	2931.2349	91.9110
7.70600	2932.0569	91.8640
7.71100	2930.1619	91.8120
7.71700	2930.3289	91.7640
7.72200	2931.6890	91.7130
7.72800	2932.9150	91.6770
7.73300	2931.0859	91.6410
7.73900	2931.9089	91.5980
7.74400	2930.8330	91.5660
7.75000	2931.3999	91.5280
7.75600	2930.0459	91.4990
7.76100	2929.0911	91.4670

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
7.76700	2932.3140	91.4400
7.77200	2929.8708	91.4110
7.77800	2929.1240	91.3910
7.78300	2928.5349	91.3680
7.78900	2928.4739	91.3480
7.79400	2928.9749	91.3320
7.80000	2928.7000	91.3120
7.80600	2929.7568	91.2970
7.81100	2928.9119	91.2810
7.81700	2932.9290	91.2650
7.82200	2929.3298	91.2610
7.82800	2929.1250	91.2580
7.83300	2929.7600	91.2520
7.83900	2931.9519	91.2520
7.84400	2930.8350	91.2420
7.85000	2928.9280	91.2420
7.85600	2931.0378	91.2450
7.86100	2930.8699	91.2520
7.86700	2929.3608	91.2580
7.87200	2930.2019	91.2580
7.87800	2926.7600	91.2650
7.88300	2929.3320	91.2720
7.88900	2928.7690	91.2810
7.89400	2929.9539	91.2940
7.90000	2928.6541	91.3050
7.90600	2928.8240	91.3170
7.91100	2929.0469	91.3320
7.91700	2928.3030	91.3440
7.92200	2927.0989	91.3600
7.92800	2927.3020	91.3770
7.93300	2929.6409	91.3930
7.93900	2926.2239	91.4130
7.94400	2928.7991	91.4270
7.95000	2927.2371	91.4430
7.95600	2928.6890	91.4830
7.96100	2927.3560	91.4920
7.96700	2929.5789	91.5220
7.97200	2928.9709	91.5460
7.97800	2929.2800	91.5710
7.98300	2928.5769	91.5910
7.98900	2928.3259	91.6210
7.99400	2928.4160	91.6480

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
8.00000	2929.6509	91.6770
8.00600	2929.0100	91.7060
8.01100	2928.0181	91.7330
8.01700	2928.9758	91.7640
8.02200	2930.0081	91.7960
8.02800	2927.7778	91.8230
8.03300	2928.0410	91.8550
8.03900	2929.2090	91.8840
8.04400	2929.5039	91.9180
8.05000	2929.4160	91.9510
8.05600	2927.5310	91.9810
8.06100	2928.7729	92.0140
8.06700	2928.7100	92.0430
8.07200	2929.6489	92.0770
8.07800	2928.9548	92.1160
8.08300	2930.3818	92.1420
8.08900	2929.5129	92.1810
8.09400	2929.1760	92.2120
8.10000	2932.5710	92.2570
8.10600	2929.0588	92.2840
8.11100	2927.7280	92.3270
8.11700	2930.4089	92.3540
8.12200	2930.2271	92.3900
8.12800	2930.1069	92.4330
8.13300	2929.6660	92.4660
8.13900	2930.1619	92.5090
8.14400	2929.3699	92.5480
8.15000	2929.7729	92.5920
8.15600	2928.9028	92.6330
8.16100	2930.1099	92.6830
8.16700	2929.4590	92.7430
8.17200	2929.9619	92.7750
8.17800	2929.3679	92.8200
8.18300	2927.6880	92.8900
8.18900	2932.0898	92.9230
8.19400	2930.5129	92.9790
8.20000	2930.4309	93.0250
8.20600	2931.9360	93.0780
8.21100	2933.6179	93.1260
8.21700	2933.1589	93.1690
8.22200	2932.4949	93.2380
8.22800	2933.4880	93.2920



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Time Hours	Pressure #1 psia	Temperature #1 deg F
8.23300	2932.3650	93.3600
8.23900	2936.0249	93.4090
8.24400	2931.1030	93.4920
8.25000	2932.1560	93.5380
8.25600	2932.7480	93.5910
8.26100	2933.5940	93.6660
8.26700	2934.5879	93.7220
8.27200	2933.0798	93.7940
8.27800	2933.6519	93.8800
8.28300	2932.8120	93.9330
8.28900	2933.9019	93.9920
8.29400	2933.3640	94.0240
8.30000	2932.9600	94.0600
8.30600	2932.4700	94.0870
8.31100	2932.5969	94.0870
8.31700	2930.9900	94.0770
8.32200	2930.7358	94.0570
8.32800	2932.9971	94.0350
8.33300	2932.3540	93.9970
8.33900	2932.4460	93.9490
8.34400	2930.5649	93.9000
8.35000	2932.6509	93.8410
8.35600	2930.9771	93.7810
8.36100	2931.1770	93.6990
8.36700	2930.1130	93.6300
8.37200	2932.5190	93.5580
8.37800	2931.9580	93.4720
8.38300	2933.8010	93.3960
8.38900	2932.9370	93.3130
8.39400	2933.0090	93.2450
8.40000	2931.1550	93.1660
8.40600	2932.4060	93.1050
8.41100	2934.4648	93.0150
8.41700	2933.5850	92.9550
8.42200	2933.1299	92.8960
8.42800	2932.5139	92.8380
8.43300	2933.0811	92.7680
8.43900	2934.1089	92.7190
8.44400	2930.4250	92.6670
8.45000	2932.7749	92.6200
8.45600	2935.5410	92.5770
8.46100	2933.1270	92.5250

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
8.46700	2930.5769	92.4780
8.47200	2932.3599	92.4420
8.47800	2931.9380	92.3900
8.48300	2933.4780	92.3500
8.48900	2931.2471	92.3000
8.49400	2932.3799	92.2410
8.50000	2933.1208	92.1810
8.50600	2932.5068	92.1090
8.51100	2930.8689	92.0370
8.51700	2930.9360	91.9440
8.52200	2933.4170	91.8550
8.52800	2931.3389	91.7560
8.53300	2933.0559	91.6500
8.53900	2929.5420	91.5300
8.54400	2930.1670	91.4430
8.55000	2933.7419	91.3240
8.55600	2931.5439	91.2090
8.56100	2931.1370	91.0900
8.56700	2933.1318	90.9810
8.57200	2931.8621	90.8600
8.57800	2929.6489	90.7430
8.58300	2930.5769	90.6310
8.58900	2931.6829	90.5230
8.59400	2931.8000	90.4140
8.60000	2931.4539	90.2950
8.60600	2930.7930	90.1920
8.61100	2934.9980	90.0880
8.61700	2930.9871	89.9890
8.62200	2930.9089	89.8900
8.62800	2931.1021	89.7940
8.63300	2929.1990	89.6990
8.63900	2931.1360	89.6050
8.64400	2929.7878	89.5140
8.65000	2928.6860	89.4310
8.65600	2933.9189	89.3520
8.66100	2931.9119	89.2720
8.66700	2930.8550	89.1970
8.67200	2931.8320	89.1250
8.67800	2930.9519	89.0550
8.68300	2933.2200	88.9830
8.68900	2931.3279	88.9160
8.69400	2932.2900	88.8510



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Time Hours	Pressure #1 psia	Temperature #1 deg F
8.70000	2931.3079	88.7880
8.70600	2931.1660	88.7320
8.71100	2933.2200	88.6750
8.71700	2931.8079	88.6230
8.72200	2931.1299	88.5700
8.72800	2932.0039	88.5200
8.73300	2929.9419	88.4710
8.73900	2930.8120	88.4280
8.74400	2931.2859	88.3810
8.75000	2931.7180	88.3420
8.75600	2932.6899	88.3000
8.76100	2930.7739	88.2610
8.76700	2931.0750	88.2210
8.77200	2931.2180	88.1850
8.77800	2931.3950	88.1510
8.78300	2932.4949	88.1150
8.78900	2928.6729	88.0860
8.79400	2930.5679	88.0520
8.80000	2931.4189	88.0230
8.80600	2931.0168	87.9960
8.81100	2930.3088	87.9670
8.81700	2930.1650	87.9440
8.82200	2933.0349	87.9210
8.82800	2930.2410	87.8850
8.83300	2928.3970	87.8610
8.83900	2928.9041	87.8340
8.84400	2929.8340	87.8180
8.85000	2929.7939	87.7950
8.85600	2930.9590	87.7890
8.86100	2932.0239	87.7710
8.86700	2931.1899	87.7590
8.87200	2931.7930	87.7420
8.87800	2932.7769	87.7260
8.88300	2930.9690	87.7140
8.88900	2931.4290	87.6990
8.89400	2932.8809	87.6870
8.90000	2930.0081	87.6790
8.90600	2928.8708	87.6600
8.91100	2930.0610	87.6540
8.91700	2929.1528	87.6340
8.92200	2928.4739	87.6270
8.92800	2928.8279	87.6240

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
8.93300	2929.1660	87.6000
8.93900	2929.5930	87.6000
8.94400	2930.0588	87.6070
8.95000	2930.2629	87.5950
8.95600	2929.1208	87.5770
8.96100	2932.3298	87.5770
8.96700	2929.8569	87.5880
8.97200	2930.3230	87.5770
8.97800	2930.6479	87.5640
8.98300	2929.6318	87.5880
8.98900	2929.3230	87.5770
8.99400	2932.4329	87.5750
9.00000	2932.7190	87.5610
9.00600	2932.8269	87.5950
9.01100	2932.0659	87.5750
9.01700	2932.1340	87.5970
9.02200	2931.3970	87.6200
9.02800	2930.8840	87.6240
9.03300	2932.8809	87.6310
9.03900	2931.6279	87.6430
9.04400	2932.2510	87.6430
9.05000	2930.6760	87.6670
9.05600	2930.6709	87.6830
9.06100	2929.7200	87.7060
9.06700	2931.9929	87.7390
9.07200	2930.4849	87.7620
9.07800	2932.9519	87.7820
9.08300	2931.7090	87.8140
9.08900	2931.8020	87.8500
9.09400	2934.9028	87.8740
9.10000	2932.3889	87.9170
9.10600	2933.5349	87.9640
9.11100	2931.4399	88.0030
9.11700	2934.3489	88.0390
9.12200	2931.9041	88.0990
9.12800	2932.5540	88.1280
9.13300	2932.4050	88.1820
9.13900	2932.5090	88.2410
9.14400	2932.4709	88.2810
9.15000	2933.5969	88.3890
9.15600	2933.7139	88.4320
9.16100	2933.9829	88.4750



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9.16700	2934.2690	88.5380
9.17200	2932.7859	88.5940
9.17800	2936.3289	88.6350
9.18300	2930.0068	88.6980
9.18900	2935.6489	88.7290
9.19400	2934.6130	88.7580
9.20000	2932.5679	88.7920
9.20600	2934.6528	88.7850
9.21100	2934.0000	88.8010
9.21700	2933.9561	88.8130
9.22200	2933.4128	88.8330
9.22800	2932.7859	88.8440
9.23300	2932.6619	88.8510
9.23900	2933.2048	88.8510
9.24400	2934.1641	88.8170
9.25000	2932.3250	88.8210
9.25600	2932.4290	88.8040
9.26100	2932.8689	88.8080
9.26700	2932.6528	88.7970
9.27200	2933.8918	88.7680
9.27800	2932.2749	88.7770
9.28300	2934.4509	88.7490
9.28900	2932.7080	88.7610
9.29400	2932.9409	88.7340
9.30000	2936.1660	88.7140
9.30600	2933.3101	88.7020
9.31100	2934.1289	88.6950
9.31700	2932.1909	88.6780
9.32200	2932.2930	88.6690
9.32800	2933.3450	88.6550
9.33300	2934.3350	88.6530
9.33900	2934.2629	88.6500
9.34400	2931.7681	88.6170
9.35000	2933.8149	88.6140
9.35600	2931.5110	88.5970
9.36100	2934.5710	88.6150
9.36700	2934.4170	88.6100
9.37200	2933.6460	88.5990
9.37800	2932.8608	88.5900
9.38300	2933.9700	88.5830
9.38900	2936.2639	88.5630
9.39400	2934.0989	88.5540

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
9.40000	2933.7900	88.5670
9.40600	2933.8079	88.5700
9.41100	2934.8059	88.5560
9.41700	2932.4609	88.5900
9.42200	2935.4170	88.5870
9.42800	2933.1541	88.5970
9.43300	2935.0029	88.6140
9.43900	2935.1331	88.6260
9.44400	2933.1379	88.6390
9.45000	2932.7800	88.6500
9.45600	2933.4070	88.6780
9.46100	2933.1799	88.7130
9.46700	2933.1829	88.7380
9.47200	2934.0168	88.7650
9.47800	2933.7009	88.8080
9.48300	2933.5898	88.8400
9.48900	2933.4990	88.8840
9.49400	2932.8049	88.9300
9.50000	2933.9150	88.9630
9.50600	2931.0920	89.0290
9.51100	2933.6819	89.0620
9.51700	2932.6199	89.1210
9.52200	2932.3110	89.1730
9.52800	2932.8818	89.2170
9.53300	2934.1379	89.2800
9.53900	2931.3740	89.3280
9.54400	2933.1541	89.4020
9.55000	2931.4199	89.4470
9.55600	2932.8879	89.4870
9.56100	2931.9160	89.5730
9.56700	2931.6108	89.6200
9.57200	2931.0090	89.6790
9.57800	2931.2319	89.7510
9.58300	2931.4739	89.8110
9.58900	2932.2769	89.8750
9.59400	2931.5168	89.9260
9.60000	2932.8059	89.9820
9.60600	2933.0920	90.0410
9.61100	2930.6550	90.1110
9.61700	2932.1990	90.1600
9.62200	2931.0850	90.2120
9.62800	2932.5449	90.2750



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Time Hours	Pressure #1 psia	Temperature #1 deg F
9.63300	2930.0879	90.3340
9.63900	2933.8188	90.3940
9.64400	2933.7490	90.4530
9.65000	2932.1880	90.5230
9.65600	2933.6130	90.5760
9.66100	2932.6289	90.6280
9.66700	2932.1870	90.6910
9.67200	2934.5291	90.7590
9.67800	2931.6440	90.8100
9.68300	2934.4990	90.8460
9.68900	2933.3420	90.9090
9.69400	2935.2458	90.9610
9.70000	2932.5259	91.0150
9.70600	2935.6150	91.0760
9.71100	2933.3259	91.1190
9.71700	2934.8059	91.1860
9.72200	2932.5730	91.2330
9.72800	2934.1050	91.2850
9.73300	2933.2480	91.3240
9.73900	2932.7061	91.3680
9.74400	2935.2620	91.4290
9.75000	2933.7009	91.4670
9.75600	2932.9390	91.5120
9.76100	2936.1350	91.5580
9.76700	2932.8201	91.5940
9.77200	2933.7939	91.6340
9.77800	2932.9700	91.6740
9.78300	2931.6619	91.7130
9.78900	2934.2739	91.7560
9.79400	2932.2280	91.7920
9.80000	2932.6790	91.8280
9.80600	2935.1050	91.8720
9.81100	2930.5100	91.8990
9.81700	2932.5779	91.9180
9.82200	2933.5249	91.9400
9.82800	2932.4460	91.9740
9.83300	2934.6089	92.0190
9.83900	2935.5159	92.0370
9.84400	2935.0759	92.0570
9.85000	2934.4700	92.0730
9.85600	2934.4429	92.1130
9.86100	2935.3970	92.1180

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
9.86700	2935.2161	92.1560
9.87200	2935.9971	92.1780
9.87800	2935.2991	92.1960
9.88300	2935.0549	92.2120
9.88900	2933.7949	92.2280
9.89400	2933.1589	92.2550
9.90000	2934.1299	92.2640
9.90600	2935.3220	92.2950
9.91100	2934.1360	92.3000
9.91700	2934.8931	92.3320
9.92200	2933.7800	92.3270
9.92800	2933.3860	92.3340
9.93300	2934.3289	92.3630
9.93900	2932.7500	92.3790
9.94400	2932.7668	92.3830
9.95000	2935.5020	92.4030
9.95600	2933.8489	92.4150
9.96100	2936.0400	92.4350
9.96700	2934.8621	92.4350
9.97200	2934.5410	92.4460
9.97800	2935.8499	92.4850
9.98300	2932.4409	92.4910
9.98900	2934.4419	92.4890
9.99400	2933.0449	92.5090
10.00000	2931.5630	92.5180
10.00600	2933.5530	92.5300
10.01100	2933.8569	92.5340
10.01700	2937.1418	92.5380
10.02200	2934.2371	92.5540
10.02800	2935.0898	92.5570
10.03300	2934.2471	92.5700
10.03900	2935.0898	92.5570
10.04400	2935.4780	92.5840
10.05000	2934.4519	92.5970
10.05600	2936.6619	92.6080
10.06100	2935.6108	92.6080
10.06700	2937.2419	92.6130
10.07200	2935.5859	92.6200
10.07800	2935.3940	92.6170
10.08300	2934.3669	92.6280
10.08900	2935.2581	92.6240
10.09400	2935.5969	92.6200



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Time Hours	Pressure #1 psia	Temperature #1 deg F
10.10000	2935.0400	92.6130
10.10600	2936.9880	92.5930
10.11100	2935.7778	92.5770
10.11700	2935.0439	92.5500
10.12200	2937.6899	92.5090
10.12800	2933.7061	92.4710
10.13300	2935.4370	92.4260
10.13900	2934.7520	92.3760
10.14400	2936.2100	92.3230
10.15000	2933.6360	92.2710
10.15600	2935.0459	92.1970
10.16100	2931.8320	92.1330
10.16700	2939.5620	92.0700
10.17200	2935.3169	91.9940
10.17800	2934.4771	91.9240
10.18300	2935.4661	91.8450
10.18900	2933.6340	91.7850
10.19400	2935.0569	91.7060
10.20000	2933.0259	91.6410
10.20600	2934.4509	91.5710
10.21100	2932.6089	91.5080
10.21700	2935.4280	91.4320
10.22200	2934.5620	91.3640
10.22800	2932.5969	91.2940
10.23300	2937.1279	91.2340
10.23900	2933.8398	91.1700
10.24400	2935.9370	91.1100
10.25000	2936.9529	91.0310
10.25600	2935.0300	90.9910
10.26100	2934.2119	90.9360
10.26700	2935.5439	90.8920
10.27200	2934.2319	90.8330
10.27800	2930.9570	90.7660
10.28300	2933.9060	90.7300
10.28900	2933.2100	90.6820
10.29400	2934.5999	90.6280
10.30000	2933.2400	90.5920
10.30600	2936.9438	90.5320
10.31100	2934.0249	90.4960
10.31700	2935.2649	90.4440
10.32200	2935.4800	90.4060
10.32800	2935.5769	90.3610

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
10.33300	2933.3340	90.3270
10.33900	2933.8149	90.2860
10.34400	2932.1221	90.2550
10.35000	2936.4609	90.2120
10.35600	2932.9160	90.1920
10.36100	2933.4189	90.1470
10.36700	2933.6780	90.1130
10.37200	2935.2910	90.0770
10.37800	2933.4280	90.0450
10.38300	2933.8721	90.0250
10.38900	2935.6951	89.9940
10.39400	2932.7529	89.9690
10.40000	2935.1641	89.9420
10.40600	2930.4028	89.9190
10.41100	2932.5530	89.8830
10.41700	2934.9871	89.8590
10.42200	2932.5491	89.8500
10.42800	2934.1379	89.8110
10.43300	2931.6680	89.7980
10.43900	2931.2878	89.7750
10.44400	2929.4829	89.7710
10.45000	2933.0149	89.7580
10.45600	2933.8699	89.7350
10.46100	2933.9419	89.7210
10.46700	2934.3540	89.7040
10.47200	2934.7180	89.6920
10.47800	2934.8818	89.6880
10.48300	2933.3040	89.6720
10.48900	2933.2949	89.6610
10.49400	2935.1680	89.6560
10.50000	2933.9729	89.6560
10.50600	2936.8770	89.6490
10.51100	2934.0520	89.6410
10.51700	2933.1909	89.6410
10.52200	2931.9080	89.6410
10.52800	2932.8608	89.6400
10.53300	2934.6331	89.6450
10.53900	2933.2510	89.6400
10.54400	2934.3020	89.6560
10.55000	2933.3979	89.6560
10.55600	2934.0369	89.6650
10.56100	2934.3879	89.6680



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10.56700	2934.3760	89.6810
10.57200	2934.8110	89.6920
10.57800	2934.6929	89.6970
10.58300	2933.7910	89.7080
10.58900	2935.8999	89.7210
10.59400	2936.6099	89.7280
10.60000	2935.5569	89.7480
10.60600	2934.4370	89.7600
10.61100	2934.5640	89.7800
10.61700	2936.6030	89.7800
10.62200	2935.2009	89.8230
10.62800	2933.9241	89.8300
10.63300	2933.2600	89.8590
10.63900	2935.9771	89.8900
10.64400	2937.4041	89.8950
10.65000	2936.0500	89.9150
10.65600	2938.3550	89.9580
10.66100	2933.8989	90.0050
10.66700	2936.5879	90.0320
10.67200	2934.2839	90.0680
10.67800	2935.7859	90.1000
10.68300	2935.3999	90.1310
10.68900	2934.1379	90.1870
10.69400	2938.7400	90.2230
10.70000	2936.5620	90.2590
10.70600	2935.6951	90.2980
10.71100	2938.2280	90.3270
10.71700	2936.5081	90.3740
10.72200	2935.5959	90.4260
10.72800	2937.4919	90.4730
10.73300	2939.5601	90.5250
10.73900	2938.0181	90.5650
10.74400	2937.7590	90.6150
10.75000	2937.3740	90.6670
10.75600	2937.0820	90.7230
10.76100	2936.7600	90.7860
10.76700	2933.5779	90.8490
10.77200	2935.9639	90.8980
10.77800	2934.2869	90.9640
10.78300	2933.9980	91.0110
10.78900	2936.7791	91.0760
10.79400	2933.7429	91.1350

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
10.80000	2934.9910	91.2150
10.80600	2936.0320	91.2810
10.81100	2932.8369	91.3680
10.81700	2936.0229	91.4590
10.82200	2933.2600	91.5350
10.82800	2934.8660	91.6180
10.83300	2933.5278	91.6860
10.83900	2934.5339	91.7620
10.84400	2935.7200	91.8280
10.85000	2933.6079	91.8840
10.85600	2932.2039	91.9380
10.86100	2934.9050	91.9780
10.86700	2933.7559	92.0140
10.87200	2933.1619	92.0340
10.87800	2931.5640	92.0430
10.88300	2930.2380	92.0430
10.88900	2935.2329	92.0460
10.89400	2932.6489	92.0300
10.90000	2932.0439	92.0100
10.90600	2932.7290	91.9800
10.91100	2934.1689	91.9440
10.91700	2931.7559	91.9080
10.92200	2932.3279	91.8680
10.92800	2933.1760	91.8160
10.93300	2932.7659	91.7650
10.93900	2932.4980	91.7170
10.94400	2930.5920	91.6650
10.95000	2935.5940	91.6070
10.95600	2930.5220	91.5510
10.96100	2934.1929	91.4950
10.96700	2935.5449	91.4400
10.97200	2936.0181	91.3840
10.97800	2935.5630	91.3300
10.98300	2932.3120	91.2780
10.98900	2932.2190	91.2220
10.99400	2931.0168	91.1700
11.00000	2931.4690	91.1160
11.00600	2931.2729	91.0670
11.01100	2936.5039	91.0170
11.01700	2932.6460	90.9680
11.02200	2935.2339	90.9180
11.02800	2931.8069	90.8760



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AND TECHNOLOGY, INC.
HOUSTON, TX - SOUTH BEND, IN.
BATON ROUGE, LA

Subsurface Technology, Inc.

PanSystem Version 2.5

Well Test Analysis Report

Report File:

WDW2A.PAN

Analysis Date:

6/29/1999

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
11.03300	2935.1689	90.8290
11.03900	2934.0759	90.7860
11.04400	2936.8630	90.7430
11.05000	2935.2219	90.7070
11.05600	2932.7410	90.6710
11.06100	2934.1650	90.6390
11.06700	2934.8140	90.6080
11.07200	2935.8950	90.5880
11.07800	2935.2581	90.5680
11.08300	2938.3069	90.5590
11.08900	2934.4580	90.5560
11.09400	2934.9490	90.5590
11.10000	2934.4260	90.5760
11.10600	2934.2830	90.5920
11.11100	2938.7300	90.6150
11.11700	2935.8770	90.6550
11.12200	2935.0540	90.6980
11.12800	2937.5750	90.7380
11.13300	2936.7839	90.7930
11.13900	2933.8359	90.8490
11.14400	2933.6819	90.9090
11.15000	2934.0349	90.9720
11.15600	2934.8569	91.0360
11.16100	2934.7219	91.1030
11.16700	2933.9028	91.1750
11.17200	2936.1199	91.2450
11.17800	2933.2390	91.3120
11.18300	2936.8579	91.3840
11.18900	2936.4438	91.4520
11.19400	2935.9600	91.5260
11.20000	2936.2000	91.5910
11.20600	2935.3660	91.6540
11.21100	2935.8330	91.7290
11.21700	2936.2590	91.7920
11.22200	2937.8599	91.8550
11.22800	2937.5540	91.9180
11.23300	2935.6909	91.9800
11.23900	2936.6819	92.0370
11.24400	2939.3059	92.0950
11.25000	2935.4290	92.1520
11.25600	2938.3909	92.2010
11.26100	2936.0740	92.2530

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
11.26700	2936.7610	92.3070
11.27200	2936.0439	92.3560
11.27800	2936.6790	92.4030
11.28300	2935.1799	92.4490
11.28900	2935.4890	92.4910
11.29400	2938.1150	92.5300
11.30000	2938.5999	92.5740
11.30600	2937.8130	92.6100
11.31100	2937.6089	92.6490
11.31700	2936.4390	92.6830
11.32200	2938.2480	92.7160
11.32800	2937.8450	92.7550
11.33300	2939.0469	92.7840
11.33900	2938.4780	92.8170
11.34400	2938.6829	92.8470
11.35000	2939.5710	92.8720
11.35600	2934.8770	92.9030
11.36100	2936.2429	92.9300
11.36700	2937.3130	92.9550
11.37200	2940.2590	92.9820
11.37800	2937.5190	93.0060
11.38300	2937.3140	93.0250
11.38900	2937.0278	93.0470
11.39400	2939.5779	93.0700
11.40000	2938.8389	93.0870
11.40600	2938.4648	93.1100
11.41100	2940.6880	93.1260
11.41700	2938.9690	93.1420
11.42200	2934.9490	93.1620
11.42800	2934.0649	93.1780
11.43300	2935.7539	93.1930
11.43900	2934.7839	93.2130
11.44400	2938.3899	93.2250
11.45000	2939.0540	93.2380
11.45600	2936.8669	93.2540
11.46100	2934.1650	93.2680
11.46700	2934.9619	93.2810
11.47200	2936.2310	93.2940
11.47800	2934.4810	93.3010
11.48300	2936.6670	93.3130
11.48900	2934.1221	93.3170
11.49400	2935.3589	93.3280

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
11.50000	2933.9810	93.3240
11.50600	2935.3840	93.3170
11.51100	2936.6919	93.3040
11.51700	2934.6040	93.2850
11.52200	2935.4849	93.2610
11.52800	2936.2258	93.2290
11.53300	2937.2791	93.1890
11.53900	2934.7119	93.1420
11.54400	2935.5798	93.0900
11.55000	2937.3931	93.0310
11.55600	2931.3259	92.9700
11.56100	2935.6418	92.8990
11.56700	2936.3940	92.8270
11.57200	2935.5940	92.7590
11.57800	2934.4690	92.6800
11.58300	2935.2349	92.6010
11.58900	2935.2390	92.5180
11.59400	2935.7048	92.4390
11.60000	2936.0659	92.3560
11.60600	2936.6299	92.2730
11.61100	2934.0850	92.2010
11.61700	2935.4160	92.1290
11.62200	2935.6980	92.0570
11.62800	2935.1121	91.9900
11.63300	2934.2029	91.9270
11.63900	2936.5449	91.8720
11.64400	2933.2639	91.8190
11.65000	2937.0220	91.7730
11.65600	2938.0879	91.7330
11.66100	2937.5291	91.7010
11.66700	2935.5850	91.6740
11.67200	2936.2891	91.6540
11.67800	2937.0320	91.6380
11.68300	2936.2700	91.6250
11.68900	2935.6960	91.6180
11.69400	2937.1240	91.6140
11.70000	2935.1140	91.6210
11.70600	2934.5229	91.6270
11.71100	2936.4771	91.6380
11.71700	2934.9470	91.6500
11.72200	2935.8918	91.6660
11.72800	2938.9480	91.6860

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
11.73300	2930.7791	91.7040
11.73900	2933.6670	91.7290
11.74400	2929.6951	91.7530
11.75000	2930.8000	91.7760
11.75600	2936.2620	91.8050
11.76100	2936.5220	91.8320
11.76700	2937.6851	91.8590
11.77200	2934.0530	91.8840
11.77800	2933.3469	91.9150
11.78300	2933.2930	91.9380
11.78900	2936.8940	91.9710
11.79400	2933.1169	91.9940
11.80000	2933.4170	92.0230
11.80600	2932.8350	92.0460
11.81100	2936.6699	92.0730
11.81700	2935.9189	92.0970
11.82200	2934.9749	92.1220
11.82800	2935.3269	92.1420
11.83300	2932.5769	92.1610
11.83900	2937.2209	92.1880
11.84400	2936.2100	92.2080
11.85000	2934.9509	92.2280
11.85600	2935.1099	92.2480
11.86100	2936.5400	92.2640
11.86700	2934.0310	92.2800
11.87200	2935.7358	92.3000
11.87800	2935.4661	92.3160
11.88300	2935.5530	92.3320
11.88900	2936.8879	92.3470
11.89400	2937.0640	92.3630
11.90000	2938.1790	92.3760
11.90600	2933.8049	92.3920
11.91100	2936.3079	92.4100
11.91700	2935.3079	92.4190
11.92200	2935.1628	92.4300
11.92800	2934.5229	92.4420
11.93300	2936.3960	92.4510
11.93900	2935.5688	92.4620
11.94400	2938.0479	92.4710
11.95000	2935.3330	92.4820
11.95600	2934.8669	92.4910
11.96100	2934.0730	92.5020

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
11.96700	2934.3999	92.5110
11.97200	2936.7581	92.5210
11.97800	2935.1479	92.5290
11.98300	2936.7610	92.5340
11.98900	2935.3669	92.5450
11.99400	2935.4338	92.5480
12.00000	2938.4570	92.5540
12.00600	2934.1680	92.5650
12.01100	2935.0269	92.5680
12.01700	2936.3330	92.5740
12.02200	2936.7319	92.5810
12.02800	2939.8298	92.5840
12.03300	2937.1628	92.5880
12.03900	2934.5278	92.5900
12.04400	2938.4370	92.5970
12.05000	2936.6951	92.6040
12.05600	2937.9438	92.6040
12.06100	2936.6460	92.6080
12.06700	2937.2349	92.6100
12.07200	2937.4209	92.6080
12.07800	2940.2319	92.6010
12.08300	2934.2959	92.5880
12.08900	2938.6760	92.5660
12.09400	2937.6628	92.5480
12.10000	2938.0330	92.5140
12.10600	2938.6260	92.4710
12.11100	2936.9209	92.4190
12.11700	2936.7969	92.3560
12.12200	2936.9910	92.2840
12.12800	2936.2600	92.2080
12.13300	2936.9250	92.1160
12.13900	2937.3040	92.0190
12.14400	2935.6350	91.9180
12.15000	2936.5610	91.8120
12.15600	2934.8950	91.6970
12.16100	2935.1130	91.5780
12.16700	2935.2500	91.4630
12.17200	2937.8411	91.3440
12.17800	2935.0911	91.2180
12.18300	2936.9319	91.0920
12.18900	2936.0679	90.9720
12.19400	2937.3220	90.8490

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
12.20000	2935.2209	90.7230
12.20600	2935.7129	90.6030
12.21100	2937.2271	90.4860
12.21700	2938.0640	90.3670
12.22200	2937.6069	90.2480
12.22800	2938.3650	90.1400
12.23300	2936.5049	90.0280
12.23900	2935.6619	89.9190
12.24400	2935.6641	89.8140
12.25000	2936.0500	89.7080
12.25600	2937.0129	89.6090
12.26100	2936.9241	89.5100
12.26700	2934.6050	89.4150
12.27200	2939.3030	89.3250
12.27800	2939.2991	89.2360
12.28300	2940.9539	89.1500
12.28900	2938.4739	89.0620
12.29400	2939.0320	88.9830
12.30000	2938.9919	88.9030
12.30600	2935.4539	88.8280
12.31100	2937.2449	88.7540
12.31700	2937.1899	88.6820
12.32200	2935.8359	88.6150
12.32800	2939.0349	88.5510
12.33300	2937.0100	88.4950
12.33900	2933.6331	88.4350
12.34400	2937.5039	88.3850
12.35000	2935.5779	88.3330
12.35600	2935.6641	88.2860
12.36100	2936.1670	88.2460
12.36700	2935.6150	88.2100
12.37200	2935.4241	88.1780
12.37800	2933.9810	88.1470
12.38300	2933.7180	88.1240
12.38900	2934.0630	88.1060
12.39400	2933.1550	88.0880
12.40000	2934.7878	88.0830
12.40600	2935.0320	88.0720
12.41100	2938.0339	88.0680
12.41700	2936.1260	88.0680
12.42200	2936.4648	88.0720
12.42800	2934.5249	88.0790



ENVIROCORP SERVICES
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HOUSTON, TX - SOUTH BEND, IN
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Subsurface Technology, Inc.

PanSystem Version 2.5

Well Test Analysis Report

Report File:

WDW2A.PAN

Analysis Date:

6/29/1999

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
12.43300	2935.3110	88.0920
12.43900	2936.8699	88.1080
12.44400	2938.9089	88.1240
12.45000	2936.2290	88.1440
12.45600	2937.4561	88.1670
12.46100	2936.8411	88.1940
12.46700	2936.3989	88.2210
12.47200	2936.6040	88.2460
12.47800	2937.3020	88.2770
12.48300	2935.4351	88.3090
12.48900	2939.4600	88.3380
12.49400	2938.8030	88.3760
12.50000	2937.4180	88.4080
12.50600	2933.3689	88.4520
12.51100	2938.1919	88.4910
12.51700	2934.8809	88.5340
12.52200	2938.6709	88.5760
12.52800	2937.3210	88.6190
12.53300	2935.4009	88.6620
12.53900	2934.2371	88.7090
12.54400	2937.4800	88.7540
12.55000	2935.1670	88.8010
12.55600	2936.5569	88.8530
12.56100	2936.9919	88.9000
12.56700	2935.8398	88.9500
12.57200	2937.3569	89.0060
12.57800	2936.7200	89.0550
12.58300	2936.5391	89.1100
12.58900	2935.9399	89.1640
12.59400	2937.9290	89.2170
12.60000	2936.4810	89.2690
12.60600	2934.7590	89.3230
12.61100	2934.6050	89.3790
12.61700	2936.1951	89.4340
12.62200	2936.1121	89.4870
12.62800	2936.1609	89.5460
12.63300	2938.2869	89.5960
12.63900	2938.2969	89.6490
12.64400	2932.9500	89.6990
12.65000	2936.0679	89.7510
12.65600	2936.2410	89.7960
12.66100	2935.4771	89.8500

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
12.66700	2936.0940	89.8990
12.67200	2936.4810	89.9420
12.67800	2934.3279	89.9920
12.68300	2935.4490	90.0340
12.68900	2936.5679	90.0730
12.69400	2935.2139	90.1170
12.70000	2933.9219	90.1600
12.70600	2935.0811	90.2030
12.71100	2935.2991	90.2350
12.71700	2935.5740	90.2750
12.72200	2933.1199	90.3070
12.72800	2933.0969	90.3450
12.73300	2935.2139	90.3780
12.73900	2933.0110	90.4060
12.74400	2934.8040	90.4410
12.75000	2937.4250	90.4690
12.75600	2934.8149	90.5000
12.76100	2935.0710	90.5250
12.76700	2933.9250	90.5520
12.77200	2936.9409	90.5790
12.77800	2932.1851	90.6040
12.78300	2936.3201	90.6310
12.78900	2935.6509	90.6510
12.79400	2937.8540	90.6780
12.80000	2936.3220	90.6980
12.80600	2934.4189	90.7210
12.81100	2935.9460	90.7390
12.81700	2936.7139	90.7590
12.82200	2938.4810	90.7770
12.82800	2937.1909	90.7970
12.83300	2935.7200	90.8170
12.83900	2935.2810	90.8370
12.84400	2936.4819	90.8490
12.85000	2936.7300	90.8690
12.85600	2938.1780	90.8820
12.86100	2937.7549	90.9010
12.86700	2936.5889	90.9160
12.87200	2937.5059	90.9320
12.87800	2938.5139	90.9450
12.88300	2938.2449	90.9610
12.88900	2938.3369	90.9750
12.89400	2936.4839	90.9880



ENVIROCORP SERVICES
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Subsurface Technology, Inc.

PanSystem Version 2.5

Well Test Analysis Report

Report File:

WDW2A.PAN

Analysis Date:

6/29/1999

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
12.90000	2938.3059	91.0000
12.90600	2935.1980	91.0170
12.91100	2936.1079	91.0350
12.91700	2935.7600	91.0470
12.92200	2938.2080	91.0600
12.92800	2938.1418	91.0760
12.93300	2937.8169	91.0920
12.93900	2938.2839	91.1120
12.94400	2937.4041	91.1260
12.95000	2938.6460	91.1460
12.95600	2935.0588	91.1620
12.96100	2936.4929	91.1860
12.96700	2937.8340	91.2060
12.97200	2939.4771	91.2290
12.97800	2937.3479	91.2540
12.98300	2932.9771	91.2810
12.98900	2936.7161	91.3100
12.99400	2937.3240	91.3410
13.00000	2934.9709	91.3730
13.00600	2935.2830	91.4070
13.01100	2934.6838	91.4430
13.01700	2935.5391	91.4760
13.02200	2936.3508	91.5080
13.02800	2936.0249	91.5390
13.03300	2936.5859	91.5620
13.03900	2938.6199	91.5820
13.04400	2932.4109	91.6020
13.05000	2936.3140	91.6070
13.05600	2935.9900	91.6070
13.06100	2935.7019	91.6020
13.06700	2935.3850	91.5870
13.07200	2939.4019	91.5710
13.07800	2936.9509	91.5480
13.08300	2933.2380	91.5190
13.08900	2936.9810	91.4830
13.09400	2938.7400	91.4470
13.10000	2936.6230	91.4040
13.10600	2938.0100	91.3570
13.11100	2936.7048	91.3100
13.11700	2935.8499	91.2610
13.12200	2933.7371	91.2090
13.12800	2935.9619	91.1550

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
13.13300	2936.2290	91.1100
13.13900	2936.9209	91.0560
13.14400	2938.1030	91.0040
13.15000	2936.3530	90.9520
13.15600	2937.6838	90.9010
13.16100	2937.7620	90.8530
13.16700	2936.9460	90.8020
13.17200	2934.4399	90.7570
13.17800	2937.2258	90.7110
13.18300	2936.9119	90.6670
13.18900	2936.6069	90.6210
13.19400	2933.5669	90.5880
13.20000	2937.3430	90.5450
13.20600	2935.9089	90.5040
13.21100	2935.1899	90.4660
13.21700	2936.2830	90.4300
13.22200	2936.2119	90.3940
13.22800	2935.4949	90.3610
13.23300	2935.3049	90.3310
13.23900	2936.4080	90.2980
13.24400	2935.0740	90.2710
13.25000	2935.5798	90.2430
13.25600	2936.5330	90.2160
13.26100	2937.5349	90.1920
13.26700	2934.2090	90.1670
13.27200	2939.1619	90.1470
13.27800	2937.6189	90.1240
13.28300	2934.9189	90.1000
13.28900	2942.1709	90.0810
13.29400	2939.5688	90.0570
13.30000	2936.7390	90.0410
13.30600	2932.6960	90.0180
13.31100	2934.4089	90.0050
13.31700	2941.1609	89.9890
13.32200	2942.2371	89.9710
13.32800	2934.2019	89.9530
13.33300	2933.3311	89.9380
13.33900	2931.9500	89.9220
13.34400	2934.9019	89.9100
13.35000	2934.6260	89.9020
13.35600	2934.9670	89.8860
13.36100	2932.8040	89.8790

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
13.36700	2934.2830	89.8740
13.37200	2931.2471	89.8590
13.37800	2930.8220	89.8500
13.38300	2933.2490	89.8430
13.38900	2934.7339	89.8390
13.39400	2931.7319	89.8340
13.40000	2933.3110	89.8300
13.40600	2932.8279	89.8270
13.41100	2932.4260	89.8230
13.41700	2930.0779	89.8200
13.42200	2931.4319	89.8200
13.42800	2933.6360	89.8160
13.43300	2932.0139	89.8200
13.43900	2932.7500	89.8230
13.44400	2936.1609	89.8230
13.45000	2933.8970	89.8270
13.45600	2930.6741	89.8300
13.46100	2923.1570	89.8380
13.46700	2928.9919	89.8390
13.47200	2929.1760	89.8470
13.47800	2931.0740	89.8540
13.48300	2934.4180	89.8660
13.48900	2930.4771	89.8740
13.49400	2932.0869	89.8830
13.50000	2933.5291	89.8990
13.50600	2937.0850	89.9100
13.51100	2934.0439	89.9220
13.51700	2938.7490	89.9350
13.52200	2933.9771	89.9530
13.52800	2935.5869	89.9650
13.53300	2934.0530	89.9850
13.53900	2936.0920	90.0010
13.54400	2939.4709	90.0250
13.55000	2935.7490	90.0480
13.55600	2934.2239	90.0680
13.56100	2939.1179	90.0900
13.56700	2936.9700	90.1170
13.57200	2935.2109	90.1440
13.57800	2937.2061	90.1720
13.58300	2937.3130	90.2030
13.58900	2937.3779	90.2350
13.59400	2935.5540	90.2660

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
13.60000	2939.4709	90.2980
13.60600	2935.6619	90.3340
13.61100	2939.8918	90.3700
13.61700	2935.7710	90.4060
13.62200	2936.1680	90.4500
13.62800	2936.7290	90.4890
13.63300	2938.0239	90.5290
13.63900	2937.5940	90.5790
13.64400	2936.3770	90.6210
13.65000	2935.3359	90.6640
13.65600	2939.7590	90.7140
13.66100	2935.2939	90.7660
13.66700	2936.1809	90.8170
13.67200	2938.7559	90.8730
13.67800	2935.0769	90.9250
13.68300	2940.1851	90.9840
13.68900	2936.4849	91.0470
13.69400	2935.2439	91.1030
13.70000	2939.9600	91.1700
13.70600	2934.8708	91.2380
13.71100	2936.4360	91.3100
13.71700	2937.0120	91.3840
13.72200	2936.6318	91.4560
13.72800	2939.0168	91.5280
13.73300	2940.0959	91.6110
13.73900	2939.3298	91.6930
13.74400	2939.1460	91.7800
13.75000	2938.1829	91.8680
13.75600	2938.9570	91.9580
13.76100	2943.3350	92.0500
13.76700	2941.2668	92.1420
13.77200	2943.5669	92.2370
13.77800	2938.8589	92.3320
13.78300	2940.9570	92.4120
13.78900	2941.8879	92.4870
13.79400	2941.6040	92.5500
13.80000	2941.7668	92.6010
13.80600	2938.7668	92.6370
13.81100	2940.7520	92.6530
13.81700	2940.2129	92.6560
13.82200	2943.8311	92.6400
13.82800	2943.6189	92.6100



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Time Hours	Pressure #1 psia	Temperature #1 deg F
13.83300	2943.6060	92.5660
13.83900	2943.9719	92.5050
13.84400	2944.2769	92.4390
13.85000	2943.2681	92.3560
13.85600	2942.0469	92.2680
13.86100	2939.1140	92.1720
13.86700	2939.8699	92.0700
13.87200	2938.8608	91.9670
13.87800	2939.1409	91.8550
13.88300	2944.4128	91.7460
13.88900	2940.7471	91.6340
13.89400	2942.2019	91.5220
13.90000	2939.8489	91.4050
13.90600	2938.8269	91.2940
13.91100	2941.9700	91.1860
13.91700	2940.8220	91.0760
13.92200	2942.1089	90.9730
13.92800	2937.3499	90.8690
13.93300	2940.4180	90.7700
13.93900	2942.4409	90.6710
13.94400	2941.0229	90.5760
13.95000	2942.2791	90.4800
13.95600	2938.1331	90.3940
13.96100	2938.1829	90.3070
13.96700	2938.8608	90.2230
13.97200	2940.5159	90.1440
13.97800	2937.9919	90.0640
13.98300	2937.8931	89.9910
13.98900	2941.0129	89.9150
13.99400	2936.9780	89.8470
14.00000	2937.3540	89.7800
14.00600	2935.7229	89.7170
14.01100	2935.1970	89.6580
14.01700	2937.6030	89.5980
14.02200	2935.8269	89.5460
14.02800	2935.7800	89.4970
14.03300	2937.6628	89.4510
14.03900	2934.4758	89.4040
14.04400	2936.5959	89.3640
14.05000	2936.7668	89.3280
14.05600	2936.4290	89.2960
14.06100	2936.8521	89.2650

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
14.06700	2937.7700	89.2360
14.07200	2937.9109	89.2130
14.07800	2933.9329	89.1930
14.08300	2936.2358	89.1810
14.08900	2938.4619	89.1660
14.09400	2938.2600	89.1540
14.10000	2938.2490	89.1500
14.10600	2938.8130	89.1500
14.11100	2937.2668	89.1460
14.11700	2939.0000	89.1540
14.12200	2937.2529	89.1570
14.12800	2937.7759	89.1640
14.13300	2935.6431	89.1770
14.13900	2937.2900	89.1860
14.14400	2935.7070	89.2060
14.15000	2935.7759	89.2200
14.15600	2936.9050	89.2400
14.16100	2938.0830	89.2600
14.16700	2937.3330	89.2800
14.17200	2941.1479	89.2990
14.17800	2936.2000	89.3230
14.18300	2937.5879	89.3440
14.18900	2939.7659	89.3710
14.19400	2935.7778	89.3950
14.20000	2936.9629	89.4180
14.20600	2937.0688	89.4430
14.21100	2939.0491	89.4670
14.21700	2937.4338	89.4940
14.22200	2936.4319	89.5170
14.22800	2938.5559	89.5420
14.23300	2933.7891	89.5660
14.23900	2934.9080	89.5890
14.24400	2939.4871	89.6130
14.25000	2937.7830	89.6360
14.25600	2939.7119	89.6560
14.26100	2935.5588	89.6770
14.26700	2938.1899	89.6970
14.27200	2937.8289	89.7170
14.27800	2937.4839	89.7370
14.28300	2937.8521	89.7570
14.28900	2939.5339	89.7750
14.29400	2943.3289	89.7930



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Time Hours	Pressure #1 psia	Temperature #1 deg F
14.30000	2943.1150	89.8110
14.30600	2941.5779	89.8230
14.31100	2939.5688	89.8340
14.31400	2933.1670	89.8430
14.31700	2921.9600	89.8500
14.31900	2911.7019	89.8570
14.32200	2902.2991	89.8650
14.32500	2893.7690	89.8680
14.32800	2886.1409	89.8750
14.33100	2879.3560	89.8810
14.33300	2873.5110	89.8880
14.33600	2868.5259	89.8920
14.33900	2864.4241	89.8990
14.34200	2861.0920	89.9060
14.34400	2858.4648	89.9110
14.34700	2856.4790	89.9150
14.35000	2855.0449	89.9220
14.35300	2854.0310	89.9330
14.35600	2853.3359	89.9380
14.35800	2852.8540	89.9460
14.36100	2852.5149	89.9530
14.36400	2852.2480	89.9580
14.36700	2852.0469	89.9730
14.36900	2851.8010	89.9780
14.37200	2851.5840	89.9890
14.37500	2851.3440	89.9980
14.37800	2851.1160	90.0120
14.38100	2850.8879	90.0210
14.38300	2850.7139	90.0320
14.38600	2850.5679	90.0450
14.38900	2850.4329	90.0540
14.39200	2850.3479	90.0720
14.39400	2850.2681	90.0840
14.39700	2850.1331	90.0930
14.40000	2850.0420	90.1080
14.40300	2849.9189	90.1200
14.40600	2849.8330	90.1360
14.40800	2849.7590	90.1510
14.41100	2849.6799	90.1670
14.41400	2849.6108	90.1800
14.41700	2849.5249	90.1920
14.41900	2849.4729	90.2100

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
14.42200	2849.4050	90.2260
14.42500	2849.3420	90.2430
14.42800	2849.2778	90.2550
14.43100	2849.2271	90.2710
14.43300	2849.1741	90.2860
14.43600	2849.1108	90.3020
14.43900	2849.0820	90.3180
14.44200	2849.0181	90.3310
14.44400	2848.9758	90.3470
14.44700	2848.9189	90.3610
14.45000	2848.8770	90.3740
14.45300	2848.8420	90.3900
14.45600	2848.8010	90.4060
14.45800	2848.7419	90.4210
14.46100	2848.7239	90.4370
14.46400	2848.6819	90.4500
14.46700	2848.6580	90.4690
14.46900	2848.6008	90.4840
14.47200	2848.5588	90.4960
14.47500	2848.5229	90.5130
14.47800	2848.4990	90.5290
14.48100	2848.4749	90.5490
14.48300	2848.4390	90.5650
14.48600	2848.3870	90.5790
14.48900	2848.3621	90.5950
14.49200	2848.3430	90.6150
14.49400	2848.3079	90.6310
14.49700	2848.2900	90.6510
14.50000	2848.2529	90.6670
14.50300	2848.2300	90.6840
14.50600	2848.1990	90.7020
14.50800	2848.1799	90.7210
14.51100	2848.1619	90.7410
14.51400	2848.1270	90.7570
14.51700	2848.1140	90.7770
14.51900	2848.0889	90.7930
14.52200	2848.0649	90.8130
14.52500	2848.0520	90.8330
14.52800	2848.0339	90.8530
14.53100	2848.0100	90.8730
14.53300	2847.9680	90.8850
14.53600	2847.9548	90.9050

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
14.53900	2847.9429	90.9280
14.54200	2847.9128	90.9450
14.54400	2847.8889	90.9640
14.54700	2847.8650	90.9810
14.55000	2847.8630	91.0040
14.55300	2847.8389	91.0200
14.55600	2847.8201	91.0440
14.55800	2847.8079	91.0630
14.56100	2847.8059	91.0830
14.56400	2847.7581	91.0990
14.56700	2847.7458	91.1190
14.56900	2847.7280	91.1430
14.57200	2847.7090	91.1590
14.57500	2847.7029	91.1820
14.57800	2847.6838	91.2020
14.58100	2847.6660	91.2220
14.58300	2847.6470	91.2420
14.58600	2847.6399	91.2650
14.58900	2847.6318	91.2850
14.59200	2847.6079	91.3050
14.59400	2847.5840	91.3240
14.59700	2847.5710	91.3440
14.60000	2847.5649	91.3680
14.60300	2847.5400	91.3840
14.60600	2847.5500	91.4110
14.60800	2847.5149	91.4270
14.61100	2847.5129	91.4500
14.61400	2847.5068	91.4720
14.61700	2847.4819	91.4920
14.61900	2847.4590	91.5120
14.62200	2847.4619	91.5350
14.62500	2847.4380	91.5550
14.62800	2847.4370	91.5780
14.63100	2847.4119	91.5980
14.63300	2847.4009	91.6210
14.63600	2847.3818	91.6410
14.63900	2847.3799	91.6650
14.64200	2847.3679	91.6860
14.64400	2847.3608	91.7060
14.64700	2847.3430	91.7290
14.65000	2847.3359	91.7530
14.65300	2847.3279	91.7730

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
14.65600	2847.3040	91.7920
14.65800	2847.3079	91.8160
14.66100	2847.2849	91.8390
14.66400	2847.2830	91.8590
14.66700	2847.2700	91.8790
14.66900	2847.2568	91.9020
14.67200	2847.2439	91.9220
14.67500	2847.2429	91.9470
14.67800	2847.2358	91.9670
14.68100	2847.2229	91.9870
14.68300	2847.2161	92.0100
14.68600	2847.2029	92.0340
14.68900	2847.1851	92.0530
14.69200	2847.1829	92.0770
14.69400	2847.1770	92.1000
14.69700	2847.1641	92.1180
14.70000	2847.1619	92.1420
14.70300	2847.1431	92.1610
14.70600	2847.1370	92.1850
14.70800	2847.1240	92.2050
14.71100	2847.1169	92.2280
14.71400	2847.1208	92.2510
14.71700	2847.1130	92.2750
14.71900	2847.0959	92.2950
14.72200	2847.0889	92.3160
14.72500	2847.0759	92.3360
14.72800	2847.0679	92.3590
14.73100	2847.0659	92.3790
14.73300	2847.0588	92.4030
14.73600	2847.0569	92.4220
14.73900	2847.0449	92.4460
14.74200	2847.0430	92.4690
14.74400	2847.0300	92.4890
14.74700	2847.0168	92.5090
14.75000	2847.0220	92.5320
14.75300	2847.0029	92.5520
14.75600	2847.0010	92.5720
14.75800	2846.9929	92.5930
14.76100	2846.9810	92.6130
14.76400	2846.9890	92.6370
14.76700	2846.9700	92.6560
14.76900	2846.9729	92.6800



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Time Hours	Pressure #1 psia	Temperature #1 deg F
14.77200	2846.9600	92.7000
14.77500	2846.9619	92.7230
14.77800	2846.9309	92.7390
14.78100	2846.9241	92.7630
14.78300	2846.9270	92.7840
14.78600	2846.9309	92.8080
14.78900	2846.9109	92.8270
14.79200	2846.9080	92.8510
14.79400	2846.9009	92.8710
14.79700	2846.8809	92.8900
14.80000	2846.8850	92.9160
14.80300	2846.8831	92.9350
14.80600	2846.8689	92.9590
14.80800	2846.8708	92.9790
14.81100	2846.8689	93.0020
14.81400	2846.8499	93.0220
14.81700	2846.8479	93.0450
14.81900	2846.8508	93.0670
14.82200	2846.8320	93.0870
14.82500	2846.8240	93.1060
14.82800	2846.8088	93.1260
14.83100	2846.8188	93.1530
14.83300	2846.8110	93.1730
14.83600	2846.7969	93.1930
14.83900	2846.7939	93.2130
14.84200	2846.7920	93.2360
14.84400	2846.7891	93.2560
14.84700	2846.7759	93.2760
14.85000	2846.7729	93.2970
14.85300	2846.7700	93.3170
14.85600	2846.7668	93.3370
14.85800	2846.7539	93.3570
14.86100	2846.7629	93.3800
14.86400	2846.7429	93.4000
14.86700	2846.7471	93.4200
14.86900	2846.7380	93.4430
14.87200	2846.7300	93.4630
14.87500	2846.7319	93.4830
14.87800	2846.7349	93.5040
14.88100	2846.7100	93.5220
14.88300	2846.7080	93.5420
14.88600	2846.7061	93.5640

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
14.88900	2846.6980	93.5830
14.89200	2846.7061	93.6070
14.89400	2846.6809	93.6230
14.89700	2846.6838	93.6460
14.90000	2846.6929	93.6700
14.90300	2846.6790	93.6900
14.90600	2846.6699	93.7090
14.90800	2846.6519	93.7290
14.91100	2846.6479	93.7490
14.91400	2846.6570	93.7710
14.91700	2846.6440	93.7900
14.91900	2846.6350	93.8100
14.92200	2846.6379	93.8340
14.92500	2846.6240	93.8530
14.92800	2846.6221	93.8730
14.93100	2846.6130	93.8930
14.93300	2846.6060	93.9130
14.93600	2846.6240	93.9360
14.93900	2846.6108	93.9560
14.94200	2846.6260	93.9790
14.94400	2846.5950	93.9960
14.94700	2846.5811	94.0150
14.95000	2846.5669	94.0350
14.95300	2846.5759	94.0570
14.95600	2846.5669	94.0770
14.95800	2846.5759	94.1000
14.96100	2846.5569	94.1200
14.96400	2846.5491	94.1400
14.96700	2846.5579	94.1670
14.96900	2846.5559	94.1880
14.97200	2846.5469	94.2080
14.97500	2846.5391	94.2310
14.97800	2846.5369	94.2550
14.98100	2846.5520	94.2780
14.98300	2846.5439	94.3030
14.98600	2846.5239	94.3230
14.98900	2846.5278	94.3470
14.99200	2846.5259	94.3700
14.99400	2846.5229	94.3930
14.99700	2846.5100	94.4170
15.00000	2846.5249	94.4420
15.00300	2846.5168	94.4650



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Time Hours	Pressure #1 psia	Temperature #1 deg F
15.00600	2846.5029	94.4850
15.00800	2846.5010	94.5090
15.01100	2846.4980	94.5300
15.01400	2846.5020	94.5570
15.01700	2846.4819	94.5730
15.01900	2846.4858	94.6000
15.02200	2846.4890	94.6240
15.02500	2846.4858	94.6450
15.02800	2846.4729	94.6650
15.03100	2846.4819	94.6920
15.03300	2846.4790	94.7120
15.03600	2846.4661	94.7320
15.03900	2846.4749	94.7550
15.04200	2846.4609	94.7790
15.04400	2846.4700	94.8000
15.04700	2846.4451	94.8200
15.05000	2846.4590	94.8400
15.05300	2846.4451	94.8630
15.05600	2846.4490	94.8830
15.05800	2846.4451	94.9060
15.06100	2846.4490	94.9300
15.06400	2846.4360	94.9500
15.06700	2846.4270	94.9690
15.06900	2846.4241	94.9910
15.07200	2846.4390	95.0140
15.07500	2846.4241	95.0340
15.07800	2846.4170	95.0540
15.08100	2846.4260	95.0770
15.08300	2846.4351	95.1010
15.08600	2846.4041	95.1170
15.08900	2846.4060	95.1370
15.09200	2846.3979	95.1570
15.09400	2846.4060	95.1780
15.09700	2846.3989	95.1980
15.10000	2846.4009	95.2180
15.10300	2846.4041	95.2410
15.10600	2846.4060	95.2610
15.10800	2846.3809	95.2770
15.11100	2846.3850	95.2970
15.11400	2846.3699	95.3170
15.11700	2846.3730	95.3370
15.11900	2846.3770	95.3600

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Time Hours	Pressure #1 psia	Temperature #1 deg F
15.12200	2846.3789	95.3800
15.12500	2846.3599	95.3960
15.12800	2846.3789	95.4190
15.13100	2846.3708	95.4390
15.13300	2846.3679	95.4590
15.13600	2846.3599	95.4750
15.13900	2846.3630	95.4990
15.14200	2846.3599	95.5180
15.14400	2846.3450	95.5350
15.14700	2846.3479	95.5540
15.15000	2846.3459	95.5740
15.15300	2846.3489	95.5940
15.15600	2846.3459	95.6140
15.15800	2846.3420	95.6340
15.16100	2846.3459	95.6530
15.16400	2846.3311	95.6700
15.16700	2846.3279	95.6890
15.16900	2846.3311	95.7090
15.17200	2846.3120	95.7250
15.17500	2846.3311	95.7490
15.17800	2846.3389	95.7670
15.18100	2846.3188	95.7850
15.18300	2846.3230	95.8050
15.18600	2846.3201	95.8240
15.18900	2846.3220	95.8410
15.19200	2846.3130	95.8600
15.19400	2846.3110	95.8770
15.19700	2846.3130	95.8960
15.20000	2846.3040	95.9130
15.20300	2846.3069	95.9320
15.20600	2846.2979	95.9490
15.20800	2846.2949	95.9650
15.21100	2846.2920	95.9850
15.21400	2846.2949	96.0040
15.21700	2846.2910	96.0210
15.21900	2846.2891	96.0400
15.22200	2846.2800	96.0570
15.22500	2846.2939	96.0760
15.22800	2846.3020	96.0960
15.23100	2846.2830	96.1120
15.23300	2846.2739	96.1290
15.23600	2846.2820	96.1480



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Time Hours	Pressure #1 psia	Temperature #1 deg F
15.23900	2846.2849	96.1680
15.24200	2846.2759	96.1840
15.24400	2846.2668	96.2020
15.24700	2846.2810	96.2220
15.25000	2846.2720	96.2380
15.25300	2846.2700	96.2580
15.25600	2846.2720	96.2740
15.25800	2846.2581	96.2910
15.26100	2846.2710	96.3100
15.26400	2846.2510	96.3270
15.26700	2846.2600	96.3460
15.26900	2846.2510	96.3630
15.27200	2846.2590	96.3820
15.27500	2846.2681	96.4020
15.27800	2846.2520	96.4150
15.28100	2846.2510	96.4350
15.28300	2846.2581	96.4540
15.28600	2846.2490	96.4710
15.28900	2846.2510	96.4890
15.29200	2846.2490	96.5080
15.29400	2846.2400	96.5250
15.29700	2846.2380	96.5410
15.30000	2846.2449	96.5640
15.30300	2846.2429	96.5800
15.30600	2846.2400	96.5970
15.30800	2846.2471	96.6160
15.31100	2846.2380	96.6330
15.31400	2846.2410	96.6490
15.31700	2846.2258	96.6650
15.31900	2846.2290	96.6810
15.32200	2846.2258	96.6990
15.32500	2846.2290	96.7170
15.32800	2846.2200	96.7350
15.33100	2846.2170	96.7510
15.33300	2846.2139	96.7680
15.33600	2846.2161	96.7840
15.33900	2846.2180	96.8040
15.34200	2846.2100	96.8200
15.34400	2846.2061	96.8360
15.34700	2846.2029	96.8520
15.35000	2846.2119	96.8720
15.35300	2846.2029	96.8880

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
15.35600	2846.2000	96.9060
15.35800	2846.1909	96.9220
15.36100	2846.1980	96.9420
15.36400	2846.1838	96.9550
15.36700	2846.2029	96.9750
15.36900	2846.1938	96.9910
15.37200	2846.1960	97.0070
15.37500	2846.1870	97.0230
15.37800	2846.1960	97.0430
15.38100	2846.1870	97.0570
15.38300	2846.1899	97.0740
15.38600	2846.1919	97.0900
15.38900	2846.1838	97.1060
15.39200	2846.1851	97.1220
15.39400	2846.1880	97.1380
15.39700	2846.1899	97.1550
15.40000	2846.1870	97.1730
15.40300	2846.1709	97.1850
15.40600	2846.1790	97.2010
15.40800	2846.1650	97.2140
15.41100	2846.1838	97.2340
15.41400	2846.1750	97.2480
15.41700	2846.1770	97.2640
15.41900	2846.1619	97.2770
15.42200	2846.1589	97.2930
15.42500	2846.1729	97.3090
15.42800	2846.1689	97.3260
15.43100	2846.1770	97.3440
15.43300	2846.1570	97.3560
15.43600	2846.1650	97.3720
15.43900	2846.1680	97.3890
15.44200	2846.1689	97.4050
15.44400	2846.1541	97.4190
15.44700	2846.1570	97.4350
15.45000	2846.1650	97.4550
15.45300	2846.1450	97.4640
15.45600	2846.1519	97.4840
15.45800	2846.1550	97.5000
15.46100	2846.1450	97.5160
15.46400	2846.1479	97.5340
15.46700	2846.1509	97.5510
15.46900	2846.1431	97.5670

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
15.47200	2846.1389	97.5830
15.47500	2846.1360	97.5990
15.47800	2846.1431	97.6150
15.48100	2846.1350	97.6320
15.48300	2846.1479	97.6510
15.48600	2846.1389	97.6660
15.48900	2846.1309	97.6820
15.49200	2846.1318	97.6980
15.49400	2846.1460	97.7180
15.49700	2846.1318	97.7310
15.50000	2846.1340	97.7470
15.50300	2846.1250	97.7630
15.50600	2846.1169	97.7810
15.50800	2846.1240	97.7970
15.51100	2846.1270	97.8130
15.51400	2846.1230	97.8300
15.51700	2846.1250	97.8460
15.51900	2846.1270	97.8620
15.52200	2846.1240	97.8780
15.52500	2846.1208	97.8960
15.52800	2846.1121	97.9120
15.53100	2846.1199	97.9290
15.53300	2846.1221	97.9450
15.53600	2846.1189	97.9610
15.53900	2846.1208	97.9740
15.54200	2846.1130	97.9920
15.54400	2846.1150	98.0040
15.54700	2846.1221	98.0240
15.55000	2846.1060	98.0330
15.55300	2846.1130	98.0510
15.55600	2846.0969	98.0640
15.55800	2846.1108	98.0800
15.56100	2846.1008	98.0920
15.56400	2846.0959	98.1070
15.56700	2846.0989	98.1190
15.56900	2846.1050	98.1360
15.57200	2846.0840	98.1460
15.57500	2846.0969	98.1630
15.57800	2846.0869	98.1750
15.58100	2846.0940	98.1900
15.58300	2846.0889	98.2020
15.58600	2846.0911	98.2150

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
15.58900	2846.0869	98.2290
15.59200	2846.0940	98.2420
15.59400	2846.0889	98.2540
15.59700	2846.0850	98.2690
15.60000	2846.0859	98.2810
15.60300	2846.0820	98.2940
15.60600	2846.0830	98.3050
15.60800	2846.0730	98.3170
15.61100	2846.0811	98.3350
15.61400	2846.0688	98.3440
15.61700	2846.0720	98.3570
15.61900	2846.0779	98.3750
15.62200	2846.0811	98.3880
15.62500	2846.0759	98.4000
15.62800	2846.0659	98.4110
15.63100	2846.0669	98.4240
15.63300	2846.0569	98.4360
15.63600	2846.0640	98.4510
15.63900	2846.0649	98.4630
15.64200	2846.0610	98.4760
15.64400	2846.0559	98.4900
15.64700	2846.0579	98.5030
15.65000	2846.0710	98.5190
15.65300	2846.0549	98.5300
15.65600	2846.0559	98.5420
15.65800	2846.0410	98.5570
15.66100	2846.0530	98.5690
15.66400	2846.0491	98.5820
15.66700	2846.0559	98.5960
15.66900	2846.0410	98.6090
15.67200	2846.0359	98.6220
15.67500	2846.0491	98.6380
15.67800	2846.0510	98.6520
15.68100	2846.0300	98.6650
15.68300	2846.0369	98.6810
15.68600	2846.0378	98.6950
15.68900	2846.0391	98.7080
15.69200	2846.0300	98.7210
15.69400	2846.0420	98.7390
15.69700	2846.0269	98.7510
15.70000	2846.0229	98.7640
15.70300	2846.0239	98.7800



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Time Hours	Pressure #1 psia	Temperature #1 deg F
15.70600	2846.0249	98.7940
15.70800	2846.0220	98.8110
15.71100	2846.0229	98.8230
15.71400	2846.0190	98.8380
15.71700	2846.0090	98.8500
15.71900	2846.0220	98.8660
15.72200	2846.0168	98.8810
15.72500	2846.0249	98.8970
15.72800	2846.0200	98.9100
15.73100	2846.0159	98.9220
15.73300	2846.0229	98.9370
15.73600	2846.0190	98.9490
15.73900	2846.0139	98.9620
15.74200	2846.0039	98.9760
15.74400	2846.0068	98.9890
15.74700	2846.0068	99.0050
15.75000	2846.0139	99.0190
15.75300	2846.0049	99.0320
15.75600	2846.0168	99.0480
15.75800	2846.0129	99.0630
15.76100	2846.0090	99.0750
15.76400	2846.0100	99.0880
15.76700	2846.0059	99.1040
15.76900	2846.0020	99.1180
15.77200	2846.0029	99.1310
15.77500	2846.0100	99.1470
15.77800	2845.9958	99.1620
15.78100	2846.0081	99.1780
15.78300	2845.9919	99.1900
15.78600	2845.9939	99.2050
15.78900	2845.9949	99.2210
15.79200	2845.9910	99.2340
15.79400	2845.9871	99.2460
15.79700	2845.9890	99.2610
15.80000	2845.9890	99.2730
15.80300	2845.9849	99.2860
15.80600	2845.9800	99.3000
15.80800	2845.9771	99.3130
15.81100	2845.9839	99.3250
15.81400	2845.9790	99.3400
15.81700	2845.9800	99.3520
15.81900	2845.9880	99.3650

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
15.82200	2845.9939	99.3790
15.82500	2845.9790	99.3880
15.82800	2845.9800	99.4030
15.83100	2845.9819	99.4190
15.83300	2845.9758	99.4280
15.83600	2845.9661	99.4390
15.83900	2845.9680	99.4510
15.84200	2845.9700	99.4680
15.84400	2845.9648	99.4780
15.84700	2845.9600	99.4910
15.85000	2845.9609	99.5020
15.85300	2845.9629	99.5140
15.85600	2845.9648	99.5270
15.85800	2845.9600	99.5380
15.86100	2845.9561	99.5500
15.86400	2845.9570	99.5650
15.86700	2845.9629	99.5770
15.86900	2845.9600	99.5900
15.87200	2845.9609	99.6040
15.87500	2845.9451	99.6130
15.87800	2845.9519	99.6280
15.88100	2845.9590	99.6400
15.88300	2845.9429	99.6530
15.88600	2845.9500	99.6670
15.88900	2845.9570	99.6800
15.89200	2845.9470	99.6930
15.89400	2845.9429	99.7070
15.89700	2845.9451	99.7200
15.90000	2845.9460	99.7320
15.90300	2845.9360	99.7430
15.90600	2845.9480	99.7590
15.90800	2845.9329	99.7720
15.91100	2845.9399	99.7860
15.91400	2845.9409	99.7990
15.91700	2845.9370	99.8110
15.91900	2845.9319	99.8260
15.92200	2845.9338	99.8380
15.92500	2845.9299	99.8510
15.92800	2845.9260	99.8650
15.93100	2845.9380	99.8780
15.93300	2845.9170	99.8890
15.93600	2845.9290	99.9050



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Time Hours	Pressure #1 psia	Temperature #1 deg F
15.93900	2845.9309	99.9180
15.94200	2845.9309	99.9320
15.94400	2845.9329	99.9450
15.94700	2845.9229	99.9540
15.95000	2845.9250	99.9680
15.95300	2845.9199	99.9810
15.95600	2845.9209	99.9930
15.95800	2845.9109	100.0080
15.96100	2845.9080	100.0200
15.96400	2845.9150	100.0330
15.96700	2845.9041	100.0470
15.96900	2845.9219	100.0600
15.97200	2845.9060	100.0740
15.97500	2845.9141	100.0870
15.97800	2845.9209	100.0990
15.98100	2845.9109	100.1140
15.98300	2845.9128	100.1300
15.98600	2845.9028	100.1430
15.98900	2845.9089	100.1530
15.99200	2845.9219	100.1700
15.99400	2845.9109	100.1790
15.99700	2845.9189	100.1950
16.00000	2845.9041	100.2060
16.00300	2845.8989	100.2220
16.00600	2845.8940	100.2330
16.00800	2845.9080	100.2490
16.01100	2845.9080	100.2610
16.01400	2845.8879	100.2720
16.01700	2845.9050	100.2880
16.01900	2845.9080	100.3010
16.02200	2845.9080	100.3150
16.02500	2845.9089	100.3320
16.02800	2845.9109	100.3440
16.03100	2845.9009	100.3550
16.03300	2845.8970	100.3680
16.03600	2845.9041	100.3840
16.03900	2845.9060	100.3960
16.04200	2845.9009	100.4110
16.04400	2845.9019	100.4230
16.04700	2845.9028	100.4380
16.05000	2845.9060	100.4500
16.05300	2845.8999	100.4590

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
16.05600	2845.8970	100.4740
16.05800	2845.9080	100.4860
16.06100	2845.9041	100.4990
16.06400	2845.8989	100.5100
16.06700	2845.9189	100.5260
16.06900	2845.8970	100.5370
16.07200	2845.8809	100.5460
16.07500	2845.9050	100.5580
16.07800	2845.8999	100.5730
16.08100	2845.8899	100.5820
16.08300	2845.8970	100.6000
16.08600	2845.8918	100.6090
16.08900	2845.8940	100.6210
16.09200	2845.8899	100.6360
16.09400	2845.8909	100.6450
16.09700	2845.8809	100.6590
16.10000	2845.8879	100.6720
16.10300	2845.8831	100.6840
16.10600	2845.8960	100.7010
16.10800	2845.8809	100.7110
16.11100	2845.8818	100.7240
16.11400	2845.8831	100.7380
16.11700	2845.8850	100.7510
16.11900	2845.8799	100.7640
16.12200	2845.8809	100.7780
16.12500	2845.8770	100.7910
16.12800	2845.8899	100.8070
16.13100	2845.8799	100.8210
16.13300	2845.8809	100.8340
16.13600	2845.8708	100.8460
16.13900	2845.8789	100.8610
16.14200	2845.8740	100.8770
16.14400	2845.8699	100.8860
16.14700	2845.8779	100.9020
16.15000	2845.8560	100.9130
16.15300	2845.8799	100.9290
16.15600	2845.8809	100.9440
16.15800	2845.8770	100.9560
16.16100	2845.8779	100.9690
16.16400	2845.8630	100.9800
16.16700	2845.8750	100.9920
16.16900	2845.8708	101.0050



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Time Hours	Pressure #1 psia	Temperature #1 deg F
16.17200	2845.8708	101.0190
16.17500	2845.8679	101.0320
16.17800	2845.8750	101.0440
16.18100	2845.8760	101.0590
16.18300	2845.8770	101.0710
16.18600	2845.8779	101.0820
16.18900	2845.8740	101.0950
16.19200	2845.8809	101.1070
16.19400	2845.8708	101.1180
16.19700	2845.8669	101.1310
16.20000	2845.8560	101.1420
16.20300	2845.8689	101.1580
16.20600	2845.8640	101.1670
16.20800	2845.8599	101.1810
16.21100	2845.8550	101.1900
16.21400	2845.8569	101.2050
16.21700	2845.8579	101.2170
16.21900	2845.8479	101.2260
16.22200	2845.8550	101.2410
16.22500	2845.8499	101.2530
16.22800	2845.8579	101.2660
16.23100	2845.8459	101.2770
16.23300	2845.8550	101.2890
16.23600	2845.8330	101.3000
16.23900	2845.8459	101.3130
16.24200	2845.8459	101.3270
16.24400	2845.8579	101.3400
16.24700	2845.8369	101.3490
16.25000	2845.8508	101.3630
16.25300	2845.8569	101.3760
16.25600	2845.8469	101.3860
16.25800	2845.8479	101.3990
16.26100	2845.8550	101.4120
16.26400	2845.8499	101.4260
16.26700	2845.8459	101.4350
16.26900	2845.8530	101.4480
16.27200	2845.8420	101.4580
16.27500	2845.8499	101.4750
16.27800	2845.8459	101.4850
16.28100	2845.8350	101.4940
16.28300	2845.8420	101.5110
16.28600	2845.8430	101.5210

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
16.28900	2845.8389	101.5340
16.29200	2845.8389	101.5450
16.29400	2845.8298	101.5570
16.29700	2845.8430	101.5680
16.30000	2845.8330	101.5810
16.30300	2845.8340	101.5930
16.30600	2845.8289	101.6040
16.30800	2845.8359	101.6170
16.31100	2845.8440	101.6330
16.31400	2845.8440	101.6440
16.31700	2845.8340	101.6530
16.31900	2845.8350	101.6670
16.32200	2845.8479	101.6830
16.32500	2845.8489	101.6920
16.32800	2845.8508	101.7070
16.33100	2845.8350	101.7160
16.33300	2845.8469	101.7300
16.33600	2845.8320	101.7390
16.33900	2845.8330	101.7500
16.34200	2845.8340	101.7630
16.34400	2845.8411	101.7750
16.34700	2845.8298	101.7860
16.35000	2845.8430	101.8020
16.35300	2845.8269	101.8130
16.35600	2845.8398	101.8260
16.35800	2845.8411	101.8380
16.36100	2845.8311	101.8490
16.36400	2845.8430	101.8620
16.36700	2845.8279	101.8720
16.36900	2845.8230	101.8810
16.37200	2845.8250	101.8940
16.37500	2845.8311	101.9080
16.37800	2845.8320	101.9170
16.38100	2845.8220	101.9280
16.38300	2845.8340	101.9410
16.38600	2845.8240	101.9480
16.38900	2845.8359	101.9610
16.39200	2845.8320	101.9710
16.39400	2845.8330	101.9840
16.39700	2845.8340	101.9950
16.40000	2845.8179	102.0040
16.40300	2845.8259	102.0160



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MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
16.40600	2845.8269	102.0310
16.40800	2845.8340	102.0430
16.41100	2845.8179	102.0540
16.41400	2845.8188	102.0670
16.41700	2845.8250	102.0790
16.41900	2845.8279	102.0940
16.42200	2845.8289	102.1060
16.42500	2845.8188	102.1150
16.42800	2845.8311	102.1300
16.43100	2845.8149	102.1390
16.43300	2845.8049	102.1500
16.43600	2845.8120	102.1620
16.43900	2845.8240	102.1770
16.44200	2845.8210	102.1890
16.44400	2845.8269	102.2020
16.44700	2845.8279	102.2160
16.45000	2845.8240	102.2250
16.45300	2845.8188	102.2380
16.45600	2845.8259	102.2520
16.45800	2845.8101	102.2610
16.46100	2845.8000	102.2720
16.46400	2845.8188	102.2880
16.46700	2845.8140	102.3010
16.46900	2845.8149	102.3150
16.47200	2845.8110	102.3240
16.47500	2845.8179	102.3390
16.47800	2845.8069	102.3480
16.48100	2845.8088	102.3600
16.48300	2845.8159	102.3750
16.48600	2845.8169	102.3870
16.48900	2845.7959	102.3980
16.49200	2845.8079	102.4110
16.49400	2845.8040	102.4230
16.49700	2845.8049	102.4340
16.50000	2845.8059	102.4430
16.50300	2845.8188	102.4590
16.50600	2845.8020	102.4660
16.50800	2845.8040	102.4810
16.51100	2845.8110	102.4930
16.51400	2845.8069	102.5020
16.51700	2845.8069	102.5170
16.51900	2845.8088	102.5260

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
16.52200	2845.8040	102.5370
16.52500	2845.8110	102.5490
16.52800	2845.8059	102.5600
16.53100	2845.8130	102.5730
16.53300	2845.8030	102.5820
16.53600	2845.8040	102.5920
16.53900	2845.8049	102.6050
16.54200	2845.8059	102.6160
16.54400	2845.8020	102.6280
16.54700	2845.8079	102.6390
16.55000	2845.7979	102.6480
16.55300	2845.8230	102.6640
16.55600	2845.8049	102.6720
16.55800	2845.8010	102.6820
16.56100	2845.8088	102.6950
16.56400	2845.8101	102.7040
16.56700	2845.8110	102.7180
16.56900	2845.8120	102.7270
16.57200	2845.8130	102.7380
16.57500	2845.8088	102.7470
16.57800	2845.8030	102.7580
16.58100	2845.7869	102.7670
16.58300	2845.7949	102.7810
16.58600	2845.7910	102.7900
16.58900	2845.8030	102.8030
16.59200	2845.7979	102.8140
16.59400	2845.7991	102.8250
16.59700	2845.7949	102.8370
16.60000	2845.7949	102.8460
16.60300	2845.7969	102.8610
16.60600	2845.7979	102.8700
16.60800	2845.7991	102.8840
16.61100	2845.8110	102.8970
16.61400	2845.8010	102.9060
16.61700	2845.7910	102.9160
16.61900	2845.7859	102.9250
16.62200	2845.7869	102.9400
16.62500	2845.7900	102.9520
16.62800	2845.8069	102.9650
16.63100	2845.7969	102.9790
16.63300	2845.7869	102.9870
16.63600	2845.7878	102.9990



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MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
16.63900	2845.7900	103.0120
16.64200	2845.7910	103.0260
16.64400	2845.7810	103.0350
16.64700	2845.7991	103.0480
16.65000	2845.7949	103.0620
16.65300	2845.7959	103.0750
16.65600	2845.7910	103.0860
16.65800	2845.7930	103.0980
16.66100	2845.7991	103.1110
16.66400	2845.7939	103.1220
16.66700	2845.7900	103.1310
16.66900	2845.7920	103.1450
16.67200	2845.7859	103.1540
16.67500	2845.7878	103.1680
16.67800	2845.7900	103.1770
16.68100	2845.7910	103.1880
16.68300	2845.7859	103.2010
16.68600	2845.7869	103.2100
16.68900	2845.7939	103.2210
16.69200	2845.7778	103.2300
16.69400	2845.7849	103.2440
16.69700	2845.7910	103.2530
16.70000	2845.7930	103.2640
16.70300	2845.7710	103.2730
16.70600	2845.7830	103.2840
16.70800	2845.7900	103.2960
16.71100	2845.7969	103.3070
16.71400	2845.7739	103.3120
16.71700	2845.7920	103.3270
16.71900	2845.7939	103.3390
16.72200	2845.7830	103.3470
16.72500	2845.7791	103.3560
16.72800	2845.7910	103.3700
16.73100	2845.7810	103.3790
16.73300	2845.7820	103.3900
16.73600	2845.7830	103.3990
16.73900	2845.7839	103.4100
16.74200	2845.7791	103.4190
16.74400	2845.7791	103.4290
16.74700	2845.7739	103.4380
16.75000	2845.7800	103.4490
16.75300	2845.7810	103.4580

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
16.75600	2845.7820	103.4690
16.75800	2845.7649	103.4760
16.76100	2845.7720	103.4890
16.76400	2845.7720	103.5000
16.76700	2845.7778	103.5120
16.76900	2845.7620	103.5190
16.77200	2845.7739	103.5360
16.77500	2845.7739	103.5460
16.77800	2845.7700	103.5550
16.78100	2845.7649	103.5660
16.78300	2845.7700	103.5790
16.78600	2845.7659	103.5900
16.78900	2845.7720	103.6020
16.79200	2845.7729	103.6170
16.79400	2845.7449	103.6240
16.79700	2845.7690	103.6360
16.80000	2845.7629	103.6470
16.80300	2845.7749	103.6600
16.80600	2845.7649	103.6710
16.80800	2845.7649	103.6800
16.81100	2845.7769	103.6940
16.81400	2845.7668	103.7030
16.81700	2845.7729	103.7170
16.81900	2845.7729	103.7260
16.82200	2845.7629	103.7370
16.82500	2845.7681	103.7460
16.82800	2845.7629	103.7610
16.83100	2845.7700	103.7700
16.83300	2845.7769	103.7840
16.83600	2845.7649	103.7910
16.83900	2845.7720	103.8040
16.84200	2845.7549	103.8110
16.84400	2845.7559	103.8200
16.84700	2845.7500	103.8310
16.85000	2845.7568	103.8430
16.85300	2845.7349	103.8510
16.85600	2845.7581	103.8630
16.85800	2845.7419	103.8700
16.86100	2845.7419	103.8810
16.86400	2845.7539	103.8940
16.86700	2845.7439	103.9010
16.86900	2845.7439	103.9100



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Time Hours	Pressure #1 psia	Temperature #1 deg F
16.87200	2845.7390	103.9210
16.87500	2845.7390	103.9320
16.87800	2845.7400	103.9410
16.88100	2845.7471	103.9510
16.88300	2845.7410	103.9590
16.88600	2845.7358	103.9680
16.88900	2845.7310	103.9780
16.89200	2845.7258	103.9840
16.89400	2845.7310	103.9950
16.89700	2845.7271	104.0050
16.90000	2845.7280	104.0140
16.90300	2845.7329	104.0250
16.90600	2845.6938	104.0290
16.90800	2845.6899	104.0380
16.91100	2845.7009	104.0520
16.91400	2845.7009	104.0610
16.91700	2845.6909	104.0720
16.91900	2845.6980	104.0850
16.92200	2845.6870	104.0950
16.92500	2845.6990	104.1120
16.92800	2845.6938	104.1220
16.93100	2845.6951	104.1350
16.93300	2845.6960	104.1490
16.93600	2845.7009	104.1620
16.93900	2845.7080	104.1780
16.94200	2845.7029	104.1930
16.94400	2845.6980	104.2050
16.94700	2845.7100	104.2210
16.95000	2845.7000	104.2360
16.95300	2845.7009	104.2480
16.95600	2845.7009	104.2630
16.95800	2845.6960	104.2750
16.96100	2845.6919	104.2900
16.96400	2845.7100	104.3060
16.96700	2845.7048	104.3190
16.96900	2845.7048	104.3330
16.97200	2845.7000	104.3460
16.97500	2845.7070	104.3620
16.97800	2845.6960	104.3730
16.98100	2845.6970	104.3870
16.98300	2845.7100	104.4030
16.98600	2845.7100	104.4160

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
16.98900	2845.6990	104.4300
16.99200	2845.7048	104.4430
16.99400	2845.7009	104.4570
16.99700	2845.6960	104.4700
17.00000	2845.7029	104.4820
17.00300	2845.6919	104.4970
17.00600	2845.6919	104.5090
17.00800	2845.7100	104.5270
17.01100	2845.6938	104.5360
17.01400	2845.6899	104.5510
17.01700	2845.6899	104.5630
17.01900	2845.6899	104.5760
17.02200	2845.6860	104.5870
17.02500	2845.6919	104.6030
17.02800	2845.6880	104.6140
17.03100	2845.6980	104.6260
17.03300	2845.6829	104.6370
17.03600	2845.7009	104.6530
17.03900	2845.6960	104.6640
17.04200	2845.7009	104.6770
17.04400	2845.6909	104.6880
17.04700	2845.6919	104.7000
17.05000	2845.6919	104.7110
17.05300	2845.6870	104.7240
17.05600	2845.6938	104.7380
17.05800	2845.6890	104.7470
17.06100	2845.6780	104.7580
17.06400	2845.6838	104.7700
17.06700	2845.6741	104.7810
17.06900	2845.6851	104.7940
17.07200	2845.6860	104.8050
17.07500	2845.6760	104.8150
17.07800	2845.6809	104.8280
17.08100	2845.6880	104.8410
17.08300	2845.6780	104.8510
17.08600	2845.6780	104.8620
17.08900	2845.6838	104.8750
17.09200	2845.6790	104.8860
17.09400	2845.6680	104.8950
17.09700	2845.6689	104.9050
17.10000	2845.6589	104.9140
17.10300	2845.6699	104.9290

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
17.10600	2845.6541	104.9340
17.10800	2845.6609	104.9490
17.11100	2845.6599	104.9580
17.11400	2845.6619	104.9720
17.11700	2845.6680	104.9850
17.11900	2845.6509	104.9920
17.12200	2845.6580	105.0040
17.12500	2845.6528	105.0150
17.12800	2845.6479	105.0260
17.13100	2845.6541	105.0350
17.13300	2845.6440	105.0490
17.13600	2845.6489	105.0580
17.13900	2845.6450	105.0690
17.14200	2845.6509	105.0780
17.14400	2845.6399	105.0890
17.14700	2845.6409	105.1000
17.15000	2845.6479	105.1120
17.15300	2845.6479	105.1230
17.15600	2845.6431	105.1320
17.15800	2845.6370	105.1430
17.16100	2845.6431	105.1560
17.16400	2845.6389	105.1630
17.16700	2845.6389	105.1750
17.16900	2845.6389	105.1860
17.17200	2845.6409	105.1950
17.17500	2845.6409	105.2060
17.17800	2845.6470	105.2190
17.18100	2845.6479	105.2290
17.18300	2845.6370	105.2400
17.18600	2845.6431	105.2490
17.18900	2845.6440	105.2640
17.19200	2845.6389	105.2730
17.19400	2845.6450	105.2830
17.19700	2845.6519	105.2960
17.20000	2845.6350	105.3030
17.20300	2845.6250	105.3140
17.20600	2845.6250	105.3230
17.20800	2845.6309	105.3340
17.21100	2845.6250	105.3430
17.21400	2845.6208	105.3540
17.21700	2845.6221	105.3630
17.21900	2845.6270	105.3730

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
17.22200	2845.6169	105.3840
17.22500	2845.5999	105.3900
17.22800	2845.6121	105.4000
17.23100	2845.6069	105.4090
17.23300	2845.6069	105.4200
17.23600	2845.6079	105.4310
17.23900	2845.5969	105.4360
17.24200	2845.6150	105.4510
17.24400	2845.6108	105.4600
17.24700	2845.6040	105.4670
17.25000	2845.6060	105.4780
17.25300	2845.5950	105.4830
17.25600	2845.5950	105.4940
17.25800	2845.5950	105.5050
17.26100	2845.5850	105.5100
17.26400	2845.5850	105.5210
17.26700	2845.5969	105.5300
17.26900	2845.5969	105.5410
17.27200	2845.5920	105.5520
17.27500	2845.5859	105.5570
17.27800	2845.5879	105.5680
17.28100	2845.5830	105.5770
17.28300	2845.5879	105.5880
17.28600	2845.5898	105.5980
17.28900	2845.5898	105.6040
17.29200	2845.5789	105.6150
17.29400	2845.5740	105.6220
17.29700	2845.5740	105.6310
17.30000	2845.5920	105.6450
17.30300	2845.5859	105.6510
17.30600	2845.5930	105.6610
17.30800	2845.5820	105.6690
17.31100	2845.5710	105.6740
17.31400	2845.5769	105.6850
17.31700	2845.5720	105.6920
17.31900	2845.5889	105.7050
17.32200	2845.5789	105.7120
17.32500	2845.5850	105.7210
17.32800	2845.5798	105.7280
17.33100	2845.5630	105.7350
17.33300	2845.5750	105.7440
17.33600	2845.5750	105.7550

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
17.33900	2845.5649	105.7620
17.34200	2845.5759	105.7710
17.34400	2845.5769	105.7820
17.34700	2845.5710	105.7910
17.35000	2845.5720	105.7980
17.35300	2845.5720	105.8090
17.35600	2845.5730	105.8140
17.35800	2845.5669	105.8250
17.36100	2845.5630	105.8360
17.36400	2845.5679	105.8410
17.36700	2845.5688	105.8520
17.36900	2845.5759	105.8610
17.37200	2845.5759	105.8720
17.37500	2845.5710	105.8790
17.37800	2845.5779	105.8920
17.38100	2845.5669	105.8990
17.38300	2845.5730	105.9100
17.38600	2845.5620	105.9150
17.38900	2845.5630	105.9260
17.39200	2845.5740	105.9350
17.39400	2845.5688	105.9460
17.39700	2845.5979	105.9580
17.40000	2845.5649	105.9620
17.40300	2845.5588	105.9690
17.40600	2845.5601	105.9800
17.40800	2845.5710	105.9890
17.41100	2845.5549	105.9960
17.41400	2845.5789	106.0090
17.41700	2845.5620	106.0160
17.41900	2845.5679	106.0270
17.42200	2845.5569	106.0320
17.42500	2845.5688	106.0430
17.42800	2845.5740	106.0520
17.43100	2845.5701	106.0590
17.43300	2845.5640	106.0700
17.43600	2845.5649	106.0750
17.43900	2845.5649	106.0860
17.44200	2845.5601	106.0970
17.44400	2845.5779	106.1100
17.44700	2845.5559	106.1100
17.45000	2845.5610	106.1220
17.45300	2845.5679	106.1330

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
17.45600	2845.5449	106.1400
17.45800	2845.5798	106.1530
17.46100	2845.5701	106.1600
17.46400	2845.5579	106.1670
17.46700	2845.5701	106.1760
17.46900	2845.5588	106.1870
17.47200	2845.5649	106.1960
17.47500	2845.5649	106.2030
17.47800	2845.5610	106.2140
17.48100	2845.5720	106.2230
17.48300	2845.5510	106.2270
17.48600	2845.5620	106.2410
17.48900	2845.5630	106.2460
17.49200	2845.5688	106.2570
17.49400	2845.5688	106.2660
17.49700	2845.5469	106.2700
17.50000	2845.5530	106.2810
17.50300	2845.5649	106.2900
17.50600	2845.5491	106.2970
17.50800	2845.5601	106.3080
17.51100	2845.5659	106.3130
17.51400	2845.5549	106.3200
17.51700	2845.5669	106.3350
17.51900	2845.5559	106.3400
17.52200	2845.5569	106.3510
17.52500	2845.5530	106.3580
17.52800	2845.5579	106.3670
17.53100	2845.5649	106.3780
17.53300	2845.5530	106.3850
17.53600	2845.5540	106.3900
17.53900	2845.5540	106.4010
17.54200	2845.5439	106.4080
17.54400	2845.5549	106.4170
17.54700	2845.5510	106.4280
17.55000	2845.5449	106.4340
17.55300	2845.5459	106.4440
17.55600	2845.5449	106.4520
17.55800	2845.5410	106.4610
17.56100	2845.5469	106.4710
17.56400	2845.5420	106.4800
17.56700	2845.5359	106.4880
17.56900	2845.5479	106.4980



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MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
17.57200	2845.5491	106.5070
17.57500	2845.5378	106.5150
17.57800	2845.5439	106.5250
17.58100	2845.5439	106.5340
17.58300	2845.5459	106.5420
17.58600	2845.5400	106.5490
17.58900	2845.5520	106.5610
17.59200	2845.5520	106.5690
17.59400	2845.5530	106.5780
17.59700	2845.5469	106.5850
17.60000	2845.5420	106.5960
17.60300	2845.5540	106.6050
17.60600	2845.5439	106.6120
17.60800	2845.5378	106.6190
17.61100	2845.5500	106.6280
17.61400	2845.5439	106.6350
17.61700	2845.5400	106.6460
17.61900	2845.5400	106.6510
17.62200	2845.5459	106.6620
17.62500	2845.5349	106.6690
17.62800	2845.5300	106.6750
17.63100	2845.5420	106.6860
17.63300	2845.5369	106.6930
17.63600	2845.5530	106.7050
17.63900	2845.5430	106.7130
17.64200	2845.5430	106.7180
17.64400	2845.5500	106.7290
17.64700	2845.5439	106.7360
17.65000	2845.5449	106.7450
17.65300	2845.5449	106.7520
17.65600	2845.5400	106.7590
17.65800	2845.5459	106.7680
17.66100	2845.5520	106.7790
17.66400	2845.5469	106.7860
17.66700	2845.5310	106.7920
17.66900	2845.5479	106.8030
17.67200	2845.5259	106.8100
17.67500	2845.5491	106.8190
17.67800	2845.5439	106.8260
17.68100	2845.5491	106.8370
17.68300	2845.5449	106.8420
17.68600	2845.5500	106.8530

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
17.68900	2845.5400	106.8600
17.69200	2845.5400	106.8660
17.69400	2845.5410	106.8760
17.69700	2845.5469	106.8840
17.70000	2845.5420	106.8890
17.70300	2845.5469	106.9000
17.70600	2845.5369	106.9070
17.70800	2845.5320	106.9120
17.71100	2845.5259	106.9200
17.71400	2845.5378	106.9300
17.71700	2845.5378	106.9360
17.71900	2845.5330	106.9430
17.72200	2845.5439	106.9540
17.72500	2845.5400	106.9590
17.72800	2845.5339	106.9660
17.73100	2845.5349	106.9740
17.73300	2845.5459	106.9830
17.73600	2845.5239	106.9860
17.73900	2845.5359	106.9970
17.74200	2845.5420	107.0020
17.74400	2845.5320	107.0130
17.74700	2845.5369	107.0200
17.75000	2845.5330	107.0280
17.75300	2845.5369	107.0370
17.75600	2845.5330	107.0440
17.75800	2845.5278	107.0510
17.76100	2845.5400	107.0600
17.76400	2845.5339	107.0670
17.76700	2845.5291	107.0740
17.76900	2845.5291	107.0830
17.77200	2845.5300	107.0910
17.77500	2845.5300	107.0980
17.77800	2845.5369	107.1070
17.78100	2845.5310	107.1180
17.78300	2845.5320	107.1230
17.78600	2845.5439	107.1340
17.78900	2845.5391	107.1450
17.79200	2845.5439	107.1500
17.79400	2845.5339	107.1570
17.79700	2845.5400	107.1680
17.80000	2845.5520	107.1770
17.80300	2845.5459	107.1840



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Time Hours	Pressure #1 psia	Temperature #1 deg F
17.80600	2845.5410	107.1910
17.80800	2845.5579	107.2000
17.81100	2845.5420	107.2080
17.81400	2845.5530	107.2170
17.81700	2845.5430	107.2240
17.81900	2845.5540	107.2350
17.82200	2845.5500	107.2420
17.82500	2845.5439	107.2470
17.82800	2845.5378	107.2540
17.83100	2845.5449	107.2650
17.83300	2845.5330	107.2710
17.83600	2845.5459	107.2810
17.83900	2845.5410	107.2900
17.84200	2845.5300	107.2940
17.84400	2845.5359	107.3050
17.84700	2845.5530	107.3140
17.85000	2845.5491	107.3210
17.85300	2845.5320	107.3280
17.85600	2845.5491	107.3370
17.85800	2845.5378	107.3440
17.86100	2845.5330	107.3520
17.86400	2845.5391	107.3610
17.86700	2845.5391	107.3680
17.86900	2845.5400	107.3790
17.87200	2845.5459	107.3840
17.87500	2845.5520	107.3950
17.87800	2845.5459	107.4020
17.88100	2845.5469	107.4070
17.88300	2845.5469	107.4180
17.88600	2845.5430	107.4250
17.88900	2845.5479	107.4340
17.89200	2845.5601	107.4450
17.89400	2845.5439	107.4490
17.89700	2845.5439	107.4580
17.90000	2845.5439	107.4650
17.90300	2845.5449	107.4760
17.90600	2845.5449	107.4810
17.90800	2845.5520	107.4920
17.91100	2845.5520	107.4990
17.91400	2845.5469	107.5050
17.91700	2845.5420	107.5120
17.91900	2845.5540	107.5230

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
17.92200	2845.5479	107.5280
17.92500	2845.5310	107.5320
17.92800	2845.5430	107.5460
17.93100	2845.5320	107.5500
17.93300	2845.5391	107.5590
17.93600	2845.5391	107.5660
17.93900	2845.5339	107.5730
17.94200	2845.5339	107.5780
17.94400	2845.5459	107.5890
17.94700	2845.5459	107.5960
17.95000	2845.5400	107.6020
17.95300	2845.5359	107.6090
17.95600	2845.5300	107.6160
17.95800	2845.5479	107.6250
17.96100	2845.5369	107.6320
17.96400	2845.5369	107.6400
17.96700	2845.5320	107.6450
17.96900	2845.5259	107.6520
17.97200	2845.5330	107.6630
17.97500	2845.5391	107.6720
17.97800	2845.5391	107.6790
17.98100	2845.5400	107.6900
17.98300	2845.5291	107.6940
17.98600	2845.5400	107.7030
17.98900	2845.5300	107.7100
17.99200	2845.5349	107.7170
17.99400	2845.5420	107.7260
17.99700	2845.5420	107.7330
18.00000	2845.5369	107.7400
18.00300	2845.5491	107.7490
18.00600	2845.5491	107.7570
18.00800	2845.5330	107.7640
18.01100	2845.5330	107.7690
18.01400	2845.5391	107.7800
18.01700	2845.5339	107.7870
18.01900	2845.5339	107.7930
18.02200	2845.5349	107.8030
18.02500	2845.5410	107.8110
18.02800	2845.5420	107.8200
18.03100	2845.5359	107.8270
18.03300	2845.5359	107.8340
18.03600	2845.5259	107.8390



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Time Hours	Pressure #1 psia	Temperature #1 deg F
18.03900	2845.5369	107.8500
18.04200	2845.5378	107.8570
18.04400	2845.5330	107.8630
18.04700	2845.5439	107.8740
18.05000	2845.5439	107.8810
18.05300	2845.5339	107.8860
18.05600	2845.5449	107.8930
18.05800	2845.5278	107.9010
18.06100	2845.5459	107.9100
18.06400	2845.5291	107.9130
18.06700	2845.5359	107.9240
18.06900	2845.5359	107.9310
18.07200	2845.5430	107.9400
18.07500	2845.5259	107.9440
18.07800	2845.5320	107.9550
18.08100	2845.5378	107.9600
18.08300	2845.5320	107.9670
18.08600	2845.5330	107.9740
18.08900	2845.5220	107.9800
18.09200	2845.5229	107.9870
18.09400	2845.5229	107.9940
18.09700	2845.5229	108.0010
18.10000	2845.5349	108.0100
18.10300	2845.5291	108.0180
18.10600	2845.5349	108.0250
18.10800	2845.5239	108.0300
18.11100	2845.5249	108.0370
18.11400	2845.5200	108.0450
18.11700	2845.5320	108.0540
18.11900	2845.5149	108.0610
18.12200	2845.5259	108.0680
18.12500	2845.5330	108.0730
18.12800	2845.5269	108.0840
18.13100	2845.5229	108.0910
18.13300	2845.5168	108.0970
18.13600	2845.5229	108.1080
18.13900	2845.5291	108.1180
18.14200	2845.5190	108.1220
18.14400	2845.5239	108.1310
18.14700	2845.5310	108.1420
18.15000	2845.5139	108.1450
18.15300	2845.5369	108.1540

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
18.15600	2845.5320	108.1620
18.15800	2845.5269	108.1710
18.16100	2845.5269	108.1780
18.16400	2845.5269	108.1850
18.16700	2845.5168	108.1920
18.16900	2845.5168	108.1980
18.17200	2845.5168	108.2050
18.17500	2845.5459	108.2170
18.17800	2845.5239	108.2210
18.18100	2845.5239	108.2280
18.18300	2845.5239	108.2350
18.18600	2845.5190	108.2410
18.18900	2845.5249	108.2480
18.19200	2845.5259	108.2550
18.19400	2845.5320	108.2640
18.19700	2845.5269	108.2710
18.20000	2845.5149	108.2750
18.20300	2845.5149	108.2820
18.20600	2845.5278	108.2910
18.20800	2845.5220	108.2980
18.21100	2845.5291	108.3060
18.21400	2845.5229	108.3110
18.21700	2845.5239	108.3180
18.21900	2845.5181	108.3250
18.22200	2845.5249	108.3360
18.22500	2845.5139	108.3420
18.22800	2845.5129	108.3490
18.23100	2845.5200	108.3560
18.23300	2845.5090	108.3610
18.23600	2845.5100	108.3690
18.23900	2845.5210	108.3790
18.24200	2845.5039	108.3830
18.24400	2845.5049	108.3880
18.24700	2845.5159	108.3990
18.25000	2845.5168	108.4060
18.25300	2845.5120	108.4120
18.25600	2845.5229	108.4230
18.25800	2845.5120	108.4260
18.26100	2845.5120	108.4320
18.26400	2845.5129	108.4390
18.26700	2845.5081	108.4460
18.26900	2845.5090	108.4530



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Time Hours	Pressure #1 psia	Temperature #1 deg F
18.27200	2845.5200	108.4620
18.27500	2845.5029	108.4660
18.27800	2845.5210	108.4770
18.28100	2845.5259	108.4820
18.28300	2845.5100	108.4860
18.28600	2845.5159	108.4930
18.28900	2845.5229	108.5020
18.29200	2845.5168	108.5090
18.29400	2845.5110	108.5130
18.29700	2845.5181	108.5230
18.30000	2845.5068	108.5250
18.30300	2845.5120	108.5320
18.30600	2845.5129	108.5400
18.30800	2845.5068	108.5470
18.31100	2845.5139	108.5520
18.31400	2845.5029	108.5590
18.31700	2845.4971	108.5630
18.31900	2845.5090	108.5740
18.32200	2845.5090	108.5790
18.32500	2845.5049	108.5860
18.32800	2845.5100	108.5940
18.33100	2845.5159	108.5990
18.33300	2845.5220	108.6100
18.33600	2845.5168	108.6170
18.33900	2845.5059	108.6210
18.34200	2845.5010	108.6260
18.34400	2845.4949	108.6330
18.34700	2845.4958	108.6400
18.35000	2845.5020	108.6460
18.35300	2845.5139	108.6570
18.35600	2845.5020	108.6640
18.35800	2845.5090	108.6690
18.36100	2845.5090	108.6760
18.36400	2845.5090	108.6840
18.36700	2845.5100	108.6910
18.36900	2845.5159	108.6960
18.37200	2845.5049	108.7030
18.37500	2845.5049	108.7110
18.37800	2845.5059	108.7160
18.38100	2845.5168	108.7230
18.38300	2845.5120	108.7300
18.38600	2845.5120	108.7380

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
18.38900	2845.5120	108.7430
18.39200	2845.5081	108.7500
18.39400	2845.4958	108.7570
18.39700	2845.5020	108.7610
18.40000	2845.5090	108.7700
18.40300	2845.5029	108.7770
18.40600	2845.5100	108.7840
18.40800	2845.5100	108.7900
18.41100	2845.5039	108.7970
18.41400	2845.5049	108.8040
18.41700	2845.5049	108.8110
18.41900	2845.5210	108.8200
18.42200	2845.4990	108.8240
18.42500	2845.5000	108.8310
18.42800	2845.5049	108.8420
18.43100	2845.5000	108.8440
18.43300	2845.4939	108.8510
18.43600	2845.5000	108.8580
18.43900	2845.5120	108.8690
18.44200	2845.5059	108.8740
18.44400	2845.4939	108.8780
18.44700	2845.5110	108.8890
18.45000	2845.4939	108.8920
18.45300	2845.5068	108.9010
18.45600	2845.5059	108.9090
18.45800	2845.5059	108.9160
18.46100	2845.5000	108.9230
18.46400	2845.5120	108.9280
18.46700	2845.5068	108.9360
18.46900	2845.5068	108.9430
18.47200	2845.5120	108.9540
18.47500	2845.5068	108.9570
18.47800	2845.4958	108.9630
18.48100	2845.4958	108.9700
18.48300	2845.4910	108.9770
18.48600	2845.5120	108.9880
18.48900	2845.4958	108.9900
18.49200	2845.4971	108.9970
18.49400	2845.5129	109.0080
18.49700	2845.5020	109.0110
18.50000	2845.5020	109.0170
18.50300	2845.5020	109.0240

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
18.50600	2845.5081	109.0310
18.50800	2845.4858	109.0350
18.51100	2845.5020	109.0450
18.51400	2845.5020	109.0510
18.51700	2845.5068	109.0580
18.51900	2845.5139	109.0650
18.52200	2845.4980	109.0720
18.52500	2845.5029	109.0780
18.52800	2845.4858	109.0810
18.53100	2845.4971	109.0890
18.53300	2845.4910	109.0960
18.53600	2845.4980	109.1030
18.53900	2845.5029	109.1080
18.54200	2845.4980	109.1160
18.54400	2845.4919	109.1230
18.54700	2845.4749	109.1260
18.55000	2845.4871	109.1340
18.55300	2845.4980	109.1430
18.55600	2845.4980	109.1500
18.55800	2845.4871	109.1530
18.56100	2845.4919	109.1610
18.56400	2845.4871	109.1660
18.56700	2845.4929	109.1730
18.56900	2845.4929	109.1800
18.57200	2845.4871	109.1880
18.57500	2845.4871	109.1930
18.57800	2845.4990	109.2040
18.58100	2845.4929	109.2070
18.58300	2845.4929	109.2150
18.58600	2845.4990	109.2200
18.58900	2845.4819	109.2240
18.59200	2845.4939	109.2340
18.59400	2845.4939	109.2420
18.59700	2845.4990	109.2490
18.60000	2845.4939	109.2510
18.60300	2845.4819	109.2580
18.60600	2845.4929	109.2650
18.60800	2845.4890	109.2720
18.61100	2845.4719	109.2760
18.61400	2845.4939	109.2850
18.61700	2845.4939	109.2920
18.61900	2845.4771	109.2960

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
18.62200	2845.4939	109.3060
18.62500	2845.4829	109.3080
18.62800	2845.4829	109.3150
18.63100	2845.4890	109.3230
18.63300	2845.4890	109.3300
18.63600	2845.4890	109.3370
18.63900	2845.4890	109.3420
18.64200	2845.4839	109.3460
18.64400	2845.4729	109.3530
18.64700	2845.4829	109.3600
18.65000	2845.4900	109.3660
18.65300	2845.4949	109.3730
18.65600	2845.4839	109.3800
18.65800	2845.4900	109.3870
18.66100	2845.4890	109.3950
18.66400	2845.4890	109.3960
18.66700	2845.5020	109.4070
18.66900	2845.4790	109.4110
18.67200	2845.4958	109.4180
18.67500	2845.4900	109.4250
18.67800	2845.4900	109.4310
18.68100	2845.4910	109.4380
18.68300	2845.4800	109.4410
18.68600	2845.4729	109.4490
18.68900	2845.4729	109.4540
18.69200	2845.4790	109.4610
18.69400	2845.4729	109.4650
18.69700	2845.4739	109.4720
18.70000	2845.4690	109.4790
18.70300	2845.4800	109.4880
18.70600	2845.4629	109.4920
18.70800	2845.4629	109.4990
18.71100	2845.4639	109.5060
18.71400	2845.4749	109.5150
18.71700	2845.4739	109.5220
18.71900	2845.4800	109.5300
18.72200	2845.4629	109.5330
18.72500	2845.4749	109.5420
18.72800	2845.4639	109.5460
18.73100	2845.4749	109.5570
18.73300	2845.4639	109.5600
18.73600	2845.4580	109.5670



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Time Hours	Pressure #1 psia	Temperature #1 deg F
18.73900	2845.4590	109.5730
18.74200	2845.4590	109.5800
18.74400	2845.4639	109.5840
18.74700	2845.4639	109.5910
18.75000	2845.4749	109.6000
18.75300	2845.4700	109.6030
18.75600	2845.4648	109.6110
18.75800	2845.4539	109.6140
18.76100	2845.4529	109.6210
18.76400	2845.4700	109.6300
18.76700	2845.4590	109.6340
18.76900	2845.4539	109.6410
18.77200	2845.4600	109.6480
18.77500	2845.4648	109.6560
18.77800	2845.4590	109.6570
18.78100	2845.4590	109.6650
18.78300	2845.4600	109.6720
18.78600	2845.4490	109.6750
18.78900	2845.4600	109.6860
18.79200	2845.4709	109.6920
18.79400	2845.4709	109.6950
18.79700	2845.4600	109.7020
18.80000	2845.4709	109.7100
18.80300	2845.4600	109.7130
18.80600	2845.4709	109.7220
18.80800	2845.4548	109.7260
18.81100	2845.4600	109.7330
18.81400	2845.4609	109.7400
18.81700	2845.4561	109.7440
18.81900	2845.4548	109.7490
18.82200	2845.4500	109.7560
18.82500	2845.4548	109.7640
18.82800	2845.4548	109.7670
18.83100	2845.4561	109.7740
18.83300	2845.4500	109.7800
18.83600	2845.4561	109.7870
18.83900	2845.4561	109.7940
18.84200	2845.4561	109.8010
18.84400	2845.4619	109.8070
18.84700	2845.4619	109.8140
18.85000	2845.4500	109.8180
18.85300	2845.4561	109.8250

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
18.85600	2845.4609	109.8320
18.85800	2845.4561	109.8370
18.86100	2845.4619	109.8450
18.86400	2845.4570	109.8520
18.86700	2845.4509	109.8550
18.86900	2845.4561	109.8640
18.87200	2845.4561	109.8720
18.87500	2845.4399	109.8750
18.87800	2845.4570	109.8860
18.88100	2845.4509	109.8900
18.88300	2845.4509	109.8950
18.88600	2845.4570	109.9020
18.88900	2845.4460	109.9060
18.89200	2845.4460	109.9130
18.89400	2845.4629	109.9200
18.89700	2845.4399	109.9220
18.90000	2845.4570	109.9330
18.90300	2845.4460	109.9360
18.90600	2845.4519	109.9440
18.90800	2845.4470	109.9470
18.91100	2845.4409	109.9530
18.91400	2845.4409	109.9600
18.91700	2845.4470	109.9670
18.91900	2845.4519	109.9740
18.92200	2845.4470	109.9780
18.92500	2845.4519	109.9830
18.92800	2845.4580	109.9900
18.93100	2845.4519	109.9980
18.93300	2845.4470	110.0010
18.93600	2845.4470	110.0080
18.93900	2845.4470	110.0140
18.94200	2845.4360	110.0170
18.94400	2845.4529	110.0280
18.94700	2845.4409	110.0320
18.95000	2845.4409	110.0370
18.95300	2845.4360	110.0440
18.95600	2845.4419	110.0520
18.95800	2845.4360	110.0550
18.96100	2845.4419	110.0660
18.96400	2845.4470	110.0710
18.96700	2845.4370	110.0750
18.96900	2845.4370	110.0820



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Time Hours	Pressure #1 psia	Temperature #1 deg F
18.97200	2845.4480	110.0890
18.97500	2845.4260	110.0930
18.97800	2845.4480	110.1020
18.98100	2845.4360	110.1060
18.98300	2845.4429	110.1130
18.98600	2845.4429	110.1200
18.98900	2845.4309	110.1240
18.99200	2845.4370	110.1290
18.99400	2845.4370	110.1360
18.99700	2845.4199	110.1400
19.00000	2845.4429	110.1510
19.00300	2845.4319	110.1540
19.00600	2845.4319	110.1600
19.00800	2845.4319	110.1670
19.01100	2845.4270	110.1700
19.01400	2845.4329	110.1810
19.01700	2845.4270	110.1830
19.01900	2845.4380	110.1940
19.02200	2845.4270	110.1970
19.02500	2845.4270	110.2050
19.02800	2845.4270	110.2120
19.03100	2845.4329	110.2170
19.03300	2845.4329	110.2240
19.03600	2845.4219	110.2280
19.03900	2845.4270	110.2350
19.04200	2845.4270	110.2410
19.04400	2845.4280	110.2480
19.04700	2845.4338	110.2550
19.05000	2845.4338	110.2620
19.05300	2845.4390	110.2690
19.05600	2845.4219	110.2710
19.05800	2845.4338	110.2820
19.06100	2845.4338	110.2860
19.06400	2845.4219	110.2930
19.06700	2845.4280	110.3000
19.06900	2845.4280	110.3050
19.07200	2845.4290	110.3130
19.07500	2845.4338	110.3200
19.07800	2845.4290	110.3270
19.08100	2845.4229	110.3290
19.08300	2845.4229	110.3360
19.08600	2845.4219	110.3430

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
19.08900	2845.4119	110.3470
19.09200	2845.4241	110.3540
19.09400	2845.4180	110.3590
19.09700	2845.4229	110.3670
19.10000	2845.4229	110.3740
19.10300	2845.4128	110.3770
19.10600	2845.4189	110.3850
19.10800	2845.4241	110.3900
19.11100	2845.4241	110.3970
19.11400	2845.4290	110.4010
19.11700	2845.4250	110.4120
19.11900	2845.4189	110.4150
19.12200	2845.4241	110.4210
19.12500	2845.4189	110.4240
19.12800	2845.4241	110.4310
19.13100	2845.4241	110.4390
19.13300	2845.4309	110.4460
19.13600	2845.4250	110.4510
19.13900	2845.4360	110.4580
19.14200	2845.4189	110.4620
19.14400	2845.4189	110.4690
19.14700	2845.4189	110.4750
19.15000	2845.4199	110.4780
19.15300	2845.4199	110.4850
19.15600	2845.4189	110.4930
19.15800	2845.4250	110.5000
19.16100	2845.4189	110.5030
19.16400	2845.4189	110.5090
19.16700	2845.4199	110.5120
19.16900	2845.4260	110.5230
19.17200	2845.4199	110.5270
19.17500	2845.4260	110.5300
19.17800	2845.4199	110.5360
19.18100	2845.4199	110.5390
19.18300	2845.4080	110.5430
19.18600	2845.4199	110.5540
19.18900	2845.4150	110.5570
19.19200	2845.4199	110.5630
19.19400	2845.4089	110.5660
19.19700	2845.4150	110.5740
19.20000	2845.4270	110.5840
19.20300	2845.4209	110.5880

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
19.20600	2845.4150	110.5920
19.20800	2845.4150	110.5970
19.21100	2845.4260	110.6040
19.21400	2845.4150	110.6080
19.21700	2845.4160	110.6150
19.21900	2845.4209	110.6200
19.22200	2845.4150	110.6240
19.22500	2845.4099	110.6280
19.22800	2845.4209	110.6350
19.23100	2845.4099	110.6380
19.23300	2845.4089	110.6460
19.23600	2845.3931	110.6460
19.23900	2845.4050	110.6510
19.24200	2845.4050	110.6580
19.24400	2845.4270	110.6650
19.24700	2845.4099	110.6690
19.25000	2845.4050	110.6730
19.25300	2845.4041	110.6780
19.25600	2845.4060	110.6820
19.25800	2845.4060	110.6890
19.26100	2845.3940	110.6920
19.26400	2845.3940	110.6960
19.26700	2845.3940	110.7030
19.26900	2845.3989	110.7090
19.27200	2845.4060	110.7160
19.27500	2845.4060	110.7190
19.27800	2845.3999	110.7230
19.28100	2845.4060	110.7300
19.28300	2845.3999	110.7340
19.28600	2845.3999	110.7390
19.28900	2845.4060	110.7460
19.29200	2845.4060	110.7540
19.29400	2845.4060	110.7570
19.29700	2845.3950	110.7610
19.30000	2845.4109	110.7700
19.30300	2845.4109	110.7730
19.30600	2845.3999	110.7770
19.30800	2845.4009	110.7840
19.31100	2845.4119	110.7910
19.31400	2845.4009	110.7950
19.31700	2845.4009	110.7970
19.31900	2845.4009	110.8040

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
19.32200	2845.4060	110.8110
19.32500	2845.4128	110.8180
19.32800	2845.3960	110.8220
19.33100	2845.4070	110.8270
19.33300	2845.4128	110.8350
19.33600	2845.4009	110.8380
19.33900	2845.4060	110.8450
19.34200	2845.4009	110.8490
19.34400	2845.4080	110.8540
19.34700	2845.4080	110.8580
19.35000	2845.4070	110.8650
19.35300	2845.4128	110.8720
19.35600	2845.4009	110.8760
19.35800	2845.4009	110.8830
19.36100	2845.4019	110.8850
19.36400	2845.4080	110.8960
19.36700	2845.4080	110.8990
19.36900	2845.4080	110.9070
19.37200	2845.4080	110.9100
19.37500	2845.4080	110.9160
19.37800	2845.4141	110.9230
19.38100	2845.4080	110.9260
19.38300	2845.4019	110.9300
19.38600	2845.4080	110.9370
19.38900	2845.4128	110.9430
19.39200	2845.4019	110.9460
19.39400	2845.4028	110.9530
19.39700	2845.4080	110.9610
19.40000	2845.4028	110.9610
19.40300	2845.4028	110.9680
19.40600	2845.4028	110.9730
19.40800	2845.4019	110.9770
19.41100	2845.4041	110.9840
19.41400	2845.4041	110.9880
19.41700	2845.4089	110.9950
19.41900	2845.3979	110.9980
19.42200	2845.3979	111.0000
19.42500	2845.3979	111.0070
19.42800	2845.3918	111.0110
19.43100	2845.3870	111.0180
19.43300	2845.3979	111.0220
19.43600	2845.3931	111.0290



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Time Hours	Pressure #1 psia	Temperature #1 deg F
19.43900	2845.4089	111.0340
19.44200	2845.3979	111.0380
19.44400	2845.3979	111.0450
19.44700	2845.3918	111.0490
19.45000	2845.3879	111.0520
19.45300	2845.3931	111.0580
19.45600	2845.3989	111.0650
19.45800	2845.4041	111.0720
19.46100	2845.3979	111.0760
19.46400	2845.4041	111.0830
19.46700	2845.3940	111.0870
19.46900	2845.3940	111.0920
19.47200	2845.3940	111.0960
19.47500	2845.3989	111.1030
19.47800	2845.3879	111.1060
19.48100	2845.3879	111.1140
19.48300	2845.3999	111.1190
19.48600	2845.3989	111.1260
19.48900	2845.3989	111.1300
19.49200	2845.3940	111.1330
19.49400	2845.3940	111.1410
19.49700	2845.3940	111.1460
19.50000	2845.3879	111.1500
19.50300	2845.3940	111.1570
19.50600	2845.3940	111.1640
19.50800	2845.3831	111.1680
19.51100	2845.3940	111.1710
19.51400	2845.3770	111.1750
19.51700	2845.3831	111.1800
19.51900	2845.3840	111.1870
19.52200	2845.3840	111.1910
19.52500	2845.3840	111.1980
19.52800	2845.3831	111.2020
19.53100	2845.3831	111.2070
19.53300	2845.3779	111.2110
19.53600	2845.3879	111.2180
19.53900	2845.3899	111.2220
19.54200	2845.3779	111.2290
19.54400	2845.3840	111.2320
19.54700	2845.3889	111.2380
19.55000	2845.3840	111.2450
19.55300	2845.3950	111.2520

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
19.55600	2845.3789	111.2560
19.55800	2845.3850	111.2610
19.56100	2845.3899	111.2680
19.56400	2845.3950	111.2760
19.56700	2845.3840	111.2790
19.56900	2845.3899	111.2860
19.57200	2845.3789	111.2900
19.57500	2845.4009	111.2990
19.57800	2845.3789	111.2990
19.58100	2845.3899	111.3060
19.58300	2845.3789	111.3100
19.58600	2845.3850	111.3170
19.58900	2845.3730	111.3210
19.59200	2845.3689	111.3260
19.59400	2845.3789	111.3330
19.59700	2845.3740	111.3370
19.60000	2845.3789	111.3440
19.60300	2845.3789	111.3480
19.60600	2845.3740	111.3490
19.60800	2845.3799	111.3570
19.61100	2845.3740	111.3600
19.61400	2845.3850	111.3670
19.61700	2845.3799	111.3710
19.61900	2845.3850	111.3780
19.62200	2845.3850	111.3800
19.62500	2845.3689	111.3840
19.62800	2845.3750	111.3910
19.63100	2845.3689	111.3940
19.63300	2845.3750	111.4020
19.63600	2845.3689	111.4050
19.63900	2845.3630	111.4070
19.64200	2845.3630	111.4140
19.64400	2845.3799	111.4210
19.64700	2845.3750	111.4250
19.65000	2845.3579	111.4290
19.65300	2845.3689	111.4360
19.65600	2845.3579	111.4380
19.65800	2845.3750	111.4450
19.66100	2845.3750	111.4520
19.66400	2845.3699	111.4560
19.66700	2845.3640	111.4630
19.66900	2845.3699	111.4660



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Time Hours	Pressure #1 psia	Temperature #1 deg F
19.67200	2845.3589	111.4680
19.67500	2845.3750	111.4790
19.67800	2845.3689	111.4830
19.68100	2845.3760	111.4900
19.68300	2845.3760	111.4930
19.68600	2845.3809	111.4990
19.68900	2845.3650	111.5020
19.69200	2845.3760	111.5100
19.69400	2845.3699	111.5130
19.69700	2845.3760	111.5200
19.70000	2845.3708	111.5240
19.70300	2845.3650	111.5260
19.70600	2845.3708	111.5330
19.70800	2845.3708	111.5370
19.71100	2845.3708	111.5440
19.71400	2845.3708	111.5470
19.71700	2845.3650	111.5530
19.71900	2845.3831	111.5600
19.72200	2845.3708	111.5640
19.72500	2845.3599	111.5670
19.72800	2845.3660	111.5710
19.73100	2845.3708	111.5780
19.73300	2845.3770	111.5830
19.73600	2845.3831	111.5910
19.73900	2845.3770	111.5980
19.74200	2845.3599	111.5980
19.74400	2845.3721	111.6090
19.74700	2845.3770	111.6120
19.75000	2845.3660	111.6140
19.75300	2845.3708	111.6210
19.75600	2845.3721	111.6280
19.75800	2845.3831	111.6320
19.76100	2845.3608	111.6360
19.76400	2845.3669	111.6390
19.76700	2845.3721	111.6450
19.76900	2845.3770	111.6520
19.77200	2845.3660	111.6550
19.77500	2845.3730	111.6630
19.77800	2845.3608	111.6660
19.78100	2845.3608	111.6700
19.78300	2845.3669	111.6750
19.78600	2845.3608	111.6790

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Time Hours	Pressure #1 psia	Temperature #1 deg F
19.78900	2845.3560	111.6820
19.79200	2845.3608	111.6900
19.79400	2845.3560	111.6930
19.79700	2845.3621	111.6990
19.80000	2845.3560	111.7020
19.80300	2845.3621	111.7090
19.80600	2845.3499	111.7130
19.80800	2845.3499	111.7200
19.81100	2845.3621	111.7270
19.81400	2845.3560	111.7290
19.81700	2845.3621	111.7330
19.81900	2845.3669	111.7400
19.82200	2845.3621	111.7470
19.82500	2845.3669	111.7540
19.82800	2845.3560	111.7580
19.83100	2845.3569	111.7600
19.83300	2845.3630	111.7670
19.83600	2845.3569	111.7710
19.83900	2845.3560	111.7780
19.84200	2845.3508	111.7810
19.84400	2845.3679	111.7900
19.84700	2845.3640	111.7940
19.85000	2845.3799	111.8010
19.85300	2845.3569	111.8050
19.85600	2845.3569	111.8120
19.85800	2845.3521	111.8120
19.86100	2845.3630	111.8210
19.86400	2845.3569	111.8250
19.86700	2845.3640	111.8320
19.86900	2845.3579	111.8350
19.87200	2845.3579	111.8390
19.87500	2845.3521	111.8440
19.87800	2845.3521	111.8480
19.88100	2845.3521	111.8550
19.88300	2845.3640	111.8620
19.88600	2845.3579	111.8660
19.88900	2845.3579	111.8700
19.89200	2845.3579	111.8750
19.89400	2845.3640	111.8790
19.89700	2845.3579	111.8860
19.90000	2845.3640	111.8890
19.90300	2845.3589	111.8970



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Time Hours	Pressure #1 psia	Temperature #1 deg F
19.90600	2845.3589	111.9000
19.90800	2845.3530	111.9040
19.91100	2845.3640	111.9090
19.91400	2845.3579	111.9130
19.91700	2845.3469	111.9160
19.91900	2845.3579	111.9240
19.92200	2845.3469	111.9240
19.92500	2845.3589	111.9310
19.92800	2845.3589	111.9360
19.93100	2845.3530	111.9400
19.93300	2845.3420	111.9430
19.93600	2845.3589	111.9510
19.93900	2845.3479	111.9510
19.94200	2845.3479	111.9580
19.94400	2845.3599	111.9630
19.94700	2845.3479	111.9670
19.95000	2845.3479	111.9700
19.95300	2845.3479	111.9740
19.95600	2845.3369	111.9780
19.95800	2845.3479	111.9850
19.96100	2845.3369	111.9880
19.96400	2845.3420	111.9900
19.96700	2845.3489	111.9970
19.96900	2845.3369	112.0010
19.97200	2845.3540	112.0080
19.97500	2845.3430	112.0120
19.97800	2845.3540	112.0190
19.98100	2845.3540	112.0210
19.98300	2845.3479	112.0240
19.98600	2845.3550	112.0320
19.98900	2845.3550	112.0350
19.99200	2845.3440	112.0390
19.99400	2845.3320	112.0420
19.99700	2845.3550	112.0500
20.00000	2845.3369	112.0510
20.00300	2845.3479	112.0590
20.00600	2845.3379	112.0620
20.00800	2845.3330	112.0660
20.01100	2845.3379	112.0730
20.01400	2845.3489	112.0770
20.01700	2845.3379	112.0780
20.01900	2845.3320	112.0820

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
20.02200	2845.3440	112.0890
20.02500	2845.3440	112.0960
20.02800	2845.3389	112.1000
20.03100	2845.3330	112.1040
20.03300	2845.3389	112.1090
20.03600	2845.3379	112.1130
20.03900	2845.3440	112.1200
20.04200	2845.3269	112.1230
20.04400	2845.3450	112.1310
20.04700	2845.3499	112.1360
20.05000	2845.3340	112.1360
20.05300	2845.3450	112.1430
20.05600	2845.3389	112.1430
20.05800	2845.3389	112.1500
20.06100	2845.3279	112.1540
20.06400	2845.3330	112.1580
20.06700	2845.3279	112.1650
20.06900	2845.3279	112.1670
20.07200	2845.3340	112.1700
20.07500	2845.3279	112.1770
20.07800	2845.3340	112.1850
20.08100	2845.3389	112.1880
20.08300	2845.3340	112.1920
20.08600	2845.3289	112.1970
20.08900	2845.3289	112.2010
20.09200	2845.3230	112.2040
20.09400	2845.3279	112.2120
20.09700	2845.3340	112.2150
20.10000	2845.3340	112.2220
20.10300	2845.3279	112.2240
20.10600	2845.3230	112.2280
20.10800	2845.3350	112.2350
20.11100	2845.3289	112.2390
20.11400	2845.3350	112.2420
20.11700	2845.3350	112.2460
20.11900	2845.3350	112.2530
20.12200	2845.3350	112.2580
20.12500	2845.3289	112.2580
20.12800	2845.3350	112.2660
20.13100	2845.3240	112.2690
20.13300	2845.3240	112.2730
20.13600	2845.3298	112.2800



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Time Hours	Pressure #1 psia	Temperature #1 deg F
20.13900	2845.3289	112.2820
20.14200	2845.3289	112.2890
20.14400	2845.3289	112.2930
20.14700	2845.3240	112.2960
20.15000	2845.3350	112.3030
20.15300	2845.3350	112.3070
20.15600	2845.3298	112.3110
20.15800	2845.3250	112.3120
20.16100	2845.3240	112.3160
20.16400	2845.3350	112.3230
20.16700	2845.3240	112.3270
20.16900	2845.3179	112.3300
20.17200	2845.3188	112.3340
20.17500	2845.3250	112.3410
20.17800	2845.3188	112.3430
20.18100	2845.3298	112.3500
20.18300	2845.3250	112.3540
20.18600	2845.3250	112.3570
20.18900	2845.3250	112.3610
20.19200	2845.3188	112.3650
20.19400	2845.3311	112.3680
20.19700	2845.3359	112.3740
20.20000	2845.3250	112.3770
20.20300	2845.3250	112.3810
20.20600	2845.3250	112.3840
20.20800	2845.3250	112.3920
20.21100	2845.3250	112.3950
20.21400	2845.3140	112.3990
20.21700	2845.3259	112.4040
20.21900	2845.3259	112.4080
20.22200	2845.3201	112.4110
20.22500	2845.3201	112.4150
20.22800	2845.3369	112.4220
20.23100	2845.3250	112.4260
20.23300	2845.3311	112.4280
20.23600	2845.3259	112.4350
20.23900	2845.3369	112.4420
20.24200	2845.3369	112.4460
20.24400	2845.3201	112.4490
20.24700	2845.3259	112.4560
20.25000	2845.3369	112.4580
20.25300	2845.3369	112.4650

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
20.25600	2845.3140	112.4650
20.25800	2845.2410	112.4530
20.26100	2845.2520	112.4580
20.26400	2845.2581	112.4650
20.26700	2845.2529	112.4690
20.26900	2845.2471	112.4730
20.27200	2845.2529	112.4800
20.27500	2845.2529	112.4830
20.27800	2845.2529	112.4870
20.28100	2845.2590	112.4920
20.28300	2845.2529	112.4960
20.28600	2845.2471	112.5000
20.28900	2845.2419	112.5070
20.29200	2845.2539	112.5100
20.29400	2845.2590	112.5160
20.29700	2845.2419	112.5190
20.30000	2845.2358	112.5230
20.30300	2845.2529	112.5300
20.30600	2845.2590	112.5340
20.30800	2845.2429	112.5370
20.31100	2845.2490	112.5410
20.31400	2845.2371	112.5450
20.31700	2845.2539	112.5500
20.31900	2845.2310	112.5540
20.32200	2845.2371	112.5570
20.32500	2845.2539	112.5640
20.32800	2845.2539	112.5680
20.33100	2845.2429	112.5720
20.33300	2845.2490	112.5770
20.33600	2845.2310	112.5810
20.33900	2845.2490	112.5880
20.34200	2845.2429	112.5910
20.34400	2845.2429	112.5950
20.34700	2845.2490	112.6020
20.35000	2845.2380	112.6040
20.35300	2845.2490	112.6110
20.35600	2845.2429	112.6150
20.35800	2845.2429	112.6220
20.36100	2845.2539	112.6290
20.36400	2845.2429	112.6330
20.36700	2845.2380	112.6350
20.36900	2845.2500	112.6420



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20.37200	2845.2500	112.6450
20.37500	2845.2429	112.6530
20.37800	2845.2429	112.6560
20.38100	2845.2490	112.6620
20.38300	2845.2549	112.6650
20.38600	2845.2510	112.6690
20.38900	2845.2559	112.6760
20.39200	2845.2439	112.6800
20.39400	2845.2500	112.6870
20.39700	2845.2549	112.6900
20.40000	2845.2610	112.6960
20.40300	2845.2500	112.6990
20.40600	2845.2449	112.7030
20.40800	2845.2400	112.7070
20.41100	2845.2510	112.7140
20.41400	2845.2510	112.7170
20.41700	2845.2329	112.7190
20.41900	2845.2500	112.7260
20.42200	2845.2500	112.7300
20.42500	2845.2568	112.7370
20.42800	2845.2568	112.7410
20.43100	2845.2400	112.7440
20.43300	2845.2510	112.7500
20.43600	2845.2510	112.7530
20.43900	2845.2449	112.7610
20.44200	2845.2510	112.7640
20.44400	2845.2449	112.7680
20.44700	2845.2510	112.7750
20.45000	2845.2458	112.7790
20.45300	2845.2510	112.7800
20.45600	2845.2449	112.7840
20.45800	2845.2620	112.7910
20.46100	2845.2510	112.7950
20.46400	2845.2559	112.8020
20.46700	2845.2520	112.8060
20.46900	2845.2520	112.8070
20.47200	2845.2520	112.8110
20.47500	2845.2581	112.8180
20.47800	2845.2629	112.8220
20.48100	2845.2400	112.8250
20.48300	2845.2400	112.8290
20.48600	2845.2510	112.8330

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
20.48900	2845.2400	112.8360
20.49200	2845.2471	112.8420
20.49400	2845.2471	112.8450
20.49700	2845.2410	112.8490
20.50000	2845.2471	112.8520
20.50300	2845.2471	112.8560
20.50600	2845.2349	112.8600
20.50800	2845.2400	112.8630
20.51100	2845.2290	112.8650
20.51400	2845.2471	112.8720
20.51700	2845.2358	112.8760
20.51900	2845.2239	112.8760
20.52200	2845.2300	112.8790
20.52500	2845.2239	112.8830
20.52800	2845.2129	112.8870
20.53100	2845.2190	112.8940
20.53300	2845.2180	112.8960
20.53600	2845.2180	112.8990
20.53900	2845.2009	112.9030
20.54200	2845.2190	112.9100
20.54400	2845.2190	112.9140
20.54700	2845.2300	112.9170
20.55000	2845.2190	112.9210
20.55300	2845.2080	112.9240
20.55600	2845.2080	112.9260
20.55800	2845.2190	112.9330
20.56100	2845.2190	112.9370
20.56400	2845.2080	112.9410
20.56700	2845.2139	112.9440
20.56900	2845.2190	112.9510
20.57200	2845.2129	112.9530
20.57500	2845.2129	112.9570
20.57800	2845.2249	112.9640
20.58100	2845.2129	112.9680
20.58300	2845.2019	112.9680
20.58600	2845.2019	112.9710
20.58900	2845.1980	112.9750
20.59200	2845.1919	112.9820
20.59400	2845.2090	112.9840
20.59700	2845.2029	112.9910
20.60000	2845.2029	112.9950
20.60300	2845.1909	112.9950



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Time Hours	Pressure #1 psia	Temperature #1 deg F
20.60600	2845.1860	112.9950
20.60800	2845.1860	113.0020
20.61100	2845.1860	113.0050
20.61400	2845.1750	113.0090
20.61700	2845.1870	113.0140
20.61900	2845.1809	113.0180
20.62200	2845.1870	113.0220
20.62500	2845.1750	113.0250
20.62800	2845.1919	113.0320
20.63100	2845.1799	113.0360
20.63300	2845.1929	113.0410
20.63600	2845.1919	113.0450
20.63900	2845.1870	113.0490
20.64200	2845.1760	113.0520
20.64400	2845.1919	113.0590
20.64700	2845.1809	113.0630
20.65000	2845.1919	113.0670
20.65300	2845.1919	113.0720
20.65600	2845.1870	113.0760
20.65800	2845.1929	113.0830
20.66100	2845.1990	113.0860
20.66400	2845.1929	113.0900
20.66700	2845.1870	113.0940
20.66900	2845.1819	113.0970
20.67200	2845.1870	113.0990
20.67500	2845.1980	113.1060
20.67800	2845.1938	113.1100
20.68100	2845.2048	113.1170
20.68300	2845.1990	113.1210
20.68600	2845.1990	113.1280
20.68900	2845.1990	113.1300
20.69200	2845.1929	113.1330
20.69400	2845.1929	113.1370
20.69700	2845.1880	113.1400
20.70000	2845.2048	113.1480
20.70300	2845.2000	113.1510
20.70600	2845.2000	113.1550
20.70800	2845.1880	113.1570
20.71100	2845.1880	113.1600
20.71400	2845.1938	113.1670
20.71700	2845.1880	113.1710
20.71900	2845.1890	113.1750

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
20.72200	2845.1890	113.1780
20.72500	2845.1770	113.1820
20.72800	2845.1770	113.1850
20.73100	2845.1770	113.1870
20.73300	2845.1709	113.1910
20.73600	2845.1829	113.1980
20.73900	2845.1938	113.2050
20.74200	2845.1780	113.2090
20.74400	2845.1780	113.2120
20.74700	2845.1780	113.2160
20.75000	2845.1829	113.2210
20.75300	2845.1829	113.2250
20.75600	2845.1829	113.2290
20.75800	2845.1829	113.2360
20.76100	2845.1770	113.2390
20.76400	2845.1899	113.2450
20.76700	2845.1951	113.2480
20.76900	2845.1838	113.2520
20.77200	2845.1838	113.2560
20.77500	2845.1838	113.2590
20.77800	2845.1951	113.2660
20.78100	2845.1890	113.2700
20.78300	2845.1938	113.2740
20.78600	2845.1960	113.2790
20.78900	2845.2119	113.2860
20.79200	2845.2009	113.2900
20.79400	2845.2009	113.2930
20.79700	2845.2009	113.2970
20.80000	2845.2061	113.3020
20.80300	2845.1951	113.3020
20.80600	2845.2009	113.3100
20.80800	2845.2070	113.3130
20.81100	2845.1899	113.3170
20.81400	2845.2070	113.3200
20.81700	2845.2070	113.3240
20.81900	2845.2009	113.3280
20.82200	2845.1960	113.3310
20.82500	2845.1960	113.3330
20.82800	2845.2129	113.3370
20.83100	2845.2009	113.3400
20.83300	2845.2019	113.3440
20.83600	2845.1960	113.3470

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
20.83900	2845.2019	113.3550
20.84200	2845.1960	113.3550
20.84400	2845.1790	113.3550
20.84700	2845.1899	113.3620
20.85000	2845.1899	113.3640
20.85300	2845.1960	113.3710
20.85600	2845.1899	113.3740
20.85800	2845.1909	113.3780
20.86100	2845.1970	113.3850
20.86400	2845.1970	113.3890
20.86700	2845.1851	113.3910
20.86900	2845.1970	113.3940
20.87200	2845.2019	113.4010
20.87500	2845.1960	113.4050
20.87800	2845.1899	113.4090
20.88100	2845.1860	113.4120
20.88300	2845.1919	113.4160
20.88600	2845.1970	113.4210
20.88900	2845.1970	113.4250
20.89200	2845.1909	113.4280
20.89400	2845.1860	113.4320
20.89700	2845.1909	113.4360
20.90000	2845.1909	113.4390
20.90300	2845.1851	113.4430
20.90600	2845.1980	113.4480
20.90800	2845.1980	113.4520
20.91100	2845.1980	113.4550
20.91400	2845.1860	113.4590
20.91700	2845.2029	113.4660
20.91900	2845.1980	113.4700
20.92200	2845.1970	113.4730
20.92500	2845.1970	113.4770
20.92800	2845.1980	113.4790
20.93100	2845.1980	113.4820
20.93300	2845.1919	113.4860
20.93600	2845.2090	113.4930
20.93900	2845.2029	113.4970
20.94200	2845.1980	113.5000
20.94400	2845.2029	113.5040
20.94700	2845.2090	113.5090
20.95000	2845.1980	113.5090
20.95300	2845.2039	113.5170

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
20.95600	2845.2039	113.5200
20.95800	2845.2039	113.5240
20.96100	2845.2039	113.5310
20.96400	2845.2148	113.5350
20.96700	2845.2039	113.5360
20.96900	2845.2100	113.5400
20.97200	2845.2161	113.5470
20.97500	2845.1990	113.5470
20.97800	2845.1929	113.5510
20.98100	2845.2100	113.5580
20.98300	2845.2100	113.5620
20.98600	2845.2100	113.5670
20.98900	2845.2039	113.5670
20.99200	2845.2148	113.5740
20.99400	2845.2148	113.5780
20.99700	2845.1929	113.5780
21.00000	2845.2219	113.5890
21.00300	2845.2161	113.5890
21.00600	2845.2100	113.5920
21.00800	2845.2100	113.5980
21.01100	2845.2100	113.6010
21.01400	2845.2329	113.6080
21.01700	2845.2048	113.6080
21.01900	2845.2280	113.6160
21.02200	2845.2219	113.6190
21.02500	2845.2280	113.6230
21.02800	2845.2109	113.6250
21.03100	2845.2170	113.6280
21.03300	2845.2170	113.6320
21.03600	2845.2048	113.6350
21.03900	2845.2109	113.6390
21.04200	2845.2219	113.6460
21.04400	2845.2170	113.6500
21.04700	2845.2170	113.6530
21.05000	2845.2170	113.6550
21.05300	2845.2219	113.6590
21.05600	2845.2109	113.6620
21.05800	2845.2061	113.6660
21.06100	2845.2219	113.6730
21.06400	2845.2170	113.6770
21.06700	2845.2219	113.6800
21.06900	2845.2170	113.6820



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21.07200	2845.2170	113.6860
21.07500	2845.2119	113.6890
21.07800	2845.2119	113.6930
21.08100	2845.2170	113.7000
21.08300	2845.2061	113.7000
21.08600	2845.2061	113.7040
21.08900	2845.2119	113.7070
21.09200	2845.2290	113.7130
21.09400	2845.2239	113.7160
21.09700	2845.2119	113.7200
21.10000	2845.2180	113.7240
21.10300	2845.2180	113.7270
21.10600	2845.2180	113.7310
21.10800	2845.2170	113.7340
21.11100	2845.2170	113.7380
21.11400	2845.2119	113.7400
21.11700	2845.2170	113.7430
21.11900	2845.2070	113.7470
21.12200	2845.2009	113.7510
21.12500	2845.2129	113.7540
21.12800	2845.2070	113.7580
21.13100	2845.2180	113.7610
21.13300	2845.2129	113.7650
21.13600	2845.2070	113.7690
21.13900	2845.2061	113.7700
21.14200	2845.2119	113.7740
21.14400	2845.2061	113.7780
21.14700	2845.2300	113.7850
21.15000	2845.2080	113.7850
21.15300	2845.2080	113.7880
21.15600	2845.2239	113.7960
21.15800	2845.2190	113.7990
21.16100	2845.2190	113.8010
21.16400	2845.2129	113.8050
21.16700	2845.2180	113.8080
21.16900	2845.2129	113.8120
21.17200	2845.2310	113.8190
21.17500	2845.2249	113.8230
21.17800	2845.2249	113.8260
21.18100	2845.2190	113.8280
21.18300	2845.2239	113.8320
21.18600	2845.2190	113.8350

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
21.18900	2845.2190	113.8390
21.19200	2845.2190	113.8460
21.19400	2845.2310	113.8500
21.19700	2845.2139	113.8500
21.20000	2845.2249	113.8570
21.20300	2845.2358	113.8590
21.20600	2845.2249	113.8620
21.20800	2845.2249	113.8660
21.21100	2845.2190	113.8660
21.21400	2845.2310	113.8730
21.21700	2845.2190	113.8770
21.21900	2845.2310	113.8840
21.22200	2845.2371	113.8860
21.22500	2845.2310	113.8890
21.22800	2845.2258	113.8890
21.23100	2845.2258	113.8960
21.23300	2845.2371	113.9000
21.23600	2845.2249	113.9040
21.23900	2845.2249	113.9070
21.24200	2845.2249	113.9110
21.24400	2845.2249	113.9140
21.24700	2845.2371	113.9200
21.25000	2845.2310	113.9230
21.25300	2845.2371	113.9270
21.25600	2845.2371	113.9310
21.25800	2845.2310	113.9340
21.26100	2845.2310	113.9380
21.26400	2845.2310	113.9450
21.26700	2845.2258	113.9450
21.26900	2845.2258	113.9470
21.27200	2845.2319	113.9500
21.27500	2845.2429	113.9580
21.27800	2845.2380	113.9610
21.28100	2845.2429	113.9680
21.28300	2845.2429	113.9680
21.28600	2845.2380	113.9720
21.28900	2845.2319	113.9740
21.29200	2845.2371	113.9810
21.29400	2845.2258	113.9810
21.29700	2845.2380	113.9880
21.30000	2845.2329	113.9880
21.30300	2845.2429	113.9950

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
21.30600	2845.2380	113.9990
21.30800	2845.2429	114.0030
21.31100	2845.2380	114.0040
21.31400	2845.2380	114.0080
21.31700	2845.2319	114.0120
21.31900	2845.2319	114.0150
21.32200	2845.2329	114.0190
21.32500	2845.2390	114.0220
21.32800	2845.2390	114.0260
21.33100	2845.2329	114.0300
21.33300	2845.2500	114.0350
21.33600	2845.2439	114.0390
21.33900	2845.2380	114.0420
21.34200	2845.2439	114.0460
21.34400	2845.2380	114.0490
21.34700	2845.2510	114.0530
21.35000	2845.2390	114.0570
21.35300	2845.2390	114.0600
21.35600	2845.2329	114.0620
21.35800	2845.2329	114.0660
21.36100	2845.2390	114.0690
21.36400	2845.2390	114.0730
21.36700	2845.2329	114.0760
21.36900	2845.2390	114.0800
21.37200	2845.2449	114.0870
21.37500	2845.2400	114.0870
21.37800	2845.2339	114.0910
21.38100	2845.2339	114.0930
21.38300	2845.2339	114.0960
21.38600	2845.2339	114.1000
21.38900	2845.2339	114.1030
21.39200	2845.2329	114.1070
21.39400	2845.2280	114.1110
21.39700	2845.2390	114.1140
21.40000	2845.2329	114.1180
21.40300	2845.2349	114.1200
21.40600	2845.2449	114.1270
21.40800	2845.2290	114.1270
21.41100	2845.2339	114.1300
21.41400	2845.2400	114.1380
21.41700	2845.2339	114.1380
21.41900	2845.2339	114.1410

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
21.42200	2845.2449	114.1480
21.42500	2845.2400	114.1500
21.42800	2845.2400	114.1540
21.43100	2845.2349	114.1570
21.43300	2845.2458	114.1650
21.43600	2845.2458	114.1650
21.43900	2845.2458	114.1720
21.44200	2845.2349	114.1720
21.44400	2845.2400	114.1770
21.44700	2845.2400	114.1810
21.45000	2845.2339	114.1840
21.45300	2845.2349	114.1880
21.45600	2845.2300	114.1920
21.45800	2845.2349	114.1950
21.46100	2845.2458	114.2020
21.46400	2845.2458	114.2060
21.46700	2845.2458	114.2080
21.46900	2845.2349	114.2110
21.47200	2845.2290	114.2150
21.47500	2845.2349	114.2190
21.47800	2845.2349	114.2220
21.48100	2845.2349	114.2260
21.48300	2845.2510	114.2330
21.48600	2845.2400	114.2370
21.48900	2845.2290	114.2370
21.49200	2845.2449	114.2440
21.49400	2845.2400	114.2460
21.49700	2845.2280	114.2460
21.50000	2845.2280	114.2490
21.50300	2845.2219	114.2530
21.50600	2845.2280	114.2560
21.50800	2845.2329	114.2640
21.51100	2845.2170	114.2640
21.51400	2845.2329	114.2710
21.51700	2845.2100	114.2710
21.51900	2845.2390	114.2780
21.52200	2845.2209	114.2800
21.52500	2845.2209	114.2800
21.52800	2845.2329	114.2830
21.53100	2845.2380	114.2910
21.53300	2845.2319	114.2940
21.53600	2845.2271	114.2980

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
21.53900	2845.2209	114.2980
21.54200	2845.2380	114.3050
21.54400	2844.2109	114.2400
21.54700	2841.0969	114.2440
21.55000	2833.5049	114.2370
21.55300	2825.6819	114.2370
21.55600	2818.0459	114.2330
21.55800	2814.1079	114.2240
21.56100	2813.6838	114.2200
21.56400	2813.4241	114.2020
21.56700	2813.4309	114.1970
21.56900	2813.3350	114.1630
21.57200	2813.3130	114.1450
21.57500	2813.2791	114.1250
21.57800	2813.2969	114.1090
21.58100	2813.3030	114.0910
21.58300	2813.2920	114.0710
21.58600	2813.3088	114.0570
21.58900	2813.3430	114.0510
21.59200	2813.3159	114.0260
21.59400	2813.2878	114.0030
21.59700	2813.3110	113.9940
21.60000	2813.3110	113.9790
21.60300	2813.3059	113.9630
21.60600	2813.3010	113.9490
21.60800	2813.3120	113.9380
21.61100	2813.2959	113.9220
21.61400	2813.3130	113.9110
21.61700	2813.3079	113.8980
21.61900	2813.3020	113.8840
21.62200	2813.2859	113.8680
21.62500	2813.2859	113.8570
21.62800	2813.3030	113.8500
21.63100	2813.2859	113.8370
21.63300	2813.2979	113.8300
21.63600	2813.2869	113.8170
21.63900	2813.2749	113.8060
21.64200	2813.2710	113.7960
21.64400	2813.2759	113.7900
21.64700	2813.3000	113.7870
21.65000	2813.2820	113.7720
21.65300	2813.2769	113.7610

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
21.65600	2808.9600	113.7630
21.65800	2798.7749	113.7630
21.66100	2787.2161	113.7940
21.66400	2775.2600	113.7290
21.66700	2763.4709	113.7160
21.66900	2751.6360	113.7000
21.67200	2739.7849	113.6730
21.67500	2727.9529	113.6530
21.67800	2716.0081	113.6300
21.68100	2703.9590	113.5830
21.68300	2691.8608	113.5440
21.68600	2679.7839	113.5200
21.68900	2667.7048	113.4930
21.69200	2655.5779	113.4570
21.69400	2643.5391	113.4410
21.69700	2631.3760	113.3920
21.70000	2619.2329	113.3420
21.70300	2607.0730	113.2950
21.70600	2595.0479	113.2970
21.70800	2582.6670	113.1620
21.71100	2570.6960	113.1080
21.71400	2558.4800	113.0360
21.71700	2546.5110	113.0580
21.71900	2534.0510	112.9320
21.72200	2521.8179	112.8760
21.72500	2509.4680	112.8020
21.72800	2496.9609	112.7340
21.73100	2484.4670	112.6630
21.73300	2472.0330	112.6130
21.73600	2459.6030	112.5660
21.73900	2447.1089	112.5010
21.74200	2434.6331	112.4280
21.74400	2422.2129	112.3470
21.74700	2409.7258	112.2580
21.75000	2397.3389	112.1760
21.75300	2384.8379	112.0690
21.75600	2372.3750	111.9720
21.75800	2359.9009	111.8570
21.76100	2347.3569	111.7360
21.76400	2334.8669	111.6250
21.76700	2322.3879	111.4930
21.76900	2309.8699	111.3640

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
21.77200	2297.3760	111.2400
21.77500	2285.0669	111.1240
21.77800	2272.7161	110.9890
21.78100	2260.3210	110.8620
21.78300	2247.9480	110.7390
21.78600	2235.5369	110.6150
21.78900	2222.9739	110.4850
21.79200	2210.2090	110.3610
21.79400	2197.3521	110.2300
21.79700	2184.5601	110.0910
21.80000	2171.6960	109.9350
21.80300	2158.8389	109.7960
21.80600	2145.9919	109.6610
21.80800	2139.5200	109.5100
21.81100	2139.5439	109.3530
21.81400	2139.4639	109.1950
21.81700	2139.4009	109.0350
21.81900	2139.3020	108.8650
21.82200	2139.2549	108.7070
21.82500	2139.2019	108.5400
21.82800	2139.2310	108.3990
21.83100	2139.2280	108.2480
21.83300	2139.1660	108.0880
21.83600	2139.2009	107.9620
21.83900	2139.1650	107.8180
21.84200	2139.1450	107.6860
21.84400	2139.1060	107.5460
21.84700	2139.1279	107.4360
21.85000	2139.0969	107.3050
21.85300	2139.0930	107.1910
21.85600	2139.0688	107.0740
21.85800	2139.0439	106.9570
21.86100	2139.0029	106.8400
21.86400	2138.9919	106.7360
21.86700	2138.9958	106.6390
21.86900	2138.9839	106.5420
21.87200	2138.9890	106.4520
21.87500	2138.9939	106.3620
21.87800	2138.9849	106.2750
21.88100	2138.9910	106.1910
21.88300	2138.9880	106.1110
21.88600	2138.9958	106.0380

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
21.88900	2138.9880	105.9570
21.89200	2138.9810	105.8790
21.89400	2138.9680	105.8050
21.89700	2138.9790	105.7350
21.90000	2138.9849	105.6720
21.90300	2138.9780	105.6060
21.90600	2138.9829	105.5430
21.90800	2138.9719	105.4780
21.91100	2138.9758	105.4180
21.91400	2134.3989	105.3610
21.91700	2123.4739	105.3140
21.91900	2110.8979	105.2620
21.92200	2098.2979	105.1990
21.92500	2085.6189	105.1320
21.92800	2072.8779	105.0550
21.93100	2060.3120	105.0420
21.93300	2047.5549	104.9790
21.93600	2034.9170	104.9160
21.93900	2022.2629	104.8530
21.94200	2009.5659	104.7970
21.94400	1996.8610	104.7330
21.94700	1984.1499	104.6770
21.95000	1971.3829	104.5990
21.95300	1958.6610	104.5270
21.95600	1945.9320	104.4340
21.95800	1933.2319	104.3400
21.96100	1920.4330	104.2340
21.96400	1907.6100	104.1210
21.96700	1894.6260	104.0000
21.96900	1881.6389	103.8790
21.97200	1868.4459	103.7640
21.97500	1855.2080	103.6400
21.97800	1841.9979	103.5190
21.98100	1828.7589	103.3930
21.98300	1815.6000	103.2750
21.98600	1802.4609	103.1520
21.98900	1789.2720	103.0240
21.99200	1776.0919	102.8970
21.99400	1762.8479	102.7600
21.99700	1749.6119	102.6230
22.00000	1736.3689	102.4700
22.00300	1723.1289	102.3150

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
22.00600	1709.9569	102.1950
22.00800	1696.7780	102.0760
22.01100	1683.5730	101.9460
22.01400	1670.3290	101.8060
22.01700	1657.1689	101.6870
22.01900	1644.1079	101.5480
22.02200	1631.0229	101.4130
22.02500	1617.8500	101.2620
22.02800	1604.7810	101.1560
22.03100	1591.6709	101.0210
22.03300	1578.4199	100.8860
22.03600	1565.0730	100.7470
22.03900	1551.7360	100.6090
22.04200	1538.3929	100.4770
22.04400	1524.8750	100.3390
22.04700	1511.2660	100.1840
22.05000	1497.7350	100.0530
22.05300	1484.1019	99.8850
22.05600	1470.5480	99.7750
22.05800	1463.7119	99.6400
22.06100	1463.5139	99.5020
22.06400	1463.4719	99.3600
22.06700	1463.4130	99.2050
22.06900	1463.3810	99.0730
22.07200	1463.3330	98.9240
22.07500	1463.3240	98.7980
22.07800	1463.3379	98.6860
22.08100	1463.3400	98.5640
22.08300	1463.3710	98.4650
22.08600	1463.3970	98.3660
22.08900	1463.4060	98.2670
22.09200	1463.4030	98.1640
22.09400	1463.3829	98.0550
22.09700	1463.3639	97.9470
22.10000	1463.3829	97.8640
22.10300	1463.3970	97.7810
22.10600	1463.3999	97.7000
22.10800	1463.4139	97.6170
22.11100	1463.4120	97.5380
22.11400	1463.4139	97.4590
22.11700	1463.4170	97.3830
22.11900	1463.3970	97.3020

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
22.12200	1463.4070	97.2360
22.12500	1463.3929	97.1600
22.12800	1463.4020	97.0970
22.13100	1463.4170	97.0380
22.13300	1463.4320	96.9800
22.13600	1463.4130	96.9130
22.13900	1463.3989	96.8470
22.14200	1463.3920	96.7890
22.14400	1463.3850	96.7260
22.14700	1463.3820	96.6760
22.15000	1463.4030	96.6310
22.15300	1463.4070	96.5840
22.15600	1463.4049	96.5280
22.15800	1463.4030	96.4850
22.16100	1463.3910	96.4360
22.16400	1463.4010	96.3910
22.16700	1463.4110	96.3540
22.16900	1463.4149	96.3140
22.17200	1463.4130	96.2760
22.17500	1463.4180	96.2380
22.17800	1463.4170	96.2010
22.18100	1460.9969	96.0940
22.18300	1450.9540	96.0580
22.18600	1441.0659	96.0220
22.18900	1431.3350	96.0060
22.19200	1420.6160	96.0040
22.19400	1407.9939	95.9040
22.19700	1395.5719	95.8680
22.20000	1383.1570	95.8240
22.20300	1370.7880	95.7870
22.20600	1358.3870	95.7400
22.20800	1345.9879	95.6910
22.21100	1333.5780	95.6430
22.21400	1321.1749	95.5900
22.21700	1308.7589	95.5330
22.21900	1296.3440	95.4730
22.22200	1284.0759	95.4360
22.22500	1271.7770	95.3670
22.22800	1259.4609	95.2920
22.23100	1247.1580	95.2340
22.23300	1234.8669	95.1820
22.23600	1222.4769	95.0860

Well Test Analysis Report

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
22.23900	1210.0120	95.0130
22.24200	1197.5769	94.9730
22.24400	1185.0929	94.9010
22.24700	1172.5310	94.8240
22.25000	1159.8300	94.7520
22.25300	1147.1189	94.6670
22.25600	1134.3889	94.5550
22.25800	1121.7400	94.4940
22.26100	1109.0409	94.4100
22.26400	1096.3610	94.3290
22.26700	1083.6740	94.2400
22.26900	1070.9910	94.1520
22.27200	1058.2949	94.0620
22.27500	1045.5919	93.9700
22.27800	1032.8760	93.8730
22.28100	1020.2650	93.7810
22.28300	1007.7260	93.6840
22.28600	995.0580	93.5870
22.28900	982.3680	93.4930
22.29200	969.7650	93.3980
22.29400	957.1830	93.3010
22.29700	944.5780	93.2000
22.30000	931.9350	93.0760
22.30300	923.2980	92.9800
22.30600	911.7690	92.9030
22.30800	897.8780	92.7990
22.31100	883.9340	92.6980
22.31400	869.9510	92.5770
22.31700	855.9400	92.4750
22.31900	841.9630	92.3720
22.32200	827.9750	92.2750
22.32500	813.9740	92.1630
22.32800	799.7820	92.0590
22.33100	789.3620	91.9310
22.33300	788.5810	91.8460
22.33600	788.5000	91.7200
22.33900	788.4750	91.6290
22.34200	788.4310	91.5060
22.34400	788.4480	91.4310
22.34700	788.4230	91.3050
22.35000	788.4400	91.2220
22.35300	788.4320	91.1160

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
22.35600	788.4460	91.0440
22.35800	788.4380	90.9570
22.36100	788.4400	90.8820
22.36400	788.4420	90.8020
22.36700	788.4410	90.7300
22.36900	788.4390	90.6510
22.37200	788.4340	90.5760
22.37500	788.4320	90.4960
22.37800	788.4240	90.4370
22.38100	788.4400	90.3700
22.38300	788.4380	90.3040
22.38600	788.4300	90.2390
22.38900	788.4290	90.1850
22.39200	788.4380	90.1330
22.39400	788.4400	90.0770
22.39700	788.4470	90.0210
22.40000	788.4370	89.9650
22.40300	788.4410	89.9190
22.40600	788.4370	89.8700
22.40800	788.4410	89.8230
22.41100	788.4320	89.7730
22.41400	788.4360	89.7280
22.41700	788.4340	89.6810
22.41900	788.4280	89.6410
22.42200	776.7550	89.5690
22.42500	762.7340	89.5370
22.42800	748.7080	89.4900
22.43100	734.7220	89.4580
22.43300	720.6710	89.3820
22.43600	706.5980	89.3170
22.43900	692.5020	89.2490
22.44200	678.3950	89.2000
22.44400	664.2680	89.1520
22.44700	650.1430	89.0960
22.45000	636.0630	89.0870
22.45300	621.8990	89.0010
22.45600	607.6690	88.9630
22.45800	593.3740	88.9230
22.46100	579.0820	88.8670
22.46400	564.7570	88.7970
22.46700	550.4400	88.7320
22.46900	536.0990	88.6570

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
22.47200	521.7680	88.5830
22.47500	507.4140	88.5070
22.47800	493.0040	88.4320
22.48100	478.3670	88.3150
22.48300	463.7600	88.2430
22.48600	449.1540	88.1670
22.48900	434.5410	88.0810
22.49200	419.8820	87.9840
22.49400	405.1160	87.9040
22.49700	390.5090	87.7890
22.50000	376.0730	87.6970
22.50300	361.5710	87.6110
22.50600	347.1200	87.5070
22.50800	332.5650	87.4090
22.51100	318.0700	87.3210
22.51400	303.5660	87.2240
22.51700	289.0590	87.1340
22.51900	274.5260	87.0390
22.52200	259.9880	86.9380
22.52500	245.3240	86.8190
22.52800	230.5750	86.7490
22.53100	215.7220	86.6520
22.53300	200.7020	86.5510
22.53600	185.6790	86.4590
22.53900	170.6450	86.2950
22.54200	155.6470	86.2090
22.54400	140.6110	86.0990
22.54700	125.6650	86.0400
22.55000	114.5300	85.9460
22.55300	113.9180	85.8400
22.55600	113.8830	85.7340
22.55800	113.8580	85.6060
22.56100	113.8410	85.5320
22.56400	113.8080	85.3900
22.56700	113.8030	85.3200
22.56900	113.7660	85.1880
22.57200	113.7630	85.1450
22.57500	113.7490	85.0350
22.57800	113.7370	84.9340
22.58100	113.7260	84.8590
22.58300	113.7060	84.8050
22.58600	113.7000	84.7240

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
22.58900	113.6940	84.6540
22.59200	113.6830	84.5710
22.59400	113.6670	84.5080
22.59700	113.6680	84.4430
22.60000	113.6580	84.3840
22.60300	113.6480	84.3170
22.60600	113.6430	84.2580
22.60800	113.6390	84.2000
22.61100	113.6350	84.1500
22.61400	113.6250	84.0900
22.61700	113.6170	84.0430
22.61900	113.6140	84.0060
22.62200	113.6050	83.9530
22.62500	113.6070	83.9070
22.62800	113.6100	83.8670
22.63100	113.5950	83.8200
22.63300	113.5910	83.7700
22.63600	113.5880	83.7270
22.63900	113.5810	83.6960
22.64200	113.5830	83.6560
22.64400	113.5860	83.6220
22.64700	113.5670	83.5860
22.65000	113.5690	83.5480
22.65300	113.5730	83.5160
22.65600	113.5650	83.4780
22.65800	113.5620	83.4460
22.66100	113.5550	83.4190
22.66400	113.5580	83.3880
22.66700	113.5500	83.3560
22.66900	113.5540	83.3320
22.67200	109.9190	83.2640
22.67500	98.9570	83.2370
22.67800	86.2230	83.2420
22.68100	72.9440	83.1610
22.68300	59.6080	83.1340
22.68600	46.3100	83.1090
22.68900	33.1070	83.1450
22.69200	19.4760	83.1110
22.69400	14.7000	83.0730
22.69700	14.7000	83.0350
22.70000	14.7000	82.9760
22.70300	14.7000	82.9490

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
22.70600	14.7000	82.9020
22.70800	14.7000	82.8520
22.71100	14.7000	82.8010
22.71400	14.7000	82.7580
22.71700	14.7000	82.6410
22.71900	14.7000	82.6050
22.72200	14.7000	82.6050
22.72500	14.7000	82.5550
22.72800	14.7000	82.4970
22.73100	14.7000	82.4490
22.73300	14.7000	82.4220
22.73600	14.7000	82.3680
22.73900	14.7000	82.2430
22.74200	14.7000	82.2580
22.74400	14.7000	82.2110
22.74700	14.7000	82.1500
22.75000	14.7000	82.0470
22.75300	14.7000	81.9860
22.75600	14.7000	81.9160
22.75800	14.7000	81.9100
22.76100	14.7000	81.8190
22.76400	14.7000	81.8190
22.76700	14.7000	81.7610
22.76900	14.7000	81.7000
22.77200	14.7000	81.6390
22.77500	14.7000	81.5810
22.77800	14.7000	81.4890
22.78100	14.7000	81.4010
22.78300	14.7000	81.3830
22.78600	14.7000	81.3130
22.78900	14.7000	81.2640
22.79200	14.7000	81.2140
22.79400	14.7000	81.1450
22.79700	14.7000	81.0610
22.80000	14.7000	80.9820
22.80300	14.7000	80.9960
22.80600	14.7000	80.9280
22.80800	14.7000	80.8740
22.81100	14.7000	80.8160
22.81400	14.7000	80.7530
22.81700	14.7000	80.6950
22.81900	14.7000	80.6380

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
22.82200	14.7000	80.5690
22.82500	14.7000	80.5120
22.82800	14.7000	80.4470
22.83100	14.7000	80.3820
22.83300	14.7000	80.3250
22.83600	14.7000	80.2600
22.83900	14.7000	80.2060
22.84200	14.7000	80.1450
22.84400	14.7000	80.0870
22.84700	14.7000	80.0220
22.85000	14.7000	79.9430
22.85300	14.7000	79.9030
22.85600	14.7000	79.8480
22.85800	14.7000	79.7250
22.86100	14.7000	79.6680
22.86400	14.7000	79.6510
22.86700	14.7000	79.5870
22.86900	14.7000	79.4880
22.87200	14.7000	79.4010
22.87500	14.7000	79.3650
22.87800	14.7000	79.2390
22.88100	14.7000	79.1870
22.88300	14.7000	79.1740
22.88600	14.7000	79.0750
22.88900	14.7000	78.9910
22.89200	14.7000	78.8920
22.89400	14.7000	78.8000
22.89700	14.7000	78.6790
22.90000	14.7000	78.6020
22.90300	14.7000	78.4760
22.90600	14.7000	78.3730
22.90800	14.7000	78.2960
22.91100	14.7000	78.2350
22.91400	14.7000	78.1560
22.91700	14.7000	78.0640
22.91900	14.7000	77.9720
22.92200	14.7000	77.8840
22.92500	14.7000	77.7850
22.92800	14.7000	77.6660
22.93100	14.7000	77.5800
22.93300	14.7000	77.4180
22.93600	14.7000	77.2540



ENVIROCORP SERVICES
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HOUSTON, TX - SOUTH BEND, IN
BATON ROUGE, LA

Subsurface Technology, Inc.

PanSystem Version 2.5

Well Test Analysis Report

Report File:

WDW2A.PAN

Analysis Date:

6/29/1999

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
22.93900	14.7000	77.1310
22.94200	14.7000	77.0090
22.94400	14.7000	76.8830
22.94700	14.7000	76.7800
22.95000	14.7000	76.6470
22.95300	14.7000	76.5100
22.95600	14.7000	76.3720
22.95800	14.7000	76.2330
22.96100	14.7000	76.0950
22.96400	14.7000	75.9560
22.96700	14.7000	75.8260
22.96900	14.7000	75.6950
22.97200	14.7000	75.5600
22.97500	14.7000	75.4290
22.97800	14.7000	75.2740
22.98100	14.7000	75.1350
22.98300	14.7000	75.0160
22.98600	14.7000	74.8850
22.98900	14.7000	74.8180
22.99200	14.7000	74.6800
22.99400	14.7000	74.5290
22.99700	14.7000	74.4040
23.00000	14.7000	74.2750
23.00300	14.7000	74.1880
23.00600	14.7000	74.0840
23.00800	14.7000	74.0080
23.01100	14.7000	73.9040
23.01400	14.7000	73.8010
23.01700	14.7000	73.7170
23.01900	14.7000	73.5960
23.02200	14.7000	73.5030
23.02500	14.7000	73.4050
23.02800	14.7000	73.3050
23.03100	14.7000	73.2090
23.03300	14.7000	73.1120
23.03600	14.7000	73.0450
23.03900	14.7000	72.9180
23.04200	14.7000	72.8350
23.04400	14.7000	72.7480
23.04700	14.7000	72.6620
23.05000	14.7000	72.5770
23.05300	14.7000	72.4870

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
23.05600	14.7000	72.4120
23.05800	14.7000	72.3290
23.06100	14.7000	72.2480
23.06400	14.7000	72.1800
23.06700	14.7000	72.1040
23.06900	14.7000	72.0230
23.07200	14.7000	71.9580
23.07500	14.7000	71.8810
23.07800	14.7000	71.8090
23.08100	14.7000	71.7440
23.08300	14.7000	71.6740
23.08600	14.7000	71.6220
23.08900	14.7000	71.5530
23.09200	14.7000	71.5080
23.09400	14.7000	71.4520
23.09700	14.7000	71.3970
23.10000	14.7000	71.3370
23.10300	14.7000	71.2800
23.10600	14.7000	71.2170
23.10800	14.7000	71.1640
23.11100	14.7000	71.1010
23.11400	14.7000	71.0470
23.11700	14.7000	70.9840
23.11900	14.7000	70.9320
23.12200	14.7000	70.8690
23.12500	14.7000	70.8150
23.12800	14.7000	70.7630
23.13100	14.7000	70.7180
23.13300	14.7000	70.6550
23.13600	14.7000	70.6050
23.13900	14.7000	70.5560
23.14200	14.7000	70.5070
23.14400	14.7000	70.4570
23.14700	14.7000	70.4120
23.15000	14.7000	70.3600
23.15300	14.7000	70.3170
23.15600	14.7000	70.2720
23.15800	14.7000	70.2280
23.16100	14.7000	70.1830
23.16400	14.7000	70.1380
23.16700	14.7000	70.0920
23.16900	14.7000	70.0540

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
23.17200	14.7000	70.0090
23.17500	14.7000	69.9660
23.17800	14.7000	69.9400
23.18100	14.7000	69.8990
23.18300	14.7000	69.8610
23.18600	14.7000	69.8180
23.18900	14.7000	69.7770
23.19200	14.7000	69.7440
23.19400	14.7000	69.7100
23.19700	14.7000	69.6700
23.20000	14.7000	69.6290
23.20300	14.7000	69.5970
23.20600	14.7000	69.5660
23.20800	14.7000	69.5260
23.21100	14.7000	69.4920
23.21400	14.7000	69.4670
23.21700	14.7000	69.4380
23.21900	14.7000	69.4110
23.22200	14.7000	69.3750
23.22500	14.7000	69.3450
23.22800	14.7000	69.3120
23.23100	14.7000	69.2820
23.23300	14.7000	69.2490
23.23600	14.7000	69.2190
23.23900	14.7000	69.1830
23.24200	14.7000	69.1540
23.24400	14.7000	69.1230
23.24700	14.7000	69.0910
23.25000	14.7000	69.0640
23.25300	14.7000	69.0280
23.25600	14.7000	69.0040
23.25800	14.7000	68.9760
23.26100	14.7000	68.9430
23.26400	14.7000	68.9160
23.26700	14.7000	68.8910
23.26900	14.7000	68.8600
23.27200	14.7000	68.8280
23.27500	14.7000	68.7990
23.27800	14.7000	68.7720
23.28100	14.7000	68.7360
23.28300	14.7000	68.7090
23.28600	14.7000	68.6800

MEMORY Data Files (cont)

Time Hours	Pressure #1 psia	Temperature #1 deg F
23.28900	14.7000	68.6480
23.29200	14.7000	68.6250
23.29400	14.7000	68.5850
23.29700	14.7000	68.5540
23.30000	14.7000	68.5220
23.30300	14.7000	68.5040
23.30600	14.7000	68.3960
23.30800	14.7000	68.3620
23.31100	14.7000	68.4210
23.31400	14.7000	68.4000
23.31700	14.7000	68.3740
23.31900	14.7000	68.3550
23.32200	14.7000	68.3440
23.32500	14.7000	68.3190
23.32800	14.7000	68.2900
23.33100	14.7000	68.2810
23.33300	14.7000	68.2740
23.33600	14.7000	68.2380
23.33900	14.7000	68.1890
23.34200	14.7000	68.2230
23.34400	14.7000	68.2450
23.34700	14.7000	68.3400
23.35000	14.7000	68.4250
23.35300	14.7000	68.4070
23.35600	14.7000	68.4730
23.35800	14.7000	68.5990
23.36100	14.7000	68.7160
23.36400	14.7000	68.8060
23.36700	14.7000	68.9090
23.36900	14.7000	69.0100
23.37200	14.7000	68.8840
23.37500	14.7000	69.0040
23.37800	14.7000	69.1120
23.38100	14.7000	69.2240

APPENDIX 4.1.2-1

PANSYSTEM2, WELL TEST ANALYSIS REPORT, WDW-2

Subsurface Technology, Inc.

ENVIROCORP SERVICES
AND TECHNOLOGY, INC.

HOUSTON, TX - SOUTH BEND, IN

BATON ROUGE, LA

Subsurface Technology, Inc.

PanSystem Version 2.5

Well Test Analysis Report

Report File:

WDW2A.PAN

Analysis Date:

6/29/1999

Company	Navajo Refining Company
Location	Artesia, New Mexico
Well	WDW-2
Test Type	Injection/Falloff
Test Date	June 4 - 5, 1999
Gauge Type/Serial Number	Z.I. Probe/S10
Gauge Depth	7570 Feet
Injection Interval	7450 Feet - 9016 Feet
Completion Type	Perforated: 7570 - 7736 Feet; 7826 - 8399 Feet
Top of Fill	8736 Feet
Time Since Last Stabilizat	N/A
Analyst	LKM
Subsurface Project No.	70A4955

Reservoir Description

Fluid type : Water

Well orientation : Vertical

Number of wells : 1

Number of layers : 1

Layer Parameters Data

	Layer 1
Formation thickness	299.00 ft
Average formation porosity	0.10
Water saturation	0.00
Gas saturation	0.00
Formation compressibility	0.0000 psi-1
Total system compressibility	8.4000e-6 psi-1
Layer pressure	2844.4707 psia
Temperature	0.0000 deg F

Well Parameters Data

	WDW-2
Well radius	0.3281 ft
Distance from observation to active well	0.0000 ft
Wellbore storage coefficient	0.085 bbl/psi
Well offset - x direction	0.00 ft
Well offset - y direction	0.00 ft

Fluid Parameters Data

	Layer 1
Oil gravity	0.0000 API
Gas gravity	0.0000 sp grav
Gas-oil ratio (produced)	0.0000 scf/STB
Water cut	0.0000
Water salinity	0.0000 ppm
Check Pressure	0.0000 psia
Check Temperature	0.0000 deg F
Gas-oil ratio (solution)	0.0000 scf/STB
Bubble-point pressure	0.0000 psia
Oil density	0.000 lb/ft3
Oil viscosity	0.000 cp
Oil formation volume factor	0.000 RB/STB
Gas density	0.000 lb/ft3
Gas viscosity	0.0 cp
Gas formation volume factor	0.000 ft3/scf
Water density	0.000 lb/ft3
Water viscosity	0.530 cp
Water formation volume factor	1.000 RB/STB
Oil compressibility	0.0000 psi-1
Initial Gas compressibility	0.0000 psi-1
Water compressibility	0.0000 psi-1



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Report File:

WDW2A.PAN

Analysis Date:

6/29/1999

Layer 1 Correlations

Not Used

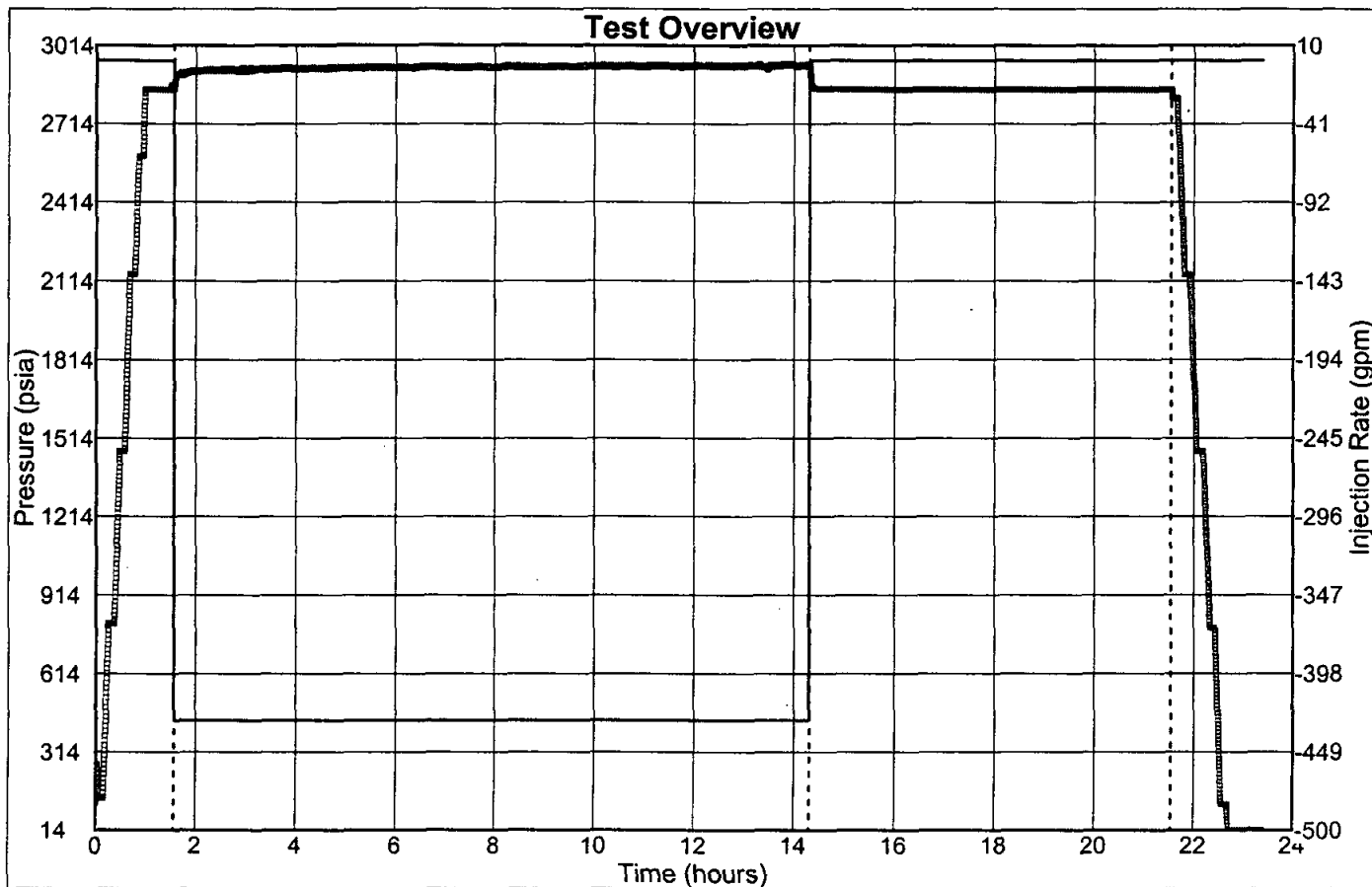
Layer 1 Model Data

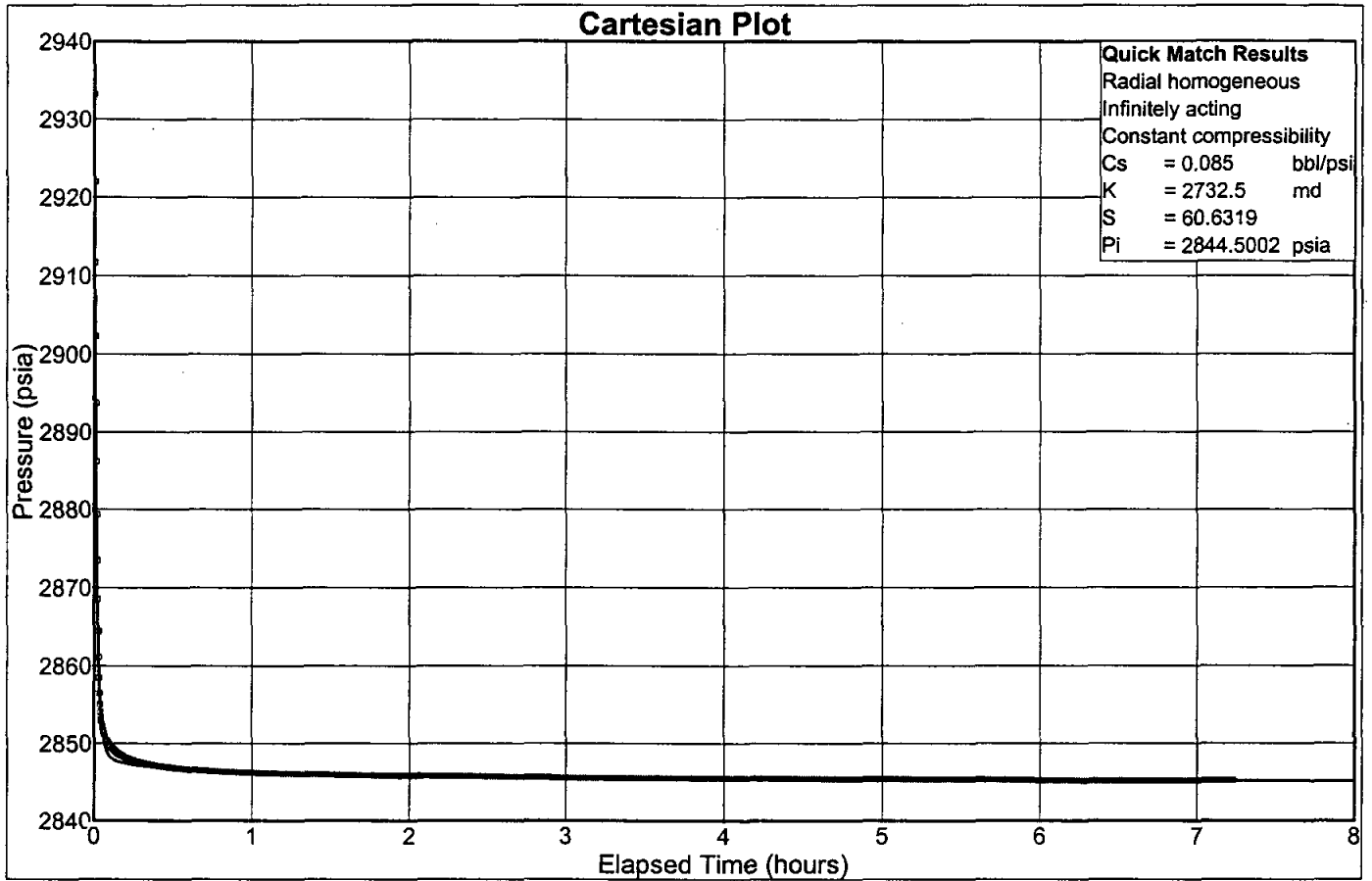
Layer 1 Model Type : Radial homogeneous

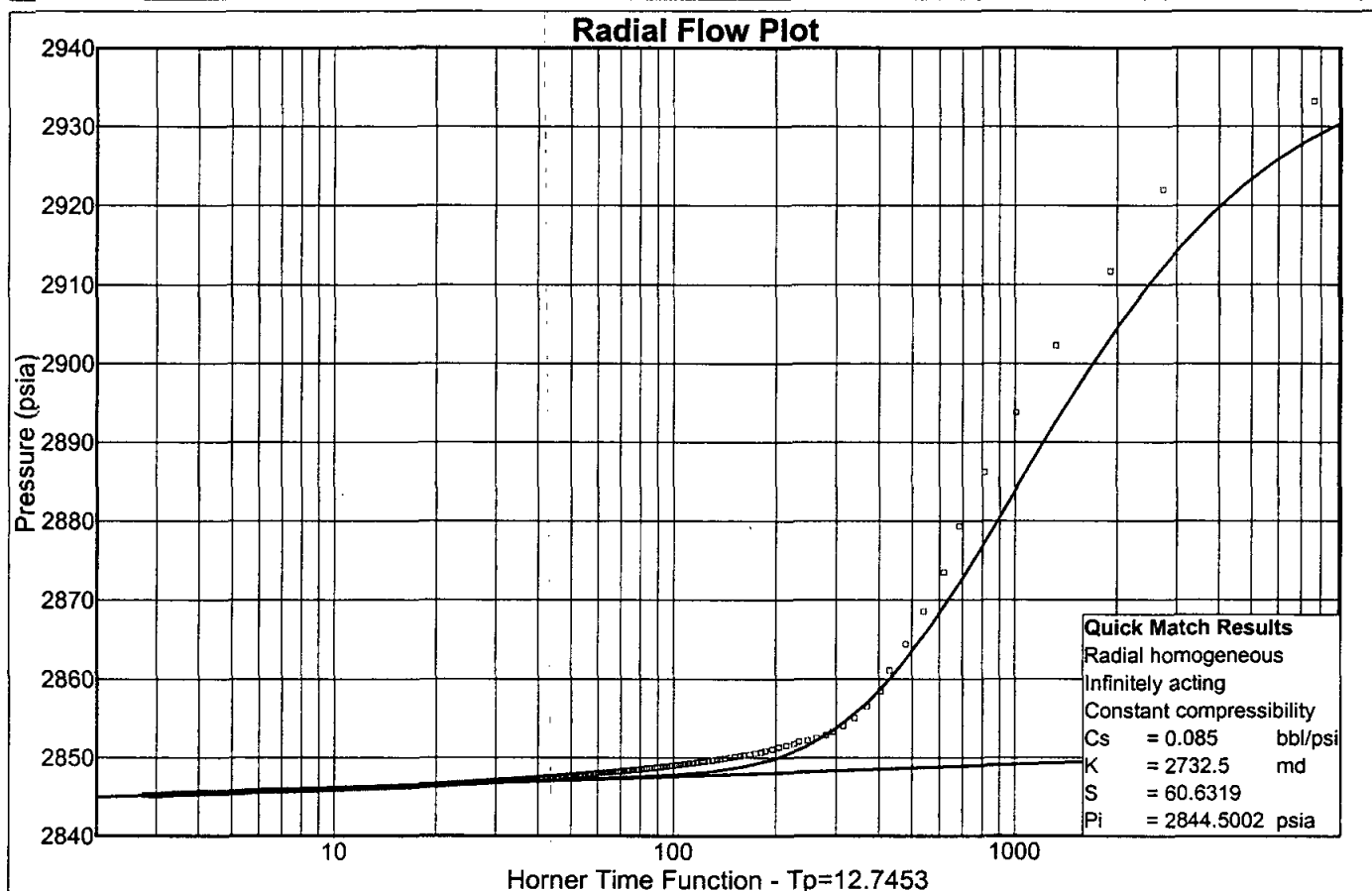
	Layer 1
Permeability	2732.50 md
Skin factor (Well 1)	60.6319

Rate Change Data

Time Hours	Pressure psia	Rate gpm
1.56700	2844.1130	0.0000
14.31233	2939.4160	-428.4000
21.54200	2845.2380	0.0000







Radial Flow Plot Model Results

Radial homogeneous

Infinitely acting

	Value
Permeability	2706.8296 md
Permeability-thickness	8.0934e5 md.ft
Radius of investigation	6080.0913 ft
Flow efficiency	0.1421
dP skin (constant rate)	81.4675 psi
Skin factor	59.9851
Extrapolated pressure	2844.4551 psia

Radial Flow Plot Line Details

Line type : Radial flow

Slope : 1.5636

Intercept : 2844.46

Coefficient of Determination : 0.996817

	Radial flow
Extrapolated pressure	2844.4551 psia
Pressure at dt = 1 hour	2846.2346 psia



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Well Test Analysis Report

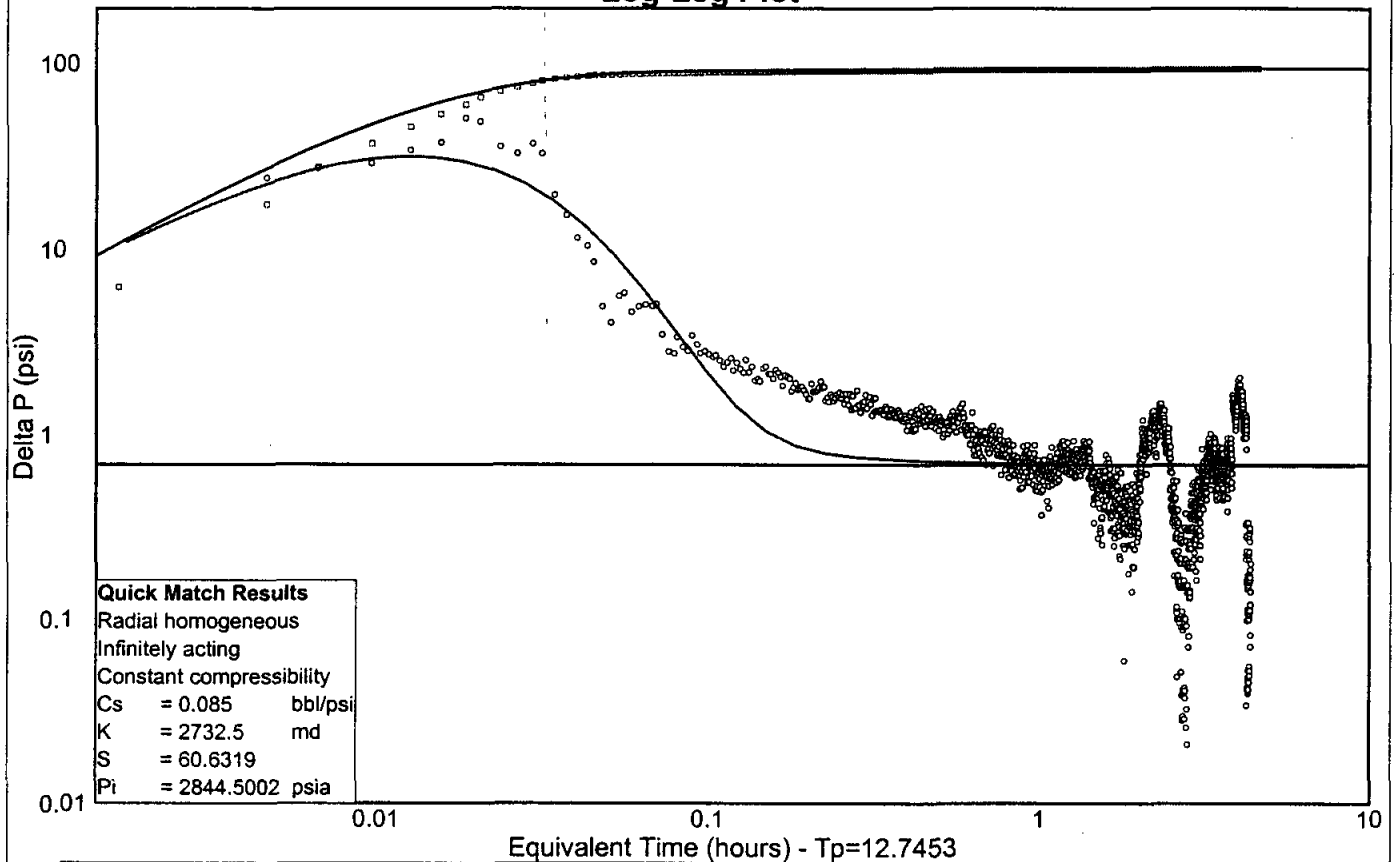
Report File:

WDW2A.PAN

Analysis Date:

6/29/1999

Number of Intersections = 0

Log-Log Plot**Log-Log Plot Model Results**

Radial homogeneous

Infinitely acting

	Value
Permeability	2690.0168 md
Permeability-thickness	8.0432e5 md.ft
Skin factor	-76.9844

Log-Log Plot Line Details

Line type : Radial flow

Slope : 0

Intercept : 0.683309

Coefficient of Determination : Not Used

Number of Intersections = 0